

Modbus Protocol and Register Map

**FOR THE NEXUS® 1500 Meter
User Manual**

Version 1.04

April 4, 2012
Doc # E154703 V.1.04



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“The Leader in Power Monitoring and Smart Grid Solutions”

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the Nexus® 1500 Meter User Manual
Revision 1.04

Published by:
Electro Industries/GaugeTech
1800 Shames Drive
Westbury, NY 11590

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Founded in 1975 by engineer and inventor Dr. Samuel Kagan, EIG changed the face of power monitoring forever with its first breakthrough innovation: an affordable, easy-to-use AC power meter.

Thirty years since its founding, Electro Industries/GaugeTech, the leader in power monitoring and control, continues to revolutionize the industry with the highest quality, cutting edge power monitoring and control technology on the market today. An ISO 9001:2000 certified company, EIG sets the industry standard for advanced power quality and reporting, revenue metering and substation data acquisition and control. EIG products can be found on site at virtually all of today's leading manufacturers, industrial giants and utilities.

EIG products are primarily designed, manufactured, tested and calibrated at our facility in Westbury, New York.

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Chapter 1

Modbus Protocol Overview

1.1: Introduction

The Nexus® 1500 meter can communicate with other devices using the RTU transmission mode of the AEG Modicon Modbus protocol. Communication is available through RS485.

- RS485 communication supports multiple Nexus® meters connected on a network. It is a two-wire connection operating up to 115200 baud, available on the optional RS485 ports.
- See the *Nexus® 1500 Meter Installation and Operation Manual* for wiring details.

1.2: Communication Packets

Communication takes place between a Modbus Master and one or more Nexus® device Slaves. The Master initiates all communication by transmitting an information packet called the “request” to a specific Slave. The Slave replies with its own packet, called the “response”. A packet is a serial string of 8-bit bytes consisting of the following:

- Slave Address 1 byte
- Function Code 1 byte
- Data N bytes: high-ordered byte first, low-order byte second
- CRC (RTU Error Checksum) 2 bytes
- Dead Time 3.5 bytes transmission time

A single packet can transmit a maximum of 127 registers.

1.3: Slave Address and Broadcast Request

- Each Slave device on a communication bus has its own unique address. Only the Slave addressed by a Master will respond. The response packet returned to the Master will have the same value in the Slave Address Field as the request packet. Addresses are programmable and range from 1 to 247.
- A Slave Address of 0 is a broadcast command that allows the Master to send the same packet to all devices at once. All Slaves will obey the packet’s instructions, but none will respond. The broadcast request feature is available only with function codes 6 and 10, Preset Single Registers and Preset Multiple Registers, respectively. See Tables 1.3 and 1.4.

1.4: Function Codes

A packet's Function Code tells the addressed Slave what action to perform. The Nexus® 1500 meter supports the following Modbus Function Codes:

| Table 1.1: Function Codes | | |
|---------------------------|-----|---------------------------|
| Hex | Dec | Description |
| 03H | 3 | Read Holding Registers |
| 06H | 6 | Preset Single Register |
| 10H | 16 | Preset Multiple Registers |

1.4.1: Function Code 03—Read Holding Registers

This function allows a Master station to read one or more parameter values (data registers) from a Nexus® meter Slave. The data registers are 16-bit (two byte) values transmitted in “Big Indian” format: high-ordered byte first, low-ordered byte second.

The Master device sends a packet defining a start register for the Slave and the number of registers to read. The Slave responds with a packet containing the requested parameter values within the range specified in the request.

In the following **example**, a Master device requests a Nexus® meter Slave at address 01H to transmit two values beginning at Register 00001. The Slave replies with values 3031H and 3037H from Registers 00001 and 00002.

| Table 1.2: Function Code 03 Example | | | |
|-------------------------------------|-----|---------------|-----|
| Master Packet | | Slave Packet | |
| Slave Address | 01H | Slave Address | 01H |
| Function Code | 03H | Function Code | 03H |
| Data Starting Address - Hi | 00H | Byte Count | 04H |
| Data Starting Address - Lo | 00H | Data 1-Hi | 30H |
| Number of Registers - Hi | 00H | Data 1-Lo | 31H |
| Number of Registers - Lo | 02H | Data 2-Hi | 30H |
| CRC-Lo | C4H | Data 2-Lo | 37H |
| CRC-Hi | 0BH | CRC-Lo | F1H |
| | | CRC-Hi | 2AH |

1.4.2: Function Code 06—Preset Single Register

This function allows a Master station to modify a single register in a Nexus® meter Slave. The data registers are 16-bit (two byte) values transmitted high-ordered byte first, low-ordered byte second.

In the following example, a Master device stores the value 0001H at Register 57346 in a Nexus® meter Slave at address 01H.

| Table 1.3: Function Code 6 Example | | | |
|------------------------------------|-----|----------------------------|-----|
| Master Packet | | Slave Packet | |
| Slave Address | 01H | Slave Address | 01H |
| Function Code | 06H | Function Code | 06H |
| Data Starting Address- Hi | E0H | Data Starting Address - Hi | E0H |
| Data starting Address-Lo | 01H | Data Starting Address-Lo | 01H |
| Data-Hi | 00H | Data-Hi | 00H |
| Data-Lo | 01H | Data-Lo | 01H |
| CRC-Lo | 2EH | CRC-Lo | 2EH |
| CRC-Hi | 0AH | CRC-Hi | 0AH |

1.4.3: Function Code 10—Preset Multiple Registers

This function allows a Master station to modify a group of consecutive registers in a Nexus® meter Slave. Registers are 16-bit (two byte) values transmitted high-ordered byte first, low-ordered byte second.

In the following example, a Master device stores the value 0001H at Register 57345, 0001H at Register 57346 and 0001H at Register 57347 in a Nexus® meter Slave at address 01H.

1.4.4: Data Starting Address

- Range in Hex: 0000H - FFFFH
- Range in Decimal: 00001 - 65536

The Address in Chapter 2 (Nexus® Meter Modbus Register Map Excel Spreadsheet) is in Decimal.

Example: For some SCADA Software, to read Holding Registers (1.4.1), Address Format should be:

4(XXXXX) with the XXXXX being our Decimal Address.

| Table 1.4: Function Code 10 Example | | | |
|--|-----|----------------------------|-----|
| Master Packet | | Slave Packet | |
| Slave Address | 01H | Slave Address | 01H |
| Function Code | 06H | Function Code | 06H |
| Data Starting Address- Hi | E0H | Data Starting Address - Hi | E0H |
| Data starting Address-Lo | 01H | Data Starting Address-Lo | 01H |
| Number of Setpoints-Hi | 00H | Number of Setpoints-Hi | 00H |
| Number of Setpoints-Lo | 03H | Number of Setpoints-Lo | 03H |
| Byte Count | 06H | CRC-Lo | E6H |
| Data #1-Hi | 00H | CRC-Hi | 08H |
| Data #1-Lo | 01H | | |
| Data #2-Lo | 00H | | |
| Data #2-Hi | 01H | | |
| Data #3-Lo | 00H | | |
| Data #3-Hi | 01H | | |
| CRC-Lo | 4DH | | |
| CRC-Hi | 46H | | |

1.5: CRC (Error Checksum) Algorithm

The Cyclic Redundancy Check (CRC) field is an error checksum calculation that enables a Slave device to determine if a request packet has been corrupted during transmission.

Every request packet transmitted from Master to Slave includes a special 16-bit value derived from a CRC-16 algorithm performed on the packet's contents. When a Nexus® meter Slave receives a packet, it performs a CRC-16 calculation and compares the value with the one included in the request packet. If the two values do not match, the Slave will ignore the packet.

Following is the pseudocode for calculating the 16-bit CRC:

```

Initialize a 16-bit register to FFFFH.
Initialize the generator polynomial to A001H.
  FOR n=1 to # of bytes in packet
    XOR nth data byte with the 16-bit register
    FOR bits_shifted = 1 to 8
      SHIFT 1 bit to the right
      IF (bit shifted out EQUAL 1)
        XOR generator polynomial with the 16-bit register and
        the 16-bit register
      store result in
    END IF
  END FOR
END FOR

```

The resulting 16-bit register contains the CRC-16 checksum.

1.6: Dead Time

A Nexus® meter Slave considers a transmission from a Master complete when it has received no data for a period of 3.5 byte transmission times—approximately 7 ms at 4800 baud and 300 microseconds at 115200 baud. If the Master transmits any gaps between bytes that are longer than this time period, the Slaves will perceive it as dead time.

At the conclusion of the dead time, all unaddressed Slaves begin listening for a new packet from the Master.

1.7: Exception Response (Error Codes)

A Nexus® meter Slave will send its Master an Exception Response packet, if it has encountered an invalid command or other problem while carrying out the Master's instructions. The function code of the response will have the most significant bit set. The Data field of the Exception Response contains an Error Code specific to the type of problem.

Table 1.5 lists the different Error Codes supported by the Nexus® 1500 meter.

| Table 1.5: Exception Response (Error Codes) | | |
|---|-----------------------|--|
| Error Code | Name | Description |
| 01 | Illegal Function | The Slave does not support the function code of the transmitted request packet. |
| 02 | Illegal Data Address | The Slave does not recognize the address in the data field of the transmitted request packet. |
| 03 | Illegal Data Value | The value referenced in the transmitted request packet is not supported by the register on the Nexus® meter Slave. |
| 06 | Busy, Rejected Packet | The Slave is busy performing a long operation and cannot receive the request packet. |

In the following example, a Master Device requests a Nexus® meter Slave at address 01H to transmit the value at Register 00256. The Slave replies with an error, indicating that it is busy.

| Table 1.6: Exception Response Example | | | |
|---------------------------------------|-----|---------------|-----|
| Master Packet | | Slave Packet | |
| Address | 01H | Address | 01H |
| Function Code | 03H | Function Code | 83H |
| Data Starting Address- Hi | 01H | Error Code | 06H |
| Data starting Address-Lo | 00H | CRC-Lo | C1H |
| Number of Registers-Hi | 00H | CRC-Hi | 32H |
| Number of Registers-Lo | 01H | | |
| CRC-Lo | 85H | | |
| CRC-Hi | F6H | | |

1.8: Modbus Extensions

Modbus Read Requests have a maximum size when using standard Modbus function. EI developed Enhanced (Non-Standard) Modbus Read Requests to allow larger than standard responses. This requires fewer requests and, is therefore, more efficient and total download time is reduced.

This function is also more efficient with Log Retrieval. It allows the Network Card(s) to have DNP communication with the main unit utilizing a Modbus connection.

The following are non-standard extensions to the Modbus Protocol. The Nexus® 1500 meter supports the following additional Modbus Function Codes:

| Modbus Extensions | | |
|-------------------|-----|---------------------------------------|
| Function Code | | Description |
| Hex | Dec | |
| 23H | 35 | Read Holding Registers Multiple Times |
| 42H | 66 | Encapsulated DNP for LAN/WAN |

1.8.1: Function Code 23H - Read Holding Registers Multiple Times

This function allows a Master station to read the binary contents of holding registers (4X references) in the slave multiple times. Broadcast is not supported.

The Master device sends a packet defining the starting register, quantity of registers to be read and the repeat count. Registers are addressed starting at zero: registers 1-16 are addressed as 0-15.

Here is an example of a request to read registers 40108-40110 twice from slave device 17:

| Function Code | |
|--------------------------|---------------|
| Field Name | Example (Hex) |
| Slave Address | 11 |
| Function Code | 23 |
| Data Starting Address-Hi | 00 |
| Data Starting Address-Lo | 6B |
| Number of Registers-Hi | 00 |
| Number of Registers-Lo | 03 |
| Repeat Count | 02 |
| Error Check (LRC or CRC) | |

The register data in the response message are packed as two bytes per register, with the binary contents right justified within each byte. For each register, the first byte contains the high order bits and the second contains the low order bits.

Data is scanned at the following maximum rates, depending on the repeat count:

| Repeat Count | RTU Framing | ASCII Framing |
|--------------|---------------|---------------|
| 1 | 509 Registers | 253 Registers |
| 2 | 254 Registers | 126 Registers |
| 3 | 169 Registers | 84 Registers |
| 4 | 127 Registers | 63 Registers |
| 5 | 101 Registers | 50 Registers |
| 6 | 84 Registers | 42 Registers |
| 7 | 72 Registers | 36 Registers |

The response is returned when the data is completely assembled.

Here is an example of a response to the data given earlier:

| Function Code 23H Example (Response) | |
|---------------------------------------|---------------|
| Field Name | Example (Hex) |
| Slave Address | 11 |
| Function Code | 23 |
| Byte Count Hi | 00 |
| Byte Count Lo | 0C |
| Data Hi (Register 40108, First Read) | 02 |
| Data Lo (Register 40108, First Read) | 2B |
| Data Hi (Register 40109, First Read) | 00 |
| Data Lo (Register 40109, First Read) | 00 |
| Data Hi (Register 40110, First Read) | 00 |
| Data Lo (Register 40110, First Read) | 64 |
| Data Hi (Register 40108, Second Read) | 02 |
| Data Lo (Register 40108, Second Read) | 2B |
| Data Hi (Register 40109, Second Read) | 00 |
| Data Lo (Register 40109, Second Read) | 00 |
| Data Hi (Register 40110, Second Read) | 00 |
| Data Lo (Register 40110, Second Read) | 64 |
| Error Check (LRC or CRC) | -- |

The contents of Register 40108 are shown as the two-byte values of 02 2B Hex or 555 Decimal.
The contents of Registers 40109 - 40110 are 00 00 and 00 64 Hex or 0 and 100 Decimal.

Chapter 2

Nexus® 1500 Meter Modbus Register Map

The Nexus® 1500 meter Modbus Register Map begins on the following page.

- One Second Readings use the One Second Block, Registers 00176-00235, described in Section 8.5.
- Resetting Maximums, Minimums, Energy Readings and/or Logs use the Action Block, Registers 57345-57393, described in Section 8.71.
- Time may be set in the Nexus® meter using the Real Time Block, Registers 00081-00089, described in Section 8.2.
- Chapter 8 offers descriptions of all the Nexus® 1500 meter Modbus Register Map's Register Block Titles and the Registers included in each block.
- See Chapter 3 for a detailed description of Communication Formats referred to in the Register Map's "Type" column. See the Table of Contents for a list of the Register Map's "Types" and their page location in Chapter 3.
- See Chapter 4 for an explanation of the Register Map's "Notes" column.
- See Chapter 5 for an explanation of Logs, Port Control and Updating Programmable Settings.
- See Chapter 6 for an explanation of the Log Formats.
- See Chapter 7 for an explanation of the Programmable Settings Blocks.

