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# Modbus Map: Conext™ XW/XW+ Device

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503-0246-01-01  
Revision A.4

## 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 XW/XW+. Use this document with the Conext XW or Conext XW+ Owner's Guide.

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.

## Document Applicability

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

**Table 1** Applicable Products

Product ID	Product Description
865-1000	Conext XW 6048-120/240-60
865-1000-01	Conext XW 6048-120/240-60
865-1005	Conext XW 4548-120/240-60
865-1010	Conext XW 4024-120/240-60
865-1035	Conext XW 6048 230 50
865-1035-61	Conext XW 6048 230 50
865-1040	Conext XW 4548-230-50
865-1040-61	Conext XW 4548 230 50
865-1045	Conext XW 4024 230 50
865-1045-61	Conext XW 4024 230 50
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

## 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>	<p>packed 8-bit character string, where &lt;nn&gt; is the length of characters in the string. Two characters are packed into each Modbus register.</p> <p>Example: str20 = 20-character string (packed into 10 Modbus registers) str16 = 16-character string (packed into 8 Modbus registers)</p>

## 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.

For descriptions of settings and their valid values, refer to the product's user manual (975-0240-01-01).

## Section 1: Conext XW/XW+ 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	str20	r				
0x0014	Unique ID Number	str20	r				
0x001E	Firmware Version	str20	r				
0x0028	Modbus Address	uint16	rw		1.0	0.0	
0x0029	Device Number	uint16	rw		1.0	0.0	
0x002A	System Instance	uint16	rw		1.0	0.0	
0x002B	Hardware Serial Number	str20	r				
0x0035	Configuration Status	uint16	r		1.0	0.0	0=Refreshing 1=Done
0x0036	Configuration Refresh Counter	uint32	r		1.0	0.0	
0x0040	Device State	uint16	r		1.0	0.0	See section 2
0x0041	Device Present	uint16	r		1.0	0.0	0=Inactive (data invalid) 1=Active (data valid)
0x0042	Fault Bitmap 0	uint16	r		1.0	0.0	See section 3
0x0043	Fault Bitmap 1	uint16	r		1.0	0.0	See section 4
0x0044	Fault Bitmap 2	uint16	r		1.0	0.0	See section 5
0x0045	Fault Bitmap 3	uint16	r		1.0	0.0	See section 6
0x0046	Warning Bitmap 0	uint16	r		1.0	0.0	See section 7
0x0047	Inverter Enabled	uint16	r		1.0	0.0	0=Disabled 1=Enabled
0x0048	Charger Enabled	uint16	r		1.0	0.0	0=Disabled 1=Enabled
0x0049	Sell Enabled	uint16	r		1.0	0.0	0=Disabled 1=Enabled
0x00x004B	Active Faults Flag	uint16	r		1.0	0.0	0=No Faults 1=Active Faults
0x004C	Active Warnings Flag	uint16	r		1.0	0.0	0=No Warnings 1=Active Warnings
0x004D	Charge Mode Status	uint16	r		1.0	0.0	0=Stand alone 1=Primary 2=Secondary
0x004E	Configuration Errors	uint32	r		1.0	0.0	

