Modbus Map: Conext™ Modbus Converter/ComBox Device

⚠ WARNING

UNINTENDED OPERATION

The use of this product with Modbus communications requires expertise in the design, operation, and programming of the device. Only qualified persons should program, install, alter, and commission this product.

When writing values to the device, you must ensure other persons are not working with the device.

Failure to follow these instructions can result in death or serious injury, and/or equipment damage.

⚠ WARNING

LOSS OF CONTROL

Do not assign the same address to two Modbus devices. The entire serial bus may behave unexpectedly if the master device cannot communicate with all the slave devices on the bus.

Failure to follow these instructions can result in death or serious injury, and/or equipment damage.

Overview

This document describes the structure of the Modbus register address map, which is used to configure, control, and monitor the Conext Modbus Converter/ComBox. Use this document with the Modbus Converter Owner's Guide (975-0685-01-01 Revision A or later) or the Conext ComBox Owner's Guide (975-0679-01-01 Revision A or later).

The information in this document is intended for use only by qualified persons who have a detailed technical understanding of the Modbus protocol.

The Modbus map is divided into rows of Modbus registers. Each row indicates the Modbus register address, its name, data type, access type, units, scale, offset, and applicable notes as required. External Modbus Master devices, such as the Schneider Electric M340 PLC, can read and write the Modbus registers to configure, control, or monitor the device remotely.

Schneider Electric

Document Applicability

The Conext Modbus Converter/ComBox Device Modbus map applies to the following products, as listed in Table 1.

Table 1 Applicable Products

Product ID	Product Description
864-1030	GT2.8AU
864-1039-01	GT5.0AU
865-1000	XW6048-120/240-60
865-1000-01	XW6048-120/240-60
865-1005	XW4548-120/240-60
865-1010	XW4024-120/240-60
865-1010-1	XW4024-120-60
865-1030	XW-MPPT60-150
865-1030-1	MPPT 60 150
865-1032	Conext MPPT80-600
865-1035	XW6048 230 50
865-1035-61	XW6048 230 50
865-1040	XW4548-230-50
865-1040-61	XW4548 230 50
865-1045	XW4024 230 50
865-1045-61	XW4024 230 50
865-1050	Conext SCP
865-1060	Conext AGS
865-2524	CSW2525-120/240
865-2524-61	CSW2524-230
865-4024	CSW4024-120/240
865-4024-61	CSW4024-230
878-2801	TX 2800 NA
878-3301	TX 3300 NA
878-3801	TX 3800 NA
878-5001	TX 5000 NA
865-6848-01	Conext XW+ 6848 NA
865-5548-01	Conext XW+ 5548 NA
865-8548-61	Conext XW+ 8548 E
865-7048-61	Conext XW+ 7048 E
865-1058	Conext ComBox
865-1059	Conext Modbus Converter

Supported Modbus Data Types

Table 2 lists the supported data types.

Table 2 Modbus Data Types

Data Type	Description
uint16	unsigned 16-bit integer [0,65535]
uint32	unsigned 32-bit integer [0,4294967295]
sint32	signed 32-bit integer [-2147483648,2147483647]
str<nn>	packed 8-bit character string, where <nn> is the length of characters in the string. Two characters are packed into each Modbus register.
	Example: str20 = 20-character string (packed into 10 Modbus registers) str16 = 16-character string (packed into 8 Modbus registers)

Converting Data to Units of Measurement

Data from a Modbus register is converted to units of measurement using the following algorithm:

result = [(data @ Modbus Register) * scale] + offset

Example: Read the Battery Temperature

The following example shows a conversion of the battery temperature located at Modbus Address 0x009A.

Modbus Address = 0x009A
Scale = 0.01
Offset = -273.0
Data type = uint16 (one Modbus register)
units: deg C

Reading one Modbus Register from address 0x009A yields 0x7440
Apply the offset and scale as follows:

result = (0x7440 * 0.01) + (-273.0)
       = (29760 * 0.01) + (-273.0)
       = 297.60 + (-273.0)
       = 24.60

The conversion yields a battery temperature of 24.60 degrees Celsius.

Writing Modbus Registers

Modbus does not provide an error response when data written to a Modbus Register is out of range or invalid. To confirm that a Modbus Register is correctly written, you should read it back and compare it with the expected value.