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------|-------------|------|----|------------|---|------------------------|-----------------|------|-----|-------|
| Device Identification Block | | | | | | | | | | |
| 0000H-0007H | 00001-00008 | 0 | 0 | | Device Name | | | F1 | R | |
| 0008H-000FH | 00009-00016 | 1 | 0 | | Firmware Variation String 1 | | | F1 | R | |
| 0010H-0017H | 00017-00024 | 1 | 1 | | Firmware Variation String 2 | | | F1 | R | |
| 0018H-001FH | 00025-00032 | 1 | 2 | | Firmware Variation String 3 | | | F1 | R | |
| 0020H-0027H | 00033-00040 | 1 | 3 | | Firmware Variation String 4 | | | F1 | R | |
| 0028H-002FH | 00041-00048 | 1 | 4 | | Firmware Variation String 5 | | | F1 | R | |
| 0030H-0037H | 00049-00056 | 1 | 5 | | Firmware Variation String 6 | | | F1 | R | |
| 0038H-003FH | 00057-00064 | 1 | 6 | | Firmware Variation String 7 | | | F1 | R | |
| 0040H-0047H | 00065-00072 | 1 | 7 | | Firmware Variation String 8 | | | F1 | R | |
| 0048H-0049H | 00073-00074 | 2 | 0 | | Nexus Comm Boot Version Number (Major). See also register 0xFD00-0xFD01 for Minor | 9.9.9.9 / 0.0.0.0 | 0.0.0.1 version | F2 | R | |
| 004AH-004BH | 00075-00076 | 3 | 0 | | Nexus Comm Run-Time Version Number (Major). See also register 0xFD07-0xFD08 for Minor | 9.9.9.9 / 0.0.0.0 | 0.0.0.1 version | F2 | R | |
| 004CH-004DH | 00077-00078 | 4 | 0 | | Nexus DSP Boot Version Number | 9.9.9.9 / 0.0.0.0 | 0.0.0.1 version | F2 | R | |
| 004EH-004FH | 00079-00080 | 5 | 0 | | Nexus DSP Run-Time Version Number | 9.9.9.9 / 0.0.0.0 | 0.0.0.1 version | F2 | R | |
| Real Time Block | | | | | | | | | | |
| 0050H-0053H | 00081-00084 | 6 | 0 | 50 | On Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0054H-0057H | 00085-00088 | 7 | 0 | 50 | Current Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R/W | 1, 2 |
| 0058H | 00089 | 8 | 0 | 50 | Current Day of the Week | Sunday - Saturday | | F4 | R/W | 1, 2 |
| One Cycle Block | | | | | | | | | | |
| 0059H-005CH | 00090-0093 | 9 | 0 | | One cycle Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 005DH-005EH | 00094-0095 | 10 | 0 | | One cycle Phase A-N Voltage | | | F68 | R | |
| 005FH-0060H | 00096-0097 | 10 | 1 | | One cycle Phase B-N Voltage | | | F68 | R | |
| 0061H-0062H | 00098-0099 | 10 | 2 | | One cycle Phase C-N Voltage | | | F68 | R | |
| 0063H-0064H | 00100-0101 | 11 | 0 | | One cycle Vaux Voltage | | | F68 | R | |
| 0065H-0066H | 00102-0103 | 12 | 0 | | One cycle Phase A Current | | | F68 | R | |
| 0067H-0068H | 00104-0105 | 12 | 1 | | One cycle Phase B Current | | | F68 | R | |
| 0069H-006AH | 00106-0107 | 12 | 2 | | One cycle Phase C Current | | | F68 | R | |
| 006BH-006CH | 00108-0109 | 13 | 0 | | One cycle Measured Neutral Current (Iaux) | | | F68 | R | |
| 006DH-006EH | 00110-0111 | 14 | 0 | | One cycle Phase A-B Voltage | | | F68 | R | |
| 006FH-0070H | 00112-0113 | 14 | 1 | | One cycle Phase B-C Voltage | | | F68 | R | |
| 0071H-0072H | 00114-0115 | 14 | 2 | | One cycle Phase A-C Voltage | | | F68 | R | |
| 0073H-0074H | 00116-0117 | 15 | 0 | | One cycle Calculated Neutral Current (Ires) | | | F68 | R | |
| 0075H | 00118 | 16 | 0 | | One cycle High Speed Input Delta and Current State | | | F6 | R | |
| Tenth Second Block | | | | | | | | | | |
| 0076H-0079H | 00119-00122 | 17 | 0 | 50 | Tenth second Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 007AH-007BH | 00123-00124 | 18 | 0 | 30 | Tenth second Phase A-N Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 007CH-007DH | 00125-00126 | 18 | 1 | 30 | Tenth second Phase B-N Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 007EH-007FH | 00127-00128 | 18 | 2 | 30 | Tenth second Phase C-N Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0080H-0081H | 00129-00130 | 19 | 0 | 30 | Tenth second Vaux Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0082H-0083H | 00131-00132 | 20 | 0 | 30 | Tenth second Phase A Current | +32767 V / 0 V | 1/ 65536 A sec | F7 | R | 6 |
| 0084H-0085H | 00133-00134 | 20 | 1 | 30 | Tenth second Phase B Current | +32767 V / 0 V | 1/ 65536 A sec | F7 | R | 6 |
| 0086H-0087H | 00135-00136 | 20 | 2 | 30 | Tenth second Phase C Current | +32767 V / 0 V | 1/ 65536 A sec | F7 | R | 6 |
| 0088H-0089H | 00137-00138 | 21 | 0 | 30 | Tenth second Measured Neutral Current | +32767 V / 0 V | 1/ 65536 A sec | F7 | R | |
| 008AH-008BH | 00139-00140 | 22 | 0 | 30 | Tenth second Phase A-B Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 008CH-008DH | 00141-00142 | 22 | 1 | 30 | Tenth second Phase B-C Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 008EH-008FH | 00143-00144 | 22 | 2 | 30 | Tenth second Phase A-C Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0090H-0091H | 00145-00146 | 23 | 0 | 30 | Tenth second Phase A VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0092H-0093H | 00147-00148 | 23 | 1 | 30 | Tenth second Phase B VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0094H-0095H | 00149-00150 | 23 | 2 | 30 | Tenth second Phase C VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0096H-0097H | 00151-00152 | 24 | 0 | 30 | Tenth second Three Phase VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0098H-0099H | 00153-00154 | 25 | 0 | 30 | Tenth second Phase A VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 009AH-009BH | 00155-00156 | 25 | 1 | 30 | Tenth second Phase B VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 009CH-009DH | 00157-00158 | 25 | 2 | 30 | Tenth second Phase C VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 009EH-009FH | 00159-00160 | 26 | 0 | 30 | Tenth second Three Phase VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 00A0H-00A1H | 00161-00162 | 27 | 0 | 30 | Tenth second Phase A Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 00A2H-00A3H | 00163-00164 | 27 | 1 | 30 | Tenth second Phase B Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 00A4H-00A5H | 00165-00166 | 27 | 2 | 30 | Tenth second Phase C Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 00A6H-00A7H | 00167-00168 | 28 | 0 | 30 | Tenth second Three Phase Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 00A8H-00A9H | 00169-00170 | 29 | 0 | 30 | Tenth second Frequency | +32767 Hz / 0 Hz | 1/ 65536 Hz | F7 | R | |
| 00AAH | 00171 | 30 | 0 | 30 | Tenth second Phase A Power Factor | 3.999 / 0.000 | 0.001 PF | F8 | R | |
| 00ABH | 00172 | 30 | 1 | 30 | Tenth second Phase B Power Factor | 3.999 / 0.000 | 0.001 PF | F8 | R | |
| 00ACH | 00173 | 30 | 2 | 30 | Tenth second Phase C Power Factor | 3.999 / 0.000 | 0.001 PF | F8 | R | |
| 00ADH | 00174 | 31 | 0 | 30 | Tenth second Three Phase Power Factor | 3.999 / 0.000 | 0.001 PF | F8 | R | |
| 00AEH | 00175 | 32 | 0 | 30 | Tenth second Phase A-N Voltage to Auxiliary Voltage Phase Angle | + 180 / - 180 | 0.01 degree | F9 | R | |
| One Second Block | | | | | | | | | | |
| 00AFH-00B2H | 00176-00179 | 33 | 0 | 50 | One second Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 00B3H-00B4H | 00180-00181 | 34 | 0 | 30 | One second Phase A-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00B5H-00B6H | 00182-00183 | 34 | 1 | 30 | One second Phase B-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00B7H-00B8H | 00184-00185 | 34 | 2 | 30 | One second Phase C-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00B9H-00BAH | 00186-00187 | 35 | 0 | 30 | One second Vaux Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00BBH-00BCH | 00188-00189 | 36 | 0 | 30 | One second Phase A Current | +32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 00BDH-00BEH | 00190-00191 | 36 | 1 | 30 | One second Phase B Current | +32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 00BFH-00C0H | 00192-00193 | 36 | 2 | 30 | One second Phase C Current | +32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 00C1H-00C2H | 00194-00195 | 37 | 0 | 30 | One second Measured Neutral Current | +32767 A / 0 A | 1/ 65536 A sec | F7 | R | |
| 00C3H-00C4H | 00196-00197 | 38 | 0 | 30 | One second Calculated Neutral Current | +32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 00C5H-00C6H | 00198-00199 | 39 | 0 | 30 | One second Phase A-B Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00C7H-00C8H | 00200-00201 | 39 | 1 | 30 | One second Phase B-C Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00C9H-00CAH | 00202-00203 | 39 | 2 | 30 | One second Phase C-A Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00CBH-00CCH | 00204-00205 | 40 | 0 | 30 | One second Phase A VA | + 32767 V / 0 V | 1/ 65536 VA sec | F7 | R | 9 |
| 00CDH-00CEH | 00206-00207 | 40 | 1 | 30 | One second Phase B VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 00CFH-00D0H | 00208-00209 | 40 | 2 | 30 | One second Phase C VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 00D1H-00D2H | 00210-00211 | 41 | 0 | 30 | One second VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 00D3H-00D4H | 00212-00213 | 42 | 0 | 30 | One second Phase A VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 00D5H-00D6H | 00214-00215 | 42 | 1 | 30 | One second Phase B VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 00D7H-00D8H | 00216-00217 | 42 | 2 | 30 | One second Phase C VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 00D9H-00DAH | 00218-00219 | 43 | 0 | 30 | One second Three VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 00DBH-00DCH | 00220-00221 | 44 | 0 | 30 | One second Phase A Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 00DDH-00DEH | 00222-00223 | 44 | 1 | 30 | One second Phase B Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 00DFH-00E0H | 00224-00225 | 44 | 2 | 30 | One second Phase C Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 00E1H-00E2H | 00226-00227 | 45 | 0 | 30 | One second Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 00E3H-00E4H | 00228-00229 | 46 | 0 | 30 | One second Frequency | + 32767 Hz / 0 Hz | 1/ 65536 Hz | F7 | R | |
| 00E5H | 00230 | 47 | 0 | 30 | One second Phase A Power Factor | 3.999 / 0 | 0.001 PF | F8 | R | |
| 00E6H | 00231 | 47 | 1 | 30 | One second Phase B Power Factor | 3.999 / 0 | 0.001 PF | F8 | R | |
| 00E7H | 00232 | 47 | 2 | 30 | One second Phase C Power Factor | 3.999 / 0 | 0.001 PF | F8 | R | |
| 00E8H | 00233 | 48 | 0 | 30 | One second Three Phase Power Factor | 3.999 / 0 | 0.001 PF | F8 | R | |
| 00E9H | 00234 | 49 | 0 | 30 | One second Voltage Imbalance | +327.67% / -327.68% | 0.01% | F10 | R | |
| 00EAH | 00235 | 49 | 1 | 30 | One second Current Imbalance | +327.67% / -327.68% | 0.01% | F10 | R | |
| Thermal Average Block | | | | | | | | | | |
| 00EBH-00EEH | 00236-00239 | 50 | 0 | 50 | Thermal Average Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 00EFH-00F0H | 00240-00241 | 51 | 0 | 30 | Thermal Average Phase A-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00F1H-00F2H | 00242-00243 | 51 | 1 | 30 | Thermal Average Phase B-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00F3H-00F4H | 00244-00245 | 51 | 2 | 30 | Thermal Average Phase C-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 00F7H-00F8H | 00248-00249 | 53 | 0 | 30 | Thermal Average Phase A Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 00F9H-00FAH | 00250-00251 | 53 | 1 | 30 | Thermal Average Phase B Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 00FBH-00FCH | 00252-00253 | 53 | 2 | 30 | Thermal Average Phase C Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 00FDH-00FEH | 00254-00255 | 54 | 0 | 30 | Thermal Average Measured Neutral Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | |
| 00FFH-0100H | 00256-00257 | 55 | 0 | 30 | Thermal Average Calculated Neutral Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 0101H-0102H | 00258-00259 | 56 | 0 | 30 | Thermal Average Phase A-B Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0103H-0104H | 00260-00261 | 56 | 1 | 30 | Thermal Average Phase B-C Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0105H-0106H | 00262-00263 | 56 | 2 | 30 | Thermal Average Phase C-A Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0107H-0108H | 00264-00265 | 57 | 0 | 30 | Thermal Average Phase A VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0109H-010AH | 00266-00267 | 57 | 1 | 30 | Thermal Average Phase B VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 010BH-010CH | 00268-00269 | 57 | 2 | 30 | Thermal Average Phase C VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 010DH-010EH | 00270-00271 | 58 | 0 | 30 | Thermal Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 010FH-0110H | 00272-00273 | 59 | 0 | 30 | Thermal Average Phase A VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0111H-0112H | 00274-00275 | 59 | 1 | 30 | Thermal Average Phase B VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0113H-0114H | 00276-00277 | 58 | 2 | 30 | Thermal Average Phase C VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0115H-0116H | 00278-00279 | 60 | 0 | 30 | Thermal Average VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0117H-0118H | 00280-00281 | 61 | 0 | 30 | Thermal Average Phase A Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0119H-011AH | 00282-00283 | 61 | 1 | 30 | Thermal Average Phase B Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 011BH-011CH | 00284-00285 | 61 | 2 | 30 | Thermal Average Phase C Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 011DH-011EH | 00286-00287 | 62 | 0 | 30 | Thermal Average Watts | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 011FH-0120H | 00288-00289 | 63 | 0 | 30 | Thermal Average Frequency | + 32767 Hz / 0 Hz | 1/ 65536 Hz | F7 | R | |
| 0121H | 00290 | 64 | 0 | 30 | Thermal Average Phase A Power Factor | 3.999 / 0 | 0.001 PF | F8 | R | |
| 0122H | 00291 | 64 | 1 | 30 | Thermal Average Phase B Power Factor | 3.999 / 0 | 0.001 PF | F8 | R | |
| 0123H | 00292 | 64 | 2 | 30 | Thermal Average Phase C Power Factor | 3.999 / 0 | 0.001 PF | F8 | R | |
| 0124H | 00293 | 65 | 0 | 30 | Thermal Average Power Factor | 3.999 / 0 | 0.001 PF | F8 | R | |
| 0125H | 00294 | 66 | 0 | 30 | Thermal Average Voltage Imbalance | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0126H | 00295 | 66 | 1 | 30 | Thermal Average Current Imbalance | +327.67% / -327.68% | 0.01% | F10 | R | |
| Maximum Block | | | | | | | | | | |
| 0127H-012AH | 00296-00299 | 67 | 0 | 50 | Maximum Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 012BH-012CH | 00300-00301 | 68 | 0 | 30 | Maximum Thermal Average Phase A-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 012DH-012EH | 00302-00303 | 68 | 1 | 30 | Maximum Thermal Average Phase B-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 012FH-0130H | 00304-00305 | 68 | 2 | 30 | Maximum Thermal Average Phase C-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0133H-0134H | 00308-00309 | 70 | 0 | 30 | Maximum Thermal Average Phase A Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 0135H-0136H | 00310-00311 | 70 | 1 | 30 | Maximum Thermal Average Phase B Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 0137H-0138H | 00312-00313 | 70 | 2 | 30 | Maximum Thermal Average Phase C Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 0139H-013AH | 00314-00315 | 71 | 0 | 30 | Maximum Thermal Average Measured Neutral Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | |
| 013BH-013CH | 00316-00317 | 72 | 0 | 30 | Maximum Thermal Average Calculated Neutral Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 013DH-013EH | 00318-00319 | 73 | 0 | 30 | Maximum Thermal Average Phase A-B Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 013FH-0140H | 00320-00321 | 73 | 1 | 30 | Maximum Thermal Average Phase B-C Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0141H-0142H | 00322-00323 | 73 | 2 | 30 | Maximum Thermal Average Phase C-A Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0143H-0144H | 00324-00325 | 74 | 0 | 30 | Maximum Thermal Average Phase A VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0145H-0146H | 00326-00327 | 74 | 1 | 30 | Maximum Thermal Average Phase B VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0147H-0148H | 00328-00329 | 74 | 2 | 30 | Maximum Thermal Average Phase C VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0149H-014AH | 00330-00331 | 75 | 0 | 30 | Maximum Thermal Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 014BH-014CH | 00332-00333 | 76 | 0 | 30 | Maximum Thermal Average Phase A Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 014DH-014EH | 00334-00335 | 76 | 1 | 30 | Maximum Thermal Average Phase B Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 014FH-0150H | 00336-00337 | 76 | 2 | 30 | Maximum Thermal Average Phase C Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0151H-0152H | 00338-00339 | 77 | 0 | 30 | Maximum Thermal Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0153H-0154H | 00340-00341 | 78 | 0 | 30 | Maximum Thermal Average Phase A Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0155H-0156H | 00342-00343 | 78 | 1 | 30 | Maximum Thermal Average Phase B Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0157H-0158H | 00344-00345 | 78 | 2 | 30 | Maximum Thermal Average Phase C Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 0159H-015AH | 00346-00347 | 79 | 0 | 30 | Maximum Thermal Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 015BH-015CH | 00348-00349 | 80 | 0 | 30 | Maximum Thermal Average Phase A Watts Positive | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 015DH-015EH | 00350-00351 | 80 | 1 | 30 | Maximum Thermal Average Phase B Watts Positive | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 015FH-0160H | 00352-00353 | 80 | 2 | 30 | Maximum Thermal Average Phase C Watts Positive | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 0161H-0162H | 00354-00355 | 81 | 0 | 30 | Maximum Thermal Average Positive Watts | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 0163H-0164H | 00356-00357 | 82 | 0 | 30 | Maximum Thermal Average Phase A Watts Negative | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0165H-0166H | 00358-00359 | 82 | 1 | 30 | Maximum Thermal Average Phase B Watts Negative | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0167H-0168H | 00360-00361 | 82 | 2 | 30 | Maximum Thermal Average Phase C Watts Negative | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0169H-016AH | 00362-00363 | 83 | 0 | 30 | Maximum Thermal Average Negative Watts | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 016BH-016CH | 00364-00365 | 84 | 0 | 30 | Maximum Thermal Average Frequency | + 32767 Hz / 0 Hz | 1/ 65536 Hz | F7 | R | |
| 016DH | 00366 | 85 | 0 | 30 | Maximum Thermal Average Phase A Power Factor Quadrant 1 | 0.999 / 0 | 0.001 PF | F8 | R | |
| 016EH | 00367 | 85 | 1 | 30 | Maximum Thermal Average Phase B Power Factor Quadrant 1 | 0.999 / 0 | 0.001 PF | F8 | R | |
| 016FH | 00368 | 85 | 2 | 30 | Maximum Thermal Average Phase C Power Factor Quadrant 1 | 0.999 / 0 | 0.001 PF | F8 | R | |
| 0170H | 00369 | 86 | 0 | 30 | Maximum Thermal Average Power Factor Quadrant 1 | 0.999 / 0 | 0.001 PF | F8 | R | |
| 0171H | 00370 | 87 | 0 | 30 | Maximum Thermal Average Phase A Power Factor Quadrant 2 | 3.999 / 3.000 | 0.001 PF | F8 | R | |
| 0172H | 00371 | 87 | 1 | 30 | Maximum Thermal Average Phase B Power Factor Quadrant 2 | 3.999 / 3.000 | 0.001 PF | F8 | R | |
| 0173H | 00372 | 87 | 2 | 30 | Maximum Thermal Average Phase C Power Factor Quadrant 2 | 3.999 / 3.000 | 0.001 PF | F8 | R | |
| 0174H | 00373 | 88 | 0 | 30 | Maximum Thermal Average Power Factor Quadrant 2 | 3.999 / 3.000 | 0.001 PF | F8 | R | |
| 0175H | 00374 | 89 | 0 | 30 | Maximum Thermal Average Phase A Power Factor Quadrant 3 | 2.999 / 2.000 | 0.001 PF | F8 | R | |
| 0176H | 00375 | 89 | 1 | 30 | Maximum Thermal Average Phase B Power Factor Quadrant 3 | 2.999 / 2.000 | 0.001 PF | F8 | R | |
| 0177H | 00376 | 89 | 2 | 30 | Maximum Thermal Average Phase C Power Factor Quadrant 3 | 2.999 / 2.000 | 0.001 PF | F8 | R | |
| 0178H | 00377 | 90 | 0 | 30 | Maximum Thermal Average Power Factor Quadrant 3 | 2.999 / 2.000 | 0.001 PF | F8 | R | |
| 0179H | 00378 | 91 | 0 | 30 | Maximum Thermal Average Phase A Power Factor Quadrant 4 | 1.999 / 1.000 | 0.001 PF | F8 | R | |
| 017AH | 00379 | 91 | 1 | 30 | Maximum Thermal Average Phase B Power Factor Quadrant 4 | 1.999 / 1.000 | 0.001 PF | F8 | R | |
| 017BH | 00380 | 91 | 2 | 30 | Maximum Thermal Average Phase C Power Factor Quadrant 4 | 1.999 / 1.000 | 0.001 PF | F8 | R | |
| 017CH | 00381 | 92 | 0 | 30 | Maximum Thermal Average Power Factor Quadrant 4 | 1.999 / 1.000 | 0.001 PF | F8 | R | |
| 017DH | 00382 | 93 | 0 | 30 | Maximum Thermal Average Voltage Imbalance | +327.67% / -327.68% | 0.01% | F10 | R | |
| 017EH | 00383 | 93 | 1 | 30 | Maximum Thermal Average Current Imbalance | +327.67% / -327.68% | 0.01% | F10 | R | |
| 017FH | 00384 | 94 | 0 | 30 | Maximum THD Phase A-N / A-B Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0180H | 00385 | 94 | 1 | 30 | Maximum THD Phase B-N / B-C Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0181H | 00386 | 94 | 2 | 30 | Maximum THD Phase C-N / C-A Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0182H | 00387 | 95 | 0 | 30 | Maximum THD Phase A Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0183H | 00388 | 95 | 1 | 30 | Maximum THD Phase B Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0184H | 00389 | 95 | 2 | 30 | Maximum THD Phase C Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0185H | 00390 | 96 | 0 | 30 | Maximum K-Factor Phase A Current | 327.67 / -327.68 | 0.01 | F67 | R | |
| 0186H | 00391 | 96 | 1 | 30 | Maximum K-Factor Phase B Current | 327.67 / -327.68 | 0.01 | F67 | R | |
| 0187H | 00392 | 96 | 2 | 30 | Maximum K-Factor Phase C Current | 327.67 / -327.68 | 0.01 | F67 | R | |
| 0188H-0189H | 00393-00394 | 97 | 0 | 30 | Coincident Thermal Average VAR for Maximum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 W sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 018AH-018BH | 00395-00396 | 97 | 1 | 30 | Coincident Thermal Average VAR for Maximum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 W sec | F7 | R | 9 |
| Minimum Block | | | | | | | | | | |
| 018CH-018FH | 00397-00400 | 98 | 0 | 50 | Minimum Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0190H-0191H | 00401-00402 | 99 | 0 | 30 | Minimum Thermal Average Phase A-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0192H-0193H | 00403-00404 | 99 | 1 | 30 | Minimum Thermal Average Phase B-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0194H-0195H | 00405-00406 | 99 | 2 | 30 | Minimum Thermal Average Phase C-N Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 0198H-0199H | 00409-00410 | 101 | 0 | 30 | Minimum Thermal Average Phase A Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 019AH-019BH | 00411-00412 | 101 | 1 | 30 | Minimum Thermal Average Phase B Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 019CH-019DH | 00413-00414 | 101 | 2 | 30 | Minimum Thermal Average Phase C Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 019EH-019FH | 00415-00416 | 102 | 0 | 30 | Minimum Thermal Average Measured Neutral Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | |
| 01A0H-01A1H | 00417-00418 | 103 | 0 | 30 | Minimum Thermal Average Calculated Neutral Current | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 01A2H-01A3H | 00419-00420 | 104 | 0 | 30 | Minimum Thermal Average Phase A-B Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 01A4H-01A5H | 00421-00422 | 104 | 1 | 30 | Minimum Thermal Average Phase B-C Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 01A6H-01A7H | 00423-00424 | 104 | 2 | 30 | Minimum Thermal Average Phase C-A Voltage | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 01A8H-01A9H | 00425-00426 | 105 | 0 | 30 | Minimum Thermal Average Phase A VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 01AAH-01ABH | 00427-00428 | 105 | 1 | 30 | Minimum Thermal Average Phase B VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 01ACH-01ADH | 00429-00430 | 105 | 2 | 30 | Minimum Thermal Average Phase C VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 01AEH-01AFH | 00431-00432 | 106 | 0 | 30 | Minimum Thermal Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 01B0H-01B1H | 00433-00434 | 107 | 0 | 30 | Minimum Thermal Average Phase A Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 01B2H-01B3H | 00435-00436 | 107 | 1 | 30 | Minimum Thermal Average Phase B Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 01B4H-01B5H | 00437-00438 | 107 | 2 | 30 | Minimum Thermal Average Phase C Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 01B6H-01B7H | 00439-00440 | 108 | 0 | 30 | Minimum Thermal Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 01B8H-01B9H | 00441-00442 | 109 | 0 | 30 | Minimum Thermal Average Phase A Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 01BAH-01BBH | 00443-00444 | 109 | 1 | 30 | Minimum Thermal Average Phase B Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 01BCH-01BDH | 00445-00446 | 109 | 2 | 30 | Minimum Thermal Average Phase C Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 01BEH-01BFH | 00447-00448 | 110 | 0 | 30 | Minimum Thermal Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 01C0H-01C1H | 00449-00450 | 111 | 0 | 30 | Minimum Thermal Average Phase A Positive Watts | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 01C2H-01C3H | 00451-00452 | 111 | 1 | 30 | Minimum Thermal Average Phase B Positive Watts | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 01C4H-01C5H | 00453-00454 | 111 | 2 | 30 | Minimum Thermal Average Phase C Positive Watts | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 01C6H-01C7H | 00455-00456 | 112 | 0 | 30 | Minimum Thermal Average Positive Watts | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 01C8H-01C9H | 00457-00458 | 113 | 0 | 30 | Minimum Thermal Average Phase A Negative Watts | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 01CAH-01CBH | 00459-00460 | 113 | 1 | 30 | Minimum Thermal Average Phase B Negative Watts | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 01CCH-01CDH | 00461-00462 | 113 | 2 | 30 | Minimum Thermal Average Phase C Negative Watts | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 01CEH-01CFH | 00463-00464 | 114 | 0 | 30 | Minimum Thermal Average Negative Watts | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 01D0H-01D1H | 00465-00466 | 115 | 0 | 30 | Minimum Thermal Average Frequency | + 32767 Hz / 0 Hz | 1/ 65536 Hz | F7 | R | |
| 01D2H | 00467 | 116 | 0 | 30 | Minimum Thermal Average Phase A Power Factor Quadrant 1 | 0.999 / 0 | 0.001 PF | F8 | R | |
| 01D3H | 00468 | 116 | 1 | 30 | Minimum Thermal Average Phase B Power Factor Quadrant 1 | 0.999 / 0 | 0.001 PF | F8 | R | |
| 01D4H | 00469 | 116 | 2 | 30 | Minimum Thermal Average Phase C Power Factor Quadrant 1 | 0.999 / 0 | 0.001 PF | F8 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------|-------------|------|----|------------|---|-------------------------|----------------|------|-----|-------|
| 01D5H | 00470 | 117 | 0 | 30 | Minimum Thermal Average Power Factor Quadrant 1 | 0.999 / 0 | 0.001 PF | F8 | R | |
| 01D6H | 00471 | 118 | 0 | 30 | Minimum Thermal Average Phase A Power Factor Quadrant 2 | 3.999 / 3.000 | 0.001 PF | F8 | R | |
| 01D7H | 00472 | 118 | 1 | 30 | Minimum Thermal Average Phase B Power Factor Quadrant 2 | 3.999 / 3.000 | 0.001 PF | F8 | R | |
| 01D8H | 00473 | 118 | 2 | 30 | Minimum Thermal Average Phase C Power Factor Quadrant 2 | 3.999 / 3.000 | 0.001 PF | F8 | R | |
| 01D9H | 00474 | 119 | 0 | 30 | Minimum Thermal Average Power Factor Quadrant 2 | 3.999 / 3.000 | 0.001 PF | F8 | R | |
| 01DAH | 00475 | 120 | 0 | 30 | Minimum Thermal Average Phase A Power Factor Quadrant 3 | 2.999 / 2.000 | 0.001 PF | F8 | R | |
| 01DBH | 00476 | 120 | 1 | 30 | Minimum Thermal Average Phase B Power Factor Quadrant 3 | 2.999 / 2.000 | 0.001 PF | F8 | R | |
| 01DCH | 00477 | 120 | 2 | 30 | Minimum Thermal Average Phase C Power Factor Quadrant 3 | 2.999 / 2.000 | 0.001 PF | F8 | R | |
| 01DDH | 00478 | 121 | 0 | 30 | Minimum Thermal Average Power Factor Quadrant 3 | 2.999 / 2.000 | 0.001 PF | F8 | R | |
| 01DEH | 00479 | 122 | 0 | 30 | Minimum Thermal Average Phase A Power Factor Quadrant 4 | 1.999 / 1.000 | 0.001 PF | F8 | R | |
| 01DFH | 00480 | 122 | 1 | 30 | Minimum Thermal Average Phase B Power Factor Quadrant 4 | 1.999 / 1.000 | 0.001 PF | F8 | R | |
| 01E0H | 00481 | 122 | 2 | 30 | Minimum Thermal Average Phase C Power Factor Quadrant 4 | 1.999 / 1.000 | 0.001 PF | F8 | R | |
| 01E1H | 00482 | 123 | 0 | 30 | Minimum Thermal Average Power Factor Quadrant 4 | 1.999 / 1.000 | 0.001 PF | F8 | R | |
| 01E2H | 00483 | 124 | 0 | 30 | Minimum Thermal Average Voltage Imbalance | +327.67% / -327.68% | 0.01% | F10 | R | |
| 01E3H | 00484 | 124 | 1 | 30 | Minimum Thermal Average Current Imbalance | +327.67% / -327.68% | 0.01% | F10 | R | |
| 01E4H | 00485 | 125 | 0 | 30 | Minimum THD Phase A-N Voltage / Phase A-B Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 01E5H | 00486 | 125 | 1 | 30 | Minimum THD Phase B-N Voltage / Phase B-C Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 01E6H | 00487 | 125 | 2 | 30 | Minimum THD Phase C-N Voltage / Phase C-A Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 01E7H | 00488 | 126 | 0 | 30 | Minimum THD Phase A Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 01E8H | 00489 | 126 | 1 | 30 | Minimum THD Phase B Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 01E9H | 00490 | 126 | 2 | 30 | Minimum THD Phase C Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 01EAH | 00491 | 127 | 0 | 30 | Minimum K-Factor Phase A Current | 327.67 / -327.68 | 0.01 | F67 | R | |
| 01EBH | 00492 | 127 | 1 | 30 | Minimum K-Factor Phase B Current | 327.67 / -327.68 | 0.01 | F67 | R | |
| 01ECH | 00493 | 127 | 2 | 30 | Minimum K-Factor Phase C Current | 327.67 / -327.68 | 0.01 | F67 | R | |
| 01EDH-01EEH | 00494-00495 | 128 | 0 | 30 | Coincident Thermal Average VAR for Minimum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 W sec | F7 | R | 9 |
| 01EFH-01FOH | 00496-00497 | 128 | 1 | 30 | Coincident Thermal Average VAR for Minimum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 W sec | F7 | R | 9 |
| Maximum Time Stamp Block | | | | | | | | | | |
| 01F1H-01F4H | 00498-00501 | 129 | 0 | 50 | Maximum Thermal Average Phase A-N Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 01F5H-01F8H | 00502-00505 | 129 | 1 | 50 | Maximum Thermal Average Phase B-N Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 01F9H-01FCH | 00506-00509 | 129 | 2 | 50 | Maximum Thermal Average Phase C-N Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 01FDH-0200H | 00510-00513 | 129 | 3 | 50 | Maximum Thermal Average Auxiliary Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0201H-0204H | 00514-00517 | 129 | 4 | 50 | Maximum Thermal Average Phase A Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0205H-0208H | 00518-00521 | 129 | 5 | 50 | Maximum Thermal Average Phase B Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0209H-020CH | 00522-00525 | 129 | 6 | 50 | Maximum Thermal Average Phase C Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 020DH-0210H | 00526-00529 | 129 | 7 | 50 | Maximum Thermal Average Measured Neutral Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0211H-0214H | 00530-00533 | 129 | 8 | 50 | Maximum Thermal Average Calculated Neutral Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0215H-0218H | 00534-00537 | 129 | 9 | 50 | Maximum Thermal Average Phase A-B Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|------------------------|---------|------|-----|-------|
| 0219H-021CH | 00538-00541 | 129 | 10 | 50 | Maximum Thermal Average Phase B-C Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 021DH-0220H | 00542-00545 | 129 | 11 | 50 | Maximum Thermal Average Phase C-A Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0221H-0224H | 00546-00549 | 129 | 12 | 50 | Maximum Thermal Average Phase A VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0225H-0228H | 00550-00553 | 129 | 13 | 50 | Maximum Thermal Average Phase B VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0229H-022CH | 00554-00557 | 129 | 14 | 50 | Maximum Thermal Average Phase C VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 022DH-023H | 00558-00561 | 129 | 15 | 50 | Maximum Thermal Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0231H-0234H | 00562-00565 | 129 | 16 | 50 | Maximum Thermal Average Phase A Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0235H-0238H | 00566-00569 | 129 | 17 | 50 | Maximum Thermal Average Phase B Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0239H-023CH | 00570-00573 | 129 | 18 | 50 | Maximum Thermal Average Phase C Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 023DH-0240H | 00574-00577 | 129 | 19 | 50 | Maximum Thermal Average Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0241H-0244H | 00578-00581 | 129 | 20 | 50 | Maximum Thermal Average Phase A Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0245H-0248H | 00582-00585 | 129 | 21 | 50 | Maximum Thermal Average Phase B Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0249H-024CH | 00586-00589 | 129 | 22 | 50 | Maximum Thermal Average Phase C Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 024DH-0250H | 00590-00593 | 129 | 23 | 50 | Maximum Thermal Average Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0251H-0254H | 00594-00597 | 129 | 24 | 50 | Maximum Thermal Average Phase A Watts Positive Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0255H-0258H | 00598-00601 | 129 | 25 | 50 | Maximum Thermal Average Phase B Watts Positive Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0259H-025CH | 00602-00605 | 129 | 26 | 50 | Maximum Thermal Average Phase C Watts Positive Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 025DH-0260H | 00606-00609 | 129 | 27 | 50 | Maximum Thermal Average Positive Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0261H-0264H | 00610-00613 | 129 | 28 | 50 | Maximum Thermal Average Phase A Watts Negative Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0265H-0268H | 00614-00617 | 129 | 29 | 50 | Maximum Thermal Average Phase B Watts Negative Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0269H-026CH | 00618-00621 | 129 | 30 | 50 | Maximum Thermal Average Phase C Watts Negative Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 026DH-0270H | 00622-00625 | 129 | 31 | 50 | Maximum Thermal Average Negative Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0271H-0274H | 00626-00629 | 129 | 32 | 50 | Maximum Thermal Average Frequency Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0275H-0278H | 00630-00633 | 129 | 33 | 50 | Maximum Thermal Average Phase A Power Factor Quadrant 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0279H-027CH | 00634-00637 | 129 | 34 | 50 | Maximum Thermal Average Phase B Power Factor Quadrant 1 | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------|-------------|------|----|------------|--|------------------------|---------|------|-----|-------|
| 027DH-0280H | 00638-00641 | 129 | 35 | 50 | Maximum Thermal Average Phase C Power Factor Quadrant 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0281H-0284H | 00642-00645 | 129 | 36 | 50 | Maximum Thermal Average Power Factor Quadrant 1 | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0285H-0288H | 00646-00649 | 129 | 37 | 50 | Maximum Thermal Average Phase A Power Factor Quadrant 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0289H-028CH | 00650-00653 | 129 | 38 | 50 | Maximum Thermal Average Phase B Power Factor Quadrant 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 028DH-0290H | 00654-00657 | 129 | 39 | 50 | Maximum Thermal Average Phase C Power Factor Quadrant 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0291H-0294H | 00658-00661 | 129 | 40 | 50 | Maximum Thermal Average Power Factor Quadrant 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0295H-0298H | 00662-00665 | 129 | 41 | 50 | Maximum Thermal Average Phase A Power Factor Quadrant 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0299H-029CH | 00666-00669 | 129 | 42 | 50 | Maximum Thermal Average Phase B Power Factor Quadrant 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 029DH-02A0H | 00670-00673 | 129 | 43 | 50 | Maximum Thermal Average Phase C Power Factor Quadrant 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02A1H-02A4H | 00674-00677 | 129 | 44 | 50 | Maximum Thermal Average Power Factor Quadrant 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02A5H-02A8H | 00678-00681 | 129 | 45 | 50 | Maximum Thermal Average Phase A Power Factor Quadrant 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02A9H-02ACH | 00682-00685 | 129 | 46 | 50 | Maximum Thermal Average Phase B Power Factor Quadrant 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02ADH-02B0H | 00686-00689 | 129 | 47 | 50 | Maximum Thermal Average Phase C Power Factor Quadrant 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02B1H-02B4H | 00690-00693 | 129 | 48 | 50 | Maximum Thermal Average Power Factor Quadrant 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02B5H-02B8H | 00694-00697 | 129 | 49 | 50 | Maximum Thermal Average Voltage Imbalance Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02B9H-02BCH | 00698-00701 | 129 | 50 | 50 | Maximum Thermal Average Current Imbalance Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02BDH-02C0H | 00702-00705 | 129 | 51 | 50 | Maximum THD Phase A-N / A-B Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02C1H-02C4H | 00706-00709 | 129 | 52 | 50 | Maximum THD Phase B-N / B-C Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02C5H-02C8H | 00710-00713 | 129 | 53 | 50 | Maximum THD Phase C-N / C-A Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02C9H-02CCH | 00714-00717 | 129 | 54 | 50 | Maximum THD Phase A Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02CDH-02D0H | 00718-00721 | 129 | 55 | 50 | Maximum THD Phase B Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02D1H-02D4H | 00722-00725 | 129 | 56 | 50 | Maximum THD Phase C Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02D5H-02D8H | 00726-00729 | 129 | 57 | 50 | Maximum K-Factor Phase A Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02D9H-02DCH | 00730-00733 | 129 | 58 | 50 | Maximum K-Factor Phase B Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02DDH-02E0H | 00734-00737 | 129 | 59 | 50 | Maximum K-Factor Phase C Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Minimum Time Stamp Block | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|------------------------|---------|------|-----|-------|
| 02E1H-02E4H | 00738-00741 | 130 | 0 | 50 | Minimum Thermal Average Phase A-N Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02E5H-02E8H | 00742-00745 | 130 | 1 | 50 | Minimum Thermal Average Phase B-N Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02E9H-02ECH | 00746-00749 | 130 | 2 | 50 | Minimum Thermal Average Phase C-N Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02EDH-02F0H | 00750-00753 | 130 | 3 | 50 | Minimum Thermal Average Auxiliary Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02F1H-02F4H | 00754-00757 | 130 | 4 | 50 | Minimum Thermal Average Phase A Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02F5H-02F8H | 00758-00761 | 130 | 5 | 50 | Minimum Thermal Average Phase B Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02F9H-02FCH | 00762-00765 | 130 | 6 | 50 | Minimum Thermal Average Phase C Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 02FDH-0300H | 00766-00769 | 130 | 7 | 50 | Minimum Thermal Average Measured Neutral Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0301H-0304H | 00770-00773 | 130 | 8 | 50 | Minimum Thermal Average Calculated Neutral Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0305H-0308H | 00774-00777 | 130 | 9 | 50 | Minimum Thermal Average Phase A-B Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0309H-030CH | 00778-00781 | 130 | 10 | 50 | Minimum Thermal Average Phase B-C Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 030DH-0310H | 00782-00785 | 130 | 11 | 50 | Minimum Thermal Average Phase C-A Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0311H-0314H | 00786-00789 | 130 | 12 | 50 | Minimum Thermal Average Phase A VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0315H-0318H | 00790-00793 | 130 | 13 | 50 | Minimum Thermal Average Phase B VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0319H-031CH | 00794-00797 | 130 | 14 | 50 | Minimum Thermal Average Phase C VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 031DH-0320H | 00798-00801 | 130 | 15 | 50 | Minimum Thermal Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0321H-0324H | 00802-00805 | 130 | 16 | 50 | Minimum Thermal Average Phase A Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0325H-0328H | 00806-00809 | 130 | 17 | 50 | Minimum Thermal Average Phase B Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0329H-032CH | 00810-00813 | 130 | 18 | 50 | Minimum Thermal Average Phase C Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 032DH-0330H | 00814-00817 | 130 | 19 | 50 | Minimum Thermal Average Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0331H-0334H | 00818-00821 | 130 | 20 | 50 | Minimum Thermal Average Phase A Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0335H-0338H | 00822-00825 | 130 | 21 | 50 | Minimum Thermal Average Phase B Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0339H-033CH | 00826-00829 | 130 | 22 | 50 | Minimum Thermal Average Phase C Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 033DH-0340H | 00830-00833 | 130 | 23 | 50 | Minimum Thermal Average Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0341H-0344H | 00834-00837 | 130 | 24 | 50 | Minimum Thermal Average Phase A Positive Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0345H-0348H | 00838-00841 | 130 | 25 | 50 | Minimum Thermal Average Phase B Positive Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0349H-034CH | 00842-00845 | 130 | 26 | 50 | Minimum Thermal Average Phase C Positive Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 034DH-0350H | 00846-00849 | 130 | 27 | 50 | Minimum Thermal Average Positive Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|------------------------|---------|------|-----|-------|
| 0351H-0354H | 00850-00853 | 130 | 28 | 50 | Minimum Thermal Average Phase A Negative Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0355H-0358H | 00854-00857 | 130 | 29 | 50 | Minimum Thermal Average Phase B Negative Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0359H-035CH | 00858-00861 | 130 | 30 | 50 | Minimum Thermal Average Phase C Negative Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 035DH-0360H | 00862-00865 | 130 | 31 | 50 | Minimum Thermal Average Negative Watts Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0361H-0364H | 00866-00869 | 130 | 32 | 50 | Minimum Thermal Average Frequency Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0365H-0368H | 00870-00873 | 130 | 33 | 50 | Minimum Thermal Average Phase A Power Factor Quadrant 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0369H-036CH | 00874-00877 | 130 | 34 | 50 | Minimum Thermal Average Phase B Power Factor Quadrant 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 036DH-0370H | 00878-00881 | 130 | 35 | 50 | Minimum Thermal Average Phase C Power Factor Quadrant 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0371H-0374H | 00882-00885 | 130 | 36 | 50 | Minimum Thermal Average Power Factor Quadrant 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0375H-0378H | 00886-00889 | 130 | 37 | 50 | Minimum Thermal Average Phase A Power Factor Quadrant 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0379H-037CH | 00890-00893 | 130 | 38 | 50 | Minimum Thermal Average Phase B Power Factor Quadrant 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 037DH-0380H | 00894-00897 | 130 | 39 | 50 | Minimum Thermal Average Phase C Power Factor Quadrant 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0381H-0384H | 00898-00901 | 130 | 40 | 50 | Minimum Thermal Average Power Factor Quadrant 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0385H-0388H | 00902-00905 | 130 | 41 | 50 | Minimum Thermal Average Phase A Power Factor Quadrant 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0389H-038CH | 00906-00909 | 130 | 42 | 50 | Minimum Thermal Average Phase B Power Factor Quadrant 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 038DH-0390H | 00910-00913 | 130 | 43 | 50 | Minimum Thermal Average Phase C Power Factor Quadrant 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0391H-0394H | 00914-00917 | 130 | 44 | 50 | Minimum Thermal Average Power Factor Quadrant 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0395H-0398H | 00918-00921 | 130 | 45 | 50 | Minimum Thermal Average Phase A Power Factor Quadrant 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0399H-039CH | 00922-00925 | 130 | 46 | 50 | Minimum Thermal Average Phase B Power Factor Quadrant 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 039DH-03A0H | 00926-00929 | 130 | 47 | 50 | Minimum Thermal Average Phase C Power Factor Quadrant 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|--|--|--------------------|------|-----|-------|
| 03A1H-03A4H | 00930-00933 | 130 | 48 | 50 | Minimum Thermal Average Power Factor Quadrant 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03A5H-03A8H | 00934-00937 | 130 | 49 | 50 | Minimum Thermal Average Voltage Imbalance Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03A9H-03ACH | 00938-00941 | 130 | 50 | 50 | Minimum Thermal Average Current Imbalance Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03ADH-03B0H | 00942-00945 | 130 | 51 | 50 | Minimum THD Phase A-N Voltage / Phase A-B Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03B1H-01B4H | 00946-00949 | 130 | 52 | 50 | Minimum THD Phase B-N Voltage / Phase B-C Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03B5H-03B8H | 00950-00953 | 130 | 53 | 50 | Minimum THD Phase C-N Voltage / Phase C-A Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03B9H-03BCH | 00954-00957 | 130 | 54 | 50 | Minimum THD Phase A Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03BDH-03C0H | 00958-00961 | 130 | 55 | 50 | Minimum THD Phase B Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03C1H-03C4H | 00962-00965 | 130 | 56 | 50 | Minimum THD Phase C Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03C5H-03C8H | 00966-00969 | 130 | 57 | 50 | Minimum K-Factor Phase A Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03C9H-03CCH | 00970-00973 | 130 | 58 | 50 | Minimum K-Factor Phase B Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03CDH-03D0H | 00974-00977 | 130 | 59 | 50 | Minimum K-Factor Phase C Current Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Energy Block (Secondary): | | | | | | | | | | |
| 03D1H-03D4H | 00978-00981 | 131 | 0 | 50 | Energy Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 03D5H-03D8H | 00982-00985 | 132 | 0 | 20 | VAhour (BCD) | VAh | 1 VA _H | F11 | R | |
| 03D9H-03DCH | 00986-00989 | 132 | 1 | 20 | Positive VARhour (BCD) | 0 VARh | 1 VAR _H | F11 | R | |
| 03DDH-03E0H | 00990-00993 | 132 | 2 | 20 | Negative VARhour (BCD) | 0 VARh / - 9,999,999,999,999,999 VARh | 1 VAR _H | F11 | R | |
| 03E1H-03E4H | 00994-00997 | 132 | 3 | 20 | Positive Watthour (BCD) | +9,999,999,999,999,999 Wh / 0 Wh | 1 W _H | F11 | R | |
| 03E5H-03E8H | 00998-01001 | 132 | 4 | 20 | Negative Watthour (BCD) | 0 Wh / -9,999,999,999,999,999 Wh | 1 W _H | F11 | R | |
| 03E9H-03ECH | 01002-01005 | 133 | 0 | 20 | VAhour (Binary) | VAh | 1 VA _H | F12 | R | |
| 03EDH-03F0H | 01006-01009 | 133 | 1 | 20 | Positive VARhour (Binary) | 0 VARh | 1 VAR _H | F12 | R | |
| 03F1H-03F4H | 01010-01013 | 133 | 2 | 20 | Negative VARhour (Binary) | 9,999,999,999,999,999 VARh | 1 VAR _H | F12 | R | |
| 03F5H-03F8H | 01014-01017 | 133 | 3 | 20 | Positive Watthour (Binary) | +9,999,999,999,999,999 Wh / 0 Wh | 1 W _H | F12 | R | |
| 03F9H-03FCH | 01018-01021 | 133 | 4 | 20 | Negative Watthour (Binary) | 0 Wh / -9,999,999,999,999,999 Wh | 1 W _H | F12 | R | |
| Harmonic Magnitude Block (IEC 61000-4-30 1.6 sec Update): | | | | | | | | | | |
| 03FDH | 01022 | 134 | 0 | 30 | Phase A-N / Phase A-B Voltage 0 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 03FEH | 01023 | 134 | 1 | 30 | Phase A-N / Phase A-B Voltage 1 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 03FFH | 01024 | 134 | 2 | 30 | Phase A-N / Phase A-B Voltage 2 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0400H | 01025 | 134 | 3 | 30 | Phase A-N / Phase A-B Voltage 3 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0401H | 01026 | 134 | 4 | 30 | Phase A-N / Phase A-B Voltage 4 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0402H | 01027 | 134 | 5 | 30 | Phase A-N / Phase A-B Voltage 5 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0403H | 01028 | 134 | 6 | 30 | Phase A-N / Phase A-B Voltage 6 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0404H | 01029 | 134 | 7 | 30 | Phase A-N / Phase A-B Voltage 7 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0405H | 01030 | 135 | 0 | 30 | Phase A-N / Phase A-B Voltage 8 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0406H | 01031 | 135 | 1 | 30 | Phase A-N / Phase A-B Voltage 9 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0407H | 01032 | 135 | 2 | 30 | Phase A-N / Phase A-B Voltage 10 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0408H | 01033 | 135 | 3 | 30 | Phase A-N / Phase A-B Voltage 11 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0409H | 01034 | 135 | 4 | 30 | Phase A-N / Phase A-B Voltage 12 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 040AH | 01035 | 135 | 5 | 30 | Phase A-N / Phase A-B Voltage 13 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 040BH | 01036 | 135 | 6 | 30 | Phase A-N / Phase A-B Voltage 14 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 040CH | 01037 | 135 | 7 | 30 | Phase A-N / Phase A-B Voltage 15 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 040DH | 01038 | 136 | 0 | 30 | Phase A-N / Phase A-B Voltage 16 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 040EH | 01039 | 136 | 1 | 30 | Phase A-N / Phase A-B Voltage 17 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 040FH | 01040 | 136 | 2 | 30 | Phase A-N / Phase A-B Voltage 18 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0410H | 01041 | 136 | 3 | 30 | Phase A-N / Phase A-B Voltage 19 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0411H | 01042 | 136 | 4 | 30 | Phase A-N / Phase A-B Voltage 20 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0412H | 01043 | 136 | 5 | 30 | Phase A-N / Phase A-B Voltage 21 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0413H | 01044 | 136 | 6 | 30 | Phase A-N / Phase A-B Voltage 22 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0414H | 01045 | 136 | 7 | 30 | Phase A-N / Phase A-B Voltage 23 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0415H | 01046 | 136 | 8 | 30 | Phase A-N / Phase A-B Voltage 24 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0416H | 01047 | 136 | 9 | 30 | Phase A-N / Phase A-B Voltage 25 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0417H | 01048 | 136 | 10 | 30 | Phase A-N / Phase A-B Voltage 26 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0418H | 01049 | 136 | 11 | 30 | Phase A-N / Phase A-B Voltage 27 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0419H | 01050 | 136 | 12 | 30 | Phase A-N / Phase A-B Voltage 28 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 041AH | 01051 | 136 | 13 | 30 | Phase A-N / Phase A-B Voltage 29 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 041BH | 01052 | 136 | 14 | 30 | Phase A-N / Phase A-B Voltage 30 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 041CH | 01053 | 136 | 15 | 30 | Phase A-N / Phase A-B Voltage 31 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 041DH | 01054 | 137 | 0 | 30 | Phase A-N / Phase A-B Voltage 32 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 041EH | 01055 | 137 | 1 | 30 | Phase A-N / Phase A-B Voltage 33 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 041FH | 01056 | 137 | 2 | 30 | Phase A-N / Phase A-B Voltage 34 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0420H | 01057 | 137 | 3 | 30 | Phase A-N / Phase A-B Voltage 35 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0421H | 01058 | 137 | 4 | 30 | Phase A-N / Phase A-B Voltage 36 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0422H | 01059 | 137 | 5 | 30 | Phase A-N / Phase A-B Voltage 37 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0423H | 01060 | 137 | 6 | 30 | Phase A-N / Phase A-B Voltage 38 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0424H | 01061 | 137 | 7 | 30 | Phase A-N / Phase A-B Voltage 39 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0425H | 01062 | 137 | 8 | 30 | Phase A-N / Phase A-B Voltage 40 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0426H | 01063 | 137 | 9 | 30 | Phase A-N / Phase A-B Voltage 41 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0427H | 01064 | 137 | 10 | 30 | Phase A-N / Phase A-B Voltage 42 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0428H | 01065 | 137 | 11 | 30 | Phase A-N / Phase A-B Voltage 43 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0429H | 01066 | 137 | 12 | 30 | Phase A-N / Phase A-B Voltage 44 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 042AH | 01067 | 137 | 13 | 30 | Phase A-N / Phase A-B Voltage 45 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 042BH | 01068 | 137 | 14 | 30 | Phase A-N / Phase A-B Voltage 46 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 042CH | 01069 | 137 | 15 | 30 | Phase A-N / Phase A-B Voltage 47 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 042DH | 01070 | 137 | 16 | 30 | Phase A-N / Phase A-B Voltage 48 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 042EH | 01071 | 137 | 17 | 30 | Phase A-N / Phase A-B Voltage 49 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 042FH | 01072 | 137 | 18 | 30 | Phase A-N / Phase A-B Voltage 50 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0430H | 01073 | 137 | 19 | 30 | Phase A-N / Phase A-B Voltage 51 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0431H | 01074 | 137 | 20 | 30 | Phase A-N / Phase A-B Voltage 52 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0432H | 01075 | 137 | 21 | 30 | Phase A-N / Phase A-B Voltage 53 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0433H | 01076 | 137 | 22 | 30 | Phase A-N / Phase A-B Voltage 54 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0434H | 01077 | 137 | 23 | 30 | Phase A-N / Phase A-B Voltage 55 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0435H | 01078 | 137 | 24 | 30 | Phase A-N / Phase A-B Voltage 56 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0436H | 01079 | 137 | 25 | 30 | Phase A-N / Phase A-B Voltage 57 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0437H | 01080 | 137 | 26 | 30 | Phase A-N / Phase A-B Voltage 58 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0438H | 01081 | 137 | 27 | 30 | Phase A-N / Phase A-B Voltage 59 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0439H | 01082 | 137 | 28 | 30 | Phase A-N / Phase A-B Voltage 60 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 043AH | 01083 | 137 | 29 | 30 | Phase A-N / Phase A-B Voltage 61 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 043BH | 01084 | 137 | 30 | 30 | Phase A-N / Phase A-B Voltage 62 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 043CH | 01085 | 137 | 31 | 30 | Phase A-N / Phase A-B Voltage 63 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 043DH | 01086 | 138 | 0 | 30 | Phase A-N / Phase A-B Voltage 64 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 043EH | 01087 | 138 | 1 | 30 | Phase A-N / Phase A-B Voltage 65 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 043FH | 01088 | 138 | 2 | 30 | Phase A-N / Phase A-B Voltage 66 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0440H | 01089 | 138 | 3 | 30 | Phase A-N / Phase A-B Voltage 67 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0441H | 01090 | 138 | 4 | 30 | Phase A-N / Phase A-B Voltage 68 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0442H | 01091 | 138 | 5 | 30 | Phase A-N / Phase A-B Voltage 69 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0443H | 01092 | 138 | 6 | 30 | Phase A-N / Phase A-B Voltage 70 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0444H | 01093 | 138 | 7 | 30 | Phase A-N / Phase A-B Voltage 71 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0445H | 01094 | 138 | 8 | 30 | Phase A-N / Phase A-B Voltage 72 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0446H | 01095 | 138 | 9 | 30 | Phase A-N / Phase A-B Voltage 73 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0447H | 01096 | 138 | 10 | 30 | Phase A-N / Phase A-B Voltage 74 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0448H | 01097 | 138 | 11 | 30 | Phase A-N / Phase A-B Voltage 75 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0449H | 01098 | 138 | 12 | 30 | Phase A-N / Phase A-B Voltage 76 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 044AH | 01099 | 138 | 13 | 30 | Phase A-N / Phase A-B Voltage 77 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 044BH | 01100 | 138 | 14 | 30 | Phase A-N / Phase A-B Voltage 78 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 044CH | 01101 | 138 | 15 | 30 | Phase A-N / Phase A-B Voltage 79 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 044DH | 01102 | 138 | 16 | 30 | Phase A-N / Phase A-B Voltage 80 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 044EH | 01103 | 138 | 17 | 30 | Phase A-N / Phase A-B Voltage 81 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 044FH | 01104 | 138 | 18 | 30 | Phase A-N / Phase A-B Voltage 82 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0450H | 01105 | 138 | 19 | 30 | Phase A-N / Phase A-B Voltage 83 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0451H | 01106 | 138 | 20 | 30 | Phase A-N / Phase A-B Voltage 84 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0452H | 01107 | 138 | 21 | 30 | Phase A-N / Phase A-B Voltage 85 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0453H | 01108 | 138 | 22 | 30 | Phase A-N / Phase A-B Voltage 86 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0454H | 01109 | 138 | 23 | 30 | Phase A-N / Phase A-B Voltage 87 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0455H | 01110 | 138 | 24 | 30 | Phase A-N / Phase A-B Voltage 88 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0456H | 01111 | 138 | 25 | 30 | Phase A-N / Phase A-B Voltage 89 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0457H | 01112 | 138 | 26 | 30 | Phase A-N / Phase A-B Voltage 90 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0458H | 01113 | 138 | 27 | 30 | Phase A-N / Phase A-B Voltage 91 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0459H | 01114 | 138 | 28 | 30 | Phase A-N / Phase A-B Voltage 92 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 045AH | 01115 | 138 | 29 | 30 | Phase A-N / Phase A-B Voltage 93 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 045BH | 01116 | 138 | 30 | 30 | Phase A-N / Phase A-B Voltage 94 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 045CH | 01117 | 138 | 31 | 30 | Phase A-N / Phase A-B Voltage 95 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 045DH | 01118 | 138 | 32 | 30 | Phase A-N / Phase A-B Voltage 96 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 045EH | 01119 | 138 | 33 | 30 | Phase A-N / Phase A-B Voltage 97 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 045FH | 01120 | 138 | 34 | 30 | Phase A-N / Phase A-B Voltage 98 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0460H | 01121 | 138 | 35 | 30 | Phase A-N / Phase A-B Voltage 99 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 0461H | 01122 | 138 | 36 | 30 | Phase A-N / Phase A-B Voltage 100 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0462H | 01123 | 138 | 37 | 30 | Phase A-N / Phase A-B Voltage 101 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0463H | 01124 | 138 | 38 | 30 | Phase A-N / Phase A-B Voltage 102 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0464H | 01125 | 138 | 39 | 30 | Phase A-N / Phase A-B Voltage 103 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0465H | 01126 | 138 | 40 | 30 | Phase A-N / Phase A-B Voltage 104 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0466H | 01127 | 138 | 41 | 30 | Phase A-N / Phase A-B Voltage 105 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0467H | 01128 | 138 | 42 | 30 | Phase A-N / Phase A-B Voltage 106 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0468H | 01129 | 138 | 43 | 30 | Phase A-N / Phase A-B Voltage 107 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0469H | 01130 | 138 | 44 | 30 | Phase A-N / Phase A-B Voltage 108 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 046AH | 01131 | 138 | 45 | 30 | Phase A-N / Phase A-B Voltage 109 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 046BH | 01132 | 138 | 46 | 30 | Phase A-N / Phase A-B Voltage 110 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 046CH | 01133 | 138 | 47 | 30 | Phase A-N / Phase A-B Voltage 111 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 046DH | 01134 | 138 | 48 | 30 | Phase A-N / Phase A-B Voltage 112 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 046EH | 01135 | 138 | 49 | 30 | Phase A-N / Phase A-B Voltage 113 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 046FH | 01136 | 138 | 50 | 30 | Phase A-N / Phase A-B Voltage 114 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0470H | 01137 | 138 | 51 | 30 | Phase A-N / Phase A-B Voltage 115 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0471H | 01138 | 138 | 52 | 30 | Phase A-N / Phase A-B Voltage 116 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0472H | 01139 | 138 | 53 | 30 | Phase A-N / Phase A-B Voltage 117 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0473H | 01140 | 138 | 54 | 30 | Phase A-N / Phase A-B Voltage 118 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0474H | 01141 | 138 | 55 | 30 | Phase A-N / Phase A-B Voltage 119 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0475H | 01142 | 138 | 56 | 30 | Phase A-N / Phase A-B Voltage 120 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0476H | 01143 | 138 | 57 | 30 | Phase A-N / Phase A-B Voltage 121 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0477H | 01144 | 138 | 58 | 30 | Phase A-N / Phase A-B Voltage 122 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0478H | 01145 | 138 | 59 | 30 | Phase A-N / Phase A-B Voltage 123 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0479H | 01146 | 138 | 60 | 30 | Phase A-N / Phase A-B Voltage 124 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 047AH | 01147 | 138 | 61 | 30 | Phase A-N / Phase A-B Voltage 125 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 047BH | 01148 | 138 | 62 | 30 | Phase A-N / Phase A-B Voltage 126 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 047CH | 01149 | 138 | 63 | 30 | Phase A-N / Phase A-B Voltage 127 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 047DH | 01150 | 139 | 0 | 30 | Phase B-N / Phase B-C Voltage 0 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 047EH | 01151 | 139 | 1 | 30 | Phase B-N / Phase B-C Voltage 1 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 047FH | 01152 | 139 | 2 | 30 | Phase B-N / Phase B-C Voltage 2 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0480H | 01153 | 139 | 3 | 30 | Phase B-N / Phase B-C Voltage 3 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0481H | 01154 | 139 | 4 | 30 | Phase B-N / Phase B-C Voltage 4 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0482H | 01155 | 139 | 5 | 30 | Phase B-N / Phase B-C Voltage 5 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0483H | 01156 | 139 | 6 | 30 | Phase B-N / Phase B-C Voltage 6 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0484H | 01157 | 139 | 7 | 30 | Phase B-N / Phase B-C Voltage 7 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0485H | 01158 | 140 | 0 | 30 | Phase B-N / Phase B-C Voltage 8 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0486H | 01159 | 140 | 1 | 30 | Phase B-N / Phase B-C Voltage 9 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0487H | 01160 | 140 | 2 | 30 | Phase B-N / Phase B-C Voltage 10 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0488H | 01161 | 140 | 3 | 30 | Phase B-N / Phase B-C Voltage 11 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0489H | 01162 | 140 | 4 | 30 | Phase B-N / Phase B-C Voltage 12 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 048AH | 01163 | 140 | 5 | 30 | Phase B-N / Phase B-C Voltage 13 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 048BH | 01164 | 140 | 6 | 30 | Phase B-N / Phase B-C Voltage 14 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 048CH | 01165 | 140 | 7 | 30 | Phase B-N / Phase B-C Voltage 15 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 048DH | 01166 | 141 | 0 | 30 | Phase B-N / Phase B-C Voltage 16 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 048EH | 01167 | 141 | 1 | 30 | Phase B-N / Phase B-C Voltage 17 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 048FH | 01168 | 141 | 2 | 30 | Phase B-N / Phase B-C Voltage 18 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0490H | 01169 | 141 | 3 | 30 | Phase B-N / Phase B-C Voltage 19 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0491H | 01170 | 141 | 4 | 30 | Phase B-N / Phase B-C Voltage 20 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0492H | 01171 | 141 | 5 | 30 | Phase B-N / Phase B-C Voltage 21 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0493H | 01172 | 141 | 6 | 30 | Phase B-N / Phase B-C Voltage 22 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0494H | 01173 | 141 | 7 | 30 | Phase B-N / Phase B-C Voltage 23 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0495H | 01174 | 141 | 8 | 30 | Phase B-N / Phase B-C Voltage 24 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0496H | 01175 | 141 | 9 | 30 | Phase B-N / Phase B-C Voltage 25 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0497H | 01176 | 141 | 10 | 30 | Phase B-N / Phase B-C Voltage 26 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0498H | 01177 | 141 | 11 | 30 | Phase B-N / Phase B-C Voltage 27 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0499H | 01178 | 141 | 12 | 30 | Phase B-N / Phase B-C Voltage 28 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 049AH | 01179 | 141 | 13 | 30 | Phase B-N / Phase B-C Voltage 29 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 049BH | 01180 | 141 | 14 | 30 | Phase B-N / Phase B-C Voltage 30 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 049CH | 01181 | 141 | 15 | 30 | Phase B-N / Phase B-C Voltage 31 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 049DH | 01182 | 142 | 0 | 30 | Phase B-N / Phase B-C Voltage 32 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 049EH | 01183 | 142 | 1 | 30 | Phase B-N / Phase B-C Voltage 33 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 049FH | 01184 | 142 | 2 | 30 | Phase B-N / Phase B-C Voltage 34 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A0H | 01185 | 142 | 3 | 30 | Phase B-N / Phase B-C Voltage 35 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A1H | 01186 | 142 | 4 | 30 | Phase B-N / Phase B-C Voltage 36 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 04A2H | 01187 | 142 | 5 | 30 | Phase B-N / Phase B-C Voltage 37 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A3H | 01188 | 142 | 6 | 30 | Phase B-N / Phase B-C Voltage 38 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A4H | 01189 | 142 | 7 | 30 | Phase B-N / Phase B-C Voltage 39 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A5H | 01190 | 142 | 8 | 30 | Phase B-N / Phase B-C Voltage 40 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A6H | 01191 | 142 | 9 | 30 | Phase B-N / Phase B-C Voltage 41 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A7H | 01192 | 142 | 10 | 30 | Phase B-N / Phase B-C Voltage 42 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A8H | 01193 | 142 | 11 | 30 | Phase B-N / Phase B-C Voltage 43 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04A9H | 01194 | 142 | 12 | 30 | Phase B-N / Phase B-C Voltage 44 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04AAH | 01195 | 142 | 13 | 30 | Phase B-N / Phase B-C Voltage 45 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04ABH | 01196 | 142 | 14 | 30 | Phase B-N / Phase B-C Voltage 46 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04ACH | 01197 | 142 | 15 | 30 | Phase B-N / Phase B-C Voltage 47 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04ADH | 01198 | 142 | 16 | 30 | Phase B-N / Phase B-C Voltage 48 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04AEH | 01199 | 142 | 17 | 30 | Phase B-N / Phase B-C Voltage 49 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04AFH | 01200 | 142 | 18 | 30 | Phase B-N / Phase B-C Voltage 50 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B0H | 01201 | 142 | 19 | 30 | Phase B-N / Phase B-C Voltage 51 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B1H | 01202 | 142 | 20 | 30 | Phase B-N / Phase B-C Voltage 52 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B2H | 01203 | 142 | 21 | 30 | Phase B-N / Phase B-C Voltage 53 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B3H | 01204 | 142 | 22 | 30 | Phase B-N / Phase B-C Voltage 54 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B4H | 01205 | 142 | 23 | 30 | Phase B-N / Phase B-C Voltage 55 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B5H | 01206 | 142 | 24 | 30 | Phase B-N / Phase B-C Voltage 56 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B6H | 01207 | 142 | 25 | 30 | Phase B-N / Phase B-C Voltage 57 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B7H | 01208 | 142 | 26 | 30 | Phase B-N / Phase B-C Voltage 58 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B8H | 01209 | 142 | 27 | 30 | Phase B-N / Phase B-C Voltage 59 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04B9H | 01210 | 142 | 28 | 30 | Phase B-N / Phase B-C Voltage 60 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04BAH | 01211 | 142 | 29 | 30 | Phase B-N / Phase B-C Voltage 61 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04BBH | 01212 | 142 | 30 | 30 | Phase B-N / Phase B-C Voltage 62 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04BCH | 01213 | 142 | 31 | 30 | Phase B-N / Phase B-C Voltage 63 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04BDH | 01214 | 143 | 0 | 30 | Phase B-N / Phase B-C Voltage 64 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04BEH | 01215 | 143 | 1 | 30 | Phase B-N / Phase B-C Voltage 65 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04BFH | 01216 | 143 | 2 | 30 | Phase B-N / Phase B-C Voltage 66 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C0H | 01217 | 143 | 3 | 30 | Phase B-N / Phase B-C Voltage 67 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C1H | 01218 | 143 | 4 | 30 | Phase B-N / Phase B-C Voltage 68 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 04C2H | 01219 | 143 | 5 | 30 | Phase B-N / Phase B-C Voltage 69 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C3H | 01220 | 143 | 6 | 30 | Phase B-N / Phase B-C Voltage 70 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C4H | 01221 | 143 | 7 | 30 | Phase B-N / Phase B-C Voltage 71 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C5H | 01222 | 143 | 8 | 30 | Phase B-N / Phase B-C Voltage 72 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C6H | 01223 | 143 | 9 | 30 | Phase B-N / Phase B-C Voltage 73 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C7H | 01224 | 143 | 10 | 30 | Phase B-N / Phase B-C Voltage 74 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C8H | 01225 | 143 | 11 | 30 | Phase B-N / Phase B-C Voltage 75 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04C9H | 01226 | 143 | 12 | 30 | Phase B-N / Phase B-C Voltage 76 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04CAH | 01227 | 143 | 13 | 30 | Phase B-N / Phase B-C Voltage 77 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04CBH | 01228 | 143 | 14 | 30 | Phase B-N / Phase B-C Voltage 78 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04CCH | 01229 | 143 | 15 | 30 | Phase B-N / Phase B-C Voltage 79 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04CDH | 01230 | 143 | 16 | 30 | Phase B-N / Phase B-C Voltage 80 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04CEH | 01231 | 143 | 17 | 30 | Phase B-N / Phase B-C Voltage 81 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04CFH | 01232 | 143 | 18 | 30 | Phase B-N / Phase B-C Voltage 82 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D0H | 01233 | 143 | 19 | 30 | Phase B-N / Phase B-C Voltage 83 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D1H | 01234 | 143 | 20 | 30 | Phase B-N / Phase B-C Voltage 84 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D2H | 01235 | 143 | 21 | 30 | Phase B-N / Phase B-C Voltage 85 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D3H | 01236 | 143 | 22 | 30 | Phase B-N / Phase B-C Voltage 86 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D4H | 01237 | 143 | 23 | 30 | Phase B-N / Phase B-C Voltage 87 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D5H | 01238 | 143 | 24 | 30 | Phase B-N / Phase B-C Voltage 88 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D6H | 01239 | 143 | 25 | 30 | Phase B-N / Phase B-C Voltage 89 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D7H | 01240 | 143 | 26 | 30 | Phase B-N / Phase B-C Voltage 90 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D8H | 01241 | 143 | 27 | 30 | Phase B-N / Phase B-C Voltage 91 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04D9H | 01242 | 143 | 28 | 30 | Phase B-N / Phase B-C Voltage 92 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04DAH | 01243 | 143 | 29 | 30 | Phase B-N / Phase B-C Voltage 93 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04DBH | 01244 | 143 | 30 | 30 | Phase B-N / Phase B-C Voltage 94 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04DCH | 01245 | 143 | 31 | 30 | Phase B-N / Phase B-C Voltage 95 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04DDH | 01246 | 143 | 32 | 30 | Phase B-N / Phase B-C Voltage 96 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04DEH | 01247 | 143 | 33 | 30 | Phase B-N / Phase B-C Voltage 97 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04DFH | 01248 | 143 | 34 | 30 | Phase B-N / Phase B-C Voltage 98 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E0H | 01249 | 143 | 35 | 30 | Phase B-N / Phase B-C Voltage 99 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E1H | 01250 | 143 | 36 | 30 | Phase B-N / Phase B-C Voltage 100 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 04E2H | 01251 | 143 | 37 | 30 | Phase B-N / Phase B-C Voltage 101 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E3H | 01252 | 143 | 38 | 30 | Phase B-N / Phase B-C Voltage 102 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E4H | 01253 | 143 | 39 | 30 | Phase B-N / Phase B-C Voltage 103 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E5H | 01254 | 143 | 40 | 30 | Phase B-N / Phase B-C Voltage 104 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E6H | 01255 | 143 | 41 | 30 | Phase B-N / Phase B-C Voltage 105 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E7H | 01256 | 143 | 42 | 30 | Phase B-N / Phase B-C Voltage 106 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E8H | 01257 | 143 | 43 | 30 | Phase B-N / Phase B-C Voltage 107 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04E9H | 01258 | 143 | 44 | 30 | Phase B-N / Phase B-C Voltage 108 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04EAH | 01259 | 143 | 45 | 30 | Phase B-N / Phase B-C Voltage 109 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04EBH | 01260 | 143 | 46 | 30 | Phase B-N / Phase B-C Voltage 110 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04ECH | 01261 | 143 | 47 | 30 | Phase B-N / Phase B-C Voltage 111 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04EDH | 01262 | 143 | 48 | 30 | Phase B-N / Phase B-C Voltage 112 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04EEH | 01263 | 143 | 49 | 30 | Phase B-N / Phase B-C Voltage 113 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04EFH | 01264 | 143 | 50 | 30 | Phase B-N / Phase B-C Voltage 114 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F0H | 01265 | 143 | 51 | 30 | Phase B-N / Phase B-C Voltage 115 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F1H | 01266 | 143 | 52 | 30 | Phase B-N / Phase B-C Voltage 116 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F2H | 01267 | 143 | 53 | 30 | Phase B-N / Phase B-C Voltage 117 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F3H | 01268 | 143 | 54 | 30 | Phase B-N / Phase B-C Voltage 118 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F4H | 01269 | 143 | 55 | 30 | Phase B-N / Phase B-C Voltage 119 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F5H | 01270 | 143 | 56 | 30 | Phase B-N / Phase B-C Voltage 120 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F6H | 01271 | 143 | 57 | 30 | Phase B-N / Phase B-C Voltage 121 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F7H | 01272 | 143 | 58 | 30 | Phase B-N / Phase B-C Voltage 122 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F8H | 01273 | 143 | 59 | 30 | Phase B-N / Phase B-C Voltage 123 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04F9H | 01274 | 143 | 60 | 30 | Phase B-N / Phase B-C Voltage 124 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04FAH | 01275 | 143 | 61 | 30 | Phase B-N / Phase B-C Voltage 125 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04FBH | 01276 | 143 | 62 | 30 | Phase B-N / Phase B-C Voltage 126 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04FCH | 01277 | 143 | 63 | 30 | Phase B-N / Phase B-C Voltage 127 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04FDH | 01278 | 144 | 0 | 30 | Phase C-N / Phase C-A Voltage 0 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04FEH | 01279 | 144 | 1 | 30 | Phase C-N / Phase C-A Voltage 1 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 04FFH | 01280 | 144 | 2 | 30 | Phase C-N / Phase C-A Voltage 2 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0500H | 01281 | 144 | 3 | 30 | Phase C-N / Phase C-A Voltage 3 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0501H | 01282 | 144 | 4 | 30 | Phase C-N / Phase C-A Voltage 4 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0502H | 01283 | 144 | 5 | 30 | Phase C-N / Phase C-A Voltage 5 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0503H | 01284 | 144 | 6 | 30 | Phase C-N / Phase C-A Voltage 6 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0504H | 01285 | 144 | 7 | 30 | Phase C-N / Phase C-A Voltage 7 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0505H | 01286 | 145 | 0 | 30 | Phase C-N / Phase C-A Voltage 8 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0506H | 01287 | 145 | 1 | 30 | Phase C-N / Phase C-A Voltage 9 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0507H | 01288 | 145 | 2 | 30 | Phase C-N / Phase C-A Voltage 10 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0508H | 01289 | 145 | 3 | 30 | Phase C-N / Phase C-A Voltage 11 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0509H | 01290 | 145 | 4 | 30 | Phase C-N / Phase C-A Voltage 12 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 050AH | 01291 | 145 | 5 | 30 | Phase C-N / Phase C-A Voltage 13 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 050BH | 01292 | 145 | 6 | 30 | Phase C-N / Phase C-A Voltage 14 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 050CH | 01293 | 145 | 7 | 30 | Phase C-N / Phase C-A Voltage 15 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 050DH | 01294 | 146 | 0 | 30 | Phase C-N / Phase C-A Voltage 16 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 050EH | 01295 | 146 | 1 | 30 | Phase C-N / Phase C-A Voltage 17 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 050FH | 01296 | 146 | 2 | 30 | Phase C-N / Phase C-A Voltage 18 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0510H | 01297 | 146 | 3 | 30 | Phase C-N / Phase C-A Voltage 19 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0511H | 01298 | 146 | 4 | 30 | Phase C-N / Phase C-A Voltage 20 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0512H | 01299 | 146 | 5 | 30 | Phase C-N / Phase C-A Voltage 21 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0513H | 01300 | 146 | 6 | 30 | Phase C-N / Phase C-A Voltage 22 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0514H | 01301 | 146 | 7 | 30 | Phase C-N / Phase C-A Voltage 23 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0515H | 01302 | 146 | 8 | 30 | Phase C-N / Phase C-A Voltage 24 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0516H | 01303 | 146 | 9 | 30 | Phase C-N / Phase C-A Voltage 25 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0517H | 01304 | 146 | 10 | 30 | Phase C-N / Phase C-A Voltage 26 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0518H | 01305 | 146 | 11 | 30 | Phase C-N / Phase C-A Voltage 27 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0519H | 01306 | 146 | 12 | 30 | Phase C-N / Phase C-A Voltage 28 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 051AH | 01307 | 146 | 13 | 30 | Phase C-N / Phase C-A Voltage 29 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 051BH | 01308 | 146 | 14 | 30 | Phase C-N / Phase C-A Voltage 30 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 051CH | 01309 | 146 | 15 | 30 | Phase C-N / Phase C-A Voltage 31 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 051DH | 01310 | 147 | 0 | 30 | Phase C-N / Phase C-A Voltage 32 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 051EH | 01311 | 147 | 1 | 30 | Phase C-N / Phase C-A Voltage 33 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 051FH | 01312 | 147 | 2 | 30 | Phase C-N / Phase C-A Voltage 34 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0520H | 01313 | 147 | 3 | 30 | Phase C-N / Phase C-A Voltage 35 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0521H | 01314 | 147 | 4 | 30 | Phase C-N / Phase C-A Voltage 36 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0522H | 01315 | 147 | 5 | 30 | Phase C-N / Phase C-A Voltage 37 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0523H | 01316 | 147 | 6 | 30 | Phase C-N / Phase C-A Voltage 38 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0524H | 01317 | 147 | 7 | 30 | Phase C-N / Phase C-A Voltage 39 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0525H | 01318 | 147 | 8 | 30 | Phase C-N / Phase C-A Voltage 40 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0526H | 01319 | 147 | 9 | 30 | Phase C-N / Phase C-A Voltage 41 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0527H | 01320 | 147 | 10 | 30 | Phase C-N / Phase C-A Voltage 42 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0528H | 01321 | 147 | 11 | 30 | Phase C-N / Phase C-A Voltage 43 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0529H | 01322 | 147 | 12 | 30 | Phase C-N / Phase C-A Voltage 44 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 052AH | 01323 | 147 | 13 | 30 | Phase C-N / Phase C-A Voltage 45 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 052BH | 01324 | 147 | 14 | 30 | Phase C-N / Phase C-A Voltage 46 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 052CH | 01325 | 147 | 15 | 30 | Phase C-N / Phase C-A Voltage 47 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 052DH | 01326 | 147 | 16 | 30 | Phase C-N / Phase C-A Voltage 48 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 052EH | 01327 | 147 | 17 | 30 | Phase C-N / Phase C-A Voltage 49 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 052FH | 01328 | 147 | 18 | 30 | Phase C-N / Phase C-A Voltage 50 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0530H | 01329 | 147 | 19 | 30 | Phase C-N / Phase C-A Voltage 51 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0531H | 01330 | 147 | 20 | 30 | Phase C-N / Phase C-A Voltage 52 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0532H | 01331 | 147 | 21 | 30 | Phase C-N / Phase C-A Voltage 53 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0533H | 01332 | 147 | 22 | 30 | Phase C-N / Phase C-A Voltage 54 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0534H | 01333 | 147 | 23 | 30 | Phase C-N / Phase C-A Voltage 55 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0535H | 01334 | 147 | 24 | 30 | Phase C-N / Phase C-A Voltage 56 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0536H | 01335 | 147 | 25 | 30 | Phase C-N / Phase C-A Voltage 57 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0537H | 01336 | 147 | 26 | 30 | Phase C-N / Phase C-A Voltage 58 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0538H | 01337 | 147 | 27 | 30 | Phase C-N / Phase C-A Voltage 59 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0539H | 01338 | 147 | 28 | 30 | Phase C-N / Phase C-A Voltage 60 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 053AH | 01339 | 147 | 29 | 30 | Phase C-N / Phase C-A Voltage 61 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 053BH | 01340 | 147 | 30 | 30 | Phase C-N / Phase C-A Voltage 62 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 053CH | 01341 | 147 | 31 | 30 | Phase C-N / Phase C-A Voltage 63 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 053DH | 01342 | 148 | 0 | 30 | Phase C-N / Phase C-A Voltage 64 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 053EH | 01343 | 148 | 1 | 30 | Phase C-N / Phase C-A Voltage 65 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 053FH | 01344 | 148 | 2 | 30 | Phase C-N / Phase C-A Voltage 66 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0540H | 01345 | 148 | 3 | 30 | Phase C-N / Phase C-A Voltage 67 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0541H | 01346 | 148 | 4 | 30 | Phase C-N / Phase C-A Voltage 68 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 0542H | 01347 | 148 | 5 | 30 | Phase C-N / Phase C-A Voltage 69 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0543H | 01348 | 148 | 6 | 30 | Phase C-N / Phase C-A Voltage 70 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0544H | 01349 | 148 | 7 | 30 | Phase C-N / Phase C-A Voltage 71 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0545H | 01350 | 148 | 8 | 30 | Phase C-N / Phase C-A Voltage 72 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0546H | 01351 | 148 | 9 | 30 | Phase C-N / Phase C-A Voltage 73 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0547H | 01352 | 148 | 10 | 30 | Phase C-N / Phase C-A Voltage 74 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0548H | 01353 | 148 | 11 | 30 | Phase C-N / Phase C-A Voltage 75 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0549H | 01354 | 148 | 12 | 30 | Phase C-N / Phase C-A Voltage 76 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 054AH | 01355 | 148 | 13 | 30 | Phase C-N / Phase C-A Voltage 77 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 054BH | 01356 | 148 | 14 | 30 | Phase C-N / Phase C-A Voltage 78 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 054CH | 01357 | 148 | 15 | 30 | Phase C-N / Phase C-A Voltage 79 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 054DH | 01358 | 148 | 16 | 30 | Phase C-N / Phase C-A Voltage 80 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 054EH | 01359 | 148 | 17 | 30 | Phase C-N / Phase C-A Voltage 81 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 054FH | 01360 | 148 | 18 | 30 | Phase C-N / Phase C-A Voltage 82 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0550H | 01361 | 148 | 19 | 30 | Phase C-N / Phase C-A Voltage 83 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0551H | 01362 | 148 | 20 | 30 | Phase C-N / Phase C-A Voltage 84 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0552H | 01363 | 148 | 21 | 30 | Phase C-N / Phase C-A Voltage 85 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0553H | 01364 | 148 | 22 | 30 | Phase C-N / Phase C-A Voltage 86 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0554H | 01365 | 148 | 23 | 30 | Phase C-N / Phase C-A Voltage 87 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0555H | 01366 | 148 | 24 | 30 | Phase C-N / Phase C-A Voltage 88 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0556H | 01367 | 148 | 25 | 30 | Phase C-N / Phase C-A Voltage 89 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0557H | 01368 | 148 | 26 | 30 | Phase C-N / Phase C-A Voltage 90 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0558H | 01369 | 148 | 27 | 30 | Phase C-N / Phase C-A Voltage 91 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0559H | 01370 | 148 | 28 | 30 | Phase C-N / Phase C-A Voltage 92 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 055AH | 01371 | 148 | 29 | 30 | Phase C-N / Phase C-A Voltage 93 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 055BH | 01372 | 148 | 30 | 30 | Phase C-N / Phase C-A Voltage 94 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 055CH | 01373 | 148 | 31 | 30 | Phase C-N / Phase C-A Voltage 95 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 055DH | 01374 | 148 | 32 | 30 | Phase C-N / Phase C-A Voltage 96 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 055EH | 01375 | 148 | 33 | 30 | Phase C-N / Phase C-A Voltage 97 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 055FH | 01376 | 148 | 34 | 30 | Phase C-N / Phase C-A Voltage 98 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0560H | 01377 | 148 | 35 | 30 | Phase C-N / Phase C-A Voltage 99 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0561H | 01378 | 148 | 36 | 30 | Phase C-N / Phase C-A Voltage 100 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 0562H | 01379 | 148 | 37 | 30 | Phase C-N / Phase C-A Voltage 101 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0563H | 01380 | 148 | 38 | 30 | Phase C-N / Phase C-A Voltage 102 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0564H | 01381 | 148 | 39 | 30 | Phase C-N / Phase C-A Voltage 103 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0565H | 01382 | 148 | 40 | 30 | Phase C-N / Phase C-A Voltage 104 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0566H | 01383 | 148 | 41 | 30 | Phase C-N / Phase C-A Voltage 105 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0567H | 01384 | 148 | 42 | 30 | Phase C-N / Phase C-A Voltage 106 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0568H | 01385 | 148 | 43 | 30 | Phase C-N / Phase C-A Voltage 107 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0569H | 01386 | 148 | 44 | 30 | Phase C-N / Phase C-A Voltage 108 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 056AH | 01387 | 148 | 45 | 30 | Phase C-N / Phase C-A Voltage 109 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 056BH | 01388 | 148 | 46 | 30 | Phase C-N / Phase C-A Voltage 110 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 056CH | 01389 | 148 | 47 | 30 | Phase C-N / Phase C-A Voltage 111 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 056DH | 01390 | 148 | 48 | 30 | Phase C-N / Phase C-A Voltage 112 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 056EH | 01391 | 148 | 49 | 30 | Phase C-N / Phase C-A Voltage 113 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 056FH | 01392 | 148 | 50 | 30 | Phase C-N / Phase C-A Voltage 114 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0570H | 01393 | 148 | 51 | 30 | Phase C-N / Phase C-A Voltage 115 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0571H | 01394 | 148 | 52 | 30 | Phase C-N / Phase C-A Voltage 116 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0572H | 01395 | 148 | 53 | 30 | Phase C-N / Phase C-A Voltage 117 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0573H | 01396 | 148 | 54 | 30 | Phase C-N / Phase C-A Voltage 118 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0574H | 01397 | 148 | 55 | 30 | Phase C-N / Phase C-A Voltage 119 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0575H | 01398 | 148 | 56 | 30 | Phase C-N / Phase C-A Voltage 120 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0576H | 01399 | 148 | 57 | 30 | Phase C-N / Phase C-A Voltage 121 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0577H | 01400 | 148 | 58 | 30 | Phase C-N / Phase C-A Voltage 122 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0578H | 01401 | 148 | 59 | 30 | Phase C-N / Phase C-A Voltage 123 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0579H | 01402 | 148 | 60 | 30 | Phase C-N / Phase C-A Voltage 124 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 057AH | 01403 | 148 | 61 | 30 | Phase C-N / Phase C-A Voltage 125 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 057BH | 01404 | 148 | 62 | 30 | Phase C-N / Phase C-A Voltage 126 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 057CH | 01405 | 148 | 63 | 30 | Phase C-N / Phase C-A Voltage 127 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 057DH | 01406 | 149 | 0 | 30 | Phase A Current 0 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 057EH | 01407 | 149 | 1 | 30 | Phase A Current 1 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 057FH | 01408 | 149 | 2 | 30 | Phase A Current 2 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0580H | 01409 | 149 | 3 | 30 | Phase A Current 3 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0581H | 01410 | 149 | 4 | 30 | Phase A Current 4 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0582H | 01411 | 149 | 5 | 30 | Phase A Current 5 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0583H | 01412 | 149 | 6 | 30 | Phase A Current 6 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0584H | 01413 | 149 | 7 | 30 | Phase A Current 7 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0585H | 01414 | 150 | 0 | 30 | Phase A Current 8 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0586H | 01415 | 150 | 1 | 30 | Phase A Current 9 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0587H | 01416 | 150 | 2 | 30 | Phase A Current 10 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0588H | 01417 | 150 | 3 | 30 | Phase A Current 11 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0589H | 01418 | 150 | 4 | 30 | Phase A Current 12 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 058AH | 01419 | 150 | 5 | 30 | Phase A Current 13 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 058BH | 01420 | 150 | 6 | 30 | Phase A Current 14 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 058CH | 01421 | 150 | 7 | 30 | Phase A Current 15 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 058DH | 01422 | 151 | 0 | 30 | Phase A Current 16 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 058EH | 01423 | 151 | 1 | 30 | Phase A Current 17 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 058FH | 01424 | 151 | 2 | 30 | Phase A Current 18 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0590H | 01425 | 151 | 3 | 30 | Phase A Current 19 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0591H | 01426 | 151 | 4 | 30 | Phase A Current 20 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0592H | 01427 | 151 | 5 | 30 | Phase A Current 21 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0593H | 01428 | 151 | 6 | 30 | Phase A Current 22 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0594H | 01429 | 151 | 7 | 30 | Phase A Current 23 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0595H | 01430 | 151 | 8 | 30 | Phase A Current 24 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0596H | 01431 | 151 | 9 | 30 | Phase A Current 25 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0597H | 01432 | 151 | 10 | 30 | Phase A Current 26 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0598H | 01433 | 151 | 11 | 30 | Phase A Current 27 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0599H | 01434 | 151 | 12 | 30 | Phase A Current 28 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 059AH | 01435 | 151 | 13 | 30 | Phase A Current 29 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 059BH | 01436 | 151 | 14 | 30 | Phase A Current 30 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 059CH | 01437 | 151 | 15 | 30 | Phase A Current 31 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 059DH | 01438 | 152 | 0 | 30 | Phase A Current 32 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 059EH | 01439 | 152 | 1 | 30 | Phase A Current 33 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 059FH | 01440 | 152 | 2 | 30 | Phase A Current 34 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A0H | 01441 | 152 | 3 | 30 | Phase A Current 35 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A1H | 01442 | 152 | 4 | 30 | Phase A Current 36 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 05A2H | 01443 | 152 | 5 | 30 | Phase A Current 37 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A3H | 01444 | 152 | 6 | 30 | Phase A Current 38 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A4H | 01445 | 152 | 7 | 30 | Phase A Current 39 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A5H | 01446 | 152 | 8 | 30 | Phase A Current 40 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A6H | 01447 | 152 | 9 | 30 | Phase A Current 41 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A7H | 01448 | 152 | 10 | 30 | Phase A Current 42 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A8H | 01449 | 152 | 11 | 30 | Phase A Current 43 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05A9H | 01450 | 152 | 12 | 30 | Phase A Current 44 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05AAH | 01451 | 152 | 13 | 30 | Phase A Current 45 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05ABH | 01452 | 152 | 14 | 30 | Phase A Current 46 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05ACH | 01453 | 152 | 15 | 30 | Phase A Current 47 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05ADH | 01454 | 152 | 16 | 30 | Phase A Current 48 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05AEH | 01455 | 152 | 17 | 30 | Phase A Current 49 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05AFH | 01456 | 152 | 18 | 30 | Phase A Current 50 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B0H | 01457 | 152 | 19 | 30 | Phase A Current 51 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B1H | 01458 | 152 | 20 | 30 | Phase A Current 52 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B2H | 01459 | 152 | 21 | 30 | Phase A Current 53 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B3H | 01460 | 152 | 22 | 30 | Phase A Current 54 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B4H | 01461 | 152 | 23 | 30 | Phase A Current 55 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B5H | 01462 | 152 | 24 | 30 | Phase A Current 56 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B6H | 01463 | 152 | 25 | 30 | Phase A Current 57 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B7H | 01464 | 152 | 26 | 30 | Phase A Current 58 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B8H | 01465 | 152 | 27 | 30 | Phase A Current 59 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05B9H | 01466 | 152 | 28 | 30 | Phase A Current 60 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05BAH | 01467 | 152 | 29 | 30 | Phase A Current 61 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05BBH | 01468 | 152 | 30 | 30 | Phase A Current 62 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05BCH | 01469 | 152 | 31 | 30 | Phase A Current 63 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05BDH | 01470 | 153 | 0 | 30 | Phase A Current 64 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05BEH | 01471 | 153 | 1 | 30 | Phase A Current 65 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05BFH | 01472 | 153 | 2 | 30 | Phase A Current 66 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C0H | 01473 | 153 | 3 | 30 | Phase A Current 67 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C1H | 01474 | 153 | 4 | 30 | Phase A Current 68 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 05C2H | 01475 | 153 | 5 | 30 | Phase A Current 69 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C3H | 01476 | 153 | 6 | 30 | Phase A Current 70 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C4H | 01477 | 153 | 7 | 30 | Phase A Current 71 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C5H | 01478 | 153 | 8 | 30 | Phase A Current 72 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C6H | 01479 | 153 | 9 | 30 | Phase A Current 73 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C7H | 01480 | 153 | 10 | 30 | Phase A Current 74 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C8H | 01481 | 153 | 11 | 30 | Phase A Current 75 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05C9H | 01482 | 153 | 12 | 30 | Phase A Current 76 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05CAH | 01483 | 153 | 13 | 30 | Phase A Current 77 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05CBH | 01484 | 153 | 14 | 30 | Phase A Current 78 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05CCH | 01485 | 153 | 15 | 30 | Phase A Current 79 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05CDH | 01486 | 153 | 16 | 30 | Phase A Current 80 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05CEH | 01487 | 153 | 17 | 30 | Phase A Current 81 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05CFH | 01488 | 153 | 18 | 30 | Phase A Current 82 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D0H | 01489 | 153 | 19 | 30 | Phase A Current 83 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D1H | 01490 | 153 | 20 | 30 | Phase A Current 84 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D2H | 01491 | 153 | 21 | 30 | Phase A Current 85 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D3H | 01492 | 153 | 22 | 30 | Phase A Current 86 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D4H | 01493 | 153 | 23 | 30 | Phase A Current 87 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D5H | 01494 | 153 | 24 | 30 | Phase A Current 88 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D6H | 01495 | 153 | 25 | 30 | Phase A Current 89 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D7H | 01496 | 153 | 26 | 30 | Phase A Current 90 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D8H | 01497 | 153 | 27 | 30 | Phase A Current 91 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05D9H | 01498 | 153 | 28 | 30 | Phase A Current 92 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05DAH | 01499 | 153 | 29 | 30 | Phase A Current 93 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05DBH | 01500 | 153 | 30 | 30 | Phase A Current 94 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05DCH | 01501 | 153 | 31 | 30 | Phase A Current 95 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05DDH | 01502 | 153 | 32 | 30 | Phase A Current 96 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05DEH | 01503 | 153 | 33 | 30 | Phase A Current 97 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05DFH | 01504 | 153 | 34 | 30 | Phase A Current 98 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E0H | 01505 | 153 | 35 | 30 | Phase A Current 99 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E1H | 01506 | 153 | 36 | 30 | Phase A Current 100 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 05E2H | 01507 | 153 | 37 | 30 | Phase A Current 101 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E3H | 01508 | 153 | 38 | 30 | Phase A Current 102 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E4H | 01509 | 153 | 39 | 30 | Phase A Current 103 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E5H | 01510 | 153 | 40 | 30 | Phase A Current 104 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E6H | 01511 | 153 | 41 | 30 | Phase A Current 105 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E7H | 01512 | 153 | 42 | 30 | Phase A Current 106 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E8H | 01513 | 153 | 43 | 30 | Phase A Current 107 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05E9H | 01514 | 153 | 44 | 30 | Phase A Current 108 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05EAH | 01515 | 153 | 45 | 30 | Phase A Current 109 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05EBH | 01516 | 153 | 46 | 30 | Phase A Current 110 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05ECH | 01517 | 153 | 47 | 30 | Phase A Current 111 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05EDH | 01518 | 153 | 48 | 30 | Phase A Current 112 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05EEH | 01519 | 153 | 49 | 30 | Phase A Current 113 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05EFH | 01520 | 153 | 50 | 30 | Phase A Current 114 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F0H | 01521 | 153 | 51 | 30 | Phase A Current 115 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F1H | 01522 | 153 | 52 | 30 | Phase A Current 116 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F2H | 01523 | 153 | 53 | 30 | Phase A Current 117 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F3H | 01524 | 153 | 54 | 30 | Phase A Current 118 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F4H | 01525 | 153 | 55 | 30 | Phase A Current 119 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F5H | 01526 | 153 | 56 | 30 | Phase A Current 120 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F6H | 01527 | 153 | 57 | 30 | Phase A Current 121 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F7H | 01528 | 153 | 58 | 30 | Phase A Current 122 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F8H | 01529 | 153 | 59 | 30 | Phase A Current 123 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05F9H | 01530 | 153 | 60 | 30 | Phase A Current 124 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05FAH | 01531 | 153 | 61 | 30 | Phase A Current 125 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05FBH | 01532 | 153 | 62 | 30 | Phase A Current 126 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05FCH | 01533 | 153 | 63 | 30 | Phase A Current 127 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05FDH | 01534 | 154 | 0 | 30 | Phase B Current 0 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05FEH | 01535 | 154 | 1 | 30 | Phase B Current 1 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 05FFH | 01536 | 154 | 2 | 30 | Phase B Current 2 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0600H | 01537 | 154 | 3 | 30 | Phase B Current 3 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0601H | 01538 | 154 | 4 | 30 | Phase B Current 4 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0602H | 01539 | 154 | 5 | 30 | Phase B Current 5 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0603H | 01540 | 154 | 6 | 30 | Phase B Current 6 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0604H | 01541 | 154 | 7 | 30 | Phase B Current 7 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0605H | 01542 | 155 | 0 | 30 | Phase B Current 8 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0606H | 01543 | 155 | 1 | 30 | Phase B Current 9 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0607H | 01544 | 155 | 2 | 30 | Phase B Current 10 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0608H | 01545 | 155 | 3 | 30 | Phase B Current 11 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0609H | 01546 | 155 | 4 | 30 | Phase B Current 12 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 060AH | 01547 | 155 | 5 | 30 | Phase B Current 13 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 060BH | 01548 | 155 | 6 | 30 | Phase B Current 14 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 060CH | 01549 | 155 | 7 | 30 | Phase B Current 15 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 060DH | 01550 | 156 | 0 | 30 | Phase B Current 16 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 060EH | 01551 | 156 | 1 | 30 | Phase B Current 17 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 060FH | 01552 | 156 | 2 | 30 | Phase B Current 18 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0610H | 01553 | 156 | 3 | 30 | Phase B Current 19 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0611H | 01554 | 156 | 4 | 30 | Phase B Current 20 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0612H | 01555 | 156 | 5 | 30 | Phase B Current 21 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0613H | 01556 | 156 | 6 | 30 | Phase B Current 22 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0614H | 01557 | 156 | 7 | 30 | Phase B Current 23 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0615H | 01558 | 156 | 8 | 30 | Phase B Current 24 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0616H | 01559 | 156 | 9 | 30 | Phase B Current 25 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0617H | 01560 | 156 | 10 | 30 | Phase B Current 26 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0618H | 01561 | 156 | 11 | 30 | Phase B Current 27 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0619H | 01562 | 156 | 12 | 30 | Phase B Current 28 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 061AH | 01563 | 156 | 13 | 30 | Phase B Current 29 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 061BH | 01564 | 156 | 14 | 30 | Phase B Current 30 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 061CH | 01565 | 156 | 15 | 30 | Phase B Current 31 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 061DH | 01566 | 157 | 0 | 30 | Phase B Current 32 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 061EH | 01567 | 157 | 1 | 30 | Phase B Current 33 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 061FH | 01568 | 157 | 2 | 30 | Phase B Current 34 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0620H | 01569 | 157 | 3 | 30 | Phase B Current 35 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0621H | 01570 | 157 | 4 | 30 | Phase B Current 36 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0622H | 01571 | 157 | 5 | 30 | Phase B Current 37 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0623H | 01572 | 157 | 6 | 30 | Phase B Current 38 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0624H | 01573 | 157 | 7 | 30 | Phase B Current 39 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0625H | 01574 | 157 | 8 | 30 | Phase B Current 40 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0626H | 01575 | 157 | 9 | 30 | Phase B Current 41 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0627H | 01576 | 157 | 10 | 30 | Phase B Current 42 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0628H | 01577 | 157 | 11 | 30 | Phase B Current 43 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0629H | 01578 | 157 | 12 | 30 | Phase B Current 44 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 062AH | 01579 | 157 | 13 | 30 | Phase B Current 45 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 062BH | 01580 | 157 | 14 | 30 | Phase B Current 46 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 062CH | 01581 | 157 | 15 | 30 | Phase B Current 47 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 062DH | 01582 | 157 | 16 | 30 | Phase B Current 48 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 062EH | 01583 | 157 | 17 | 30 | Phase B Current 49 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 062FH | 01584 | 157 | 18 | 30 | Phase B Current 50 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0630H | 01585 | 157 | 19 | 30 | Phase B Current 51 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0631H | 01586 | 157 | 20 | 30 | Phase B Current 52 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0632H | 01587 | 157 | 21 | 30 | Phase B Current 53 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0633H | 01588 | 157 | 22 | 30 | Phase B Current 54 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0634H | 01589 | 157 | 23 | 30 | Phase B Current 55 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0635H | 01590 | 157 | 24 | 30 | Phase B Current 56 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0636H | 01591 | 157 | 25 | 30 | Phase B Current 57 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0637H | 01592 | 157 | 26 | 30 | Phase B Current 58 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0638H | 01593 | 157 | 27 | 30 | Phase B Current 59 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0639H | 01594 | 157 | 28 | 30 | Phase B Current 60 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 063AH | 01595 | 157 | 29 | 30 | Phase B Current 61 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 063BH | 01596 | 157 | 30 | 30 | Phase B Current 62 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 063CH | 01597 | 157 | 31 | 30 | Phase B Current 63 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 063DH | 01598 | 158 | 0 | 30 | Phase B Current 64 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 063EH | 01599 | 158 | 1 | 30 | Phase B Current 65 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 063FH | 01600 | 158 | 2 | 30 | Phase B Current 66 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0640H | 01601 | 158 | 3 | 30 | Phase B Current 67 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0641H | 01602 | 158 | 4 | 30 | Phase B Current 68 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 0642H | 01603 | 158 | 5 | 30 | Phase B Current 69 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0643H | 01604 | 158 | 6 | 30 | Phase B Current 70 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0644H | 01605 | 158 | 7 | 30 | Phase B Current 71 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0645H | 01606 | 158 | 8 | 30 | Phase B Current 72 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0646H | 01607 | 158 | 9 | 30 | Phase B Current 73 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0647H | 01608 | 158 | 10 | 30 | Phase B Current 74 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0648H | 01609 | 158 | 11 | 30 | Phase B Current 75 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0649H | 01610 | 158 | 12 | 30 | Phase B Current 76 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 064AH | 01611 | 158 | 13 | 30 | Phase B Current 77 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 064BH | 01612 | 158 | 14 | 30 | Phase B Current 78 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 064CH | 01613 | 158 | 15 | 30 | Phase B Current 79 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 064DH | 01614 | 158 | 16 | 30 | Phase B Current 80 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 064EH | 01615 | 158 | 17 | 30 | Phase B Current 81 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 064FH | 01616 | 158 | 18 | 30 | Phase B Current 82 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0650H | 01617 | 158 | 19 | 30 | Phase B Current 83 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0651H | 01618 | 158 | 20 | 30 | Phase B Current 84 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0652H | 01619 | 158 | 21 | 30 | Phase B Current 85 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0653H | 01620 | 158 | 22 | 30 | Phase B Current 86 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0654H | 01621 | 158 | 23 | 30 | Phase B Current 87 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0655H | 01622 | 158 | 24 | 30 | Phase B Current 88 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0656H | 01623 | 158 | 25 | 30 | Phase B Current 89 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0657H | 01624 | 158 | 26 | 30 | Phase B Current 90 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0658H | 01625 | 158 | 27 | 30 | Phase B Current 91 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0659H | 01626 | 158 | 28 | 30 | Phase B Current 92 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 065AH | 01627 | 158 | 29 | 30 | Phase B Current 93 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 065BH | 01628 | 158 | 30 | 30 | Phase B Current 94 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 065CH | 01629 | 158 | 31 | 30 | Phase B Current 95 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 065DH | 01630 | 158 | 32 | 30 | Phase B Current 96 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 065EH | 01631 | 158 | 33 | 30 | Phase B Current 97 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 065FH | 01632 | 158 | 34 | 30 | Phase B Current 98 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0660H | 01633 | 158 | 35 | 30 | Phase B Current 99 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0661H | 01634 | 158 | 36 | 30 | Phase B Current 100 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 0662H | 01635 | 158 | 37 | 30 | Phase B Current 101 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0663H | 01636 | 158 | 38 | 30 | Phase B Current 102 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0664H | 01637 | 158 | 39 | 30 | Phase B Current 103 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0665H | 01638 | 158 | 40 | 30 | Phase B Current 104 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0666H | 01639 | 158 | 41 | 30 | Phase B Current 105 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0667H | 01640 | 158 | 42 | 30 | Phase B Current 106 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0668H | 01641 | 158 | 43 | 30 | Phase B Current 107 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0669H | 01642 | 158 | 44 | 30 | Phase B Current 108 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 066AH | 01643 | 158 | 45 | 30 | Phase B Current 109 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 066BH | 01644 | 158 | 46 | 30 | Phase B Current 110 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 066CH | 01645 | 158 | 47 | 30 | Phase B Current 111 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 066DH | 01646 | 158 | 48 | 30 | Phase B Current 112 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 066EH | 01647 | 158 | 49 | 30 | Phase B Current 113 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 066FH | 01648 | 158 | 50 | 30 | Phase B Current 114 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0670H | 01649 | 158 | 51 | 30 | Phase B Current 115 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0671H | 01650 | 158 | 52 | 30 | Phase B Current 116 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0672H | 01651 | 158 | 53 | 30 | Phase B Current 117 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0673H | 01652 | 158 | 54 | 30 | Phase B Current 118 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0674H | 01653 | 158 | 55 | 30 | Phase B Current 119 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0675H | 01654 | 158 | 56 | 30 | Phase B Current 120 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0676H | 01655 | 158 | 57 | 30 | Phase B Current 121 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0677H | 01656 | 158 | 58 | 30 | Phase B Current 122 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0678H | 01657 | 158 | 59 | 30 | Phase B Current 123 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0679H | 01658 | 158 | 60 | 30 | Phase B Current 124 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 067AH | 01659 | 158 | 61 | 30 | Phase B Current 125 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 067BH | 01660 | 158 | 62 | 30 | Phase B Current 126 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 067CH | 01661 | 158 | 63 | 30 | Phase B Current 127 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 067DH | 01662 | 159 | 0 | 30 | Phase C Current 0 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 067EH | 01663 | 159 | 1 | 30 | Phase C Current 1 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 067FH | 01664 | 159 | 2 | 30 | Phase C Current 2 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0680H | 01665 | 159 | 3 | 30 | Phase C Current 3 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0681H | 01666 | 159 | 4 | 30 | Phase C Current 4 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 0682H | 01667 | 159 | 5 | 30 | Phase C Current 5 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0683H | 01668 | 159 | 6 | 30 | Phase C Current 6 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0684H | 01669 | 159 | 7 | 30 | Phase C Current 7 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0685H | 01670 | 160 | 0 | 30 | Phase C Current 8 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0686H | 01671 | 160 | 1 | 30 | Phase C Current 9 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0687H | 01672 | 160 | 2 | 30 | Phase C Current 10 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0688H | 01673 | 160 | 3 | 30 | Phase C Current 11 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0689H | 01674 | 160 | 4 | 30 | Phase C Current 12 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 068AH | 01675 | 160 | 5 | 30 | Phase C Current 13 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 068BH | 01676 | 160 | 6 | 30 | Phase C Current 14 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 068CH | 01677 | 160 | 7 | 30 | Phase C Current 15 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 068DH | 01678 | 161 | 0 | 30 | Phase C Current 16 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 068EH | 01679 | | 1 | 30 | Phase C Current 17 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 068FH | 01680 | 161 | 2 | 30 | Phase C Current 18 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0690H | 01681 | 161 | 3 | 30 | Phase C Current 19 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0691H | 01682 | 161 | 4 | 30 | Phase C Current 20 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0692H | 01683 | 161 | 5 | 30 | Phase C Current 21 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0693H | 01684 | 161 | 6 | 30 | Phase C Current 22 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0694H | 01685 | 161 | 7 | 30 | Phase C Current 23 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0695H | 01686 | 161 | 8 | 30 | Phase C Current 24 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0696H | 01687 | 161 | 9 | 30 | Phase C Current 25 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0697H | 01688 | 161 | 10 | 30 | Phase C Current 26 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0698H | 01689 | 161 | 11 | 30 | Phase C Current 27 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0699H | 01690 | 161 | 12 | 30 | Phase C Current 28 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 069AH | 01691 | 161 | 13 | 30 | Phase C Current 29 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 069BH | 01692 | 161 | 14 | 30 | Phase C Current 30 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 069CH | 01693 | 161 | 15 | 30 | Phase C Current 31 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 069DH | 01694 | 162 | 0 | 30 | Phase C Current 32 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 069EH | 01695 | 162 | 1 | 30 | Phase C Current 33 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 069FH | 01696 | 162 | 2 | 30 | Phase C Current 34 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A0H | 01697 | 162 | 3 | 30 | Phase C Current 35 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A1H | 01698 | 162 | 4 | 30 | Phase C Current 36 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------|-------|------|-----|-------|
| 06A2H | 01699 | 162 | 5 | 30 | Phase C Current 37 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A3H | 01700 | 162 | 6 | 30 | Phase C Current 38 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A4H | 01701 | 162 | 7 | 30 | Phase C Current 39 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A5H | 01702 | 162 | 8 | 30 | Phase C Current 40 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A6H | 01703 | 162 | 9 | 30 | Phase C Current 41 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A7H | 01704 | 162 | 10 | 30 | Phase C Current 42 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A8H | 01705 | 162 | 11 | 30 | Phase C Current 43 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06A9H | 01706 | 162 | 12 | 30 | Phase C Current 44 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06AAH | 01707 | 162 | 13 | 30 | Phase C Current 45 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06ABH | 01708 | 162 | 14 | 30 | Phase C Current 46 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06ACH | 01709 | 162 | 15 | 30 | Phase C Current 47 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06ADH | 01710 | 162 | 16 | 30 | Phase C Current 48 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06AEH | 01711 | 162 | 17 | 30 | Phase C Current 49 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06AFH | 01712 | 162 | 18 | 30 | Phase C Current 50 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B0H | 01713 | 162 | 19 | 30 | Phase C Current 51 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B1H | 01714 | 162 | 20 | 30 | Phase C Current 52 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B2H | 01715 | 162 | 21 | 30 | Phase C Current 53 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B3H | 01716 | 162 | 22 | 30 | Phase C Current 54 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B4H | 01717 | 162 | 23 | 30 | Phase C Current 55 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B5H | 01718 | 162 | 24 | 30 | Phase C Current 56 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B6H | 01719 | 162 | 25 | 30 | Phase C Current 57 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B7H | 01720 | 162 | 26 | 30 | Phase C Current 58 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B8H | 01721 | 162 | 27 | 30 | Phase C Current 59 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06B9H | 01722 | 162 | 28 | 30 | Phase C Current 60 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06BAH | 01723 | 162 | 29 | 30 | Phase C Current 61 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06BBH | 01724 | 162 | 30 | 30 | Phase C Current 62 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06BCH | 01725 | 162 | 31 | 30 | Phase C Current 63 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06BDH | 01726 | 163 | 0 | 30 | Phase C Current 64 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06BEH | 01727 | 163 | 1 | 30 | Phase C Current 65 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06BFH | 01728 | 163 | 2 | 30 | Phase C Current 66 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C0H | 01729 | 163 | 3 | 30 | Phase C Current 67 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C1H | 01730 | 163 | 4 | 30 | Phase C Current 68 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 06C2H | 01731 | 163 | 5 | 30 | Phase C Current 69 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C3H | 01732 | 163 | 6 | 30 | Phase C Current 70 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C4H | 01733 | 163 | 7 | 30 | Phase C Current 71 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C5H | 01734 | 163 | 8 | 30 | Phase C Current 72 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C6H | 01735 | 163 | 9 | 30 | Phase C Current 73 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C7H | 01736 | 163 | 10 | 30 | Phase C Current 74 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C8H | 01737 | 163 | 11 | 30 | Phase C Current 75 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06C9H | 01738 | 163 | 12 | 30 | Phase C Current 76 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06CAH | 01739 | 163 | 13 | 30 | Phase C Current 77 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06CBH | 01740 | 163 | 14 | 30 | Phase C Current 78 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06CCH | 01741 | 163 | 15 | 30 | Phase C Current 79 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06CDH | 01742 | 163 | 16 | 30 | Phase C Current 80 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06CEH | 01743 | 163 | 17 | 30 | Phase C Current 81 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06CFH | 01744 | 163 | 18 | 30 | Phase C Current 82 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D0H | 01745 | 163 | 19 | 30 | Phase C Current 83 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D1H | 01746 | 163 | 20 | 30 | Phase C Current 84 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D2H | 01747 | 163 | 21 | 30 | Phase C Current 85 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D3H | 01748 | 163 | 22 | 30 | Phase C Current 86 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D4H | 01749 | 163 | 23 | 30 | Phase C Current 87 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D5H | 01750 | 163 | 24 | 30 | Phase C Current 88 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D6H | 01751 | 163 | 25 | 30 | Phase C Current 89 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D7H | 01752 | 163 | 26 | 30 | Phase C Current 90 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D8H | 01753 | 163 | 27 | 30 | Phase C Current 91 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06D9H | 01754 | 163 | 28 | 30 | Phase C Current 92 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06DAH | 01755 | 163 | 29 | 30 | Phase C Current 93 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06DBH | 01756 | 163 | 30 | 30 | Phase C Current 94 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06DCH | 01757 | 163 | 31 | 30 | Phase C Current 95 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06DDH | 01758 | 163 | 32 | 30 | Phase C Current 96 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06DEH | 01759 | 163 | 33 | 30 | Phase C Current 97 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06DFH | 01760 | 163 | 34 | 30 | Phase C Current 98 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E0H | 01761 | 163 | 35 | 30 | Phase C Current 99 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E1H | 01762 | 163 | 36 | 30 | Phase C Current 100 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 06E2H | 01763 | 163 | 37 | 30 | Phase C Current 101 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E3H | 01764 | 163 | 38 | 30 | Phase C Current 102 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E4H | 01765 | 163 | 39 | 30 | Phase C Current 103 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E5H | 01766 | 163 | 40 | 30 | Phase C Current 104 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E6H | 01767 | 163 | 41 | 30 | Phase C Current 105 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E7H | 01768 | 163 | 42 | 30 | Phase C Current 106 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E8H | 01769 | 163 | 43 | 30 | Phase C Current 107 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06E9H | 01770 | 163 | 44 | 30 | Phase C Current 108 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06EAH | 01771 | 163 | 45 | 30 | Phase C Current 109 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06EBH | 01772 | 163 | 46 | 30 | Phase C Current 110 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06ECH | 01773 | 163 | 47 | 30 | Phase C Current 111 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06EDH | 01774 | 163 | 48 | 30 | Phase C Current 112 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06EEH | 01775 | 163 | 49 | 30 | Phase C Current 113 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06EFH | 01776 | 163 | 50 | 30 | Phase C Current 114 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F0H | 01777 | 163 | 51 | 30 | Phase C Current 115 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F1H | 01778 | 163 | 52 | 30 | Phase C Current 116 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F2H | 01779 | 163 | 53 | 30 | Phase C Current 117 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F3H | 01780 | 163 | 54 | 30 | Phase C Current 118 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F4H | 01781 | 163 | 55 | 30 | Phase C Current 119 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F5H | 01782 | 163 | 56 | 30 | Phase C Current 120 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F6H | 01783 | 163 | 57 | 30 | Phase C Current 121 st Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F7H | 01784 | 163 | 58 | 30 | Phase C Current 122 nd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F8H | 01785 | 163 | 59 | 30 | Phase C Current 123 rd Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06F9H | 01786 | 163 | 60 | 30 | Phase C Current 124 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06FAH | 01787 | 163 | 61 | 30 | Phase C Current 125 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06FBH | 01788 | 163 | 62 | 30 | Phase C Current 126 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| 06FCH | 01789 | 163 | 63 | 30 | Phase C Current 127 th Harmonic Magnitude | +327.67% / -327.68% | 0.01% | F10 | R | |
| Harmonic Phase Block | | | | | | | | | | |
| 06FDH | 01790 | 164 | 0 | 30 | Phase A-N / Phase A-B Voltage 0 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 06FEH | 01791 | 164 | 1 | 30 | Phase A-N / Phase A-B Voltage 1 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 06FFH | 01792 | 164 | 2 | 30 | Phase A-N / Phase A-B Voltage 2 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0700H | 01793 | 164 | 3 | 30 | Phase A-N / Phase A-B Voltage 3 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0701H | 01794 | 164 | 4 | 30 | Phase A-N / Phase A-B Voltage 4 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0702H | 01795 | 164 | 5 | 30 | Phase A-N / Phase A-B Voltage 5 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0703H | 01796 | 164 | 6 | 30 | Phase A-N / Phase A-B Voltage 6 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0704H | 01797 | 164 | 7 | 30 | Phase A-N / Phase A-B Voltage 7 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0705H | 01798 | 165 | 0 | 30 | Phase A-N / Phase A-B Voltage 8 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0706H | 01799 | 165 | 1 | 30 | Phase A-N / Phase A-B Voltage 9 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0707H | 01800 | 165 | 2 | 30 | Phase A-N / Phase A-B Voltage 10 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0708H | 01801 | 165 | 3 | 30 | Phase A-N / Phase A-B Voltage 11 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0709H | 01802 | 165 | 4 | 30 | Phase A-N / Phase A-B Voltage 12 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 070AH | 01803 | 165 | 5 | 30 | Phase A-N / Phase A-B Voltage 13 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 070BH | 01804 | 165 | 6 | 30 | Phase A-N / Phase A-B Voltage 14 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 070CH | 01805 | 165 | 7 | 30 | Phase A-N / Phase A-B Voltage 15 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 070DH | 01806 | 166 | 0 | 30 | Phase A-N / Phase A-B Voltage 16 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 070EH | 01807 | 166 | 1 | 30 | Phase A-N / Phase A-B Voltage 17 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 070FH | 01808 | 166 | 2 | 30 | Phase A-N / Phase A-B Voltage 18 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0710H | 01809 | 166 | 3 | 30 | Phase A-N / Phase A-B Voltage 19 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0711H | 01810 | 166 | 4 | 30 | Phase A-N / Phase A-B Voltage 20 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0712H | 01811 | 166 | 5 | 30 | Phase A-N / Phase A-B Voltage 21 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0713H | 01812 | 166 | 6 | 30 | Phase A-N / Phase A-B Voltage 22 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0714H | 01813 | 166 | 7 | 30 | Phase A-N / Phase A-B Voltage 23 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0715H | 01814 | 166 | 8 | 30 | Phase A-N / Phase A-B Voltage 24 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0716H | 01815 | 166 | 9 | 30 | Phase A-N / Phase A-B Voltage 25 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0717H | 01816 | 166 | 10 | 30 | Phase A-N / Phase A-B Voltage 26 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0718H | 01817 | 166 | 11 | 30 | Phase A-N / Phase A-B Voltage 27 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0719H | 01818 | 166 | 12 | 30 | Phase A-N / Phase A-B Voltage 28 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 071AH | 01819 | 166 | 13 | 30 | Phase A-N / Phase A-B Voltage 29 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 071BH | 01820 | 166 | 14 | 30 | Phase A-N / Phase A-B Voltage 30 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 071CH | 01821 | 166 | 15 | 30 | Phase A-N / Phase A-B Voltage 31 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 071DH | 01822 | 167 | 0 | 30 | Phase A-N / Phase A-B Voltage 32 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 071EH | 01823 | 167 | 1 | 30 | Phase A-N / Phase A-B Voltage 33 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 071FH | 01824 | 167 | 2 | 30 | Phase A-N / Phase A-B Voltage 34 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0720H | 01825 | 167 | 3 | 30 | Phase A-N / Phase A-B Voltage 35 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0721H | 01826 | 167 | 4 | 30 | Phase A-N / Phase A-B Voltage 36 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0722H | 01827 | 167 | 5 | 30 | Phase A-N / Phase A-B Voltage 37 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0723H | 01828 | 167 | 6 | 30 | Phase A-N / Phase A-B Voltage 38 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0724H | 01829 | 167 | 7 | 30 | Phase A-N / Phase A-B Voltage 39 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0725H | 01830 | 167 | 8 | 30 | Phase A-N / Phase A-B Voltage 40 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0726H | 01831 | 167 | 9 | 30 | Phase A-N / Phase A-B Voltage 41 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0727H | 01832 | 167 | 10 | 30 | Phase A-N / Phase A-B Voltage 42 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0728H | 01833 | 167 | 11 | 30 | Phase A-N / Phase A-B Voltage 43 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0729H | 01834 | 167 | 12 | 30 | Phase A-N / Phase A-B Voltage 44 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 072AH | 01835 | 167 | 13 | 30 | Phase A-N / Phase A-B Voltage 45 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 072BH | 01836 | 167 | 14 | 30 | Phase A-N / Phase A-B Voltage 46 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 072CH | 01837 | 167 | 15 | 30 | Phase A-N / Phase A-B Voltage 47 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 072DH | 01838 | 167 | 16 | 30 | Phase A-N / Phase A-B Voltage 48 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 072EH | 01839 | 167 | 17 | 30 | Phase A-N / Phase A-B Voltage 49 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 072FH | 01840 | 167 | 18 | 30 | Phase A-N / Phase A-B Voltage 50 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0730H | 01841 | 167 | 19 | 30 | Phase A-N / Phase A-B Voltage 51 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0731H | 01842 | 167 | 20 | 30 | Phase A-N / Phase A-B Voltage 52 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0732H | 01843 | 167 | 21 | 30 | Phase A-N / Phase A-B Voltage 53 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0733H | 01844 | 167 | 22 | 30 | Phase A-N / Phase A-B Voltage 54 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0734H | 01845 | 167 | 23 | 30 | Phase A-N / Phase A-B Voltage 55 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0735H | 01846 | 167 | 24 | 30 | Phase A-N / Phase A-B Voltage 56 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0736H | 01847 | 167 | 25 | 30 | Phase A-N / Phase A-B Voltage 57 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0737H | 01848 | 167 | 26 | 30 | Phase A-N / Phase A-B Voltage 58 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0738H | 01849 | 167 | 27 | 30 | Phase A-N / Phase A-B Voltage 59 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0739H | 01850 | 167 | 28 | 30 | Phase A-N / Phase A-B Voltage 60 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 073AH | 01851 | 167 | 29 | 30 | Phase A-N / Phase A-B Voltage 61 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 073BH | 01852 | 167 | 30 | 30 | Phase A-N / Phase A-B Voltage 62 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 073CH | 01853 | 167 | 31 | 30 | Phase A-N / Phase A-B Voltage 63 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 073DH | 01854 | 168 | 0 | 30 | Phase A-N / Phase A-B Voltage 64 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 073EH | 01855 | 168 | 1 | 30 | Phase A-N / Phase A-B Voltage 65 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 073FH | 01856 | 168 | 2 | 30 | Phase A-N / Phase A-B Voltage 66 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0740H | 01857 | 168 | 3 | 30 | Phase A-N / Phase A-B Voltage 67 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0741H | 01858 | 168 | 4 | 30 | Phase A-N / Phase A-B Voltage 68 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 0742H | 01859 | 168 | 5 | 30 | Phase A-N / Phase A-B Voltage 69 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0743H | 01860 | 168 | 6 | 30 | Phase A-N / Phase A-B Voltage 70 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0744H | 01861 | 168 | 7 | 30 | Phase A-N / Phase A-B Voltage 71 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0745H | 01862 | 168 | 8 | 30 | Phase A-N / Phase A-B Voltage 72 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0746H | 01863 | 168 | 9 | 30 | Phase A-N / Phase A-B Voltage 73 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0747H | 01864 | 168 | 10 | 30 | Phase A-N / Phase A-B Voltage 74 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0748H | 01865 | 168 | 11 | 30 | Phase A-N / Phase A-B Voltage 75 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0749H | 01866 | 168 | 12 | 30 | Phase A-N / Phase A-B Voltage 76 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 074AH | 01867 | 168 | 13 | 30 | Phase A-N / Phase A-B Voltage 77 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 074BH | 01868 | 168 | 14 | 30 | Phase A-N / Phase A-B Voltage 78 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 074CH | 01869 | 168 | 15 | 30 | Phase A-N / Phase A-B Voltage 79 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 074DH | 01870 | 168 | 16 | 30 | Phase A-N / Phase A-B Voltage 80 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 074EH | 01871 | 168 | 17 | 30 | Phase A-N / Phase A-B Voltage 81 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 074FH | 01872 | 168 | 18 | 30 | Phase A-N / Phase A-B Voltage 82 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0750H | 01873 | 168 | 19 | 30 | Phase A-N / Phase A-B Voltage 83 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0751H | 01874 | 168 | 20 | 30 | Phase A-N / Phase A-B Voltage 84 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0752H | 01875 | 168 | 21 | 30 | Phase A-N / Phase A-B Voltage 85 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0753H | 01876 | 168 | 22 | 30 | Phase A-N / Phase A-B Voltage 86 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0754H | 01877 | 168 | 23 | 30 | Phase A-N / Phase A-B Voltage 87 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0755H | 01878 | 168 | 24 | 30 | Phase A-N / Phase A-B Voltage 88 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0756H | 01879 | 168 | 25 | 30 | Phase A-N / Phase A-B Voltage 89 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0757H | 01880 | 168 | 26 | 30 | Phase A-N / Phase A-B Voltage 90 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0758H | 01881 | 168 | 27 | 30 | Phase A-N / Phase A-B Voltage 91 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0759H | 01882 | 168 | 28 | 30 | Phase A-N / Phase A-B Voltage 92 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 075AH | 01883 | 168 | 29 | 30 | Phase A-N / Phase A-B Voltage 93 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 075BH | 01884 | 168 | 30 | 30 | Phase A-N / Phase A-B Voltage 94 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 075CH | 01885 | 168 | 31 | 30 | Phase A-N / Phase A-B Voltage 95 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 075DH | 01886 | 168 | 32 | 30 | Phase A-N / Phase A-B Voltage 96 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 075EH | 01887 | 168 | 33 | 30 | Phase A-N / Phase A-B Voltage 97 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 075FH | 01888 | 168 | 34 | 30 | Phase A-N / Phase A-B Voltage 98 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0760H | 01889 | 168 | 35 | 30 | Phase A-N / Phase A-B Voltage 99 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0761H | 01890 | 168 | 36 | 30 | Phase A-N / Phase A-B Voltage 100 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 0762H | 01891 | 168 | 37 | 30 | Phase A-N / Phase A-B Voltage 101 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0763H | 01892 | 168 | 38 | 30 | Phase A-N / Phase A-B Voltage 102 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0764H | 01893 | 168 | 39 | 30 | Phase A-N / Phase A-B Voltage 103 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0765H | 01894 | 168 | 40 | 30 | Phase A-N / Phase A-B Voltage 104 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0766H | 01895 | 168 | 41 | 30 | Phase A-N / Phase A-B Voltage 105 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0767H | 01896 | 168 | 42 | 30 | Phase A-N / Phase A-B Voltage 106 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0768H | 01897 | 168 | 43 | 30 | Phase A-N / Phase A-B Voltage 107 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0769H | 01898 | 168 | 44 | 30 | Phase A-N / Phase A-B Voltage 108 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 076AH | 01899 | 168 | 45 | 30 | Phase A-N / Phase A-B Voltage 109 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 076BH | 01900 | 168 | 46 | 30 | Phase A-N / Phase A-B Voltage 110 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 076CH | 01901 | 168 | 47 | 30 | Phase A-N / Phase A-B Voltage 111 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 076DH | 01902 | 168 | 48 | 30 | Phase A-N / Phase A-B Voltage 112 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 076EH | 01903 | 168 | 49 | 30 | Phase A-N / Phase A-B Voltage 113 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 076FH | 01904 | 168 | 50 | 30 | Phase A-N / Phase A-B Voltage 114 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0770H | 01905 | 168 | 51 | 30 | Phase A-N / Phase A-B Voltage 115 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0771H | 01906 | 168 | 52 | 30 | Phase A-N / Phase A-B Voltage 116 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0772H | 01907 | 168 | 53 | 30 | Phase A-N / Phase A-B Voltage 117 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0773H | 01908 | 168 | 54 | 30 | Phase A-N / Phase A-B Voltage 118 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0774H | 01909 | 168 | 55 | 30 | Phase A-N / Phase A-B Voltage 119 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0775H | 01910 | 168 | 56 | 30 | Phase A-N / Phase A-B Voltage 120 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0776H | 01911 | 168 | 57 | 30 | Phase A-N / Phase A-B Voltage 121 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0777H | 01912 | 168 | 58 | 30 | Phase A-N / Phase A-B Voltage 122 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0778H | 01913 | 168 | 59 | 30 | Phase A-N / Phase A-B Voltage 123 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0779H | 01914 | 168 | 60 | 30 | Phase A-N / Phase A-B Voltage 124 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 077AH | 01915 | 168 | 61 | 30 | Phase A-N / Phase A-B Voltage 125 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 077BH | 01916 | 168 | 62 | 30 | Phase A-N / Phase A-B Voltage 126 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 077CH | 01917 | 168 | 63 | 30 | Phase A-N / Phase A-B Voltage 127 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 077DH | 01918 | 169 | 0 | 30 | Phase B-N / Phase B-C Voltage 0 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 077EH | 01919 | 169 | 1 | 30 | Phase B-N / Phase B-C Voltage 1 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 077FH | 01920 | 169 | 2 | 30 | Phase B-N / Phase B-C Voltage 2 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0780H | 01921 | 169 | 3 | 30 | Phase B-N / Phase B-C Voltage 3 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0781H | 01922 | 169 | 4 | 30 | Phase B-N / Phase B-C Voltage 4 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0782H | 01923 | 169 | 5 | 30 | Phase B-N / Phase B-C Voltage 5 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0783H | 01924 | 169 | 6 | 30 | Phase B-N / Phase B-C Voltage 6 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0784H | 01925 | 169 | 7 | 30 | Phase B-N / Phase B-C Voltage 7 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0785H | 01926 | 170 | 0 | 30 | Phase B-N / Phase B-C Voltage 8 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0786H | 01927 | 170 | 1 | 30 | Phase B-N / Phase B-C Voltage 9 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0787H | 01928 | 170 | 2 | 30 | Phase B-N / Phase B-C Voltage 10 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0788H | 01929 | 170 | 3 | 30 | Phase B-N / Phase B-C Voltage 11 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0789H | 01930 | 170 | 4 | 30 | Phase B-N / Phase B-C Voltage 12 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 078AH | 01931 | 170 | 5 | 30 | Phase B-N / Phase B-C Voltage 13 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 078BH | 01932 | 170 | 6 | 30 | Phase B-N / Phase B-C Voltage 14 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 078CH | 01933 | 170 | 7 | 30 | Phase B-N / Phase B-C Voltage 15 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 078DH | 01934 | 171 | 0 | 30 | Phase B-N / Phase B-C Voltage 16 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 078EH | 01935 | 171 | 1 | 30 | Phase B-N / Phase B-C Voltage 17 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 078FH | 01936 | 171 | 2 | 30 | Phase B-N / Phase B-C Voltage 18 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0790H | 01937 | 171 | 3 | 30 | Phase B-N / Phase B-C Voltage 19 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0791H | 01938 | 171 | 4 | 30 | Phase B-N / Phase B-C Voltage 20 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0792H | 01939 | 171 | 5 | 30 | Phase B-N / Phase B-C Voltage 21 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0793H | 01940 | 171 | 6 | 30 | Phase B-N / Phase B-C Voltage 22 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0794H | 01941 | 171 | 7 | 30 | Phase B-N / Phase B-C Voltage 23 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0795H | 01942 | 171 | 8 | 30 | Phase B-N / Phase B-C Voltage 24 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0796H | 01943 | 171 | 9 | 30 | Phase B-N / Phase B-C Voltage 25 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0797H | 01944 | 171 | 10 | 30 | Phase B-N / Phase B-C Voltage 26 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0798H | 01945 | 171 | 11 | 30 | Phase B-N / Phase B-C Voltage 27 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0799H | 01946 | 171 | 12 | 30 | Phase B-N / Phase B-C Voltage 28 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 079AH | 01947 | 171 | 13 | 30 | Phase B-N / Phase B-C Voltage 29 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 079BH | 01948 | 171 | 14 | 30 | Phase B-N / Phase B-C Voltage 30 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 079CH | 01949 | 171 | 15 | 30 | Phase B-N / Phase B-C Voltage 31 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 079DH | 01950 | 172 | 0 | 30 | Phase B-N / Phase B-C Voltage 32 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 079EH | 01951 | 172 | 1 | 30 | Phase B-N / Phase B-C Voltage 33 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 079FH | 01952 | 172 | 2 | 30 | Phase B-N / Phase B-C Voltage 34 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A0H | 01953 | 172 | 3 | 30 | Phase B-N / Phase B-C Voltage 35 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A1H | 01954 | 172 | 4 | 30 | Phase B-N / Phase B-C Voltage 36 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 07A2H | 01955 | 172 | 5 | 30 | Phase B-N / Phase B-C Voltage 37 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A3H | 01956 | 172 | 6 | 30 | Phase B-N / Phase B-C Voltage 38 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A4H | 01957 | 172 | 7 | 30 | Phase B-N / Phase B-C Voltage 39 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A5H | 01958 | 172 | 8 | 30 | Phase B-N / Phase B-C Voltage 40 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A6H | 01959 | 172 | 9 | 30 | Phase B-N / Phase B-C Voltage 41 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A7H | 01960 | 172 | 10 | 30 | Phase B-N / Phase B-C Voltage 42 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A8H | 01961 | 172 | 11 | 30 | Phase B-N / Phase B-C Voltage 43 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07A9H | 01962 | 172 | 12 | 30 | Phase B-N / Phase B-C Voltage 44 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07AAH | 01963 | 172 | 13 | 30 | Phase B-N / Phase B-C Voltage 45 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07ABH | 01964 | 172 | 14 | 30 | Phase B-N / Phase B-C Voltage 46 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07ACH | 01965 | 172 | 15 | 30 | Phase B-N / Phase B-C Voltage 47 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07ADH | 01966 | 172 | 16 | 30 | Phase B-N / Phase B-C Voltage 48 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07AEH | 01967 | 172 | 17 | 30 | Phase B-N / Phase B-C Voltage 49 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07AFH | 01968 | 172 | 18 | 30 | Phase B-N / Phase B-C Voltage 50 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B0H | 01969 | 172 | 19 | 30 | Phase B-N / Phase B-C Voltage 51 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B1H | 01970 | 172 | 20 | 30 | Phase B-N / Phase B-C Voltage 52 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B2H | 01971 | 172 | 21 | 30 | Phase B-N / Phase B-C Voltage 53 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B3H | 01972 | 172 | 22 | 30 | Phase B-N / Phase B-C Voltage 54 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B4H | 01973 | 172 | 23 | 30 | Phase B-N / Phase B-C Voltage 55 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B5H | 01974 | 172 | 24 | 30 | Phase B-N / Phase B-C Voltage 56 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B6H | 01975 | 172 | 25 | 30 | Phase B-N / Phase B-C Voltage 57 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B7H | 01976 | 172 | 26 | 30 | Phase B-N / Phase B-C Voltage 58 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B8H | 01977 | 172 | 27 | 30 | Phase B-N / Phase B-C Voltage 59 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07B9H | 01978 | 172 | 28 | 30 | Phase B-N / Phase B-C Voltage 60 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07BAH | 01979 | 172 | 29 | 30 | Phase B-N / Phase B-C Voltage 61 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07BBH | 01980 | 172 | 30 | 30 | Phase B-N / Phase B-C Voltage 62 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07BCH | 01981 | 172 | 31 | 30 | Phase B-N / Phase B-C Voltage 63 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07BDH | 01982 | 173 | 0 | 30 | Phase B-N / Phase B-C Voltage 64 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07BEH | 01983 | 173 | 1 | 30 | Phase B-N / Phase B-C Voltage 65 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07BFH | 01984 | 173 | 2 | 30 | Phase B-N / Phase B-C Voltage 66 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C0H | 01985 | 173 | 3 | 30 | Phase B-N / Phase B-C Voltage 67 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C1H | 01986 | 173 | 4 | 30 | Phase B-N / Phase B-C Voltage 68 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 07C2H | 01987 | 173 | 5 | 30 | Phase B-N / Phase B-C Voltage 69 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C3H | 01988 | 173 | 6 | 30 | Phase B-N / Phase B-C Voltage 70 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C4H | 01989 | 173 | 7 | 30 | Phase B-N / Phase B-C Voltage 71 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C5H | 01990 | 173 | 8 | 30 | Phase B-N / Phase B-C Voltage 72 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C6H | 01991 | 173 | 9 | 30 | Phase B-N / Phase B-C Voltage 73 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C7H | 01992 | 173 | 10 | 30 | Phase B-N / Phase B-C Voltage 74 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C8H | 01993 | 173 | 11 | 30 | Phase B-N / Phase B-C Voltage 75 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07C9H | 01994 | 173 | 12 | 30 | Phase B-N / Phase B-C Voltage 76 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07CAH | 01995 | 173 | 13 | 30 | Phase B-N / Phase B-C Voltage 77 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07CBH | 01996 | 173 | 14 | 30 | Phase B-N / Phase B-C Voltage 78 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07CCH | 01997 | 173 | 15 | 30 | Phase B-N / Phase B-C Voltage 79 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07CDH | 01998 | 173 | 16 | 30 | Phase B-N / Phase B-C Voltage 80 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07CEH | 01999 | 173 | 17 | 30 | Phase B-N / Phase B-C Voltage 81 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07CFH | 02000 | 173 | 18 | 30 | Phase B-N / Phase B-C Voltage 82 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D0H | 02001 | 173 | 19 | 30 | Phase B-N / Phase B-C Voltage 83 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D1H | 02002 | 173 | 20 | 30 | Phase B-N / Phase B-C Voltage 84 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D2H | 02003 | 173 | 21 | 30 | Phase B-N / Phase B-C Voltage 85 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D3H | 02004 | 173 | 22 | 30 | Phase B-N / Phase B-C Voltage 86 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D4H | 02005 | 173 | 23 | 30 | Phase B-N / Phase B-C Voltage 87 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D5H | 02006 | 173 | 24 | 30 | Phase B-N / Phase B-C Voltage 88 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D6H | 02007 | 173 | 25 | 30 | Phase B-N / Phase B-C Voltage 89 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D7H | 02008 | 173 | 26 | 30 | Phase B-N / Phase B-C Voltage 90 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D8H | 02009 | 173 | 27 | 30 | Phase B-N / Phase B-C Voltage 91 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07D9H | 02010 | 173 | 28 | 30 | Phase B-N / Phase B-C Voltage 92 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07DAH | 02011 | 173 | 29 | 30 | Phase B-N / Phase B-C Voltage 93 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07DBH | 02012 | 173 | 30 | 30 | Phase B-N / Phase B-C Voltage 94 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07DCH | 02013 | 173 | 31 | 30 | Phase B-N / Phase B-C Voltage 95 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07DDH | 02014 | 173 | 32 | 30 | Phase B-N / Phase B-C Voltage 96 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07DEH | 02015 | 173 | 33 | 30 | Phase B-N / Phase B-C Voltage 97 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07DFH | 02016 | 173 | 34 | 30 | Phase B-N / Phase B-C Voltage 98 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E0H | 02017 | 173 | 35 | 30 | Phase B-N / Phase B-C Voltage 99 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E1H | 02018 | 173 | 36 | 30 | Phase B-N / Phase B-C Voltage 100 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 07E2H | 02019 | 173 | 37 | 30 | Phase B-N / Phase B-C Voltage 101 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E3H | 02020 | 173 | 38 | 30 | Phase B-N / Phase B-C Voltage 102 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E4H | 02021 | 173 | 39 | 30 | Phase B-N / Phase B-C Voltage 103 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E5H | 02022 | 173 | 40 | 30 | Phase B-N / Phase B-C Voltage 104 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E6H | 02023 | 173 | 41 | 30 | Phase B-N / Phase B-C Voltage 105 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E7H | 02024 | 173 | 42 | 30 | Phase B-N / Phase B-C Voltage 106 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E8H | 02025 | 173 | 43 | 30 | Phase B-N / Phase B-C Voltage 107 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07E9H | 02026 | 173 | 44 | 30 | Phase B-N / Phase B-C Voltage 108 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07EAH | 02027 | 173 | 45 | 30 | Phase B-N / Phase B-C Voltage 109 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07EBH | 02028 | 173 | 46 | 30 | Phase B-N / Phase B-C Voltage 110 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07ECH | 02029 | 173 | 47 | 30 | Phase B-N / Phase B-C Voltage 111 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07EDH | 02030 | 173 | 48 | 30 | Phase B-N / Phase B-C Voltage 112 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07EEH | 02031 | 173 | 49 | 30 | Phase B-N / Phase B-C Voltage 113 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07EFH | 02032 | 173 | 50 | 30 | Phase B-N / Phase B-C Voltage 114 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F0H | 02033 | 173 | 51 | 30 | Phase B-N / Phase B-C Voltage 115 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F1H | 02034 | 173 | 52 | 30 | Phase B-N / Phase B-C Voltage 116 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F2H | 02035 | 173 | 53 | 30 | Phase B-N / Phase B-C Voltage 117 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F3H | 02036 | 173 | 54 | 30 | Phase B-N / Phase B-C Voltage 118 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F4H | 02037 | 173 | 55 | 30 | Phase B-N / Phase B-C Voltage 119 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F5H | 02038 | 173 | 56 | 30 | Phase B-N / Phase B-C Voltage 120 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F6H | 02039 | 173 | 57 | 30 | Phase B-N / Phase B-C Voltage 121 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F7H | 02040 | 173 | 58 | 30 | Phase B-N / Phase B-C Voltage 122 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F8H | 02041 | 173 | 59 | 30 | Phase B-N / Phase B-C Voltage 123 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07F9H | 02042 | 173 | 60 | 30 | Phase B-N / Phase B-C Voltage 124 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07FAH | 02043 | 173 | 61 | 30 | Phase B-N / Phase B-C Voltage 125 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07FBH | 02044 | 173 | 62 | 30 | Phase B-N / Phase B-C Voltage 126 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07FCH | 02045 | 173 | 63 | 30 | Phase B-N / Phase B-C Voltage 127 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07FDH | 02046 | 174 | 0 | 30 | Phase C-N / Phase C-A Voltage 0 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07FEH | 02047 | 174 | 1 | 30 | Phase C-N / Phase C-A Voltage 1 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 07FFH | 02048 | 174 | 2 | 30 | Phase C-N / Phase C-A Voltage 2 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0800H | 02049 | 174 | 3 | 30 | Phase C-N / Phase C-A Voltage 3 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0801H | 02050 | 174 | 4 | 30 | Phase C-N / Phase C-A Voltage 4 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0802H | 02051 | 174 | 5 | 30 | Phase C-N / Phase C-A Voltage 5 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0803H | 02052 | 174 | 6 | 30 | Phase C-N / Phase C-A Voltage 6 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0804H | 02053 | 174 | 7 | 30 | Phase C-N / Phase C-A Voltage 7 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0805H | 02054 | 175 | 0 | 30 | Phase C-N / Phase C-A Voltage 8 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0806H | 02055 | 175 | 1 | 30 | Phase C-N / Phase C-A Voltage 9 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0807H | 02056 | 175 | 2 | 30 | Phase C-N / Phase C-A Voltage 10 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0808H | 02057 | 175 | 3 | 30 | Phase C-N / Phase C-A Voltage 11 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0809H | 02058 | 175 | 4 | 30 | Phase C-N / Phase C-A Voltage 12 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 080AH | 02059 | 175 | 5 | 30 | Phase C-N / Phase C-A Voltage 13 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 080BH | 02060 | 175 | 6 | 30 | Phase C-N / Phase C-A Voltage 14 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 080CH | 02061 | 175 | 7 | 30 | Phase C-N / Phase C-A Voltage 15 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 080DH | 02062 | 176 | 0 | 30 | Phase C-N / Phase C-A Voltage 16 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 080EH | 02063 | 176 | 1 | 30 | Phase C-N / Phase C-A Voltage 17 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 080FH | 02064 | 176 | 2 | 30 | Phase C-N / Phase C-A Voltage 18 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0810H | 02065 | 176 | 3 | 30 | Phase C-N / Phase C-A Voltage 19 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0811H | 02066 | 176 | 4 | 30 | Phase C-N / Phase C-A Voltage 20 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0812H | 02067 | 176 | 5 | 30 | Phase C-N / Phase C-A Voltage 21 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0813H | 02068 | 176 | 6 | 30 | Phase C-N / Phase C-A Voltage 22 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0814H | 02069 | 176 | 7 | 30 | Phase C-N / Phase C-A Voltage 23 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0815H | 02070 | 176 | 8 | 30 | Phase C-N / Phase C-A Voltage 24 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0816H | 02071 | 176 | 9 | 30 | Phase C-N / Phase C-A Voltage 25 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0817H | 02072 | 176 | 10 | 30 | Phase C-N / Phase C-A Voltage 26 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0818H | 02073 | 176 | 11 | 30 | Phase C-N / Phase C-A Voltage 27 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0819H | 02074 | 176 | 12 | 30 | Phase C-N / Phase C-A Voltage 28 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 081AH | 02075 | 176 | 13 | 30 | Phase C-N / Phase C-A Voltage 29 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 081BH | 02076 | 176 | 14 | 30 | Phase C-N / Phase C-A Voltage 30 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 081CH | 02077 | 176 | 15 | 30 | Phase C-N / Phase C-A Voltage 31 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 081DH | 02078 | 177 | 0 | 30 | Phase C-N / Phase C-A Voltage 32 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 081EH | 02079 | 177 | 1 | 30 | Phase C-N / Phase C-A Voltage 33 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 081FH | 02080 | 177 | 2 | 30 | Phase C-N / Phase C-A Voltage 34 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0820H | 02081 | 177 | 3 | 30 | Phase C-N / Phase C-A Voltage 35 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0821H | 02082 | 177 | 4 | 30 | Phase C-N / Phase C-A Voltage 36 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0822H | 02083 | 177 | 5 | 30 | Phase C-N / Phase C-A Voltage 37 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0823H | 02084 | 177 | 6 | 30 | Phase C-N / Phase C-A Voltage 38 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0824H | 02085 | 177 | 7 | 30 | Phase C-N / Phase C-A Voltage 39 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0825H | 02086 | 177 | 8 | 30 | Phase C-N / Phase C-A Voltage 40 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0826H | 02087 | 177 | 9 | 30 | Phase C-N / Phase C-A Voltage 41 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0827H | 02088 | 177 | 10 | 30 | Phase C-N / Phase C-A Voltage 42 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0828H | 02089 | 177 | 11 | 30 | Phase C-N / Phase C-A Voltage 43 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0829H | 02090 | 177 | 12 | 30 | Phase C-N / Phase C-A Voltage 44 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 082AH | 02091 | 177 | 13 | 30 | Phase C-N / Phase C-A Voltage 45 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 082BH | 02092 | 177 | 14 | 30 | Phase C-N / Phase C-A Voltage 46 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 082CH | 02093 | 177 | 15 | 30 | Phase C-N / Phase C-A Voltage 47 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 082DH | 02094 | 177 | 16 | 30 | Phase C-N / Phase C-A Voltage 48 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 082EH | 02095 | 177 | 17 | 30 | Phase C-N / Phase C-A Voltage 49 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 082FH | 02096 | 177 | 18 | 30 | Phase C-N / Phase C-A Voltage 50 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0830H | 02097 | 177 | 19 | 30 | Phase C-N / Phase C-A Voltage 51 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0831H | 02098 | 177 | 20 | 30 | Phase C-N / Phase C-A Voltage 52 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0832H | 02099 | 177 | 21 | 30 | Phase C-N / Phase C-A Voltage 53 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0833H | 02100 | 177 | 22 | 30 | Phase C-N / Phase C-A Voltage 54 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0834H | 02101 | 177 | 23 | 30 | Phase C-N / Phase C-A Voltage 55 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0835H | 02102 | 177 | 24 | 30 | Phase C-N / Phase C-A Voltage 56 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0836H | 02103 | 177 | 25 | 30 | Phase C-N / Phase C-A Voltage 57 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0837H | 02104 | 177 | 26 | 30 | Phase C-N / Phase C-A Voltage 58 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0838H | 02105 | 177 | 27 | 30 | Phase C-N / Phase C-A Voltage 59 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0839H | 02106 | 177 | 28 | 30 | Phase C-N / Phase C-A Voltage 60 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 083AH | 02107 | 177 | 29 | 30 | Phase C-N / Phase C-A Voltage 61 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 083BH | 02108 | 177 | 30 | 30 | Phase C-N / Phase C-A Voltage 62 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 083CH | 02109 | 177 | 31 | 30 | Phase C-N / Phase C-A Voltage 63 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 083DH | 02110 | 178 | 0 | 30 | Phase C-N / Phase C-A Voltage 64 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 083EH | 02111 | 178 | 1 | 30 | Phase C-N / Phase C-A Voltage 65 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 083FH | 02112 | 178 | 2 | 30 | Phase C-N / Phase C-A Voltage 66 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0840H | 02113 | 178 | 3 | 30 | Phase C-N / Phase C-A Voltage 67 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0841H | 02114 | 178 | 4 | 30 | Phase C-N / Phase C-A Voltage 68 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 0842H | 02115 | 178 | 5 | 30 | Phase C-N / Phase C-A Voltage 69 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0843H | 02116 | 178 | 6 | 30 | Phase C-N / Phase C-A Voltage 70 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0844H | 02117 | 178 | 7 | 30 | Phase C-N / Phase C-A Voltage 71 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0845H | 02118 | 178 | 8 | 30 | Phase C-N / Phase C-A Voltage 72 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0846H | 02119 | 178 | 9 | 30 | Phase C-N / Phase C-A Voltage 73 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0847H | 02120 | 178 | 10 | 30 | Phase C-N / Phase C-A Voltage 74 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0848H | 02121 | 178 | 11 | 30 | Phase C-N / Phase C-A Voltage 75 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0849H | 02122 | 178 | 12 | 30 | Phase C-N / Phase C-A Voltage 76 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 084AH | 02123 | 178 | 13 | 30 | Phase C-N / Phase C-A Voltage 77 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 084BH | 02124 | 178 | 14 | 30 | Phase C-N / Phase C-A Voltage 78 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 084CH | 02125 | 178 | 15 | 30 | Phase C-N / Phase C-A Voltage 79 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 084DH | 02126 | 178 | 16 | 30 | Phase C-N / Phase C-A Voltage 80 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 084EH | 02127 | 178 | 17 | 30 | Phase C-N / Phase C-A Voltage 81 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 084FH | 02128 | 178 | 18 | 30 | Phase C-N / Phase C-A Voltage 82 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0850H | 02129 | 178 | 19 | 30 | Phase C-N / Phase C-A Voltage 83 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0851H | 02130 | 178 | 20 | 30 | Phase C-N / Phase C-A Voltage 84 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0852H | 02131 | 178 | 21 | 30 | Phase C-N / Phase C-A Voltage 85 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0853H | 02132 | 178 | 22 | 30 | Phase C-N / Phase C-A Voltage 86 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0854H | 02133 | 178 | 23 | 30 | Phase C-N / Phase C-A Voltage 87 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0855H | 02134 | 178 | 24 | 30 | Phase C-N / Phase C-A Voltage 88 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0856H | 02135 | 178 | 25 | 30 | Phase C-N / Phase C-A Voltage 89 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0857H | 02136 | 178 | 26 | 30 | Phase C-N / Phase C-A Voltage 90 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0858H | 02137 | 178 | 27 | 30 | Phase C-N / Phase C-A Voltage 91 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0859H | 02138 | 178 | 28 | 30 | Phase C-N / Phase C-A Voltage 92 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 085AH | 02139 | 178 | 29 | 30 | Phase C-N / Phase C-A Voltage 93 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 085BH | 02140 | 178 | 30 | 30 | Phase C-N / Phase C-A Voltage 94 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 085CH | 02141 | 178 | 31 | 30 | Phase C-N / Phase C-A Voltage 95 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 085DH | 02142 | 178 | 32 | 30 | Phase C-N / Phase C-A Voltage 96 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 085EH | 02143 | 178 | 33 | 30 | Phase C-N / Phase C-A Voltage 97 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 085FH | 02144 | 178 | 34 | 30 | Phase C-N / Phase C-A Voltage 98 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0860H | 02145 | 178 | 35 | 30 | Phase C-N / Phase C-A Voltage 99 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0861H | 02146 | 178 | 36 | 30 | Phase C-N / Phase C-A Voltage 100 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 0862H | 02147 | 178 | 37 | 30 | Phase C-N / Phase C-A Voltage 101 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0863H | 02148 | 178 | 38 | 30 | Phase C-N / Phase C-A Voltage 102 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0864H | 02149 | 178 | 39 | 30 | Phase C-N / Phase C-A Voltage 103 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0865H | 02150 | 178 | 40 | 30 | Phase C-N / Phase C-A Voltage 104 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0866H | 02151 | 178 | 41 | 30 | Phase C-N / Phase C-A Voltage 105 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0867H | 02152 | 178 | 42 | 30 | Phase C-N / Phase C-A Voltage 106 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0868H | 02153 | 178 | 43 | 30 | Phase C-N / Phase C-A Voltage 107 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0869H | 02154 | 178 | 44 | 30 | Phase C-N / Phase C-A Voltage 108 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 086AH | 02155 | 178 | 45 | 30 | Phase C-N / Phase C-A Voltage 109 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 086BH | 02156 | 178 | 46 | 30 | Phase C-N / Phase C-A Voltage 110 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 086CH | 02157 | 178 | 47 | 30 | Phase C-N / Phase C-A Voltage 111 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 086DH | 02158 | 178 | 48 | 30 | Phase C-N / Phase C-A Voltage 112 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 086EH | 02159 | 178 | 49 | 30 | Phase C-N / Phase C-A Voltage 113 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 086FH | 02160 | 178 | 50 | 30 | Phase C-N / Phase C-A Voltage 114 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0870H | 02161 | 178 | 51 | 30 | Phase C-N / Phase C-A Voltage 115 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0871H | 02162 | 178 | 52 | 30 | Phase C-N / Phase C-A Voltage 116 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0872H | 02163 | 178 | 53 | 30 | Phase C-N / Phase C-A Voltage 117 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0873H | 02164 | 178 | 54 | 30 | Phase C-N / Phase C-A Voltage 118 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0874H | 02165 | 178 | 55 | 30 | Phase C-N / Phase C-A Voltage 119 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0875H | 02166 | 178 | 56 | 30 | Phase C-N / Phase C-A Voltage 120 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0876H | 02167 | 178 | 57 | 30 | Phase C-N / Phase C-A Voltage 121 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0877H | 02168 | 178 | 58 | 30 | Phase C-N / Phase C-A Voltage 122 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0878H | 02169 | 178 | 59 | 30 | Phase C-N / Phase C-A Voltage 123 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0879H | 02170 | 178 | 60 | 30 | Phase C-N / Phase C-A Voltage 124 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 087AH | 02171 | 178 | 61 | 30 | Phase C-N / Phase C-A Voltage 125 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 087BH | 02172 | 178 | 62 | 30 | Phase C-N / Phase C-A Voltage 126 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 087CH | 02173 | 178 | 63 | 30 | Phase C-N / Phase C-A Voltage 127 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 087DH | 02174 | 179 | 0 | 30 | Phase A Current 0 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 087EH | 02175 | 179 | 1 | 30 | Phase A Current 1 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 087FH | 02176 | 179 | 2 | 30 | Phase A Current 2 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0880H | 02177 | 179 | 3 | 30 | Phase A Current 3 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0881H | 02178 | 179 | 4 | 30 | Phase A Current 4 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0882H | 02179 | 179 | 5 | 30 | Phase A Current 5 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0883H | 02180 | 179 | 6 | 30 | Phase A Current 6 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0884H | 02181 | 179 | 7 | 30 | Phase A Current 7 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0885H | 02182 | 180 | 0 | 30 | Phase A Current 8 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0886H | 02183 | 180 | 1 | 30 | Phase A Current 9 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0887H | 02184 | 180 | 2 | 30 | Phase A Current 10 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0888H | 02185 | 180 | 3 | 30 | Phase A Current 11 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0889H | 02186 | 180 | 4 | 30 | Phase A Current 12 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 088AH | 02187 | 180 | 5 | 30 | Phase A Current 13 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 088BH | 02188 | 180 | 6 | 30 | Phase A Current 14 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 088CH | 02189 | 180 | 7 | 30 | Phase A Current 15 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 088DH | 02190 | 181 | 0 | 30 | Phase A Current 16 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 088EH | 02191 | 181 | 1 | 30 | Phase A Current 17 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 088FH | 02192 | 181 | 2 | 30 | Phase A Current 18 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0890H | 02193 | 181 | 3 | 30 | Phase A Current 19 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0891H | 02194 | 181 | 4 | 30 | Phase A Current 20 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0892H | 02195 | 181 | 5 | 30 | Phase A Current 21 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0893H | 02196 | 181 | 6 | 30 | Phase A Current 22 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0894H | 02197 | 181 | 7 | 30 | Phase A Current 23 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0895H | 02198 | 181 | 8 | 30 | Phase A Current 24 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0896H | 02199 | 181 | 9 | 30 | Phase A Current 25 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0897H | 02200 | 181 | 10 | 30 | Phase A Current 26 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0898H | 02201 | 181 | 11 | 30 | Phase A Current 27 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0899H | 02202 | 181 | 12 | 30 | Phase A Current 28 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 089AH | 02203 | 181 | 13 | 30 | Phase A Current 29 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 089BH | 02204 | 181 | 14 | 30 | Phase A Current 30 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 089CH | 02205 | 181 | 15 | 30 | Phase A Current 31 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 089DH | 02206 | 182 | 0 | 30 | Phase A Current 32 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 089EH | 02207 | 182 | 1 | 30 | Phase A Current 33 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 089FH | 02208 | 182 | 2 | 30 | Phase A Current 34 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A0H | 02209 | 182 | 3 | 30 | Phase A Current 35 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A1H | 02210 | 182 | 4 | 30 | Phase A Current 36 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 08A2H | 02211 | 182 | 5 | 30 | Phase A Current 37 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A3H | 02212 | 182 | 6 | 30 | Phase A Current 38 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A4H | 02213 | 182 | 7 | 30 | Phase A Current 39 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A5H | 02214 | 182 | 8 | 30 | Phase A Current 40 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A6H | 02215 | 182 | 9 | 30 | Phase A Current 41 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A7H | 02216 | 182 | 10 | 30 | Phase A Current 42 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A8H | 02217 | 182 | 11 | 30 | Phase A Current 43 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08A9H | 02218 | 182 | 12 | 30 | Phase A Current 44 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08AAH | 02219 | 182 | 13 | 30 | Phase A Current 45 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08ABH | 02220 | 182 | 14 | 30 | Phase A Current 46 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08ACH | 02221 | 182 | 15 | 30 | Phase A Current 47 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08ADH | 02222 | 182 | 16 | 30 | Phase A Current 48 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08AEH | 02223 | 182 | 17 | 30 | Phase A Current 49 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08AFH | 02224 | 182 | 18 | 30 | Phase A Current 50 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B0H | 02225 | 182 | 19 | 30 | Phase A Current 51 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B1H | 02226 | 182 | 20 | 30 | Phase A Current 52 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B2H | 02227 | 182 | 21 | 30 | Phase A Current 53 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B3H | 02228 | 182 | 22 | 30 | Phase A Current 54 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B4H | 02229 | 182 | 23 | 30 | Phase A Current 55 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B5H | 02230 | 182 | 24 | 30 | Phase A Current 56 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B6H | 02231 | 182 | 25 | 30 | Phase A Current 57 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B7H | 02232 | 182 | 26 | 30 | Phase A Current 58 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B8H | 02233 | 182 | 27 | 30 | Phase A Current 59 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08B9H | 02234 | 182 | 28 | 30 | Phase A Current 60 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08BAH | 02235 | 182 | 29 | 30 | Phase A Current 61 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08BBH | 02236 | 182 | 30 | 30 | Phase A Current 62 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08BCH | 02237 | 182 | 31 | 30 | Phase A Current 63 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08BDH | 02238 | 183 | 0 | 30 | Phase A Current 64 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08BEH | 02239 | 183 | 1 | 30 | Phase A Current 65 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08BFH | 02240 | 183 | 2 | 30 | Phase A Current 66 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C0H | 02241 | 183 | 3 | 30 | Phase A Current 67 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C1H | 02242 | 183 | 4 | 30 | Phase A Current 68 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 08C2H | 02243 | 183 | 5 | 30 | Phase A Current 69 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C3H | 02244 | 183 | 6 | 30 | Phase A Current 70 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C4H | 02245 | 183 | 7 | 30 | Phase A Current 71 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C5H | 02246 | 183 | 8 | 30 | Phase A Current 72 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C6H | 02247 | 183 | 9 | 30 | Phase A Current 73 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C7H | 02248 | 183 | 10 | 30 | Phase A Current 74 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C8H | 02249 | 183 | 11 | 30 | Phase A Current 75 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08C9H | 02250 | 183 | 12 | 30 | Phase A Current 76 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08CAH | 02251 | 183 | 13 | 30 | Phase A Current 77 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08CBH | 02252 | 183 | 14 | 30 | Phase A Current 78 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08CCH | 02253 | 183 | 15 | 30 | Phase A Current 79 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08CDH | 02254 | 183 | 16 | 30 | Phase A Current 80 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08CEH | 02255 | 183 | 17 | 30 | Phase A Current 81 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08CFH | 02256 | 183 | 18 | 30 | Phase A Current 82 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D0H | 02257 | 183 | 19 | 30 | Phase A Current 83 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D1H | 02258 | 183 | 20 | 30 | Phase A Current 84 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D2H | 02259 | 183 | 21 | 30 | Phase A Current 85 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D3H | 02260 | 183 | 22 | 30 | Phase A Current 86 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D4H | 02261 | 183 | 23 | 30 | Phase A Current 87 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D5H | 02262 | 183 | 24 | 30 | Phase A Current 88 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D6H | 02263 | 183 | 25 | 30 | Phase A Current 89 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D7H | 02264 | 183 | 26 | 30 | Phase A Current 90 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D8H | 02265 | 183 | 27 | 30 | Phase A Current 91 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08D9H | 02266 | 183 | 28 | 30 | Phase A Current 92 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08DAH | 02267 | 183 | 29 | 30 | Phase A Current 93 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08DBH | 02268 | 183 | 30 | 30 | Phase A Current 94 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08DCH | 02269 | 183 | 31 | 30 | Phase A Current 95 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08DDH | 02270 | 183 | 32 | 30 | Phase A Current 96 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08DEH | 02271 | 183 | 33 | 30 | Phase A Current 97 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08DFH | 02272 | 183 | 34 | 30 | Phase A Current 98 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E0H | 02273 | 183 | 35 | 30 | Phase A Current 99 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E1H | 02274 | 183 | 36 | 30 | Phase A Current 100 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 08E2H | 02275 | 183 | 37 | 30 | Phase A Current 101 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E3H | 02276 | 183 | 38 | 30 | Phase A Current 102 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E4H | 02277 | 183 | 39 | 30 | Phase A Current 103 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E5H | 02278 | 183 | 40 | 30 | Phase A Current 104 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E6H | 02279 | 183 | 41 | 30 | Phase A Current 105 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E7H | 02280 | 183 | 42 | 30 | Phase A Current 106 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E8H | 02281 | 183 | 43 | 30 | Phase A Current 107 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08E9H | 02282 | 183 | 44 | 30 | Phase A Current 108 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08EAH | 02283 | 183 | 45 | 30 | Phase A Current 109 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08EBH | 02284 | 183 | 46 | 30 | Phase A Current 110 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08ECH | 02285 | 183 | 47 | 30 | Phase A Current 111 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08EDH | 02286 | 183 | 48 | 30 | Phase A Current 112 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08EEH | 02287 | 183 | 49 | 30 | Phase A Current 113 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08EFH | 02288 | 183 | 50 | 30 | Phase A Current 114 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F0H | 02289 | 183 | 51 | 30 | Phase A Current 115 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F1H | 02290 | 183 | 52 | 30 | Phase A Current 116 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F2H | 02291 | 183 | 53 | 30 | Phase A Current 117 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F3H | 02292 | 183 | 54 | 30 | Phase A Current 118 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F4H | 02293 | 183 | 55 | 30 | Phase A Current 119 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F5H | 02294 | 183 | 56 | 30 | Phase A Current 120 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F6H | 02295 | 183 | 57 | 30 | Phase A Current 121 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F7H | 02296 | 183 | 58 | 30 | Phase A Current 122 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F8H | 02297 | 183 | 59 | 30 | Phase A Current 123 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08F9H | 02298 | 183 | 60 | 30 | Phase A Current 124 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08FAH | 02299 | 183 | 61 | 30 | Phase A Current 125 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08FBH | 02300 | 183 | 62 | 30 | Phase A Current 126 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08FCH | 02301 | 183 | 63 | 30 | Phase A Current 127 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08FDH | 02302 | 184 | 0 | 30 | Phase B Current 0 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08FEH | 02303 | 184 | 1 | 30 | Phase B Current 1 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 08FFH | 02304 | 184 | 2 | 30 | Phase B Current 2 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0900H | 02305 | 184 | 3 | 30 | Phase B Current 3 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0901H | 02306 | 184 | 4 | 30 | Phase B Current 4 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0902H | 02307 | 184 | 5 | 30 | Phase B Current 5 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0903H | 02308 | 184 | 6 | 30 | Phase B Current 6 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0904H | 02309 | 184 | 7 | 30 | Phase B Current 7 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0905H | 02310 | 185 | 0 | 30 | Phase B Current 8 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0906H | 02311 | 185 | 1 | 30 | Phase B Current 9 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0907H | 02312 | 185 | 2 | 30 | Phase B Current 10 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0908H | 02313 | 185 | 3 | 30 | Phase B Current 11 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0909H | 02314 | 185 | 4 | 30 | Phase B Current 12 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 090AH | 02315 | 185 | 5 | 30 | Phase B Current 13 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 090BH | 02316 | 185 | 6 | 30 | Phase B Current 14 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 090CH | 02317 | 185 | 7 | 30 | Phase B Current 15 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 090DH | 02318 | 186 | 0 | 30 | Phase B Current 16 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 090EH | 02319 | 186 | 1 | 30 | Phase B Current 17 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 090FH | 02320 | 186 | 2 | 30 | Phase B Current 18 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0910H | 02321 | 186 | 3 | 30 | Phase B Current 19 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0911H | 02322 | 186 | 4 | 30 | Phase B Current 20 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0912H | 02323 | 186 | 5 | 30 | Phase B Current 21 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0913H | 02324 | 186 | 6 | 30 | Phase B Current 22 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0914H | 02325 | 186 | 7 | 30 | Phase B Current 23 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0915H | 02326 | 186 | 8 | 30 | Phase B Current 24 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0916H | 02327 | 186 | 9 | 30 | Phase B Current 25 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0917H | 02328 | 186 | 10 | 30 | Phase B Current 26 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0918H | 02329 | 186 | 11 | 30 | Phase B Current 27 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0919H | 02330 | 186 | 12 | 30 | Phase B Current 28 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 091AH | 02331 | 186 | 13 | 30 | Phase B Current 29 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 091BH | 02332 | 186 | 14 | 30 | Phase B Current 30 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 091CH | 02333 | 186 | 15 | 30 | Phase B Current 31 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 091DH | 02334 | 187 | 0 | 30 | Phase B Current 32 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 091EH | 02335 | 187 | 1 | 30 | Phase B Current 33 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 091FH | 02336 | 187 | 2 | 30 | Phase B Current 34 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0920H | 02337 | 187 | 3 | 30 | Phase B Current 35 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0921H | 02338 | 187 | 4 | 30 | Phase B Current 36 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0922H | 02339 | 187 | 5 | 30 | Phase B Current 37 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0923H | 02340 | 187 | 6 | 30 | Phase B Current 38 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0924H | 02341 | 187 | 7 | 30 | Phase B Current 39 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0925H | 02342 | 187 | 8 | 30 | Phase B Current 40 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0926H | 02343 | 187 | 9 | 30 | Phase B Current 41 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0927H | 02344 | 187 | 10 | 30 | Phase B Current 42 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0928H | 02345 | 187 | 11 | 30 | Phase B Current 43 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0929H | 02346 | 187 | 12 | 30 | Phase B Current 44 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 092AH | 02347 | 187 | 13 | 30 | Phase B Current 45 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 092BH | 02348 | 187 | 14 | 30 | Phase B Current 46 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 092CH | 02349 | 187 | 15 | 30 | Phase B Current 47 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 092DH | 02350 | 187 | 16 | 30 | Phase B Current 48 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 092EH | 02351 | 187 | 17 | 30 | Phase B Current 49 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 092FH | 02352 | 187 | 18 | 30 | Phase B Current 50 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0930H | 02353 | 187 | 19 | 30 | Phase B Current 51 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0931H | 02354 | 187 | 20 | 30 | Phase B Current 52 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0932H | 02355 | 187 | 21 | 30 | Phase B Current 53 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0933H | 02356 | 187 | 22 | 30 | Phase B Current 54 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0934H | 02357 | 187 | 23 | 30 | Phase B Current 55 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0935H | 02358 | 187 | 24 | 30 | Phase B Current 56 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0936H | 02359 | 187 | 25 | 30 | Phase B Current 57 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0937H | 02360 | 187 | 26 | 30 | Phase B Current 58 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0938H | 02361 | 187 | 27 | 30 | Phase B Current 59 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0939H | 02362 | 187 | 28 | 30 | Phase B Current 60 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 093AH | 02363 | 187 | 29 | 30 | Phase B Current 61 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 093BH | 02364 | 187 | 30 | 30 | Phase B Current 62 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 093CH | 02365 | 187 | 31 | 30 | Phase B Current 63 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 093DH | 02366 | 188 | 0 | 30 | Phase B Current 64 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 093EH | 02367 | 188 | 1 | 30 | Phase B Current 65 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 093FH | 02368 | 188 | 2 | 30 | Phase B Current 66 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0940H | 02369 | 188 | 3 | 30 | Phase B Current 67 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0941H | 02370 | 188 | 4 | 30 | Phase B Current 68 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 0942H | 02371 | 188 | 5 | 30 | Phase B Current 69 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0943H | 02372 | 188 | 6 | 30 | Phase B Current 70 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0944H | 02373 | 188 | 7 | 30 | Phase B Current 71 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0945H | 02374 | 188 | 8 | 30 | Phase B Current 72 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0946H | 02375 | 188 | 9 | 30 | Phase B Current 73 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0947H | 02376 | 188 | 10 | 30 | Phase B Current 74 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0948H | 02377 | 188 | 11 | 30 | Phase B Current 75 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0949H | 02378 | 188 | 12 | 30 | Phase B Current 76 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 094AH | 02379 | 188 | 13 | 30 | Phase B Current 77 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 094BH | 02380 | 188 | 14 | 30 | Phase B Current 78 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 094CH | 02381 | 188 | 15 | 30 | Phase B Current 79 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 094DH | 02382 | 188 | 16 | 30 | Phase B Current 80 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 094EH | 02383 | 188 | 17 | 30 | Phase B Current 81 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 094FH | 02384 | 188 | 18 | 30 | Phase B Current 82 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0950H | 02385 | 188 | 19 | 30 | Phase B Current 83 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0951H | 02386 | 188 | 20 | 30 | Phase B Current 84 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0952H | 02387 | 188 | 21 | 30 | Phase B Current 85 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0953H | 02388 | 188 | 22 | 30 | Phase B Current 86 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0954H | 02389 | 188 | 23 | 30 | Phase B Current 87 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0955H | 02390 | 188 | 24 | 30 | Phase B Current 88 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0956H | 02391 | 188 | 25 | 30 | Phase B Current 89 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0957H | 02392 | 188 | 26 | 30 | Phase B Current 90 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0958H | 02393 | 188 | 27 | 30 | Phase B Current 91 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0959H | 02394 | 188 | 28 | 30 | Phase B Current 92 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 095AH | 02395 | 188 | 29 | 30 | Phase B Current 93 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 095BH | 02396 | 188 | 30 | 30 | Phase B Current 94 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 095CH | 02397 | 188 | 31 | 30 | Phase B Current 95 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 095DH | 02398 | 188 | 32 | 30 | Phase B Current 96 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 095EH | 02399 | 188 | 33 | 30 | Phase B Current 97 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 095FH | 02400 | 188 | 34 | 30 | Phase B Current 98 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0960H | 02401 | 188 | 35 | 30 | Phase B Current 99 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0961H | 02402 | 188 | 36 | 30 | Phase B Current 100 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 0962H | 02403 | 188 | 37 | 30 | Phase B Current 101 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0963H | 02404 | 188 | 38 | 30 | Phase B Current 102 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0964H | 02405 | 188 | 39 | 30 | Phase B Current 103 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0965H | 02406 | 188 | 40 | 30 | Phase B Current 104 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0966H | 02407 | 188 | 41 | 30 | Phase B Current 105 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0967H | 02408 | 188 | 42 | 30 | Phase B Current 106 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0968H | 02409 | 188 | 43 | 30 | Phase B Current 107 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0969H | 02410 | 188 | 44 | 30 | Phase B Current 108 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 096AH | 02411 | 188 | 45 | 30 | Phase B Current 109 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 096BH | 02412 | 188 | 46 | 30 | Phase B Current 110 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 096CH | 02413 | 188 | 47 | 30 | Phase B Current 111 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 096DH | 02414 | 188 | 48 | 30 | Phase B Current 112 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 096EH | 02415 | 188 | 49 | 30 | Phase B Current 113 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 096FH | 02416 | 188 | 50 | 30 | Phase B Current 114 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0970H | 02417 | 188 | 51 | 30 | Phase B Current 115 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0971H | 02418 | 188 | 52 | 30 | Phase B Current 116 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0972H | 02419 | 188 | 53 | 30 | Phase B Current 117 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0973H | 02420 | 188 | 54 | 30 | Phase B Current 118 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0974H | 02421 | 188 | 55 | 30 | Phase B Current 119 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0975H | 02422 | 188 | 56 | 30 | Phase B Current 120 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0976H | 02423 | 188 | 57 | 30 | Phase B Current 121 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0977H | 02424 | 188 | 58 | 30 | Phase B Current 122 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0978H | 02425 | 188 | 59 | 30 | Phase B Current 123 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0979H | 02426 | 188 | 60 | 30 | Phase B Current 124 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 097AH | 02427 | 188 | 61 | 30 | Phase B Current 125 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 097BH | 02428 | 188 | 62 | 30 | Phase B Current 126 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 097CH | 02429 | 188 | 63 | 30 | Phase B Current 127 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 097DH | 02430 | 189 | 0 | 30 | Phase C Current 0 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 097EH | 02431 | 189 | 1 | 30 | Phase C Current 1 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 097FH | 02432 | 189 | 2 | 30 | Phase C Current 2 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0980H | 02433 | 189 | 3 | 30 | Phase C Current 3 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0981H | 02434 | 189 | 4 | 30 | Phase C Current 4 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 0982H | 02435 | 189 | 5 | 30 | Phase C Current 5 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0983H | 02436 | 189 | 6 | 30 | Phase C Current 6 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0984H | 02437 | 189 | 7 | 30 | Phase C Current 7 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0985H | 02438 | 190 | 0 | 30 | Phase C Current 8 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0986H | 02439 | 190 | 1 | 30 | Phase C Current 9 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0987H | 02440 | 190 | 2 | 30 | Phase C Current 10 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0988H | 02441 | 190 | 3 | 30 | Phase C Current 11 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0989H | 02442 | 190 | 4 | 30 | Phase C Current 12 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 098AH | 02443 | 190 | 5 | 30 | Phase C Current 13 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 098BH | 02444 | 190 | 6 | 30 | Phase C Current 14 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 098CH | 02445 | 190 | 7 | 30 | Phase C Current 15 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 098DH | 02446 | 191 | 0 | 30 | Phase C Current 16 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 098EH | 02447 | 191 | 1 | 30 | Phase C Current 17 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 098FH | 02448 | 191 | 2 | 30 | Phase C Current 18 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0990H | 02449 | 191 | 3 | 30 | Phase C Current 19 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0991H | 02450 | 191 | 4 | 30 | Phase C Current 20 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0992H | 02451 | 191 | 5 | 30 | Phase C Current 21 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0993H | 02452 | 191 | 6 | 30 | Phase C Current 22 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0994H | 02453 | 191 | 7 | 30 | Phase C Current 23 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0995H | 02454 | 191 | 8 | 30 | Phase C Current 24 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0996H | 02455 | 191 | 9 | 30 | Phase C Current 25 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0997H | 02456 | 191 | 10 | 30 | Phase C Current 26 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0998H | 02457 | 191 | 11 | 30 | Phase C Current 27 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0999H | 02458 | 191 | 12 | 30 | Phase C Current 28 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 099AH | 02459 | 191 | 13 | 30 | Phase C Current 29 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 099BH | 02460 | 191 | 14 | 30 | Phase C Current 30 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 099CH | 02461 | 191 | 15 | 30 | Phase C Current 31 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 099DH | 02462 | 192 | 0 | 30 | Phase C Current 32 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 099EH | 02463 | 192 | 1 | 30 | Phase C Current 33 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 099FH | 02464 | 192 | 2 | 30 | Phase C Current 34 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A0H | 02465 | 192 | 3 | 30 | Phase C Current 35 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A1H | 02466 | 192 | 4 | 30 | Phase C Current 36 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------------|------|-----|-------|
| 09A2H | 02467 | 192 | 5 | 30 | Phase C Current 37 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A3H | 02468 | 192 | 6 | 30 | Phase C Current 38 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A4H | 02469 | 192 | 7 | 30 | Phase C Current 39 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A5H | 02470 | 192 | 8 | 30 | Phase C Current 40 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A6H | 02471 | 192 | 9 | 30 | Phase C Current 41 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A7H | 02472 | 192 | 10 | 30 | Phase C Current 42 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A8H | 02473 | 192 | 11 | 30 | Phase C Current 43 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09A9H | 02474 | 192 | 12 | 30 | Phase C Current 44 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09AAH | 02475 | 192 | 13 | 30 | Phase C Current 45 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09ABH | 02476 | 192 | 14 | 30 | Phase C Current 46 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09ACH | 02477 | 192 | 15 | 30 | Phase C Current 47 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09ADH | 02478 | 192 | 16 | 30 | Phase C Current 48 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09AEH | 02479 | 192 | 17 | 30 | Phase C Current 49 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09AFH | 02480 | 192 | 18 | 30 | Phase C Current 50 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B0H | 02481 | 192 | 19 | 30 | Phase C Current 51 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B1H | 02482 | 192 | 20 | 30 | Phase C Current 52 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B2H | 02483 | 192 | 21 | 30 | Phase C Current 53 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B3H | 02484 | 192 | 22 | 30 | Phase C Current 54 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B4H | 02485 | 192 | 23 | 30 | Phase C Current 55 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B5H | 02486 | 192 | 24 | 30 | Phase C Current 56 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B6H | 02487 | 192 | 25 | 30 | Phase C Current 57 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B7H | 02488 | 192 | 26 | 30 | Phase C Current 58 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B8H | 02489 | 192 | 27 | 30 | Phase C Current 59 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09B9H | 02490 | 192 | 28 | 30 | Phase C Current 60 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09BAH | 02491 | 192 | 29 | 30 | Phase C Current 61 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09BBH | 02492 | 192 | 30 | 30 | Phase C Current 62 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09BCH | 02493 | 192 | 31 | 30 | Phase C Current 63 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09BDH | 02494 | 193 | 0 | 30 | Phase C Current 64 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09BEH | 02495 | 193 | 1 | 30 | Phase C Current 65 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09BFH | 02496 | 193 | 2 | 30 | Phase C Current 66 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C0H | 02497 | 193 | 3 | 30 | Phase C Current 67 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C1H | 02498 | 193 | 4 | 30 | Phase C Current 68 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 09C2H | 02499 | 193 | 5 | 30 | Phase C Current 69 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C3H | 02500 | 193 | 6 | 30 | Phase C Current 70 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C4H | 02501 | 193 | 7 | 30 | Phase C Current 71 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C5H | 02502 | 193 | 8 | 30 | Phase C Current 72 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C6H | 02503 | 193 | 9 | 30 | Phase C Current 73 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C7H | 02504 | 193 | 10 | 30 | Phase C Current 74 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C8H | 02505 | 193 | 11 | 30 | Phase C Current 75 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09C9H | 02506 | 193 | 12 | 30 | Phase C Current 76 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09CAH | 02507 | 193 | 13 | 30 | Phase C Current 77 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09CBH | 02508 | 193 | 14 | 30 | Phase C Current 78 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09CCH | 02509 | 193 | 15 | 30 | Phase C Current 79 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09CDH | 02510 | 193 | 16 | 30 | Phase C Current 80 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09CEH | 02511 | 193 | 17 | 30 | Phase C Current 81 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09CFH | 02512 | 193 | 18 | 30 | Phase C Current 82 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D0H | 02513 | 193 | 19 | 30 | Phase C Current 83 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D1H | 02514 | 193 | 20 | 30 | Phase C Current 84 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D2H | 02515 | 193 | 21 | 30 | Phase C Current 85 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D3H | 02516 | 193 | 22 | 30 | Phase C Current 86 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D4H | 02517 | 193 | 23 | 30 | Phase C Current 87 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D5H | 02518 | 193 | 24 | 30 | Phase C Current 88 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D6H | 02519 | 193 | 25 | 30 | Phase C Current 89 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D7H | 02520 | 193 | 26 | 30 | Phase C Current 90 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D8H | 02521 | 193 | 27 | 30 | Phase C Current 91 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09D9H | 02522 | 193 | 28 | 30 | Phase C Current 92 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09DAH | 02523 | 193 | 29 | 30 | Phase C Current 93 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09DBH | 02524 | 193 | 30 | 30 | Phase C Current 94 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09DCH | 02525 | 193 | 31 | 30 | Phase C Current 95 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09DDH | 02526 | 193 | 32 | 30 | Phase C Current 96 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09DEH | 02527 | 193 | 33 | 30 | Phase C Current 97 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09DFH | 02528 | 193 | 34 | 30 | Phase C Current 98 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E0H | 02529 | 193 | 35 | 30 | Phase C Current 99 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E1H | 02530 | 193 | 36 | 30 | Phase C Current 100 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------|-------------|------|----|------------|--|---------------------------|-------------|------|-----|-------|
| 09E2H | 02531 | 193 | 37 | 30 | Phase C Current 101 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E3H | 02532 | 193 | 38 | 30 | Phase C Current 102 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E4H | 02533 | 193 | 39 | 30 | Phase C Current 103 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E5H | 02534 | 193 | 40 | 30 | Phase C Current 104 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E6H | 02535 | 193 | 41 | 30 | Phase C Current 105 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E7H | 02536 | 193 | 42 | 30 | Phase C Current 106 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E8H | 02537 | 193 | 43 | 30 | Phase C Current 107 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09E9H | 02538 | 193 | 44 | 30 | Phase C Current 108 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09EAH | 02539 | 193 | 45 | 30 | Phase C Current 109 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09EBH | 02540 | 193 | 46 | 30 | Phase C Current 110 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09ECH | 02541 | 193 | 47 | 30 | Phase C Current 111 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09EDH | 02542 | 193 | 48 | 30 | Phase C Current 112 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09EEH | 02543 | 193 | 49 | 30 | Phase C Current 113 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09EFH | 02544 | 193 | 50 | 30 | Phase C Current 114 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F0H | 02545 | 193 | 51 | 30 | Phase C Current 115 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F1H | 02546 | 193 | 52 | 30 | Phase C Current 116 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F2H | 02547 | 193 | 53 | 30 | Phase C Current 117 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F3H | 02548 | 193 | 54 | 30 | Phase C Current 118 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F4H | 02549 | 193 | 55 | 30 | Phase C Current 119 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F5H | 02550 | 193 | 56 | 30 | Phase C Current 120 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F6H | 02551 | 193 | 57 | 30 | Phase C Current 121 st Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F7H | 02552 | 193 | 58 | 30 | Phase C Current 122 nd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F8H | 02553 | 193 | 59 | 30 | Phase C Current 123 rd Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09F9H | 02554 | 193 | 60 | 30 | Phase C Current 124 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09FAH | 02555 | 193 | 61 | 30 | Phase C Current 125 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09FBH | 02556 | 193 | 62 | 30 | Phase C Current 126 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 09FCH | 02557 | 193 | 63 | 30 | Phase C Current 127 th Harmonic Phase | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| THD/K-Factor Block | | | | | | | | | | |
| 09FDH | 02558 | 194 | 0 | 30 | Phase A-N / Phase A-B Voltage THD | +327.67% / -327.68% | 0.01% | F10 | R | |
| 09FEH | 02559 | 195 | 0 | 30 | Phase B-N / Phase B-C Voltage THD | +327.67% / -327.68% | 0.01% | F10 | R | |
| 09FFH | 02560 | 196 | 0 | 30 | Phase C-N / Phase C-A Voltage THD | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0A00H | 02561 | 197 | 0 | 30 | Phase A Current THD | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0A01H | 02562 | 198 | 0 | 30 | Phase B Current THD | +327.67% / -327.68% | 0.01% | F10 | R | |
| 0A02H | 02563 | 199 | 0 | 30 | Phase C Current THD | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------------|-------------|------|----|------------|---|---------------------------|------------------|------|-----|-------|
| 0A03H | 02564 | 200 | 0 | 30 | Phase A Current K-Factor | 327.67 / -327.68 | 0.01 | F67 | R | |
| 0A04H | 02565 | 201 | 0 | 30 | Phase B Current K-Factor | 327.67 / -327.68 | 0.01 | F67 | R | |
| 0A05H | 02566 | 202 | 0 | 30 | Phase C Current K-Factor | 327.67 / -327.68 | 0.01 | F67 | R | |
| Harmonic Time Stamp Block | | | | | | | | | | |
| 0A06H-0A09H | 02567-02570 | 203 | 0 | 50 | Phase A-N / Phase A-B Voltage Harmonic Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A0AH-0A0DH | 02571-02574 | 204 | 0 | 50 | Phase B-N / Phase B-C Voltage Harmonic Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A0EH-0A11H | 02575-02578 | 205 | 0 | 50 | Phase C-N / Phase C-A Voltage Harmonic Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A12H-0A15H | 02579-02582 | 206 | 0 | 50 | Phase A Current Harmonic Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A16H-0A19H | 02583-02586 | 207 | 0 | 50 | Phase B Current Harmonic Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A1AH-0A1DH | 02587-02590 | 208 | 0 | 50 | Phase C Current Harmonic Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Phase Angle Block | | | | | | | | | | |
| 0A1EH-0A21H | 02591-02594 | 209 | 0 | 50 | Phase Angle Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A22H | 02595 | 210 | 0 | 30 | Phase Angle Phase A-N Voltage | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A23H | 02596 | 210 | 1 | 30 | Phase Angle Phase B-N Voltage | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A24H | 02597 | 210 | 2 | 30 | Phase Angle Phase C-N Voltage | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A25H | 02598 | 211 | 0 | 30 | Phase Angle Phase A Current | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A26H | 02599 | 211 | 1 | 30 | Phase Angle Phase B Current | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A27H | 02600 | 211 | 2 | 30 | Phase Angle Phase C Current | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A28H | 02601 | 212 | 0 | 30 | Phase Angle Phase A-B Voltage | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A29H | 02602 | 212 | 1 | 30 | Phase Angle Phase B-C Voltage | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A2AH | 02603 | 212 | 2 | 30 | Phase Angle Phase C-A Voltage | +180 degree / -180 degree | 0.01 degree | F9 | R | |
| 0A2BH | 02604 | 213 | 0 | 30 | Voltage Phase Sequence | | | F13 | R | |
| Block Window Average Block | | | | | | | | | | |
| 0A2CH-0A2FH | 02605-02608 | 214 | 0 | 50 | Block Window Average Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A30H | 02609 | 215 | 0 | 30 | Block Window Average Status | | | F14 | R | |
| 0A31H-0A32H | 02610-02611 | 216 | 0 | 30 | Block Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0A33H-0A34H | 02612-02613 | 216 | 1 | 30 | Block Window Average VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A35H-0A36H | 02614-02615 | 216 | 2 | 30 | Block Window Average Watt | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A37H-0A38H | 02616-02617 | 217 | 0 | 30 | Maximum Block Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0A39H-0A3AH | 02618-02619 | 217 | 1 | 30 | Maximum Block Window Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A32BH-0A3CH | 02620-02621 | 217 | 2 | 30 | Maximum Block Window Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A3DH-0A3EH | 02622-02623 | 217 | 3 | 30 | Maximum Block Window Average Positive Watt | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A3FH-0A40H | 02624-02625 | 217 | 4 | 30 | Maximum Block Window Average Negative Watt | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A41H-0A42H | 02626-02627 | 218 | 0 | 30 | Minimum Block Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0A43H-0A44H | 02628-02629 | 218 | 1 | 30 | Minimum Block Window Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A45H-0A46H | 02630-02631 | 218 | 2 | 30 | Minimum Block Window Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A47H-0A48H | 02632-02633 | 218 | 3 | 30 | Minimum Block Window Average Positive Watt | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A49H-0A4AH | 02634-02635 | 218 | 4 | 30 | Minimum Block Window Average Negative Watt | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 0A4BH-0A4CH | 02636-02637 | 219 | 0 | 30 | Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A4DH-0A4EH | 02638-02639 | 219 | 1 | 30 | Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A4FH-0A50H | 02640-02641 | 219 | 2 | 30 | Coincident Block Window Average VAR for Minimum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A51H-0A52H | 02642-02643 | 219 | 3 | 30 | Coincident Block Window Average VAR for Minimum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A53H-0A56H | 02644-02647 | 220 | 0 | 50 | Maximum Block Window Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A57H-0A5AH | 02648-02651 | 220 | 1 | 50 | Maximum Block Window Average Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A5BH-0A5EH | 02652-02655 | 220 | 2 | 50 | Maximum Block Window Average Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A5FH-0A62H | 02656-02659 | 220 | 3 | 50 | Maximum Block Window Average Positive Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A63H-0A66H | 02660-02663 | 220 | 4 | 50 | Maximum Block Window Average Negative Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A67H-0A6AH | 02664-02667 | 221 | 0 | 50 | Minimum Block Window Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A6BH-0A6EH | 02668-02671 | 221 | 1 | 50 | Minimum Block Window Average Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A6FH-0A72H | 02672-02675 | 221 | 2 | 50 | Minimum Block Window Average Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A73H-0A76H | 02676-02679 | 221 | 3 | 50 | Minimum Block Window Average Positive Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A77H-0A7AH | 02680-02683 | 221 | 4 | 50 | Minimum Block Window Average Negative Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Rolling Window/Predictive Rolling Window Block | | | | | | | | | | |
| 0A7BH-0A7EH | 02684-02687 | 222 | 0 | 50 | Rolling Window Average Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0A7FH | 02688 | 223 | 0 | 30 | Rolling Window Average Status | | | F14 | R | |
| 0A80H-0A81H | 02689-02690 | 224 | 0 | 30 | Predictive Rolling Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0A82H-0A83H | 02691-02692 | 224 | 1 | 30 | Predictive Rolling Window Average VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A84H-0A85H | 02693-02694 | 224 | 2 | 30 | Predictive Rolling Window Average W | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A86H-0A87H | 02695-02696 | 225 | 0 | 30 | Rolling Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0A88H-0A89H | 02697-02698 | 225 | 1 | 30 | Rolling Window Average VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A8AH-0A8BH | 02699-02700 | 225 | 2 | 30 | Rolling Window Average W | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A8CH-0A8DH | 02701-02702 | 226 | 0 | 30 | Maximum Rolling Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0A8EH-0A8FH | 02703-02704 | 226 | 1 | 30 | Maximum Rolling Window Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A910H-0A91H | 02705-02706 | 226 | 2 | 30 | Maximum Rolling Window Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A92H-0A93H | 02707-02708 | 226 | 3 | 30 | Maximum Rolling Window Average Positive Watt | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A94H-0A95H | 02709-02710 | 226 | 4 | 30 | Maximum Rolling Window Average Negative Watt | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A96H-0A97H | 02711-02712 | 227 | 0 | 30 | Minimum Rolling Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 0A98H-0A99H | 02713-02714 | 227 | 1 | 30 | Minimum Rolling Window Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A9AH-0A9BH | 02715-02716 | 227 | 2 | 30 | Minimum Rolling Window Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0A9CH-0A9DH | 02717-02718 | 227 | 3 | 30 | Minimum Rolling Window Average Positive Watt | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 0A9EH-0A9FH | 02719-02720 | 227 | 4 | 30 | Minimum Rolling Window Average Negative Watt | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 0AA0H-0AA1H | 02721-02722 | 228 | 0 | 30 | Coincident Rolling Window Average VAR for Maximum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0AA2H-0AA3H | 02723-02724 | 228 | 1 | 30 | Coincident Rolling Window Average VAR for Maximum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------------------|-------------|------|-------|------------|---|-------------------------|------------------|------|-----|-------|
| 0AA4H-0AA5H | 02725-02726 | 228 | 2 | 30 | Coincident Rolling Window Average VAR for Minimum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0AA6H-0AA7H | 02727-02728 | 228 | 3 | 30 | Coincident Rolling Window Average VAR for Minimum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0AA8H-0AABH | 02729-02732 | 229 | 0 | 50 | Maximum Rolling Window Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0AACH-0AAFH | 02733-02736 | 229 | 1 | 50 | Maximum Rolling Window Average Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0AB0H-0AB3H | 02737-02740 | 229 | 2 | 50 | Maximum Rolling Window Average Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0AB4H-0AB7H | 02741-02744 | 229 | 3 | 50 | Maximum Rolling Window Average Positive Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0AB8H-0ABBH | 02745-02748 | 229 | 4 | 50 | Maximum Rolling Window Average Negative Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0ABCH-0ABFH | 02749-02752 | 230 | 0 | 50 | Minimum Rolling Window Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0AC0H-0AC3H | 02753-02756 | 230 | 1 | 50 | Minimum Rolling Window Average Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0AC4H-0AC7H | 02757-02760 | 230 | 2 | 50 | Minimum Rolling Window Average Negative VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0AC8H-0ACBH | 02761-02764 | 230 | 3 | 50 | Minimum Rolling Window Average Positive Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0ACCH-0ACFH | 02765-02768 | 230 | 4 | 50 | Minimum Rolling Window Average Negative Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Limit Block | | | | | | | | | | |
| 0AD0H | 02769 | 231 | 0-15 | 1 | Limit States, Value 1 Comparisons, 1-16 | | | F15 | R | |
| 0AD1H | 02770 | 231 | 16-31 | 1 | Limit States, Value 1 Comparisons, 17-32 | | | F15 | R | |
| 0AD2H | 02771 | 232 | 0-15 | 1 | Limit States, Value 2 Comparisons, 1-16 | | | F15 | R | |
| 0AD3H | 02772 | 232 | 16-31 | 1 | Limit States, Value 2 Comparisons, 17-32 | | | F15 | R | |
| 0AD4H | 02773 | 233 | 0-7 | 1 | Low Speed (Internal) Inputs | | | F16 | R | |
| Digital Input Option Board Block | | | | | | | | | | |
| 0AD5H | 2774 | 234 | 0-7 | 1 | Bits in the most significant byte are associated with channel 1 to 8 from 1st option board (slot 3): LSB=channel 1, MSB=channel 8. Least significant byte is undefined. | | | F17 | R | |
| 0AD6H-0AD7H | 2775-2776 | 235 | 0 | 20 | Accumulator channel 01 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AD8H-0AD9H | 2777-2778 | 235 | 1 | 20 | Accumulator channel 02 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0ADAH-0ADBH | 2779-2780 | 235 | 2 | 20 | Accumulator channel 03 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0ADCH-0ADDH | 2781-2782 | 235 | 3 | 20 | Accumulator channel 04 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0ADEH-0ADFH | 2783-2784 | 235 | 4 | 20 | Accumulator channel 05 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AE0H-0AE1H | 2785-2786 | 235 | 5 | 20 | Accumulator channel 06 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AE2H-0AE3H | 2787-2788 | 235 | 6 | 20 | Accumulator channel 07 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AE4H-0AE5H | 2789-2790 | 235 | 7 | 20 | Accumulator channel 08 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AE6H | 2791 | 236 | 0-7 | 1 | Bits in the most significant byte are associated with channel 9 to 16 from 1st option board (slot 3): LSB=channel 9, MSB=channel 16. Least significant byte is undefined. | | | F17 | R | |
| 0AE7H-0AE8H | 2792-2793 | 237 | 0 | 20 | Accumulator channel 09 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AE9H-0AEAH | 2794-2795 | 237 | 1 | 20 | Accumulator channel 10 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AEBH-0AECH | 2796-2797 | 237 | 2 | 20 | Accumulator channel 11 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------------|-------------|------|-----|------------|---|--------------------------------------|--------------------|------|-----|-------|
| 0AEDH-0AEEH | 2798-2799 | 237 | 3 | 20 | Accumulator channel 12 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AEFH-0AF0H | 2800-2801 | 237 | 4 | 20 | Accumulator channel 13 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AF1H-0AF2H | 2802-2803 | 237 | 5 | 20 | Accumulator channel 14 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AF3H-0AF4H | 2804-2805 | 237 | 6 | 20 | Accumulator channel 15 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AF5H-0AF6H | 2806-2807 | 237 | 7 | 20 | Accumulator channel 16 from 1st option board (slot 3). | 4,294,967,295/0 | | F18 | R | |
| 0AF7H | 2808 | 238 | 0-7 | 1 | Bits in the most significant byte are associated with channel 17 to 24 from 2nd option board (slot 4): LSB=channel 17, MSB=channel 24. Least significant byte is undefined. | | | F17 | R | |
| 0AF8H-0AF9H | 2809-2810 | 239 | 0 | 20 | Accumulator channel 17 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0AFAH-0AFBH | 2811-2812 | 239 | 1 | 20 | Accumulator channel 18 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0AFCH-0AFDH | 2813-2814 | 239 | 2 | 20 | Accumulator channel 19 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0AFEH-0AFFH | 2815-2816 | 239 | 3 | 20 | Accumulator channel 20 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B00H-0B01H | 2817-2818 | 239 | 4 | 20 | Accumulator channel 21 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B02H-0B03H | 2819-2820 | 239 | 5 | 20 | Accumulator channel 22 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B04H-0B05H | 2821-2822 | 239 | 6 | 20 | Accumulator channel 23 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B06H-0B07H | 2823-2824 | 239 | 7 | 20 | Accumulator channel 24 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B08H | 2825 | 240 | 0-7 | 1 | Bits in the most significant byte are associated with channel 25 to 32 from 2nd option board (slot 4): LSB=channel 25, MSB=channel 32. Least significant byte is undefined. | | | F17 | R | |
| 0B09H-0B0AH | 2826-2827 | 241 | 0 | 20 | Accumulator channel 25 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B0BH-0B0CH | 2828-2829 | 241 | 1 | 20 | Accumulator channel 26 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B0DH-0B0EH | 2830-2831 | 241 | 2 | 20 | Accumulator channel 27 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B0FH-0B10H | 2832-2833 | 241 | 3 | 20 | Accumulator channel 28 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B11H-0B12H | 2834-2835 | 241 | 4 | 20 | Accumulator channel 29 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B13H-0B14H | 2836-2837 | 241 | 5 | 20 | Accumulator channel 30 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B15H-0B16H | 2838-2839 | 241 | 6 | 20 | Accumulator channel 31 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| 0B17H-0B18H | 2840-2841 | 241 | 7 | 20 | Accumulator channel 32 from 2nd option board (slot 4). | 4,294,967,295/0 | | F18 | R | |
| Primary Accumulation Block | | | | | | | | | | |
| 0B19H-0B1CH | 02842-02845 | 242 | 0 | 50 | Primary Accumulation Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0B1DH-0B20H | 02846-02849 | 243 | 0 | 20 | Positive Watthour (Quadrant 1 + 4) | +9,999,999,999,999,999 Wh / 0 Wh | 1 W _H | F19 | R | |
| 0B21H-0B24H | 02850-02853 | 243 | 1 | 20 | VAhour while Positive Watthour and Positive VARhour (Quadrant 1) | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F19 | R | |
| 0B25H-0B28H | 02854-02857 | 243 | 2 | 20 | Positive VARhour while Positive Watthour (Quadrant 1) | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F19 | R | |
| 0B29H-0B2CH | 02858-02861 | 243 | 3 | 20 | Vahour while Positive Watthour and Negative VARhour (Quadrant 4) | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F19 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---|--------------------|------|-----|-------|
| 0B2DH-0B30H | 02862-02865 | 243 | 4 | 20 | Negative VARhour while Positive Watthour (Quadrant 4) | 0 VARh / - 9,999,999,999,999,999 VARh | 1 VAR _H | F19 | R | |
| 0B31H-0B34H | 02866-02869 | 243 | 5 | 20 | Negative Watthour (Quadrant 2 + 3) | 0 Wh / -9,999,999,999,999,999 Wh | 1 W _H | F19 | R | |
| 0B35H-0B38H | 02870-02873 | 243 | 6 | 20 | VAhour while Negative Watthour and Positive VARhour (Quadrant 2) | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F19 | R | |
| 0B39H-0B3CH | 02874-02877 | 243 | 7 | 20 | Positive VARhour while Negative Watthour (Quadrant 2) | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F19 | R | |
| 0B3DH-0B40H | 02878-02881 | 243 | 8 | 20 | Vahour while Negative Watthour and Negative VARhour (Quadrant 3) | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F19 | R | |
| 0B41H-0B44H | 02882-02885 | 243 | 9 | 20 | Negative VARhour while Negative Watthour (Quadrant 3) | 0 VARh / - 9,999,999,999,999,999 VARh | 1 VAR _H | F19 | R | |
| 0B45H-0B48H | 02886-02889 | 244 | 0 | 20 | Positive Watthour (Quadrant 1 + 4) | +9,999,999,999,999,999 Wh / 0 Wh | 1 W _H | F20 | R | |
| 0B49H-0B4CH | 02890-02893 | 244 | 1 | 20 | VAhour while Positive Watthour and Positive VARhour (Quadrant 1) | +9,999,999,999,999,999 VAh / 0 VAh | 1 W _H | F20 | R | |
| 0B4DH-0B50H | 02894-02897 | 244 | 2 | 20 | Positive VARhour while Positive Watthour (Quadrant 1) | +9,999,999,999,999,999 VARh / 0 VARh | 1 VA _H | F20 | R | |
| 0B51H-0B54H | 02898-02901 | 244 | 3 | 20 | Vahour while Positive Watthour and Negative VARhour (Quadrant 4) | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 0B55H-0B58H | 02902-02905 | 244 | 4 | 20 | Negative VARhour while Positive Watthour (Quadrant 4) | 0 VARh / - 9,999,999,999,999,999 VARh | 1 VAR _H | F20 | R | |
| 0B59H-0B5CH | 02906-02909 | 244 | 5 | 20 | Negative Watthour (Quadrant 2 + 3) | 0 Wh / -9,999,999,999,999,999 Wh | 1 W _H | F20 | R | |
| 0B5DH-0B60H | 02910-02913 | 244 | 6 | 20 | VAhour while Negative Watthour and Positive VARhour (Quadrant 2) | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 0B61H-0B64H | 02914-02917 | 244 | 7 | 20 | Positive VARhour while Negative Watthour (Quadrant 2) | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F20 | R | |
| 0B65H-0B68H | 02918-02921 | 244 | 8 | 20 | Vahour while Negative Watthour and Negative VARhour (Quadrant 3) | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 0B69H-0B6CH | 02922-02925 | 244 | 9 | 20 | Negative VARhour while Negative Watthour (Quadrant 3) | 0 VARh / - 9,999,999,999,999,999 VARh | 1 VAR _H | F20 | R | |
| 0B6DH-0B70H | 02926-02929 | 245 | 0 | 20 | I ² t Phase A | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F19 | R | |
| 0B71H-0B74H | 02930-02933 | 245 | 1 | 20 | I ² t Phase B | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F19 | R | |
| 0B75H-0B78H | 02934-02937 | 245 | 2 | 20 | I ² t Phase C | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F19 | R | |
| 0B79H-0B7CH | 02938-02941 | 245 | 3 | 20 | V ² t Phase A | +9,999,999,999,999,999 V ² t / 0 | 1 V ² t | F19 | R | |
| 0B7DH-0B80H | 02942-02945 | 245 | 4 | 20 | V ² t Phase B | +9,999,999,999,999,999 V ² t / 0 | 1 V ² t | F19 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|---|---|--------------------|------|-----|-------|
| 0B81H-0B84H | 02946-02949 | 245 | 5 | 20 | V ² t Phase C | +9,999,999,999,999 V ² t / 0 | 1 V ² t | F19 | R | |
| 0B85H-0B88H | 02950-02953 | 246 | 0 | 20 | I ² t Phase A | +9,999,999,999,999 I ² t / 0 | 1 I ² t | F20 | R | |
| 0B89H-0B8CH | 02954-02957 | 246 | 1 | 20 | I ² t Phase B | +9,999,999,999,999 I ² t / 0 | 1 I ² t | F20 | R | |
| 0B8DH-0B90H | 02958-02961 | 246 | 2 | 20 | I ² t Phase C | +9,999,999,999,999 I ² t / 0 | 1 I ² t | F20 | R | |
| 0B91H-0B94H | 02962-02965 | 246 | 3 | 20 | V ² t Phase A | +9,999,999,999,999 V ² t / 0 | 1 V ² t | F20 | R | |
| 0B95H-0B98H | 02966-02969 | 246 | 4 | 20 | V ² t Phase B | +9,999,999,999,999 V ² t / 0 | 1 V ² t | F20 | R | |
| 0B99H-0B9CH | 02970-02973 | 246 | 5 | 20 | V ² t Phase C | +9,999,999,999,999 V ² t / 0 | 1 V ² t | F20 | R | |
| Time of Use Period Time Stamp Block | | | | | | | | | | |
| 0B9DH | 02974 | 247 | 0 | 30 | Time of Use Status | | | F14 | R | |
| 0B9EH-0BA1H | 02975-02978 | 248 | 0 | 50 | Time of Use Frozen Start Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0BA2H-0BA5H | 02979-02982 | 248 | 1 | 50 | Time of Use Frozen End Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0BA6H-0BA9H | 02983-02986 | 248 | 2 | 50 | Time of Use Prior Month Start Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0BAAH-0BADH | 02987-02990 | 248 | 3 | 50 | Time of Use Prior Month End Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0BAEH-0BB1H | 02991-02994 | 248 | 4 | 50 | Time of Use Active Start Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0BB2H-0BB5H | 02995-02998 | 248 | 5 | 50 | Time of Use Active End Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0BB6H-0BB9H | 02999-03002 | 248 | 6 | 50 | Time of Use Current Month Start Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0BBAH-0BBDH | 03003-03006 | 248 | 7 | 50 | Time of Use Current Month End Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0BBEH | 03007 | 249 | 0 | 30 | Time of Use Frozen / Prior Month Average Select | | | | | |
| 0BBFH | 03008 | 249 | 1 | 30 | Time of Use Active / Current Month Average Select | | | | | |
| 0BC0H-0BC1H | 03009-03010 | 250 | 0 | 30 | Time of Use Frozen CT Ratio Numerator | | | | | |
| 0BC2H-0BC3H | 03011-03012 | 250 | 1 | 30 | Time of Use Frozen CT Ratio Denominator | | | | | |
| 0BC4H-0BC5H | 03013-03014 | 250 | 2 | 30 | Time of Use Frozen PT Ratio Numerator | | | | | |
| 0BC6H-0BC7H | 03015-03016 | 250 | 3 | 30 | Time of Use Frozen PT Ratio Denominator | | | | | |
| 0BC8H-0BC9H | 03017-03018 | 250 | 4 | 30 | Time of Use Prior Month CT Ratio Numerator | | | | | |
| 0BCAH-0BCBH | 03019-03020 | 250 | 5 | 30 | Time of Use Prior Month CT Ratio Denominator | | | | | |
| 0BCCH-0BCDH | 03021-03022 | 250 | 6 | 30 | Time of Use Prior Month PT Ratio Numerator | | | | | |
| 0BCEH-0BCFH | 03023-03024 | 250 | 7 | 30 | Time of Use Prior Month PT Ratio Denominator | | | | | |
| 0BD0H-0BD1H | 03025-03026 | 250 | 8 | 30 | Time of Use Active CT Ratio Numerator | | | | | |
| 0BD2H-0BD3H | 03027-03028 | 250 | 9 | 30 | Time of Use Active CT Ratio Denominator | | | | | |
| 0BD4H-0BD5H | 03029-03030 | 250 | 10 | 30 | Time of Use Active PT Ratio Numerator | | | | | |
| 0BD6H-0BD7H | 03031-03032 | 250 | 11 | 30 | Time of Use Active PT Ratio Denominator | | | | | |
| 0BD8H-0BD9H | 03033-03034 | 250 | 12 | 30 | Time of Use Current Month CT Ratio Numerator | | | | | |
| 0BDAH-0BDBH | 03035-03036 | 250 | 13 | 30 | Time of Use Current Month CT Ratio Denominator | | | | | |
| 0BDCH-0BDDH | 03037-03038 | 250 | 14 | 30 | Time of Use Current Month PT Ratio Numerator | | | | | |
| 0BDEH-0BDFH | 03039-03040 | 250 | 15 | 30 | Time of Use Current Month PT Ratio Denominator | | | | | |
| Time of Use Frozen Register 1 Block | | | | | | | | | | |
| 0C08H-0C09H | 03081-03082 | 252 | 0 | 30 | TOU Frozen Reg 1 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 0C0AH-0C0BH | 03083-03084 | 252 | 1 | 30 | TOU Frozen Reg 1 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0C0CH-0C0DH | 03085-03086 | 252 | 2 | 30 | TOU Frozen Reg 1 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C0EH-0C0FH | 03087-03088 | 252 | 3 | 30 | TOU Frozen Reg 1 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C10H-0C11H | 03089-03090 | 253 | 0 | 30 | TOU Frozen Reg 1 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C12H-0C13H | 03091-03092 | 253 | 1 | 30 | TOU Frozen Reg 1 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C14H-0C17H | 03093-03096 | 254 | 0 | 50 | TOU Frozen Reg 1 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0C18H-0C1BH | 03097-03100 | 254 | 1 | 50 | TOU Frozen Reg 1 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0C1CH-0C1FH | 03101-03104 | 254 | 2 | 50 | TOU Frozen Reg 1 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0C20H-0C23H | 03105-03108 | 254 | 3 | 50 | TOU Frozen Reg 1 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Register 2 Block | | | | | | | | | | |
| 0C4CH-0C4DH | 03149-03150 | 256 | 0 | 30 | TOU Frozen Reg 2 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0C4EH-0C4FH | 03151-03152 | 256 | 1 | 30 | TOU Frozen Reg 2 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0C50H-0C51H | 03153-03154 | 256 | 2 | 30 | TOU Frozen Reg 2 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C52H-0C53H | 03155-03156 | 256 | 3 | 30 | TOU Frozen Reg 2 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C54H-0C55H | 03157-03158 | 257 | 0 | 30 | TOU Frozen Reg 2 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C56H-0C57H | 03159-03160 | 257 | 1 | 30 | TOU Frozen Reg 2 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C58H-0C5BH | 03161-03164 | 258 | 0 | 50 | TOU Frozen Reg 2 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0C5CH-0C5FH | 03165-03168 | 258 | 1 | 50 | TOU Frozen Reg 2 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0C60H-0C63H | 03169-03172 | 258 | 2 | 50 | TOU Frozen Reg 2 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0C64H-0C67H | 03173-03176 | 258 | 3 | 50 | TOU Frozen Reg 2 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Reg 3 Block | | | | | | | | | | |
| 0C90H-0C91H | 03217-03218 | 260 | 0 | 30 | TOU Frozen Reg 3 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0C92H-0C93H | 03219-03220 | 260 | 1 | 30 | TOU Frozen Reg 3 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0C94H-0C95H | 03221-03222 | 260 | 2 | 30 | TOU Frozen Reg 3 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C96H-0C97H | 03223-03224 | 260 | 3 | 30 | TOU Frozen Reg 3 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C98H-0C99H | 03225-03226 | 261 | 0 | 30 | TOU Frozen Reg 3 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0C9AH-0C9BH | 03227-03228 | 261 | 1 | 30 | TOU Frozen Reg 3 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 0C9CH-0C9FH | 03229-03232 | 262 | 0 | 50 | TOU Frozen Reg 3 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0CA0H-0CA3H | 03233-03236 | 262 | 1 | 50 | TOU Frozen Reg 3 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0CA4H-0CA7H | 03237-03240 | 262 | 2 | 50 | TOU Frozen Reg 3 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0CA8H-0CABH | 03241-03244 | 262 | 3 | 50 | TOU Frozen Reg 3 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Reg 4 Block | | | | | | | | | | |
| 0CD4H-0CD5H | 03285-03286 | 264 | 0 | 30 | TOU Frozen Reg 4 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0CD6H-0CD7H | 03287-03288 | 264 | 1 | 30 | TOU Frozen Reg 4 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0CD8H-0CD9H | 03289-03290 | 264 | 2 | 30 | TOU Frozen Reg 4 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0CDAH-0CDBH | 03291-03292 | 264 | 3 | 30 | TOU Frozen Reg 4 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0CDCH-0CDDH | 03293-03294 | 265 | 0 | 30 | TOU Frozen Reg 4 Coin. Dmd. VAR to Peak Dmd. Rcv. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0CDEH-0CDFH | 03295-03296 | 265 | 1 | 30 | TOU Frozen Reg 4 Coin. Dmd. VAR to Peak Dmd. Dlv. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0CE0H-0CE3H | 03297-03300 | 266 | 0 | 50 | TOU Frozen Reg 4 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0CE4H-0CE7H | 03301-03304 | 266 | 1 | 50 | TOU Frozen Reg 4 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0CE8H-0CEBH | 03305-03308 | 266 | 2 | 50 | TOU Frozen Reg 4 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0CECH-0CEFH | 03309-03312 | 266 | 3 | 50 | TOU Frozen Reg 4 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Reg 5 Block | | | | | | | | | | |
| 0D18H-0D19H | 03353-03354 | 268 | 0 | 30 | TOU Frozen Reg 5 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0D1AH-0D1BH | 03355-03356 | 268 | 1 | 30 | TOU Frozen Reg 5 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0D1CH-0D1DH | 03357-03358 | 268 | 2 | 30 | TOU Frozen Reg 5 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0D1EH-0D1FH | 03359-03360 | 268 | 3 | 30 | TOU Frozen Reg 5 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0D20H-0D21H | 03361-03362 | 269 | 0 | 30 | TOU Frozen Reg 5 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0D22H-0D23H | 03363-03364 | 269 | 1 | 30 | TOU Frozen Reg 5 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0D24H-0D27H | 03365-03368 | 270 | 0 | 50 | TOU Frozen Reg 5 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0D28H-0D2BH | 03369-03372 | 270 | 1 | 50 | TOU Frozen Reg 5 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 0D2CH-0D2FH | 03373-03376 | 270 | 2 | 50 | TOU Frozen Reg 5 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0D30H-0D33H | 03377-03380 | 270 | 3 | 50 | TOU Frozen Reg 5 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Reg 6 Block | | | | | | | | | | |
| 0D5CH-0D5DH | 03421-03422 | 272 | 0 | 30 | TOU Frozen Reg 6 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0D5EH-0D5FH | 03423-03424 | 272 | 1 | 30 | TOU Frozen Reg 6 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0D60H-0D61H | 03425-03426 | 272 | 2 | 30 | TOU Frozen Reg 6 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0D62H-0D63H | 03427-03428 | 272 | 3 | 30 | TOU Frozen Reg 6 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0D64H-0D65H | 03429-03430 | 273 | 0 | 30 | TOU Frozen Reg 6 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0D66H-0D67H | 03431-03432 | 273 | 1 | 30 | TOU Frozen Reg 6 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0D68H-0D6BH | 03433-03436 | 274 | 0 | 50 | TOU Frozen Reg 6 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0D6CH-0D6FH | 03437-03440 | 274 | 1 | 50 | TOU Frozen Reg 6 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0D70H-0D73H | 03441-03444 | 274 | 2 | 50 | TOU Frozen Reg 6 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0D74H-0D77H | 03445-03448 | 274 | 3 | 50 | TOU Frozen Reg 6 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Reg 7 Block | | | | | | | | | | |
| 0DA0H-0DA1H | 03489-03490 | 276 | 0 | 30 | TOU Frozen Reg 7 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0DA2H-0DA3H | 03491-03492 | 276 | 1 | 30 | TOU Frozen Reg 7 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0DA4H-0DA5H | 03493-03494 | 276 | 2 | 30 | TOU Frozen Reg 7 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0DA6H-0DA7H | 03495-03496 | 276 | 3 | 30 | TOU Frozen Reg 7 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0DA8H-0DA9H | 03497-03498 | 277 | 0 | 30 | TOU Frozen Reg 7 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0DAAH-0DABH | 03499-03500 | 277 | 1 | 30 | TOU Frozen Reg 7 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0DACH-0DAFH | 03501-03504 | 278 | 0 | 50 | TOU Frozen Reg 7 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0DB0H-0DB3H | 03505-03508 | 278 | 1 | 50 | TOU Frozen Reg 7 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0DB4H-0DB7H | 03509-03512 | 278 | 2 | 50 | TOU Frozen Reg 7 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0DB8H-0DBBH | 03513-03516 | 278 | 3 | 50 | TOU Frozen Reg 7 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Reg 8 Block | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 0DE4H-0DE5H | 03557-03558 | 280 | 0 | 30 | TOU Frozen Reg 8 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0DE6H-0DE7H | 03559-03560 | 280 | 1 | 30 | TOU Frozen Reg 8 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0DE8H-0DE9H | 03561-03562 | 280 | 2 | 30 | TOU Frozen Reg 8 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0DEAH-0DEBH | 03563-03564 | 280 | 3 | 30 | TOU Frozen Reg 8 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0DECH-0DEDH | 03565-03566 | 281 | 0 | 30 | TOU Frozen Reg 8 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0DEEH-0DEFH | 03567-03568 | 281 | 1 | 30 | TOU Frozen Reg 8 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0DF0H-0DF3H | 03569-03572 | 282 | 0 | 50 | TOU Frozen Reg 8 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0DF4H-0DF7H | 03573-03576 | 282 | 1 | 50 | TOU Frozen Reg 8 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0DF8H-0DFBH | 03577-03580 | 282 | 2 | 50 | TOU Frozen Reg 8 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0DFCH-0DFFH | 03581-03584 | 282 | 3 | 50 | TOU Frozen Reg 8 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Total Block | | | | | | | | | | |
| 0E28H-0E29H | 03625-03626 | 284 | 0 | 30 | TOU Frozen Total Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0E2AH-0E2BH | 03627-03628 | 284 | 1 | 30 | TOU Frozen Total Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0E2CH-0E2DH | 03629-03630 | 284 | 2 | 30 | TOU Frozen Total Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0E2EH-0E2FH | 03631-03632 | 284 | 3 | 30 | TOU Frozen Total Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0E30H-0E31H | 03633-03634 | 285 | 0 | 30 | TOU Frozen Total Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0E32H-0E33H | 03635-03636 | 285 | 1 | 30 | TOU Frozen Total Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0E34H-0E37H | 03637-03640 | 286 | 0 | 50 | TOU Frozen Total Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0E38H-0E3BH | 03641-03644 | 286 | 1 | 50 | TOU Frozen Total Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0E3CH-0E3FH | 03645-03648 | 286 | 2 | 50 | TOU Frozen Total Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0E40H-0E43H | 03649-03652 | 286 | 3 | 50 | TOU Frozen Total Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Reg 1 Block | | | | | | | | | | |
| 0E6CH-0E6DH | 03693-03694 | 288 | 0 | 30 | TOU Prior Month Reg 1 Peak Demand Rcv. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0E6EH-0E6FH | 03695-03696 | 288 | 1 | 30 | TOU Prior Month Reg 1 Peak Demand Div. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 0E70H-0E71H | 03697-03698 | 288 | 2 | 30 | TOU Prior Month Reg 1 Peak Demand Rcv. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0E72H-0E73H | 03699-03700 | 288 | 3 | 30 | TOU Prior Month Reg 1 Peak Demand Dlv. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0E74H-0E75H | 03701-03702 | 289 | 0 | 30 | TOU Prior Month Reg 1 Coin. Dmd. VAR to Peak Dmd. Rcv. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0E76H-0E77H | 03703-03704 | 289 | 1 | 30 | TOU Prior Month Reg 1 Coin. Dmd. VAR to Peak Dmd. Dlv. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0E78H-0E7BH | 03705-03708 | 290 | 0 | 50 | TOU Prior Month Reg 1 Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0E7CH-0E7FH | 03709-03712 | 290 | 1 | 50 | TOU Prior Month Reg 1 Peak Demand Del. Watt (Q 2 + 3) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0E80H-0E83H | 03713-03716 | 290 | 2 | 50 | TOU Prior Month Reg 1 Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0E84H-0E87H | 03717-03720 | 290 | 3 | 50 | TOU Prior Month Reg 1 Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Reg 2 Block | | | | | | | | | | |
| 0EB0H-0EB1H | 03761-03762 | 292 | 0 | 30 | TOU Prior Month Reg 2 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0EB2H-0EB3H | 03763-03764 | 292 | 1 | 30 | TOU Prior Month Reg 2 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0EB4H-0EB5H | 03765-03766 | 292 | 2 | 30 | TOU Prior Month Reg 2 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0EB6H-0EB7H | 03767-03768 | 292 | 3 | 30 | TOU Prior Month Reg 2 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0EB8H-0EB9H | 03769-03770 | 293 | 0 | 30 | TOU Prior Month Reg 2 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0EBAH-0EBBH | 03771-03772 | 293 | 1 | 30 | TOU Prior Month Reg 2 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0EBCH-0EBFH | 03773-03776 | 294 | 0 | 50 | TOU Prior Month Reg 2 Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0EC0H-0EC3H | 03777-03780 | 294 | 1 | 50 | TOU Prior Month Reg 2 Peak Demand Del. Watt (Q 2 + 3) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0EC4H-0EC7H | 03781-03784 | 294 | 2 | 50 | TOU Prior Month Reg 2 Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0EC8H-0ECBH | 03785-03788 | 294 | 3 | 50 | TOU Prior Month Reg 2 Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Reg 3 Block | | | | | | | | | | |
| 0EF4H-0EF5H | 03829-03830 | 296 | 0 | 30 | TOU Prior Month Reg 3 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0EF6H-0EF7H | 03831-03832 | 296 | 1 | 30 | TOU Prior Month Reg 3 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0EF8H-0EF9H | 03833-03834 | 296 | 2 | 30 | TOU Prior Month Reg 3 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0EFAH-0EFBH | 03835-03836 | 296 | 3 | 30 | TOU Prior Month Reg 3 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 0EFCH-0EFDH | 03837-03838 | 297 | 0 | 30 | TOU Prior Month Reg 3 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0EFEH-0EFFH | 03839-03840 | 297 | 1 | 30 | TOU Prior Month Reg 3 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F00H-0F03H | 03841-03844 | 298 | 0 | 50 | TOU Prior Month Reg 3 Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0F04H-0F07H | 03845-03848 | 298 | 1 | 50 | TOU Prior Month Reg 3 Peak Demand Del. Watt (Q 2 + 3) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0F08H-0F0BH | 03849-03852 | 298 | 2 | 50 | TOU Prior Month Reg 3 Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0F0CH-0F0FH | 03853-03856 | 298 | 3 | 50 | TOU Prior Month Reg 3 Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Reg 4 Block | | | | | | | | | | |
| 0F38H-0F39H | 03897-03898 | 300 | 0 | 30 | TOU Prior Month Reg 4 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0F3AH-0F3BH | 03899-03900 | 300 | 1 | 30 | TOU Prior Month Reg 4 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0F3CH-0F3DH | 03901-03902 | 300 | 2 | 30 | TOU Prior Month Reg 4 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F3EH-0F3FH | 03903-03904 | 300 | 3 | 30 | TOU Prior Month Reg 4 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F40H-0F41H | 03905-03906 | 301 | 0 | 30 | TOU Prior Month Reg 4 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F42H-0F43H | 03907-03908 | 301 | 1 | 30 | TOU Prior Month Reg 4 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F44H-0F47H | 03909-03912 | 302 | 0 | 50 | TOU Prior Month Reg 4 Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0F48H-0F4BH | 03913-03916 | 302 | 1 | 50 | TOU Prior Month Reg 4 Peak Demand Del. Watt (Q 2 + 3) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0F4CH-0F4FH | 03917-03920 | 302 | 2 | 50 | TOU Prior Month Reg 4 Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0F50H-0F53H | 03921-03924 | 302 | 3 | 50 | TOU Prior Month Reg 4 Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Reg 5 Block | | | | | | | | | | |