**Table 3** Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x0050	Battery Voltage	uint32	r	V	0.001	0.0	
0x0052	Battery Current	sint32	r	A	0.001	0.0	
0x0054	Battery Power	sint32	r	W	1.0	0.0	
0x0056	Battery Temperature	uint16	r	deg C	0.01	-273.0	
0x0058	Invert DC Current	uint32	r	A	0.001	0.0	
0x005A	Invert DC Power	uint32	r	W	1.0	0.0	
0x005C	Charge DC Current	uint32	r	A	0.001	0.0	
0x005E	Charge DC Power	uint32	r	W	1.0	0.0	
0x0060	Charge DC Power Percentage	uint16	r	%	1.0	0.0	
0x0061	Grid AC Frequency	uint16	r	Hz	0.01	0.0	
0x0062	Grid AC Voltage	uint32	r	V	0.001	0.0	
0x0064	Grid AC Current	sint32	r	A	0.001	0.0	
0x0066	Grid AC Power	sint32	r	W	1.0	0.0	
0x0068	Grid AC Input Power - Apparent	uint32	r	VA	1.0	0.0	
0x006A	Grid AC Input Current	uint32	r	A	0.001	0.0	
0x006C	Grid AC Input Power	uint32	r	W	1.0	0.0	
0x006E	Grid AC L1 Voltage	uint32	r	V	0.001	0.0	
0x0070	Grid AC L2 Current	sint32	r	A	0.001	0.0	
0x0072	Grid AC L2 Voltage	uint32	r	V	0.001	0.0	
0x0074	Grid AC L1 Current	sint32	r	A	0.001	0.0	
0x0076	Grid AC Voltage Qualified	uint16	r		1.0	0.0	See section 8
0x0077	Grid AC Frequency Qualified	uint16	r		1.0	0.0	See section 9
0x0078	Grid AC Qualified Duration	uint32	r	s	1.0	0.0	
0x007A	Inverter Status	uint16	r		1.0	0.0	See section 10
0x007B	Charger Status	uint16	r		1.0	0.0	See section 11
04A	Forced Sell	uint16	r		1.0	0.0	0=Disabled 1=Enabled 2=Unavailable
0x007E	Grid Output Voltage	uint32	r	V	0.001	0.0	
0x0080	Grid Output Current	uint32	r	A	0.001	0.0	
0x0082	Grid Output Frequency	uint16	r	Hz	0.01	0.0	
0x0084	Grid Output Power	uint32	r	W	1.0	0.0	
0x008A	Grid Output Power - Apparent	uint32	r	VA	1.0	0.0	
0x008C	Load AC 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
0x008E	Load AC L1 Voltage	uint32	r	V	0.001	0.0	
0x0090	Load AC L2 Voltage	uint32	r	V	0.001	0.0	
0x0092	Load AC L1 Current	uint32	r	A	0.001	0.0	
0x0094	Load AC L2 Current	uint32	r	A	0.001	0.0	
0x0096	Load AC Current	uint32	r	A	0.001	0.0	
0x0098	Load AC Frequency	uint16	r	Hz	0.01	0.0	
0x009A	Load AC Power	uint32	r	W	1.0	0.0	
0x00A0	Load AC Power - Apparent	uint32	r	VA	1.0	0.0	
0x00A2	Generator AC Voltage	uint32	r	V	0.001	0.0	
0x00A4	Generator AC Current	uint32	r	A	0.001	0.0	
0x00A6	Generator AC Frequency	uint16	r	Hz	0.01	0.0	
0x00A7	Generator AC Voltage Qualified	uint16	r		1.0	0.0	See section 12
0x00A8	Generator AC Frequency Qualified	uint16	r		1.0	0.0	See section 13
0x00AA	Generator AC Qualified Duration	uint32	r	s	1.0	0.0	
0x00AC	Generator AC Power	uint32	r	W	1.0	0.0	
0x00B2	Generator AC L1 Voltage	uint32	r	V	0.001	0.0	
0x00B4	Generator AC L1 Current	uint32	r	A	0.001	0.0	
0x00B6	Generator AC L2 Voltage	uint32	r	V	0.001	0.0	
0x00B8	Generator AC L2 Current	uint32	r	A	0.001	0.0	
0x00BA	Generator AC Power - Apparent	uint32	r	VA	1.0	0.0	
0x00BC	Auxiliary Output Status	uint16	r		1.0	0.0	See section 14
0x00BD	Auxiliary Output On Reason	uint16	r		1.0	0.0	See section 15
0x00BE	Auxiliary Output Off Reason	uint16	r		1.0	0.0	See section 16
0x00BF	Grid Tie Sell Level	uint16	w		1.0	0.0	
0x00C0	Switch Operating State	uint16	r		1.0	0.0	
0x00C1	Switch Mode	uint16	r		1.0	0.0	