Section 1: Conext Modbus Converter/ComBox Device Modbus Map

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x0000	Device Name	str16	rw				
0x000A	FGA Number	str15	r				
0x001E	Firmware Version	str20	r				
0x0028	Modbus Address	uint16	rw		1.0	0.0	
0x002B	Hardware Serial Number	str15	r				
0x003A	UTC Time	uint32	rw		1.0	0.0	
0x003C	Time Zone	uint16	rw		1.0	0.0	See section 2
0x003D	Maintenance Status	uint16	r		1.0	0.0	
0x0040	Bit mask of system status	uint16	r		1.0	0.0	See section 3
0x0041	System Wide Number of Active Faults	uint16	r		1.0	0.0	
0x0042	Generator State	uint16	r		1.0	0.0	0=Off 1=On
0x0043	System Wide Number of Active Warnings	uint16	r		1.0	0.0	
0x0044	PV Harvest Power	uint32	r	W	1.0	0.0	
0x0046	DC Charging Power	uint32	r	W	1.0	0.0	
0x0048	DC Charging Current	uint32	r	A	0.001	0.0	
0x004A	DC Inverting Power	uint32	r	W	1.0	0.0	
0x004C	Grid Voltage	uint32	r	V	0.001	0.0	
0x004E	Grid Frequency	uint32	r	Hz	0.01	0.0	
0x0050	Grid Input Power (APP)	uint32	r	VA	1.0	0.0	
0x0052	Grid Input Power	uint32	r	W	1.0	0.0	
0x0054	Grid Input Current	uint32	r	A	0.001	0.0	
0x0056	Grid Output Power (APP)	uint32	r	VA	1.0	0.0	
0x0058	Grid Output Power	uint32	r	W	1.0	0.0	
0x005A	Sell Current	uint32	r	A	0.001	0.0	
0x005C	AC Generator Power	uint32	r	W	1.0	0.0	
0x005E	Load Output Power	uint32	r	W	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x0060	Load Power (APP)	uint32	r	VA	1.0	0.0	
0x0062	Load Power	uint32	r	W	1.0	0.0	
0x0064	Load Voltage	uint32	r	V	0.001	0.0	
0x0066	Load Frequency	uint32	r	Hz	0.01	0.0	
0x0068	Load Current	uint32	r	A	0.001	0.0	
0x006A	XW Grid Power	sint32	r	W	1.0	0.0	
0x006C	XW Grid Voltage	uint32	r	V	0.001	0.0	
0x006E	XW Grid Frequency	uint32	r	Hz	0.01	0.0	
0x0070	XW Generator Power	uint32	r	W	1.0	0.0	
0x0072	XW Generator Voltage	uint32	r	V	0.001	0.0	
0x0074	XW Generator Frequency	uint32	r	Hz	0.01	0.0	
0x0076	XW Load Power	uint32	r	W	1.0	0.0	
0x0078	XW Load Voltage	uint32	r	V	0.001	0.0	
0x007A	XW Load Frequency	uint32	r	Hz	0.01	0.0	
0x007C	XW Battery Current	sint32	r	A	0.001	0.0	
0x007E	CSW AC1 Power	uint32	r	W	1.0	0.0	
0x0080	CSW AC1 Voltage	uint32	r	V	0.001	0.0	
0x0082	CSW AC1 Frequency	uint32	r	Hz	0.01	0.0	
0x0084	CSW AC Out Power	sint32	r	W	1.0	0.0	
0x0086	CSW AC Out Voltage	uint32	r	V	0.001	0.0	
0x0088	CSW AC Out Frequency	uint32	r	Hz	0.01	0.0	
0x008A	CSW DC Current net	sint32	r	A	0.001	0.0	
0x008C	MPPT PV Power	uint32	r	W	1.0	0.0	
0x008E	MPPT Battery Current	uint32	r	A	0.001	0.0	
0x0090	MPPT Battery Power	uint32	r	W	1.0	0.0	
0x0092	GT PV Power	uint32	r	W	1.0	0.0	
0x0094	GT Grid Power	uint32	r	W	1.0	0.0	
0x0096	GT Grid Voltage	uint32	r	V	0.001	0.0	
0x0098	Battery Voltage	uint32	r	V	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x009A	Battery Temperature	uint32	r	deg C	0.01	-273.0	
0x009C	Battery Current Net	sint32	r	A	0.001	0.0	
0x00A0	DC Input Energy This Hour from battery	uint32	r	kWh	0.001	0.0	
0x00A2	DC Input Active Timer This Hour from battery	uint32	r	s	1.0	0.0	
0x00A4	DC Input Energy Today from battery	uint32	r	kWh	0.001	0.0	
0x00A6	DC Input Active Timer Today from battery	uint32	r	s	1.0	0.0	
0x00A8	DC Input Energy This Week from battery	uint32	r	kWh	0.001	0.0	
0x00AA	DC Input Active Timer This Week from battery	uint32	r	s	1.0	0.0	
0x00AC	DC Input Energy This Month from battery	uint32	r	kWh	0.001	0.0	
0x00AE	DC Input Active Timer This Month from battery	uint32	r	s	1.0	0.0	
0x00B0	DC Input Energy This Year from battery	uint32	r	kWh	0.001	0.0	
0x00B2	DC Input Active Timer This Year from battery	uint32	r	s	1.0	0.0	
0x00B4	DC Input Energy Lifetime from battery	uint32	r	kWh	0.001	0.0	
0x00B6	DC Input Active Timer Lifetime from battery	uint32	r	s	1.0	0.0	
0x00B8	DC Output Energy This Hour to battery	uint32	r	kWh	0.001	0.0	
0x00BA	DC Output Active Timer This Hour to battery	uint32	r	s	1.0	0.0	
0x00BC	DC Output Energy Today to battery	uint32	r	kWh	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x00BE	DC Output Active Timer Today to battery	uint32	r	s	1.0	0.0	
0x00C0	DC Output Energy This Week to battery	uint32	r	kWh	0.001	0.0	
0x00C2	DC Output Active Timer This Week to battery	uint32	r	s	1.0	0.0	
0x00C4	DC Output Energy This Month to battery	uint32	r	kWh	0.001	0.0	
0x00C6	DC Output Active Timer This Month to battery	uint32	r	s	1.0	0.0	
0x00C8	DC Output Energy This Year to battery	uint32	r	kWh	0.001	0.0	
0x00CA	DC Output Active Timer This Year to battery	uint32	r	s	1.0	0.0	