| 0F7CH-0F7DH | 03965-03966 | 304 | 0 | 30 | TOU Prior Month Reg 5 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0F7EH-0F7FH | 03967-03968 | 304 | 1 | 30 | TOU Prior Month Reg 5 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0F80H-0F81H | 03969-03970 | 304 | 2 | 30 | TOU Prior Month Reg 5 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F82H-0F83H | 03971-03972 | 304 | 3 | 30 | TOU Prior Month Reg 5 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F84H-0F85H | 03973-03974 | 305 | 0 | 30 | TOU Prior Month Reg 5 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F86H-0F87H | 03975-03976 | 305 | 1 | 30 | TOU Prior Month Reg 5 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0F88H-0F8BH | 03977-03980 | 306 | 0 | 50 | TOU Prior Month Reg 5 Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 0F8CH-0F8FH | 03981-03984 | 306 | 1 | 50 | TOU Prior Month Reg 5 Peak Demand Del. Watt (Q 2 + 3) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0F90H-0F93H | 03985-03988 | 306 | 2 | 50 | TOU Prior Month Reg 5 Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0F94H-0F97H | 03989-03992 | 306 | 3 | 50 | TOU Prior Month Reg 5 Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Reg 6 Block | | | | | | | | | | |
| 0FC0H-0FC1H | 04033-04034 | 308 | 0 | 30 | TOU Prior Month Reg 6 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0FC2H-0FC3H | 04035-04036 | 308 | 1 | 30 | TOU Prior Month Reg 6 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 0FC4H-0FC5H | 04037-04038 | 308 | 2 | 30 | TOU Prior Month Reg 6 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0FC6H-0FC7H | 04039-04040 | 308 | 3 | 30 | TOU Prior Month Reg 6 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0FC8H-0FC9H | 04041-04042 | 309 | 0 | 30 | TOU Prior Month Reg 6 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0FCAH-0FCBH | 04043-04044 | 309 | 1 | 30 | TOU Prior Month Reg 6 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 0FCCH-0FCFH | 04045-04048 | 310 | 0 | 50 | TOU Prior Month Reg 6 Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0FD0H-0FD3H | 04049-04052 | 310 | 1 | 50 | TOU Prior Month Reg 6 Peak Demand Del. Watt (Q 2 + 3) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0FD4H-0FD7H | 04053-04056 | 310 | 2 | 50 | TOU Prior Month Reg 6 Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 0FD8H-0FDBH | 04057-04060 | 310 | 3 | 50 | TOU Prior Month Reg 6 Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Reg 7 Block | | | | | | | | | | |
| 1004H-1005H | 04101-04102 | 312 | 0 | 30 | TOU Prior Month Reg 7 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1006H-1007H | 04103-04104 | 312 | 1 | 30 | TOU Prior Month Reg 7 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1008H-1009H | 04105-04106 | 312 | 2 | 30 | TOU Prior Month Reg 7 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 100AH-100BH | 04107-04108 | 312 | 3 | 30 | TOU Prior Month Reg 7 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 100CH-100DH | 04109-04110 | 313 | 0 | 30 | TOU Prior Month Reg 7 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 100EH-100FH | 04111-04112 | 313 | 1 | 30 | TOU Prior Month Reg 7 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1010H-1013H | 04113-04116 | 314 | 0 | 50 | TOU Prior Month Reg 7 Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1014H-1017H | 04117-04120 | 314 | 1 | 50 | TOU Prior Month Reg 7 Peak Demand Del. Watt (Q 2 + 3) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1018H-101BH | 04121-04124 | 314 | 2 | 50 | TOU Prior Month Reg 7 Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 101CH-101FH | 04125-04128 | 314 | 3 | 50 | TOU Prior Month Reg 7 Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Reg 8 Block | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 1048H-1049H | 04169-04170 | 316 | 0 | 30 | TOU Prior Month Reg 8 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 104AH-104BH | 04171-04172 | 316 | 1 | 30 | TOU Prior Month Reg 8 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 104CH-104DH | 04173-04174 | 316 | 2 | 30 | TOU Prior Month Reg 8 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 104EH-104FH | 04175-04176 | 316 | 3 | 30 | TOU Prior Month Reg 8 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1050H-1051H | 04177-04178 | 317 | 0 | 30 | TOU Prior Month Reg 8 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1052H-1053H | 04179-04180 | 317 | 1 | 30 | TOU Prior Month Reg 8 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1054H-1057H | 04181-04184 | 318 | 0 | 50 | TOU Prior Month Reg 8 Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1058H-105BH | 04185-04188 | 318 | 1 | 50 | TOU Prior Month Reg 8 Peak Demand Del. Watt (Q 2 + 3) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 105CH-105FH | 04189-04192 | 318 | 2 | 50 | TOU Prior Month Reg 8 Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1060H-1063H | 04193-04196 | 318 | 3 | 50 | TOU Prior Month Reg 8 Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Prior Month Total Block: | | | | | | | | | | |
| 108CH-108DH | 04237-04238 | 320 | 0 | 30 | TOU Prior Month Total Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 108EH-108FH | 04239-04240 | 320 | 1 | 30 | TOU Prior Month Total Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1090H-1091H | 04241-04242 | 320 | 2 | 30 | TOU Prior Month Total Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1092H-1093H | 04243-04244 | 320 | 3 | 30 | TOU Prior Month Total Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1094H-1095H | 04245-04246 | 321 | 0 | 30 | TOU Prior Month Total Coin. Dmd. VAR to Peak Dmd. Rec. | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1096H-1097H | 04247-04248 | 321 | 1 | 30 | TOU Prior Month Total Coin. Dmd. VAR to Peak Dmd. Del. | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1098H-109BH | 04249-04252 | 322 | 0 | 50 | TOU Prior Month Total Peak Demand Rec. Watt (Q 1 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 109CH-109FH | 04253-04256 | 322 | 1 | 50 | TOU Prior Month Total Peak Demand Del. Watt (Q 2 + 3) Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 10A0H-10A3H | 04257-04260 | 322 | 2 | 50 | TOU Prior Month Total Peak Demand Rec. VAR (Q 1 + 2) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 10A4H-10A7H | 04261-04264 | 322 | 3 | 50 | TOU Prior Month Total Peak Demand Del. VAR (Q 3 + 4) | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Reg 1 Block: | | | | | | | | | | |
| 10D0H-10D1H | 04305-04306 | 324 | 0 | 30 | TOU Active Reg 1 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 10D2H-10D3H | 04307-04308 | 324 | 1 | 30 | TOU Active Reg 1 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 10D4H-10D5H | 04309-04310 | 324 | 2 | 30 | TOU Active Reg 1 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 10D6H-10D7H | 04311-04312 | 324 | 3 | 30 | TOU Active Reg 1 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 10D8H-10D9H | 04313-04314 | 325 | 0 | 30 | TOU Active Reg 1 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 10DAH-10DBH | 04315-04316 | 325 | 1 | 30 | TOU Active Reg 1 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 10DCH-10DFH | 04317-04320 | 326 | 0 | 50 | TOU Active Reg 1 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 10E0H-10E3H | 04321-04324 | 326 | 1 | 50 | TOU Active Reg 1 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 10E4H-10E7H | 04325-04328 | 326 | 2 | 50 | TOU Active Reg 1 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 10E8H-10EBH | 04329-04332 | 326 | 3 | 50 | TOU Active Reg 1 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Reg 2 Block | | | | | | | | | | |
| 1114H-1115H | 04373-04374 | 328 | 0 | 30 | TOU Active Reg 2 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1116H-1117H | 04375-04376 | 328 | 1 | 30 | TOU Active Reg 2 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1118H-1119H | 04377-04378 | 328 | 2 | 30 | TOU Active Reg 2 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 111AH-111BH | 04379-04380 | 328 | 3 | 30 | TOU Active Reg 2 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 111CH-111DH | 04381-04382 | 329 | 0 | 30 | TOU Active Reg 2 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 111EH-111FH | 04383-04384 | 329 | 1 | 30 | TOU Active Reg 2 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1120H-1123H | 04385-04388 | 330 | 0 | 50 | TOU Active Reg 2 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1124H-1127H | 04389-04392 | 330 | 1 | 50 | TOU Active Reg 2 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1128H-112BH | 04393-04396 | 330 | 2 | 50 | TOU Active Reg 2 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 112CH-112FH | 04397-04400 | 330 | 3 | 50 | TOU Active Reg 2 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Reg 3 Block | | | | | | | | | | |
| 1158H-1159H | 04441-04442 | 332 | 0 | 30 | TOU Active Reg 3 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 115AH-115BH | 04443-04444 | 332 | 1 | 30 | TOU Active Reg 3 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 115CH-115DH | 04445-04446 | 332 | 2 | 30 | TOU Active Reg 3 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 115EH-115FH | 04447-04448 | 332 | 3 | 30 | TOU Active Reg 3 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1160H-1161H | 04449-04450 | 333 | 0 | 30 | TOU Active Reg 3 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1162H-1163H | 04451-04452 | 333 | 1 | 30 | TOU Active Reg 3 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1164H-1167H | 04453-04456 | 334 | 0 | 50 | TOU Active Reg 3 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1168H-116BH | 04457-04460 | 334 | 1 | 50 | TOU Active Reg 3 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 116CH-116FH | 04461-04464 | 334 | 2 | 50 | TOU Active Reg 3 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1170H-1173H | 04465-04468 | 334 | 3 | 50 | TOU Active Reg 3 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Reg 4 Block | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 119CH-119DH | 04509-04510 | 336 | 0 | 30 | TOU Active Reg 4 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 119EH-119FH | 04511-04512 | 336 | 1 | 30 | TOU Active Reg 4 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 11A0H-11A1H | 04513-04514 | 336 | 2 | 30 | TOU Active Reg 4 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 11A2H-11A3H | 04515-04516 | 336 | 3 | 30 | TOU Active Reg 4 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 11A4H-11A5H | 04517-04518 | 337 | 0 | 30 | TOU Active Reg 4 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 11A6H-11A7H | 04519-04520 | 337 | 1 | 30 | TOU Active Reg 4 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 11A8H-11ABH | 04521-04524 | 338 | 0 | 50 | TOU Active Reg 4 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 11ACH-11AFH | 04525-04528 | 338 | 1 | 50 | TOU Active Reg 4 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 11B0H-11B3H | 04529-04532 | 338 | 2 | 50 | TOU Active Reg 4 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 11B4H-11B7H | 04533-04536 | 338 | 3 | 50 | TOU Active Reg 4 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Reg 5 Block | | | | | | | | | | |
| 11E0H-11E1H | 04577-04578 | 340 | 0 | 30 | TOU Active Reg 5 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 11E2H-11E3H | 04579-04580 | 340 | 1 | 30 | TOU Active Reg 5 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 11E4H-11E5H | 04581-04582 | 340 | 2 | 30 | TOU Active Reg 5 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 11E6H-11E7H | 04583-04584 | 340 | 3 | 30 | TOU Active Reg 5 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 11E8H-11E9H | 04585-04586 | 341 | 0 | 30 | TOU Active Reg 5 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 11EAH-11EBH | 04587-04588 | 341 | 1 | 30 | TOU Active Reg 5 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 11ECH-11EFH | 04589-04592 | 342 | 0 | 50 | TOU Active Reg 5 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 11F0H-11F3H | 04593-04596 | 342 | 1 | 50 | TOU Active Reg 5 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 11F4H-11F7H | 04597-04600 | 342 | 2 | 50 | TOU Active Reg 5 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 11F8H-11FBH | 04601-04604 | 342 | 3 | 50 | TOU Active Reg 5 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Reg 6 Block | | | | | | | | | | |
| 1224H-1225H | 04645-04646 | 344 | 0 | 30 | TOU Active Reg 6 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1226H-1227H | 04647-04648 | 344 | 1 | 30 | TOU Active Reg 6 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1228H-1229H | 04649-04650 | 344 | 2 | 30 | TOU Active Reg 6 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 122AH-122BH | 04651-04652 | 344 | 3 | 30 | TOU Active Reg 6 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 122CH-122DH | 04653-04654 | 345 | 0 | 30 | TOU Active Reg 6 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 122EH-122FH | 04655-04656 | 345 | 1 | 30 | TOU Active Reg 6 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1230H-1233H | 04657-04660 | 346 | 0 | 50 | TOU Active Reg 6 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 1234H-1237H | 04661-04664 | 346 | 1 | 50 | TOU Active Reg 6 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1238H-123BH | 04665-04668 | 346 | 2 | 50 | TOU Active Reg 6 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 123CH-123FH | 04669-04672 | 346 | 3 | 50 | TOU Active Reg 6 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Reg 7 Block | | | | | | | | | | |
| 1268H-1269H | 04713-04714 | 348 | 0 | 30 | TOU Active Reg 7 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 126AH-126BH | 04715-04716 | 348 | 1 | 30 | TOU Active Reg 7 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 126CH-126DH | 04717-04718 | 348 | 2 | 30 | TOU Active Reg 7 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 126EH-126FH | 04719-04720 | 348 | 3 | 30 | TOU Active Reg 7 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1270H-1271H | 04721-04722 | 349 | 0 | 30 | TOU Active Reg 7 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1272H-1273H | 04723-04724 | 349 | 1 | 30 | TOU Active Reg 7 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1274H-1277H | 04725-04728 | 350 | 0 | 50 | TOU Active Reg 7 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1278H-127BH | 04729-04732 | 350 | 1 | 50 | TOU Active Reg 7 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 127CH-127FH | 04733-04736 | 350 | 2 | 50 | TOU Active Reg 7 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1280H-1283H | 04737-04740 | 350 | 3 | 50 | TOU Active Reg 7 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Reg 8 Block | | | | | | | | | | |
| 12ACH-12ADH | 04781-04782 | 352 | 0 | 30 | TOU Active Reg 8 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 12AEH-12AFH | 04783-04784 | 352 | 1 | 30 | TOU Active Reg 8 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 12B0H-12B1H | 04785-04786 | 352 | 2 | 30 | TOU Active Reg 8 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 12B2H-12B3H | 04787-04788 | 352 | 3 | 30 | TOU Active Reg 8 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 12B4H-12B5H | 04789-04790 | 353 | 0 | 30 | TOU Active Reg 8 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 12B6H-12B7H | 04791-04792 | 353 | 1 | 30 | TOU Active Reg 8 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 12B8H-12BBH | 04793-04796 | 354 | 0 | 50 | TOU Active Reg 8 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 12BCH-12BFH | 04797-04800 | 354 | 1 | 50 | TOU Active Reg 8 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 12C0H-12C3H | 04801-04804 | 354 | 2 | 50 | TOU Active Reg 8 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 12C4H-12C7H | 04805-04808 | 354 | 3 | 50 | TOU Active Reg 8 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Active Total Block | | | | | | | | | | |
| 12F0H-12F1H | 04849-04850 | 356 | 0 | 30 | TOU Active Total Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 12F2H-12F3H | 04851-04852 | 356 | 1 | 30 | TOU Active Total Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------------|-------------|------|----|------------|--|-------------------------|------------------|------|-----|-------|
| 12F4H-12F5H | 04853-04854 | 356 | 2 | 30 | TOU Active Total Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 12F6H-12F7H | 04855-04856 | 356 | 3 | 30 | TOU Active Total Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 12F8H-12F9H | 04857-04858 | 357 | 0 | 30 | TOU Active Total Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 12FAH-12FBH | 04859-04860 | 357 | 1 | 30 | TOU Active Total Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 12FCH-12FFH | 04861-04864 | 358 | 0 | 50 | TOU Active Total Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1300H-1303H | 04865-04868 | 358 | 1 | 50 | TOU Active Total Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1304H-1307H | 04869-04872 | 358 | 2 | 50 | TOU Active Total Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1308H-130BH | 04873-04876 | 358 | 3 | 50 | TOU Active Total Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Reg 1 Block | | | | | | | | | | |
| 1334H-1335H | 04917-04918 | 360 | 0 | 30 | TOU Current Month Reg 1 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1336H-1337H | 04919-04920 | 360 | 1 | 30 | TOU Current Month Reg 1 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1338H-1339H | 04921-04922 | 360 | 2 | 30 | TOU Current Month Reg 1 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 133AH-133BH | 04923-04924 | 360 | 3 | 30 | TOU Current Month Reg 1 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 133CH-133DH | 04925-04926 | 361 | 0 | 30 | TOU Current Month Reg 1 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 133EH-133FH | 04927-04928 | 361 | 1 | 30 | TOU Current Month Reg 1 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1340H-1343H | 04929-04932 | 362 | 0 | 50 | TOU Current Month Reg 1 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1344H-1347H | 04933-04936 | 362 | 1 | 50 | TOU Current Month Reg 1 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1348H-134BH | 04937-04940 | 362 | 2 | 50 | TOU Current Month Reg 1 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 134CH-134FH | 04941-04944 | 362 | 3 | 50 | TOU Current Month Reg 1 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Reg 2 Block | | | | | | | | | | |
| 1378H-1379H | 04985-04986 | 364 | 0 | 30 | TOU Current Month Reg 2 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 137AH-137BH | 04987-04988 | 364 | 1 | 30 | TOU Current Month Reg 2 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 137CH-137DH | 04989-04990 | 364 | 2 | 30 | TOU Current Month Reg 2 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 137EH-137FH | 04991-04992 | 364 | 3 | 30 | TOU Current Month Reg 2 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1380H-1381H | 04993-04994 | 365 | 0 | 30 | TOU Current Month Reg 2 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1382H-1383H | 04995-04996 | 365 | 1 | 30 | TOU Current Month Reg 2 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1384H-1387H | 04997-05000 | 366 | 0 | 50 | TOU Current Month Reg 2 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1388H-138BH | 05001-05004 | 366 | 1 | 50 | TOU Current Month Reg 2 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 138CH-138FH | 05005-05008 | 366 | 2 | 50 | TOU Current Month Reg 2 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1390H-1393H | 05009-05012 | 366 | 3 | 50 | TOU Current Month Reg 2 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Reg 3 Block | | | | | | | | | | |
| 13BCH-13BDH | 05053-05054 | 368 | 0 | 30 | TOU Current Month Reg 3 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 13BEH-13BFH | 05055-05056 | 368 | 1 | 30 | TOU Current Month Reg 3 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 13C0H-13C1H | 05057-05058 | 368 | 2 | 30 | TOU Current Month Reg 3 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 13C2H-13C3H | 05059-05060 | 368 | 3 | 30 | TOU Current Month Reg 3 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 13C4H-13C5H | 05061-05062 | 369 | 0 | 30 | TOU Current Month Reg 3 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 13C6H-13C7H | 05063-05064 | 369 | 1 | 30 | TOU Current Month Reg 3 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 13C8H-13CBH | 05065-05068 | 370 | 0 | 50 | TOU Current Month Reg 3 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 13CCH-13CFH | 05069-05072 | 370 | 1 | 50 | TOU Current Month Reg 3 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 13D0H-13D3H | 05073-05076 | 370 | 2 | 50 | TOU Current Month Reg 3 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 13D4H-13D7H | 05077-05080 | 370 | 3 | 50 | TOU Current Month Reg 3 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Reg 4 Block | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 1400H-1401H | 05121-05122 | 372 | 0 | 30 | TOU Current Month Reg 4 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1402H-1403H | 05123-05124 | 372 | 1 | 30 | TOU Current Month Reg 4 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1404H-1405H | 05125-05126 | 372 | 2 | 30 | TOU Current Month Reg 4 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1406H-1407H | 05127-05128 | 372 | 3 | 30 | TOU Current Month Reg 4 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1408H-1409H | 05129-05130 | 373 | 0 | 30 | TOU Current Month Reg 4 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 140AH-140BH | 05131-05132 | 373 | 1 | 30 | TOU Current Month Reg 4 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 140CH-140FH | 05133-05136 | 374 | 0 | 50 | TOU Current Month Reg 4 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1410H-1413H | 05137-05140 | 374 | 1 | 50 | TOU Current Month Reg 4 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1414H-1417H | 05141-05144 | 374 | 2 | 50 | TOU Current Month Reg 4 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1418H-141BH | 05145-05148 | 374 | 3 | 50 | TOU Current Month Reg 4 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Reg 5 Block | | | | | | | | | | |
| 1444H-1445H | 05189-05190 | 376 | 0 | 30 | TOU Current Month Reg 5 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1446H-1447H | 05191-05192 | 376 | 1 | 30 | TOU Current Month Reg 5 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1448H-1449H | 05193-05194 | 376 | 2 | 30 | TOU Current Month Reg 5 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 144AH-144BH | 05195-05196 | 376 | 3 | 30 | TOU Current Month Reg 5 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 144CH-144DH | 05197-05198 | 377 | 0 | 30 | TOU Current Month Reg 5 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 144EH-144FH | 05199-05200 | 377 | 1 | 30 | TOU Current Month Reg 5 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1450H-1453H | 05201-05204 | 378 | 0 | 50 | TOU Current Month Reg 5 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1454H-1457H | 05205-05208 | 378 | 1 | 50 | TOU Current Month Reg 5 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1458H-145BH | 05209-05212 | 378 | 2 | 50 | TOU Current Month Reg 5 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 145CH-145FH | 05213-05216 | 378 | 3 | 50 | TOU Current Month Reg 5 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Reg 6 Block | | | | | | | | | | |
| 1488H-1489H | 05257-05258 | 380 | 0 | 30 | TOU Current Month Reg 6 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 148AH-148BH | 05259-05260 | 380 | 1 | 30 | TOU Current Month Reg 6 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 148CH-148DH | 05261-05262 | 380 | 2 | 30 | TOU Current Month Reg 6 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 148EH-148FH | 05263-05264 | 380 | 3 | 30 | TOU Current Month Reg 6 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1490H-1491H | 05265-05266 | 381 | 0 | 30 | TOU Current Month Reg 6 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1492H-1493H | 05267-05268 | 381 | 1 | 30 | TOU Current Month Reg 6 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1494H-1497H | 05269-05272 | 382 | 0 | 50 | TOU Current Month Reg 6 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1498H-149BH | 05273-05276 | 382 | 1 | 50 | TOU Current Month Reg 6 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 149CH-149FH | 05277-05280 | 382 | 2 | 50 | TOU Current Month Reg 6 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 14A0H-14A3H | 05281-05284 | 382 | 3 | 50 | TOU Current Month Reg 6 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Reg 7 Block | | | | | | | | | | |
| 14CCH-14CDH | 05325-05326 | 384 | 0 | 30 | TOU Current Month Reg 7 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 14CEH-14CFH | 05327-05328 | 384 | 1 | 30 | TOU Current Month Reg 7 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 14D0H-14D1H | 05329-05330 | 384 | 2 | 30 | TOU Current Month Reg 7 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 14D2H-14D3H | 05331-05332 | 384 | 3 | 30 | TOU Current Month Reg 7 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 14D4H-14D5H | 05333-05334 | 385 | 0 | 30 | TOU Current Month Reg 7 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 14D6H-14D7H | 05335-05336 | 385 | 1 | 30 | TOU Current Month Reg 7 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 14D8H-14DBH | 05337-05340 | 386 | 0 | 50 | TOU Current Month Reg 7 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 14DCH-14DFH | 05341-05344 | 386 | 1 | 50 | TOU Current Month Reg 7 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 14E0H-14E3H | 05345-05348 | 386 | 2 | 50 | TOU Current Month Reg 7 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 14E4H-14E7H | 05349-05352 | 386 | 3 | 50 | TOU Current Month Reg 7 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Reg 8 Block | | | | | | | | | | |
| 1510H-1511H | 05393-05394 | 388 | 0 | 30 | TOU Current Month Reg 8 Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1512H-1513H | 05395-05396 | 388 | 1 | 30 | TOU Current Month Reg 8 Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1514H-1515H | 05397-05398 | 388 | 2 | 30 | TOU Current Month Reg 8 Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1516H-1517H | 05399-05400 | 388 | 3 | 30 | TOU Current Month Reg 8 Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1518H-1519H | 05401-05402 | 389 | 0 | 30 | TOU Current Month Reg 8 Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 151AH-151BH | 05403-05404 | 389 | 1 | 30 | TOU Current Month Reg 8 Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 151CH-151FH | 05405-05408 | 390 | 0 | 50 | TOU Current Month Reg 8 Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1520H-1523H | 05409-05412 | 390 | 1 | 50 | TOU Current Month Reg 8 Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1524H-1527H | 05413-05416 | 390 | 2 | 50 | TOU Current Month Reg 8 Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1528H-152BH | 05417-05420 | 390 | 3 | 50 | TOU Current Month Reg 8 Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Current Month Total Block | | | | | | | | | | |
| 1554H-1555H | 05461-05462 | 392 | 0 | 30 | TOU Current Month Total Peak Demand Rec. Watt (Quadrant 1 + 4) | +32767 Watt / 0 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1556H-1557H | 05463-05464 | 392 | 1 | 30 | TOU Current Month Total Peak Demand Del. Watt (Quadrant 2 + 3) | 0 Watt / -32768 Watt | 1/ 65536 W sec | F7 | R | 9 |
| 1558H-1559H | 05465-05466 | 392 | 2 | 30 | TOU Current Month Total Peak Demand Rec. VAR (Quadrant 1 + 2) | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 155AH-155BH | 05467-05468 | 392 | 3 | 30 | TOU Current Month Total Peak Demand Del. VAR (Quadrant 3 + 4) | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 155CH-155DH | 05469-05470 | 393 | 0 | 30 | TOU Current Month Total Coin. Dmd. VAR to Peak Dmd. Rec. Watt | +32767 VAR/ -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 155EH-155FH | 05471-05472 | 393 | 1 | 30 | TOU Current Month Total Coin. Dmd. VAR to Peak Dmd. Del. Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 1560H-1563H | 05473-05476 | 394 | 0 | 50 | TOU Current Month Total Peak Demand Rec. Watt (Q 1 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1564H-1567H | 05477-05480 | 394 | 1 | 50 | TOU Current Month Total Peak Demand Del. Watt (Q 2 + 3) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1568H-156BH | 05481-05484 | 394 | 2 | 50 | TOU Current Month Total Peak Demand Rec. VAR (Q 1 + 2) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 156CH-156FH | 05485-05488 | 394 | 3 | 50 | TOU Current Month Total Peak Demand Del. VAR (Q 3 + 4) Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Time of Use Frozen Label Block | | | | | | | | | | |
| 1570H-1577H | 05489-05496 | 395 | 0 | | TOU Frozen Reg 1 Label | | | F2 | R | |
| 1578H-157FH | 05497-05504 | 395 | 1 | | TOU Frozen Reg 2 Label | | | F2 | R | |
| 1580H-1587H | 05505-05512 | 395 | 2 | | TOU Frozen Reg 3 Label | | | F2 | R | |
| 1588H-158FH | 05513-05520 | 395 | 3 | | TOU Frozen Reg 4 Label | | | F2 | R | |
| 1590H-1597H | 05521-05528 | 395 | 4 | | TOU Frozen Reg 5 Label | | | F2 | R | |
| 1598H-159FH | 05529-05536 | 395 | 5 | | TOU Frozen Reg 6 Label | | | F2 | R | |
| 15A0H-15A7H | 05537-05544 | 395 | 6 | | TOU Frozen Reg 7 Label | | | F2 | R | |
| 15A8H-15AFH | 05545-05552 | 395 | 7 | | TOU Frozen Reg 8 Label | | | F2 | R | |
| Time of Use Prior Month Label Block | | | | | | | | | | |
| 15B0H-15B7H | 05553-05560 | 396 | 0 | | TOU Prior Month Reg 1 Label | | | F2 | R | |
| 15B8H-15BFH | 05561-05568 | 396 | 1 | | TOU Prior Month Reg 2 Label | | | F2 | R | |
| 15C0H-15C7H | 05569-05576 | 396 | 2 | | TOU Prior Month Reg 3 Label | | | F2 | R | |
| 15C8H-15CFH | 05577-05584 | 396 | 3 | | TOU Prior Month Reg 4 Label | | | F2 | R | |
| 15D0H-15D7H | 05585-05592 | 396 | 4 | | TOU Prior Month Reg 5 Label | | | F2 | R | |
| 15D8H-15DFH | 05593-05600 | 396 | 5 | | TOU Prior Month Reg 6 Label | | | F2 | R | |
| 15E0H-15E7H | 05601-05608 | 396 | 6 | | TOU Prior Month Reg 7 Label | | | F2 | R | |
| 15E8H-15EFH | 05609-05616 | 396 | 7 | | TOU Prior Month Reg 8 Label | | | F2 | R | |
| Time of Use Active Label Block | | | | | | | | | | |
| 15F0H-15F7H | 05617-05624 | 397 | 0 | | TOU Active Reg 1 Label | | | F2 | R | |
| 15F8H-15FFH | 05625-05632 | 397 | 1 | | TOU Active Reg 2 Label | | | F2 | R | |
| 1600H-1607H | 05633-05640 | 397 | 2 | | TOU Active Reg 3 Label | | | F2 | R | |
| 1608H-160FH | 05641-05648 | 397 | 3 | | TOU Active Reg 4 Label | | | F2 | R | |
| 1610H-1617H | 05649-05656 | 397 | 4 | | TOU Active Reg 5 Label | | | F2 | R | |
| 1618H-161FH | 05657-05664 | 397 | 5 | | TOU Active Reg 6 Label | | | F2 | R | |
| 1620H-1627H | 05665-05672 | 397 | 6 | | TOU Active Reg 7 Label | | | F2 | R | |
| 1628H-162FH | 05673-05680 | 397 | 7 | | TOU Active Reg 8 Label | | | F2 | R | |
| Time of Use Current Month Label Block | | | | | | | | | | |
| 1630H-1637H | 05681-05688 | 398 | 0 | | TOU Current Month Reg 1 Label | | | F2 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|--|-------------------------------|---------|------|-----|-------|
| 1638H-163FH | 05689-05696 | 398 | 1 | | TOU Current Month Reg 2 Label | | | F2 | R | |
| 1640H-1647H | 05697-05704 | 398 | 2 | | TOU Current Month Reg 3 Label | | | F2 | R | |
| 1648H-164FH | 05705-05712 | 398 | 3 | | TOU Current Month Reg 4 Label | | | F2 | R | |
| 1650H-1657H | 05713-05720 | 398 | 4 | | TOU Current Month Reg 5 Label | | | F2 | R | |
| 1658H-165FH | 05721-05728 | 398 | 5 | | TOU Current Month Reg 6 Label | | | F2 | R | |
| 1660H-1667H | 05729-05736 | 398 | 6 | | TOU Current Month Reg 7 Label | | | F2 | R | |
| 1668H-166FH | 05737-05744 | 398 | 7 | | TOU Current Month Reg 8 Label | | | F2 | R | |
| Internal Input Pulse Accumulation Block | | | | | | | | | | |
| 1670H-1673H | 05745-05748 | 399 | 0 | 50 | Internal Input Pulse Accumulation Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1674H-1677H | 05749-05752 | 400 | 0 | 20 | Pulse Accumulation Internal Input 1 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1678H-167BH | 05753-05756 | 400 | 1 | 20 | Pulse Accumulation Internal Input 2 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 167CH-167FH | 05757-05760 | 400 | 2 | 20 | Pulse Accumulation Internal Input 3 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1680H-1683H | 05761-05764 | 400 | 3 | 20 | Pulse Accumulation Internal Input 4 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1684H-1687H | 05765-05768 | 400 | 4 | 20 | Pulse Accumulation Internal Input 5 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1688H-168BH | 05769-05772 | 400 | 5 | 20 | Pulse Accumulation Internal Input 6 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 168CH-168FH | 05773-05776 | 400 | 6 | 20 | Pulse Accumulation Internal Input 7 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1690H-1693H | 05777-05780 | 400 | 7 | 20 | Pulse Accumulation Internal Input 8 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1694H-1697H | 05781-05784 | 401 | 0 | 20 | Pulse Accumulation Aggregation 1 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1698H-169BH | 05785-05788 | 401 | 1 | 20 | Pulse Accumulation Aggregation 2 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 169CH-169FH | 05789-05792 | 401 | 2 | 20 | Pulse Accumulation Aggregation 3 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16A0H-16A3H | 05793-05796 | 401 | 3 | 20 | Pulse Accumulation Aggregation 4 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| Pulse Accumulation Block Window Average / Maximum Block | | | | | | | | | | |
| 16A4H-16A7H | 05797-05800 | 402 | 0 | 50 | Pulse Accumulation Block Window Average / Maximum Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 16A8H | 05801 | 403 | 0 | 30 | Pulse Accumulation Block Window Average / Maximum Block Status | | | F14 | R | |
| 16A9H-16ACH | 05802-05805 | 404 | 0 | 20 | Block Window Average Internal Input 1 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16ADH-16B0H | 05806-05809 | 404 | 1 | 20 | Block Window Average Internal Input 2 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16B1H-16B4H | 05810-05813 | 404 | 2 | 20 | Block Window Average Internal Input 3 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16B5H-16B8H | 05814-05817 | 404 | 3 | 20 | Block Window Average Internal Input 4 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16B9H-16BCH | 05818-05821 | 404 | 4 | 20 | Block Window Average Internal Input 5 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16BDH-16C0H | 05822-05825 | 404 | 5 | 20 | Block Window Average Internal Input 6 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16C1H-16C4H | 05826-05829 | 404 | 6 | 20 | Block Window Average Internal Input 7 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16C5H-16C8H | 05830-05833 | 404 | 7 | 20 | Block Window Average Internal Input 8 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16C9H-16CCH | 05834-05837 | 405 | 0 | 20 | Block Window Average Aggregation 1 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16CDH-16D0H | 05838-05841 | 405 | 1 | 20 | Block Window Average Aggregation 2 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16D1H-16D4H | 05842-05845 | 405 | 2 | 20 | Block Window Average Aggregation 3 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16D5H-16D8H | 05846-05849 | 405 | 3 | 20 | Block Window Average Aggregation 4 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16D9H-16DCH | 05850-05853 | 406 | 0 | 20 | Maximum Block Window Average Internal Input 1 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------|-------------|------|----|------------|--|-------------------------------|--------------|------|-----|-------|
| 16DDH-16E0H | 05854-05857 | 406 | 1 | 20 | Maximum Block Window Average Internal Input 2 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16E1H-16E4H | 05858-05861 | 406 | 2 | 20 | Maximum Block Window Average Internal Input 3 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16E5H-16E8H | 05862-05865 | 406 | 3 | 20 | Maximum Block Window Average Internal Input 4 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16E9H-16ECH | 05866-05869 | 406 | 4 | 20 | Maximum Block Window Average Internal Input 5 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16EDH-16F0H | 05870-05873 | 406 | 5 | 20 | Maximum Block Window Average Internal Input 6 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16F1H-16F4H | 05874-05877 | 406 | 6 | 20 | Maximum Block Window Average Internal Input 7 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16F5H-16F8H | 05878-05881 | 406 | 7 | 20 | Maximum Block Window Average Internal Input 8 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16F9H-16FCH | 05882-05885 | 407 | 0 | 20 | Maximum Block Window Average Aggregation 1 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 16FDH-1700H | 05886-05889 | 407 | 1 | 20 | Maximum Block Window Average Aggregation 2 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1701H-1704H | 05890-05893 | 407 | 2 | 20 | Maximum Block Window Average Aggregation 3 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1705H-1708H | 05894-05897 | 407 | 3 | 20 | Maximum Block Window Average Aggregation 4 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1709H-170CH | 05898-05901 | 408 | 0 | 50 | Maximum Block Window Average Internal Input 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 170DH-1710H | 05902-05905 | 408 | 1 | 50 | Maximum Block Window Average Internal Input 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1711H-1714H | 05906-05909 | 408 | 2 | 50 | Maximum Block Window Average Internal Input 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1715H-1718H | 05910-05913 | 408 | 3 | 50 | Maximum Block Window Average Internal Input 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1719H-171CH | 05914-05917 | 408 | 4 | 50 | Maximum Block Window Average Internal Input 5 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 171DH-1720H | 05918-05921 | 408 | 5 | 50 | Maximum Block Window Average Internal Input 6 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1721H-1724H | 05922-05925 | 408 | 6 | 50 | Maximum Block Window Average Internal Input 7 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1725H-1728H | 05926-05929 | 408 | 7 | 50 | Maximum Block Window Average Internal Input 8 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1729H-172CH | 05930-05933 | 409 | 0 | 50 | Maximum Block Window Average Aggregation 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 172DH-1730H | 05934-05937 | 409 | 1 | 50 | Maximum Block Window Average Aggregation 2 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1731H-1734H | 05938-05941 | 409 | 2 | 50 | Maximum Block Window Average Aggregation 3 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1735H-1738H | 05942-05945 | 409 | 3 | 50 | Maximum Block Window Average Aggregation 4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Temperature | | | | | | | | | | |
| 1739H | 05946 | 410 | 0 | 30 | Nexus Internal Temperature | +3276.7 C / -3276.8 C | 0.1 degree C | F33 | | |
| Analog Input Block | | | | | | | | | | |
| 173AH | 05947 | 411 | 0 | 30 | Analog Input 1, Module 1 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 173BH | 05948 | 411 | 1 | 30 | Analog Input 2, Module 1 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 173CH | 05949 | 411 | 2 | 30 | Analog Input 3, Module 1 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 173DH | 05950 | 411 | 3 | 30 | Analog Input 4, Module 1 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 173EH | 05951 | 411 | 4 | 30 | Analog Input 5, Module 1 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 173FH | 05952 | 411 | 5 | 30 | Analog Input 6, Module 1 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1740H | 05953 | 411 | 6 | 30 | Analog Input 7, Module 1 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1741H | 05954 | 411 | 7 | 30 | Analog Input 8, Module 1 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1742H | 05955 | 412 | 0 | 30 | Analog Input 1, Module 2 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1743H | 05956 | 412 | 1 | 30 | Analog Input 2, Module 2 | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------|-------------|------|-------|------------|--|------------------------|---------|------|-----|-------|
| 1744H | 05957 | 412 | 2 | 30 | Analog Input 3, Module 2 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1745H | 05958 | 412 | 3 | 30 | Analog Input 4, Module 2 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1746H | 05959 | 412 | 4 | 30 | Analog Input 5, Module 2 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1747H | 05960 | 412 | 5 | 30 | Analog Input 6, Module 2 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1748H | 05961 | 412 | 6 | 30 | Analog Input 7, Module 2 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1749H | 05962 | 412 | 7 | 30 | Analog Input 8, Module 2 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 174AH | 05963 | 413 | 0 | 30 | Analog Input 1, Module 3 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 174BH | 05964 | 413 | 1 | 30 | Analog Input 2, Module 3 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 174CH | 05965 | 413 | 2 | 30 | Analog Input 3, Module 3 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 174DH | 05966 | 413 | 3 | 30 | Analog Input 4, Module 3 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 174EH | 05967 | 413 | 4 | 30 | Analog Input 5, Module 3 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 174FH | 05968 | 413 | 5 | 30 | Analog Input 6, Module 3 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1750H | 05969 | 413 | 6 | 30 | Analog Input 7, Module 3 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1751H | 05970 | 413 | 7 | 30 | Analog Input 8, Module 3 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1752H | 05971 | 414 | 0 | 30 | Analog Input 1, Module 4 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1753H | 05972 | 414 | 1 | 30 | Analog Input 2, Module 4 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1754H | 05973 | 414 | 2 | 30 | Analog Input 3, Module 4 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1755H | 05974 | 414 | 3 | 30 | Analog Input 4, Module 4 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1756H | 05975 | 414 | 4 | 30 | Analog Input 5, Module 4 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1757H | 05976 | 414 | 5 | 30 | Analog Input 6, Module 4 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1758H | 05977 | 414 | 6 | 30 | Analog Input 7, Module 4 | +327.67% / -327.68% | 0.01% | F10 | R | |
| 1759H | 05978 | 414 | 7 | 30 | Analog Input 8, Module 4 | +327.67% / -327.68% | 0.01% | F10 | R | |
| Limit Combination Block | | | | | | | | | | |
| 175AH | 05979 | 415 | 0-15 | 1 | Limit States, Combinations, 1-16 | | | F34 | R | |
| 175BH | 05980 | 415 | 16-31 | 1 | Limit States, Combinations, 17-32 | | | F34 | R | |
| Relay Logic Block | | | | | | | | | | |
| 175CH-175FH | 05981-05984 | 416 | 0 | 50 | Relay Logic block Time Stamp | 12/31/9999 12:00:00 AM | 10 msec | F3 | R | |
| 1760H | 5985 | 417 | 0-15 | 1 | Relay Logic States, Input 1, Relays 1-16 | | | F34 | R | |
| 1761H | 5986 | 418 | 0-15 | 1 | Relay Logic States, Input 2, Relays 1-16 | | | F34 | R | |
| 1762H | 5987 | 419 | 0-15 | 1 | Relay Logic States, Input 3, Relays 1-16 | | | F34 | R | |
| 1763H | 5988 | 420 | 0-15 | 1 | Relay Logic States, Input 4, Relays 1-16 | | | F34 | R | |
| 1764H | 5989 | 421 | 0-15 | 1 | Relay Logic States, Input 5, Relays 1-16 | | | F34 | R | |
| 1765H | 5990 | 422 | 0-15 | 1 | Relay Logic States, Input 6, Relays 1-16 | | | F34 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------|-------------|------|-------|------------|---|------------------------|---------|------|-----|-------|
| 1766H | 5991 | 423 | 0-15 | 1 | Relay Logic States, Input 7, Relays 1-16 | | | F34 | R | |
| 1767H | 5992 | 424 | 0-15 | 1 | Relay Logic States, Input 8, Relays 1-16 | | | F34 | R | |
| 1768H | 5993 | 425 | 0-15 | 1 | Relay Logic States, Gate A, Relays 1-16 | | | F34 | R | |
| 1769H | 5994 | 426 | 0-15 | 1 | Relay Logic States, Gate B, Relays 1-16 | | | F34 | R | |
| 176AH | 5995 | 427 | 0-15 | 1 | Relay Logic States, Gate C, Relays 1-16 | | | F34 | R | |
| 176BH | 5996 | 428 | 0-15 | 1 | Relay Logic States, Gate D, Relays 1-16 | | | F34 | R | |
| 176CH | 5997 | 429 | 0-15 | 1 | Relay Logic States, Gate E, Relays 1-16 | | | F34 | R | |
| 176DH | 5998 | 430 | 0-15 | 1 | Relay Logic States, Gate F, Relays 1-16 | | | F34 | R | |
| 176EH | 5999 | 431 | 0-15 | 1 | Relay Logic States, Gate G, Relays 1-16 | | | F34 | R | |
| 176FH | 6000 | 432 | 0-1 | 30 | Delay Timer, Relay 1/Relay 2 | | | F35 | R | |
| 1770H | 6001 | 432 | 2-3 | 30 | Delay Timer, Relay 3/Relay 4 | | | F35 | R | |
| 1771H | 6002 | 432 | 4-5 | 30 | Delay Timer, Relay 5/Relay 6 | | | F35 | R | |
| 1772H | 6003 | 432 | 6-7 | 30 | Delay Timer, Relay 7/Relay 8 | | | F35 | R | |
| 1773H | 6004 | 432 | 8-9 | 30 | Delay Timer, Relay 9/Relay 10 | | | F35 | R | |
| 1774H | 6005 | 432 | 10-11 | 30 | Delay Timer, Relay 11/Relay 12 | | | F35 | R | |
| 1775H | 6006 | 432 | 12-13 | 30 | Delay Timer, Relay 13/Relay 14 | | | F35 | R | |
| 1776H | 6007 | 432 | 14-15 | 30 | Delay Timer, Relay 15/Relay 16 | | | F35 | R | |
| 1777H | 6008 | 433 | 0-15 | 1 | Desired Relay States, Relays 1-16 | | | F36 | R | |
| 1778H | 6009 | 434 | 0-15 | 1 | Relays Pending Updates, Relays 1-16 | | | F37 | R | |
| 1779H | 6010 | 435 | 0-15 | 1 | Shadowed Relay States, Relays 1-16 | | | F38 | R | |
| 177AH | 6011 | 436 | 0-15 | 10 | Confirmed Polled Relay States, Relays 1-16 | | | F39 | R | |
| 177BH | 6012 | 437 | 0-15 | 1 | Valid Flags for Confirmed Relay States, Relays 1-16 | | | F40 | R | |
| 177CH | 6013 | 438 | 0-15 | 1 | Locked Relays, Relays 1-16 | | | F41 | R | |
| 177DH | 6014 | 439 | 0-15 | 1 | Locked Relays States, Relays 1-16 | | | F42 | R | |
| Reset Time Block | | | | | | | | | | |
| 177EH-1781H | 06015-06018 | 440 | 0 | 50 | Reset Time Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1782H-1785H | 06019-06022 | 440 | 1 | 50 | Reset Maximum Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1786H-1789H | 06023-06026 | 440 | 2 | 50 | Reset Minimum Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 178AH-178DH | 06027-06030 | 440 | 3 | 50 | Reset Energy Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 178EH-1791H | 06031-06034 | 440 | 4 | 50 | Reset Current Month TOU Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 1792H-1795H | 06035-06038 | 440 | 5 | 50 | Reset Pulse Accumulations/Aggregations Time Stamps | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Miscellaneous Flags | | | | | | | | | | |
| 1796H | 06039 | 441 | 0-15 | 1 | b8:Programmable User Threshold | | | | | |
| 1797H-17CFH | 06040-06096 | 442 | 0 | 50 | Reserved | 12/31/9999 23:59:59.99 | 10 msec | F3 | | |
| KYZ Output Accumulation Block | | | | | | | | | | |
| 17D0H-17D3H | 06097-06100 | 447 | 0 | 50 | KYZ Output Accumulation Block Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 17D4H-17D5H | 06101-06102 | 448 | 0 | 20 | KYZ Output Accumulation, Relay 1/Pulse 1 LED | 4,294,967,295 / 0 | | F18 | R | |
| 17D6H-17D7H | 06103-06104 | 448 | 1 | 20 | KYZ Output Accumulation, Relay 2/Pulse 2 LED | 4,294,967,295 / 0 | | F18 | R | |
| 17D8H-17D9H | 06105-06106 | 448 | 2 | 20 | KYZ Output Accumulation, Relay 3 | 4,294,967,295 / 0 | | F18 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------------|-------------|------|------|------------|---|------------------------|----------|------|-----|-------|
| 17DAH-17DBH | 06107-06108 | 448 | 3 | 20 | KYZ Output Accumulation, Relay 4 | 4,294,967,295 / 0 | | F18 | R | |
| 17DCH-17DDH | 06109-06110 | 448 | 4 | 20 | Reserved | 4,294,967,295 / 0 | | F18 | R | |
| Input Option Board Data Statusr Block | | | | | | | | | | |
| 17DEH | 06111 | 449 | 0-1 | 1 | MSB first Bit 15 – 1st Option board (Slot 3) status valid Bit 14 – 2nd Option board (Slot 4) status valid | | | F44 | R | |
| 17DFH | 06112 | 450 | 0-15 | 1 | Reserved | | | F45 | R | |
| 17E0H | 06113 | | | | Reserved | | | | | |
| Flicker Status Block | | | | | | | | | | |
| 17E1H-17E4H | 06114-06117 | 451 | 0 | 50 | Flicker Status Block Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 17E5H-17E8H | 06118-06121 | 452 | 0 | 50 | Flicker Start Time | 12/31/9999 23:59:59.99 | | F3 | | |
| 17E9H-17ECH | 06122-06125 | 452 | 1 | 50 | Flicker End Time | 12/31/9999 23:59:59.99 | | F3 | | |
| 17EDH | 06126 | 453 | 0 | 30 | Flicker Status - value = 0100 means available or running, and value = 0000 means not available or stopped. | | | | R | |
| Instantaneous Flicker Block | | | | | | | | | | |
| 17EEH-17F1H | 06127-06130 | 454 | 0 | 50 | Instantaneous Flicker Block Time | 12/31/9999 23:59:59.99 | | F3 | | |
| 17F2H-17F3H | 06131-06132 | 455 | 0 | 30 | Instantaneous Flicker V _{AN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 17F4H-17F5H | 06133-06134 | 455 | 1 | 30 | Instantaneous Flicker V _{BN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 17F6H-17F7H | 06135-06136 | 455 | 2 | 30 | Instantaneous Flicker V _{CN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| Short Term Flicker Block | | | | | | | | | | |
| 17F8H-17FBH | 06137-06140 | 456 | 0 | 50 | Short Term Flicker Block Time | 12/31/9999 23:59:59.99 | | F3 | | |
| 17FCH-17FDH | 06141-06142 | 457 | 0 | 30 | Short Term Flicker V _{AN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 17FEH-17FFH | 06143-06144 | 457 | 1 | 30 | Short Term Flicker V _{BN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1800H-1801H | 06145-06146 | 457 | 2 | 30 | Short Term Flicker V _{CN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1802H-1803H | 06147-06148 | 458 | 0 | 30 | Maximum Short Term Flicker V _{AN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1804H-1805H | 06149-06150 | 458 | 1 | 30 | Maximum Short Term Flicker V _{BN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1806H-1807H | 06151-06152 | 458 | 2 | 30 | Maximum Short Term Flicker V _{CN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1808H-1809H | 06153-06154 | 459 | 0 | 30 | Minimum Short Term Flicker V _{AN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 180AH-180BH | 06155-06156 | 459 | 1 | 30 | Minimum Short Term Flicker V _{BN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 180CH-180DH | 06157-06158 | 459 | 2 | 30 | Minimum Short Term Flicker V _{CN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 180EH-1811H | 06159-06162 | 460 | 0 | 50 | Short Term Flicker Interval End Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1812H-1815H | 06163-06166 | 461 | 0 | 50 | Maximum Short Term Flicker V _{AN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1816H-1819H | 06167-06170 | 461 | 1 | 50 | Maximum Short Term Flicker V _{BN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 181AH-181DH | 06171-06174 | 461 | 2 | 50 | Maximum Short Term Flicker V _{CN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 181EH-1821H | 06175-06178 | 462 | 0 | 50 | Minimum Short Term Flicker V _{AN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1822H-1825H | 06179-06182 | 462 | 1 | 50 | Minimum Short Term Flicker V _{BN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------|-------------|------|----|------------|---|--------------------------------------|--------------------|------|-----|-------|
| 1826H-1829H | 06183-06186 | 462 | 2 | 50 | Minimum Short Term Flicker V _{CN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| Long Term Flicker Block | | | | | | | | | | |
| 182AH-182DH | 06187-06190 | 463 | 0 | 50 | Long Term Flicker Block Time | 12/31/9999 23:59:59.99 | | F3 | | |
| 182EH-182FH | 06191-06192 | 464 | 0 | 30 | Long Term Flicker V _{AN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1830H-1831H | 06193-06194 | 464 | 1 | 30 | Long Term Flicker V _{BN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1832H-1833H | 06195-06196 | 464 | 2 | 30 | Long Term Flicker V _{CN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1834H-1835H | 06197-06198 | 465 | 0 | 30 | Maximum Long Term Flicker V _{AN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1836H-1837H | 06199-06200 | 465 | 1 | 30 | Maximum Long Term Flicker V _{BN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1838H-1839H | 06201-06202 | 465 | 2 | 30 | Maximum Long Term Flicker V _{CN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 183AH-183BH | 06203-06204 | 466 | 0 | 30 | Minimum Long Term Flicker V _{AN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 183CH-183DH | 06205-06206 | 466 | 1 | 30 | Minimum Long Term Flicker V _{BN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 183EH-183FH | 06207-06208 | 466 | 2 | 30 | Minimum Long Term Flicker V _{CN} | +32767 / 0 | 1/ 65536 | F7 | R | |
| 1840H-1843H | 06209-06212 | 467 | 0 | 50 | Long Term Flicker Interval End Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1844H-1847H | 06213-06216 | 468 | 0 | 50 | Maximum Long Term Flicker V _{AN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1848H-184BH | 06217-06220 | 468 | 1 | 50 | Maximum Long Term Flicker V _{BN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 184CH-184FH | 06221-06224 | 468 | 2 | 50 | Maximum Long Term Flicker V _{CN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1850H-1853H | 06225-06228 | 469 | 0 | 50 | Minimum Long Term Flicker V _{AN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1854H-1857H | 06229-06232 | 469 | 1 | 50 | Minimum Long Term Flicker V _{BN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1858H-185BH | 06233-06236 | 469 | 2 | 50 | Minimum Long Term Flicker V _{CN} Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| Additional Energy Block | | | | | | | | | | |
| 185CH-185FH | 06237-06240 | 470 | 0 | 50 | Additional Energy Block Time | 12/31/9999 23:59:59.99 | | F3 | | |
| 1860H-1863H | 06241-06244 | 471 | 0 | | Quadrant 1 Watthour, Secondary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F11 | R | |
| 1864H-1867H | 06245-06248 | 471 | 1 | | Quadrant 4 Watthour, Secondary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F11 | R | |
| 1868H-186BH | 06249-06252 | 471 | 2 | | Quadrant 2 Watthour, Secondary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F11 | R | |
| 186CH-186FH | 06253-06256 | 471 | 3 | | Quadrant 3 Watthour, Secondary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F11 | R | |
| 1870H-1873H | 06257-06260 | 472 | 0 | | Quadrant 1 Vahour, Secondary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F11 | R | |
| 1874H-1877H | 06261-06264 | 472 | 1 | | Quadrant 1 VARhour, Secondary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F11 | R | |
| 1878H-187BH | 06265-06268 | 472 | 2 | | Quadrant 4 Vahour, Secondary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F11 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------------------------------------|--------------------|------|-----|-------|
| 187CH-187FH | 06269-06272 | 472 | 3 | | Quadrant 4 VARhour, Secondary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F11 | R | |
| 1880H-1883H | 06273-06276 | 472 | 4 | | Quadrant 2 Vahour, Secondary | +9,999,999,999,999 VAh / 0 VAh | 1 VA _H | F11 | R | |
| 1884H-1887H | 06277-06280 | 472 | 5 | | Quadrant 2 VARhour, Secondary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F11 | R | |
| 1888H-188BH | 06281-06284 | 472 | 6 | | Quadrant 3 Vahour, Secondary | +9,999,999,999,999 VAh / 0 VAh | 1 VA _H | F11 | R | |
| 188CH-188FH | 06285-06288 | 472 | 7 | | Quadrant 3 VARhour, Secondary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F11 | R | |
| 1890H-1893H | 06289-06292 | 473 | 0 | | Quadrant 1 Watthour, Primary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F19 | R | |
| 1894H-1897H | 06293-06296 | 473 | 1 | | Quadrant 4 Watthour, Primary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F19 | R | |
| 1898H-189BH | 06297-06300 | 473 | 2 | | Quadrant 2 Watthour, Primary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F19 | R | |
| 189CH-189FH | 06301-06304 | 473 | 3 | | Quadrant 3 Watthour, Primary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F19 | R | |
| 18A0H-18A3H | 06305-06308 | 474 | 0 | | Total Vahour (Quadrants 1+2+3+4), Primary | +9,999,999,999,999 VAh / 0 VAh | 1 VA _H | F19 | R | |
| 18A4H-18A7H | 06309-06312 | 474 | 1 | | Positive VARhour (Quadrants 1+2), Primary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F19 | R | |
| 18A8H-18ABH | 06313-06316 | 474 | 2 | | Negative VARhour (Quadrants 3+4), Primary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F19 | R | |
| 18ACH-18AFH | 06317-06320 | 475 | 0 | 20 | Quadrant 1 Watthour, Secondary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F12 | R | |
| 18B0H-18B3H | 06321-06324 | 475 | 1 | 20 | Quadrant 4 Watthour, Secondary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F12 | R | |
| 18B4H-18B7H | 06325-06328 | 475 | 2 | 20 | Quadrant 2 Watthour, Secondary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F12 | R | |
| 18B8H-18BBH | 06329-06332 | 475 | 3 | 20 | Quadrant 3 Watthour, Secondary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F12 | R | |
| 18BCH-18BFH | 06333-06336 | 476 | 0 | 20 | Quadrant 1 Vahour, Secondary | +9,999,999,999,999 VAh / 0 VAh | 1 VA _H | F12 | R | |
| 18C0H-18C3H | 06337-06340 | 476 | 1 | 20 | Quadrant 1 VARhour, Secondary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 18C4H-18C7H | 06341-06344 | 476 | 2 | 20 | Quadrant 4 Vahour, Secondary | +9,999,999,999,999 VAh / 0 VAh | 1 VA _H | F12 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------------|-------------|------|----|------------|--|-------------------------------------|--------------------|------|-----|-------|
| 18C8H-18CBH | 06345-06348 | 476 | 3 | 20 | Quadrant 4 VARhour, Secondary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 18CCH-18CFH | 06349-06352 | 476 | 4 | 20 | Quadrant 2 Vahour, Secondary | +9,999,999,999,999 VAh / 0 VAh | 1 VA _H | F12 | R | |
| 18D0H-18D3H | 06353-06356 | 476 | 5 | 20 | Quadrant 2 VARhour, Secondary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 18D4H-18D7H | 06357-06360 | 476 | 6 | 20 | Quadrant 3 Vahour, Secondary | +9,999,999,999,999 VAh / 0 VAh | 1 VA _H | F12 | R | |
| 18D8H-18DBH | 06361-06364 | 476 | 7 | 20 | Quadrant 3 VARhour, Secondary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 18DCH-18DFH | 06365-06368 | 477 | 0 | 20 | Quadrant 1 Watthour, Primary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F20 | R | |
| 18E0H-18E3H | 06369-06372 | 477 | 1 | 20 | Quadrant 4 Watthour, Primary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F20 | R | |
| 18E4H-18E7H | 06373-06376 | 477 | 2 | 20 | Quadrant 2 Watthour, Primary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F20 | R | |
| 18E8H-18EBH | 06377-06380 | 477 | 3 | 20 | Quadrant 3 Watthour, Primary | +9,999,999,999,999 WH / 0 WH | 1 W _H | F20 | R | |
| 18ECH-18EFH | 06381-06384 | 478 | 0 | 20 | Total Vahour (Quadrants 1+2+3+4), Primary | +9,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 18F0H-18F3H | 06385-06388 | 478 | 1 | 20 | Positive VARhour (Quadrants 1+2), Primary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F20 | R | |
| 18F4H-18F7H | 06389-06392 | 478 | 2 | 20 | Negative VARhour (Quadrants 3+4), Primary | +9,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F20 | R | |
| Energy and Pulses in the Interval | | | | | | | | | | |
| 18F8H-18FBH | 06393-06396 | 479 | 0 | 50 | Energy and Pulses in the Interval Block Time Stamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 18FCH | 06397 | 480 | 0 | 30 | Total Vahour (Quadrants 1+2+3+4) in the Interval, Secondary | 65,535 / 0 | 1 VA _H | F57 | R | |
| 18FDH | 06398 | 480 | 1 | 30 | Positive VARhour (Quadrants 1+2) in the Interval, Secondary | 65,535 / 0 | 1 VAR _H | F57 | R | |
| 18FEH | 06399 | 480 | 2 | 30 | Negative VARhour (Quadrants 3+4) in the Interval, Secondary | 65,535 / 0 | 1 VAR _H | F57 | R | |
| 18FFH | 06400 | 480 | 3 | 30 | Positive Watthour (Quadrants 1+4) in the Interval, Secondary | 65,535 / 0 | 1 W _H | F57 | R | |
| 1900H | 06401 | 480 | 4 | 30 | Negative Watthour (Quadrants 2+3) in the Interval, Secondary | 65,535 / 0 | 1 W _H | F57 | R | |
| 1901H-1902H | 06402-06403 | 481 | 0 | 30 | Positive Watthour (Quadrants 1+4) in the Interval, Primary | 4,294,967,295 / 0 | 1 W _H | F18 | R | |
| 1903H-1904H | 06404-06405 | 481 | 1 | 30 | Quadrant 1 Vahour in the Interval, Primary | 4,294,967,295 / 0 | 1 VA _H | F18 | R | |
| 1905H-1906H | 06406-06407 | 481 | 2 | 30 | Quadrant 1 VARhour in the Interval, Primary | 4,294,967,295 / 0 | 1 VAR _H | F18 | R | |
| 1907H-1908H | 06408-06409 | 481 | 3 | 30 | Quadrant 4 Vahour in the Interval, Primary | 4,294,967,295 / 0 | 1 VA _H | F18 | R | |
| 1909H-190AH | 06410-06411 | 481 | 4 | 30 | Quadrant 4 VARhour in the Interval, Primary | 4,294,967,295 / 0 | 1 VAR _H | F18 | R | |
| 190BH-190CH | 06412-06413 | 481 | 5 | 30 | Negative Watthour (Quadrants 2+3) in the Interval, Primary | 4,294,967,295 / 0 | 1 W _H | F18 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------|-------------------------------|------|-----|-------|
| 190DH-190EH | 06414-06415 | 481 | 6 | 30 | Quadrant 2 Vahour in the Interval, Primary | 4,294,967,295 / 0 | 1 VA _H | F18 | R | |
| 190FH-1910H | 06416-06417 | 481 | 7 | 30 | Quadrant 2 VARhour in the Interval, Primary | 4,294,967,295 / 0 | 1 VAR _H | F18 | R | |
| 1911H-1912H | 06418-06419 | 481 | 8 | 30 | Quadrant 3 Vahour in the Interval, Primary | 4,294,967,295 / 0 | 1 VA _H | F18 | R | |
| 1913H-1914H | 06420-06421 | 481 | 9 | 30 | Quadrant 3 VARhour in the Interval, Primary | 4,294,967,295 / 0 | 1 VAR _H | F18 | R | |
| 1915H-1916H | 06422-06423 | 482 | 0 | 30 | I2t Phase A in the Interval, Primary | 4,294,967,295 / 0 | 1 I ² _t | F18 | R | |
| 1917H-1918H | 06424-06425 | 482 | 1 | 30 | I2t Phase B in the Interval, Primary | 4,294,967,295 / 0 | 1 I ² _t | F18 | R | |
| 1919H-191AH | 06426-06427 | 482 | 2 | 30 | I2t Phase C in the Interval, Primary | 4,294,967,295 / 0 | 1 I ² _t | F18 | R | |
| 191BH-191CH | 06428-06429 | 482 | 3 | 30 | V2t Phase A in the interval, Primary | 4,294,967,295 / 0 | 1 V ² _t | F18 | R | |
| 191DH-191EH | 06430-06431 | 482 | 4 | 30 | V2t Phase B in the Interval, Primary | 4,294,967,295 / 0 | 1 V ² _t | F18 | R | |
| 191FH-1920H | 06432-06433 | 482 | 5 | 30 | V2t Phase C in the Interval, Primary | 4,294,967,295 / 0 | 1 V ² _t | F18 | R | |
| 1921H-1922H | 06434-06435 | 483 | 0 | 30 | Pulse Accumulation, Internal Input 1 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1923H-1924H | 09436-06437 | 483 | 1 | 30 | Pulse Accumulation, Internal Input 2 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1925H-1926H | 06438-06439 | 483 | 2 | 30 | Pulse Accumulation, Internal Input 3 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1927H-1928H | 06440-06441 | 483 | 3 | 30 | Pulse Accumulation, Internal Input 4 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1929H-192AH | 06442-06443 | 483 | 4 | 30 | Pulse Accumulation, Internal Input 5 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 192BH-192CH | 06444-06445 | 483 | 5 | 30 | Pulse Accumulation, Internal Input 6 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 192DH-192EH | 06446-06447 | 483 | 6 | 30 | Pulse Accumulation, Internal Input 7 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 192FH-1930H | 06448-06449 | 483 | 7 | 30 | Pulse Accumulation, Internal Input 8 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1931H-1932H | 06450-06451 | 484 | 0 | 30 | Pulse Aggregation 1 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1933H-1934H | 06452-06453 | 484 | 1 | 30 | Pulse Aggregation 2 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1935H-1936H | 06454-06455 | 484 | 2 | 30 | Pulse Aggregation 3 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1937H-1938H | 06456-06457 | 484 | 3 | 30 | Pulse Aggregation 4 in the Interval, Scaled | 4,294,967,295 / 0 | 1 Unit | F18 | R | |
| 1939H | 06458 | 485 | 0 | 30 | Quadrant 1 Watthour in the Interval, Secondary | 65,535 / 0 | 1 W _H | F57 | R | |
| 193AH | 06459 | 485 | 1 | 30 | Quadrant 4 Watthour in the Interval, Secondary | 65,535 / 0 | 1 W _H | F57 | R | |
| 193BH | 06460 | 485 | 2 | 30 | Quadrant 2 Watthour in the Interval, Secondary | 65,535 / 0 | 1 W _H | F57 | R | |
| 193CH | 06461 | 485 | 3 | 30 | Quadrant 3 Watthour in the Interval, Secondary | 65,535 / 0 | 1 W _H | F57 | R | |
| 193DH | 06462 | 486 | 0 | 30 | Quadrant 1 Vahour in the Interval, Secondary | 65,535 / 0 | 1 VA _H | F57 | R | |
| 193EH | 06463 | 486 | 1 | 30 | Quadrant 1 VARhour in the Interval, Secondary | 65,535 / 0 | 1 VAR _H | F57 | R | |
| 193FH | 06464 | 486 | 2 | 30 | Quadrant 4 Vahour in the Interval, Secondary | 65,535 / 0 | 1 VA _H | F57 | R | |
| 1940H | 06465 | 486 | 3 | 30 | Quadrant 4 VARhour in the Interval, Secondary | 65,535 / 0 | 1 VAR _H | F57 | R | |
| 1941H | 06466 | 486 | 4 | 30 | Quadrant 2 Vahour in the Interval, Secondary | 65,535 / 0 | 1 VA _H | F57 | R | |
| 1942H | 06467 | 486 | 5 | 30 | Quadrant 2 VARhour in the Interval, Secondary | 65,535 / 0 | 1 VAR _H | F57 | R | |
| 1943H | 06468 | 486 | 6 | 30 | Quadrant 3 Vahour in the Interval, Secondary | 65,535 / 0 | 1 VA _H | F57 | R | |
| 1944H | 06469 | 486 | 7 | 30 | Quadrant 3 VARhour in the Interval, Secondary | 65,535 / 0 | 1 VAR _H | F57 | R | |
| 1945H-1946H | 06470-06471 | 487 | 0 | 30 | Quadrant 1 Watthour in the Interval, Primary | 4,294,967,295 / 0 | 1 W _H | F18 | R | |
| 1947H-1948H | 06472-06473 | 487 | 1 | 30 | Quadrant 4 Watthour in the Interval, Primary | 4,294,967,295 / 0 | 1 W _H | F18 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------------|-------------|------|----|------------|--|------------------------|--------------------|------|-----|-------|
| 1949H-194AH | 06474-06475 | 487 | 2 | 30 | Quadrant 2 Watthour in the Interval, Primary | 4,294,967,295 / 0 | 1 W _H | F18 | R | |
| 194BH-194CH | 06476-06477 | 487 | 3 | 30 | Quadrant 3 Watthour in the Interval, Primary | 4,294,967,295 / 0 | 1 W _H | F18 | R | |
| 194DH-194EH | 06478-06479 | 488 | 0 | 30 | Total Vahour (Quadrants 1+2+3+4) in the Interval, Primary | 4,294,967,295 / 0 | 1 VA _H | F18 | R | |
| 194FH-1950H | 06480-06481 | 488 | 1 | 30 | Positive VARhour (Quadrants 1+2) in the Interval, Primary | 4,294,967,295 / 0 | 1 VAR _H | F18 | R | |
| 1951H-1952H | 06482-06483 | 488 | 2 | 30 | Negative VARhour (Quadrants 3+4) in the Interval, Primary | 4,294,967,295 / 0 | 1 VAR _H | F18 | R | |
| 1953H | 06484 | 489 | 0 | 30 | KYZ Pulse Output in the Interval, Relay 1 - Pulse 1 | 65,535 / 0 | 1 pulse | F57 | R | |
| 1954H | 06485 | 489 | 1 | 30 | KYZ Pulse Output in the Interval, Relay 2 - Pulse 2 | 65,535 / 0 | 1 pulse | F57 | R | |
| 1955H | 06486 | 489 | 2 | 30 | KYZ Pulse Output in the Interval, Relay 3 | 65,535 / 0 | 1 pulse | F57 | R | |
| 1956H | 06487 | 489 | 3 | 30 | KYZ Pulse Output in the Interval, Relay 4 | 65,535 / 0 | 1 pulse | F57 | R | |
| 1957H | 06488 | 489 | 4 | 30 | Reserved | 65,535 / 0 | 1 pulse | F57 | R | |
| Flicker Countdown Block | | | | | | | | | | |
| 1958H | 06489 | 490 | 0 | 30 | Short Term Flicker Countdown | 65,535 / 0 | 1 second | F56 | R | |
| 1959H | 06490 | 490 | 1 | 30 | Long Term Flicker Countdown | 65,535 / 0 | 1 second | F56 | R | |
| Cumulative Demand Block | | | | | | | | | | |
| 195AH-195DH | 06491-06494 | 491 | 0 | 50 | Cumulative Demand Block Time Stamp | 12/31/9999 23:59:59.99 | | F3 | R | |
| 195EH-195FH | 06495-06496 | 492 | 0 | 30 | Positive Watt (Quadrants 1+4) Cumulative Demand | 4,294,967,295 / 0 | | F18 | R | |
| 1960H-1961H | 06497-06498 | 492 | 1 | 30 | Negative Watt (Quadrants 2+3) Cumulative Demand | 4,294,967,295 / 0 | | F18 | R | |
| 1962H-1963H | 06499-06500 | 493 | 0 | 30 | Positive Watt (Quadrants 1+4) Continuous Cumulative Demand | 4,294,967,295 / 0 | | F18 | R | |
| 1964H-1965H | 06501-06502 | 493 | 1 | 30 | Negative Watt (Quadrants 2+3) Continuous Cumulative Demand | 4,294,967,295 / 0 | | F18 | R | |
| Time of Use Active Cumulative Demand | | | | | | | | | | |
| 1966H-1967H | 06503-06504 | 494 | 0 | 30 | TOU Active Reg0 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1968H-1969H | 06505-06506 | 494 | 1 | 30 | TOU Active Reg0 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 196AH-196BH | 06507-06508 | 494 | 2 | 30 | TOU Active Reg1 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 196CH-196DH | 06509-06510 | 494 | 3 | 30 | TOU Active Reg1 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 196EH-196FH | 06511-06512 | 494 | 4 | 30 | TOU Active Reg2 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1970H-1971H | 06513-06514 | 494 | 5 | 30 | TOU Active Reg2 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1972H-1973H | 06515-06516 | 494 | 6 | 30 | TOU Active Reg3 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1974H-1975H | 06517-06518 | 494 | 7 | 30 | TOU Active Reg3 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1976H-1977H | 06519-06520 | 494 | 8 | 30 | TOU Active Reg4 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1978H-1979H | 06521-06522 | 494 | 9 | 30 | TOU Active Reg4 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 197AH-197BH | 06523-06524 | 494 | 10 | 30 | TOU Active Reg5 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 197CH-197DH | 06525-06526 | 494 | 11 | 30 | TOU Active Reg5 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 197EH-197FH | 06527-06528 | 494 | 12 | 30 | TOU Active Reg6 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1980H-1981H | 06529-06530 | 494 | 13 | 30 | TOU Active Reg6 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1982H-1983H | 06531-06532 | 494 | 14 | 30 | TOU Active Reg7 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1984H-1985H | 06533-06534 | 494 | 15 | 30 | TOU Active Reg7 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1986H-1987H | 06535-06536 | 494 | 16 | 30 | TOU Active Total Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|---|-------------------|-------|------|-----|-------|
| 1988H-1989H | 06537-06538 | 494 | 17 | 30 | TOU Active Total Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| Time of Use Current Month Cumulative Demand | | | | | | | | | | |
| 198AH-198BH | 06539-06540 | 495 | 0 | 30 | TOU Current Month Reg0 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 198CH-198DH | 06541-06542 | 495 | 1 | 30 | TOU Current Month Reg0 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 198EH-198FH | 06543-06544 | 495 | 2 | 30 | TOU Current Month Reg1 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1990H-1991H | 06545-06546 | 495 | 3 | 30 | TOU Current Month Reg1 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1992H-1993H | 06547-06548 | 495 | 4 | 30 | TOU Current Month Reg2 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1994H-1995H | 06549-06550 | 495 | 5 | 30 | TOU Current Month Reg2 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1996H-1997H | 06551-06552 | 495 | 6 | 30 | TOU Current Month Reg3 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 1998H-1999H | 06553-06554 | 495 | 7 | 30 | TOU Current Month Reg3 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 199AH-199BH | 06555-06556 | 495 | 8 | 30 | TOU Current Month Reg4 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 199CH-199DH | 06557-06558 | 495 | 9 | 30 | TOU Current Month Reg4 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 199EH-199FH | 06559-06560 | 495 | 10 | 30 | TOU Current Month Reg5 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19A0H-19A1H | 06561-06562 | 495 | 11 | 30 | TOU Current Month Reg5 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19A2H-19A3H | 06563-06564 | 495 | 12 | 30 | TOU Current Month Reg6 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19A4H-19A5H | 06565-06566 | 495 | 13 | 30 | TOU Current Month Reg6 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19A6H-19A7H | 06567-06568 | 495 | 14 | 30 | TOU Current Month Reg7 Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19A8H-19A9H | 06569-06570 | 495 | 15 | 30 | TOU Current Month Reg7 Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19AAH-19ABH | 06571-06572 | 495 | 16 | 30 | TOU Current Month Total Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19ACH-19ADH | 06573-06574 | 495 | 17 | 30 | TOU Current Month Total Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| Time of Use Active Continuous Cumulative Demand | | | | | | | | | | |
| 19AEH-19AFH | 06575-06576 | 496 | 0 | 30 | TOU Active Reg0 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19B0H-19B1H | 06577-06578 | 496 | 1 | 30 | TOU Active Reg0 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19B2H-19B3H | 06579-06580 | 496 | 2 | 30 | TOU Active Reg1 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19B4H-19B5H | 06581-06582 | 496 | 3 | 30 | TOU Active Reg1 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19B6H-19B7H | 06583-06584 | 496 | 4 | 30 | TOU Active Reg2 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19B6H019B7H- 19B8H-19B9H | 06585-06586 | 496 | 5 | 30 | TOU Active Reg2 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19BAH-19BBH | 06587-06588 | 496 | 6 | 30 | TOU Active Reg3 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19BCH-19BDH | 06589-06590 | 496 | 7 | 30 | TOU Active Reg3 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19BEH-19BFH | 06591-06592 | 496 | 8 | 30 | TOU Active Reg4 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|-------------------|-------|------|-----|-------|
| 19C0H-19C1H | 06593-06594 | 496 | 9 | 30 | TOU Active Reg4 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19C2H-19C3H | 06595-06596 | 496 | 10 | 30 | TOU Active Reg5 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19C4H-19C5H | 06597-06598 | 496 | 11 | 30 | TOU Active Reg5 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19C6H-19C7H | 06599-06600 | 496 | 12 | 30 | TOU Active Reg6 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19C8H-19C9H | 06601-06602 | 496 | 13 | 30 | TOU Active Reg6 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19CAH-19CBH | 06603-06604 | 496 | 14 | 30 | TOU Active Reg7 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19CCH-19CDH | 06605-06606 | 496 | 15 | 30 | TOU Active Reg7 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19CEH-19CFH | 06607-06608 | 496 | 16 | 30 | TOU Active Total Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19D0H-19D1H | 06609-06610 | 496 | 17 | 30 | TOU Active Total Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| Time of Use Current Month Continuous Cumulative Demand | | | | | | | | | | |
| 19D2H-19D3H | 06611-06612 | 497 | 0 | 30 | TOU Current Month Reg0 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19D4H-19D5H | 06613-06614 | 497 | 1 | 30 | TOU Current Month Reg0 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19D6H-19D7H | 06615-06616 | 497 | 2 | 30 | TOU Current Month Reg1 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19D8H-19D9H | 06617-06618 | 497 | 3 | 30 | TOU Current Month Reg1 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19DAH-19DBH | 06619-06620 | 497 | 4 | 30 | TOU Current Month Reg2 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19DCH-19DDH | 06621-06622 | 497 | 5 | 30 | TOU Current Month Reg2 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19DEH019DFH | 06623-06624 | 497 | 6 | 30 | TOU Current Month Reg3 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19E0H-19E1H | 06625-06626 | 497 | 7 | 30 | TOU Current Month Reg3 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19E2H-19E3H | 06627-06628 | 497 | 8 | 30 | TOU Current Month Reg4 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19E4H-19E5H | 06629-06630 | 497 | 9 | 30 | TOU Current Month Reg4 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------|-------------|------|-----|------------|--|------------------------------------|-----------------|------|-----|-------|
| 19E6H-19E7H | 06631-06632 | 497 | 10 | 30 | TOU Current Month Reg5 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19E8H-19E9H | 06633-06634 | 497 | 11 | 30 | TOU Current Month Reg5 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19EAH-19EBH | 06635-06636 | 497 | 12 | 30 | TOU Current Month Reg6 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19ECH-19EDH | 06637-06638 | 497 | 13 | 30 | TOU Current Month Reg6 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19EEH-19EFH | 06639-06640 | 497 | 14 | 30 | TOU Current Month Reg7 Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19F0H-19F1H | 06641-06642 | 497 | 15 | 30 | TOU Current Month Reg7 Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19F2H-19F3H | 06643-06644 | 497 | 16 | 30 | TOU Current Month Total Continuous Cumulative Demand Q1 + Q4 Watt | 4,294,967,295 / 0 | | F18 | R | |
| 19F4H-19F5H | 06645-06646 | 497 | 17 | 30 | TOU Current Month Total Continuous Cumulative Demand Q2 + Q3 Watt | 4,294,967,295 / 0 | | F18 | R | |
| Uncompensated and Q Block | | | | | | | | | | |
| 1A08H-1A0DH | 06665-06670 | 500 | 0-2 | 30 | Uncompensated One second Phase A-C VA | +32767 VA / 0 VA | 1/65536 VA sec | F7 | | |
| 1A0EH-1A0FH | 06671-06672 | 501 | 0 | 30 | Uncompensated One second VA | +32767 VA / 0 VA | 1/65536 VA sec | F7 | | |
| 1A10H-1A15H | 06673-06678 | 502 | 0-2 | 30 | Uncompensated One second Phase A-C VAR | +32767 VAR / - 32768 VAR | 1/65536 VAR sec | F7 | | |
| 1A16H-1A17H | 06679-06680 | 503 | 0 | 30 | Uncompensated One second VAR | +32767 VAR / - 32768 VAR | 1/65536 VAR sec | F7 | | |
| 1A18H-1A1DH | 06681-06686 | 504 | 0-2 | 30 | Uncompensated One second Phase A-C W | +32767 W / - 32768 W | 1/65536 W sec | F7 | | |
| 1A1EH-1A1FH | 06687-06688 | 505 | 0 | 30 | Uncompensated One second W | +32767 W / - 32768 W | 1/65536 W sec | F7 | | |
| 1A20H-1A23H | 06689-06692 | 506 | 0 | 20 | Uncompensated VAh, secondary BCD | 9,999,999,999,999 VAh / 0 VAh | 1 VAh | F11 | | |
| 1A24H-1A2BH | 06693-06700 | 506 | 1-2 | 20 | Uncompensated +/- VARh, secondary BCD | 9,999,999,999,999 VARh / 0 VARh | 1 VARh | F11 | | |
| 1A2CH-1A33H | 06701-06708 | 506 | 3-4 | 20 | Uncompensated +/- Wh, seconary BCD | 9,999,999,999,999 Wh / 0 Wh | 1 Wh | F11 | | |
| 1A34H-1A47H | 06709-06728 | 507 | 0-4 | 20 | Uncompensated Energy, secondary, binary | 9,999,999,999,999 / 0 | 1 | F12 | | |
| 1A48H-1A5BH | 06729-06748 | 508 | 0-4 | 20 | Uncompensated Energy, primary BCD | 9,999,999,999,999 / 0 | 1 | F19 | | |
| 1A5CH-1A6FH | 06749-06768 | 509 | 0-4 | 20 | Uncompensated Energy, primary binary | 9,999,999,999,999 / 0 | 1 | F20 | | |
| 1A70H-1A74H | 06769-06773 | 510 | 0-4 | 30 | Uncompensated Energy in the Interval, secondary | 65,535 / 0 | 1 | F47 | | |
| 1A75H-1A7EH | 06774-06783 | 511 | 0-4 | 30 | Uncompensated Energy in the Interval, primary | 4,294,967,295 / 0 | 1 | F18 | | |
| 1A7FH-1A84H | 06784-06789 | 512 | 0-2 | 30 | One second Phase A-C Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1A85H-1A86H | 06790-06791 | 513 | 0 | 30 | One second Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1A87H-1A88H | 06792-06793 | 514 | 0 | 30 | Thermal Average Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1A89H-1A8CH | 06794-06797 | 515 | 0-1 | 30 | Maximum Thermal Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1A8DH-1A90H | 06798-06801 | 516 | 0-1 | 30 | Minimum Thermal Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------|-------------|------|-----|------------|--|--|---------------------------|------|-----|-------|
| 1A91H-1A98H | 06802-06809 | 517 | 0-1 | 50 | Maximum Thermal Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| 1A99H-1AA0H | 06810-06817 | 518 | 0-1 | 50 | Minimum Thermal Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| 1AA1H-1AA8H | 06818-06825 | 519 | 0-1 | 20 | +/- Qh, secondary BCD | 9,999,999,999,999,999 Qh / 0 | 1 Qh | F11 | | |
| 1AA9H-1AB0H | 06826-06833 | 520 | 0-1 | 20 | +/- Qh, secondary binary | 9,999,999,999,999,999 Qh / 0 | 1 Qh | F12 | | |
| 1AB1H-1AB8H | 06834-06841 | 521 | 0-1 | 20 | +/- Qh, primary BCD | 9,999,999,999,999,999 Qh / 0 | 1 Qh | F19 | | |
| 1AB9H-1AC0H | 06842-06849 | 522 | 0-1 | 20 | +/- Qh, primary binary | 9,999,999,999,999,999 Qh / 0 | 1 Qh | F20 | | |
| 1AC1H-1AC2H | 06850-06851 | 523 | 0-1 | 30 | +/- Qh in the Interval, secondary | 65,535 / 0 | 1 | F47 | | |
| 1AC3H-1AC6H | 06852-06855 | 524 | 0-1 | 30 | +/- Qh in the Interval, primary | 4,294,967,295 / 0 | 1 | F18 | | |
| 1AC7H-1AC8H | 06856-06857 | 525 | 0 | 30 | Block Window Average Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1AC9H-1ACCH | 06858-06861 | 526 | 0-1 | 30 | Maximum Block Window Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1ACDH-1AD0H | 06862-06865 | 527 | 0-1 | 30 | Minimum Block Window Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1AD1H-1AD8H | 06866-06873 | 528 | 0-1 | 50 | Maximum Block Window Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| 1AD9H-1AE0H | 06874-06881 | 529 | 0-1 | 50 | Minimum Block Window Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| 1AE1H-1AE2H | 06882-06883 | 530 | 0 | 30 | Rolling Window Average Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1AE3H-1AE6H | 06884-06887 | 531 | 0-1 | 30 | Maximum Rolling Window Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1AE7H-1AEAH | 06888-06891 | 532 | 0-1 | 30 | Minimum Rolling Window Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 1AEBH-1AF2H | 06892-06899 | 533 | 0-1 | 50 | Maximum Rolling Window Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| 1AF3H-1AFAH | 06900-06907 | 534 | 0-1 | 50 | Minimum Rolling Window Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| Scaled Energy Block | | | | | | | | | | |
| 1AFBH-1AFEH | 06908-06911 | 535 | 0 | 50 | Scaled Energy Block Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 1AFFH-1B00H | 06912-06913 | 536 | 0 | 20 | Total VAh (Quadrant 1+2+3+4) Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B01H-1B02H | 06914-06915 | 536 | 1 | 20 | Positive VARh (Quadrant 1+2) Scaled Priamry | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B03H-1B04H | 06916-06917 | 536 | 2 | 20 | Negative VARh (Quadrant 3+4) Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B05H-1B06H | 06918-06919 | 537 | 0 | 20 | Positive Wh (Quadrant 1+4) Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B07H-1B08H | 06920-06921 | 537 | 1 | 20 | Quadrant 1 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B09H-1B0AH | 06922-06923 | 537 | 2 | 20 | Quadrant 1 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B0BH-1B0CH | 06924-06925 | 537 | 3 | 20 | Quadrant 4 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B0DH-1B0EH | 06926-06927 | 537 | 4 | 20 | Quadrant 4 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B0FH-1B10H | 06928-06929 | 537 | 5 | 20 | Negative Wh (Quadrant 2+3) Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|-----|------------|---|---------------------------------------|---------------------------|------|-----|-------|
| 1B11H-1B12H | 06930-06931 | 537 | 6 | 20 | Quadrant 2 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B13H-1B14H | 06932-06933 | 537 | 7 | 20 | Quadrant 2 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B15H-1B16H | 06934-06935 | 537 | 8 | 20 | Quadrant 3 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B17H-1B18H | 06936-06937 | 537 | 9 | 20 | Quadrant 3 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B19H-1B1AH | 06938-06939 | 538 | 0 | 20 | I2t Phase A Scaled Priamry | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B1BH-1B1CH | 06940-06941 | 538 | 1 | 20 | I2t Phase B Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B1DH-1B1EH | 06942-06943 | 538 | 2 | 20 | I2t Phase C Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B1FH-1B20H | 06944-06945 | 538 | 3 | 20 | V2t Phase A Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B21H-1B22H | 06946-06947 | 538 | 4 | 20 | V2t Phase B Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B23H-1B24H | 06948-06949 | 538 | 5 | 20 | V2t Phase C Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B25H-1B26H | 06950-06951 | 539 | 0 | 20 | Quadrant 1 Wh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B27H-1B28H | 06952-06953 | 539 | 1 | 20 | Quadrant 4 Wh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B29H-1B2AH | 06954-06955 | 539 | 2 | 20 | Quadrant 2 Wh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B2BH-1B2CH | 06956-06957 | 539 | 3 | 20 | Quadrant 3 Wh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B2DH-1B2EH | 06958-06959 | 450 | 0 | 20 | Uncompensated Total VAh, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B2FH-1B32H | 06960-06963 | 540 | 1-2 | 20 | Uncompensated +/- VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B33H-1B36H | 06964-06967 | 540 | 3-4 | 20 | Uncompensated +/- Wh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B37H-1B3AH | 06968-06971 | 541 | 0-1 | 20 | +/- Qh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B3BH-1B4EH | 06972-06991 | 542 | 0 | 20 | Reserved | | | | | |
| 1B4FH-1B5EH | 06992-07007 | 543 | 0-7 | 20 | Pulse Accumulation Inputs 1-8, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|---------|-----|------------|--|---------------------------------------|---------------------------|------|-----|-------|
| 1B5FH-1B66H | 07008-07015 | 544 | 0-3 | 20 | Pulse Aggregations 1-4, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B67H-1B68H | 07016-07017 | 545 | 0 | 20 | TOU Frozen Reg0 Positive Wh (Quadrant 1+4) Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B69H-1B6AH | 07018-07019 | 545 | 1 | 20 | TOU Frozen Reg0 Quadrant 1 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B6BH-1B6CH | 07020-07021 | 545 | 2 | 20 | TOU Frozen Reg0 Quadrant 1 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B6DH-1B6EH | 07022-07023 | 545 | 3 | 20 | TOU Frozen Reg0 Quadrant 4 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B6FH-1B70H | 07024-07025 | 545 | 4 | 20 | TOU Frozen Reg0 Quadrant 4 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B71H-1B72H | 07026-07027 | 545 | 5 | 20 | TOU Frozen Reg0 Negative Wh (Quadrant 2+3) Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B73H-1B74H | 07028-07029 | 545 | 6 | 20 | TOU Frozen Reg0 Quadrant 2 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B75H-1B76H | 07030-07031 | 545 | 7 | 20 | TOU Frozen Reg0 Quadrant 2 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B77H-1B78H | 07032-07033 | 545 | 8 | 20 | TOU Frozen Reg0 Quadrant 3 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B79H-1B7AH | 07034-07035 | 545 | 9 | 20 | TOU Frozen Reg0 Quadrant 3 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B7BH-1B8EH | 07036-07055 | 546 | 0-9 | 20 | TOU Frozen Reg1 Energy Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1B8FH-1C06H | 07056-07175 | 547-552 | 0-9 | 20 | TOU Frozen Reg2-Reg7 Energy Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1C07H-1C1AH | 07176-07195 | 553 | 0-9 | 20 | TOU Frozen Total Energy Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1C1BH-1CCEH | 07196-07375 | 554-562 | 0-9 | 20 | TOU Prior Month Reg0-Reg7 & Total Energy Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1CCFH-1D82H | 07376-07555 | 563-571 | 0-9 | 20 | TOU Active Reg0-Reg7 & Total Energy Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1D83H-1E36H | 07556-07735 | 572-580 | 0-9 | 20 | TOU Current Month Reg0-Reg7 & Total Energy Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E37H-1E3BH | 07736-07740 | 581 | 0-9 | 30 | TOU Frozen Scaled Energy Settings | | | F65 | | |
| 1E3CH-1E40H | 07741-07745 | 582 | 0-9 | 30 | TOU Prior Month Scaled Energy Settings | | | F65 | | |
| 1E41H-1E42H | 07746-07747 | 583 | 0 | 30 | Total VAh (Quadrant 1+2+3+4) in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------------------------|---------------------------|------|-----|-------|
| 1E43H-1E44H | 07748-07749 | 583 | 1 | 30 | Positive VARh (Quadrant 1+2) in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E45H-1E46H | 07750-07751 | 583 | 2 | 30 | Negative VARh (Quadrant 3+4) in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E47H-1E48H | 07752-07753 | 584 | 0 | 30 | Positive Wh (Quadrant 1+4) in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E49H-1E4AH | 07754-07755 | 584 | 1 | 30 | Quadrant 1 VAh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E4BH-1E4CH | 07756-07757 | 584 | 2 | 30 | Quadrant 1 VARh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E4DH-1E4EH | 07758-07759 | 584 | 3 | 30 | Quadrant 4 VAh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E4FH-1E50H | 07760-07761 | 584 | 4 | 30 | Quadrant 4 VARh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E51H-1E52H | 07762-07763 | 584 | 5 | 30 | Negative Wh (Quadrant 2+3) in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E53H-1E54H | 07764-07765 | 584 | 6 | 30 | Quadrant 2 VAh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E55H-1E56H | 07766-07767 | 584 | 7 | 30 | Quadrant 2 VARh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E57H-1E58H | 07768-07769 | 584 | 8 | 30 | Quadrant 3 VAh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E59H-1E5AH | 07770-07771 | 584 | 9 | 30 | Quadrant 3 VARh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E5BH-1E5CH | 07772-07773 | 585 | 0 | 30 | I2t Phase A in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E5DH-1E5EH | 07774-07775 | 585 | 1 | 30 | I2t Phase B in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E5FH-1E60H | 07776-07777 | 585 | 2 | 30 | I2t Phase C in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E61H-1E62H | 07778-07779 | 585 | 3 | 30 | V2t Phase A in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E63H-1E64H | 07780-07781 | 585 | 4 | 30 | V2t Phase B in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E65H-1E66H | 07782-07783 | 585 | 5 | 30 | V2t Phase C in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E67H-1E68H | 07784-07785 | 586 | 0 | 30 | Quadrant 1 Wh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|-----|------------|---|---------------------------------------|---------------------------|------|-----|-------|
| 1E69H-1E6AH | 07786-07787 | 586 | 1 | 30 | Quadrant 4 Wh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E6BH-1E6CH | 07788-07789 | 586 | 2 | 30 | Quadrant 2 Wh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E6DH-1E6EH | 07790-07791 | 586 | 3 | 30 | Quadrant 3 Wh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E6FH-1E70H | 07792-07793 | 587 | 0 | 30 | Uncompensated Total VAh (Q 1+2+3+4) in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E71H-1E74H | 07794-07797 | 587 | 1-2 | 30 | Uncompensated +/- VARh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E75H-1E78H | 07798-07801 | 587 | 3-4 | 30 | Uncompensated +/- Wh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E79H-1E7CH | 07802-07805 | 588 | 0-1 | 30 | +/- Qh in the Interval, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E7DH-1E8CH | 07806-07821 | 589 | 0-7 | 30 | Pulse Accumulation Inputs 1-8 in the Interval, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 1E8DH-1E94H | 07822-07829 | 590 | 0-3 | 30 | Pulse Aggregations 1-4 in the Interval, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| Total Average Power Factor Block | | | | | | | | | | |
| 1E95H-1E98H | 07830-07833 | 591 | 0 | 50 | Total Average Power Factor Block Timestamp | 12/31/9999 23:59:59.99 | | F3 | R | |
| 1E99H | 07834 | 592 | 0 | 30 | Total Average Power Factor Q14 | 1.000 / 0 | 0.001 PF | F8 | R | |
| 1E9AH | 07835 | 592 | 1 | 30 | Total Average Power Factor Q23 | 1.000 / 0 | 0.001 PF | F8 | R | |
| 1E9BH | 07836 | 593 | 0 | 30 | Maximum Total Average Power Factor Q14 | 1.000 / 0 | 0.001 PF | F8 | R | |
| 1E9CH | 07837 | 593 | 1 | 30 | Maximum Total Average Power Factor Q23 | 1.000 / 0 | 0.001 PF | F8 | R | |
| 1E9DH | 07838 | 594 | 0 | 30 | Minimum Total Average Power Factor Q14 | 1.000 / 0 | 0.001 PF | F8 | R | |
| 1E9EH | 07839 | 594 | 1 | 30 | Minimum Total Average Power Factor Q23 | 1.000 / 0 | 0.001 PF | F8 | R | |
| 1E9FH-1EA2H | 07840-07843 | 595 | 0 | 50 | Maximum Total Average Power Factor Q14 Timestamp | 12/31/9999 23:59:59.99 | | F3 | R | |
| 1EA3H-1EA6H | 07844-07847 | 595 | 1 | 50 | Maximum Total Average Power Factor Q23 Timestamp | 12/31/9999 23:59:59.99 | | F3 | R | |
| 1EA7H-1EAAH | 07848-07851 | 596 | 0 | 50 | Minimum Total Average Power Factor Q14 Timestamp | 12/31/9999 23:59:59.99 | | F3 | R | |
| 1EABH-1EAEH | 07852-07855 | 596 | 1 | 50 | Minimum Total Average Power Factor Q23 Timestamp | 12/31/9999 23:59:59.99 | | F3 | R | |
| 1EAFH-1EB2H | 07856-07859 | 597 | 0 | 50 | Total Average Power Factor Reset Timestamp | 12/31/9999 23:59:59.99 | | F3 | R | |
| Reset Active TOU Time Stamp | | | | | | | | | | |
| 1EB3H-1EB6H | 07860-07863 | 598 | 0 | 50 | Reset Active TOU Time Stamp | 12/31/9999 23:59:59.99 | | F3 | R | |
| Negative Maximum Pulse Aggregation Average Block | | | | | | | | | | |
| 1EB7H-1EBAH | 07864-07867 | 599 | 0 | 30 | Negative Maximum Block Window Average Aggregation 1 | 0 / - 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1EBBH-1EC6H | 07868-07879 | 599 | 1-3 | 30 | Negative Maximum Block Window Average Aggregation 2-4 | 0 / - 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 1EC7H-1ECAH | 07880-07883 | 600 | 0 | 50 | Negative Maximum Block Window Average Aggregation 1 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|-----|------------|--|-------------------------------|--------------|------|-----|-------|
| 1ECBH-1ED6H | 07884-07895 | 600 | 1-3 | 50 | Negative Maximum Block Window Average Aggregation 2-4 Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| Additional Total Average Power Factor Block | | | | | | | | | | |
| 1ED7H-1EDAH | 07896-07899 | 601 | 0 | 20 | Initial Wh Q14 (Primary, Binary) | 9,999,999,999,999 Wh / 0 Wh | 1 Wh | F20 | R | |
| 1EDBH-1EDEH | 07900-07903 | 601 | 1 | 20 | Initial WH Q23 (Primary, Binary) | 9,999,999,999,999 Wh / 0 Wh | 1 Wh | F20 | R | |
| 1EDFH-1EE2H | 07904-07907 | 601 | 2 | 20 | Initial VAh Q14 (Primary, Binary) | 9,999,999,999,999 VAh / 0 VAh | 1 VAh | F20 | R | |
| 1EE3H-1EE6H | 07908-07911 | 601 | 3 | 20 | Initial VAh Q23 (Primary, Binary) | 9,999,999,999,999 VAh / 0 VAh | 1 VAh | F20 | R | |
| 1EE7H-1EEAH | 07912-07915 | 602 | 0 | 20 | Accumlated Wh Q14 (Primary, Binary) | 9,999,999,999,999 Wh / 0 Wh | 1 Wh | F20 | R | |
| 1EEBH-1EEEH | 07916-07919 | 602 | 1 | 20 | Accumlated Wh Q23 (Primary, Binary) | 9,999,999,999,999 Wh / 0 Wh | 1 Wh | F20 | R | |
| 1EEFH-1EF2H | 07920-07923 | 602 | 2 | 20 | Accumulated VAh Q14 (Primary, Binary) | 9,999,999,999,999 VAh / 0 VAh | 1 VAh | F20 | R | |
| 1EF3H-1EF6H | 07924-07927 | 602 | 3 | 20 | Accumulated VAh Q23, (Primary, Binary) | 9,999,999,999,999 VAh / 0 VAh | 1 VAh | F20 | R | |
| Scratchpad Block | | | | | | | | | | |
| 2000H-207FH | 08193-08320 | | | | Scratchpad Registers | | | | | |
| Master Device Data Block | | | | | | | | | | |
| 2100H-21FFH | 08449-08704 | | | | | | | | | |
| Power Quality Test (EN-50160/IEC61000-4-30) Dynamic Readings Block | | | | | | | | | | |
| 2200H-2203H | 08705-08708 | 603 | 0 | | Dynamic Readings Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 2204H-2205H | 08709-08710 | 604 | 0 | | Sym Comp Voltage Magnitude 3 Sec - zero sequence | MSB: Integer, LSB: Fraction | | F7 | R | |
| 2206H-2207H | 08711-08712 | 604 | 1 | | Sym Comp Voltage Magnitude 3 Sec - positive sequence | MSB: Integer, LSB: Fraction | | F7 | R | |
| 2208H-2209H | 08713-08714 | 604 | 2 | | Sym Comp Voltage Magnitude 3 Sec - negative sequence | MSB: Integer, LSB: Fraction | | F7 | R | |
| 220AH | 08715 | 605 | 0 | | Sym Comp Voltage Phase 3 Sec - zero sequence | +327.67 / -327.68 | 0.01 degree | F10 | R | |
| 220BH | 08716 | 605 | 1 | | Sym Comp Voltage Phase 3 Sec - positive sequence | +327.67 / -327.68 | 0.01 degree | F10 | R | |
| 220CH | 08717 | 605 | 2 | | Sym Comp Voltage Phase 3 Sec - negative sequence | +327.67 / -327.68 | 0.01 degree | F10 | R | |
| 220DH-220EH | 08718-08719 | 606 | 0 | | 10 sec Ave Freq | +32767Hz / 0Hz | 1/65536Hz | F7 | R | |
| 220FH-2210H | 08720-08721 | 607 | 0 | | 10 min Ave RMS Van/ab | +32767 Vsec / 0 Vsec | 1/65536 Vsec | F7 | R | |
| 2211H-2212H | 08722-08723 | 607 | 1 | | 10 min Ave RMS Vbn/bc | +32767 Vsec / 0 Vsec | 1/65536 Vsec | F7 | R | |
| 2213H-2214H | 08724-08725 | 607 | 2 | | 10 min Ave RMS Vcn/ca | +32767 Vsec / 0 Vsec | 1/65536 Vsec | F7 | R | |
| 2215H-2216H | 08726-08727 | 608 | 0 | | Sym Comp Voltage Magnitude 10 Min - zero sequence | MSB: Integer, LSB: Fraction | | F7 | R | |
| 2217H-2218H | 08728-08729 | 608 | 1 | | Sym Comp Voltage Magnitude 10 Min - positive sequence | MSB: Integer, LSB: Fraction | | F7 | R | |
| 2219H-221AH | 08730-08731 | 608 | 2 | | Sym Comp Voltage Magnitude 10 Min - negative sequence | MSB: Integer, LSB: Fraction | | F7 | R | |
| 221BH | 08732 | 609 | 0 | | 10 min Ave Sym Comp Magnitude, Neg/Pos *100% | +327.67% / 0% | 0.01% | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|--|------------------------|---------|------|-----|-------|
| 221CH | 08733 | 610 | 0 | | Status (OK 1/ Error 0) / reserved | | | | R | |
| Power Quality Test (EN-50160/IEC61000-4-30) Harmonic Data Block | | | | | | | | | | |
| 221DH-2220H | 08734-08737 | 611 | 0 | | Harmonic Data Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 2221H | 08738 | 612 | 0 | | 10 min Ave Van/ab Harmonic %, 2nd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2222H | 08739 | 612 | 1 | | 10 min Ave Van/ab Harmonic %, 3rd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2223H | 08740 | 612 | 2 | | 10 min Ave Van/ab Harmonic %, 4th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2224H | 08741 | 612 | 3 | | 10 min Ave Van/ab Harmonic %, 5th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2225H | 08742 | 612 | 4 | | 10 min Ave Van/ab Harmonic %, 6th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2226H | 08743 | 612 | 5 | | 10 min Ave Van/ab Harmonic %, 7th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2227H | 08744 | 612 | 6 | | 10 min Ave Van/ab Harmonic %, 8th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2228H | 08745 | 612 | 7 | | 10 min Ave Van/ab Harmonic %, 9th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2229H | 08746 | 612 | 8 | | 10 min Ave Van/ab Harmonic %, 10th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 222AH | 08747 | 612 | 9 | | 10 min Ave Van/ab Harmonic %, 11th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 222BH | 08748 | 612 | 10 | | 10 min Ave Van/ab Harmonic %, 12th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 222CH | 08749 | 612 | 11 | | 10 min Ave Van/ab Harmonic %, 13th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 222DH | 08750 | 612 | 12 | | 10 min Ave Van/ab Harmonic %, 14th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 222EH | 08751 | 612 | 13 | | 10 min Ave Van/ab Harmonic %, 15th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 222FH | 08752 | 612 | 14 | | 10 min Ave Van/ab Harmonic %, 16th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2230H | 08753 | 612 | 15 | | 10 min Ave Van/ab Harmonic %, 17th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2231H | 08754 | 612 | 16 | | 10 min Ave Van/ab Harmonic %, 18th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2232H | 08755 | 612 | 17 | | 10 min Ave Van/ab Harmonic %, 19th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2233H | 08756 | 612 | 18 | | 10 min Ave Van/ab Harmonic %, 20th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2234H | 08757 | 612 | 19 | | 10 min Ave Van/ab Harmonic %, 21st order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2235H | 08758 | 612 | 20 | | 10 min Ave Van/ab Harmonic %, 22nd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2236H | 08759 | 612 | 21 | | 10 min Ave Van/ab Harmonic %, 23th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2237H | 08760 | 612 | 22 | | 10 min Ave Van/ab Harmonic %, 24th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2238H | 08761 | 612 | 23 | | 10 min Ave Van/ab Harmonic %, 25th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2239H | 08762 | 613 | 0 | | 10 min Ave Vbn/bc Harmonic %, 2nd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 223AH | 08763 | 613 | 1 | | 10 min Ave Vbn/bc Harmonic %, 3rd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 223BH | 08764 | 613 | 2 | | 10 min Ave Vbn/bc Harmonic %, 4th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 223CH | 08765 | 613 | 3 | | 10 min Ave Vbn/bc Harmonic %, 5th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 223DH | 08766 | 613 | 4 | | 10 min Ave Vbn/bc Harmonic %, 6th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 223EH | 08767 | 613 | 5 | | 10 min Ave Vbn/bc Harmonic %, 7th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 223FH | 08768 | 613 | 6 | | 10 min Ave Vbn/bc Harmonic %, 8th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2240H | 08769 | 613 | 7 | | 10 min Ave Vbn/bc Harmonic %, 9th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2241H | 08770 | 613 | 8 | | 10 min Ave Vbn/bc Harmonic %, 10th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2242H | 08771 | 613 | 9 | | 10 min Ave Vbn/bc Harmonic %, 11th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2243H | 08772 | 613 | 10 | | 10 min Ave Vbn/bc Harmonic %, 12th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2244H | 08773 | 613 | 11 | | 10 min Ave Vbn/bc Harmonic %, 13th order | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 2245H | 08774 | 613 | 12 | | 10 min Ave Vbn/bc Harmonic %, 14th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2246H | 08775 | 613 | 13 | | 10 min Ave Vbn/bc Harmonic %, 15th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2247H | 08776 | 613 | 14 | | 10 min Ave Vbn/bc Harmonic %, 16th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2248H | 08777 | 613 | 15 | | 10 min Ave Vbn/bc Harmonic %, 17th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2249H | 08778 | 613 | 16 | | 10 min Ave Vbn/bc Harmonic %, 18th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 224AH | 08779 | 613 | 17 | | 10 min Ave Vbn/bc Harmonic %, 19th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 224BH | 08780 | 613 | 18 | | 10 min Ave Vbn/bc Harmonic %, 20th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 224CH | 08781 | 613 | 19 | | 10 min Ave Vbn/bc Harmonic %, 21st order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 224DH | 08782 | 613 | 20 | | 10 min Ave Vbn/bc Harmonic %, 22nd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 224EH | 08783 | 613 | 21 | | 10 min Ave Vbn/bc Harmonic %, 23th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 224FH | 08784 | 613 | 22 | | 10 min Ave Vbn/bc Harmonic %, 24th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2250H | 08785 | 613 | 23 | | 10 min Ave Vbn/bc Harmonic %, 25th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2251H | 08786 | 614 | 0 | | 10 min Ave Vcn/ca Harmonic %, 2nd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2252H | 08787 | 614 | 1 | | 10 min Ave Vcn/ca Harmonic %, 3rd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2253H | 08788 | 614 | 2 | | 10 min Ave Vcn/ca Harmonic %, 4th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2254H | 08789 | 614 | 3 | | 10 min Ave Vcn/ca Harmonic %, 5th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2255H | 08790 | 614 | 4 | | 10 min Ave Vcn/ca Harmonic %, 6th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2256H | 08791 | 614 | 5 | | 10 min Ave Vcn/ca Harmonic %, 7th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2257H | 08792 | 614 | 6 | | 10 min Ave Vcn/ca Harmonic %, 8th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2258H | 08793 | 614 | 7 | | 10 min Ave Vcn/ca Harmonic %, 9th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2259H | 08794 | 614 | 8 | | 10 min Ave Vcn/ca Harmonic %, 10th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 225AH | 08795 | 614 | 9 | | 10 min Ave Vcn/ca Harmonic %, 11th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 225BH | 08796 | 614 | 10 | | 10 min Ave Vcn/ca Harmonic %, 12th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 225CH | 08797 | 614 | 11 | | 10 min Ave Vcn/ca Harmonic %, 13th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 225DH | 08798 | 614 | 12 | | 10 min Ave Vcn/ca Harmonic %, 14th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 225EH | 08799 | 614 | 13 | | 10 min Ave Vcn/ca Harmonic %, 15th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 225FH | 08800 | 614 | 14 | | 10 min Ave Vcn/ca Harmonic %, 16th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2260H | 08801 | 614 | 15 | | 10 min Ave Vcn/ca Harmonic %, 17th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2261H | 08802 | 614 | 16 | | 10 min Ave Vcn/ca Harmonic %, 18th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2262H | 08803 | 614 | 17 | | 10 min Ave Vcn/ca Harmonic %, 19th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2263H | 08804 | 614 | 18 | | 10 min Ave Vcn/ca Harmonic %, 20th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2264H | 08805 | 614 | 19 | | 10 min Ave Vcn/ca Harmonic %, 21st order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2265H | 08806 | 614 | 20 | | 10 min Ave Vcn/ca Harmonic %, 22nd order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2266H | 08807 | 614 | 21 | | 10 min Ave Vcn/ca Harmonic %, 23th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2267H | 08808 | 614 | 22 | | 10 min Ave Vcn/ca Harmonic %, 24th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2268H | 08809 | 614 | 23 | | 10 min Ave Vcn/ca Harmonic %, 25th order | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2269H | 08810 | 615 | 0 | | 10 min Ave Van/ab THD % | +327.67% / -327.68% | 0.01% | F10 | R | |
| 226AH | 08811 | 615 | 1 | | 10 min Ave Vbn/bc THD % | +327.67% / -327.68% | 0.01% | F10 | R | |
| 226BH | 08812 | 615 | 2 | | 10 min Ave Vcn/ca THD % | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|---|------------------------|---------|------|-----|-------|
| Power Quality Test (EN-50160/IEC61000-4-30) Current Week Test Block | | | | | | | | | | |
| 226CH-226FH | 08813-08816 | 616 | 0 | | Current Week Test Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 2270H-2273H | 08817-08820 | 616 | 1 | | Current Week Test Start Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 2274H-2277H | 08821-08824 | 616 | 2 | | Current Week Test End Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 2278H-2279H | 08825-08826 | 617 | 0 | | Fast Voltage Fluctuation Count | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 227AH | 08827 | 618 | 0 | | Mains Frequency Count | 65,535 / 0 | 1 unit | F51 | R | |
| 227BH | 08828 | 618 | 1 | | 10 min Ave Count | 65,535 / 0 | 1 unit | F51 | R | |
| 227CH | 08829 | 618 | 2 | | Flicker PLT Count | 65,535 / 0 | 1 unit | F51 | R | |
| 227DH | 08830 | 619 | 0 | | 10 sec Ave Freq Bin0, Freq < 42.5(51.0) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 227EH | 08831 | 619 | 1 | | 10 sec Ave Freq Bin1, 42.5(51.0) Hz <= Freq < 47(56.4) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 227FH | 08832 | 619 | 2 | | 10 sec Ave Freq Bin2, 47(56.4) Hz <= Freq < 49(58.8) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2280H | 08833 | 619 | 3 | | 10 sec Ave Freq Bin3, 49(58.8) Hz <= Freq < 49.5(59.4) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2281H | 08834 | 619 | 4 | | 10 sec Ave Freq Bin4, 49.5(59.4) Hz <= Freq < 50(60.0) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2282H | 08835 | 619 | 5 | | 10 sec Ave Freq Bin5, 50(60.0) Hz <= Freq < 50.5(60.6) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2283H | 08836 | 619 | 6 | | 10 sec Ave Freq Bin6, 50.5(60.6) Hz <= Freq < 51(61.2) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2284H | 08837 | 619 | 7 | | 10 sec Ave Freq Bin7, 51(61.2) Hz <= Freq < 52(62.4) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2285H | 08838 | 619 | 8 | | 10 sec Ave Freq Bin8, 52(62.4) Hz <= Freq < 57.5(69.0) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2286H | 08839 | 619 | 9 | | 10 sec Ave Freq Bin9, 57.5(69.0) <= Freq | 65,535 / 0 | 1 unit | F51 | R | |
| 2287H | 08840 | 620 | 0 | | 10 min Ave Van/ab RMS Bin0, V < 85% | 65,535 / 0 | 1 unit | F51 | R | |
| 2288H | 08841 | 620 | 1 | | 10 min Ave Van/ab RMS Bin1, 85% <= V < 90% | 65,535 / 0 | 1 unit | F51 | R | |
| 2289H | 08842 | 620 | 2 | | 10 min Ave Van/ab RMS Bin2, 90% <= V < 100% | 65,535 / 0 | 1 unit | F51 | R | |
| 228AH | 08843 | 620 | 3 | | 10 min Ave Van/ab RMS Bin3, 100% <= V < 110% | 65,535 / 0 | 1 unit | F51 | R | |
| 228BH | 08844 | 620 | 4 | | 10 min Ave Van/ab RMS Bin4, 110% <= V | 65,535 / 0 | 1 unit | F51 | R | |
| 228CH | 08845 | 621 | 0 | | 10 min Ave Vbn/bc RMS Bin0, V < 85% | 65,535 / 0 | 1 unit | F51 | R | |
| 228DH | 08846 | 621 | 1 | | 10 min Ave Vbn/bc RMS Bin1, 85% <= V < 90% | 65,535 / 0 | 1 unit | F51 | R | |
| 228EH | 08847 | 621 | 2 | | 10 min Ave Vbn/bc RMS Bin2, 90% <= V < 100% | 65,535 / 0 | 1 unit | F51 | R | |
| 228FH | 08848 | 621 | 3 | | 10 min Ave Vbn/bc RMS Bin3, 100% <= V < 110% | 65,535 / 0 | 1 unit | F51 | R | |
| 2290H | 08849 | 621 | 4 | | 10 min Ave Vbn/bc RMS Bin4, 110% <= V | 65,535 / 0 | 1 unit | F51 | R | |
| 2291H | 08850 | 622 | 0 | | 10 min Ave Vcn/ca RMS Bin0, V < 85% | 65,535 / 0 | 1 unit | F51 | R | |
| 2292H | 08851 | 622 | 1 | | 10 min Ave Vcn/ca RMS Bin1, 85% <= V < 90% | 65,535 / 0 | 1 unit | F51 | R | |
| 2293H | 08852 | 622 | 2 | | 10 min Ave Vcn/ca RMS Bin2, 90% <= V < 100% | 65,535 / 0 | 1 unit | F51 | R | |
| 2294H | 08853 | 622 | 3 | | 10 min Ave Vcn/ca RMS Bin3, 100% <= V < 110% | 65,535 / 0 | 1 unit | F51 | R | |
| 2295H | 08854 | 622 | 4 | | 10 min Ave Vcn/ca RMS Bin4, 110% <= V | 65,535 / 0 | 1 unit | F51 | R | |
| 2296H-2297H | 08855-08856 | 623 | 0 | | Fast Voltage Van/an Bin0, V < 90 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2298H-2299H | 08857-08858 | 623 | 1 | | Fast Voltage Van/an Bin1, 90% <= V < 95 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 229AH-229BH | 08859-08860 | 623 | 2 | | Fast Voltage Van/an Bin2, 95% <= V < 100 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 229CH-229DH | 08861-08862 | 623 | 3 | | Fast Voltage Van/an Bin3, 100% <= V < 105 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 229EH-229FH | 08863-08864 | 623 | 4 | | Fast Voltage Van/an Bin4, 105% <= V < 110 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22A0H-22A1H | 08865-08866 | 623 | 5 | | Fast Voltage Van/an Bin5, 110% <= V | 4,294,967,295 / 0 | 1 unit | F53 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------|--------|------|-----|-------|
| 22A2H-22A3H | 08867-08868 | 624 | 0 | | Fast Voltage Vbn/bc Bin0, V < 90 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22A4H-22A5H | 08869-08870 | 624 | 1 | | Fast Voltage Vbn/bc Bin1, 90% <= V < 95 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22A6H-22A7H | 08871-08872 | 624 | 2 | | Fast Voltage Vbn/bc Bin2, 95% <= V < 100 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22A8H-22A9H | 08873-08874 | 624 | 3 | | Fast Voltage Vbn/bc Bin3, 100% <= V < 105 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22AAH-22ABH | 08875-08876 | 624 | 4 | | Fast Voltage Vbn/bc Bin4, 105% <= V < 110 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22ACH-22ADH | 08877-08878 | 624 | 5 | | Fast Voltage Vbn/bc Bin5, 110% <= V | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22AEH-22AFH | 08879-08880 | 625 | 0 | | Fast Voltage Vcn/ca Bin0, V < 90 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22B0H-22B1H | 08881-08882 | 625 | 1 | | Fast Voltage Vcn/ca Bin1, 90% <= V < 95 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22B2H-22B3H | 08883-08884 | 625 | 2 | | Fast Voltage Vcn/ca Bin2, 95% <= V < 100 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22B4H-22B5H | 08885-08886 | 625 | 3 | | Fast Voltage Vcn/ca Bin3, 100% <= V < 105 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22B6H-22B7H | 08887-08888 | 625 | 4 | | Fast Voltage Vcn/ca Bin4, 105% <= V < 110 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22B8H-22B9H | 08889-08890 | 625 | 5 | | Fast Voltage Vcn/ca Bin5, 110% <= V | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 22BAH | 08891 | 626 | 0 | | Flicker PLT Van/ab Bin0, PLT <1 | 65,535 / 0 | 1 unit | F51 | R | |
| 22BBH | 08892 | 626 | 1 | | Flicker PLT Van/ab Bin1, PLT >=1 | 65,535 / 0 | 1 unit | F51 | R | |
| 22BCH | 08893 | 626 | 2 | | Flicker PLT Vbn/bc Bin0, PLT <1 | 65,535 / 0 | 1 unit | F51 | R | |
| 22BDH | 08894 | 626 | 3 | | Flicker PLT Vbn/bc Bin1, PLT >=1 | 65,535 / 0 | 1 unit | F51 | R | |
| 22BEH | 08895 | 626 | 4 | | Flicker PLT Vcn/ca Bin0, PLT <1 | 65,535 / 0 | 1 unit | F51 | R | |
| 22BFH | 08896 | 626 | 5 | | Flicker PLT Vcn/ca Bin1, PLT >=1 | 65,535 / 0 | 1 unit | F51 | R | |
| 22C0H | 08897 | 627 | 0 | | Fund. Sym. Comp. Bin0 (- Seq. Mag. < 2% of +Seq. Mag.) | 65,535 / 0 | 1 unit | F51 | R | |
| 22C1H | 08898 | 627 | 1 | | Fund. Sym. Comp. Bin1 (2% <= -Seq.Mag. < 3% of +Seq. Mag.) | 65,535 / 0 | 1 unit | F51 | R | |
| 22C2H | 08899 | 627 | 2 | | Fund. Sym. Comp. Bin2 (-Seq. Mag. >= 3% of +Seq. Mag.) | 65,535 / 0 | 1 unit | F51 | R | |
| 22C3H | 08900 | 628 | 0 | | 10 min Ave Van/ab 2nd Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22C4H | 08901 | 628 | 1 | | 10 min Ave Van/ab 3rd Harm bin, >= 5.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22C5H | 08902 | 628 | 2 | | 10 min Ave Van/ab 4th Harm bin, >= 1.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22C6H | 08903 | 628 | 3 | | 10 min Ave Van/ab 5th Harm bin, >= 6.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22C7H | 08904 | 628 | 4 | | 10 min Ave Van/ab 6th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22C8H | 08905 | 628 | 5 | | 10 min Ave Van/ab 7th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22C9H | 08906 | 628 | 6 | | 10 min Ave Van/ab 8th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22CAH | 08907 | 628 | 7 | | 10 min Ave Van/ab 9th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22CBH | 08908 | 628 | 8 | | 10 min Ave Van/ab 10th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22CCH | 08909 | 628 | 9 | | 10 min Ave Van/ab 11th Harm bin, >= 3.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22CDH | 08910 | 628 | 10 | | 10 min Ave Van/ab 12th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22CEH | 08911 | 628 | 11 | | 10 min Ave Van/ab 13th Harm bin, >= 3.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22CFH | 08912 | 628 | 12 | | 10 min Ave Van/ab 14th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D0H | 08913 | 628 | 13 | | 10 min Ave Van/ab 15th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D1H | 08914 | 628 | 14 | | 10 min Ave Van/ab 16th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D2H | 08915 | 628 | 15 | | 10 min Ave Van/ab 17th Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D3H | 08916 | 628 | 16 | | 10 min Ave Van/ab 18th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D4H | 08917 | 628 | 17 | | 10 min Ave Van/ab 19th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|------------|--------|------|-----|-------|
| 22D5H | 08918 | 628 | 18 | | 10 min Ave Van/ab 20th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D6H | 08919 | 628 | 19 | | 10 min Ave Van/ab 21st Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D7H | 08920 | 628 | 20 | | 10 min Ave Van/ab 22nd Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D8H | 08921 | 628 | 21 | | 10 min Ave Van/ab 23rd Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22D9H | 08922 | 628 | 22 | | 10 min Ave Van/ab 24th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22DAH | 08923 | 628 | 23 | | 10 min Ave Van/ab 25th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22DBH | 08924 | 629 | 0 | | 10 min Ave Vbn/bc 2nd Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22DCH | 08925 | 629 | 1 | | 10 min Ave Vbn/bc 3rd Harm bin, >= 5.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22DDH | 08926 | 629 | 2 | | 10 min Ave Vbn/bc 4th Harm bin, >= 1.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22DEH | 08927 | 629 | 3 | | 10 min Ave Vbn/bc 5th Harm bin, >= 6.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22DFH | 08928 | 629 | 4 | | 10 min Ave Vbn/bc 6th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E0H | 08929 | 629 | 5 | | 10 min Ave Vbn/bc 7th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E1H | 08930 | 629 | 6 | | 10 min Ave Vbn/bc 8th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E2H | 08931 | 629 | 7 | | 10 min Ave Vbn/bc 9th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E3H | 08932 | 629 | 8 | | 10 min Ave Vbn/bc 10th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E4H | 08933 | 629 | 9 | | 10 min Ave Vbn/bc 11th Harm bin, >= 3.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E5H | 08934 | 629 | 10 | | 10 min Ave Vbn/bc 12th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E6H | 08935 | 629 | 11 | | 10 min Ave Vbn/bc 13th Harm bin, >= 3.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E7H | 08936 | 629 | 12 | | 10 min Ave Vbn/bc 14th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E8H | 08937 | 629 | 13 | | 10 min Ave Vbn/bc 15th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22E9H | 08938 | 629 | 14 | | 10 min Ave Vbn/bc 16th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22EAH | 08939 | 629 | 15 | | 10 min Ave Vbn/bc 17th Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22EBH | 08940 | 629 | 16 | | 10 min Ave Vbn/bc 18th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22ECH | 08941 | 629 | 17 | | 10 min Ave Vbn/bc 19th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22EDH | 08942 | 629 | 18 | | 10 min Ave Vbn/bc 20th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22EEH | 08943 | 629 | 19 | | 10 min Ave Vbn/bc 21st Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22EFH | 08944 | 629 | 20 | | 10 min Ave Vbn/bc 22nd Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F0H | 08945 | 629 | 21 | | 10 min Ave Vbn/bc 23rd Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F1H | 08946 | 629 | 22 | | 10 min Ave Vbn/bc 24th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F2H | 08947 | 629 | 23 | | 10 min Ave Vbn/bc 25th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F3H | 08948 | 630 | 0 | | 10 min Ave Vcn/ca 2nd Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F4H | 08949 | 630 | 1 | | 10 min Ave Vcn/ca 3rd Harm bin, >= 5.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F5H | 08950 | 630 | 2 | | 10 min Ave Vcn/ca 4th Harm bin, >= 1.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F6H | 08951 | 630 | 3 | | 10 min Ave Vcn/ca 5th Harm bin, >= 6.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F7H | 08952 | 630 | 4 | | 10 min Ave Vcn/ca 6th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F8H | 08953 | 630 | 5 | | 10 min Ave Vcn/ca 7th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22F9H | 08954 | 630 | 6 | | 10 min Ave Vcn/ca 8th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22FAH | 08955 | 630 | 7 | | 10 min Ave Vcn/ca 9th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 22FBH | 08956 | 630 | 8 | | 10 min Ave Vcn/ca 10th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|-----|------------|---|------------------------|---------|------|-----|-------|
| 22FCH | 08957 | 630 | 9 | | 10 min Ave Vcn/ca 11th Harm bin, $\geq 3.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 22FDH | 08958 | 630 | 10 | | 10 min Ave Vcn/ca 12th Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 22FEH | 08959 | 630 | 11 | | 10 min Ave Vcn/ca 13th Harm bin, $\geq 3.0\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 22FFH | 08960 | 630 | 12 | | 10 min Ave Vcn/ca 14th Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2300H | 08961 | 630 | 13 | | 10 min Ave Vcn/ca 15th Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2301H | 08962 | 630 | 14 | | 10 min Ave Vcn/ca 16th Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2302H | 08963 | 630 | 15 | | 10 min Ave Vcn/ca 17th Harm bin, $\geq 2.0\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2303H | 08964 | 630 | 16 | | 10 min Ave Vcn/ca 18th Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2304H | 08965 | 630 | 17 | | 10 min Ave Vcn/ca 19th Harm bin, $\geq 1.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2305H | 08966 | 630 | 18 | | 10 min Ave Vcn/ca 20th Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2306H | 08967 | 630 | 19 | | 10 min Ave Vcn/ca 21st Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2307H | 08968 | 630 | 20 | | 10 min Ave Vcn/ca 22nd Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2308H | 08969 | 630 | 21 | | 10 min Ave Vcn/ca 23rd Harm bin, $\geq 1.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 2309H | 08970 | 630 | 22 | | 10 min Ave Vcn/ca 24th Harm bin, $\geq 0.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 230AH | 08971 | 630 | 23 | | 10 min Ave Vcn/ca 25th Harm bin, $\geq 1.5\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 230BH | 08972 | 631 | 0 | | 10 min Ave Van/ab THD % bin, $> 8\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 230CH | 08973 | 631 | 1 | | 10 min Ave Vbn/bc THD % bin, $> 8\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 230DH | 08974 | 631 | 2 | | 10 min Ave Vcn/ca THD % bin, $> 8\%$ | 65,535 / 0 | 1 unit | F51 | R | |
| 230EH | 08975 | 632 | 0 | | Freq % for Sync System bin ($-1\% < f < +1\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 230FH | 08976 | 632 | 1 | | Freq % for Sync System bin ($-6\% < f < +4\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2310H | 08977 | 632 | 2 | | Freq % for No Sync System bin ($-2\% < f < +2\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2311H | 08978 | 632 | 3 | | Freq % for No Sync System bin ($-15\% < f < +15\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2312H | 08979 | 633 | 0 | | FVF % for Van/ab bins ($-5\% < fvf < +5\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2313H | 08980 | 633 | 1 | | FVF % for Vbn/bc bins ($-5\% < fvf < +5\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2314H | 08981 | 633 | 2 | | FVF % for Vcn/ca bins ($-5\% < fvf < +5\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2315H | 08982 | 633 | 3 | | FVF % for Van/ab bins ($-10\% < fvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2316H | 08983 | 633 | 4 | | FVF % for Vbn/bc bins ($-10\% < fvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2317H | 08984 | 633 | 5 | | FVF % for Vcn/ca bins ($-10\% < fvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2318H | 08985 | 634 | 0 | | LSVF % for Van/ab bins ($-10\% < lsvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 2319H | 08986 | 634 | 1 | | LSVF % for Vbn/bc bins ($-10\% < lsvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 231AH | 08987 | 634 | 2 | | LSVF % for Vcn/ca bins ($-10\% < lsvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 231BH | 08988 | 634 | 3 | | LSVF % for Van/ab bins ($-15\% < lsvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 231CH | 08989 | 634 | 4 | | LSVF % for Vbn/bc bins ($-15\% < lsvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 231DH | 08990 | 634 | 5 | | LSVF % for Vcn/ca bins ($-15\% < lsvf < +10\%$) | 65,535 / 0 | 1 unit | F51 | R | |
| 231EH | 08991 | 635 | 0,1 | | Status Byte 0 / Status Byte 1 | | | | R | |
| 231FH | 08992 | 635 | 2,3 | | Status Byte 2 / Status Byte 3 | | | | R | |
| 2320H | 08993 | 635 | 4,5 | | Status Byte 4 / Status Byte 5 | | | | R | |
| Power Quality Test (EN-50160/IEC61000-4-30) Previous Week Block | | | | | | | | | | |
| 2321H-2324H | 08994-08997 | 636 | 0 | | Previous Week Test Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|------------------------|---------|------|-----|-------|
| 2325H-2328H | 08998-09001 | 636 | 1 | | Previous Week Test Start Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 2329H-232CH | 09002-09005 | 636 | 2 | | Previous Week Test End Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 232DH-232EH | 09006-09007 | 637 | 0 | | Fast Voltage Fluctuation Count | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 232FH | 09008 | 638 | 0 | | Mains Frequency Count | 65,535 / 0 | 1 unit | F51 | R | |
| 2330H | 09009 | 638 | 1 | | 10 min Ave Count | 65,535 / 0 | 1 unit | F51 | R | |
| 2331H | 09010 | 638 | 2 | | Flicker PLT Count | 65,535 / 0 | 1 unit | F51 | R | |
| 2332H | 09011 | 639 | 0 | | 10 sec Ave Freq Bin0, Freq < 42.5(51.0) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2333H | 09012 | 639 | 1 | | 10 sec Ave Freq Bin1, 42.5(51.0) Hz <= Freq < 47(56.4) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2334H | 09013 | 639 | 2 | | 10 sec Ave Freq Bin2, 47(56.4) Hz <= Freq < 49(58.8) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2335H | 09014 | 639 | 3 | | 10 sec Ave Freq Bin3, 49(58.8) Hz <= Freq < 49.5(59.4) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2336H | 09015 | 639 | 4 | | 10 sec Ave Freq Bin4, 49.5(59.4) Hz <= Freq < 50(60.0) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2337H | 09016 | 639 | 5 | | 10 sec Ave Freq Bin5, 50(60.0) Hz <= Freq < 50.5(60.6) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2338H | 09017 | 639 | 6 | | 10 sec Ave Freq Bin6, 50.5(60.6) Hz <= Freq < 51(61.2) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 2339H | 09018 | 639 | 7 | | 10 sec Ave Freq Bin7, 51(61.2) Hz <= Freq < 52(62.4) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 233AH | 09019 | 639 | 8 | | 10 sec Ave Freq Bin8, 52(62.4) Hz <= Freq < 57.5(69.0) Hz | 65,535 / 0 | 1 unit | F51 | R | |
| 233BH | 09020 | 639 | 9 | | 10 sec Ave Freq Bin9, 57.5(69.0) <= Freq | 65,535 / 0 | 1 unit | F51 | R | |
| 233CH | 09021 | 640 | 0 | | 10 min Ave Van/ab RMS Bin0, V < 85% | 65,535 / 0 | 1 unit | F51 | R | |
| 233DH | 09022 | 640 | 1 | | 10 min Ave Van/ab RMS Bin1, 85% <= V < 90% | 65,535 / 0 | 1 unit | F51 | R | |
| 233EH | 09023 | 640 | 2 | | 10 min Ave Van/ab RMS Bin2, 90% <= V < 100% | 65,535 / 0 | 1 unit | F51 | R | |
| 233FH | 09024 | 640 | 3 | | 10 min Ave Van/ab RMS Bin3, 100% <= V < 110% | 65,535 / 0 | 1 unit | F51 | R | |
| 2340H | 09025 | 640 | 4 | | 10 min Ave Van/ab RMS Bin4, 110% <= V | 65,535 / 0 | 1 unit | F51 | R | |
| 2341H | 09026 | 641 | 0 | | 10 min Ave Vbn/bc RMS Bin0, V < 85% | 65,535 / 0 | 1 unit | F51 | R | |
| 2342H | 09027 | 641 | 1 | | 10 min Ave Vbn/bc RMS Bin1, 85% <= V < 90% | 65,535 / 0 | 1 unit | F51 | R | |
| 2343H | 09028 | 641 | 2 | | 10 min Ave Vbn/bc RMS Bin2, 90% <= V < 100% | 65,535 / 0 | 1 unit | F51 | R | |
| 2344H | 09029 | 641 | 3 | | 10 min Ave Vbn/bc RMS Bin3, 100% <= V < 110% | 65,535 / 0 | 1 unit | F51 | R | |
| 2345H | 09030 | 641 | 4 | | 10 min Ave Vbn/bc RMS Bin4, 110% <= V | 65,535 / 0 | 1 unit | F51 | R | |
| 2346H | 09031 | 642 | 0 | | 10 minAve Vcn/ca RMS Bin0, V < 85% | 65,535 / 0 | 1 unit | F51 | R | |
| 2347H | 09032 | 642 | 1 | | 10 minAve Vcn/ca RMS Bin1, 85% <= V < 90% | 65,535 / 0 | 1 unit | F51 | R | |
| 2348H | 09033 | 642 | 2 | | 10 minAve Vcn/ca RMS Bin2, 90% <= V < 100% | 65,535 / 0 | 1 unit | F51 | R | |
| 2349H | 09034 | 642 | 3 | | 10 minAve Vcn/ca RMS Bin3, 100% <= V < 110% | 65,535 / 0 | 1 unit | F51 | R | |
| 234AH | 09035 | 642 | 4 | | 10 minAve Vcn/ca RMS Bin4, 110% <= V | 65,535 / 0 | 1 unit | F51 | R | |
| 234BH-234CH | 06036-09037 | 643 | 0 | | Fast Voltage Van/an Bin0, V < 90 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 234DH-234EH | 09038-09039 | 643 | 1 | | Fast Voltage Van/an Bin1, 90% <= V < 95 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 234FH-2350H | 09040-09041 | 643 | 2 | | Fast Voltage Van/an Bin2, 95% <= V < 100 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2351H-2352H | 09042-09043 | 643 | 3 | | Fast Voltage Van/an Bin3, 100% <= V < 105 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2353H-2354H | 09044-09045 | 643 | 4 | | Fast Voltage Van/an Bin4, 105% <= V < 110 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2355H-2356H | 09046-09047 | 643 | 5 | | Fast Voltage Van/an Bin5, 110% <= V | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2357H-2358H | 09048-09049 | 644 | 0 | | Fast Voltage Vbn/bc Bin0, V < 90 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2359H-235AH | 09050-09051 | 644 | 1 | | Fast Voltage Vbn/bc Bin1, 90% <= V < 95 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------|--------|------|-----|-------|
| 235BH-235CH | 09052-09053 | 644 | 2 | | Fast Voltage Vbn/bc Bin2, 95% <= V < 100 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 235DH-235EH | 09054-09055 | 644 | 3 | | Fast Voltage Vbn/bc Bin3, 100% <= V < 105 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 235FH-2360H | 09056-09057 | 644 | 4 | | Fast Voltage Vbn/bc Bin4, 105% <= V < 110 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2361H-2362H | 09058-09059 | 644 | 5 | | Fast Voltage Vbn/bc Bin5, 110% <= V | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2363H-2364H | 09060-09061 | 645 | 0 | | Fast Voltage Vcn/ca Bin0, V < 90 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2365H-2366H | 09062-09063 | 645 | 1 | | Fast Voltage Vcn/ca Bin1, 90% <= V < 95 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2367H-2368H | 09064-09065 | 645 | 2 | | Fast Voltage Vcn/ca Bin2, 95% <= V < 100 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 2369H-236AH | 09066-09067 | 645 | 3 | | Fast Voltage Vcn/ca Bin3, 100% <= V < 105 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 236BH-236CH | 09068-09069 | 645 | 4 | | Fast Voltage Vcn/ca Bin4, 105% <= V < 110 % | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 236DH-236EH | 09070-09071 | 645 | 5 | | Fast Voltage Vcn/ca Bin5, 110% <= V | 4,294,967,295 / 0 | 1 unit | F53 | R | |
| 236FH | 09072 | 646 | 0 | | Flicker PLT Van/ab Bin0, PLT <1 | 65,535 / 0 | 1 unit | F51 | R | |
| 2370H | 09073 | 646 | 1 | | Flicker PLT Van/ab Bin1, PLT >=1 | 65,535 / 0 | 1 unit | F51 | R | |
| 2371H | 09074 | 646 | 2 | | Flicker PLT Vbn/bc Bin0, PLT <1 | 65,535 / 0 | 1 unit | F51 | R | |
| 2372H | 09075 | 646 | 3 | | Flicker PLT Vbn/bc Bin1, PLT >=1 | 65,535 / 0 | 1 unit | F51 | R | |
| 2373H | 09076 | 646 | 4 | | Flicker PLT Vcn/ca Bin0, PLT <1 | 65,535 / 0 | 1 unit | F51 | R | |
| 2374H | 09077 | 646 | 5 | | Flicker PLT Vcn/ca Bin1, PLT >=1 | 65,535 / 0 | 1 unit | F51 | R | |
| 2375H | 09078 | 647 | 0 | | Fund. Sym. Comp. Bin0 (- Seq. Mag. < 2% of +Seq. Mag.) | 65,535 / 0 | 1 unit | F51 | R | |
| 2376H | 09079 | 647 | 1 | | Fund. Sym. Comp. Bin1 (2% <= -Seq.Mag. < 3% of +Seq. Mag.) | 65,535 / 0 | 1 unit | F51 | R | |
| 2377H | 09080 | 647 | 2 | | Fund. Sym. Comp. Bin2 (-Seq. Mag. >= 3% of +Seq. Mag.) | 65,535 / 0 | 1 unit | F51 | R | |
| 2378H | 09081 | 648 | 0 | | 10 min Ave Van/ab 2nd Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 2379H | 09082 | 648 | 1 | | 10 min Ave Van/ab 3rd Harm bin, >= 5.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 237AH | 09083 | 648 | 2 | | 10 min Ave Van/ab 4th Harm bin, >= 1.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 237BH | 09084 | 648 | 3 | | 10 min Ave Van/ab 5th Harm bin, >= 6.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 237CH | 09085 | 648 | 4 | | 10 min Ave Van/ab 6th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 237DH | 09086 | 648 | 5 | | 10 min Ave Van/ab 7th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 237EH | 09087 | 648 | 6 | | 10 min Ave Van/ab 8th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 237FH | 09088 | 648 | 7 | | 10 min Ave Van/ab 9th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2380H | 09089 | 648 | 8 | | 10 min Ave Van/ab 10th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2381H | 09090 | 648 | 9 | | 10 min Ave Van/ab 11th Harm bin, >= 3.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2382H | 09091 | 648 | 10 | | 10 min Ave Van/ab 12th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2383H | 09092 | 648 | 11 | | 10 min Ave Van/ab 13th Harm bin, >= 3.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 2384H | 09093 | 648 | 12 | | 10 min Ave Van/ab 14th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2385H | 09094 | 648 | 13 | | 10 min Ave Van/ab 15th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2386H | 09095 | 648 | 14 | | 10 min Ave Van/ab 16th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2387H | 09096 | 648 | 15 | | 10 min Ave Van/ab 17th Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 2388H | 09097 | 648 | 16 | | 10 min Ave Van/ab 18th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2389H | 09098 | 648 | 17 | | 10 min Ave Van/ab 19th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 238AH | 09099 | 648 | 18 | | 10 min Ave Van/ab 20th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 238BH | 09100 | 648 | 19 | | 10 min Ave Van/ab 21st Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|------------|--------|------|-----|-------|
| 238CH | 09101 | 648 | 20 | | 10 min Ave Van/ab 22nd Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 238DH | 09102 | 648 | 21 | | 10 min Ave Van/ab 23rd Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 238EH | 09103 | 648 | 22 | | 10 min Ave Van/ab 24th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 238FH | 09104 | 648 | 23 | | 10 min Ave Van/ab 25th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2390H | 09105 | 649 | 0 | | 10 min Ave Vbn/bc 2nd Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 2391H | 09106 | 649 | 1 | | 10 min Ave Vbn/bc 3rd Harm bin, >= 5.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 2392H | 09107 | 649 | 2 | | 10 min Ave Vbn/bc 4th Harm bin, >= 1.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 2393H | 09108 | 649 | 3 | | 10 min Ave Vbn/bc 5th Harm bin, >= 6.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 2394H | 09109 | 649 | 4 | | 10 min Ave Vbn/bc 6th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2395H | 09110 | 649 | 5 | | 10 min Ave Vbn/bc 7th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2396H | 09111 | 649 | 6 | | 10 min Ave Vbn/bc 8th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2397H | 09112 | 649 | 7 | | 10 min Ave Vbn/bc 9th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2398H | 09113 | 649 | 8 | | 10 min Ave Vbn/bc 10th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 2399H | 09114 | 649 | 9 | | 10 min Ave Vbn/bc 11th Harm bin, >= 3.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 239AH | 09115 | 649 | 10 | | 10 min Ave Vbn/bc 12th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 239BH | 09116 | 649 | 11 | | 10 min Ave Vbn/bc 13th Harm bin, >= 3.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 239CH | 09117 | 649 | 12 | | 10 min Ave Vbn/bc 14th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 239DH | 09118 | 649 | 13 | | 10 min Ave Vbn/bc 15th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 239EH | 09119 | 649 | 14 | | 10 min Ave Vbn/bc 16th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 239FH | 09120 | 649 | 15 | | 10 min Ave Vbn/bc 17th Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A0H | 09121 | 649 | 16 | | 10 min Ave Vbn/bc 18th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A1H | 09122 | 649 | 17 | | 10 min Ave Vbn/bc 19th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A2H | 09123 | 649 | 18 | | 10 min Ave Vbn/bc 20th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A3H | 09124 | 649 | 19 | | 10 min Ave Vbn/bc 21st Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A4H | 09125 | 649 | 20 | | 10 min Ave Vbn/bc 22nd Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A5H | 09126 | 649 | 21 | | 10 min Ave Vbn/bc 23rd Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A6H | 09127 | 649 | 22 | | 10 min Ave Vbn/bc 24th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A7H | 09128 | 649 | 23 | | 10 min Ave Vbn/bc 25th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A8H | 09129 | 650 | 0 | | 10 min Ave Vcn/ca 2nd Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 23A9H | 09130 | 650 | 1 | | 10 min Ave Vcn/ca 3rd Harm bin, >= 5.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 23AAH | 09131 | 650 | 2 | | 10 min Ave Vcn/ca 4th Harm bin, >= 1.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 23ABH | 09132 | 650 | 3 | | 10 min Ave Vcn/ca 5th Harm bin, >= 6.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 23ACH | 09133 | 650 | 4 | | 10 min Ave Vcn/ca 6th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23ADH | 09134 | 650 | 5 | | 10 min Ave Vcn/ca 7th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23AEH | 09135 | 650 | 6 | | 10 min Ave Vcn/ca 8th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23AFH | 09136 | 650 | 7 | | 10 min Ave Vcn/ca 9th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B0H | 09137 | 650 | 8 | | 10 min Ave Vcn/ca 10th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B1H | 09138 | 650 | 9 | | 10 min Ave Vcn/ca 11th Harm bin, >= 3.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B2H | 09139 | 650 | 10 | | 10 min Ave Vcn/ca 12th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|-----|------------|---|---------------------|--------|------|-----|-------|
| 23B3H | 09140 | 650 | 11 | | 10 min Ave Vcn/ca 13th Harm bin, >= 3.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B4H | 09141 | 650 | 12 | | 10 min Ave Vcn/ca 14th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B5H | 09142 | 650 | 13 | | 10 min Ave Vcn/ca 15th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B6H | 09143 | 650 | 14 | | 10 min Ave Vcn/ca 16th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B7H | 09144 | 650 | 15 | | 10 min Ave Vcn/ca 17th Harm bin, >= 2.0% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B8H | 09145 | 650 | 16 | | 10 min Ave Vcn/ca 18th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23B9H | 09146 | 650 | 17 | | 10 min Ave Vcn/ca 19th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23BAH | 09147 | 650 | 18 | | 10 min Ave Vcn/ca 20th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23BBH | 09148 | 650 | 19 | | 10 min Ave Vcn/ca 21st Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23BCH | 09149 | 650 | 20 | | 10 min Ave Vcn/ca 22nd Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23BDH | 09150 | 650 | 21 | | 10 min Ave Vcn/ca 23rd Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23BEH | 09151 | 650 | 22 | | 10 min Ave Vcn/ca 24th Harm bin, >= 0.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23BFH | 09152 | 650 | 23 | | 10 min Ave Vcn/ca 25th Harm bin, >= 1.5% | 65,535 / 0 | 1 unit | F51 | R | |
| 23C0H | 09153 | 651 | 0 | | 10 min Ave Van/ab THD % bin, > 8% | 65,535 / 0 | 1 unit | F51 | R | |
| 23C1H | 09154 | 651 | 1 | | 10 min Ave Vbn/bc THD % bin, > 8% | 65,535 / 0 | 1 unit | F51 | R | |
| 23C2H | 09155 | 651 | 2 | | 10 min Ave Vcn/ca THD % bin, > 8% | 65,535 / 0 | 1 unit | F51 | R | |
| 23C3H | 09156 | 652 | 0 | | Freq % for Sync System bin (-1% < f < +1%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23C4H | 09157 | 652 | 1 | | Freq % for Sync System bin (-6% < f < +4%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23C5H | 09158 | 652 | 2 | | Freq % for No Sync System bin (-2% < f < +2%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23C6H | 09159 | 652 | 3 | | Freq % for No Sync System bin (-15% < f < +15%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23C7H | 09160 | 653 | 0 | | FVF % for Van/ab bins (-5% < fvf < +5%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23C8H | 09161 | 653 | 1 | | FVF % for Vbn/bc bins (-5% < fvf < +5%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23C9H | 09162 | 653 | 2 | | FVF % for Vcn/ca bins (-5% < fvf < +5%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23CAH | 09163 | 653 | 3 | | FVF % for Van/ab bins (-10% < fvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23CBH | 09164 | 653 | 4 | | FVF % for Vbn/bc bins (-10% < fvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23CCH | 09165 | 653 | 5 | | FVF % for Vcn/ca bins (-10% < fvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23CDH | 09166 | 654 | 0 | | LSVF % for Van/ab bins (-10% < lsvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23CEH | 09167 | 654 | 1 | | LSVF % for Vbn/bc bins (-10% < lsvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23CFH | 09168 | 654 | 2 | | LSVF % for Vcn/ca bins (-10% < lsvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23D0H | 09169 | 654 | 3 | | LSVF % for Van/ab bins (-15% < lsvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23D1H | 09170 | 654 | 4 | | LSVF % for Vbn/bc bins (-15% < lsvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23D2H | 09171 | 654 | 5 | | LSVF % for Vcn/ca bins (-15% < lsvf < +10%) | 65,535 / 0 | 1 unit | F51 | R | |
| 23D3H | 09172 | 655 | 0,1 | | Status Byte 0 / Status Byte 1 | | | | R | |
| 23D4H | 09173 | 655 | 2,3 | | Status Byte 2 / Status Byte 3 | | | | R | |
| 23D5H | 09174 | 655 | 4,5 | | Status Byte 4 / Status Byte 5 | | | | R | |
| Total Demand Distortion (TDD): | | | | | | | | | | |
| 23D6H | 09175 | 656 | 0 | | TDD Phase A-N / Phase A-B Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23D7H | 09176 | 657 | 0 | | TDD Phase B-N / Phase B-C Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23D8H | 09177 | 658 | 0 | | TDD Phase C-N / Phase C-A Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|-----|------------|---|---------------------------|---------|------|-----|-------|
| 23D9H | 09178 | 659 | 0 | | TDD Phaes A Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23DAH | 09179 | 660 | 0 | | TDD Phaes B Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23DBH | 09180 | 661 | 0 | | TDD Phase C Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23DCH-23DEH | 09181-09183 | 662 | 0-2 | | Maximum TDD Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23DFH-23E1H | 09184-09186 | 663 | 0-2 | | Maximum TDD Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23E2H-23E4H | 09187-09189 | 664 | 0-2 | | Minimum TDD Voltage | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23E5H-23E7H | 09190-09192 | 665 | 0-2 | | Minimum TDD Current | +327.67% / -327.68% | 0.01% | F10 | R | |
| 23E8H-23FFH | 09193-09216 | 666 | 0-5 | | Maximum TDD Timestamps | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2400H-2417H | 09217-09240 | 667 | 0-5 | | Minimum TDD Timestamps | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| Power Quality Test (EN-50160/IEC61000-4-30) Extended Block | | | | | | | | | | |
| 2A00H-2A01H | 10753-10754 | | | | Rapid Voltage Change Count +/-4% Van/ab Bin 0 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A02H-2A03H | 10755-10756 | | | | Rapid Voltage Change Count +/-4% Vbn/bc Bin 1 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A04H-2A05H | 10757-10758 | | | | Rapid Voltage Change Count +/-4% Vcn/ca Bin 2 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A06H-2A07H | 10759-10760 | | | | Rapid Voltage Change Count Between +/-4% and +/-6% Van/ab Bin 0 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A08H-2A09H | 10761-10762 | | | | Rapid Voltage Change Count Between +/-4% and +/-6% Vbn/bc Bin 1 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A0AH-2A0BH | 10763-10764 | | | | Rapid Voltage Change Count Between +/-4% and +/-6% Vcn/ca Bin 2 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A0CH-2A0DH | 10765-10766 | | | | Supply Voltage Unbalance, Bin 0, 0%<=n<=2% | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A0EH-2A0FH | 10767-10768 | | | | Supply Voltage Unbalance, Bin 1, 2%<n<=3% | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A10H-2A11H | 10769-10770 | | | | Supply Voltage Unbalance, Bin 2, 3%<n | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A12H-2A13H | 10771-10772 | | | | 3sec Mains Signaling Voltage, Van/Vab, Bin 0, <=Threshold | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A14H-2A15H | 10773-10774 | | | | 3sec Mains Signaling Voltage, Van/Vab, Bin 1, >Threshold | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A16H-2A17H | 10775-10776 | | | | 3sec Mains Signaling Voltage, Vbn/Vbc, Bin 0, <=Threshold | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A18H-2A19H | 10777-10778 | | | | 3sec Mains Signaling Voltage, Vbn/Vbc, Bin 1, >Threshold | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A1AH-2A1BH | 10779-10780 | | | | 3sec Mains Signaling Voltage, Vcn/Vca, Bin 0, <=Threshold | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A1CH-2A1DH | 10781-10782 | | | | 3sec Mains Signaling Voltage, Vcn/Vca, Bin 1, >Threshold | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A1EH-2A1FH | 10783-10784 | | | | Dips and Interruptions, Van/Vab, Bin 0, >=85% and <90%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A20H-2A21H | 10785-10786 | | | | Dips and Interruptions, Van/Vab, Bin 1, >=70% and <85%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A22H-2A23H | 10787-10788 | | | | Dips and Interruptions, Van/Vab, Bin 2, >=60% and <70%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A24H-2A25H | 10789-10790 | | | | Dips and Interruptions, Van/Vab, Bin 3 >=50% and <60%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A26H-2A27H | 10791-10792 | | | | Dips and Interruptions, Van/Vab, Bin 4, >=40% and <50%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------|------|-----|-------|
| 2A28H-2A29H | 10793-10794 | | | | Dips and Interruptions, Van/Vab, Bin 5, >=30% and <40%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A2AH-2A2BH | 10795-10796 | | | | Dips and Interruptions, Van/Vab, Bin 6, >=20% and <30%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A2CH-2A2DH | 10797-10798 | | | | Dips and Interruptions, Van/Vab, Bin 7, >=15% and <20%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A2EH-2A2FH | 10799-10800 | | | | Dips and Interruptions, Van/Vab, Bin 8, >=10% and <15%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A30H-2A31H | 10801-10802 | | | | Dips and Interruptions, Van/Vab, Bin 9, >=1% and <10%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A32H-2A33H | 10803-10804 | | | | Dips and Interruptions, Van/Vab, Bin 10, <1%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A34H-2A35H | 10805-10806 | | | | Dips and Interruptions, Van/Vab, Bin 0, >=85% and <90%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A36H-2A37H | 10807-10808 | | | | Dips and Interruptions, Van/Vab, Bin 1, >=70% and <85%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A38H-2A39H | 10809-10810 | | | | Dips and Interruptions, Van/Vab, Bin 2, >=60% and <70%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A3AH-2A3BH | 10811-10812 | | | | Dips and Interruptions, Van/Vab, Bin 3, >=50% and <60%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A3CH-2A3DH | 10813-10814 | | | | Dips and Interruptions, Van/Vab, Bin 4, >=40% and <50%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A3EH-2A3FH | 10815-10816 | | | | Dips and Interruptions, Van/Vab, Bin 5, >=30% and <40%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A40H-2A41H | 10817-10818 | | | | Dips and Interruptions, Van/Vab, Bin 6, >=20% and <30%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A42H-2A43H | 10819-10820 | | | | Dips and Interruptions, Van/Vab, Bin 7, >=15% and <20%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A44H-2A45H | 10821-10822 | | | | Dips and Interruptions, Van/Vab, Bin 8, >=10% and <15%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A46H-2A47H | 10823-10824 | | | | Dips and Interruptions, Van/Vab, Bin 9, >=1% and <10%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A48H-2A49H | 10825-10826 | | | | Dips and Interruptions, Van/Vab, Bin 10, <1%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A4AH-2A4BH | 10827-10828 | | | | Dips and Interruptions, Van/Vab, Bin 0, >=85% and <=90%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A4CH-2A4DH | 10829-10830 | | | | Dips and Interruptions, Van/Vab, Bin 1, >=70% and <85%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A4EH-2A4FH | 10831-10832 | | | | Dips and Interruptions, Van/Vab, Bin 2, >=60% and <70%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------|------|-----|-------|
| 2A50H-2A51H | 10833-10834 | | | | Dips and Interruptions, Van/Vab, Bin 3, >=50% and <60%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A52H-2A53H | 10835-10836 | | | | Dips and Interruptions, Van/Vab, Bin 4, >=40% and <50%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A54H-2A55H | 10837-10838 | | | | Dips and Interruptions, Van/Vab, Bin 5, >=30% and <40%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A56H-2A57H | 10839-10840 | | | | Dips and Interruptions, Van/Vab, Bin 6, >=20% and <30%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A58H-2A58H | 10841-10842 | | | | Dips and Interruptions, Van/Vab, Bin 7, >=15% and <20%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A5AH-2A5BH | 10843-10844 | | | | Dips and Interruptions, Van/Vab, Bin 8, >=10% and <15%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A5CH-2A5DH | 10845-10846 | | | | Dips and Interruptions, Van/Vab, Bin 9, >=1% and <10%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A5EH-2A5FH | 10847-10848 | | | | Dips and Interruptions, Van/Vab, Bin 10, <1%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A60H-2A61H | 10849-10850 | | | | Dips and Interruptions, Vbn/Vbc, Bin 0, >=85% and <90%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A62H-2A63H | 10851-10852 | | | | Dips and Interruptions, Vbn/Vbc, Bin 1, >=70% and <85%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A64H-2A65H | 10853-10854 | | | | Dips and Interruptions, Vbn/Vbc, Bin 2, >=60% and <70%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A66H-2A67H | 10855-10856 | | | | Dips and Interruptions, Vbn/Vbc, Bin 3, >=50% and <60%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A68H-2A69H | 10857-10858 | | | | Dips and Interruptions, Vbn/Vbc, Bin 4, >=40% and <50%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A6AH-2A6BH | 10859-10860 | | | | Dips and Interruptions, Vbn/Vbc, Bin 5, >=30% and <40%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A6CH-2A6DH | 10861-10862 | | | | Dips and Interruptions, Vbn/Vbc, Bin 6, >=20% and <30%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A6EH-2A6FH | 10863-10864 | | | | Dips and Interruptions, Vbn/Vbc, Bin 7, >=15% and <20%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A70H-2A71H | 10865-10866 | | | | Dips and Interruptions, Vbn/Vbc, Bin 8, >=10% and <15%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A72H-2A73H | 10867-10868 | | | | Dips and Interruptions, Vbn/Vbc, Bin 9, >=1% and <10%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A74H-2A75H | 10869-10870 | | | | Dips and Interruptions, Vbn/Vbc, Bin 10, <1%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A76H-2A77H | 10871-10872 | | | | Dips and Interruptions, Vbn/Vbc, Bin 0, >=85% and <90%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------|------|-----|-------|
| 2A78H-2A79H | 10873-10874 | | | | Dips and Interruptions, Vbn/Vbc, Bin 1, >=70% and <85%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A7AH-2A7BH | 10875-10876 | | | | Dips and Interruptions, Vbn/Vbc, Bin 2, >=60% and <70%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A7CH-2A7DH | 10877-10878 | | | | Dips and Interruptions, Vbn/Vbc, Bin 3, >=50% and <60%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A7EH-2A7FH | 10879-10880 | | | | Dips and Interruptions, Vbn/Vbc, Bin 4, >=40% and <50%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A80H-2A81H | 10881-10882 | | | | Dips and Interruptions, Vbn/Vbc, Bin 5, >=30% and <40%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A82H-2A83H | 10883-10884 | | | | Dips and Interruptions, Vbn/Vbc, Bin 6, >=20% and <30%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A84H-2A85H | 10885-10886 | | | | Dips and Interruptions, Vbn/Vbc, Bin 7, >=15% and <20%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A86H-2A87H | 10887-10888 | | | | Dips and Interruptions, Vbn/Vbc, Bin 8, >=10% and <15%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A88H-2A89H | 10889-10890 | | | | Dips and Interruptions, Vbn/Vbc, Bin 9, >=1% and <10%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A8AH-2A8BH | 10891-10892 | | | | Dips and Interruptions, Vbn/Vbc, Bin 10, <1%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A8CH-2A8DH | 10893-10894 | | | | Dips and Interruptions, Vbn/Vbc, Bin 0, >=85% and <=90%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A8EH-2A8FH | 10895-10896 | | | | Dips and Interruptions, Vbn/Vbc, Bin 1, >=70% and <85%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A90H-2A91H | 10897-10898 | | | | Dips and Interruptions, Vbn/Vbc, Bin 2, >=60% and <70%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A92H-2A93H | 10899-10900 | | | | Dips and Interruptions, Vbn/Vbc, Bin 3, >=50% and <60%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A94H-2A95H | 10901-10902 | | | | Dips and Interruptions, Vbn/Vbc, Bin 4, >=40% and <50%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A96H-2A97H | 10903-10904 | | | | Dips and Interruptions, Vbn/Vbc, Bin 5, >=30% and <40%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A98H-2A99H | 10905-10906 | | | | Dips and Interruptions, Vbn/Vbc, Bin 6, >=20% and <30%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A9AH-2A9BH | 10907-10908 | | | | Dips and Interruptions, Vbn/Vbc, Bin 7, >=15% and <20%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A9CH-2A9DH | 10909-10910 | | | | Dips and Interruptions, Vbn/Vbc, Bin 8, >=10% and <15%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2A9EH-2A9FH | 10911-10912 | | | | Dips and Interruptions, Vbn/Vbc, Bin 9, >=1% and <10%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------|------|-----|-------|
| 2AA0H-2AA1H | 10913-10914 | | | | Dips and Interruptions, Vbn/Vbc, Bin 10,<1%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AA2H-2AA3H | 10915-10916 | | | | Dips and Interruptions, Vcn/Vca, Bin 0, >=85% and <90%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AA4H-2AA5H | 10917-10918 | | | | Dips and Interruptions, Vcn/Vca, Bin 1, >=70% and <85%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AA6H-2AA7H | 10919-10920 | | | | Dips and Interruptions, Vcn/Vca, Bin 2, >=60% and <70%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AA8H-2AA9H | 10921-10922 | | | | Dips and Interruptions, Vcn/Vca, Bin 3 >=50% and <60%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AAAH-2AABH | 10923-10924 | | | | Dips and Interruptions, Vcn/Vca, Bin 4, >=40% and <50%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AACH-2AADH | 10925-10926 | | | | Dips and Interruptions, Vcn/Vca, Bin 5, >=30% and <40%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AAEH-2AAFH | 10927-10928 | | | | Dips and Interruptions, Vcn/Vca, Bin 6, >=20% and <30%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AB0H-2AB1H | 10929-10930 | | | | Dips and Interruptions, Vcn/Vca, Bin 7, >=15% and <20%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AB2H-2AB3H | 10931-10932 | | | | Dips and Interruptions, Vcn/Vca, Bin 8, >=10% and <15%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AB4H-2AB5H | 10933-10934 | | | | Dips and Interruptions, Vcn/Vca, Bin 9, >=1% and <10%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AB6H-2AB7H | 10935-10936 | | | | Dips and Interruptions, Vcn/Vca, Bin 10, <1%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AB8H-2AB9H | 10937-10938 | | | | Dips and Interruptions, Vcn/Vca, Bin 0, >=85% and <90%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ABAH-2ABBH | 10939-10940 | | | | Dips and Interruptions, Vcn/Vca, Bin 1, >=70% and <85%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ABCH-2ABDH | 10941-10942 | | | | Dips and Interruptions, Vcn/Vca, Bin 2, >=60% and <70%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ABEH-2ABFH | 10943-10944 | | | | Dips and Interruptions, Vcn/Vca, Bin 3, >=50% and <60%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AC0H-2AC1H | 10945-10946 | | | | Dips and Interruptions, Vcn/Vca, Bin 4, >=40% and <50%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AC2H-2AC3H | 10947-10948 | | | | Dips and Interruptions, Vcn/Vca, Bin 5, >=30% and <40%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AC4H-2AC5H | 10949-10950 | | | | Dips and Interruptions, Vcn/Vca, Bin 6, >=20% and <30%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AC6H-2AC7H | 10951-10952 | | | | Dips and Interruptions, Vcn/Vca, Bin 7, >=15% and <20%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|---------------------------|-------|------|-----|-------|
| 2AC8H-2AC9H | 10953-10954 | | | | Dips and Interruptions, Vcn/Vca, Bin 8, >=10% and <15%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ACAH-2ACBH | 10955-10956 | | | | Dips and Interruptions, Vcn/Vca, Bin 9, >=1% and <10%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ACCH-2ACDH | 10957-10958 | | | | Dips and Interruptions, Vcn/Vca, Bin 10, <1%, 1sec<=180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ACEH-2ACFH | 10959-10960 | | | | Dips and Interruptions, Vcn/Vca, Bin 0, >=85% and <=90%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AD0H-2AD1H | 10961-10962 | | | | Dips and Interruptions, Vcn/Vca, Bin 1, >=70% and <85%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AD2H-2AD3H | 10963-10964 | | | | Dips and Interruptions, Vcn/Vca, Bin 2, >=60% and <70%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AD04-2AD5H | 10965-10966 | | | | Dips and Interruptions, Vcn/Vca, Bin 3, >=50% and <60%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AD6H-2AD7H | 10967-10968 | | | | Dips and Interruptions, Vcn/Vca, Bin 4, >=40% and <50%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AD8H-2AD9H | 10969-10970 | | | | Dips and Interruptions, Vcn/Vca, Bin 5, >=30% and <40%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ADAH-2ADBH | 10971-10972 | | | | Dips and Interruptions, Vcn/Vca, Bin 6, >=20% and <30%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ADCH-2ADDH | 10973-10974 | | | | Dips and Interruptions, Vcn/Vca, Bin 7, >=15% and <20%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2ADEH-2ADFH | 10975-10976 | | | | Dips and Interruptions, Vcn/Vca, Bin 8, >=10% and <15%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AE0H-2AE1H | 10977-10978 | | | | Dips and Interruptions, Vcn/Vca, Bin 9, >=1% and <10%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AE2H-2AE3H | 10979-10980 | | | | Dips and Interruptions, Vcn/Vca, Bin 10, <1%, >180sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AE4H-2AE5H | 10981-10982 | | | | Overvoltage Vne, Bin 0, >set%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AE6H-2AE7H | 10983-10984 | | | | Overvoltage Vne, Bin 1, >set%, 1sec<=5sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AE8H-2AE9H | 10985-10986 | | | | Overvoltage Vne, Bin 2, >set%, >5sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AEAH-2AEBH | 10987-10988 | | | | Overvoltage Vae, Bin 0, >set%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AECB-2AEDH | 10989-10990 | | | | Overvoltage Vae, Bin 1, >set%, 1sec<=5sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AEEH-2AEFH | 10991-10992 | | | | Overvoltage Vae, Bin 2, >set%, >5sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AF0H-2AF1H | 10993-10994 | | | | Overvoltage Vbe, Bin 0, >set%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AF2H-2AF3H | 10995-10996 | | | | Overvoltage Vbe, Bin 1, >set%, 1sec<=5sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AF4H-2AF5H | 10997-10998 | | | | Overvoltage Vbe, Bin 2, >set%, >5sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AF6H-2AF7H | 10999-11000 | | | | Overvoltage Vce, Bin 0, >set%, <=1sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AF8H-2AF9H | 11001-11002 | | | | Overvoltage Vce, Bin 1, >set%, 1sec<=5sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AFAH-2AFBH | 11003-11004 | | | | Overvoltage Vce, Bin 2, >set%, >5sec | -2147483648 / +2147483647 | 1 | F53 | | |
| 2AFCH-2AFDH | 11005-11006 | | | | Total Voltage Unbalance Count | -2147483648 / +2147483647 | 1 | F53 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|--|------------------------------------|-------------------|------|-----|-------|
| 2AFEH-2AFFH | 11007-11008 | | | | Total THD/Harmonics Count | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B00H-2B01H | 11009-11010 | | | | Total Mains Signaling Voltage Count | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B02H-2B03H | 11011-11012 | | | | Rapid Voltage Change Beyond +/-10% Van/ab Bin 1 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B04H-2B05H | 11013-11014 | | | | Rapid Voltage Change Beyond +/-10% Vbn/bc Bin 2 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B06H-2B07H | 11015-11016 | | | | Rapid Voltage Change Beyond +/-10% Vcn/ca Bin 3 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B08H-2B09H | 11017-11018 | | | | Rapid Voltage Change Beyond +/-6% Van/ab Bin 1 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B0AH-2B0BH | 11019-11020 | | | | Rapid Voltage Change Beyond +/-6% Vbn/bc Bin 2 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B0CH-2B0DH | 11021-11022 | | | | Rapid Voltage Change Beyond +/-6% Vcn/ca Bin 3 | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B0EH-2B0FH | 11023-11024 | | | | Freq Bin 0, Sync, -1%<=f<=+1%, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B10H-2B11H | 11025-11026 | | | | Freq Bin 1, Sync, -6%<=f<=+4%, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B12H-2B13H | 11027-11028 | | | | Freq Bin 2, Sync, -2%<=f<=+2%, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B14H-2B15H | 11029-11030 | | | | Freq Bin 3, Sync, -15%<=f<=+15%, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B16H-2B17H | 11031-11032 | | | | Rapid Voltage Change +/-5% Van/ab Bin 0, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B18H-2B19H | 11033-11034 | | | | Rapid Voltage Change +/-5% Vbn/bc Bin 1, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B1AH-2B1BH | 11035-11036 | | | | Rapid Voltage Change +/-5% Vcn/ca Bin 2, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B1CH-2B1DH | 11037-11038 | | | | Rapid Voltage Change Between +/-5% and +/-10% Van/ab Bin 0, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B1EH-2B1FH | 11039-11040 | | | | Rapid Voltage Change Between +/-5% and +/-10% Vbn/bc Bin 1, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B20H-2B21H | 11041-11042 | | | | Rapid Voltage Change Between +/-5% and +/-10% Vcn/ca Bin 2, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B22H-2B23H | 11043-11044 | | | | Supply Voltage Variation (10min Mean) +/-10% Van/ab Bin 0, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B24H-2B25H | 11045-11046 | | | | Supply Voltage Variation (10min Mean) +/-10% Vbn/bc Bin 1, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B26H-2B27H | 11047-11048 | | | | Supply Voltage Variation (10min Mean) +/-10% Vcn/ca Bin 2, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B28H-2B29H | 11049-11050 | | | | Supply Voltage Variation (10min Mean) +/-10% Van/ab Bin 0, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B2AH-2B2BH | 11051-11052 | | | | Supply Voltage Variation (10min Mean) +/-10% Vbn/bc Bin 1, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| 2B2CH-2B2DH | 11053-11054 | | | | Supply Voltage Variation (10min Mean) +/-10% Vcn/ca Bin 2, Counts | -2147483648 / +2147483647 | 1 | F53 | | |
| Frozen Energy Block | | | | | | | | | | |
| 2C00H-2C03H | 11265-11268 | 900 | 0 | | Frozen Energy Block Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| Frozen Energy - Secondary Energy Readings | | | | | | | | | | |
| 2C04H-2C07H | 11269-11272 | 901 | 0 | | VA hour (Quadrant 1+2+3+4), Secondary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F12 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--------------------------------------|---|--------------------|------|-----|-------|
| 2C08H-2C0BH | 11273-11276 | 901 | 1 | | VAR hour (Quadrant 1+2), Secondary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 2C0CH-2C0FH | 11277-11280 | 901 | 2 | | VAR hour (Quadrant 2+3), Secondary | 0 VARh / - 9,999,999,999,999,999 VARh | 1 VAR _H | F12 | R | |
| 2C10H-2C13H | 11281-11284 | 901 | 3 | | Watt hour (Quadrant 1+4) , Secondary | +9,999,999,999,999,999 Wh / 0 Wh | 1 W _H | F12 | R | |
| 2C14H-2C17H | 11285-11288 | 901 | 4 | | Watt hour (Quadrant 2+3), Secondary | 0 Wh / -9,999,999,999,999,999 Wh | 1 W _H | F12 | R | |
| 2C18H-2C1BH | 11289-11292 | 901 | 5 | | VA hour (Quadrant 1), Secondary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 2C1CH-2C1FH | 11293-11296 | 901 | 6 | | VAR hour (Quadrant 1), Secondary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 2C20H-2C23H | 11297-11300 | 901 | 7 | | VA hour (Quadrant 4), Secondary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F12 | R | |
| 2C2CH-2C27H | 11301-11304 | 901 | 8 | | VAR hour (Quadrant 4), Secondary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 2C28H-2C2BH | 11305-11308 | 901 | 9 | | VA hour (Quadrant 2), Secondary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F12 | R | |
| 2C2CH-2C2FH | 11309-11312 | 901 | 10 | | VAR hour (Quadrant 2), Secondary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 2C30H-2C33H | 11313-11316 | 901 | 11 | | VA hour (Quadrant 3), Secondary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F12 | R | |
| 2C34H-2C37H | 11317-11320 | 901 | 12 | | VAR hour (Quadrant 3), Secondary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F12 | R | |
| 2C38H-2C3BH | 11321-11324 | 901 | 13 | | I ² t Phase A, Secondary | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F12 | R | |
| 2C3CH-2C3FH | 11325-11328 | 901 | 14 | | I ² t Phase B, Secondary | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F12 | R | |
| 2C40H-2C43H | 11329-11332 | 901 | 15 | | I ² t Phase C, Secondary | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F12 | R | |
| 2C44H-2C47H | 11333-11336 | 901 | 16 | | V ² t Phase A, Secondary | +9,999,999,999,999,999 V ² t / 0 | 1 V ² t | F12 | R | |
| 2C48H-2C4BH | 11337-11340 | 901 | 17 | | V ² t Phase B, Secondary | +9,999,999,999,999,999 V ² t / 0 | 1 V ² t | F12 | R | |
| 2C4CH-2C4FH | 11341-11344 | 901 | 18 | | V ² t Phase C, Secondary | +9,999,999,999,999,999 V ² t / 0 | 1 V ² t | F12 | R | |
| 2C50H-2C53H | 11345-11348 | 901 | 19 | | Watt hour (Quadrant 1), Secondary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F12 | R | |
| 2C54H-2C57H | 11349-11352 | 901 | 20 | | Watt hour (Quadrant 4), Secondary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F12 | R | |
| 2C58H-2C5BH | 11353-11356 | 901 | 21 | | Watt hour (Quadrant 2), Secondary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F12 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|--|---|--------------------|------|-----|-------|
| 2C5CH-2C5FH | 11357-11360 | 901 | 22 | | Watt hour (Quadrant 3), Secondary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F12 | R | |
| 2C60H-2C63H | 11361-11364 | 901 | 23 | | VA hour (Quadrant 1+2+3+4), Uncompensated, Secondary | 9,999,999,999,999,999 / 0 | 1 | F12 | | |
| 2C64H-2C67H | 11365-11368 | 901 | 24 | | VAR hour (Quadrant 1+2), Uncompensated, Secondary | 9,999,999,999,999,999 / 0 | 1 | F12 | | |
| 2C68H-2C6BH | 11369-11372 | 901 | 25 | | VAR hour (Quadrant 3+4), Uncompensated , Secondary | 9,999,999,999,999,999 / 0 | 1 | F12 | | |
| 2C6CH-2C6FH | 11373-11376 | 901 | 26 | | Watt hour (Quadrant 1+4), Uncompensated, Secondary | 9,999,999,999,999,999 / 0 | 1 | F12 | | |
| 2C70H-2C73H | 11377-11380 | 901 | 27 | | Watt hour (Quadrant 2+3), Uncompensated , Secondary | 9,999,999,999,999,999 / 0 | 1 | F12 | | |
| 2C74H-2C77H | 11381-11384 | 901 | 28 | | Q hour, positive, Secondary | 9,999,999,999,999,999 Qh / 0 | 1 Qh | F12 | | |
| 2C78H-2C7BH | 11385-11388 | 901 | 29 | | Q hour, negative, Secondary | 9,999,999,999,999,999 Qh / 0 | 1 Qh | F12 | | |
| Frozen Energy - Primary Energy Readings | | | | | | | | | | |
| 2C7CH-2C7FH | 11389-11392 | 902 | 0 | | VA hour (Quadrant 1+2+3+4), Primary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 2C80H-2C83H | 11393-11396 | 902 | 1 | | VAR hour (Quadrant 1+2), Primary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F20 | R | |
| 2C84H-2C87H | 11397-11400 | 902 | 2 | | VAR hour (Quadrant 2+3), Primary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F20 | R | |
| 2C88H-2C8BH | 11401-11404 | 902 | 3 | | Watt hour (Quadrant 1+4) , Primary | +9,999,999,999,999,999 Wh / 0 Wh | 1 W _H | F20 | R | |
| 2C8CH-2C8FH | 11405-11408 | 902 | 4 | | VA hour (Quadrant 1), Primary | +9,999,999,999,999,999 VAh / 0 VAh | 1 W _H | F20 | R | |
| 2C90H-2C93H | 11409-11412 | 902 | 5 | | VAR hour (Quadrant 1), Primary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VA _H | F20 | R | |
| 2C94H-2C97H | 11413-11416 | 902 | 6 | | VA hour (Quadrant 4), Primary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 2C98H-2C9BH | 11417-11420 | 902 | 7 | | VAR hour (Quadrant 4), Primary | 0 VARh / -9,999,999,999,999,999 VARh | 1 VAR _H | F20 | R | |
| 2C9CH-2C9FH | 11421-11424 | 902 | 8 | | Watt hour (Quadrant 2+3), Primary | 0 Wh / -9,999,999,999,999,999 Wh | 1 W _H | F20 | R | |
| 2CA0H-2CA3H | 11425-11428 | 902 | 9 | | VA hour (Quadrant 2), Primary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 2CA4H-2CA7H | 11429-11432 | 902 | 10 | | VAR hour (Quadrant 2), Primary | +9,999,999,999,999,999 VARh / 0 VARh | 1 VAR _H | F20 | R | |
| 2CA8H-2CABH | 11433-11436 | 902 | 11 | | VA hour (Quadrant 3), Primary | +9,999,999,999,999,999 VAh / 0 VAh | 1 VA _H | F20 | R | |
| 2CACH-2CAFH | 11437-11440 | 902 | 12 | | VAR hour (Quadrant 3), Primary | 0 VARh / -9,999,999,999,999,999 VARh | 1 VAR _H | F20 | R | |
| 2CB0H-2CB3H | 11441-11444 | 902 | 13 | | I ₂ t Phase A, Primary | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F20 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|--|---|--------------------|------|-----|-------|
| 2CB4H-2CB7H | 11445-11448 | 902 | 14 | | I2t Phase B, Primary | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F20 | R | |
| 2CB8H-2CBBH | 11449-11452 | 902 | 15 | | I2t Phase C, Primary | +9,999,999,999,999,999 I ² t / 0 | 1 I ² t | F20 | R | |
| 2CBCH-2CBFH | 11453-11456 | 902 | 16 | | V2t Phase A, Primary | +9,999,999,999,999,999 V ² t / 0 | 1 V ² t | F20 | R | |
| 2CC0H-2CC3H | 11457-11460 | 902 | 17 | | V2t Phase B, Primary | +9,999,999,999,999,999 V ² t / 0 | 1 V ² t | F20 | R | |
| 2CC4H-2CC7H | 11461-11464 | 902 | 18 | | V2t Phase C, Primary | +9,999,999,999,999,999 V ² t / 0 | 1 V ² t | F20 | R | |
| 2CC8H-2CCBH | 11465-11468 | 902 | 19 | | Watt hour (Quadrant 1), Primary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F20 | R | |
| 2CCCH-2CCFH | 11469-11472 | 902 | 20 | | Watt hour (Quadrant 4), Primary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F20 | R | |
| 2CD0H-2CD3H | 11473-11476 | 902 | 21 | | Watt hour (Quadrant 2), Primary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F20 | R | |
| 2CD4H-2CD7H | 11477-11480 | 902 | 22 | | Watt hour (Quadrant 3), Primary | +9,999,999,999,999,999 WH / 0 WH | 1 W _H | F20 | R | |
| 2CD8H-2CDBH | 11481-11484 | 902 | 23 | | VA hour (Quadrant 1+2+3+4), Uncompensated, Primary | 9,999,999,999,999,999 / 0 | 1 | F20 | | |
| 2CDBH-2CDFH | 11485-11488 | 902 | 24 | | VAR hour (Quadrant 1+2), Uncompensated, Primary | 9,999,999,999,999,999 / 0 | 1 | F20 | | |
| 2CE0H-2CE3H | 11489-11492 | 902 | 25 | | VAR hour (Quadrant 3+4), Uncompensated, Primary | 9,999,999,999,999,999 / 0 | 1 | F20 | | |
| 2CE4H-2CE7H | 11493-11496 | 902 | 26 | | Watt hour (Quadrant 1+4), Uncompensated, Primary | 9,999,999,999,999,999 / 0 | 1 | F20 | | |
| 2CE8H-2CEBH | 11497-11500 | 902 | 27 | | Watt hour (Quadrant 2+3), Uncompensated, Primary | 9,999,999,999,999,999 / 0 | 1 | F20 | | |
| 2CECH-2CEFH | 11501-11504 | 902 | 28 | | Q hour, positive, Primary | 9,999,999,999,999,999 Qh / 0 | 1 Qh | F20 | | |
| 2CF0H-2CF3H | 11515-11508 | 902 | 29 | | Q hour, negative, Primary | 9,999,999,999,999,999 Qh / 0 | 1 Qh | F20 | | |
| Frozen Energy - Internal Input Pulse Accumulation Readings | | | | | | | | | | |
| 2CF4H-2CF7H | 11509-11512 | 903 | 0 | | Pulse Accumulation Internal Input 1 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2CF8H-2CFBH | 11513-11516 | 903 | 1 | | Pulse Accumulation Internal Input 2 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2CFCH-2CFFH | 11517-11520 | 903 | 2 | | Pulse Accumulation Internal Input 3 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D00H-2D03H | 11521-11524 | 903 | 3 | | Pulse Accumulation Internal Input 4 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D04H-2D07H | 11525-11528 | 903 | 4 | | Pulse Accumulation Internal Input 5 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D08H-2D0BH | 11529-11532 | 903 | 5 | | Pulse Accumulation Internal Input 6 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D0CH-2D0FH | 11533-11536 | 903 | 6 | | Pulse Accumulation Internal Input 7 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D10H-2D13H | 11537-11540 | 903 | 7 | | Pulse Accumulation Internal Input 8 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D14H-2D17H | 11541-11544 | 903 | 8 | | Pulse Accumulation Aggregation 1 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D18H-2D1BH | 11545-11548 | 903 | 9 | | Pulse Accumulation Aggregation 2 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D1CH-2D1FH | 11549-11552 | 903 | 10 | | Pulse Accumulation Aggregation 3 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| 2D20H-2D23H | 11553-11556 | 903 | 11 | | Pulse Accumulation Aggregation 4 | +/- 9,223,372,036,854,776,808 | 1 Unit | F62 | R | |
| Frozen Energy - KYZ Output Accumulation Readings | | | | | | | | | | |
| 2D24H-2D25H | 11557-11558 | 904 | 0 | | KYZ Output Accumulation, Relay 1 - Pulse 1 | 4,294,967,295 / 0 | | F18 | R | |
| 2D26H-2D27H | 11559-11560 | 904 | 1 | | KYZ Output Accumulation, Relay 2 - Pulse 2 | 4,294,967,295 / 0 | | F18 | R | |
| 2D28H-2D29H | 11561-11562 | 904 | 2 | | KYZ Output Accumulation, Relay 3 | 4,294,967,295 / 0 | | F18 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|--|---------------------------------------|---------------------------|------|-----|-------|
| 2D2AH-2D2BH | 11563-11564 | 904 | 3 | | KYZ Output Accumulation, Relay 4 | 4,294,967,295 / 0 | | F18 | R | |
| 2D2CH-2D2DH | 11565-11566 | 904 | 4 | | Reserved | 4,294,967,295 / 0 | | F18 | R | |
| Frozen Energy - Scaled Energy Readings | | | | | | | | | | |
| 2D2EH-2D2FH | 11567-11568 | 905 | 0 | | VA hour (Quadrant 1+2+3+4), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D30H-2D31H | 11569-11570 | 905 | 1 | | VAR hour (Quadrant 1+2), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D32H-2D33H | 11571-11572 | 905 | 2 | | VAR hour (Quadrant 2+3), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D34H-2D35H | 11573-11574 | 905 | 3 | | Watt hour (Quadrant 1+4) , Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D36H-2D37H | 11575-11576 | 905 | 4 | | VA hour (Quadrant 1), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D38H-2D39H | 11577-11578 | 905 | 5 | | VAR hour (Quadrant 1), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D3AH-2D3BH | 11579-11580 | 905 | 6 | | VA hour (Quadrant 4), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D3CH-2D3DH | 11581-11582 | 905 | 7 | | VAR hour (Quadrant 4), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D3EH-2D3FH | 11583-11584 | 905 | 8 | | Watt hour (Quadrant 2+3), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D40H-2D41H | 11585-11586 | 905 | 9 | | VA hour (Quadrant 2), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D42H-2D43H | 11597-11588 | 905 | 10 | | VAR hour (Quadrant 2), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D44H-2D45H | 11589-11590 | 905 | 11 | | VA hour (Quadrant 3), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D46H-2D47H | 11591-11592 | 905 | 12 | | VAR hour (Quadrant 3), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D48H-2D49H | 11593-11594 | 905 | 13 | | I2t Phase A, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D4AH-2D4BH | 11595-11596 | 905 | 14 | | I2t Phase B, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D4CH-2D4DH | 11597-11598 | 905 | 15 | | I2t Phase C, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D4EH-2D4FH | 11599-11600 | 905 | 16 | | V2t Phase A, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D50H-2D51H | 11601-11602 | 905 | 17 | | V2t Phase B, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|---|---------------------------------------|---------------------------|------|-----|-------|
| 2D52H-2D53H | 11603-11604 | 905 | 18 | | V2t Phase C, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D54H-2D55H | 11605-11606 | 905 | 19 | | Watt hour (Quadrant 1), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D56H-2D57H | 11607-11608 | 905 | 20 | | Watt hour (Quadrant 4), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D58H-2D59H | 11609-11610 | 905 | 21 | | Watt hour (Quadrant 2), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D5AH-2D5BH | 11611-11612 | 905 | 22 | | Watt hour (Quadrant 3), Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D5CH-2D5DH | 11613-11614 | 905 | 23 | | VA hour (Quadrant 1+2+3+4), Uncompensated, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D5EH-2D5FH | 11615-11616 | 905 | 24 | | VAR hour (Quadrant 1+2), Uncompensated, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D60H-2D61H | 11617-11618 | 905 | 25 | | VAR hour (Quadrant 3+4), Uncompensated , Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D62H-2D63H | 11619-11620 | 905 | 26 | | Watt hour (Quadrant 1+4), Uncompensated, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D64H-2D65H | 11621-11622 | 905 | 27 | | Watt hour (Quadrant 2+3), Uncompensated , Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D66H-2D67H | 11623-11624 | 905 | 28 | | Q hour, positive, Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D68H-2D69H | 11625-11626 | 905 | 29 | | Q hour, negative, Scaled Scaled Primary | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| Frozen Energy:- Scaled Internal Input Pulse Accumulation Readings | | | | | | | | | | |
| 2D6AH-2D6BH | 11627-11628 | 906 | 0 | | Pulse Accumulation Inputs 1, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D6CH-2D6DH | 11629-11630 | 906 | 1 | | Pulse Accumulation Inputs 2, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D6EH-2D6FH | 11631-11632 | 906 | 2 | | Pulse Accumulation Inputs 3, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D70H-2D71H | 11633-11634 | 906 | 3 | | Pulse Accumulation Inputs 4, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D72H-2D73H | 11635-11636 | 906 | 4 | | Pulse Accumulation Inputs 5, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D74H-2D75H | 11637-11638 | 906 | 5 | | Pulse Accumulation Inputs 6, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D76H-2D77H | 11639-11640 | 906 | 6 | | Pulse Accumulation Inputs 7, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|---|---------------------------------------|---------------------------|------|-----|-------|
| 2D78H-2D79H | 11641-11642 | 906 | 7 | | Pulse Accumulation Inputs 8, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D7AH-2D7BH | 11643-11644 | 906 | 8 | | Pulse Aggregations 1, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D7CH-2D7DH | 11645-11646 | 906 | 9 | | Pulse Aggregations 2, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D7EH-2D7FH | 11647-11648 | 906 | 10 | | Pulse Aggregations 3, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2D80H-2D81H | 11649-11650 | 906 | 11 | | Pulse Aggregations 4, Scaled | variable (9999 through 999999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| Previous Block Window Average Block | | | | | | | | | | |
| 2D82H-2D83H | 11651-11652 | 907 | 0 | 30 | Previous Maximum Block Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 2D84H-2D85H | 11653-11654 | 907 | 1 | 30 | Previous Maximum Block Window Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2D86H-2D87H | 11655-11656 | 907 | 2 | 30 | Previous Maximum Block Window Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2D88H-2D89H | 11657-11658 | 907 | 3 | 30 | Previous Maximum Block Window Average Positive Watt | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 2D8AH-2D8BH | 11659-11660 | 907 | 4 | 30 | Previous Maximum Block Window Average Negative Watt | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2D8CH-2D8DH | 11661-11662 | 908 | 0 | 30 | Previous Minimum Block Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 2D8EH-2D8FH | 11663-11664 | 908 | 1 | 30 | Previous Minimum Block Window Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2D90H-2D91H | 11665-11666 | 908 | 2 | 30 | Previous Minimum Block Window Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2D92H-2D93H | 11667-11668 | 908 | 3 | 30 | Previous Minimum Block Window Average Positive Watt | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 2D94H-2D95H | 11669-11670 | 908 | 4 | 30 | Previous Minimum Block Window Average Negative Watt | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2D96H-2D97H | 11671-11672 | 909 | 0 | 30 | Coin. Block Window Average VAR for Previous Maximum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2D98H-2D99H | 11673-11674 | 909 | 1 | 30 | Coin. Block Window Average VAR for Previous Maximum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2D9AH-2D9BH | 11675-11676 | 909 | 2 | 30 | Coin. Block Window Average VAR for Previous Minimum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2D9CH-2D9DH | 11677-11678 | 909 | 3 | 30 | Coin. Block Window Average VAR for Previous Minimum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2D9EH-2DA1H | 11679-11682 | 910 | 0 | 50 | Previous Maximum Block Window Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DA2H-2DA5H | 11683-11686 | 910 | 1 | 50 | Previous Maximum Block Window Average Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DA6H-2DA9H | 11687-11690 | 910 | 2 | 50 | Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DAAH-2DADH | 11691-11694 | 910 | 3 | 50 | Previous Maximum Block Window Average Positive Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DAEH-2DB1H | 11695-11698 | 910 | 4 | 50 | Previous Maximum Block Window Average Negative Watt | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DB2H-2DB5H | 11699-11702 | 911 | 0 | 50 | Previous Minimum Block Window Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DB6H-2DB9H | 11703-11706 | 911 | 1 | 50 | Previous Minimum Block Window Average Positive VAR Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DBAH-2DBDH | 11707-11710 | 911 | 2 | 50 | Previous Minimum Block Window Average Negative VAR | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|-----|------------|---|-------------------------|------------------|------|-----|-------|
| 2DBEH-2DC1H | 11711-11714 | 911 | 3 | 50 | Previous Minimum Block Window Average Positive Watt Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DC2H-2DC5H | 11715-11718 | 911 | 4 | 50 | Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DC6H-2DC9H | 11719-11722 | 912 | 0-1 | 30 | Previous Maximum Block Window Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 2DCAH-2DCDH | 11723-11726 | 913 | 0-1 | 30 | Previous Minimum Thermal Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 2DCEH-2DD5H | 11727-11734 | 914 | 0-1 | 50 | Previous Maximum Thermal Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| 2DD6H-2DDDH | 11735-11742 | 915 | 0-1 | 50 | Previous Minimum Thermal Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| Previous Rolling Window/Predictive Rolling Window Block | | | | | | | | | | |
| 2DDEH-2DDFH | 11743-11744 | 916 | 0 | 30 | Previous Maximum Rolling Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 2DE0H-2DE1H | 11745-11746 | 916 | 1 | 30 | Previous Maximum Rolling Window Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2DE2H-2DE3H | 11747-11748 | 916 | 2 | 30 | Previous Maximum Rolling Window Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2DE4H-2DE5H | 11749-11750 | 916 | 3 | 30 | Previous Maximum Rolling Window Average Positive Watt | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 2DE6H-2DE7H | 11751-11752 | 916 | 4 | 30 | Previous Maximum Rolling Window Average Negative Watt | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2DE8H-2DE9H | 11753-11754 | 917 | 0 | 30 | Previous Minimum Rolling Window Average VA | +32767 VA / 0 VA | 1/ 65536 VA sec | F7 | R | 9 |
| 2DEAH-2DEBH | 11755-11756 | 917 | 1 | 30 | Previous Minimum Rolling Window Average Positive VAR | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2DECH-2DEDH | 11757-11758 | 917 | 2 | 30 | Previous Minimum Rolling Window Average Negative VAR | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2DEEH-2DEFH | 11759-11760 | 917 | 3 | 30 | Previous Minimum Rolling Window Average Positive Watt | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 2DF0H-2DF1H | 11761-11762 | 917 | 4 | 30 | Previous Minimum Rolling Window Average Negative Watt | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2DF2H-2DF3H | 11763-11764 | 918 | 0 | 30 | Coin. Rolling Window Average VAR for Previous Maximum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2DF4H-2DF5H | 11765-11766 | 918 | 1 | 30 | Coin. Rolling Window Average VAR for Previous Maximum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2DF6H-2DF7H | 11767-11768 | 918 | 2 | 30 | Coin. Rolling Window Average VAR for Previous Minimum Positive Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2DF8H-2DF9H | 11769-11770 | 918 | 3 | 30 | Coin. Rolling Window Average VAR for Previous Minimum Negative Watt | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2DFAH-2DFDH | 11771-11774 | 919 | 0 | 50 | Previous Maximum Rolling Window Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2DFEH-2E01H | 11775-11778 | 919 | 1 | 50 | Previous Maximum Rolling Window Average Positive VAR | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E02H-2E05H | 11779-11782 | 919 | 2 | 50 | Previous Maximum Rolling Window Average Negative VAR | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E06H-2E09H | 11783-11786 | 919 | 3 | 50 | Previous Maximum Rolling Window Average Positive Watt | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E0AH-2E0DH | 11787-11790 | 919 | 4 | 50 | Previous Maximum Rolling Window Average Negative Watt | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E0EH-2E11H | 11791-11794 | 920 | 0 | 50 | Previous Minimum Rolling Window Average VA Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E12H-2E15H | 11795-11798 | 920 | 1 | 50 | Previous Minimum Rolling Window Average Positive VAR | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E16H-2E19H | 11799-11802 | 920 | 2 | 50 | Previous Minimum Rolling Window Average Negative VAR | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E1AH-2E1DH | 11803-11806 | 920 | 3 | 50 | Previous Minimum Rolling Window Average Positive Watt | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E1EH-2E21H | 11807-11810 | 920 | 4 | 50 | Previous Minimum Rolling Window Average Negative Watt | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 2E22H-2E25H | 11811-11814 | 921 | 0-1 | 30 | Previous Maximum Rolling Window Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |
| 2E26H-2E29H | 11815-11818 | 922 | 0-1 | 30 | Previous Minimum Rolling Window Average +/- Q | +32767 Q / -32768 Q | 1/65536 Q sec | F7 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|------------------------------|-------------|------|-----|------------|---|---------------------------------------|---|------|-----|-------|
| 2E2AH-2E31H | 11819-11826 | 923 | 0-1 | 50 | Previous Maximum Rolling Window Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E32H-2E39H | 11827-11834 | 924 | 0-1 | 50 | Previous Minimum Rolling Window Average +/- Q Time Stamps | 12/31/9999 23:59:59.99 | | F3 | | |
| Previous Scaled Energy Block | | | | | | | | | | |
| 2E3AH-2E3BH | 11835-11836 | 925 | 0 | 20 | Previous Total VAh (Quadrant 1+2+3+4) Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E3CH-2E3DH | 11837-11838 | 925 | 1 | 20 | Previous Positive VARh (Quadrant 1+2) Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E3EH-2E3FH | 11839-11840 | 925 | 2 | 20 | Previous Negative VARh (Quadrant 3+4) Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E40H-2E41H | 11841-11842 | 926 | 0 | 20 | Previous Positive Wh (Quadrant 1+4) Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E42H-2E43H | 11843-11844 | 926 | 1 | 20 | Previous Quadrant 1 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E44H-2E45H | 11845-11846 | 926 | 2 | 20 | Previous Quadrant 1 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E46H-2E47H | 11847-11848 | 926 | 3 | 20 | Previous Quadrant 4 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E48H-2E49H | 11849-11850 | 926 | 4 | 20 | Previous Quadrant 4 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E4AH-2E4BH | 11851-11852 | 926 | 5 | 20 | Previous Negative Wh (Quadrant 2+3) Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E4CH-2E4DH | 11853-11854 | 926 | 6 | 20 | Previous Quadrant 2 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E4EH-2E4FH | 11855-11856 | 926 | 7 | 20 | Previous Quadrant 2 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E50H-2E51H | 11857-11858 | 926 | 8 | 20 | Previous Quadrant 3 VAh Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E52H-2E53H | 11859-11860 | 926 | 9 | 20 | Previous Quadrant 3 VARh Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E54H-2E55H | 11861-11862 | 927 | 0 | 20 | Previous I2t Phase A Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E56H-2E57H | 11863-11864 | 927 | 1 | 20 | Previous I2t Phase B Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E58H-2E59H | 11865-11866 | 927 | 2 | 20 | Previous I2t Phase C Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |
| 2E5AH-2E5BH | 11867-11868 | 927 | 3 | 20 | Previous V2t Phase A Scaled Primary | variable (9999 through 999999999 / 0) | variable 10 ⁶ - 10 ⁻⁷ | F64 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|-----|------------|---|--------------------------------------|---------------------------|------|-----|-------|
| 2E5CH-2E5DH | 11869-11870 | 927 | 4 | 20 | Previous V2t Phase B Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E5EH-2E5FH | 11871-11872 | 927 | 5 | 20 | Previous V2t Phase C Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E60H-2E61H | 11873-11874 | 928 | 0 | 20 | Previous Quadrant 1 Wh Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E62H-2E63H | 11875-11876 | 928 | 1 | 20 | Previous Quadrant 4 Wh Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E64H-2E65H | 11877-11878 | 928 | 2 | 20 | Previous Quadrant 2 Wh Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E66H-2E67H | 11879-11880 | 928 | 3 | 20 | Prevoius Quadrant 3 Wh Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E68H-2E69H | 11881-11882 | 929 | 0 | 20 | Prevoius Uncompensated Total VAh, Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E6AH-2E6DH | 11883-11886 | 929 | 1-2 | 20 | Previous Uncompensated +/- VARh Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E6EH-2E71H | 11887-11890 | 929 | 3-4 | 20 | Previous Uncompensated +/- Wh Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| 2E72H-2E75H | 11891-11894 | 930 | 0-1 | 20 | Previous +/- Qh Scaled Primary | variable (9999 through 99999999 / 0) | variable $10^6 - 10^{-7}$ | F64 | | |
| One Second Three Phase Mean RMS Block | | | | | | | | | | |
| 2E76H-2E77H | 11895-11896 | 931 | 0 | 30 | One Second Three Phase Mean RMS Vpn | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| 2E78H-2E79H | 11897-11898 | 932 | 0 | 30 | One Second Three Phase Mean RMS Amp | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | |
| 2E7AH-2E7BH | 11899-11900 | 933 | 0 | 30 | One Second Three Phase Mean RMS Vpp | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| Block Window Max/Min and 10 Minute Mean THD Block | | | | | | | | | | |
| 2E7CH-2E7FH | 11901-11904 | 934 | 0 | 50 | Block Window Max/Min and 10 Minute Mean THD Block Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E80H-2E83H | 11905-11908 | 934 | 1 | 50 | Block Window Max./Min Interval 1 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E84H-2E87H | 11909-11912 | 934 | 2 | 50 | Block Window Max/Min Interval 2 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E88H-2E8BH | 11913-11916 | 934 | 3 | 50 | Block Window Max Interval 1 Three Phase Mean RMS Vpn Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E8CH-2E8FH | 11917-11920 | 934 | 4 | 50 | Block Window Max Interval 1 Three Phase Mean RMS Amp Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E90H-2E93H | 11921-11924 | 934 | 5 | 50 | Block Window Max Interval 1 Three Phase Mean RMS Vpp Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E94H-2E97H | 11925-11928 | 934 | 6 | 50 | Block Window Max Interval 1 VAR Q1+2 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E98H-2E9BH | 11929-11932 | 934 | 7 | 50 | Block Window Max Interval 1 VAR Q3+4 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2E9CH-2E9FH | 11933-11936 | 934 | 8 | 50 | Block Window Max Interval 1 W Q1+4 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EA0H-2EA3H | 11937-11940 | 934 | 9 | 50 | Block Window Max Interval 1 W Q2+3 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|------------------------|----------------|------|-----|-------|
| 2EA4H-2EA7H | 11941-11944 | 934 | 10 | 50 | Block Window Max Interval 2 Three Phase Mean RMS Vpn Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EA8H-2EABH | 11945-11948 | 934 | 11 | 50 | Block Window Max Interval 2 Three Phase Mean RMS Amp Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EACH-2EAFH | 11949-11952 | 934 | 12 | 50 | Block Window Max Interval 2 Three Phase Mean RMS Vpp Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EB0H-2EB3H | 11953-11956 | 934 | 13 | 50 | Block Window Max Interval 2 VAR Q1+2 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EB4H-2EB7H | 11957-11960 | 934 | 14 | 50 | Block Window Max Interval 2 VAR Q3+4 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EB8H-2EBBH | 11961-11964 | 934 | 15 | 50 | Block Window Max Interval 2 W Q1+4 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EBCH-2EBFH | 11965-11968 | 934 | 16 | 50 | Block Window Max Interval 2 W Q2+3 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EC0H-2EC3H | 11969-11972 | 934 | 17 | 50 | Block Window Min Interval 1 Three Phase Mean RMS Vpn Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EC4H-2EC7H | 11973-11976 | 934 | 18 | 50 | Block Window Min Interval 1 Three Phase Mean RMS Amp Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EC8H-2ECBH | 11977-11980 | 934 | 19 | 50 | Block Window Min Interval 1 Three Phase Mean RMS Vpp Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2ECCH-2ECFH | 11981-11984 | 934 | 20 | 50 | Block Window Min Interval 1 VAR Q1+2 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2ED0H-2ED3H | 11985-11988 | 934 | 21 | 50 | Block Window Min Interval 1 VAR Q3+4 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2ED4H-2ED7H | 11989-11992 | 934 | 22 | 50 | Block Window Min Interval 1 W Q1+4 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2ED8H-2EDBH | 11993-11996 | 934 | 23 | 50 | Block Window Min Interval 1 W Q2+3 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EDCH-2EDFH | 11997-12000 | 934 | 24 | 50 | Block Window Min Interval 2 Three Phase Mean RMS Vpn Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EE0H-2EE3H | 12001-12004 | 934 | 25 | 50 | Block Window Min Interval 2 Three Phase Mean RMS Amp Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EE4H-2EE7H | 12005-12008 | 934 | 26 | 50 | Block Window Min Interval 2 Three Phase Mean RMS Vpp Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EE8H-2EEBH | 12009-12012 | 934 | 27 | 50 | Block Window Min Interval 2 VAR Q1+2 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EECH-2EEFH | 12013-12016 | 934 | 28 | 50 | Block Window Min Interval 2 VAR Q3+4 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EF0H-2EF3H | 12017-12020 | 934 | 29 | 50 | Block Window Min Interval 2 W Q1+4 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EF4H-2EF7H | 12021-12024 | 934 | 30 | 50 | Block Window Min Interval 2 W Q2+3 Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EF8H-2EFBH | 12025-12028 | 934 | 31 | 50 | 10 Minute Mean THD Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2EFCH | 12029 | 935 | 0 | 30 | 10 Minute Mean THD Van/Vab | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2EFDH | 12030 | 935 | 1 | 30 | 10 Minute Mean THD Vbn/Vbc | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2EFEH | 12031 | 935 | 2 | 30 | 10 Minute Mean THD Vcn/Vca | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2EFFH | 12032 | 936 | 0 | 30 | 10 Minute Mean THD Ia | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2F00H | 12033 | 936 | 1 | 30 | 10 Minute Mean THD Ib | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2F01H | 12034 | 936 | 2 | 30 | 10 Minute Mean THD Ic | +327.67% / -327.68% | 0.01% | F10 | R | |
| 2F02H-2F03H | 12035-12036 | 937 | 0 | 30 | Block Window Max Interval 1 Mean Vpn | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 5 |
| 2F04H-2F05H | 12037-12038 | 938 | 0 | 30 | Block Window Max Interval 1 Mean Amp | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------------------------|------------------|------|-----|-------|
| 2F06H-2F07H | 12039-12040 | 939 | 0 | 30 | Block Window Max Interval 1 Mean Vpp | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 5 |
| 2F08H-2F09H | 12041-12042 | 940 | 0 | 30 | Block Window Max Interval 1 VAR Q1+2 | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F0AH-2F0BH | 12043-12044 | 940 | 1 | 30 | Block Window Max Interval 1 VAR Q3+4 | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F0CH-2F0DH | 12045-12046 | 940 | 2 | 30 | Block Window Max Interval 1 W Q1+4 | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F0EH-2F0FH | 12047-12048 | 940 | 3 | 30 | Block Window Max Interval 1 W Q2+3 | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F10H-2F11H | 12049-12050 | 941 | 0 | 30 | Block Window Max Interval 2 Mean Vpn | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 5 |
| 2F12H-2F13H | 12051-12052 | 942 | 0 | 30 | Block Window Max Interval 2 Mean Amp | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 2F14H-2F15H | 12053-12054 | 943 | 0 | 30 | Block Window Max Interval 2 Mean Vpp | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 5 |
| 2F16H-2F17H | 12055-12056 | 944 | 0 | 30 | Block Window Max Interval 2 VAR Q1+2 | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F18H-2F19H | 12057-12058 | 944 | 1 | 30 | Block Window Max Interval 2 VAR Q3+4 | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F1AH-2F1BH | 12059-12060 | 944 | 2 | 30 | Block Window Max Interval 2 W Q1+4 | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F1CH-2F1DH | 12061-12062 | 944 | 3 | 30 | Block Window Max Interval 2 W Q2+3 | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F1EH-2F1FH | 12063-12064 | 945 | 0 | 30 | Block Window Min Interval 1 Mean Vpn | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 5 |
| 2F20H-2F21H | 12065-12066 | 946 | 0 | 30 | Block Window Min Interval 1 Mean Amp | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 2F22H-2F23H | 12067-12068 | 947 | 0 | 30 | Block Window Min Interval 1 Mean Vpp | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 5 |
| 2F24H-2F25H | 12069-12070 | 948 | 0 | 30 | Block Window Min Interval 1 VAR Q1+2 | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F26H-2F27H | 12071-12072 | 948 | 1 | 30 | Block Window Min Interval 1 VAR Q3+4 | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F28H-2F29H | 12073-12074 | 948 | 2 | 30 | Block Window Min Interval 1 W Q1+4 | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F2AH-2F2BH | 12075-12076 | 948 | 3 | 30 | Block Window Min Interval 1 W Q2+3 | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F2CH-2F2DH | 12077-12078 | 949 | 0 | 30 | Block Window Min Interval 2 Mean Vpn | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 5 |
| 2F2EH-2F2FH | 12079-12080 | 950 | 0 | 30 | Block Window Min Interval 2 Mean Amp | + 32767 A / 0 A | 1/ 65536 A sec | F7 | R | 6 |
| 2F30H-2F31H | 12081-12082 | 951 | 0 | 30 | Block Window Min Interval 2 Mean Vpp | + 32767 V / 0 V | 1/ 65536 V sec | F7 | R | 5 |
| 2F32H-2F33H | 12083-12084 | 952 | 0 | 30 | Block Window Min Interval 2 VAR Q1+2 | +32767 VAR / 0 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F34H-2F35H | 12085-12086 | 952 | 1 | 30 | Block Window Min Interval 2 VAR Q3+4 | 0 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F36H-2F37H | 12087-12088 | 952 | 2 | 30 | Block Window Min Interval 2 W Q1+4 | +32767 W / 0 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F38H-2F39H | 12089-12090 | 952 | 3 | 30 | Block Window Min Interval 2 W Q2+3 | 0 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F3AH-2F3DH | 12091-12094 | 953 | 0 | 50 | Block Window Max Interval 1 Overall VAR Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2F3EH-2F41H | 12095-12098 | 953 | 1 | 50 | Block Window Max Interval 1 Overall W Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2F42H-2F45H | 12099-12102 | 953 | 2 | 50 | Block Window Max Interval 2 Overall VAR Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2F46H-2F49H | 12103-12106 | 953 | 3 | 50 | Block Window Max Interval 2 Overall W Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2F4AH-2F4DH | 12107-12110 | 953 | 4 | 50 | Block Window Min Interval 1 Overall VAR Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2F4EH-2F51H | 12111-12114 | 953 | 5 | 50 | Block Window Min Interval 1 Overall W Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2F52H-2F55H | 12115-12118 | 953 | 6 | 50 | Block Window Min Interval 2 Overall VAR Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2F56H-2F59H | 12119-12122 | 953 | 7 | 50 | Block Window Min Interval 2 Overall W Timestamp | 12/31/9999 23:59:59.99 | | F3 | | |
| 2F5AH-2F5BH | 12123-12124 | 954 | 0 | 30 | Block Window Max Interval 1 Overall VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F5CH-2F5DH | 12125-12126 | 954 | 1 | 30 | Block Window Max Interval 1 Overall W | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F5EH-2F5FH | 12127-12128 | 954 | 2 | 30 | Block Window Max Interval 2 Overall VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F60H-2F61H | 12129-12130 | 954 | 3 | 30 | Block Window Max Interval 2 Overall W | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F62H-2F63H | 12131-12132 | 954 | 4 | 30 | Block Window Min Interval 1 Overall VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------|-------------|------|-------|---------|--|--------------------------------|------------------|------|-----|-------|
| 2F64H-2F65H | 12133-12134 | 954 | 5 | 30 | Block Window Min Interval 1 Overall W | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| 2F66H-2F67H | 12135-12136 | 954 | 6 | 30 | Block Window Min Interval 2 Overall VAR | +32767 VAR / -32768 VAR | 1/ 65536 VAR sec | F7 | R | 9 |
| 2F68H-2F69H | 12137-12138 | 954 | 7 | 30 | Block Window Min Interval 2 Overall W | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | 9 |
| Customized Modbus Block | | | | | | | | | | |
| 3000H-37FFH | 12289-14336 | | | | Customized Modbus Readings | | | | R | |
| Nexus Master Polling Data Block | | | | | | | | | | |
| 3800H-387FH | 14337-14464 | 1216 | 0-127 | | Nexus master database | 65535 / 0 | | F51 | R | |
| 3800H-387FH | 14337-14464 | 1217 | 0-63 | | Nexus master database | 4,294,967,295 / 0 | | F53 | R | |
| 3801H-387EH | 14338-14463 | 1218 | 0-62 | | Nexus master database | 4,294,967,295 / 0 | | F53 | R | |
| 3800H-387FH | 14337-14464 | 1219 | 0-31 | | Nexus master database | 18,446,744,073,709,551,615 / 0 | | F55 | R | |
| 3801H-387CH | 14338-14461 | 1220 | 0-30 | | Nexus master database | 18,446,744,073,709,551,615 / 0 | | F55 | R | |
| 3802H-387DH | 14339-14462 | 1221 | 0-30 | | Nexus master database | 18,446,744,073,709,551,615 / 0 | | F55 | R | |
| 3803H-387EH | 14340-14463 | 1222 | 0-30 | | Nexus master database | 18,446,744,073,709,551,615 / 0 | | F55 | R | |
| 3880H-3883H | 14465-14468 | | | | Nexus master poll time | 12/31/9999 23:59:59.99 | | F3 | R | |
| 3884H-388BH | 14469-14476 | 1223 | 0-127 | | Nexus master data polling status | Bits, bit value 1=data valid | | F51 | R | 2 |
| 388CH-390BH | 14477-14604 | 1224 | 0-127 | | Nexus master data polling failed count | 65535 / 0 | 1 | F51 | R | 2 |
| Additional and Vpe Block | | | | | | | | | | |
| 3A00H-3A01H | 14849-14850 | 1200 | 0 | | Tenth sec Phase A-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A02H-3A03H | 14851-14852 | 1200 | 1 | | Tenth sec Phase B-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A04H-3A05H | 14853-14854 | 1200 | 2 | | Tenth sec Phase C-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A06H-3A07H | 14855-14856 | 1200 | 3 | | Tenth sec Phase N-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A08H-3A09H | 14857-14858 | 1201 | 0 | | One sec Phase A-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A0AH-3A0BH | 14859-14860 | 1201 | 1 | | One sec Phase B-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A0CH-3A0DH | 14861-14862 | 1201 | 2 | | One sec Phase C-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A0EH-3A0FH | 14863-14864 | 1201 | 3 | | One sec Phase N-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A10H-3A11H | 14865-14866 | 1202 | 0 | | Thermal Average Phase A-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A12H-3A13H | 14867-14868 | 1202 | 1 | | Thermal Average Phase B-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A14H-3A15H | 14869-14870 | 1202 | 2 | | Thermal Average Phase C-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A16H-3A17H | 14871-14872 | 1202 | 3 | | Thermal Average Phase N-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A18H-3A19H | 14873-14874 | 1203 | 0 | | Maximum Thermal Average Phase A-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A1AH-3A1BH | 14875-14876 | 1203 | 1 | | Maximum Thermal Average Phase B-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A1CH-3A1DH | 14877-14878 | 1203 | 2 | | Maximum Thermal Average Phase C-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A1EH-3A1FH | 14879-14880 | 1203 | 3 | | Maximum Thermal Average Phase N-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A20H-3A21H | 14881-14882 | 1204 | 0 | | Minimum Thermal Average Phase A-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A22H-3A23H | 14883-14884 | 1204 | 1 | | Minimum Thermal Average Phase B-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A24H-3A25H | 14885-14886 | 1204 | 2 | | Minimum Thermal Average Phase C-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A26H-3A27H | 14887-14888 | 1204 | 3 | | Minimum Thermal Average Phase N-E Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A28H-3A2BH | 14889-14892 | 1205 | 0 | | Maximum Thermal Average Phase A-E Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A2CH-3A2FH | 14893-14896 | 1205 | 1 | | Maximum Thermal Average Phase B-E Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|--|----------------------------|------|-----|---------|
| 3A30H-3A33H | 14897-14900 | 1205 | 2 | | Maximum Thermal Average Phase C-E Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A34H-3A37H | 14901-14904 | 1205 | 3 | | Maximum Thermal Average Phase N-E Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A38H-3A3BH | 14905-14908 | 1206 | 0 | | Minimum Thermal Average Phase A-E Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A3CH-3A3FH | 14909-14912 | 1206 | 1 | | Minimum Thermal Average Phase B-E Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A40H-3A43H | 14913-14916 | 1206 | 2 | | Minimum Thermal Average Phase C-E Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A44H-3A47H | 14917-14920 | 1206 | 3 | | Minimum Thermal Average Phase N-E Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A48H-3A49H | 14921-14922 | 1207 | 0 | | Tenth sec Calculated Neutral Current | +65536 A ² / 0 A ² | 1/65536 A ² sec | F5 | R | 3, 6, 8 |
| 3A4AH-3A4BH | 14923-14924 | 1208 | 0 | | Tenth sec residual Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A4CH-3A4DH | 14925-14926 | 1209 | 0 | | One sec residual Voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A4EH-3A4FH | 14927-14928 | 1210 | 0 | | Thermal average residual voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A50H-3A51H | 14929-14930 | 1211 | 0 | | Maximum Thermal Average residual voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A52H-3A53H | 14931-14932 | 1212 | 0 | | Minimum Thermal Average residual voltage | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | 4 |
| 3A54H-3A57H | 14933-14936 | 1213 | 0 | | Maximum Thermal Average residual Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A58H-3A5BH | 14937-14940 | 1214 | 0 | | Maximum Thermal Average residual Voltage Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 3A5CH-3A5DH | 14941-14942 | 1215 | 0 | | One sec Aux Frequency | | | | | |
| Block Window Max/Min Block, P-E | | | | | | | | | | |
| 3A5EH-3A5FH | 14943-14944 | 1225 | 0 | | Block Window Max Interval 1 Voltage P-E | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| 3A60H-3A61H | 14945-14946 | 1225 | 1 | | Block Window Max Interval 2 Voltage P-E | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| 3A62H-3A63H | 14947-14948 | 1225 | 2 | | Block Window Min Interval 1 Voltage P-E | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| 3A64H-3A65H | 14949-14950 | 1225 | 3 | | Block Window Min Interval 2 Voltage P-E | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| 3A66H-3A69H | 14951-14954 | 1226 | 0 | | Block Window Max Interval 1 Voltage P-E Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 3A6AH-3A6DH | 14955-14958 | 1226 | 1 | | Block Window Max Interval 2 Voltage P-E Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 3A6EH-3A71H | 14959-14962 | 1226 | 2 | | Block Window Min Interval 1 Voltage P-E Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| 3A72H-3A75H | 14963-14966 | 1226 | 3 | | Block Window Min Interval 2 Voltage P-E Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| Enhanced Factory Settings Block | | | | | | | | | | |
| 4000H-4007H | 16385-16392 | | | | Hardware Options (16 bytes) | | | | R | |
| 4008H-400BH | 16393-16396 | | | | Serial Numbers (8 bytes, binary numbers) | | | | R | |
| 400CH-400FH | 16397-16400 | | | | Reserved | | | | R | |
| 4010H-4017H | 16401-16408 | | | | OEM Model String | | | | R | |
| 4018H-403FH | 16408-16448 | | | | Reserved | | | | R | |
| 4040H-5FFFH | 16449-24576 | | | | Undefined | | | | R | |
| Enhanced Programmable Settings Block 2 (Range: 6000H-7FFFH) | | | | | | | | | | |
| Nexus 15xx Master RTU (Function Code 0x03 Only) Group Labels | | | | | | | | | | |
| 6000H-61FFH | 24577-25088 | | | | Group Label[0] Group Label[1] ... Group Label[127] | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| 6200H-63FFH | 25089-25600 | | | | Item Label[0] Item Label[1] ... Item Label[127] | | | | | |
| 6400H-64FFH | 25601-25856 | | | | Item Descriptor[0] Item Descriptor[1] ... Item Descriptor[127] | | | | | |
| 6500H-65FFH | 25857-26112 | | | | Item Limit[0] Setpoint 1 Item Limit[0] Setpoint 2 Item Limit[1] Setpoint 1 Item Limit[1] Setpoint 2 ... Item Limit[31] Setpoint 1 Item Limit[31] Setpoint 2 | | | | | |
| 6600H-67FFH | 26111-26624 | | | | Undefined | | | | | |
| 6800H-6FFFH | 26625-28672 | | | | Reserved | | | | | |
| Nexus 15xx Interval Log Settings Block | | | | | | | | | | |
| 7000H-707FH | 28673-28800 | | | | Interval Log 3 Item[0]: Line, Pointer Interval Log 3 Item[1]: Line, Pointer ... Interval Log 3 Item[63]: Line, Pointer | | | | | |
| 7080H-70FFH | 28801-28928 | | | | Interval Log 4 Item[0]: Line, Pointer Interval Log 4 Item[1]: Line, Pointer ... Interval Log 4 Item[63]: Line, Pointer | | | | | |
| 7100H-717FH | 28929-29056 | | | | Interval Log 5 Item[0]: Line, Pointer Interval Log 5 Item[1]: Line, Pointer ... Interval Log 5 Item[63]: Line, Pointer | | | | | |
| 7180H-71FFH | 29057-29184 | | | | Interval Log 6 Item[0]: Line, Pointer Interval Log 6 Item[1]: Line, Pointer ... Interval Log 6 Item[63]: Line, Pointer | | | | | |
| 7200H-727FH | 29185-29312 | | | | Interval Log 7 Item[0]: Line, Pointer Interval Log 7 Item[1]: Line, Pointer ... Interval Log 7 Item[63]: Line, Pointer | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| 7280H-72FFH | 29313-29440 | | | | Interval Log 8 Item[0]: Line, Pointer Interval Log 8 Item[1]: Line, Pointer ... Interval Log 8 Item[63]: Line, Pointer | | | | | |
| 7300HH | 29441 | | | | Interval Log 3 Interval | | | | | |
| 7301HH | 29442 | | | | Interval Log 4 Interval | | | | | |
| 7302HH | 29443 | | | | Interval Log 3 Record Size | | | | | |
| 7303HH | 29444 | | | | Interval Log 4 Record Size | | | | | |
| 7304HH | 29445 | | | | Interval Log 5 Interval | | | | | |
| 7305HH | 29446 | | | | Interval Log 6 Interval | | | | | |
| 7306HH | 29447 | | | | Interval Log 5 Record Size | | | | | |
| 7307HH | 29448 | | | | Interval Log 6 Record Size | | | | | |
| 7308HH | 29449 | | | | Interval Log 7 Interval | | | | | |
| 7309HH | 29450 | | | | Interval Log 8 Interval | | | | | |
| 730AHH | 29451 | | | | Interval Log 7 Record Size | | | | | |
| 730BHH | 29452 | | | | Interval Log 8 Record Size | | | | | |
| 730CH-748BH | 29453-29836 | | | | Reserved | | | | | |
| 748CH-750BH | 29837-29964 | | | | Event Triggered Log Item[0]: Line, Pointer Event Triggered Log Item[1]: Line, Pointer ... Event Triggered Log Item[63]: Line, Pointer | | | | | |
| 750CH-754BH | 29965-30028 | | | | Reserved | | | | | |
| 754CH | 30029 | | | | MSB Byte[1]: Event Triggered Log Internal Input ID Byte[0]: Reserved | | | | | |
| 754DH | 30030 | | | | MSB Byte[1]: Reserved Byte[0]: Event Triggered Log Enabled | | | | | |
| 754EH | 30031 | | | | Event Triggered Log Recording Speed | | | | | |
| 754FH | 30032 | | | | Event Triggered Log Recoding Duration | | | | | |
| 7550H | 30033 | | | | Event Triggered Log Record Size | | | | | |
| 7551H | 30034 | | | | Event Triggered Log Multiple Sequence | | | | | |
| 7552H-7553H | 30035-30036 | | | | Reserved | | | | | |
| Waveform Voltage Envelope Wave Shape Threshold | | | | | | | | | | |
| 7554H-756BH | 30037-30060 | | | | Reserved | | | | | |
| Waveform Current Change of Rate Threshold | | | | | | | | | | |
| 756CH-756FH | 30061-30064 | | | | Reserved | | | | | |
| Waveform Capture Rules | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------|-------------|------|----|------------|--|---------------------|-------|------|-----|-------|
| 7570H-7571H | 30065-30066 | | | | Waveform Capture Window Amount 0 = 1 capture 1 = 2 capture ... 65535 = 65536 capture >65535 = 1 capture | | | | | |
| 7572H-7573H | 30067-30068 | | | | Reserved | | | | | |
| 7574H | 30069 | | | | Waveform samples/cycles @60Hz 0 = 16 1 = 32 2 = 64 3 = 128 4 = 256 5 = 512 6 = 1024 >6= 1024 | | | | | |
| 7575H | 30070 | | | | MSB Byte[1]: Waveform Pre Trigger (>=1 <=179) Byte[0]: Waveform Post Trigger (>=1 <=179) | | | | | |
| 7576H | 30071 | | | | Waveform Digital Input Triggers (MSB) Byte[1]: Undefined Byte[0]: Bit [7] = Input 8 Bit [6] = Input 7 Bit [5] = Input 6 Bit [4] = Input 5 Bit [3] = Input 4 Bit [2] = Input 3 Bit [1] = Input 2 Bit [0] = Input 1 | | | | | |
| 7577H | 30072 | | | | Reserved | | | | | |
| Waveform Transient | | | | | | | | | | |
| 7578H | 30073 | | | | Voltage A Threshold % of full scale | +6553.5% / -6553.5% | 0.1% | | | |
| 7579H | 30074 | | | | Voltage B Threshold % of full scale | +6553.5% / -6553.5% | 0.1% | | | |
| 757AH | 30075 | | | | Voltage C Threshold % of full scale | +6553.5% / -6553.5% | 0.1% | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| 757BH | 30076 | | | | Mode/Enable(MSB) Bit[15]-Bit[11]: Reserved Bit[10]: Transien Enable - Channel Vc Bit[9]: Transien Enable - Channel Vb Bit[8]: Transien Enable - Channel Va Bit[7]-Bit[2]: Reserved Bit[1]: Transient Mode: 0=PH-N, 1=PH-PH Bit[0]: Transient Mode: 0=Disabled, 1=Enabled | | | | | |
| Waveform Transient Settings | | | | | | | | | | |
| 757CH | 30077 | | | | Number Maximum of Channel | | | | | |
| 757DH | 30078 | | | | Channel 1 Number | | | | | |
| 757EH | 30079 | | | | Channel 2 Number | | | | | |
| 757FH | 30080 | | | | Channel 3 Number | | | | | |
| 7580H | 30081 | | | | Channel 4 Number | | | | | |
| 7581H | 30082 | | | | Channel 5 Number | | | | | |
| 7582H | 30083 | | | | Channel 6 Number | | | | | |
| 7583H | 30084 | | | | Channel 7 Number | | | | | |
| 7584H | 30085 | | | | Channel 8 Number | | | | | |
| 7585H | 30086 | | | | Channel 9 Number | | | | | |
| 7586H | 30087 | | | | Channel 10 Number | | | | | |
| 7587H | 30088 | | | | Channel 11 Number | | | | | |
| 7588H | 30089 | | | | Channel 12 Number | | | | | |
| 7589H | 30090 | | | | Channel 13 Number | | | | | |
| 758AH | 30091 | | | | Channel 14 Number | | | | | |
| 758BH | 30092 | | | | Channel 15 Number | | | | | |
| 758CH | 30093 | | | | Channel 16 Number | | | | | |
| 758DH-758EH | 30094-30095 | | | | Power Quality Enable | | | | | |
| 758FH | 30096 | | | | Transient Waveform Trigger (MSB) Bit[15]-Bit[6]: Reserved Bit[5]: Transient Waveform Trigger Enable - Channel Vca Bit[4]: Transient Waveform Trigger Enable - Channel Vbc Bit[3]: Transient Waveform Trigger Enable - Channel Vab Bit[2]: Transient Waveform Trigger Enable - Channel Vcn Bit[1]: Transient Waveform Trigger Enable - Channel Vbn Bit[0]: Transient Waveform Trigger Enable - Channel Van 0=Enable, 1=Disable | | | | | |
| Log Configuration Settings | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|--|-------------------|-------|------|-----|-------|
| 7590H-7591H | 30097-30098 | | | | Log Mode 0 = Maximum Number of 1Mbyte files allowed >0 Not defined | | | | | |
| 7592H-7593H | 30099-30100 | | | | System Events Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 7594H-7595H | 30101-30102 | | | | Interval Log 1 Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 7596H-7597H | 30103-30104 | | | | Interval Log 2 Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 7598H-7599H | 30105-30106 | | | | Interval Log 3 Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 759AH-759BH | 30107-30108 | | | | Interval Log 4 Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 759CH-759DH | 30109-30110 | | | | Interval Log 5 Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 759EH-759FH | 30111-30112 | | | | Interval Log 6 Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75A0H-75A1H | 30113-30114 | | | | Interval Log 7 Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75A2H-75A3H | 30115-30116 | | | | Interval Log 8 Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75A4H-75A5H | 30117-30118 | | | | Event Triggered Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75A6H-75A7H | 30119-30120 | | | | Sequence of Event (Limits) Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75A8H-75A9H | 30121-30122 | | | | Digital Input Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75AAH-75ABH | 30123-30124 | | | | Digital Output Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75ACH-75ADH | 30125-13126 | | | | Flicker Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75AEH-75AFH | 30127-30128 | | | | Waveform Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75B0H-75B1H | 30129-30130 | | | | Power Quality Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75B2H-75B3H | 30131-30132 | | | | Transients Log Size | 4,294,967,295 / 0 | 1 | F53 | R/W | |
| 75B4H-75FFH | 30133-30208 | | | | Reserved | | | | | |
| Network Card #2 Settings (Part 1 of 2) | | | | | | | | | | |
| 7600H-7601H | 30209-30210 | | | | IP Address | | | | | |
| 7602H-7603H | 30211-30212 | | | | Subnet Mask | | | | | |
| 7604H-7605H | 30213-30214 | | | | Default Gateway | | | | | |
| 7606H | 30215 | | | | MSB Byte[1]: Port 2 Baud Rate Byte[0]: Gateway Delay | | | | | |
| 7607H | 30216 | | | | MSB Byte[1]: Mode Byte[0]: Mode 2 | | | | | |
| 7608H-760FH | 30217-30224 | | | | Computer Name | | | | | |
| 7610H-7611H | 30225-30226 | | | | DNS Server 1 IP Address | | | | | |
| 7612H-7613H | 30227-30228 | | | | DNS Server 2 IP Address | | | | | |
| 7614H-7615H | 30229-30230 | | | | Server / Service Enable Bits | | | | | |
| 7616H | 30231 | | | | Email Port Number | | | | | |
| 7617H | 30232 | | | | FTP Port Number | | | | | |
| Network Card #2 Settings (Part 2 of 2) | | | | | | | | | | |
| 7618H-7621H | 30233-30242 | | | | Reserved | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| 7622H | 30243 | | | | Email Mode (MSB) Bit[15]: 0=authenticantion on; 1=authentication off Bit[14]~Bit[0] = Not defined | | | | | |
| 7623H-7663H | 30244-30308 | | | | Reserved | | | | | |
| Email Client Settings | | | | | | | | | | |
| 7664H-7683H | 30309-30340 | | | | Email Server IP Address/name | | | | | |
| 7684H-76A3H | 30341-30372 | | | | Administrator Email Address | | | | | |
| 76A4H-76C3H | 30373-30404 | | | | Email Replay Address | | | | | |
| 76C4H-76E3H | 30405-30436 | | | | Email Subject Text | | | | | |
| 76E4H-76F3H | 30437-30452 | | | | Email username | | | | | |
| 76F4H-7703H | 30453-30468 | | | | Email Password | | | | | |
| FTP Client Settings | | | | | | | | | | |
| 7704H-7713H | 30469-30484 | | | | Username | | | | | |
| 7714H-7723H | 30485-30500 | | | | Password | | | | | |
| 7724H-7763H | 30501-30567 | | | | Startup Path/Directory | | | | | |
| 7764H-7783H | 30565-30596 | | | | Server IP Address/Name | | | | | |
| GE Protocol (EGD) | | | | | | | | | | |
| 7784H-7785H | 30597-30598 | | | | IP Address | | | | | |
| 7786H | 30599 | | | | Update Interval(1=100msec to 65000=6500 seconds) | | | | | |
| 7787H | 30600 | | | | MSB Byte[1]: Connection Type (0=broadcast, 1=multicast, 2=unicast) Byte[0]: Options (Bit[0]: 1=Use IP as Producer ID, 0=Use User Defined) | | | | | |
| 7788H-7789H | 30601-30602 | | | | User Producer ID | | | | | |
| 778AH-778BH | 30603-30604 | | | | Reserved | | | | | |
| DNP LAN/WAN | | | | | | | | | | |
| 778CH-778DH | 30605-30606 | | | | MSB Byte[3]: Mode(0=disabled, 1=standard settings, 2=user settings, 3>= disabled) Byte[2]: Bitmap (Bit[7]: TCP Enable, Bit[6]=UDP enable, Bit[5]: Validate Ports, Bit[4]: UDP Defined Port) Byte[1]: UDP Address Byte[0]: Validate IP | | | | | |
| 778EH | 30607 | | | | TCP Listen Port | | | | | |
| 778FH | 30608 | | | | UDP Listen Port | | | | | |
| 7790H-7791H | 30609-30610 | | | | Valid IP Address #1 | | | | | |
| 7792H-7793H | 30611-30612 | | | | Valid IP Address #2 | | | | | |
| 7794H-7795H | 30613-30614 | | | | Valid IP Address #3 | | | | | |
| 7796H-7797H | 30615-30616 | | | | Valid IP Address #4 | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|----------------------------------|--------------|-------|------|-----|-------|
| 7798H-7799H | 30617-30618 | | | | Valid IP Subnet Mask #1 | | | | | |
| 779AH-779BH | 30619-30620 | | | | Valid IP Subnet Mask #2 | | | | | |
| 779CH-779DH | 30621-30622 | | | | Valid IP Subnet Mask #3 | | | | | |
| 779EH-779FH | 30623-30624 | | | | Valid IP Subnet Mask #4 | | | | | |
| 77A0H-77A3H | 30625-30628 | | | | Valid TCP Start Ports | | | | | |
| 77A4H-77A7H | 30629-30632 | | | | Valid TCP End Ports | | | | | |
| 77A8H-77ABH | 30633-30636 | | | | Valid UDP Start Ports | | | | | |
| 77ACH-77AFH | 30637-30640 | | | | Valid UDP End Ports | | | | | |
| 77B0H-77B1H | 30641-30642 | | | | Valid Multicast Group Address | | | | | |
| 77B2H | 30643 | | | | Valid UDP Respond Port | | | | | |
| 77B3H | 30644 | | | | Device Address | | | | | |
| 77B4H-77FFH | 30645-30720 | | | | Reserved | | | | | |
| IEC 61000-4-30: Block Settings | | | | | | | | | | |
| Voltage Boundary Hysteresis | | | | | | | | | | |
| 7800H | 30721 | | | | Phase A-N Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7801H | 30722 | | | | Phase B-N Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7802H | 30723 | | | | Phase C-N Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7803H | 30724 | | | | Phase A-B Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7804H | 30725 | | | | Phase B-C Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7805H | 30726 | | | | Phase C-A Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7806H | 30727 | | | | Phase X-N Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7807H | 30728 | | | | Phase N-E Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7808H | 30729 | | | | Phase A-E Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7809H | 30730 | | | | Phase B-E Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 780AH | 30731 | | | | Phase C-E Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 780BH | 30732 | | | | Phase X-E Voltage Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 780CH | 30733 | | | | Phase A-N Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 780DH | 30734 | | | | Phase B-N Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 780EH | 30735 | | | | Phase C-N Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 780FH | 30736 | | | | Phase A-B Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7810H | 30737 | | | | Phase B-C Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7811H | 30738 | | | | Phase C-A Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7812H | 30739 | | | | Phase X-N Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7813H | 30740 | | | | Phase N-E Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7814H | 30741 | | | | Phase A-E Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7815H | 30742 | | | | Phase B-E Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7816H | 30743 | | | | Phase C-E Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7817H | 30744 | | | | Phase X-E Voltage Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| Current Boundary Hysteresis | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|--------------------------------|--------------|-------|------|-----|-------|
| 7818H | 30745 | | | | Phase A Current Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7819H | 30746 | | | | Phase B Current Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 781AH | 30747 | | | | Phase C Current Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 781BH | 30748 | | | | Phase X Current Sag Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 781CH | 30749 | | | | Phase A Current Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 781DH | 30750 | | | | Phase B Current Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 781EH | 30751 | | | | Phase C Current Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 781FH | 30752 | | | | Phase X Current Swell Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| Voltage Boundary Interruptions | | | | | | | | | | |
| 7820H | 30753 | | | | Phase A-N Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7821H | 30754 | | | | Phase B-N Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7822H | 30755 | | | | Phase C-N Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7823H | 30756 | | | | Phase A-B Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7824H | 30757 | | | | Phase B-C Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7825H | 30758 | | | | Phase C-A Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7826H | 30759 | | | | Phase X-N Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7827H | 30760 | | | | Phase N-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7828H | 30761 | | | | Phase A-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7829H | 30762 | | | | Phase B-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7829H | 30763 | | | | Phase C-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 782BH | 30764 | | | | Phase X-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| Voltage Boundary Interruptions Hysteresis | | | | | | | | | | |
| 782CH | 30765 | | | | Phase A-N Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 782DH | 30766 | | | | Phase B-N Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 782EH | 30767 | | | | Phase C-N Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 782FH | 30768 | | | | Phase A-B Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7830H | 30769 | | | | Phase B-C Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7831H | 30770 | | | | Phase C-A Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7832H | 30771 | | | | Phase X-N Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7833H | 30772 | | | | Phase N-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7834H | 30773 | | | | Phase A-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7835H | 30774 | | | | Phase B-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7836H | 30775 | | | | Phase C-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| 7837H | 30776 | | | | Phase X-E Voltage Setpoint | 0% / +65535% | 0.01% | F10 | R | |
| Voltage Nominal | | | | | | | | | | |
| 7838H | 30777 | | | | Phase A-N Voltage | 0% / +65535% | 0.01% | F10 | R | |
| 7839H | 30778 | | | | Phase B-N Voltage | 0% / +65535% | 0.01% | F10 | R | |
| 783AH | 30779 | | | | Phase C-N Voltage | 0% / +65535% | 0.01% | F10 | R | |
| 783BH | 30780 | | | | Phase A-B Voltage | 0% / +65535% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|-------------------|--------------|-------|------|-----|-------|
| 783CH | 30781 | | | | Phase B-C Voltage | 0% / +65535% | 0.01% | F10 | R | |
| 783DH | 30782 | | | | Phase C-A Voltage | 0% / +65535% | 0.01% | F10 | R | |
| 783EH-783FH | 30783-30784 | | | | Reserved | 0% / +65535% | 0.01% | F10 | R | |
| Reserved | | | | | | | | | | |
| 7840H | 30785 | | | | Order #0 | 0% / +65535% | 0.01% | F10 | R | |
| 7841H | 30786 | | | | Order #1 | 0% / +65535% | 0.01% | F10 | R | |
| 7842H | 30787 | | | | Order #2 | 0% / +65535% | 0.01% | F10 | R | |
| 7843H | 30788 | | | | Order #3 | 0% / +65535% | 0.01% | F10 | R | |
| 7844H | 30789 | | | | Order #4 | 0% / +65535% | 0.01% | F10 | R | |
| 7845H | 30790 | | | | Order #5 | 0% / +65535% | 0.01% | F10 | R | |
| 7846H | 30791 | | | | Order #6 | 0% / +65535% | 0.01% | F10 | R | |
| 7847H | 30792 | | | | Order #7 | 0% / +65535% | 0.01% | F10 | R | |
| 7848H | 30793 | | | | Order #8 | 0% / +65535% | 0.01% | F10 | R | |
| 7849H | 30794 | | | | Order #9 | 0% / +65535% | 0.01% | F10 | R | |
| 784AH | 30795 | | | | Order #10 | 0% / +65535% | 0.01% | F10 | R | |
| 784BH | 30796 | | | | Order #11 | 0% / +65535% | 0.01% | F10 | R | |
| 784CH | 30797 | | | | Order #12 | 0% / +65535% | 0.01% | F10 | R | |
| 784DH | 30798 | | | | Order #13 | 0% / +65535% | 0.01% | F10 | R | |
| 784EH | 30799 | | | | Order #14 | 0% / +65535% | 0.01% | F10 | R | |
| 784FH | 30800 | | | | Order #15 | 0% / +65535% | 0.01% | F10 | R | |
| 7850H | 30801 | | | | Order #16 | 0% / +65535% | 0.01% | F10 | R | |
| 7851H | 30802 | | | | Order #17 | 0% / +65535% | 0.01% | F10 | R | |
| 7852H | 30803 | | | | Order #18 | 0% / +65535% | 0.01% | F10 | R | |
| 7853H | 30804 | | | | Order #19 | 0% / +65535% | 0.01% | F10 | R | |
| 7854H | 30805 | | | | Order #20 | 0% / +65535% | 0.01% | F10 | R | |
| 7855H | 30806 | | | | Order #21 | 0% / +65535% | 0.01% | F10 | R | |
| 7856H | 30807 | | | | Order #22 | 0% / +65535% | 0.01% | F10 | R | |
| 7857H | 30808 | | | | Order #23 | 0% / +65535% | 0.01% | F10 | R | |
| 7858H | 30809 | | | | Order #24 | 0% / +65535% | 0.01% | F10 | R | |
| 7859H | 30810 | | | | Order #25 | 0% / +65535% | 0.01% | F10 | R | |
| 785AH | 30811 | | | | Order #26 | 0% / +65535% | 0.01% | F10 | R | |
| 785BH | 30812 | | | | Order #27 | 0% / +65535% | 0.01% | F10 | R | |
| 785CH | 30813 | | | | Order #28 | 0% / +65535% | 0.01% | F10 | R | |
| 785DH | 30814 | | | | Order #29 | 0% / +65535% | 0.01% | F10 | R | |
| 785EH | 30815 | | | | Order #30 | 0% / +65535% | 0.01% | F10 | R | |
| 785FH | 30816 | | | | Order #31 | 0% / +65535% | 0.01% | F10 | R | |
| 7860H | 30817 | | | | Order #32 | 0% / +65535% | 0.01% | F10 | R | |
| 7861H | 30818 | | | | Order #33 | 0% / +65535% | 0.01% | F10 | R | |
| 7862H | 30819 | | | | Order #34 | 0% / +65535% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|-------------|--------------|-------|------|-----|-------|
| 7863H | 30820 | | | | Order #35 | 0% / +65535% | 0.01% | F10 | R | |
| 7864H | 30821 | | | | Order #36 | 0% / +65535% | 0.01% | F10 | R | |
| 7865H | 30822 | | | | Order #37 | 0% / +65535% | 0.01% | F10 | R | |
| 7866H | 30823 | | | | Order #38 | 0% / +65535% | 0.01% | F10 | R | |
| 7867H | 30824 | | | | Order #39 | 0% / +65535% | 0.01% | F10 | R | |
| 7868H | 30825 | | | | Order #40 | 0% / +65535% | 0.01% | F10 | R | |
| 7869H | 30826 | | | | Order #41 | 0% / +65535% | 0.01% | F10 | R | |
| 786AH | 30827 | | | | Order #42 | 0% / +65535% | 0.01% | F10 | R | |
| 786BH | 30828 | | | | Order #43 | 0% / +65535% | 0.01% | F10 | R | |
| 786CH | 30829 | | | | Order #44 | 0% / +65535% | 0.01% | F10 | R | |
| 786DH | 30830 | | | | Order #45 | 0% / +65535% | 0.01% | F10 | R | |
| 786EH | 30831 | | | | Order #46 | 0% / +65535% | 0.01% | F10 | R | |
| 786FH | 30832 | | | | Order #47 | 0% / +65535% | 0.01% | F10 | R | |
| 7870H | 30833 | | | | Order #48 | 0% / +65535% | 0.01% | F10 | R | |
| 7871H | 30834 | | | | Order #49 | 0% / +65535% | 0.01% | F10 | R | |
| 7872H | 30835 | | | | Order #50 | 0% / +65535% | 0.01% | F10 | R | |
| 7873H | 30836 | | | | Order #51 | 0% / +65535% | 0.01% | F10 | R | |
| Interharmonic Subgroup Magnitude Threshold | | | | | | | | | | |
| 7874H | 30837 | | | | Order #0 | 0% / +65535% | 0.01% | F10 | R | |
| 7875H | 30838 | | | | Order #1 | 0% / +65535% | 0.01% | F10 | R | |
| 7876H | 30839 | | | | Order #2 | 0% / +65535% | 0.01% | F10 | R | |
| 7877H | 30840 | | | | Order #3 | 0% / +65535% | 0.01% | F10 | R | |
| 7878H | 30841 | | | | Order #4 | 0% / +65535% | 0.01% | F10 | R | |
| 7879H | 30842 | | | | Order #5 | 0% / +65535% | 0.01% | F10 | R | |
| 787AH | 30843 | | | | Order #6 | 0% / +65535% | 0.01% | F10 | R | |
| 787BH | 30844 | | | | Order #7 | 0% / +65535% | 0.01% | F10 | R | |
| 787CH | 30845 | | | | Order #8 | 0% / +65535% | 0.01% | F10 | R | |
| 787DH | 30846 | | | | Order #9 | 0% / +65535% | 0.01% | F10 | R | |
| 787EH | 30847 | | | | Order #10 | 0% / +65535% | 0.01% | F10 | R | |
| 787FH | 30848 | | | | Order #11 | 0% / +65535% | 0.01% | F10 | R | |
| 7880H | 30849 | | | | Order #12 | 0% / +65535% | 0.01% | F10 | R | |
| 7881H | 30850 | | | | Order #13 | 0% / +65535% | 0.01% | F10 | R | |
| 7882H | 30851 | | | | Order #14 | 0% / +65535% | 0.01% | F10 | R | |
| 7883H | 30852 | | | | Order #15 | 0% / +65535% | 0.01% | F10 | R | |
| 7884H | 30853 | | | | Order #16 | 0% / +65535% | 0.01% | F10 | R | |
| 7885H | 30854 | | | | Order #17 | 0% / +65535% | 0.01% | F10 | R | |
| 7886H | 30855 | | | | Order #18 | 0% / +65535% | 0.01% | F10 | R | |
| 7887H | 30856 | | | | Order #19 | 0% / +65535% | 0.01% | F10 | R | |
| 7888H | 30857 | | | | Order #20 | 0% / +65535% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|------------------------------------|-------------|------|----|------------|-------------|--------------|-------|------|-----|-------|
| 7889H | 30858 | | | | Order #21 | 0% / +65535% | 0.01% | F10 | R | |
| 788AH | 30859 | | | | Order #22 | 0% / +65535% | 0.01% | F10 | R | |
| 788BH | 30860 | | | | Order #23 | 0% / +65535% | 0.01% | F10 | R | |
| 788CH | 30861 | | | | Order #24 | 0% / +65535% | 0.01% | F10 | R | |
| 788DH | 30862 | | | | Order #25 | 0% / +65535% | 0.01% | F10 | R | |
| 788EH | 30863 | | | | Order #26 | 0% / +65535% | 0.01% | F10 | R | |
| 788FH | 30864 | | | | Order #27 | 0% / +65535% | 0.01% | F10 | R | |
| 7890H | 30865 | | | | Order #28 | 0% / +65535% | 0.01% | F10 | R | |
| 7891H | 30866 | | | | Order #29 | 0% / +65535% | 0.01% | F10 | R | |
| 7892H | 30867 | | | | Order #30 | 0% / +65535% | 0.01% | F10 | R | |
| 7893H | 30868 | | | | Order #31 | 0% / +65535% | 0.01% | F10 | R | |
| 7894H | 30869 | | | | Order #32 | 0% / +65535% | 0.01% | F10 | R | |
| 7895H | 30870 | | | | Order #33 | 0% / +65535% | 0.01% | F10 | R | |
| 7896H | 30871 | | | | Order #34 | 0% / +65535% | 0.01% | F10 | R | |
| 7897H | 30872 | | | | Order #35 | 0% / +65535% | 0.01% | F10 | R | |
| 7898H | 30873 | | | | Order #36 | 0% / +65535% | 0.01% | F10 | R | |
| 7899H | 30874 | | | | Order #37 | 0% / +65535% | 0.01% | F10 | R | |
| 789AH | 30875 | | | | Order #38 | 0% / +65535% | 0.01% | F10 | R | |
| 789BH | 30876 | | | | Order #39 | 0% / +65535% | 0.01% | F10 | R | |
| 789CH | 30877 | | | | Order #40 | 0% / +65535% | 0.01% | F10 | R | |
| 789DH | 30878 | | | | Order #41 | 0% / +65535% | 0.01% | F10 | R | |
| 789EH | 30879 | | | | Order #42 | 0% / +65535% | 0.01% | F10 | R | |
| 789FH | 30880 | | | | Order #43 | 0% / +65535% | 0.01% | F10 | R | |
| 78A0H | 30881 | | | | Order #44 | 0% / +65535% | 0.01% | F10 | R | |
| 78A1H | 30882 | | | | Order #45 | 0% / +65535% | 0.01% | F10 | R | |
| 78A2H | 30883 | | | | Order #46 | 0% / +65535% | 0.01% | F10 | R | |
| 78A3H | 30884 | | | | Order #47 | 0% / +65535% | 0.01% | F10 | R | |
| 78A4H | 30885 | | | | Order #48 | 0% / +65535% | 0.01% | F10 | R | |
| 78A5H | 30886 | | | | Order #49 | 0% / +65535% | 0.01% | F10 | R | |
| 78A6H | 30887 | | | | Order #50 | 0% / +65535% | 0.01% | F10 | R | |
| 78A7H | 30888 | | | | Order #51 | 0% / +65535% | 0.01% | F10 | R | |
| Harmonic Group Magnitude Threshold | | | | | | | | | | |
| 78A8H | 30889 | | | | Order #0 | 0% / +65535% | 0.01% | F10 | R | |
| 78A9H | 30890 | | | | Order #1 | 0% / +65535% | 0.01% | F10 | R | |
| 78AAH | 30891 | | | | Order #2 | 0% / +65535% | 0.01% | F10 | R | |
| 78ABH | 30892 | | | | Order #3 | 0% / +65535% | 0.01% | F10 | R | |
| 78ACH | 30893 | | | | Order #4 | 0% / +65535% | 0.01% | F10 | R | |
| 78ADH | 30894 | | | | Order #5 | 0% / +65535% | 0.01% | F10 | R | |
| 78AEH | 30895 | | | | Order #6 | 0% / +65535% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|-------------|--------------|-------|------|-----|-------|
| 78AFH | 30896 | | | | Order #7 | 0% / +65535% | 0.01% | F10 | R | |
| 78B0H | 30897 | | | | Order #8 | 0% / +65535% | 0.01% | F10 | R | |
| 78B1H | 30898 | | | | Order #9 | 0% / +65535% | 0.01% | F10 | R | |
| 78B2H | 30899 | | | | Order #10 | 0% / +65535% | 0.01% | F10 | R | |
| 78B3H | 30900 | | | | Order #11 | 0% / +65535% | 0.01% | F10 | R | |
| 78B4H | 30901 | | | | Order #12 | 0% / +65535% | 0.01% | F10 | R | |
| 78B5H | 30902 | | | | Order #13 | 0% / +65535% | 0.01% | F10 | R | |
| 78B6H | 30903 | | | | Order #14 | 0% / +65535% | 0.01% | F10 | R | |
| 78B7H | 30904 | | | | Order #15 | 0% / +65535% | 0.01% | F10 | R | |
| 78B8H | 30905 | | | | Order #16 | 0% / +65535% | 0.01% | F10 | R | |
| 78B9H | 30906 | | | | Order #17 | 0% / +65535% | 0.01% | F10 | R | |
| 78BAH | 30907 | | | | Order #18 | 0% / +65535% | 0.01% | F10 | R | |
| 78BBH | 30908 | | | | Order #19 | 0% / +65535% | 0.01% | F10 | R | |
| 78BCH | 30909 | | | | Order #20 | 0% / +65535% | 0.01% | F10 | R | |
| 78BDH | 30910 | | | | Order #21 | 0% / +65535% | 0.01% | F10 | R | |
| 78BEH | 30911 | | | | Order #22 | 0% / +65535% | 0.01% | F10 | R | |
| 78BFH | 30912 | | | | Order #23 | 0% / +65535% | 0.01% | F10 | R | |
| 78C0H | 30913 | | | | Order #24 | 0% / +65535% | 0.01% | F10 | R | |
| 78C1H | 30914 | | | | Order #25 | 0% / +65535% | 0.01% | F10 | R | |
| 78C2H | 30915 | | | | Order #26 | 0% / +65535% | 0.01% | F10 | R | |
| 78C3H | 30916 | | | | Order #27 | 0% / +65535% | 0.01% | F10 | R | |
| 78C4H | 30917 | | | | Order #28 | 0% / +65535% | 0.01% | F10 | R | |
| 78C5H | 30918 | | | | Order #29 | 0% / +65535% | 0.01% | F10 | R | |
| 78C6H | 30919 | | | | Order #30 | 0% / +65535% | 0.01% | F10 | R | |
| 78C7H | 30920 | | | | Order #31 | 0% / +65535% | 0.01% | F10 | R | |
| 78C8H | 30921 | | | | Order #32 | 0% / +65535% | 0.01% | F10 | R | |
| 78C9H | 30922 | | | | Order #33 | 0% / +65535% | 0.01% | F10 | R | |
| 78CAH | 30923 | | | | Order #34 | 0% / +65535% | 0.01% | F10 | R | |
| 78CBH | 30924 | | | | Order #35 | 0% / +65535% | 0.01% | F10 | R | |
| 78CCH | 30925 | | | | Order #36 | 0% / +65535% | 0.01% | F10 | R | |
| 78CDH | 30926 | | | | Order #37 | 0% / +65535% | 0.01% | F10 | R | |
| 78CEH | 30927 | | | | Order #38 | 0% / +65535% | 0.01% | F10 | R | |
| 78CFH | 30928 | | | | Order #39 | 0% / +65535% | 0.01% | F10 | R | |
| 78D0H | 30929 | | | | Order #40 | 0% / +65535% | 0.01% | F10 | R | |
| 78D1H | 30930 | | | | Order #41 | 0% / +65535% | 0.01% | F10 | R | |
| 78D2H | 30931 | | | | Order #42 | 0% / +65535% | 0.01% | F10 | R | |
| 78D3H | 30932 | | | | Order #43 | 0% / +65535% | 0.01% | F10 | R | |
| 78D4H | 30933 | | | | Order #44 | 0% / +65535% | 0.01% | F10 | R | |
| 78D5H | 30934 | | | | Order #45 | 0% / +65535% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|-------------|--------------|-------|------|-----|-------|
| 78D6H | 30935 | | | | Order #46 | 0% / +65535% | 0.01% | F10 | R | |
| 78D7H | 30936 | | | | Order #47 | 0% / +65535% | 0.01% | F10 | R | |
| 78D8H | 30937 | | | | Order #48 | 0% / +65535% | 0.01% | F10 | R | |
| 78D9H | 30938 | | | | Order #49 | 0% / +65535% | 0.01% | F10 | R | |
| 78DAH | 30939 | | | | Order #50 | 0% / +65535% | 0.01% | F10 | R | |
| 78DBH | 30940 | | | | Order #51 | 0% / +65535% | 0.01% | F10 | R | |
| Interharmonic Group Magnitude Threshold | | | | | | | | | | |
| 78DCH | 30941 | | | | Order #0 | 0% / +65535% | 0.01% | F10 | R | |
| 78DDH | 30942 | | | | Order #1 | 0% / +65535% | 0.01% | F10 | R | |
| 78DEH | 30943 | | | | Order #2 | 0% / +65535% | 0.01% | F10 | R | |
| 78DFH | 30944 | | | | Order #3 | 0% / +65535% | 0.01% | F10 | R | |
| 78E0H | 30945 | | | | Order #4 | 0% / +65535% | 0.01% | F10 | R | |
| 78E1H | 30946 | | | | Order #5 | 0% / +65535% | 0.01% | F10 | R | |
| 78E2H | 30947 | | | | Order #6 | 0% / +65535% | 0.01% | F10 | R | |
| 78E3H | 30948 | | | | Order #7 | 0% / +65535% | 0.01% | F10 | R | |
| 78E4H | 30949 | | | | Order #8 | 0% / +65535% | 0.01% | F10 | R | |
| 78E5H | 30950 | | | | Order #9 | 0% / +65535% | 0.01% | F10 | R | |
| 78E6H | 30951 | | | | Order #10 | 0% / +65535% | 0.01% | F10 | R | |
| 78E7H | 30952 | | | | Order #11 | 0% / +65535% | 0.01% | F10 | R | |
| 78E8H | 30953 | | | | Order #12 | 0% / +65535% | 0.01% | F10 | R | |
| 78E9H | 30954 | | | | Order #13 | 0% / +65535% | 0.01% | F10 | R | |
| 78EAH | 30955 | | | | Order #14 | 0% / +65535% | 0.01% | F10 | R | |
| 78EBH | 30956 | | | | Order #15 | 0% / +65535% | 0.01% | F10 | R | |
| 78ECH | 30957 | | | | Order #16 | 0% / +65535% | 0.01% | F10 | R | |
| 78EDH | 30958 | | | | Order #17 | 0% / +65535% | 0.01% | F10 | R | |
| 78EEH | 30959 | | | | Order #18 | 0% / +65535% | 0.01% | F10 | R | |
| 78EFH | 30960 | | | | Order #19 | 0% / +65535% | 0.01% | F10 | R | |
| 78F0H | 30961 | | | | Order #20 | 0% / +65535% | 0.01% | F10 | R | |
| 78F1H | 30962 | | | | Order #21 | 0% / +65535% | 0.01% | F10 | R | |
| 78F2H | 30963 | | | | Order #22 | 0% / +65535% | 0.01% | F10 | R | |
| 78F3H | 30964 | | | | Order #23 | 0% / +65535% | 0.01% | F10 | R | |
| 78F4H | 30965 | | | | Order #24 | 0% / +65535% | 0.01% | F10 | R | |
| 78F5H | 30966 | | | | Order #25 | 0% / +65535% | 0.01% | F10 | R | |
| 78F6H | 30967 | | | | Order #26 | 0% / +65535% | 0.01% | F10 | R | |
| 78F7H | 30968 | | | | Order #27 | 0% / +65535% | 0.01% | F10 | R | |
| 78F8H | 30969 | | | | Order #28 | 0% / +65535% | 0.01% | F10 | R | |
| 78F9H | 30970 | | | | Order #29 | 0% / +65535% | 0.01% | F10 | R | |
| 78FAH | 30971 | | | | Order #30 | 0% / +65535% | 0.01% | F10 | R | |
| 78FBH | 30972 | | | | Order #31 | 0% / +65535% | 0.01% | F10 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|----------------|-------|------|-----|-------|
| 78FCH | 30973 | | | | Order #32 | 0% / +65535% | 0.01% | F10 | R | |
| 78FDH | 30974 | | | | Order #33 | 0% / +65535% | 0.01% | F10 | R | |
| 78FEH | 30975 | | | | Order #34 | 0% / +65535% | 0.01% | F10 | R | |
| 78FFH | 30976 | | | | Order #35 | 0% / +65535% | 0.01% | F10 | R | |
| 7900H | 30977 | | | | Order #36 | 0% / +65535% | 0.01% | F10 | R | |
| 7901H | 30978 | | | | Order #37 | 0% / +65535% | 0.01% | F10 | R | |
| 7902H | 30979 | | | | Order #38 | 0% / +65535% | 0.01% | F10 | R | |
| 7903H | 30980 | | | | Order #39 | 0% / +65535% | 0.01% | F10 | R | |
| 7904H | 30981 | | | | Order #40 | 0% / +65535% | 0.01% | F10 | R | |
| 7905H | 30982 | | | | Order #41 | 0% / +65535% | 0.01% | F10 | R | |
| 7906H | 30983 | | | | Order #42 | 0% / +65535% | 0.01% | F10 | R | |
| 7907H | 30984 | | | | Order #43 | 0% / +65535% | 0.01% | F10 | R | |
| 7908H | 30985 | | | | Order #44 | 0% / +65535% | 0.01% | F10 | R | |
| 7909H | 30986 | | | | Order #45 | 0% / +65535% | 0.01% | F10 | R | |
| 790AH | 30987 | | | | Order #46 | 0% / +65535% | 0.01% | F10 | R | |
| 790BH | 30988 | | | | Order #47 | 0% / +65535% | 0.01% | F10 | R | |
| 790CH | 30989 | | | | Order #48 | 0% / +65535% | 0.01% | F10 | R | |
| 790DH | 30990 | | | | Order #49 | 0% / +65535% | 0.01% | F10 | R | |
| 790EH | 30991 | | | | Order #50 | 0% / +65535% | 0.01% | F10 | R | |
| 790FH | 30992 | | | | Order #51 | 0% / +65535% | 0.01% | F10 | R | |
| 7910H | 30993 | | | | Threshold Enable Channel # | | | F108 | R | |
| 7911H | 30994 | | | | Mains Signalling Threshold | 0% / +65535% | 0.01% | F10 | R | |
| 7912H | 30995 | | | | Mains Signalling Interharmonics Bin Start Number | | | | | |
| 7913H-791FH | 30996-31008 | | | | Mains Signalling Interharmonics Bin Start Number | | | | | |
| Overvoltage (Phase to Earth) Threshold | | | | | | | | | | |
| 7920H | 31009 | | | | Phase N-E Voltage Setpoint | 0.00 / +655.35 | Volts | | R | |
| 7921H | 31010 | | | | Phase A-E Voltage Setpoint | 0.00 / +655.35 | Volts | | R | |
| 7922H | 31011 | | | | Phase B-E Voltage Setpoint | 0.00 / +655.35 | Volts | | R | |
| 7923H | 31012 | | | | Phase C-E Voltage Setpoint | 0.00 / +655.35 | Volts | | R | |
| 7924H | 31013 | | | | MSB Byte[1]: Allowed Long Interruption in a Year. Range from 0 to 100. Values>100 are equal to 100. Byte[0]: Rapid Voltage Change Data Source 0 = 10/12 Cycles Update RMS 1 = 1 Cycles Update RMS 2~255 = 10/12 Cycles Update RMS | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| 7925H | 31014 | | | | MSB Byte[1]: Supply Voltage Unbalance Upper Limit. 0 = Less than or equal to 2% 1 = Less than or equal to 3% 2~255 = Less than or equal to 2% Byte[0]: Voltage Dip Concern Threshold Phase A see detail on modbus register below | | | | R | |
| 7926H | 31015 | | | | MSB Byte[1]: Voltage Dip Concern Threshold Phase B Byte[0]: Voltage Dip Concern Threshold Phase C 0 = Greater than or equal to 10% 1 = Greater than or equal to 15% 2 = Greater than or equal to 20% 3 = Greater than or equal to 30% 4 = Greater than or equal to 40% 5 = Greater than or equal to 50% 6 = Greater than or equal to 60% 7 = Greater than or equal to 70% 8 = Greater than or equal to 85% 9~255 = Greater than or equal to 85% | | | | R | |
| 7927H | 31016 | | | | MSB Byte[1]: First Day of Week 0 = Sunday 1 = Monday 2~255 = Sunday Byte[0]: Not Defined | | | | R | |
| 7928H | 31017 | | | | Sliding Reference Usr Sag/Swell Enable for Voltage | | | F77 | R | |
| 7929H | 31018 | | | | Sliding Reference Usr Sag/Swell Enable for Current | | | F78 | R | |
| Interval Maximum/Minimum/Average | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------------|-------------|------|----|------------|---|------------------------|---------|------|-----|-------|
| 792AH | 31019 | | | | MSB Byte[1]: Interval 0 = Interval from Interval log 3 1 = Interval from Interval log 4 2 = Interval from Interval log 5 3 = Interval from Interval log 6 4 = Interval from Interval log 7 5 = Interval from Interval log 8 byte[0]: Readings 0 = 1 cycle (DSP2 channel 142) 1 = 10/12 cycle (DSP2 channel 130) 2 = 3 seconds (DSP2 channel 131) 3 = 10 minute (DSP2 channel 131) | | | | R | |
| 792BH-7FFF | 31021-32768 | | | | Not Defined | | | | R | |
| Time of Use Calendar Header Block | | | | | | | | | | |
| 8800H-8803H | 34817-34820 | | | | TOU Calendar Year 1 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8804H | 34821 | | | | TOU Calendar Year 1 Calendar Year | 9999 | 1 year | F21 | R | |
| 8805H-8808H | 34822-34825 | | | | TOU Calendar Year 2 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8809H | 34826 | | | | TOU Calendar Year 2 Calendar Year | 9999 | 1 year | F21 | R | |
| 880AH-880DH | 34827-34830 | | | | TOU Calendar Year 3 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 880EH | 34831 | | | | TOU Calendar Year 3 Calendar Year | 9999 | 1 year | F21 | R | |
| 880FH-8812H | 34832-34835 | | | | TOU Calendar Year 4 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8813H | 34836 | | | | TOU Calendar Year 4 Calendar Year | 9999 | 1 year | F21 | R | |
| 8814H-8817H | 34837-34840 | | | | TOU Calendar Year 5 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8818H | 34841 | | | | TOU Calendar Year 5 Calendar Year | 9999 | 1 year | F21 | R | |
| 8819H-CH | 34842-34845 | | | | TOU Calendar Year 6 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 881DH | 34846 | | | | TOU Calendar Year 6 Calendar Year | 9999 | 1 year | F21 | R | |
| 881EH-8821H | 34847-34850 | | | | TOU Calendar Year 7 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8822H | 34851 | | | | TOU Calendar Year 7 Calendar Year | 9999 | 1 year | F21 | R | |
| 8823H-8826H | 34852-34855 | | | | TOU Calendar Year 8 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8827H | 34856 | | | | TOU Calendar Year 8 Calendar Year | 9999 | 1 year | F21 | R | |
| 8828H-882BH | 34857-34860 | | | | TOU Calendar Year 9 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 882CH | 34861 | | | | TOU Calendar Year 9 Calendar Year | 9999 | 1 year | F21 | R | |
| 882DH-8830H | 34862-34865 | | | | TOU Calendar Year 10 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8831H | 34866 | | | | TOU Calendar Year 10 Calendar Year | 9999 | 1 year | F21 | R | |
| 8832H-8835H | 34867-34870 | | | | TOU Calendar Year 11 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8836H | 34871 | | | | TOU Calendar Year 11 Calendar Year | 9999 | 1 year | F21 | R | |
| 8837H-883AH | 34872-34875 | | | | TOU Calendar Year 12 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 883BH | 34876 | | | | TOU Calendar Year 12 Calendar Year | 9999 | 1 year | F21 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------|-------------|------|----|------------|--|------------------------|---------|------|-----|-------|
| 883CH-883FH | 34877-34880 | | | | TOU Calendar Year 13 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8840H | 34881 | | | | TOU Calendar Year 13 Calendar Year | 9999 | 1 year | F21 | R | |
| 8841H-8844H | 34882-34885 | | | | TOU Calendar Year 14 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8845H | 34886 | | | | TOU Calendar Year 14 Calendar Year | 9999 | 1 year | F21 | R | |
| 8846H-8849H | 34887-34890 | | | | TOU Calendar Year 15 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 884AH | 34891 | | | | TOU Calendar Year 15 Calendar Year | 9999 | 1 year | F21 | R | |
| 884BH-884EH | 34892-34895 | | | | TOU Calendar Year 16 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 884FH | 34896 | | | | TOU Calendar Year 16 Calendar Year | 9999 | 1 year | F21 | R | |
| 8850H-8853H | 34897-34900 | | | | TOU Calendar Year 17 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8854H | 34901 | | | | TOU Calendar Year 17 Calendar Year | 9999 | 1 year | F21 | R | |
| 8855H-8858H | 34902-34905 | | | | TOU Calendar Year 18 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8859H | 34906 | | | | TOU Calendar Year 18 Calendar Year | 9999 | 1 year | F21 | R | |
| 885AH-885DH | 34907-34910 | | | | TOU Calendar Year 19 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 885EH | 34911 | | | | TOU Calendar Year 19 Calendar Year | 9999 | 1 year | F21 | R | |
| 885FH-8862H | 34912-34915 | | | | TOU Calendar Year 20 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8863H | 34916 | | | | TOU Calendar Year 20 Calendar Year | 9999 | 1 year | F21 | R | |
| 8864H | 34917 | | | | TOU Calendar Year Selection | | | F31 | R/W | |
| 8865H | 34918 | | | | TOU Calendar Header Status / Year Selection Status | | | F32 | R | |
| Time of Use Calendar Block | | | | | | | | | | |
| Time of Use Calendar Window 1 | | | | | | | | | | |
| 8866H-8869H | 34919-34922 | | | | TOU Calendar Year 1 Modification Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 886AH | 34923 | | | | TOU Calendar Year 1 Calendar Year | 9999 | 1 year | F21 | R | |
| 886BH | 34924 | | | | TOU Calendar Year 1 Jan 1 / Jan 2 Profile | 15-15 / 0-0 | | F22 | R | |
| 886CH | 34925 | | | | TOU Calendar Year 1 Jan 3 / Jan 4 Profile | 15-15 / 0-0 | | F22 | R | |
| 886DH | 34926 | | | | TOU Calendar Year 1 Jan 5 / Jan 6 Profile | 15-15 / 0-0 | | F22 | R | |
| 886EH | 34927 | | | | TOU Calendar Year 1 Jan 7 / Jan 8 Profile | 15-15 / 0-0 | | F22 | R | |
| 886FH | 34928 | | | | TOU Calendar Year 1 Jan 9 / Jan 10 Profile | 15-15 / 0-0 | | F22 | R | |
| 8870H | 34929 | | | | TOU Calendar Year 1 Jan 11 / Jan 12 Profile | 15-15 / 0-0 | | F22 | R | |
| 8871H | 34930 | | | | TOU Calendar Year 1 Jan 13 / Jan 14 Profile | 15-15 / 0-0 | | F22 | R | |
| 8872H | 34931 | | | | TOU Calendar Year 1 Jan 15 / Jan 16 Profile | 15-15 / 0-0 | | F22 | R | |
| 8873H | 34932 | | | | TOU Calendar Year 1 Jan 17 / Jan 18 Profile | 15-15 / 0-0 | | F22 | R | |
| 8874H | 34933 | | | | TOU Calendar Year 1 Jan 19 / Jan 20 Profile | 15-15 / 0-0 | | F22 | R | |
| 8875H | 34934 | | | | TOU Calendar Year 1 Jan 21 / Jan 22 Profile | 15-15 / 0-0 | | F22 | R | |
| 8876H | 34935 | | | | TOU Calendar Year 1 Jan 23 / Jan 24 Profile | 15-15 / 0-0 | | F22 | R | |
| 8877H | 34936 | | | | TOU Calendar Year 1 Jan 25 / Jan 26 Profile | 15-15 / 0-0 | | F22 | R | |
| 8878H | 34937 | | | | TOU Calendar Year 1 Jan 27 / Jan 28 Profile | 15-15 / 0-0 | | F22 | R | |
| 8879H | 34938 | | | | TOU Calendar Year 1 Jan 29 / Jan 30 Profile | 15-15 / 0-0 | | F22 | R | |
| 887AH | 34939 | | | | TOU Calendar Year 1 Jan 31 / Feb 1 Profile | 15-15 / 0-0 | | F22 | R | |
| 887BH | 34940 | | | | TOU Calendar Year 1 Feb 2 / Feb 3 Profile | 15-15 / 0-0 | | F22 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------|-------|------|-----|-------|
| 887CH | 34941 | | | | TOU Calendar Year 1 Feb 4 / Feb 5 Profile | 15-15 / 0-0 | | F22 | R | |
| 887DH | 34942 | | | | TOU Calendar Year 1 Feb 6 / Feb 7 Profile | 15-15 / 0-0 | | F22 | R | |
| 887EH | 34943 | | | | TOU Calendar Year 1 Feb 8 / Feb 9 Profile | 15-15 / 0-0 | | F22 | R | |
| 887FH | 34944 | | | | TOU Calendar Year 1 Feb 10 / Feb 11 Profile | 15-15 / 0-0 | | F22 | R | |
| 8880H | 34945 | | | | TOU Calendar Year 1 Feb 12 / Feb 13 Profile | 15-15 / 0-0 | | F22 | R | |
| 8881H | 34946 | | | | TOU Calendar Year 1 Feb 14 / Feb 15 Profile | 15-15 / 0-0 | | F22 | R | |
| 8882H | 34947 | | | | TOU Calendar Year 1 Feb 16 / Feb 17 Profile | 15-15 / 0-0 | | F22 | R | |
| 8883H | 34948 | | | | TOU Calendar Year 1 Feb 18 / Feb 19 Profile | 15-15 / 0-0 | | F22 | R | |
| 8884H | 34949 | | | | TOU Calendar Year 1 Feb 20 / Feb 21 Profile | 15-15 / 0-0 | | F22 | R | |
| 8885H | 34950 | | | | TOU Calendar Year 1 Feb 22 / Feb 23 Profile | 15-15 / 0-0 | | F22 | R | |
| 8886H | 34951 | | | | TOU Calendar Year 1 Feb 24 / Feb 25 Profile | 15-15 / 0-0 | | F22 | R | |
| 8887H | 34952 | | | | TOU Calendar Year 1 Feb 26 / Feb 27 Profile | 15-15 / 0-0 | | F22 | R | |
| 8888H | 34953 | | | | TOU Calendar Year 1 Feb 28 / Mar 1 (Feb 28) Profile | 15-15 / 0-0 | | F22 | R | |
| 8889H | 34954 | | | | TOU Calendar Year 1 Mar 2 (Mar 1) / Mar 3 (Mar 2) Profile | 15-15 / 0-0 | | F22 | R | |
| 888AH | 34955 | | | | TOU Calendar Year 1 Mar 4 (Mar 3) / Mar 5 (Mar 4) Profile | 15-15 / 0-0 | | F22 | R | |
| 888BH | 34956 | | | | TOU Calendar Year 1 Mar 6 (Mar 5) / Mar 7 (Mar 6) Profile | 15-15 / 0-0 | | F22 | R | |
| 888CH | 34957 | | | | TOU Calendar Year 1 Mar 8 (Mar 7) / Mar 9 (Mar 8) Profile | 15-15 / 0-0 | | F22 | R | |
| 888DH | 34958 | | | | TOU Calendar Year 1 Mar 10 (Mar 9) / Mar 11 (Mar 10) Profile | 15-15 / 0-0 | | F22 | R | |
| 888EH | 34959 | | | | TOU Calendar Year 1 Mar 13 (Mar 11) / Mar 13 (Mar 12) Profile | 15-15 / 0-0 | | F22 | R | |
| 888FH | 34960 | | | | TOU Calendar Year 1 Mar 14 (Mar 13) / Mar 15 (Mar 14) Profile | 15-15 / 0-0 | | F22 | R | |
| 8890H | 34961 | | | | TOU Calendar Year 1 Mar 16 (Mar 15) / Mar 17 (Mar 16) Profile | 15-15 / 0-0 | | F22 | R | |
| 8891H | 34962 | | | | TOU Calendar Year 1 Mar 18 (Mar 17) / Mar 19 (Mar 18) Profile | 15-15 / 0-0 | | F22 | R | |
| 8892H | 34963 | | | | TOU Calendar Year 1 Mar 20 (Mar 19) / Mar 21 (Mar 20) Profile | 15-15 / 0-0 | | F22 | R | |
| 8893H | 34964 | | | | TOU Calendar Year 1 Mar 22 (Mar 21) / Mar 23 (Mar 22) Profile | 15-15 / 0-0 | | F22 | R | |
| 8894H | 34965 | | | | TOU Calendar Year 1 Mar 24 (Mar 23) / Mar 25 (Mar 24) Profile | 15-15 / 0-0 | | F22 | R | |
| 8895H | 34966 | | | | TOU Calendar Year 1 Mar 26 (Mar 25) / Mar 27 (Mar 26) Profile | 15-15 / 0-0 | | F22 | R | |
| 8896H | 34967 | | | | TOU Calendar Year 1 Mar 28 (Mar 27) / Mar 29 (Mar 28) Profile | 15-15 / 0-0 | | F22 | R | |
| 8897H | 34968 | | | | TOU Calendar Year 1 Mar 30 (Mar 29) / Mar 31 (Mar 30) Profile | 15-15 / 0-0 | | F22 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------|-------|------|-----|-------|
| 8898H | 34969 | | | | TOU Calendar Year 1 Apr 1 (Mar 31) / Apr 2 (Apr 1) Profile | 15-15 / 0-0 | | F22 | R | |
| 8899H | 34970 | | | | TOU Calendar Year 1 Apr 3 (Apr 2) / Apr 4 (Apr 3) Profile | 15-15 / 0-0 | | F22 | R | |
| 889AH | 34971 | | | | TOU Calendar Year 1 Apr 5 (Apr 4) / Apr 6 (Apr 5) Profile | 15-15 / 0-0 | | F22 | R | |
| 889BH | 34972 | | | | TOU Calendar Year 1 Apr 7 (Apr 6) / Apr 8 (Apr 7) Profile | 15-15 / 0-0 | | F22 | R | |
| 889CH | 34973 | | | | TOU Calendar Year 1 Apr 9 (Apr 8) / Apr 10 (Apr 9) Profile | 15-15 / 0-0 | | F22 | R | |
| 889DH | 34974 | | | | TOU Calendar Year 1 Apr 11 (Apr 10) / Apr 12 (Apr 11) Profile | 15-15 / 0-0 | | F22 | R | |
| 889EH | 34975 | | | | TOU Calendar Year 1 Apr 13 (Apr 12) / Apr 14 (Apr 13) Profile | 15-15 / 0-0 | | F22 | R | |
| 889FH | 34976 | | | | TOU Calendar Year 1 Apr 15 (Apr 14) / Apr 16 (Apr 15) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A0H | 34977 | | | | TOU Calendar Year 1 Apr 17 (Apr 16) / Apr 18 (Apr 17) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A1H | 34978 | | | | TOU Calendar Year 1 Apr 19 (Apr 18) / Apr 20 (Apr 19) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A2H | 34979 | | | | TOU Calendar Year 1 Apr 21 (Apr 20) / Apr 22 (Apr 21) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A3H | 34980 | | | | TOU Calendar Year 1 Apr 23 (Apr 22) / Apr 24 (Apr 23) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A4H | 34981 | | | | TOU Calendar Year 1 Apr 25 (Apr 24) / Apr 26 (Apr 25) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A5H | 34982 | | | | TOU Calendar Year 1 Apr 27 (Apr 26) / Apr 28 (Apr 27) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A6H | 34983 | | | | TOU Calendar Year 1 Apr 29 (Apr 28) / Apr 30 (Apr 29) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A7H | 34984 | | | | TOU Calendar Year 1 May 1 (Apr 30) / May 2 (May 1) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A8H | 34985 | | | | TOU Calendar Year 1 May 3 (May 2) / May 4 (May 3) Profile | 15-15 / 0-0 | | F22 | R | |
| 88A9H | 34986 | | | | TOU Calendar Year 1 May 5 (May 4) / May 6 (May 5) Profile | 15-15 / 0-0 | | F22 | R | |
| 88AAH | 34987 | | | | TOU Calendar Year 1 May 7 (May 6) / May 8 (May 7) Profile | 15-15 / 0-0 | | F22 | R | |