**Table 3** Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x00D0	Energy From Battery This Hour	uint32	r	kWh	0.001	0.0	
0x00D2	Battery Discharge Active This Hour	uint32	r	s	1.0	0.0	
0x00D4	Energy From Battery Today	uint32	r	kWh	0.001	0.0	
0x00D6	Battery Discharge Active Today	uint32	r	s	1.0	0.0	
0x00D8	Energy From Battery This Week	uint32	r	kWh	0.001	0.0	
0x00DA	Battery Discharge Active This Week	uint32	r	s	1.0	0.0	
0x00DC	Energy From Battery This Month	uint32	r	kWh	0.001	0.0	
0x00DE	Battery Discharge Active This Month	uint32	r	s	1.0	0.0	
0x00E0	Energy From Battery This Year	uint32	r	kWh	0.001	0.0	
0x00E2	Battery Discharge Active This Year	uint32	r	s	1.0	0.0	
0x00E4	Energy From Battery Lifetime	uint32	r	kWh	0.001	0.0	
0x00E6	Battery Discharge Active Lifetime	uint32	r	s	1.0	0.0	
0x00E8	Energy To Battery This Hour	uint32	r	kWh	0.001	0.0	
0x00EA	Battery Charge Active This Hour	uint32	r	s	1.0	0.0	
0x00EC	Energy To Battery Today	uint32	r	kWh	0.001	0.0	
0x00EE	Battery Charge Active Today	uint32	r	s	1.0	0.0	
0x00F0	Energy To Battery This Week	uint32	r	kWh	0.001	0.0	
0x00F2	Battery Charge Active This Week	uint32	r	s	1.0	0.0	
0x00F4	Energy To Battery This Month	uint32	r	kWh	0.001	0.0	
0x00F6	Battery Charge Active This Month	uint32	r	s	1.0	0.0	
0x00F8	Energy To Battery This Year	uint32	r	kWh	0.001	0.0	
0x00FA	Battery Charge Active This Year	uint32	r	s	1.0	0.0	
0x00FC	Energy To Battery 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
0x00FE	Battery Charge Active Lifetime	uint32	r	s	1.0	0.0	
0x0100	Grid Input Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0102	Grid Input Active This Hour	uint32	r	s	1.0	0.0	
0x0104	Grid Input Energy Today	uint32	r	kWh	0.001	0.0	
0x0106	Grid Input Active Today	uint32	r	s	1.0	0.0	
0x0108	Grid Input Energy This Week	uint32	r	kWh	0.001	0.0	
0x010A	Grid Input Active This Week	uint32	r	s	1.0	0.0	
0x010C	Grid Input Energy This Month	uint32	r	kWh	0.001	0.0	
0x010E	Grid Input Active This Month	uint32	r	s	1.0	0.0	
0x0110	Grid Input Energy This Year	uint32	r	kWh	0.001	0.0	
0x0112	Grid Input Active This Year	uint32	r	s	1.0	0.0	
0x0114	Grid Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x0116	Grid Input Active Lifetime	uint32	r	s	1.0	0.0	
0x0118	Grid Output Energy This Hour	uint32	r	kWh	0.001	0.0	
0x011A	Grid Output Active This Hour	uint32	r	s	1.0	0.0	
0x011C	Grid Output Energy Today	uint32	r	kWh	0.001	0.0	
0x011E	Grid Output Active Today	uint32	r	s	1.0	0.0	
0x0120	Grid Output Energy This Week	uint32	r	kWh	0.001	0.0	
0x0122	Grid Output Active This Week	uint32	r	s	1.0	0.0	
0x0124	Grid Output Energy This Month	uint32	r	kWh	0.001	0.0	
0x0126	Grid Output Active This Month	uint32	r	s	1.0	0.0	
0x0128	Grid Output Energy This Year	uint32	r	kWh	0.001	0.0	
0x012A	Grid Output 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
0x012C	Grid Output Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x012E	Grid Output Active Lifetime	uint32	r	s	1.0	0.0	
0x0130	Load Output Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0132	Load Output Active This Hour	uint32	r	s	1.0	0.0	
0x0134	Load Output Energy Today	uint32	r	kWh	0.001	0.0	
0x0136	Load Output Active Today	uint32	r	s	1.0	0.0	
0x0138	Load Output Energy This Week	uint32	r	kWh	0.001	0.0	
0x013A	Load Output Active This Week	uint32	r	s	1.0	0.0	
0x013C	Load Output Energy This Month	uint32	r	kWh	0.001	0.0	
0x013E	Load Output Active This Month	uint32	r	s	1.0	0.0	
0x0140	Load Output Energy This Year	uint32	r	kWh	0.001	0.0	
0x0142	Load Output Active This Year	uint32	r	s	1.0	0.0	
0x0144	Load Output Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x0146	Load Output Active Lifetime	uint32	r	s	1.0	0.0	
0x0148	Generator Input Energy This Hour	uint32	r	kWh	0.001	0.0	
0x014A	Generator Input Active This Hour	uint32	r	s	1.0	0.0	
0x014C	Generator Input Energy Today	uint32	r	kWh	0.001	0.0	
0x014E	Generator Input Active Today	uint32	r	s	1.0	0.0	
0x0150	Generator Input Energy This Week	uint32	r	kWh	0.001	0.0	
0x0152	Generator Input Active This Week	uint32	r	s	1.0	0.0	
0x0154	Generator Input Energy This Month	uint32	r	kWh	0.001	0.0	
0x0156	Generator Input Active This Month	uint32	r	s	1.0	0.0	
0x0158	Generator Input Energy 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
0x015A	Generator Input Active This Year	uint32	r	s	1.0	0.0	
0x015C	Generator Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x015E	Generator Input Active Lifetime	uint32	r	s	1.0	0.0	
0x0160	Identify Enable	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x0161	Inverter Enable/Disable	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x0162	Sell Enable/Disable	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x0164	Charger Enable/Disable	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x0165	Force Charger State	uint16	rw		1.0	0.0	1=Bulk 2=Float 3=No Float
0x0166	Operating Mode	uint16	rw		1.0	0.0	2=Standby 3=Operating
0x0167	Reset	uint16	rw		1.0	0.0	0=Reboot 2=Reset to Factory
0x0168	Clear	uint16	rw		1.0	0.0	See section 17
0x0169	Search Mode	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x016A	Inverter Mode	uint16	rw		1.0	0.0	See section 18
0x016B	Remote Power Off	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x016C	Power Save	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x016D	Sell Delay 40 Sec	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x016E	Charge Cycle	uint16	rw		1.0	0.0	1=3 Stage 2=2 Stage 3=CVCC
0x016F	Maximum Charge Rate	uint16	rw	%	1.0	0.0	
0x0170	Equalize Now	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x0171	Default Battery Temperature	uint16	rw		1.0	0.0	0=Cold 1=Warm 2=Hot
0x0172	GFS Enable	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x0173	Battery Type	uint16	rw		1.0	0.0	See section 19
0x0174	Nominal Battery Voltage	uint32	r	V	0.001	0.0	24000=24V 48000=48V
0x0176	Battery Bank Capacity	uint16	rw	Ah	1.0	0.0	
0x0177	Battery Temperature Coefficient	uint16	rw	mV/deg C	-1.0	0.0	
0x0178	Grid Support Voltage	uint32	rw	V	0.001	0.0	
0x017A	Recharge Voltage	uint32	rw	V	0.001	0.0	
0x017C	Low Battery Cut Out	uint32	rw	V	0.001	0.0	