0x00CC	DC Output Energy Lifetime to battery	uint32	r	kWh	0.001	0.0	
0x00CE	DC Output Active Timer Lifetime to battery	uint32	r	s	1.0	0.0	
0x00D0	GRID Input Energy This Hour	uint32	r	kWh	0.001	0.0	
0x00D2	GRID Input Active Timer This Hour	uint32	r	s	1.0	0.0	
0x00D4	GRID Input Energy Today	uint32	r	kWh	0.001	0.0	
0x00D6	GRID Input Active Timer Today	uint32	r	s	1.0	0.0	
0x00D8	GRID Input Energy This Week	uint32	r	kWh	0.001	0.0	
0x00DA	GRID Input Active Timer This Week	uint32	r	s	1.0	0.0	
0x00DC	GRID Input Energy This Month	uint32	r	kWh	0.001	0.0	
0x00DE	GRID Input Active Timer This Month	uint32	r	s	1.0	0.0	
0x00E0	GRID Input Energy This Year	uint32	r	kWh	0.001	0.0	
0x00E2	GRID Input Active Timer This Year	uint32	r	s	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x00E4	GRID Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x00E6	GRID Input Active Timer Lifetime	uint32	r	s	1.0	0.0	
0x00E8	GRID Output Energy This Hour	uint32	r	kWh	0.001	0.0	
0x00EA	GRID Output Active Timer This Hour	uint32	r	s	1.0	0.0	
0x00EC	GRID Output Energy Today	uint32	r	kWh	0.001	0.0	
0x00EE	GRID Output Active Timer Today	uint32	r	s	1.0	0.0	
0x00F0	GRID Output Energy This Week	uint32	r	kWh	0.001	0.0	
0x00F2	GRID Output Active Timer This Week	uint32	r	s	1.0	0.0	
0x00F4	GRID Output Energy This Month	uint32	r	kWh	0.001	0.0	
0x00F6	GRID Output Active Timer This Month	uint32	r	s	1.0	0.0	
0x00F8	GRID Output Energy This Year	uint32	r	kWh	0.001	0.0	
0x00FA	GRID Output Active Timer This Year	uint32	r	s	1.0	0.0	
0x00FC	GRID Output Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x00FE	GRID Output Active Timer Lifetime	uint32	r	s	1.0	0.0	
0x0100	AC Load Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0102	AC Load Active Timer This Hour	uint32	r	s	1.0	0.0	
0x0104	AC Load Energy Today	uint32	r	kWh	0.001	0.0	
0x0106	AC Load Active Timer Today	uint32	r	s	1.0	0.0	
0x0108	AC Load Energy This Week	uint32	r	kWh	0.001	0.0	
0x010A	AC Load Active Timer This Week	uint32	r	s	1.0	0.0	
0x010C	AC Load Energy This Month	uint32	r	kWh	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x010E	AC Load Active Timer This Month	uint32	r	s	1.0	0.0	
0x0110	AC Load Energy This Year	uint32	r	kWh	0.001	0.0	
0x0112	AC Load Active Timer This Year	uint32	r	s	1.0	0.0	
0x0114	AC Load Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x0116	AC Load Active Timer Lifetime	uint32	r	s	1.0	0.0	
0x0118	GEN Input Energy This Hour	uint32	r	kWh	0.001	0.0	
0x011A	GEN Input Active Timer This Hour	uint32	r	s	1.0	0.0	
0x011C	GEN Input Energy Today	uint32	r	kWh	0.001	0.0	
0x011E	GEN Input Active Timer Today	uint32	r	s	1.0	0.0	
0x0120	GEN Input Energy This Week	uint32	r	kWh	0.001	0.0	
0x0122	GEN Input Active Timer This Week	uint32	r	s	1.0	0.0	
0x0124	GEN Input Energy This Month	uint32	r	kWh	0.001	0.0	
0x0126	GEN Input Active Timer This Month	uint32	r	s	1.0	0.0	
0x0128	GEN Input Energy This Year	uint32	r	kWh	0.001	0.0	
0x012A	GEN Input Active Timer This Year	uint32	r	s	1.0	0.0	
0x012C	GEN Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x012E	GEN Input Active Timer Lifetime	uint32	r	s	1.0	0.0	
0x0130	PV Input Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0132	PV Input Active Timer This Hour	uint32	r	s	1.0	0.0	
0x0134	PV Input Energy Today	uint32	r	kWh	0.001	0.0	
0x0136	PV Input Active Timer Today	uint32	r	s	1.0	0.0	
0x0138	PV Input Energy This Week	uint32	r	kWh	0.001	0.0	
0x013A	PV Input Active Timer This Week	uint32	r	s	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x013C	PV Input Energy This Month	uint32	r	kWh	0.001	0.0	
0x013E	PV Input Active Timer This Month	uint32	r	s	1.0	0.0	
0x0140	PV Input Energy This Year	uint32	r	kWh	0.001	0.0	
0x0142	PV Input Active Timer This Year	uint32	r	s	1.0	0.0	
0x0144	PV Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x0146	PV Input Active Timer Lifetime	uint32	r	s	1.0	0.0	
0x0148	Generator Current Line 1	uint32	r	A	0.001	0.0	
0x014A	Generator Current Line 2	uint32	r	A	0.001	0.0	
0x014C	Load Current Line 1	uint32	r	A	0.001	0.0	
0x014E	Load Current Line 2	uint32	r	A	0.001	0.0	
0x0150	Grid Input Current Line 1	uint32	r	A	0.001	0.0	
0x0152	Grid Input Current Line 2	uint32	r	A	0.001	0.0	
0x0154	Grid Output Current Line 1	uint32	r	A	0.001	0.0	
0x0156	Grid Output Current Line 2	uint32	r	A	0.001	0.0	
0x0158	Battery Power Net	sint32	r	W	1.0	0.0	
0x015A	Last Full Charge	uint32	r		1.0	0.0	
0x015C	Generator Voltage	uint32	r	V	0.001	0.0	