| 88ABH | 34988 | | | | TOU Calendar Year 1 May 9 (May 8) / May 10 (May 9) Profile | 15-15 / 0-0 | | F22 | R | |
| 88ACH | 34989 | | | | TOU Calendar Year 1 May 11 (May 10) / May 12 (May 11) Profile | 15-15 / 0-0 | | F22 | R | |
| 88ADH | 34990 | | | | TOU Calendar Year 1 May 13 (May 12) / May 14 (May 13) Profile | 15-15 / 0-0 | | F22 | R | |
| 88AEH | 34991 | | | | TOU Calendar Year 1 May 15 (May 14) / May 16 (May 15) Profile | 15-15 / 0-0 | | F22 | R | |
| 88AFH | 34992 | | | | TOU Calendar Year 1 May 17 (May 16) / May 18 (May 17) Profile | 15-15 / 0-0 | | F22 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------------|-------|------|-----|-------|
| 88B0H | 34993 | | | | TOU Calendar Year 1 May 19 (May 18) / May 20 (May 19) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B1H | 34994 | | | | TOU Calendar Year 1 May 21 (May 20) / May 22 (May 21) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B2H | 34995 | | | | TOU Calendar Year 1 May 23 (May 22) / May 24 (May 23) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B3H | 34996 | | | | TOU Calendar Year 1 May 25 (May 24) / May 26 (May 25) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B4H | 34997 | | | | TOU Calendar Year 1 May 27 (May 26) / May 28 (May 27) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B5H | 34998 | | | | TOU Calendar Year 1 May 29 (May 28) / May 30 (May 29) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B6H | 34999 | | | | TOU Calendar Year 1 May 31 (May 30) / Jun 1 (May 31) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B7H | 35000 | | | | TOU Calendar Year 1 Jun 2 (Jun 1) / Jun 3 (Jun 2) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B8H | 35001 | | | | TOU Calendar Year 1 Jun 4 (Jun 3) / Jun 5 (Jun 4) Profile | 15-15 / 0-0 | | F22 | R | |
| 88B9H | 35002 | | | | TOU Calendar Year 1 Jun 6 (Jun 5) / Jun 7 (Jun 6) Profile | 15-15 / 0-0 | | F22 | R | |
| 88BAH | 35003 | | | | TOU Calendar Year 1 Jun 8 (Jun 7) / Jun 9 (Jun 8) Profile | 15-15 / 0-0 | | F22 | R | |
| 88BBH | 35004 | | | | TOU Calendar Year 1 Jun 10 (Jun 9) / Jun 11 (Jun 10) Profile | 15-15 / 0-0 | | F22 | R | |
| 88BCH | 35005 | | | | TOU Calendar Year 1 Jun 13 (Jun 11) / Jun 13 (Jun 12) Profile | 15-15 / 0-0 | | F22 | R | |
| 88BDH | 35006 | | | | TOU Calendar Year 1 Jun 14 (Jun 13) / Jun 15 (Jun 14) Profile | 15-15 / 0-0 | | F22 | R | |
| 88BEH | 35007 | | | | TOU Calendar Year 1 Jun 16 (Jun 15) / Jun 17 (Jun 16) Profile | 15-15 / 0-0 | | F22 | R | |
| 88BFH | 35008 | | | | TOU Calendar Year 1 Jun 18 (Jun 17) / Jun 19 (Jun 18) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C0H | 35009 | | | | TOU Calendar Year 1 Jun 20 (Jun 19) / Jun 21 (Jun 20) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C1H | 35010 | | | | TOU Calendar Year 1 Jun 22 (Jun 21) / Jun 23 (Jun 22) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C2H | 35011 | | | | TOU Calendar Year 1 Jun 24 (Jun 23) / Jun 25 (Jun 24) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C3H | 35012 | | | | TOU Calendar Year 1 Jun 26 (Jun 25) / Jun 27 (Jun 26) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C4H | 35013 | | | | TOU Calendar Year 1 Jun 28 (Jun 27) / Jun 29 (Jun 28) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C5H | 35014 | | | | TOU Calendar Year 1 Jun 30 (Jun 29) / Jul 1 (Jun 30) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C6H | 35015 | | | | TOU Calendar Year 1 Jul 2 (Jul 1) / Jul 3 (Jul 2) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C7H | 35016 | | | | TOU Calendar Year 1 Jul 4 (Jul 3) / Jul 5 (Jul 4) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C8H | 35017 | | | | TOU Calendar Year 1 Jul 6 (Jul 5) / Jul 7 (Jul 6) Profile | 15-15 / 0-0 | | F22 | R | |
| 88C9H | 35018 | | | | TOU Calendar Year 1 Jul 8 (Jul 7) / Jul 9 (Jul 8) Profile | 15-15 / 0-0 | | F22 | R | |
| 88CAH | 35019 | | | | TOU Calendar Year 1 Jul 10 (Jul 9) / Jul 11 (Jul 10) Profile | 15-15 / 0-0 | | F22 | R | |
| 88CBH | 35020 | | | | TOU Calendar Year 1 Jul 13 (Jul 11) / Jul 13 (Jul 12) Profile | 15-15 / 0-0 | | F22 | R | |
| 88CCH | 35021 | | | | TOU Calendar Year 1 Jul 14 (Jul 13) / Jul 15 (Jul 14) Profile | 15-15 / 0-0 | | F22 | R | |
| 88CDH | 35022 | | | | TOU Calendar Year 1 Jul 16 (Jul 15) / Jul 17 (Jul 16) Profile | 15-15 / 0-0 | | F22 | R | |
| 88CEH | 35023 | | | | TOU Calendar Year 1 Jul 18 (Jul 17) / Jul 19 (Jul 18) Profile | 15-15 / 0-0 | | F22 | R | |
| 88CFH | 35024 | | | | TOU Calendar Year 1 Jul 20 (Jul 19) / Jul 21 (Jul 20) Profile | 15-15 / 0-0 | | F22 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------|-------------|------|----|------------|--|-------------|-------|------|-----|-------|
| 88D0H | 35025 | | | | TOU Calendar Year 1 Jul 22 (Jul 21) / Jul 23 (Jul 22) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D1H | 35026 | | | | TOU Calendar Year 1 Jul 24 (Jul 23) / Jul 25 (Jul 24) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D2H | 35027 | | | | TOU Calendar Year 1 Jul 26 (Jul 25) / Jul 27 (Jul 26) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D3H | 35028 | | | | TOU Calendar Year 1 Jul 28 (Jul 27) / Jul 29 (Jul 28) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D4H | 35029 | | | | TOU Calendar Year 1 Jul 30 (Jul 29) / Jul 31 (Jul 30) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D5H | 35030 | | | | TOU Calendar Year 1 Aug 1 (Jul 31) / Aug 2 (Aug 1) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D6H | 35031 | | | | TOU Calendar Year 1 Aug 3 (Aug 2) / Aug 4 (Aug 3) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D7H | 35032 | | | | TOU Calendar Year 1 Aug 5 (Aug 4) / Aug 6 (Aug 5) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D8H | 35033 | | | | TOU Calendar Year 1 Aug 7 (Aug 6) / Aug 8 (Aug 7) Profile | 15-15 / 0-0 | | F22 | R | |
| 88D9H | 35034 | | | | TOU Calendar Year 1 Aug 9 (Aug 8) / Aug 10 (Aug 9) Profile | 15-15 / 0-0 | | F22 | R | |
| 88DAH | 35035 | | | | TOU Calendar Year 1 Aug 11 (Aug 10) / Aug 12 (Aug 11) Profile | 15-15 / 0-0 | | F22 | R | |
| 88DBH | 35036 | | | | TOU Calendar Year 1 Aug 13 (Aug 12) / Aug 14 (Aug 13) Profile | 15-15 / 0-0 | | F22 | R | |
| 88DCH | 35037 | | | | TOU Calendar Year 1 Aug 15 (Aug 14) / Aug 16 (Aug 15) Profile | 15-15 / 0-0 | | F22 | R | |
| 88DDH | 35038 | | | | TOU Calendar Year 1 Aug 17 (Aug 16) / Aug 18 (Aug 17) Profile | 15-15 / 0-0 | | F22 | R | |
| 88DEH | 35039 | | | | TOU Calendar Year 1 Aug 19 (Aug 18) / Aug 20 (Aug 19) Profile | 15-15 / 0-0 | | F22 | R | |
| 88DFH | 35040 | | | | TOU Calendar Year 1 Aug 21 (Aug 20) / Aug 22 (Aug 21) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E0H | 35041 | | | | TOU Calendar Year 1 Aug 23 (Aug 22) / Aug 24 (Aug 23) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E1H | 35042 | | | | TOU Calendar Year 1 Aug 25 (Aug 24) / Aug 26 (Aug 25) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E2H | 35043 | | | | TOU Calendar Year 1 Aug 27 (Aug 26) / Aug 28 (Aug 27) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E3H | 35044 | | | | TOU Calendar Year 1 Aug 29 (Aug 28) / Aug 30 (Aug 29) Profile | 15-15 / 0-0 | | F22 | R | |
| Time of Use Calendar Window 2 | | | | | | | | | | |
| 88E4H | 35045 | | | | TOU Calendar Year 1 Aug 31 (Aug 30) / Sep 1 (Aug 31) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E5H | 35046 | | | | TOU Calendar Year 1 Sep 2 (Sep 1) / Sep 3 (Sep 2) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E6H | 35047 | | | | TOU Calendar Year 1 Sep 4 (Sep 3) / Sep 5 (Sep 4) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E7H | 35048 | | | | TOU Calendar Year 1 Sep 6 (Sep 5) / Sep 7 (Sep 6) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E8H | 35049 | | | | TOU Calendar Year 1 Sep 8 (Sep 7) / Sep 9 (Sep 8) Profile | 15-15 / 0-0 | | F22 | R | |
| 88E9H | 35050 | | | | TOU Calendar Year 1 Sep 10 (Sep 9) / Sep 11 (Sep 10) Profile | 15-15 / 0-0 | | F22 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------------|-------|------|-----|-------|
| 88EAH | 35051 | | | | TOU Calendar Year 1 Sep 13 (Sep 11) / Sep 13 (Sep 12) Profile | 15-15 / 0-0 | | F22 | R | |
| 88EBH | 35052 | | | | TOU Calendar Year 1 Sep 14 (Sep 13) / Sep 15 (Sep 14) Profile | 15-15 / 0-0 | | F22 | R | |
| 88ECH | 35053 | | | | TOU Calendar Year 1 Sep 16 (Sep 15) / Sep 17 (Sep 16) Profile | 15-15 / 0-0 | | F22 | R | |
| 88EDH | 35054 | | | | TOU Calendar Year 1 Sep 18 (Sep 17) / Sep 19 (Sep 18) Profile | 15-15 / 0-0 | | F22 | R | |
| 88EEH | 35055 | | | | TOU Calendar Year 1 Sep 20 (Sep 19) / Sep 21 (Sep 20) Profile | 15-15 / 0-0 | | F22 | R | |
| 88EFH | 35056 | | | | TOU Calendar Year 1 Sep 22 (Sep 21) / Sep 23 (Sep 22) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F0H | 35057 | | | | TOU Calendar Year 1 Sep 24 (Sep 23) / Sep 25 (Sep 24) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F1H | 35058 | | | | TOU Calendar Year 1 Sep 26 (Sep 25) / Sep 27 (Sep 26) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F2H | 35059 | | | | TOU Calendar Year 1 Sep 28 (Sep 27) / Sep 29 (Sep 28) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F3H | 35060 | | | | TOU Calendar Year 1 Sep 30 (Sep 29) / Oct 1 (Sep 30) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F4H | 35061 | | | | TOU Calendar Year 1 Oct 2 (Oct 1) / Oct 3 (Oct 2) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F5H | 35062 | | | | TOU Calendar Year 1 Oct 4 (Oct 3) / Oct 5 (Oct 4) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F6H | 35063 | | | | TOU Calendar Year 1 Oct 6 (Oct 5) / Oct 7 (Oct 6) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F7H | 35064 | | | | TOU Calendar Year 1 Oct 8 (Oct 7) / Oct 9 (Oct 8) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F8H | 35065 | | | | TOU Calendar Year 1 Oct 10 (Oct 9) / Oct 11 (Oct 10) Profile | 15-15 / 0-0 | | F22 | R | |
| 88F9H | 35066 | | | | TOU Calendar Year 1 Oct 13 (Oct 11) / Oct 13 (Oct 12) Profile | 15-15 / 0-0 | | F22 | R | |
| 88FAH | 35067 | | | | TOU Calendar Year 1 Oct 14 (Oct 13) / Oct 15 (Oct 14) Profile | 15-15 / 0-0 | | F22 | R | |
| 88FBH | 35068 | | | | TOU Calendar Year 1 Oct 16 (Oct 15) / Oct 17 (Oct 16) Profile | 15-15 / 0-0 | | F22 | R | |
| 88FCH | 35069 | | | | TOU Calendar Year 1 Oct 18 (Oct 17) / Oct 19 (Oct 18) Profile | 15-15 / 0-0 | | F22 | R | |
| 88FDH | 35070 | | | | TOU Calendar Year 1 Oct 20 (Oct 19) / Oct 21 (Oct 20) Profile | 15-15 / 0-0 | | F22 | R | |
| 88FEH | 35071 | | | | TOU Calendar Year 1 Oct 22 (Oct 21) / Oct 23 (Oct 22) Profile | 15-15 / 0-0 | | F22 | R | |
| 88FFH | 35072 | | | | TOU Calendar Year 1 Oct 24 (Oct 23) / Oct 25 (Oct 24) Profile | 15-15 / 0-0 | | F22 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------|-------|------|-----|-------|
| 8900H | 35073 | | | | TOU Calendar Year 1 Oct 26 (Oct 25) / Oct 27 (Oct 26) Profile | 15-15 / 0-0 | | F22 | R | |
| 8901H | 35074 | | | | TOU Calendar Year 1 Oct 28 (Oct 27) / Oct 29 (Oct 28) Profile | 15-15 / 0-0 | | F22 | R | |
| 8902H | 35075 | | | | TOU Calendar Year 1 Oct 30 (Oct 29) / Oct 31 (Oct 30) Profile | 15-15 / 0-0 | | F22 | R | |
| 8903H | 35076 | | | | TOU Calendar Year 1 Nov 1 (Oct 31) / Nov 2 (Nov 1) Profile | 15-15 / 0-0 | | F22 | R | |
| 8904H | 35077 | | | | TOU Calendar Year 1 Nov 3 (Nov 2) / Nov 4 (Nov 3) Profile | 15-15 / 0-0 | | F22 | R | |
| 8905H | 35078 | | | | TOU Calendar Year 1 Nov 5 (Nov 4) / Nov 6 (Nov 5) Profile | 15-15 / 0-0 | | F22 | R | |
| 8906H | 35079 | | | | TOU Calendar Year 1 Nov 7 (Nov 6) / Nov 8 (Nov 7) Profile | 15-15 / 0-0 | | F22 | R | |
| 8907H | 35080 | | | | TOU Calendar Year 1 Nov 9 (Nov 8) / Nov 10 (Nov 9) Profile | 15-15 / 0-0 | | F22 | R | |
| 8908H | 35081 | | | | TOU Calendar Year 1 Nov 11 (Nov 10) / Nov 12 (Nov 11) Profile | 15-15 / 0-0 | | F22 | R | |
| 8909H | 35082 | | | | TOU Calendar Year 1 Nov 13 (Nov 12) / Nov 14 (Nov 13) Profile | 15-15 / 0-0 | | F22 | R | |
| 890AH | 35083 | | | | TOU Calendar Year 1 Nov 15 (Nov 14) / Nov 16 (Nov 15) Profile | 15-15 / 0-0 | | F22 | R | |
| 890BH | 35084 | | | | TOU Calendar Year 1 Nov 17 (Nov 16) / Nov 18 (Nov 17) Profile | 15-15 / 0-0 | | F22 | R | |
| 890CH | 35085 | | | | TOU Calendar Year 1 Nov 19 (Nov 18) / Nov 20 (Nov 19) Profile | 15-15 / 0-0 | | F22 | R | |
| 890DH | 35086 | | | | TOU Calendar Year 1 Nov 21 (Nov 20) / Nov 22 (Nov 21) Profile | 15-15 / 0-0 | | F22 | R | |
| 890EH | 35087 | | | | TOU Calendar Year 1 Nov 23 (Nov 22) / Nov 24 (Nov 23) Profile | 15-15 / 0-0 | | F22 | R | |
| 890FH | 35088 | | | | TOU Calendar Year 1 Nov 25 (Nov 24) / Nov 26 (Nov 25) Profile | 15-15 / 0-0 | | F22 | R | |
| 8910H | 35089 | | | | TOU Calendar Year 1 Nov 27 (Nov 26) / Nov 28 (Nov 27) Profile | 15-15 / 0-0 | | F22 | R | |
| 8911H | 35090 | | | | TOU Calendar Year 1 Nov 29 (Nov 28) / Nov 30 (Nov 29) Profile | 15-15 / 0-0 | | F22 | R | |
| 8912H | 35091 | | | | TOU Calendar Year 1 Dec 1 (Nov 31) / Dec 2 (Dec 1) Profile | 15-15 / 0-0 | | F22 | R | |
| 8913H | 35092 | | | | TOU Calendar Year 1 Dec 3 (Dec 2) / Dec 4 (Dec 3) Profile | 15-15 / 0-0 | | F22 | R | |
| 8914H | 35093 | | | | TOU Calendar Year 1 Dec 5 (Dec 4) / Dec 6 (Dec 5) Profile | 15-15 / 0-0 | | F22 | R | |
| 8915H | 35094 | | | | TOU Calendar Year 1 Dec 7 (Dec 6) / Dec 8 (Dec 7) Profile | 15-15 / 0-0 | | F22 | R | |
| 8916H | 35095 | | | | TOU Calendar Year 1 Dec 9 (Dec 8) / Dec 10 (Dec 9) Profile | 15-15 / 0-0 | | F22 | R | |
| 8917H | 35096 | | | | TOU Calendar Year 1 Dec 11 (Dec 10) / Dec 12 (Dec 11) Profile | 15-15 / 0-0 | | F22 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------|-------|------|-----|-------|
| 8918H | 35097 | | | | TOU Calendar Year 1 Dec 13 (Dec 12) / Dec 14 (Dec 13) Profile | 15-15 / 0-0 | | F22 | R | |
| 8919H | 35098 | | | | TOU Calendar Year 1 Dec 15 (Dec 14) / Dec 16 (Dec 15) Profile | 15-15 / 0-0 | | F22 | R | |
| 891AH | 35099 | | | | TOU Calendar Year 1 Dec 17 (Dec 16) / Dec 18 (Dec 17) Profile | 15-15 / 0-0 | | F22 | R | |
| 891BH | 35100 | | | | TOU Calendar Year 1 Dec 19 (Dec 18) / Dec 20 (Dec 19) Profile | 15-15 / 0-0 | | F22 | R | |
| 891CH | 35101 | | | | TOU Calendar Year 1 Dec 21 (Dec 20) / Dec 22 (Dec 21) Profile | 15-15 / 0-0 | | F22 | R | |
| 891DH | 35102 | | | | TOU Calendar Year 1 Dec 23 (Dec 22) / Dec 24 (Dec 23) Profile | 15-15 / 0-0 | | F22 | R | |
| 891EH | 35103 | | | | TOU Calendar Year 1 Dec 25 (Dec 24) / Dec 26 (Dec 25) Profile | 15-15 / 0-0 | | F22 | R | |
| 891FH | 35104 | | | | TOU Calendar Year 1 Dec 27 (Dec 26) / Dec 28 (Dec 27) Profile | 15-15 / 0-0 | | F22 | R | |
| 8920H | 35105 | | | | TOU Calendar Year 1 Dec 29 (Dec 28) / Dec 30 (Dec 29) Profile | 15-15 / 0-0 | | F22 | R | |
| 8921H | 35106 | | | | TOU Calendar Year 1 Dec 31 (Dec 30) / (Dec 31) Profile | 15-15 / 0-0 | | F22 | R | |
| 8922H | 35107 | | | | TOU Calendar Year 1 Profile 1 Status | | | F23 | R | |
| 8923H | 35108 | | | | TOU Calendar Year 1 Profile 1 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8924H | 35109 | | | | TOU Calendar Year 1 Profile 1 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8925H | 35110 | | | | TOU Calendar Year 1 Profile 1 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8926H | 35111 | | | | TOU Calendar Year 1 Profile 1 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8927H | 35112 | | | | TOU Calendar Year 1 Profile 1 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8928H | 35113 | | | | & 05:45 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8929H | 35114 | | | | TOU Calendar Year 1 Profile 1 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 892AH | 35115 | | | | TOU Calendar Year 1 Profile 1 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 892BH | 35116 | | | | TOU Calendar Year 1 Profile 1 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 892CH | 35117 | | | | TOU Calendar Year 1 Profile 1 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 892DH | 35118 | | | | TOU Calendar Year 1 Profile 1 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 892EH | 35119 | | | | TOU Calendar Year 1 Profile 1 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 892FH | 35120 | | | | TOU Calendar Year 1 Profile 1 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8930H | 35121 | | | | TOU Calendar Year 1 Profile 1 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8931H | 35122 | | | | TOU Calendar Year 1 Profile 1 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8932H | 35123 | | | | TOU Calendar Year 1 Profile 1 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8933H | 35124 | | | | TOU Calendar Year 1 Profile 1 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8934H | 35125 | | | | TOU Calendar Year 1 Profile 1 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8935H | 35126 | | | | TOU Calendar Year 1 Profile 1 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------|-------|------|-----|-------|
| 8936H | 35127 | | | | TOU Calendar Year 1 Profile 1 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8937H | 35128 | | | | TOU Calendar Year 1 Profile 1 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8938H | 35129 | | | | TOU Calendar Year 1 Profile 1 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8939H | 35130 | | | | TOU Calendar Year 1 Profile 1 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 893AH | 35131 | | | | TOU Calendar Year 1 Profile 1 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 893BH | 35132 | | | | TOU Calendar Year 1 Profile 2 Status | | | F23 | R | |
| 893CH | 35133 | | | | TOU Calendar Year 1 Profile 2 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 893DH | 35134 | | | | TOU Calendar Year 1 Profile 2 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 893EH | 35135 | | | | TOU Calendar Year 1 Profile 2 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 893FH | 35136 | | | | TOU Calendar Year 1 Profile 2 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8940H | 35137 | | | | TOU Calendar Year 1 Profile 2 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8941H | 35138 | | | | TOU Calendar Year 1 Profile 2 Register for 05:00, 05:15, 05:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8942H | 35139 | | | | TOU Calendar Year 1 Profile 2 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8943H | 35140 | | | | TOU Calendar Year 1 Profile 2 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8944H | 35141 | | | | TOU Calendar Year 1 Profile 2 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8945H | 35142 | | | | TOU Calendar Year 1 Profile 2 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8946H | 35143 | | | | TOU Calendar Year 1 Profile 2 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8947H | 35144 | | | | TOU Calendar Year 1 Profile 2 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8948H | 35145 | | | | TOU Calendar Year 1 Profile 2 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8949H | 35146 | | | | TOU Calendar Year 1 Profile 2 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 894AH | 35147 | | | | TOU Calendar Year 1 Profile 2 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 894BH | 35148 | | | | TOU Calendar Year 1 Profile 2 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 894CH | 35149 | | | | TOU Calendar Year 1 Profile 2 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 894DH | 35150 | | | | TOU Calendar Year 1 Profile 2 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 894EH | 35151 | | | | TOU Calendar Year 1 Profile 2 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 894FH | 35152 | | | | TOU Calendar Year 1 Profile 2 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8950H | 35153 | | | | TOU Calendar Year 1 Profile 2 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8951H | 35154 | | | | TOU Calendar Year 1 Profile 2 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8952H | 35155 | | | | TOU Calendar Year 1 Profile 2 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8953H | 35156 | | | | TOU Calendar Year 1 Profile 2 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8954H | 35157 | | | | TOU Calendar Year 1 Profile 3 Status | | | F23 | R | |
| 8955H | 35158 | | | | TOU Calendar Year 1 Profile 3 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8956H | 35159 | | | | TOU Calendar Year 1 Profile 3 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8957H | 35160 | | | | TOU Calendar Year 1 Profile 3 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8958H | 35161 | | | | TOU Calendar Year 1 Profile 3 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8959H | 35162 | | | | TOU Calendar Year 1 Profile 3 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 895AH | 35163 | | | | TOU Calendar Year 1 Profile 3 Register for 05:00, 05:15, 05:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 895BH | 35164 | | | | TOU Calendar Year 1 Profile 3 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 895CH | 35165 | | | | TOU Calendar Year 1 Profile 3 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------|-------------|------|----|------------|--|-------------------|-------|------|-----|-------|
| 895DH | 35166 | | | | TOU Calendar Year 1 Profile 3 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 895EH | 35167 | | | | TOU Calendar Year 1 Profile 3 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 895FH | 35168 | | | | TOU Calendar Year 1 Profile 3 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8960H | 35169 | | | | TOU Calendar Year 1 Profile 3 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8961H | 35170 | | | | TOU Calendar Year 1 Profile 3 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| Time of Use Calendar Window 3 | | | | | | | | | | |
| 8962H | 35171 | | | | TOU Calendar Year 1 Profile 3 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8963H | 35172 | | | | TOU Calendar Year 1 Profile 3 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8964H | 35173 | | | | TOU Calendar Year 1 Profile 3 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8965H | 35174 | | | | TOU Calendar Year 1 Profile 3 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8966H | 35175 | | | | TOU Calendar Year 1 Profile 3 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8967H | 35176 | | | | TOU Calendar Year 1 Profile 3 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8968H | 35177 | | | | TOU Calendar Year 1 Profile 3 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8969H | 35178 | | | | TOU Calendar Year 1 Profile 3 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 896AH | 35179 | | | | TOU Calendar Year 1 Profile 3 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 896BH | 35180 | | | | TOU Calendar Year 1 Profile 3 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 896CH | 35181 | | | | TOU Calendar Year 1 Profile 3 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 896DH | 35182 | | | | TOU Calendar Year 1 Profile 4 Status | | | F23 | R | |
| 896EH | 35183 | | | | TOU Calendar Year 1 Profile 4 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 896FH | 35184 | | | | TOU Calendar Year 1 Profile 4 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8970H | 35185 | | | | TOU Calendar Year 1 Profile 4 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8971H | 35186 | | | | TOU Calendar Year 1 Profile 4 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8972H | 35187 | | | | TOU Calendar Year 1 Profile 4 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8973H | 35188 | | | | TOU Calendar Year 1 Profile 4 Register for 05:00, 05:15, 05:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8974H | 35189 | | | | TOU Calendar Year 1 Profile 4 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8975H | 35190 | | | | TOU Calendar Year 1 Profile 4 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8976H | 35191 | | | | TOU Calendar Year 1 Profile 4 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8977H | 35192 | | | | TOU Calendar Year 1 Profile 4 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8978H | 35193 | | | | TOU Calendar Year 1 Profile 4 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8979H | 35194 | | | | TOU Calendar Year 1 Profile 4 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 897AH | 35195 | | | | TOU Calendar Year 1 Profile 4 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 897BH | 35196 | | | | TOU Calendar Year 1 Profile 4 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 897CH | 35197 | | | | TOU Calendar Year 1 Profile 4 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 897DH | 35198 | | | | TOU Calendar Year 1 Profile 4 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 897EH | 35199 | | | | TOU Calendar Year 1 Profile 4 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 897FH | 35200 | | | | TOU Calendar Year 1 Profile 4 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8980H | 35201 | | | | TOU Calendar Year 1 Profile 4 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8981H | 35202 | | | | TOU Calendar Year 1 Profile 4 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8982H | 35203 | | | | TOU Calendar Year 1 Profile 4 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------|-------|------|-----|-------|
| 8983H | 35204 | | | | TOU Calendar Year 1 Profile 4 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8984H | 35205 | | | | TOU Calendar Year 1 Profile 4 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8985H | 35206 | | | | TOU Calendar Year 1 Profile 4 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8986H | 35207 | | | | TOU Calendar Year 1 Profile 5 Status | | | F23 | R | |
| 8987H | 35208 | | | | TOU Calendar Year 1 Profile 5 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8988H | 35209 | | | | TOU Calendar Year 1 Profile 5 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8989H | 35210 | | | | TOU Calendar Year 1 Profile 5 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 898AH | 35211 | | | | TOU Calendar Year 1 Profile 5 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 898BH | 35212 | | | | TOU Calendar Year 1 Profile 5 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 898CH | 35213 | | | | TOU Calendar Year 1 Profile 5 Register for 05:00, 05:15, 05:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 898DH | 35214 | | | | TOU Calendar Year 1 Profile 5 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 898EH | 35215 | | | | TOU Calendar Year 1 Profile 5 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 898FH | 35216 | | | | TOU Calendar Year 1 Profile 5 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8990H | 35217 | | | | TOU Calendar Year 1 Profile 5 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8991H | 35218 | | | | TOU Calendar Year 1 Profile 5 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8992H | 35219 | | | | TOU Calendar Year 1 Profile 5 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8993H | 35220 | | | | TOU Calendar Year 1 Profile 5 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8994H | 35221 | | | | TOU Calendar Year 1 Profile 5 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8995H | 35222 | | | | TOU Calendar Year 1 Profile 5 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8996H | 35223 | | | | TOU Calendar Year 1 Profile 5 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8997H | 35224 | | | | TOU Calendar Year 1 Profile 5 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8998H | 35225 | | | | TOU Calendar Year 1 Profile 5 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8999H | 35226 | | | | TOU Calendar Year 1 Profile 5 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 899AH | 35227 | | | | TOU Calendar Year 1 Profile 5 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 899BH | 35228 | | | | TOU Calendar Year 1 Profile 5 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 899CH | 35229 | | | | TOU Calendar Year 1 Profile 5 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 899DH | 35230 | | | | TOU Calendar Year 1 Profile 5 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 899EH | 35231 | | | | TOU Calendar Year 1 Profile 5 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 899FH | 35232 | | | | TOU Calendar Year 1 Profile 6 Status | | | F23 | R | |
| 89A0H | 35233 | | | | TOU Calendar Year 1 Profile 6 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A1H | 35234 | | | | TOU Calendar Year 1 Profile 6 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A2H | 35235 | | | | TOU Calendar Year 1 Profile 6 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A3H | 35236 | | | | TOU Calendar Year 1 Profile 6 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A4H | 35237 | | | | TOU Calendar Year 1 Profile 6 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A5H | 35238 | | | | TOU Calendar Year 1 Profile 6 Register for 05:00, 05:15, 05:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A6H | 35239 | | | | TOU Calendar Year 1 Profile 6 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A7H | 35240 | | | | TOU Calendar Year 1 Profile 6 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A8H | 35241 | | | | TOU Calendar Year 1 Profile 6 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89A9H | 35242 | | | | TOU Calendar Year 1 Profile 6 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------|-------|------|-----|-------|
| 89AAH | 35243 | | | | TOU Calendar Year 1 Profile 6 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89ABH | 35244 | | | | TOU Calendar Year 1 Profile 6 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89ACH | 35245 | | | | TOU Calendar Year 1 Profile 6 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89ADH | 35246 | | | | TOU Calendar Year 1 Profile 6 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89AEH | 35247 | | | | TOU Calendar Year 1 Profile 6 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89AFH | 35248 | | | | TOU Calendar Year 1 Profile 6 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B0H | 35249 | | | | TOU Calendar Year 1 Profile 6 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B1H | 35250 | | | | TOU Calendar Year 1 Profile 6 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B2H | 35251 | | | | TOU Calendar Year 1 Profile 6 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B3H | 35252 | | | | TOU Calendar Year 1 Profile 6 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B4H | 35253 | | | | TOU Calendar Year 1 Profile 6 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B5H | 35254 | | | | TOU Calendar Year 1 Profile 6 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B6H | 35255 | | | | TOU Calendar Year 1 Profile 6 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B7H | 35256 | | | | TOU Calendar Year 1 Profile 6 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89B8H | 35257 | | | | TOU Calendar Year 1 Profile 7 Status | | | F23 | R | |
| 89B9H | 35258 | | | | TOU Calendar Year 1 Profile 7 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89BAH | 35259 | | | | TOU Calendar Year 1 Profile 7 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89BBH | 35260 | | | | TOU Calendar Year 1 Profile 7 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89BCH | 35261 | | | | TOU Calendar Year 1 Profile 7 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89BDH | 35262 | | | | TOU Calendar Year 1 Profile 7 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89BEH | 35263 | | | | TOU Calendar Year 1 Profile 7 Register for 05:00, 05:15, 05:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89BFH | 35264 | | | | TOU Calendar Year 1 Profile 7 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C0H | 35265 | | | | TOU Calendar Year 1 Profile 7 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C1H | 35266 | | | | TOU Calendar Year 1 Profile 7 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C2H | 35267 | | | | TOU Calendar Year 1 Profile 7 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C3H | 35268 | | | | TOU Calendar Year 1 Profile 7 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C4H | 35269 | | | | TOU Calendar Year 1 Profile 7 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C5H | 35270 | | | | TOU Calendar Year 1 Profile 7 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C6H | 35271 | | | | TOU Calendar Year 1 Profile 7 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C7H | 35272 | | | | TOU Calendar Year 1 Profile 7 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C8H | 35273 | | | | TOU Calendar Year 1 Profile 7 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89C9H | 35274 | | | | TOU Calendar Year 1 Profile 7 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89CAH | 35275 | | | | TOU Calendar Year 1 Profile 7 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89CBH | 35276 | | | | TOU Calendar Year 1 Profile 7 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89CCH | 35277 | | | | TOU Calendar Year 1 Profile 7 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89CDH | 35278 | | | | TOU Calendar Year 1 Profile 7 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89CEH | 35279 | | | | TOU Calendar Year 1 Profile 7 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89CFH | 35280 | | | | TOU Calendar Year 1 Profile 7 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89D0H | 35281 | | | | TOU Calendar Year 1 Profile 7 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------|-------------|------|----|------------|--|-------------------|-------|------|-----|-------|
| 89D1H | 35282 | | | | TOU Calendar Year 1 Profile 8 Status | | | F23 | R | |
| 89D2H | 35283 | | | | TOU Calendar Year 1 Profile 8 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89D3H | 35284 | | | | TOU Calendar Year 1 Profile 8 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89D4H | 35285 | | | | TOU Calendar Year 1 Profile 8 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89D5H | 35286 | | | | TOU Calendar Year 1 Profile 8 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89D6H | 35287 | | | | TOU Calendar Year 1 Profile 8 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89D7H | 35288 | | | | TOU Calendar Year 1 Profile 8 Register for 05:00, 05:15, 05:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89D8H | 35289 | | | | TOU Calendar Year 1 Profile 8 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89D9H | 35290 | | | | TOU Calendar Year 1 Profile 8 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89DAH | 35291 | | | | TOU Calendar Year 1 Profile 8 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89DBH | 35292 | | | | TOU Calendar Year 1 Profile 8 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89DCH | 35293 | | | | TOU Calendar Year 1 Profile 8 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89DDH | 35294 | | | | TOU Calendar Year 1 Profile 8 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89DEH | 35295 | | | | TOU Calendar Year 1 Profile 8 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89DFH | 35296 | | | | TOU Calendar Year 1 Profile 8 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| Time of Use Calendar Window 4 | | | | | | | | | | |
| 89E0H | 35297 | | | | TOU Calendar Year 1 Profile 8 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E1H | 35298 | | | | TOU Calendar Year 1 Profile 8 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E2H | 35299 | | | | TOU Calendar Year 1 Profile 8 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E3H | 35300 | | | | TOU Calendar Year 1 Profile 8 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E4H | 35301 | | | | TOU Calendar Year 1 Profile 8 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E5H | 35302 | | | | TOU Calendar Year 1 Profile 8 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E6H | 35303 | | | | TOU Calendar Year 1 Profile 8 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E7H | 35304 | | | | TOU Calendar Year 1 Profile 8 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E8H | 35305 | | | | TOU Calendar Year 1 Profile 8 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89E9H | 35306 | | | | TOU Calendar Year 1 Profile 8 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89EAH | 35307 | | | | TOU Calendar Year 1 Profile 9 Status | | | F23 | R | |
| 89EBH | 35308 | | | | TOU Calendar Year 1 Profile 9 Register for 00:00, 00:15, 00:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89ECH | 35309 | | | | TOU Calendar Year 1 Profile 9 Register for 01:00, 01:15, 01:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89EDH | 35310 | | | | TOU Calendar Year 1 Profile 9 Register for 02:00, 02:15, 02:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89EEH | 35311 | | | | TOU Calendar Year 1 Profile 9 Register for 03:00, 03:15, 03:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89EFH | 35312 | | | | TOU Calendar Year 1 Profile 9 Register for 04:00, 04:15, 04:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F0H | 35313 | | | | TOU Calendar Year 1 Profile 9 Register for 05:00, 05:15, 05:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F1H | 35314 | | | | TOU Calendar Year 1 Profile 9 Register for 06:00, 06:15, 06:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F2H | 35315 | | | | TOU Calendar Year 1 Profile 9 Register for 07:00, 07:15, 07:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F3H | 35316 | | | | TOU Calendar Year 1 Profile 9 Register for 08:00, 08:15, 08:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F4H | 35317 | | | | TOU Calendar Year 1 Profile 9 Register for 09:00, 09:15, 09:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F5H | 35318 | | | | TOU Calendar Year 1 Profile 9 Register for 10:00, 10:15, 10:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F6H | 35319 | | | | TOU Calendar Year 1 Profile 9 Register for 11:00, 11:15, 11:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------------------|-------|------|-----|-------|
| 89F7H | 35320 | | | | TOU Calendar Year 1 Profile 9 Register for 12:00, 12:15, 12:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F8H | 35321 | | | | TOU Calendar Year 1 Profile 9 Register for 13:00, 13:15, 13:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89F9H | 35322 | | | | TOU Calendar Year 1 Profile 9 Register for 14:00, 14:15, 14:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89FAH | 35323 | | | | TOU Calendar Year 1 Profile 9 Register for 15:00, 15:15, 15:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89FBH | 35324 | | | | TOU Calendar Year 1 Profile 9 Register for 16:00, 16:15, 16:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89FCH | 35325 | | | | TOU Calendar Year 1 Profile 9 Register for 17:00, 17:15, 17:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89FDH | 35326 | | | | TOU Calendar Year 1 Profile 9 Register for 18:00, 18:15, 18:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89FEH | 35327 | | | | TOU Calendar Year 1 Profile 9 Register for 19:00, 19:15, 19:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 89FFH | 35328 | | | | TOU Calendar Year 1 Profile 9 Register for 20:00, 20:15, 20:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A00H | 35329 | | | | TOU Calendar Year 1 Profile 9 Register for 21:00, 21:15, 21:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A01H | 35330 | | | | TOU Calendar Year 1 Profile 9 Register for 22:00, 22:15, 22:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A02H | 35331 | | | | TOU Calendar Year 1 Profile 9 Register for 23:00, 23:15, 23:30 | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A03H | 35332 | | | | TOU Calendar Year 1 Profile 10 Status | | | F23 | R | |
| 8A04H | 35333 | | | | TOU Calendar Year 1 Profile 10 Register for 00:00, 00:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A05H | 35334 | | | | TOU Calendar Year 1 Profile 10 Register for 01:00, 01:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A06H | 35335 | | | | TOU Calendar Year 1 Profile 10 Register for 02:00, 02:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A07H | 35336 | | | | TOU Calendar Year 1 Profile 10 Register for 03:00, 03:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A08H | 35337 | | | | TOU Calendar Year 1 Profile 10 Register for 04:00, 04:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A09H | 35338 | | | | TOU Calendar Year 1 Profile 10 Register for 05:00, 05:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A0AH | 35339 | | | | TOU Calendar Year 1 Profile 10 Register for 06:00, 06:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A0BH | 35340 | | | | TOU Calendar Year 1 Profile 10 Register for 07:00, 07:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A0CH | 35341 | | | | TOU Calendar Year 1 Profile 10 Register for 08:00, 08:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A0DH | 35342 | | | | TOU Calendar Year 1 Profile 10 Register for 09:00, 09:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A0EH | 35343 | | | | TOU Calendar Year 1 Profile 10 Register for 10:00, 10:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A0FH | 35344 | | | | TOU Calendar Year 1 Profile 10 Register for 11:00, 11:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A10H | 35345 | | | | TOU Calendar Year 1 Profile 10 Register for 12:00, 12:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A11H | 35346 | | | | TOU Calendar Year 1 Profile 10 Register for 13:00, 13:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A12H | 35347 | | | | TOU Calendar Year 1 Profile 10 Register for 14:00, 14:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A13H | 35348 | | | | TOU Calendar Year 1 Profile 10 Register for 15:00, 15:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A14H | 35349 | | | | TOU Calendar Year 1 Profile 10 Register for 16:00, 16:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A15H | 35350 | | | | TOU Calendar Year 1 Profile 10 Register for 17:00, 17:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A16H | 35351 | | | | TOU Calendar Year 1 Profile 10 Register for 18:00, 18:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A17H | 35352 | | | | TOU Calendar Year 1 Profile 10 Register for 19:00, 19:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A18H | 35353 | | | | TOU Calendar Year 1 Profile 10 Register for 20:00, 20:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A19H | 35354 | | | | TOU Calendar Year 1 Profile 10 Register for 21:00, 21:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A1AH | 35355 | | | | TOU Calendar Year 1 Profile 10 Register for 22:00, 22:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A1BH | 35356 | | | | TOU Calendar Year 1 Profile 10 Register for 23:00, 23:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A1CH | 35357 | | | | TOU Calendar Year 1 Profile 11 Status | | | F23 | R | |
| 8A1DH | 35358 | | | | TOU Calendar Year 1 Profile 11 Register for 00:00, 00:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------------------|-------|------|-----|-------|
| 8A1EH | 35359 | | | | TOU Calendar Year 1 Profile 11 Register for 01:00, 01:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A1FH | 35360 | | | | TOU Calendar Year 1 Profile 11 Register for 02:00, 02:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A20H | 35361 | | | | TOU Calendar Year 1 Profile 11 Register for 03:00, 03:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A21H | 35362 | | | | TOU Calendar Year 1 Profile 11 Register for 04:00, 04:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A22H | 35363 | | | | TOU Calendar Year 1 Profile 11 Register for 05:00, 05:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A23H | 35364 | | | | TOU Calendar Year 1 Profile 11 Register for 06:00, 06:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A24H | 35365 | | | | TOU Calendar Year 1 Profile 11 Register for 07:00, 07:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A25H | 35366 | | | | TOU Calendar Year 1 Profile 11 Register for 08:00, 08:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A26H | 35367 | | | | TOU Calendar Year 1 Profile 11 Register for 09:00, 09:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A27H | 35368 | | | | TOU Calendar Year 1 Profile 11 Register for 10:00, 10:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A28H | 35369 | | | | TOU Calendar Year 1 Profile 11 Register for 11:00, 11:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A29H | 35370 | | | | TOU Calendar Year 1 Profile 11 Register for 12:00, 12:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A2AH | 35371 | | | | TOU Calendar Year 1 Profile 11 Register for 13:00, 13:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A2BH | 35372 | | | | TOU Calendar Year 1 Profile 11 Register for 14:00, 14:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A2CH | 35373 | | | | TOU Calendar Year 1 Profile 11 Register for 15:00, 15:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A2DH | 35374 | | | | TOU Calendar Year 1 Profile 11 Register for 16:00, 16:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A2EH | 35375 | | | | TOU Calendar Year 1 Profile 11 Register for 17:00, 17:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A2FH | 35376 | | | | TOU Calendar Year 1 Profile 11 Register for 18:00, 18:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A30H | 35377 | | | | TOU Calendar Year 1 Profile 11 Register for 19:00, 19:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A31H | 35378 | | | | TOU Calendar Year 1 Profile 11 Register for 20:00, 20:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A32H | 35379 | | | | TOU Calendar Year 1 Profile 11 Register for 21:00, 21:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A33H | 35380 | | | | TOU Calendar Year 1 Profile 11 Register for 22:00, 22:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A34H | 35381 | | | | TOU Calendar Year 1 Profile 11 Register for 23:00, 23:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A35H | 35382 | | | | TOU Calendar Year 1 Profile 12 Status | | | F23 | R | |
| 8A36H | 35383 | | | | TOU Calendar Year 1 Profile 12 Register for 00:00, 00:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A37H | 35384 | | | | TOU Calendar Year 1 Profile 12 Register for 01:00, 01:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A38H | 35385 | | | | TOU Calendar Year 1 Profile 12 Register for 02:00, 02:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A39H | 35386 | | | | TOU Calendar Year 1 Profile 12 Register for 03:00, 03:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A3AH | 35387 | | | | TOU Calendar Year 1 Profile 12 Register for 04:00, 04:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A3BH | 35388 | | | | TOU Calendar Year 1 Profile 12 Register for 05:00, 05:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A3CH | 35389 | | | | TOU Calendar Year 1 Profile 12 Register for 06:00, 06:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A3DH | 35390 | | | | TOU Calendar Year 1 Profile 12 Register for 07:00, 07:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A3EH | 35391 | | | | TOU Calendar Year 1 Profile 12 Register for 08:00, 08:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A3FH | 35392 | | | | TOU Calendar Year 1 Profile 12 Register for 09:00, 09:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A40H | 35393 | | | | TOU Calendar Year 1 Profile 12 Register for 10:00, 10:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A41H | 35394 | | | | TOU Calendar Year 1 Profile 12 Register for 11:00, 11:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A42H | 35395 | | | | TOU Calendar Year 1 Profile 12 Register for 12:00, 12:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A43H | 35396 | | | | TOU Calendar Year 1 Profile 12 Register for 13:00, 13:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A44H | 35397 | | | | TOU Calendar Year 1 Profile 12 Register for 14:00, 14:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------|-------------|------|----|------------|---|-------------------|-------|------|-----|-------|
| 8A45H | 35398 | | | | TOU Calendar Year 1 Profile 12 Register for 15:00, 15:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A46H | 35399 | | | | TOU Calendar Year 1 Profile 12 Register for 16:00, 16:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A47H | 35400 | | | | TOU Calendar Year 1 Profile 12 Register for 17:00, 17:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A48H | 35401 | | | | TOU Calendar Year 1 Profile 12 Register for 18:00, 18:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A49H | 35402 | | | | TOU Calendar Year 1 Profile 12 Register for 19:00, 19:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A4AH | 35403 | | | | TOU Calendar Year 1 Profile 12 Register for 20:00, 20:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A4BH | 35404 | | | | TOU Calendar Year 1 Profile 12 Register for 21:00, 21:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A4CH | 35405 | | | | TOU Calendar Year 1 Profile 12 Register for 22:00, 22:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A4DH | 35406 | | | | TOU Calendar Year 1 Profile 12 Register for 23:00, 23:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A4EH | 35407 | | | | TOU Calendar Year 1 Profile 13 Status | | | F23 | R | |
| 8A4FH | 35408 | | | | TOU Calendar Year 1 Profile 13 Register for 00:00, 00:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A50H | 35409 | | | | TOU Calendar Year 1 Profile 13 Register for 01:00, 01:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A51H | 35410 | | | | TOU Calendar Year 1 Profile 13 Register for 02:00, 02:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A52H | 35411 | | | | TOU Calendar Year 1 Profile 13 Register for 03:00, 03:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A53H | 35412 | | | | TOU Calendar Year 1 Profile 13 Register for 04:00, 04:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A54H | 35413 | | | | TOU Calendar Year 1 Profile 13 Register for 05:00, 05:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A55H | 35414 | | | | TOU Calendar Year 1 Profile 13 Register for 06:00, 06:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A56H | 35415 | | | | TOU Calendar Year 1 Profile 13 Register for 07:00, 07:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A57H | 35416 | | | | TOU Calendar Year 1 Profile 13 Register for 08:00, 08:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A58H | 35417 | | | | TOU Calendar Year 1 Profile 13 Register for 09:00, 09:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A59H | 35418 | | | | TOU Calendar Year 1 Profile 13 Register for 10:00, 10:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A5AH | 35419 | | | | TOU Calendar Year 1 Profile 13 Register for 11:00, 11:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A5BH | 35420 | | | | TOU Calendar Year 1 Profile 13 Register for 12:00, 12:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A5CH | 35421 | | | | TOU Calendar Year 1 Profile 13 Register for 13:00, 13:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A5DH | 35422 | | | | TOU Calendar Year 1 Profile 13 Register for 14:00, 14:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| Time of Use Calendar Window 5 | | | | | | | | | | |
| 8A5EH | 35423 | | | | TOU Calendar Year 1 Profile 13 Register for 15:00, 15:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A5FH | 35424 | | | | TOU Calendar Year 1 Profile 13 Register for 16:00, 16:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A60H | 35425 | | | | TOU Calendar Year 1 Profile 13 Register for 17:00, 17:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A61H | 35426 | | | | TOU Calendar Year 1 Profile 13 Register for 18:00, 18:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A62H | 35427 | | | | TOU Calendar Year 1 Profile 13 Register for 19:00, 19:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A63H | 35428 | | | | TOU Calendar Year 1 Profile 13 Register for 20:00, 20:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A64H | 35429 | | | | TOU Calendar Year 1 Profile 13 Register for 21:00, 21:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A65H | 35430 | | | | TOU Calendar Year 1 Profile 13 Register for 22:00, 22:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A66H | 35431 | | | | TOU Calendar Year 1 Profile 13 Register for 23:00, 23:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A67H | 35432 | | | | TOU Calendar Year 1 Profile 14 Status | | | F23 | R | |
| 8A68H | 35433 | | | | TOU Calendar Year 1 Profile 14 Register for 00:00, 00:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A69H | 35434 | | | | TOU Calendar Year 1 Profile 14 Register for 01:00, 01:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A6AH | 35435 | | | | TOU Calendar Year 1 Profile 14 Register for 02:00, 02:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------------------|-------|------|-----|-------|
| 8A6BH | 35436 | | | | TOU Calendar Year 1 Profile 14 Register for 03:00, 03:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A6CH | 35437 | | | | TOU Calendar Year 1 Profile 14 Register for 04:00, 04:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A6DH | 35438 | | | | TOU Calendar Year 1 Profile 14 Register for 05:00, 05:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A6EH | 35439 | | | | TOU Calendar Year 1 Profile 14 Register for 06:00, 06:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A6FH | 35440 | | | | TOU Calendar Year 1 Profile 14 Register for 07:00, 07:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A70H | 35441 | | | | TOU Calendar Year 1 Profile 14 Register for 08:00, 08:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A71H | 35442 | | | | TOU Calendar Year 1 Profile 14 Register for 09:00, 09:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A72H | 35443 | | | | TOU Calendar Year 1 Profile 14 Register for 10:00, 10:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A73H | 35444 | | | | TOU Calendar Year 1 Profile 14 Register for 11:00, 11:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A74H | 35445 | | | | TOU Calendar Year 1 Profile 14 Register for 12:00, 12:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A75H | 35446 | | | | TOU Calendar Year 1 Profile 14 Register for 13:00, 13:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A76H | 35447 | | | | TOU Calendar Year 1 Profile 14 Register for 14:00, 14:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A77H | 35448 | | | | TOU Calendar Year 1 Profile 14 Register for 15:00, 15:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A78H | 35449 | | | | TOU Calendar Year 1 Profile 14 Register for 16:00, 16:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A79H | 35450 | | | | TOU Calendar Year 1 Profile 14 Register for 17:00, 17:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A7AH | 35451 | | | | TOU Calendar Year 1 Profile 14 Register for 18:00, 18:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A7BH | 35452 | | | | TOU Calendar Year 1 Profile 14 Register for 19:00, 19:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A7CH | 35453 | | | | TOU Calendar Year 1 Profile 14 Register for 20:00, 20:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A7DH | 35454 | | | | TOU Calendar Year 1 Profile 14 Register for 21:00, 21:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A7EH | 35455 | | | | TOU Calendar Year 1 Profile 14 Register for 22:00, 22:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A7FH | 35456 | | | | TOU Calendar Year 1 Profile 14 Register for 23:00, 23:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A80H | 35457 | | | | TOU Calendar Year 1 Profile 15 Status | | | F23 | R | |
| 8A81H | 35458 | | | | TOU Calendar Year 1 Profile 15 Register for 00:00, 00:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A82H | 35459 | | | | TOU Calendar Year 1 Profile 15 Register for 01:00, 01:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A83H | 35460 | | | | TOU Calendar Year 1 Profile 15 Register for 02:00, 02:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A84H | 35461 | | | | TOU Calendar Year 1 Profile 15 Register for 03:00, 03:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A85H | 35462 | | | | TOU Calendar Year 1 Profile 15 Register for 04:00, 04:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A86H | 35463 | | | | TOU Calendar Year 1 Profile 15 Register for 05:00, 05:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A87H | 35464 | | | | TOU Calendar Year 1 Profile 15 Register for 06:00, 06:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A88H | 35465 | | | | TOU Calendar Year 1 Profile 15 Register for 07:00, 07:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A89H | 35466 | | | | TOU Calendar Year 1 Profile 15 Register for 08:00, 08:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A8AH | 35467 | | | | TOU Calendar Year 1 Profile 15 Register for 09:00, 09:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A8BH | 35468 | | | | TOU Calendar Year 1 Profile 15 Register for 10:00, 10:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A8CH | 35469 | | | | TOU Calendar Year 1 Profile 15 Register for 11:00, 11:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A8DH | 35470 | | | | TOU Calendar Year 1 Profile 15 Register for 12:00, 12:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A8EH | 35471 | | | | TOU Calendar Year 1 Profile 15 Register for 13:00, 13:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A8FH | 35472 | | | | TOU Calendar Year 1 Profile 15 Register for 14:00, 14:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A90H | 35473 | | | | TOU Calendar Year 1 Profile 15 Register for 15:00, 15:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A91H | 35474 | | | | TOU Calendar Year 1 Profile 15 Register for 16:00, 16:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------------------|-------|------|-----|-------|
| 8A92H | 35475 | | | | TOU Calendar Year 1 Profile 15 Register for 17:00, 17:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A93H | 35476 | | | | TOU Calendar Year 1 Profile 15 Register for 18:00, 18:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A94H | 35477 | | | | TOU Calendar Year 1 Profile 15 Register for 19:00, 19:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A95H | 35478 | | | | TOU Calendar Year 1 Profile 15 Register for 20:00, 20:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A96H | 35479 | | | | TOU Calendar Year 1 Profile 15 Register for 21:00, 21:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A97H | 35480 | | | | TOU Calendar Year 1 Profile 15 Register for 22:00, 22:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A98H | 35481 | | | | TOU Calendar Year 1 Profile 15 Register for 23:00, 23:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A99H | 35482 | | | | TOU Calendar Year 1 Profile 16 Status | | | F23 | R | |
| 8A9AH | 35483 | | | | TOU Calendar Year 1 Profile 16 Register for 00:00, 00:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A9BH | 35484 | | | | TOU Calendar Year 1 Profile 16 Register for 01:00, 01:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A9CH | 35485 | | | | TOU Calendar Year 1 Profile 16 Register for 02:00, 02:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A9DH | 35486 | | | | TOU Calendar Year 1 Profile 16 Register for 03:00, 03:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A9EH | 35487 | | | | TOU Calendar Year 1 Profile 16 Register for 04:00, 04:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8A9FH | 35488 | | | | TOU Calendar Year 1 Profile 16 Register for 05:00, 05:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA0H | 35489 | | | | TOU Calendar Year 1 Profile 16 Register for 06:00, 06:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA1H | 35490 | | | | TOU Calendar Year 1 Profile 16 Register for 07:00, 07:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA2H | 35491 | | | | TOU Calendar Year 1 Profile 16 Register for 08:00, 08:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA3H | 35492 | | | | TOU Calendar Year 1 Profile 16 Register for 09:00, 09:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA4H | 35493 | | | | TOU Calendar Year 1 Profile 16 Register for 10:00, 10:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA5H | 35494 | | | | TOU Calendar Year 1 Profile 16 Register for 11:00, 11:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA6H | 35495 | | | | TOU Calendar Year 1 Profile 16 Register for 12:00, 12:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA7H | 35496 | | | | TOU Calendar Year 1 Profile 16 Register for 13:00, 13:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA8H | 35497 | | | | TOU Calendar Year 1 Profile 16 Register for 14:00, 14:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AA9H | 35498 | | | | TOU Calendar Year 1 Profile 16 Register for 15:00, 15:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AAAH | 35499 | | | | TOU Calendar Year 1 Profile 16 Register for 16:00, 16:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AABH | 35500 | | | | TOU Calendar Year 1 Profile 16 Register for 17:00, 17:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AACH | 35501 | | | | TOU Calendar Year 1 Profile 16 Register for 18:00, 18:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AADH | 35502 | | | | TOU Calendar Year 1 Profile 16 Register for 19:00, 19:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AAEH | 35503 | | | | TOU Calendar Year 1 Profile 16 Register for 20:00, 20:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AAFH | 35504 | | | | TOU Calendar Year 1 Profile 16 Register for 21:00, 21:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AB0H | 35505 | | | | TOU Calendar Year 1 Profile 16 Register for 22:00, 22:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AB1H | 35506 | | | | TOU Calendar Year 1 Profile 16 Register for 23:00, 23:15, | 7-7-7-7 / 0-0-0-0 | | F24 | R | |
| 8AB2H | 35507 | | | | TOU Calendar Year 1 Monthly End Day Jan & Feb | 30-28 (29) / 1-1 | | F25 | R | |
| 8AB3H | 35508 | | | | TOU Calendar Year 1 Monthly End Day Mar & Apr | 31-30 / 1-1 | | F25 | R | |
| 8AB4H | 35509 | | | | TOU Calendar Year 1 Monthly End Day May & Jun | 31-30 / 1-1 | | F25 | R | |
| 8AB5H | 35510 | | | | TOU Calendar Year 1 Monthly End Day Jul & Aug | 31-31 / 1-1 | | F25 | R | |
| 8AB6H | 35511 | | | | TOU Calendar Year 1 Monthly End Day Sep & Oct | 30-31 / 1-1 | | F25 | R | |
| 8AB7H | 35512 | | | | TOU Calendar Year 1 Monthly End Day Nov & Dec | 30-31 / 1-1 | | F25 | R | |
| 8AB8H-8ABFH | 35513-35520 | | | | TOU Calendar Year 1 Profile 1 Label | | | F1 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------------|-------------|------|----|------------|--|------------------------|---------|------|-----|-------|
| 8AC0H-8AC7H | 35521-35528 | | | | TOU Calendar Year 1 Profile 2 Label | | | F1 | R | |
| 8AC8H-8ACFH | 35529-35536 | | | | TOU Calendar Year 1 Profile 3 Label | | | F1 | R | |
| 8AD0H-8AD7H | 35537-35544 | | | | TOU Calendar Year 1 Profile 4 Label | | | F1 | R | |
| 8AD8H-8ADBH | 35545-35548 | | | | TOU Calendar Year 1 Profile 5 Label (Partial) | | | F1 | R | |
| Time of Use Calendar Window 6 | | | | | | | | | | |
| 8ADCH-8ADFH | 35549-35552 | | | | TOU Calendar Year 1 Profile 5 Label (Partial) | | | F1 | R | |
| 8AE0H-8AE7H | 35553-35560 | | | | TOU Calendar Year 1 Profile 6 Label | | | F1 | R | |
| 8AE8H-8AEFH | 35561-35568 | | | | TOU Calendar Year 1 Profile 7 Label | | | F1 | R | |
| 8AF0H-8AF7H | 35569-35576 | | | | TOU Calendar Year 1 Profile 8 Label | | | F1 | R | |
| 8AF8H-8AFFH | 35577-35584 | | | | TOU Calendar Year 1 Profile 9 Label | | | F1 | R | |
| 8B00H-8B07H | 35585-35592 | | | | TOU Calendar Year 1 Profile 10 Label | | | F1 | R | |
| 8B08H-8B0FH | 35593-35600 | | | | TOU Calendar Year 1 Profile 11 Label | | | F1 | R | |
| 8B10H-8B17H | 35601-35608 | | | | TOU Calendar Year 1 Profile 12 Label | | | F1 | R | |
| 8B18H-8B1FH | 35609-35616 | | | | TOU Calendar Year 1 Profile 13 Label | | | F1 | R | |
| 8B20H-8B27H | 35617-35624 | | | | TOU Calendar Year 1 Profile 14 Label | | | F1 | R | |
| 8B28H-8B2FH | 35625-35632 | | | | TOU Calendar Year 1 Profile 15 Label | | | F1 | R | |
| 8B30H-8B37H | 35633-35640 | | | | TOU Calendar Year 1 Profile 16 Label | | | F1 | R | |
| 8B38H-8B3FH | 35641-35648 | | | | TOU Calendar Year 1 Reg 1 Label | | | F1 | R | |
| 8B40H-8B47H | 35649-35656 | | | | TOU Calendar Year 1 Reg 2 Label | | | F1 | R | |
| 8B48H-8B4FH | 35657-35664 | | | | TOU Calendar Year 1 Reg 3 Label | | | F1 | R | |
| 8B50H-8B57H | 35665-35672 | | | | TOU Calendar Year 1 Reg 4 Label | | | F1 | R | |
| 8B58H-8B59H | 35673-35674 | | | | TOU Calendar Year 1 Reg 5 Label (Partial) | | | F1 | R | |
| Time of Use Calendar Window 7 | | | | | | | | | | |
| 8B5AH-8B5FH | 35675-35680 | | | | TOU Calendar Year 1 Reg 5 Label (Partial) | | | F1 | R | |
| 8B60H-8B67H | 35681-35688 | | | | TOU Calendar Year 1 Reg 6 Label | | | F1 | R | |
| 8B68H-8B6FH | 35689-35696 | | | | TOU Calendar Year 1 Reg 7 Label | | | F1 | R | |
| 8B70H-8B77H | 35697-35704 | | | | TOU Calendar Year 1 Reg 8 Label | | | F1 | R | |
| 8B78H-8B7BH | 35705-35708 | | | | TOU Calendar Year 1 Start Date Season 1 | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8B7CH-8B7FH | 35709-35712 | | | | TOU Calendar Year 1 Start Date Season 2 | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8B80H-8B83H | 35713-35716 | | | | TOU Calendar Year 1 Start Date Season 3 | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8B84H-8B87H | 35717-35720 | | | | TOU Calendar Year 1 Start Date Season 4 | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8B88H-8B8BH | 35721-35724 | | | | TOU Calendar Year 1 Start Date Daylight Savings Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8B8CH-8B8FH | 35725-35728 | | | | TOU Calendar Year 1 End Date Daylight Savings Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | 1 |
| 8B90H | 35729 | | | | TOU Calendar Year 1 DST Enable / Average Selection | | | F26 | R | |
| 8B91H | 35730 | | | | Clear on New Period/ Freeze Period Selection | | | | | Ch5 |
| 8B92H | 35731 | | | | Weekly Freeze Day of Week/ Freeze Hour | | | | | Ch5 |
| 8B93H-8BD7H | 35732-35800 | | | | TOU Calendar Year 1 Undefined | | | | R | |
| Time of Use Upload Calendar Block | | | | | | | | | | |
| 8EFEH | 36607 | | | | TOU Upload Calendar Window Locked to Port | | | F66 | R/W | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------------------|-------------|------|----|------------|--|-------------------------------|-----------|------|-----|-------|
| 8EFFH | 36608 | | | | TOU Upload Calendar Window Sequence/Status | | | F27 | R | |
| 8F00H | 36609 | | | | TOU Upload Calendar Window ID | 14 / 1 | | F28 | R/W | |
| 8F01H-8F7EH | 36610-36735 | | | | TOU Upload Calendar Window Data | | | F29 | R/W | |
| 8F7FH | 36736 | | | | TOU Upload Calendar Window Checksum | | | F30 | R/W | |
| Dual Port Reading Block | | | | | | | | | | |
| 8F80H-8FBFH | 36737-36800 | | | | 128 bytes of Dual Port Readings are available at these registers | | 128 bytes | | R | |
| Historical Log 1 Snapshot Header | | | | | | | | | | |
| 9000H-9001H | 36865-36866 | | | | Historical Log 1 Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9002H | 36867 | | | | Historical Log 1 Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9003H | 36868 | | | | Historical Log 1 Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9004H | 36869 | | | | Historical Log 1 Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9005H-9008H | 36870-36873 | | | | Historical Log 1 Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9009H-900CH | 36874-36877 | | | | Historical Log 1 Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 900DH-9010H | 36878-36881 | | | | Historical Log 1 Snapshot Valid Bitmap | | | | R | |
| 9011H | 36882 | | | | Historical Log 1 Max Records | 65535 records / 0 records | 1 record | | R | |
| 9012H | 36883 | | | | Historical Log 1 Reset Status | | | | | |
| Historical Log 2 Snapshot Header | | | | | | | | | | |
| 9040H-9041H | 36929-36930 | | | | Historical Log 2 Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9042H | 36931 | | | | Historical Log 2 Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9043H | 36932 | | | | Historical Log 2 Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9044H | 36933 | | | | Historical Log 2 Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9045H-9048H | 36934-36937 | | | | Historical Log 2 Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9049H-904CH | 36938-36941 | | | | Historical Log 2 Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 904DH-9050H | 36942-36945 | | | | Historical Log 2 Snapshot Valid Bitmap | | | | R | |
| 9051H | 36946 | | | | Historical Log 2 Max Records | 65535 records / 0 records | 1 record | | R | |
| 9052H | 36947 | | | | Historical Log 2 Reset Status | | | | | |
| Limit Trigger Log Header | | | | | | | | | | |
| 9080H-9081H | 36993-36994 | | | | Limit Trigger Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9082H | 36995 | | | | Limit Trigger Log Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9083H-9084H | 36996-36997 | | | | Limit Trigger Log First Index | record 65535 / record 0 | 1 record | | R | |
| 9085H-9086H | 36998-36999 | | | | Limit Trigger Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 9087H-908AH | 37000-37003 | | | | Limit Trigger Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 908BH-908EH | 37004-37007 | | | | Limit Trigger Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 908FH-9092H | 37008-37011 | | | | Limit Trigger Log Valid Bitmap | | | | R | |
| 9093H-9094H | 37012-37013 | | | | Limit Trigger Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9095H-9096H | 37014-37015 | | | | Limit Trigger Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9097H | 37016 | | | | Limit Trigger Reset Status | | | | | |
| Limit Snapshot Log Header | | | | | | | | | | |
| 90C0H-90C1H | 37057-37058 | | | | Limit Snapshot Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------------|-------------|------|----|------------|---|-------------------------------|----------|------|-----|-------|
| 90C2H | 37059 | | | | Limit Snapshot Log Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 90C3H-90C4H | 37060-37061 | | | | Limit Snapshot Log First Index | record 65535 / record 0 | 1 record | | R | |
| 90C5H-90C1H | 37062-37063 | | | | Limit Snapshot Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 90C7H-90CAH | 37064-37067 | | | | Limit Snapshot Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 90CBH-90CEH | 37068-37071 | | | | Limit Snapshot Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 90CFH-90D2H | 37072-37075 | | | | Limit Snapshot Log Valid Bitmap | | | | R | |
| 90D3H-90D4H | 37076-37077 | | | | Limit Snapshot Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 90D5H-90D6H | 37078-37079 | | | | Limit Snapshot Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| Digital Input Log Header | | | | | | | | | | |
| 9100H-9101H | 37121-37122 | | | | Digital Input Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9102H | 37123 | | | | Digital Input Log Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9103H-9104H | 37124-37125 | | | | Digital Input Log First Index | record 65535 / record 0 | 1 record | | R | |
| 9105H-9106H | 37126-37127 | | | | Digital Input Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 9107H-910AH | 37128-37131 | | | | Digital Input Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 910BH-910EH | 37132-37135 | | | | Digital Input Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 910FH-9112H | 37136-37139 | | | | Digital Input Log Valid Bitmap | | | | R | |
| 9113H-9114H | 37140-37141 | | | | Digital Input Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9115H-9116H | 37142-37143 | | | | Digital Input Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9117H | 37144 | | | | Digital Input Log Reset Status | | | | | |
| Digital Input Snapshot Log Header | | | | | | | | | | |
| 9140H-9141H | 37185-37186 | | | | Digital Input Snapshot Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9142H | 37187 | | | | Digital Input Snapshot Log Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9143H-9144H | 37188-37289 | | | | Digital Input Snapshot Log First Index | record 65535 / record 0 | 1 record | | R | |
| 9145H-9146H | 37190-37191 | | | | Digital Input Snapshot Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 9147H-914AH | 37192-37195 | | | | Digital Input Snapshot Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 914BH-914EH | 37196-37199 | | | | Digital Input Snapshot Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 914FH-9152H | 37200-37203 | | | | Digital Input Snapshot Log Valid Bitmap | | | | R | |
| 9153H-9154H | 37204-37205 | | | | Digital Input Snapshot Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9155H-9156H | 37206-37207 | | | | Digital Input Snapshot Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| Digital Output Log Header | | | | | | | | | | |
| 9180H-9181H | 37249-37250 | | | | Digital Output Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9182H | 37251 | | | | Digital Output Log Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9183H-9184H | 37252-37253 | | | | Digital Output Log First Index | record 65535 / record 0 | 1 record | | R | |
| 9185H-9186H | 37254-37255 | | | | Digital Output Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 9187H-918AH | 37256-37259 | | | | Digital Output Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 918BH-918EH | 37260-37263 | | | | Digital Output Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 918FH-9192H | 37264-37267 | | | | Digital Output Log Valid Bitmap | | | | R | |
| 9193H-9194H | 37268-37269 | | | | Digital Output Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9195H-9196H | 37270-37271 | | | | Digital Output Log Records in Log | 65535 records / 0 records | 1 record | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|------------------------------------|-------------|------|----|------------|--|-------------------------------|----------|------|-----|-------|
| 9197H | 37272 | | | | Digital Output Log Reset Status | | | | | |
| Digital Output Snapshot Log Header | | | | | | | | | | |
| 91C0H-91C1H | 37313-37314 | | | | Digital Output Snapshot Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 91C2H | 37315 | | | | Digital Output Snapshot Log Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 91C3H-91C4H | 37316-37317 | | | | Digital Output Snapshot Log First Index | record 65535 / record 0 | 1 record | | R | |
| 91C5H-91C6H | 37318-37319 | | | | Digital Output Snapshot Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 91C7H-91CAH | 37320-37323 | | | | Digital Output Snapshot Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 91CBH-91CEH | 37324-37327 | | | | Digital Output Snapshot Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 91CFH-91D2H | 37328-37331 | | | | Digital Output Snapshot Log Valid Bitmap | | | | R | |
| 91D3H-91D4H | 37332-37333 | | | | Digital Output Snapshot Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 91D5H-91D6H | 37334-37335 | | | | Digital Output Snapshot Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| Flicker Log Header | | | | | | | | | | |
| 9200H-9201H | 37377-37378 | | | | Flicker Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9202H | 37379 | | | | Flicker Log Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9203H-9204H | 37380-37381 | | | | Flicker Log First Index | record 65535 / record 0 | 1 record | | R | |
| 9205H-9206H | 37382-37383 | | | | Flicker Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 9207H-920AH | 37384-37387 | | | | Flicker Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 920BH-920EH | 37388-37391 | | | | Flicker Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 920FH-9212H | 37392-37395 | | | | Flicker Log Valid Bitmap | | | | R | |
| 9213H-9214H | 37396-37397 | | | | Flicker Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9215H-9216H | 37398-37399 | | | | Flicker Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9217H | 37400 | | | | Flicker Log Reset Status | | | | | |
| Waveform Trigger Log Header | | | | | | | | | | |
| 9240H-9241H | 37441-37442 | | | | Waveform Trigger Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9242H | 37443 | | | | Waveform Trigger Log Reset Status | | | | | |
| 9243H-9244H | 37444-37445 | | | | Waveform Trigger Log First Index | record 65535 / record 0 | 1 record | | R | |
| 9245H-9246H | 37446-37447 | | | | Waveform Trigger Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 9247H-924AH | 37448-37451 | | | | Waveform Trigger Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 924BH-924EH | 37452-37455 | | | | Waveform Trigger Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 924FH-9252H | 37456-37459 | | | | Waveform Trigger Log Valid Bitmap | | | | R | |
| 9253H-9254H | 37460-37461 | | | | Waveform Trigger Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9255H-9256H | 37462-37463 | | | | Waveform Trigger Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9257H-9258H | 37464-37465 | | | | Waveform Trigger Log Record Size | 65535 records / 0 bytes | 1 record | | R | |
| System Event Log Header | | | | | | | | | | |
| 9280H-9281H | 37505-37506 | | | | System Event Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9282H | 37507 | | | | System Event Log Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9283H | 37508 | | | | System Event Log First Index | record 65535 / record 0 | 1 record | | R | |
| 9284H | 37509 | | | | System Event Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 9285H-9288H | 37510-37513 | | | | System Event Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|-------------------------------|----------|------|-----|-------|
| 9289H-928CH | 37514-37517 | | | | System Event Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 928DH-9290H | 37518-37521 | | | | System Event Log Valid Bitmap | | | | R | |
| 9291H-9292H | 37522-37523 | | | | System Event Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9293H-9294H | 37524-37525 | | | | System Event Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9295H | 37526 | | | | System Event Log Reset Status | | | | | |
| Transient Log Header | | | | | | | | | | |
| 92C0H-92C1H | 37569-37570 | | | | Transient Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 92C2H | 37571 | | | | Transient Log Reset Status | | | | | |
| 92C3H-92C4H | 37572-37573 | | | | Transient Log First Index | record 65535 / record 0 | 1 record | | R | |
| 92C5H-92C6H | 37574-37575 | | | | Transient Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 92C7H-92CAH | 37576-37579 | | | | Transient Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 92CBH-92CEH | 37580-37583 | | | | Transient Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 92CFH-92D2H | 37584-37587 | | | | Transient Log Valid Bitmap | | | | R | |
| 92D3H-92D4H | 37588-37589 | | | | Transient Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 92D5H-92D6H | 37590-37591 | | | | Transient Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 92D7H-92D8H | 37592-37593 | | | | Transient Log Record Size | 65535 records / 0 bytes | 1 record | | R | |
| PQ (CBEMA) Log Header | | | | | | | | | | |
| 9300H-9301H | 37633-37634 | | | | PQ (CBEMA) Log Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9302H | 37635 | | | | PQ (CBEMA) Log Record Size | 65535 records / 0 bytes | 1 record | | R | |
| 9303H-9304H | 37636-37637 | | | | PQ (CBEMA) Log First Index | record 65535 / record 0 | 1 record | | R | |
| 9305H-9306H | 37638-37639 | | | | PQ (CBEMA) Log Last Index | record 65535 / record 0 | 1 record | | R | |
| 9307H-930AH | 37640-37643 | | | | PQ (CBEMA) Log First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 930BH-930EH | 37644-37647 | | | | PQ (CBEMA) Log Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 93CFH-93D2H | 37648-37651 | | | | PQ (CBEMA) Log Valid Bitmap | | | | R | |
| 93D3H-93D4H | 37652-37653 | | | | PQ (CBEMA) Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 93D5H-93D6H | 37654-37655 | | | | PQ (CBEMA) Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 93D7H | 37656 | | | | PQ (CBEMA) Log Reset Status | | | | | |
| External Device Info Block Header | | | | | | | | | | |
| 9380H-9381H | 37761-37762 | | | | External Device Info Block Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9382H | 37763 | | | | External Device Info Block Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9383H | 37764 | | | | External Device Info Block First Index | record 65535 / record 0 | 1 record | | R | |
| 9384H | 37765 | | | | External Device Info Block Last Index | record 65535 / record 0 | 1 record | | R | |
| 9385H-9388H | 37766-37769 | | | | External Device Info Block First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9389H-938CH | 37770-37773 | | | | External Device Info Block Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 938DH-9390H | 37774-37777 | | | | External Device Info Block Valid Bitmap | | | | R | |
| 9391H | 37778 | | | | External Device Info Block Max Records | 65535 records / 0 records | 1 record | | R | |
| External Device Programming Block Header | | | | | | | | | | |
| 93C0H-93C1H | 37825-37826 | | | | External Device Programming Block Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 93C2H | 37827 | | | | External Device Programming Block Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------|-------------|------|----|------------|---|-------------------------------|----------|------|-----|-------|
| 93C3H | 37828 | | | | External Device Programming Block First Index | record 65535 / record 0 | 1 record | | R | |
| 93C4H | 37829 | | | | External Device Programming Block Last Index | record 65535 / record 0 | 1 record | | R | |
| 93C5H-93C8H | 37830-37833 | | | | External Device Programming Block First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 93C9H-93CCH | 37834-37837 | | | | External Device Programming Block Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 93CDH-93D0H | 37838-37841 | | | | External Device Programming Block Valid Bitmap | | | | R | |
| 93D1H | 37842 | | | | External Device Programming Block Max Records | 65535 records / 0 records | 1 record | | R | |
| Device History Block Header | | | | | | | | | | |
| 9400H-9401H | 37889-37890 | | | | Device History Block Memory Size - obsolete | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9402H | 37891 | | | | Device History Block Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9403H | 37892 | | | | Device History Block First Index | record 65535 / record 0 | 1 record | | R | |
| 9404H | 37893 | | | | Device History Block Last Index | record 65535 / record 0 | 1 record | | R | |
| 9405H-9408H | 37894-37897 | | | | Device History Block First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9409H-940CH | 37898-37901 | | | | Device History Block Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 940DH-9410H | 37902-37905 | | | | Device History Block Valid Bitmap | | | | R | |
| 9411H | 37906 | | | | Device History Block Max Records | 65535 records / 0 records | 1 record | | R | |
| Direct Memory Access Header | | | | | | | | | | |
| 9440H-9441H | 37953-37954 | | | | Direct Memory Access Memory Size Obsolete | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9442H | 37955 | | | | Direct Memory Access Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9443H | 37956 | | | | Direct Memory Access First Index | record 65535 / record 0 | 1 record | | R | |
| 9444H | 37957 | | | | Direct Memory Access Last Index | record 65535 / record 0 | 1 record | | R | |
| 9445H-9448H | 37958-37961 | | | | Direct Memory Access First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9449H-944CH | 37962-37965 | | | | Direct Memory Access Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 944DH-9450H | 37966-37969 | | | | Direct Memory Access Valid Bitmap | | | | R | |
| 9451H | 37970 | | | | Direct Memory Access Max Records | 65535 records / 0 records | 1 record | | R | |
| 9452H | 37971 | | | | Debug Update Buffer Register Bit 0[LSB] – 0= disable update/save buffer into the file, 1= enable update/save buffer into the file Bit 1 – update buffer (this bit is read 0 all time) Bit 2-15 - undefined | | | | R/W | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| 9453H | 37972 | | | | 0x00000 – Time of the last update 0x00001 - General SIU, window 1 / Touch screen description window 1 0x00002 – General SIU, window 2 / Touch screen last data/index window 1 0x00003 - Memory Controller, window 1 / Touch screen raw data window 1 0x00004 – Memory Controller, window 2 / Touch screen raw data window 2 0x00005 - Memory Controller, window 3 / Touch screen scaled data window 1 0x00006 - Memory Controller, window 4 / Touch screen scaled data window 2 0x00007 – Interrupt Controller, window 1 / Touch screen serial input buffer window 1 0x00008 – Interrupt Controller, window 2 / Touch screen serial input buffer window 2 0x00009 – Input/Output Port, window 1 / Touch screen serial input buffer window 3 0x0000A – Input/Output Port, window 2 / Touch screen serial input buffer window 4 0x0000B – Input/Output Port, window 3 / Touch screen serial input buffer window 5 0x0000C – SCC1 / Touch screen serial input buffer window 6 0x0000D – SCC3 / Touch screen undefined | | | | R/W | |
| 9454-94B7H | 37973-38072 | | | | Debug Information Window Register Returns up to 100 registers (200 bytes) of debug information, where the meaning and formats of each byte in the window depends on the selection in debug information selection register (0x9453) | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------------------------|----------|------|-----|-------|
| 94B8H | 38073 | | | | Debug Information Selection Register (increment) This register is related to debug information selection register (0x9453). It is read only, and when read, returns the same value that reading 0x9553 would return. However, reading this register increments the debug information selection value after the value has been reported, effecting subsequent reads of 0x9453, the window 0x9454-0x94B7, and 0x94B8 itself. | | | | R | |
| 94B9H | 38074 | | | | SRAM block number: Set the SRAM block number that it is going to be retrieved. | | | | W | |
| 94BAH | 38075 | | | | Debug enabled and mode :It can be set writing into this register. The lower byte set the enabled (when it is xx00 the debug is disabled and when it is xxx01 the debug is enabled). The higher byte set the debug mode, which kind of data is going to reported/updated (when it is set to 00xx NX1500_1.dbg file is reported/update when it is set to 01xx NX1500_2.dbg file is reported or updated. | | | | W | |
| 94FFH | 38144 | | | | Indicates the path where in our system the pause/running dummy files, which are used during the log download process, are saved. 0 = \C\SYSTEM\LOGS\RUNNING\ \C\SYSTEM\LOGS\PAUSED\ 1 = \I\RUNNING\ \I\PAUSED\ 2 = \vf\RUNNING\ \vf\PAUSED\ Window Index Block | | | | R | |
| 9500H | 38145 | | | | Window Index for Historical Log 1 | record 65535 / record 0 | 1 record | | R/W | |
| 9501H | 38146 | | | | Window Index for Historical Log 2 | record 65535 / record 0 | 1 record | | R/W | |
| 9502H | 38147 | | | | Window Index for Limit Trigger Log | record 65535 / record 0 | 1 record | | R/W | |
| 9503H | 38148 | | | | Window Index for Limit Snapshot Log | record 65535 / record 0 | 1 record | | R/W | |
| 9504H | 38149 | | | | Window Index for Digital Input Log | record 65535 / record 0 | 1 record | | R/W | |
| 9505H | 38150 | | | | Window Index for Digital Input Snapshot Log | record 65535 / record 0 | 1 record | | R/W | |
| 9506H | 38151 | | | | Window Index for Digital Output Log | record 65535 / record 0 | 1 record | | R/W | |
| 9507H | 38152 | | | | Window Index for Digital Output Snapshot Log | record 65535 / record 0 | 1 record | | R/W | |
| 9508H | 38153 | | | | Window Index for Flicker Log | record 65535 / record 0 | 1 record | | R/W | |
| 9509H | 38154 | | | | Window Index for Waveform Trigger Log | record 65535 / record 0 | 1 record | | R/W | |
| 950AH | 38155 | | | | Window Index for System Event Log | record 65535 / record 0 | 1 record | | R/W | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------|-------------|------|----|------------|---|-------------------------|----------|------|-----|-------|
| 950BH | 38156 | | | | Window Index for Waveform Sample Log | record 65535 / record 0 | 1 record | | R/W | |
| 950CH | 38157 | | | | Window Index for PQ (CBEMA) Log | record 65535 / record 0 | 1 record | | R/W | |
| 950DH | 38158 | | | | Window Index for Reset Log | record 65535 / record 0 | 1 record | | R/W | |
| 950EH | 38159 | | | | Window Index for External Device Info Block | record 65535 / record 0 | 1 record | | R/W | |
| 950FH | 38160 | | | | Window Index for External Device Programming Blocks | record 65535 / record 0 | 1 record | | R/W | |
| 9510H | 38161 | | | | Window Index for Device History Block | record 65535 / record 0 | 1 record | | R/W | |
| 9511H | 38162 | | | | Window Index for Direct Memory Access | record 65535 / record 0 | 1 record | | R/W | |
| Window Mode Block | | | | | | | | | | |
| 9540H | 38209 | | | | Window Mode for Historical Log 1 | | | | R/W | Ch.5 |
| 9541H | 38210 | | | | Window Mode for Historical Log 2 | | | | R/W | Ch.5 |
| 9542H | 38211 | | | | Window Mode for Limit Trigger Log | | | | R/W | Ch.5 |
| 9543H | 38212 | | | | Window Mode for Limit Snapshot Log | | | | R/W | Ch.5 |
| 9544H | 38213 | | | | Window Mode for Digital Input Log | | | | R/W | Ch.5 |
| 9545H | 38214 | | | | Window Mode for Digital Input Snapshot Log | | | | R/W | Ch.5 |
| 9546H | 38215 | | | | Window Mode for Digital Output Log | | | | R/W | Ch.5 |
| 9547H | 38216 | | | | Window Mode for Digital Output Snapshot Log | | | | R/W | Ch.5 |
| 9548H | 38217 | | | | Window Mode for Flicker Log | | | | R/W | Ch.5 |
| 9549H | 38218 | | | | Window Mode for Waveform Trigger Log | | | | R/W | Ch.5 |
| 954AH | 38219 | | | | Window Mode for System Event Log | | | | R/W | Ch.5 |
| 954BH | 38220 | | | | Window Mode for Waveform Samples Log | | | | R/W | Ch.5 |
| 954CH | 38221 | | | | Window Mode for PQ (CBEMA) Log | | | | R/W | Ch.5 |
| 954DH | 38222 | | | | Window Mode for Reset Log | | | | R/W | Ch.5 |
| 954EH | 38223 | | | | Window Mode for External Device Info Block | | | | R/W | Ch.5 |
| 954FH | 38224 | | | | Window Mode for External Device Programming Blocks | | | | R/W | Ch.5 |
| 9550H | 38225 | | | | Window Mode for Device History Block | | | | R/W | Ch.5 |
| 9551H | 38226 | | | | Window Mode for Direct Memory Access | | | | R/W | Ch.5 |
| Window Block | | | | | | | | | | |
| 9580H-95BFH | 38273-38336 | | | | Historical Log 1 Window | | | | R | Ch.5 |
| 95C0H-95FFH | 38337-38400 | | | | Historical Log 2 Window | | | | R | Ch.5 |
| 9600H-963FH | 38401-38464 | | | | Limit Trigger Log Window | | | | R | Ch.5 |
| 9640H-967FH | 38465-38528 | | | | Limit Snapshot Log Window | | | | R | Ch.5 |
| 9680H-96BFH | 38529-38592 | | | | Digital Input Log Window | | | | R | Ch.5 |
| 96C0H-96FFH | 38593-38656 | | | | Digital Input Snapshot Log Window | | | | R | Ch.5 |
| 9700H-973FH | 38657-38720 | | | | Digital Output Log Window | | | | R | Ch.5 |
| 9740H-977FH | 38721-38784 | | | | Digital Output Snapshot Log Window | | | | R | Ch.5 |
| 9780H-97BFH | 38785-38848 | | | | Flicker Log Window | | | | R | Ch.5 |
| 97C0H-97FFH | 38849-38912 | | | | Waveform Trigger Log Window | | | | R | Ch.5 |
| 9800H-983FH | 38913-38976 | | | | System Event Log Window | | | | R | Ch.5 |
| 9840H-987FH | 38977-39040 | | | | Waveform Samples Log Window | | | | R | Ch.5 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------------------|-------------|------|----|------------|--|-------------------------------|----------|------|-----|-------|
| 9880H-98BFH | 39041-39104 | | | | PQ (CBEMA) Log Window | | | | R | Ch.5 |
| 98C0H-98FFH | 39105-39168 | | | | Reset Log Window | | | | R | Ch.5 |
| 9900H-993FH | 39169-39232 | | | | External Device Info Block Window | | | | R | Ch.5 |
| 9940H-997FH | 39233-39296 | | | | External Device Programming Block Window | | | | R | Ch.5 |
| 9980H-99BFH | 39297-39360 | | | | Device History Block Window | | | | R | Ch.5 |
| Auto Increment Window Block | | | | | | | | | | |
| 99FEH | 39423 | | | | Auto Increment Configuration | | | | R | Ch.5 |
| 99FFH | 39424 | | | | Auto Increment Window Index | | | | R | Ch.5 |
| 9A00H-9A3FH | 39425-39488 | | | | Auto Increment Log Window | | | | R | Ch.5 |
| Historical Log 3 Snapshot Header | | | | | | | | | | |
| 9E00H-9E01H | 40449-40450 | | | | Historical Log 3 Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9E02H | 40451 | | | | Historical Log 3 Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9E03H-9E04H | 40452-40453 | | | | Historical Log 3 Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9E05H-9E06H | 40454-40455 | | | | Historical Log 3 Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9E07H-9E0AH | 40456-40459 | | | | Historical Log 3 Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9E0BH-9E0EH | 40460-40463 | | | | Historical Log 3 Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9E0FH-9E12H | 40464-40467 | | | | Historical Log 3 Snapshot Valid Bitmap | | | | R | |
| 9E13H-9E14H | 40468-40469 | | | | Historical Log 3 Max Records | 65535 records / 0 records | 1 record | | R | |
| 9E15H-9E16H | 40470-40471 | | | | Historical Log 3 Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9E17H | 40472 | | | | Historical Log 3 Reset Status | | | | | |
| Historical Log 4 Snapshot Header | | | | | | | | | | |
| 9E40H-9E41H | 40513-40514 | | | | Historical Log 4 Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9E42H | 40515 | | | | Historical Log 4 Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9E43H-9E44H | 40516-40517 | | | | Historical Log 4 Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9E45H-9E46H | 40518-40519 | | | | Historical Log 4 Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9E47H-9E4AH | 40520-40523 | | | | Historical Log 4 Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9E4BH-9E4EH | 40524-40527 | | | | Historical Log 4 Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9E4FH-9E52H | 40528-40531 | | | | Historical Log 4 Snapshot Valid Bitmap | | | | R | |
| 9E53H-9E54H | 40532-40533 | | | | Historical Log 4 Max Records | 65535 records / 0 records | 1 record | | R | |
| 9E55H-9E56H | 40534-40535 | | | | Historical Log 4 Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9E57H | 40536 | | | | Historical Log 4 Reset Status | | | | | |
| Historical Log 5 Snapshot Header | | | | | | | | | | |
| 9E80H-9E81H | 40577-40578 | | | | Historical Log 5 Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9E82H | 40579 | | | | Historical Log 5 Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9E83H-9E84H | 40580-40581 | | | | Historical Log 5 Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9E85H-9E86H | 40582-40583 | | | | Historical Log 5 Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9E87H-9E8AH | 40584-40587 | | | | Historical Log 5 Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9E8BH-9E8EH | 40588-40591 | | | | Historical Log 5 Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9E8FH-9E92H | 40592-40595 | | | | Historical Log 5 Snapshot Valid Bitmap | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|--|-------------------------------|----------|------|-----|-------|
| 9E93H-9E94H | 40596-40597 | | | | Historical Log 5 Max Records | 65535 records / 0 records | 1 record | | R | |
| 9E95H-9E96H | 40598-40599 | | | | Historical Log 5 Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9E97H | 40600 | | | | Historical Log 5 Reset Status | | | | | |
| Historical Log 6 Snapshot Header | | | | | | | | | | |
| 9EC0H-9EC1H | 40641-40642 | | | | Historical Log 6 Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9EC2H | 40643 | | | | Historical Log 6 Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9EC3H-9EC4H | 40644-40645 | | | | Historical Log 6 Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9EC5H-9EC6H | 40646-40647 | | | | Historical Log 6 Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9EC7H-9ECAH | 40648-40651 | | | | Historical Log 6 Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9ECBH-9ECEH | 40652-40655 | | | | Historical Log 6 Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9ECFH-9ED2H | 40656-40659 | | | | Historical Log 6 Snapshot Valid Bitmap | | | | R | |
| 9ED3H-9ED4H | 40660-40661 | | | | Historical Log 6 Max Records | 65535 records / 0 records | 1 record | | R | |
| 9ED5H-9ED6H | 40662-40663 | | | | Historical Log 6 Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9ED7H | 40664 | | | | Historical Log 6 Reset Status | | | | | |
| Historical Log 7 Snapshot Header | | | | | | | | | | |
| 9F00H-9F01H | 40705-40706 | | | | Historical Log 7 Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9F02H | 40707 | | | | Historical Log 7 Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9F03H-9F04H | 40708-40709 | | | | Historical Log 7 Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9F05H-9F06H | 40710-40711 | | | | Historical Log 7 Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9F07H-9F0AH | 40712-40715 | | | | Historical Log 7 Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9F0BH-9F0EH | 40716-40719 | | | | Historical Log 7 Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9F0FH-9F12H | 40720-40723 | | | | Historical Log 7 Snapshot Valid Bitmap | | | | R | |
| 9F13H-9F14H | 40724-40725 | | | | Historical Log 7 Max Records | 65535 records / 0 records | 1 record | | R | |
| 9F15H-9F16H | 40726-40726 | | | | Historical Log 7 Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9F17H | 40728 | | | | Historical Log 7 Reset Status | | | | | |
| Historical Log 8 Snapshot Header | | | | | | | | | | |
| 9F40H-9F41H | 40769-40770 | | | | Historical Log 8 Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9F42H | 40771 | | | | Historical Log 8 Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9F43H-9F44H | 40772-40773 | | | | Historical Log 8 Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9F45H-9F46H | 40774-40775 | | | | Historical Log 8 Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9F47H-9F4AH | 40776-40779 | | | | Historical Log 8 Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9F4BH-9F4EH | 40780-40783 | | | | Historical Log 8 Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9F4FH-9F52H | 40784-40787 | | | | Historical Log 8 Snapshot Valid Bitmap | | | | R | |
| 9F53H-9F54H | 40788-40789 | | | | Historical Log 8 Max Records | 65535 records / 0 records | 1 record | | R | |
| 9F55H-9F56H | 40790-40791 | | | | Historical Log 8 Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9F57H | 40792 | | | | Historical Log 8 Reset Status | | | | | |
| Event Triggered Log Snapshot Header | | | | | | | | | | |
| 9F80H-9F81H | 40833-40834 | | | | Event Triggered Log Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9F82H | 40835 | | | | Event Triggered Log Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------|-------------|------|----|------------|---|---------------------------------|-------------|------|-----|-------|
| 9F83H-9F84H | 40836-40837 | | | | Event Triggered Log Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9F85H-9F86H | 40838-40839 | | | | Event Triggered Log Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9F87H-9F8AH | 40840-40843 | | | | Event Triggered Log Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9F8BH-9F8EH | 40844-40847 | | | | Event Triggered Log Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9F8FH-9F92H | 40848-40851 | | | | Event Triggered Log Snapshot Valid Bitmap | | | | R | |
| 9F93H-9F94H | 40852-40853 | | | | Event Triggered Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9F95H-9F96H | 40854-40855 | | | | Event Triggered Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9F97H | 40856 | | | | Event Triggered Log Reset Status | | | | | |
| EN50160 Log Snapshot Header | | | | | | | | | | |
| 9FC0H-9FC1H | 40897-40898 | | | | EN50160 Log Snapshot Memory Size | 4,294,967,295 bytes / 0 bytes | 1 byte | | R | |
| 9FC2H | 40899 | | | | EN50160 Log Snapshot Record Size | 65535 bytes / 0 bytes | 1 byte | | R | |
| 9FC3H-9FC4H | 40900-40901 | | | | EN50160 Log Snapshot First Index | record 65535 / record 0 | 1 record | | R | |
| 9FC5H-9FC6H | 40902-40903 | | | | EN50160 Log Snapshot Last Index | record 65535 / record 0 | 1 record | | R | |
| 9FC7H-9FCAH | 40904-40907 | | | | EN50160 Log Snapshot First Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9FCBH-9FCEH | 40908-40911 | | | | EN50160 Log Snapshot Last Time Stamp | 12/31/9999 23:59:59.99 | 10 msec | | R | |
| 9FCFH-9FD2H | 40912-40915 | | | | EN50160 Log Snapshot Valid Bitmap | | | | R | |
| 9FD3H-9FD4H | 40916-40917 | | | | EN50160 Log Max Records | 65535 records / 0 records | 1 record | | R | |
| 9FD5H-9FD6H | 40918-40919 | | | | EN50160 Log Records in Log | 65535 records / 0 records | 1 record | | R | |
| 9FD7H | 40920 | | | | EN50160 Log Reset Status | | | | | |
| Alarm Block | | | | | | | | | | |
| A000H | 40961 | | | | Last Alarm | | | | R | |
| A010H-A08FH | 40977-41104 | | | | Last Alarm Snapshot | | | | R | |
| A090H | 41105 | | | | Latched Exception Flag | 65535 exceptions / 0 exceptions | 1 exception | | R | |
| Port Control Block | | | | | | | | | | |
| A300H | 41729 | | | | Port Control Command | | | | W | Ch.5 |
| A301H-A303H | 41730-41732 | | | | Port Control Lock States | | | | R | Ch.5 |
| A304H | 41733 | | | | Port Control Pointer RecIn Comm 4 (I/O) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A305H | 41734 | | | | Port Control Pointer RecOut Comm 4 (I/O) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A306H | 41735 | | | | Port Control Pointer TrmIn Comm 4 (I/O) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A307H | 41736 | | | | Port Control Pointer TrmOut Comm 4 (I/O) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A308H | 41737 | | | | Port Control Pointer RecIn Comm 3 | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A309H | 41738 | | | | Port Control Pointer RecOut Comm 3 | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A30AH | 41739 | | | | Port Control Pointer TrmIn Comm 3 | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A30BH | 41740 | | | | Port Control Pointer TrmOut Comm 3 | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A30CH | 41741 | | | | Port Control Pointer RecIn Comm 2 | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A30DH | 41742 | | | | Port Control Pointer RecOut Comm 2 | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A30EH | 41743 | | | | Port Control Pointer TrmIn Comm 2 | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A30FH | 41744 | | | | Port Control Pointer TrmOut Comm 2 | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A310H | 41745 | | | | Port Control Pointer RecIn Comm 1 (232/485) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|--|-------------------|--------|------|-----|-------|
| A311H | 41746 | | | | Port Control Pointer RecOut Comm 1 (232/485) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A312H | 41747 | | | | Port Control Pointer TrmIn Comm 1 (232/485) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A313H | 41748 | | | | Port Control Pointer TrmOut Comm 1 (232/485) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A314H | 41749 | | | | Port Control Pointer RecIn Comm 5 (DIAG) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A315H | 41750 | | | | Port Control Pointer RecOut Comm 5 (DIAG) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A316H | 41751 | | | | Port Control Pointer TrmIn Comm 5 (DIAG) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A317H | 41752 | | | | Port Control Pointer TrmOut Comm 5 (DIAG) | byte 511 / byte 0 | 1 byte | | R/W | Ch.5 |
| A318H | 41753 | | | | Port and Buffer Selection | | | | R/W | Ch.5 |
| A400H-A5FFH | 41985-42496 | | | | Communication Buffer | | | | R/W | Ch.5 |
| DSP2 Channel Block | | | | | | | | | | |
| A600H-A9FFH | 42497-43520 | | | | Channel 132, 133, 134,135 | | | | | |
| Ethernet Speed and Link Status | | | | | | | | | | |
| AA6A | 43627 | | | | Ethernet 1, bit mask 0x0008, 1=Auto-Negotiation(should always be 1), 0>manual. bit mask 0x0002, 1=100Mb, 0=10Mb. bit mask 0x0001, 1=full duplex, 0=half duplex. 0xFFFF is invalid value. | | | F51 | R | |
| AA6B | 43628 | | | | Ethernet 1, bit mask 0x0004, 1=link is up, 0=link is down. 0xFFFF is invalid value. | | | F51 | R | |
| AA6C | 43629 | | | | Ethernet 2, bit mask 0x0008, 1=Auto-Negotiation(should always be 1), 0>manual. bit mask 0x0002, 1=100Mb, 0=10Mb. bit mask 0x0001, 1=full duplex, 0=half duplex. 0xFFFF is invalid value. | | | F51 | R | |
| AA6D | 43630 | | | | Ethernet 2, bit mask 0x0004, 1=link is up, 0=link is down. 0xFFFF is invalid value. | | | F51 | R | |
| DSP1 Diagnostic Block | | | | | | | | | | |
| ADC0H-ADC3H | 44481-44484 | | | | RMS Diagnostic Block Time Stamp | | | | R | |
| ADC4H | 44485 | | | | Number of samples in Tenth sec reading | | | | | |
| ADC5H-ADC6H | 44486-44487 | | | | Offset Phase A-E Voltage | | | | R | |
| ADC7H-ADC8H | 44488-44489 | | | | Offset Phase B-E Voltage | | | | R | |
| ADC9H-ADCAH | 44490-44491 | | | | Offset Phase C-E Voltage | | | | R | |
| ADCBH-ADCCH | 44492-44493 | | | | Offset Phase N-E Voltage | | | | R | |
| ADCDH-ADCEH | 44494-44495 | | | | Offset Phase A Current | | | | | |
| ADCFH-ADD0H | 44496-44497 | | | | Offset Phase B Current | | | | | |
| ADD1H-ADD2H | 44498-44499 | | | | Offset Phase C Current | | | | | |
| ADD3H-ADD4H | 44500-44501 | | | | Offset Phase X Current | | | | | |
| ADD5H | 44502 | | | | Cal Delta Phase A-E Voltage | | | | | |
| ADD6H | 44503 | | | | Cal Delta Phase B-E Voltage | | | | | |
| ADD7H | 44504 | | | | Cal Delta Phase C-E Voltage | | | | | |
| ADD8H | 44505 | | | | Cal Delta Phase N-E Voltage | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| ADD9H | 44506 | | | | Cal Delta Phase A Current | | | | | |
| ADDAH | 44507 | | | | Cal Delta Phase B Current | | | | | |
| ADDBH | 44508 | | | | Cal Delta Phase C Current | | | | | |
| ADDCH | 44509 | | | | Cal Delta Phase D Current | | | | | |
| ADDDH-ADDEH | 44510-44511 | | | | Gain Phase A-E Voltage | | | | | |
| ADDFH-ADE0H | 44512-44513 | | | | Gain Phase B-E Voltage | | | | | |
| ADE1H-ADE2H | 44514-44515 | | | | Gain Phase C-E Voltage | | | | | |
| ADE3H-ADE4H | 44516-44517 | | | | Gain Phase N-E Voltage | | | | | |
| ADE5H-ADE6H | 44518-44519 | | | | Gain Phase A Current | | | | | |
| ADE7H-ADE8H | 44520-44521 | | | | Gain Phase B Current | | | | | |
| ADE9H-ADEAH | 44522-44523 | | | | Gain Phase C Current | | | | | |
| ADEBH-ADECH | 44524-44525 | | | | Gain Phase X Current | | | | | |
| ADEDH | 44526 | | | | Phase Compensation A | | | | | |
| ADEEH | 44527 | | | | Phase Compensation B | | | | | |
| ADEFH | 44528 | | | | Phase Compensation C | | | | | |
| ADF0H-ADF1H | 44529-44530 | | | | DC Phase A-E Voltage | | | | | |
| ADF2H-ADF3H | 44531-44532 | | | | DC Phase B-E Voltage | | | | | |
| ADF4H-ADF5H | 44533-44534 | | | | DC Phase C-E Voltage | | | | | |
| ADF6H-ADF7H | 44535-44536 | | | | DC Phase N-E Voltage | | | | | |
| ADF8H-ADF9H | 44537-44538 | | | | DC Phase A Current | | | | | |
| ADFAH-ADFBH | 44539-44540 | | | | DC Phase B Current | | | | | |
| ADFCH-ADFDH | 44541-44542 | | | | DC Phase C Current | | | | | |
| ADFEH-ADFFH | 44543-44544 | | | | DC Phase X Current | | | | | |
| Reserved | | | | | | | | | | |
| AE00H-AE03H | 44545-44548 | | | | Reserved | | | | R/W | |
| AE04H | 44549 | | | | Reserved | | | | R/W | |
| NVRAM Repair Block | | | | | | | | | | |
| AF00H-AFFFH | 44801-45056 | | | | Not used | | | | | |
| Programmable Settings Block 1 (Range: B000H - CFFFH) | | | | | | | | | | |
| Communication Settings Block | | | | | | | | | | |
| B000H | 45057 | | | | Address, Port 4 (I/O) | | | | R | |
| B001H | 45058 | | | | Protocol & Baud Rate, Port 4 (I/O) | | | | R | |
| B002H | 45059 | | | | Parity & Stop Bits, Port 4 (I/O) | | | | R | |
| B003H | 45060 | | | | Data Bits & Response Delay, Port 4(I/O) | | | | R | |
| B004H | 45061 | | | | Address, Port 3 | | | | R | |
| B005H | 45062 | | | | Protocol & Baud Rate, Port 3 | | | | R | |
| B006H | 45063 | | | | Parity & Stop Bits, Port 3 | | | | R | |
| B007H | 45064 | | | | Data Bits & Response Delay, Port 3 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| B008H | 45065 | | | | Address, Port 2 | | | | R | |
| B009H | 45066 | | | | Protocol & Baud Rate, Port 2 | | | | R | |
| B00AH | 45067 | | | | Parity & Stop Bits, Port 2 | | | | R | |
| B00BH | 45068 | | | | Data Bits & Response Delay, Port 2 | | | | R | |
| B00CH | 45069 | | | | Address, Port 1 (232/485) | | | | R | |
| B00DH | 45070 | | | | Protocol & Baud Rate, Port 1 (232/485) | | | | R | |
| B00EH | 45071 | | | | Parity & Stop Bits, Port 1 (232/485) | | | | R | |
| B00FH | 45072 | | | | Data Bits & Response Delay, Port 1 (232/485) | | | | R | |
| B010H | 45073 | | | | Port 4 (I/O) Mode / Port 3 Mode | | | | R | |
| B011H | 45074 | | | | Port 2 Mode / Port 1 Mode | | | | R | |
| B012H | 45075 | | | | Event Triggered info | | | | | |
| B013H | 45076 | | | | Event Triggered timer | | | | | |
| Limit Settings Block | | | | | | | | | | |
| B014H | 45077 | | | | Line Number, Limit 1 | | | | R | |
| B015H | 45078 | | | | Point Number and SAB, Limit 1 | | | | R | |
| B016H | 45079 | | | | Value 1, Limit 1 | | | | R | |
| B017H | 45080 | | | | Value 2, Limit 1 | | | | R | |
| B018H | 45081 | | | | Line Number, Limit 2 | | | | R | |
| B019H | 45082 | | | | Point Number and SAB, Limit 2 | | | | R | |
| B01AH | 45083 | | | | Value 1, Limit 2 | | | | R | |
| B01BH | 45084 | | | | Value 2, Limit 2 | | | | R | |
| B01CH | 45085 | | | | Line Number, Limit 3 | | | | R | |
| B01DH | 45086 | | | | Point Number and SAB, Limit 3 | | | | R | |
| B01EH | 45087 | | | | Value 1, Limit 3 | | | | R | |
| B01FH | 45088 | | | | Value 2, Limit 3 | | | | R | |
| B020H | 45089 | | | | Line Number, Limit 4 | | | | R | |
| B021H | 45090 | | | | Point Number and SAB, Limit 4 | | | | R | |
| B022H | 45091 | | | | Value 1, Limit 4 | | | | R | |
| B023H | 45092 | | | | Value 2, Limit 4 | | | | R | |
| B024H | 45093 | | | | Line Number, Limit 5 | | | | R | |
| B025H | 45094 | | | | Point Number and SAB, Limit 5 | | | | R | |
| B026H | 45095 | | | | Value 1, Limit 5 | | | | R | |
| B027H | 45096 | | | | Value 2, Limit 5 | | | | R | |
| B028H | 45097 | | | | Line Number, Limit 6 | | | | R | |
| B029H | 45098 | | | | Point Number and SAB, Limit 6 | | | | R | |
| B02AH | 45099 | | | | Value 1, Limit 6 | | | | R | |
| B02BH | 45100 | | | | Value 2, Limit 6 | | | | R | |
| B02CH | 45101 | | | | Line Number, Limit 7 | | | | R | |
| B02DH | 45102 | | | | Point Number and SAB, Limit 7 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--------------------------------|-------|-------|------|-----|-------|
| B02EH | 45103 | | | | Value 1, Limit 7 | | | | R | |
| B02FH | 45104 | | | | Value 2, Limit 7 | | | | R | |
| B030H | 45105 | | | | Line Number, Limit 8 | | | | R | |
| B031H | 45106 | | | | Point Number and SAB, Limit 8 | | | | R | |
| B032H | 45107 | | | | Value 1, Limit 8 | | | | R | |
| B033H | 45108 | | | | Value 2, Limit 8 | | | | R | |
| B034H | 45109 | | | | Line Number, Limit 9 | | | | R | |
| B035H | 45110 | | | | Point Number and SAB, Limit 9 | | | | R | |
| B036H | 45111 | | | | Value 1, Limit 9 | | | | R | |
| B037H | 45112 | | | | Value 2, Limit 9 | | | | R | |
| B038H | 45113 | | | | Line Number, Limit 10 | | | | R | |
| B039H | 45114 | | | | Point Number and SAB, Limit 10 | | | | R | |
| B03AH | 45115 | | | | Value 1, Limit 10 | | | | R | |
| B03BH | 45116 | | | | Value 2, Limit 10 | | | | R | |
| B03CH | 45117 | | | | Line Number, Limit 11 | | | | R | |
| B03DH | 45118 | | | | Point Number and SAB, Limit 11 | | | | R | |
| B03EH | 45119 | | | | Value 1, Limit 11 | | | | R | |
| B03FH | 45120 | | | | Value 2, Limit 11 | | | | R | |
| B040H | 45121 | | | | Line Number, Limit 12 | | | | R | |
| B041H | 45122 | | | | Point Number and SAB, Limit 12 | | | | R | |
| B042H | 45123 | | | | Value 1, Limit 12 | | | | R | |
| B043H | 45124 | | | | Value 2, Limit 12 | | | | R | |
| B044H | 45125 | | | | Line Number, Limit 13 | | | | R | |
| B045H | 45126 | | | | Point Number and SAB, Limit 13 | | | | R | |
| B046H | 45127 | | | | Value 1, Limit 13 | | | | R | |
| B047H | 45128 | | | | Value 2, Limit 13 | | | | R | |
| B048H | 45129 | | | | Line Number, Limit 14 | | | | R | |
| B049H | 45130 | | | | Point Number and SAB, Limit 14 | | | | R | |
| B04AH | 45131 | | | | Value 1, Limit 14 | | | | R | |
| B04BH | 45132 | | | | Value 2, Limit 14 | | | | R | |
| B04CH | 45133 | | | | Line Number, Limit 15 | | | | R | |
| B04DH | 45134 | | | | Point Number and SAB, Limit 15 | | | | R | |
| B04EH | 45135 | | | | Value 1, Limit 15 | | | | R | |
| B04FH | 45136 | | | | Value 2, Limit 15 | | | | R | |
| B050H | 45137 | | | | Line Number, Limit 16 | | | | R | |
| B051H | 45138 | | | | Point Number and SAB, Limit 16 | | | | R | |
| B052H | 45139 | | | | Value 1, Limit 16 | | | | R | |
| B053H | 45140 | | | | Value 2, Limit 16 | | | | R | |
| B054H | 45141 | | | | Line Number, Limit 17 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--------------------------------|-------|-------|------|-----|-------|
| B055H | 45142 | | | | Point Number and SAB, Limit 17 | | | | R | |
| B056H | 45143 | | | | Value 1, Limit 17 | | | | R | |
| B057H | 45144 | | | | Value 2, Limit 17 | | | | R | |
| B058H | 45145 | | | | Line Number, Limit 18 | | | | R | |
| B059H | 45146 | | | | Point Number and SAB, Limit 18 | | | | R | |
| B05AH | 45147 | | | | Value 1, Limit 18 | | | | R | |
| B05BH | 45148 | | | | Value 2, Limit 18 | | | | R | |
| B05CH | 45149 | | | | Line Number, Limit 19 | | | | R | |
| B05DH | 45150 | | | | Point Number and SAB, Limit 19 | | | | R | |
| B05EH | 45151 | | | | Value 1, Limit 19 | | | | R | |
| B05FH | 45152 | | | | Value 2, Limit 19 | | | | R | |
| B060H | 45153 | | | | Line Number, Limit 20 | | | | R | |
| B061H | 45154 | | | | Point Number and SAB, Limit 20 | | | | R | |
| B062H | 45155 | | | | Value 1, Limit 20 | | | | R | |
| B063H | 45156 | | | | Value 2, Limit 20 | | | | R | |
| B064H | 45157 | | | | Line Number, Limit 21 | | | | R | |
| B065H | 45158 | | | | Point Number and SAB, Limit 21 | | | | R | |
| B066H | 45159 | | | | Value 1, Limit 21 | | | | R | |
| B067H | 45160 | | | | Value 2, Limit 21 | | | | R | |
| B068H | 45161 | | | | Line Number, Limit 22 | | | | R | |
| B069H | 45162 | | | | Point Number and SAB, Limit 22 | | | | R | |
| B06AH | 45163 | | | | Value 1, Limit 22 | | | | R | |
| B06BH | 45164 | | | | Value 2, Limit 22 | | | | R | |
| B06CH | 45165 | | | | Line Number, Limit 23 | | | | R | |
| B06DH | 45166 | | | | Point Number and SAB, Limit 23 | | | | R | |
| B06EH | 45167 | | | | Value 1, Limit 23 | | | | R | |
| B06FH | 45168 | | | | Value 2, Limit 23 | | | | R | |
| B070H | 45169 | | | | Line Number, Limit 24 | | | | R | |
| B071H | 45170 | | | | Point Number and SAB, Limit 24 | | | | R | |
| B072H | 45171 | | | | Value 1, Limit 24 | | | | R | |
| B073H | 45172 | | | | Value 2, Limit 24 | | | | R | |
| B074H | 45173 | | | | Line Number, Limit 25 | | | | R | |
| B075H | 45174 | | | | Point Number and SAB, Limit 25 | | | | R | |
| B076H | 45175 | | | | Value 1, Limit 25 | | | | R | |
| B077H | 45176 | | | | Value 2, Limit 25 | | | | R | |
| B078H | 45177 | | | | Line Number, Limit 26 | | | | R | |
| B079H | 45178 | | | | Point Number and SAB, Limit 26 | | | | R | |
| B07AH | 45179 | | | | Value 1, Limit 26 | | | | R | |
| B07BH | 45180 | | | | Value 2, Limit 26 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| B07CH | 45181 | | | | Line Number, Limit 27 | | | | R | |
| B07DH | 45182 | | | | Point Number and SAB, Limit 27 | | | | R | |
| B07EH | 45183 | | | | Value 1, Limit 27 | | | | R | |
| B07FH | 45184 | | | | Value 2, Limit 27 | | | | R | |
| B080H | 45185 | | | | Line Number, Limit 28 | | | | R | |
| B081H | 45186 | | | | Point Number and SAB, Limit 28 | | | | R | |
| B082H | 45187 | | | | Value 1, Limit 28 | | | | R | |
| B083H | 45188 | | | | Value 2, Limit 28 | | | | R | |
| B084H | 45189 | | | | Line Number, Limit 29 | | | | R | |
| B085H | 45190 | | | | Point Number and SAB, Limit 29 | | | | R | |
| B086H | 45191 | | | | Value 1, Limit 29 | | | | R | |
| B087H | 45192 | | | | Value 2, Limit 29 | | | | R | |
| B088H | 45193 | | | | Line Number, Limit 30 | | | | R | |
| B089H | 45194 | | | | Point Number and SAB, Limit 30 | | | | R | |
| B08AH | 45195 | | | | Value 1, Limit 30 | | | | R | |
| B08BH | 45196 | | | | Value 2, Limit 30 | | | | R | |
| B08CH | 45197 | | | | Line Number, Limit 31 | | | | R | |
| B08DH | 45198 | | | | Point Number and SAB, Limit 31 | | | | R | |
| B08EH | 45199 | | | | Value 1, Limit 31 | | | | R | |
| B08FH | 45200 | | | | Value 2, Limit 31 | | | | R | |
| B090H | 45201 | | | | Line Number, Limit 32 | | | | R | |
| B091H | 45202 | | | | Point Number and SAB, Limit 32 | | | | R | |
| B092H | 45203 | | | | Value 1, Limit 32 | | | | R | |
| B093H | 45204 | | | | Value 2, Limit 32 | | | | R | |
| Historical Log Settings Block | | | | | | | | | | |
| B094H | 45205 | | | | Line Number, Historical Log 1, Parameter 1 | | | | R | |
| B095H | 45206 | | | | Point Number, Historical Log 1, Parameter 1 | | | | R | |
| B096H | 45207 | | | | Line Number, Historical Log 1, Parameter 2 | | | | R | |
| B097H | 45208 | | | | Point Number, Historical Log 1, Parameter 2 | | | | R | |
| B098H | 45209 | | | | Line Number, Historical Log 1, Parameter 3 | | | | R | |
| B099H | 45210 | | | | Point Number, Historical Log 1, Parameter 3 | | | | R | |
| B09AH | 45211 | | | | Line Number, Historical Log 1, Parameter 4 | | | | R | |
| B09BH | 45212 | | | | Point Number, Historical Log 1, Parameter 4 | | | | R | |
| B09CH | 45213 | | | | Line Number, Historical Log 1, Parameter 5 | | | | R | |
| B09DH | 45214 | | | | Point Number, Historical Log 1, Parameter 5 | | | | R | |
| B09EH | 45215 | | | | Line Number, Historical Log 1, Parameter 6 | | | | R | |
| B09FH | 45216 | | | | Point Number, Historical Log 1, Parameter 6 | | | | R | |
| B0A0H | 45217 | | | | Line Number, Historical Log 1, Parameter 7 | | | | R | |
| B0A1H | 45218 | | | | Point Number, Historical Log 1, Parameter 7 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| B0A2H | 45219 | | | | Line Number, Historical Log 1, Parameter 8 | | | | R | |
| B0A3H | 45220 | | | | Point Number, Historical Log 1, Parameter 8 | | | | R | |
| B0A4H | 45221 | | | | Line Number, Historical Log 1, Parameter 9 | | | | R | |
| B0A5H | 45222 | | | | Point Number, Historical Log 1, Parameter 9 | | | | R | |
| B0A6H | 45223 | | | | Line Number, Historical Log 1, Parameter 10 | | | | R | |
| B0A7H | 45224 | | | | Point Number, Historical Log 1, Parameter 10 | | | | R | |
| B0A8H | 45225 | | | | Line Number, Historical Log 1, Parameter 11 | | | | R | |
| B0A9H | 45226 | | | | Point Number, Historical Log 1, Parameter 11 | | | | R | |
| B0AAH | 45227 | | | | Line Number, Historical Log 1, Parameter 12 | | | | R | |
| B0ABH | 45228 | | | | Point Number, Historical Log 1, Parameter 12 | | | | R | |
| B0ACH | 45229 | | | | Line Number, Historical Log 1, Parameter 13 | | | | R | |
| B0ADH | 45230 | | | | Point Number, Historical Log 1, Parameter 13 | | | | R | |
| B0AEH | 45231 | | | | Line Number, Historical Log 1, Parameter 14 | | | | R | |
| B0AFH | 45232 | | | | Point Number, Historical Log 1, Parameter 14 | | | | R | |
| B0B0H | 45233 | | | | Line Number, Historical Log 1, Parameter 15 | | | | R | |
| B0B1H | 45234 | | | | Point Number, Historical Log 1, Parameter 15 | | | | R | |
| B0B2H | 45235 | | | | Line Number, Historical Log 1, Parameter 16 | | | | R | |
| B0B3H | 45236 | | | | Point Number, Historical Log 1, Parameter 16 | | | | R | |
| B0B4H | 45237 | | | | Line Number, Historical Log 1, Parameter 17 | | | | R | |
| B0B5H | 45238 | | | | Point Number, Historical Log 1, Parameter 17 | | | | R | |
| B0B6H | 45239 | | | | Line Number, Historical Log 1, Parameter 18 | | | | R | |
| B0B7H | 45240 | | | | Point Number, Historical Log 1, Parameter 18 | | | | R | |
| B0B8H | 45241 | | | | Line Number, Historical Log 1, Parameter 19 | | | | R | |
| B0B9H | 45242 | | | | Point Number, Historical Log 1, Parameter 19 | | | | R | |
| B0BAH | 45243 | | | | Line Number, Historical Log 1, Parameter 20 | | | | R | |
| B0BBH | 45244 | | | | Point Number, Historical Log 1, Parameter 20 | | | | R | |
| B0BCH | 45245 | | | | Line Number, Historical Log 1, Parameter 21 | | | | R | |
| B0BDH | 45246 | | | | Point Number, Historical Log 1, Parameter 21 | | | | R | |
| B0BEH | 45247 | | | | Line Number, Historical Log 1, Parameter 22 | | | | R | |
| B0BFH | 45248 | | | | Point Number, Historical Log 1, Parameter 22 | | | | R | |
| B0C0H | 45249 | | | | Line Number, Historical Log 1, Parameter 23 | | | | R | |
| B0C1H | 45250 | | | | Point Number, Historical Log 1, Parameter 23 | | | | R | |
| B0C2H | 45251 | | | | Line Number, Historical Log 1, Parameter 24 | | | | R | |
| B0C3H | 45252 | | | | Point Number, Historical Log 1, Parameter 24 | | | | R | |
| B0C4H | 45253 | | | | Line Number, Historical Log 1, Parameter 25 | | | | R | |
| B0C5H | 45254 | | | | Point Number, Historical Log 1, Parameter 25 | | | | R | |
| B0C6H | 45255 | | | | Line Number, Historical Log 1, Parameter 26 | | | | R | |
| B0C7H | 45256 | | | | Point Number, Historical Log 1, Parameter 26 | | | | R | |
| B0C8H | 45257 | | | | Line Number, Historical Log 1, Parameter 27 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| B0C9H | 45258 | | | | Point Number, Historical Log 1, Parameter 27 | | | | R | |
| B0CAH | 45259 | | | | Line Number, Historical Log 1, Parameter 28 | | | | R | |
| B0CBH | 45260 | | | | Point Number, Historical Log 1, Parameter 28 | | | | R | |
| B0CCH | 45261 | | | | Line Number, Historical Log 1, Parameter 29 | | | | R | |
| B0CDH | 45262 | | | | Point Number, Historical Log 1, Parameter 29 | | | | R | |
| B0CEH | 45263 | | | | Line Number, Historical Log 1, Parameter 30 | | | | R | |
| B0CFH | 45264 | | | | Point Number, Historical Log 1, Parameter 30 | | | | R | |
| B0D0H | 45265 | | | | Line Number, Historical Log 1, Parameter 31 | | | | R | |
| B0D1H | 45266 | | | | Point Number, Historical Log 1, Parameter 31 | | | | R | |
| B0D2H | 45267 | | | | Line Number, Historical Log 1, Parameter 32 | | | | R | |
| B0D3H | 45268 | | | | Point Number, Historical Log 1, Parameter 32 | | | | R | |
| B0D4H | 45269 | | | | Line Number, Historical Log 1, Parameter 33 | | | | R | |
| B0D5H | 45270 | | | | Point Number, Historical Log 1, Parameter 33 | | | | R | |
| B0D6H | 45271 | | | | Line Number, Historical Log 1, Parameter 34 | | | | R | |
| B0D7H | 45272 | | | | Point Number, Historical Log 1, Parameter 34 | | | | R | |
| B0D8H | 45273 | | | | Line Number, Historical Log 1, Parameter 35 | | | | R | |
| B0D9H | 45274 | | | | Point Number, Historical Log 1, Parameter 35 | | | | R | |
| B0DAH | 45275 | | | | Line Number, Historical Log 1, Parameter 36 | | | | R | |
| B0DBH | 45276 | | | | Point Number, Historical Log 1, Parameter 36 | | | | R | |
| B0DCH | 45277 | | | | Line Number, Historical Log 1, Parameter 37 | | | | R | |
| B0DDH | 45278 | | | | Point Number, Historical Log 1, Parameter 37 | | | | R | |
| B0DEH | 45279 | | | | Line Number, Historical Log 1, Parameter 38 | | | | R | |
| B0DFH | 45280 | | | | Point Number, Historical Log 1, Parameter 38 | | | | R | |
| B0E0H | 45281 | | | | Line Number, Historical Log 1, Parameter 39 | | | | R | |
| B0E1H | 45282 | | | | Point Number, Historical Log 1, Parameter 39 | | | | R | |
| B0E2H | 45283 | | | | Line Number, Historical Log 1, Parameter 40 | | | | R | |
| B0E3H | 45284 | | | | Point Number, Historical Log 1, Parameter 40 | | | | R | |
| B0E4H | 45285 | | | | Line Number, Historical Log 1, Parameter 41 | | | | R | |
| B0E5H | 45286 | | | | Point Number, Historical Log 1, Parameter 41 | | | | R | |
| B0E6H | 45287 | | | | Line Number, Historical Log 1, Parameter 42 | | | | R | |
| B0E7H | 45288 | | | | Point Number, Historical Log 1, Parameter 42 | | | | R | |
| B0E8H | 45289 | | | | Line Number, Historical Log 1, Parameter 43 | | | | R | |
| B0E9H | 45290 | | | | Point Number, Historical Log 1, Parameter 43 | | | | R | |
| B0EAH | 45291 | | | | Line Number, Historical Log 1, Parameter 44 | | | | R | |
| B0EBH | 45292 | | | | Point Number, Historical Log 1, Parameter 44 | | | | R | |
| B0ECH | 45293 | | | | Line Number, Historical Log 1, Parameter 45 | | | | R | |
| B0EDH | 45294 | | | | Point Number, Historical Log 1, Parameter 45 | | | | R | |
| B0EEH | 45295 | | | | Line Number, Historical Log 1, Parameter 46 | | | | R | |
| B0EFH | 45296 | | | | Point Number, Historical Log 1, Parameter 46 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| B0F0H | 45297 | | | | Line Number, Historical Log 1, Parameter 47 | | | | R | |
| B0F1H | 45298 | | | | Point Number, Historical Log 1, Parameter 47 | | | | R | |
| B0F2H | 45299 | | | | Line Number, Historical Log 1, Parameter 48 | | | | R | |
| B0F3H | 45300 | | | | Point Number, Historical Log 1, Parameter 48 | | | | R | |
| B0F4H | 45301 | | | | Line Number, Historical Log 1, Parameter 49 | | | | R | |
| B0F5H | 45302 | | | | Point Number, Historical Log 1, Parameter 49 | | | | R | |
| B0F6H | 45303 | | | | Line Number, Historical Log 1, Parameter 50 | | | | R | |
| B0F7H | 45304 | | | | Point Number, Historical Log 1, Parameter 50 | | | | R | |
| B0F8H | 45305 | | | | Line Number, Historical Log 1, Parameter 51 | | | | R | |
| B0F9H | 45306 | | | | Point Number, Historical Log 1, Parameter 51 | | | | R | |
| B0FAH | 45307 | | | | Line Number, Historical Log 1, Parameter 52 | | | | R | |
| B0FBH | 45308 | | | | Point Number, Historical Log 1, Parameter 52 | | | | R | |
| B0FCH | 45309 | | | | Line Number, Historical Log 1, Parameter 53 | | | | R | |
| B0FDH | 45310 | | | | Point Number, Historical Log 1, Parameter 53 | | | | R | |
| B0FEH | 45311 | | | | Line Number, Historical Log 1, Parameter 54 | | | | R | |
| B0FFH | 45312 | | | | Point Number, Historical Log 1, Parameter 54 | | | | R | |
| B100H | 45313 | | | | Line Number, Historical Log 1, Parameter 55 | | | | R | |
| B101H | 45314 | | | | Point Number, Historical Log 1, Parameter 55 | | | | R | |
| B102H | 45315 | | | | Line Number, Historical Log 1, Parameter 56 | | | | R | |
| B103H | 45316 | | | | Point Number, Historical Log 1, Parameter 56 | | | | R | |
| B104H | 45317 | | | | Line Number, Historical Log 1, Parameter 57 | | | | R | |
| B105H | 45318 | | | | Point Number, Historical Log 1, Parameter 57 | | | | R | |
| B106H | 45319 | | | | Line Number, Historical Log 1, Parameter 58 | | | | R | |
| B107H | 45320 | | | | Point Number, Historical Log 1, Parameter 58 | | | | R | |
| B108H | 45321 | | | | Line Number, Historical Log 1, Parameter 59 | | | | R | |
| B109H | 45322 | | | | Point Number, Historical Log 1, Parameter 59 | | | | R | |
| B10AH | 45323 | | | | Line Number, Historical Log 1, Parameter 60 | | | | R | |
| B10BH | 45324 | | | | Point Number, Historical Log 1, Parameter 60 | | | | R | |
| B10CH | 45325 | | | | Line Number, Historical Log 1, Parameter 61 | | | | R | |
| B10DH | 45326 | | | | Point Number, Historical Log 1, Parameter 61 | | | | R | |
| B10EH | 45327 | | | | Line Number, Historical Log 1, Parameter 62 | | | | R | |
| B10FH | 45328 | | | | Point Number, Historical Log 1, Parameter 62 | | | | R | |
| B110H | 45329 | | | | Line Number, Historical Log 1, Parameter 63 | | | | R | |
| B111H | 45330 | | | | Point Number, Historical Log 1, Parameter 63 | | | | R | |
| B112H | 45331 | | | | Line Number, Historical Log 1, Parameter 64 | | | | R | |
| B113H | 45332 | | | | Point Number, Historical Log 1, Parameter 64 | | | | R | |
| B114H | 45333 | | | | Line Number, Historical Log 2, Parameter 1 | | | | R | |
| B115H | 45334 | | | | Point Number, Historical Log 2, Parameter 1 | | | | R | |
| B116H | 45335 | | | | Line Number, Historical Log 2, Parameter 2 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| B117H | 45336 | | | | Point Number, Historical Log 2, Parameter 2 | | | | R | |
| B118H | 45337 | | | | Line Number, Historical Log 2, Parameter 3 | | | | R | |
| B119H | 45338 | | | | Point Number, Historical Log 2, Parameter 3 | | | | R | |
| B11AH | 45339 | | | | Line Number, Historical Log 2, Parameter 4 | | | | R | |
| B11BH | 45340 | | | | Point Number, Historical Log 2, Parameter 4 | | | | R | |
| B11CH | 45341 | | | | Line Number, Historical Log 2, Parameter 5 | | | | R | |
| B11DH | 45342 | | | | Point Number, Historical Log 2, Parameter 5 | | | | R | |
| B11EH | 45343 | | | | Line Number, Historical Log 2, Parameter 6 | | | | R | |
| B11FH | 45344 | | | | Point Number, Historical Log 2, Parameter 6 | | | | R | |
| B120H | 45345 | | | | Line Number, Historical Log 2, Parameter 7 | | | | R | |
| B121H | 45346 | | | | Point Number, Historical Log 2, Parameter 7 | | | | R | |
| B122H | 45347 | | | | Line Number, Historical Log 2, Parameter 8 | | | | R | |
| B123H | 45348 | | | | Point Number, Historical Log 2, Parameter 8 | | | | R | |
| B124H | 45349 | | | | Line Number, Historical Log 2, Parameter 9 | | | | R | |
| B125H | 45350 | | | | Point Number, Historical Log 2, Parameter 9 | | | | R | |
| B126H | 45351 | | | | Line Number, Historical Log 2, Parameter 10 | | | | R | |
| B127H | 45352 | | | | Point Number, Historical Log 2, Parameter 10 | | | | R | |
| B128H | 45353 | | | | Line Number, Historical Log 2, Parameter 11 | | | | R | |
| B129H | 45354 | | | | Point Number, Historical Log 2, Parameter 11 | | | | R | |
| B12AH | 45355 | | | | Line Number, Historical Log 2, Parameter 12 | | | | R | |
| B12BH | 45356 | | | | Point Number, Historical Log 2, Parameter 12 | | | | R | |
| B12CH | 45357 | | | | Line Number, Historical Log 2, Parameter 13 | | | | R | |
| B12DH | 45358 | | | | Point Number, Historical Log 2, Parameter 13 | | | | R | |
| B12EH | 45359 | | | | Line Number, Historical Log 2, Parameter 14 | | | | R | |
| B12FH | 45360 | | | | Point Number, Historical Log 2, Parameter 14 | | | | R | |
| B130H | 45361 | | | | Line Number, Historical Log 2, Parameter 15 | | | | R | |
| B131H | 45362 | | | | Point Number, Historical Log 2, Parameter 15 | | | | R | |
| B132H | 45363 | | | | Line Number, Historical Log 2, Parameter 16 | | | | R | |
| B133H | 45364 | | | | Point Number, Historical Log 2, Parameter 16 | | | | R | |
| B134H | 45365 | | | | Line Number, Historical Log 2, Parameter 17 | | | | R | |
| B135H | 45366 | | | | Point Number, Historical Log 2, Parameter 17 | | | | R | |
| B136H | 45367 | | | | Line Number, Historical Log 2, Parameter 18 | | | | R | |
| B137H | 45368 | | | | Point Number, Historical Log 2, Parameter 18 | | | | R | |
| B138H | 45369 | | | | Line Number, Historical Log 2, Parameter 19 | | | | R | |
| B139H | 45370 | | | | Point Number, Historical Log 2, Parameter 19 | | | | R | |
| B13AH | 45371 | | | | Line Number, Historical Log 2, Parameter 20 | | | | R | |
| B13BH | 45372 | | | | Point Number, Historical Log 2, Parameter 20 | | | | R | |
| B13CH | 45373 | | | | Line Number, Historical Log 2, Parameter 21 | | | | R | |
| B13DH | 45374 | | | | Point Number, Historical Log 2, Parameter 21 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| B13EH | 45375 | | | | Line Number, Historical Log 2, Parameter 22 | | | | R | |
| B13FH | 45376 | | | | Point Number, Historical Log 2, Parameter 22 | | | | R | |
| B140H | 45377 | | | | Line Number, Historical Log 2, Parameter 23 | | | | R | |
| B141H | 45378 | | | | Point Number, Historical Log 2, Parameter 23 | | | | R | |
| B142H | 45379 | | | | Line Number, Historical Log 2, Parameter 24 | | | | R | |
| B143H | 45380 | | | | Point Number, Historical Log 2, Parameter 24 | | | | R | |
| B144H | 45381 | | | | Line Number, Historical Log 2, Parameter 25 | | | | R | |
| B145H | 45382 | | | | Point Number, Historical Log 2, Parameter 25 | | | | R | |
| B146H | 45383 | | | | Line Number, Historical Log 2, Parameter 26 | | | | R | |
| B147H | 45384 | | | | Point Number, Historical Log 2, Parameter 26 | | | | R | |
| B148H | 45385 | | | | Line Number, Historical Log 2, Parameter 27 | | | | R | |
| B149H | 45386 | | | | Point Number, Historical Log 2, Parameter 27 | | | | R | |
| B14AH | 45387 | | | | Line Number, Historical Log 2, Parameter 28 | | | | R | |
| B14BH | 45388 | | | | Point Number, Historical Log 2, Parameter 28 | | | | R | |
| B14CH | 45389 | | | | Line Number, Historical Log 2, Parameter 29 | | | | R | |
| B14DH | 45390 | | | | Point Number, Historical Log 2, Parameter 29 | | | | R | |
| B14EH | 45391 | | | | Line Number, Historical Log 2, Parameter 30 | | | | R | |
| B14FH | 45392 | | | | Point Number, Historical Log 2, Parameter 30 | | | | R | |
| B150H | 45393 | | | | Line Number, Historical Log 2, Parameter 31 | | | | R | |
| B151H | 45394 | | | | Point Number, Historical Log 2, Parameter 31 | | | | R | |
| B152H | 45395 | | | | Line Number, Historical Log 2, Parameter 32 | | | | R | |
| B153H | 45396 | | | | Point Number, Historical Log 2, Parameter 32 | | | | R | |
| B154H | 45397 | | | | Line Number, Historical Log 2, Parameter 33 | | | | R | |
| B155H | 45398 | | | | Point Number, Historical Log 2, Parameter 33 | | | | R | |
| B156H | 45399 | | | | Line Number, Historical Log 2, Parameter 34 | | | | R | |
| B157H | 45400 | | | | Point Number, Historical Log 2, Parameter 34 | | | | R | |
| B158H | 45401 | | | | Line Number, Historical Log 2, Parameter 35 | | | | R | |
| B159H | 45402 | | | | Point Number, Historical Log 2, Parameter 35 | | | | R | |
| B15AH | 45403 | | | | Line Number, Historical Log 2, Parameter 36 | | | | R | |
| B15BH | 45404 | | | | Point Number, Historical Log 2, Parameter 36 | | | | R | |
| B15CH | 45405 | | | | Line Number, Historical Log 2, Parameter 37 | | | | R | |
| B15DH | 45406 | | | | Point Number, Historical Log 2, Parameter 37 | | | | R | |
| B15EH | 45407 | | | | Line Number, Historical Log 2, Parameter 38 | | | | R | |
| B15FH | 45408 | | | | Point Number, Historical Log 2, Parameter 38 | | | | R | |
| B160H | 45409 | | | | Line Number, Historical Log 2, Parameter 39 | | | | R | |
| B161H | 45410 | | | | Point Number, Historical Log 2, Parameter 39 | | | | R | |
| B162H | 45411 | | | | Line Number, Historical Log 2, Parameter 40 | | | | R | |
| B163H | 45412 | | | | Point Number, Historical Log 2, Parameter 40 | | | | R | |
| B164H | 45413 | | | | Line Number, Historical Log 2, Parameter 41 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| B165H | 45414 | | | | Point Number, Historical Log 2, Parameter 41 | | | | R | |
| B166H | 45415 | | | | Line Number, Historical Log 2, Parameter 42 | | | | R | |
| B167H | 45416 | | | | Point Number, Historical Log 2, Parameter 42 | | | | R | |
| B168H | 45417 | | | | Line Number, Historical Log 2, Parameter 43 | | | | R | |
| B169H | 45418 | | | | Point Number, Historical Log 2, Parameter 43 | | | | R | |
| B16AH | 45419 | | | | Line Number, Historical Log 2, Parameter 44 | | | | R | |
| B16BH | 45420 | | | | Point Number, Historical Log 2, Parameter 44 | | | | R | |
| B16CH | 45421 | | | | Line Number, Historical Log 2, Parameter 45 | | | | R | |
| B16DH | 45422 | | | | Point Number, Historical Log 2, Parameter 45 | | | | R | |
| B16EH | 45423 | | | | Line Number, Historical Log 2, Parameter 46 | | | | R | |
| B16FH | 45424 | | | | Point Number, Historical Log 2, Parameter 46 | | | | R | |
| B170H | 45425 | | | | Line Number, Historical Log 2, Parameter 47 | | | | R | |
| B171H | 45426 | | | | Point Number, Historical Log 2, Parameter 47 | | | | R | |
| B172H | 45427 | | | | Line Number, Historical Log 2, Parameter 48 | | | | R | |
| B173H | 45428 | | | | Point Number, Historical Log 2, Parameter 48 | | | | R | |
| B174H | 45429 | | | | Line Number, Historical Log 2, Parameter 49 | | | | R | |
| B175H | 45430 | | | | Point Number, Historical Log 2, Parameter 49 | | | | R | |
| B176H | 45431 | | | | Line Number, Historical Log 2, Parameter 50 | | | | R | |
| B177H | 45432 | | | | Point Number, Historical Log 2, Parameter 50 | | | | R | |
| B178H | 45433 | | | | Line Number, Historical Log 2, Parameter 51 | | | | R | |
| B179H | 45434 | | | | Point Number, Historical Log 2, Parameter 51 | | | | R | |
| B17AH | 45435 | | | | Line Number, Historical Log 2, Parameter 52 | | | | R | |
| B17BH | 45436 | | | | Point Number, Historical Log 2, Parameter 52 | | | | R | |
| B17CH | 45437 | | | | Line Number, Historical Log 2, Parameter 53 | | | | R | |
| B17DH | 45438 | | | | Point Number, Historical Log 2, Parameter 53 | | | | R | |
| B17EH | 45439 | | | | Line Number, Historical Log 2, Parameter 54 | | | | R | |
| B17FH | 45440 | | | | Point Number, Historical Log 2, Parameter 54 | | | | R | |
| B180H | 45441 | | | | Line Number, Historical Log 2, Parameter 55 | | | | R | |
| B181H | 45442 | | | | Point Number, Historical Log 2, Parameter 55 | | | | R | |
| B182H | 45443 | | | | Line Number, Historical Log 2, Parameter 56 | | | | R | |
| B183H | 45444 | | | | Point Number, Historical Log 2, Parameter 56 | | | | R | |
| B184H | 45445 | | | | Line Number, Historical Log 2, Parameter 57 | | | | R | |
| B185H | 45446 | | | | Point Number, Historical Log 2, Parameter 57 | | | | R | |
| B186H | 45447 | | | | Line Number, Historical Log 2, Parameter 58 | | | | R | |
| B187H | 45448 | | | | Point Number, Historical Log 2, Parameter 58 | | | | R | |
| B188H | 45449 | | | | Line Number, Historical Log 2, Parameter 59 | | | | R | |
| B189H | 45450 | | | | Point Number, Historical Log 2, Parameter 59 | | | | R | |
| B18AH | 45451 | | | | Line Number, Historical Log 2, Parameter 60 | | | | R | |
| B18BH | 45452 | | | | Point Number, Historical Log 2, Parameter 60 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|--|---------------------|----------|------|-----|-------|
| B18CH | 45453 | | | | Line Number, Historical Log 2, Parameter 61 | | | | R | |
| B18DH | 45454 | | | | Point Number, Historical Log 2, Parameter 61 | | | | R | |
| B18EH | 45455 | | | | Line Number, Historical Log 2, Parameter 62 | | | | R | |
| B18FH | 45456 | | | | Point Number, Historical Log 2, Parameter 62 | | | | R | |
| B190H | 45457 | | | | Line Number, Historical Log 2, Parameter 63 | | | | R | |
| B191H | 45458 | | | | Point Number, Historical Log 2, Parameter 63 | | | | R | |
| B192H | 45459 | | | | Line Number, Historical Log 2, Parameter 64 | | | | R | |
| B193H | 45460 | | | | Point Number, Historical Log 2, Parameter 64 | | | | R | |
| B194H | 45461 | | | | Snapshot Interval, Historical Log 1 | 3600/0 | 1 second | | R | |
| B195H | 45462 | | | | Snapshot Interval, Historical Log 2 | 3600/0 | 1 second | | R | |
| B196H | 45463 | | | | Record Size, Historical Log 1 | | | | R | |
| B197H | 45464 | | | | Record Size, Historical Log 2 | | | | R | |
| Waveform/CBEMA Settings Block: | | | | | | | | | | |
| B198H | 45465 | | | | Phase A-N Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B199H | 45466 | | | | Phase B-N Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B19AH | 45467 | | | | Phase C-N Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B19BH | 45468 | | | | Phase A-B Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B19CH | 45469 | | | | Phase B-C Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B19DH | 45470 | | | | Phase C-A Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B19EH | 45471 | | | | Phase X-N Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B19FH | 45472 | | | | Phase N-E Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A0H | 45473 | | | | Phase A-E Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A1H | 45474 | | | | Phase B-E Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A2H | 45475 | | | | Phase C-E Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A3H | 45476 | | | | Phase X-E Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A4H | 45477 | | | | Phase A-N Voltage Below Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A5H | 45478 | | | | Phase B-N Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A6H | 45479 | | | | Phase C-N Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A7H | 45480 | | | | Phase A-B Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A8H | 45481 | | | | Phase B-C Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1A9H | 45482 | | | | Phase C-A Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1AAH | 45483 | | | | Phase X-N Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1ABH | 45484 | | | | Phase N-E Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1ACH | 45485 | | | | Phase A-E Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1ADH | 45486 | | | | Phase B-E Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1AEH | 45487 | | | | Phase C-E Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1AFH | 45488 | | | | Phase X-E Voltage Above Setpoint | +327.67% / -327.68% | 0.01% | | R | |
| B1B0H | 45489 | | | | Phase A Current Below Setpoint | | | | | |
| B1B1H | 45490 | | | | Phase B Current Below Setpoint | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------------|-------------|------|----|------------|--------------------------------|-------|-------|------|-----|-------|
| B1B2H | 45491 | | | | Phase C Current Below Setpoint | | | | | |
| B1B3H | 45492 | | | | Phase X Current Below Setpoint | | | | | |
| B1B4H | 45493 | | | | Phase A Current Above Setpoint | | | | | |
| B1B5H | 45494 | | | | Phase B Current Above Setpoint | | | | | |
| B1B6H | 45495 | | | | Phase C Current Above Setpoint | | | | | |
| B1B7H | 45496 | | | | Phase X Current Above Setpoint | | | | | |
| B1B8H | 45497 | | | | Voltage RMS Sag/Swell | | | | | |
| B1B9H | 45498 | | | | Voltage Wave shape | | | | | |
| B1BAH | 45499 | | | | Current RMS Sag/Swell | | | | | |
| B1BBH | 45500 | | | | Current RMS Chng ROR | | | | | |
| High Speed Input Settings Block | | | | | | | | | | |
| B1BCH-B1C3H | 45501-45508 | | | | Input 1 Name | | | | R | |
| B1C4H-B1CBH | 45509-45516 | | | | Input 1 Open Label | | | | R | |
| B1CCH-B1D3H | 45517-45524 | | | | Input 1 Close Label | | | | R | |
| B1D4H-B1D5H | 45525-45526 | | | | Input 1 Value | | | | R | |
| B1D6H | 45527 | | | | Input 1 Mode | | | | R | |
| B1D7H | 45528 | | | | Reserved | | | | | |
| B1D8H-B1DFH | 45529-45536 | | | | Input 2 Name | | | | R | |
| B1E0H-B1E7H | 45537-45544 | | | | Input 2 Open Label | | | | R | |
| B1E8H-B1EFH | 45545-45552 | | | | Input 2 Close Label | | | | R | |
| B1F0H-B1F1H | 45553-45554 | | | | Input 2 Value | | | | R | |
| B1F2H | 45555 | | | | Input 2 Mode | | | | R | |
| B1F3H | 45556 | | | | Reserved | | | | | |
| B1F4H-B1FBH | 45557-45564 | | | | Input 3 Name | | | | R | |
| B1FCH-B203H | 45565-45572 | | | | Input 3 Open Label | | | | R | |
| B204H-B20BH | 45573-45580 | | | | Input 3 Close Label | | | | R | |
| B20CH-B20DH | 45581-45582 | | | | Input 3 Value | | | | R | |
| B20EH | 45583 | | | | Input 3 Mode | | | | R | |
| B20FH | 45584 | | | | Reserved | | | | | |
| B210H-B217H | 45585-45592 | | | | Input 4 Name | | | | R | |
| B218H-B21FH | 45593-45600 | | | | Input 4 Open Label | | | | R | |
| B220H-B227H | 45601-45608 | | | | Input 4 Close Label | | | | R | |
| B228H-B229H | 45609-45610 | | | | Input 4 Value | | | | R | |
| B22AH | 45611 | | | | Input 4 Mode | | | | R | |
| B22BH | 45612 | | | | Reserved | | | | | |
| B22CH-B233H | 45613-45620 | | | | Input 5 Name | | | | R | |
| B234H-B23BH | 45621-45628 | | | | Input 5 Open Label | | | | R | |
| B23CH-B243H | 45629-45636 | | | | Input 5 Close Label | | | | R | |
| B244H-B245H | 45637-45638 | | | | Input 5 Value | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| B246H | 45639 | | | | Input 5 Mode | | | | R | |
| B247H | 45640 | | | | Reserved | | | | | |
| B248H-B24FH | 45641-45648 | | | | Input 6 Name | | | | R | |
| B250H-B257H | 45649-45656 | | | | Input 6 Open Label | | | | R | |
| B258H-B25FH | 45657-45664 | | | | Input 6 Close Label | | | | R | |
| B260H-B261H | 45665-45666 | | | | Input 6 Value | | | | R | |
| B262H | 45667 | | | | Input 6 Mode | | | | R | |
| B263H | 45668 | | | | Reserved | | | | | |
| B264H-B26BH | 45669-45676 | | | | Input 7 Name | | | | R | |
| B26CH-B273H | 45677-45684 | | | | Input 7 Open Label | | | | R | |
| B274H-B27BH | 45685-45692 | | | | Input 7 Close Label | | | | R | |
| B27CH-B27DH | 45693-45694 | | | | Input 7 Value | | | | R | |
| B27EH | 45695 | | | | Input 7 Mode | | | | R | |
| B27FH | 45696 | | | | Reserved | | | | | |
| B280H-B287H | 45697-45704 | | | | Input 8 Name | | | | R | |
| B288H-B28FH | 45705-45712 | | | | Input 8 Open Label | | | | R | |
| B290H-B297H | 45713-45720 | | | | Input 8 Close Label | | | | R | |
| B298H-B299H | 45721-45722 | | | | Input 8 Value | | | | R | |
| B29AH | 45723 | | | | Input 8 Mode | | | | R | |
| B29BH | 45724 | | | | Reserved | | | | R | |
| B29CH-B29FH | 45725-45728 | | | | Reserved | | | | R | |
| External Digital Output Module Settings Block | | | | | | | | | | |
| B2A0H | 45729 | | | | Address, External Digital Output Module 1 | | | | R | |
| B2A1H-B2A3H | 45730-45732 | | | | Reserved | | | | | |
| B2A4H | 45733 | | | | Line Number, Relay 1, External Digital Output Module 1 | | | | R | |
| B2A5H | 45734 | | | | Point Number, Relay 1, External Digital Output Module 1 | | | | R | |
| B2A6H | 45735 | | | | Line Number, Relay 2, External Digital Output Module 1 | | | | R | |
| B2A7H | 45736 | | | | Point Number, Relay 2, External Digital Output Module 1 | | | | R | |
| B2A8H | 45737 | | | | Line Number, Relay 3, External Digital Output Module 1 | | | | R | |
| B2A9H | 45738 | | | | Point Number, Relay 3, External Digital Output Module 1 | | | | R | |
| B2AAH | 45739 | | | | Line Number, Relay 4, External Digital Output Module 1 | | | | R | |
| B2ABH | 45740 | | | | Point Number, Relay 4, External Digital Output Module 1 | | | | R | |
| B2ACH | 45741 | | | | Line Number, Relay 5, External Digital Output Module 1 | | | | R | |
| B2ADH | 45742 | | | | Point Number, Relay 5, External Digital Output Module 1 | | | | R | |
| B2AEH | 45743 | | | | Line Number, Relay 6, External Digital Output Module 1 | | | | R | |
| B2AFH | 45744 | | | | Point Number, Relay 6, External Digital Output Module 1 | | | | R | |
| B2B0H | 45745 | | | | Line Number, Relay 7, External Digital Output Module 1 | | | | R | |
| B2B1H | 45746 | | | | Point Number, Relay 7, External Digital Output Module 1 | | | | R | |
| B2B2H | 45747 | | | | Line Number, Relay 8, External Digital Output Module 1 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| B2B3H | 45748 | | | | Point Number, Relay 8, External Digital Output Module 1 | | | | R | |
| B2B4H | 45749 | | | | Address, External Digital Output Module 2 | | | | R | |
| B2B5H-B2B7H | 45750-45752 | | | | Reserved | | | | | |
| B2B8H | 45753 | | | | Line Number, Relay 1, External Digital Output Module 2 | | | | R | |
| B2B9H | 45754 | | | | Point Number, Relay 1, External Digital Output Module 2 | | | | R | |
| B2BAH | 45755 | | | | Line Number, Relay 2, External Digital Output Module 2 | | | | R | |
| B2BBH | 45756 | | | | Point Number, Relay 2, External Digital Output Module 2 | | | | R | |
| B2BCH | 45757 | | | | Line Number, Relay 3, External Digital Output Module 2 | | | | R | |
| B2BDH | 45758 | | | | Point Number, Relay 3, External Digital Output Module 2 | | | | R | |
| B2BEH | 45759 | | | | Line Number, Relay 4, External Digital Output Module 2 | | | | R | |
| B2BFH | 45760 | | | | Point Number, Relay 4, External Digital Output Module 2 | | | | R | |
| B2C0H | 45761 | | | | Line Number, Relay 5, External Digital Output Module 2 | | | | R | |
| B2C1H | 45762 | | | | Point Number, Relay 5, External Digital Output Module 2 | | | | R | |
| B2C2H | 45763 | | | | Line Number, Relay 6, External Digital Output Module 2 | | | | R | |
| B2C3H | 45764 | | | | Point Number, Relay 6, External Digital Output Module 2 | | | | R | |
| B2C4H | 45765 | | | | Line Number, Relay 7, External Digital Output Module 2 | | | | R | |
| B2C5H | 45766 | | | | Point Number, Relay 7, External Digital Output Module 2 | | | | R | |
| B2C6H | 45767 | | | | Line Number, Relay 8, External Digital Output Module 2 | | | | R | |
| B2C7H | 45768 | | | | Point Number, Relay 8, External Digital Output Module 2 | | | | R | |
| B2C8H | 45769 | | | | Address, External Digital Output Module 3 | | | | R | |
| B2C9H-B2CBH | 45770-45772 | | | | Reserved | | | | | |
| B2CCH | 45773 | | | | Line Number, Relay 1, External Digital Output Module 3 | | | | R | |
| B2CDH | 45774 | | | | Point Number, Relay 1, External Digital Output Module 3 | | | | R | |
| B2CEH | 45775 | | | | Line Number, Relay 2, External Digital Output Module 3 | | | | R | |
| B2CFH | 45776 | | | | Point Number, Relay 2, External Digital Output Module 3 | | | | R | |
| B2D0H | 45777 | | | | Line Number, Relay 3, External Digital Output Module 3 | | | | R | |
| B2D1H | 45778 | | | | Point Number, Relay 3, External Digital Output Module 3 | | | | R | |
| B2D2H | 45779 | | | | Line Number, Relay 4, External Digital Output Module 3 | | | | R | |
| B2D3H | 45780 | | | | Point Number, Relay 4, External Digital Output Module 3 | | | | R | |
| B2D4H | 45781 | | | | Line Number, Relay 5, External Digital Output Module 3 | | | | R | |
| B2D5H | 45782 | | | | Point Number, Relay 5, External Digital Output Module 3 | | | | R | |
| B2D6H | 45783 | | | | Line Number, Relay 6, External Digital Output Module 3 | | | | R | |
| B2D7H | 45784 | | | | Point Number, Relay 6, External Digital Output Module 3 | | | | R | |
| B2D8H | 45785 | | | | Line Number, Relay 7, External Digital Output Module 3 | | | | R | |
| B2D9H | 45786 | | | | Point Number, Relay 7, External Digital Output Module 3 | | | | R | |
| B2DAH | 45787 | | | | Line Number, Relay 8, External Digital Output Module 3 | | | | R | |
| B2DBH | 45788 | | | | Point Number, Relay 8, External Digital Output Module 3 | | | | R | |
| B2DCH | 45789 | | | | Address, External Digital Output Module 4 | | | | R | |
| B2DDH-B2DFH | 45790-45792 | | | | Reserved | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| B2E0H | 45793 | | | | Line Number, Relay 1, External Digital Output Module 4 | | | | R | |
| B2E1H | 45794 | | | | Point Number, Relay 1, External Digital Output Module 4 | | | | R | |
| B2E2H | 45795 | | | | Line Number, Relay 2, External Digital Output Module 4 | | | | R | |
| B2E3H | 45796 | | | | Point Number, Relay 2, External Digital Output Module 4 | | | | R | |
| B2E4H | 45797 | | | | Line Number, Relay 3, External Digital Output Module 4 | | | | R | |
| B2E5H | 45798 | | | | Point Number, Relay 3, External Digital Output Module 4 | | | | R | |
| B2E6H | 45799 | | | | Line Number, Relay 4, External Digital Output Module 4 | | | | R | |
| B2E7H | 45800 | | | | Point Number, Relay 4, External Digital Output Module 4 | | | | R | |
| B2E8H | 45801 | | | | Line Number, Relay 5, External Digital Output Module 4 | | | | R | |
| B2E9H | 45802 | | | | Point Number, Relay 5, External Digital Output Module 4 | | | | R | |
| B2EAH | 45803 | | | | Line Number, Relay 6, External Digital Output Module 4 | | | | R | |
| B2EBH | 45804 | | | | Point Number, Relay 6, External Digital Output Module 4 | | | | R | |
| B2ECH | 45805 | | | | Line Number, Relay 7, External Digital Output Module 4 | | | | R | |
| B2EDH | 45806 | | | | Point Number, Relay 7, External Digital Output Module 4 | | | | R | |
| B2EEH | 45807 | | | | Line Number, Relay 8, External Digital Output Module 4 | | | | R | |
| B2EFH | 45808 | | | | Point Number, Relay 8, External Digital Output Module 4 | | | | R | |
| B2F0H-B2F3H | 45809-45812 | | | | Reserved | | | | R | |
| External Analog Output Module Settings Block | | | | | | | | | | |
| B2F4H | 45813 | | | | Address, External Analog Output Module 1 | | | | R | |
| B2F5H-B2F7H | 45814-45816 | | | | Reserved | | | | | |
| B2F8H | 45817 | | | | Line Number, Relay 1, External Analog Output Module 1 | | | | R | |
| B2F9H | 45818 | | | | Point Number, Relay 1, External Digital Output Module 1 | | | | R | |
| B2FAH | 45819 | | | | Line Number, Relay 2, External Analog Output Module 1 | | | | R | |
| B2FBH | 45820 | | | | Point Number, Relay 2, External Digital Output Module 1 | | | | R | |
| B2FCH | 45821 | | | | Line Number, Relay 3, External Analog Output Module 1 | | | | R | |
| B2FDH | 45822 | | | | Point Number, Relay 3, External Digital Output Module 1 | | | | R | |
| B2FEH | 45823 | | | | Line Number, Relay 4, External Analog Output Module 1 | | | | R | |
| B2FFH | 45824 | | | | Point Number, Relay 4, External Digital Output Module 1 | | | | R | |
| B300H | 45825 | | | | Line Number, Relay 5, External Analog Output Module 1 | | | | R | |
| B301H | 45826 | | | | Point Number, Relay 5, External Digital Output Module 1 | | | | R | |
| B302H | 45827 | | | | Line Number, Relay 6, External Analog Output Module 1 | | | | R | |
| B303H | 45828 | | | | Point Number, Relay 6, External Digital Output Module 1 | | | | R | |
| B304H | 45829 | | | | Line Number, Relay 7, External Analog Output Module 1 | | | | R | |
| B305H | 45830 | | | | Point Number, Relay 7, External Digital Output Module 1 | | | | R | |
| B306H | 45831 | | | | Line Number, Relay 8, External Analog Output Module 1 | | | | R | |
| B307H | 45832 | | | | Point Number, Relay 8, External Digital Output Module 1 | | | | R | |
| B308H | 45833 | | | | Address, External Analog Output Module 2 | | | | R | |
| B309H-B30BH | 45834-45836 | | | | Reserved | | | | | |
| B30CH | 45837 | | | | Line Number, Relay 1, External Analog Output Module 2 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| B32DH | 45870 | | | | Point Number, Relay 1, External Digital Output Module 2 | | | | R | |
| B30EH | 45839 | | | | Line Number, Relay 2, External Analog Output Module 2 | | | | R | |
| B30FH | 45840 | | | | Point Number, Relay 2, External Digital Output Module 2 | | | | R | |
| B310H | 45841 | | | | Line Number, Relay 3, External Analog Output Module 2 | | | | R | |
| B311H | 45842 | | | | Point Number, Relay 3, External Digital Output Module 2 | | | | R | |
| B312H | 45843 | | | | Line Number, Relay 4, External Analog Output Module 2 | | | | R | |
| B313H | 45844 | | | | Point Number, Relay 4, External Digital Output Module 2 | | | | R | |
| B314H | 45845 | | | | Line Number, Relay 5, External Analog Output Module 2 | | | | R | |
| B315H | 45846 | | | | Point Number, Relay 5, External Digital Output Module 2 | | | | R | |
| B316H | 45847 | | | | Line Number, Relay 6, External Analog Output Module 2 | | | | R | |
| B317H | 45848 | | | | Point Number, Relay 6, External Digital Output Module 2 | | | | R | |
| B318H | 45849 | | | | Line Number, Relay 7, External Analog Output Module 2 | | | | R | |
| B319H | 45850 | | | | Point Number, Relay 7, External Digital Output Module 2 | | | | R | |
| B31AH | 45851 | | | | Line Number, Relay 8, External Analog Output Module 2 | | | | R | |
| B31BH | 45852 | | | | Point Number, Relay 8, External Digital Output Module 2 | | | | R | |
| B31CH | 45853 | | | | Address, External Analog Output Module 3 | | | | R | |
| B31DH-B31FH | 45854-45856 | | | | Reserved | | | | | |
| B320H | 45857 | | | | Line Number, Relay 1, External Analog Output Module 3 | | | | R | |
| B321H | 45858 | | | | Point Number, Relay 1, External Digital Output Module 3 | | | | R | |
| B322H | 45859 | | | | Line Number, Relay 2, External Analog Output Module 3 | | | | R | |
| B323H | 45860 | | | | Point Number, Relay 2, External Digital Output Module 3 | | | | R | |
| B324H | 45861 | | | | Line Number, Relay 3, External Analog Output Module 3 | | | | R | |
| B325H | 45862 | | | | Point Number, Relay 3, External Digital Output Module 3 | | | | R | |
| B326H | 45863 | | | | Line Number, Relay 4, External Analog Output Module 3 | | | | R | |
| B327H | 45864 | | | | Point Number, Relay 4, External Digital Output Module 3 | | | | R | |
| B328H | 45865 | | | | Line Number, Relay 5, External Analog Output Module 3 | | | | R | |
| B329H | 45866 | | | | Point Number, Relay 5, External Digital Output Module 3 | | | | R | |
| B32AH | 45867 | | | | Line Number, Relay 6, External Analog Output Module 3 | | | | R | |
| B32BH | 45868 | | | | Point Number, Relay 6, External Digital Output Module 3 | | | | R | |
| B32CH | 45869 | | | | Line Number, Relay 7, External Analog Output Module 3 | | | | R | |
| B32DH | 45870 | | | | Point Number, Relay 7, External Digital Output Module 3 | | | | R | |
| B32EH | 45871 | | | | Line Number, Relay 8, External Analog Output Module 3 | | | | R | |
| B32FH | 45872 | | | | Point Number, Relay 8, External Digital Output Module 3 | | | | R | |
| B330H | 45873 | | | | Address, External Analog Output Module 4 | | | | R | |
| B331H-B333H | 45874-45876 | | | | Reserved | | | | | |
| B334H | 45877 | | | | Line Number, Relay 1, External Analog Output Module 4 | | | | R | |
| B335H | 45878 | | | | Point Number, Relay 1, External Digital Output Module 4 | | | | R | |
| B336H | 45879 | | | | Line Number, Relay 2, External Analog Output Module 4 | | | | R | |
| B337H | 45880 | | | | Point Number, Relay 2, External Digital Output Module 4 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|--|---------------------|-------------|------|-----|-------|
| B338H | 45881 | | | | Line Number, Relay 3, External Analog Output Module 4 | | | | R | |
| B339H | 45882 | | | | Point Number, Relay 3, External Digital Output Module 4 | | | | R | |
| B33AH | 45883 | | | | Line Number, Relay 4, External Analog Output Module 4 | | | | R | |
| B33BH | 45884 | | | | Point Number, Relay 4, External Digital Output Module 4 | | | | R | |
| B33CH | 45885 | | | | Line Number, Relay 5, External Analog Output Module 4 | | | | R | |
| B33DH | 45886 | | | | Point Number, Relay 5, External Digital Output Module 4 | | | | R | |
| B33EH | 45887 | | | | Line Number, Relay 6, External Analog Output Module 4 | | | | R | |
| B33FH | 45888 | | | | Point Number, Relay 6, External Digital Output Module 4 | | | | R | |
| B340H | 45889 | | | | Line Number, Relay 7, External Analog Output Module 4 | | | | R | |
| B341H | 45890 | | | | Point Number, Relay 7, External Digital Output Module 4 | | | | R | |
| B342H | 45891 | | | | Line Number, Relay 8, External Analog Output Module 4 | | | | R | |
| B343H | 45892 | | | | Point Number, Relay 8, External Digital Output Module 4 | | | | R | |
| External KYZ Output Module Settings Block | | | | | | | | | | |
| B344H | 45893 | | | | Address, External KYZ Output Module 1 | | | | R | |
| B345H | 45894 | | | | Energy Assignment, Relay 1-2, External KYZ Output Module 1 | | | | R | |
| B346H | 45895 | | | | Energy Assignment, Relay 3-4, External KYZ Output Module 1 | | | | R | |
| B347H | 45896 | | | | Reserved | | | | | |
| B348H | 45897 | | | | Address, External KYZ Output Module 2 | | | | R | |
| B349H | 45898 | | | | Energy Assignment, Relay 1-2, External KYZ Output Module 2 | | | | R | |
| B34AH | 45899 | | | | Energy Assignment, Relay 3-4, External KYZ Output Module 2 | | | | R | |
| B34BH | 45900 | | | | Reserved | | | | | |
| B34CH | 45901 | | | | Address, External KYZ Output Module 3 | | | | R | |
| B34DH | 45902 | | | | Energy Assignment, Relay 1-2, External KYZ Output Module 3 | | | | R | |
| B34EH | 45903 | | | | Energy Assignment, Relay 3-4, External KYZ Output Module 3 | | | | R | |
| B34FH | 45904 | | | | Reserved | | | | | |
| B350H | 45905 | | | | Address, External KYZ Output Module 4 | | | | R | |
| B351H | 45906 | | | | Energy Assignment, Relay 1-2, External KYZ Output Module 4 | | | | R | |
| B352H | 45907 | | | | Energy Assignment, Relay 3-4, External KYZ Output Module 4 | | | | R | |
| B353H | 45908 | | | | Reserved | | | | | |
| CT & PT Ratio Settings Block | | | | | | | | | | |
| B354H-B355H | 45909-45910 | | | | Phase Current CT Ratio Numerator | +999,999.99 / +0.01 | 1/100 A pri | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------|-------------|------|----|------------|---|---------------------|-------------|------|-----|-------|
| B356H-B357H | 45911-45912 | | | | Phase Current CT Ratio Denominator | +999,999.99 / +0.01 | 1/100 A sec | | R | |
| B358H-B359H | 45913-45914 | | | | Measured Neutral Current CT Ratio Numerator | +999,999.99 / +0.01 | 1/100 A pri | | R | |
| B35AH-B35BH | 45915-45916 | | | | Measured Neutral Current CT Ratio Denominator | +999,999.99 / +0.01 | 1/100 A sec | | R | |
| B35CH-B35DH | 45917-45918 | | | | Phase Voltage PT Ratio Numerator | +999,999.99 / +0.01 | 1/100 V pri | | R | |
| B35EH-B35FH | 45919-45920 | | | | Phase Voltage PT Ratio Denominator | +999,999.99 / +0.01 | 1/100 V sec | | R | |
| B360H-B361H | 45921-45922 | | | | Auxiliary Voltage PT Ratio Numerator | +999,999.99 / +0.01 | 1/100 V pri | | R | |
| B362H-B363H | 45923-45924 | | | | Auxiliary Voltage PT Ratio Denominator | +999,999.99 / +0.01 | 1/100 V sec | | R | |
| Hookup and Time Settings Block | | | | | | | | | | |
| B364H | 45925 | | | | Hookup | | | | R | |
| B365H | 45926 | | | | Frequency & Time Zone Hour Selection | | | | R | |
| B366H | 45927 | | | | Time Zone Half Hour & Daylight Savings Time Enable | | | | R | |
| B367H | 45928 | | | | Transformer Loss Compensation (TLC) & Internal KYZ Form | | | | R | |
| B368H | 45929 | | | | Reserved | | | | R | |
| B369H-B36BH | 45930-45932 | | | | Daylight Savings Time Start | | | | R | |
| B36CH | 45933 | | | | Reserved | | | | R | |
| B36DH-B36FH | 45934-45936 | | | | Daylight Savings Time End | | | | R | |
| B370H-B371H | 45937-45938 | | | | % Loss of Watts due to Iron (TLC) | | | | R | |
| B372H-B373H | 45939-45940 | | | | % Loss of Watts due to Copper (TLC) | | | | R | |
| B374H-B375H | 45941-45942 | | | | % Loss of VAR due to Iron (TLC) | | | | R | |
| B376H-B377H | 45943-45944 | | | | % Loss of VAR due to Copper (TLC) | | | | R | |
| B378H-B37BH | 45945-45948 | | | | Primary Hour Reading Rollover | | | | | |
| Average Settings Block | | | | | | | | | | |
| B37CH | 45949 | | | | Thermal and Block Averaging Time Interval | 65535 / 0 | 1 second | | R | |
| B37DH | 45950 | | | | Rolling Averaging Sub-Interval | 65535 / 0 | 1 second | | R | |
| B37EH | 45951 | | | | Predictive Rolling Window Average | 100.00 / 0 | 0.01 % | | R | |
| B37FH | 45952 | | | | Rolling Sub-Intervals / Time of Use Log Enable | 1~255/not used | | | R | |
| Exception Profile Block | | | | | | | | | | |
| B380H-B387H | 45953-45960 | | | | Limits | | | | R | |
| B388H-B389H | 45961-45962 | | | | External Inputs | | | | R | |
| B38AH | 45963 | | | | Reserved | | | | | |
| B38BH | 45964 | | | | Digital Inputs | | | | R | |
| B38CH-B38DH | 45965-45966 | | | | Device Internal Change | | | | R | |
| B38EH-B38FH | 45967-45968 | | | | External Digital Input Mode | | | | R | |
| Device Label Settings Block | | | | | | | | | | |
| B390H-B397H | 45969-45976 | | | | Meter Designation | | | | R | |
| B398H-B39FH | 45977-45984 | | | | Auxiliary Voltage Label (1250 only) | | | | R | |
| B3A0H-B3A7H | 45985-45992 | | | | Measured Neutral Current Label | | | | R | |
| Network Settings Block | | | | | | | | | | |
| B3A8H-B3A9H | 45993-45994 | | | | IP Address | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|---|-----------|-----------|------|-----|-------|
| B3AAH-B3ABH | 45995-45996 | | | | Subnet Mask | | | | R | |
| B3ACH-B3ADH | 45997-45998 | | | | Default Gateway | | | | R | |
| B3AEH | 45999 | | | | Port 2 Baud Rate / Gateway Delay | | | | R | |
| B3AFH | 46000 | | | | Mode/ Mode 2 | | | | R | |
| B3B0H-B3B7H | 46001-46008 | | | | Computer Name | | | | R | |
| B3B8H-B3B9H | 46009-46010 | | | | DNS Server 1 IP Address | | | | R | |
| B3BAH-B3BBH | 46011-46012 | | | | DNS Server 2 IP Address | | | | | |
| B3BCH-B3BDH | 46013-46014 | | | | Server / Service Enable Bits | | | | | |
| B3BEH | 46015 | | | | Email Port Number | | | | | |
| B3BFH | 46016 | | | | FTP Port Number | | | | | |
| Block Window Average External Synchronization Block | | | | | | | | | | |
| B3C0H | 46017 | | | | BWA Synch Enable / BWA Synch Mask | | | | R | |
| Display Configuration Block | | | | | | | | | | |
| B3C1H | 46018 | | | | Display Configuration | | | | R | |
| Energy Direction Block | | | | | | | | | | |
| B3C2H | 46019 | | | | Received Energy Direction/Power Factor labeling | | | | R | |
| B3C3H | 46020 | | | | Reserved | | | | | |
| Full Scale Block | | | | | | | | | | |
| B3C4H-B3C5H | 46021-46022 | | | | Full Scale Phase Current | 65535 / 0 | 1 / 65536 | | R | |
| B3C6H-B3C7H | 46023-46024 | | | | Full Scale Measured Neutral Current | 65535 / 0 | 1 / 65536 | | R | |
| B3C8H-B3C9H | 46025-46026 | | | | Full Scale Phase-to-Neutral Voltage | 65535 / 0 | 1 / 65536 | | R | |
| B3CAH-B3CBH | 46027-46028 | | | | Full Scale Auxiliary Voltage | 65535 / 0 | 1 / 65536 | | R | |
| B3CCH-B3CDH | 46029-46030 | | | | Full Scale Phase-To-Phase Voltage | 65535 / 0 | 1 / 65536 | | R | |
| B3CEH-B3CFH | 46031-46032 | | | | Full Scale Phase Power | 65535 / 0 | 1 / 65536 | | R | |
| B3D0H-B3D1H | 46033-46034 | | | | Full Scale Total Power | 65535 / 0 | 1 / 65536 | | R | |
| B3D2H-B3D3H | 46035-46036 | | | | Full Scale Frequency | 65535 / 0 | 1 / 65536 | | R | |
| B3D4H-B3D5H | 46037-46038 | | | | Full Scale Phase-To-Earth Voltage | | | | | |
| B3D6H-B3D7H | 46039-46040 | | | | Full Scale XE Voltage | | | | | |
| B3D8H-B3D9H | 46041-46042 | | | | Full Scale NE Voltage | | | | | |
| B3DAH-B3E3H | 46043-46052 | | | | Reserved | | | | | |
| External Module Software Interface Block | | | | | | | | | | |
| B3E4H | 46053 | | | | External Module 1 & 2 Type | | | | R | |
| B3E5H | 46054 | | | | External Module 3 & 4 Type | | | | R | |
| B3E6H | 46055 | | | | External Module 5 & 6 Type | | | | R | |
| B3E7H | 46056 | | | | External Module 7 & 8 Type | | | | R | |
| B3E8H | 46057 | | | | External Module 9 & 10 Type | | | | R | |
| B3E9H | 46058 | | | | External Module 11 & 12 Type | | | | R | |
| B3EAH | 46059 | | | | External Module 13 & 14 Type | | | | R | |
| B3EBH | 46060 | | | | External Module 15 & 16 Type | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|--|----------------|-------|------|-----|-------|
| B3ECH | 46061 | | | | External Module 1 & 2 Slot | | | | R | |
| B3EDH | 46062 | | | | External Module 3 & 4 Slot | | | | R | |
| B3EEH | 46063 | | | | External Module 5 & 6 Slot | | | | R | |
| B3EFH | 46064 | | | | External Module 7 & 8 Slot | | | | R | |
| B3F0H | 46065 | | | | External Module 9 & 10 Slot | | | | R | |
| B3F1H | 46066 | | | | External Module 11 & 12 Slot | | | | R | |
| B3F2H | 46067 | | | | External Module 13 & 14 Slot | | | | R | |
| B3F3H | 46068 | | | | External Module 15 & 16 Slot | | | | R | |
| B3F4H-B3FBH | 46069-46076 | | | | External Module 1 Label | | | | R | |
| B3FCH-B403H | 46077-46084 | | | | External Module 2 Label | | | | R | |
| B404H-B40BH | 46085-46092 | | | | External Module 3 Label | | | | R | |
| B40CH-B413H | 46093-46100 | | | | External Module 4 Label | | | | R | |
| B414H-B41BH | 46101-46108 | | | | External Module 5 Label | | | | R | |
| B41CH-B423H | 46109-46116 | | | | External Module 6 Label | | | | R | |
| B424H-B24BH | 46117-46124 | | | | External Module 7 Label | | | | R | |
| B24CH-B433H | 46125-46132 | | | | External Module 8 Label | | | | R | |
| B434H-B43BH | 46133-46140 | | | | External Module 9 Label | | | | R | |
| B43CH-B443H | 46141-46148 | | | | External Module 10 Label | | | | R | |
| B444H-B44BH | 46149-46156 | | | | External Module 11 Label | | | | R | |
| B44CH-B453H | 46157-46164 | | | | External Module 12 Label | | | | R | |
| B454H-B45BH | 46165-46172 | | | | External Module 13 Label | | | | R | |
| B45CH-B463H | 46173-46180 | | | | External Module 14 Label | | | | R | |
| B464H-B46BH | 46181-46188 | | | | External Module 15 Label | | | | R | |
| B46CH-B473H | 46189-46196 | | | | External Module 16 Label | | | | R | |
| External Module Port Assignment Block | | | | | | | | | | |
| B474H-B475H | 46197 | | | | Reserved | | | | R | |
| B476H | 46199 | | | | Digital Output Module 1 & 2 Port Assignment | | | | R | |
| B477H | 46200 | | | | Digital Output Module 3 & 4 Port Assignment | | | | R | |
| B478H-B479H | 46201 | | | | Reserved | | | | R | |
| B47AH | 46203 | | | | Analog Output Module 1 & 2 Port Assignment | | | | R | |
| B47BH | 46204 | | | | Analog Output Module 3 & 4 Port Assignment | | | | R | |
| B47CH | 46205 | | | | KYZ Output Module 1 & 2 Port Assignment | | | | R | |
| B47DH | 46206 | | | | KYZ Output Module 3 & 4 Port Assignment | | | | R | |
| Manual Control Relay Block | | | | | | | | | | |
| B47EH | 46207 | | | | Manual Control Relay Settings | | | | R | |
| B47FH | 46208 | | | | Flicker Log/ Reserved | | | | R | |
| Internal Input Pulse Accumulation Scale Factor Block | | | | | | | | | | |
| B480H-B481H | 46209-46210 | | | | Internal Input 1 Pulse Accumulation Scale Factor | 4294967295 / 0 | | | R | |
| B482H-B483H | 46211-46212 | | | | Internal Input 2 Pulse Accumulation Scale Factor | 4294967295 / 0 | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|---|----------------|-------|------|-----|-------|
| B484H-B485H | 46213-46214 | | | | Internal Input 3 Pulse Accumulation Scale Factor | 4294967295 / 0 | | | R | |
| B486H-B487H | 46215-46216 | | | | Internal Input 4 Pulse Accumulation Scale Factor | 4294967295 / 0 | | | R | |
| B488H-B489H | 46217-46218 | | | | Internal Input 5 Pulse Accumulation Scale Factor | 4294967295 / 0 | | | R | |
| B48AH-B48BH | 46219-46220 | | | | Internal Input 6 Pulse Accumulation Scale Factor | 4294967295 / 0 | | | R | |
| B48CH-B48DH | 46221-46222 | | | | Internal Input 7 Pulse Accumulation Scale Factor | 4294967295 / 0 | | | R | |
| B48EH-B48FH | 46223-46224 | | | | Internal Input 8 Pulse Accumulation Scale Factor | 4294967295 / 0 | | | R | |
| B490H | 46225 | | | | Internal Input 1 & 2 Pulse Accumulation Aggregator Assignment | | | | R | |
| B491H | 46226 | | | | Internal Input 3 & 4 Pulse Accumulation Aggregator Assignment | | | | R | |
| B492H | 46227 | | | | Internal Input 5 & 6 Pulse Accumulation Aggregator Assignment | | | | R | |
| B493H | 46228 | | | | Internal Input 7 & 8 Pulse Accumulation Aggregator Assignment | | | | R | |
| B494H-B49BH | 46229-46236 | | | | Internal Input 1 Pulse Accumulation Label | | | | R | |
| B49CH-B4A3H | 46237-46244 | | | | Internal Input 2 Pulse Accumulation Label | | | | R | |
| B4A4H-B4ABH | 46245-46252 | | | | Internal Input 3 Pulse Accumulation Label | | | | R | |
| B4ACH-B4B3H | 46253-46260 | | | | Internal Input 4 Pulse Accumulation Label | | | | R | |
| B4B4H-B4BBH | 46261-46268 | | | | Internal Input 5 Pulse Accumulation Label | | | | R | |
| B4BCH-B4C3H | 46269-46276 | | | | Internal Input 6 Pulse Accumulation Label | | | | R | |
| B4C4H-B4CBH | 46277-46284 | | | | Internal Input 7 Pulse Accumulation Label | | | | R | |
| B4CCH-B4D3H | 46285-46292 | | | | Internal Input 8 Pulse Accumulation Label | | | | R | |
| B4D4H-B4DBH | 46293-46300 | | | | Internal Input Pulse Aggregation 1 Label | | | | R | |
| B4DCH-B4E3H | 46301-46308 | | | | Internal Input Pulse Aggregation 2 Label | | | | R | |
| B4E4H-B4EBH | 46309-46316 | | | | Internal Input Pulse Aggregation 3 Label | | | | R | |
| B4ECH-B4F3H | 46317-46324 | | | | Internal Input Pulse Aggregation 4 Label | | | | R | |
| B4F4H | 46325 | | | | Nexus Watthour Selection / Aggregation Assignment | | | | R | |
| I ² t and V ² t Threshold Block | | | | | | | | | | |
| B4F5H-B4F6H | 46326-46327 | | | | I ² t Threshold | | | | R | |
| B4F7H-B4F8H | 46328-46329 | | | | V ² t Threshold | | | | R | |
| Internal KYZ Settings Block | | | | | | | | | | |
| B4F9H | 46330 | | | | Internal KYZ Pulse Width (Relay 1-Pulse 1/ Relay 2-Pulse 2) | | | | R | |
| B4FAH | 46331 | | | | Internal KYZ Pulse Width (Relay 3/ Relay 4) | | | | R | |
| B4FBH | 46332 | | | | Reserved / Internal KYZ Channel Select (Relay 1-Pulse 1) | | | | R | |
| B4FCH | 46333 | | | | Internal KYZ Channel Select (Relay 2-Pulse 2/ Relay 3) | | | | R | |
| B4FDH | 46334 | | | | Internal KHZ Channel Select (Relay 4/ Reserved) | | | | R | |
| B4FEH-B4FFH | 46335-46336 | | | | Internal KYZ Watthour Per Pulse (Relay 1-Pulse 1) | | | | R | |
| B500H-B501H | 46337-46338 | | | | Internal KYZ Watthour Per Pulse (Relay 2-Pulse 2) | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| B502H-B503H | 46339-46340 | | | | Internal KYZ Watthour Per Pulse (Relay 3) | | | | R | |
| B504H-B505H | 46341-46342 | | | | Internal KYZ Watthour Per Pulse (Relay 4) | | | | R | |
| B506H-B507H | 46343-46344 | | | | Reserved | | | | R | |
| B508H | 46345 | | | | Internal KYZ enable/ End of Interval Pulse enable | | | | R | |
| B509H | 46346 | | | | End of Interval Pulse (Relay, Width) | | | | R | |
| B50AH | 46347 | | | | Cold Load Delay / Cumulative Demand Settings | | | | R | |
| B50BH | 46348 | | | | Short Term Flicker Interval / Long Term Flicker Interval | | | | R | |
| B50CH | 46349 | | | | Flicker Voltage Adaptor Level | | | | R | |
| B50DH | 46350 | | | | Flicker Base Frequency/Min power off | | | | R | |
| B50EH | 46351 | | | | Block Average Cont. | | | | | |
| B50FH | 46352 | | | | Accum Mode/Reserved | | | | | |
| B510H-B523H | 46353-46372 | | | | Reserved | | | | R | |
| Internal Input Pulse Accumulation Unit Label Block | | | | | | | | | | |
| B524H-B527H | 46373-46376 | | | | Internal Input 1 Pulse Accumulation Unit Label | | | | R | |
| B528H-B52BH | 46377-46380 | | | | Internal Input 2 Pulse Accumulation Unit Label | | | | R | |
| B52CH-B52FH | 46381-46384 | | | | Internal Input 3 Pulse Accumulation Unit Label | | | | R | |
| B530H-B533H | 46385-46388 | | | | Internal Input 4 Pulse Accumulation Unit Label | | | | R | |
| B534H-B537H | 46389-46392 | | | | Internal Input 5 Pulse Accumulation Unit Label | | | | R | |
| B538H-B53BH | 46393-46396 | | | | Internal Input 6 Pulse Accumulation Unit Label | | | | R | |
| B53CH-B53FH | 46397-46400 | | | | Internal Input 7 Pulse Accumulation Unit Label | | | | R | |
| B540H-B543H | 46401-46404 | | | | Internal Input 8 Pulse Accumulation Unit Label | | | | R | |
| B544H-B547H | 46405-46408 | | | | Internal Input Pulse Aggregation 1 Unit Label | | | | R | |
| B548H-B54BH | 46409-46412 | | | | Internal Input Pulse Aggregation 2 Unit Label | | | | R | |
| B54CH-B54FH | 46413-46416 | | | | Internal Input Pulse Aggregation 3 Unit Label | | | | R | |
| B550H-B553H | 46417-46420 | | | | Internal Input Pulse Aggregation 4 Unit Label | | | | R | |
| B554H-B6D3H | 46421-46804 | | | | Reserved | | | | R | |
| Limit Profile Label Block | | | | | | | | | | |
| B6D4H-B6DBH | 46805-46812 | | | | Limit 1 Label | | | | R | ch.7 |
| B6DCH-B6E3H | 46813-46820 | | | | Limit 2 Label | | | | R | ch.7 |
| B6E4H-B6EBH | 46821-46828 | | | | Limit 3 Label | | | | R | ch.7 |
| B6ECH-B6F3H | 46829-46836 | | | | Limit 4 Label | | | | R | ch.7 |
| B6F4H-B6FBH | 46837-46844 | | | | Limit 5 Label | | | | R | ch.7 |
| B6FCH-B703H | 46845-46852 | | | | Limit 6 Label | | | | R | ch.7 |
| B704H-B70BH | 46853-46860 | | | | Limit 7 Label | | | | R | ch.7 |
| B70CH-B713H | 46861-46868 | | | | Limit 8 Label | | | | R | ch.7 |
| B714H-B71BH | 46869-46876 | | | | Limit 9 Label | | | | R | ch.7 |
| B71CH-B723H | 46877-46884 | | | | Limit 10 Label | | | | R | ch.7 |
| B724H-B72BH | 46885-46892 | | | | Limit 11 Label | | | | R | ch.7 |
| B72CH-B733H | 46893-46900 | | | | Limit 12 Label | | | | R | ch.7 |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|---------|---|------------------------|---------|------|-----|-------|
| B734H-B73BH | 46901-46908 | | | | Limit 13 Label | | | | R | ch.7 |
| B73CH-B743H | 46909-46916 | | | | Limit 14 Label | | | | R | ch.7 |
| B744H-B74BH | 46917-46924 | | | | Limit 15 Label | | | | R | ch.7 |
| B74CH-B753H | 46925-46932 | | | | Limit 16 Label | | | | R | ch.7 |
| B754H-B75BH | 46933-46940 | | | | Limit 17 Label | | | | R | ch.7 |
| B75CH-B763H | 46941-46948 | | | | Limit 18 Label | | | | R | ch.7 |
| B764H-B76BH | 46949-46956 | | | | Limit 19 Label | | | | R | ch.7 |
| B76CH-B773H | 46957-46964 | | | | Limit 20 Label | | | | R | ch.7 |
| B774H-B77BH | 46965-46972 | | | | Limit 21 Label | | | | R | ch.7 |
| B77CH-B783H | 46973-46980 | | | | Limit 22 Label | | | | R | ch.7 |
| B784H-B78BH | 46981-46988 | | | | Limit 23 Label | | | | R | ch.7 |
| B78CH-B793H | 46989-46996 | | | | Limit 24 Label | | | | R | ch.7 |
| B794H-B79BH | 46997-47004 | | | | Limit 25 Label | | | | R | ch.7 |
| B79CH-B7A3H | 47005-47012 | | | | Limit 26 Label | | | | R | ch.7 |
| B7A4H-B7ABH | 47213-47020 | | | | Limit 27 Label | | | | R | ch.7 |
| B7ACH-B7B3H | 47021-47028 | | | | Limit 28 Label | | | | R | ch.7 |
| B7B4H-B7BBH | 47029-47036 | | | | Limit 29 Label | | | | R | ch.7 |
| B7BCH-B7C3H | 47037-47044 | | | | Limit 30 Label | | | | R | ch.7 |
| B7C4H-B7CBH | 47045-47052 | | | | Limit 31 Label | | | | R | ch.7 |
| B7CCH-B7D3H | 47053-47060 | | | | Limit 32 Label | | | | R | ch.7 |
| External Analog Output Module Channel Update Block | | | | | | | | | | |
| B7D4H | 47061 | | | | Module 1/ Module 2 | | | | R | |
| B7D5H | 47062 | | | | Module 3/ Module 4 | | | | R | |
| DNP Block | | | | | | | | | | |
| Miscellaneous DNP Settings Block | | | | | | | | | | |
| B7D6H | 47063 | | | | MSB: Scale for Analog Output of Average Pulse Accumulation LSB: Compressed DNP Mapping | | | | R | |
| B7D7H | 47064 | | | | MSB: Energy in the interval LSB: DNP Time synchronization | | | | R | |
| B7D8H | 47065 | | | | DNP Time Synchronization Time Interval | | | | R | |
| B7D9H | 47066 | | | | Bit 13(Choice of Class 0 poll between Object 20 and Object 21). | | | | R | |
| B7DAH-B7DDH | 47067-47070 | | | | DNP Freeze Date & Time | 12/31/9999 23:59:59.99 | 10 msec | F3 | R | |
| B7DEH | 47071 | | | | DNP Freeze Interval MSB: Hour LSB: Minute | | | | R | |
| B7DFH-B7FFH | 47072-47104 | | | | Reserved | | | | | |
| Custom DNP Definition Block for Analog Input (Object 30) | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|---------|--|---------------|-------|------|-----|-------|
| B800H | 47105 | | | | Point 0: Line Number Line Number from an analog input readings, such as 34 (One second Phase-Neutron Voltage Update) | | | | R | |
| B801H | 47106 | | | | Point 0: MSB: Point Number Point Number from an analog input readings, such as 0 (Phase A-N Voltage from One second phase-neutron voltage) LSB: Scaling | | | | R | |
| B802H | 47107 | | | | Point 0: Deadband | -328% / +328% | 0.01% | | R | |
| B803H | 47108 | | | | (One second Phase A-N Voltage | | | | R | |
| B804H-B8FFH | 47109-47360 | | | | Point 1 - Point 63 | | | | | |
| Custom DNP Definition Block for Binary Counter (Object 20) | | | | | | | | | | |
| B900H | 47361 | | | | Point 0: Line Number Line Number from an accumulation readings, such as 537 (Energy Scaled) | | | | R | |
| B901H | 47362 | | | | Point 0: MSB: Point Number Point Number from an accumulation readings, such as 0 (Positive Wh (Quadrant 1+4) from Energy Scaled) LSB: Scaling | | | | R | |
| B902H-B903H | 47363-47364 | | | | Point 0: Delta values for Event to occur | | | | R | |
| B904H | 47365 | | | | Point 0: MSB: Class Assignment (8 bit bitmap) LSB: Reserved | | | | R | |
| B905H-B907H | 47366-47368 | | | | Point 0, reserved | | | | | |
| B908H-B93FH | 47369-47424 | | | | Point 1 - Point 8 | | | | | |
| Custom DNP Definition Block for Binary Input (Object 1) | | | | | | | | | | |
| B940H | 47425 | | | | Point 0-7: Line Number Line Number from a binary input readings, such as 233 (Low Speed (Internal) Inputs) | | | | R | |
| B941H | 47426 | | | | Point 0-7: MSB: Point Number Point Number from a binary input readings, such as 0 (Input 1 from Low Speed (Internal) Inputs) LSB: Class Assignment (8 bit bitmap) | | | | R | |
| B942H-B943H | 47427-47428 | | | | Point 0-7: Reserved | | | | | |
| B944H-B95FH | 47429-47456 | | | | Point 8-15 - Point 57-64 | | | | | |
| Custom DNP Definition Block for Binary Output (Object 10) | | | | | | | | | | |
| B960H | 47457 | | | | Relay: Enable/Disable | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|--|-----------------------|----------------|------|-----|-------|
| B961H | 47458 | | | | Reset: Enable/Disable | | | | R | |
| Custom DNP Definition Block for Global Values: | | | | | | | | | | |
| B962H | 47459 | | | | Choice Of Variation 0: MSB: For Binary Input (Object 1) LSB: For Binary Input Change (Object 2) | | | | R | |
| B963H | 47460 | | | | Choice Of Variation 0: MSB: For Binary Counter (Object 20) LSB: For Frozen Counter (Object 21) | | | | R | |
| B964H | 47461 | | | | Choice Of Variation 0: MSB: For Counter Change Event (Object 22) LSB: For Frozen Counter Event (Object 23) | | | | R | |
| B965H | 47462 | | | | Choice Of Variation 0: MSB: For Analog Input (Object 30) LSB: For Frozen Analog Input (Object 31) | | | | R | |
| B966H | 47463 | | | | Choice Of Variation 0: MSB: For Analog Change Event (Object 32) LSB: For Frozen Analog Event (Object 33) | | | | R | |
| B967H | 47464 | | | | MSB: Custom 16-bit Scaling Enable LSB: Reserved | | | | R | |
| B968H-B969H | 47465 | | | | Scale for Ia, b, c, n | +32767 A / 0 A | 1/ 65536 A sec | F7 | R | |
| B96AH-B96BH | 47466 | | | | Scale for Iaux | +32767 A / 0 A | 1/ 65536 A sec | F7 | R | |
| B96CH-B96DH | 47467 | | | | Scale for Van, bn, cn | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| B96EH-B96FH\ | 47468 | | | | Scale for Vaux | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| B970H-B971H | 47469 | | | | Scale for Vab, bc, ca | +32767 V / 0 V | 1/ 65536 V sec | F7 | R | |
| B972H-B973H | 47470 | | | | Scale for Power a, b, c | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | |
| B974H-B975H | 47471 | | | | Scale for Total Power | +32767 W / -32768 W | 1/ 65536 W sec | F7 | R | |
| B976H-B977H | 47472 | | | | Scale for Frequency (High End) | +32767 Hz / -32768 Hz | 1/ 65536 Hz | F7 | R | |
| B978H-B979H | 47473 | | | | Scale for Frequency (Low End) | +32767 Hz / -32768 Hz | 1/ 65536 Hz | F7 | R | |
| B97AH-BDFFH | 47474-48640 | | | | Reserved | | | | | |
| BE00H-C27FH | 48641-49792 | | | | Reserved | | | | | |
| External Digital Output Module Labels Block | | | | | | | | | | |
| C280H-C287H | 49793-49800 | | | | Module 1 Relay Label 1 | | | | R | |
| C288H-C28FH | 49801-49808 | | | | Module 1 Relay Label 2 | | | | R | |
| C290H-C297H | 49809-49816 | | | | Module 1 Relay Label 3 | | | | R | |
| C298H-C29FH | 49817-49824 | | | | Module 1 Relay Label 4 | | | | R | |
| C2A0H-C2A7H | 49825-49832 | | | | Module 2 Relay Label 1 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| C2A8H-C2AFH | 49833-49840 | | | | Module 2 Relay Label 2 | | | | R | |
| C2B0H-C2B7H | 49841-49848 | | | | Module 2 Relay Label 3 | | | | R | |
| C2B8H-C2BFH | 49849-49856 | | | | Module 2 Relay Label 4 | | | | R | |
| C2C0H-C2C7H | 49857-49864 | | | | Module 3 Relay Label 1 | | | | R | |
| C2C8H-C2CFH | 49865-49872 | | | | Module 3 Relay Label 2 | | | | R | |
| C2D0H-C2D7H | 49873-49880 | | | | Module 3 Relay Label 3 | | | | R | |
| C2D8H-C2DFH | 49881-49888 | | | | Module 3 Relay Label 4 | | | | R | |
| C2E0H-C2E7H | 49889-49896 | | | | Module 4 Relay Label 1 | | | | R | |
| C2E8H-C2EFH | 49897-49904 | | | | Module 4 Relay Label 2 | | | | R | |
| C2F0H-C2F7H | 49905-49912 | | | | Module 4 Relay Label 3 | | | | R | |
| C2F8H-C2FFH | 49913-49920 | | | | Module 4 Relay Label 4 | | | | R | |
| C300H-C307H | 49921-49928 | | | | Module 1 Relay Common Shorted to Normally Closed Label 1 | | | | R | |
| C308H-C30FH | 49929-49936 | | | | Module 1 Relay Common Shorted to Normally Closed Label 2 | | | | R | |
| C310H-C317H | 49937-49944 | | | | Module 1 Relay Common Shorted to Normally Closed Label 3 | | | | R | |
| C318H-C31FH | 49945-49952 | | | | Module 1 Relay Common Shorted to Normally Closed Label 4 | | | | R | |
| C320H-C327H | 49953-49960 | | | | Module 2 Relay Common Shorted to Normally Closed Label 1 | | | | R | |
| C328H-C32FH | 49961-49968 | | | | Module 2 Relay Common Shorted to Normally Closed Label 2 | | | | R | |
| C330H-C337H | 49969-49976 | | | | Module 2 Relay Common Shorted to Normally Closed Label 3 | | | | R | |
| C338H-C33FH | 49977-49984 | | | | Module 2 Relay Common Shorted to Normally Closed Label 4 | | | | R | |
| C340H-C347H | 49985-49992 | | | | Module 3 Relay Common Shorted to Normally Closed Label 1 | | | | R | |
| C348H-C34FH | 49993-50000 | | | | Module 3 Relay Common Shorted to Normally Closed Label 2 | | | | R | |
| C350H-C357H | 50001-50008 | | | | Module 3 Relay Common Shorted to Normally Closed Label 3 | | | | R | |
| C358H-C35FH | 50009-50016 | | | | Module 3 Relay Common Shorted to Normally Closed Label 4 | | | | R | |
| C360H-C367H | 50017-50024 | | | | Module 4 Relay Common Shorted to Normally Closed Label 1 | | | | R | |
| C368H-C36FH | 50025-50032 | | | | Module 4 Relay Common Shorted to Normally Closed Label 2 | | | | R | |
| C370H-C377H | 50033-50040 | | | | Module 4 Relay Common Shorted to Normally Closed Label 3 | | | | R | |
| C378H-C37FH | 50041-50048 | | | | Module 4 Relay Common Shorted to Normally Closed Label 4 | | | | R | |
| C380H-C387H | 50049-50056 | | | | Module 1 Relay Common Shorted to Normally Opened Label 1 | | | | R | |
| C388H-C38FH | 50057-50064 | | | | Module 1 Relay Common Shorted to Normally Opened Label 2 | | | | R | |
| C390H-C397H | 50065-50072 | | | | Module 1 Relay Common Shorted to Normally Opened Label 3 | | | | R | |
| C398H-C39FH | 50073-50080 | | | | Module 1 Relay Common Shorted to Normally Opened Label 4 | | | | R | |
| C3A0H-C3A7H | 50081-50088 | | | | Module 2 Relay Common Shorted to Normally Opened Label 1 | | | | R | |
| C3Q8H-C3AFH | 50089-50096 | | | | Module 2 Relay Common Shorted to Normally Opened Label 2 | | | | R | |
| C3B0H-C3B7H | 50097-50104 | | | | Module 2 Relay Common Shorted to Normally Opened Label 3 | | | | R | |
| C3B8H-C3BFH | 50105-50112 | | | | Module 2 Relay Common Shorted to Normally Opened Label 4 | | | | R | |
| C3C0H-C3C7H | 50113-50120 | | | | Module 3 Relay Common Shorted to Normally Opened Label 1 | | | | R | |
| C3C8H-C3CFH | 50121-50128 | | | | Module 3 Relay Common Shorted to Normally Opened Label 2 | | | | R | |
| C3D0H-C3D7H | 50129-50136 | | | | Module 3 Relay Common Shorted to Normally Opened Label 3 | | | | R | |
| C3D8H-C3DFH | 50137-50144 | | | | Module 3 Relay Common Shorted to Normally Opened Label 4 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|---------|--|-------|-------|------|-----|-------|
| C3E0H-C3E7H | 50145-50152 | | | | Module 4 Relay Common Shorted to Normally Opened Label 1 | | | | R | |
| C3E8H-C3EFH | 50153-50160 | | | | Module 4 Relay Common Shorted to Normally Opened Label 2 | | | | R | |
| C3F0H-C3F7H | 50161-50168 | | | | Module 4 Relay Common Shorted to Normally Opened Label 3 | | | | R | |
| C3F8H-C3FFH | 50169-50176 | | | | Module 4 Relay Common Shorted to Normally Opened Label 4 | | | | R | |
| Reserved Block | | | | | | | | | | |
| C400H-C45FH | 50177-50272 | | | | Reserved | | | | | |
| Customizable Modbus Map Settings Block | | | | | | | | | | |
| C460H-C461H | 50273-50274 | | | | Line 1, Point 1 | | | | R | |
| C462H-C65FH | 50275-50784 | | | | Line 2, Point 2 - Line 256, Point 256 | | | | R | |
| Network Settings: 10/100 Card | | | | | | | | | | |
| Auto TFTP Download Settings | | | | | | | | | | |
| C660H | 50785 | | | | Enable/ Disable | | | | | |
| C661H | 50786 | | | | TFTP Port | | | | | |
| C662H-C663H | 50787-50788 | | | | Client IP | | | | | |
| C664H-C665H | 50789-50790 | | | | Server IP | | | | | |
| C666H-C667H | 50791-50792 | | | | Default Gateway | | | | | |
| C668H-C669H | 50793-50794 | | | | Subnet Mask | | | | | |
| C66AH | 50795 | | | | Email Mode | | | | | |
| C66BH | 50796 | | | | FTP Download | | | | | |
| C66CH-C6ABH | 50797-50860 | | | | Download Filename (128 Bytes) | | | | | |
| Email Client settings | | | | | | | | | | |
| C6ACH-C6CBH | 50861-50892 | | | | Email Server IP Address / Name (64 bytes) | | | | | |
| C6CCH-C6EBH | 50893-50924 | | | | Nxs Comm Email Processing Service IP Address / Name (64 bytes) | | | | | |
| C6ECH-C70BH | 50925-50956 | | | | Return / Reply Address (64 bytes) | | | | | |
| C70CH-C72BH | 50957-50988 | | | | Email Subject Text (64 Bytes) | | | | | |
| C72CH-C73BH | 50989-51004 | | | | Email Username (32 Bytes) | | | | | |
| C73CH-C74BH | 51005-51020 | | | | Email Password (32 Bytes) | | | | | |
| C74CH-C7CBH | 51021-51148 | | | | Reserved | | | | | |
| C7CCH-C7D3H | 51149-51156 | | | | Reserved | | | | | |
| DNP LAN/WAN | | | | | | | | | | |
| C7D4H | 51157 | | | | MSB: Mode LSB: Bitmap Set | | | | R | |
| C7D5H | 51158 | | | | MSB: UDP Addressing LSB: Validate Source IPs | | | | R | |
| C7D6H | 51159 | | | | TCP Listen Port | | | | R | |
| C7D7H | 51160 | | | | UDP Listen Port | | | | R | |
| C7D8H-C7D9H | 51161-51162 | | | | Valid IP Address 1 | | | | R | |
| C7DAH-C7DBH | 51163-51164 | | | | Valid IP Address 2 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------------------|-------------|------|----|------------|--|-------|-------|------|-----|-------|
| C7DCH-C7DDH | 51165-61166 | | | | Valid IP Address 3 | | | | R | |
| C7DEH-C7DFH | 51167-51168 | | | | Valid IP Address 4 | | | | R | |
| C7E0H-C7E1H | 51169-51170 | | | | Valid IP Subnet Mask 1 | | | | R | |
| C7E2H-C7E3H | 51171-51172 | | | | Valid IP Subnet Mask 2 | | | | R | |
| C7E4H-C7E5H | 51173-51174 | | | | Valid IP Subnet Mask 3 | | | | R | |
| C7E6H-C7E7H | 51175-51176 | | | | Valid IP Subnet Mask 4 | | | | R | |
| C7E8H-C7EBH | 51177-51180 | | | | TCP Starting Valid Client Ports | | | | R | |
| C7ECH-C7EFH | 51181-51184 | | | | TCP Ending Valid Client Ports | | | | R | |
| C7F0H-C7F3H | 51185-51188 | | | | UDP Starting Valid Client Ports | | | | R | |
| C7F4H-C7F7H | 51189-51192 | | | | UDP Ending Valid Client Ports | | | | R | |
| C7F8H-C7F9H | 51193-51194 | | | | Reserved | | | | | |
| C7FAH | 51195 | | | | UDP Respond Port | | | | R | |
| C7FBH | | | | | Device Address | | | | R | |
| C7FCH-C7FFH | 51196-51200 | | | | Reserved | | | | | |
| Customizable Modbus Map Format Block | | | | | | | | | | |
| C800H | 51201 | | | | Custom Modbus Point 1 Style / Format | | | | R | |
| C801H | 51202 | | | | Custom Modbus Point 1 Unit / Special | | | | | |
| C802H-C9FFH | 51203-51712 | | | | Custom Modbus Points 2-256 Style / Format and Unit / Special | | | | R | |
| Energy Scale Settings | | | | | | | | | | |
| CA00H | 51713 | | | | Q1234 VAh/ Q12 VARh | | | F65 | | |
| CA01H | 51714 | | | | Q34 VARh/ Q14 Wh | | | F65 | | |
| CA02H | 51715 | | | | Q1 VAh/ Q1 VARh | | | F65 | | |
| CA03H | 51716 | | | | Q4 VAh/ Q4 VARh | | | F65 | | |
| CA04H | 51717 | | | | Q23 Wh/ Q2 VAh | | | F65 | | |
| CA05H | 51718 | | | | Q2 VARh/ Q3 VAh | | | F65 | | |
| CA06H | 51719 | | | | Q3 VARh/ I ² _t Phase A | | | F65 | | |
| CA07H | 51720 | | | | I ² _t Phase B/ I ² _t Phase C | | | F65 | | |
| CA08H | 51721 | | | | V ² _t Phase A/ V ² _t Phase B | | | F65 | | |
| CA09H | 51722 | | | | V ² _t Phase C/ Q1 Wh | | | F65 | | |
| CA0AH | 51723 | | | | Q4 Wh/ Q2 Wh | | | F65 | | |
| CA0BH | 51724 | | | | Q3 Wh/ Q1234 VAh, Uncompensated | | | F65 | | |
| CA0CH | 51725 | | | | Q12 VARh, Uncompensated/ Q34 VARh, Uncompensated | | | F65 | | |
| CA0DH | 51726 | | | | Q14 Wh, Uncompensated/ Q23 Wh, Uncompensated | | | F65 | | |
| CA0EH | 51727 | | | | +Oh/ -Oh | | | F65 | | |
| CA0FH | 51728 | | | | Q14 Wh Test Mode/ Q1 VAh Test Mode | | | F65 | | |
| CA10H | 51729 | | | | Q1 VARh Test Mode/ Q4 VAh Test Mode | | | F65 | | |
| CA11H | 51730 | | | | Q4 VARh Test Mode/ Q23 Wh Test Mode | | | F65 | | |
| CA12H | 51731 | | | | Q2 VAh Test Mode/ Q2 VARh Test Mode | | | F65 | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------|-------------|------|----|------------|---|-------------------|-------------------|------|-----|-------|
| CA13H | 51732 | | | | Q3 VAh Test Mode/ Q3 VARh Test Mode | | | F65 | | |
| CA14H | 51733 | | | | Pulse Accumulation, Input 1/ Pulse Accumulation Input 2 | | | F65 | | |
| CA15H | 51734 | | | | Pulse Accumulation, Input 3/ Pulse Accumulation Input 4 | | | F65 | | |
| CA16H | 51735 | | | | Pulse Accumulation, Input 5/ Pulse Accumulation Input 6 | | | F65 | | |
| CA17H | 51736 | | | | Pulse Accumulation, Input 7/ Pulse Accumulation Input 8 | | | F65 | | |
| CA18H | 51737 | | | | Pulse Aggregation 1/ Pulse Aggregation 2 | | | F65 | | |
| CA19H | 51738 | | | | Pulse Aggregation 3/ Pulse Aggregation 4 | | | F65 | | |
| CA1AH | 51739 | | | | SYNCH connection (Yes/No 1-255/0) / FVF change per day (1-50) | | | | | |
| CA1BH | 51740 | | | | Reserved | | | | | |
| CA1CH | 51741 | | | | TDD Reference Voltage | | | F7 | | |
| CA1DH | 51742 | | | | TDD Reference Current | | | F7 | | |
| CA1EH-CA94H | 51743-51861 | | | | Reserved | | | | | |
| CA95H-CEEFH | 51861-52976 | | | | Reserved | | | | | |
| Update Settings Block | | | | | | | | | | |
| CEF0H-CF6FH | 52977-53104 | | | | User Memo Field (256 bytes) | | | | | |
| CF70H-CFEFH | 53105-53232 | | | | Name of User Who Last Updated the Profile (256 bytes) | | | | | |
| CFF0H | 53233 | | | | Device Profile Version (Year) | | | | | |
| CFF1H | 53234 | | | | Device Profile Version (Month/ Day) | | | | | |
| CFF2H | 53235 | | | | Device Profile Version (Build) | | | | | |
| CFF3H | 53236 | | | | Pro Software ID | | | | | |
| CFF4H-CFF5H | 53237-53238 | | | | Electro Industries Device Type (Base Unit) | | | | | |
| CFF6H | 53239 | | | | Electro Industries Device Type (Option 1/ Option 2) | | | | | |
| CFF7H | 53240 | | | | Electro Industries Device Type (Option 3/ Option 4) | | | | | |
| CFF8H | 53241 | | | | Update Programming Software Version Number (Major) | | | | | |
| CFF9H | 53242 | | | | Update Programming Software Version Number (Minor) | | | | | |
| CFFAH | 53243 | | | | Update Programming Software Version Number (Revision) | | | | | |
| CFFBH-CFFEh | 53244-53247 | | | | Update Time | | | | R | |
| CFFFH | 53248 | | | | Programmable Settings Block Checksum | | | | R | |
| 12-Bit RTU Block | | | | | | | | | | |
| D000H | 53249 | | | | Sanity Rregister | | | F58 | R | |
| D001H | 53250 | | | | Phase A Current | +5 A / 0 A | 5 / 2048 A sec | F59 | R | |
| D002H | 53251 | | | | Phase B Current | +5 A / 0 A | 5 / 2048 A sec | F59 | R | |
| D003H | 53252 | | | | Phase C Current | +5 A / 0 A | 5 / 2048 A sec | F59 | R | |
| D004H | 53253 | | | | Phase A-N Voltage | +150 V / 0 V | 150 / 2048 V sec | F59 | R | |
| D005H | 53254 | | | | Phase B-N Voltage | +150 V / 0 V | 150 / 2048 V sec | F59 | R | |
| D006H | 53255 | | | | Phase C-N Voltage | +150 V / 0 V | 150 / 2048 V sec | F59 | R | |
| D007H | 53256 | | | | Total Watt | +1500 W / -1500 W | 1500 / 2048 W sec | F59 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------|-------------|------|----|------------|--|-----------------------------|------------------------|------|-----|-------|
| D008H | 53257 | | | | Total VAR | +1500 VAR / -1500 VAR | 1500 / 2048 VAR sec | F59 | R | |
| D009H | 53258 | | | | Phase A Watt | +1500 W / -1500 W | 1500 / 2048 W sec | F59 | R | |
| D00AH | 53259 | | | | Phase B Watt | +1500 W / -1500 W | 1500 / 2048 W sec | F59 | R | |
| D00BH | 53260 | | | | Phase C Watt | +1500 W / -1500 W | 1500 / 2048 W sec | F59 | R | |
| D00CH | 53261 | | | | Phase A VAR | +1500 VAR / -1500 VAR | 1500 / 2048 VAR sec | F59 | R | |
| D00DH | 53262 | | | | Phase B VAR | +1500 VAR / -1500 VAR | 1500 / 2048 VAR sec | F59 | R | |
| D00EH | 53263 | | | | Phase C VAR | +1500 VAR / -1500 VAR | 1500 / 2048 VAR sec | F59 | R | |
| D00FH-D010H | 53264-53265 | | | | Reserved | | | | | |
| D011H | 53266 | | | | Computed Neutral Current | +5 A / 0 A | 5 / 2048 A sec | F59 | R | |
| D012H-D013H | 53267-53268 | | | | Positive Watthour | +99,999,999 kWh / 0 kWh | 1 kWh pri | F60 | R | |
| D014H-D015H | 53269-53270 | | | | Negative Watthour | 0 kWh / +99,999,999 kWh | 1 kWh pri | F60 | R | |
| D016H-D017H | 53271-53272 | | | | Positive VARhour | +99,999,999 kVARh / 0 kVARh | 1 kVARh pri | F60 | R | |
| D018H-D019H | 53273-53274 | | | | Negative VARhour | 0 kVARh / +99,999,999 kVARh | 1 kVARh pri | F60 | R | |
| D01AH | 53275 | | | | Frequency | 45 Hz / 75 Hz | 30 / 4096 Hz | F61 | R | |
| D01BH-D062H | 53276-53347 | | | | Reserved | | | | | |
| D063H | 53348 | | | | Energy Reset | | | | W | |
| NVRAM Window | | | | | | | | | | |
| D800H-DFFFH | 55296-57344 | | | | NVRAM readings (Diagnostic Purpose only) | | | | | |
| Action Block | | | | | | | | | | |
| E000H | 57345 | | | | Log Reset | | | | W | Ch.5 |
| E001H | 57346 | | | | Maximum Reset | | | | W | |
| E002H | 57347 | | | | Minimum Reset | | | | W | |
| E003H | 57348 | | | | Energy Reset | | | | W | |
| E004H | 57349 | | | | Calibrate 120 V | | | | R/W | |
| E005H | 57350 | | | | Calibrate 150 mA | | | | R/W | |
| E006H | 57351 | | | | Calibrate 250 mA | | | | R/W | |
| E007H | 57352 | | | | Calibrate 500 mA | | | | R/W | |
| E008H | 57353 | | | | Calibrate 1 A | | | | R/W | |
| E009H | 57354 | | | | Calibrate 2.5 A | | | | R/W | |
| E00AH | 57355 | | | | Calibrate 5 A | | | | R/W | |
| E00BH | 57356 | | | | Calibrate Automatic | | | | R/W | |
| E00CH | 57357 | | | | Calibrate +1 A Phase | | | | R/W | |
| E00DH | 57358 | | | | Calibrate -1 A Phase | | | | R/W | |
| E00EH | 57359 | | | | Calibrate +1 B Phase | | | | R/W | |
| E00FH | 57360 | | | | Calibrate -1 B Phase | | | | R/W | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| E010H | 57361 | | | | Calibrate +1 C Phase | | | | R/W | |
| E011H | 57362 | | | | Calibrate -1 C Phase | | | | R/W | |
| E012H | 57363 | | | | Calibrate +1 Aux Phase | | | | R/W | |
| E013H | 57364 | | | | Calibrate -1 Aux Phase | | | | R/W | |
| E014H | 57365 | | | | Start Calibration Mode | | | | R/W | |
| E015H | 57366 | | | | Calibrate Manual Gain Adjustment | | | | R/W | |
| E016H | 57367 | | | | Activate first time CTPT Compensation | | | | R/W | |
| E017H | 57368 | | | | Calibrate Manual Phase Adjustment | | | | R/W | |
| E018H | 57369 | | | | Calibrate Multiplier 1x | | | | R/W | |
| E019H | 57370 | | | | Calibrate Multiplier 10x | | | | R/W | |
| E01AH | 57371 | | | | Calibrate References | | | | R/W | |
| E01BH | 57372 | | | | Reset DSP1 | | | | R/W | |
| E01CH | 57373 | | | | Calibrate Phase at 500 mA | | | | R/W | |
| E01DH | 57374 | | | | Calibrate Phase at 1 A | | | | R/W | |
| E01EH | 57375 | | | | Calibrate Phase at 5 A | | | | R/W | |
| E01FH | 57376 | | | | Calibrate Phase at 10 A | | | | R/W | |
| E020H | 57377 | | | | Calibrate Phase at 2.5 A | | | | R/W | |
| E021H | 57378 | | | | Preload CTPT compensation values | | | | R/W | |
| E022H | 57379 | | | | 25 mA Current Calibration Request Flag | | | | | |
| E023H | 57380 | | | | Internal KYZ Enable | | | | R/W | |
| E024H | 57381 | | | | Flicker Enable | | | | R/W | |
| E025H | 57382 | | | | Undefined | | | | R/W | |
| E026H | 57383 | | | | Calibrate Waveform 120 V | | | | R/W | |
| E027H | 57384 | | | | Calibrate Waveform - 5 A | | | | R/W | |
| E028H | 57385 | | | | Calibrate Waveform - DC Offset | | | | R/W | |
| E029H | 57386 | | | | Reset Time Of Use Current Month | | | | R/W | |
| E02AH | 57387 | | | | Manual Waveform Capture | | | | W | |
| E02BH | 57388 | | | | Reset Internal Input Accumulations and Aggregations | | | | R/W | |
| E02CH | 57389 | | | | Override Data not yet Valid Block | | | | W | |
| E02DH | 57390 | | | | Refresh External IO Header Information | | | | R/W | |
| E02EH | 57391 | | | | Refresh External IO Programming Information | | | | W | |
| E02FH | 57392 | | | | Relay Locking Relay Selection | | | | R/W | |
| E030H | 57393 | | | | Relay Locking Action Selection | | | | R/W | |
| E033H | 57396 | | | | Reset KYZ Output Accumulations | | | | W | |
| E034H | 57397 | | | | Reset Cumulative Demand | | | | W | |
| E035H | 57398 | | | | Reset Historical Log 1 | | | | W | |
| E036H | 57399 | | | | Reset Historical Log 2 | | | | W | |
| E037H | 57400 | | | | Reset Sequence of Events Log | | | | W | |
| E038H | 57401 | | | | Reset Digital Input Log | | | | W | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------|-------------|------|----|------------|--|-------------|-------------|------|-----|-------|
| E039H | 57402 | | | | Reset Digital Output Log | | | | W | |
| E03AH | 57403 | | | | Reset Flicker Log | | | | W | |
| E03BH | 57404 | | | | Reset Waveform Log | | | | W | |
| E03CH | 57405 | | | | Reset PQ Log | | | | W | |
| E03DH | 57406 | | | | Reset System Event Log | | | | W | |
| E03EH | 57407 | | | | Reset Total Average Power Factor | | | | W | |
| E03FH | 57408 | | | | Reset Time of Use Active Registers | | | | W | |
| E044H | 57413 | | | | Power Quality Test (EN-50160/IEC61000-4-30) Re-Start/ Reset Flag | | | | W | |
| E047H | 57416 | | | | Copy Dual Port readings to Dual Port Reading Block | | | | W | |
| E048H | 57417 | | | | Calibrate Phase at 150 mA | | | | | |
| E049H | 57418 | | | | Calibrate Phase at 250 mA | | | | R/W | |
| E04AH | 57398 | | | | Reset Historical Log 3 | | | | W | |
| E04BH | 57399 | | | | Reset Historical Log 4 | | | | | |
| E04CH | 57400 | | | | Reset Historical Log 5 | | | | | |
| E04DH | 57401 | | | | Reset Historical Log 6 | | | | | |
| E04EH | 57402 | | | | Reset Historical Log 7 | | | | | |
| E04FH | 57403 | | | | Reset Historical Log 8 | | | | | |
| E050H | 57404 | | | | Reset Event Triggered Log | | | | | |
| E051H | 57405 | | | | Reset Transient Log | | | | | |
| E052H | 57406 | | | | Lock Log, write some value different 0x0000 lock all logs to log | | | | | |
| E080H | 57473 | | | | Reserved | | | | R/W | |
| E081H | 57474 | | | | Reserved | -672 / +672 | sec / month | | R/W | |
| E082H | 57475 | | | | Reserved | | | | R/W | |
| Factory Calibration Block | | | | | | | | | | |
| EE00H-EE03H | 60929-60932 | | | | Factory Calibration Block Timestamp | | | | R | |
| EE04H-EE07H | 60933-60936 | | | | Factory Calibration Timestamp | | | | R | |
| EE08H-EE09H | 60937-60938 | | | | Gain factor for Van | | | | R | |
| EE0AH-EE0FH | 60939-60944 | | | | Gain factors for Vbn, Vcn, Vxn | | | | R | |
| EE10H-EE11H | 60945-60946 | | | | Gain Factor for Ia 150 mA | | | | R | |
| EE12H-EE13H | 60947-60948 | | | | Gain Factor for Ia 250 mA | | | | R | |
| EE14H-EE15H | 60949-60950 | | | | Gain Factor for Ia 500 mA | | | | R | |
| EE16H-EE17H | 60951-60952 | | | | Gain Factor for Ia 1 A | | | | R | |
| EE18H-EE19H | 50953-60954 | | | | Gain Factor for Ia 2.5 A | | | | R | |
| EE1AH-EE1BH | 60955-60956 | | | | Gain Factor for Ia 5 A | | | | R | |
| EE1CH-EE27H | 60957-60968 | | | | Gain factors for Ib | | | | R | |
| EE1CH-EE3FH | 60969-60992 | | | | Gain factors for Ic, Ix | | | | R | |
| EE40H | 60993 | | | | Unused | | | | R | |
| EE41H | 60994 | | | | Phase Compensation for Phase A 500 mA | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| EE42H | 60995 | | | | Phase Compensation for Phase A 1 A | | | | R | |
| EE43H | 60996 | | | | Phase Compensation for Phase A 2.5 A | | | | R | |
| EE44H | 60997 | | | | Phase Compensation for Phase A 5 A | | | | R | |
| EE45H | 60998 | | | | Phase Compensation for Phase A 10 A | | | | R | |
| EE46H-EE4AH | 60999-61003 | | | | Phase Compensation for Phase B | | | | R | |
| EE4BH-EE4FH | 61004-61008 | | | | Phase Compensation for Phase C | | | | R | |
| EE50H-EE60H | 61009-61025 | | | | Unused | | | | R | |
| EE61H | 61026 | | | | Calibration Checksum | | | | R | |
| CTPT Compensation Calibration Block | | | | | | | | | | |
| EE62H-EE65H | 61027-61030 | | | | CTPT Compensation Calibration Block Timestamp | | | | R | |
| EE66H-EE69H | 61031-61034 | | | | CTPT Compensation Calibration Timestamp | | | | R | |
| EE6AH-EE6BH | 61035-61036 | | | | Gain factor for Van | | | | R | |
| EE6CH-EE71H | 61037-61042 | | | | Gain factors for Vbn, Vcn, Vxn | | | | R | |
| EE72H-EE73H | 61043-61044 | | | | Gain Factor for Ia 150 mA | | | | R | |
| EE74H-EE75H | 61045-61046 | | | | Gain Factor for Ia 250 mA | | | | R | |
| EE76H-EE77H | 61047-61048 | | | | Gain Factor for Ia 500 mA | | | | R | |
| EE78H-EE79H | 61049-61050 | | | | Gain Factor for Ia 1 A | | | | R | |
| EE7AH-EE7BH | 61051-61052 | | | | Gain Factor for Ia 2.5 A | | | | R | |
| EE7CH-EE7DH | 61053-61054 | | | | Gain Factor for Ia 5 A | | | | R | |
| EE7EH-EE89H | 61055-61066 | | | | Gain factors for Ib | | | | R | |
| EE8AH-EEA1H | 61067-61090 | | | | Gain factors for Ic, Ix | | | | R | |
| EEA2H | 61091 | | | | Unused | | | | R | |
| EEA3H | 61092 | | | | Phase Compensation for Phase A 500 mA | | | | R | |
| EEA4H | 61093 | | | | Phase Compensation for Phase A 1 A | | | | R | |
| EEA5H | 61094 | | | | Phase Compensation for Phase A 2.5 A | | | | R | |
| EEA6H | 61095 | | | | Phase Compensation for Phase A 5 A | | | | R | |
| EEA7H | 61096 | | | | Phase Compensation for Phase A 10 A | | | | R | |
| EEA8H-EEACH | 61097-61101 | | | | Phase Compensation for Phase B | | | | R | |
| EEADH-EEB1H | 61102-61106 | | | | Phase Compensation for Phase C | | | | R | |
| EEB2H-EEC2H | 61107-61123 | | | | Unused | | | | R | |
| EEC3H | 61124 | | | | Calibration Checksum | | | | R | |
| Calibration Modification Block | | | | | | | | | | |
| EF00H | 61185 | | | | Calibration Modification Selection | | | | R/W | |
| EF01H-EF04H | 61186-61189 | | | | Calibration Timestamp | | | | R/W | |
| EF05H-EF06H | 61190-61191 | | | | Gain factor for Van | | | | R/W | |
| EF07H-EF0CH | 61192-61197 | | | | Gain factors for Vbn, Vcn, Vxn | | | | R/W | |
| EF0DH-EF0EH | 61198-61199 | | | | Gain Factor for Ia 150 mA | | | | R/W | |
| EF0FH-EF10H | 61200-61201 | | | | Gain Factor for Ia 250 mA | | | | R/W | |
| EF11H-EF12H | 61202-61203 | | | | Gain Factor for Ia 500 mA | | | | R/W | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------|-------------|---|----|------------|---------------------------------------|-------|-------|------|-----|-------|
| EF13H-EF14H | 61204-61205 | | | | Gain Factor for Ia 1 A | | | | R/W | |
| EF15H-EF16H | 61206-61207 | | | | Gain Factor for Ia 2.5 A | | | | R/W | |
| EF17H-EF18H | 61208-61209 | | | | Gain Factor for Ia 5 A | | | | R/W | |
| EF19H-EF24H | 61210-61221 | | | | Gain factors for Ib | | | | R/W | |
| EF25H-EF3CH | 61222-61245 | | | | Gain factors for Ic, Ix | | | | R/W | |
| EF3DH | 61246 | | | | Unused | | | | R/W | |
| EF3EH | 61247 | | | | Phase Compensation for Phase A 500 mA | | | | R/W | |
| EF3FH | 61248 | | | | Phase Compensation for Phase A 1 A | | | | R/W | |
| EF40H | 61249 | | | | Phase Compensation for Phase A 2.5 A | | | | R/W | |
| EF41H | 61250 | | | | Phase Compensation for Phase A 5 A | | | | R/W | |
| EF42H | 61251 | | | | Phase Compensation for Phase A 10 A | | | | R/W | |
| EF43H-EF47H | 61252-61256 | | | | Phase Compensation for Phase B | | | | R/W | |
| EF48H-EF4CH | 61257-61261 | | | | Phase Compensation for Phase C | | | | R/W | |
| EF4DH-EF5DH | 61262-61278 | | | | Unused | | | | R/W | |
| EF5EH | 61279 | | | | Calibration Checksum | | | | R/W | |
| EF5FH | 61280 | | | | Calibration Modification Checksum | | | | R/W | |
| Display Parameter Block | | | | | | | | | | |
| EF60H | 61281 | | | | contrast, low byte, AND with 0x00FF | | | | | |
| EF61H | 61282 | | | | volume, low byte, AND with 0x00FF | | | | | |
| EF62H | 61283 | | | | backlight | | | | | |
| EF63H | 61284 | | | | calibration, upper left corner X | | | | | |
| EF64H | 61285 | | | | calibration, upper left corner Y | | | | | |
| EF65H | 61286 | | | | calibration, upper right corner X | | | | | |
| EF66H | 61287 | | | | calibration, upper right corner Y | | | | | |
| EF67H | 61288 | | | | calibration, lower left corner X | | | | | |
| EF68H | 61289 | | | | calibration, lower left corner Y | | | | | |
| EF69H | 61290 | | | | calibration, lower right corner X | | | | | |
| EF6AH | 61291 | | | | calibration, lower right corner Y | | | | | |
| EF6BH | 61292 | LCD status/command Register | | | | | | | | |
| | | Bit 0[LSB] - The front panel push button is not pressed=0 The front panel push button is pressed=1 Bit 1 - Written in this register with this bit set to 1 cause the screen jump to calibration screen. If this bit is set to 0, nothing happen Bit 2 - written in this register with this bit set to 1 cause the meter send a command to the touch screen controller to read firmware version and vendor ID. Bit 3-15 - undefined | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------------|-------------|------|----|------------|---|-------------------|-----------------|------|-----|-------|
| EF6CH-EF6D | 61293-61294 | | | | Touch screen controller version. | 9.9.9.9 / 0.0.0.0 | 0.0.0.1 version | F2 | R | |
| EF6EH | 61295 | | | | Touch screen last raw x | | | | | |
| EF6FH | 61296 | | | | Touch screen last raw y | | | | | |
| EF70H | 61297 | | | | Touch screen last scaled x | | | | | |
| EF71H | 61298 | | | | Touch screen last scaled y | | | | | |
| EF72H | 61299 | | | | Touch screen controller verndor ID | | | | | |
| EF73H | 61300 | | | | MSB - Display Rotation: 0 = 0 degree; 1=90 degree; 2=180 degree; 3=270 degree LSB - Display Language: 1 = English; 2 = Chinese; 3 = Herbrew; 4 = Portuguese; 5 = Spanish; 6 = French | | | | | |
| FPGA Transient Block | | | | | | | | | | |
| EF7CH-EF7EH | 61309-61311 | | | | Threshold | | | | | |
| EF7FH | 61312 | | | | Mode | | | | | |
| DSP2 Info Block | | | | | | | | | | |
| EF80H-EFFFH | 61313-61440 | | | | Variation string | | | | | |
| F000H-F269H | 61441-62058 | | | | Reserved | | | | | |
| DSP2 Data Export | | | | | | | | | | |
| F600H | 62977 | | | | Request Group ID | | | | | |
| F601H | 62978 | | | | Request Item ID | | | | | |
| F602H | 62979-62980 | | | | IP Address | | | | | |
| F604H | 62981 | | | | Port ID | | | | | |
| F605H | 62982-62983 | | | | Count down time | | | | | |
| F607H | 62984 | | | | Command | | | | | |
| F608H | 62985-62989 | | | | Start time | | | | | |
| F60DH | 62990-62991 | | | | Sequence number | | | | | |
| F60FH | 62992 | | | | Frame version | | | | | |
| F610H-F61FH | 62993-63008 | | | | Request list | | | | | |
| Date/Time Format Settings | | | | | | | | | | |
| F678H | 63097 | | | | MSB = Date format (Default = 0) LSB = Time format (Default = 0) | | | | W | |
| F679H | 63098 | | | | MSB = Date separator (Default = '-') LSB = Time separator (Default = ':') | | | | W | |
| F67AH | 63099 | | | | MSB = Date Year separator (Fixed at SP) LSB = reserved | | | | W | |
| DSP1 Health Block | | | | | | | | | | |
| F680H | 63105 | | | | Health Block Pos Update Sequence Number | | | | R | |
| F681H-F684H | 63106-63109 | | | | Health Block Time Stamp | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| F685H | 63110 | | | | Health Status (High byte) - Health Block Boot from Scratch Count(Low byte) | | | | R | |
| F686H | 63111 | | | | Health Block Boot from Run Count(High byte) - Health Block Boot Init Count(Low byte) | | | | R | |
| F687H | 63112 | | | | Health Block Boot Self Reset Count(High byte)-Health Block Boot Reset Request Count(Low byte) | | | | R | |
| F688H | 63113 | | | | Health Block Boot No Main Loop Csec | | | | R | |
| F689H | 63114 | | | | Health Block Boot No Flash Activity Csec | | | | R | |
| F68AH | 63115 | | | | Health Block Run Init Count(High byte)-Health Block Run Self Reset Count(Low byte) | | | | R | |
| F68BH | 63116 | | | | Health Block Run Reset Request Count(High byte)-Health Block Process Status Sec(Low byte) | | | | R | |
| F68CH | 63117 | | | | Health Block Run Process Status Csec(High byte) - Unused(Low byte) | | | | R | |
| F68DH | 63118 | | | | Health Block Checksum | | | | R | |
| F68EH | 63119 | | | | Health Block Pre Update Sequence Number | | | | R | |
| Installed Board Status provided by Meter | | | | | | | | | | |
| F690H | 63121 | | | | Count | | | | R | |
| F691H-F692H | 63122-63123 | | | | Board index 1 hardware ID | | | | R | |
| F693H | 63124 | | | | Board index 1 status | | | | R | |
| F694H-F6F0H | 63125-63217 | | | | Board index 2-32 hardware ID and status | | | | R | |
| Meter I2C Interface | | | | | | | | | | |
| F700H | 63233 | | | | I2C Status | | | | | |
| F701H | 63234 | | | | I2C Command | | | | | |
| F702H-F703H | 63235-63236 | | | | I2C Hardware ID | | | | | |
| F704H | 63237 | | | | I2C Device Address | | | | | |
| F705H | 63238 | | | | I2C Windows Index | | | | | |
| F706H | 63239 | | | | I2C Data Length | | | | | |
| F707H | 63240 | | | | I2C Data Checksum | | | | | |
| F708H-F747H | 63241-63304 | | | | I2C Window | | | | | |
| The less significant byte of this register indicates the jump setting for Ethernet option board : | | | | | | | | | | |
| F7FFH | 63488 | | | | Bit1 Bit0 0 0 -> undefined 0 1 -> NTFI 1 0 -> NTRJ 1 1 -> NTWF | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|-----------------------------------|------------------------|---------|------|-----|-------|
| DSP2: Channel Block 2 | | | | | | | | | | |
| Multicycle RMS Result Frame 10cycles for 50Hz sytem, 12cycles for 60HZ sytem | | | | | | | | | | |
| F800H-F803H | 63489-63492 | | | | Multicycle Update RTC Timestamp | 12/31/9999 23:59:59.99 | 10 msec | E | R | |
| F804H-F805H | 63493-63494 | | | | Multicycle RMS Phase A-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F806H-F807H | 63495-63496 | | | | Multicycle RMS Phase B-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F808H-F809H | 63497-63498 | | | | Multicycle RMS Phase C-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F80AH-F80BH | 63499-63500 | | | | Multicycle RMS Phase A-B Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F80CH-F80DH | 63501-63502 | | | | Multicycle RMS Phase B-C Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F80EH-F80FH | 63503-63504 | | | | Multicycle RMS Phase C-A Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F810H-F811H | 63505-63506 | | | | Multicycle RMS Phase X-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F812H-F813H | 63507-63508 | | | | Multicycle RMS Vres Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F814H-F815H | 63509-63510 | | | | Multicycle RMS Ires Current | -32767.999/+32767.999 | Amps | F | R | |
| F816H-F817H | 63511-63512 | | | | Multicycle RMS Phase A-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F818H-F819H | 63513-63514 | | | | Multicycle RMS Phase B-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F81AH-F81BH | 63515-63516 | | | | Multicycle RMS Phase C-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F81CH-F81DH | 63517-63518 | | | | Multicycle RMS Phase X-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F81EH-F81FH | 63519-63520 | | | | Multicycle RMS Phase N-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F820H-F821H | 63521-63522 | | | | Multicycle RMS Phase A Current | -32767.999/+32767.999 | Amps | F | R | |
| F822H-F823H | 63523-63524 | | | | Multicycle RMS Phase B Current | -32767.999/+32767.999 | Amps | F | R | |
| F824H-F825H | 63525-63526 | | | | Multicycle RMS Phase C Current | -32767.999/+32767.999 | Amps | F | R | |
| F826H-F827H | 63527-63528 | | | | Multicycle RMS Phase X Current | -32767.999/+32767.999 | Amps | F | R | |
| F828H-F829H | 63529-63530 | | | | Multicycle MEAN Phase A-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F82AH-F82BH | 63531-63532 | | | | Multicycle MEAN Phase B-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F82CH-F82DH | 63533-63534 | | | | Multicycle MEAN Phase C-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F82EH-F82FH | 63535-63536 | | | | Multicycle MEAN Phase A-B Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F830H-F831H | 63537-63538 | | | | Multicycle MEAN Phase B-C Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F832H-F833H | 63539-63540 | | | | Multicycle MEAN Phase C-A Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F834H-F835H | 63541-63542 | | | | Multicycle MEAN Phase X-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F836H-F837H | 63543-63544 | | | | Multicycle MEAN Vres Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F838H-F839H | 63545-63546 | | | | Multicycle MEAN Ires Current | -32767.999/+32767.999 | Amps | F | R | |
| F83AH-F83BH | 63547-63548 | | | | Multicycle MEAN Phase A-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F83CH-F83DH | 63549-63550 | | | | Multicycle MEAN Phase B-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F83EH-F83FH | 63551-63552 | | | | Multicycle MEAN Phase C-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F840H-F841H | 63553-63554 | | | | Multicycle MEAN Phase X-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F842H-F843H | 63555-63556 | | | | Multicycle MEAN Phase N-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F844H-F845H | 63557-63558 | | | | Multicycle MEAN Phase A Current | -32767.999/+32767.999 | Amps | F | R | |
| F846H-F847H | 63559-63560 | | | | Multicycle MEAN Phase B Current | -32767.999/+32767.999 | Amps | F | R | |
| F848H-F849H | 63561-63562 | | | | Multicycle MEAN Phase C Current | -32767.999/+32767.999 | Amps | F | R | |
| F84AH-F84BH | 63563-63564 | | | | Multicycle MEAN Phase X Current | -32767.999/+32767.999 | Amps | F | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|------------------------|-------------|------|-----|-------|
| F84CH-F84DH | 63565-63566 | | | | 1st reference channel 0.2sec frequency | 0/+32767.999 | Hz | F | R | |
| F84EH-F84FH | 63567-63568 | | | | 2nd reference channel 0.2sec frequency | 0/+32767.999 | Hz | F | R | |
| F850H-F851H | 63569-63570 | | | | 3rd reference channel 0.2sec frequency | 0/+32767.999 | Hz | F | R | |
| F852H-F853H | 63571-63572 | | | | 4th reference channel 0.2sec frequency | 0/+32767.999 | Hz | F | R | |
| F854H-F854H | 63573-63574 | | | | 5th reference channel 0.2sec frequency | 0/+32767.999 | Hz | F | R | |
| F856H | 63575 | | | | 1st frequency reference channel, multicycle completed point timeframe number | 0/+65535 | | G | R | |
| F857H | 63576 | | | | 2nd frequency reference channel, multicycle completed point timeframe number | 0/+65535 | | G | R | |
| F858H | 63577 | | | | 3rd frequency reference channel, multicycle completed point timeframe number | 0/+65535 | | G | R | |
| F859H | 63578 | | | | 4th frequency reference channel, multicycle completed point timeframe number | 0/+65535 | | G | R | |
| F85AH | 63579 | | | | 5th frequency reference channel, multicycle completed point timeframe number | 0/+65535 | | G | R | |
| F85BH | 63580 | | | | 1st frequency reference channel, multicycle completed point index number | 0/+65535 | | G | R | |
| F85CH | 63581 | | | | 2nd frequency reference channel, multicycle completed point index number | 0/+65535 | | G | R | |
| F85DH | 63582 | | | | 3rd frequency reference channel, multicycle completed point index number | 0/+65535 | | G | R | |
| F85EH | 63583 | | | | 4th frequency reference channel, multicycle completed point index number | 0/+65535 | | G | R | |
| F85FH | 63584 | | | | 5th frequency reference channel, multicycle completed point index number | 0/+65535 | | G | R | |
| F860H-F861H | 63585-63586 | | | | Fundamental phase angle Phase A-N Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F862H-F863H | 63587-63588 | | | | Fundamental phase angle Phase B-N Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F864H-F865H | 63589-63590 | | | | Fundamental phase angle Phase C-N Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F866H-F867H | 63591-63592 | | | | Fundamental phase angle Phase A-B Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F868H-F869H | 63593-63594 | | | | Fundamental phase angle Phase B-C Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F86AH-F86BH | 63595-63596 | | | | Fundamental phase angle Phase C-A Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F86CH-F86DH | 63597-63598 | | | | Fundamental phase angle Phase X-N Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F86EH-F86FH | 63599-63600 | | | | Fundamental phase angle Vres Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F870H-F871H | 63601-63602 | | | | Fundamental phase angle Ires Current | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F872H-F873H | 63603-63604 | | | | Fundamental phase angle Phase A-E Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F874H-F875H | 63605-63606 | | | | Fundamental phase angle Phase B-E Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F876H-F877H | 63607-63608 | | | | Fundamental phase angle Phase C-E Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F878H-F879H | 63609-63610 | | | | Fundamental phase angle Phase X-E Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F87AH-F87BH | 63611-63612 | | | | Fundamental phase angle Phase N-E Voltage | -327.67/+327.67 degree | 0.01 degree | B | E | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|------------------------|-------------|------|-----|-------|
| F87CH-F87DH | 63613-63614 | | | | Fundamental phase angle Phase A Current | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F87EH-F87FH | 63615-63616 | | | | Fundamental phase angle Phase B Current | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F880H-F881H | 63617-63618 | | | | Fundamental phase angle Phase C Current | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F882H-F883H | 63619-63620 | | | | Fundamental phase angle Phase X Current | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F884H-F885H | 63621-63622 | | | | Multicycle Fundamental RMS Phase A-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F886H-F887H | 63623-63624 | | | | Multicycle Fundamental RMS Phase B-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F888H-F889H | 63625-63626 | | | | Multicycle Fundamental RMS Phase C-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F88AH-F88BH | 63627-63628 | | | | Multicycle Fundamental RMS Phase A-B Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F88CH-F88DH | 63629-63630 | | | | Multicycle Fundamental RMS Phase B-C Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F88EH-F88FH | 63631-63632 | | | | Multicycle Fundamental RMS Phase C-A Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F890H-F891H | 63633-63634 | | | | Multicycle Fundamental RMS Phase X-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F892H-F893H | 63635-63636 | | | | Multicycle Fundamental RMS Vres Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F894H-F895H | 63637-63638 | | | | Multicycle Fundamental RMS Ires Current | -32767.999/+32767.999 | Amps | F | R | |
| F896H-F897H | 63639-63640 | | | | Multicycle Fundamental RMS Phase A-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F898H-F899H | 63641-63642 | | | | Multicycle Fundamental RMS Phase B-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F89AH-F89BH | 63643-63644 | | | | Multicycle Fundamental RMS Phase C-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F89CH-F89DH | 63645-63646 | | | | Multicycle Fundamental RMS Phase X-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F89EH-F89FH | 63647-63648 | | | | Multicycle Fundamental RMS Phase N-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F8A0H-F8A1H | 63649-63650 | | | | Multicycle Fundamental RMS Phase A Current | -32767.999/+32767.999 | Amps | F | R | |
| F8A2H-F8A3H | 63651-63652 | | | | Multicycle Fundamental RMS Phase B Current | -32767.999/+32767.999 | Amps | F | R | |
| F8A4H-F8A5H | 63653-63654 | | | | Multicycle Fundamental RMS Phase C Current | -32767.999/+32767.999 | Amps | F | R | |
| F8A6H-F8A7H | 63655-63656 | | | | Multicycle Fundamental RMS Phase X Current | -32767.999/+32767.999 | Amps | F | R | |
| F8A8H | 63657 | | | | Symm Comp Phase (Voltage PN) - Zero Sequence | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8A9H | 63658 | | | | Symm Comp Phase (Voltage PN) - Pos Sequence | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8AAH | 63659 | | | | Symm Comp Phase (Voltage PN) - Neg Sequence | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8ABH | 63660 | | | | ref channel update timestamp | 0/4294967295 | | H | R | |
| F8ACH-F8ADH | 63661-63662 | | | | 0.2sec Symm Comp Mag (Voltage PN) - Zero Sequence | -32767.999/+32767.999 | Volts | F | R | |
| F8AEH-F8AFH | 63663-63664 | | | | 0.2sec Symm Comp Mag (Voltage PN) - Pos Sequence | -32767.999/+32767.999 | Volts | F | R | |
| F8B0H-F8B1H | 63665-63666 | | | | 0.2sec Symm Comp Mag (Voltage PN) - Neg Sequence | -32767.999/+32767.999 | Volts | F | R | |
| F8B2H-F8B3H | 63667-63668 | | | | 0.2sec Symm Comp Phase (Voltage PN) - Zero Sequence | -327.67/+327.67% | 0.01% | A | R | |
| F8B4H-F8B5H | 63669-63670 | | | | 0.2sec Symm Comp Phase (Voltage PN) - Pos Sequence | -327.67/+327.67% | 0.01% | A | R | |
| F8B6H-F8B7H | 63671-63672 | | | | 0.2sec Symm Comp Phase (Voltage PN) - Neg Sequence | -327.67/+327.67% | 0.01% | A | R | |
| F8B8H-F8B9H | 63673-63674 | | | | Zero-Crossing Angle channel V1 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8BAH-F8BBH | 63675-63676 | | | | Zero-Crossing Angle channel V2 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8BCH-F8BDH | 63677-63678 | | | | Zero-Crossing Angle channel V3 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8BEH-F8BFH | 63679-63680 | | | | Zero-Crossing Angle channel V4 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8C0H-F8C1H | 63681-63682 | | | | Zero-Crossing Angle channel V5 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8C2H | 63683 | | | | Zero-Crossing Delay channel V1 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8C3H | 63684 | | | | Zero-Crossing Delay channel V2 | -327.67/+327.67 degree | 0.01 degree | B | E | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|------------------------|-------------|------|-----|-------|
| F8C4H | 63685 | | | | Zero-Crossing Delay channel V3 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8C5H | 63686 | | | | Zero-Crossing Delay channel V4 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8C6H | 63687 | | | | Zero-Crossing Delay channel V5 | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8C7H | 63688 | | | | Default Zero-Crossing Delay | -327.67/+327.67 degree | 0.01 degree | B | E | |
| F8C8H | 63689 | | | | Underdeviation Phase A-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8C9H | 63690 | | | | Underdeviation Phase B-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8CAH | 63691 | | | | Underdeviation Phase C-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8CBH | 63692 | | | | Underdeviation Phase A-B Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8CCH | 63693 | | | | Underdeviation Phase B-C Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8CDH | 63694 | | | | Underdeviation Phase C-A Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8CEH | 63695 | | | | Overdeviation Phase A-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8CFH | 63696 | | | | Overdeviation Phase B-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8D0H | 63697 | | | | Overdeviation Phase C-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8D1H | 63698 | | | | Overdeviation Phase A-B Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8D2H | 63699 | | | | Overdeviation Phase B-C Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8D3H | 63700 | | | | Overdeviation Phase C-A Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8D4H-F8D5H | 63701-63702 | | | | Multicycle update timestamp | 0/4294967295 | | H | R | |
| F8D6H | 63703 | | | | Flagging Multicycle RMS Phase A-N Voltage | | | I | R | |
| F8D7H | 63704 | | | | Flagging Multicycle RMS Phase B-N Voltage | | | I | R | |
| F8D8H | 63705 | | | | Flagging Multicycle RMS Phase C-N Voltage | | | I | R | |
| F8D9H | 63706 | | | | Flagging Multicycle RMS Phase A-B Voltage | | | I | R | |
| F8DAH | 63707 | | | | Flagging Multicycle RMS Phase B-C Voltage | | | I | R | |
| F8DBH | 63708 | | | | Flagging Multicycle RMS Phase C-A Voltage | | | I | R | |
| F8DCH-F8E1H | 63709-63714 | | | | Reserved | | | | | |
| F8E2H | 63715 | | | | Underdeviation 3sec Phase A-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8E3H | 63716 | | | | Underdeviation 3sec Phase B-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8E4H | 63717 | | | | Underdeviation 3sec Phase C-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8E5H | 63718 | | | | Underdeviation 3sec Phase A-B Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8E6H | 63719 | | | | Underdeviation 3sec Phase B-C Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8E7H | 63720 | | | | Underdeviation 3sec Phase C-A Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8E8H | 63721 | | | | Overdeviation 3sec Phase A-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8E9H | 63722 | | | | Overdeviation 3sec Phase B-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8EAH | 63723 | | | | Overdeviation 3sec Phase C-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8EBH | 63724 | | | | Overdeviation 3sec Phase A-B Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8ECH | 63725 | | | | Overdeviation 3sec Phase B-C Voltage | -327.67/+327.67% | 0.01% | A | | |
| F8EDH | 63726 | | | | Overdeviation 3sec Phase C-A Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F8EEH | 63727 | | | | 3sec Unbalance Counter | 0/65536 | | G | | |
| F8EFH | 63728 | | | | 3sec Deviation Counter | 0/65537 | | G | | |
| F8F0H | 63729 | | | | Phase Sequence | | | J | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---|-------------|------|----|------------|--|------------------------|---------|------|-----|-------|
| F8F1H | 63730 | | | | 0.2 sec RMS Phase A-N Voltage (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8F2H | 63731 | | | | 0.2 sec RMS Phase B-N Voltage (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8F3H | 63732 | | | | 0.2 sec RMS Phase C-N Voltage (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8F4H | 63733 | | | | 0.2 sec RMS Phase A-B Voltage (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8F5H | 63734 | | | | 0.2 sec RMS Phase B-C Voltage (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8F6H | 63735 | | | | 0.2 sec RMS Phase C-A Voltage (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8F7H | 63736 | | | | 0.2 sec RMS Phase A Current (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8F8H | 63737 | | | | 0.2 sec RMS Phase B Current (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8F9H | 63738 | | | | 0.2 sec RMS Phase C Current (Change comparing to previous value) | -327.67/+327.67% | 0.01% | A | R | |
| F8FAH-F8FBH | 63739-63740 | | | | Reserved | | | | | |
| F8FCH-F8FFH | 63741-63744 | | | | Multicycle Update RTC Timestamp | 12/31/9999 23:59:59.99 | 10 msec | E | R | |
| 3second RMS Result Frame 150cycles for 50Hz sytem, 180cycles for 60HZ sytem | | | | | | | | | | |
| F900H-F903H | 63745-63748 | | | | 3 sec Update RTC Timestamp | 12/31/9999 23:59:59.99 | 10 msec | E | R | |
| F904H-F905H | 63749-63750 | | | | 3 sec RMS Phase A-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F906H-F907H | 63751-63752 | | | | 3 sec RMS Phase B-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F908H-F909H | 63753-63754 | | | | 3 sec RMS Phase C-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F90AH-F90BH | 63755-63756 | | | | 3 sec RMS Phase A-B Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F90CH-F90DH | 63757-63758 | | | | 3 sec RMS Phase B-C Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F90EH-F90FH | 63759-63760 | | | | 3 sec RMS Phase C-A Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F910H-F911H | 63761-63762 | | | | 3 sec RMS Phase X-N Voltage | -32767.999/+32767.999 | Amps | F | R | |
| F912H-F913H | 63763-63764 | | | | 3 sec RMS Vres Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F914H-F915H | 63765-63766 | | | | 3 sec RMS Ires Current | -32767.999/+32767.999 | Amps | F | R | |
| F916H-F917H | 63767-63768 | | | | 3 sec RMS Phase A-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F918H-F919H | 63769-63770 | | | | 3 sec RMS Phase B-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F91AH-F91BH | 63771-63772 | | | | 3 sec RMS Phase C-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F91CH-F91DH | 63773-63774 | | | | 3 sec RMS Phase X-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F91EH-F91FH | 63775-63776 | | | | 3 sec RMS Phase N-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F920H-F921H | 63777-63778 | | | | 3 sec RMS Phase A Current | -32767.999/+32767.999 | Amps | F | R | |
| F922H-F923H | 63779-63780 | | | | 3 sec RMS Phase B Current | -32767.999/+32767.999 | Amps | F | R | |
| F924H-F925H | 63781-63782 | | | | 3 sec RMS Phase C Current | -32767.999/+32767.999 | Amps | F | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|---|------------------------|---------|------|-----|-------|
| F926H-F927H | 63783-63784 | | | | 3 sec RMS Phase X Current | -32767.999/+32767.999 | Amps | F | R | |
| F928H-F929H | 63785-63786 | | | | 3 sec MEAN Phase A-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F92AH-F92BH | 63787-63788 | | | | 3 sec MEAN Phase B-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F92CH-F92DH | 63789-63790 | | | | 3 sec MEAN Phase C-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F92EH-F92FH | 63791-63792 | | | | 3 sec MEAN Phase A-B Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F930H-F931H | 63793-63794 | | | | 3 sec MEAN Phase B-C Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F932H-F933H | 63795-63796 | | | | 3 sec MEAN Phase C-A Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F934H-F935H | 63797-63798 | | | | 3 sec MEAN Phase X-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F936H-F937H | 63799-63800 | | | | 3 sec MEAN Vres Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F938H-F939H | 63801-63802 | | | | 3 sec MEAN Ires Current | -32767.999/+32767.999 | Amps | F | R | |
| F93AH-F93BH | 63803-63804 | | | | 3 sec MEAN Phase A-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F93CH-F93DH | 63805-63806 | | | | 3 sec MEAN Phase B-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F93EH-F93FH | 63807-63808 | | | | 3 sec MEAN Phase C-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F940H-F941H | 63809-63810 | | | | 3 sec MEAN Phase X-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F942H-F943H | 63811-63812 | | | | 3 sec MEAN Phase N-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F944H-F945H | 63813-63814 | | | | 3 sec MEAN Phase A Current | -32767.999/+32767.999 | Amps | F | R | |
| F946H-F947H | 63815-63816 | | | | 3 sec MEAN Phase B Current | -32767.999/+32767.999 | Amps | F | R | |
| F948H-F949H | 63817-63818 | | | | 3 sec MEAN Phase C Current | -32767.999/+32767.999 | Amps | F | R | |
| F94AH-F94BH | 63819-63820 | | | | 3 sec MEAN Phase X Current | -32767.999/+32767.999 | Amps | F | R | |
| F94CH | 63821 | | | | 1st frequency reference channel, 3s completed point timeframe | 0/+65535 | | G | R | |
| F94DH | 63822 | | | | 2nd frequency reference channel, 3s completed point timeframe | 0/+65535 | | G | R | |
| F94EH | 63823 | | | | 3rd frequency reference channel, 3s completed point timeframe | 0/+65535 | | G | R | |
| F94FH | 63824 | | | | 4th frequency reference channel, 3s completed point timeframe | 0/+65535 | | G | R | |
| F950H | 63825 | | | | 5th frequency reference channel, 3s completed point timeframe | 0/+65535 | | G | R | |
| F951H | 63826 | | | | 1st frequency reference channel, 3s completed point index | 0/+65535 | | G | R | |
| F952H | 63827 | | | | 2nd frequency reference channel, 3s completed point index | 0/+65535 | | G | R | |
| F953H | 63828 | | | | 3rd frequency reference channel, 3s completed point index | 0/+65535 | | G | R | |
| F954H | 63829 | | | | 4th frequency reference channel, 3s completed point index | 0/+65535 | | G | R | |
| F955H | 63830 | | | | 5th frequency reference channel, 3s completed point index | 0/+65535 | | G | R | |
| F956H-F959H | 63831-63834 | | | | 10 min Update RTC Timestamp | 12/31/9999 23:59:59.99 | 10 msec | E | R | |
| F95AH-F95BH | 63835-63836 | | | | 10 min RMS Phase A-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F95CH-F95DH | 63837-63838 | | | | 10 min RMS Phase B-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F95EH-F95FH | 63839-63840 | | | | 10 min RMS Phase C-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F960H-F961H | 63841-63842 | | | | 10 min RMS Phase A-B Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F962H-F963H | 63843-63844 | | | | 10 min RMS Phase B-C Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F964H-F965H | 63845-63846 | | | | 10 min RMS Phase C-A Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F966H-F967H | 63847-63848 | | | | 10 min RMS Phase X-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F968H-F969H | 63849-63850 | | | | 10 min RMS Vres Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F96AH-F96BH | 63851-63852 | | | | 10 min RMS Ires Current | -32767.999/+32767.999 | Amps | F | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|------------------------|---------|------|-----|-------|
| F96CH-F96DH | 63853-63854 | | | | 10 min RMS Phase A-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F96EH-F96FH | 63855-63856 | | | | 10 min RMS Phase B-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F970H-F971H | 63857-63858 | | | | 10 min RMS Phase C-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F972H-F973H | 63859-63860 | | | | 10 min RMS Phase X-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F974H-F975H | 63861-63862 | | | | 10 min RMS Phase N-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F976H-F977H | 63863-63864 | | | | 10 min RMS Phase A Current | -32767.999/+32767.999 | Amps | F | R | |
| F978H-F979H | 63865-63866 | | | | 10 min RMS Phase B Current | -32767.999/+32767.999 | Amps | F | R | |
| F97AH-F97BH | 63867-63868 | | | | 10 min RMS Phase C Current | -32767.999/+32767.999 | Amps | F | R | |
| F97CH-F97DH | 63869-63870 | | | | 10 min RMS Phase X Current | -32767.999/+32767.999 | Amps | F | R | |
| F97EH | 63871 | | | | 1st frequency reference channel, 10min completed point timeframe number | 0/+65535 | | G | R | |
| F97FH | 63872 | | | | 2nd frequency reference channel, 10min completed point timeframe number | 0/+65535 | | G | R | |
| F980H | 63873 | | | | 3rd frequency reference channel, 10min completed point timeframe number | 0/+65535 | | G | R | |
| F981H | 63874 | | | | 4th frequency reference channel, 10min completed point timeframe number | 0/+65535 | | G | R | |
| F982H | 63875 | | | | 5th frequency reference channel, 10min completed point timeframe number | 0/+65535 | | G | R | |
| F983H | 63876 | | | | 1st frequency reference channel, 10min completed point index number | 0/+65535 | | G | R | |
| F984H | 63877 | | | | 2nd frequency reference channel, 10min completed point index number | 0/+65535 | | G | R | |
| F985H | 63878 | | | | 3rd frequency reference channel, 10min completed point index number | 0/+65535 | | G | R | |
| F986H | 63879 | | | | 4th frequency reference channel, 10min completed point index number | 0/+65535 | | G | R | |
| F987H | 63880 | | | | 5th frequency reference channel, 10min completed point index number | 0/+65535 | | G | R | |
| F988H-F98BH | 63881-63884 | | | | 2 hour Update RTC Timestamp | 12/31/9999 23:59:59.99 | 10 msec | E | R | |
| F98CH-F98DH | 63885-63886 | | | | 2 hour RMS Phase A-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F98EH-F98FH | 63887-63888 | | | | 2 hour RMS Phase B-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F990H-F991H | 63889-63890 | | | | 2 hour RMS Phase C-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F992H-F993H | 63891-63892 | | | | 2 hour RMS Phase A-B Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F994H-F995H | 63893-63894 | | | | 2 hour RMS Phase B-C Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F996H-F997H | 63895-63896 | | | | 2 hour RMS Phase C-A Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F998H-F999H | 63897-63898 | | | | 2 hour RMS Phase X-N Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F99AH-F99BH | 63899-63900 | | | | 2 hour RMS Vres Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F99CH-F99DH | 63901-63902 | | | | 2 hour RMS Ires Current | -32767.999/+32767.999 | Amps | F | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|-----------------------|-------|------|-----|-------|
| F99EH-F99FH | 63903-63904 | | | | 2 hour RMS Phase A-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F9A0H-F9A1H | 63905-63906 | | | | 2 hour RMS Phase B-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F9A2H-F9A3H | 63907-63908 | | | | 2 hour RMS Phase C-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F9A4H-F9A5H | 63909-63910 | | | | 2 hour RMS Phase X-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F9A6H-F9A7H | 63911-63912 | | | | 2 hour RMS Phase N-E Voltage | -32767.999/+32767.999 | Volts | F | R | |
| F9A8H-F9A9H | 63913-63914 | | | | 2 hour RMS Phase A Current | -32767.999/+32767.999 | Amps | F | R | |
| F9AAH-F9ABH | 63915-63916 | | | | 2 hour RMS Phase B Current | -32767.999/+32767.999 | Amps | F | R | |
| F9ACH-F9ADH | 63917-63918 | | | | 2 hour RMS Phase C Current | -32767.999/+32767.999 | Amps | F | R | |
| F9AEH-F9AFH | 63919-63920 | | | | 2 hour RMS Phase X Current | -32767.999/+32767.999 | Amps | F | R | |
| F9B0H | 63921 | | | | 1st frequency reference channel, 2hour completed point timeframe number | 0/+65535 | | G | R | |
| F9B1H | 63922 | | | | 2nd frequency reference channel, 2hour completed point timeframe number | 0/+65535 | | G | R | |
| F9B2H | 63923 | | | | 3rd frequency reference channel, 2hour completed point timeframe number | 0/+65535 | | G | R | |
| F9B3H | 63924 | | | | 4th frequency reference channel, 2hour completed point timeframe number | 0/+65535 | | G | R | |
| F9B4H | 63925 | | | | 5th frequency reference channel, 2hour completed point timeframe number | 0/+65535 | | G | R | |
| F9B5H | 63926 | | | | 1st frequency reference channel, 2hour completed point index number | 0/+65535 | | G | R | |
| F9B6H | 63927 | | | | 2nd frequency reference channel, 2hour completed point index number | 0/+65535 | | G | R | |
| F9B7H | 63928 | | | | 3rd frequency reference channel, 2hour completed point index number | 0/+65535 | | G | R | |
| F9B8H | 63929 | | | | 4th frequency reference channel, 2hour completed point index number | 0/+65535 | | G | R | |
| F9B9H | 63930 | | | | 5th frequency reference channel, 2hour completed point index number | 0/+65535 | | G | R | |
| F9BAH-F9BBH | 63931-63932 | | | | 3sec update timestamp | 0/4294967295 | | H | R | |
| F9BCH-F9BDH | 63933-63934 | | | | 10min update timestamp | 0/4294967295 | | H | R | |
| F9BEH-F9BFH | 63935-63936 | | | | 2hour update timestamp | 0/4294967295 | | H | R | |
| F9C0H | 63937 | | | | Flagging 3sec RMS Phase A-N Voltage | | | I | R | |
| F9C1H | 63938 | | | | Flagging 3sec RMS Phase B-N Voltage | | | I | R | |
| F9C2H | 63939 | | | | Flagging 3sec RMS Phase C-N Voltage | | | I | R | |
| F9C3H | 63940 | | | | Flagging 3sec RMS Phase A-B Voltage | | | I | R | |
| F9C4H | 63941 | | | | Flagging 3sec RMS Phase B-C Voltage | | | I | R | |
| F9C5H | 63942 | | | | Flagging 3sec RMS Phase C-A Voltage | | | I | R | |
| F9C6H | 63943 | | | | Flagging 10min RMS Phase A-N Voltage | | | I | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------|-------------|------|----|------------|--|------------------|-------|------|-----|-------|
| F9C7H | 63944 | | | | Flagging 10min RMS Phase B-N Voltage | | | I | R | |
| F9C8H | 63945 | | | | Flagging 10min RMS Phase C-N Voltage | | | I | R | |
| F9C9H | 63946 | | | | Flagging 10min RMS Phase A-B Voltage | | | I | R | |
| F9CAH | 63947 | | | | Flagging 10min RMS Phase B-C Voltage | | | I | R | |
| F9CBH | 63948 | | | | Flagging 10min RMS Phase C-A Voltage | | | I | R | |
| F9CCH | 63949 | | | | Flagging 2hour RMS Phase A-N Voltage | | | I | R | |
| F9CDH | 63950 | | | | Flagging 2hour RMS Phase B-N Voltage | | | I | R | |
| F9CEH | 63951 | | | | Flagging 2hour RMS Phase C-N Voltage | | | I | R | |
| F9CFH | 63952 | | | | Flagging 2hour RMS Phase A-B Voltage | | | I | R | |
| F9D0H | 63953 | | | | Flagging 2hour RMS Phase B-C Voltage | | | I | R | |
| F9D1H | 63954 | | | | Flagging 2hour RMS Phase C-A Voltage | | | I | R | |
| F9D2H-F9DDH | 63955-63966 | | | | Reserved | | | | | |
| F9DEH | 63967 | | | | Underdeviation 10min RMS Phase A-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9DFH | 63968 | | | | Underdeviation 10min RMS Phase B-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E0H | 63969 | | | | Underdeviation 10min RMS Phase C-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E1H | 63970 | | | | Underdeviation 10min RMS Phase A-B Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E0H | 63971 | | | | Underdeviation 10min RMS Phase B-C Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E3H | 63972 | | | | Underdeviation 10min RMS Phase C-A Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E4H | 63973 | | | | Overderdeviation 10min RMS Phase A-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E5H | 63974 | | | | Overderdeviation 10min RMS Phase B-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E6H | 63975 | | | | Overderdeviation 10min RMS Phase C-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E7H | 63976 | | | | Overderdeviation 10min RMS Phase A-B Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E8H | 63977 | | | | Overderdeviation 10min RMS Phase B-C Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9E9H | 63978 | | | | Overderdeviation 10min RMS Phase C-A Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9EAH | 63979 | | | | Underdeviation 2hour RMS Phase A-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9EBH | 63980 | | | | Underdeviation 2hour RMS Phase B-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9ECH | 63981 | | | | Underdeviation 2hour RMS Phase C-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9EDH | 63982 | | | | Underdeviation 2hour RMS Phase A-B Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9EEH | 63983 | | | | Underdeviation 2hour RMS Phase B-C Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9EFH | 63984 | | | | Underdeviation 2hour RMS Phase C-A Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9F0H | 63985 | | | | Overderdeviation 2hour RMS Phase A-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9F1H | 63986 | | | | Overderdeviation 2hour RMS Phase B-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9F2H | 63987 | | | | Overderdeviation 2hour RMS Phase C-N Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9F3H | 63988 | | | | Overderdeviation 2hour RMS Phase A-B Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9F4H | 63989 | | | | Overderdeviation 2hour RMS Phase B-C Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9F5H | 63990 | | | | Overderdeviation 2hour RMS Phase C-A Voltage | -327.67/+327.67% | 0.01% | A | R | |
| F9F6H | 63991 | | | | 10min RMS Counter | 0/65535 | | G | R | |
| F9F7H | 63992 | | | | 10min Uunbalance Counter | 0/65536 | | G | R | |
| F9F8H | 63993 | | | | 10min Deviation Counter | 0/65537 | | G | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|----------------------------------|-------------|------|----|------------|---|------------------------|---------|------|-----|-------|
| F9F9H | 63994 | | | | 2hour RMS Counter | 0/65538 | | G | R | |
| F9FAH | 63995 | | | | 2hour Uunbalance Counter | 0/65539 | | G | R | |
| F9FBH | 63996 | | | | 2hour Deviation Counter | 0/65540 | | G | R | |
| F9FCH-F9FFH | 63997-63998 | | | | 2 hour Update RTC Timestamp | 12/31/9999 23:59:59.99 | 10 msec | E | R | |
| FA00H-FAFFH | 64001-64256 | | | | waveform RMS, DSP2 channel 137 | | | | | |
| | | | | | | | | | | |
| FB20H-FBFFH | 64289-64312 | | | | waveform capture diagnostic info | | | | | |
| FC00H-FC33H | 64513-64564 | | | | waveform calibration | | | | | |
| General Meter Information Block: | | | | | | | | | | |
| FD00H-FD01H | 64769-64770 | | | | information COMM runtime firmware build (Minor). See also register 0x0048-0x0049 for Major | | | | | |
| FD02H-FD06H | 64771-64775 | | | | information DSP | | | | | |
| FD07H-FD08H | 64776-64777 | | | | information COMM BOOT firmware build (Minor). See also register 0x004A-0x004B for Major | | | | | |
| FD40H | 64833 | | | | FPGA sport status | | | | | |
| FD41H-FD42H | 64834-64835 | | | | COMM runtime total number of start | | | | R | |
| FD43H-FD44H | 64836-64837 | | | | COMM runtime watchdog count | | | | R | |
| FD45H | 64838 | | | | COMM-DSP1 param update counter | | | | R | |
| FD46H | 64839 | | | | COMM-FPGA load counter | | | | R | |
| FD47H | 64840 | | | | COMM-DSP1 param update counter A | | | | R | |
| FD48H | 64841 | | | | Modbus TCP (1st/2nd Ethernet Board) connection status: lsb bit-0 is for 1st connection, 0=connection used or N/A, 1=connection is free. | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| FD49H | 64842 | | | | Modbus TCP (2nd Ethernet Board/TBD) connection status: lsb bit-0 is for 1st connection, 0=connection used or N/A, 1=connection is free. | | | | R | |
| FD4AH-FD4BH | 64843-64844 | | | | Indicates if the logs are paused/running. 0 means log are running otherwise logs are paused. Bit 0[LSB]0 = Historical 1 Bit 1 = Historical 2 Bit 2 = Sequence of Event (Limit) Bit 3 = Digital Input Bit 4 = Digital Output Bit 5 = Flicker Bit 6 = Waveform Bit 7 = System Events Bit 8 = Transients Bit 9 = PQ Bit 10 = Interval Log 3 Bit 11 = Interval Log 4 Bit 12 = Interval Log 5 Bit 13 = Interval Log 6 Bit 14 = Interval Log 7 Bit 15 = Interval Log 8 Bit 16 = Event Triggered Bit 17 = EN50160 | | | | | |
| FD50H-FD51H | 64849-64850 | | | | EN50160 Invalid Setting Code, bits. | | | | | |
| FD80H-FDFFH | 64897-65024 | | | | Processor Identifications | | | | | |
| Operational Communication Settings Block | | | | | | | | | | |
| FE00H | 65025 | | | | Operational Address, Port 4 (I/O) | | | | R | |
| FE01H | 65026 | | | | Operational Protocol & Baud Rate, Port 4 (I/O) | | | | R | |
| FE02H | 65027 | | | | Operational Parity & Stop Bits, Port 4 (I/O) | | | | R | |
| FE03H | 65028 | | | | Operational Data Bits & Response Delay, Port 4(I/O) | | | | R | |
| FE04H | 65029 | | | | Operational Address, Port 3 | | | | R | |
| FE05H | 65030 | | | | Operational Protocol & Baud Rate, Port 3 | | | | R | |
| FE06H | 65031 | | | | Operational Parity & Stop Bits, Port 3 | | | | R | |
| FE07H | 65032 | | | | Operational Data Bits & Response Delay, Port 3 | | | | R | |
| FE08H | 65033 | | | | Operational Address, Port 2 | | | | R | |
| FE09H | 65034 | | | | Operational Protocol & Baud Rate, Port 2 | | | | R | |
| FE0AH | 65035 | | | | Operational Parity & Stop Bits, Port 2 | | | | R | |
| FE0BH | 65036 | | | | Operational Data Bits & Response Delay, Port 2 | | | | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-------------------------------|-------------|------|----|------------|---|-------|-------|------|-----|-------|
| FE0CH | 65037 | | | | Operational Address, Port 1 (232/485) | | | | R | |
| FE0DH | 65038 | | | | Operational Protocol & Baud Rate, Port 1 (232/485) | | | | R | |
| FE0EH | 65039 | | | | Operational Parity & Stop Bits, Port 1 (232/485) | | | | R | |
| FE0FH | 65040 | | | | Operational Data Bits & Response Delay, Port 1 (232/485) | | | | R | |
| Diagnostic Block | | | | | | | | | | |
| FE10H-FE12H | 65041-65043 | | | | Data Valid Bits | | | | R | |
| Compact Flash Block | | | | | | | | | | |
| FE13H-FE16H | 65044-65047 | | | | Size (MSB) | | | | | |
| FE17H-FE20H | 65048-65057 | | | | Serial Number: ASCII, right justified, with no null string terminator | | | | | |
| FE21H-FE24H | 65058-65061 | | | | FAT Type: ASCII, right justified, with no null string terminator | | | | | |
| FE25H-FE38H | 65062-65081 | | | | Model Number: ASCII, left justified, with no null string terminator | | | | | |
| FE39H-FE3EH | 65082-65087 | | | | Reserved | | | | | |
| Device Identification Block 2 | | | | | | | | | | |
| FE3FH | 65088 | | | | FPGA Version | | | | R | |
| FE40H-FE47H | 65089-65096 | | | | Nexus Comm Boot Firmware Variation String 1 | | | F1 | R | |
| FE48H-FE4FH | 65097-65104 | | | | Nexus Comm Boot Firmware Variation String 2 | | | F1 | R | |
| FE50H-FE57H | 65105-65112 | | | | Nexus Comm Boot Firmware Variation String 3 | | | F1 | R | |
| FE58H-FE5FH | 65113-65120 | | | | Nexus Comm Boot Firmware Variation String 4 | | | F1 | R | |
| FE60H-FE67H | 65121-65128 | | | | Nexus Comm Boot Firmware Variation String 5 | | | F1 | R | |
| FE68H-FE6FH | 65129-65136 | | | | Nexus Comm Boot Firmware Variation String 6 | | | F1 | R | |
| FE70H-FE77H | 65137-65144 | | | | Nexus Comm Boot Firmware Variation String 7 | | | F1 | R | |
| FE78H-FE7FH | 65145-65152 | | | | Nexus Comm Boot Firmware Variation String 8 | | | F1 | R | |
| FE80H-FE87H | 65153-65160 | | | | Nexus DSP Boot Firmware Variation String 1 | | | F1 | R | |
| FE88H-FE8FH | 65161-65168 | | | | Nexus DSP Boot Firmware Variation String 2 | | | F1 | R | |
| FE90H-FE97H | 65168-65176 | | | | Nexus DSP Boot Firmware Variation String 3 | | | F1 | R | |
| FE98H-FE9FH | 65177-65184 | | | | Nexus DSP Boot Firmware Variation String 4 | | | F1 | R | |
| FEA0H-FEA7H | 65185-65192 | | | | Nexus DSP Boot Firmware Variation String 5 | | | F1 | R | |
| FEA8H-FEAFH | 65193-65200 | | | | Nexus DSP Boot Firmware Variation String 6 | | | F1 | R | |
| FEB0H-FEB7H | 65201-65208 | | | | Nexus DSP Boot Firmware Variation String 7 | | | F1 | R | |
| FEB8H-FEBFH | 65209-65216 | | | | Nexus DSP Boot Firmware Variation String 8 | | | F1 | R | |
| FEC0H-FEC7H | 65217-65224 | | | | Nexus DSP Run-Time Firmware Variation String 1 | | | F1 | R | |
| FEC8H-FECFH | 65225-65232 | | | | Nexus DSP Run-Time Firmware Variation String 2 | | | F1 | R | |
| FED0H-FED7H | 65233-65240 | | | | Nexus DSP Run-Time Firmware Variation String 3 | | | F1 | R | |
| FED8H-FEDFH | 65241-65248 | | | | Nexus DSP Run-Time Firmware Variation String 4 | | | F1 | R | |
| FEE0H-FEE7H | 65249-65256 | | | | Nexus DSP Run-Time Firmware Variation String 5 | | | F1 | R | |
| FEE8H-FEEFH | 65257-65264 | | | | Nexus DSP Run-Time Firmware Variation String 6 | | | F1 | R | |
| FEF0H-FEF7H | 65265-65272 | | | | Nexus DSP Run-Time Firmware Variation String 7 | | | F1 | R | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|-----------------------------|-------------|------|----|------------|--|---------------------|-------------|------|-----|----------|
| FEF8H-FEFFFH | 65273-65280 | | | | Nexus DSP Run-Time Firmware Variation String 8 | | | F1 | R | |
| 196 Diagnostic Block | | | | | | | | | | |
| FF00H-FF1FH | 65281-65312 | | | | DSP Diagnostic | | | | R | |
| Password Block | | | | | | | | | | |
| FF23H-FF27H | 65316-65320 | | | | Level 1/Level 2 User Password | Fixed Length String | | | W | Ch.8.106 |
| FF28H | 65321 | | | | Level 1/Level 2 Password State | Enumeration | | | R | Ch.8.106 |
| FF29H | 65322 | | | | Sealing Switch State | Enumeration | | | R | Ch.8.106 |
| FF2A-FF2C | 65323-65325 | | | | Reserved | Enumeration | | | R | |
| FF2DH | 65326 | | | | Level 1/Level 2 Password Lock | Enumeration | | | R/W | Ch.8.106 |
| FF2EH | 65327 | | | | Password Sequence/Status | Enumeration | | | R | Ch.8.106 |
| FF2FH | 65328 | | | | Password Command | Enumeration | | | R/W | Ch.8.106 |
| FF30H-FF32H | 65329-65331 | | | | Reserved | | | | | |
| FF33H-FF37H | 65332-65336 | | | | New Password A | Fixed Length String | | | W | Ch.8.106 |
| FF38H-FF3AH | 65337-65339 | | | | Reserved | | | | | |
| FF3BH-FF3FH | 65340-65344 | | | | New Password B | Fixed Length String | | | W | Ch.8.106 |
| Dynamic Configuration Block | | | | | | | | | | |
| FF40H | 65345 | | | | NVRAM Configuration | | | | R | |
| FF41H | 65346 | | | | Current Time State: Time Source, DST, Coldload Status. b7:IRIG-B, b6:DST,b5:Line Sync,b4:Coldload, Yes/No 1/0 | | | | R | |
| FF42H | 65347 | | | | Network Card | | | | R | |
| FF43H | 65348 | | | | Reserved | | | | | |
| FF44H | 65349 | | | | Sealing Switch Installed | Enumeration | | | R | |
| FF45H | 65350 | | | | Vswitch state | | | | R | |
| Hardware Options Block | | | | | | | | | | |
| FF50H | 65361 | | | | Form / 4 KYZ | | | | R | |
| FF51H | 65362 | | | | Com Port 4 / Com Port 3 | | | | R | |
| FF52H | 65363 | | | | Com Port 2 / Com Port 1 | | | | R | |
| FF53H | 65364 | | | | 1 Amp / 300 V | | | | R | |
| FF54H | 65365 | | | | Reserved | | | | R | |
| FF55H | 65366 | | | | OEM model/ Freq Range (Software use only) | | | | R | |
| FF56H | 65367 | | | | Reserved | | | | R | |
| FF57H | 65368 | | | | Reserved | | | | R | |
| Reserved Status Block | | | | | | | | | | |
| FF60H | 65377 | | | | Reserved | | | | R | |
| FF61H | 65378 | | | | Reserved | | | | R | |
| FF62H | 65379 | | | | Reserved | 0 / +672 | sec / month | | R | |
| FF63H | 65380 | | | | Reserved | -672 / +672 | sec / month | | R | |
| Tiny Encryption Input Block | | | | | | | | | | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|---------------------|-------------|------|----|------------|--|-----------|-------|------|-----|-------|
| FF68H-FF6FH | 65385-65392 | | | | Tiny Encryption Input Registers | | | | R/W | |
| Flash Control Block | | | | | | | | | | |
| FF80H | 65409 | | | | <p>"Nexus Comm Operation Indicator (B15-B0). The fourth bit is used to indicate if the meter is either in boot (set to 1) or runtime mode (set to 0). The bits into this register have different meaning, depends which mode the meter is.</p> <p>Bit 0 [LSB] COMM error (checksum/not found/read). (N/A to RUNTIME).</p> <p>Bit 1 Programmable Setting error (checksum/not found/read).</p> <p>Bit 2 CF not found/discovered</p> <p>Bit 3 Forced be into boot mode using default communication setting. (N/A to RUNTIME).</p> <p>Bit 4 Indicating is in COMM boot or Runtime, 1=in boot, 0= in runtime</p> <p>Bit 5 FPGA firmware error (checksum/loading/not found/read).</p> <p>Bit 6 DSP2 firmware error (checksum/not found/read).</p> <p>Bit 7 Generic memory test failed. (N/A to RUNTIME).</p> <p>Bit 8 COMM internal memory test failed. (N/A to RUNTIME).</p> <p>Bit 9 File system failed. (N/A to RUNTIME).</p> <p>Bit 10 Logging stopped due to invalid log folder/files</p> | | | | R | |
| FF81H | 65410 | | | | Nexus Comm FLASH Sequence & Status / FLASH Command(WR) | | | | R | |
| FF82H | 65411 | | | | FLASH Locked Port | | | | R/W | Ch.5 |
| FF83H | 65412 | | | | Nexus Comm FLASH Code Checksum | 65535 / 0 | 1 | | R/W | |
| FF84H | 65413 | | | | Nexus Comm FLASH Programmable Settings Checksum | 65535 / 0 | 1 | | R/W | |
| FF85H | 65414 | | | | <p>Nexus DSP Operation Indicator (Read only in Runtime):</p> <p>COMM's initial DSP1 health status value is 0x8000, where the bit-15 is undefined/unused by DSP1. COMM uses this bit to indicate it has not received valid health status value from DSP1 after a startup. Once this bit is cleared, it could not be set again until a new system restart.</p> | | | | R | |
| FF86H | 65415 | | | | Nexus DSP FLASH Sequence & Status / FLASH Command | | | | R | |
| FF87H | 65416 | | | | Nexus DSP FLASH Code Checksum | 65535 / 0 | 1 | | R/W | |
| FF88H | 65417 | | | | Port To Port Communications, RS-485 Port 2 | | | | R/W | |
| FF89H | 65418 | | | | Port To Port Communications, RS-485 Port 1 | | | | R/W | |