**Table 3** Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x017E	Low Battery Cut Out Delay	uint16	rw	s	0.01	0.0	
0x0180	Low Battery Trigger Set	uint32	rw	V	0.001	0.0	
0x0182	Low Battery Trigger Set Delay	uint16	rw	s	0.01	0.0	
0x0184	Low Battery Trigger Clear	uint32	rw	V	0.001	0.0	
0x0186	Low Battery Trigger Clear Delay	uint16	rw	s	0.01	0.0	
0x0187	AC Priority	uint16	rw		1.0	0.0	0=Force AC Disqualify 1=Grid Priority (AC1) 2=Generator Priority (AC2)
0x0188	AC1 Breaker Size	uint16	rw	A	0.01	0.0	
0x0189	AC2 Breaker Size	uint16	rw	A	0.01	0.0	
0x018A	High Battery Cut Out	uint32	rw	V	0.001	0.0	
0x018C	High Battery Trigger Set	uint32	rw	V	0.001	0.0	
0x018E	High Battery Trigger Set Delay	uint16	rw	s	0.01	0.0	
0x0190	High Battery Trigger Clear	uint32	rw	V	0.001	0.0	
0x0192	High Battery Trigger Clear Delay	uint16	rw	s	0.01	0.0	
0x0193	Maximum Search Watts	uint16	rw	W	1.0	0.0	
0x0194	Search Delay	uint16	rw	s	0.01	0.0	
0x0196	Equalize Voltage Set Point	uint32	rw	V	0.001	0.0	
0x0198	Equalize Support	uint16	rw		1.0	0.0	0=No Equalization 1=Equalization Allowed
0x019A	Bulk/Boost Voltage Set Point	uint32	rw	V	0.001	0.0	
0x019C	Absorption Voltage Set Point	uint32	rw	V	0.001	0.0	
0x019E	Absorption Time	uint16	rw	min	0.016667	0.0	
0x01A0	Float Voltage Set Point	uint32	rw	V	0.001	0.0	
0x01A2	AC1 Low Voltage	uint32	rw	V	0.001	0.0	
0x01A4	AC2 Low Voltage	uint32	rw	V	0.001	0.0	
0x01A6	AC1 High Voltage	uint32	rw	V	0.001	0.0	
0x01A8	AC2 High Voltage	uint32	rw	V	0.001	0.0	