0x015E	Generator Frequency	uint32	r	Hz	0.01	0.0	
0x0160	Total Generator Current	uint32	r	A	0.001	0.0	
0x0162	PV Voltage	uint32	r	V	0.001	0.0	
0x0164	Total PV Current	uint32	r	A	0.001	0.0	
0x0166	Grid Output Current	uint32	r	A	0.001	0.0	
0x0168	Grid-Tie to Load Power	uint32	r	W	1.0	0.0	
0x016A	Grid-Tie to Load Energy This Hour	uint32	r	kWh	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x016C	Grid-Tie to Load Energy Today	uint32	r	s	1.0	0.0	
0x016E	Grid-Tie to Load Energy This Week	uint32	r	kWh	0.001	0.0	
0x0170	Grid-Tie to Load Energy This Month	uint32	r	s	1.0	0.0	
0x0172	Grid-Tie to Load Energy This Year	uint32	r	kWh	0.001	0.0	
0x0174	Grid-Tie to Load Energy Lifetime	uint32	r	s	1.0	0.0	
0x0176	Grid-Tie to Load Active This Hour	uint32	r	kWh	0.001	0.0	
0x0178	Grid-Tie to Load Active Today	uint32	r	s	1.0	0.0	
0x017A	Grid-Tie to Load Active This Week	uint32	r	kWh	0.001	0.0	
0x017C	Grid-Tie to Load Active This Month	uint32	r	s	1.0	0.0	
0x017E	Grid-Tie to Load Active This Year	uint32	r	kWh	0.001	0.0	
0x0180	Grid-Tie to Load Active Lifetime	uint32	r	s	1.0	0.0	
0x0182	Grid-Tie to Grid Power	uint32	r	W	1.0	0.0	
0x0184	Grid-Tie to Grid Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0186	Grid-Tie to Grid Energy Today	uint32	r	s	1.0	0.0	
0x0188	Grid-Tie to Grid Energy This Week	uint32	r	kWh	0.001	0.0	
0x018A	Grid-Tie to Grid Energy This Month	uint32	r	s	1.0	0.0	
0x018C	Grid-Tie to Grid Energy This Year	uint32	r	kWh	0.001	0.0	
0x018E	Grid-Tie to Grid Energy Lifetime	uint32	r	s	1.0	0.0	
0x0190	Grid-Tie to Grid Active This Hour	uint32	r	kWh	0.001	0.0	
0x0192	Grid-Tie to Grid Active Today	uint32	r	s	1.0	0.0	
0x0194	Grid-Tie to Grid Active This Week	uint32	r	kWh	0.001	0.0	
0x0196	Grid-Tie to Grid Active This Month	uint32	r	s	1.0	0.0	
0x0198	Grid-Tie to Grid Active This Year	uint32	r	kWh	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x019A	Grid-Tie to Grid Active Lifetime	uint32	r	s	1.0	0.0	
0x0200	Battery Bank 1 Voltage	uint32	r	V	0.001	0.0	
0x0202	Battery Bank 1 Current	sint32	r	A	0.001	0.0	
0x0204	Battery Bank 1 Temperature	uint32	r	deg C	0.01	-273.0	
0x0206	Battery Bank 1 Charging Current	uint32	r	A	0.001	0.0	
0x0208	Battery Bank 1 Charging Power	uint32	r	W	1.0	0.0	
0x020A	Battery Bank 1 Inverting Current	uint32	r	A	0.001	0.0	
0x020C	Battery Bank 1 Inverting Power	uint32	r	W	1.0	0.0	
0x020E	Battery Bank 2 Voltage	uint32	r	V	0.001	0.0	
0x0210	Battery Bank 2 Current	sint32	r	A	0.001	0.0	
0x0212	Battery Bank 2 Temperature	uint32	r	deg C	0.01	-273.0	
0x0214	Battery Bank 2 Charging Current	uint32	r	A	0.001	0.0	
0x0216	Battery Bank 2 Charging Power	uint32	r	W	1.0	0.0	
0x0218	Battery Bank 2 Inverting Current	uint32	r	A	0.001	0.0	
0x021A	Battery Bank 2 Inverting Power	uint32	r	W	1.0	0.0	
0x021C	Battery Bank 3 Voltage	uint32	r	V	0.001	0.0	
0x021E	Battery Bank 3 Current	sint32	r	A	0.001	0.0	
0x0220	Battery Bank 3 Temperature	uint32	r	deg C	0.01	-273.0	
0x0222	Battery Bank 3 Charging Current	uint32	r	A	0.001	0.0	
0x0224	Battery Bank 3 Charging Power	uint32	r	W	1.0	0.0	
0x0226	Battery Bank 3 Inverting Current	uint32	r	A	0.001	0.0	
0x0228	Battery Bank 3 Inverting Power	uint32	r	W	1.0	0.0	
0x022A	Battery Bank 4 Voltage	uint32	r	V	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x022C	Battery Bank 4 Current	sint32	r	A	0.001	0.0	
0x022E	Battery Bank 4 Temperature	uint32	r	deg C	0.01	-273.0	
0x0230	Battery Bank 4 Charging Current	uint32	r	A	0.001	0.0	
0x0232	Battery Bank 4 Charging Power	uint32	r	W	1.0	0.0	
0x0234	Battery Bank 4 Inverting Current	uint32	r	A	0.001	0.0	
0x0236	Battery Bank 4 Inverting Power	uint32	r	W	1.0	0.0	
0x0238	Battery Bank 5 Voltage	uint32	r	V	0.001	0.0	
0x023A	Battery Bank 5 Current	sint32	r	A	0.001	0.0	
0x023C	Battery Bank 5 Temperature	uint32	r	deg C	0.01	-273.0	
0x023E	Battery Bank 5 Charging Current	uint32	r	A	0.001	0.0	
0x0240	Battery Bank 5 Charging Power	uint32	r	W	1.0	0.0	
0x0242	Battery Bank 5 Inverting Current	uint32	r	A	0.001	0.0	
0x0244	Battery Bank 5 Inverting Power	uint32	r	W	1.0	0.0	
0x0280	Battery Bank 1 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0282	Battery Bank 1 Charging Energy Today	uint32	r	kWh	0.001	0.0	
0x0284	Battery Bank 1 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
0x0286	Battery Bank 1 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
0x0288	Battery Bank 1 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