| Addr. (hex) | Address(4X) | Line | Pt | DNP Obj | Description | Range | Units | Type | R/W | Notes |
|--------------------------|-------------|------|----|------------|--|---------------------------|-------|------|-----|---------------------------|
| FF8AH | 65419 | | | | Port To Port Communications, USB serial | | | | R/W | |
| FF8BH | 65420 | | | | Port To Port Communications, Optical | | | | R/W | |
| FF8CH | 65421 | | | | Port To Port Communications, Reserved | | | | R/W | |
| FF90H-FF91H | 65425-65426 | | | | Additional meter status bits (Available when Bit 15 on 0x1F80 register is set). 1st 4-bytes group. Bit 31[MSB] = 1 (Invalid waveform calibration) Bit 30 = 1 (Invalid profile settings for PQ/Waveform) Possible error conditions 1) Waveform capture sample per cycle rate is invalid 2) Sample reduction factor does not match sample per cycle 3) Mismatch between transfer channels and transient setting Bit 29 = 1 (Invalid NV Memory) Bit 28-0 = Not defined | | | | | |
| FF92H-FFAFH | 65427-65456 | | | | Additional meter status bits: 2nd/16th 4-bytes group. | | | | | |
| FFB0H-FFBFH | 65457-65472 | | | | Meter Reserved | | | | | |
| FFDCH | 65501 | | | | DSP Boot FLASH Manufacturer ID/ Device ID (Boot Mode Only) | | | | | |
| FFDDH | 65502 | | | | DSP Run FLASH Manufacturer ID/ Device ID (Boot Mode Only) | | | | | |
| FFDEH | 65503 | | | | DSP Boot & Run FLASH Sector Protect Status (Boot Mode Only) | | | | W | |
| FFDFH | 65504 | | | | DSP Boot & Run FLASH chip test results (Boot Mode Only) | | | | W | |
| Update Information Block | | | | | | | | | | |
| FFE0H | 65505 | | | | Update status | | | | | |
| FFE1H | 65506 | | | | Update error code | | | | | |
| FFE2H-FFE5H | 65507-65510 | | | | file data time | | | | | |
| FFE6H | 65511 | | | | file checksum | | | | | |
| Meter Restart | | | | | | | | | | |
| FFFAH | 65531 | | | | Complete Meter Restart Command - write 0x0001 | | | | | |
| FFFBH | 65532 | | | | Reserved | | | | | |
| Meter Serial Number | | | | | | | | | | |
| FFFCH-FFFFH | 65533-65536 | | | | Meter Serial Number | 9,999,999,999,999,999 / 0 | 1 | | R | 16-digit Packed BCD |