**Table 3** Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x01AA	Charge Block Start	uint16	rw	min	1.0	0.0	
0x01AB	Charge Block Stop	uint16	rw	min	1.0	0.0	
0x01AC	Load Shave Stop	uint16	rw	min	1.0	0.0	
0x01AD	Load Shave Start	uint16	rw	min	1.0	0.0	
0x01AE	AC1 Low Frequency	uint16	rw	Hz	0.01	0.0	
0x01AF	AC2 Low Frequency	uint16	rw	Hz	0.01	0.0	
0x01B0	AC1 High Frequency	uint16	rw	Hz	0.01	0.0	
0x01B1	AC2 High Frequency	uint16	rw	Hz	0.01	0.0	
0x01B2	Load Shave	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x01B3	Grid Support	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x01B4	Maximum Sell Amps	uint32	rw	A	0.001	0.0	
0x01B6	Load Shave Amps	uint32	rw	A	0.001	0.0	
0x01B8	Generator Support Enable	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x01BA	Generator Support Amps	uint32	rw	A	0.001	0.0	
0x01BC	Manual Aux	uint16	rw		1.0	0.0	0=Manual Off 1=Manual On 2=Automatic
0x01BE	Auxiliary Output Active Level	uint16	rw		1.0	0.0	0=Active Low 1=Active High
0x01C0	Low Temperature Trigger Set	uint32	rw	deg C	0.001	-273.0	
0x01C2	Low Temperature Trigger Set Delay	uint16	rw	s	0.01	0.0	
0x01C4	Low Temperature Trigger Clear	uint32	rw	deg C	0.001	-273.0	
0x01C6	Low Temperature Trigger Clear Delay	uint16	rw	s	0.01	0.0	
0x01C8	High Temperature Trigger Set	uint32	rw	deg C	0.001	-273.0	
0x01CA	High Temperature Trigger Set Delay	uint16	rw	s	0.01	0.0	
0x01CC	High Temperature Trigger Clear	uint32	rw	deg C	0.001	-273.0	
0x01CE	High Temperature Trigger Clear Delay	uint16	rw	s	0.01	0.0	
0x01CF	Refresh Configuration Data	uint16	rw		1.0	0.0	1=Refresh
0x01D0	AC Output Association (Loads)	uint16	rw		1.0	0.0	See section 20
0x01D1	AC2 Association (Generator)	uint16	rw		1.0	0.0	See section 21

**Table 3** Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x01D2	AC1 Association (Grid)	uint16	rw		1.0	0.0	See section 22
0x01D3	DC Association (Battery)	uint16	rw		1.0	0.0	See section 23
0x01D4	Maximum Discharge Current	uint16	rw	A	1.0	0.0	
0x01D5	Maximum Discharge Time Interval	uint16	rw	s	0.01	0.0	
0x01D6	GVS Enable/Disable	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x01D7	Maximum Reactive Capacitive Power	uint16	rw	%	0.01	0.0	
0x01D8	Maximum Reactive Inductive Power	uint16	rw	%	0.01	0.0	
0x01D9	Maximum Reactive Power Grid Voltage	uint16	rw	V	0.01	0.0	
0x01DA	Minimum Reactive Power Grid Voltage	uint16	rw	V	0.01	0.0	
0x01DB	Inductive Voltage Set Point	uint16	rw	V	0.01	0.0	
0x01DC	Capacitive Voltage Set Point	uint16	rw	V	0.01	0.0	
0x01DD	Voltage Threshold to start/stop excitation	uint16	rw	V	0.01	0.0	
0x01DE	Excitation Control Delay Time	uint16	rw	s	0.01	0.0	
0x01E0	API Frequency Start Level	uint16	rw	Hz	0.01	0.0	
0x01E1	API Frequency Stop Level	uint16	rw	Hz	0.01	0.0	
0x01E2	API Frequency Recover Level	uint16	rw	Hz	0.01	0.0	
0x01E3	API Gradient with Time	uint16	rw	%	1.0	0.0	
0x01E4	APR Frequency Start Level	uint16	rw	Hz	0.01	0.0	
0x01E5	APR Frequency Stop Level	uint16	rw	Hz	0.01	0.0	
0x01E6	APR Frequency Recover Level	uint16	rw	Hz	0.01	0.0	
0x01E7	APR Gradient with Frequency	uint16	rw	%	1.0	0.0	
0x01E8	APR Gradient with Time	uint16	rw	%	1.0	0.0	
0x01E9	Maximum Sell Scale Percentage	uint16	w	%	0.01	0.0	