0x028A	Battery Bank 1 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x028C	Battery Bank 1 Charging Active This Hour	uint32	r	s	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x028E	Battery Bank 1 Charging Active Today	uint32	r	s	1.0	0.0	
0x0290	Battery Bank 1 Charging Active This Week	uint32	r	s	1.0	0.0	
0x0292	Battery Bank 1 Charging Active This Month	uint32	r	s	1.0	0.0	
0x0294	Battery Bank 1 Charging Active This Year	uint32	r	s	1.0	0.0	
0x0296	Battery Bank 1 Charging Active Lifetime	uint32	r	s	1.0	0.0	
0x0298	Battery Bank 1 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
0x029A	Battery Bank 1 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
0x029C	Battery Bank 1 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	
0x029E	Battery Bank 1 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
0x02A0	Battery Bank 1 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
0x02A2	Battery Bank 1 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x02A4	Battery Bank 1 Inverting Active This Hour	uint32	r	s	1.0	0.0	
0x02A6	Battery Bank 1 Inverting Active Today	uint32	r	s	1.0	0.0	
0x02A8	Battery Bank 1 Inverting Active This Week	uint32	r	s	1.0	0.0	
0x02AA	Battery Bank 1 Inverting Active This Month	uint32	r	s	1.0	0.0	
0x02AC	Battery Bank 1 Inverting Active This Year	uint32	r	s	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x02AE	Battery Bank 1 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
0x02B0	Battery Bank 2 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
0x02B2	Battery Bank 2 Charging Energy Today	uint32	r	kWh	0.001	0.0	
0x02B4	Battery Bank 2 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
0x02B6	Battery Bank 2 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
0x02B8	Battery Bank 2 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
0x02BA	Battery Bank 2 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x02BC	Battery Bank 2 Charging Active This Hour	uint32	r	s	1.0	0.0	
0x02BE	Battery Bank 2 Charging Active Today	uint32	r	s	1.0	0.0	
0x02C0	Battery Bank 2 Charging Active This Week	uint32	r	s	1.0	0.0	
0x02C2	Battery Bank 2 Charging Active This Month	uint32	r	s	1.0	0.0	
0x02C4	Battery Bank 2 Charging Active This Year	uint32	r	s	1.0	0.0	
0x02C6	Battery Bank 2 Charging Active Lifetime	uint32	r	s	1.0	0.0	
0x02C8	Battery Bank 2 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
0x02CA	Battery Bank 2 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
0x02CC	Battery Bank 2 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x02CE	Battery Bank 2 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
0x02D0	Battery Bank 2 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
0x02D2	Battery Bank 2 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x02D4	Battery Bank 2 Inverting Active This Hour	uint32	r	s	1.0	0.0	
0x02D6	Battery Bank 2 Inverting Active Today	uint32	r	s	1.0	0.0	
0x02D8	Battery Bank 2 Inverting Active This Week	uint32	r	s	1.0	0.0	
0x02DA	Battery Bank 2 Inverting Active This Month	uint32	r	s	1.0	0.0	
0x02DC	Battery Bank 2 Inverting Active This Year	uint32	r	s	1.0	0.0	
0x02DE	Battery Bank 2 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
0x02E0	Battery Bank 3 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
0x02E2	Battery Bank 3 Charging Energy Today	uint32	r	kWh	0.001	0.0	
0x02E4	Battery Bank 3 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
0x02E6	Battery Bank 3 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
0x02E8	Battery Bank 3 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
0x02EA	Battery Bank 3 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x02EC	Battery Bank 3 Charging Active This Hour	uint32	r	s	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x02EE	Battery Bank 3 Charging Active Today	uint32	r	s	1.0	0.0	
0x02F0	Battery Bank 3 Charging Active This Week	uint32	r	s	1.0	0.0	
0x02F2	Battery Bank 3 Charging Active This Month	uint32	r	s	1.0	0.0	
0x02F4	Battery Bank 3 Charging Active This Year	uint32	r	s	1.0	0.0	
0x02F6	Battery Bank 3 Charging Active Lifetime	uint32	r	s	1.0	0.0	
0x02F8	Battery Bank 3 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
0x02FA	Battery Bank 3 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
0x02FC	Battery Bank 3 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	
0x02FE	Battery Bank 3 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
0x0300	Battery Bank 3 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