Chapter 3

Communication Data Formats

This chapter expands upon information listed in the Nexus® 1500 meter's Modbus Register Map (Chapter 2). Section Headings (F1, F2, etc) refer to the value in the Register Map's "Type" column.

3.1: Type F1 Null Terminated ASCII String

- Length: Depends on the reading.
- Each register contains two bytes. Each byte stands for an ASCII character. The printable portion of the string is terminated with a Null character (ASCII 00H). Any characters after the terminating Null are ignored.

Example:

Registers 00001 – 00008, the Device Name, might contain the following data:

| | | | | | | | | | | | | | | | | | |
|----------|-------------------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------|
| Address | 00001 | | 00002 | | 00003 | | 00004 | | 00005 | | 00006 | | 00007 | | 00008 | | |
| Value | 3031H | | 3037H | | 204EH | | 6578H | | 7573H | | 2031H | | 3530H | | 3200H | | |
| Bytes | 30H | 31H | 30H | 37H | 20H | | 43H | 65H | 78H | 75H | 73H | 20H | 31H | 35H | 30H | 30H | 00H |
| ASCII | ‘0’ | ‘1’ | ‘0’ | ‘7’ | “ | ‘N’ | ‘e’ | ‘x’ | ‘u’ | ‘s’ | “ | ‘1’ | ‘5’ | ‘0’ | ‘0’ | | Null |
| Register | “01” | | “07” | | “N” | | “ex” | | “us” | | “1” | | “50” | | “0” | | |
| String | “0107 Nexus 1500” | | | | | | | | | | | | | | | | |

3.2: Type F2 Fixed Length ASCII String

- Length: Depends on the reading.
- Each register contains two bytes. Each byte stands for an ASCII character. All bytes are significant. There is no terminating character.

Example:

Registers 00073 – 00074, the Nexus® Comm Boot Version Number, might contain the following data:

| | | | | |
|----------|--------|-----|-------|-----|
| Address | 00073 | | 00074 | |
| Value | 3030H | | 3134H | |
| Bytes | 30H | 30H | 31H | 31H |
| ASCII | ‘0’ | ‘0’ | ‘1’ | ‘1’ |
| Register | “00” | | “14” | |
| String | “0014” | | | |

3.3: Type F3 Time Stamp

- Length: 4 Registers (8 bytes)
- Each register contains two bytes. Each byte contains a binary number representing up to two digits in a part of date and time. The units for each byte are century, year, month, date, hour, minute, second and 10 millisecond. Hour is in 24-hour form, 00H = 0 = 12 AM, 01H = 1 = 1 AM, ..., 0BH = 11 = 11 AM, 0CH = 12 = 12 PM, 0DH = 13 = 1 PM, ..., 17H = 23 = 11 PM.

Example:

Registers 00081 – 00084, On Time, might contain the following data:

| | | | | | | | | |
|----------------|-----------------------------|------|-------|------|-------|--------|--------|----------------|
| Address | 00081 | | 00082 | | 00083 | | 00084 | |
| Value | 1404H | | 0619H | | 0913H | | 3056H | |
| Bytes | 14H | 04H | 06H | 19H | 09H | 13H | 30H | 56H |
| Decimal | 20 | 04 | 6 | 25 | 9 | 19 | 48 | 86 |
| Unit | Century | Year | Month | Date | Hour | Minute | Second | 10 Millisecond |
| Date | June 25, 2004 9:19:48:86 AM | | | | | | | |

3.4: Type F4 Day of Week

- Length: 1 Register (2 bytes)
- This register contains a 16-bit number, associated with the days of the week as follows:

| Value | Day of the Week | Value | Day of the Week |
|--------------|------------------------|--------------|------------------------|
| 0001H | Sunday | 0005H | Thursday |
| 0002H | Monday | 0006H | Friday |
| 0003H | Tuesday | 0007H | Saturday |
| 0004H | Wednesday | | |

3.5: Type F5 Not used by the Nexus® 1500 meter

3.6: Type F6 High Speed Input Delta and Current State

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in each byte are associated with the 8 High Speed Inputs, the least significant bit with Input 1, through to the most significant bit with Input 8.
- The most significant byte contains Delta information about High Speed Inputs; the least significant byte contains the Current State of the High Speed Inputs. For Delta bits, a bit value of 1 means one or more were noticed on this input during the last cycle, a bit value of 0 means no changes were noticed on this input during the last cycle. For Current State bits, a bit value of 1 means the input is open, a bit value of 0 means the input is closed.

Example:

Register 00118, 1 cycle High Speed Input Delta and Current State, might contain the following data.

| | | | | | | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|--------|---|--------------------------------|------|-----|-----|------|------|------|------|-----|
| Address | 00118 | | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | | |
| | 0 | 0 | 0 | 0 | | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | | 1 | |
| | High Speed Input Delta | | | | | | | | High Speed Input Current State | | | | | | | | |
| | 8 | 7 | 6 | 5 | 4 | | 3 | 2 | 1 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Meaning | – | – | – | – | – | | Change | – | – | Clsd | Opn | Opn | Clsd | Clsd | Clsd | Clsd | Opn |
| Interpretation | Inputs 7, 6, and 5, and 1 are now open and Input 3 changed state at least once during the last cycle. | | | | | | | | | | | | | | | | |

3.7: Type F7 Secondary Voltage, Current, VA, VAR, Watts, Hz or Flicker

- Length: 2 Registers (4 bytes)
- Range: +32767 / -32768
- Unit: 1/65536 V, A, VA, VAR, W or Hz
- The registers together contain a four-byte signed (2's complement) integer. Positive values have the most significant bit clear, and have the same magnitude as an unsigned integer. Negative values have the most significant bit set. The magnitude of a negative value is found by complimenting (inverting) all of the bits and adding 1.

Example:

Registers 00153 – 00154, Tenth second Phase A VAR might contain the following data:

| | | |
|------------------------------------|---------------------|-------|
| Address | 00153 | 00154 |
| Value | 0001H | 4000H |
| 4-byte signed integer (Hex) | 00014000H | |
| Most significant bit | 0 | |
| 4-byte integer (Decimal) | +81920 | |
| 1/65536 VAR Secondary | +1.25 VAR secondary | |

Register 00153 – 00154, Tenth second Phase A VAR, might contain the following data:

| | | |
|------------------------------------|---------------------|-------|
| Address | 00153 | 00154 |
| Value | FFFEH | C000H |
| 4-byte signed integer (Hex) | FFFE C000H | |
| Most significant bit | 1 | |
| Compliment | 00013FFFH | |
| Increment | 00014000H | |
| 4-byte integer (Decimal) | -81920 | |
| 1/65536 VAR Secondary | -1.25 VAR secondary | |

3.8: Type F8 Power Factor

- Length: 1 Register (2 bytes)
- Range: 3.999 / 0.000
- Unit: 0.001 PF
- This register contains a 16 bit unsigned number. This number varies from 0000H – 0F9FH, or 0 to 3999 in decimal. This representation allows for expressing Power Factor from 0 to 1 in the four quadrants, as follows:

| Quadrant | Value | | PF | Value | | PF | Value | | PF |
|----------|-------|------|--------|-------|------|-------|-------|------|-------|
| | Hex | Dec | | Hex | Dec | | Hex | Dec | |
| 1 | 0000H | 0 | 0.0000 | 01F4H | 500 | 0.500 | 03E7H | 999 | 0.999 |
| 4 | 03E8H | 1000 | 1.000 | 05DCH | 1500 | 0.500 | 07CFH | 1999 | 0.001 |
| 3 | 07D0H | 2000 | 0.0000 | 09c4h | 2500 | 0.500 | 0bb7h | 2999 | 0.999 |
| 2 | 0bb8h | 3000 | 1.000 | 0dach | 3500 | 0.500 | 0f9fh | 3999 | 0.001 |

Application of sign and lead/lag labels (is 9CFH -0.500 Lead or +0.500 Lag) depends on the Programmable Setting called Power Factor Labeling, located in Register 46019, described in Section 7.19.

Example:

Register 00171, Tenth second Phase A Power Factor, might contain the data shown on the right:

| | |
|----------------|-----------|
| Address | 00171 |
| Value | 0C10H |
| Decimal | 3088 |
| PF | Q2, 0.912 |

Example:

Register 00171, Tenth second Phase A Power Factor, might contain the data: shown on the right:

| | |
|----------------|-----------|
| Address | 00171 |
| Value | 0390H |
| Decimal | 912 |
| PF | Q1, 0.912 |

3.9: Type F9 Angle

- Length: 1 Register (2 byte)
- Range: +180 / -180
- Unit: 0.01 degree
- This register contains a 16-bit signed (2's compliment) number. Positive values have the most significant bit clear, and have the same magnitude as an unsigned integer. Negative values have the most significant bit set. The magnitude of a negative value is found by complimenting (inverting) all of the bits and adding 1.

Example:

Register 00175, Tenth second Phase A-N Voltage to Auxiliary Voltage Phase Angle, might contain the following data:

| | |
|-----------------------------|----------------|
| Address | 00175 |
| Value | 08BBH |
| Most significant bit | 0 |
| Decimal | +2235 |
| Angle | +22.35 Degrees |

Example:

Register 00175, Tenth second Phase A-N Voltage to Auxiliary Voltage Phase Angle, might contain the following data.

| | |
|-----------------------------|----------------|
| Address | 00175 |
| Value | F745H |
| Most significant bit | 1 |
| Compliment | 08BAH |
| Increment | 08BBH |
| Decimal | -2235 |
| Angle | -22.35 Degrees |

3.10: Type F10 Percentage

- Length: 1 Register (2 bytes)
- Range: +327.67% / - 327.68%
- Unit: 0.01%
- This register contains a 16-bit signed (2's compliment) number. Positive values have the most significant bit clear, and have the same magnitude as an unsigned integer. Negative values have the most significant bit set. The magnitude of a negative value is found by complimenting (inverting) all of the bits and adding 1.

Example:

Register 00234, One second Voltage Imbalance, might contain the following data:

| | |
|-----------------------------|----------|
| Address | 00234 |
| Value | 08BBH |
| Most significant bit | 0 |
| Decimal | +2235 |
| Percent | +22.35 % |

Example:

Register 00234, One second Voltage Imbalance, might contain the following data:

| | |
|-----------------------------|----------|
| Address | 00234 |
| Value | F745H |
| Most significant bit | 1 |
| Compliment | 08BAH |
| Increment | 08BBH |
| Decimal | -2235 |
| Percent | -22.35 % |

3.11: Type F11 Energy Counter (Packed BCD / Secondary)

- Length: 4 Registers (8 bytes)
- Range: 9,999,999,999,999,999 / 0 VAh, VARh or Wh secondary
- Unit: 1 VAh, VARh or Wh secondary
- These registers contain 8 bytes of Packed BCD. Each register contains 2 bytes. Each byte contains 2 nibbles. Each nibble represents a decimal digit from 0-9. All together, there are 16 nibbles, and therefore a 16-digit decimal number can be represented.

Example:

Registers 00982 – 00985, VAhour, might contain the following data:

| | | | | | | | | | | | | | | | | | |
|---------|---------------------------|----|---------|----|-------|----|-----|----|-------|----|-----|----|-------|----|-----|--|----|
| Address | 00982 | | | | 00983 | | | | 00984 | | | | 00985 | | | | |
| Value | 000H | | | | 0001H | | | | 0534H | | | | 1284H | | | | |
| Bytes | 00H | | 00H 00H | | | | 01H | | 05H | | 34H | | 12H | | 84H | | |
| Nibbles | 0H | 0H | 0H | 0H | 0H | 0H | 0H | 1H | 0H | 5H | 3H | 4H | 1H | 2H | 8H | | 4H |
| Digit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 3 | 4 | 1 | 2 | 8 | | 4 |
| Unit | P | T | | | G | | | M | | | k | | | | | | |
| VAh | 105,341,284 VAh secondary | | | | | | | | | | | | | | | | |

3.12: Type F12 Energy Counter (Binary / Secondary)

- Length: 4 Registers (8 bytes)
- Range: 9,999,999,999,999,999 / 0 VAh, VARh or Wh secondary
- Unit: 1 VAh, VARh or Wh secondary

- These registers contain an 8-byte unsigned integer.

Example:

Registers 01002-01005, VAhour, might contain the following data:

| Address | 01002 | 01003 | 01004 | 01005 |
|-------------------------------|---------------------------|-------|-------|-------|
| Value | 0000H | 0000H | 0647H | 6164H |
| 8-byte unsigned integer (Hex) | 0000000006476164H | | | |
| Decimal | 105341284 | | | |
| VAh | 105,341,284 VAh secondary | | | |

3.13: Type F13 Phase Sequence

- Length: 1 Register (2 bytes)
- This register contains a 16-bit unsigned integer, associated with the Phase Sequence as follows:

| Value (Hex) | Phase Sequence |
|-------------|----------------|
| 0000H | A-B-C |
| 0001H | C-B-A |

3.14: Type F14 Average Status

- Length: 1 Register (2 bytes)
- This register contains a 16-bit unsigned integer, associated with the Average Status as follows:

| Value (Hex) | Average Status |
|-------------|-------------------|
| 0000H | Not yet available |
| 0001H | Available |

- This is the Status Register for Block Window Average (02605-02683) and Rolling Window Average (02684-02768).
- If a value is not yet computed by the Nexus® device, the Status value will be zero. When the value is zero, Communicator EXT software displays asterisks for values.

In Modbus, a value will be returned based on the type of reading.

- Negative Maximums and Positive Minimums return: 7FFFFFFFH or 2,147,483,647.
- Positive Maximums and Negative Minimums return: 80000000H or +/- 2,147,483,647.

No Timestamp will be assigned to the reading.

3.15: Type F15 Limit States

- Length: 1 Register (2 bytes)

- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Limits, the most significant bit of the most significant byte with Limit 1 (or 17), through to the least significant bit of the least significant byte with Limit 16 (or 32).
- A bit value of 1 means that the particular limit has been passed, while a bit value of 0 means that the particular limit has not been passed.

Example:

Register 02769, Limit States, Value 1 Comparison, 1–16, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|---|----|----|----|----|-----|----|----|-----|-----|-----|----|----|----|----|-----|
| Address | 02769 | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Points | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Limit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Passed | No | No | No | No | No | Yes | No | No | No | Yes | Yes | No | No | No | No | Yes |
| Interpretation | Limits 6, 10, 11, and 16 are currently passed; all others are not passed. | | | | | | | | | | | | | | | |

3.16: Type F16 Low Speed Input States

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in the most significant byte are associated with the eight Status Inputs, the most significant bit with input 8, through to the least significant bit with Input 1. The least significant byte is undefined.
- A bit value of 1 means the input is open; a bit value of 0 means the input is closed.

Example:

Register 02773, Low Speed Input States, might contain the following data:

| | | | | | | | | | | | | | | | | |
|----------------|---|-----|------|-----|------|------|------|-----|-----------|---|---|---|---|---|---|---|
| Address | 02773 | | | | | | | | | | | | | | | |
| Value | 5100H | | | | | | | | | | | | | | | |
| Bytes | 51H | | | | | | | | 00H | | | | | | | |
| Bits | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | Undefined | | | | | | | |
| Input | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Meaning | Clsd | Opn | Clsd | Opn | Clsd | Clsd | Clsd | Opn | | | | | | | | |
| Interpretation | Inputs 7, 5, and 1 are open; all other inputs are closed. | | | | | | | | | | | | | | | |

3.17: Type F17 Digital Input States In Digital Input Option Board

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in the Most significant byte are associated with the eight Digital Inputs in a Digital Input Option board, the most significant bit with input 8, through to the least significant bit with Input 1. The least significant byte is undefined.
- A bit value of 1 means the input is open; a bit value of 0 means the input is closed.

Example: Register 0AD5H, Digital Input States, Digital Input Option board in Slot 3, might contain the following data:

| | | | | | | | | | | | | | | | | |
|----------------|--|------|--------|------|--------|--------|--------|------|-----------|---|----|----|----|----|----|----|
| Address (Hex) | 0AD5H | | | | | | | | | | | | | | | |
| Value | 5100H | | | | | | | | | | | | | | | |
| Bytes | 51H | | | | | | | | 00H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| Point | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | Digital Input States | | | | | | | | Undefined | | | | | | | |
| Input | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | | | | | |
| Meaning | Closed | Open | Closed | Open | Closed | Closed | Closed | Open | | | | | | | | |
| Interpretation | Inputs 7, 5 and 1 are open; all other inputs are closed. | | | | | | | | | | | | | | | |

3.18: Type F18 Digital Input Option Board Input Accumulation / Cumulative Demand

- Length 2 Registers (4 bytes)
- Range 4,294,967,295/0
- Unit Accumulated Transitions, Accumulated Primary Watts
- These registers contain a 4 byte unsigned integer.

Example:

Registers 0AD6H-0AD7H, Input Accumulation 1, Digital Input Option Board in slot 3, might contain the following data:

| | | |
|-------------------------|-------------------------------------|-------|
| Addr (Hex) | 0AD6H | 0AD7H |
| Value | 0647H | 6164H |
| 4 byte unsigned integer | 06476164H | |
| Decimal | 105341284 | |
| Accumulated Transitions | 105,341,284 Accumulated Transitions | |

3.19: Type F19 Energy Counter (Packed BCD / Primary)

- Length: 4 Registers (8 bytes)
- Range: 9,999,999,999,999/0 VAh, VARh or Wh primary
- 1 VAh, VARh or Wh primary
- These registers contain 8 bytes of Packed BCD. Each register contains 2 bytes. Each byte contains 2 nibbles. Each nibble represents a decimal digit from 0-9. All together, there are 16 nibbles. Therefore, a 16-digit decimal number can be represented.

Example:

Register 02850-02853, VAhour, might contain the following data:

| | | | | | | | | | | | | | | | | | |
|---------|-------------------------|----|---------|----|-------|----|-----|----|-------|----|-----|----|-------|----|-----|--|----|
| Address | 02850 | | | | 02851 | | | | 02852 | | | | 02853 | | | | |
| Value | 000H | | | | 0001H | | | | 0534H | | | | 1284H | | | | |
| Bytes | 00H | | 00H 00H | | | | 01H | | 05H | | 34H | | 12H | | 84H | | |
| Nibbles | 0H | 0H | 0H | 0H | 0H | 0H | 0H | 1H | 0H | 5H | 3H | 4H | 1H | 2H | 8H | | 4H |
| Digit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 3 | 4 | 1 | 2 | 8 | | 4 |
| Unit | P | T | | | G | | | M | | | k | | | | | | |
| VAh | 105,341,284 VAh primary | | | | | | | | | | | | | | | | |

3.20: Type F20 Energy Counter (Binary / Primary)

- Length: 4 Registers (8 bytes)
- Range: 9,999,999,999,999,999/0 VAh, VARh or Wh primary
- 1 VAh, VARh or Wh primary
- These registers contain an 8-byte unsigned integer.

Example:

Register 02898-02901, VAhour, might contain the following data:

| Address | 02898 | 02899 | 02900 | 02901 |
|-------------------------|-------------------------|-------|-------|-------|
| Value | 0000H | 0000H | 0647H | 6164H |
| 8-byte unsigned integer | 0000000006476164H | | | |
| Decimal | 105341284 | | | |
| VAh | 105,341,284 VAh primary | | | |

3.21: Type F21 Year

- Length: 1 Register (2 bytes)
- Each byte contains a binary number representing up to two digits in a part of a year. The units for each byte are century and year.

Example:

Register 34821, TOU Calendar Year 1 Calendar Year, might contain the following data:

| Address | 34821 | |
|---------|---------|------|
| Value | 1363H | |
| Bytes | 13H | 63H |
| Decimal | 19 | 99 |
| Unit | Century | Year |
| Date | 1999 | |

3.22: Type F22 TOU Profile per Day

- Length: 1 Register (2 bytes)
- Each byte stands for a different day of the year. Days are listed in calendar order, including the allowance for a leap year. Each byte contains an enumeration indicating which TOU Profile to use for that day. The enumerations are as follows:

| Value(Hex) | Profile | Value(Hex) | Profile |
|------------|----------|------------|-----------|
| 00H | Profile1 | 08H | Profile9 |
| 01H | Profile2 | 09H | Profile10 |
| 02H | Profile2 | 010H | Profile11 |
| 03H | Profile3 | 011H | Profile12 |
| 04H | Profile4 | 012H | Profile13 |
| 05H | Profile5 | 013H | Profile14 |
| 06H | Profile6 | 014H | Profile15 |
| 07H | Profile7 | 015H | Profile16 |

Example:

Register 34954, TOU Calendar Year 1 Mar 2 (Mar1) / Mar 3 (Mar 2), might contain the following data:

| | | |
|----------------------------|----------------------|----------------------|
| Address | 34954 | |
| Value | 0305H | |
| Bytes | 03H | 05H |
| Decimal | 3 | 5 |
| Meaning | Profile 3 | Profile 5 |
| Day | March 4 | March 5 |
| Day (Leap Year) | March 3 | March 4 |
| Meaning | Profile 3 on March 4 | Profile 5 on March 5 |
| Meaning (Leap Year) | Profile 3 on March 3 | Profile 5 on March 4 |

3.23: Type F23 TOU Profile Status

- Length: 1 Register (2 bytes)
- This register contains an enumeration indicating the Status of the Profile. The enumeration is as follows:

| Value (Hex) | Status |
|--------------------|---------------|
| 00H | Not Used |
| 01H | Programmed |

Example:

Register 35107, TOU Calendar Year 1 Profile 1 Status, might contain the following data:

| | |
|----------------|------------------------------------|
| Address | 35107 |
| Value | 0001H |
| Decimal | 1 |
| Meaning | TOU Year 1 Profile 1 is programmed |

3.24: Type F24 TOU Daily Profile Register Assignment

- Length: 1 Register (2 bytes)
- Each register contains 2 bytes. Each byte contains 2 nibbles. Each nibble contains an enumeration indicating which TOU Register is to be used during the indicated 15-minute period. The enumerations are as follows:

| Value(Hex) | Register |
|-------------------|-----------------|
| 0H | Register1 |
| 1H | Register2 |
| 2H | Register3 |
| 3H | Register4 |
| 4H | Register5 |
| 5H | Register6 |
| 6H | Register7 |
| 7H | Register8 |

Example:

Register 35108, TOU Calendar Year 1 Profile 1 for 00:00, 00:15, 00:30 & 00:45, might contain the following data:

| | | | | |
|----------------|----------------------------|-------------|-------------|-------------|
| Address | 35108 | | | |
| Value | 1234H | | | |
| Bytes | 12H | | 34H | |
| Nibbles | 1H | 2H | 3H | 4H |
| Decimal | 1 | 2 | 3 | 4 |
| Period | 00:00-00:14 | 00:15-00:29 | 00:30-00:44 | 00:45-00:59 |
| Meaning | Profile 1 from 00:00-00:14 | | | |
| | Profile 2 from 00:15-00:29 | | | |
| | Profile 3 from 00:30-00:44 | | | |
| | Profile 4 from 00:45-00:59 | | | |

3.25: Type F25 TOU Profile Monthly End Day

- Length: 1 Register (2 bytes)
- Each byte stands for a different month of the year. Each byte contains a binary number indicating what the last day of the monthly billing cycle should be for that month. Billing periods are up to and including the end day.

Example:

Register 35507, TOU Calendar Year 1 Monthly End Day Jan & Feb, might contain the following data:

| | | |
|----------------|--|----------|
| Address | 35507 | |
| Value | 0E0FH | |
| Bytes | 0EH | 0FH |
| Decimal | 14 | 15 |
| Month | January | February |
| Day | Jan 14 | Jan 15 |
| Meaning | Billing months run through January 14, from January 15 through February 15 and start on February 16. | |

3.26: Type F26 TOU Calendar DST Enable / Average Selection

- Length: 1 Register (2 bytes)
- The first byte contains an enumeration indicating whether Daylight Savings Time is enabled for TOU computations. The enumeration is as follows:

| | |
|--------------------|---|
| Value (Hex) | Selection |
| 00H | Daylight Savings Time is disabled. |
| 01H | Daylight Savings Time is enabled with default parameters. |
| 02H | Daylight Savings Time is enabled with custom parameters. |

- The default parameters are to start on the first Sunday in April at 01:59:59.999 and to end on the last Sunday in October at 01:59:59.999. Custom parameters means to use of the dates programmed in the Start and End Date Daylight Savings Time registers from the appropriate TOU Calendar Year.
- The second byte contains an enumeration indicating which form of average is to be used for Peak and Coincident Demand functions. The enumeration is as follows:

| Value (Hex) | Average |
|-------------|------------------------|
| 00H | Block Window Average |
| 01H | Rolling window Average |
| 02H | Cumulative Demand |

Example:

Register 35729, TOU Calendar Year0 DST Enable / Average Selection, might contain the following data:

| | | |
|----------------|----------------------|--|
| Address | 35729 | |
| Value | 0001H | |
| Bytes | 00H | 01H |
| Decimal | 0 | 1 |
| Purpose | DST Enabled | Average Selection |
| Meaning | DST Disabled for TOU | Rolling Window Averages for TOU Peak and Coincident Demand |

3.27: Type F27 TOU Upload Calendar Window Sequence / Status

- Length: 1 Register (2 bytes)
- The first byte contains an unsigned integer acting as a sequence number for actions involving the Time of Use Upload Calendar Block. The sequence number increments with action performed.
- The second byte contains an enumeration indicating the status of the last action involving the Time of Use Upload Calendar Block. The enumeration is as follows:

| Value (Hex) | Status |
|-------------|-----------------------------|
| 00H | Action failed. |
| 01H | Action passed. |
| 02H | Action is not yet finished. |

Example:

Register 36608, TOU Upload Calendar Window Sequence / Status, might contain the following data:

| | | |
|----------------|-----------------------------|------------|
| Address | 36608 | |
| Value | 4202H | |
| Bytes | 42H | 02H |
| Decimal | 66 | 2 |
| Purpose | Sequence | Status |
| Meaning | Sequence #66 | Unfinished |
| Meaning | Sequence #66 is unfinished. | |

3.28: Type F28 TOU Upload Calendar Window ID

- Length: 1 Register (2 bytes)
- Range: 1 - 14
- This register contains an enumeration indicating which TOU Calendar Window is being uploaded through the Upload Window. The values 1 - 14 indicate Windows 1 - 14.

Example:

Register 36609, TOU Upload Calendar Window ID, might contain the following data:

| | |
|----------------|-----------|
| Address | 36609 |
| Value | 0DH |
| Decimal | 13 |
| Meaning | Window 13 |

3.29: Type F29 TOU Upload Calendar Window Data

- Length: 1 Register (2 bytes)
- This register contains data intended to update a portion of the TOU Calendar.

3.30: Type F30 TOU Upload Calendar Window Checksum

- Length: 1 Register (2 bytes)
- This register contains an unsigned integer which is the checksum for the rest of the TOU Upload Calendar Window.

Example:

Register 36736, TOU Upload Calendar Window Checksum, might contain the following data:

| | |
|----------------|--------------------|
| Address | 36736 |
| Value | 3245H |
| Decimal | 12869 |
| Meaning | Checksum is 12869. |

3.31: Type F31 TOU Calendar Selection

- Length: 1 Register (2 bytes)
- This register is used to indicate the TOU Calendar Year desired to be loaded into the TOU Calendar Window. The enumeration is as follows:

| Value (Hex) | Year |
|-------------|------------------|
| 0000H | Year 1 |
| 0001H | Year 2 |
| 0002H-0013H | Year 3 - Year 20 |
| 0014H-FFFFH | Undefined |

3.32: Type F32 TOU Calendar Header Status / Year Status

- Length: 1 Register (2 bytes)
- The first byte indicates the status of the TOU Calendar Header Block. The second byte indicates the status of the requested TOU Calendar Year. The enumeration for each byte is as follows:

| Value (Hex) | Year |
|-------------|-----------------------------|
| 00H | Action failed. |
| 01H | Action passed. |
| 02H | Action is not yet finished. |

3.33: Type F33 Temperature

- Length: 1 Register (2 bytes)
- Range: +327.67 C / - 327.68 C
- Unit: 0.01 degree C
- This register contains a 16-bit signed (2's compliment) number. Positive values have the most significant bit clear and have the same magnitude as an unsigned integer. Negative values have the most significant bit set. The magnitude of a negative value is found by complementing (inverting) all of the bits and adding 1.

Example:

Register 05946, meter's Internal Temperature, might contain the following data:

| | |
|----------------------|-----------------|
| Address | 05946 |
| Value | 08BBH |
| Most significant bit | 0 |
| Decimal | +2235 |
| Celsius | +22.35 degree C |

Register 05946, meter's Internal Temperature, might contain the following data:

| | |
|-----------------------------|-----------------|
| Address | 05946 |
| Value | F745H |
| Most significant bit | 1 |
| Compliment | 08BAH |
| Increment | 08BBH |
| Decimal | 12235 |
| Celsius | 122.35 degree C |

3.34: Type F34 Limit and Relay Logic States

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Limits or Relays, the most significant bit of the most significant byte with Limit 1 (or 17, or Relay 1), through to the least significant bit of the least significant byte with Limit 16 (or 32, or Relay 16).
- A bit value of 1 means TRUE, while a bit value of 0 means FALSE. TRUE and FALSE result from the AND, OR, XOR, Hysteresis and NOT of two input values of 1 or 0.

Example:

Register 05979, Limit States, Combinations, 1 - 16, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|--|---|---|---|---|---|---|---|-----|----|----|----|----|----|----|----|
| Address | 05979 | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Limit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Logic (T/F) | F | F | F | F | F | T | F | F | F | T | T | F | F | F | F | T |
| Interpretation | Limit Combinations, 6, 10, 11 and 16 are currently TRUE; all others are FALSE. | | | | | | | | | | | | | | | |

3.35: Type F35 Relay Delays

- Length: 1/2 Register (1 byte) (2 per Register)
- This register has two bytes. Each byte contains an unsigned integer which is a count-down delay. A relay logic tree must be stable for the duration of the delay before triggering a relay. Delays are preloaded when the Gate G value changes. They are decremented every pass thereafter, until they reach zero.

Example:

Register 06000, Delay Timer, Relay 1 / Relay 2, might contain the following data:

| | | |
|-----------------------|---|-----|
| Address | 04H | 00H |
| Value | 0400H | |
| Bytes | 06000 | |
| Interpretation | Relay 1 has 4 seconds of delay remaining, Relay 2 has no delay remaining. | |

3.36: Type F36 Desired Relay States

- Length: 1 Register (1 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Relays, the most significant bit of the most significant byte with Relay 1, through the least significant bit of the least significant byte with Relay 16.
- A bit value of 1 means the relay should be energized (connected to Normal Open); a bit value of 0 means the relay should be de-energized (connected to Normal Close). These are states pending transmission to the relays.

Example:

Register 06008, Desired Relay States, Relays 1-16, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|---|----|----|----|----|--|----|----|-----|----|----|----|----|----|----|----|
| Address | 06008 | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | | | 1 | 0 | 0 | 0 | | 1 | 1 | 0 | 0 | 0 |
| Limit | 1 | 2 | 3 | 4 | 5 | | 6 | 7 | 8 | 9 | | 10 | 11 | 12 | 13 | 14 |
| State (NO/NC) | NC | NC | NC | NC | NC | | NO | NC | NC | NC | NO | NO | NC | NC | NC | NO |
| Interpretation | Relays 6, 10, 11 and 16 should be energized; all others de-energized. | | | | | | | | | | | | | | | |

3.37: Type F37 Relays Pending Update

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Relays, the most significant byte with Relay 1 through to the least significant bit of the least significant byte with Relay 16.
- A bit value of 1 means the physical relay needs to be updated, a bit value of 0 means the physical relay does not need to be updated.

Example:

Register 06009, Relays Pending Updates 1-16, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|-----|---|---|-----|-----|-----|----|----|----|----|-----|
| Address | 06009 | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Point | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Relay | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Update? | Yes | | | | | Yes | | | | Yes | Yes | | | | | Yes |
| Interpretation | Relays 6, 10, 11 and 16 need to be updated, all others are in their correct states. | | | | | | | | | | | | | | | |

3.38: Type F38 Shadowed Relay States

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Relays, the most significant byte with Relay 1 through to the least significant bit of the least significant byte with Relay 16.
- A bit value of 1 means the relay is supposed to be energized (connected to Normal Open), a bit value of 0 means the relay is supposed to be de-energized (connected to Normal Close). These states have not necessarily been confirmed by polling the relay device.

Example:

Register 06010, Shadowed Relay States 1-16, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|---|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|
| Address | 060010 | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | | 1 | 0 | 0 | | 1 | 0 | 0 | 0 | 0 | | |
| Point | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Relay | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| State (NO/NC) | NC | NC | NC | NC | NC | NO | NC | NC | NC | NO | NC | NC | NC | NC | NC | NC |
| Interpretation | Relays 6 and 10 are supposed to be energized, all others de-energized, not necessarily confirmed. | | | | | | | | | | | | | | | |

3.39: Type F39 Confirmed Polled Relay States

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Relays, the most significant byte with Relay 1 through to the least significant bit of the least significant byte with Relay 16.
- A bit value of 1 means the relay was energized (connected to Normal Open) when last polled, a bit value of 0 means the relay was de-energized (connected to Normal Close) when last polled. These states may not be current on the relays, since operations may have occurred since the last poll.

Example:

Register 06011, Confirmed Polled Relay States 1-16, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|---|----|----|----|----|--|----|----|-----|----|--|----|----|----|----|----|
| Address | 060011 | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | | | 1 | 0 | 0 | 0 | | 1 | 1 | 0 | 0 | 0 |
| Point | 0 | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 | | 9 | 10 | 11 | 12 | 13 |
| Relay | 1 | 2 | 3 | 4 | 5 | | 6 | 7 | 8 | 9 | | 10 | 11 | 12 | 13 | 14 |
| State (NO/NC) | NC | NC | NC | NC | NC | | NO | NC | NC | NC | | NO | NO | NC | NC | NC |
| Interpretation | Relays 6, 10, 11, and 16 were energized when last polled, all others were de-energized. | | | | | | | | | | | | | | | |

3.40: Type F40 Valid Flags for Confirmed Relay States

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Relays, the most significant byte with Relay 1 through to the least significant bit of the least significant byte with Relay 16.
- A bit value of 1 means the confirmed states in Confirmed Polled Relay States register (06011) are valid, a bit value of 0 means the confirmed states have not yet been polled.

Example:

Register 06012, Valid Flags for Confirmed Relay States, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|---|-----|-----|--|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|
| Address | 060012 | | | | | | | | | | | | | | | |
| Value | FFF0H | | | | | | | | | | | | | | | |
| Bytes | FFH | | | | | | | | F0H | | | | | | | |
| Bits | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | 0 | 0 | 0 |
| Point | 0 | 1 | 2 | | 3 | 4 | 5 | 6 | 7 | 8 | | 9 | 10 | 11 | 12 | 13 |
| Relay | 1 | 2 | 3 | | 4 | 5 | 6 | 7 | 8 | 9 | | 10 | 11 | 12 | 13 | 14 |
| Valid? | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes |
| Interpretation | Confirmed states for Relays 13-16 have not yet been polled and are not yet valid. | | | | | | | | | | | | | | | |

3.41: Type F41 Locked Relays, Relays 1-16

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Relays, the most significant byte with Relay 1 through to the least significant bit of the least significant byte with Relay 16.
- A bit value of 1 means the relay has been locked, overriding the Relay Logic Tree for this relay. A bit value of 0 means the relay is operating normally according to the Relay Logic Tree.

Example:

Register 06013, Locked Relays, Relays 1-16, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|------|---|---|-----|------|------|----|----|----|----|------|
| Address | 060013 | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Point | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Relay | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Locked? | | | | | | Lock | | | | Lock | Lock | | | | | Lock |
| Interpretation | Relays 6, 10, 11, and 16 are locked; all other relays are under control of the RelayLogic tree. | | | | | | | | | | | | | | | |

3.42: Type F42 Locked Relay States

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the 16 Relays, the most significant byte with Relay 1 through to the least significant bit of the least significant byte with Relay 16.
- These bits are valid only if the relays have been selected for locking, as reported in the Locked Relays register, 06013.
- A bit value of 1 means the relay is locked energized (connected to Normal Open). A bit value of 0 means the relay is locked de-energized (connected to Normal Close).

Example:

Register 06014, Locked Relay States, Relays 1-16, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------|---|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|
| Address | 060014 | | | | | | | | | | | | | | | |
| Value | 0461H | | | | | | | | | | | | | | | |
| Bytes | 04H | | | | | | | | 61H | | | | | | | |
| Bits | 0 | 0 | 0 | 0 | | 1 | 0 | 0 | | 1 | 1 | 0 | 0 | 0 | | 1 |
| Point | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Relay | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| NO/NC | NC | NC | NC | NC | NC | NO | NC | NC | NC | NO | NO | NC | NC | NC | NC | NO |
| Interpretation | Relays 6, 10, 11, and 16 are energized, all others are de-energized if they are locked. | | | | | | | | | | | | | | | |

3.43: Type F43 Miscellaneous Flags

- Length: 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with various miscellaneous functions as follows.

| Bit | Point | Meaning |
|----------|-------|---|
| 15 (MSB) | 0 | RTC Clock Battery Status |
| 14 | 1 | User Set Current Threshold in use |
| 13 | 2 | DSP1 Internal Failure |
| 12 | 3 | Device Profile Changed before current meter start |
| 11 | 4 | reserved |
| 10 | 5 | Clock date/time changed by user |
| 9 | 6 | DST active |
| 8-1 | 7-14 | Undefined |
| 0 (LSB) | 15 | Undefined |

Example:

Register 1796H, Miscellaneous Flags, might contain the following data:

| | | | | | | | | | | | | | | | | |
|----------------|-----------------|---|---|---|---|---|---|---|-----|---|----|----|----|----|----|----|
| Addr (Hex) | 1796H | | | | | | | | | | | | | | | |
| Value | 8000H | | | | | | | | | | | | | | | |
| Bytes | 80H | | | | | | | | 00H | | | | | | | |
| Bits | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Point | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Interpretation | Battery is Low. | | | | | | | | | | | | | | | |

3.44: Type F44 Digital Input Option Board Data States

- Length 1 Register (2 bytes)
- This register has two bytes. Each byte has eight bits. The bits in these bytes are associated with the status of the data received from Digital Input Option Board as follows:.

| Bit | Point | Meaning |
|-------------------------------------|-------|--|
| 15 (MSB) (Modbus Register 0AD5H) | 0 | Status of Data from Digital Input Option Board in slot 3 |
| 14 (Modbus Register 0AE6H) | 1 | Status of Data from Digital Input Option Board in slot 4 |
| 13-0 (LSB) | | Undefined |

Digital Input Option Board Data Status –A bit value of 0 means that the data from this Digital Input option board is not yet valid; either the board is not present or has not yet been polled. A bit value of 1 means that the data from this Digital Input option board has been polled at least once and is valid.

Example:

Register 17DEH, Digital Input Option Board Data States, might contain the following data:

| | | | | | | | | | | | | | | | | |
|-----------------------------------|--|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|
| Addr (Hex) | 17DEH | | | | | | | | | | | | | | | |
| Value | 8000H | | | | | | | | | | | | | | | |
| Bytes | 80H | | | | | | | | 00H | | | | | | | |
| Bits | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Point | 0 | 1 | | | | | | | | | | | | | | |
| Digital Input Option Boards | 1 | 2 | | | | | | | | | | | | | | |
| Status | O K | - | - | - | | | | | | | | | | | | |
| Interpretation | Data from Digital Input Option Board in slot 3 (Register 0AD5H) are valid, data from Digital Input Option Board in slot 4 are not valid | | | | | | | | | | | | | | | |

3.45: Type F45 is not used by the Nexus® 1500 meter

3.46: Type F46 High Byte of Modbus Register (Signed)

- Length: 1 byte
- High Byte of Modbus Register, Signed
- Range: +127 / -128
- Unit: 1

3.47: Type F47 High Byte of Modbus Register (Unsigned)

- Length: 1 byte
- High Byte of Modbus Register, Unsigned
- Range: 255 / 0
- Unit: 1

3.48: Type F48 Low Byte of Modbus Register (Signed)

- Length: 1 byte
- Low Byte of Modbus Register, Signed
- Range: +127 / -128
- Unit: 1

3.49: Type F49 Low Byte of Modbus Register (Unsigned)

- Length: 1 byte
- Low Byte of Modbus Register, Unsigned
- Range: 255 / 0
- Unit: 1

3.50: Type F50 Two-Byte (Signed)

- Length: 2 bytes
- Two-Byte, Signed
- Range: +32,767 / -32,768
- Unit: 1

3.51: Type F51 Two-Byte (Unsigned)

- Length: 2 bytes
- Two-Byte, Unsigned
- Range: 65,535 / 0
- Unit: 1

3.52: Type F52 Four-Byte (Signed)

- Length: 4 bytes
- Four-Byte, Signed
- Range: +2,147,483,647 / -2,147,483,648
- Unit: 1

3.53: Type F53 Four-Byte (Unsigned)

- Length: 4 bytes
- Four-Byte, Unsigned
- Range: 4,294,967,295 / 0
- Unit: 1

3.54: Type F54 Eight-Byte (Signed)

- Length: 8 bytes
- Eight-Byte, Signed
- Range: +9,223,372,036,854,775,807 / -9,223,372,036,854,775,808
- Unit: 1

3.55: Type F55 Eight-Byte (Unsigned)

- Length: 8 bytes
- Eight-Byte, Unsigned
- Range: 18,446,744,073,709,551,615 / 0
- Unit: 1

3.56: Type F56 Flicker Countdowns

- Length: 1 Register (2 bytes)
- Range: 65,535 / 0 seconds
- Unit: 1 second
- This register contains an unsigned integer which is count-down in seconds until the end of a Flicker interval, Short Term or Long Term.

Example:

Register 06489, Short Term Flicker Countdown, might contain the following data:

| | |
|-----------------------|--|
| Address | 06489 |
| Value | 0400H |
| Decimal | 1024 |
| Interpretation | 1024 seconds remain until the next Short Term Flicker is computed. |

3.57: Type F57 Accumulation in the Interval

- Length: 1 Register (2 bytes)
- Range: 465,535 / 0
- Unit: VAh, VARh, Wh secondary or pulses
- These registers contain a 2-byte unsigned integer.

Example:

Register 06397, Total VA hour (Quadrants 1+2+3+4) in the Interval, Secondary, might contain the following data:

| | |
|----------------------|--------------------|
| Address | 06937 |
| Value | 0647H |
| Decimal | 1607 |
| VAh Secondary | 1607 VAh Secondary |

3.58: Type F58 12-bit RTU Sanity Register

- Length: 1 Register
- This register indicates the status of the meter. A normally functioning meter reports a value of 0x00000 or 0. Any non-zero value indicates that the unit is operating improperly.

3.59: Type F59 12-bit RTU Current, Voltage, W, VAR

- Length: 1 Register (2 bytes)
- Range: +5A / 0 A, + 150V / 0 V, +1500 W, VAR / -1500 W, VAR
- Unit: 5 / 2048 A, 150/2048 V, 1500 / 2048 W, VAR
- Each register contains a 16-bit integer. Positive values have the most significant bit clear and have the same magnitude as an unsigned integer. Negative values have the most significant bit set. The magnitude of a negative value is found by complementing (inverting) all of the bits and adding 1. The 16-bit integers have been constrained to the bounds of a signed 12-bit integer, +2047 through -2048.

Example:

Register 53250, Phase A Current, might contain the following data:

| | |
|--|-------|
| Address | 53250 |
| Value (Hex) | 0400H |
| 12-bit Signed Integer (Hex) | 400H |
| Most Significant Bit | 0 |
| 12-bit Signed Integer (Decimal) | +1024 |

| | |
|--------------|-------------|
| 5/2048 A sec | 2.500 A sec |
|--------------|-------------|

Register 53256, Total Watt, might contain the following data:

| | |
|---------------------------------|------------|
| Address | 53256 |
| Value (Hex) | FC00H |
| 12-bit Signed Integer (Hex) | C00H |
| Most Significant Bit | 1 |
| 12-bit Signed Integer (Decimal) | -1024 |
| 150-0/2048 W sec | -750 W sec |

3.60: Type F60 Energy Counter

- Length: 2 Registers (4 bytes)
- Range: +99,999,999 / 0 or 0 / -99,999,999 kWh, kVARh
- Unit: 1 kWh, kVARh
- Each pair of registers represents an Energy Counter in primary. Each register contains a value from 0 to 9,999 (0x00000 - 0x0270F), representing 4 digits of an Energy Counter. The first register is in units of 10's of MegaWatthour or Mega VARhour. The second register is in units of kilo Watthour or kilo VARhour. Combined, the pair of registers report up to 100 GWh primary of energy.

Example:

Registers 53267-53268, Positive Watthour, might contain the following data:

| | | | | | | | | | |
|-----------------|------------------------|---|---|---|---|-------|---|---|--|
| Address | 53267 | | | | | 53268 | | | |
| Value (Hex) | 04D2H | | | | | 162EH | | | |
| Value (Decimal) | 1234 | | | | | 5678 | | | |
| Digit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Unit | G | | M | | | k | | | |
| kWH Primary | 12,345,678 kWh primary | | | | | | | | |

3.61: Type F61 12-bit RTU Frequency

- Length: 1 Register (2 bytes)
- Range: 75 Hz / 45 Hz
- Unit: 30 / 4096 Hz
- This register contains a 16-bit unsigned integer. The 16-bit integer has been constrained to the bounds of an unsigned 12-bit integer, 4095 to 0. The Frequency represented by this register is offset by 45 Hz.

Example:

Register 53250, Phase A Current, might contain the following data:

| | |
|--|-----------|
| Address | 53250 |
| Value (Hex) | 0810H |
| 12-bit Unsigned Integer (Hex) | 810H |
| 12-bit Unsigned Integer (Decimal) | +2058 |
| 30/4096 A sec | 15.073 Hz |
| +45 Hz Offset | 60.073 Hz |

3.62: Type F62 Scaled Pulse Accumulation, Aggregation or Average

- Length: 4 Registers (8 bytes)
- Range: +9,223,372,036,854,776,807 / -9,223,372,036,854,776,808
- Unit: 1 Unit
- This register contains an 8-byte signed (2's complement) number. Positive values have the most significant bit clear and have the same magnitude as an unsigned integer. Negative values have the most significant bit set. The magnitude of a negative value is found by complementing (inverting) all of the bits and adding 1.
- Type F62 does not use the multiplier from the Energy Scale Settings from the Nexus® meter's Device Profile. It uses the multiplier from the Nexus® meter's Internal Input Pulse Accumulations Setup screen (Device Profile > Revenue & Energy Settings > Pulse Accumulations).

Example:

Registers 05834 - 05837, Block Window Average Aggregation 1, might contain the following data:

| | | | | |
|------------------------------------|------------------|-------|-------|-------|
| Address | 05834 | 05835 | 05836 | 05837 |
| Value (Hex) | 0000H | 0000H | 0001H | 2345H |
| 8 byte Signed Integer (Hex) | 000000000001245H | | | |
| Most Significant Bit | 0 | | | |
| Decimal | +74565 | | | |
| Accumulated Transitions | +74,565 Units | | | |

Registers 05834-05837, Block Window Average Aggregation 1, might contain the following data:

| | | | | |
|------------------------------------|--------------------|-------|-------|-------|
| Address | 05834 | 05835 | 05836 | 05837 |
| Value (Hex) | FFFFH | FFFFH | FFFEH | DCBBH |
| 8 byte Signed Integer (Hex) | FFFFFFFFFFFFEDCBBH | | | |
| Most Significant Bit | 1 | | | |
| Complement | 0000000000012345H | | | |
| Increment | 0000000000012345H | | | |
| Decimal | -74565 | | | |
| Accumulated Transitions | -74,565 Units | | | |

3.63: Type F63 Log Index

- Length: 1 Register (2 bytes)
- Range: 65,535 / 0
- Unit: 1 Unit
- This register contains a 2-byte MSB unsigned integer, which represents the First or Last Index for a given Log. First Indexes represent the Index of the First (Oldest) record in a log. Last Indexes represent the Index of the Last (Newest) record in a log. The value of 0x0FFFF for the Last Index indicates that the log is empty.

3.64: Type F64 Scaled Energy

- Length: 2 Registers (4 bytes)
- Range: 99 / 0 through 999,999,999 / 0 (variable, 2-9 digits)
- Unit: 10⁻⁷ through 10⁶ units (variable)
- This register contains an 4-byte signed integer. The range and resolution of a given reading is controlled by programmable Energy Scale Settings, which govern both the range of the reading (from 2 to 9 digits) and the units of the reading (from 7 decimal places of Wh (10⁻⁷) to no decimal places of MWh (10⁶). Refer to Type F65 for a description of the Scaled Energy Programmable Setting (Device Profile > Revenue & Energy Settings > Energy Scaling).

Example:

Registers 06912-06913, Total VAh (Quadrant 1+2+3+4) Scaled Primary, might contain the following data:

| | | |
|-------------------|-------------|-------|
| Address | 06912 | 06913 |
| Value | 075BH | CD15H |
| 4-byte Hex | 075HCD15H | |
| Decimal | 123,456,789 | |

- If the Programmable Settings indicated 5 decimal places of WH, then the interpreted value would be 1,234.56789 Wh.
- If the Programmable Settings indicated 0 decimal places of MWh, then

| | | | | | | | | |
|----------------|--------|---|---|------|---|----------------|---|---|
| Bit | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Meaning | Digits | | | Unit | | Decimal Places | | |

the interpreted value would be 123,456,789 MWh.

3.65: Type F65 Scaled Energy Setting

- Length: 1/2 a Register (1 byte)
- Each register contains 2 bytes. Each byte contains settings for a base quantity. The format of a byte is as follows:

- o Digits is a 3-bit field, which is offset by 2 to represent from 2 to 9 displayable digits.
- o Unit is a 2-bit field, where the values from 0 to 2 represent units of Wh (100), k (103) and M (106). The value 3 is undefined and is treated the same as 2, signifying M (106).
- o Decimal Places is a 3-bit field, where the bits represent from 0 to 7 decimal places.

Examples:

For the following, the Q1234 VAh has a current value internally of 123,456,789.0123 VAh.

| Register CA00H | | Digits | Unit | D.P. | Pattern | Reading in Register 1AFFH-1B00H | | Display |
|----------------|------------|--------|-----------------------|------|---------------|---------------------------------|----------|----------------|
| Hex | Binary | | | | | Hex | Decimal | |
| 20xxH | 001 00 000 | 3 | VAh, 10 ⁰ | 0 | xxxVAh | 000003 | 789 | 789VAh |
| 8BxxH | 100 01 011 | 6 | kVAh, 10 ³ | 3 | xxx.xxx kVAh | 0006F855H | 456789 | 456.789 kVAh |
| 88xxH | 100 01 000 | 6 | kVAh, 10 ³ | 0 | Xxxxxx kVAh | 0001E240H | 123456 | 123,456 kVAh |
| 93xxH | 100 10 011 | 6 | MVAh, 10 ⁶ | 3 | xxx.xxx MVAh | 0001E240H | 123456 | 123,456 MVAh |
| 72xxH | 011 10 010 | 5 | MVAh, 10 ⁶ | 2 | xxx.xx MVAh | 00003039H | 12345 | 123.45 MVAh |
| C2xxH | 110 00 010 | 8 | VAh, 10 ⁰ | 2 | xxxxxx.xx VAh | 02B90135H | 45678901 | 456,789.01 VAh |

- The Scaled Energy Programmable Setting can be accessed by clicking: Device Profile > Revenue & Energy Settings > Energy Scaling.

3.66: Type F66 TOU Upload Calendar Window Locked to Port

- Length: 1 Register (2 bytes)
- When read, this register contains an enumeration indicating to which port the TOU Upload Calendar Window is locked. The enumeration is as follows:

| | |
|----------------|---|
| Address | 36607 |
| Value | 0002H |
| Decimal | 2 |
| Meaning | TOU Calendar Upload Window is Locked to Port 2. |

| | |
|----------|------------------------|
| 0x00000 | Port 4 (I/O) |
| 0x00 001 | Port 3 |
| 0x00 002 | Port 2 |
| 0x00 003 | Port 1 (RS232/RS485) |
| 0x00 004 | Diagnostic Port |
| 0x000FF | Not locked to any port |

- Writing the value 0x00000 to this register requests the TOU Upload Calendar Window to be locked to that port.

Example:

Register 36607, TOU Upload Calendar Window Locked to Port, might contain the following data:

3.67: Type F67 K-Factor

- Length: 1 Register (2 bytes)
- Range: +327.67 / - 327.68
- Unit: 0.01
- This register contains a 16-bit signed (2's complement) number. Positive values have the most significant bit clear and have the same magnitude as an unsigned integer. Negative values have the most significant bit set. The magnitude of a negative value is found by complementing (inverting) all of the bits and adding 1.

Example:

Register 00390, Maximum K-Factor Phase A Current, might contain the following data:

| | |
|-----------------------------|--------|
| Address | 00390 |
| Value (Hex) | 08BBH |
| Most significant bit | 0 |
| Decimal | +2235 |
| K-Factor | +22.35 |

Register 0185H, Maximum K-Factor Phase A Current, might contain the following data:

| | |
|-----------------------------|--------|
| Address | 00390 |
| Value (Hex) | F745H |
| Most significant bit | 1 |
| Complement | 08BAH |
| Increment | 08BBH |
| Decimal | -2235 |
| K-Factor | -22.35 |

3.68: Type F68 Secondary 1 Cycle RMS Voltage and Current

- Length: 2 Registers (4 bytes)
- Range: 4,294,967,295 V, A / 0 V, A
- Unit: 1/65536 V, A

These registers form a 4-byte unsigned integer in which the first register contains the LSB word.

Example:

| | | |
|--|------------|--------|
| Address | 0x005D | 0x005E |
| Value | 0xE6D7 | 0x0077 |
| 4-byte unsigned integer(Hex) | 0x0077E6D7 | |
| 4-byte unsigned integer (Decimal) | 7,857,879 | |
| 1/65536 V secondary | 119.902 | |

Chapter 4

Modbus Register Map Notes

4.1: Modbus Register Map Notes

The information in this chapter refers to the Modbus Register Map's "Notes" column. Chapter 2 contains the Modbus Map.

- 1) Time information can be supplied from one of two different sources, an internal Real Time Clock or an external GPS Clock. The internal Real Time Clock is a chip containing its own battery, which is used to maintain the passage of time when the Nexus™ unit is without operational power. It is similar to those used in PCs and it reports time accurate to the second. The external GPS clock is supported through an IRIG-B connection, allowing synchronization and accuracy to the hundredth of a second (10 milliseconds).
- 2) These registers, when read, always report the time as reported by the Nexus™ unit, either from the internal Real Time Clock or the external GPS Clock. Values written here for the purpose of updating the internal Real Time Clock are not read back.
- 3) These values are calculated by the Nexus™ 1500 meter's DSP2 Processor, as part of the Waveform Capture function. These values are only calculated if the meter has Waveform Logging Capability.
- 4) Phase Voltages are in secondary Volts. To convert this value into primary Volts, multiply by the Phase Voltage PT Ratio, composed of the Phase Voltage PT Ratio Numerator and Denominator (Registers 45917 - 45918 and 45919 - 45920).
- 5) Auxiliary Voltage is in secondary Volts. To convert this value into primary Volts, multiply by the Auxiliary Voltage PT Ratio, composed of the Auxiliary Voltage PT Ratio Numerator and Denominator (Registers 45921 - 45922 and 45923 - 45924).
- 6) Phase and Calculated Neutral Currents are in secondary Amps. To convert this value into primary Amps, multiply by the Phase Current CT Ratio, composed of the Phase Current CT Ratio Numerator and Denominator (Registers 45909 - 45910 and 45911 - 45912).
- 7) Not used.
- 8) Measured Neutral is the RMS produced by samples from a CT around the Neutral Line and connected to the Neutral current terminals of the meter. Calculated Neutral is the RMS produced by adding the three Phase Current samples together and treating the result as a sample of the neutral line.
- 9) VA, VAR and Watts are in secondary. To convert this value into primary VA, VAR or Watts, multiply by the Phase Voltage PT Ratio, composed of the Phase Voltage PT Ratio Numerator and Denominator (Registers 45916 - 45917 and 45918 - 45919) and by the

Phase Current CT Ratio, composed of the Phase Current CT Ratio Numerator and Denominator (Registers 45909- 45910 and 45911 - 45912).

- 10) Not used.

Chapter 5

Logs, Port Control and Updating Programmable Settings

(For Serial Download of Historical Logs)

5.1: Downloading Logs - Overview

- There are three methods for downloading logs from the Nexus®1500 meter: non-increment index, auto-increment index and file system access.
- Each of the Nexus® meter's ports act independently, allowing multiple Modbus Masters access to all the retrievable data in a Nexus® meter Slave.
- Log Memory Allocation (Quotas): The log storage area on the file system is restricted to a pre-defined size. Within that pre-defined size, files of a fixed size (1MByte) are built. The user is able to assign how many files each log will get; however, the System Events log, and Historical logs 1 and 2 have a maximum size of 1 and 8 MBytes, respectively, in order to maintain backwards compatibility. A log with no file assigned to is disabled and will not run.
- Memory Gap Engine: To avoid the oldest record being overwritten during the download log process when the log is in pause mode, %5 of the memory allocated for the log will be empty (unused) during the normal operation. When the download process starts in a paused log, that reserved memory is used to save new records. If the process is fast enough, the download process can finish without dropping any records. On the other hand, if the download process is slow, the gap can be completely filled and then new records will be dropped (not saved).
- Log Reset: This Register (located at 57345) when written to, causes all logs to be cleared. This action should be performed only under the following circumstances:
 - When the programmable settings are modified such that data already in the logs is invalidated. For example, any modifications involving the record size or organization of the contents of a snapshot would require the logs to be cleared of any previous data. (This action should be performed automatically by Communicator EXT software.)
 - Either via the Reset screen on the display, or the Reset Device Parameters screen from Communicator EXT software. If Password Protection has been enabled, a second level password is required for performing the reset.
- Downloading any log involves the following types of Registers:
- Log Snapshot Header: Header blocks for the different logs begin at Register 36865: This block of Registers holds the following information about the log:
 - Memory Size: 4-byte unsigned integers representing the amount of memory, in bytes, allocated to the log.
 - Record Size: an unsigned integer representing the size, in bytes, of a record in the log.
 - First Index: an unsigned integer representing the index of the first (oldest) record in the log.
 - Last Index: an unsigned integer representing the index of the last (newest) record in the log. The value FFFFH indicates that the log is empty.

- First Time Stamp: These Registers hold the time stamp from the first (oldest) record in:

| By | te | Range | Description |
|----|----|---------|-------------|
| 0 | | 0 – 255 | century |
| 1 | | 0 – 99 | year |
| 2 | | 1 – 12 | month |
| 3 | | 1 – 31 | day |
| 4 | | 0 – 23 | hour |
| 5 | | 0 – 59 | minute |
| 6 | | 0 – 59 | second |
| 7 | | 0 – 99 | centisecond |

- Last Time Stamp: These Registers hold the time stamp from the last (newest) record in the Log. The byte order and description are the same for the first time stamp.
- Valid Bitmap: These Registers hold the bit flags indicating whether the Nexus® Slave recognizes the lines in the Historical Log Settings block (the block beginning at Register 45204). The first bit represents the validity of the last Data Pointer in the Historical Log Settings. A value of 1 means the Data Pointer is acceptable and can be stored. A value of 0 means that the Data Pointer is invalid or unrecognized and cannot be stored.
- Max Records: an unsigned integer representing the total number of records the log is capable of holding. In order to maintain a one-for-one relationship in parallel logs (Sequence of Events State and Sequence of Events Snapshot logs, for example), the maximum number of records that a log can store is defined by the log that holds the fewest records. Logs capable of holding more records are restricted.

5.1.1 Log Download Using Non-Increment Index Method

- Backwards Compatibility: This method is applied only to the System Event log and Historical logs 1 and 2. Downloading the backwards compatible logs involves the following types of Registers.
- A Modbus Master uses a Log window consisting of 64 Registers to retrieve logs from a Nexus® 1500 meter Slave. A log is divided into numbered sections called Indexes, which are transferred through the Log Window in sequence.
- Window Index tells the Modbus Master which 128-byte section of the log the Window is using to retrieve the log. The block of Window Index Registers for the different logs begin at 38145. When the Modbus Master writes a new value to the Window Index, a new section of the log will fill the Window. For example, when the Index is 0000H, the first 128 bytes of the log are available in the Window; when the Index is 0001H, the second 128 bytes of the log are available in the Window, and so on. The designation “first 128 bytes of the log” is a physical description based on the absolute addresses of the memory allocated to the log. The first (oldest) record in the log may not be located at the beginning of the log.
 - When a value other than FFFFH is written to the Window Index, the Index is updated and the log is paused. A 30-second timer is initiated on these writes. Should the timer expire (a new index is not written within 30 seconds), the log will continue logging.
 - Should multiple ports access the same log simultaneously, the log will pause while any 30-second timer is running. The log will continue logging only when all ports time-out.

- When read, the Window Index returns the number of the Index currently in use by the Window. When written, the Window Index sets a new Index for the Window to retrieve the log.
- Window Mode defines the two available modes the Window may use to retrieve a log; Download Mode and Time Stamp Mode. The Window Mode block begins at Register 38209.
- Download Mode: In Download Mode, the Log Window accesses consecutive, 128-byte blocks of the log. For example, when the Window Index is 0000H, the first 128 bytes of the log are available in the Window; when the Index is 0001H, the second 128 bytes of the log are available in the Window. The designation “first 128 bytes of the log” is a physical description based on the absolute addresses of the memory allocated to the log. The first (oldest) record in the log may not be located at the beginning of the log.
 - Time Stamp Mode: In Time Stamp Mode, the Log Window accesses the time stamps of the records, in blocks of 16 time stamps at a time. When the Window Index is 0000H, the time stamps of the first 16 records (records 0–15) in the log are available in the Window; when the Window Index is 0001H, the time stamps of the second 16 records (records 16–31) in the log are available in the Window, and so on. The designation “first 128 bytes of the log” is a physical description based on the absolute addresses of the memory allocated to the log. The first (oldest) record in the log may not be located at the beginning of the log.
- Log Window: The Log Window is a 64-register, 128-byte view of a log. The Window Index defines which part of a log is currently available in the Window. Log Windows begin at Register 38273.

5.1.1.1: Steps for Downloading a Log

- The following steps outline the process for downloading a log. Details and examples for downloading time stamps and records follow in Sections 5.1.1.2 and 5.1.1.3.
1. Read the Nexus® meter’s Programmable Settings Block (Registers 45057–53248). This information will be used to interpret the data retrieved from the log.
 2. Pause the log by writing an initial, non-FFFFH value to the Log Window Index Register.
 3. Read and store the Log Header information.
 4. Determine the starting Window Index and Window offset.
 5. Determine the largest Window Index and Window offset.
 6. Determine the ending Window Index and Window offset.
 7. Set the Window Mode to Download Mode.
 8. Set the Log Window Index to the starting Window Index.
 9. Read the Window from starting offset to the end of the Window.
 10. Increment the Window Index.
 11. Read the Window from beginning to end.

12. Repeat steps 10 and 11 until the largest or ending Window Index is reached.
 - If the largest is reached, go to step 13.
 - If the ending is reached, go to step 15.
13. Read Window from beginning up to (but not including) the largest offset.
14. Set Window Index to 0. Go to step 12.
15. Read Window from the beginning up to (but not including) the ending offset.

5.1.1.2: Downloading Time Stamps with Examples

- The following steps detail the process for downloading time stamps from a log, using values from Historical Log 1 as an example.

1. Read the Nexus® meter's Programmable Settings Block (Registers 45057–53248).
2. Pause the log by writing an initial, non-FFFFH value to the Historical Log 1 Window Index Register.
Example: Write 0000H to the Window Index for Historical Log 1, Register 3814
3. Read and store the Historical Log 1 Header information.
Example: Historical Log 1 Snapshot Header

| Address | Description | Example Value |
|-------------|--|----------------------|
| 36865–36866 | Historical Log 1 Snapshot Memory Size | 1851392 |
| 36867 | Historical Log 1 Snapshot Record Size | 64 |
| 36868 | Historical Log 1 Snapshot First Index | 501 |
| 36869 | Historical Log 1 Snapshot Last Index | 500 |
| 36870–36873 | Historical Log 1 Snapshot First Time Stamp | 7/10/99 12:32:00.000 |
| 36874–36877 | Historical Log 1 Snapshot Last Time Stamp | 7/30/99 14:40:00.000 |
| 35878–36881 | Historical Log 1 Snapshot Valid Bitmap | FFFC 0000 |
| 36882 | Historical Log 1 Snapshot Max Records | 28928 |

4. Determine the starting Window Index and starting Window Offset using these formulas:
 Starting Window Index = $\text{Int}([8 \times \text{First Index}]/128)$.
 Starting Window Offset = $(8 \times \text{First Index}) \% 128$.
 Example:
 Starting Window Index: $\text{Int}(8 \times 501/128) = \text{Int}(31.3125) = 31$.
 Starting Window Offset: $(8 \times 501) \% 128 = 40$.
5. Determine the largest Window Index and the largest Window Offset using these formulas:
 Largest Window Index = $\text{Int}([8 \times \text{Max Records}]/128)$.
 Largest Window Offset = $(8 \times \text{Max Records}) \% 128$.
 Example:
 Largest Window Index = $\text{Int}([8 \times 28928]/128) = \text{Int}(1808) = 1808$
 Largest Window Offset = $(8 \times 28928) \% 128 = 0$
6. Determine the ending Window Index and the ending Window Offset using these formulas:
 Ending Window Index = $\text{Int}([8 \times \{\text{Last Index} + 1\}]/128)$

Ending Window Offset = $(8 \times [\text{Last Index} + 1]) \% 128$

Example:

Ending Window Index = $\text{Int}([8 \times \{500 + 1\}] / 128) = \text{Int}(31.3125) = 31$

Ending Window Offset = $(8 \times [500 + 1]) \% 128 = 40$

7. Set the Window Mode to Download Mode by writing the Timestamp Mode code (0001H) to the Log Window Mode Register.

Example:

Write the value 0001H to the Window Mode for Historical Log 1,
Register 38209.

8. Set the Window Index to the Starting Window Index.

Example:

Write the value 31 (001FH) to the Interval 1 Log Window Index,
Register 38145.

9. Read Window from starting offset to end of Window:

Starting offset = First Register of Window + (starting Window offset/2).

Example:

$38273 + (40/2) = 38293$
Read from 38293 – 38336.

10. Increment the Window Index.

Example:

Write the value 32 (0020H) to the Historical Log 1 Window Index,
Register 38145.

11. Read the Window from beginning to end.

Example:

Read the Historical Log 1 Window from Register 38273 to 38336.

12. Repeat steps 10 and 11 until the Largest or Ending Window Index is reached.

- If the Largest Window Index is reached, go to step 13.
- If the Ending Window Index is reached, go to step 15.

Example:

If Window Index = 1808, go to step 13. If Window Index = 31, go to step 15.

13. Read Window from beginning up to (but not including) the Largest Offset.

Largest Offset = First Register of Window + (largest Window offset/2).

Example: (Index = 1808).

$38273 + (0/2) = 38273$.

Read from 38273 up to 38273; therefore, read nothing.

14. Set Window Index to 0. Go to step 12.

Example:

Write the value 0 (0000H) to the Window Index Historical Log 1,
Register 38145.

15. Read Window from the beginning up to (but not including) the Ending Offset.

Ending Offset = First Register of Window + (Ending Window Offset/2).

Example: (Index = 31).

3827 $3 + 40/2 = 38293$.
 Read from 38273 up to (but not including) 38293; therefore, read 38273
 — 38292.

5.1.1.3: Downloading Records with Examples

- The following steps detail the process for downloading records from a log, using values from an Historical Log 1 as an example.

1. Read the Nexus® meter's Programmable Settings Block (Registers 45057–53248).
2. Pause the log by writing an initial, non-FFFFH value to the Log Window Index Register.

Example: Write 0000H to the Window Index for Historical Log 1, Register 3814 5.

3. Read and store the Log Header information.

Example: Historical Log 1 Log Snapshot Header

| Address | Description | Example Value |
|-----------------|---------------------------|---------------------------------|
| 36865–36866 | Historical Log 1 Snapshot | |
| Memory Size | | 1851392 |
| 36867 | Historical Log 1 Snapshot | |
| | Record Size | 64 |
| 36868 | Historical Log 1 Snapshot | |
| First Index | | 501 |
| 36869 | Historical Log 1 Snapshot | |
| Last Index | | 500 |
| 36870–36873 | Historical Log 1 Snapshot | |
| First Timestamp | | 7/10/99 12:32:00.000 |
| 36874–36877 | Historical Log 1 Snapshot | |
| Last Timestamp | | 7/30/99 14:40:00.000 |
| 36878–36881 | Historical Log 1 Snapshot | |
| Valid Bitmap | | FFFC 0000 |
| 36882 | Historical Log 1 Snapshot | |
| Max Records | | 28928 |

4. Determine the starting Window Index and starting Window Offset using these formulas:

Starting Window Index = $\text{Int}([\text{Record Size} \times \text{First Index}]/128)$.

Starting Window Offset = $(\text{Record Size} \times \text{First Index}) \% 128$.

Example:

Starting Window Index: $\text{Int}(64 \times 501/128) = \text{Int}(250.5) = 250$.

Starting Window offset: $(64 \times 501) \% 128 = 64$.

5. Determine the largest Window Index and the largest Window Offset using these formulas:

Largest Window Index = $\text{Int}([\text{Record Size} \times \text{Max Records}]/128)$.

Largest Window Offset = $(\text{Record Size} \times \text{Max Records}) \% 128$.

Example:

Largest Window Index = $\text{Int}(64 \times 28928/128) = \text{Int}(14464) = 14464$.

Largest Window Offset = $(64 \times 28928) \% 128 = 0$.

6. Determine the ending Window Index and the ending Window offset using these formulas:

Ending Window Index = $\text{Int}([\text{Record Size} \times \{\text{Last Index} + 1\}]/128)$.

Ending Window Offset = (Record Size x [Last Index + 1]) % 128.

Example:

Ending Window Index = $\text{Int}([64 \times \{500 + 1\}] / 128) = \text{Int}(250.5) = 250$.

Ending Window Offset = $(64 \times [500 + 1]) \% 128 = 64$.

7. Set the Window Mode to Download Mode by writing the Download Mode code (0000H) to the Log Window Mode Register.

Example:

Write the value 0000H to the Window Mode for Historical Log 1,
Register 38209.

8. Set the Window Index to the Starting Window Index.

Example:

Write the value 250 (00FAH) to the Historical Log 1 Window Index,
Register 38145.

9. Read Window from starting offset to end of Window:

Starting offset = First Register of Window + (starting Window offset/2).

Example:

$38273 + (64/2) = 38305$.
Read from 38305 – 38356.

10. Increment the Window Index.

Example:

Write the value 251 (00FBH) to the Historical Log 1 Window Index,
Register 38145.

11. Read the Window from beginning to end.

Example:

Read the Historical Log 1 Window from Register 38273 to 38336.

12. Repeat steps 10 and 11 until the largest or ending Window Index is reached.

- If the largest Window Index is reached, go to step 13.

- If the ending Window Index is reached, go to step 15.

Example:

If Window Index = 14464, go to step 13.

If Window Index = 250, go to step 15.

13. Read Window from beginning up to (but not including) the Largest Offset.

Largest Offset = First Register of Window + (Largest Window Offset/2).

Example: (Index = 14464).

$38273 + (0/2) = 38273$.

Read from 38273 up to 38273; therefore, read nothing.

14. Set Window Index to 0. Go to step 12.

Example:

Write the value 0 (0000H) to the Window Index Historical Log 1,
Register 38145.

15. Read Window from the beginning up to (but not including) the ending offset.

Ending offset = First Register of Window + (ending Window offset/2).

Example: (Index = 250).

$38273 + 64/2 = 38305$.

Read from 38272 up to (but not including) 38304; therefore, read 38273
38304.

5.1.2: Log Download Using Auto-Increment Index Method

■ Auto Incrementing Interface

■ Auto Increment Configuration (Register 39423, 0x099FE)

When read, this register returns the configuration in use (shown on the next page) by the Auto Increment Log Window to access logs on this port. When written, this register sets the configuration used by the Auto Increment Log Window to access logs on this port. Each port accesses a separate, independent configuration through this register, allowing all four ports to access logs with different configurations.

The least significant byte indicates which log is being accessed, as shown below:

| | |
|------------|------------------|
| 0x000 | Historical Log 1 |
| 0x001 | Historical Log 2 |
| 0x00A | System Event Log |
| 0x00E-0xFF | Undefined |

The most significant byte defines the following modes, Paused Download Mode (0x000), and Running Download Mode (0x001).

In Paused Download mode (0x000), the log being accessed is paused - new records are not added to the log while it is paused.

In Running Download mode (0x001), the log being accessed is not paused - new records may be added to the log. When downloading in this mode, it is possible that records may be overwritten before, or even during, access to that record.

■ Auto Increment Window Index (0x099FF)

When read, this register returns the index used by the Auto Increment Log Window to access logs on this port. When written, this register sets the index used by the Auto Increment Log Window to access logs on this port. Each port accesses a separate, independent index through this register, allowing all four ports to access different areas of logs at the same time.

When read, the index is incremented before being returned in the Modbus response. If the Auto Increment Mode is Paused Download Mode (0x001xx in register 0x099FE), the appropriate log is paused, preventing the addition of new records while the log is being accessed. A 30-second timer is initiated on these reads. Should the timer run out (the index is not incremented/read in 30 seconds), the appropriate log will be allowed to continue logging.

Should multiple ports access the same log simultaneously, the log will be paused while either 30-second timer is running; the log will be allowed to continue logging only when ports time-out.

■ Auto Increment Log Window (0x09A3F)

These registers are a 128-byte window into a log, as specified in the Auto Increment Configuration (register 0x099FE). Depending on the Auto Increment Window Index, a different 128-byte area of a log can be accessed.

■ Download using Auto Increment Window Sequence

1. Software should select the appropriate Download mode and log through the Auto Increment Configuration register (0x000xx or 0x001xx to register 0x099FE).
2. Software should read the appropriate Header Information.
3. Software should initialize the window index by writing a value 1 less than the desired starting index to the Auto Increment Window Index register.
Example: To start at window 0, write:
0x0FFFF to Register 0x099FF.)
4. Software should store the Historical Log 1 Header Information.
5. Software should read the Auto Increment Window Index and Auto Increment Log Window (Registers 0x099FF-0x09A3F).
6. Software should verify the expected value for the Auto Increment Window Index.
7. Software should store the first 128 bytes of the log from the Auto Increment Log Window.

Repeat steps 5-7 until the desired amount of the log has been read and stored. The Number of Reads of the Window can be determined by dividing the Total Memory in the Log (registers 0x09000 -0x09001) by the Window Size (128 bytes).

■ Download using Auto Increment Window Sequence and Function Code 35

1. Software should select the appropriate Download mode and log through the Auto Increment Configuration register (0x000xx or 0x001xx to register 0x099FE).
2. Software should read the appropriate Header Information.
3. Software should initialize the window index by writing a value 1 less then the desired starting index to the Auto Increment Window Index register (to start at window 0, write 0x0FFFF to register 0x099FF).
4. Software should store the Historical Log 1 Header Information.
5. Software should read the Auto Increment Window Index and Auto Increment Log Window (registers 0x099FF-0x09A3F) *n* times using the non-standard Modbus Function Code 35 (0x023) Read Holding Registers Multiple Times.
6. Software should verify the expected values for the Auto Increment Window Index.
7. Software should store the each 128 bytes of the log from the Auto Increment Log Window.

Repeat steps 5-7 until the desired amount of the log has been read and stored. The number of Reads of the Window can be determined by dividing the Total Memory in the Log (registers 0x09000 -0x09001) by the Window Size (128 bytes), and again by dividing by the Number of Repeats being used with Function Code 35.

5.1.3: Log Download Using File System Access

- This method applies to all logs. It uses the modbus customized function code 0x45 where a series of defined command can be sent to retrieve the log. During the download log process, the log is paused when a paused dummy file is read. Each log has its own paused dummy file. To set the log back to run, a running dummy file should be read. Each log has its own running dummy file.

5.2: Port Locking - Overview

- At times it may be necessary for a Master connected to one port of a Nexus® meter to communicate directly to a Slave device connected to a different port of the same meter. For example, software on a computer connected to one port of a Nexus® meter might need to change settings on an external device connected to another port of the meter. To accommodate this need, the following steps allow a Master to control the Transmit and Receive buffers of another port.
- To prevent contention, only one Master at a time may control a given port. This is referred to as “Locking a Port”. If Port 1 is controlling Port 4, no other ports may control Port 4 until Port 1 is finished.

5.2.1: Sequence for Port Locking

- To lock a port, follow the steps below:
 1. Determine the port to which the Modbus Master is currently attached: Register 65411.
 2. Determine that the desired port is currently unlocked: Registers 41730 – 41732.
 3. Write to lock the desired port: write 0100H – 0104H to Register 41729.
 4. Verify that the port is successfully locked: Registers 41730 – 41732.
 5. Read the current states of the pointers: 41733 – 41752.

5.2.2: Transmission

1. Decide which transmit buffer to use: Registers 43265, 43521, 43777, 44033, 44289.
2. Find the current position of the TrmIn pointer: Registers 41735, 41739, 41743, 41747, 41751.
3. Add bytes to the transmit buffer starting at the position indexed by the TrmIn pointer up to the position before that indexed by the TrmOut pointer.
4. Write the new value for the TrmIn pointer (the position after the last byte added) to the TrmIn pointer.

5.2.3: Reception

1. Decide which receive buffer to use: 41985, 42241, 42497, 42753, 43009.
2. Find the current position of the RecOut pointer: 41734, 41738, 41742, 41746, 41750.
3. Read bytes starting at the position after that indexed by the RecOut pointer, up to the position before the position indexed by the RecIn pointer.
4. Write the new value for the RecOut pointer (the position of the last byte read) to the RecOut pointer.

5.2.4: Port Unlocking Sequence

■ To unlock a port, follow the steps below:

1. Empty the receive buffer (RecOut written so it is the position before RecIn).
2. Write to unlock the desired port: write 0200H – 0204H to Register 41729.
3. Verify that the port is successfully unlocked: Registers 41730 – 41732.

5.3: Updating Programmable Settings

1. Build the binary programmable settings block to update to the meter. All 32k of programmable settings must be updated.
 1. The programmable settings are broken into two blocks, Block 1 and Block 2, each 16384 bytes in size.
 2. Compute the CRC16 on the first 16382 bytes of Block 1. We do not include the last two bytes, as this is where the checksum is stored.
 3. Continue computing the checksum (using the previously computed checksum as the seed), on all 16384 bytes of Block 2.
 4. Place the computed checksum into the last two bytes of Block 1.
2. If Level 2 Password Protection is enabled, send the Level 2 password to allow updating the Programmable Settings. If Sealing switch is enabled, press the Sealing switch.
3. If any changes were made to the Programmable Settings which affect the logs, the logs should be cleared.
 1. Lock the logs to prevent them from being updated until the meter is reset. Write 0xABCD to register 0xE052.
 2. Write 0xFFFF to the register listed below to reset that log.

| | |
|--------------------|--------|
| All Logs | 0xE000 |
| Historical 1 | 0xE035 |
| Historical 2 | 0xE036 |
| Sequence of Events | 0xE037 |
| Digital Input | 0xE038 |
| Digital Output | 0xE039 |
| Flicker | 0xE03A |

| | |
|-----------------|--------|
| Waveform | 0xE03B |
| PQ | 0xE03C |
| Historical 3 | 0xE04A |
| Historical 4 | 0xE04B |
| Historical 5 | 0xE04C |
| Historical 6 | 0xE04D |
| Historical 7 | 0xE04E |
| Historical 8 | 0xE04F |
| Event Triggered | 0xE050 |
| Transient | 0xE051 |

4. Write the Programmable Settings Data. Note: All 32k of data must be written for the Programmable Settings to be updated.

1. Write Block 1 for 16384 bytes starting at register 0xB000.
2. Write Block 2 for 16384 bytes starting at register 0x6000.

5. Wait for the meter to finish storing the Programmable Settings.

1. Read the Programmable Settings Update Status registers. 7 registers starting at 0xFFE0.

| offset | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------|-------------|------------|------------|---|------------|---|---|---|
| 0x00 | Match (MSB) | Mode (LSB) | Error Code | | Time Stamp | | | |
| 0x08 | Time Stamp | | | | Checksum | | | |

- Match Indicates if the RAM and Stored programmable settings match. 0 indicates a match, 1 indicates no match.
- Mode Indicates if the meter is in the process of updating the programmable settings. 0 indicates the process is idle, otherwise an update is in progress.
- Error Code
 - 0 No Error
 - 1 Internal Global Flag not set
 - 2 Buffer not ready
 - 3 Bad Checksum
 - 4 Internal Checks Failed
 - 5 Could not write file header
 - 6 Data Write Error
- Timestamp Nexus 8 byte timestamp
- Checksum Checksum of the stored programmable settings.

2. If the Status Mode indicates that the update is idle, check that Match indicates that the ram and file copies match, and that Error Code indicates No Error. If so, Programmable Settings have successfully been updated, and you may continue.
3. Otherwise, check the Status Error Code.
 1. If an error is indicated, exit the update.
 2. If no error is indicated, continue waiting.

6. If logs were reset at the beginning of the process, wait for all logs to finish resetting before continuing.

1. Query the Log Status register for each of the Logs.

| | |
|--------------|--------|
| Historical 1 | 0x9012 |
| Historical 2 | 0x9052 |
| Historical 3 | 0x9E17 |

| | |
|--------------------|------------------------------|
| Historical 4 | 0x9E57 |
| Historical 5 | 0x9E97 |
| Historical 6 | 0x9ED7 |
| Historical 7 | 0x9F17 |
| Historical 8 | 0x9F57 |
| Event Triggered | 0x9F97 |
| Sequence of Events | 0x9097 (aka, Limits, Alarms) |
| Digital Inputs | 0x9117 |
| Digital Outputs | 0x9197 |
| Flicker | 0x9217 |
| Waveform | 0x9242 |
| PQ | 0x9317 |
| System Events | 0x9295 |
| Transient | 0x92C2 |

2. Wait until all status registers read 0.

7. Send the command to Reset the meter. Programmable Settings do not take effect until the Meter has been Reset. The Reset command is protected by Level 2 password and the Sealing switch, if those are enabled. The meter will not process Reset command if it's in the middle of processing a programmable settings update.

1. Send 0x0001 to register 0xFFFA.
2. Wait at least 30 seconds for the device to restart.

NOTE: See the Programming flowchart beginning on page 5-19.

5.4: Modifications to Time of Use for Nexus® 1500 meter

■ In the past, Time of Use has provided delta values computed at two time rates - Monthly and Seasonally. The following modifications are provided in the Nexus® 1500 meter.

- The functionality of what had been the Current Season/Prior Season registers is being altered to provide the options of Seasonal, Monthly, Weekly, Daily or Hourly behavior. As such, the registers will no longer be called Current Season or Prior Season. Depending on the storage rate chosen, the "Current Season" will be referred to as the "Active Season", "Active Week", etc, while the "Prior Season" will be referred to as the "Frozen Season", "Frozen Week", etc. This will not change the operation of the "Current Month" or "Prior Month" registers, which will continue to operate according to the Monthly Billing Dates entered in the Time of Use calendar.
- Additionally, a new capability is being added to the behavior of both the Current Month and Active registers when a new period starts. In the previous implementation, the Current Month or Current Season registers are cleared at the start of a new month or season. This is being altered to allow the option of not clearing at the start of a new period.
- The following settings are being added to the Time of Use Calendars:

| Register | Meaning |
|-----------------|---|
| 35730 (0x08B91) | Clear on new period / Freeze Period Selection |
| 35731 (0x08B92) | Weekly Freeze day of week / Freeze Hour |

■ Clear on New Period / Freeze Period Selection

The most significant byte indicates whether the Current Monthly and Active registers should clear when a new period starts. The value 0x000 indicates that they should clear, compatible

with the previous implementation, while the values 0x001 - 0x0FF indicate that they should continue the Current Month or Active registers where the Prior Month or Frozen registers left off.

The least significant byte indicates the period to use for the Active and Frozen registers (what had been the Current and Previous Season registers).

| Value | Meaning |
|-------------|--------------------------------|
| 0x000 | Seasonal |
| 0x001 | Weekly |
| 0x002 | Daily |
| 0x003 | Hourl y |
| 0x004-0x0FF | Undefined, behaves as Seasonal |

Seasonal operation freezes the Active registers at the selected hour of the day four times a year. The hour to freeze at is entered as the Freeze Hour, described below, while the four days to freeze at are the previously defined Season Start Times.

Weekly operation freezes the Active registers at the selected hour of the day once a week. The hour to freeze at is entered as the Freeze Hour, described below, while the day of the week (Sunday, Tuesday, etc.) is entered as the Weekly Freeze day of week, also described below.

Daily operation freezes the Active registers at the selected hour of the day once a day. The hour to freeze at is entered as the Freeze Hour, described below.

Hourly Operation freezes the Active registers once an hour at the top of the hour.

■ Weekly Freeze Day of Week / Freeze Hour

The most significant byte indicates the day of the week to freeze the Active registers if configured for Weekly freezes. Legal values are from 1-7 (0x001 - 0x007), indicating operation on Sunday through Saturday. All other values will cause operation on Sunday.

The least significant byte indicates the hour of the day at which to freeze the Active registers if configured for Seasonal, Monthly, Weekly or Daily freezes. Valid values are from 0-23 (0x000 - 0x017), indicating from midnight through 11 PM. All other values cause operation at midnight. All freezes take place at the top of the selected hour.

5.5: Calibration Interface



Manual Adjustment Interface

| Modbus Register Address | | Dual Port Address | Name |
|-------------------------|---------|-------------------|--|
| Decimal | Hex | | |
| 57349 | 0x0E004 | 0x00083 | Select Voltage 120V Gain (240V if 300V Option) |
| 57350 | 0x0E005 | 0x00084 | Select Current 150mA Gain (30mA if Class 2 Option) |
| 57351 | 0x0E006 | 0x00085 | Select Current 250mA Gain (50mA if Class 2 Option) |
| 57352 | 0x0E007 | 0x00086 | Select Current 500mA Gain (100mA if Class 2 Option) |
| 57353 | 0x0E008 | 0x00087 | Select Current 1A Gain (200mA if Class 2 Option) |
| 57354 | 0x0E009 | 0x00088 | Select Current 2.5A Gain (200mA if Class 2 Option) |
| 57355 | 0x0E00A | 0x00089 | Select Current 5A Gain (1A if Class 2 Option) |
| 57356 | 0x0E00B | 0x0008A | Autocalibrate the above gain point on all phases |
| 57357 | 0x0E00C | 0x0008B | Increment selected calibration value for A Phase |
| 57358 | 0x0E00D | 0x0008C | Decrement selected calibration value for A Phase |
| 57359 | 0x0E00E | 0x0008D | Increment selected caliabrations value for B Phase |
| 57360 | 0x0E00F | 0x0008E | Decrement selected calibration value for B Phase |
| 57361 | 0x0E010 | 0x0008F | Increment selected calibration value for C Phase |
| 57362 | 0x0E011 | 0x00090 | Decrement selected calibration value for C Phase |
| 57363 | 0x0E012 | 0x00091 | Increment selected calibration value for X Phase |
| 57364 | 0x0E013 | 0x00092 | Decrement selected calibration value for X Phase |
| 57365 | 0x0E014 | 0x00093 | Enter Calibration Mode |
| 57366 | 0x0E015 | 0x00094 | Manual Calibration of Gains |
| 57367 | 0x0E016 | 0x00095 | First Time CTPT Compensation selection |
| 57368 | 0x0E017 | 0x00096 | Manual Calibration of Phase Compensation |
| 57369 | 0x0E018 | 0x00097 | Increment/Decrement by 1 count |
| 57370 | 0x0E019 | 0x00098 | Increment/Decrement by 10 counts |
| 57371 | 0x0E01A | 0x00099 | Manual Reference Calibration |
| 57372 | 0x0E01B | 0x0009A | Calibration Status Reset |
| 57373 | 0x0E01C | 0x0009B | Select Current 500mA Phase Compensation (100mA if Class 2) |
| 57374 | 0x0E01D | 0x0009C | Select Current 1A Phase Compensation (200mA if Class 2) |
| 57375 | 0x0E01E | 0x0009D | Select Current 5A Phase Compensation (1A if Class 2) |
| 57376 | 0x0E01F | 0x0009E | Select Current 10A Phase Compensation (2A if Class 2) |
| 57377 | 0x0E020 | 0x0009F | Select Current 2.5A Phase Compensation (500mA if Class 2) |
| 57378 | 0x0E021 | 0x000A0 | Preload CTPT Compensation with Initial Calibration Values |

In the dual port, activation of a function is performed by the communication processor writing the value 0x0AA to a given location. When acknowledged, the location is cleared to the value 0x055.

Through communication, activation of a function is performed by issuing a write (the value is unimportant) to a given Modbus register. When acknowledged, the register will read 0x00055.

In order to modify any calibration information, it is necessary to enter Calibration Mode. Calibration Mode is entered by writing to Modbus Address 57365 (0x0E014), which starts a 30 second timer. While in Calibration Mode, bit 3 of the 196 Health Status register is set. It is only while in Calibration Mode that all of the other above features will operate. This register can either be written to prior to each and every above listed action, or continuously at a rate more frequent than every 30 seconds.

The Manual Reference Calibration instructs the meter to test the voltage levels provided by the reference chip. This is used to adjust for gradual changes in offset and gain as a function of time or temperature. Reference Calibrations are automatically performed every 12 hours, or when the internal temperature changes by more than 1.5 degrees C after at least 15 minutes from the previous reference calibration.

The meter contains two sets of calibration tables - a Factory Table, and a Customer Configurable Table for CTPT Compensation. Operation with CTPT Compensation can only take place if CTPT Compensation is enabled in the Programmable Settings and if a valid CTPT Compensation Calibration has been performed; otherwise, the factory calibration is used. If the CTPT Compensation factors are being used, then bit 4 of the 196 Health Status register is set.

In order to perform the first CTPT Compensation Calibration procedure, the Programmable Setting must be enabled and Modbus Register 57365 (0x0E014) must be written. This activates CTPT Compensation Calibration, even though a valid calibration has not yet been performed. Next, Initial Values must be provided by writing to Modbus Register 57367 (0x0E016).

The Autocalibration of Gains is performed by **selecting a Range** and **initiating Autocalibration**. First, the appropriate inputs should be applied to the meter. Then the appropriate Range should be selected by writing to Modbus Register 57349-57355 (0x0E004-0x0E00A). Finally, Autocalibration should be initiated by writing to Modbus Register 57356 (0x0E00B).

Manual Adjustment of Calibration Values is performed by selecting Gain vs. Phase Compensation, indicating whether Adjustment should be 1 count or 10, selecting a Range and then by indicating which Phase should be incremented or decremented. First, either Gain or Phase Compensation Adjustment should be selected by writing to Register 57366 (0x0E015) or 57368 (0x0E017). Next, 1 or 10 count Adjustments should be selected by writing to Register 57369 (0x0E018) or 57370 (0x0E019). Then the appropriate Range should be selected by writing to Modbus Register 57349-57355 (0x0E004-0x0E00A) or 57373-57377 (0x0E01C-0x0E020). Finally, indicate which Phase is being adjusted and in which direction by writing to Modbus register 57357-57364 (0x0E00C-0x0E013).

■ Direct Adjustment Interface

| | Factory Read | CTPT Read | Modification |
|--|--------------|-------------|--------------|
| Block Timestamp | 60929-60932 | 61027-61030 | |
| Calibration Modification Selection | | | 61185 |
| Calibration Timestamp | 60933-60936 | 61030-61034 | 61186-61189 |
| Gain Factors V_{AN}, V_{BN}, V_{CN}, V_{XN} | 60937-60944 | 61035-61042 | 61190-61197 |
| Gain Factor I_A, 150mA, 250mA, 500mA, 1A, 2.5A, 5A | 60945-60956 | 61043-61054 | 61198-61209 |
| Gain Factors I_B, I_C, I_{NM} | 60957-60992 | 61055-61090 | 61210-61245 |
| Unused | 60993 | 61091 | 61246 |
| Phase Comp I_A, 500mA, 1A, 2.5A, 5A, 10A | 60994-60998 | 61092-61096 | 61247-61251 |
| Phase Comp I_B, I_C | 60999-61025 | 61097-61106 | 61252-61278 |
| Unused | 61009-61025 | 61107-61123 | 61262-61278 |
| Calibration Checksum | 61026 | 61124 | 61279 |
| Block Checksum | | | 61280 |

Calibration data can be read and modified using the above registers.

Factory Calibration and CT/PT Compensation Calibration are available in the above blocks.

The Block Timestamp indicates when the data you are reading was last refreshed for viewing.

The Calibration Timestamp indicates when calibration information was last modified. This is either updated automatically when manual adjustments are performed, or is provided as part of the block when direct adjustments are performed.

The Calibration Checksum is a CRC16 checksum computed over all calibration information from the Calibration Timestamp through to the last unused byte before the Calibration Checksum. It is either automatically computed when manual adjustments are performed, or is provided as part of the block when direct adjustments are performed.

When performing a direct adjustment, in addition to providing a properly checksummed table of calibration data, a selection indicating whether the table should update the Factory calibration or the CT/PT calibration needs to be provided. This selection should be 0x00000 for Factory Calibration and 0x00100 for CT/PT Compensation. To verify the selection, a Block Checksum must be computed from the Calibration Modification Selection through to the Calibration Checksum.

- **Voltage Gain Factor:** 4 byte signed LSB values with 15 bits of fraction that are used as a multiplicative factor.

| As Stored (LSB) | MSB | Decimal | Scaled | Meaning |
|-----------------|-------------|---------|---------|----------------------------|
| 0x000800000 | 0x000008000 | 32768 | 1.00000 | x*1.00 (unity) |
| 0x0CC8C0000 | 0x000008CCC | 36044 | 1.09998 | x*1.10 (magnification 10%) |
| 0x033730000 | 0x000007333 | 29491 | 0.89999 | x*0.90 (diminution 10%) |

- To increase/decrease a voltage reading by y percent, **multiply the gain factor by (100 + y)/100**.

| Change by | y | Multiply by |
|-------------|----|----------------|
| Increase 2% | +2 | 102/100 = 1.02 |
| Decrease 5% | -5 | 95/100 = 0.95 |

- **Current Gain Factors:** 4-byte signed LSB values with 16 bits of fraction that are used as a divisive factor.

| As Stored (LSB) | MSB | Decimal | Scaled | Meaning |
|-----------------|-------------|---------|---------|-------------------------------|
| 0x000000100 | 0x000010000 | 65536 | 1.00000 | x/1.00 (unity) |
| 0x0711C0100 | 0x00000E8BA | 59578 | 0.90909 | x/0.90909 (magnification 10%) |
| 0x0711C0100 | 0x000011C71 | 72817 | 1.11110 | x/1.11110 (diminution 10%) |

- To increase/decrease a current reading by y percent, **multiply the gain factor by 100 (100 + y)**.

| Change by | y | Multiply by |
|-------------|----|-------------------|
| Increase 2% | +2 | 100/102 = 0.98039 |
| Decrease 5% | -5 | 100/95 = 1.05263 |

- **Phase Compensation Factors:** 2 -byte signed LSB values in units of 0.01” of additive Power Factor shift.

| As Stored (LSB) | MSB | Decimal | Scaled | Meaning |
|-----------------|---------|---------|--------|-----------------|
| 0x00000 | 0x00000 | 0 | 0.00 | No Phase Shift |
| 0x00200 | 0x00002 | 2 | 0.02 | +0.02° PF Shift |
| 0x0FEFF | 0x0FFFE | -2 | -0.02 | -0.02° PF Shift |

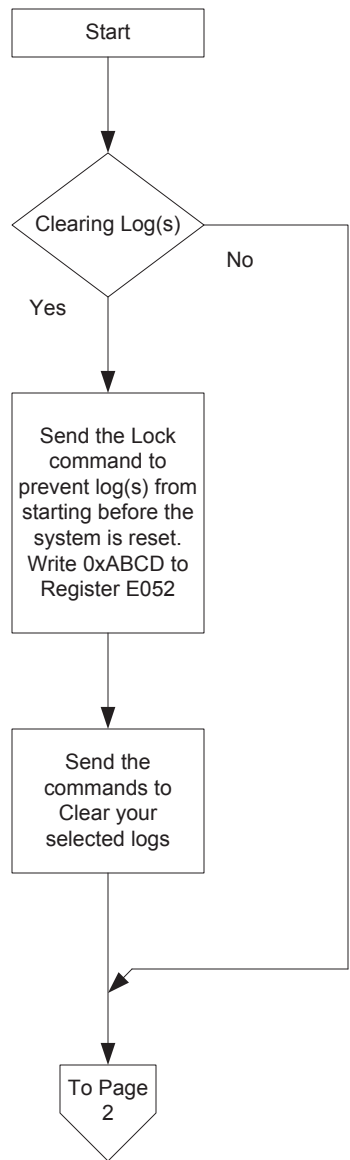
- To increase/decrease power at 600 in Quadrant 1 by y percent, **modify the Phse Compensation by**

$$60^{\circ} - \cos^{-1} \left[\frac{50}{100 + y} \right]$$

| Change by | y | Modified by |
|-------------|----|--|
| Increase 2% | +2 | $60^{\circ} - \cos^{-1} (50/102) = 60^{\circ} - \cos^{-1} (0.49020) = 600 - 60.65^{\circ} = -0.65^{\circ}$ |
| Decrease 5% | -2 | $60^{\circ} - \cos^{-1} (50/95) = 60^{\circ} - \cos^{-1} (0.52632) = 600 - 58.24^{\circ} = +1.76^{\circ}$ |

This is the flowchart of the procedure used to place updated programmable settings into the device using standard Modbus Holding register functions.

Note: For this document all Modbus Registers are Holding Registers



To Clear or Reset all logs excluding the System Event Log:

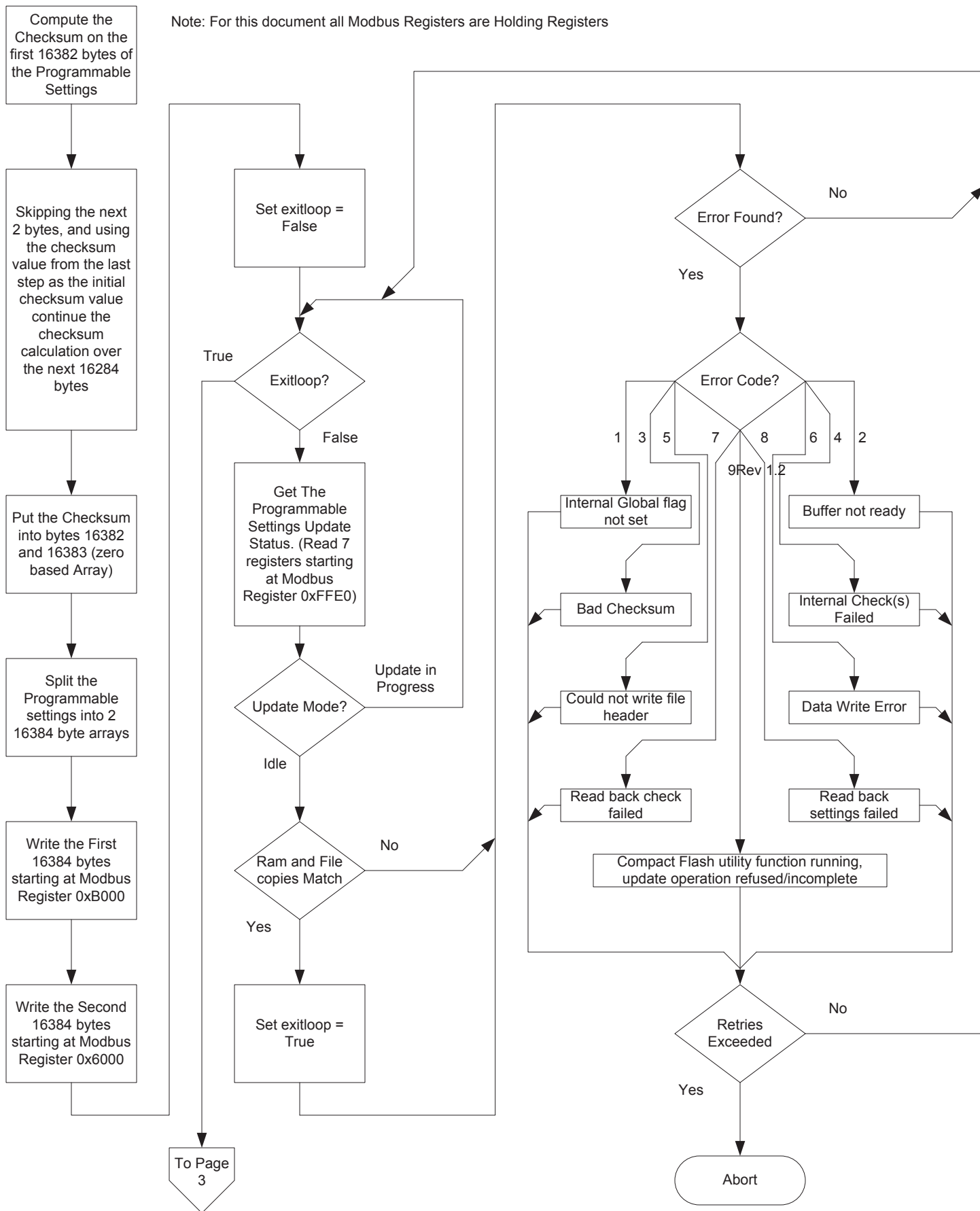
Write 0xFFFF to Holding Register 0xE000

To Clear or Reset a specific Log:

Write 0xFFFF to the Holding Register associated with the Log shown in the table below:Rev 1.2

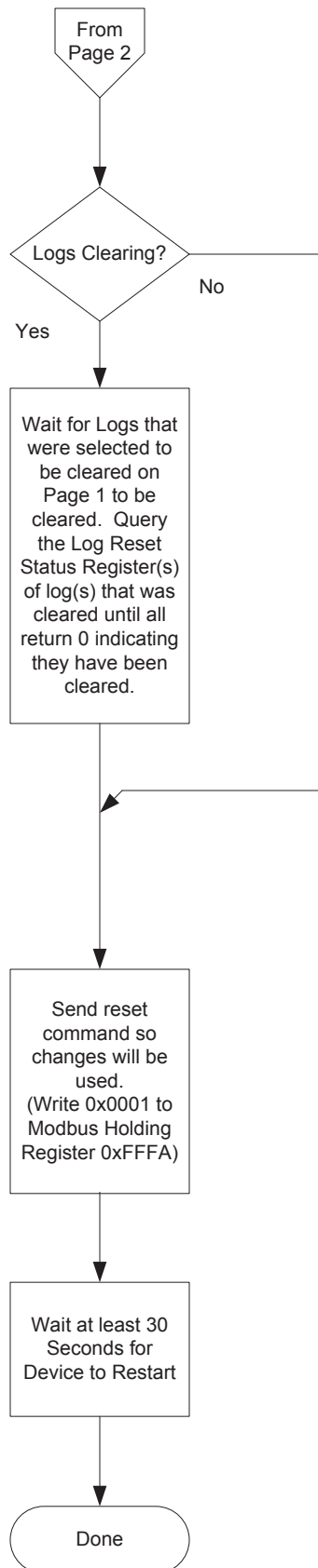
| Log | Holding Register |
|--------------------|------------------|
| Historical 1 | 0xE035 |
| Historical 2 | 0xE036 |
| Sequence of Events | 0xE037 |
| Digital Input | 0xE038 |
| Digital Output | 0xE039 |
| Flicker | 0xE03A |
| Waveform | 0xE03B |
| PQ | 0xE03C |
| Historical 3 | 0xE04A |
| Historical 4 | 0xE04B |
| Historical 5 | 0xE04C |
| Historical 6 | 0xE04D |
| Historical 7 | 0xE04E |
| Historical 8 | 0xE04F |
| Event Triggered | 0xE050 |
| Transient | 0xE051 |

Note: For this document all Modbus Registers are Holding Registers



Nexus 1500 Programmable Settings Update (Page 3)

Note: For this document all checksums use CRC-16 as defined in the Modbus RTU Protocol



| Programmable Settings Update Status Registers (0xFFE0 to 0xFFE6) | | |
|--|-------------------------|-----------|
| Holding Registers | Description | |
| 0xFFE0 | Ram and File Match(MSB) | Mode(LSB) |
| 0xFFE1 | Error Code | |
| 0xFFE2 - 0xFFE5 | Time Stamp | |
| 0xFFE6 | FileChecksum | |

Ram and File Match(MSB):

- 0: File and RAM copies match
- 1: File and RAM copies do not match

Mode(LSB):

- 0: Idle, update not in progress
- Not 0: Update in progress

Error Code:

- 0: No Error
- 1: Internal Global flag not set
- 2: Buffer not ready
- 3: Bad Checksum
- 4: Internal Check(s) Failed
- 5: Could not write file header
- 6: Data Write Error
- 7: Read back check failed. Ask Wei Wang for a real definition.
- 8: Read back settings failed. Ask Wei Wang for a real definition.
- 9: CF Utility function running, update operation refused / incomplete. Ask Wei Wang for a real definition.
- Greater than 9 not defined

Time Stamp:

See Nexus Time Stamp format in the Modbus Manual.

FileChecksum:

Checksum of the file containing the programmable settings stored on the compact flash.

Log Reset Status Register(s)

- Historical 1 = 0x9012
- Historical 2 = 0x9052
- Historical 3 = 0x9E17
- Historical 4 = 0x9E57
- Historical 5 = 0x9E97
- Historical 6 = 0x9ED7
- Historical 7 = 0x9F17
- Historical 8 = 0x9F57
- Event Triggered = 0x9F97
- Sequence Of Events = 0x9097 'Limits
- Digital Inputs = 0x9117
- Digital Outputs = 0x9197
- Flicker = 0x9217
- Waveform = 0x9242
- PQ = 0x9317
- System Events = 0x9295
- Transient = 0x92C2

Chapter 6: Large Data Access (LDA) and Downloading Logs

6.1: Overview

This chapter explains how to access large amounts of data from the Nexus® 1500 meter. Such large amounts of data can consist of a file or files from a file system, file or files stored in RAM or any kind of flash memory device, or dynamic data generated by the Modbus device. A set of specific commands must be used to download large amounts of data. These commands are referred to as Large Data Access, or LDA.

In addition to explaining LDA, this chapter explains how to download Nexus® 1500 meter logs using LDA.

NOTE: This is the recommended procedure for downloading logs from the Nexus® 1500 meter. All of the logs except for the System Event log and Historical logs 1 and 2 must be downloaded using this procedure. For backward compatibility, you can still download the System Event log and Historical logs 1 and 2 with the serial method (see Chapter 9). We recommend you use the LDA procedure, though, as it is faster and able to handle larger amounts of data than the serial method.

6.1.1. Reference Documents

You may find it useful to refer to the following documents:

- Modicon Modbus Protocol Reference Guide: PI-MBUS-300 Rev. J
- Modbus-IDA MODBUS Application Protocol Specification V1.1b
- The Nexus® 1500 Meter Modbus Register Map (in this manual)
- Communicator EXT 3.0 User Manual

6.2: LDA Overview

The Modbus protocol was designed for use with discrete values, not files. The Modbus protocols supported by LDA are:

- Modbus ASCII
- Modbus RTU
- Modbus TCP

6.2.1: Modbus Interface for LDA

Standard Modbus Exception Response is supported by LDA. For example, if a device has an exception response, such as the device does not support this LDA request at function code 0x45, the response message will be:

| | | | |
|----------------|---------------------------------------|----------------|----------|
| Device Address | Custom Function Code with msb bit set | Exception Code | Checksum |
|----------------|---------------------------------------|----------------|----------|

The base Modbus message format for Large Data Access via Modbus Protocols is:

| Frame Header | | | | | | | | | |
|----------------|----------------------|----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|-----------|--|
| Device Address | Custom Function Code | Frame Length | User Flags | User Command Code | User Sub-Command Code | Status Code | User Data Length | User Data | Checksum (optional) |
| 1 Byte | 1 Byte, 0x45 | 2 Bytes (MSB format) | 4 Bytes (MSB format) | 4 Bytes (MSB format) | 4 Bytes (MSB format) | 4 Bytes (MSB format) | 4 Bytes (MSB format) | X Bytes | 1 Byte for LRC in Modbus ASCII, 2 Bytes for CRC in Modbus RTU, none for Modbus TCP |

Since the user data section is optional, the minimum frame length is $1+1+2+4+4+4+4+4+4=24$ bytes.

The request and response message format are the same for the first 24 bytes. The user data section is optional and only used for certain commands. For example, the user data section could contain readable text messages, a firmware file for firmware updates, or a file from the file system.

Field Descriptions

Device Address

Standard Modbus device address

Custom Function Code

A designated Modbus Function Code to identify this message; contains custom data and format. Use 0x45 in hex, 69 in decimal.

Frame Length

Length of this Modbus message - it's the sum of $1+1+2+4+4+4+4+4+[user\ data\ length\ in\ this\ frame]$. The maximum user data length in a frame is 1408 bytes.

User Flag Details

Bits 31 to 0, where bit 31 is the most significant bit.

| Flag Bits | Description |
|-----------|--|
| 31 | ACK flag. Used when user data needs to be transferred in multiple frames. For sender, the first frame with user data transferred does not set the ACK flag, but additional frames transferred with user data will need the ACK flag set. For the receiving party, the request command with this ACK flag set must be sent to the sender. |
| 30 | Last user data transfer. Set by sender in the last user data transfer frame. |
| 29 | Indicates file or directory for command code 34, 35, 36. 0=file, 1=directory. |
| 28 | File read cache status. When set, file read is cached by the device which can improve performance. Current implementation has only one cached channel on Modbus TCP connection on a first come, first served basis. |

User Command Code Details

Primary user defined command code. An enumeration of user defined features and functions.

| Command Code | Description | |
|----------------|--|--|
| 1 | Device ID | Device returned ID string in user data field. |
| 2 | Device Reset, meter hardware reset. | User must log on first. |
| 4 | Firmware Update | For request message, user sends firmware file in the user data field for up to 1408 bytes; user sets the firmware file total length in the user data length field. For response message, ACK flag will be set. For additional requests, user sets the ACK flag; user set additional user data in user data field (up to 1408 bytes). |
| 5 | Abort transmission | Terminate multi-framed data transfer. |
| 6 | Get current data output transfer window size | Data output transfer window size is configurable by user. The default value is 1408. |
| 7 | Set current data output transfer window size | User configurable. Valid value ranges from 64 to 1408, in increments of 64. |
| 10 | User Security Status | User log on sequence is Username first, followed by Password. Wrong sequence will terminate the logon process. |
| 11 | Send Username | XOR masked username with 0x45, 'E', in user data field. |
| 12 | Send Password | XOR mask for password with 0x49, 'I', in user data field. |
| 13 | Logoff | Device will clear security privileges for the current connection. |
| 20 | Firmware update status | With current status code and text message. |
| 21 | Firmware info | Firmware information in text. |
| 30 | Change Directory | Allows the changing of the current directory to a different one. |
| 31 | Get Current Directory | Returns the complete path and the current directory. |
| 32 | List Directory Contents | Returns the contents of the current directory. |
| 33 | Create Directory | Creates a directory in the file system in a writeable directory. |
| 34 | Delete File/Directory | Deletes a file or an empty directory from the file system. |
| 35 | Rename File/Directory From | Renames a file or a directory from. |
| 36 | Rename File/Directory To | Renames a file or a directory to. |
| 37 | Read File | Reads bytes from a file. |
| 38 | Write File | Writes bytes to a file. |
| 39 | Get File Details | Returns the file details (Size, Date & Time, and file attributes). |
| 40 | Close File | Closes the file. |
| 41 | Get a file's CRC32 checksum | Gets a file's CRC32 checksum. |
| | | |
| 65536 | Reserved | |
| 65537 | Reserved | |
| 65538 .. 65600 | Reserved | |

User Sub-Command Code

When sending data in a multi-framed process, sequence number will be used and placed in the user sub-command code field. The sequence number for the first frame in a multi-framed transfer will be 0 and additional frame sequence numbers will be 1 and so on.

| |
|--------------------------------|
| User Sub-Command Code |
| Sequence Number, 4 Bytes, MSB. |

Status Code

Set by the receiving end of data transfer. User should always check the status code when processing a response message.

| Status Code | Description |
|-------------|---|
| 0 | Device did not respond, this is an error condition. |
| 0x00AA | Completed Successfully. |
| 0x00BB | Busy or in process. |
| 0x00FA | Failed. |
| 0x00FF | Not Authorized. |
| 0x0100 | Data Not found. |
| 0x0101 | Command Code not supported. |
| 0x0102 | Invalid frame length. |
| 0x0103 | Invalid user data length. |
| 0x0104 | User data length larger than set. |
| 0x0105 | User data receive buffer not ready. |
| 0x0106 | User data receive error. |
| 0x0107 | Firmware update data transfer done. |
| 0x0108 | Firmware update data transfer failed. |
| 0x0109 | User logged on. |
| 0x010A | User logged off. |
| 0x010B | Firmware update in process. |
| 0x010C | Firmware update failed. |
| 0x010D | Firmware update done. |
| 0x010E | Firmware update idle. |
| 0x010F | User security privilege restricted. |
| 0x0110 | User security setting was changed, need to log on again. |
| 0x0111 | File or Directory does not exist. |
| 0x0112 | Already in the root. |
| 0x0113 | Directory already exists. |
| 0x0114 | Permission denied. |
| 0x0115 | Name is invalid. |
| 0x0116 | File in use by another process. |
| 0x0117 | Directory is not empty. |
| 0x0118 | Handle does not exist. |
| 0x0119 | Invalid Handle. |
| 0x011A | File Seek invalid. |
| 0x011B | Byte count invalid. |
| 0x011C | Handle in use. |
| 0x011D | Disk full. |
| 0x011E | File Open Error. |
| 0x011F | File size is 0. |
| 0x0120 | Missed write frame with sequence number 1. |
| 0x0121 | Invalid write sequence number. |
| 0x0122 | Invalid command between read write file operation. |
| 0x0123 | File access error while processing file checksum command. |
| 0x0124 | File read error while processing file read command. |
| 0x0125 | File write error while processing file write command. |

User Data Length

Exact size of user data in number of bytes. If there is no user data in the message, this number is 0.

User Data

Contains user specific data. If User Data Length field value is 0, then user data section does not exist. For multi-framed data transfers, the user must send the data in the fixed length window except for the last frame. For example, if the user data is 4096 bytes and the transfer window size is 1408 byte, the user could send it in 3 frames, in the sizes of 1408+1408+1280, respectively.

Checksum

Contains the checksum for this Modbus message: 1 Byte for LRC in Modbus ASCII, 2 Bytes for CRC in Modbus RTU, none for Modbus TCP.

6.3: LDA Programming Examples

6.3.1: Example 1 - Update Firmware

- a) Software sends request device ID command

```
01 45 00 18 00 00 00 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00
```

Device should return

```
01 45 00 2E 00 00 00 00 00 00 00 01 00 00 00 00 00 00 00 AA [xx.xx.xx.xx, 4  
bytes, Device ID string length] [n bytes, actual Device ID string]
```

- b) Software should verify the returned message for correct device ID.
c) Software sends username command with XOR encoded username to device.
d) Software sends password command with XOR encoded password to device.
e) Software sends user security status command to device. In addition, software should verify the returned message for user logged on status code.
f) Software sends the first frame with user data in the user data field. Software should determine what the user data transfer window size is and then fill the user data field up to that number. For example, if the firmware data is 4096 bytes and the transfer window size is 1408 byte, software could send it in 3 frames, in the sizes of 1408+1408+1280, respectively.

Software should set the following:

- clear bit 31 in the user flags field.
- clear bit 30 in the user flags field.
- Set user command code 4, for firmware update.
- Set user sub-command field to 0.
- Set the total firmware length in the user data length field.

Device will return the following, with a success status code.

```
01 45 00 18 80 00 00 00 00 00 00 04 00 00 00 00 00 00 00 AA 00 00 00 00
```

- g) Software then sends the additional frames with additional user data in the user data field. Software should set the following:
- set bit 31 in the user flags field, ACK bit.
 - set bit 30 in the user flags field only if the frame is the last frame.
 - Set user command code 4, for firmware update.
 - Set a sequence number in the user sub-command field, starting with 1, then incrementing for each additional frame sent.
 - Set the user data size in the user data length field. Using above example with firmware data of 4096 and transfer window size of 1408, the value in user data length field will be 1408 and 1280 for transfer frames with sequence numbers 1 and 2.

Device will return the following, with a success status code and user send sequence number.

01 45 00 18 80 00 00 00 00 00 00 04 00 00 00 01 00 00 00 AA 00 00 00 00
for frame with sequence 1.

01 45 00 18 80 00 00 00 00 00 00 04 00 00 00 02 00 00 00 AA 00 00 00 00
for frame with sequence 2.

- h) When the user has sent all the firmware data to the device and the device has correctly received all the data, usually on the last frame the device returns with the "Firmware update data transfer done" status code. Then the device starts parsing, checking and updating the firmware process.
- i) Software should send the Firmware update status command to the device and check the returned firmware update status code.
- j) After the firmware status code is changed to Firmware update done, software should send the Firmware info command to the device and show the returned firmware information to the user for confirmation.
- k) If everything is OK, the software should give the user the option to reset the device by sending the Device Reset command.

6.3.2: Example 2 - Read a Log File from the Nexus® 1500 Meter's File System

- a) Software sends username command with XOR encoded username to the device, assuming a user name of 9 characters.
01 45 00 21 00 00 00 00 00 00 00 0B 00 00 00 00 00 00 00 00 00 00 09
[xx..(total 9 bytes)]
Device Response if the request is valid:
01 45 00 18 00 00 00 00 00 00 00 0B 00 00 00 00 00 00 00 AA 00 00 00 00
- b) Software sends password command with XOR encoded password to device, assuming a password of 9 characters.
01 45 00 21 00 00 00 00 00 00 00 0C 00 00 00 00 00 00 00 00 00 00 09
[xx..(total 9 bytes)]
Device Response if the request is valid:
01 45 00 18 00 00 00 00 00 00 00 0C 00 00 00 00 00 00 00 AA 00 00 00 00
- c) Software sends user security status command to the device. In addition, software should verify the returned message for "user logged on" status code.
User Request:
01 45 00 18 00 00 00 00 00 00 00 0A 00 00 00 00 00 00 00 00 00 00 00
Device Response: User logged On.
01 45 00 27 00 00 00 00 00 00 00 0A 00 00 00 00 00 00 00 01 09 00 00 00 0F
55 73 65 72 20 6C 6F 67 67 65 64 20 4F 6E 2E
- d) Software sends Read File command with 'C:\LOGS\00000000.BIN' in the user data field.
01 45 00 2D 00 00 00 00 00 00 00 25 00 00 00 00 00 00 00 00 00 00 15
5C 43 5C 4C 4F 47 53 5C 30 30 30 30 30 30 30 30 2E 42 49 4E 20
- e) Assuming use of default transfer size of 1408 bytes, the device responds with the following:
 - Set the first 1408 bytes of the file in the user data field.

- Set sequence 0 in the user sub-command field.
- Set 1024*1024 in the user data length field.
- Set 0xAA in the status code field.
- Clear bit 30 in the user flags field, last frame bit.

01 45 05 98 80 00 00 00 00 00 00 25 00 00 00 00 00 00 AA 00 10 00 00
[xx.. (total 1408 bytes of data)]

f) Software sends additional Read File commands with the following:

- Set bit 31 in the user flags field, ACK bit.
- Set sequence 1 in the user sub-command field.

01 45 00 18 80 00 00 00 00 00 00 25 00 00 00 01 00 00 00 00 00 00 00

g) The device responds with the following:

- Set the additional 1408 bytes of the file in the user data field.
- Set user requested sequence number in the user sub-command field.
- Set 1408 in the user data length field.
- Set 0xAA in the status code field.
- Clear bit 30 in the user flags field, last frame bit.

01 45 05 98 80 00 00 00 00 00 00 25 00 00 00 01 00 00 00 AA 00 00 05 80
[xx.. (total 1408 bytes of data)]

h) Repeating the process in step (f) and step (g), software increments the sequence number by 1. When the device responds for the last frame, the device returns the following:

- Set the last 1024 byte of the file in the user data field.
- Set user requested sequence number in the user sub-command field, which should be 744.
- Set 1024 in the user data length field.
- Set 0xAA in the status code field.
- Set bit 30 in the user flags field, last frame bit.

Last Device Response:

01 45 04 18 C0 00 00 00 00 00 00 25 00 00 02 E8 00 00 00 AA 00 00 04 00
[xx.. (total 1024 bytes of data)]

i) Software should receive a total of 1024*1024 bytes file.

j) Software should send close file command to device.