**Table 3** Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x01EA	State of Charge Level to Stop	uint16	rw	%	1.0	0.0	
0x01EB	State of Charge Stop Delay	uint16	rw	s	0.01	0.0	
0x01EC	State of Charge Level to Start	uint16	rw	%	1.0	0.0	
0x01ED	State of Charge Start Delay	uint16	rw	s	0.01	0.0	
0x01EE	Generator Support Plus	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x01EF	AC Coupling	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x01F0	Battery Energy Balance	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x01F1	Peak Load Shaving Delay	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x01F2	Low Battery Cut Out Hysteresis	uint32	rw	V	0.001	0.0	
0x01F5	AC1 Transfer Switch Delay	uint16	rw	s	0.01	0.0	
0x01F6	AC2 Transfer Switch Delay	uint16	rw	s	0.01	0.0	
0x01F7	Sell Block Start	uint16	rw	min	1.0	0.0	
0x01F8	Sell Block End	uint16	rw	min	1.0	0.0	
0x01F9	Auxiliary Output Trigger Start	uint16	rw	min	1.0	0.0	
0x01FA	Auxiliary Output Trigger End	uint16	rw	min	1.0	0.0	
0x01FC	Heat Sink High Temperature Trigger Set	uint32	rw	deg C	0.001	-273.0	
0x01FE	Heat Sink High Temperature Trigger Set Delay	uint16	rw	s	0.01	0.0	
0x01FF	Maximum Sell Scale Percentage	uint16	rw	%	1.0	0.0	
0x0200	Heat Sink High Temperature Trigger Clear	uint32	rw	deg C	0.001	-273.0	
0x0202	Heat Sink High Temperature Trigger Clear Delay	uint16	rw	s	0.01	0.0	
0x0204	Auxiliary Output Trigger Source	uint32	rw		1.0	0.0	See section 24
0x0206	Remote Sell	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x0207	External Transfer Contactor	uint16	rw		1.0	0.0	0=Disable 1=Enable

**Table 3** Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
0x0208	AC Transient Over Voltage Disconnect	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x020A	Maximum Bulk Charge Current	uint32	rw	A	0.001	0.0	
0x020C	Maximum Absorption Charge Current	uint32	rw	A	0.001	0.0	
0x020E	Maximum Float Charge Current	uint32	rw	A	0.001	0.0	
0x0240	Generator (1) AC Voltage	uint32	r	V	0.001	0.0	
0x0242	Generator (1) AC Current	uint32	r	A	0.001	0.0	
0x0244	Generator (1) AC Frequency	uint32	r	Hz	0.01	0.0	
0x0246	Generator (1) AC Voltage Qualified	uint32	r			0.0	See section 25
0x0248	Generator (1) AC Frequency Qualified	uint32	r			0.0	See section 26
0x024A	Generator (1) AC Qualified Duration	uint32	r			0.0	
0x024C	Generator (1) AC Power	uint32	r	W	1.0	0.0	
0x024E	Generator (1) AC L1 Voltage	uint32	r	V	0.001	0.0	
0x0250	Generator (1) AC L1 Current	uint32	r	A	0.001	0.0	
0x0252	Generator (1) AC L2 Voltage	uint32	r	V	0.001	0.0	
0x0254	Generator (1) AC L2 Current	uint32	r	A	0.001	0.0	
0x0256	Generator (1) AC Power - Apparent	uint32	r	VA		0.0	
0x0258	Generator (2) AC Voltage	uint32	r	V	0.001	0.0	
0x025A	Generator (2) AC Current	uint32	r	A	0.001	0.0	
0x025C	Generator (2) AC Frequency	uint32	r	Hz	0.01	0.0	
0x025E	Generator (2) AC Voltage Qualified	uint32	r			0.0	See section 27
0x0260	Generator (2) AC Frequency Qualified	uint32	r			0.0	See section 28
0x0262	Generator (2) AC Qualified Duration	uint32	r			0.0	
0x0264	Generator (2) AC 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
0x0266	Generator (2) AC L1 Voltage	uint32	r	V	0.001	0.0	
0x0268	Generator (2) AC L1 Current	uint32	r	A	0.001	0.0	
0x026A	Generator (2) AC L2 Voltage	uint32	r	V	0.001	0.0	
0x026C	Generator (2) AC L2 Current	uint32	r	A	0.001	0.0	
0x026E	Generator (2) AC Power - Apparent	uint32	r	VA		0.0	
0x0280	Generator (1) Input Energy This Hour	uint32	r	kWh	0.001	0.0	
0x0282	Generator (1) Input Active This Hour	uint32	r	s	1.0	0.0	
0x0284	Generator (1) Input Energy Today	uint32	r	kWh	0.001	0.0	
0x0286	Generator (1) Input Active Today	uint32	r	s	1.0	0.0	
0x0288	Generator (1) Input Energy This Week	uint32	r	kWh	0.001	0.0	
0x028A	Generator (1) Input Active This Week	uint32	r	s	1.0	0.0	
0x028C	Generator (1) Input Energy This Month	uint32	r	kWh	0.001	0.0	
0x028E	Generator (1) Input Active This Month	uint32	r	s	1.0	0.0	
0x0290	Generator (1) Input Energy This Year	uint32	r	kWh	0.001	0.0	
0x0292	Generator (1) Input Active This Year	uint32	r	s	1.0	0.0	
0x0294	Generator (1) Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x0296	Generator (1) Input Active Lifetime	uint32	r	s	1.0	0.0	
0x0298	Generator (2) Input Energy This Hour	uint32	r	kWh	0.001	0.0	
0x029A	Generator (2) Input Active This Hour	uint32	r	s	1.0	0.0	
0x029C	Generator (2) Input Energy Today	uint32	r	kWh	0.001	0.0	
0x029E	Generator (2) Input Active Today	uint32	r	s	1.0	0.0	
0x02A0	Generator (2) Input Energy This Week	uint32	r	kWh	0.001	0.0	
0x02A2	Generator (2) Input Active 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
0x02A4	Generator (2) Input Energy This Month	uint32	r	kWh	0.001	0.0	
0x02A6	Generator (2) Input Active This Month	uint32	r	s	1.0	0.0	
0x02A8	Generator (2) Input Energy This Year	uint32	r	kWh	0.001	0.0	
0x02AA	Generator (2) Input Active This Year	uint32	r	s	1.0	0.0	
0x02AC	Generator (2) Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
0x02AE	Generator (2) Input Active Lifetime	uint32	r	s	1.0	0.0	

