D.MODBUS RTU REGISTER LISTING

*REGISTERS*

Per the Modbus Application Protocol Specification (V1.1b)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Meaning (2 bytes each register) | Number  of  Registers | Return  Data  Format | Read  Write | Requires  Storage  Initiate | Register # | |
| dec | hex |
| ## Relay ## | | | | | | | |
| Relay Number to read/write | Relay number to access data (0 - Relay 1, 1 - Relay 2,  2 - Relay 3) | 1 | 16 bit  Integer | RW |  | 21 | 15 |
| Relay Type | Read/Write Relay Type (0 - Fault Type, 1 - Alarm  Type, 2 - Disabled, 3 - Timed) | 1 | 16 bit  Integer | RW | Y | 22 | 16 |
| Relay ON Setpoint (hi word) | Read/Write Relay ON Setpoint (byte 3 and byte 2) | 2 | 32 bit  Floating  Point | RW | Y | 23 | 17 |
| Relay ON Setpoint (lo word) | Read/Write Relay ON Setpoint (byte 1 and byte 0) | 24 | 18 |
| Relay OFF Setpoint (hi  word) | Read/Write Relay OFF Setpoint (byte 3 and byte 2) | 2 | 32 bit Floating Point | RW | Y | 25 | 19 |
| Relay OFF Setpoint (lo  word) | Read/Write Relay OFF Setpoint (byte 1 and byte 0) | 26 | 1A |
| Relay ON Delay (hi word) | Read/Write Relay turn on Delay time (byte 3 and  byte 2) | 2 | 32 bit Floating Point | RW | Y | 27 | 1B |
| Relay ON Delay (lo word) | Read/Write Relay turn on Delay time (byte 1 and  byte 0) | 28 | 1C |
| Relay OFF Delay (hi word) | Read/Write Relay turn off Delay time (byte 3 and  byte 2) | 2 | 32 bit Floating Point | RW | Y | 29 | 1D |
| Relay OFF Delay (lo word) | Read/Write Relay turn off Delay time (byte 1 and  byte 0) | 30 | 1E |
| Relay Energized State | Read/Write Relay 0 - Energized, 1 - De-Energized | 1 | 16 bit  Integer | RW | Y | 31 | 1F |
| Relay Expiration | Read/Write Expiration Time, used with alarm type (0  - None, 2 - 5min., 3 - 10min., 4 - 15min., 6 - 30min.) | 1 | 16 bit  Integer | RW | Y | 32 | 20 |
| Relay Period | Read/Write Timed Relay Period (0 - 15min., 1 -  30min., 2 - 1hr., 3 - 2hr., 4 - 4hr., 5 - 8hr., 6 - 24hr.) | 1 | 16 bit  Integer | RW | Y | 33 | 21 |
| Relay Duration | Read/Write Timed Relay Duration (0 - 15sec., 1 -  30sec., 2 - 1min., 3 - 2min., 4 - 5min., 5 - 15min., 6 -  10min.) | 1 | 16 bit  Integer | RW | Y | 34 | 22 |
| Relay Hold Time | Read/Write Timed Relay Hold Time (0 - Off, 1 - held  for the duration time, 2 - duration + 15sec., 3 - duration  + 30sec., 4 - duration + 1min., 5 - duration + 2min., 6 -  duration + 5 min., 7 - duration + 15min., 8 - duration +  30min.) | 1 | 16 bit  Integer | RW | Y | 35 | 23 |
| ## mA Output ## | | | | | | | |
| 4-20 mA Channel Number to  read/write | 4-20 mA channel number to access data (0 - 1st 4-  20mA, 1 - 2nd 4-20) | 1 | 16 bit  Integer | RW | Y | 36 | 24 |
| 4-20 Analog Type | Read/Write 4-20 Type (0 - Range, 1 - Temperature, 2  - Sentinel) | 1 | 16 bit  Integer | RW | Y | 37 | 25 |
| 4-20 Analog Range, 4mA  range (hi word) | Read/Write 4mA range (bytes 3 and 2) applies to  both range and temperature types | 2 | 32 bit Floating Point | RW | Y | 38 | 26 |
| 4-20 Analog Range, 4mA  range (lo word) | Read/Write 4mA range (bytes 1 and 0) applies to  both range and temperature types | 39 | 27 |
| 4-20 Analog Range, 20mA  range (hi word) | Read/Write 4mA range (bytes 3 and 2) applies to  both range and temperature types | 2 | 32 bit Floating Point | RW | Y | 40 | 28 |
| 4-20 Analog Range, 20mA  range (lo word) | Read/Write 4mA range (bytes 1 and 0) applies to  both range and temperature types | 41 | 29 |
| measurement PH/COND | | | | | | | |
| Sensor Channel to  read/write | Sensor channel number to access data (0 - Sensor 1,  1 - Sensor 2) | 1 | 16 bit  Integer | RW |  | 52 | 34 |
| 80 Sensor Value (hi word) | Current sensor value (bytes 3 and 2) | 2 | 32 bit  Floating  Point | R |  | 63 | 3F |
| S80 Sensor Temperature (hi  word) | Sensor Temperature (bytes 3 and 2) | 2 | 32 bit Floating Point | R |  | 67 | 43 |

*SENSOR TYPE*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data | | Meaning | | |
| Decimal | Hexadecimal | Chemical | Sensor Type | Measurement  Units |
| 6 | 0006 | Conductivity | Conductivity | S |
|  | 0010 | pH | mV | none |