0x0302	Battery Bank 3 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x0304	Battery Bank 3 Inverting Active This Hour	uint32	r	s	1.0	0.0	
0x0306	Battery Bank 3 Inverting Active Today	uint32	r	s	1.0	0.0	
0x0308	Battery Bank 3 Inverting Active This Week	uint32	r	s	1.0	0.0	
0x030A	Battery Bank 3 Inverting Active This Month	uint32	r	s	1.0	0.0	
0x030C	Battery Bank 3 Inverting Active This Year	uint32	r	s	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x030E	Battery Bank 3 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
0x0310	Battery Bank 4 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0312	Battery Bank 4 Charging Energy Today	uint32	r	kWh	0.001	0.0	
0x0314	Battery Bank 4 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
0x0316	Battery Bank 4 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
0x0318	Battery Bank 4 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
0x031A	Battery Bank 4 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x031C	Battery Bank 4 Charging Active This Hour	uint32	r	s	1.0	0.0	
0x031E	Battery Bank 4 Charging Active Today	uint32	r	s	1.0	0.0	
0x0320	Battery Bank 4 Charging Active This Week	uint32	r	s	1.0	0.0	
0x0322	Battery Bank 4 Charging Active This Month	uint32	r	s	1.0	0.0	
0x0324	Battery Bank 4 Charging Active This Year	uint32	r	s	1.0	0.0	
0x0326	Battery Bank 4 Charging Active Lifetime	uint32	r	s	1.0	0.0	
0x0328	Battery Bank 4 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
0x032A	Battery Bank 4 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
0x032C	Battery Bank 4 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x032E	Battery Bank 4 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
0x0330	Battery Bank 4 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
0x0332	Battery Bank 4 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x0334	Battery Bank 4 Inverting Active This Hour	uint32	r	s	1.0	0.0	
0x0336	Battery Bank 4 Inverting Active Today	uint32	r	s	1.0	0.0	
0x0338	Battery Bank 4 Inverting Active This Week	uint32	r	s	1.0	0.0	
0x033A	Battery Bank 4 Inverting Active This Month	uint32	r	s	1.0	0.0	
0x033C	Battery Bank 4 Inverting Active This Year	uint32	r	s	1.0	0.0	
0x033E	Battery Bank 4 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
0x0340	Battery Bank 5 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0342	Battery Bank 5 Charging Energy Today	uint32	r	kWh	0.001	0.0	
0x0344	Battery Bank 5 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
0x0346	Battery Bank 5 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
0x0348	Battery Bank 5 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
0x034A	Battery Bank 5 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x034C	Battery Bank 5 Charging Active This Hour	uint32	r	s	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x034E	Battery Bank 5 Charging Active Today	uint32	r	s	1.0	0.0	
0x0350	Battery Bank 5 Charging Active This Week	uint32	r	s	1.0	0.0	
0x0352	Battery Bank 5 Charging Active This Month	uint32	r	s	1.0	0.0	
0x0354	Battery Bank 5 Charging Active This Year	uint32	r	s	1.0	0.0	
0x0356	Battery Bank 5 Charging Active Lifetime	uint32	r	s	1.0	0.0	
0x0358	Battery Bank 5 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
0x035A	Battery Bank 5 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
0x035C	Battery Bank 5 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	
0x035E	Battery Bank 5 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
0x0360	Battery Bank 5 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
0x0362	Battery Bank 5 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x0364	Battery Bank 5 Inverting Active This Hour	uint32	r	s	1.0	0.0	
0x0366	Battery Bank 5 Inverting Active Today	uint32	r	s	1.0	0.0	
0x0368	Battery Bank 5 Inverting Active This Week	uint32	r	s	1.0	0.0	
0x036A	Battery Bank 5 Inverting Active This Month	uint32	r	s	1.0	0.0	
0x036C	Battery Bank 5 Inverting Active This Year	uint32	r	s	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x036E	Battery Bank 5 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
0x0380	ComBox Mode	uint32	r		1.0	0.0	0=Stand-alone 1=Multicluster Master 2=Multicluster Slave
0x0382	External Contactor Status	uint32	r		1.0	0.0	0=CLOSE 1=OPEN
0x0384	Weather Station Irradiance	sint32	r	W/Sq-m	1.0	0.0	
0x0386	Weather Station Temperature	sint32	r	deg C	0.1	0.0	