\*All L2 Modbus registers return 0 values for the single phase SKUs.

## Section 2: Conext XW/XW+ Operating State

Device State can report one of the following values:

- 0=Hibernate
- 1=Power Save
- 2=Safe Mode
- 3=Operating
- 4=Diagnostic Mode
- 5=Remote Power Off
- 255=Data Not Available

## Section 3: Fault Bitmap 0

Fault Bitmap 0 can report one or more of the following values:

- bit0=F1:AC Output Undervoltage Shutdown
- bit1=F2:AC Output Overvoltage Shutdown
- bit2=F17:AC BackFeed Fault (AC1 L1)
- bit3=F18:AC BackFeed Fault (AC1 L2)
- bit4=F19:AC BackFeed Fault (AC2 L1)
- bit5=F20:AC Backfeed Fault (AC2 L2)
- bit6=F21:AC Backfeed Fault (L1L2 Weld)
- bit7=F22:AC Backfeed Fault( Line 1 Weld)
- bit8=F23:Anti-Islanding Fault (Over Freq)
- bit9=F24:Anti-Islanding Fault (Under Freq)
- bit10=F25:Anti-Islanding (Over Freq)
- bit11=F26:Anti-Islanding (Under Freq)
- bit12=F27:Anti-Islanding (Over Voltage Line 1)



- bit13=F28:Anti-Islanding (Over Voltage Line 2)
- bit14=F29:Anti-Islanding (Over Voltage)
- bit15=F30:Anti-Islanding (Over voltage L1L2)

## Section 4: Fault Bitmap 1

Fault Bitmap 1 can report one or more of the following values:

- bit0=F31:Anti-Islanding (Over Voltage L1 Slow)
- bit1=F32:Anti-Islanding (Over Voltage L2 Slow)
- bit2=F33:Anti-Islanding (Over Voltage L1L2 Slow)
- bit3=F34:Anti-Islanding (Under Voltage L1 Slow)
- bit4=F35:Anti-Islanding (Under Voltage L2 Slow)
- bit5=F36:Anti-Islanding (Under Voltage L1L2 Slow)
- bit6=F37:Anti-Islanding (Under Voltage L1 Fast)
- bit7=F38:Anti-Islanding (Under Voltage L2 Fast)
- bit8=F39:Anti-Islanding (Under Voltage)
- bit9=F40:Anti-Islanding (Under Voltage L1L2 Fast)
- bit10=F41:APS Under Voltage
- bit11=F42:APS Over Voltage
- bit12=F44:Battery Over Temperature
- bit13=F45:Capacitor Over Temperature
- bit14=F46:Controller Error
- bit15=F47:DC Under Voltage Immediate