User Request:

01 45 00 18 00 00 00 00 00 00 00 28 00 00 00 00 00 00 00 00 00 00

Device Response:

01 45 00 18 00 00 00 00 00 00 00 28 00 00 00 00 00 00 00 AA 00 00 00 00

6.4: Notes on User Security Implementation

The Nexus® 1500 meter has its own security features, in particular the multi-level access code, which can be accessed via Modbus function codes 0x03, 0x06 and 0x010. It also has the extended password features with 8 additional user accounts with configurable access privileges. The user security features addressed in this document are only for accessing the areas set by the user access privileges. For more information on meter security features, see the *Nexus® 1500 Installation and Operation Manual* and the *Communicator EXT User Manual*.

6.5: File Access Command Details

Change Directory

Software should set the following in the frame sent to the device:

- Set user command code 30.
- Set the desired directory name in user data field, such as LOGS or .. for changing one directory level up.
- Set the directory name length in user data length field

Software receives a status code in the returned frame. If the command was processed successfully by the device, the current directory and path in the device for this connection is changed accordingly.

Get Current Directory

Software should set the following in the frame sent to the device:

- Set user command code 31.
- Clear the user data field and user data length field.

Software receives a status code in the returned frame. If the command was processed successfully by the device, the current directory name is in the user data field with the directory name length set in the user data length field.

List Directory Contents

Software should set the following in the frame sent to the device:

- Set user command code 32.
- Clear the user data field and user data length field.

Software receives a status code in the returned frame. If the command was processed successfully by the device, the directory contents are in the user data field with the content length set in the user data length field. If the directory content's size is larger than the data output transfer window size, then the data needs to be transferred in multiple frames.

To request additional frames, software should set the following in the frame sent to the device:

- Set bit 31 in the user flags field.
- Set user command code 32.
- Clear the user data field and user data length field.

In response to software's additional request, the device will set and send the following:

- Set bit 31 in the user flags field.
- Set bit 30 only if the frame is the last frame to hold user data.
- Set user command code 32.
- A sequence number starting at 1 and incremented by 1 for each additional frame in user sub-command code field.
- A status code.

The format for directory contents is as follows:

```
111111111122222222223333333333444444444455555555
012345678901234567890123456789012345678901234567
```

```

[Acc  RWX] [Fileln] YYYY-MM-DD HH:mm:ss [Fname  8.3]{CR}{LF}

[Acc  RWX]      File Permissions:

                The permissions have 4 flags:
                d : The entry is a directory.
                r : The entry has read permissions.
                w : The entry has write permissions.
                x : The entry has executed permissions.

                As a reference, the rwx's are clustered into 3 groups:
                -rwx----- : The permissions for the owner of this file.
                ----rwx--- : The permissions for the group of the owner of this
                             file. (Nexus 1500 will display ----r-----).
                ------rwx : The permissions for everyone else. (Nexus 1500 will
                             only display ------r--).

[Fileln]      File length: Fixed number of characters, 8 digits, space padded,
                right justified.

[Fname  8.3]  Filename conforming to the 8.3 file naming convention

{CR}{LF}      Line terminator

```

Create Directory

Software should set the following in the frame sent to the device:

- Set user command code 33.
- Set the desired new directory name in the user data field, such as UserData.
- Set the directory name length in the user data length field.

Software receives a status code in the returned frame.

Delete File/Directory

Software should set the following in the frame sent to the device:

- Set user command code 34.
- Set the desired file name or directory name to delete in the user data field, such as UserData.
- Set the file name or directory name length in the user data length field.

Software receives a status code in the returned frame.

Rename File/Directory

Rename From

Software should set the following in the frame sent to the device:

- Set user command code 35.
- Set the desired file name or directory name to rename in the user data field, such as UserData.
- Set the file name or directory name length in the user data length field.

Software receives a status code in the returned frame.

Rename To

Software should set the following in the frame sent to the device:

- Set user command code 36.
- Set the desired new file name or directory name in the user data field, such as UserData.
- Set the file name or directory name length in the user data length field.

Software receives a status code in the returned frame.

Read File

Software should set the following in the frame sent to the device:

- Set user command code 37.
- Set the desired file name in the user data field, such as UserFile.txt.
- Set the file name length in the user data length field.

Software receives a status code in the returned frame. If the command was processed successfully by the device, the file contents will be in the user data field with the total file length set in the user data length field. If the file content's size is larger than the data output transfer window size, then the data needs to be transferred in multiple frames. A sequence number starting at 0 in the user sub-command code field for the first frame.

To request additional frames, software should set the following in the frame sent to the device:

- Set bit 31 in the user flags field.
- Set user command code 37.
- Clear the user data field and the user data length field.
- A sequence number starting at 1 and incremented by 1 for each additional frame in user sub-command code field.

In response to software's additional request, the device will set and send the following:

- Set bit 31 in the user flags field.
- Set bit 30 only if the frame is the last frame to hold user data.
- Set user command code 37.
- A sequence number set in the user sub-command code field, which should match the sequence number in the request frame.
- A status code.

To perform the equivalent of a File Seek operation, the user should use the sequence number in the read request for additional frames. By setting a different sequence number in the read request, the user could randomly access any part of the file after the first read request, in chunks the size of the Data Output Transfer Window.

Write File

Software should set the following in the frame sent to the device:

- Clear bit 31 in the user flags field.
- Set user command code 38.
- Set the desired file name in the user data field, such as UserFile.txt.
- Set the file name length in the user data length field.
- A sequence number 0 in the user sub-command code field.

Software will receive a status code in the returned frame. If the command was processed successfully by the device, then the software should set the following in the frame sent to the device:

- Set bit 31 in the user flags field.
- Set bit 30 only if the frame is the last frame to hold user data.
- Set user command code 38.

- A sequence number starting at 1 and incremented by 1 for each additional frame in the user sub-command code field.
- Set the desired file data in the user data field, for up to the 1408 bytes.

For recovery during a write operation, if the returned status code is 0x121 (Invalid write sequence number), the user can resend the command. For all other status code with errors, the user should attempt to send the close file command, pause, and then send the write file command again as a whole new operation.

File Details

A comma separated text block holds the file detail information; the format is:

[Size], [Modified Time Stamp, YYYY-MM-DD HH:MM:SS], [Attributes]

For example:

3743, 2008-05-04 15:12:27, False

| Property | Description |
|---------------------|----------------------------------|
| Size | Actual size of the file in bytes |
| Modified Time Stamp | Time file was last modified |
| Attributes | Read only |

File Close

Software should send this file close command at the beginning of a new read/write and at the end of the current read/write. For write, we only support sequential write, which means no jumping between each write. For read, non-sequential read is also supported, which means after the first request, the software could ask for any part of the file. Because of this, firmware needs the file close command to signal a termination of the read/write process.

Software should set the following in the frame sent to the device:

- Set user command code 40.

Software receives a status code in the returned frame.

Get a File's CRC32 checksum

This command causes the device to compute a given file's CRC32 checksum and return the result to the user. Software should send this command with the specified file name in the user data field and set the file name length in the user data length field. The file name can contain the full path, or just the file name if the Change Directory command is sent separately, before this command is sent. On successful completion of the task, the computed CRC32 checksum is returned in the return message's user data section with the user data length field set to 4, for a 4 bytes unsigned long value in MSB format. The returned status code could be 0x00AA, 0x010F, 0x011E, 0x011F.

In addition, when the user send this command, the user could also set a working buffer size value in User Sub-Command Code field for the meter to use. The valid value range for the Nexus® 1500 meter is from 128 (if the setting is below 128) to 1048576 (if the setting is above 1048576). The recommended value is 4096.

6.6: Data Input and Output Transfer Window Size

This window's default size is 1408 bytes, which allows the user to set a window for receiving larger data from the device. For example, if the data size is 4k(4-1024) bytes, with a default transfer window size of 1408 bytes, the data needs to be transferred out in 3 frames in the size of 1408, 1408, and 1280 bytes, respectively. If the transfer window size is set at 64, then the data needs to be transferred out in 64 frames in the size of 64 bytes each.

Get current data output transfer window size

Software should set the following in the frame sent to the device:

- Set user command code 6.
- Clear user sub-command code field.

Software receives a status code in the returned frame and the current data output transfer window size will be in the user sub-command code field.

Set current data output transfer window size

Software should set the following in the frame sent to the device:

- Set user command code 7.
- Set the current data output transfer window size in the user sub-command code field.
Valid values for Nexus® 1500 are 64 to 1408 bytes, in increments of 64 bytes.

Software receives a status code in the returned frame and the current data output transfer window size will be in the user sub-command code field.

Limitation with Modbus ASCII protocol

Because the communication buffer size in the Nexus® 1500 meter used with Modbus ASCII protocol is about 1500 ASCII characters, the maximum size of the data in the user data field should be limited to 704 bytes, or 1408 ASCII characters.

Input Transfer Window Size

Input Transfer Window Size is dictated in the first sent frame's data size, and the maximum data size for each additional frame cannot be larger than the data size in the first frame. The maximum data size is 1408 bytes. We recommended using the data size window in increments of 64 bytes.

For example, the sender has the option to send the data using the following options.

| Total Size (Bytes) | Send Data Size in the 1 st Frame (Bytes) | Send Data Size in the Additional Frames (Bytes) | Total Transfers |
|--------------------|---|---|-----------------|
| 2816 | 1408 | 1408 | 2 |
| 2816 | 704 | 704, 704, 704. | 4 |
| 2816 | 640 | 640, 640, 640, 256. | 5 |
| 2816 | 64 | 64, 64, ..., 64. | 44 |
| 1024 | 1024 | Not Applicable | 1 |
| 12 | 12 | Not Applicable | 1 |

NOTE: Because the communication buffer size in a Nexus® 1500 meter with Modbus ASCII protocol is about 1500 ASCII characters, the maximum size for user data to be put in to the user data field is 704 bytes, or 1408 ASCII characters.

6.7: Access Timeout

A general access timeout is applied to commands that require log on. The timeout value is fixed at 5 minutes. The timeout value is initiated at the time a user logs on via Modbus LDA and refreshed each time a valid Modbus LDA request is received while the user is logged on.

In Modbus LDA, a timeout expires when the following occurs:

- a) The meter security setting is changed.
- b) The user logs off.

6.8: Downloading Logs using LDA

6.8.1: Log Interface Files

All settings, states, and data records related to logging are accessible as files through the Modbus LDA interface. The files which are important to log retrieval and interpretation are as follows:

6.8.1.1: Programmable Settings

`\C\SYSTEM\NX1500.nps`

The programmable settings file contains most of the configurable settings used for retrieving the logs and interpreting them. The important ones for retrieval are listed here, as well as a quick overview of the settings useful for log interpretation. See Chapter 7 for more details.

6.8.1.1.1: Log Block Assignments

The amount of memory assigned to any particular log is configurable by the user, and affects where in the file system the log retrieval looks for the log's records. See Chapter 7 for details of using these settings with the logs. Each log is assigned a number of 'blocks', which controls the number of files used to store the records, and which exact files are used for each log.

6.8.1.1.2: Log Item Assignments

Each of the Interval logs, as well as the Digital Input, Digital Output, and Limit logs, store a configurable set of log items with their records. Each item has the following sub-items, used to determine its format:

- Line, Point : Combined, line and point describe which of the meter's items is being stored in the log.
- Size : The number of bytes used by this item. This will be used later to determine where in the log record each item is.
- FType : The data type of the item. See Chapter 3 for a description of FTypes.

Each log has its own log item configuration list, with the exception of the Digital Input and Output logs. The Digital Input log uses Interval 1's items, and the Digital Output log uses the Limit log's items.

6.8.1.1.3: Waveform Settings

See Chapter 7 for details of these settings.

6.8.1.2: Meter ID File

\\METERID.BIN

The Meter ID file contains information about the meter, including current state info, and configurations.

| Field | Size | Description | Setting |
|-----------------|------|---|---|
| Header | 16 | ASCII, padding with space | "METER ID FILE " |
| Version | 2 | The version number. | Major – Minor (1.7) |
| Log status | 4 | Indicates if the logs are paused/running. | 0 means log are running otherwise logs are paused. Bit 0[LSB] = Historical 1 Bit 1 = Historical 2 Bit 2 = Sequence of Event (Limit) Bit 3 = Digital Input Bit 4 = Digital Output Bit 5 = Flicker Bit 6 = Waveform Bit 7 = System Events Bit 8 = Transients Bit 9 = PQ Bit 10 = Interval Log 3 Bit 11 = Interval Log 4 Bit 12 = Interval Log 5 Bit 13 = Interval Log 6 Bit 14 = Interval Log 7 Bit 15 = Interval Log 8 Bit 16 = Event Triggered |
| Log drop record | 4 | Indicates if the logs stop logging allowing dropping records because the download process is slow than saving record process. | 0 means does not drop record otherwise drop records. The sequence is the same as Log Status. |
| Dummy | 1 | This enumeration indicates the path in our system where the pause/running dummy files, which are used during the log download process, are saved. | 0 = \\C\\SYSTEM\\LOGS\\RUNNING\\ \\C\\SYSTEM\\LOGS\\PAUSED\\ 1 = \\I\\RUNNING\\ \\I\\PAUSED\\ 2 = \\vf\\RUNNING\\ \\vf\\PAUSED\\ |
| Reserved | 5 | | |
| Meter ID | 16 | ASCII | |

| | | | |
|---------------------|----|--|---|
| Meter Serial Number | 8 | | |
| Comm Boot Version | 4 | ASCII | |
| CF size | 8 | Compact size in byte, the MSB byte first | |
| CF serial Number | 20 | serial number in ASCII, right justified, with no null string terminator | |
| CF FAT type | 8 | the file system type, with no null string terminator | |
| Comm Run Version | 4 | ASCII | |
| Comm Run Build | 4 | ASCII | |
| Comm state | 2 | | |
| DSP1 Boot | 4 | ASCII | |
| DSP1 Run | 4 | ASCII | |
| DSP1 State | 2 | | |
| DSP2 Run type | 2 | | |
| DSP2 Run | 4 | | |
| DSP2 Run ID | 4 | | |
| FPGA Version | 2 | | |
| Time | 8 | Nexus 12xx time stamp definition. The time that the file was generated/updated | |
| Log Reset Status | 4 | Informs if a specific log will be reset. | The sequence is the same as Log Status. |
| Reserved | 6 | | |
| Current Range | 1 | | 0x000 - Standard Nexus 1500 (Class 20, Nominal 20Amp) 0x001 - Class 2 Nexus 1500 (Nominal 1Amp) 0x002-0x0FF Undefined, treated as Standard Nexus 1500 |
| Reserved | 1 | | |
| Sealing Switch | 1 | | 0x000 No Sealing Switch 0x001 Sealing Switch installed 0x002-0x0FF Undefined, treated as No Sealing Switch |
| Reserved | 1 | | |

| | | | |
|-------------------------|-------|---|--|
| OEM Model | 1 | | 0x000 Standard Nexus identification 0x001 OEM Model String 0x002-0x0FF Undefined, treated as Standard Nexus identification. |
| Reserved | 1 | | |
| Temperature sensor type | 1 | | 0x000 Resolution at 0.5 °C. 0x001 Resolution at 0.0625 °C. 0x002-0x0FF Undefined treated as Resolution at 0.5 °C. |
| Reserved | 19 | | |
| OEM Model String | 16 | ASCII | |
| Reserved | 80 | | |
| V-switch | 2 | | |
| Option board: State | 4 | Indicates if the slot has some board installed. If the installed board has good bio-byte checksum and it is in proper slot, the board is recognized otherwise it is not recognized. | Bit 00-07[LSB] = slot 1 Bit 08-15 = slot 2 Bit 16-23 = slot 3 Bit 24-31 = slot 4 = 0x00 – No Board installed = 0x01 – Board Installed and Recognized = 0x02 – Board Installed and Not Recognized |
| Option board: Type | 16 | Indicates the board type if it is installed and recognized | Bit 00-31[LSB] = slot 1 Bit 32-63 = slot 2 Bit 64-95 = slot 3 Bit 96-127 = slot 4 = 00 – 2 – N/A = 03 – RS485-2/Pulso Out-4 = 04 – Ether2/TP = 05 – Ether2/Fiber = 06 – Ether2/Wi-Fi = 07 – N/A = 08 – Relay Out = 09 – N/A = 10 – Ether2/Combo = 11 – Digital Input Option board = 12 – Analog Input Option Board |
| Reserved | 16090 | | |
| Footer | | ASCII | “**ID” |

6.8.1.3: Log Headers

\I\INT1.BIN
\I\INT2.BIN
\I\INT3.BIN
\I\INT4.BIN
\I\INT5.BIN
\I\INT6.BIN
\I\INT7.BIN
\I\INT8.BIN
\I\ET.BIN
\I\LIMIT.BIN
\I\DIGIN.BIN
\I\DIGOUT.BIN
\I\FLICKER.BIN
\I\SYSEVENT.BIN
\I\WAVEFORM.BIN
\I\PQ.BIN
\I\TRANS.BIN

The Log Header files contain statistics on each of the individual logs, including oldest and newest records, number of records, record sizes, and memory allocated. It's primary use is for determining the validity of the data being retrieved, and for finding the position of each record in the log files.

| Field | Size | Description |
|-----------------------|-----------------|--|
| Record Size | 4 [uint] | The size of a record in bytes. All records must have the same size. |
| Oldest Timestamp | 8 [nexus8_time] | The timestamp of the oldest record. |
| Reserved | 4 | |
| Oldest External Index | 4 [uint] | The external index of the oldest record. |
| Oldest Internal Index | 4 [uint] | The internal index of the oldest record. |
| Newest Timestamp | 8 [nexus8_time] | The timestamp of the newest record. |
| Reserved | 4 | |
| Newest External Index | 4 [uint] | The external index of the newest record. |
| Newest Internal Index | 4 [uint] | The internal index of the newest record. |
| Record Count | 4 [uint] | The number of records stored in this log. |
| Memory Allocated | 4 [uint] | The amount of memory allocated to this log, in bytes. |
| Valid Bitmap | 8 | Bitmap indicating the validity of each item in the log. Only useful for logs which contain a configurable number of items, such as Interval 1. |

6.8.1.4: Paused/Running Files

The log paused files are command files which signal to the device that the user is beginning a log retrieval session, and that the log indexes should be frozen for the specified log. This does not prevent the recording of new records, which continues until the physical maximum number of records is reached. At this point logging for that log is stopped, until the log retrieval session is concluded. This is done to prevent records from being overwritten while they are being retrieved, which results in log corruption.

Likewise, the log running files are command files which signal to the device that the user is ending a log retrieval session, and that the log indexes should be unfrozen for the specified log. If the running file is never triggered for a paused log, after a period of inactivity the device will automatically un-pause the log.

Paused/Running commands are triggered by just reading the respective file for that log. They have no actual content.

The location of the paused and running files is dependent on the firmware, but can be determined from the 'Dummy' field of the MeterID file. The root locations will be one of the following:

| | |
|---|--------------------------------|
| 0 | \C\SYSTEM\LOGS\RUNNING, PAUSED |
| 1 | \I\RUNNING, PAUSED |
| 2 | \vf\RUNNING, PAUSED |

The file locations would then be:

[ROOT]\INT1.BIN
[ROOT]\INT2.BIN
[ROOT]\INT3.BIN
[ROOT]\INT4.BIN
[ROOT]\INT5.BIN
[ROOT]\INT6.BIN
[ROOT]\INT7.BIN
[ROOT]\INT8.BIN
[ROOT]\ET.BIN
[ROOT]\LIMIT.BIN
[ROOT]\DIGIN.BIN
[ROOT]\DIGOUT.BIN
[ROOT]\FLICKER.BIN
[ROOT]\SYSEVENT.BIN
[ROOT]\WAVEFORM.BIN
[ROOT]\PQ.BIN
[ROOT]\TRANS.BIN

6.8.1.5: Log Data Files

The files allocated for the logs are located in the \C\Logs directory, and are named XXXXXXXX.bin, where x is the file index, and is (left) zero padded. So for example, file 172 would be \C\Logs\00000172.BIN.

6.8.1.5.1: File Format

Each log record is formatted specifically to that log, however the overall format of each file is generic across all logs. Each record is fixed at the same size, for that log. Each log contains R records, of which each file contains N log records, each of size M. Each record in the file is packed towards the start of the file,

such that the I^{th} record in the file is $M \cdot I$ bytes from the beginning of the file. If $N \cdot M < 1\text{MB}$, such that the remaining space is $< M$, that space is ignored, and the next sequential record is placed at the beginning of the next sequential file. In other words, when a record is written to the file, it is placed directly after the previous record. If writing the entire record would push the record off the end of the file, then the record is started at the beginning of the next file: This assures that no records cross file boundaries.

When all records allocated for this log have been written to, the number of records equals the max number of records and the log is considered full. At this point, the log “rolls over”, and the next record is written at the beginning of the log. Logging then continues from that point in the files, overwriting old records.

The records of each log are identified by two indices: The external index, and the internal index.

The external index is the record's physical location in the files. The first record of the first file is always external index 0, the next record is 1, and so on. This is significant because the external indices are used to locate the first and last records to retrieve in the files.

The internal index is the unique id for each record. This index always increments when a record is stored, even if the log has rolled over, or been reset. This allows each record to be identified sequentially relative to each other. However, since this value is stored in the record itself, it is only useful once you've actually retrieved the record.

6.8.1.5.2: Record Format

Each record is composed of two parts: A record header, and a record data part. The record header is 8 bytes, and has the following format:

| Field | Size | Description |
|----------------|-----------|--|
| Internal Index | 4 [int] | The internal index of the record. Note this value rolls over at 2^{31} . |
| Time Delta | 2 [short] | Delta in centiseconds of the given timestamp from when the record was actually recorded. |
| Reserved | 2 | |

Records can sometimes be recorded up to a second after they were triggered for recording. This can result in a record timestamp which is not exactly when it is expected to be. For interval logs, the timestamp of each record is adjusted to the proper interval: this is done to support record parsing which requires that the record timestamps be when they are expected to be. However, to maintain the accuracy of the timestamp, the time delta provides the number of centiseconds the timestamp was adjusted.

The record data part is unique to each log. Below is a list of rules which are unique to each log. Details for the logs are given later in the chapter.

System Event: The System Event log is fixed at 1 log file, to be backward compatible with Modbus log retrieval (see Chapter 9). The System Event is always the first log file, as it should never be reset, and must always be available to diagnose issues with the system.

Interval 1,2: The first two interval logs are constrained to be backward compatible with Modbus log retrieval (see Chapter 9). These logs are capped at 8 log files or 8MB. Additionally, to maintain backward compatibility, the number of records is capped at 32767: Note that this affects how record indices and the max number of records is computed. The size of the record is the configured size for that log, in the programmable settings.

Interval 3-8, Event Triggered: The size of the record is the configured size for that log, in the programmable settings.

Limit: The Limit record contains the limit details, followed by N log items, taken from the Limit profile. The size of the record is the sum of the details size and the size of each of the log items.

Digital Input: The Digital Input record contains the Digital Input details, followed by N log items, taken from Interval 1's profile. The size of the record is the sum of the details and all the log items.

Digital Output: The Digital Output record contains the Digital Output details, followed by N log items, taken from the Limit profile. The size of the record is the sum of the details and all the log items.

Waveform: The Waveform record contains a record header, followed by the samples, and RMS details. Because the number of sample blocks is dynamic, the record size is fixed at the max size, determined from the log header. The actual size of the data in the record is determined by the record's header. Additionally, note that due to the 1MB size limitation on records, sampling rates greater than 128 have a reduced maximum number of records.

PQ: No special details.

Transient: The Transient record contains a record header, followed by samples, and RMS details. This works the same as the Waveform record.

6.8.1.5.3: Record Location

To determine the location of a record given its external index, you must determine the arrangement of records in the files. To do this, you need to determine the first file for that log, then the record in the file, and the offset from that. Below is the basic algorithm:

```
file_size = 1MB;
//the number of records which fit into a single file. Since records must
// evenly fit into a file, any extra space is discarded
records_per_file = file_size / header.record_size;
//get the file number which contains the first record. This is a sum of the
// previous log sizes.
first_file_num = sum_log_blocks(log);
//the number of files in use by this log. This should agree with the block
// allocation.
num_files = header.memory_allocated / file_size;
//maximum number of records we can record given our allocation.
```

```

max_records = records_per_file * num_files;
//special case for the Interval 1 and 2 logs, which are capped at 32k, and
// thus don't follow the above rule.
if(log == INT1 || log == INT2)
    if(max_records > 32767)
        max_records = 32767;

//The results. file_num is the file which contains the record,
// and file_offset is the byte offset in that file.
file_num = (external_index / records_per_file) + first_file_num;
file_offset = (external_index % records_per_file) * record_size;

```

To determine the first file, you sum the blocks allocated to each of the logs prior to it:

```

//determine which file contains the first record of a specified log
int sum_log_blocks(log)
{
    //sum each of the log sizes. The sizes come from the block allocation in
    // the programmable settings
    sum[0] = 0; //system event
    sum[1] = system_events + sum[0]; //hist 1
    sum[2] = hist_1 + sum[1]; //hist 2
    sum[3] = hist_2 + sum[2]; //hist 3
    sum[4] = hist_3 + sum[3]; //hist 4
    sum[5] = hist_4 + sum[4]; //hist 5
    sum[6] = hist_5 + sum[5]; //hist 6
    sum[7] = hist_6 + sum[6]; //hist 7
    sum[8] = hist_7 + sum[7]; //hist 8
    sum[9] = hist_8 + sum[8]; //event
    sum[10] = evt_triggered + sum[9]; //limit
    sum[11] = limit_log + sum[10]; //di
    sum[12] = di_log + sum[11]; //do
    sum[13] = do_log + sum[12]; //flicker
    sum[14] = flicker_log + sum[13]; //waveform
    sum[15] = waveform_log + sum[14]; //pq
    sum[16] = pq_log + sum[15]; //transient

    return sum[log];
}

```

6.8.2: Additional Data Types

Fraction Integer

A 4 byte value used to represent a fractional number. To compute the value, take the integer portion as a signed 2 byte integer (short), and the fractional part as an unsigned integer (ushort). Divide the fractional part by 65536, and add it to the integer part. For example:

```

0x03260078
Fractional:    0x0326 = 806

```

Integer: 0x0078 = 120

Result: $120 + (806/65536) = 120.012298$

Nexus μ s Time

A 10 byte timestamp, where the first 8 bytes are the standard Nexus® meter 8 timestamp. The centisecond field is ignored, and bytes 8 and 9 are a ushort that describes the milliseconds, where 9999 = 999.9ms. For example:

0x200C01010A2100001357

2012/01/01 10:33:00.4951

6.8.3: Log Retrieval Procedure

6.8.3.1: Overview

Log Retrieval is done in three steps:

1. The status of the logs is retrieved to determine what records can be, and need to be, retrieved. This information will also help in determining how to retrieve the logs later.
2. The logs are downloaded, using the information gathered in step 1. This involves logging on to the meter, pausing each log in question, retrieving the files for those logs, un- pausing the logs, and logging out.
3. The logs which have been retrieved are interpreted. This can be done at the same time as retrieval, but many logs require multiple records to understand what is going on (e.g., PQ). Additionally, since the entire file needs to be downloaded via Modbus LDA, waiting to interpret them till the end is more convenient. See Section 6.8.5 for details on log interpretation.

6.8.3.2: Procedure

The following procedure assumes that the specific logs, and the range of records in them, has already been determined.

1. Connect

A single connection should be maintained for the entire length of a single log retrieval session. This is because the meter maintains state information tied to the connection, and when the connection is dropped, so is the state information. This primarily applies to log retrieval via network (TCP).

Because of this, if the connection is dropped during a log retrieval session, the entire retrieval procedure must be restarted, including logon and status retrieval. Records which have already been retrieved successfully do not need to be retrieved again however.

Because serial (RS485) connections are connectionless, they are a special case. On serial connections, you must **always** un-pause and logout when done with log retrieval.

2. Logon

Before any Modbus LDA commands will allow retrieving files, you must log on to the meter. You must use one of the 8 usernames and passwords configured through the meter's Extended Security if security is enabled.

If security is disabled, you must still logon, using the username 'anonymous' and the password 'anonymous'. Note that the username and password are case sensitive.

3. Retrieve Status Files

- Programmable Settings

The first file to retrieve is the programmable settings. You will use this later to determine what files to retrieve, and how to interpret the records. If the blocks assigned to the log in question is zero, then it cannot be retrieved.

- **Meter ID**

Next retrieve the meter ID file. You will use this to determine how to retrieve the files.

4. **Retrieve Each Log**

The procedure for retrieving the records for a log is the same for most logs (with the exception of EN50160 - see Section 6.8.4). The only difference is in the interpretation of the records.

a. **Retrieve Log Header:**

For each log, the log header file is retrieved first, to determine the layout of the records in the files, and the size of the records for interpretation.

After retrieving the file, the following values should be checked for error conditions. If any error condition is found, then log retrieval for that log should be stopped, and continued with the next log.

- **Number of Records** : If the number of records is zero, then there is nothing to retrieve, and any files retrieved will only contain garbage.
- **Time Range** : If retrieving for a range of time, and the oldest and newest timestamps do not contain the range of time requested, then there is no reason to retrieve the files.
- **Internal Index Range** : If retrieving for a fixed range of internal indices, and the internal index range does not contain the range of indices requested, then there is no reason to retrieve the files.
- **Record Size** : If the record size does not match the expected size, then this indicates that there may be a problem with the programmable settings for that log. This can be confirmed for the Interval, Limit, and Digital Input/Output logs by comparing the valid bitmap to the list of log items from the programmable settings.
- **Memory Allocated** : If the memory allocated is zero, then there is nothing to retrieve. If the memory allocated does not agree with the blocks allocated (adjusted for scale), then there may be a problem with the configuration. Log Retrieval should be aborted, and the programmable settings verified: if the blocks allocated do not agree with the actual allocation, you will be unable to successfully determine which files contain which log.

5. **Pause Log**

Once you determine that you want to retrieve the log, pause log recording by reading the pause file. This prevents log recording from changing the indices during retrieval, and prevent records from being overwritten while you retrieve them.

NOTES:

- The meter employs an extra log buffering space, used when the log is paused. This allows log recording to actually continue while the log is paused: only the indices are kept static. Once this buffer space is used up however, no more records are logged until the log is un-paused. For this reason, it is important to keep log retrieval sessions as short as possible, and to always un-pause the log when done.
- It is possible, especially for fast recording logs, that between retrieving the log header and pausing the log, the header has changed. In these cases it helps to retrieve the header a second time after you pause the log to have the most up to date values.

6. Retrieve each log file

The first step in retrieving the log files is determining what files to actually retrieve. The simplest way to do this is just to retrieve every file for that log. This however, is inefficient when you don't want every record, or the log is not yet full.

- By External Record Index

To retrieve logs by external record index, first determine what file contains that index, using the method given for Record Location (p. 6-20). Retrieve that file, and copy out the record. To optimize this, you can keep track of what files you've retrieved during this retrieval session. If the record you want is contained in one of the files you've already retrieved, use that file. Repeat this for each record you want to retrieve.

Following is the basic algorithm for retrieving by record index:

```
for(i=first_index; i<last_index; i++)
{
    get file_num and file_offset, where i is the external index
    //if we already have the file local, just get the record from there
    if(retrieved_files.Contains(file_num))
        record = get_record(retrieved_files[file_num], file_offset);
    else
    {
        //otherwise, we need to retrieve the specified log file
        file = retrieve_file(file_num);
        //store it for later
        retrieved_files[file_num] = file;
        record = get_record(retrieved_files[file_num], file_offset);
    }

    do something with the record
}
```

7. Un-pause Log

As soon as you are done retrieving the log files, the log must be un-paused by reading the running file. This allows log recording to continue normally, preventing any gaps in the data.

NOTE: Pausing and un-pausing logs adds log retrieval entries to the System Event log. For this reason, logs should not be paused if no records are to be retrieved (thus the reason you check the log header **before** pausing the log).

8. Logout

When you are done retrieving all the logs, you need to log out from the meter. This cleans up any resources associated with log retrieval.

6.8.4: EN50160 Information

The EN50160 weekly and yearly data is stored in a different format than the other log's data. Each week and year is stored in its own XML file, named after the week and the year it describes. Retrieval of this log is as simple as just downloading the file in question.

NOTE: The week and year files are only generated once the meter's current time has passed the end of that period. All of the currently collected information is kept in the 'current' files. Once the end of the period has passed, the current data is stored, and a new set of current data is begun. The side effect of this is that changing the meter's time can result in a week or year file containing less or more intervals than expected. The total counts and date ranges should always be checked when interpreting the EN50160 data files.

6.8.4.1: EN50160 Week Filename

Each EN50160 week file is named by the year, and the week of that year, of the data it contains. The format of the filename is 'YYYY_W##.XML', where 'YYYY' is the year (for example '2012'), and '##' is the week of that year. So for example, the 3rd week of 2012 would be '2012_W03.XML'.

To compute the week and year number for any given day, month, and year, use the following algorithm:

```
//Obtain Julian day number: with year, month and day values
Const_a = (14 - month)/12
Const_y = year + 4800 - Const_a
Const_m = month + 12 * Const_a - 3
julian_day = day + (153 * Const_m + 2) / 5 + Const_y * 365 +
    Const_y / 4 - Const_y / 100 + Const_y / 400 - 32045

//Obtain week number
Obtain julian_day with year, month and day values
Const_1 = (((julian_day + 31741 -
    (julian_day mod 7)) mod 146097) mod 36524) mod 1461
Const_2 = Const_1 / 1460
Const_3 = ((Const_1 - Const_2) mod 365) + Const_2
week_num = Const_3 / 7 + 1
set initial year adjust flag=0
if week_num >=2 AND month=1 AND (week_num=52 OR week_num=53) then
    set year adjust flag = -1
if week_num <2 AND month=12 then
    set year adjust flag to = +1

//Adjustment for First Day of Week (FDOW) is Sunday, WN=week number
if current day of week (CDOW) is Sunday
    if year adjust flag = -1
        if month=1 and day are 1, 2, or 3, then
            set WN=1, set year adjust flag = 0
    if year adjust flag = 0
        if month=12 and day are 29, 30, or 31, then
            set WN=1, set year adjust flag = +1
    else
        set WN=WN+1
```

```

if current day of week (CDOW) is not Sunday
  if month=12
    if day=30 and CDOW=Mon OR
      day=31 and CDOW=Mon OR Tue Then
      set WN=WN+1, set year adjust flag = +1
    if day=29 and CDOW=Mon OR
      day=30 and CDOW=Tue OR
      day=31 and CDOW=Wed Then
      set WN=53, set year adjust flag = 0
  if month=1
    if day=1 and CDOW=Fri OR Sat OR
      day=2 and CDOW=Sat Then
      set year adjust flag = -1
    if day=1 and CDOW=Thr OR
      day=2 and CDOW=Fri OR
      day=3 and CDOW=Sat Then
      set WN=53, set year adjust flag = -1

```

Final year value = year + (year adjust flag)

6.8.4.2: EN50160 Year Filename

Each EN0160 year file is named by the year of the data it contains. The format of the filename is 'YYYY.XML', where 'YYYY' is the year. So for example, 2012 would be '2012.XML'.

6.8.4.3: List Week and Year Files

\C\EN50160

All of the EN50160 files are stored in the '\\C\EN50160' directory. To retrieve all of the weeks and years generated, simply list all of the files contained within the directory, and retrieve each one.

NOTE: The 'current' files, and files with a 0000 year, can be ignored.

6.8.5: Log Interpretation

6.8.5.1: System Events Log

The System Events Log stores events which affect the operation of the meter, including power events, time changes, log retrieval, settings changes, and firmware changes.

Record Format

| Field | Size | Description |
|----------------|--------------------|---|
| Record Index | 4 (uint) | The internal index of the record. |
| Reserved | 4 | |
| Timestamp | 8 [nexus8_time] | The time of the event. |
| Record Type | 1 | The type of the event. |
| Record Details | 7 | Data about the event. Note that some records require more than one record, and data may be split across multiple records. |

When an event is paired with a second record (such as the log retrieval event, via Ethernet), the sequence of the records will be indicated by a record sequence field. For example, in the Log Retrieval record, byte 12 (byte 3 of the record details) will be set to 0 for the first half of the record, and 1 for the second. The second record should always be the record sequentially after the first record; however, always check that the event type and record sequence numbers concur.

6.8.5.2: Interval Logs 1-8, Event Triggered

Record Format

| Field | Size | Description |
|--------------|--------------------|--|
| Record Index | 4 (uint) | The internal index of the record. |
| Reserved | 4 | |
| Timestamp | 8 [nexus8_time] | The time of the event. |
| Record Data | N | A list of the log items configured in the programmable settings. |

The exact size of the record is determined by the configuration of the log in the programmable settings. The size includes the 8 bytes for the timestamp.

NOTE: The size follows the size configuration for the log, not the sum of the items configured. Any space which is not filled by log items will be garbage, and should be ignored. For Interval logs 1 and 2, this size is an enumerator, so the records will always be a power of two in size (see Chapter 9). For Interval logs 3-8 and the Event Triggered logs, the size can be specified as any size greater than 8 (to account for the timestamp), up to a maximum size of 512 bytes.

Item Interpretation

To interpret the contents of the record data, first determine the list of items configured in the programmable settings. While the location of the settings is different for each log, they all use the same settings types.

Each log item is composed of 4 values: Line (Pointer), Point (Index), Size, and FType. Size and FType can be determined from Line and Point, but are included in the programmable settings for convenience during log interpretation.

The list of log items is determined by looking at each item in the programmable settings. Any 'invalid' items are set with a Line value of 0 or 0xFFFF. For example, if there are the following items:

| Line | Point | Size | FType | Name (Not part of prog.set.) |
|--------|-------|------|-------|------------------------------|
| 34 | 0 | 4 | 7 | One Sec Volts A-N |
| 34 | 1 | 4 | 7 | One Sec Volts B-N |
| 34 | 2 | 4 | 7 | One Sec Volts C-N |
| 0xFFFF | 0 | 0xFF | 0xFF | Invalid Item |
| 36 | 0 | 4 | 7 | One Sec Current A |

The record will contain 4 log items: Volts A, B, C, and One Sec Current A. The invalid item is ignored.

Next, determine what record items are valid, by comparing each item against the matching position in the valid bit flags from the log header. If the valid flags say that it is not valid, then the item cannot be parsed, and should be ignored.

The size and offset in the record data is determined by summing the previous items. So for example, Volts A-N will be at offset 0, Volts B-N will be at offset 4, Volts C-N will be at offset 8, and One Sec Current A will be offset at 12.

See Chapter 3 for details on converting FType items.

6.8.5.3: Limit Log

The Limit Log records an entry every time limit values monitored by the meter change their state. The log records information about the limits, such as the specific limit which was triggered, and a snapshot of the items configured in the programmable settings for the Limit Log.

Record Format

The Limit Log is composed of two parts: A details header, followed by the snapshot of log items. The details header is fixed in size (40 bytes), and has the following values:

| Field | Size | Description |
|-------------------------------|--------------------|--|
| Record Index | 4 (uint) | The internal index of the record. |
| Reserved | 4 | |
| Timestamp | 8 (nexus8_time) | The time of the limit event. Note that the MSB bit (bit 7) is used to indicate that this record is not continuous with the previous record, and state changes may be missing. This will primarily happen during a reset or power loss. |
| Current States for Value 1 | 4 (bitmap) | The current states of each of the 32 limits for Value 1. Limits are left to right, so the 31 st bit is limit 1, and the 0 th bit is limit 32. If the bit is set to 1, then the limit is exceeded. |
| Current States for Value 2 | 4 (bitmap) | The current states of each of the 32 limits for Value 2. Bit order is the same as current states for value 1. If the bit is set to 1, then the limit is exceeded. |
| Delta States for Value 1 | 4 (bitmap) | The change of the states for each of the 32 limits for Value 1, since the last limit event. Bit order is the same as current states for value 1. If the bit is set to 1, then the limit has changed. |
| Delta States for Value 2 | 4 (bitmap) | The change of the states for each of the 32 limits for Value 2, since the last limit event. Bit order is the same as current states for value 1. If the bit is set to 1, then the limit has changed. |
| Current States for Comparison | 4 (bitmap) | The combination of the current states of Value 1 and 2, for each of the 32 limits. Bit order is the same as current states for value 1. If the bit is set to 1, then the combination is true. |
| Delta States for Comparison | 4 (bitmap) | The change of the states for each of the comparison states, for each of the 32 limits. Bit order is the same as current states for value 1. If the bit is set to 1, then the state has changed. |

The remaining data in the record is the snapshots for the limits. These follow the same format and rules as the Interval records, using the Limit Items from the programmable settings as its item list.

Item Interpretation

The item descriptions are from the meter's programmable settings, Limit Items.

Limit Event Analysis

The Limit Records only indicate a change in state of the limits. To determine information about the overall limit events, you have to analyze the sequence of the limit records.

To determine the pair of records which match for an event, defined as the limit going out, then coming back in, start with a record that indicates that the limit in question is going out. This is a record in which the delta state for the limit is 1, and the current state is 1.

To find the matching event end record, search forward in time in the records until a record is found where the delta state for the limit is 1, and the current state is 0. Note that you need to check the continuous bit in the timestamp of each record: If any record is found to be non-continuous, then the state changes may be lost, and any end record found may not match with the original record.

6.8.5.4: Digital Input Log

The Digital Input log records an entry every time the digital inputs change state. The log records the states of each input at the time of the record, along with a snapshot of the items configured in the programmable settings for the limit log.

The digital inputs monitored by this log include the built-in inputs, as well as the two optional digital input cards.

Record Format

The Digital Input log is composed of two parts: A details header, followed by the snapshot of the log items. The details header is fixed in size (16 bytes), and has the following values:

| Field | Size | Description |
|----------------------------------|-----------------|--|
| Record Index | 4 (uint) | The internal index of the record. |
| Reserved | 4 | |
| Timestamp | 8 (nexus8_time) | The time of the event. Note that the MSB bit (bit 7) is used to indicate that this record is not continuous with the previous record, and state changes may be missing. This will primarily happen during a reset or power loss. |
| Built-in Input States | 1 (bitmap) | The states of the built-in digital inputs. Inputs are mapped MSB, so bit 7 is input 8, and bit 0 is input 1. |
| Option Board 1 input states 1-8 | 1 (bitmap) | The states of option board 1's digital inputs 1-8. Inputs are mapped MSB, so bit 7 is input 8, and bit 0 is input 1. |
| Option Board 1 input states 9-16 | 1 (bitmap) | The states of option board 1's digital inputs 9-16. Inputs are mapped MSB, so bit 7 is input 16, and bit 0 is input 9. |
| Option Board 2 input states 1-8 | 1 (bitmap) | The states of option board 2's digital inputs 1-8. Inputs are mapped MSB, so bit 7 is input 8, and bit 0 is input 1. |
| Option Board 2 input states 9-16 | 1 (bitmap) | The states of option board 2's digital inputs 9-16. Inputs are mapped MSB, so bit 7 is input 16, and bit 0 is input 9. |
| Valid Flags | 1 (bitmap) | Indicates which of the input states are valid. Bit 7 – Option Board 1 Bit 6 – Option Board 2 If the bit is not set, ignore the states. |

The remaining data in the record is the snapshots for the digital inputs. These follow the same format and rules as the Interval records, using the Limit log items from the programmable settings as its item list.

Item Interpretation

Parsing the snapshot items is the same as the Interval log items. See the Item Interpretation section for the Interval logs.

Digital Input Event Analysis

The Digital Input records only store the current states of the inputs. To determine information about overall input events, you have to analyze the sequence of the digital input records. This may not be necessary, as the inputs can be used just for state changes, rather than 'in' and 'out' conditions.

As the Digital Input record does not indicate state change information (deltas), sequential records must be compared to determine when the state changed. Note that you need to check the continuous bit in the timestamp of each record: If any record is found to be non-continuous, then the exact time of the state changing may be lost.

To determine the pair of records which match for an event, defined as the digital input entering a state, then transitioning back to the original state, start with a record that has just entered the desired state. This is a record for which the input state is in the desired 'out' state, and the previous record has the input in the opposite state.

To find the matching event return record, search forward in time in the records until a record is found where the input state is the opposite of the start record. Remember to check the continuous bit in the timestamp.

The Option Board states should be ignored if the valid flags indicate they are invalid.

6.8.5.5: Digital Output Log

The meter's Digital outputs (Relays) can be made up of options boards and external module relays. The meter can accept up to 2 relay option boards. There are 6 relays on each relay board, for a total of 12 relays if both boards are installed. Relay indices 1 to 6 are for the relays in the first relay board. Relay indices 7 to 12 are for the relays in the seconds relay board. The meter can accept just one external module which has 4 relays. The meter can be configured to handle up to 16 relays total, between relay option boards and the external module. The table below shows the possible arrangements.

| Arrangements | Options boards | External Module |
|--------------|--|----------------------------|
| 1 | No option board | Relays 13 to 16 (Module 4) |
| 2 | 1 st Option Board (Slot 3): Relays 1 to 6 | Relays 13 to 16 (Module 4) |
| 3 | 2 nd Option Board (Slot 4): Relays 7 to 12 | Relays 13 to 16 (Module 4) |
| 4 | 1 st and 2 nd Option Boards: Relays 1 to 12 | Relays 13 to 16 (Module 4) |
| 5 | 1 st and 2 nd Option Boards: Relays 1 to 12 | No external relay module |

The Digital Output State Log stores records in order to document the stages used when changing states of Digital outputs (Relays). Records are recorded for four reasons – When the delay at the end of a Relay Logic Tree is finished, indicating that a relay needs to change state; when a communication port requests a relay lock or unlock; when the command is transmitted to the external device; and when the response is returned from the external device.

Record Format

| Field | Size | Description |
|---------------------------------|-----------------|--|
| Record Index | 4 (uint) | The internal index of the record. |
| Reserved | 4 | |
| Timestamp | 8 (nexus8_time) | The time of the event. |
| Stage | 1 | Indicates the stage, or reason, for the record. The stages are as follows: 0x001, Stage 1, ElectroLogic or communication command now desires to change the state of one or more relays. 0x002, Stage 2, Command is being transmitted to one or multiple relay. 0x003, Stage 3, Confirmation has been received from a command that was sent. |
| Relay Valid | 2 | Indicates whether information about a relay is valid or not. Option boards or module, which are unused, or which are not responding to communication, are not valid. A bit value of 0 indicates that information for this relay is not yet valid; a bit value of 1 Indicates that information for this relay is valid. Bit 15 is the most significant bit. The bits are formatted as following bits: 15 to 10: 1st Option Card, relay index 1 to 6 9 to 4: 2nd Option Card, relay index 7 to 12 3 to 0: External Relay Module, relay index 13 to 16 |
| Relay Logic Trees Inputs States | 16 | Each byte represents the inputs in a Relay Logic Tree for one relay. Byte 1 to 16 represent for relay 1 to 16. Each bit represents the state of an input into a Relay Logic Tree. The bits 7 to 0, represent the input 1 to 8 for each relay. Bit 7 is the most significant bit. A bit value of 0 indicates a false input value; a bit value of 1 indicates a true input value. These values are retrieved before the possible NOT on inputs that are a possible programmable setting. |
| Relay Logic Trees Gates Output | 16 | Each byte represents the gate outputs in a Relay Logic Tree for one relay. Byte 1 to 16 represent for relay 1 to 16. Each bit represents the state of a gate output in a Relay Logic Tree. The bits 7 to 0, represent the Gate A to Gate G. A bit value of 0 indicates a false output value; a bit value of 1 indicates a true output value. |

| | | |
|------------------------|---|--|
| Current Relays Locked | 2 | Each bit indicates whether a relay is locked or unlocked. A bit value of 0 indicates the relay is not locked; a bit value of 1 indicates the relay is locked. Bit 15 is the most significant bit. The bits are: 15 to 10: 1st Option Card, relay index 1 to 6 9 to 4: 2nd Option Card, relay index 7 to 12 3 to 0: External Relay Module, relay index 13 to 16 |
| Previous Relays Locked | 2 | Each bit indicates whether a relay was previously locked or unlocked. A bit value of 0 indicates the relay was not locked; a bit value of 1 indicates the relay was locked. Bit 15 is the most significant bit. The bits are: 15 to 10: 1st Option Card, relay index 1 to 6 9 to 4: 2nd Option Card, relay index 7 to 12 3 to 0: External Relay Module, relay index 13 to 16 |
| Desired Relay States | 2 | Each bit indicates the desired state of the relay. If the relay is locked, as indicated in the previous 2 bytes, then this is the state the relay should be locked to. If the relay is unlocked, then this is the state that the relay should be in as indicated by the Relay Logic Tree for this relay. A bit value of 0 indicates de-energized, or connected to Normal Close; a bit value of 1 indicates energized, or connected to Normal Open. Bit 15 is the most significant bit. The bits are: 15 to 10: 1st Option Card, relay index 1 to 6 9 to 4: 2nd Option Card, relay index 7 to 12 3 to 0: External Relay Module, relay index 13 to 16 |
| Command Sent | 2 | Indicates that a command has begun to be sent to an option board/external module to change the state of a relay The first byte indicates which relay the command is being sent to: 0x000-0x005 1 st Option Board, Relay 1-6 0x006-0x00B 2 nd Option Board, Relay 7-12 0x00C-0x00F External Module, Relay 13-16 other No command sent The second byte indicates whether the command being sent was to energize or de-energize the relay. A value of 0x000 indicates the relay command was to de-energize the relay; any other value indicates the command was to energize the relay. |
| Change Success | 2 | Each bit indicates successfully changed relay states, as recorded by the reception of the response from the relay option board or external module, in the same order as above. A bit value of 0 indicates the relay is de-energized, or connected to Normal Close; a bit value of |

| | | |
|----------|---------|--|
| | | 1 indicates the relay is energized, or connected to Normal Open. Bit 15 is the most significant bit. The bits are: 15 to 10: 1st Option Card, relay index 1 to 6 9 to 4: 2nd Option Card, relay index 7 to 12 3 to 0: External Relay Module, relay index 13 to 16 |
| Reserved | 13 | |
| Snapshot | n bytes | The remaining data in the record is the snapshots for the digital output. These follow the same format and rules as the Limit log record, using the Limit Items from the programmable settings as its item list. |

Item Interpretation

Parsing the snapshot items is the same as the Limit log items. See the Item Interpretation section for the Limit log.

Digital Output Event Analysis

Each Digital Output record only stores one type of event/command for one or multiple digital outputs (relays) at one of the 3 possible stages. To determine information about overall digital output events, you have to analyze the sequence of the digital output records.

A relay channel should be ignored if the valid flag indicates it's invalid.

A complete cycle of a relay change event should include records for all 3 stages. The duration of such event can be computed from the time difference between stage 1 and stage 3 records.

6.8.5.6: Waveform Log

The Waveform Log records the RMS details of the input channels when a configured waveform limit is exceeded, if an input state changes, or if a capture was manually triggered. The details include the analysis of the RMS data, the states during that cycle, and the samples on the input channels.

NOTE: Different versions of the waveform record have different formats. The version field of the header should always be checked before parsing the rest of the record.

Record Format

The Waveform record is composed of 4 parts: A details header, the samples block, the RMS info block, and the footer. Every capture can be a different size record, so the details header is used to determine how to parse the rest of the record. The footer is used to confirm that record has been properly parsed.

The details header is fixed in size (1024 bytes), and v8 has the following fields:

Waveform Header Details

| Fields | Size | Description |
|-------------------------------------|-----------------|---|
| Record Index | 4 (uint) | The internal index of the record. |
| Record Format Version | 2 (uint) | The record format version. The format documented here is v8. |
| Header Size | 4 (uint) | The size of the header. |
| Record Total Size | 4 (uint) | The total size of the record. Note that this is the used size, not the reserved size, so may be smaller than the record size specified in the header. This value – 16 should be the beginning of the footer. |
| Sample Section Offset | 4 (uint) | Offset from the beginning of the record to the samples block. |
| RMS Section Offset | 4 (uint) | Offset from the beginning of the record to the RMS block. |
| Digital Input Mask | 2 (bitmap) | The digital inputs which have been configured in the programmable settings to trigger waveform captures. |
| Capture Number | 4 (uint) | The index of the record in the capture when waveform is configured to record multiple records per capture. This number will be recorded sequentially decreasing, so for 5 records per capture, the first will be 5, the second 4, down to 1. |
| First RMS block Timestamp | 8 (nexus8_time) | The timestamp of the first RMS block in the capture. |
| Reserved | 12 | |
| U _{sr} Voltage Flags | 2 (bitmap) | The list of voltage channels which have been configured in the programmable settings to trigger waveform captures according to the U _{sr} rules. |
| U _{sr} Current Flags | 2 (bitmap) | The list of current channels which have been configured in the programmable settings to trigger waveform captures according to the U _{sr} rules. |
| Sample Reduction Factor | 2 (ushort) | At sample rates lower than 1024 samples per cycle, samples are interlaced together. This factor indicates how to de-interlace them. |
| Sample Block Size per Channel | 4 (uint) | The size of a sample block for a single channel. This is used to parse the sample data. |
| RMS Block Size | 4 (uint) | The size of the RMS block. |
| Number of Sample Blocks per Channel | 2 (ushort) | The number of sample blocks. This is used to compute the overall number of samples. |
| Number of RMS Blocks | 2 (ushort) | The number of RMS blocks. |
| Contiguous | 1 (byte) | A value of 1 indicates that this waveform is contiguous with the previous record. This will often happen when a waveform trigger occurs while a previous waveform is still being recorded. When this happens, the trigger will be in the previous record. |
| Reserved | 3 | |
| Manual Triggered | 2 (ushort) | A value of 1 indicates this capture was manually triggered, and not because of a waveform limit or input event. |
| Reserved | 4 | |
| Trigger Sample Block Time Counter | 4 (uint) | The time counter of the RMS Block which contains the trigger for this waveform. Used to determine which samples |

| | | |
|-------------------------|----------------------------|---|
| | | and RMS block contains the trigger. |
| Trigger block Timestamp | 10 (nexus_us_time) | The timestamp of the <i>end</i> of the RMS block that contains the trigger. |
| Reserved | 2 | |
| Trigger RMS Block | 196 (RMS Data Block) | Contains information on the waveform states at the time of the trigger. See below for details on the block. |
| Waveform Setup Info | 316 (Waveform Setup Block) | Describes how the waveform triggers and captures were configured, as well as providing information about the meter. See below for details on the block. |
| Firmware Ids | 148 (Firmware Info Block) | Contains identification information from the firmware that describes what features are supports. See below for details on the block. |

RMS Data Block

| Fields | Byte | Size | Description |
|--------------------------|------|----------------------|---|
| 1cycle Logical Van RMS | 0 | 4 (fraction integer) | V_{an} RMS computed from the physical RMS. |
| 1cycle Logical Vbn RMS | 4 | 4 (fraction integer) | |
| 1cycle Logical Vcn RMS | 8 | 4 (fraction integer) | |
| 1cycle Logical Vab RMS | 12 | 4 (fraction integer) | |
| 1cycle Logical Vbc RMS | 16 | 4 (fraction integer) | |
| 1cycle Logical Vca RMS | 20 | 4 (fraction integer) | |
| 1cycle Logical Vxn RMS | 24 | 4 (fraction integer) | |
| 1cycle Logical Vres RMS | 28 | 4 (fraction integer) | |
| 1cycle Logical Ires RMS | 32 | 4 (fraction integer) | |
| 1cycle Physical Vae RMS | 36 | 4 (fraction integer) | Raw V_{ae} RMS computed directly from the inputs. |
| 1cycle Physical Vbe RMS | 40 | 4 (fraction integer) | |
| 1cycle Physical Vce RMS | 44 | 4 (fraction integer) | |
| 1cycle Physical Vxe RMS | 48 | 4 (fraction integer) | |
| 1cycle Physical Vne RMS | 52 | 4 (fraction integer) | |
| 1cycle Physical Ia RMS | 56 | 4 (fraction integer) | |
| 1cycle Physical Ib RMS | 60 | 4 (fraction integer) | |
| 1cycle Physical Ic RMS | 64 | 4 (fraction integer) | |
| 1cycle Physical Ix RMS | 68 | 4 (fraction integer) | |
| 1cycle Physical Van Mean | 72 | 2 (ushort) | |
| 1cycle Physical Vbn Mean | 74 | 2 (ushort) | |
| 1cycle Physical Vcn Mean | 76 | 2 (ushort) | |
| 1cycle Physical Vab Mean | 78 | 2 (ushort) | |
| 1cycle Physical Vbc Mean | 80 | 2 (ushort) | |

| | | | |
|------------------------------|-----|------------|---|
| 1cycle Physical Vca Mean | 82 | 2 (ushort) | |
| 1cycle Physical Vxn Mean | 84 | 2 (ushort) | |
| 1cycle Physical Vres Mean | 86 | 2 (ushort) | |
| 1cycle Physical Ires Mean | 88 | 2 (ushort) | |
| 1cycle Physical Vae Mean | 90 | 2 (ushort) | |
| 1cycle Physical Vbe Mean | 92 | 2 (ushort) | |
| 1cycle Physical Vce Mean | 94 | 2 (ushort) | |
| 1cycle Physical Vxe Mean | 96 | 2 (ushort) | |
| 1cycle Physical Vne Mean | 98 | 2 (ushort) | |
| 1cycle Physical Ia Mean | 100 | 2 (ushort) | |
| 1cycle Physical Ib Mean | 102 | 2 (ushort) | |
| 1cycle Physical Ic Mean | 104 | 2 (ushort) | |
| 1cycle Physical Ix Mean | 106 | 2 (ushort) | |
| Period Count | 108 | 2 (ushort) | (60.000*1024)/ref_frequency. This is the number of samples used to compute the cycle data. |
| Cycle Count | 110 | 2 (ushort) | Incrementing number of cycles, used for cycle identification. |
| reserved | 112 | 2 | |
| Reference Sample Index | 114 | 2 (ushort) | Index of the specific sample in the matching sample block which is the last sample this RMS block describes. This sample is always assuming a 1024 sampling rate, and needs to be scaled appropriately when being applied to a sample block at a lower sampling rate. |
| Absolute Sample Index | 116 | 2 (ushort) | Absolute index for the sample which marks the end of the RMS block. Rolls over at 65536. |
| High Speed Input Transitions | 118 | 2 (bitmap) | Bit flag which indicate if the state of the high speed inputs have changed since the last RMS block, where a bit of 1 indicates a transition occurred. Bit 0 is channel 0, bit 1 is channel 1, and so on. |
| High Speed Input States | 120 | 2 (bitmap) | Bit flag which indicate the current state of the high speed inputs, where a bit of 1 indicates open, and 0 indicates closed. Bit 0 is channel 0, bit 1 is channel 1, and so on. |
| DSP2 Firmware Type | 122 | 2 (String) | 'DE' for debug, 'RE' for release |
| DSP2 Firmware Version | 124 | 4 (String) | Byte 0 is version letter, bytes 1-3 are the |

| | | | |
|-------------------------------------|-----|------------|---|
| | | | version number. |
| DSP2 Firmware ID | 128 | 4 (uint) | Debug id for the dsp2 firmware. |
| Waveform voltage RMS sag flags | 132 | 2 (bitmap) | Bit flags which indicate if the Voltage RMS was below the waveform sag threshold during the period of the RMS Block. See Table 1 (Waveform Voltage Bit Flags) for bits. |
| Waveform voltage RMS swell flags | 134 | 2 (bitmap) | Bit flags which indicate if the Voltage RMS was above the waveform swell threshold during the period of the RMS Block. See Table 1 (Waveform Voltage Bit Flags) for bits. |
| reserved | 136 | 2 | |
| Transient pos over-range flags | 138 | 2 (bitmap) | Indicates a positive transient which exceeded the configured threshold occurred. See Table 2 (Transient Bit Flags) for bits. |
| Transient neg over-range flags | 140 | 2 (bitmap) | Indicates a negative transient which exceeded the configured threshold occurred. See Table 2 (Transient Bit Flags) for bits. |
| Transient pos peak sample index ch1 | 142 | 2 (ushort) | The sample index of the peak positive transient to occur on channel 1 (Van or Vab). |
| Transient pos peak sample index ch2 | 144 | 2 (ushort) | The sample index of the peak positive transient to occur on channel 2 (Vbn or Vbc). |
| Transient pos peak sample index ch3 | 146 | 2 (ushort) | The sample index of the peak positive transient to occur on channel 3 (Vcn or Vca). |
| Transient neg peak sample index ch1 | 148 | 2 (ushort) | The sample index of the peak negative transient to occur on channel 1 (Van or Vab). |
| Transient neg peak sample index ch2 | 150 | 2 (ushort) | The sample index of the peak negative transient to occur on channel 2 (Vbn or Vbc). |
| Transient neg peak sample index ch3 | 152 | 2 (ushort) | The sample index of the peak negative transient to occur on channel 3 (Vcn or Vca). |
| Transient pos peak sample value ch1 | 154 | 2 (ushort) | The peak positive transient value to occur on channel 1 (Van or Vab). Multiply by (1800/255) to get Secondary value. |
| Transient pos peak sample value ch2 | 156 | 2 (ushort) | The peak positive transient value to occur on channel 2 (Vbn or Vbc). Multiply by (1800/255) to get Secondary value. |
| Transient pos peak sample value ch3 | 158 | 2 (ushort) | The peak positive transient value to occur on channel 3 (Vcn or Vca). Multiply by (1800/255) to get Secondary |

| | | | |
|--|-----|------------|---|
| | | | value. |
| Transient neg peak sample value ch1 | 160 | 2 (ushort) | The peak negative transient value to occur on channel 1 (Van or Vab). Multiply by (1800/255) to get Secondary value. |
| Transient neg peak sample value ch2 | 162 | 2 (ushort) | The peak negative transient value to occur on channel 2 (Vbn or Vbc). Multiply by (1800/255) to get Secondary value. |
| Transient neg peak sample value ch3 | 164 | 2 (ushort) | The peak negative transient value to occur on channel 3 (Vcn or Vca). Multiply by (1800/255) to get Secondary value. |
| Transient pos peak sample duration ch1 | 166 | 2 (ushort) | Duration of the peak positive transient to occur on channel 1 (Van or Vab). Multiply by 18.18 nanoseconds to get time. |
| Transient pos peak sample duration ch2 | 168 | 2 (ushort) | Duration of the peak positive transient to occur on channel 2 (Vbn or Vbc). Multiply by 18.18 nanoseconds to get time. |
| Transient pos peak sample duration ch3 | 170 | 2 (ushort) | Duration of the peak positive transient to occur on channel 3 (Vcn or Vca). Multiply by 18.18 nanoseconds to get time. |
| Transient neg peak sample duration ch1 | 172 | 2 (ushort) | Duration of the peak negative transient to occur on channel 1 (Van or Vab). Multiply by 18.18 nanoseconds to get time. |
| Transient neg peak sample duration ch2 | 174 | 2 (ushort) | Duration of the peak negative transient to occur on channel 2 (Vbn or Vbc). Multiply by 18.18 nanoseconds to get time. |
| Transient neg peak sample duration ch3 | 176 | 2 (ushort) | Duration of the peak negative transient to occur on channel 3 (Vcn or Vca). Multiply by 18.18 nanoseconds to get time. |
| Waveform current RMS sag flags | 178 | 2 (bitmap) | Bit flags which indicate if the Current RMS was below the waveform sag threshold during the period of the RMS Block. See Table 3 (Waveform Current Bit Flags) for bits. |
| Waveform current RMS swell flags | 180 | 2 (bitmap) | Bit flags which indicate if the Current RMS was above the waveform swell threshold during the period of the RMS Block. See Table 3 (Waveform Current Bit Flags) for bits. |
| reserved | 182 | 2 | |
| Waveform voltage RMS | 184 | 2 (bitmap) | Bit flag which indicates if the state of the |

| | | | |
|--|-----|------------|--|
| sag transitions | | | waveform voltage sags have changed since the last RMS block, where a bit of 1 indicates a transition has occurred. See Table 1 (Waveform Voltage Bit Flags) for bits. |
| Waveform voltage RMS swell transitions | 186 | 2 (bitmap) | Bit flag which indicates if the state of the waveform voltage swells have changed since the last RMS block, where a bit of 1 indicates a transition has occurred. See Table 1 (Waveform Voltage Bit Flags) for bits. |
| Waveform current RMS sag transitions | 188 | 2 (bitmap) | Bit flag which indicates if the state of the waveform current sags have changed since the last RMS block, where a bit of 1 indicates a transition has occurred. See Table 3 (Waveform Current Bit Flags) for bits. |
| Waveform current RMS swell transitions | 190 | 2 (bitmap) | Bit flag which indicates if the state of the waveform current swells have changed since the last RMS block, where a bit of 1 indicates a transition has occurred. See Table 3 (Waveform Current Bit Flags) for bits. |
| reserved | 192 | 4 | |

Waveform Setup Block

| Name | Byte | Size | Description |
|-----------------------------|------|----------------------|--|
| Reference Frequency | 0 | 4 (fraction integer) | 0.2 second updated frequency at the time of capture, used as a reference for other calculations. |
| Meter Hookup | 4 | 2 (ushort) | Hookup Configuration, from Programmable Settings. See T4 (Meter Hookup) for details. |
| Transient Type | 6 | 2 (ushort) | Transient Configuration. bit 0: 0=enable, 1=disable bit 1: 0=VPN, 1=VPP |
| Frequency Type | 8 | 2 (ushort) | The frequency mode the meter is configured for. 1: 60Hz 0: 50Hz |
| reserved | 10 | 2 | |
| Physical Vae Cal Gain value | 12 | 2 (ushort) | The gain value for Vae. Calibration value. |
| Physical Vbe Cal Gain value | 16 | 2 (ushort) | |
| Physical Vce Cal Gain value | 20 | 2 (ushort) | |
| Physical Vxe Cal Gain value | 24 | 2 (ushort) | |

| | | | |
|--------------------------------|----|----------------------|---|
| Physical Vne Cal Gain value | 28 | 2 (ushort) | |
| Physical Ia Cal Gain value | 32 | 2 (ushort) | |
| Physical Ib Cal Gain value | 36 | 2 (ushort) | |
| Physical Ic Cal Gain value | 40 | 2 (ushort) | |
| Physical Ix Cal Gain value | 44 | 2 (ushort) | |
| Physical Vae Cal Offset value | 48 | 2 (ushort) | The offset value for Vae. Calibration Value. |
| Physical Vbe Cal Offset value | 50 | 2 (ushort) | |
| Physical Vce Cal Offset value | 52 | 2 (ushort) | |
| Physical Vxe Cal Offset value | 54 | 2 (ushort) | |
| Physical Vne Cal Offset value | 56 | 2 (ushort) | |
| Physical Ia Cal Offset value | 58 | 2 (ushort) | |
| Physical Ib Cal Offset value | 60 | 2 (ushort) | |
| Physical Ic Cal Offset value | 62 | 2 (ushort) | |
| Physical Ix Cal Offset value | 64 | 2 (ushort) | |
| reserved | 66 | 2 | |
| Waveform Voltage Enabled | 68 | 2 (bitmap) | Indicates which for which voltage channels waveform sag/swell comparison is enabled on. See Table 1 (Waveform Voltage Bit Flags) for details. |
| reserved | 70 | 2 | |
| Waveform Current Enabled | 72 | 2 (bitmap) | Indicates which for which current channels waveform sag/swell comparison is enabled on. See Table 3 (Waveform Current Bit Flags) for details. |
| reserved | 74 | 2 | |
| Waveform Van RMS sag threshold | 76 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vbn RMS sag threshold | 80 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vcn RMS sag threshold | 84 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vab RMS sag threshold | 88 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vbc RMS sag threshold | 92 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vca RMS sag | 96 | 4 (fraction | Secondary voltage value used as the sag |

| | | | |
|----------------------------------|-----|----------------------|--|
| threshold | | integer) | threshold. |
| Waveform Vxn RMS sag threshold | 100 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vne RMS sag threshold | 104 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vae RMS sag threshold | 108 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vbe RMS sag threshold | 112 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vce RMS sag threshold | 116 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Vxe RMS sag threshold | 120 | 4 (fraction integer) | Secondary voltage value used as the sag threshold. |
| Waveform Van RMS swell threshold | 124 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vbn RMS swell threshold | 128 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vcn RMS swell threshold | 132 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vab RMS swell threshold | 136 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vbc RMS swell threshold | 140 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vca RMS swell threshold | 144 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vxn RMS swell threshold | 148 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vne RMS swell threshold | 152 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vae RMS swell threshold | 156 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vbe RMS swell threshold | 160 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vce RMS swell threshold | 164 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| Waveform Vxe RMS swell threshold | 168 | 4 (fraction integer) | Secondary voltage value used as the swell threshold. |
| reserved | 172 | 48 | |
| Waveform Ia RMS sag threshold | 220 | 4 (fraction integer) | Secondary current value used as the sag threshold. |
| Waveform Ib RMS sag threshold | 224 | 4 (fraction integer) | Secondary current value used as the sag threshold. |
| Waveform Ic RMS sag threshold | 228 | 4 (fraction integer) | Secondary current value used as the sag threshold. |
| Waveform Ix RMS sag threshold | 232 | 4 (fraction integer) | Secondary current value used as the sag threshold. |
| Waveform Ia RMS swell threshold | 236 | 4 (fraction integer) | Secondary current value used as the swell threshold. |
| Waveform Ib RMS swell threshold | 240 | 4 (fraction integer) | Secondary current value used as the swell threshold. |

| | | | |
|---------------------------------|-----|----------------------|---|
| Waveform Ic RMS swell threshold | 244 | 4 (fraction integer) | Secondary current value used as the swell threshold. |
| Waveform Ix RMS swell threshold | 248 | 4 (fraction integer) | Secondary current value used as the swell threshold. |
| reserved | 252 | 16 | |
| Transient Channel Enables | 268 | 2 (bitmap) | Bit flags which indicate which waveform channels are configured for transient capture. See Table 5 (Transient Channels). |
| reserved | 270 | 2 | |
| Number of waveform channels | 272 | 2 (ushort) | Number of waveform channels configured for capture. Max 15. See Table 1 (Waveform Voltage Bit Flags) and Waveform channels table on page 6-46 for details. |
| Channel 1 ID | 274 | 2 (ushort) | The waveform channel being stored. |
| Channel 2 ID | 276 | 2 (ushort) | |
| Channel 3 ID | 278 | 2 (ushort) | |
| Channel 4 ID | 280 | 2 (ushort) | |
| Channel 5 ID | 282 | 2 (ushort) | |
| Channel 6 ID | 284 | 2 (ushort) | |
| Channel 7 ID | 286 | 2 (ushort) | |
| Channel 8 ID | 288 | 2 (ushort) | |
| Channel 9 ID | 290 | 2 (ushort) | |
| Channel 10 ID | 292 | 2 (ushort) | |
| Channel 11 ID | 294 | 2 (ushort) | |
| Channel 12 ID | 296 | 2 (ushort) | |
| Channel 13 ID | 298 | 2 (ushort) | |
| Channel 14 ID | 300 | 2 (ushort) | |
| Channel 15 ID | 302 | 2 (ushort) | |
| Waveform Sample Rate | 304 | 2 (ushort) | The sample rate divider. 0: full sample rate (1024) 2: 1/2 of full sample rate (512) 4: (256) 8: (128) 16: (64) 32: (32) 64: 1/64 of full sample rate (16) |
| reserved | 306 | 10 | |

Firmware Info Block

| Fields | Size | Description |
|--------------|-------------|---|
| Reserved | 20 | |
| Variation 0 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 1 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 2 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 3 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 4 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 5 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 6 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 7 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 8 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 9 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 10 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 11 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 12 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 13 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 14 | 16 (string) | Variation string, using to identify features of the current firmware. |
| Variation 15 | 16 (string) | Variation string, using to identify features of the current firmware. |

Waveform Reference Tables

| | | | | | | | | | | | | | | | | |
|----------------------------|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| T1 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Waveform Voltage Bit Flags | | | | | Vxe | Vce | Vbe | Vae | Vne | Vxn | Vca | Vbc | Vab | Vcn | Vbn | Van |

| | | | | | | | | | | | | | | | | |
|---------------------|----|----|----|----|----|----|---|---|---|---|---|---|---|-----|-----|-----|
| T2 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Transient Bit Flags | | | | | | | | | | | | | | Vcn | Vbn | Van |

NOTE: When Transient is configured for Phase to Phase, Van becomes Vab, Vbn becomes Vbc, and Vcn becomes Vca.

| | | | | | | | | | | | | | | | | |
|----------------------------|----|----|----|----|----|----|---|---|---|---|---|---|----|----|----|----|
| T3 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Waveform Current Bit Flags | | | | | | | | | | | | | Ix | Ic | Ib | Ia |

T4 – Meter Hookup

| Value | Hookup |
|-------|------------------------|
| 0 | 4 Wire WYE |
| 1 | 3 Wire Delta 3 CT |
| 2 | 3 Wire Delta 2 CT |
| 3 | 4 Wire WYE 2.5 element |
| 4 | 4 Wire Delta Ground |

| | | | | | | | | | | | | | | | | |
|--------------------|----|----|----|----|----|----|---|---|---|---|-----|-----|-----|-----|-----|-----|
| T5 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Transient Channels | | | | | | | | | | | Vca | Vbc | Vab | Vcn | Vbn | Van |

Samples Section

| Fields | Byte | Size | Description |
|---------------|------|-------------|---|
| Section ID | 0 | 16 (string) | Tag id for the block, to ensure you've parsed the record correctly. Must be "***WaveSample****" |
| Sample Blocks | 16 | | The sample blocks, rotating through the channel list for each sample block time counter. |

Sample Block

| Fields | Byte | Size | Description |
|---------------------------|------------|-----------|---|
| Sample Block Time Counter | 0 | 4 (uint) | The time counter of this sample block. Each sample block gets a sequentially increasing index, used to cross reference with the RMS Data Blocks that describe it. |
| Reserved | 4 | 12 | |
| Sample 0 | 16 | 2 (short) | Each waveform sample is a signed 16bit raw value. See p. 6-48 and Appendix A for information on how to scale this value to secondary and primary. |
| Sample 1 | 18 | 2 (short) | |
| ... | | | |
| Sample N | 16 + (N*2) | 2 (short) | The number of samples in a sample block is determined from the waveform details header. |

Waveform RMS Data Block Section

| Fields | Byte | Size | Description |
|--------------------------|------|-------------|---|
| Section ID | 0 | 16 (string) | Tag id for the block, to ensure you've parsed the record correctly. Must be "***WaveRMS*****" |
| Waveform RMS Data Blocks | 16 | | The RMS blocks. |

Waveform RMS Data Block

| Fields | Byte | Size | Description |
|---------------------------|------|----------------------|---|
| Sample Block Time Counter | 0 | 4 (uint) | The time counter of this RMS block. This is used to determine which sample block this RMS block describes. Note that this time counter is for the LAST sample block: It may also describe sample blocks before that (up to the previous RMS block). |
| Block Timestamp | 4 | 10 (nexus_μs_time) | The time of the end of this RMS block. See p. 6-49 for instructions on determining the exact time of the RMS block. |
| Reserved | 14 | 2 | |
| RMS Data Block | 16 | 196 (RMS data block) | Contains information on the waveform states and RMS values during this block. |

Waveform Channels

The following channels can be used for waveform capture:

| Channel Name | ID | Scale Factor |
|----------------------|----|--------------------------|
| Volts AN | 0 | Logical Voltage |
| Volts BN | 1 | Logical Voltage |
| Volts CN | 2 | Logical Voltage |
| Volts AB | 3 | Logical Voltage |
| Volts BC | 4 | Logical Voltage |
| Volts CA | 5 | Logical Voltage |
| Volts XN | 6 | Logical Voltage |
| Volts Residual | 7 | Logical Voltage Residual |
| Current Residual | 8 | Logical Current Residual |
| Volts AE | 32 | Physical Voltage |
| Volts BE | 33 | Physical Voltage |
| Volts CE | 34 | Physical Voltage |
| Volts XE | 35 | Physical Voltage |
| Volts NE | 36 | Physical Voltage |
| Current A | 37 | Physical Current |
| Current B | 38 | Physical Current |
| Current C | 39 | Physical Current |
| Current X | 40 | Physical Current |
| Waveform Transient 0 | 77 | Waveform Combine |
| Waveform Transient 1 | 78 | Waveform Combine |
| Waveform Transient 2 | 79 | Waveform Combine |
| High Speed Inputs | 80 | N/A |

Samples

To parse the waveform samples, you must first extract the samples section of the record. The size of the section can be determined by:

```
Bytes_per_block = (512 / sample_reduction_factor) + 16  
Num_blocks = Num_channels * num_blocks_per_channel  
Size = (num_blocks * (bytes_per_block)) + 16
```

Next, break up each of the sample blocks using the bytes per block. Finally, assign the blocks to each channel sequentially, rotating through the channels. So:

```
WaveformSampleBlock sample_block;  
//channel samples is a sequential list of samples for a channel  
ChannelSamples[] channels;  
int channel_index = 0;  
  
//iterate over all the sample blocks  
for(int i=0; i<num_blocks; i++)  
{  
    copy bytes_per_block to sample_block  
    //add the samples to the channel  
    channels[channel_index].AddBlock(sample_block);  
    //rotate the channel index  
    channel_index = (channel_index + 1) % num_channels;  
}
```

For example, if there are 3 channels, the sample blocks would be arranged in the record as:

```
1A  
1B  
1C  
2A  
2B  
2C  
...
```

If two captures are contiguous, the samples can be combined to form a single waveform. This will occur when multiple record per capture is selected in the programmable settings, or if a trigger occurs while a waveform is already being captured. The time counters for the last sample block of the first capture, and the first sample block of the second, should be sequential. If they are not, then the captures are not continuous, and the samples lists cannot be combined.

Now, you have all the sequential samples for each channel. However, these samples are raw counts. They still need to be converted to secondary. For the voltage and current channels, this is done by multiplying the raw value by the associated scale factors for that channel. The scale factors are:

| Factor Name | Scalar |
|------------------------------|-------------|
| Logical Voltage | 0.098401062 |
| Logical Voltage Residual | 0.196802124 |
| Physical Voltage | 0.049200531 |
| Logical Current Residual 20A | 0.012363048 |
| Logical Current Residual 2A | 0.001960812 |
| Physical Current 20A | 0.003090762 |
| Physical Current 2A | 0.000495203 |
| Peak Transient | 14.0625 |
| Waveform Combine | 0.098401062 |

See the table in Appendix A for which factor applies to which channel.

Finally, you multiply by the CT/PT ratio to get primary. So, for example, if you are dealing with the Volts AN channel (which uses the Logical Voltage scalar), and have a PT ratio of 1440/120, you get the following results:

| Raw | Secondary | Primary |
|-------|-----------|-----------|
| 407 | 40.04923 | 4805.908 |
| 1018 | 100.1723 | 12020.67 |
| 1487 | 146.3224 | 17558.69 |
| 1749 | 172.1035 | 20652.41 |
| 1693 | 166.593 | 19991.16 |
| 1361 | 133.9238 | 16070.86 |
| 851 | 83.7393 | 10048.72 |
| 215 | 21.15623 | 2538.747 |
| -453 | -44.57568 | -5349.082 |
| -1052 | -103.5179 | -12422.15 |
| -1468 | -144.4528 | -17334.33 |
| -1654 | -162.7554 | -19530.64 |
| -1623 | -159.7049 | -19164.59 |
| -1382 | -135.9903 | -16318.83 |
| -888 | -87.38014 | -10485.62 |
| -253 | -24.89547 | -2987.456 |

NOTE: The above information only applies to voltage and current. The high speed inputs (channel 80) are stored as a bitmap of the 8 inputs, where a bit value of 1 indicates open, and a bit value of 0 indicates closed. Bit 0 is input 1, bit 1 is input 2, and so on. So for example:

| Raw | Input 1 | Input 2 | Input 3 | Input 4 | Input 5 | Input 6 | Input 7 | Input 8 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0x7F | Open | Open | Open | Open | Open | Open | Open | Closed |
| 0xBF | Open | Open | Open | Open | Open | Open | Closed | Open |
| 0xDF | Open | Open | Open | Open | Open | Closed | Open | Open |
| 0xEF | Open | Open | Open | Open | Closed | Open | Open | Open |
| 0xF7 | Open | Open | Open | Closed | Open | Open | Open | Open |
| 0xFB | Open | Open | Closed | Open | Open | Open | Open | Open |

Understanding the Data

Computing RMS Block Timestamps

The timestamp of the RMS blocks is the **end** of the sample block during which it occurs. Since the RMS block may be completed during the middle of a sample block, this time may not be the exact time of the RMS block. To compute the block's actual time, adjust the timestamp by the sample offset from the end of the block * the time per sample. Time per sample is always (1000ms / (60 * 1024)). For Example:

Block Timestamp: 2012/04/13 17:42:16.3044
 Ref Sample Index: 218
 Time Per Sample: (1000ms / (60*1024)) = apx 0.016276ms
 True End of Block Time: Block Time – ((256-218) * 0.016276)
 304.4-0.618488
 2012/04/13 17:42:16.30378

You can then use the same method to determine the start time of the RMS block. This is how the time of the first sample in the capture is determined. All you do is subtract the time for 256 samples from the time of the RMS block. Using the above block as an example:

Beginning of Block Time: Block Time – (256 * 0.016276)
 304.4-4.166656
 2012/04/13 17:42:16.30023

Trigger Causes

Waveform captures can be triggered off of multiple causes. When these causes happen in the same RMS block time, only one capture will be taken, but the RMS trigger block details indicate all of the causes.

When a trigger happens while another capture is currently being performed, (but after the initial triggering cycle), a second capture will be initiated after the first capture has finished. This capture will be considered 'contiguous', and the samples and RMS blocks between the two captures should be continuous. Additionally, the trigger in the second capture will refer to the **first** capture. This is done to ensure that the configured post-cycle's (in the programmable settings) are always captured.

Sag/Swell

Sags and Swells can be determined by comparing the current states and transitions in the triggering RMS block. If the transitions flags indicate that a change has occurred (set to 1), then the current state will tell you what kind of transition occurred. For example (Assuming looking at the voltage swells):

| Current States | Transitions | Causes |
|----------------|-------------|---|
| 0x0005 | 0x0001 | Volts AN Swell |
| 0xFFFE | 0x0005 | Volts CN Swell, Volts AN Return to Normal |

While multiple captures, or just the states in the RMS blocks, could be analyzed for information about overall events, this information is duplicated in the PQ logs, and will be described there.

High Speed Input Trigger

Similar to the Sags/Swells, input triggers can be determined by comparing the High Speed Input current states and transitions in the triggering RMS block. If the transitions flags indicate that a change has occurred (set to 1), then the current state will tell you what kind of transition occurred.

- Manual Trigger: Waveform captures which have been manually triggered can be detected by looking at the Manual Triggered flag in the record header. If this is set, then the capture was due to a manual trigger, and the other causes can be ignored.
- Trigger Time: Waveform captures are triggered by the RMS block which detects a change in condition. As such, the time of the trigger is considered to be the time of the triggering RMS block.

Waveform Start Time

Most of the timestamps in the waveform capture are based on the RMS block times. However, a capture may have multiple sample blocks before the first RMS block. To determine the exact time of the first sample (the start of the waveform), determine the number of samples before the first RMS block, and multiply that by the time per sample. For example:

First Sample Block TTC: 5105

First RMS Block TTC: 5106

First RMS Block Time: 2012/04/13 17:42:16.3044

Time Per Sample: $(1000\text{ms} / (60 * 1024)) = \text{apx } 0.016276\text{ms}$

Samples to Offset: $256 * (\text{First_RMS_Block} - \text{First_Sample_Block}) + 1$

$256 * (5106 - 5105 + 1) = 512$

Time of first sample: First RMS Block Time - (Samples to offset * time per sample)

$2012/04/13 \text{ } 17:42:16.3044 - (512 * 0.016276)$

2012/04/13 17:42:16.29607

NOTE: We offset by two sample blocks, because the first sample block was not the same as the first RMS block. Also, as the TTC (Time Counter) can rollover, keep that in mind

when computing the samples to offset: The first sample block time counter may be **greater** than the RMS block time counter in this case.

6.8.5.7: PQ Log

The PQ Log records in response to surges and sags of configured waveform channels, transient events, and digital input events. The information it provides allows the calculation of duration and magnitude of the surges and sags, as well as information for locating the start and end of the event in waveform and transient captures.

NOTE: Different versions of the waveform record have different formats. The version field of the header should always be checked before parsing the rest of the record.

Record Format

The PQ record is composed of two sections: A details header, and the RMS block from the cycle of the PQ event. The details header contains a version field, to determine the format of the header. Version 4 of the PQ record is documented here, and is 572 bytes in size.

Details Header

| Fields | Size | Description |
|-------------------------------|----------------------------|--|
| Record Index | 4 (uint) | The internal index of the record. |
| Contiguous | 1 (Boolean) | Indicates if the record is possible to be contiguous with the previous record. Non-contiguous records indicate that some state changes may have been missed. The primary reason non-contiguous records is a meter restart. 0 Contiguous 1 Not Contiguous |
| Reserved | 5 | |
| Record Format Version | 2 (ushort) | The record format version. The format documented here is v4. |
| Sample Block Time Counter | 4 (ushort) | The time counter of the RMS Block in which this PQ event occurred. Used to synchronize between waveform captures and the PQ event. |
| Event Timestamp | 10 (nexus_us_time) | The timestamp of the end of the RMS block which contained this PQ event. |
| Reserved | 2 | |
| RMS Data Block | 196 (RMS data block) | Contains information on the waveform states at the time of the PQ event. See pp. 6-45 - 6-46. |
| Digital Input Mask | 2 (bitmap) | The digital inputs which have been configured in the programmable settings to trigger PQ events. |
| U _{sr} Voltage Flags | 2 (bitmap) | The list of voltage channels which have been configured in the programmable settings to trigger PQ events according to the U _{sr} rules. |
| U _{sr} Current Flags | 2 (bitmap) | The list of current channels which have been configured in the programmable settings to trigger waveform captures according to the U _{sr} rules. |
| Waveform Setup Info | 316 (Waveform Setup Block) | Describes how the waveform triggers and captures were configured, as well as providing information about the meter. |

Understanding the Data

PQ Event Timestamp

Trigger Cause

All triggers which occur during a single RMS block (apx. 4.1ms) will be combined into a single PQ record. To determine which events triggered the record, each of the conditions should be tested.

Waveform Sag/Swell Event

Waveform Sag/Swell events can be determined by comparing the current state and transitions for the sags and swells, across multiple PQ events. To determine information about the overall Sag/Swell event, you have analyze the sequence of PQ records. To determine the pair of records which match for an event, defined as the Sag/Swell condition going out of limit, then coming back in, start with a record that indicates that the condition in question is going out. This is a record in which the Sag or Swell transition state is 1, and the current state is 1 for that channel.

The find the matching event end record, search forward in time in the records until a record is found where the delta state for the condition is 1, and the current state is 0.

NOTE: You need to check the contiguous flag in the header: if any record is found to be non-contiguous, then the state changes may be log, and any end record found may not match the original record.

High Speed Input Event

Input triggered events can be determined by comparing the High Speed Input current states and the transitions for the PQ event. If the transitions flags indicate that a change has occurred (set to 1), then the current state will tell you what kind of transition occurred.

If the duration a High Speed input is in a specific state is required, follow the same instructions as for sag/swell events.

Transient Event

Transient triggered events can be determined by checking the transient positive and negative over-range flags. If the flag indicates that a transient has occurred on that channel (set to 1), then a transient event occurred during the RMS block this PQ record covers.

Event Duration

The duration for an event requires first determining the start and end record for that event. Then, simply subtract the timestamp of the start record from the end record. For example:

| | |
|--------------------|--------------------------|
| Start Record Time: | 2012/04/13 17:42:16.3044 |
| End Record Time: | 2012/04/13 17:42:17.8242 |
| Duration: | 1.5198 seconds |

NOTE: This only applies to sag/swell events, and paired high speed input events. As transients never span more than one RMS block, duration of transient events is determined by the recorded duration value (see Transient Log section on the next page).

Linking to a Waveform

To link a PQ event to the waveform capture of the same event, compare the sample block time counter for the PQ event to trigger sample block time counters of the waveform captures. The matching time counter is the matching capture.

6.8.5.8: Transient Log

The Transient log takes a record when the raw voltage inputs exceed the configured transient limits. The record combines a PQ record of the transient event, and the waveform samples around the event.

Because the duration of a transient may be shorter than the sampling interval on the input (and thus not influence the actual value), the samples stored in the waveform data are replaced with the peak transient values.

While multiple transients may be detected during an RMS block, only the information about the peak positive, and peak negative, transients are stored.

NOTES:

- Different versions of the waveform record have different formats. The version field of the header should always be checked before parsing the rest of the record.
- When transients are enabled, the channels assigned to the waveform must be the transient equivalent channels. These channels replace the samples with the peak transient exception values (when they occur). The important thing to note about this is that both waveform captures and transient captures use the same channels, so all waveform captures with transients enabled will contain these sample replacements.
- Transients are triggered by comparing each value in the input against the configured threshold. This value should be configured high enough so as not to clip the top of the standard waveform samples.

Record Format

The Transient Record is composed of three sections: The details header, the waveform samples around the event, and the details of the transient event.

| Fields | Byte | Size | Description |
|---------------------------|------|----------------------|--|
| Record Index | 0 | 4 (uint) | The internal index of the record. |
| Reserved | 4 | 6 | |
| Record Format Version | 10 | 2 (ushort) | The record format version. |
| Sample Block Time Counter | 12 | 4 (uint) | The time counter of the RMS Block in which this Transient event occurred. Used to synchronize between the samples and the RMS block. |
| Event Timestamp | 16 | 10 (nexus_us_time) | The timestamp of the end of the RMS block which contains this Transient Event. |
| Reserved | 26 | 2 | |
| Event RMS Block | 28 | 196 (RMS data block) | Contains information on the waveform and transient states at the time of the event. |
| Digital Input Mask | 224 | 2 (bitmap) | The digital inputs which have been configured in programmable settings to trigger waveform events. |
| Reserved | 226 | 30 | |

| | | | |
|---------------------------|------|--------------------------------------|--|
| Waveform Sample Block 0 | 256 | 516 (waveform sample block) | The waveform samples around the time of the transient event. 6 sample blocks are always captured, at a sampling rate of 1024 samples per cycle, which means each sample block has 256 samples. This is approximately 1.5 cycles at a nominal 60hz. NOTE: The samples for the transient events will be replaced with the peak exception value. |
| Waveform Sample Block 1 | 772 | 516 (waveform sample block) | |
| Waveform Sample Block 2 | 1288 | 516 (waveform sample block) | |
| Waveform Sample Block 3 | 1804 | 516 (waveform sample block) | |
| Waveform Sample Block 4 | 2320 | 516 (waveform sample block) | |
| Waveform Sample Block 5 | 2836 | 516 (waveform sample block) | |
| Transient Details Block 0 | 3352 | 64 (transient details block) | The transient details for each of the sample blocks captured. By comparing the time counter of these blocks against the event's time counter, you can determine which block triggered the event. |
| Transient Details Block 1 | 3416 | 64 (transient details block) | |
| Transient Details Block 2 | 3480 | 64 (transient details block) | |
| Transient Details Block 3 | 3544 | 64 (transient details block) | |
| Transient Details Block 4 | 3608 | 64 (transient details block) | |
| Transient Details Block 5 | 3672 | 64 (transient details block) | |

| | | | |
|---------------------------|---|-----------------------|--|
| Sample Block Time Counter | 0 | 4 (uint) | The time counter of this transient block. This is used to determine which sample block this transient block describes. |
| Block Timestamp | 4 | 10 (nexus_μs_time) | The tie of the end of this transient block. |

| | | | |
|--|----|------------|--|
| Reserved | 14 | 2 | |
| Reserved | 16 | 6 | |
| Transient pos over-range flags | 22 | 2 (bitmap) | Indicates a positive transient which exceeded the configured threshold occurred. See Table 2 (Transient Bit Flags) for bits. |
| Transient neg over-range flags | 24 | 2 (bitmap) | Indicates a negative transient which exceeded the configured threshold occurred. See Table 2 (Transient Bit Flags) for bits. |
| Transient pos peak sample index ch1 | 26 | 2 (ushort) | The sample index of the peak positive transient to occur on channel 1 (Van or Vab). |
| Transient pos peak sample index ch2 | 28 | 2 (ushort) | The sample index of the peak positive transient to occur on channel 2 (Vbn or Vbc). |
| Transient pos peak sample index ch3 | 30 | 2 (ushort) | The sample index of the peak positive transient to occur on channel 3 (Vcn or Vca). |
| Transient neg peak sample index ch1 | 32 | 2 (ushort) | The sample index of the peak negative transient to occur on channel 1 (Van or Vab). |
| Transient neg peak sample index ch2 | 34 | 2 (ushort) | The sample index of the peak negative transient to occur on channel 2 (Vbn or Vbc). |
| Transient neg peak sample index ch3 | 36 | 2 (ushort) | The sample index of the peak negative transient to occur on channel 3 (Vcn or Vca). |
| Transient pos peak sample value ch1 | 38 | 2 (ushort) | The peak positive transient value to occur on channel 1 (Van or Vab). Multiply by (1800/255) to get Secondary value. |
| Transient pos peak sample value ch2 | 40 | 2 (ushort) | The peak positive transient value to occur on channel 2 (Vbn or Vbc). Multiply by (1800/255) to get Secondary value. |
| Transient pos peak sample value ch3 | 42 | 2 (ushort) | The peak positive transient value to occur on channel 3 (Vcn or Vca). Multiply by (1800/255) to get Secondary value. |
| Transient neg peak sample value ch1 | 44 | 2 (ushort) | The peak negative transient value to occur on channel 1 (Van or Vab). Multiply by (1800/255) to get Secondary value. |
| Transient neg peak sample value ch2 | 46 | 2 (ushort) | The peak negative transient value to occur on channel 2 (Vbn or Vbc). Multiply by (1800/255) to get Secondary value. |
| Transient neg peak sample value ch3 | 48 | 2 (ushort) | The peak negative transient value to occur on channel 3 (Vcn or Vca). Multiply by (1800/255) to get Secondary value. |
| Transient pos peak sample duration ch1 | 50 | 2 (ushort) | Duration of the peak positive transient to occur on channel 1 (Van or Vab). Multiply by 18.18 nanoseconds to get time. |
| Transient pos peak sample duration ch2 | 52 | 2 (ushort) | Duration of the peak positive transient to occur on channel 2 (Vbn or Vbc). Multiply by 18.18 nanoseconds to get time. |
| Transient pos peak sample duration ch3 | 54 | 2 (ushort) | Duration of the peak positive transient to occur on channel 3 (Vcn or Vca). Multiply by 18.18 nanoseconds to get time. |
| Transient neg peak sample duration ch1 | 56 | 2 (ushort) | Duration of the peak negative transient to occur on channel 1 (Van or Vab). Multiply by 18.18 nanoseconds to get time. |

| | | | |
|--|----|------------|--|
| Transient neg peak sample duration ch2 | 58 | 2 (ushort) | Duration of the peak negative transient to occur on channel 2 (Vbn or Vbc). Multiply by 18.18 nanoseconds to get time. |
| Transient neg peak sample duration ch3 | 60 | 2 (ushort) | Duration of the peak negative transient to occur on channel 3 (Vcn or Vca). Multiply by 18.18 nanoseconds to get time. |
| Reserved | 62 | 2 | |

Samples

Sample parsing is done the same as waveform record sample parsing. The major differences are that there are no contiguous captures, the sample rate is fixed at 1024 samples per cycle, and there are always 6 blocks.

NOTE: To see the transients in the waveform samples, the waveform channel ids need to be set to the transient channel id's. These samples have a much larger range than the standard waveform samples, which results in lower resolution in the waveform.

However, each sample in which a transient occurred will be replaced with the peak (abs max of the positive and negative values) transient value.

Understanding the Data

Trigger Cause

Multiple transients that exceed the transient threshold for that channel may be detected during a single RMS block, but only the peak positive and peak negative sample are recorded.

Peak positive is defined as the max value; peak negative is defined as the min value.

NOTE: That means that this does not necessarily follow the wave-shape of the input. A positive peak may occur during the waveform trough, and a negative peak may occur during the waveform crest.

The cause of the transient event can be determined by looking at the over-range flags for the triggering RMS block. There may be multiple causes.

NOTE: Only one transient capture may occur every 200ms, so it is worth looking at the 6 transient details blocks to detect rapidly occurring transient events (apx 25ms).

Peak Transient Time

The time of each specific transient can be determined by modifying the RMS block timestamp (the event timestamp for the trigger) by the sample index of the transient. For example:

```

Event Time:          2012/04/13 17:42:16.3044
Transient Event:      Volts AN Positive Peak
Sample Index:         73
Transient Time:       time - (256-73)* 0.016276ms
                    2012/04/13 17:42:16.30142

```

Transient Duration

The duration of a specific transient can be determined by multiplying the duration value of the transient by the transient tick time (18.18 nanoseconds). For example:

```

Transient Tick Time:    18.18 nanoseconds
Transient Duration Value: 5

```

Transient Duration: 90.9 nanoseconds

NOTE: A transient's duration is limited to one sample's time (apx 16μs). Any transient which exceeds this is considered to be multiple transients.

Transient Value

The secondary value of a specific transient can be determined by multiplying the peak value of the transient by the Peak Transient scalar factor (See Appendix A for a Table of scaling factors).

Transient Scalar Factor: 14.0625
Transient Peak Value: 53
Transient Secondary Value: 745.3125 volts

6.8.5.9: EN50160

The Nexus® 1500 meter's EN50160 implementation is based on the official EN50160-2007 specification, with exceptions where the following items are not supported:

- 1) Transient over-voltages between live conductors and earth
- 2) Interharmonic voltage

EN50160 Reporting Items: Summary of EN50160-2007

| Item # | Name | EN50160 Spec Ref 4.x.x/5.x.x |
|--------|---|------------------------------|
| 1 | Power Frequency, sync | x.1 |
| 1 | Power Frequency, no sync | x.1 |
| 2 | Magnitude of supply voltage | x.2 |
| 3 | Supply Voltage Variations | x.3.x |
| 4 | Single rapid voltage change(Low Voltage supply)/Magnitude of rapid voltage Changes(Medium Voltage supply) | x.4.1 |
| 5 | Flicker | x.4.2 |
| 6 | Supply Voltage Dips | x.5 |
| 7 | Short Interruption of Supply Voltage | x.6 |
| 8 | Long Interruption of Supply Voltage | x.7 |
| 9 | Temporary power frequency over-voltages between live conductors and earth | x.8 |
| 10* | Transient over-voltages between live conductors and earth | x.9 |
| 11 | Supply voltage unbalance | x.10 |
| 12 | Harmonic voltage | x.11 |
| 13* | Interharmonic voltage | x.12 |
| 14 | Mains signaling voltage on the supply voltage | x.13 |

* Not supported by the Nexus® 1500 meter

Archived Week/Year Data in XML Format

Each XML contains the report data for current week, past weekly and yearly.

| Tags | Attributes | Descriptions | Reporting Item # | Examples |
|----------------|---|---|------------------|---|
| EN50160_REPORT | | XML file start and end tags | | <EN50160_REPORT > </EN50160_REPORT > |
| Dev_Info | Name | User assigned meter name | | <Dev_Info Name="Meter_1" Type="Nexus 1500" Serial_Number="123456789 0 Runtime=0001.0002" /> |
| | Type | Factory defined device names: Nexus 1500 or user defined device names | | |
| | Serial_Number | Device serial number | | |
| | Runtime | Device runtime firmware version, 4 digit version (major) and 4 digit build (minor) | | |
| | HookUp | Wye, Delta 3 CTs, Delta 2 CTs, 2.5 Element 4 Wire Delta 45S: Wye, 2 CTs | | |
| | Frequency | 50Hz or 60Hz | | |
| | Supply_Type | Low Voltage or Medium Voltage | | |
| | Profile_DateTime | Last modified date/time in device profile | | YYYY-MM-SS HH:MM:SS |
| | Profile_Key | Device profile check sum | | |
| | Voltage_Full_Scale_PN | Phase to neutral full scale, shown in primary | | |
| | Voltage_Full_Scale_PP | Phase to phase full scale, shown in primary | | |
| | Nominal_Voltage | User set value, shown in secondary | | |
| | Mains_Signaling_Threshold | User set threshold | | |
| | Over_Voltage_AE_Threshold | User set threshold | | |
| | Over_Voltage_BE_Threshold | User set threshold | | |
| | Over_Voltage_CE_Threshold | User set threshold | | |
| | Allowed_Long_Interruptions_ In_Year | User set value | | |
| | Rapid_Voltage_Change_Data_ Source | 1 cycle updated RMS 10/12 cycles updated RMS | | |
| | Unbalance_Upper_Limit | 2% 3% | | |
| | Voltage_A_Dip_Concern | User set threshold | | |
| | Voltage_B_Dip_Concern | User set threshold | | |
| | Voltage_C_Dip_Concern | User set threshold | | |
| | Synchronous_Connection | Yes or No | | |
| | Allowed_Rapid_Voltage_Changes_ In_Day | User set allowed Rapid Voltage Changes per day in devie profile | | |
| | Allowed_Rapid_Voltage_Changes_ In_Week | User set allowed Rapid Voltage Changes per day in devie profile * 7 | | |
| | Allowed_Rapid_Voltage_Changes_ In_Year | User set allowed Rapid Voltage Changes per day in devie profile * [number of days in the year of the report start date/time] | | |
| Data_Info | Version | File format version, single number | | |

| | | | | |
|----------------|----------------------|--|---|---------------------------------|
| | Type | Available types are: Current Week Current Year Weekly Yearly | | |
| | Start | Report start date/time, local time, 24 hour, time zone. Day of week, "Sun", "Mon", "Tue", "Wed", "Thu", "Fri", "Sat" Month, "Jan", "Feb", "Mar", "Apr", "May", "Jun", "Jul", "Aug", "Sep", "Oct", "Nov", "Dec" | | Thu, 27 May 2010 12:00:39 -0400 |
| | End | Report end date/time, local time, 24 hour, time zone. Day of week, "Sun", "Mon", "Tue", "Wed", "Thu", "Fri", "Sat" Month, "Jan", "Feb", "Mar", "Apr", "May", "Jun", "Jul", "Aug", "Sep", "Oct", "Nov", "Dec" | | Thu, 27 May 2010 12:00:39 -0400 |
| | FDOW | First day of week. "Sun" or "Mon". | | |
| | Start_V1 | Report start date/time, short format | | YYYY-MM-DD HH:MM:SS |
| | End_V1 | Report end date/time, short format | | YYYY-MM-DD HH:MM:SS |
| | | | | |
| Report_Message | Code | Operation status in HEX format. | | 0x80000000 |
| | Settings | Valid or Invalid. Based on operation status bit 12. | | |
| | Messages | Any messages the meter provides regarding this report, such as warning messages. | | |
| | Invalid_Setting_Code | Invalid setting code in HEX format. | | |
| | | | | |
| | | | | |
| Report_Status | Sec_x1 | NA, Pass or Fail, Power Frequency | | |
| | Sec_x2 | NA, Magnitude of supply voltage | | |
| | Sec_x3 | NA, Pass or Fail, Supply Voltage Variations | | |
| | Sec_x4_1 | NA, Pass, Fail, or Concern, rapid voltage changes | | |
| | Sec_x4_2 | NA, Pass or Fail, Flicker | | |
| | Sec_x5 | NA, Pass or Fail, Supply Voltage Dips | | |
| | Sec_x6 | NA, Pass or Fail, Short Interruption of Supply Voltage | | |
| | Sec_x7 | NA, Pass or Fail, Long Interruption of Supply Voltage | | |
| | Sec_x8 | NA, Pass or Fail, Temporary power frequency over-voltages between live conductors and earth | | |
| | Sec_x9 | NA, Transient over-voltages between live conductors and earth | | |
| | Sec_x10 | NA, Pass or Fail, Supply voltage unbalance | | |
| | Sec_x11 | NA, Pass or Fail, Harmonic Voltage | | |
| | Sec_x12 | NA, Interharmonic Voltage | | |
| | Sec_x13 | NA, Pass or Fail, Mains signaling voltage on the supply voltage | | |
| | | | | |
| Total_Count | Rapid_Voltage | Rapid Voltage Change Count | 4 | |
| | Mains_Frequency | Mains Frequency Count | 1 | |
| | Ten_min_Mean | 10 Minute Mean RMS Count | 3 | |

| | | | | |
|---------------------|-----------------|---|----|--|
| | Flicker_PLTs | Flicker PLT Count | 5 | |
| | Unbalance | Voltage unbalance count | 11 | |
| | THDs | THD/Harmonic count | 12 | |
| | Mains_Signaling | Mains signaling voltage count | 14 | |
| Ten_sec_Mean_Freq | Bin0 | 10Sec mean Freq Bin 0, f<42.5(51.0), 15% | 1 | <10sec_Mean_Freq Bin0="0" Bin1="1" Bin2="2" Bin3="3" Bin4="4" Bin5="5" Bin6="6" Bin7="7" Bin8="8" Bin9="9" Bin10="10" /> |
| | Bin1 | 10Sec mean Freq Bin 1, 42.5(51.0)<=f<47(56.4), 15%-6% | 1 | |
| | Bin2 | 10Sec mean Freq Bin 2, 47(56.4)<=f<49(58.8), 6%-2% | 1 | |
| | Bin3 | 10Sec mean Freq Bin 3, 49(58.8)<=f<49.5(59.4), 2%-1% | 1 | |
| | Bin4 | 10Sec mean Freq Bin 4, 49.5(59.4)<=f<50(60), 1%-0% | 1 | |
| | Bin5 | 10Sec mean Freq Bin 5, 50(60)<=f<50.5(60.6), 0%-1% | 1 | |
| | Bin6 | 10Sec mean Freq Bin 6, 50.5(60.6)<=f<51(61.2), 1%-2% | 1 | |
| | Bin7 | 10Sec mean Freq Bin 7, 51(61.2)<=f<52(62.4), 2%-6% | 1 | |
| | Bin8 | 10Sec mean Freq Bin 8, 52(62.4)<=f<57.5(69), 6%-15% | 1 | |
| | Bin9 | 10Sec mean Freq Bin 9, 57.5(69)<f, 15% | 1 | |
| Ten_min_Mean_Va_RMS | Bin0 | 10min mean Van/ab RMS Bin 0, <85% | 3 | |
| | Bin1 | 10min mean Van/ab RMS Bin 1, 85%<=V<90% | 3 | |
| | Bin2 | 10min mean Van/ab RMS Bin 2, 90%<=V<100% | 3 | |
| | Bin3 | 10min mean Van/ab RMS Bin 3, 100%<=V<=110% | 3 | |
| | Bin4 | 10min mean Van/ab RMS Bin 4, 110%<V | 3 | |
| Ten_min_Mean_Vb_RMS | Bin0 | 10min mean Vbn/bc RMS Bin 0, <85% | 3 | |
| | Bin1 | 10min mean Vbn/bc RMS Bin 1, 85%<=V<90% | 3 | |
| | Bin2 | 10min mean Vbn/bc RMS Bin 2, 90%<=V<100% | 3 | |
| | Bin3 | 10min mean Vbn/bc RMS Bin 3, 100%<=V<=110% | 3 | |
| | Bin4 | 10min mean Vbn/bc RMS Bin 4, 110%<V | 3 | |
| Ten_min_Mean_Vc_RMS | Bin0 | 10min mean Vcn/ca RMS Bin 0, <85% | 3 | |
| | Bin1 | 10min mean Vcn/ca RMS Bin 1, 85%<=V<90% | 3 | |
| | Bin2 | 10min mean Vcn/ca RMS Bin 2, 90%<=V<100% | 3 | |
| | Bin3 | 10min mean Vcn/ca RMS Bin 3, 100%<=V<=110% | 3 | |
| | Bin4 | 10min mean Vcn/ca RMS Bin 4, 110%<V | 3 | |
| Rapid_Voltage_Va | Bin0 | Rapid Voltage Change Van/ab Bin 0, V<-10% | 4 | |
| | Bin1 | Rapid Voltage Change Van/ab Bin 1, -10%<=V<-5% | 4 | |
| | Bin2 | Rapid Voltage Change Van/ab Bin 2, -5%<=V<0% | 4 | |
| | Bin3 | Rapid Voltage Change Van/ab Bin 3, 0%<=V<+5% | 4 | |
| | Bin4 | Rapid Voltage Change Van/ab | 4 | |

| | | | | |
|---------------------|------|--|----|--|
| | | Bin 4, +5% ≤ V ≤ +10% | | |
| | Bin5 | Rapid Voltage Change Van/ab Bin 5, +10% < V | 4 | |
| Rapid_Voltage_Vb | Bin0 | Rapid Voltage Change Vbn/bc Bin 0, V < -10% | 4 | |
| | Bin1 | Rapid Voltage Change Vbn/bc Bin 1, -10% ≤ V < -5% | 4 | |
| | Bin2 | Rapid Voltage Change Vbn/bc Bin 2, -5% ≤ V < 0% | 4 | |
| | Bin3 | Rapid Voltage Change Vbn/bc Bin 3, 0% ≤ V < +5% | 4 | |
| | Bin4 | Rapid Voltage Change Vbn/bc Bin 4, +5% ≤ V ≤ +10% | 4 | |
| | Bin5 | Rapid Voltage Change Vbn/bc Bin 5, +10% < V | 4 | |
| Rapid_Voltage_Vc | Bin0 | Rapid Voltage Change Vcn/ca Bin 0, V < -10% | 4 | |
| | Bin1 | Rapid Voltage Change Vcn/ca Bin 1, -10% ≤ V < -5% | 4 | |
| | Bin2 | Rapid Voltage Change Vcn/ca Bin 2, -5% ≤ V < 0% | 4 | |
| | Bin3 | Rapid Voltage Change Vcn/ca Bin 3, 0% ≤ V < +5% | 4 | |
| | Bin4 | Rapid Voltage Change Vcn/ca Bin 4, +5% ≤ V ≤ +10% | 4 | |
| | Bin5 | Rapid Voltage Change Vcn/ca Bin 5, +10% < V | 4 | |
| PLT_Va | Bin0 | PLT Van/ab Bin 0, ≤ 1 | 5 | |
| | Bin1 | PLT Van/ab Bin 1, > 1 | 5 | |
| PLT_Vb | Bin0 | PLT Vbn/bc Bin 0, ≤ 1 | 5 | |
| | Bin1 | PLT Vbn/bc Bin 1, > 1 | 5 | |
| PLT_Vc | Bin0 | PLT Vcn/ca Bin 0, ≤ 1 | 5 | |
| | Bin1 | PLT Vcn/ca Bin 1, > 1 | 5 | |
| | | | | |
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| | | | | |
| Ten_min_Avg_Va_Harm | H2 | 10 min Ave Van/ab 2nd Harm bin, >2.0% | 12 | |
| | H3 | 10 min Ave Van/ab 3rd Harm bin, >5.0% | 12 | |
| | H4 | 10 min Ave Van/ab 4th Harm bin, >1.0% | 12 | |
| | H5 | 10 min Ave Van/ab 5th Harm bin, >6.0% | 12 | |
| | H6 | 10 min Ave Van/ab 6th Harm bin, >0.5% | 12 | |
| | H7 | 10 min Ave Van/ab 7th Harm bin, >1.5% | 12 | |
| | H8 | 10 min Ave Van/ab 8th Harm bin, >0.5% | 12 | |
| | H9 | 10 min Ave Van/ab 9th Harm bin, >1.5% | 12 | |
| | H10 | 10 min Ave Van/ab 10th Harm bin, >0.5% | 12 | |
| | H11 | 10 min Ave Van/ab 11th Harm bin, >3.5% | 12 | |
| | H12 | 10 min Ave Van/ab 12th Harm bin, >0.5% | 12 | |
| | H13 | 10 min Ave Van/ab 13th Harm bin, >3.0% | 12 | |
| | H14 | 10 min Ave Van/ab 14th Harm bin, >0.5% | 12 | |
| | H15 | 10 min Ave Van/ab 15th Harm bin, >0.5% | 12 | |
| | H16 | 10 min Ave Van/ab 16th Harm bin, >0.5% | 12 | |
| | H17 | 10 min Ave Van/ab 17th Harm bin, >2.0% | 12 | |

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|---------------------|-----|--|----|--|
| | H18 | 10 min Ave Van/ab 18th Harm bin, >0.5% | 12 | |
| | H19 | 10 min Ave Van/ab 19th Harm bin, >1.5% | 12 | |
| | H20 | 10 min Ave Van/ab 20th Harm bin, >0.5% | 12 | |
| | H21 | 10 min Ave Van/ab 21st Harm bin, >0.5% | 12 | |
| | H22 | 10 min Ave Van/ab 22nd Harm bin, >0.5% | 12 | |
| | H23 | 10 min Ave Van/ab 23rd Harm bin, >1.5% | 12 | |
| | H24 | 10 min Ave Van/ab 24th Harm bin, >0.5% | 12 | |
| | H25 | 10 min Ave Van/ab 25th Harm bin, >1.5% | 12 | |
| Ten_min_Avg_Vb_Harm | H2 | 10 min Ave Vbn/bc 2nd Harm bin, >2.0% | 12 | |
| | H3 | 10 min Ave Vbn/bc 3rd Harm bin, >5.0% | 12 | |
| | H4 | 10 min Ave Vbn/bc 4th Harm bin, >1.0% | 12 | |
| | H5 | 10 min Ave Vbn/bc 5th Harm bin, >6.0% | 12 | |
| | H6 | 10 min Ave Vbn/bc 6th Harm bin, >0.5% | 12 | |
| | H7 | 10 min Ave Vbn/bc 7th Harm bin, >1.5% | 12 | |
| | H8 | 10 min Ave Vbn/bc 8th Harm bin, >0.5% | 12 | |
| | H9 | 10 min Ave Vbn/bc 9th Harm bin, >1.5% | 12 | |
| | H10 | 10 min Ave Vbn/bc 10th Harm bin, >0.5% | 12 | |
| | H11 | 10 min Ave Vbn/bc 11th Harm bin, >3.5% | 12 | |
| | H12 | 10 min Ave Vbn/bc 12th Harm bin, >0.5% | 12 | |
| | H13 | 10 min Ave Vbn/bc 13th Harm bin, >3.0% | 12 | |
| | H14 | 10 min Ave Vbn/bc 14th Harm bin, >0.5% | 12 | |
| | H15 | 10 min Ave Vbn/bc 15th Harm bin, >0.5% | 12 | |
| | H16 | 10 min Ave Vbn/bc 16th Harm bin, >0.5% | 12 | |
| | H17 | 10 min Ave Vbn/bc 17th Harm bin, >2.0% | 12 | |
| | H18 | 10 min Ave Vbn/bc 18th Harm bin, >0.5% | 12 | |
| | H19 | 10 min Ave Vbn/bc 19th Harm bin, >1.5% | 12 | |
| | H20 | 10 min Ave Vbn/bc 20th Harm bin, >0.5% | 12 | |
| | H21 | 10 min Ave Vbn/bc 21st Harm bin, >0.5% | 12 | |
| | H22 | 10 min Ave Vbn/bc 22nd Harm bin, >0.5% | 12 | |
| | H23 | 10 min Ave Vbn/bc 23rd Harm bin, >1.5% | 12 | |
| | H24 | 10 min Ave Vbn/bc 24th Harm bin, >0.5% | 12 | |
| | H25 | 10 min Ave Vbn/bc 25th Harm bin, >1.5% | 12 | |
| Ten_min_Avg_Vc_Harm | H2 | 10 min Ave Vcn/ca 2nd Harm bin, >2.0% | 12 | |
| | H3 | 10 min Ave Vcn/ca 3rd Harm bin, >5.0% | 12 | |

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|-------------------------|----------|--|----|--|
| | H4 | 10 min Ave Vcn/ca 4th Harm bin, >1.0% | 12 | |
| | H5 | 10 min Ave Vcn/ca 5th Harm bin, >6.0% | 12 | |
| | H6 | 10 min Ave Vcn/ca 6th Harm bin, >0.5% | 12 | |
| | H7 | 10 min Ave Vcn/ca 7th Harm bin, >1.5% | 12 | |
| | H8 | 10 min Ave Vcn/ca 8th Harm bin, >0.5% | 12 | |
| | H9 | 10 min Ave Vcn/ca 9th Harm bin, >1.5% | 12 | |
| | H10 | 10 min Ave Vcn/ca 10th Harm bin, >0.5% | 12 | |
| | H11 | 10 min Ave Vcn/ca 11th Harm bin, >3.5% | 12 | |
| | H12 | 10 min Ave Vcn/ca 12th Harm bin, >0.5% | 12 | |
| | H13 | 10 min Ave Vcn/ca 13th Harm bin, >3.0% | 12 | |
| | H14 | 10 min Ave Vcn/ca 14th Harm bin, >0.5% | 12 | |
| | H15 | 10 min Ave Vcn/ca 15th Harm bin, >0.5% | 12 | |
| | H16 | 10 min Ave Vcn/ca 16th Harm bin, >0.5% | 12 | |
| | H17 | 10 min Ave Vcn/ca 17th Harm bin, >2.0% | 12 | |
| | H18 | 10 min Ave Vcn/ca 18th Harm bin, >0.5% | 12 | |
| | H19 | 10 min Ave Vcn/ca 19th Harm bin, >1.5% | 12 | |
| | H20 | 10 min Ave Vcn/ca 20th Harm bin, >0.5% | 12 | |
| | H21 | 10 min Ave Vcn/ca 21st Harm bin, >0.5% | 12 | |
| | H22 | 10 min Ave Vcn/ca 22nd Harm bin, >0.5% | 12 | |
| | H23 | 10 min Ave Vcn/ca 23rd Harm bin, >1.5% | 12 | |
| | H24 | 10 min Ave Vcn/ca 24th Harm bin, >0.5% | 12 | |
| | H25 | 10 min Ave Vcn/ca 25th Harm bin, >1.5% | 12 | |
| Ten_min_Mean_THDs_Above | Va | 10min mean Van/ab THD > 8% | 12 | |
| | Vb | 10min mean Vbn/bc THD > 8% | 12 | |
| | Vc | 10min mean Vcn/ca THD > 8% | 12 | |
| Freq_Sync | Bin0 | Freq Bin 0, sync, $-1\% \leq f \leq +1\%$ | 1 | |
| | Bin1 | Freq Bin 1, sync, $-6\% \leq f \leq +4\%$ | 1 | |
| | Bin0_pct | Bin 0, % of total count | 1 | |
| | Bin1_pct | Bin 1, % of total count | 1 | |
| Freq_NoSync | Bin0 | Freq Bin 2, no sync, $-2\% \leq f \leq +2\%$ | 1 | |
| | Bin1 | Freq Bin 3, no sync, $-15\% \leq f \leq +15\%$ | 1 | |
| | Bin0_pct | Bin 0, % of total count | 1 | |
| | Bin1_pct | Bin 1, % of total count | 1 | |
| Rapid_Voltage_Spect | Va | Rapid Voltage Change +/-5% Van/ab Bin 0 | 4 | |
| | Vb | Rapid Voltage Change +/-5% Vbn/bc Bin 1 | 4 | |
| | Vc | Rapid Voltage Change +/-5% Vcn/ca Bin 2 | 4 | |
| Rapid_Voltage_10pct | Va | Rapid Voltage Change between +/-5% and +/-10% Van/ab Bin 0 | 4 | |
| | Vb | Rapid Voltage Change between +/-5% and +/-10% Vbn/bc Bin 1 | 4 | |

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|-----------------------------|----------|---|---------|--|
| | Vc | Rapid Voltage Change between +/-5% and +/-10% Vcn/ca Bin 2 | 4 | |
| Voltage_Variations_10pct | Va | Supply Voltage Variations (10min mean) +/-10% Van/ab Bin 0 | 3 | |
| | Vb | Supply Voltage Variations (10min mean) +/-10% Vbn/bc Bin 1 | 3 | |
| | Vc | Supply Voltage Variations (10min mean) +/-10% Vcn/ca Bin 2 | 3 | |
| | Va_pct | % of total count | 3 | |
| | Vb_pct | % of total count | 3 | |
| | Vc_pct | % of total count | 3 | |
| Voltage_Variations_15_10pct | Va | Supply Voltage Variations (10min mean) -15%/+10% Van/ab Bin 0 | 3 | |
| | Vb | Supply Voltage Variations (10min mean) -15%/+10% Vbn/bc Bin 1 | 3 | |
| | Vc | Supply Voltage Variations (10min mean) -15%/+10% Vcn/ca Bin 2 | 3 | |
| | Va_pct | % of total count | 3 | |
| | Vb_pct | % of total count | 3 | |
| | Vc_pct | % of total count | 3 | |
| Rapid_Voltage_4pct | Va | Rapid Voltage Change +/-4% Van/ab Bin 0 | 4 | |
| | Vb | Rapid Voltage Change +/-4% Vbn/bc Bin 1 | 4 | |
| | Vc | Rapid Voltage Change +/-4% Vcn/ca Bin 2 | 4 | |
| Rapid_Voltage_6pct | Va | Rapid Voltage Change between +/-4% and +/-6% Van/ab Bin 0 | 4 | |
| | Vb | Rapid Voltage Change between +/-4% and +/-6% Vbn/bc Bin 1 | 4 | |
| | Vc | Rapid Voltage Change between +/-4% and +/-6% Vcn/ca Bin 2 | 4 | |
| Supply_Voltage_Unbalance | Bin0 | Supply voltage unbalance, bin 0, $0\% \leq n \leq 2\%$ | 11 | |
| | Bin1 | Supply voltage unbalance, bin 1, $2\% < n \leq 3\%$ | 11 | |
| | Bin2 | Supply voltage unbalance, bin 2, $3\% < n$ | 11 | |
| Mains_Signaling | Va_Below | 3sec mains signaling voltage, Van/Vab, bin 0, \leq threshold | 14 | |
| | Va_Above | 3sec mains signaling voltage, Van/Vab, bin 1, $>$ threshold | 14 | |
| | Vb_Below | 3sec mains signaling voltage, Vbn/Vbc, bin 0, \leq threshold | 14 | |
| | Vb_Above | 3sec mains signaling voltage, Vbn/Vbc, bin 1, $>$ threshold | 14 | |
| | Vc_Below | 3sec mains signaling voltage, Vcn/Vca, bin 0, \leq threshold | 14 | |
| | Vc_Above | 3sec mains signaling voltage, Vcn/Vca, bin 1, $>$ threshold | 14 | |
| Dips_Va_1sec | Bin0 | Dips and interruptions, Van/Vab, bin 0, $\geq 85\%$ and $< 90\%$, ≤ 1 sec | 6, 7, 8 | |
| | Bin1 | Dips and interruptions, Van/Vab, bin 1, $\geq 70\%$ and $< 85\%$, ≤ 1 sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Van/Vab, bin 2, $\geq 60\%$ and $< 70\%$, ≤ 1 sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Van/Vab, bin 3, $\geq 50\%$ and $< 60\%$, ≤ 1 sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Van/Vab, bin 4, $\geq 40\%$ and $< 50\%$, ≤ 1 sec | 6, 7, 8 | |
| | Bin5 | Dips and interruptions, Van/Vab, bin 5, $\geq 30\%$ and $< 40\%$, ≤ 1 sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Van/Vab, bin 6, $\geq 20\%$ and $< 30\%$, ≤ 1 sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Van/Vab, bin 7, $\geq 15\%$ and $< 20\%$, ≤ 1 sec | 6, 7, 8 | |
| | Bin8 | Dips and interruptions, Van/Vab, bin 8, $\geq 10\%$ and $< 15\%$, ≤ 1 sec | 6, 7, 8 | |

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|----------------------|-------|--|---------|--|
| | Bin9 | Dips and interruptions, Van/Vab, bin 9, >=1% and <10%, <=1sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Van/Vab, bin 10, <1%, 1sec<=180sec | 6, 7, 8 | |
| Dips_Va_180sec | Bin0 | Dips and interruptions, Van/Vab, bin 0, >=85% and <90%, 1sec<=180sec | 6, 7, 8 | |
| | Bin1 | Dips and interruptions, Van/Vab, bin 1, >=70% and <85%, 1sec<=180sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Van/Vab, bin 2, >=60% and <70%, 1sec<=180sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Van/Vab, bin 3, >=50% and <60%, 1sec<=180sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Van/Vab, bin 4, >=40% and <50%, 1sec<=180sec | 6, 7, 8 | |
| | Bin5 | Dips and interruptions, Van/Vab, bin 5, >=30% and <40%, 1sec<=180sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Van/Vab, bin 6, >=20% and <30%, 1sec<=180sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Van/Vab, bin 7, >=15% and <20%, 1sec<=180sec | 6, 7, 8 | |
| | Bin8 | Dips and interruptions, Van/Vab, bin 8, >=10% and <15%, 1sec<=180sec | 6, 7, 8 | |
| | Bin9 | Dips and interruptions, Van/Vab, bin 9, >=1% and <10%, 1sec<=180sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Van/Vab, bin 10, <1%, 1sec<=180sec | 6, 7, 8 | |
| Dips_Va_Above_180sec | Bin0 | Dips and interruptions, Van/Vab, bin 0, >=85% and <=90%, >180sec | 6, 7, 8 | |
| | Bin1 | Dips and interruptions, Van/Vab, bin 1, >=70% and <85%, >180sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Van/Vab, bin 2, >=60% and <70%, >180sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Van/Vab, bin 3, >=50% and <60%, >180sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Van/Vab, bin 4, >=40% and <50%, >180sec | 6, 7, 8 | |
| | Bin5 | Dips and interruptions, Van/Vab, bin 5, >=30% and <40%, >180sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Van/Vab, bin 6, >=20% and <30%, >180sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Van/Vab, bin 7, >=15% and <20%, >180sec | 6, 7, 8 | |
| | Bin8 | Dips and interruptions, Van/Vab, bin 8, >=10% and <15%, >180sec | 6, 7, 8 | |
| | Bin9 | Dips and interruptions, Van/Vab, bin 9, >=1% and <10%, >180sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Van/Vab, bin 10, <1%, >180sec | 6, 7, 8 | |
| Dips_Vb_1sec | Bin0 | Dips and interruptions, Vbn/Vbc, bin 0, >=85% and <90%, <=1sec | 6, 7, 8 | |
| | Bin1 | Dips and interruptions, Vbn/Vbc, bin 1, >=70% and <85%, <=1sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Vbn/Vbc, bin 2, >=60% and <70%, <=1sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Vbn/Vbc, bin 3, >=50% and <60%, <=1sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Vbn/Vbc, bin 4, >=40% and <50%, <=1sec | 6, 7, 8 | |

| | | | | |
|----------------------|-------|--|---------|--|
| | | bin 4, >=40% and <50%, <=1sec | | |
| | Bin5 | Dips and interruptions, Vbn/Vbc, bin 5, >=30% and <40%, <=1sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Vbn/Vbc, bin 6, >=20% and <30%, <=1sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Vbn/Vbc, bin 7, >=15% and <20%, <=1sec | 6, 7, 8 | |
| | Bin8 | Dips and interruptions, Vbn/Vbc, bin 8, >=10% and <15%, <=1sec | 6, 7, 8 | |
| | Bin9 | Dips and interruptions, Vbn/Vbc, bin 9, >=1% and <10%, <=1sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Vbn/Vbc, bin 10, <1%, 1sec<=180sec | 6, 7, 8 | |
| Dips_Vb_180sec | Bin0 | Dips and interruptions, Vbn/Vbc, bin 0, >=85% and <90%, 1sec<=180sec | 6, 7, 8 | |
| | Bin1 | Dips and interruptions, Vbn/Vbc, bin 1, >=70% and <85%, 1sec<=180sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Vbn/Vbc, bin 2, >=60% and <70%, 1sec<=180sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Vbn/Vbc, bin 3, >=50% and <60%, 1sec<=180sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Vbn/Vbc, bin 4, >=40% and <50%, 1sec<=180sec | 6, 7, 8 | |
| | Bin5 | Dips and interruptions, Vbn/Vbc, bin 5, >=30% and <40%, 1sec<=180sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Vbn/Vbc, bin 6, >=20% and <30%, 1sec<=180sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Vbn/Vbc, bin 7, >=15% and <20%, 1sec<=180sec | 6, 7, 8 | |
| | Bin8 | Dips and interruptions, Vbn/Vbc, bin 8, >=10% and <15%, 1sec<=180sec | 6, 7, 8 | |
| | Bin9 | Dips and interruptions, Vbn/Vbc, bin 9, >=1% and <10%, 1sec<=180sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Vbn/Vbc, bin 10, <1%, 1sec<=180sec | 6, 7, 8 | |
| Dips_Vb_Above_180sec | Bin0 | Dips and interruptions, Vbn/Vbc, bin 0, >=85% and <90%, >180sec | 6, 7, 8 | |
| | Bin1 | Dips and interruptions, Vbn/Vbc, bin 1, >=70% and <85%, >180sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Vbn/Vbc, bin 2, >=60% and <70%, >180sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Vbn/Vbc, bin 3, >=50% and <60%, >180sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Vbn/Vbc, bin 4, >=40% and <50%, >180sec | 6, 7, 8 | |
| | Bin5 | Dips and interruptions, Vbn/Vbc, bin 5, >=30% and <40%, >180sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Vbn/Vbc, bin 6, >=20% and <30%, >180sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Vbn/Vbc, bin 7, >=15% and <20%, >180sec | 6, 7, 8 | |
| | Bin8 | Dips and interruptions, Vbn/Vbc, bin 8, >=10% and <15%, >180sec | 6, 7, 8 | |
| | Bin9 | Dips and interruptions, Vbn/Vbc, bin 9, >=1% and <10%, >180sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Vbn/Vbc, bin 10, <1%, >180sec | 6, 7, 8 | |
| Dips_Vc_1sec | Bin0 | Dips and interruptions, Vcn/Vca, | 6, 7, 8 | |

| | | | | |
|----------------------|-------|--|---------|--|
| | | bin 0, >=85% and <90%, <=1sec | | |
| | Bin1 | Dips and interruptions, Vcn/Vca, bin 1, >=70% and <85%, <=1sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Vcn/Vca, bin 2, >=60% and <70%, <=1sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Vcn/Vca, bin 3, >=50% and <60%, <=1sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Vcn/Vca, bin 4, >=40% and <50%, <=1sec | 6, 7, 8 | |
| | Bin5 | Dips and interruptions, Vcn/Vca, bin 5, >=30% and <40%, <=1sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Vcn/Vca, bin 6, >=20% and <30%, <=1sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Vcn/Vca, bin 7, >=15% and <20%, <=1sec | 6, 7, 8 | |
| | Bin8 | Dips and interruptions, Vcn/Vca, bin 8, >=10% and <15%, <=1sec | 6, 7, 8 | |
| | Bin9 | Dips and interruptions, Vcn/Vca, bin 9, >=1% and <10%, <=1sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Vcn/Vca, bin 10, <1%, 1sec<=180sec | 6, 7, 8 | |
| Dips_Vc_180sec | Bin0 | Dips and interruptions, Vcn/Vca, bin 0, >=85% and <90%, 1sec<=180sec | 6, 7, 8 | |
| | Bin1 | Dips and interruptions, Vcn/Vca, bin 1, >=70% and <85%, 1sec<=180sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Vcn/Vca, bin 2, >=60% and <70%, 1sec<=180sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Vcn/Vca, bin 3, >=50% and <60%, 1sec<=180sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Vcn/Vca, bin 4, >=40% and <50%, 1sec<=180sec | 6, 7, 8 | |
| | Bin5 | Dips and interruptions, Vcn/Vca, bin 5, >=30% and <40%, 1sec<=180sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Vcn/Vca, bin 6, >=20% and <30%, 1sec<=180sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Vcn/Vca, bin 7, >=15% and <20%, 1sec<=180sec | 6, 7, 8 | |
| | Bin8 | Dips and interruptions, Vcn/Vca, bin 8, >=10% and <15%, 1sec<=180sec | 6, 7, 8 | |
| | Bin9 | Dips and interruptions, Vcn/Vca, bin 9, >=1% and <10%, 1sec<=180sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Vcn/Vca, bin 10, <1%, 1sec<=180sec | 6, 7, 8 | |
| Dips_Vc_Above_180sec | Bin0 | Dips and interruptions, Vcn/Vca, bin 0, >=85% and <90%, >180sec | 6, 7, 8 | |
| | Bin1 | Dips and interruptions, Vcn/Vca, bin 1, >=70% and <85%, >180sec | 6, 7, 8 | |
| | Bin2 | Dips and interruptions, Vcn/Vca, bin 2, >=60% and <70%, >180sec | 6, 7, 8 | |
| | Bin3 | Dips and interruptions, Vcn/Vca, bin 3, >=50% and <60%, >180sec | 6, 7, 8 | |
| | Bin4 | Dips and interruptions, Vcn/Vca, bin 4, >=40% and <50%, >180sec | 6, 7, 8 | |
| | Bin5 | Dips and interruptions, Vcn/Vca, bin 5, >=30% and <40%, >180sec | 6, 7, 8 | |
| | Bin6 | Dips and interruptions, Vcn/Vca, bin 6, >=20% and <30%, >180sec | 6, 7, 8 | |
| | Bin7 | Dips and interruptions, Vcn/Vca, bin 7, >=15% and <20%, >180sec | 6, 7, 8 | |

| | | | | |
|---------------------------|--------|---|---------|--|
| | | bin 7, >=15% and <20%, >180sec | | |
| | Bin8 | Dips and interruptions, Vcn/Vca, bin 8, >=10% and <15%, >180sec | 6, 7, 8 | |
| | Bin9 | Dips and interruptions, Vcn/Vca, bin 9, >=1% and <10%, >180sec | 6, 7, 8 | |
| | Bin10 | Dips and interruptions, Vcn/Vca, bin 10, <1%, >180sec | 6, 7, 8 | |
| Overvoltage_Vne_Above | Bin0 | Overvoltage Vne, bin 0, >set%, <=1sec | 9 | |
| | Bin1 | Overvoltage Vne, bin 1, >set%, 1sec<=5sec | 9 | |
| | Bin2 | Overvoltage Vne, bin 2, >set%, >5sec | 9 | |
| Overvoltage_Vae_Above | Bin0 | Overvoltage Vae, bin 0, >set%, <=1sec | 9 | |
| | Bin1 | Overvoltage Vae, bin 1, >set%, 1sec<=5sec | 9 | |
| | Bin2 | Overvoltage Vae, bin 2, >set%, >5sec | 9 | |
| Overvoltage_Vbe_Above | Bin0 | Overvoltage Vbe, bin 0, >set%, <=1sec | 9 | |
| | Bin1 | Overvoltage Vbe, bin 1, >set%, 1sec<=5sec | 9 | |
| | Bin2 | Overvoltage Vbe, bin 2, >set%, >5sec | 9 | |
| Overvoltage_Vce_Above | Bin0 | Overvoltage Vce, bin 0, >set%, <=1sec | 9 | |
| | Bin1 | Overvoltage Vce, bin 1, >set%, 1sec<=5sec | 9 | |
| | Bin2 | Overvoltage Vce, bin 2, >set%, >5sec | 9 | |
| Rapid_Voltage_Above_10pct | Va | Rapid Voltage change beyond +/- 10% Van/ab Bin 0 | 4 | Not part of the total rapid voltage change count |
| | Vb | Rapid Voltage change beyond +/- 10% Vbn/bc Bin 1 | 4 | Not part of the total rapid voltage change count |
| | Vc | Rapid Voltage change beyond +/- 10% Vcn/ca Bin 2 | 4 | Not part of the total rapid voltage change count |
| Rapid_Voltage_Above_6pct | Va | Rapid Voltage change beyond +/- 6% Van/ab Bin 0 | 4 | Not part of the total rapid voltage change count |
| | Vb | Rapid Voltage change beyond +/- 6% Vbn/bc Bin 1 | 4 | Not part of the total rapid voltage change count |
| | Vc | Rapid Voltage change beyond +/- 6% Vcn/ca Bin 2 | 4 | Not part of the total rapid voltage change count |
| Rapid_Voltage_Range_5pct | Va_pct | Rapid Voltage change +/-5% Van/ab Bin 0, % of total count | 4 | Not part of the spec |
| | Vb_pct | Rapid Voltage change +/-5% Vbn/bc Bin 1, % of total count | 4 | Not part of the spec |
| | Vc_pct | Rapid Voltage change +/-5% Vcn/ca Bin 2, % of total count | 4 | Not part of the spec |
| Rapid_Voltage_Range_10pct | Va_pct | Rapid Voltage change +/-10% Van/ab Bin 0, % of total count | 4 | Not part of the spec |
| | Vb_pct | Rapid Voltage change +/-10% Vbn/bc Bin 1, % of total count | 4 | Not part of the spec |
| | Vc_pct | Rapid Voltage change +/-10% Vcn/ca Bin 2, % of total count | 4 | Not part of the spec |

Invalid Report Due to Conflicting Settings and Standards

When conflicting settings were present in meter's device profile, that may cause the EN50160 report file to be invalid. User should be aware of such settings and the result caused by them. A warning message is provided in the report file and a status bit is provided in the Operation Status Bits. The following settings in meter device profile could cause the report to be invalid. An invalid setting code is available in report file, with the corresponding bit set to indicate a problem.

- Fixed RMS was not enabled for voltage channels in meter's waveform capture setup, code bit 0x00000001.
- IEC 61000-4-30 Hysteresis set points were not 0, code bit 0x00000002. When user pressed the Auto Configure button in device profile setup for EN50160/IEC 61000-4-30, software may overwrite the setting to 0s in device profile. If users need to re-do the Auto Configuration, first they have to enable log 7 & 8 in EN50160/IEC 61000-4-30 setup, then press the Auto Configure button again. Any changes to the hysteresis settings after press Auto Configure button may cause these settings to be none 0s, such as visiting the PQ/waveform setup screen where software may overwrite the settings with a minimum of 2%.
- Below(sag) settings for voltage channels RMS in meter's Waveform capture were not at 90%. Code bit 0x00000004.
- Flicker long term PLT interval not set at 2 hours/120 minutes. Code bit 0x00000008. Meter may overwrite the PLT interval to 2 hours/120 minutes if the setting in device profile was not at 10/20/60/120 minutes, so you may not see meter reporting this as a problem.
- Mains Signaling Threshold is below or equal to 1%. Code bit 0x00000010. Any small percentage setting may cause meter to compute false value. Also, such small setting is invalid in this meter, based on the frequency and threshold values in EN 50160-2007 specification document, section 4.13 Figure 1 and section 5.13 Figure 2.

Data Maximum Value

The maximum value for data type F51(unsigned integer, 2 bytes) is 65535.

The maximum value for data type F53(unsigned integer, 4 bytes) is 4294967295.

Meter will not rollover the value when the maximum count is reached.

Criteria for Report Status: Pass, Fail, Concern, N/A

Power Frequency

Status: N/A (if Total Mains Frequency Count is 0), Pass or Fail.

The percentage value was computed internally when meter received new frequency value from DSP2.

| Type | Values from XML File for Pass Status | |
|------------------|---|--|
| Synchronous | All of the following: (Freq_Sync, Bin0_pct) >= 99.5% (based on Freq_Sync, Bin0/ Total_Count, Mains_Frequency) (Freq_Sync, Bin1_pct) = 100% (based on Freq_Sync, Bin1/ Total_Count, Mains_Frequency) | |
| None Synchronous | All of the following: (Freq_NoSync, Bin0_pct) >= 99.5% (based on Freq_NoSync, Bin0 / Total_Count, Mains_Frequency) (Freq_NoSync, Bin1_pct) = 100% (based on Freq_NoSync, Bin1 / Total_Count, Mains_Frequency) | |

Magnitude of supply voltage

Status: N/A

Software setups the meter to log the 10 minutes mean RMS values, later software downloads the trend data and displays the data in report.

Supply Voltage Variations

Status: N/A (if Total 10 Minute Mean RMS Count is 0), Pass or Fail.

| | Values from XML File for Pass Status | |
|--------------------------------|--|--|
| Low Voltage, <=1kV | All of the following: (Voltage_Variations_10pct, Va) / (Total_Count, Ten_min_Mean) >= 0.95 (Voltage_Variations_10pct, Vb) / (Total_Count, Ten_min_Mean) >= 0.95 (Voltage_Variations_10pct, Vc) / (Total_Count, Ten_min_Mean) >= 0.95 (Voltage_Variations_15_10pct, Va) = (Total_Count, Ten_min_Mean) (Voltage_Variations_15_10pct, Vb) = (Total_Count, Ten_min_Mean) (Voltage_Variations_15_10pct, Vc) = (Total_Count, Ten_min_Mean) | |
| Medium Voltage, 1kV<MV<35kV | All of the following: (Voltage_Variations_10pct, Va) / (Total_Count, Ten_min_Mean) >= 0.95 (Voltage_Variations_10pct, Vb) / (Total_Count, Ten_min_Mean) >= 0.95 (Voltage_Variations_10pct, Vc) / (Total_Count, Ten_min_Mean) >= 0.95 | |

Rapid Voltage Change

Status: N/A (if Total Rapid Voltage Count is 0), Concern, Pass or Fail.

A user added threshold value was used in addition to the EN50160-2007 document.

| | Values from XML File | |
|--------------------------------|---|--|
| Low Voltage, <=1kV | Fail: any of the following (Rapid_Voltage_Above_10pct, Va) > 0 (Rapid_Voltage_Above_10pct, Vb) > 0 (Rapid_Voltage_Above_10pct, Vc) > 0 Week Report: (Sum of Rapid_Voltage_10pct, Va, Vb, Vc) > Allowed_Rapid_Voltage_Changes_In_Week Year Report: (Sum of Rapid_Voltage_10pct, Va, Vb, Vc) > Allowed_Rapid_Voltage_Changes_In_Year Concern: all of the following (Rapid_Voltage_Above_10pct, Va) = 0 (Rapid_Voltage_Above_10pct, Vb) = 0 (Rapid_Voltage_Above_10pct, Vc) = 0 Week Report: (Sum of Rapid_Voltage_10pct, Va, Vb, Vc) > 0 and <= Allowed_Rapid_Voltage_Changes_In_Week Year Report: (Sum of Rapid_Voltage_10pct, Va, Vb, Vc) > 0 and <= Allowed_Rapid_Voltage_Changes_In_Year Pass: all of the following (Rapid_Voltage_Above_10pct, Va) = 0 (Rapid_Voltage_Above_10pct, Vb) = 0 (Rapid_Voltage_Above_10pct, Vc) = 0 Week Report: (Sum of Rapid_Voltage_10pct, Va, Vb, Vc) = 0 Year Report: (Sum of Rapid_Voltage_10pct, Va, Vb, Vc) = 0 | |
| Medium Voltage, 1kV<MV<35kV | Fail: any of the following (Rapid_Voltage_Above_6pct, Va) > 0 (Rapid_Voltage_Above_6pct, Vb) > 0 (Rapid_Voltage_Above_6pct, Vc) > 0 Week Report: (Sum of Rapid_Voltage_6pct, Va, Vb, Vc) > Allowed_Rapid_Voltage_Changes_In_Week | |

| | | |
|--|---|--|
| | <p>Year Report: (Sum of Rapid_Voltage_6pct, Va, Vb, Vc) > Allowed_Rapid_Voltage_Changes_In_Year</p> <p>Concern: all of the following (Rapid_Voltage_Above_6pct, Va) = 0 (Rapid_Voltage_Above_6pct, Vb) = 0 (Rapid_Voltage_Above_6pct, Vc) = 0 Week Report: (Sum of Rapid_Voltage_6pct, Va, Vb, Vc) > 0 and <= Allowed_Rapid_Voltage_Changes_In_Week Year Report: (Sum of Rapid_Voltage_6pct, Va, Vb, Vc) > 0 and <= Allowed_Rapid_Voltage_Changes_In_Year</p> <p>Pass: all of the following (Rapid_Voltage_Above_6pct, Va) = 0 (Rapid_Voltage_Above_6pct, Vb) = 0 (Rapid_Voltage_Above_6pct, Vc) = 0 Week Report: (Sum of Rapid_Voltage_6pct, Va, Vb, Vc) = 0 Year Report: (Sum of Rapid_Voltage_6pct, Va, Vb, Vc) = 0</p> | |
|--|---|--|

Flicker

Status: N/A (if Total Flicker PLTs Count is 0), Pass or Fail.

| | | |
|--|---|--|
| | Values from XML File for Pass Status | |
| | <p>All of the following: (PLT_Va, Bin0) / (Total_Count, Flicker_PLTs) >= 0.95 (PLT_Vb, Bin0) / (Total_Count, Flicker_PLTs) >= 0.95 (PLT_Vc, Bin0) / (Total_Count, Flicker_PLTs) >= 0.95</p> | |

Supply Voltage Dips

Status: Pass or Fail.

A user added threshold value was used in addition to the EN50160-2007 document.

| | | |
|--|---|--|
| | Values from XML File for Pass Status | |
| | <p>All of the following: X=0 to 9, depends on the dip concern setting. For example, if dip concern is set to 90%, X would be 0, for range of >=1% and <90%. If dip concern is set to 15%, X would be 8, for range of >=1% and <15%.</p> <p>(Dips_Va_1sec, BinX to Bin9) = 0 (Dips_Va_180sec, BinX to Bin9) = 0 (Dips_Va_Above_180sec, BinX to Bin9) = 0 (Dips_Vb_1sec, BinX to Bin9) = 0 (Dips_Vb_180sec, BinX to Bin9) = 0 (Dips_Vb_Above_180sec, BinX to Bin9) = 0 (Dips_Vc_1sec, BinX to Bin9) = 0 (Dips_Vc_180sec, BinX to Bin9) = 0 (Dips_Vc_Above_180sec, BinX to Bin9) = 0</p> | |

Short Interruption of Supply Voltage

Status: Pass or Fail.

| | | |
|--|--|--|
| | Values from XML File for Pass Status | |
| | <p>All of the following: (Dips_Va_1sec, Bin10) = 0 (Dips_Va_180sec, Bin10) = 0 (Dips_Vb_1sec, Bin10) = 0 (Dips_Vb_180sec, Bin10) = 0 (Dips_Vc_1sec, Bin10) = 0 (Dips_Vc_180sec, Bin10) = 0</p> | |

Long Interruption of Supply Voltage

Status: Pass or Fail.

A user added threshold value was used in addition to the EN50160-2007 document.

| | Values from XML File for Pass Status | |
|--|---|--|
| | All of the following: (Dips_Va_Above_180sec, Bin10) <= Allowed_Long_Interruptions_In_Year (max at 100) (Dips_Vb_Above_180sec, Bin10) <= Allowed_Long_Interruptions_In_Year (max at 100) (Dips_Vc_Above_180sec, Bin10) <= Allowed_Long_Interruptions_In_Year (max at 100) | |

Temporary power frequency over-voltages between live conductors and earth

Status: Pass or Fail.

| | Values from XML File for Pass Status | |
|--|--|--|
| | All of the following: (Overvoltage_Vae_Above, Bin0) = 0 (Overvoltage_Vae_Above, Bin1) = 0 (Overvoltage_Vae_Above, Bin2) = 0 (Overvoltage_Vbe_Above, Bin0) = 0 (Overvoltage_Vbe_Above, Bin1) = 0 (Overvoltage_Vbe_Above, Bin2) = 0 (Overvoltage_Vce_Above, Bin0) = 0 (Overvoltage_Vce_Above, Bin1) = 0 (Overvoltage_Vce_Above, Bin2) = 0 | |

Transient over-voltages between live conductors and earth

Status: N/A, not supported in meter.

Supply voltage unbalance

Status: N/A (if Total Unbalance Count is 0), Pass or Fail.

A user added threshold value was used in addition to the EN50160-2007 document.

| | Values from XML File for Pass Status | |
|--|--|--|
| | Unbalance Upper Limit = 2%: (Supply_Voltage_Unbalance, Bin0) / (Total_Count, Unbalance) >= 0.95 | |
| | Unbalance Upper Limit = 3%: (Sum of Supply_Voltage_Unbalance, Bin0 and Bin1) / (Total_Count, Unbalance) >= 0.95 | |

Harmonic Voltage

Status: N/A (if Total THDs Count is 0), Pass or Fail.

| | Values from XML File for Pass Status | |
|--|--|--|
| | All of the following: (Ten_min_Mean_THDs_Above, Va) = 0 (Ten_min_Mean_THDs_Above, Vb) = 0 (Ten_min_Mean_THDs_Above, Vc) = 0 (Ten_min_Avg_Va_Harm, H2 to H25) / (Total_Count, THDs) <= 0.05 (Ten_min_Avg_Vb_Harm, H2 to H25) / (Total_Count, THDs) <= 0.05 (Ten_min_Avg_Vc_Harm, H2 to H25) / (Total_Count, THDs) <= 0.05 | |

Interharmonic Voltage

Status: N/A, not supported in meter.

Mains signaling voltage on the supply voltage

Status: N/A (if Total Mains Signaling Count is 0), Pass or Fail.

| | | |
|--|---|--|
| | Values from XML File for Pass Status | |
| | All of the following: (Mains_Signaling, Va_Below) / (Total_Count, Mains_Signaling) >= 0.99 (Mains_Signaling, Vb_Below) / (Total_Count, Mains_Signaling) >= 0.99 (Mains_Signaling, Vc_Below) / (Total_Count, Mains_Signaling) >= 0.99 | |

Chapter 7

Nexus®1500 Meter Programmable Settings Blocks

- Chapter 2 contains the Nexus® 1500 meter's Modbus Register Map. This chapter gives a detailed description of each of the Programmable Settings Blocks.

7.1: Communication Settings Block (45057-45074)

- Device Address - 2 bytes, unsigned integer, ranging from 0000H to FFFFH
- Protocol - 1 byte, unsigned integer.
- Baud Rate - 1 byte, unsigned integer.
- Parity - 1 byte, unsigned integer.
- Stop Bits - 1 byte, unsigned integer.
- Data Bits - 1 byte, unsigned integer.
- Response Delay - 1 byte, unsigned integer.
- Port Mode - 1 byte, unsigned integer. The value 1 means Master; value 0 means Slave. Port 1 is always a Slave.

| Communication Settings Block Specifications | | | | | | |
|---|--------------|-----------|--------|-----------|-----------|---------------------|
| Value | Protocol | Baud Rate | Parity | Stop Bits | Data Bits | Response Delay (ms) |
| 0 | Modbus ASCII | 4800 | None | | 5 | 0.00 |
| 1 | Modbus RTU | 9600 | Even | | 6 | 0.25 |
| 2 | DNP 3.0 | 19200 | Odd | | 7 | 0.50 |
| 3 | | 38400 | Mark | | 8 | 0.75 |
| 4 | | 57600 | Space | | | 1.00 |
| 5 | | 115200 | | | | 1.25 |
| 6 | | | | | | 1.50 |
| 7 | | | | 1 stop | | 1.75 |
| 8 | | | | 1.5 stop | | 2.00 |
| 9-14 | | | | | | 2.25-3.50 |
| 15 | | | | 2 stop | | 3.75 |
| 16-255 | | | | | | 4.00-63.75 |

7.2: Limit Settings Block (45077-45204)

Limit Comparisons - Internal Representations

A Nexus® meter has 32 Limits Objects.

- Each Limit Object performs two independent comparisons with a selected computed value and combines them into a combined output. Information needed to perform these actions: channel identification, comparison values, comparison directions and combination type.

- Channel identification is performed by referencing the internal data table of the meter, by specifying the Line Number and Point Number for a particular value. For example: to monitor 1 second VAN values, use Line 34, Point 0; 1 second VBN, use Line 34, Point 1; 1 second IA, use Line 36, Point 0; Thermal Average VAN, use Line 51, Point 0. To leave a Limit unassigned, use Line 65535, any point.
- Comparison values are entered using percentages relative to the programmed full scales of the system. For VAN, the phase-to-neutral Voltage Full Scale would be referenced. If it is programmed to 120.0 V secondary with a phase voltage PT of 120:1, then a comparison of 13.2 kV primary would be a limit of 108 V secondary or 90.00% of the Full Scale. A 90.00% comparison for IA with a phase Current Full Scale of 5.0 A secondary and a phase current CT of 2000:5 would be a comparison of 4.5 A secondary or 1800 A primary. Negative percentages would be used where appropriate (Watts, VAR, etc.). Special cases like PF and KF would depend on fixed internal Full Scales. Human interfaces could represent this in terms of quadrature and angle, instead of the internal percentage representation.
- Each comparison has a direction associated with it - Above or Below. A 90.00% comparison could be for above 90.00% or below 90.00%.
- Finally, each limit object is able to produce a third output which is a combination of the two comparisons. This combination could be an AND, OR, NAND, NOR, XOR or Hysteresis. So, a user can produce a band of between 40.00% and 80.00% by combining above 40.00% AND below 80.00%; over 110.00%/under 90.00% alarms by combining above 110.00% OR below 90.00%, on after over 110.00%, off after below 90.00% by combining above 110.00% and below 90.00% with Hysteresis.