0x0388	Weather Sation Operting Mode	uint32	r		1.0	0.0	1=Normal Mode 2=Service Mode 3=Calibration Mode 4=Factory Mode 5=Error mode
0x038A	Solar Inverter Curtailment Status	uint32	r		1.0	0.0	0=Off 1=On
0x038C	Solar Inverter Output Power	uint32	r	W	1.0	0.0	
0x038E	Solar Inverter Frequency	uint32	r	Hz	0.01	0.0	
0x0390	PV AC Output Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0392	PV AC Output Energy Today	uint32	r	kWh	0.001	0.0	
0x0394	PV AC Output Energy This Week	uint32	r	kWh	0.001	0.0	
0x0396	PV AC Output Energy This Month	uint32	r	kWh	0.001	0.0	
0x0398	PV AC Output Energy This Year	uint32	r	kWh	0.001	0.0	
0x039A	PV AC Output Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x039C	PV AC Output Active This Hour	uint32	r	kWh	0.001	0.0	
0x039E	PV AC Output Active Today	uint32	r	kWh	0.001	0.0	
0x03A0	PV AC Output Active This Week	uint32	r	kWh	0.001	0.0	
0x03A2	PV AC Output Active This Month	uint32	r	kWh	0.001	0.0	
0x03A4	PV AC Output Active This Year	uint32	r	kWh	0.001	0.0	
0x03A6	PV AC Output Active Lifetime	uint32	r	kWh	0.001	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x03A8	Grid Voltage Line 1	uint32	r	V	0.001	0.0	
0x03AA	Grid Current Line 1	sint32	r	A	0.001	0.0	
0x03AC	Grid Voltage Line 2	uint32	r	V	0.001	0.0	
0x03AE	Grid Current Line 2	sint32	r	A	0.001	0.0	
0x03B0	Grid Voltage Line 3	uint32	r	V	0.001	0.0	
0x03B2	Grid Current Line 3	sint32	r	A	0.001	0.0	
0x03B4	Generator Running Since	uint32	r	s	1.0	0.0	This is a timestamp in seconds with POSIX format.
0x03B6	Generator Voltage Line1	uint32	r	V	0.001	0.0	
0x03B8	Generator Voltage Line 2	uint32	r	V	0.001	0.0	
0x03BA	Generator Voltage Line 3	uint32	r	V	0.001	0.0	
0x03BC	Generator Current Line 3	uint32	r	A	0.001	0.0	
0x03BE	Load Voltage Line 1	uint32	r	V	0.001	0.0	
0x03C0	Load Voltage Line 2	uint32	r	V	0.001	0.0	
0x03C2	Load Voltage Line 3	uint32	r	V	0.001	0.0	
0x03C4	Load Current Line 3	uint32	r	A	0.001	0.0	
0x03C6	Battery Bank1 Power	sint32	r	W	1.0	0.0	
0x03C8	Battery Bank1 SOC	uint32	r	%	1.0	0.0	
0x03CA	Battery Bank 1 Capacity Remaining	uint32	r	Ah	1.0	0.0	
0x03CC	Battery Bank 1 Time Until Recharge	uint32	r	s	1.0	0.0	
0x03CE	Battery Bank 1 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
0x03D0	Battery Bank 2 Power	sint32	r	W	1.0	0.0	
0x03D2	Battery Bank 2 SOC	uint32	r	%	1.0	0.0	
0x03D4	Battery Bank 2 Capacity Remaining	uint32	r	Ah	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x03D6	Battery Bank 2 Time Until Recharge	uint32	r	s	1.0	0.0	
0x03D8	Battery Bank 2 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
0x03DA	Battery Bank 3 Power	sint32	r	W	1.0	0.0	
0x03DC	Battery Bank 3 SOC	uint32	r	%	1.0	0.0	
0x03DE	Battery Bank 3 Capacity Remaining	uint32	r	Ah	1.0	0.0	
0x03E0	Battery Bank 3 Time Until Recharge	uint32	r	s	1.0	0.0	
0x03E2	Battery Bank 3 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
0x03E4	Battery Bank 4 Power	sint32	r	W	1.0	0.0	
0x03E6	Battery Bank 4 SOC	uint32	r	%	1.0	0.0	
0x03E8	Battery Bank 4 Capacity Remaining	uint32	r	Ah	1.0	0.0	
0x03EA	Battery Bank 4 Time Until Recharge	uint32	r	s	1.0	0.0	
0x03EC	Battery Bank 4 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
0x03EE	Battery Bank 5 power	sint32	r	W	1.0	0.0	
0x03F0	Battery Bank 5 SOC	uint32	r	%	1.0	0.0	
0x03F2	Battery Bank 5 Capacity Remaining	uint32	r	Ah	1.0	0.0	
0x03F4	Battery Bank 5 Time Until Recharge	uint32	r	s	1.0	0.0	
0x03F6	Battery Bank 5 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
0x03F8	Grid Net Power	sint32	r	W	1.0	0.0	
0x03FA	PV Total Power	uint32	r	W	1.0	0.0	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x03FC	Battery Bank Total Inverting Power	uint32	r	W	1.0	0.0	
0x03FE	Battery Bank Total Charging Power	uint32	r	W	1.0	0.0	
0x0402	PV AC Voltage Line 1	uint32	r	V	0.001	0.0	
0x0404	PV AC Current Line 1	uint32	r	A	0.001	0.0	
0x0406	PV AC Voltage Line 2	uint32	r	V	0.001	0.0	
0x0408	PV AC Current Line 2	uint32	r	A	0.001	0.0	
0x040A	PV AC Voltage Line 3	uint32	r	V	0.001	0.0	
0x040C	PV AC Current Line 3	uint32	r	A	0.001	0.0	
0x040E	PV Total Power Max	uint32	r	W	1.0	0.0	
0x0410	Load Power Max	uint32	r	W	1.0	0.0	
0x0412	PV Total Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0414	PV Total Energy Today	uint32	r	kWh	0.001	0.0	
0x0416	PV Total Energy This Week	uint32	r	kWh	0.001	0.0	
0x0418	PV Total Energy This Month	uint32	r	kWh	0.001	0.0	
0x041A	PV Total Energy This Year	uint32	r	kWh	0.001	0.0	
0x041C	PV Total Energy Lifetime	uint32	r	kWh	0.001	0.0	