The structure for a combination is :

| | |
|--------|-----------------------------------|
| 2 byte | Line Number |
| 1 byte | Point Number |
| 1 byte | Direction and Combination (SAB) |
| 2 byte | Comparison 1 Percentage (Value 1) |
| 2 byte | Comparison 2 Percentage (Value 2) |

Total of 8 bytes per Limit Object, total of 256 bytes for 32 Limit Objects.

The structure for the Direction and Combination byte is:

| | |
|----------|--|
| Bits 7-5 | Unused, set to 0 |
| Bit 4 | Negate combination (AND -> NAND, etc.) |
| Bits 3-2 | 00 = AND combination |
| 01 | = OR combination |
| 10 | = XOR combination |
| 11 | = Hysteresis combination |
| Bit 1 | 0 = Comparison 2 is below |
| 1 | = Comparison 2 is above |
| Bit 0 | 0 = Comparison 1 is below |
| 1 | = Comparison 1 is above |

- Hysteresis combination uses comparison 1 to set the combination, and comparison 2 to clear the combination. If both inputs are asserted, comparison 1 has priority. The usual

arrangement would be to program comparison 1 to above a large value and comparison 2 to below a small value. When the monitored value goes above comparison 1, the combination will be set to a 1, until the monitored value goes below comparison 2, when the combination will be cleared to a 0.

Poll-able information would consist of:

32 bits Comparison 1 states for 32 limits
 32 bits Comparison 2 states for 32 limits
 32 bits Combination states for 32 limits

Total of 96 bits (12 bytes)

7.3 Historical Log Settings Block (45205-45464)

Historical Log 1 Data Pointers (45205 - 45332), Historical Log 2 Data Pointers (45333 - 45460).

- These registers indicate which information to include in a record in the Historical Log. Each Data Pointer has the following 4 (four) byte structure:

| Data Pointer 4-Byte Structure | | |
|-------------------------------|--------------------|--------------|
| Size | Format | Description |
| 2 byte | Unsigned Integer | Line Number |
| 1 byte | Unsigned Character | Point Number |
| 1 byte | Unsigned Character | Reserved |

- A Line Number is an index into the Communication Table. Example: Line Number 11 is for the 12th line in the Communication Table, 0.1 second Phase-to-Neutral Voltages. Data Pointers with Line Numbers greater than the number of lines in the table are ignored.
- A Point Number is an index into a Line in the Communication Table. Example: Point Number 1 is for the second entry in a Line. Line Number 11, Point Number 1 is the 2nd in the 12th line, 0.1 second VBN. Data Pointers with Point Numbers greater than the number of points for the line are ignored.

Snapshot Interval for Historical Log 1 (45361), for Historical Log 2 (45462).

- One register, 2 byte unsigned integers ranged from 0 to 3600.
The unit is 1 Second.

Historical Log 1 Record Size (45463), Historical Log 2 Record Size (45464).

- This register is an enumeration for the size of a record in the Historical Log. The valid values are:
 0x00004 = 16 byte records
 0x00000 = 32 byte records
 0x00001 = 64 byte records
 0x00002 = 128 byte records
 0x00003 = 256 byte records

7.4: High Speed Inputs Settings Block (45501-45723)

Input Name - 8 registers, 16 bytes, 16 characters for the name.

Input Open Label - 8 registers, 16 bytes, 16 characters for label, Not Shorted, State 1.

Input Closed Label - 8 registers, 16 bytes, 16 characters for label, Shorted, State 0.

Input Value - 2 registers, currently not used.

Input Mode - Bit 0 will define the normal condition of the input.

| High Speed Input Settings | | |
|---------------------------|------------------|-----------------------|
| Bit 0 | Normal Condition | Binary State |
| 0 | Open | State 1 (Not Shorted) |
| 1 | Closed | State 0 (Shorted) |

7.5: Registers 45724-45728 are not used by the Nexus® 1500 meter

7.6: External Digital Output Module Settings Block (45729-45808)

Up to 4 External Digital Output Modules can be addressed in this block.

Address - 2 bytes, unsigned integers.

A value of 0x0FFFF for an address indicates that this device is unused.

Line Number - 2 bytes, unsigned integers.

Point Number - 1 byte, unsigned integers.

Line Number and Point Number will point which limit is going to be used for the relay of the External Digital Output Module.

7.7: Registers 45809-45812 are not used by the Nexus® 1500 meter

7.8: External Analog Output Module Settings Block (45813-45892)

Up to 4 External Analog Output Modules can be addressed in this block.

Address - 2 bytes, unsigned integers.

A value of 0x0FFFF for an address indicates that this device is unused.

Line Number - 2 bytes, unsigned integers.

Point Number - 1 byte, unsigned integers.

Line Number and Point Number will point which limit is going to be used for each output of the External Analog Output Module.

7.9: External KYZ Output Module Settings Block (45893-45907)

Up to 4 External KYZ Output Modules can be addressed in this block.

Address - 2 bytes, unsigned integers.

A value of 0x0FFFF for an address indicates that this device is unused.

The energy assignments are as follows:

7.10: CT & PT Ratio Settings Block (45909-45924)

Address - 2 registers, 4 bytes, unsigned integers.

Primary numbers and secondary numbers are in these blocks for the proper ratios.

| KYZ Output Relay Byte Energy Assignments | |
|--|--|
| Value | Energy Assignment |
| 0 | Disabled |
| 1 | Q (1+4) WH |
| 2 | Q1 VAH |
| 3 | Q1 VARH |
| 4 | Q4 VAH |
| 5 | Q4 VARH |
| 6 | Q (2+3) WH |
| 7 | Q2 VAH |
| 8 | Q2 VARH |
| 9 | Q3 VAH |
| 10 | Q3 VARH |
| 11-18 | Internal Inputs Accumulations 1-8 |
| 19-22 | Internal Input Aggregator 1-4 |
| 23-30 | External Digital Input Module 1 in Accumulator 1-8 |
| 31-38 | External Digital Input Module 2 in Accumulator 1-8 |
| 39-46 | External Digital Input Module 3 in Accumulator 1-8 |
| 47-54 | External Digital Input Module 4 in Accumulator 1-8 |

7.11: Hookup and Time Settings Block (45925-45944)

Hookup - 1 register, 2 bytes.

High byte - Configuration Bits. Voltage selection.

When bit 0 is cleared, 150V.

When bit 0 is set, 300V.

Low byte - Wye/Delta selection.

| Wye/Delta Byte Energy Assignments | |
|-----------------------------------|--------------|
| Value | Assignment |
| 0 | Wye |
| 1 | Delta 3 CTs |
| 2 | Delta 2 CTs |
| 3 | 2.5 Element |
| 4 | 4 Wire Delta |

Frequency - currently not used.

Time Zone - 1 register, 2 bytes. Signed integer. The zone descriptor value varies from -13 to +13. The zone descriptor value 0 represents Greenwich Mean Time.

| Time Zone Descriptor | |
|----------------------|-----------------|
| Value | Zone Descriptor |
| 0 | ZD 0 |
| 50 | ZD + 0.5 |
| 100 | ZD + 1 |
| 150 | ZD + 1.5 |
| -100 | ZD - 1 |
| -150 | ZD - 1.5 |

Daylight Savings Time Enable - 1 byte, unsigned integer.

| Daylight Savings Time Enable | |
|------------------------------|-----------------------|
| Value | Zone Descriptor |
| 0 | Disabled |
| 1 | Use Clock Chip |
| 2 | Use Programming Block |

Transformer Loss Compensation (TLC) Enable - 1 byte, unsigned integer.

| Transformer Loss Compensation (TLC) Enable | | |
|--|-------------|----------|
| Value | Bit 0 & 1 | Bit 2 |
| 0 | Disabled | Add |
| 1 | Iron Only | Subtract |
| 2 | Copper Only | |
| 3 | Both | |

Internal KYZ Form - 1 byte bit map.

Refer to the Internal KYZ Settings Block (46330) for more detail.

A bit value of 0 = Form C = Pulse of the relay.

A bit value of 1 = Form A = Transition of the relay.

| Internal KYZ Form Relay Assignments | | | | | | | | |
|-------------------------------------|---|---|---|---|-----|---|---|---|
| Bit Number | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Relay Assignments | 1 | 2 | 3 | 4 | LED | | | |

Daylight Savings Time Start/End.

Address - 4 registers, 8 bytes. Each byte has unsigned integer values (example below).

| Daylight Savings Time Start/End Byte Assignments | | | | | | | | |
|--|----------|----------|-------|-----|-------|--------|--------|----------|
| Register | 45929 | | 45930 | | 45931 | | 45932 | |
| Byte | High | Low | High | Low | High | Low | High | Low |
| Assignments | Reserved | Reserved | Month | Day | Hour | Minute | Second | Reserved |

% Loss of Watt or VAR

Address - 2 registers, 4 bytes, 2 bytes for integers and 2 bytes for fractions.

7.12: Average Settings Block (45949-45952)

Thermal and Block Averaging Time Interval: 1 register, 2 bytes unsigned integer. The unit is in 1 second.

Rolling Average Sub-Interval: 1 register, 2 bytes unsigned integer.

Predictive Rolling Window Average: 1 register, 2 bytes unsigned integer.

Number of Sliding Windows - 1 byte, unsigned integer.

Time of Use Log Enable - currently not used.

7.13: Exception Profile Block (45953-45968)

This block is not yet defined.

7.14: Device Label Settings Block (45969-45992)

Meter Designation - 8 registers, 16 bytes Hex ASCII.

Auxiliary Voltage Label - 8 registers, 16 bytes Hex ASCII.

Measured Neutral Current Label - 8 registers, 16 bytes Hex ASCII.

7.15: Network Settings Block (45993-46016)

IP Address - 2 registers, 4 bytes. Each byte has unsigned integer value.

Subnet Mask - 2 registers, 4 bytes. Each byte has unsigned integer value.

Default Gateway - 2 registers, 4 bytes. Each byte has unsigned integer value.

Port 2 Baud Rate - 1 byte, unsigned integer.

| Port 2 Baud Rate Values | |
|-------------------------|-----------|
| Value | Baud Rate |
| 0 | 4800 |
| 1 | 9600 |
| 2 | 19200 |
| 3 | 38400 |
| 4 | 57600 |
| 5 | 115200 |

Gateway Delay - 1 byte, unsigned integers.

| Gateway Delay in Milliseconds | |
|-------------------------------|-----------------------------|
| Value | Delays in milliseconds (ms) |
| 0 | 0 |
| 1 | 15 |
| 2-255 | 30-3825 |

Mode 1 - Network Mode 1. 1 register, only High Byte is used.

Bit

7: IP Address Resolution

A bit value of 1 means use DHCP server.

A bit value of 0 means use IP address of
NEXUS/EEPROM.

Bits 0-6: Reserved

- Computer Name - 8 registers, 16 bytes Hex ASCII.
 - Server IP Address - 2 registers, 4 bytes. Each byte has unsigned integer values.
- Mode 2 - Network Mode 2. 1 byte.

Bit 7: IP Address Resolution

A bit value of 0 means use IP address of
NEXUS/EEPROM.

Bits 0-6: Reserved

- DNS Server 1 IP Address - 2 registers, 4 bytes. Each byte has unsigned integer values.
- DNS Server 2 IP Address - 2 registers, 4 bytes. Each byte has unsigned integer values.
- Server / Service Enable Bits - 32 Bits - Reserved for future use.
- The next 4 bytes are undefined.

7.16: Block Window Average External Synchronization Block (46017)

BWA Synch Enable - 1 byte.

Instead of using the time interval, the Nexus® meter can calculate the Thermal and Block average when the pulse is detected on one of the High Speed Inputs.

| Block Window Average Synchronization Assignments | |
|--|-------------|
| Value | Assignments |
| 0 | Disabled |
| 1-255 | Enabled |

BWA Synch Mask - 1 byte. Only one input can be selected at a time. That means only one of the 8 bits can be set at a time.

| Block Window Average Synchronization Mask Input Assignments | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bit | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Input Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Proper Value for each Assigned Input:

| Proper Values for BWA Synch Mask Assigned Inputs | | | | | | | | |
|--|---|---|---|---|----|----|----|-----|
| Assigned Input | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Proper Value | 1 | 2 | 4 | 8 | 16 | 32 | 64 | 128 |

7.17: Display Configuration Block (46018)

1 register, 2 bytes.

Bit 15: Only applies to the voltage reading.

A bit value of 1 = Primary voltage displayed.

A bit value of 0 = Secondary voltage displayed.
 Bit 0-14: Reserved.

7.18: Energy Direction Block (46019)

Received Energy Direction - 1 register, High byte only.

| Energy Direction Block Values | |
|-------------------------------|--|
| Value | Description |
| 0 | (Q1+4) Watt = Received & (Q2+3) Watt = Delivered |
| 1 | (Q1+4) Watt = Delivered & (Q2+3) Watt = Received |

Power Factor Labeling - 1 register, Low Byte only.

| Power Factor Label Values | |
|---------------------------|--|
| Value | Description |
| 0 | Method 1: Q1+ Lag, Q2 - Lag, Q3 - Lead, Q4 + Lead |
| 1 | Method 2: Q1+ Lag, Q2 - Lead, Q3 + Lag, Q4 - Lead |
| 2-255 | Method 1: Q1 + Lag, Q2 - Lag, Q3 - Lead, Q4 + Lead |

7.19: Register 46020 is not used by the Nexus® 1500 Meter

7.20: Full Scale Block (46021-46036)

2 registers, 4 bytes - 2 bytes integers and 2 bytes fraction values.

7.21: External Module Software Interface Block (46053-46196)

External Module Types - 1 byte value, unsigned integer.
 External Module Slots - 1 byte value, unsigned integer.
 External Module Label - 8 registers, 16 bytes. Hex ASCII.

| External Module Types & Slots | | |
|-------------------------------|--------------------------------|-------|
| Value | Types | Slots |
| 0 | Not Assigned | 1 |
| 1 | KYZ | 2 |
| | | |
| 3 | Analog Output 4-20mA 4 Channel | 4 |
| 4 | Analog Output 4-20mA 8 Channel | |
| 5 | Analog Output 0-1mA 4 Channel | |
| 6 | Analog Output 0-1mA 8 Channel | |
| 7 | Digital Output | |
| | | |
| | | |
| | | |
| | | |

7.22: External Module Port Assignment Block (46197-46206)

Port Assignment bytes are enumerated as in the following table:

| External Module Port Assignments | |
|----------------------------------|--|
| Value | Assignments |
| 0x000 | Port 4 |
| 0x001 | Port 3 |
| 0x002 | Port 2 |
| 0x003 | Port 1 (232/485) |
| 0x004 | Diagnostic Port (currently not in use) |

7.23: Manual Control Relay Block (46207-46208)

Manual Control Relay Settings: 1 register, 2 bytes.

Up to four Relay Output Modules can be attached to a Nexus® meter. A Total of 16 Relays can be controlled. The table below indicates which bit controls which relay.

| Relay Control | | | | | | | | | | | | | | | | |
|---------------|----------|----|----|----|----------|----|---|---|----------|---|---|---|----------|---|---|---|
| Modules | Module 1 | | | | Module 2 | | | | Module 3 | | | | Module 4 | | | |
| Bits | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Relays | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

A bit value of 1 means Manual Relay Control Only.

A bit value of 0 means ElectroLogic and Manual Relay Control.

Flicker Log - Reserved for future use.

7.24: Internal Input Pulse Accumulation Scale Factor Block (46209-46325)

Scale Factors - 2 registers, 4 bytes unsigned integers.

Aggregator Assignments - 1 byte unsigned integers.

Pulse Accumulation Labels - 8 registers, 16 bytes. Hex ASCII.

| Internal Input Pulse Accumulator Assignments | | |
|--|-----------------|----------------------------|
| Value | Energy | Assigned Aggregator |
| 0 | Q1+ 4 Watt Hour | None |
| 1 | Q2+ 3 Watt Hour | Add to Aggregator 1 |
| 2 | | Add to Aggregator 2 |
| 3 | | Add to Aggregator 3 |
| 4 | | Add to Aggregator 4 |
| 5 | | Subtract from Aggregator 1 |
| 6 | | Subtract from Aggregator 2 |
| 7 | | Subtract from Aggregator 3 |
| 8 | | Subtract from Aggregator 4 |

Nexus® Meter Watt hour Selection - 1 byte unsigned integer.

Aggregation Assignment - 1 byte unsigned integer.

| Internal KYZ Pulse Width | | | | | | |
|----------------------------------|---------|---|----|----|----|--------|
| Value | 0 | 1 | 2 | 3 | 4 | 5-127 |
| Pulse Width in Milliseconds (ms) | Disable | 5 | 10 | 15 | 20 | 25-835 |

7.25: I²t and V²t Threshold Block (46326-46329)

I squared T - 2 registers, 4 bytes. 2-byte integers, 2-byte fractions. Secondary Current Value.

V squared T - 2 registers, 4 bytes. 2-byte integers, 2-byte fractions. Secondary Volt Value.

| Internal KYZ Channel Assignment | |
|---------------------------------|----------------------|
| Value | Channel Assignment |
| 0 | Quad (1+4) Watt Hour |
| 1 | Quad 1 VA Hour |
| 2 | Quad 1 VAR Hour |
| 3 | Quad 4 VA Hour |
| 4 | Quad 4 VAR Hour |
| 5 | Quad (2+3) Watt Hour |
| 6 | Quad 2 VA Hour |
| 7 | Quad 2 VAR Hour |
| 8 | Quad 3 VA Hour |
| 9 | Quad 3 VAR Hour |

7.26: Internal KYZ Settings Block (46330-46372)

| Internal KYZ Enable Assignment | |
|--------------------------------|---------------------|
| Bit | Assignment |
| Bit 7 | Relay 1/Pulse 1 LED |
| Bit 6 | Relay 2/Pulse 2 LED |
| Bit 5 | Relay 3 |
| Bit 4 | Relay 4 |

Internal KYZ Pulse Width - 1 byte, unsigned integer.

Internal KYZ Channel Assignment - 1 byte, unsigned integer.

Internal KYZ Watt Hour per pulse - 2 registers, 4 bytes, 2 byte integer, 2 byte fraction.

| End of Interval Pulse | | | |
|-----------------------|---------------|------------------------------|----------------------|
| | | Byte | |
| Value | Enable | Relay | Width (milliseconds) |
| 0 | Disable Pulse | Internal Relay 1/Pulse 1 LED | 5ms |
| 1 | Enable Pulse | Internal Relay 2/Pulse 2 LED | 10ms |
| 2 | | Internal Relay 3 | 15ms |
| 3 | | Internal Relay 4 | 20ms |
| 4-126 | | | 25ms-635ms |

Internal KYZ Enable - 1 byte.

A bit value of 1 = KYZ is enabled.

A bit value of 0 = KYZ is disabled.

End of Interval Pulse - The meter can generate a pulse upon completion of a block window interval. This pulse is generated on one of the relays and the pulse width is selectable.

7.27: Internal Input Pulse Accumulation Unit Label Block (46373-46420)

4 registers, 8 bytes. These labels are used to describe the units a pulse represents. Units are usually one word and are 8 characters or less.

Examples of Units: Gallons, BTUs, Liters, Wh, kWh, VAh, etc.

7.28: Registers 46421-46804 are not used by the Nexus® 1500 Meter.

7.29: Limit Profile Label Block (46805-47060)

8 registers, 16 bytes. 16 characters

7.30: External Analog Output Module Channel Update Block (47061-47062)

■ This block is added to improve the update speed of what is sent to the External Analog Output Modules from the meter. Not all channels of the External Analog Output Module might be in use. The value indicates the number of External Analog Output Module channels that are refreshed per Modbus message. In the older versions of External Analog Output Modules, only one channel update was possible at a time.

| External Analog Output Module Update Speed | |
|--|----------------------|
| Value | Update |
| 0 | 1 channel at a time |
| 1 | 2 channels at a time |
| 2 | 4 channels at a time |
| 3 | 8 channels at a time |
| 4-255 | 8 channels at a time |

7.31: Miscellaneous DNP Settings Block (47063-47104)

Scale for Analog Output of Average Pulse Accumulation - 1 byte unsigned integer.

Pulse accumulation values are 8-byte. But the Analog Output Module can accept 4-byte quantity. Therefore, only 4 bytes out of 8 bytes will be sent to Analog Output Module. This register decides which 4 bytes will be sent out.

| Values | Bytes to be Sent Out |
|--------|----------------------|
| 0 | Bytes 7,6,5,4 |
| 1 | Bytes 6,5,4,3 |
| 2 | Bytes 5,4,3,2 |
| 3 | Bytes 4,3,2,1 |
| 4 | Bytes 3,2,1,0 |

Energy in the Interval - 1 byte unsigned Integer. This is the Interval Time for Energy in the Interval. Unit is in minutes. Range is from 60 to 0.

DNP Time Synchronization Enable - 1 byte. Register Address 47064 (Lower Byte).

A value of 1 means that DNP Time Synchronization is enabled

A value of 0 means that DNP Time Synchronization is disabled

DNP Time Synchronization Time Interval - 1 register, 2 bytes. Register Address 47065.

| Value | Time (1 Minute Interval) |
|------------|--------------------------|
| 0 | No Time Synchronization |
| 1 | 1 minute |
| 2 | 2 minutes |
| ... | ... |
| 60 | 1 hour |
| 61 | 1 hour, 1 minute |
| ... | ... |
| 1439 | 23 hours, 59 minutes |
| 1440 | 1 day |
| 1440-85535 | 1 day (default) |

Bitmap

Bit 13: Choice of Class 0 poll between Object 20 and Object 21

| Register | Value | Description |
|----------------|-------|-------------|
| 40766 (Bit 13) | 1 | Object 21 |
| | 0 | Object 20 |

Bit 12: Enable DNP Freeze Schedule

| Register | Value | Description |
|----------------|-------|-------------|
| 40766 (Bit 12) | 1 | Enabled |
| | 0 | Disabled |

DNP Freeze Date & Time - 4 registers, 8 bytes.

| Registers | Byte | Name | Range |
|--------------|------|--------------|--------------|
| 47067 - HIGH | 7 | Century | 0-99 |
| 47067 - LOW | 6 | Year | 0-99 |
| 47068 - HIGH | 5 | Month | 1-12 |
| 47068 - LOW | 4 | Day | 1-31 |
| 47069 - HIGH | 3 | Hour | 0-23 |
| 47069 - LOW | 2 | Minute | 0-59 |
| 47070 - HIGH | 1 | Second | 0-59 |
| 47070 - LOW | 0 | Centi-Second | 0 (Always 0) |

DNP Freeze Interval - 1 register, 2 bytes.

| Registers | Byte | Name | Range |
|--------------|------|------|--------|
| 47071 - HIGH | 1 | Hour | Minute |
| 47071 - LOW | 0 | 0-48 | 0-59 |

7.32: Custom DNP Definition Block for Analog Input (Object 30) (47105-47360)

Line number: 2-byte unsigned integer

Line number and Point number will indicate the Analog Input value to be used for one of the point in Object 30.

Point number: 1-byte unsigned integer

Reserved: 1 byte. Reserved for future use.

DeadBand: 2-byte signed number (Percentage)

Range: +327.67% 327.6/ 8% -

Unit: 0.01%

If the Current Analog Value is different from the Previous value by more than Deadband percentage, the meter will generate Analog Change Event value if it is assigned to any Class.

Class assignments (Currently only bits 5,4 and 3 are used): 8-bit bitmap

When bit 5 is set, the Analog Change Event value will not be generated.

When bit 5 is clear, bit 4 and bit 3 will assign the Analog Change Event value to a Class.

| Class Assignments for Analog Change Event | | | |
|---|-------|-------|----------------|
| Bit 5 | Bit 4 | Bit 3 | Class Assigned |
| 0 | 0 | 0 | No Class |
| 0 | 0 | 1 | Class 1 |
| 0 | 1 | 0 | Class 2 |
| 0 | 1 | 1 | Class 3 |
| 1 | X | X | No Class |
| 1 | X | X | No Class |
| 1 | X | X | No Class |
| 1 | X | X | No Class |

Reserved: 1 byte. Reserved for future use.

7.33: Custom DNP Definition Block for Binary Counter (Object 20) (47361-47424)

Line number: 2-byte unsigned integer

Line number and Point number will indicate the Binary Counter value to be used for one of the point in Object 20.

Point number: 1-byte unsigned integer

Scaling: 1-byte unsigned integer

Range: 0-15

The meter has an 8-byte Binary Counter Value, while DNP can only give a 4-byte value. By using this scaling, the user can get the proper range of data. The scaling value represents the power of 10.

Delta Values: 4-byte unsigned integer

If the Current Binary Counter value is different from the Previous value more than Delta values, the Counter Change Event value will be generated if it is assigned to a Class.

Class assignments (Currently bits 5,4,3,2,1 and 0 are used): 8-bit bitmap

When bit 5 is set, the Counter Change Event value will not be generated.

When bit 5 is clear, bit 4 and bit 3 will assign the Counter Change Event value to a Class.

| Class Assignments for Counter Change Event | | | |
|--|-------|-------|------------------|
| Bit 5 | Bit 4 | Bit 3 | Class Assignment |
| 0 | 0 | 0 | No Class |
| 0 | 0 | 1 | Class 1 |
| 0 | 1 | 0 | Class 2 |
| 0 | 1 | 1 | Class 3 |
| 1 | X | X | No Class |
| 1 | X | X | No Class |
| 1 | X | X | No Class |
| 1 | X | X | No Class |

When bit 2 is set, the Frozen Counter Event value will not be generated.

When bit 2 is clear, bit 1 and bit 0 will assign the Frozen Counter Event value to a Class.

| Class Assignments for Frozen Counter Events | | | |
|---|-------|-------|----------------|
| Bit 2 | Bit 1 | Bit 0 | Class Assigned |
| 0 | 0 | 0 | No Class |
| 0 | 0 | 1 | Class 1 |
| 0 | 1 | 0 | Class 2 |
| 0 | 1 | 1 | Class 3 |
| 1 | X | X | No Class |
| 1 | X | X | No Class |
| 1 | X | X | No Class |
| 1 | X | X | No Class |

Reserved: 7 bytes. Reserved for future use.

7.34: Custom DNP Definition Block for Binary Input (Object 1) (47425-47456)

Line number: 2-byte unsigned integer

Line number and Point number indicate the Binary Input value used for 8 points in Object 1.

Point number: 1-byte unsigned integer

Class Assignments: 8-bit bitmap (1 byte). Bit 7, 6 and 5 will assign the Binary Input Change value to a Class. Bit 4 to bit 0 are not used.

| Class Assignments for Binary Input Change | | | |
|---|-------|-------|----------------|
| Bit 7 | Bit 6 | Bit 5 | Class Assigned |
| 0 | 0 | 0 | No Class |
| 0 | 0 | 1 | Class 1 |
| 0 | 1 | 0 | Class 2 |
| 0 | 1 | 1 | Class 3 |
| 1 | X | X | No Class |
| 1 | X | X | No Class |
| 1 | X | X | No Class |
| 1 | X | X | No Class |

Reserved: 4 bytes. Reserved for future use.

7.35: Custom DNP Definition Block for Binary Output (Object 10) (47457-47458)

Enable / Disable Relays (1-16) (2 bytes):

0: Relay disabled

1: Relay enabled

| Bits | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|--------|----|----|----|----|----|----|---|---|---|----|----|----|----|----|----|----|
| Relays | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

Enable / Disable Resets (17-24) (1 byte):

0: Reset disabled

1: Reset enabled

| Bit | Resets |
|-----|---|
| 15 | Log Reset |
| 14 | Maximum Reset |
| 13 | Minimum Reset |
| 12 | Energy Reset |
| 11 | Reset Time of Use Current Season and Current Month |
| 10 | Manual Waveform Capture |
| 9 | Reset KYZ Output Accumulations |
| 8 | Reset Unit to Boot Mode - Default Communications Settings |
| 7-0 | Reserved |

7.36: Custom DNP Definition Block for Global Values (47459-47463)

When the master requests data from the object, it can specify the variation in the request so the master can get the data formatted for its use. When the master asks for Variation 0, the slave meter can respond with any variation(s). This Programmable Setting holds the variations available for a Variation 0 request.

| Address | Object | Object Number | Variations Available for a Variation 0 Request |
|-------------|----------------------|---------------|--|
| 47459, High | Binary Input | 1 | 1,2 |
| 47459, Low | Binary Input Change | 2 | 1,2 |
| 47460, High | Binary Counter | 20 | 1,2,5,8 |
| 47460, Low | Frozen Counter | 21 | 1,2,5,8,9,10 |
| 47461, High | Counter Change Event | 22 | 1,2,5,8 |
| 47461, Low | Frozen Counter Event | 23 | 1,2,5,8 |
| 47462, High | Analog Input | 30 | 1,2,3,4 |
| 47463, High | Analog Change Event | 32 | 1,2,3,4 |

7.37: Registers 48641-48768 are not used by the Nexus® 1500 Meter.

7.38: Registers 48769-49024 are not used by the Nexus® 1500 Meter.

7.39: Registers 49025-49792 are not used by the Nexus® 1500 Meter.

7.40: External Digital Output Module Labels Block (49793-50176)

8 registers, 16 bytes.

Each relay, normally open, and normally closed can be named with 16 characters.

They are 4 of each and up to 4 modules.

7.41: Registers 50177-50268 are not used by the Nexus® 1500 meter.

7.42: Customizable Modbus Map Settings Block.

Using this block, you can customize up to 256 readings. All the readings that are customized in this block can be seen in the Customized Modbus Map Window Block (12289).

Line Number - 2 bytes.

Point Number - 1 byte.

Reserved - 1 byte. Currently not used.

You can select any Register or Group of Registers that has a Line Number and a Point Number from the Modbus Register Map. Those selections are used to create a customized grid of up to 256 readings in the Communicator EXT Device Profile.

Example:

In order to read 1 Cycle Phase A-N Voltage as Item Number 1 on your Customized Modbus Map, you would enter for Item 1:

Line Number 10 and Point Number 0. Refer to the Communicator Ext User Manual for details on the creation of your Customized Modbus Map.

7.43: Registers 50785-51154 are not used by the Nexus® 1500 Meter.

7.44: DNP LAN/WAN (51157-51195)

| DNP LAN/WAN Bitmap | | | | | | | |
|--------------------|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

- Mode - 1 byte unsigned integer.
- Bitmap Set - 8-bit bitmap.
- Bit 7: TCP Enable
A value of 0 means DNP over TCP listening point disabled.
A value of 1 means DNP over TCP listening point enabled.
- Bit 6: UDP Enable
A value of 0 means DNP over UDP end point disabled.
A value of 1 means DNP over UDP end point enabled.
- Bit 5: Validate Client Point
A value of 0 means No validation and any port is accepted.
A value of 1 means Validate connections against the first 1-4 entries.
- Bit 4: UDP Response Behavior
A value of 0 means Respond to Client Port.
A value of 1 means Respond to programmed UDP respond port.
- Bit 3 to Bit 0: Reserved
- UDP Addressing - 1 byte unsigned integer.
- Validate Connection Count - 1 byte unsigned integer.
- TCP Listen Port - Two byte unsigned integer. TCP listening port.
- UDP Listen Port - Two byte unsigned integer. UDP listening port.
- Valid IP Address 1,2,3,4 - Four 4 byte IP address. Each byte is 1 unsigned integer. These are IP addresses for validating TCP connections and UDP datagrams.
- Valid IP Subnet Mask 1,2,3,4 - Four 4 byte IP address. Each byte is unsigned integer. These are IP subnet masks for validating TCP connections and UDP datagrams.
- TCP Starting Valid Client Ports - Four 2 byte unsigned integers. These are Starting Client ports for validating TCP connections.
- TCP Ending Valid Client Ports - Four 2 byte unsigned integers. These are Ending Client ports for validating TCP connections.
- UDP Starting Valid Client Ports - Four 2 byte unsigned integers. These are Starting Client ports for validating UDP datagrams.
- UDP Ending Valid Client Ports - Four 2 byte unsigned integers. These are Ending Client ports for validating UDP datagrams.
- Multicast Group Address - Reserved for future use.

- UDP Respond Port - 2 byte unsigned integer. A value of 0 means respond to Client port. A value of 1 means respond to programmed UDP response port.

7.45: Registers 51196-51200 are not used by the Nexus® 1500 Meter.

7.46: Customizable Modbus Map Format Block (51201-51712)

- Using this block, you can customize up to 256 readings. All the readings that are customized in this block can be seen in the Customized Modbus Map Window Block (12289).

- Line Number - 2 bytes.
- Point Number - 1 byte.
- Reserved - 1 byte. Currently not used.

You can select any Register or Group of Registers that has a Line Number and a Point Number from the Nexus® Modbus Register Map. Those selections are used to create a customized grid of up to 256 readings in the meter's Communicator EXT Device Profile.

Example: In order to read 1 Cycle Phase A-N Voltage as Item Number 1 on your Customized Modbus Map, you would enter for Item 1: Line Number 10 and Point Number 0.

Refer to the *Communicator EXT User Manual* for details on creating a Customized Modbus Map.

7.47: Registers 51713-51738 are not used by the Nexus® 1500 Meter.

7.48: Waveform, Transient, and PQ Settings

RMS Set Points

The Set Points control at what RMS voltage or current above or below the Full Scale value a waveform capture or PQ event occurs. The values are given in percentage of Full Scale, where each count is equal to 0.01%. So for example:

| | |
|-------------------------|---------|
| Voltage P-N Full Scale: | 120v |
| Set Point Value: | 11070 |
| Set Point Percentage: | 110.70% |
| RMS Set Point: | 132.84v |

Each Set Point value is a 2 byte signed integer. The Below Set Point is used to configure sag detection, and the Above Set Point is used to configure swell detection.

Below is the table of Set Points:

| Set Point | Modbus Address |
|----------------------|----------------|
| Volts AN Below | 0xB198 |
| Volts BN Below | 0xB199 |
| Volts CN Below | 0xB19A |
| Volts AB Below | 0xB19B |
| Volts BC Below | 0xB19C |
| Volts CA Below | 0xB19D |
| Volts XN Below | 0xB19E |
| Volts AN Above | 0xB1A4 |
| Volts BN Above | 0xB1A5 |
| Volts CN Above | 0xB1A6 |
| Volts AB Above | 0xB1A7 |
| Volts BC Above | 0xB1A8 |
| Volts CA Above | 0xB1A9 |
| Volts XN Above | 0xB1AA |
| I _A Below | 0xB1B0 |
| I _B Below | 0xB1B1 |
| I _C Below | 0xB1B2 |
| I _N Below | 0xB1B3 |
| I _A Above | 0xB1B4 |
| I _B Above | 0xB1B5 |
| I _C Above | 0xB1B6 |
| I _N Above | 0xB1B7 |

Note: registers 0x7928 – 0x7929 must be set to zero for the Set Points to work.

RMS Waveform Sag and Swell Limit Enables

Enables or disables waveform capture on the specified channel for sags and swells. A value of 1 enables capture for sags and swells, a value of 0 disables capture. Both sags and swells must be enabled together.

Voltage Enables (register 0xB1B8)

| Bit # | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | | | XE | CE | BE | AE | NE | XN | CA | BC | AB | CN | BN | AN |

Current Enables (register 0xB1BA)

| Bit # | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|-------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | N | C | B | A |

Waveform Capture Count (register 0x7570-0x7571)

Controls the number of records captured when a waveform event occurs. Since the maximum size of a single waveform record is 180 cycles (apx 3 seconds at a nominal 60hz), to perform a larger capture you need to capture multiple records. The value is + 1,

so a value of 0 results in 1 record, a value of 10 results in 11 records, and so on. The maximum number of captures is 65525.

Waveform Capture Sample Rate (register 0x7574)

Controls the number of samples per nominal 60hz cycle stored in the waveform capture. Decreasing this can decrease the size of the record, allowing more captures. Additionally, the maximum number of Cycles per Capture is affected by the sample rate, as shown below:

| Value | Samples per 1/60 th of a second | Maximum Cycles per capture |
|-------|--|----------------------------|
| 0 | 16 | 180 |
| 1 | 32 | 180 |
| 2 | 64 | 180 |
| 3 | 128 | 180 |
| 4 | 256 | 120 |
| 5 | 512 | 60 |
| 6 | 1024 | 40 |

Compression Factor (0x758C) must be set to match.

Pre-Trigger Cycles (register 0x7575 – High Byte)

The number of cycles to be included in the waveform capture from prior to the triggering cycle. Must be between 1 and 179, and the sum of pre and post triggers must be <= the Max Cycles controlled by Sample Rate.

Post-Trigger Cycles (register 0x7575 – Low Byte)

The number of cycles to be included in the waveform capture after the triggering cycle. Must be between 1 and the Max Cycles – Pre-Trigger.

Internal Input Trigger Enables (register 0x7576)

Enables or disables waveform and pq capture on internal input triggers. A value of 1 enables triggers on that input, a value of 0 disables triggers on that input.

| Waveform Trigger Enable | | | | | | | | Power Quality Trigger Enable | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|------------------------------|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Transient Set Points (register 0x7578 - 0x757A)

The Transient Set Points control at what voltage magnitude a Transient capture will be triggered. Note that Transients are triggered by the sample value, not the cycle RMS. As such, the minimum allowed value for WYE hookup is 250%, and for DELTA hookup is 144.2%. The values are given in percentage of Full Scale, where each count is equal to 0.1%. So for example:

Voltage P-N Full Scale: 120v
Set Point Value: 3100
Set Point Percentage: 310.0%
Voltage Set Point: 372v

Each Set Point value is a 2 byte signed integer. Set Points are applied to both Positive and Negative Triggers. Below is the table of Set Points:

| Set Point | Modbus Address |
|-----------|----------------|
| Volts A | 0x7578 |
| Volts B | 0x7579 |
| Volts C | 0x757A |

Transient Enable Settings (register 0x757B)

Controls which channels Transients are triggered on.

| Bit # | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|-----------------|----|----|----|----|----|----------------|----------------|----------------|-------|---|---|---|---|---|----|----|
| Channel Enables | | | | | | | | | Modes | | | | | | | |
| | | | | | | V _C | V _B | V _A | | | | | | | M1 | M0 |

| M1 | Transient Mode |
|----|------------------|
| 0 | Phase to Neutral |
| 1 | Phase to Phase |

| M0 | Transient Enable |
|----|------------------|
| 0 | Disabled |
| 1 | Enabled |

Channel Enables controls which channels Transients are triggered on.

Transient Mode controls if the Phase to Neutral Voltages are used, or if the Phase to Phase voltages are used. Only one may be selected.

Transient Enable controls if Transient Capture is enabled at all. Note that if transients are enabled, the waveform channels selected (Waveform Channel List) must use the Transient Voltage channels (77-79).

Waveform Channel Selection Count (register 0x757C)

The number of channels to be included in a waveform capture. This doesn't have to be the same number of trigger channels.

Waveform Channel Selection List (register 0x757D - 0x758B)

The list of channels to be included in a waveform capture. Up to 15 channels may be selected, though the first channel must always be Channel 80 (High Speed Inputs). The list of channels do not have to be the same as the trigger channels. Each channel is a 2 byte ID, shown below:

| Channel Name | Channel ID |
|-----------------------|------------|
| High Speed Inputs | 80 |
| Volts AN | 0 |
| Volts BN | 1 |
| Volts CN | 2 |
| Volts AB | 3 |
| Volts BC | 4 |
| Volts CA | 5 |
| Volts XN | 6 |
| Volts NE | 36 |
| Volts AE | 32 |
| Volts BE | 33 |
| Volts CE | 34 |
| I _A | 37 |
| I _B | 38 |
| I _C | 39 |
| I _N | 40 |
| Volts Residual | 7 |
| I Residual | 8 |
| Transient Volts AN/AB | 77 |
| Transient Volts BN/BC | 78 |
| Transient Volts CN/CA | 79 |

Note: If Transients are enabled, the Transient Voltage channels (77-79) must be selected over the regular Waveform Voltage channels (0-5).

Waveform Compression Factor (register 0x758C)

Must be set to match the Waveform Sample Rate.

| Compression Factor Value | Samples per 1/60 th of a second |
|--------------------------|--|
| 0 | 16 |
| 1 | 32 |
| 2 | 64 |
| 3 | 128 |
| 4 | 256 |
| 5 | 512 |
| 6 | 1024 |

PQ Trigger Enables (register 0x758D - 0x758E)

Enables or disables PQ Event triggering on individual channels. A value of 1 enables triggering, a value of 0 disables triggering.

Voltage PQ Enables (register 0x758D)

| Bit # | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | | | XE | CE | BE | AE | NE | XN | CA | BC | AB | CN | BN | AN |

Current PQ Enables (register 0x758D)

| Bit # | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|-------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | N | C | B | A |

Transient Waveform Trigger Enables (register 0x758F)

Must match Transient Enable Settings.

| Bit # | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|-------|----|----|----|----|----|----|---|---|---|---|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | Vca | Vbc | Vab | Vcn | Vbn | Van |

Return Hysteresis Set Points (register 0x7800 - 0x781F)

Configures when a sag or swell event is considered to have returned to normal. For PQ Events, this triggers the return to normal event, signifying the end of a PQ Event.

Hysteresis values are given as a percentage adjustment to the Set Point, where each count is equal to 0.01% of Full Scale, offset towards nominal from the Set Point. This Hysteresis value will always be closer to the full scale value than the Set Point. Negative values are not allowed. For example, with swells:

Swell Set Point: 110.0%
 Swell Hysteresis: 2.0%
 Return Point: 108.0%

For example, with sags:

Sag Set Point: 90.0%
 Sag Hysteresis: 2.0%
 Return Point: 92.0%

Each Set Point value is a 2 byte signed integer. A value of 0% disables Hysteresis.

| Set Point | Modbus Address |
|----------------------|----------------|
| Volts AN Below | 0x7800 |
| Volts BN Below | 0x7801 |
| Volts CN Below | 0x7802 |
| Volts AB Below | 0x7803 |
| Volts BC Below | 0x7804 |
| Volts CA Below | 0x7805 |
| Volts XN Below | 0x7806 |
| Volts AN Above | 0x780C |
| Volts BN Above | 0x780D |
| Volts CN Above | 0x780E |
| Volts AB Above | 0x780F |
| Volts BC Above | 0x7810 |
| Volts CA Above | 0x7811 |
| Volts XN Above | 0x7812 |
| I _A Below | 0x7818 |
| I _B Below | 0x7819 |
| I _C Below | 0x781A |
| I _N Below | 0x781B |
| I _A Above | 0x781C |
| I _B Above | 0x781D |
| I _C Above | 0x781E |
| I _N Above | 0x781F |

U_{SR} Enables (register 0x7928 - 0x7929)

Both registers must be set to zero for Waveform Set Points to operate.

Chapter 8

Register Block Titles

- This chapter expands upon information listed in the Nexus® 1500 meter's Modbus Register Map (Chapter 2). "Register Block Titles" refers to a Register or Group of Registers in the Register Map that serve a particular purpose or function. Refer to the Table of Contents to find additional details and descriptions of the Modbus Register Map.

8.1: Device Identification Block (00001-00080)

- Description: Registers included in this block: Device Name, Firmware Variation Strings 0-7, Nexus® Communicator Boot Version Number, Nexus® Communicator Run-Time Version Number, Nexus® DSP Boot Version Number, Nexus® DSP Run-Time Version Number. (See 3.1, 3.2.)

8.2: Real Time Block (00081-00089)

- Description: Registers included in this block: On Time, Current Time, Current Day of the Week. (See 3.3, 3.4.)

On Time (00081-00084)

These Registers keep the Time of the meter when it is turned on. The format of the Registers follows the table below. Byte 0 indicates the high byte of the Register 00081 and the byte 7 indicates the low byte of Register 00084. These Registers are for Read Only.

| Byte | Range | Description |
|------|-------|-------------|
| 0 | 0-255 | Century |
| 1 | 0-99 | Year |
| 2 | 1-12 | Month |
| 3 | 1-31 | Day |
| 4 | 0-23 | Hour |
| 5 | 0-59 | Minute |
| 6 | 0-59 | Second |
| 7 | 0-99 | Centisecond |

Current Time (00085-00088)

These Registers keep the Current Time of the meter. These values are kept by an internal battery even when the meter is off. The format of the Registers follows the table above.

Current Day of the Week (00089)

This Register keeps the Current Day of the Week. The format follows the table on the next page.

| Value | Day of Week |
|-------|-------------|
| 0001H | Sunday |
| 0002H | Monday |
| 0003H | Tuesday |
| 0004H | Wednesday |
| 0005H | Thursday |
| 0006H | Friday |
| 0007H | Saturday |

■ Example: Resetting the Time on a meter.

For May 20, Century is 20 (14H). Year is 02. Month is 05. Day is 20 (14H). Hour is 15 (0FH). Minute is 45 (2DH). Second is 00. Centisecond is 00. Day is 0002H.

The following data is sent to the Nexus® meter address 1. Registers 00085 through 00089 are written sequentially in one request. Register 00089, Current Day of the Week, must be included in the request. (Refer to Chapter 1 for Function Code 1.)

0110005400050A140205140F2D00000002B44A

01 - Meter Address

10 - Function Code

0054 - Starting Address

0005 - Number of Registers

0A - Number of Bytes

140205140F2D00000002 - Actual data for Time and Date

B44A - Two-byte CRC Checksum

8.3: 1 Cycle Block (00090-00118)

■ Description: 1 Cycle Registers included in this block: Block Time Stamp, Phase A-N, B-N, C-N, Aux Voltage, Phase A, B, C Current, Measured Neutral Current, Calculated Neutral Current, Phase A-B, B-C, C-A Voltage, High Speed Input Delta and Current State. (See 3.3, 3.5, 3.6.)

Type F68 Secondary 1 Cycle RMS Voltage and Current

Length: 2 Register (4 bytes)

Range: 4,294,967,295 V,A / 0 V,A

Unit: 1/65536 V, A

These registers together are a four-byte unsigned integer where the first register contains the LSB word.

Example:

Address: 0x005D – 0x005E

Value: 0xE6D7 – 0x0077

4-byte unsigned integer (Hex): 0x0077E6D7

4-byte integer (decimal): 7,857,879

1/65536 V secondary: 119.902v

8.4: Tenth Second Block (00119-00175)

■ Description: Tenth Second Registers included in this block: Block Time Stamp, Phase A-N, B-N, C-N, Aux Voltage, Phase A, B, C Current, Measured Neutral Current, Phase A-B, B-C, C-A Voltage, Phase A, B, C VA, Three Phase VA, Phase A, B, C VAR, Three Phase VAR, Phase A, B, C Watts,

Three Phase Watts, Frequency, Phase A, B, C Power Factor, Three Phase Power Factor, Phase A-N Voltage to Aux Voltage Phase Angle. (See 3.3, 3.7, 3.8, 3.9.)

8.5: One Second Block (00176-00235)

- Description: One Second Registers included in this block: Block Time Stamp, Phase A-N, B-N, C-N, Aux Voltage, Phase A, B, C Current, Measured Neutral Current, Calculated Neutral Current, Phase A-B, B-C, C-A Voltage, Phase A, B, C VA, VA, Phase A, B, C VAR, Three Phase VAR, Phase A, B, C Watts, Three Phase Watts, Frequency, Phase A, B, C Power Factor, Three Phase Power Factor, Voltage Imbalance, Current Imbalance. (See 3.3, 3.7, 3.8, 3.10.)

8.6: Thermal Average Block (00236-00295)

- Description: Thermal Average Registers included in this block: Block Time Stamp, Phase A-N, B-N, C-N, Aux Voltage, Phase A, B, C Current, Measured Neutral Current, Calculated Neutral Current, Phase A-B, B-C, C-A Voltage, Phase A, B, C VA, VA, Phase A, B, C VAR, VAR, Phase A, B, C Watts, Watts, Freq, Phase A, B, C PF, PF, Voltage, Current Imbalance. (See 3.3, 3.7, 3.8, 3.10.)

8.7: Maximum Block (00296-00396)

- Description: Maximum (Thermal Average) Registers included in this block: Block Time Stamp, Phase A-N, B-N, C-N, Aux Voltage, Phase A, B, C Current, Measured Neutral Current, Calculated Neutral Current, Phase A-B, B-C, C-A Voltage, Phase A, B, C VA, VA, Phase A, B, C Positive VAR, Positive VAR, Phase A, B, C Negative VAR, Negative VAR, Phase A, B, C Positive Watts, Positive Watts, Phase A, B, C Negative Watts, Negative Watts, Freq, Phase A, B, C PF Quadrants 1, 2, 3, 4, PF Quadrants 1, 2, 3, 4, Voltage Imbalance, Current Imbalance, THD Phase A-N /A-B, B-N /B-C, C-N/C-A Voltage, THD Phase A, B, C Current, K-Factor Phase A, B, C Current, Coincident Thermal Average VAR for Max Pos Watt, Max Neg Watt. (See 3.3, 3.7, 3.8, 3.10.)

8.8: Minimum Block (00397-00497)

- Description: Minimum (Thermal Average) Registers included in this block: All of the Registers for Maximum Block but for Minimum Block. (See 3.3, 3.7, 3.8, 3.10.)

8.9: Maximum Time Stamp Block (00498-00737)

- Description: Maximum (Thermal Average) Time Stamp Registers included in this block: Phase A-N, B-N, C-N, Aux Voltage, Phase A, B, C Current, Measured Neutral Current, Calculated Neutral Current, Phase A-B, B-C, C-A Voltage, Phase A, B, C VA, VA, Phase A, B, C Positive VAR, Positive VAR, Phase A, B, C Negative VAR, Negative VAR, Phase A, B, C Positive Watts, Positive Watts, Phase A, B, C Negative Watts, Negative Watts, Freq, Phase A, B, C PF Quadrants 1, 2, 3, 4, PF Quadrants 1, 2, 3, 4, Voltage Imbalance, Current Imbalance, THD Phase A-N/A-B, B-N/B-C, C-N/C-A Voltage, THD Phase A, B, C Current, K-Factor Phase A, B, C Current. (See 3.3.)

8.10: Minimum Time Stamp Block (00738-00977)

- Description: Minimum (Thermal Average) Time Stamp Registers included in this block: All of the Registers for Maximum Time Stamp Block but for Minimum Block. (See 3.3.)

8.11: Energy Block (Secondary) (00978-01021)

- Description: Energy Registers included in this block: Time Stamp, VAhour, Positive, Negative VARhour, Positive , Negative Watthour. (See 3.3, 3.11, 3.12.)

8.12: Harmonic Magnitude Block (01022-01789)

- Description: Harmonic Magnitude Registers included in this block: Phase A-N/A-B, B-N/B-C, C-N/C-A Voltage for 0th through 127th Harmonic Magnitude, Phase A, B, C Current for 0th through 127th Harmonic Magnitude. (See 3.10.)

8.13: Harmonic Phase Block (01790-02557)

- Description: Harmonic Phase Registers included in this block: Phase A-N/A-B, B-N/B-C, C-N/C-A Voltage for 0th through 127th Harmonic Phase, Phase A, B, C Current for 0th through 127th Harmonic Phase. (See 3.9.)

8.14: THD/K-Factor Block (02558-02566)

- Description: THD/K-Factor Registers included in this block: Phase A-N/A-B, B-N/B-C, C-N/C-A Voltage THD, Phase A, B, C Current THD, Phase A, B, C Current K-Factor. (See 3.10.)

8.15: Harmonic Time Stamp Block (02567-02590)

- Description: Harmonic Time Stamp Registers included in this block: Phase A-N/A-B, B-N/B-C, C-N/C-A Voltage, Phase A, B, C Current. (See 3.3.)

8.16: Phase Angle Block (02591-02604)

- Description: Phase Angle Registers included in this block: Time Stamp, Phase A-N, B-N, C-N Voltage, Phase A, B, C Current, Phase A-B, B-C, C-A Voltage, Volt Phase Seq. (See 3.3, 3.9, 3.13.)

8.17: Block Window Average Block (02605-02683)

- Description: Block Window Average Registers included in this block: Time Stamp, Status, VA, VAR, Watt, Maximum VA, Positive VAR, Negative VAR, Positive Watt, Negative Watt, Minimum VA, Positive VAR, Negative VAR, Positive Watt, Negative Watt, Coincident VAR for Max Positive Watt, Neg Watt, Coincident VAR for Min Positive Watt, Neg Watt, VA Time Stamp, Time Stamp for Pos VAR, Neg VAR, Pos Watt, Neg Watt, Minimum VA Time Stamp, Time Stamp for Minimum Pos VAR, Neg VAR, Pos Watt, Neg Watt. (See 3.3, 3.7, 3.14.)

8.18: Rolling Window/Predictive Rolling Window Block (02684-02768)

- Description: Rolling Window/Predictive Rolling Average Registers included in this block: Time Stamp, Status, Predictive VA, VAR, Watt, VA, VAR, Watt, Maximum VA, Positive VAR, Negative VAR, Positive Watt, Negative Watt, Min VA, Positive VAR, Negative VAR, Positive Watt, Negative Watt, Coincident VAR for Max Positive Watt, Neg Watt, Coincident VAR for Min Positive Watt, Neg Watt, VA Time Stamp, Time Stamp for Pos VAR, Neg VAR, Pos Watt, Neg Watt, Min VA Time Stamp, Time Stamp for Min Pos VAR, Neg VAR, Pos Watt, Neg Watt. (See 3.3, 3.7, 3.14.)

8.19: Limit Block (02769-02773)

- Description: Limit Registers included in this block: Limit States, Value 1 Comparisons, 1-16, 17-32, Limits States, Value 2 Comparisons, 1-16, 17-32, Low Speed Inputs. (See 3.15, 3.16.)

8.20: Registers 02774-02841 are not used by the Nexus® 1500 meter.

8.21: Primary Accumulation Block (02842-02973)

- Description: Primary Accumulation Registers included in this block: Time Stamp, Rec Watthour (Q1+4), VAhour while Rec Watthour and Neg VARhour (Q1), Negative VARhour while Rec Watthour (Q1), VAhour while Rec Watthour and Pos VARhour (Q4), Pos VARhour while Rec Watthour (Q4), Delivered Watthour (Q2+3), VAhour while Del Watthour (Q2), VAhour while Del Watthour and Pos VARhour (Q3), Positive VARhour while Del Watthour (Q3), Received Watthour (Q1+4), VAhour while Rec Watthour and Neg VARhour (Q1), Neg VARhour while Rec Watthour (Q1), VAhour while Rec Watthour and Pos VARhour (Q4), Pos VARhour while Rec Watthour (Q4), Delivered Watthour (Q2+3), VAhour while Del Watthour and Neg VARhour (Q2), Neg VARhour while Del Watthour (Q2), VAhour while Del Watthour and Pos VARhour (Q3), Pos VARhour while Del Watthour (Q3), I^t Phase A, B, C, V^t Phase A, B, C. (See 3.3, 3.19, 3.20.)

8.22: Time of Use Period Time Stamp Block (02974-03040)

- Description: Time of Use Period Time Stamp Registers included in this block: Status, Prior Season Start Time, End Time, Prior Month Start Time, End Time, Current Season Start Time, End Time, Current Month Start Time, End Time, CT and PT Ratio Numerator for Prior Season, Prior Month, Current Season, Current Month, CT and PT Ratio Denominator for Prior Season, Prior Month, Current Season, Current Month. (See 3.3, 3.14.)

8.23: Time of Use Frozen Block (03041-03584)

- Description: Time of Use Frozen Registers included in all blocks: Received Watthour (Q1+4), VAhour (Q1), VARhour (Q1), VAhour (Q4), VARhour (Q4), Delivered Watthour (Q2+3), VAhour (Q2), VARhour (Q2), VAhour (Q3), VARhour (Q3), Peak Demand Rec Watt (Q1+4), Del Watt (Q2+3), Rec VAR (Q1+2), Del VAR (Q3+4), Coin. Demand VAR to Peak Demand Rec Watt, Del Watt, Peak Demand Rec Watt (Q1+4) Time Stamp, Del Watt (Q2+3) Time Stamp, Peak Demand Rec VAR (Q1+2) Time Stamp, Del VAR (Q3+4) Time Stamp. (See 3.3, 3.7, 3.20.)
 - Register 1 Block (03041)
 - Register 2 Block (03109)
 - Register 3 Block (03177)
 - Register 4 Block (03245)
 - Register 5 Block (03313)
 - Register 6 Block (03381)
 - Register 7 Block (03449)
 - Register 8 Block (03517)

8.24: Time of Use Frozen Total Block (03585-03652)

- Description: Time of Use Frozen Total Registers included in this block: Totals for all Registers above.

8.25: Time of Use Prior Month Register Block (03653-04196)

- Description: Time of Use Prior Month Registers included in all blocks: Received Watthour (Q1+4), VAhour (Q1), VARhour (Q1), VAhour (Q4), VARhour (Q4), Delivered Watthour (Q2+3), VAhour (Q2), VARhour (Q2), VAhour (Q3), VARhour (Q3), Peak Demand Rec Watt (Q1+4), Del Watt (Q2+3), Rec VAR (Q1+2), Del VAR (Q3+4), Coin. Demand VAR to Peak Demand Rec Watt, Del Watt, Peak Demand Rec Watt (Q1+4) Time Stamp, Del Watt (Q2+3) Time Stamp, Peak Demand Rec VAR (Q1+2) Time Stamp, Del VAR (Q3+4) Time Stamp. (See 3.3, 3.7, 3.20.)

Register 1 Block (03653)

Register 2 Block (03721)

Register 3 Block (03789)

Register 4 Block (03857)

Register 5 Block (03925)

Register 6 Block (03993)

Register 7 Block (04061)

Register 8 Block (04129)

8.26: Time of Use Prior Month Total Block (04197-04264)

- Description: Time of Use Prior Month Total Registers included in this block: Totals for all Registers above.

8.27: Time of Use Active Register Block (04265-04808)

- Description: Time of Use Active Registers included in all blocks: Received Watthour (Q1+4), VAhour (Q1), VARhour (Q1), VAhour (Q4), VARhour (Q4), Delivered Watthour (Q2+3), VAhour (Q2), VARhour (Q2), VAhour (Q3), VARhour (Q3), Peak Demand Rec Watt (Q1+4), Del Watt (Q2+3), Rec VAR (Q1+2), Del VAR (Q3+4), Coin. Demand VAR to Peak Demand Rec Watt, Del Watt, Peak Demand Rec Watt (Q1+4) Time Stamp, Del Watt (Q2+3) Time Stamp, Peak Demand Rec VAR (Q1+2) Time Stamp, Del VAR (Q3+4) Time Stamp. (See 3.3, 3.7, 3.20.)

Register 1 Block (04265)

Register 2 Block (04333)

Register 3 Block (04401)

Register 4 Block (04469)

Register 5 Block (04537)

Register 6 Block (04605)

Register 7 Block (04673)

Register 8 Block (04741)

8.28: Time of Use Active Total Block (04809-04876)

- Description: Time of Use Active Total Registers included in this block: Totals for all Registers above.

8.29: Time of Use Current Month Register Block (04877-05420)

- Description: Time of Use Current Month Registers included in all blocks: Received Watthour (Q1+4), VAhour (Q1), VARhour (Q1), VAhour (Q4), VARhour (Q4), Delivered Watthour (Q2+3), VAhour (Q2), VARhour (Q2), VAhour (Q3), VARhour (Q3), Peak Demand Rec Watt (Q1+4), Del Watt (Q2+3), Rec VAR (Q1+2), Del VAR (Q3+4), Coin. Demand VAR to Peak Demand Rec Watt, Del Watt, Peak Demand Rec Watt (Q1+4) Time Stamp, Del Watt (Q2+3) Time Stamp, Peak Demand Rec VAR (Q1+2) Time Stamp, Del VAR (Q3+4) Time Stamp. (See 3.3, 3.7, 3.20.)

Register 1 Block (04877)

Register 2 Block (04945)

Register 3 Block (05013)

Register 4 Block (05081)

Register 5 Block (05149)

Register 6 Block (05217)

Register 7 Block (05285)

Register 8 Block (05353)

8.30: Time of Use Current Month Total Block (05421-05488)

- Description: Time of Use Current Month Total Registers included in this block: Totals for all Registers above.

8.31: Time of Use Frozen Label Block (05489-05552)

- Description: Time of Use Frozen Label Registers included in this block: Reg. Labels 1-8.

8.32: Time of Use Prior Month Label Block (05553-05616)

- Description: TOU Prior Month Label Registers in this block: Register Labels 1-8. (See 3.2.)

8.33: Time of Use Active Label Block (05617-05680)

- Description: TOU Active Label Registers in this block: Register Labels 1-8. (See 3.2.)

8.34: Time of Use Current Month Label Block (05681-05744)

- Description: TOU Current Month Label Registers in this block: Register Labels 1-8. (See 3.2.)

8.35: Internal Input Pulse Accumulation Block (05745-05796)

- Description: Internal Input Pulse Accumulation Registers included in this block: Time Stamp, Scaled Pulse Accumulations Internal Inputs 1-8, Scaled Pulse Accumulations 1-4. (See 3.3, 3.40.)

8.36: Pulse Accumulation Block Window Average / Maximum Block (05797-05945)

- Description: Pulse Accumulation Block Window Average / Maximum Registers included in this block: Time Stamp, Status, Average Internal Inputs 1-8, Average Aggregation 1-4, Maximum Average Internal Inputs 1-8, Maximum Average Aggregation 1-4, Maximum Internal Input Time Stamp 1-8, Maximum Average Aggregation Time Stamp 1-4. (See 3.3, 3.14, 3.40.)

8.37: Temperature (05946)

■ Description: Nexus® meter's Internal Temperature Register is in this block. (See 3.33.)

8.38: Registers 05947-005978 are not used by the Nexus®1500 meter.

8.39: Limit Combination Block (05979-05980)

■ Description: Limit Combination Registers included in this block: Limit States, Combinations 1-16, 17-32. (See 3.15.)

8.40: Relay Logic Block (05981-06014)

■ Description: Relay Logic Registers included in this block: Time Stamp, States, Inputs 1-8, Relays 1-16, States, Gates A-G, Relays 1-16, Delay Timer, Relay 1/2 - 15/16, Relays 1-16 for Desired Relay States, Shadowed Relay States, Confirmed Relay States, Valid Flags for Confirmed Relay States, Locked Relays, Locked Relay States.

(See 3.34).

8.41: Reset Time Block (06015-06038)

■ Description: Reset Time Registers included in this block: Time Stamp, Max Time Stamp, MinTime Stamp, Energy Time Stamp, Current Season / Month TOU Time Stamp. (See 3.3.)

8.42: Miscellaneous Flags Block (06039)

■ Description: The Miscellaneous Flags Register has 2 bytes. Each byte has eight bits. The bits in these bytes are associated with various miscellaneous functions as follows:

| Bit | Point | Meaning |
|----------|-------|-----------------------|
| 15 (MSB) | 0 | NVRAM Battery Status1 |
| 4-1 | 1-14 | Undefined |
| 0 (LSB) | 15 | Undefined |

NVRAM Battery Status

A value of '0' indicates that the battery is OK; a value of '1' indicates that the battery is not OK. Battery Status is reevaluated on power up and approximately every 24 hours after power up. Example: Register 06039, Miscellaneous Flags, might contain the data in the table below.

| Address | 06039 | | | | | | | | | | | | | | | |
|----------------|-----------------------|---|---|---|---|---|---|---|-----|---|----|----|----|----|----|----|
| Value | 8000H | | | | | | | | | | | | | | | |
| Bytes | 80H | | | | | | | | 00H | | | | | | | |
| Bits | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Point | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Interpretation | NVRAM Battery is Low. | | | | | | | | | | | | | | | |

8.43: Registers 06040-06096 are not used by the Nexus® 1500 meter.

8.44: KYZ Output Accumulation Block (06097-06110)

■ Description: KYZ Output Accumulation Registers included in this block: KYZ Output Accumulation Block Time Stamp, KYZ Output Accumulation Relay 1/Pulse 1 LED, KYZ Output Accumulation Relay 2/Pulse 2 LED, KYZ Output Accumulation Relay 3, KYZ Output Accumulation Relay 4. (See 3.3, 3.18.)

8.45: Registers 06111-06113 are not used by the Nexus® 1500 meter.

8.46: Flicker Status Block (06114-06126)

■ Description: Flicker Status Registers included in this block: Flicker Status Block Time Stamp, Flicker Start Time, Flicker End Time, Flicker Status. (See 3.3, 3.14.)

8.47: Instantaneous Flicker Block (06127-06136)

■ Description: Instantaneous Flicker Registers included in this block: Instantaneous Flicker Block Time, Instantaneous Flicker V_{AN} , V_{BN} , V_{CN} . (See 3.3, 3.7.)

8.48: Short Term Flicker Block (06137-06186)

■ Description: Short Term Flicker Registers included in this block: Short Term Flicker Block Time, Short Term Flicker V_{AN} , V_{BN} , V_{CN} , Maximum Short Term Flicker V_{AN} , V_{BN} , V_{CN} , Minimum Short Term Flicker V_{AN} , V_{BN} , V_{CN} , Short Term Interval End Time Stamp, Max Short Term Flicker V_{AN} , V_{BN} , V_{CN} Time Stamps, Min Short Term Flicker V_{AN} , V_{BN} , V_{CN} Time Stamps. (See 3.3, 3.7.)

8.49: Long Term Flicker Block (06187-06236)

■ Description: Long Term Flicker Registers included in this block: Long Term Flicker Block Time, Long Term Flicker V_{AN} , V_{BN} , V_{CN} , Maximum Long Term Flicker V_{AN} , V_{BN} , V_{CN} , Minimum Long Term Flicker V_{AN} , V_{BN} , V_{CN} , Long Term Interval End Time Stamp, Maximum Long Term Flicker V_{AN} , V_{BN} , V_{CN} Time Stamps, Minimum Long Term Flicker V_{AN} , V_{BN} , V_{CN} Time Stamps. (See 3.3, 3.7.)

8.50: Additional Energy Block (06237-06392)

■ Description: Additional Energy Registers included in this block: Additional Energy Block Time, Quadrants 1, 4, 2, 3 Watthour Secondary, Quadrant 1 Vahour, VARhour Secondary, Quadrant 4 Vahour, VARhour Secondary, Quadrant 2 Vahour, VARhour Secondary, Quadrant 3 Vahour, VARhour Secondary, Quadrants 1, 4, 2, 3 Watthour Primary, Total Vahour Primary (Quadrants 1+2+3+4), Positive VARhour (Quadrants 1+2) Primary, Negative VARhour (Quadrants 3+4) Primary, Negative VARhour Primary, Quadrant 1, 4, 2, 3 Watthour Secondary, Quadrant 1 Vahour, VARhour Secondary, Quadrant 4 Vahour, VARhour Secondary, Quadrant 2 Vahour, VARhour Secondary, Quadrant 3 Vahour, VARhour Secondary, Quadrants 1, 4, 2, 3 Watthour Primary, Total Vahour (Quadrants 1+2+3+4) Primary, Positive VARhour (Quadrants 1+2) Primary, Negative VARhour (Quadrants 3+4) Primary. (See 3.3, 3.19, 3.20.)

8.51: Energy and Pulses in the Interval Block (06393-006488)

■ Description: Energy and Pulses in the Interval Registers included in this block: Energy and Pulses in the Interval Block Time Stamp, Total Vahour (Quadrants 1+2+3+4) in the Interval Secondary, Positive VARhour (Quadrants 1+2) in the Interval Secondary, Negative VARhour (Quadrants 3+4) in the Interval Secondary, Positive Watthour (Quadrants 1+4) in the Interval Secondary, Negative Watthour (Quadrants 2+3) in the Interval Secondary, Positive Watthour (Quadrants 1+4) in the Interval Secondary, Negative Watthour (Quadrants 2+3) in the Interval Secondary, Positive Watthour (Quadrants 1+4) in the Interval Primary, Quadrant 1 Vahour, VARhour in the Interval Primary, Quadrant 4 Vahour, VARhour in the Interval Primary, Negative Watthour (Quadrants 2+3) in the Interval Primary, Quadrant 2 Vahour, VARhour in the Interval Primary, Quadrant 3 Vahour, VARhour in the Interval Primary, I²t Phase A, B, C in the Interval Primary, V²t Phases A, B, C in the Interval Primary, Pulse Accumulation Internal Inputs 1-8 in the Interval Scaled, Pulse Accumulation 1-4 in the Interval Scaled, Quadrants 1, 4, 2, 3 Watthour in the Interval Secondary, Quadrant 1 Vahour, VARhour in the Interval Secondary, Quadrant 4 Vahour, VARhour in the Interval Secondary, Quadrant 2 Vahour, VARhour in the Interval Secondary, Quadrant 3 Vahour, VARhour in the Interval Secondary, Quadrants 1, 4, 2, 3 Watthour in the Interval Primary, Total Vahour(Quadrants 1+2+3+4) in the Interval Primary, Positive VARhour (Quadrants 1+2) in the Interval Primary, Negative VARhour (Quadrants 3+4) in the Interval Primary, KYZ Pulse Output in the Interval Relays 1-4, Pulse 1 and 2 LEDs. (See 3.3, 3.18, 3.57.)

8.52: Flicker Countdown Block (06489-006490)

■ Description: Flicker Countdown Registers included in this block: Short Term Flicker Countdown, Long Term Flicker Countdown. (See 3.56.)

8.53: Cumulative Demand Block (06491-006502)

■ Description: Cumulative Demand Registers included in this block: Cumulative Demand Block Time Stamp, Positive Watt (Quadrants 1+4) Cumulative Demand, Negative Watt (Quadrants 2+3) Cumulative Demand, Positive Watt (Quadrants 1+4) Continuous Cumulative Demand, Negative Watt(Quadrants 2+3) Continuous Cumulative Demand. (See 3.3, 3.18.)

8.54: Time of Use Active Cumulative Demand Block (06503-006538)

■ Description: Time of Use Active Cumulative Demand Registers included in this block: TOU Active Register 0-7 Cumulative Demand Q1 + Q4 Watt and Q2 + Q3 Watt, TOU Active Totals Cumulative Demand Q1 + Q4 and Q2 + Q3 Watt. (See 3.18.)

8.55: Time of Use Current Month Cumulative Demand Block (06539-006574)

■ Description: Time of Use Current Month Cumulative Demand Registers included in this block: TOU Current Month Register 0-7 Cumulative Demand Q1 + Q4 Watt and Q2 + Q3 Watt, TOU Current Month Totals Cumulative Demand Q1 + Q4 and Q2 + Q3 Watt. (See 3.18.)

8.56: TOU Active Continuous Cumulative Demand Block (06575-06610)

- Description: Time of Use Active Continuous Cumulative Demand Registers included in this block: TOU Active Register 0-7 Continuous Cumulative Demand Q1 + Q4 Watt and Q2 + Q3 Watt, TOU Active Totals Continuous Cumulative Demand Q1 + Q4 and Q2 + Q3 Watt. (See 3.18.)

8.57: TOU Current Month Continuous Cumulative Demand Block (06611-06646)

- Description: Time of Use Current Month Continuous Cumulative Demand Registers included in this block: TOU Current Month Register 0-7 Continuous Cumulative Demand Q1 + Q4 Watt and Q2 + Q3 Watt, TOU Current Month Totals Continuous Cumulative Demand Q1 + Q4 and Q2 + Q3 Watt. (See 3.18.)

8.58: Log Index Block (06647-06664)

- Description: This register contains a 2-byte MSB unsigned integer, which represents the First of Last Index for a given Log. First Indexes represent the Index of the First (Oldest) record in a log. Last Indexes represent the Index of the Last (Newest) record in a log. The value of 0x0FFFF for the Last Index indicates that the log is empty.

8.59: Uncompensated and Q Block (06665-06670)

- Description: Uncompensated register readings are the readings to which Transformer Loss Compensation is not applied. Q Hour readings are 60 degree-shifted hour readings from Watt hour readings. VAR hour readings are 90 degree-shifted hour readings from Watt hour readings.

8.60: Scaled Energy Block (06908-07829)

- Description: Energy readings in Nexus® meters have Watt-hour, VAR-hour and VA-hour as base units. In the real world, kilo-, mega- and giga- units are used more frequently. Therefore, Nexus® meters have scaled energy readings. This scale can be modified using Communicator EXT software.

| | |
|--------|---|
| Length | 2 Registers (4 bytes) |
| Range | 99 / 0 through 999,999,999 / 0 (variable, 2-9 digits) |
| Unit | 10 ⁻⁷ through 10 ⁶ units (variable) |

This register contains a 4-byte MSB signed integer. The range and resolution of a given reading is controlled by programmable Scaled Energy Settings, which govern both the Range of the reading (from 2 to 9 digits) and the Units of the reading (from 7 decimal places of Wh (10⁻⁷) to no decimal places of MWh (10⁶). NOTE: See section 3.64 and 3.65 for details.

8.61: Total Average Power Factor Block (07830-07859)

- Description: This block keeps the Total Average Power Factor Values. Power Factor Values can be calculated using Watt, VAR and VA. Total Average Power Factor values will be calculated by Wh, VAR and VAh.

8.62: Reset Active Time of Use Time Stamp (07860-07863)

- Description: This register holds the Time Stamp when Active TOU Time is reset. The format follows the Time Stamp F3, section 3.3.

8.63: Negative Maximum Pulse Aggregation Average Block (07864-07895)

- Description: Negative Maximum Average Aggregation 1-4 and Negative Maximum Average Aggregation Time Stamp 1-4 registers are included in this block. Maximum Average Aggregation 1-4 registers in Pulse Accumulation Block Window Average/Maximum Block (05797-05945) will hold only positive values.

8.64: Scratchpad Block (08193 - 08320)

- Description: Scratchpad Registers 08193 - 08320 included in this block. The 128 Registers in the Scratchpad Block are for temporary storage of information. At the user's discretion, data may be written to Registers and then read back.

Example: Using one port, write energy readings from other devices. Those energy readings can be read through another port.

8.65: Master Device Data Block (08449-08704)

- Description: These registers are used as a Scratch Pad between the Software and the Network Card or Modem Card. These registers are not for polling by the users.

8.66: Customized Modbus Block (12289-14336)

- Description: All the readings in the Customizable Modbus Map Settings Block (50273) can be read in this block. The format of the readings follows each individually assigned reading.

8.67: Enhanced Factory Settings Block (16385-24576)

- Description: These registers are reserved for future additional factory settings information. Currently, nothing is defined in these registers.

8.68: Enhanced Programmable Settings Block (24577-32768)

- Description: These registers are reserved for future additional Programmable Settings information. Currently, nothing is defined in these registers.

8.69: Time of Use Calendar Header Block (34817-34918)

- Description: TOU Calendar Registers included in this block: Modification Time Stamp & Cal Year for Years 1-20, Header Status, Year Selection Status. (See 3.3, 3.21, 3.31, 3.32.)

8.70: Time of Use Calendar Block (34919-35800)

- Description: Time of Use Calendar Registers included in all blocks: Modification Time Stamp, Calendar Year, Profile for 2-Day Segments for the Whole Calendar Year (Jan1/Jan2 Profile), Profile Status, Profile Register for

8.71: Time of Use Upload Calendar Block (36607-36736)

- Description: Time of Use Upload Calendar Window Registers included in this block: Locked to Port, Sequence Status, ID, Data, Checksum. (See 3.27 - 3.30, 3.43.)

8.72: Historical Log 1 Snapshot Header (36865-36882)

- Description: Historical Log 1 Snapshot Registers included in this block:

Memory Size

4-byte unsigned integers representing the amount of memory, in bytes, allocated to the log.

Record Size

2-byte integers representing the size, in bytes, of a record in the log.

First Index

2-byte unsigned integers representing the index of the first (oldest) record in the log.

Last Index

2-byte unsigned integers representing the index of the last (newest) record in the log. The value 0xFFFF indicates that the log is empty.

First Time Stamp

These Registers (8 bytes) hold the time stamp from the first (oldest) record in the log.

| Time Stamp Bytes | | |
|------------------|-------|-------------|
| Byte | Range | Description |
| 0 | 0-255 | Century |
| 1 | 0-99 | Year |
| 2 | 1-12 | Month |
| 3 | 1-31 | Day |
| 4 | 0-23 | Hour |
| 5 | 0-59 | Minute |
| 6 | 0-59 | Second |
| 7 | 0-99 | Centisecond |

Last Time Stamp

These Registers hold the Time Stamp from the last (newest) record in the log. The byte order and description are the same as for the First Time Stamp.

Valid Bitmap

These Registers hold the bit flags indicating whether the Nexus recognizes the lines in the Historical Log Settings Block (the block at Register 45205). The first bit represents the validity of the Data Pointer in the Historical Log Settings. A value of 1 means the Data Pointer is acceptable and can be stored. A value of 0 means that the Data Pointer is invalid or unrecognized and not able to be stored.

Max Records

2-byte unsigned integer representing the total number of records the log is capable of holding. In order to maintain a one-for-one relationship in parallel logs, the maximum number of records that a log can store is defined by the log that holds the fewest records. Logs capable of holding more records are restricted.

8.73: Historical Log 2 Snapshot Header (36929-36946)

- Description: Historical Log 2 Snapshot Registers included in this block: The same as Log 1 above.

8.74: Limit Trigger Log Header (36993-37010)

- Description: Limit Trigger Log Registers included in this block:

Valid Bitmap

These Registers hold the bit flags indicating whether the meter recognizes the lines in the Limit Settings Block (the block at Register 45077). The first bit represents the validity of the Data Pointer in the Limit Settings. A value of 1 means the Data Pointer is acceptable and can be stored. A value of 0 means that the Data Pointer is invalid or unrecognized and not able to be stored. Only 32 bits are used. See Registers 36865 to 36882 for other registers.

8.75: Limit Snapshot Log Header (37057-37074)

- Description: Limit Snapshot Log Registers included in this block: See Registers 36865-36882 and 36993-37010.

8.76: Digital Input Log Header (37121-37138)

- Description: Digital Input Log Registers included in this block: See Registers 36865-36882.

8.77: Digital Input Snapshot Log Header (37185-37202)

- Description: Digital Input Snapshot Log Registers included in this block: See Regs. 36865-36882.

8.78: Digital Output Log Header (37249-37266)

- Description: Digital Output Log Registers included in this block: See Registers 36865-36882.

8.79: Digital Output Snapshot Log Header (37313-37330)

- Description: Digital Output Snapshot Log Registers included in this block: See Registers 36865-36882.

8.80: Flicker Log Header (37377-37394)

- Description: Currently not used.

8.81: Waveform Trigger Log Header (37441-37458)

- Description: Waveform Trigger Log Registers included in this block: See Registers 36865-36882.

8.82: System Event Log Header (37505-37522)

Memory Size: 4-byte unsigned integers representing the amount of memory, in bytes, allocated to the log.

Record Size: 2-byte unsigned integers representing the size, in bytes, of a record in the log.

First Index: 2-byte unsigned integers representing the Index of the First (Oldest) record in the log.

Last Index: 2-byte unsigned integers representing the Index of the Last (Newest) record in the log. The value 0x0FFFF indicates that the log is empty.

First Time Stamp: These registers (8 bytes) hold the Time Stamp from the First (Oldest) record in the log.

| Time Stamp Bytes | | |
|------------------|-------|-------------|
| Byte | Range | Description |
| 0 | 0-255 | Century |
| 1 | 0-99 | Year |
| 2 | 1-12 | Month |
| 3 | 1-31 | Day |
| 4 | 0-23 | Hour |
| 5 | 0-59 | Minute |
| 6 | 0-59 | Second |
| 7 | 0-99 | Centisecond |

Last Time Stamp: These registers hold the Time Stamp from the Last (Newest) Record in the log. The byte order and description are the same as for the First Time Stamp.

Valid Bitmap: Undefined.

Max Records: A 2-byte unsigned integer represents the total number of records the log is capable of holding. In order to maintain a one-for-one relationship in parallel logs, the maximum number of records that a log can hold is defined by the log that holds the fewest records. Logs capable of holding more records are restricted.

8.83: Waveform Samples Log Header (37569-37586)

- Description: Waveform Samples Log Registers included in this block: See Registers 36865-36882.

8.84: PQ (CBEMA) Log Header (37633-37650)

- Description: PQ (CBEMA) Log Registers included in this block: See Registers 36865-36882.

8.85: Registers 37697-37714 are not used by the Nexus® 1500 Meter

8.86: External Device Information Block Header (37761-37778)

- Description: External Device Information Registers included in this block:

Memory Size: A 4-byte unsigned integer representing the amount of memory, in bytes, allocated to External Device Information Blocks. This memory is allocated from RAM, not NVRAM.

Record Size: An unsigned integer representing the size, in bytes, of an External Device Info Block.

First Index: An unsigned integer representing the Index of the First External Device Info Block.

Last Index: An unsigned integer representing the Index of the Last External Device Info Block.

First Time Stamp: Since External Device Info Blocks are not recorded sequentially, these Registers have no meaning.

Last Time Stamp: Since External Device Info Blocks are not recorded sequentially, these Registers have no meaning.

Valid Bitmap: These Registers hold the bit flags to indicate the validity of individual External Device Info Blocks. The first bit (high order bit in Register 37774) represents the validity of the First External Device Info Block. The last bit (lowest order bit in Register 37777) represents the validity of the Last External Device Info Block. A value of 1 means that the External Device was found and the meter successfully received all of the Info Block for the External Device. A value of 0 means that the External Device was not found, or errors have occurred while trying to retrieve the Info Block or that no device is programmed for this slot.

Max Records: This Register holds an unsigned integer representing the total number of records the log can hold.

8.87: External Device Programming Block Header (37825-37842)

- Description: External Device Programming Registers included in this block:

Memory Size: These Registers are a 4-byte unsigned integer representing the amount of memory, in bytes, allocated to External Device Programming Blocks. This memory is allocated from RAM, not NVRAM.

Record Size: This Register is an unsigned integer representing the size, in bytes, of an External Device Programming Block.

First Index: An unsigned integer representing the Index of the First External Device Programming Block.

Last Index: An unsigned integer representing the Index of the Last External Device Programming Block.

First Time Stamp: Since External Device Programming Blocks are not recorded sequentially, these Registers have no meaning.

Last Time Stamp: Since External Device Programming Blocks are not recorded sequentially, these Registers have no meaning.

Valid Bitmap: These Registers hold the bit flags to indicate the validity of individual External Device Programming Blocks. The first bit (high order bit in Register 37838) represents the validity of the First External Device Programming Block. The last bit (lowest order bit in Register 37841) represents the validity of the Last External Device Programming Block. A value of 1 means that the External Device was found and the meter successfully received all of the Programming Block for the External Device. A value of 0 means that the External Device was not found, or errors have occurred while trying to retrieve the Programming Block or that no device is programmed for this slot.

Max Records: This Register holds an unsigned integer representing the total number of records the log is capable of holding.

8.88: Device History Block Header (37889-37906)

- Description: Device History Block currently not used. This Register holds an unsigned integer representing the total number of records the log is capable of holding.

8.89: Direct Memory Access Header (37953-37970)

- Description: Direct Memory Access currently not used.

8.90: Window Index Block (38145-38162)

- Description: Window Index Registers included in this block:

Historical Log 1 (38145): When read, this Register returns the Window Index for Historical Log 1 to access Historical Log 1 on this port. When written, this Register sets the Index used by the Historical Log 1 Window to access Historical Log 1 on this port. Each port accesses a separate, independent index through this Register, allowing all four ports to access different areas of Historical Log 1 at the same time.

When a value other than 0x0FFFF is written to this Register, the index is updated. If the Window Mode for this log indicates a Paused Mode (0x00000 or 0x00001 in Register 38209), Historical Log 1 is paused, preventing the addition of new records while the log is being accessed. A 30-second timer is initiated on these writes. Should the timer run out (a new index is not written within 30 seconds), Historical Log 1 will be allowed to continue logging.

When a value of 0x0FFFF is written to this Register, it signifies that the port is finished accessing Historical Log 1, the 30-second timer is canceled and Historical Log 1 will be allowed to continue logging.

Should multiple ports access the same log simultaneously, the log will be paused while either 30-second timer is running. The log will be allowed to continue logging only when both ports time-out or write 0x0FFFF to their Index Register.

Historical Log 2 (38146): When read, this Register returns the Window Index for Historical Log 2 to access Historical Log 2 on this port. Functionality follows the Historical Log 1 Window Index (38145).

Limit Trigger Log (38147): When read, this Register returns the Index used by the Limit Trigger Log Window to access Limit Trigger Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

Limit Snapshot Log (38148): When read, this Register returns the Index used by the Limit Snapshot Log Window to access Limit Snapshot Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

Digital Input Log (38149): When read, this Register returns the Index used by the Digital Input Log Window to access Digital Input Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

Digital Input Snapshot Log (38150): When read, this Register returns the Index used by the Digital Input Snapshot Log Window to access Digital Input Snapshot Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

Digital Output Log (38151): When read, this Register returns the Index used by the Digital Output Log Window to access Digital Output Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

Digital Output Snapshot Log (38152): When read, this Register returns the Index used by the Digital Output Snapshot Log Window to access Digital Output Snapshot Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

Flicker Log (38153): When read, this Register returns the Index used by the Flicker Log Window to access Flicker Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

Waveform Trigger Log (38154): When read, this Register returns the Index used by the Waveform Trigger Log Window to access Waveform Trigger Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

Register 38155 is not currently used.

Waveform Samples Log (38156): When read, this Register returns the Index used by the Waveform Samples Log Window to access Waveform Samples Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

PQ Log (38157): When read, this Register returns the Index used by the PQ Log Window to access PQ Log on this port. Functionality follows the Historical Log 1 Window Index (38145).

External Device Info Block (38159): When read, this Register returns the Index used by the External Device Info Block Window to access External Device Info Blocks on this port. When written, this Register sets the Index used by the External Device Info Block Window to access External Device Info Blocks on this port. Each port accesses a separate, independent index through this Register, allowing all four ports to access different External Device Info Blocks at the same time.

External Device Programming Block (38160): When read, this Register returns the Index used by the External Device Programming Block Window to access External Device Programming Blocks on this port. When written, this Register sets the Index used by the External Device Programming Block Window to access External Device Programming Blocks on this port. Each port accesses a separate, independent index through this Register, allowing all four ports to access different External Device Programming Blocks at the same time.

Device History Block (38160) - Currently not used.

Direct Memory Access (38161) - Currently not used.

8.91: Window Mode Block (38209-38226)

- Description: Window Mode Registers included in this block:

Historical Log 1 (38209): When read, this Register returns the Mode used by the Historical Log 1 Window to access Historical Log 1 on this port. When written, this Register sets the Mode used by the Historical Log 1 Window to access Historical Log 1 on this port. Each port accesses a separate, independent Mode through this Register, allowing all four ports to access Historical Log 1 in different modes.

Currently, the Mode Register defines the following Modes: Paused Download Mode (0x00000), Paused Time Stamp Mode (0x00001), Running Download Mode (0x00002) and Running Time Stamp Mode (0x00003).

In Download Modes (0x00000 and 0x00002), the Historical Log 1 Window accesses consecutive 128-byte blocks of the Historical Log 1. When the Index = 0x00000, the first 128 bytes of the log are readable in the window; when the Index = 0x00001, the second 128 bytes of the log are readable in the window, and so on.

The designation “first 128 bytes of the log” is a physical description based on the absolute addresses of the memory allocated to the log. The first (oldest) record in the log may not be located at the beginning of the log.

In Time Stamp Modes (0x00001 and 0x00003), the Historical Log 1 Window accesses the Time Stamps of the records in the Historical Log 1 in blocks of 16 Time Stamps at a time. When the Index = 0x00000, the Time Stamps of the first 16 records (records 0-15) in the log are readable in the window; when the Index = 0x00001, the Time Stamps of the second 16 records (records 16-31) in the log are readable in the window, and so on.

The designation “first 16 records of the log” is a physical description based on the absolute addresses of the memory allocated to the log. The first (oldest) record in the log may not be located at the beginning of the log.

In Paused Modes (0x00000 and 0x00001), the log being accessed is paused and new records are not added to the log while it is paused.

In Running Modes (0x00002 and 0x00003), the log being accessed is not paused and new records may be added to the log. When downloading in these modes, it is possible the records may be overwritten before or during the downloading of records.

Historical Log 2 (38210): When read, this Register returns the Mode in use by the Historical Log 2 Window to access Historical Log 2 on this port. Functionality follows the Historical Log 1 Window Mode (38209).

Limit Trigger Log (38211): When read, this Register returns the Mode in use by the Limit Trigger Log Window to access Limit Trigger Log on this port. Functionality follows the Historical Log 1 Window Mode (38209).

Limit Snapshot Log (38212): When read, this Register returns the Mode in use by the Limit Snapshot Log Window to access Limit Snapshot Log on this port. Functionality follows the Historical Log 1 Window Mode (38209).

Digital Input Log (38213): When read, this Register returns the Mode in use by the Digital Input Log Window to access Digital Input Log on this port. Functionality follows the Historical Log 1 Window Mode (38209).

Digital Input Snapshot Log (38214): When read, this Register returns the Mode in use by the Digital Input Snapshot Log Window to access Digital Input Snapshot Log on this port. Functionality follows the Historical Log 1 Window Mode (38209).

Digital Output Log (38215): When read, this Register returns the Mode in use by the Digital Output Log Window to access Digital Output Log on this port. Functionality follows the Historical Log 1 Window Mode (38209).

Digital Output Snapshot Log (38216): When read, this Register returns the Mode used by the Digital Output Snapshot Log Window to access Digital Output Snapshot Log on this port. Functionality follows Historical Log 1 Window Mode (38209).

Flicker Log (38217): When read, this Register returns the Mode in use by the Flicker Log Window to access Flicker Log on this port. Functionality follows the Historical Log 1 Window Mode (38209).

Waveform Trigger Log (38218): When read, this Register returns the Mode in use by the Waveform Trigger Log Window to access Waveform Trigger Log on this port. Functionality follows Historical Log 1 Window Mode (38209).

Register 38219 is currently not used.

Waveform Samples Log (38220): When read, this Register returns the Mode in use by the Waveform Samples Log Window to access Waveform Samples Log on this port. Functionality follows Historical Log 1 Window Mode (38209).

PQ Log (38221): When read, this Register returns the Mode in use by the PQ Log Window to access PQ Log on this port. Functionality follows the Historical Log 1 Window Mode (38209).

Register 38209 is currently not used..

External Device Info Block (38223) - Currently not used.

External Device Programming Block (38224) - Currently not used.

Device History Block (38225) - Currently not used.

Direct Memory Access (38226) - Currently not used.

8.92: Window Block (38273-39424)

- Description: Window Registers included in this block:

Historical Log 1 (38273-38336): These Registers are a 128-byte window into the Historical Log 1. The particular 128-bytes that are accessed are dependent on the Historical Log 1 window index.

Historical Log 2 (38337-38400): These Registers are a 128-byte window into the Historical Log 2. The particular 128-bytes that are accessed are dependent on the Historical Log 2 window index.

Limit Trigger Log (38401-38464): These Registers are a 128-byte window into the Limit Trigger Log. The particular 128-bytes that are accessed are dependent on the Limit Trigger Log window index.

Limit Snapshot Log (38465-38528): These Registers are a 128-byte window into the Limit Snapshot Log. The particular 128-bytes that are accessed are dependent on the Limit Snapshot Log window index.

Digital Input Log (38529-38592): These Registers are a 128-byte window into the Digital Input Log. The particular 128-bytes that are accessed are dependent on the Digital Input Log window index.

Digital Input Snapshot Log (38593-38656): These Registers are a 128-byte window into the Digital Input Snapshot Log. The particular 128-bytes that are accessed are dependent on the Digital Input Snapshot Log window index

Digital Output Log (38657-38720): These Registers are a 128-byte window into the Digital Output Log. The particular 128-bytes that are accessed are dependent on the Digital Output Log window index.

Digital Output Snapshot Log (38721-38784): These Registers are a 128-byte window into the Digital Output Snapshot Log. The particular 128-bytes that are accessed are dependent on the Digital Output Snapshot Log window index.

Flicker Log (38785-38848): These Registers are a 128-byte window into the Flicker Log. The particular 128-bytes that are accessed are dependent on the Flicker Log window index.

Waveform Trigger Log (38849-38912): These Registers are a 128-byte window into the Waveform Trigger Log. The particular 128-bytes that are accessed are dependent on the Waveform Trigger Log window index.

System Event Log Window (38913-38976): These registers are a 128-byte window into the System Events Log. The particular 128-bytes that are accessed are dependent on the System Events Log window index.

Waveform Samples Log (38977-39040): These Registers are a 128-byte window into the Waveform Samples Log. The particular 128-bytes that are accessed are dependent on the Waveform Samples Log window index.

PQ Log (39041-39104): These Registers are a 128-byte window into the PQ Log. The particular 128-bytes that are accessed are dependent on the PQ Log window index.

External Device Info Block Window (39169-39232): These Registers are a 128-byte window into the External Device Info Blocks. The particular 128-bytes that are accessed are dependent on the External Device Info Blocks window index. (See Chapter 5.)

External Device Info Block Window (39233-39296): These Registers are a 128-byte window into the External Device Programming Blocks. The particular 128-bytes that are accessed are dependent on the External Device Programming Blocks window index. (See Chapter 5.)

Device History Block (39297-39360) - Currently not used.

Direct Memory Access (39361-39424) - Currently not used.

8.93: Auto Increment Window Block (39423-39488)

■ **Auto Increment Configuration** - 1 Register, 2 bytes.

When read, this register returns the configuration in use by the Auto Increment Log Window, below, to access logs on this port. When written, this register sets the configuration used by the Auto Increment Log Window, below, to access logs on this port. Each port accesses a separate, independent configuration through this register allowing all four ports to access logs with different configurations.

The least significant byte indicates which log is being accessed. The appropriate values are:

| | |
|-------------|---------------------------------|
| 0x000 | Historical Log 1 |
| 0x001 | Historical Log 2 |
| 0x002 | Sequence of Events State Log |
| 0x003 | Sequence of Events Snapshot Log |
| 0x004 | Digital Input State Log |
| 0x005 | Digital Input Snapshot Log |
| 0x006 | Digital Output State Log |
| 0x007 | Digital Output Snapshot Log |
| 0x008 | Flicker Log |
| 0x009 | Waveform Trigger Log |
| 0x00A | System Event Log |
| 0x00B | Waveform Sample Log |
| 0x00C | PQ Log |
| 0x00D-0x0FF | Undefined |

The most significant byte defines the following modes: Paused Download Mode (0x000) and Running Download Mode (0x001).

In Paused Download mode (0x000), the log being accessed is paused - new records are not added to the log while it is paused.

In Running Download mode (0x001), the log being accessed is not paused - new records may be added to the log. When downloading in this mode, it is possible that records may be overwritten before, or even during, access to that record.

■ **Auto Increment Window Index** - 1 register, 2 bytes.

When read, this register returns the index used by the Auto Increment Log Window, below, to access logs on this port. When written, this register sets the index used by the Auto Increment Log Window, below, to access logs on this port. Each port accesses a separate, independent index through this register, allowing all four ports to access different areas of logs at the same time.

When read, the index is incremented before being returned in the Modbus response. If the Auto Increment Mode is Paused Download mode (0x001xx in register 39423, 0x099FE), the appropriate log is paused, preventing the addition of new records while the log is being accessed. A 30-second timer is initiated on these reads. Should the timer run out (the index is not incremented/read in 30 seconds), the appropriate log will be allowed to continue logging.

When a value of 0x0FFFF is written to this register, this signifies that the port is finished accessing the appropriate log, and the 30-second timer is canceled and the appropriate log will be allowed to continue logging.

Should multiple ports access the same log simultaneously, the log will be paused while either 30-second timer is running; the log will be allowed to continue logging only when both ports time-out or write 0x0FFFF to their index register.

■ **Auto Increment Log Window** - 64 registers, 128 bytes.

These registers are a 128-byte window into a log, as specified in the Auto Increment Configuration (register 39423, 0x099FE). Depending on the Auto Increment Window Index, a different 128-byte area of a log can be accessed.

See section **5.1.4: Downloading Logs with Auto Index and Modbus Extensions** for the usage of these registers.

8.94: Alarm Block (40961-41105)

■ Description: Window Registers included in this block:

Last Alarm (40961-40976): These Registers keep the latest Limit Trigger Log, which records information about the limits. The log records which limits are currently exceeded and which limits have just changed. The 16 Registers contain 32 bytes. The record format is the same as the Limit Trigger Log Format.

The first eight bytes are the Time Stamp. The format of the Time Stamp is:

| Byte | Format | Range | Description |
|------|--------|----------|-------------|
| 0 | Binary | 0-99 | Century |
| 1 | Binary | 0-99 | Year |
| 2 | Binary | 1-12 | Month |
| 3 | Binary | 1-31 | Day |
| 4 | Binary | 0-23 | Hour |
| 5 | Binary | 0-59 | Minute |
| 6 | Binary | 0-59 | Second |
| 7 | Binary | 0-99+MSB | Centisecond |

An additional piece of information is contained in the centisecond byte. The most significant bit indicates whether Limit Trigger monitoring was continuous between the last record and this record. If the bit is 1, then this is the first record recorded after a power-down, reset or download and all unfinished durations prior to this record are lost. If the bit is 0, then recording was continuous between the last record and this one.

The next four bytes are a bitmap for the Current State of the Value 1 Comparisons of the Limits. The first bit (the most significant bit of the first byte) is the Current State of the 1st Limit's Value 1 Comparison. The last bit (the least significant bit of the fourth byte) is the Current State of the 32nd Limit's Value 1 Comparison. A bit value of 1 means that the Comparison is exceeded (less than or equal to Value 1 for a below limit; greater than Value 1 for an above limit), a bit value of 0 means the Comparison is not exceeded (greater than Value 1 for a below limit; less than or equal to Value 1 for an above limit).

The next four bytes are the same bitmap as above, but for the Current State of the Value 2 Comparisons of the Limits.

The next four bytes are a bitmap for the Delta of the Value 1 Comparisons of the Limits. The order of the bits is the same as above. A bit value of 1 means that the State of the Value 1 Comparison changed since the last alarm occurred; a bit value of 0 means that the State of the Value 1 Comparison did not change since the last alarm.

The next four bytes are the same bitmap as above, but for the Delta of the Value 2 Comparisons of the Limits.

The next four bytes are a bitmap for the Current State of the Combinations of the Limits. The first bit (the most significant bit of the first byte) is the Current State of the 1st Limit's Combination of the Value 1 Comparison and the Value 2 Comparison. The last bit (the least significant bit of the fourth byte) is the Current State of the 32nd Limit's Combination of the Value 1 Comparison and the Value 2 Comparison. A bit value of 1 means that the Combination is true; a bit value of 0 means that the Combination is false.

The last four bytes are the same bitmap as above, but for the Delta of the Combination of the Limits.

Last Alarm Snapshot (40977-41104)

The Registers store the latest Limit Snapshot Log.

The record formats are also explained in Chapter 6.

Record Format: A Record contains 32, 64, 128 or 256 bytes, depending on how many channels have limits assigned to them. The first eight bytes in each Record are the Time Stamp. The format of the Time Stamp is shown below.

The remaining bytes are the values monitored by Limits (45077-45204). If the first Data Pointer is requesting VBN, a 4-byte value, then the next 4 bytes in the Record is VBN. This continues, Data Pointer for Data Pointer, until all Data Pointers have been satisfied, or the number of bytes is equal to the Historical Log 1 Record Size.

| Byte | Format | Range | Description |
|------|--------|----------|-------------|
| 0 | Binary | 0-99 | Century |
| 1 | Binary | 0-99 | Year |
| 2 | Binary | 1-12 | Month |
| 3 | Binary | 1-31 | Day |
| 4 | Binary | 0-23 | Hour |
| 5 | Binary | 0-59 | Minute |
| 6 | Binary | 0-59 | Second |
| 7 | Binary | 0-99+MSB | Centisecond |

Limit Data Pointers (45077-45204): These Registers indicate which values are being monitored by Limits. Each Data Pointer has the following 8-byte structure:

| Size | Format | Description |
|--------|------------------|--------------------|
| 2-byte | Unsigned Integer | Line Number |
| 1-byte | Unsigned Char | Point Number |
| 1-byte | Unsigned Char | Limit Mode |
| 2-byte | Unsigned Integer | Comparison 1 Value |
| 2-byte | Unsigned Integer | Comparison 2 Value |

A Line Number is an index into the Communication Table. Example: Line Number 11 is for the 12th Line in the Communication Table, 0.1 Second Phase-to-Neutral Voltages. Data Pointers with Line Numbers greater than the number of lines in the table are ignored.

A Point Number is an index into a Line in the Communication Table. Example: Point Number 1 is for the second entry in a Line. Line Number 11, Point Number 1 is the 2nd in the 12th line, 0.1 Second VBN. Data Pointers with Point Numbers greater than the number of points for the line are ignored.

Latched Exception Flag (41105): This Register tells you how many Limit Triggers have occurred since the last time the Registers were checked. This Register is Read Only.

Example: Two Limit Exceptions occurred. Read the Register from Port 1; you will notice 2 Limit Exceptions returned. Later, two more Limit Exceptions occurred. Read the Register again. From Port 1, you will notice 2 Limit Exceptions returned. From Port 2, you will notice 4 Limit Exceptions returned. Limit Exceptions are incremented so that you have a history of Limit Exceptions in the Ports.

8.95: Port Control Block (41729-44544)

- Description: Port Control Registers included in this block (see Chapter 5):

Port Control Command (41729): When written, this Register receives commands meant to control the ports. Valid commands are:

0x00100 = Lock Port 4 (I/O) for my use
0x00101 = Lock Port 3 for my use
0x00102 = Lock Port 2 for my use
0x00103 = Lock Port 1 (232/485) for my use
0x00104 = Lock the Diagnostic Port for my use (currently not use)
0x00200 = Unlock Port 4
0x00201 = Unlock Port 3
0x00202 = Unlock Port 2
0x00203 = Unlock Port 1
0x00204 = Unlock the Diagnostic Port (currently not used)

You cannot lock your own port. You cannot lock a port that is already locked. A port can only be unlocked by the port that locked it originally.

Lock States (41730-41732): These Registers contain 6 bytes. The first five bytes contain codes indicating whether a port is locked by another port or not.

| Port Control Lock States | | |
|--------------------------|-----------------|------------------|
| Register | High Byte | Low Byte |
| 41731 | Port 4 (I/O) | Port 3 |
| 41732 | Port 2 | Port 1 (232/485) |
| 41733 | Diagnostic Port | Unused |

Initially, these bytes read as 0x0FF. When a port requests that another port be locked to its use (0x00100 - 0x00104 to Register 41731), these bytes will read with one of the following codes, indicating which port is the locked owner of which port:

0x000 = Locked by Port 4 (I/O)
0x001 = Locked by Port 3
0x002 = Locked by Port 2
0x003 = Locked by Port 1 (232/485)
0x004 = Locked by the Diagnostic Port (currently not used)
0x0FF = Unlocked

Pointers (41733-41752): These Registers, when read, return the values of the pointers controlling the Communication Buffers in the Nexus® device. They are unsigned integers and represent the indexes of the series of bytes that are the Receive and Transmit Circular Buffers. Since the buffers are 512 bytes long, valid values should range from 0x00000 to 0x001FF. The order of the Registers is:

| Port Control Pointers | | | | |
|-----------------------|-----------|------------|------------|-------------|
| Port | ReceiveIn | ReceiveOut | TransmitIn | TransmitOut |
| Port 4 (I/O) | 41733 | 41734 | 41735 | 41736 |
| Port 3 | 41737 | 41738 | 41739 | 41740 |
| Port 2 | 41741 | 41742 | 41743 | 41744 |
| Port 1 (232/485) | 41745 | 41746 | 41747 | 41748 |
| Diagnostic Port | 41749 | 41750 | 41751 | 41752 |

ReceiveIn indexes the location where the next received character will be placed in the Receive Buffer by the interrupt routine. ReceiveOut indexes the location where the next character should be removed from the Receive Buffer by the parsing routine. TransmitIn indexes the location where the next character to be transmitted should be placed by the communication generation routine. TransmitOut indexes the location of the next character to be transmitted by the interrupt routine.

The Receive Buffer is empty if $\text{RecIn} = (\text{RecOut} + 1) \text{ Mod } 512$. The Receive Buffer is full if $\text{RecIn} = \text{RecOut}$. The Transmit Buffer is empty if $\text{TrmIn} = \text{TrmOut}$. The Transmit Buffer is full if $\text{TrmOut} = (\text{TrmIn} + 1) \text{ Mod } 512$.

When a port is locked, its pointers may be modified by the locking port.

When a TransmitIn Register is written, that causes the interrupt routines to transmit characters in the Transmit Buffer from TransmitIn to TransmitOut.

Receive and Transmit Buffers (41985-44544): These Registers, when read, return the contents of the appropriate Receive and Transmit Buffers. Each buffer is 256 Registers (512 bytes) long. The order of the buffers is:

| Receive and Transmit Buffers | | |
|------------------------------|-------------|-------------|
| Port | Receive | Transmit |
| Port 4 (I/O) | 41985-42240 | 43265-43520 |
| Port 3 | 42241-42496 | 43521-43776 |
| Port 2 | 42497-42752 | 43777-44032 |
| Port 1 (232/485) | 42753-43008 | 44033-44288 |
| Diagnostic Port | 43009-43264 | 44289-44544 |

8.96: Energy Preset Block (44545-44549)

- Description: Energy readings can be preset by Communicator Ext 3.0 software.

Preset Energy Value: 4 Registers, 8 bytes. These registers hold the energy readings that will be used by the software for certain Energy Applications.

Preset Energy Selection / Status: 1 Register, 2 bytes. This register indicates which energy is to be preset by the software.

8.97: Registers 53249-53348 are not used by the Nexus® 1500 meter

8.98: Action Block - Resetting Meter Registers (57345-57393)

Most of the Registers in the Action Block are used to perform an action or reset a meter Register. Unless otherwise stated, the action is performed when a value, any value, is written to that Register.

Example: In order to Reset Maximum Value in Meter Address 1, any value, such as '1' (0x00001) should be written to Register 57346 (0x0E001). The appropriate Modbus RTU command for this example would be: 01 06 E001 0001 2E0A (See Chapter 1 for Modbus protocol overview.)

■ Description: Action Registers included in this block:

Log Reset (57345): This Register, when written with any value, causes all logs to be cleared. This action should be performed only under the following two circumstances:

1. When the Programmable Settings are modified, such that data already in the logs is invalidated.
For Example, any modifications involving the record size or organization of the contents of a snapshot would require the logs to be cleared of any previous data.
2. When the Run-Time Code is upgraded, resulting in one of the following:
Redefinition of the layout or meaning of the Programmable Settings.
Altered behavior or capabilities of the logs.

NOTE: Log Reset should be performed automatically by the software in either case and should not be an action directly available to the user. (See Chapter 5.)

Maximum Reset (57346): This Register, when written with any value, causes all Maximum Values to be cleared.

Minimum Reset (57347): This Register, when written with any value, causes all Minimum Values to be cleared.

Energy Reset (57348): This Register, when written with any value, causes all Energy Values to be cleared.

Registers for the Meter Calibration (57349-57377): These Registers are for factory use only. Meter's Calibrations are done through these Registers.

Registers 57380-57382: These Registers are no longer used. Internal KYZ Enable, Internal KYZ Minimum Pulse Width, Internal KYZ Pulses/Whr sec are obsolete.

Waveform Calibration (57383-57384): Waveform Calibration should be performed when waveform sampling is running at rates of 16, 32, 64 or 128 samples per cycle. Waveform Calibration should not be performed when waveform sampling is running at 256 or 512 samples per cycle. If the unit needs waveform recalibration and is running at 256 or 512 samples per cycle, reprogram the meter to one of the other sampling rates, recalibrate, then return the unit to its original sampling rate.

Voltage Calibration (57383): When written, the Register initiates a calibration of the Voltage Channels of the Waveform Capture section of the meter's Main Unit. An accurate and stable 60Hz sinusoidal voltage input should be applied to all voltage channels of the unit prior to the writing of this Register. Phase relationships between the voltage channels are immaterial. The magnitude of the signal should be as follows:

| Voltage Calibration Inputs | | |
|----------------------------|--------------------------------|-----------|
| Meter Model | Input | RMS |
| 1500 Meter | Standard (120 V) Voltage Input | 120 V RMS |

When read, this Register returns the state of the Voltage Calibration. A value of 0x00000 means that Voltage Calibration is not taking place. Any other value indicates that Voltage Calibration is taking place. The 120 V Input should be maintained until this Register reads 0x00000, which should take up to 20 seconds, depending on the Programmable Settings.

Current Calibration (57384): When written, this Register initiates a calibration of the Current Channels of the Waveform Capture section of the meter's Main Unit. An accurate and stable 60Hz sinusoidal voltage input should be applied to all current channels of the unit prior to the writing of this register. Phase relationships between the current channels are immaterial. The magnitude of the signal should be as follows:

| Current Calibration Inputs | | |
|----------------------------|-------------------------------|--------|
| Meter Model | Input | RMS |
| 1500 Meter | Standard (5Amp) Current Input | 5A RMS |

When read, this Register returns the State of the Current Calibration. A value of 0x00000 means that Current Calibration is not taking place. Any other value indicates that Voltage Calibration is taking place. The 120 V Input should be maintained until this Register reads 0x00000, which should take up to 20 seconds, depending on the Programmable Settings.

Calibration Waveform - DC Offset (57385): This Register is currently not used.

Reset Time of Use Current Season and Current Month (57386): When written, Time of Use Current Season and Current Month will reset.

Manual Waveform Capture (57387): When written, the unit captures a waveform.

Reset Internal Input Accumulations and Aggregations (57388): When written, Internal Input Accumulations and Aggregations will reset.

Override Data not yet Valid Block (57389): This Register is for diagnostics of communication between two microprocessors in the meter.

Refresh External I/O Header Information (57390): This Register, when written, causes all External Devices to be polled for their Information Blocks.

Refresh External I/O Programming Information (57391): This Register, when written, causes all External Devices to be polled for their Programming Blocks.

Relay Locking Relay Selection (57392): This Register and Register 57392 will manually change the External Digital Output Modules' Relays. Using Register 57392, the user can select relays to be locked by Register 57393. A bit value of 1 means that the relay will be affected by the value on the Action Selection Register (57393). A bit value of 0 means that the relay will not be affected by the value on the Action Selection Register (57393).

| Relay Locking Relay Selection Register (57392) | | | | | | | | | | | | | | | | |
|--|-----------|----|----|----|----------|----|---|---|----------|---|---|---|----------|---|---|---|
| Byte | High Byte | | | | | | | | Low Byte | | | | | | | |
| Module | Module 1 | | | | Module 2 | | | | Module 3 | | | | Module 4 | | | |
| Relay | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Bit | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Relay Locking Action Selection (57393): This Register will lock or unlock the relays of the External Digital Output Modules in Relay Selection Register 57392. Relays in the Selection Register (57392) with a bit value of 1 can be locked or unlocked by this Register. The Register is a 2-byte unsigned integer.

| Relay Locking Action Selection Values | |
|---------------------------------------|---------------------------------------|
| Value | Description |
| 0 | Lock common to N.C. (Normally Closed) |
| 1 | Lock common to N.O. (Normally Open) |
| 2 | Unlock |
| 3-65535 | Not used |

8.99: Factory Calibration Block (60929-61026)

■ Description: Refer to section 5.5 for details.

8.100: CTPT Compensation Calibration Block (61027-61124)

■ Description: Refer to section 5.5 for details.

8.101: Calibration Modification Block (61185-61280)

■ Description: Refer to section 5.5 for details.

8.102: Operational Communication Settings Block (65025-65040)

These Registers keep the valid Communication Settings for all four ports. The Communication Settings Block (45057) in the Programmable Settings Block might have the wrong values if they were interrupted while the meter was being updated.

| Operational Communication Settings | | | | | | |
|------------------------------------|--------------|-----------|--------|-----------|-----------|---------------------|
| Value | Protocol | Baud Rate | Parity | Stop Bits | Data Bits | Response Delay (ms) |
| 0 | Modbus ASCII | 4800 | None | | 5 | 0.00 |
| 1 | Modbus RTU | 9600 | Even | | 6 | 0.25 |
| 2 | DNP 3.0 | 19200 | Odd | | 7 | 0.50 |
| 3 | | 38400 | Mark | | 8 | 0.75 |
| 4 | | 57600 | Space | | | 1.00 |
| 5 | | 115200 | | | | 1.25 |
| 6 | | | | | | 1.50 |
| 7 | | | | 1 stop | | 1.75 |
| 8 | | | | 1.5 stop | | 2.00 |
| 9-14 | | | | | | 2.25-3.50 |
| 15 | | | | 2 stop | | 3.75 |
| 16-255 | | | | | | 4.00-63.75 |

- Description: Operational Communication Settings Registers included in this block:

Device Address - 2 bytes, unsigned integer, ranging from 0 to 0xFFFF.

Protocol - 1 byte, unsigned integer.

Baud Rate - 1 byte, unsigned integer.

Parity - 1 byte, unsigned integer.

Stop Bits - 1 byte, unsigned integer.

Data Bits - 1 byte, unsigned integer.

Response Delay - 1 byte, unsigned integer.

8.103: Registers 65041-65042 are not used by the Nexus® 1500 meter

8.104: Device Identification Block 2 (65088-65280)

- Description: Device Identification Registers included in this block:

196 Xilinx Version / 320 Xilinx Version (65088)

Each number is represented by a 1-byte integer.

Firmware Variation Strings (65089-65280)

Eight Registers each and Null Terminated ASCII Strings (Terminating Null (ASCII 00H) at the end of the string). (See 3.1.)

8.105: DSP Diagnostic Block (65281-65312)

- Description: DSP Diagnostic Registers are for internal use only. These Registers are not for customer use. These Registers are READ ONLY and cannot be written.

8.106: Password Command (65328)

- Description: This Register contains an enumeration that tells the device what action to take. The enumeration is as follows:

0x00000 Set Level 1 Password
0x00001 Set Level 2 Password
0x00002 Enable Password Protection
0x00003 Disable Password Protection
0x00004 Enable Sealing Switch Protection
0x00005 Disable Sealing Switch Protection
0x00006 - Set Network User 1 User Name and Password
0x00007 - Set Network User 2 User Name and Password
0x00008 - Set Network User 3 User Name and Password
0x00009 - Set Network User 4 User Name and Password
0x0000A - Set Network User 5 User Name and Password
0x0000B - Set Network User 6 User Name and Password
0x0000C - Set Network User 7 User Name and Password
0x0000D - Set Network User 8 User Name and Password
0x0000E - Set Network User 1 Privileges
0x0000F - Set Network User 2 Privileges
0x00010 - Set Network User 3 Privileges
0x00011 - Set Network User 4 Privileges
0x00012 - Set Network User 5 Privileges
0x00013 - Set Network User 6 Privileges
0x00014 - Set Network User 7 Privileges
0x00015 - Set Network User 8 Privileges
0x00016 - Read Network User 1 user Name and Privileges
0x00017 - Read Network User 2 user Name and Privileges
0x00018 - Read Network User 3 user Name and Privileges
0x00019 - Read Network User 4 user Name and Privileges All successful commands set access back to Level 0, revoking the 2-minute timer of any active password.

- **New Password A** (65332-65336)
New Password B (65340-65344)

For setting Level 1 & Level 2 passwords:

These registers are written to in order to set the Level 1 or Level 2 Password. The same password should be written to both sets of registers; a new password will be accepted only if the values written to both sets of registers agree. After filling in both sets of registers, the Password Command register should be written with the command indicating which password is being updated.

Passwords must be 10 bytes long - consistent padding with extra characters must be performed.

Acceptable Passwords should consist of the ASCII characters ‘ ‘ (0x020), ‘0’-‘9’ (0x030-0x039), ‘A’-‘Z’ (0x041-0x05A). Attempts to set a password with illegal characters will fail. If a password is shorter than 10 bytes should be padded with SPACE (0x020) characters at the end.

For setting network user name, password and privileges:

For setting network user name and password, software should send user name to New Password A field, and password to New Password B field. Software should always set none-zero length to user name and password fields. If username or password is shorter than 10 bytes, then software should padded it with NULL (0x0) characters at the end.

For setting network user privileges, software should send it to New Password A field, with undefined bit fields set to 0s.

For reading network user name and privileges, the user must gain Level 2 password access to the meter and then issue the read network username & privileges command. The meter will place the user name in New Password A field and user privileges in New Password B field for software to read. The user cannot read the network password. The byte values in New Password A and New Password B fields are encoded. If the user does not have sufficient access rights or if the password command sequence entered is not correct, the user will read 0's for New Password A and New Password B fields.

8.107: Registers 65345-65349 are not used by the Nexus® 1500 meter

8.108: Registers 65361-65368 are not used by the Nexus® 1500 meter

Chapter 9

Alternative Method for Downloading Logs

9.1: Overview

The preferred and recommended method for downloading logs from the Nexus® 1500 meter is using LDA, as explained in Chapter 6. For backward compatibility, the System Events Log and historical logs 1 and 2 can be downloaded using the serial method. This chapter contains information for doing so.

9.2: Historical Log 1 Format

Profile Information is in the Programmable Settings Block.

- **Historical Log 1:** Historical Log 1 will fill to its total allocated memory. The number of records possible in the log is the total memory allocated divided by the record size (size of an Historical Log snapshot).

- **Historical Log 1 Record Size:** (45463)

This Register is an enumeration for the size of a record in the Historical log. The valid values are:

0x00000 = 32 byte records
0x00001 = 64 byte records
0x00002 = 128 byte records
0x00003 = 256 byte records
0x00004 = 16 byte records

- **Historical Log 1 Data Pointers:** (45205-45332)

These Registers indicate which information to include in a record in the Historical log. Each Data Pointer has the following 4 (four) byte structure:

| Size | Format | Description |
|--------|---------------|--------------|
| 2 byte | unsigned int | Line Number |
| 1 byte | unsigned char | Point number |
| 1 byte | unsigned char | Reserved |

A Line Number is an index into the Communication Table. Example - Line Number 11 is for the 12th line in the Communication Table, 0.1 second Phase-to-Neutral Voltages. Data Pointers with Line Numbers greater than the number of lines in the table are ignored.

A Point Number is an index into the Communication Table.

Example: Point Number 1 is for the second entry in a Line. Line Number 11, Point Number 1 is the second in the twelfth line, 0.1 second VBN. Data Pointers with Point Numbers greater than the number of points for the line are ignored.

- **Record Format:** A Record contains as many bytes as specified by the Historical Log 1 Record Size Field in the Programmable Settings Block (45463). The first eight bytes in each record is the Time Stamp. The format of the Time Stamp is:

| Byte | Format | Range | Description |
|------|--------|---------|-------------|
| 0 | binary | 0 – 99 | century |
| 1 | binary | 0 – 99 | year |
| 2 | binary | 1 – 12 | month |
| 3 | binary | 1 – 31 | day |
| 4 | binary | 0 – 23 | hour |
| 5 | binary | 0 – 59 | minute |
| 6 | binary | 0 – 59 | second |
| 7 | binary | 0 – 100 | centisecond |

If the Historical record was recorded after powering up or the log was reset, the record does not contain information covering a full interval and the most significant bit of the second's byte will be set.

If the Historical record was recorded after time was adjusted, the record might contain more or less than a full interval's worth of data. If time is advanced within the current interval, or advanced or rolled back to outside the current interval, the record contains less than a full interval's worth of data and the most significant bit of the minute byte will be set. If time is rolled back within the same interval, the record contains more than a full interval's worth of data and the bit before the most significant bit (bit 6) of the minute byte will be set.

- The remaining bytes are the values requested by the Historical Log 1 Data Pointers (45205-45332). If the first Data Pointer is requesting V_{BN} a 4 byte value, then the next 4 bytes in the Record are V_{BN} . This continues, Data Pointer for Data Pointer, until all Data Pointers have been satisfied, or the number of bytes is equal to the Historical Log 1 Record Size.

9.3: Historical Log 2 Format

Profile Information is in the Programming Settings Block.

- **Historical Log 2:** Historical Log 2 will fill to its total allocated memory. The number of records possible in Historical Log 2 is the total memory allocated divided by the sum of record size (size of Historical Log snapshot) and the 8 bytes record header.

- **Historical Log 2 Record Size: (45464)**

This Register is an enumeration for the size of a record in the Historical Log. The valid values are:

0x00000 = 32 byte records
 0x00001 = 64 byte records
 0x00002 = 128 byte records
 0x00003 = 256 byte records
 0x00004 = 16 byte records

- **Historical Log 2 Log Data Pointers: (45333-45460)**

These Registers indicate which information to include in a record in the Historical Log. Each Data Pointer has the following 4 (four) byte structure:

| Size | Format | Description |
|--------|---------------|--------------|
| 2 byte | unsigned int | Line Number |
| 1 byte | unsigned char | Point number |
| 1 byte | unsigned char | Reserved |

A Line Number is an index into the Communication Table. Example - Line Number 11 is for the 12th line in the Communication Table, 0.1 second Phase-to-Neutral Voltages. Data Pointers with Line Numbers greater than the number of lines in the table are ignored.

A Point Number is an index into the Communication Table.

Example: Point Number 1 is for the second entry in a Line. Line Number 11, Point Number 1 is the second in the twelfth line, 0.1 second VBN. Data Pointers with Point Numbers greater than the number of points for the line are ignored.

- **Record Format:** A Record contains as many bytes as specified by the Historical Log 2 Record Size Field in the Programmable Settings Block (45464). The first eight bytes in each record is the Time Stamp. The format of the Time Stamp is:

| Byte | Format | Range | Description |
|------|--------|---------|-------------|
| 0 | binary | 0 – 99 | century |
| 1 | binary | 0 – 99 | year |
| 2 | binary | 1 – 12 | month |
| 3 | binary | 1 – 31 | day |
| 4 | binary | 0 – 23 | hour |
| 5 | binary | 0 – 59 | minute |
| 6 | binary | 0 – 59 | second |
| 7 | binary | 0 – 100 | centisecond |

If the Historical record was recorded after powering up or the log was reset, the record does not contain information covering a full interval and the most significant bit of the second's byte will be set.

If the Historical record was recorded after time was adjusted, the record might contain more or less than a full interval's worth of data. If time is advanced within the current interval, or advanced or rolled back to outside the current interval, the record contains less than a full interval's worth of data and the most significant bit of the minute byte will be set. If time is rolled back within the same interval, the record contains more than a full interval's worth of data and the bit before the most significant bit (bit 6) of the minute byte will be set.

- If the Historical Log 2 Time of Use Enable byte (45952) is disabled, the remaining bytes are the values requested by the Historical Log 2 Data Pointers (45333-45460). If the first Data Pointer is requesting V_{BN} a 4 byte value, then the next 4 bytes in the Record are V_{BN} . This continues, Data Pointer for Data Pointer, until all Data Pointers have been satisfied, or the number of bytes is equal to the Historical Log 2 Record Size.

9.4: System Event Log Format

- The System Event Log stores events which affect the operation of the meter, including power events, time changes, log retrieval, and firmware changes. The full list is given below.

- Record Format: The System Event record is 16 bytes.

| | |
|------------------|--------------------------|
| [Timestamp] | 8 bytes, Nexus Timestamp |
| [Record Type] | 1 byte |
| [Record Details] | 7 bytes |

- Event Table - see next page.

| Event Type ID | System Event Type | Record Sequence | Bytes 0 to 7 | Byte 8 | Byte 9 | Byte 10 | Byte 11 | Byte 12 | Byte 13 | Byte 14 | Byte 15 |
|---------------|-------------------------------|-----------------|--------------|---------------|------------------|----------------------------|----------------------------|---------------------|-------------|--------------------|------------|
| 0x000 | Run Time Status (Power) | First | TimeStamp | Event Type ID | Details | Undefined | | | | | |
| 0x001 | Password | First | TimeStamp | Event Type ID | Action | Port ID | Undefined | | | | |
| 0x002 | Change Programmable Settings | First | TimeStamp | Event Type ID | Undefined | | | | | | |
| 0x003 | Change Firmware | First | TimeStamp | Event Type ID | Firmware ID | Current Major Version | | | | Rec Sequence | Undefined |
| | | Second | TimeStamp | Event Type ID | Firmware ID | Current Minor Version | | | | Rec Sequence | Undefined |
| 0x004 | Change Time | First | TimeStamp | Event Type ID | Part changed | Port ID | Undefined | | | | |
| 0x005 | Test Mode | First | TimeStamp | Event Type ID | Action | Port ID | Undefined | | | | |
| 0x006 | Log Retrieval | First | TimeStamp | Event Type ID | Action | Log ID | Port ID | Rec Sequence | Protocol | IP Byte 1 | IP Byte 2 |
| | | Second | TimeStamp | Event Type ID | Action | Log ID | Port ID | Rec Sequence | IP Byte 3 | IP Byte 4 | Undefined |
| 0x007 | Feature Reset | First | TimeStamp | Event Type ID | Item ID | Port ID | Undefined | | | | |
| 0x008 | System Initialization problem | First | TimeStamp | Event Type ID | Problem Type | Prob Detail | Undefined | | | | |
| 0x009 | Change meter serial number | First | TimeStamp | Event Type ID | Rec Sequence | Port ID | Old Serial Number MSB Part | | | | |
| | | Second | TimeStamp | Event Type ID | Rec Sequence | Old Serial Number LSB Part | | | Undefined | | |
| 0x00A | Bio-Block | First | TimeStamp | Event Type ID | Rec Sequence | Block ID | Update Order | Port ID | Reason = 1 | Not Used | |
| 0x00A | Bio-Block (Ether Board 1) | First | TimeStamp | Event Type ID | Rec Sequence | Block ID = 2 | Update Order | Port ID | Reason = 2 | MAC Byte 1 | MAC Byte 2 |
| | | Second | TimeStamp | Event Type ID | Rec Sequence | Block ID = 2 | Update Order | MAC B3 | MAC Byte 4 | MAC Byte 5 | MAC Byte 6 |
| 0x00A | Bio-Block (Front Panel Board) | First | TimeStamp | Event Type ID | Rec Sequence | Block ID = 3 | Update Order | Port ID | Reason >= 2 | Contrast | Volume |
| | | Second | TimeStamp | Event Type ID | Rec Sequence | LCD Turnoff Timeout | | X Left Coordinate | | X Right Coordinate | |
| | | Third | TimeStamp | Event Type ID | Rec Sequence | Y Top Coordinate | | Y Bottom Coordinate | | Undefined | |
| 0x00A | Bio-Block (Digital Board) | First | TimeStamp | Event Type ID | Rec Sequence | Block ID = 8 | Upd Order | Port ID | Reason = 2 | Cal Status | Cal Error |
| | | Second | TimeStamp | Event Type ID | Rec Sequence | F Tst Status | Fin Tst Error | Undefined | | | |
| 0x00B | VSwitch | First | TimeStamp | Event Type ID | V-Switch Value | Port ID | Undefined | | | | |
| 0x00C | Security | First | TimeStamp | Event Type ID | Action | Port ID | User Acc Idx | Undefined | | | |
| 0x00D | Clock Compensation | First | TimeStamp | Event Type ID | Enabled/Disabled | Port ID | Undefined | | | | |

■ Run Time Status - Power Record

The first byte of the sub-fields indicates whether power was lost or regained at the recorded time:

| | |
|-------------|---|
| 0x000 | Run Time was stopped (power loss, boot mode, etc.). The timestamp record is that recorded before the meter be turned off. |
| 0x001 | Run Time has started. |
| 0x002 | Run Time is active (all readings have initialized, polling, logging limits, etc. are enabled) |
| 0x003-0x0FF | Undefined |

The remaining 6 bytes of the sub-fields are undefined.

■ Password Record

The Password System Event record is stored when the administrative password is used or changed. See Security Record for changes in the individual user accounts.

The first byte of the sub-fields indicates what action occurred at the recorded time:

| | |
|-------------|-----------------------------------|
| 0x000 | Password Protection was Enabled. |
| 0x001 | Password Protection was Disabled. |
| 0x002 | The Level 1 Password was changed. |
| 0x003 | The Level 2 Password was changed. |
| 0x004 | Level 1 access was granted. |
| 0x005 | Level 2 access was granted. |
| 0x006 | An invalid password was supplied. |
| 0x007-0x0FF | Undefined |

The second byte of the sub-fields indicates what port was used for the action:

| | |
|-------------|---------------------------------|
| 0x000 | internal use |
| 0x001 | PORT 1 – IR/OPTICAL PORT |
| 0x002 | LCD touch screen |
| 0x003 | ETHERNET 1 |
| 0x004 | ETHERNET 2 |
| 0x005 | PORT 3- RS485 – master or slave |
| 0x006 | reserved, N/A |
| 0x007 | USB only, N/A for UART |
| 0x008 | PORT 4 – RS485, master or slave |
| 0x009 | PORT 2 – UART, USB serial |
| 0x00A-0x0FF | Undefined |

The remaining 5 bytes of the sub-fields are undefined.

■ Change Programmable Settings

The 7 bytes of the sub-fields are undefined.

The first byte of the sub-fields indicates which copy was successfully created and saved. If all bits are zero no copy was successfully created/saved:

| | |
|------------------------------|----------------------|
| Bit 0 (Less significant bit) | = 1 (First copy OK) |
| Bit 1 (Less significant bit) | = 1 (Second copy OK) |
| Bit 2 (Less significant bit) | = 1 (Third copy OK) |
| Bit 3-7 | = Not defined |

The 6 bytes of the sub-fields are undefined.

■ Change Firmware

This event type can generate up two consecutives records.

The first byte of the sub-fields indicates which firmware has been changed:

| | |
|-------------|----------------|
| 0x000 | Comm Run Time |
| 0x001 | DSP 1 Run Time |
| 0x002 | Comm Boot |
| 0x003 | FPGA |
| 0x004 | DSP2 Run Time |
| 0x005-0x0FF | Undefined |

The next 4 bytes of the sub-fields indicates the current major/minor version number of the changed firmware. They major/minor version is left leading with space/zeros. (For FPGA the minor firmware version will be just into the second and third byte)

The sixth byte of the sub-fields indicates the record sequence.

| | |
|-------|---|
| 0x000 | no extra record (for firmware that does not have minor version number) |
| 0x001 | the first record of the sequence, it contains the major version number |
| 0x002 | the second record of the sequence, it contains the minor version number |

The seventh byte of the sub-fields is undefined

■ Change Time

This record is used to indicate manual changes of the time of the meter, as performed via communication commands. Automatic functions, such as IRIG-B or Daylight Savings, are not indicated by this record.

The first byte of the sub-fields indicates which part of the time change this record shows:

| | |
|-------------|---|
| 0x000 | Old Time – The time stamp is the old time of the meter. |
| 0x001 | New Time – The time stamp is the new time of the meter. |
| 0x002 | Old Time – Auto correction, time stamp before correction was made. Internally used, so next byte should be 0. |
| 0x003 | New Time – Auto correction, corrected time stamp. |
| 0x004-0x0FF | Undefined |

The second byte of the sub-fields indicates what port was used to change the time:

| | |
|-------------|---------------------------------|
| 0x000 | internal use |
| 0x001 | PORT 1 – IR/OPTICAL PORT |
| 0x002 | LCD touch screen |
| 0x003 | ETHERNET 1 |
| 0x004 | ETHERNET 2 |
| 0x005 | PORT 3- RS485 – master or slave |
| 0x006 | reserved, N/A |
| 0x007 | USB only, N/A for UART |
| 0x008 | PORT 4 – RS485, master or slave |
| 0x009 | PORT 2 – UART, USB serial |
| 0x00A-0x0FF | Undefined |

The remaining 5 bytes of the sub-fields are undefined.

■ Log Download

When logs are retrieved, the action is recorded in the system event log. When retrieving logs over Ethernet, two records are generated to record the ip address of the software doing the retrieval. When retrieving logs otherwise, only one record is recorded.

FIRST RECORD

The first byte indicates the log download action:

| | |
|-------|---|
| 0x000 | Download Started, Log records while downloading |
| 0x001 | Download Started, Log Paused while downloading |
| 0x002 | Download Ended. |
| 0x003 | Download Ended, dropped records. (Log download using file system access) |

The second byte of the sub-fields indicates which Log was being downloaded:

| | |
|-------|-------------------|
| 0x000 | Interval 1 Log |
| 0x001 | Interval 2 Log |
| 0x002 | Limit Log |
| 0x003 | n/a |
| 0x004 | Digital Input Log |
| 0x005 | n/a |

| | |
|-------------|---------------------------|
| 0x006 | Digital Output Log |
| 0x007 | n/a |
| 0x008 | Flicker Log |
| 0x009 | Waveform Log |
| 0x00A | System Event Log |
| 0x00B | Transient Log |
| 0x00C | PQ Log |
| 0x00D | Reset Log – NOT SUPPORTED |
| 0x00E | Interval Log 3 Log |
| 0x00F | Interval Log 4 Log |
| 0x010 | Interval Log 5 Log |
| 0x011 | Interval Log 6 Log |
| 0x012 | Interval Log 7 Log |
| 0x013 | Interval Log 8 Log |
| 0x014 | Event triggered Log |
| 0x015-0x0FF | Undefined |

The third byte of the sub-fields indicates what port was used to download the log:

| | |
|-------------|---------------------------------|
| 0x000 | internal use |
| 0x001 | PORT 1 – IR/OPTICAL PORT |
| 0x002 | LCD touch screen |
| 0x003 | ETHERNET 1 |
| 0x004 | ETHERNET 2 |
| 0x005 | PORT 3- RS485 – master or slave |
| 0x006 | reserved, N/A |
| 0x007 | USB only, N/A for UART |
| 0x008 | PORT 4 – RS485, master or slave |
| 0x009 | PORT 2 – UART, USB serial |
| 0x00A-0x0FF | Undefined |

The fourth byte of the sub-fields indicates the sequence number: **(Ethernet only)**

| | |
|-------|---------------|
| 0x000 | first record |
| 0x001 | second record |

The fifth byte of the sub-fields indicates the protocol: **(Ethernet only)**

| | |
|-------|------------|
| 0x000 | MODBUS TCP |
| 0x001 | FTP |

The remaining 2 bytes of the sub-fields are the first two bytes of the client IP address

SECOND RECORD

The first fourth bytes of the sub-fields are defined as into the first record.

The fifth and sixth bytes of the sub-fields are the last bytes of the client IP address

The remaining 1 byte of the sub-fields is undefined

■ Feature Reset

A Feature Reset System Event record occurs when a log or accumulator is reset by an external request.

The first byte indicates what feature was being reset:

| | |
|-------|---|
| 0x000 | All Logs Reset |
| 0x001 | Maximum Reset |
| 0x002 | Minimum Reset |
| 0x003 | Energy Reset |
| 0x004 | Time of Use Current Month |
| 0x005 | Internal Input Accumulations and Aggregations |
| 0x006 | KYZ Output Accumulations |
| 0x007 | Cumulative Demand |
| 0x008 | Interval 1 Log Reset |
| 0x009 | Interval 2 Log Reset |
| 0x00A | Limit Log Reset |

| | |
|-------|----------------------------------|
| 0x00B | Digital Input Log Reset |
| 0x00C | Digital Output Log Reset |
| 0x00D | Flicker Log Reset |
| 0x00E | Waveform Log Reset |
| 0x00F | PQ Log Reset |
| 0x010 | System Event Log Reset |
| 0x011 | Total Average Power Factor Reset |
| 0x012 | Time of Use Active registers |
| 0x013 | Test Mode – NOT SUPPORTED |
| 0x014 | Interval 3 Log Reset |
| 0x015 | Interval 4 Log Reset |
| 0x016 | Interval 5 Log Reset |
| 0x017 | Interval 6 Log Reset |
| 0x018 | Interval 7 Log Reset |
| 0x019 | Interval 8 Log Reset |
| 0x01A | Event triggered Log Reset |
| 0x01B | Transient Log Reset |
| 0x01C | EN50160 data reset |
| 0x01D | EN50160 report reset |
| 0x01E | EN50160 log reset |
| 0x01F | EN50160 data preset |

The second byte of the sub-fields indicates what port was used to request the reset.

| | |
|-------------|---------------------------------|
| 0x000 | internal use |
| 0x001 | PORT 1 – IR/OPTICAL PORT |
| 0x002 | LCD touch screen |
| 0x003 | ETHERNET 1 |
| 0x004 | ETHERNET 2 |
| 0x005 | PORT 3- RS485 – master or slave |
| 0x006 | reserved, N/A |
| 0x007 | USB only, N/A for UART |
| 0x008 | PORT 4 – RS485, master or slave |
| 0x009 | PORT 2 – UART, USB serial |
| 0x00A-0x0FF | Undefined |

The remaining 5 bytes of the sub-fields are undefined.

■ System Initialization Problem

The System Initialization System Event records when the meter detected a problem during bootup.

The first byte indicates the problem type:

| | |
|-------------|--------------------|
| 0x000 | Log Initialization |
| 0x001-0x0FF | Undefined |

The second byte of the sub-fields indicates the reason of the problem.

| | |
|--------------|---|
| Bit (0x01) | The log folder into the compact flash has a bad layout: files are out of order, files are missed, file have wrong size, directories exist into that folder |
| Bit 2 (0x02) | The memory allocated is bigger than the memory available |
| Bit 3 (0x04) | The log folder and the system event log file was created |
| Bit 4 (0x08) | Some log files are missed then they are created (This bit should not be set, excepted for special runtime version that allows creating log files) |
| Bit 5 (0x10) | The log files are out of order (This bit should not be set, excepted for special runtime version that allows creating log files) |
| Bit 6 (0x20) | There were extra log files in the end of the log folder and they were deleted (This bit should not be set, excepted for special runtime version that allows creating log files) |
| Bit 7 (0x40) | There were extra files into the log folder (This bit should not be set, excepted for special runtime version that allows creating log files) |

The remaining 5 bytes of the sub-fields are undefined.

■ Change Meter Serial Number

This event generates two consecutive records.

FIRST RECORD:

The first byte of the sub-fields indicates the sequence number.

| | |
|-------|---------------|
| 0x000 | first record |
| 0x001 | second record |

The second byte of the sub-fields indicates what port was used to change the serial number:

| | |
|------------|---------------------------------|
| 0x000 | internal use |
| 0x001 | PORT 1 – IR/OPTICAL PORT |
| 0x002 | LCD touch screen |
| 0x003 | ETHERNET 1 |
| 0x004 | ETHERNET 2 |
| 0x005 | PORT 3- RS485 – master or slave |
| 0x006 | reserved, N/A |
| 0x007 | USB only, N/A for UART |
| 0x008 | PORT 4 – RS485, master or slave |
| 0x009 | PORT 2 – UART, USB serial |
| 0x00A-0xFF | Undefined |

The remaining 5 bytes of the sub-fields are used to save the 5 most significant bytes of the old meter serial number.

SECOND RECORD

The first byte of the sub-fields indicates the sequence number.

| | |
|-------|---------------|
| 0x001 | second record |
|-------|---------------|

The second, third and fourth bytes of the sub-fields are used to save the 3 less significant byte of the old meter serial number

The remaining 3 bytes of the sub-fields are undefined

■ V-switch

A V-Switch system event record indicates the changing of the V-switch of the meter.

The first byte indicates the value of the v-switch to be updated to.

The second byte of the sub-fields indicates what port was used for the action:

| | |
|------------|---------------------------------|
| 0x000 | internal use |
| 0x001 | PORT 1 – IR/OPTICAL PORT |
| 0x002 | LCD touch screen |
| 0x003 | ETHERNET 1 |
| 0x004 | ETHERNET 2 |
| 0x005 | PORT 3- RS485 – master or slave |
| 0x006 | reserved, N/A |
| 0x007 | USB only, N/A for UART |
| 0x008 | PORT 4 – RS485, master or slave |
| 0x009 | PORT 2 – UART, USB serial |
| 0x00A-0xFF | Undefined |

The remaining 5 bytes of the sub-fields are undefined.

■ Security

A Security System Event record occur when a security change occurs, such as changing a username or password used to log onto the meter. See Password Record for changes in the administrative password.

The first byte of the sub-fields indicates what action occurred at the recorded time:

| | |
|-------|--------------------------|
| 0x000 | Sealing switch enabled |
| 0x001 | Sealing switch disabled. |

| | |
|-------------|------------------------------------|
| 0x002 | Network username/password changed. |
| 0x003 | Network privileges changed |
| 0x004-0x0FF | Undefined |

The second byte of the sub-fields indicates what port was used for the action:

| | |
|-------------|---------------------------------|
| 0x000 | internal use |
| 0x001 | PORT 1 – IR/OPTICAL PORT |
| 0x002 | LCD touch screen |
| 0x003 | ETHERNET 1 |
| 0x004 | ETHERNET 2 |
| 0x005 | PORT 3- RS485 – master or slave |
| 0x006 | reserved, N/A |
| 0x007 | USB only, N/A for UART |
| 0x008 | PORT 4 – RS485, master or slave |
| 0x009 | PORT 2 – UART, USB serial |
| 0x00A-0x0FF | Undefined |

The third byte of the sub-fields is just valid for actions 0x002-0x003 and indicates the user account number

| | |
|-------|----------------|
| 0x000 | n/a |
| 0x001 | user account 1 |
| 0x002 | user account 2 |
| 0x003 | user account 3 |
| 0x004 | user account 4 |
| 0x005 | user account 5 |
| 0x006 | user account 6 |
| 0x007 | user account 7 |
| 0x008 | user account 8 |

The remaining 4 bytes of the sub-fields are undefined.

■ Clock Compensation

The first byte indicate if the clock compensation was enabled or disabled:

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|-------|----------|
| 0x000 | Disabled |
| 0x001 | Enabled |

The second byte of the sub-fields indicates what port was used for the action:

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|-------------|---------------------------------|
| 0x000 | internal use |
| 0x001 | PORT 1 – IR/OPTICAL PORT |
| 0x002 | LCD touch screen |
| 0x003 | ETHERNET 1 |
| 0x004 | ETHERNET 2 |
| 0x005 | PORT 3- RS485 – master or slave |
| 0x006 | reserved, N/A |
| 0x007 | USB only, N/A for UART |
| 0x008 | PORT 4 – RS485, master or slave |
| 0x009 | PORT 2 – UART, USB serial |
| 0x00A-0x0FF | Undefined |

The remaining 5 bytes of the sub-fields are undefined.

Glossary

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| 0.1 Second Values: | These values are the RMS values of the indicated quantity as calculated after approximately 50 milliseconds (3 cycles) of sampling. |
| 1 Second Values: | These values are the RMS values of the indicated quantity as calculated after one second (60 cycles) of sampling. |
| Alarm: | An event or condition in a meter that can cause a trigger or call-back to occur. |
| Annunciator: | A short label that identifies particular quantities or values displayed, for example kWh. |
| Average (Current): | When applied to current values (amps) the average is a calculated value that corresponds to the thermal average over a specified time interval. The interval is specified by the user in the meter profile. The interval is typically 15 minutes. So, Average Amps is the thermal average of amps over the previous 15-minute interval. The thermal average rises to 90% of the actual value in each time interval. For example, if a constant 100amp load is applied, the thermal average will indicate 90 amps after one time interval, 99 amps after two time intervals and 99.9 amps after three time intervals. |
| Average (Input Pulse Accumulations): | When applied to Input Pulse Accumulations, the “Average” refers to the block (fixed) window average value of the input pulses. |
| Average (Power): | When applied to power values (watts, VARs, VA), the average is a calculated value that corresponds to the thermal average over a specified time interval. The interval is specified by the user in the meter profile. The interval is typically 15 minutes. So, the Average Watts is the thermal average of watts over the previous 15-minute interval. The thermal average rises to 90% of the actual value in each time interval. For example, if a constant 100kW load is applied, the thermal average will indicate 90kW after one time interval, 99kW after two time intervals and 99.9kW after three time intervals. |
| Bit: | A unit of computer information equivalent to the result of a choice between two alternatives (Yes/No, On/Off, for example). Or, the physical representation of a bit by an electrical pulse whose presence or absence indicates data. |
| Binary: | Relating to a system of numbers having 2 as its base (digits 0 and 1). |
| Block Window Avg: (Power) | The Block (Fixed) Window Average is the average power calculated over a user-set time interval, typically 15 minutes. This calculated average corresponds to the demand calculations performed by most electric utilities in monitoring user power demand. (See Rolling Window Average.) |

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| Byte: | A group of 8 binary digits processed as a unit by a computer (or device) and used especially to represent an alphanumeric character. |
| CBEMA Curve: | A voltage quality curve established originally by the Computer Business Equipment Manufacturers Association. The CBEMA Curve defines voltage disturbances that could cause malfunction or damage in microprocessor devices. The curve is characterized by voltage magnitude and the duration which the voltage is outside of tolerance. (See ITIC Curve.) |
| Channel: | The storage of a single value in each interval in a load profile. |
| CRC Field: | Cyclic Redundancy Check Field (Modbus communication) is an error checksum calculation that enables a Slave device to determine if a request packet from a Master device has been corrupted during transmission. If the calculated value does not match the value in the request packet, the Slave ignores the request. |
| CT (Current) Ratio: | A Current Transformer Ratio is used to scale the value of the current from a secondary value up to the primary side of an instrument transformer. |
| Demand: | The average value of power or a similar quantity over a specified period of time. |
| Demand Interval: | A specified time over which demand is calculated. |
| Display: | User-configurable visual indication of data in a meter. |
| DNP 3.0: | A robust, non-proprietary protocol based on existing open standards. DNP 3.0 is used to operate between various systems in electric and other utility industries and SCADA networks. |
| EEPROM: | Nonvolatile memory. Electrically Erasable Programmable Read Only Memory that retains its data during a power outage without need for a battery. Also refers to meter's FLASH memory. |
| Energy Register: | Programmable record that monitors any energy quantity. Example: Watthours, VARhours, VAhours. |
| Ethernet: | A type of LAN network connection that connects two or more devices on a common communications backbone. An Ethernet LAN consists of at least one hub device (the network backbone) with multiple devices connected to it in a star configuration. The most common versions of Ethernet in use are 10BaseT or 100BaseT as defined in IEEE standards. However, several other versions of Ethernet are also available. |
| Exception Response: | Error Code (Modbus communication) transmitted in a packet from the Slave to the Master if the Slave has encountered an invalid command or other problem. |
| Form: | Wiring and Hookup configuration for the Nexus™ meter. |

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| Harmonics: | Measuring values of the fundamental current and voltage and percent of the fundamental. |
| Integer: | Any of the natural numbers, the negatives of those numbers or zero. |
| Invalid Register: | In the Nexus® meter's Modbus Map there are gaps between Registers. For example, the next Register after 08320 is 34817. Any unmapped Register is said to be invalid. |
| ITIC Curve: | An updated version of the CBEMA Curve that reflects further study into the performance of microprocessor devices. The curve consists of a series of steps but still defines combinations of voltage magnitude and duration that will cause malfunction or damage. |
| K _e : | kWh per pulse; i.e. the energy. |
| kWh: | kilowatt hours; kW x demand interval in hours. |
| KYZ Output: | Output where the rate of changes between 1 and 0 reflects the magnitude of a metered quantity. |
| LCD: | Liquid Crystal Display. |
| LED: | Light Emitting Diode. |
| Master Device: | In Modbus communication, a Master Device initiates and controls all information transfer in the form of a Request Packet to a Slave Device. The Slave responds to each request. |
| Maximum Demand: | The largest demand calculated during any interval over a billing period. |
| Modbus ASCII: | Alternate version of the Modbus protocol that utilizes a different data transfer format. This version is not dependent upon strict timing, as is the RTU version. This is the best choice for telecommunications applications (via modems). |
| Modbus RTU: | The most common form of Modbus protocol. Modbus RTU is an open protocol spoken by many field devices to enable devices from multiple vendors to communicate in a common language. Data is transmitted in a timed binary format, providing increased throughput and therefore, increased performance. |
| Network: | A communications connection between two or more devices to enable those devices to send and receive data to one another. In most applications, the network will be either a serial type or a LAN type. |

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| NVRAM: | Non-volatile Random Access Memory is able to keep the stored values in memory even during the loss of circuit or control power. High speed NVRAM is used in the Nexus® meter to gather measured information and to insure that no information is lost. |
| Optical Port: | A meter port that facilitates infrared communication. Using an ANSI C12.13 Type II magnetic optical communications coupler and an RS232 cable from the coupler to a PC, the meter can be programmed with Communicator EXT software. |
| Packet: | A short fixed-length section of data that is transmitted as a unit. Example: a serial string of 8-bit bytes. |
| Percent (%) THD: | Percent Total Harmonic Distortion. |
| Protocol: | A language that will be spoken between two or more devices connected on a network. |
| PT Ratio: | Potential Transformer Ratio used to scale the value of the voltage to the primary side of an instrument transformer. Also referred to as VT Ratio. |
| Pulse: | The closing and opening of the circuit of a two-wire pulse system or the alternate closing and opening of one side and then the other of a three-wire system (which is equal to two pulses). |
| Quadrant: (Programmable Values and Factors on the Nexus® Meter) | Watt and VAR flow is typically represented using an X-Y coordinate system. The four corners of the X-Y plane are referred to as quadrants. Most power applications label the right hand corner as the first quadrant and number the remaining quadrants in a counter-clockwise rotation. Following are the positions of the quadrants: 1st - upper right, 2nd - upper left, 3rd - lower left and 4th - lower right. Power flow is generally positive in quadrants 1 and 4. VAR flow is positive in quadrants 1 and 2. The most common load conditions are: Quadrant 1 - power flow positive, VAR flow positive, inductive load, lagging or positive power factor; Quadrant 2 - power flow negative, VAR flow positive, capacitive load, leading or negative power factor. |
| Register: | An entry or record that stores a small amount of data. |
| Register Rollover: | A point at which a Register reaches its maximum value and rolls over to zero. |
| Reset: | Logs are cleared or new (or default) values are sent to counters or timers. |
| Rolling Window Average (Power): | The Rolling (Sliding) Window Average is the average power calculated over a user-set time interval that is derived from a specified number of sub-intervals, each of a specified time. For example, the average is calculated over a 15-minute interval by calculating the sum of the average of three consecutive 5-minute intervals. This demand calculation methodology has been adopted by several utilities to prevent customer manipulation of kW demand by simply spreading peak demand across two intervals. |

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| RS232: | A type of serial network connection that connects two devices to enable communication between devices. An RS232 connection connects only two points. Distance between devices is typically limited to fairly short runs. Current standards recommend a maximum of 50 feet but some users have had success with runs up to 100 feet. Communications speed is typically in the range of 1200 bits per second to 57,600 bits per second. RS232 communication can be accomplished using the Optical Port of a meter. |
| RS485: | A type of serial network connection that connects two or more devices to enable communication between the devices. An RS485 connection allows multi-drop communication from one to many points. Distance between devices is typically limited to around 2,000 to 3,000 wire feet. Communications speed is typically in the range of 120 bits per second to 115,000 bits per second. |
| Sag: | A voltage quality event during which the RMS voltage is lower than normal for a period of time, typically from 1/2 cycle to 1 minute. |
| Secondary Rated: | Any Register or pulse output that does not use any CT or VT Ratio. |
| Serial Port: | The type of port used to directly interface with a PC. |
| Slave Device: | In Modbus communication, a Slave Device only receives a Request Packet from a Master Device and responds to the request. A Slave Device cannot initiate communication. |
| Swell: | A voltage quality event during which the RMS voltage is higher than normal for a period of time, typically from 1/2 cycle to 1 minute. |
| TDD: | - The Total Demand Distortion of the current waveform. The ratio of the root sum-square value of the harmonic current to the maximum demand load current. |
| THD: | Total Harmonic Distortion is the combined effect of all harmonics measured in a voltage or current. The THD number is expressed as a percent of the fundamental. For example, a 3% THD indicates that the magnitude of all harmonic distortion measured equals 3% of the magnitude of the fundamental 60Hz quantity. |
| Time Stamp: | A stored representation of the time of an event. Time Stamp can include year, month, day, hour, minute and second and Daylight Savings Time indication. |
| TOU: | Time of Use. |
| Voltage Imbalance: | The ratio of the voltage on a phase to the average voltage on all phases. |

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| Voltage Quality Event: | An instance of abnormal voltage on a phase. The events the meter will track include sags, swells, interruptions and imbalances. |
| VT Ratio: | The Voltage Transformer Ratio is used to scale the value of the voltage to the primary side of an instrument transformer. Also referred to as PT Ratio. |
| Voltage, Vab: | Vab, Vbc, Vca are all Phase-to-Phase voltage measurements. These voltages are measured between the three phase voltage inputs to the meter. |
| Voltage, Van: | Van, Vbn, Vcn are all Phase-to-Neutral voltages applied to the monitor. These voltages are measured between the phase voltage inputs and Vn input to the meter. Technologically, these voltages can be “measured” even when the meter is in a Delta configuration and there is no connection to the Vn input. However, in this configuration, these voltages have limited meaning and are typically not reported. |