Section 2: Valid Time Zone Settings

Configure Time Zone using one of the following values:

- 0=International-Date-Line-West
- 1=Midway-Island
- 2=Hawaiian
- 3=Alaska
- 4=Pacific-Time US Canada Tijuana
- 5=Mountain-Time US Canada
- 6=Chihuahua Mazatlan
- 7=Arizona

- 8=Central-Time US Canada
- 9=Saskatchewan
- 10=Guadalajara Mexico-City Monterrey
- 11=Central America
- 12=Eastern-Time US Canada
- 13=Indiana-East
- 14=Bogota
- 15=Lima
- 16=Quito
- 17=Atlantic-Time Canada
- 18=Caracas
- 19=LaPaz
- 20=Santiago
- 21=Georgetown
- 22=Newfoundland Labrador
- 23=Brasilia
- 24=Buenos Aires
- 25=Greenland-Nuuk
- 26=Greenland-Qaanaaq
- 27=Mid-Atlantic
- 28=Azores
- 29=Cape-Verde-Islands
- 30=Edinburgh-London
- 31=Dublin
- 32=Lisbon
- 33=Casablanca Monrovia
- 34=Belgrade Bratislava Budapest Ljubljana Prague
- 35=Sarajevo Skopje Warsaw Zagreb
- 36=Brussels Copenhagen Madrid Paris
- 37=Amsterdam Berlin Bern Rome Stockholm Vienna
- 38=West-Central-Africa
- 39=Bucharest
- 40=Cairo
- 41=Helsinki Kiev Riga Sofia Tallinn Vilnius
- 42=Athens Istanbul
- 43=Jerusalem
- 44=Harare
- 45=Pretoria
- 46=Minsk
- 47=Kuwait Riyadh Baghdad
- 48=Nairobi
- 49=Tehran
- 50=Moscow St.Petersburg

- 51=Volgograd
- 52=Abu-Dhabi Muscat
- 53=Yerevan
- 54=Tbilisi
- 55=Baku
- 56=Kabul
- 57=Islamabad Karachi
- 58=Tashkent
- 59=Chennai Kolkata Mumbai New-Delhi
- 60=Sri-Jayawardenepura
- 61=Kathmandu
- 62=Astana Almaty
- 63=Dhaka
- 64=Yekaterinburg
- 65=Yangon Rangoon
- 66=Novosibirsk
- 67=Bangkok Hanoi
- 68=Jakarta
- 69=Krasnoyarsk
- 70=Beijing Chongqing Hong-Kong-SAR Urumqi
- 71=Kuala-Lumpur
- 72=Singapore
- 73=Taipei
- 74=Perth
- 75=Ulaanbaatar
- 76=Irkutsk
- 77=Seoul
- 78=Osaka Sapporo Tokyo
- 79=Yakutsk
- 80=Dar/win
- 81=Adelaide
- 82=Canberra Melbourne Sydney Hobart
- 83=Brisbane
- 84=Vladivostok
- 85=Guam
- 86=Port-Moresby
- 87=Magadan
- 88=Solomon-Islands
- 89=New-Caledonia
- 90=Fiji-Islands
- 91=Kamchatka
- 92=Marshall-Islands
- 93=Auckland Wellington

- 94=Nukualofa
- 95=Samoa

Section 3: System Power Flow

The bitmap shows the direction of power flow within the system. You can set multiple bits concurrently. Configure Bit mask of system status using one of the following values:

- bit0=Grid to Load
- bit1=Gen to Load
- bit2=Reserved
- bit3=Batt to Grid
- bit4=Grid to Batt
- bit5=Gen to Batt
- bit6=PV to Batt
- bit7=PV to Grid
- bit8=Batt to Load

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