## Section 5: Fault Bitmap 2

Fault Bitmap 2 can report one or more of the following values:

- bit0=F48:DC Under-Voltage Shutdown
- bit1=F49:DC Over-Voltage Shutdown
- bit2=F51:EEPROM Error
- bit3=F52:EEPROM Error (Cal Fail)
- bit4=F53:EEPROM Error (Config Fail)
- bit5=F54:EEPROM Error (Default Fail)
- bit6=F55:EEPROM Error (Log Fail)
- bit7=F56:EEPROM Error (Strings Fail)
- bit8=F57:FET1 Over-Temperature Shutdown
- bit9=F58:FET2 Over-Temperature Shutdown
- bit10=F59:Configuration Copy Error
- bit11=F60:Invalid Fault
- bit12=F61:Invalid Warning
- bit13=F62:Invalid Interrupt
- bit14=F63:AC Overload (Primary)
- bit15=F64:AC Overload (Secondary 1s)

## Section 6: Fault Bitmap 3

Fault Bitmap 3 can report one or more of the following values:

- bit0=F65:AC Overload (2s)
- bit1=F66:System Configuration Error
- bit2=F67:Watchdog Reset
- bit3=F68:Transformer Over-Temperature
- bit4=F69:Synchronization Signal Fault
- bit5=F70:Three Phase Configuration Fault

## Section 7: Warning Bitmap

Warning Bitmap can report one or more of the following values:

- bit0=W44:Battery Over Temperature
- bit1=W45:Capacitor Over Temperature
- bit2=W48:DC Under Voltage
- bit3=W49:DC Over Voltage
- bit4=W57:FET1 Over Temperature
- bit5=W58:FET2 Over Temperature
- bit6=W63:AC Overload
- bit7=W64:AC Overload
- bit8=W68:Transformer Over Temperature
- bit9=W70:Check Phase Configuration
- bit10=W94:Remote Power Off
- bit11=W95:Equalize Abort
- bit12=W96:Cannot Equalize
- bit13=W97:Battery Temperature Sensor Failure
- bit14=W500:Lost Network Connection
- bit15=W501:Non Volatile Memory Warning

## Section 8: AC1 Voltage Qualification

AC1 Voltage Qualification can report one of the following values:

- 0=Not Qualifying
- 1=Qualifying
- 2=Missing
- 3=Too Low
- 4=Too High
- 5=Qualification Good

## Section 9: AC1 Frequency Qualification

AC1 Frequency Qualification can report one of the following values:

- 0=Not Qualifying
- 1=Qualifying
- 2=Missing
- 3=Too Low
- 4=Too High
- 5=Qualification Good

## Section 10: Inverter Status

Inverter Status can report one of the following values:

- 1024=Invert
- 1025=AC Pass Through
- 1026=APS Only
- 1027=Load Sense
- 1028=Inverter Disabled
- 1029=Load Sense Ready
- 1030=Engaging Inverter
- 1031=Invert Fault
- 1032=Inverter Standby
- 1033=Grid-Tied
- 1034=Grid Support
- 1035=Gen Support
- 1036=Sell-to-Grid
- 1037=Load Shaving
- 1038=Grid Frequency Stabilization
- 1039=AC Coupling
- 1040=Reverse Ibatt

## Section 11: Charger Status

Charger Status can report one of the following values:

- 768=Not Charging
- 769=Bulk
- 770=Absorption
- 771=Overcharge
- 772=Equalize
- 773=Float
- 774=No Float
- 775=Constant VI
- 776=Charger Disabled

- 777=Qualifying AC
- 778=Qualifying APS
- 779=Engaging Charger
- 780=Charge Fault
- 781=Charger Suspend
- 782=AC Good
- 783=APS Good
- 784=AC Fault
- 785=Charge
- 786=Absorption Exit Pending
- 787=Ground Fault
- 788=AC Good Pending

## Section 12: AC2 Voltage Qualification

AC2 Voltage Qualification can report one of the following values:

- 0=Not Qualifying
- 1=Qualifying
- 2=Missing
- 3=Too Low
- 4=Too High
- 5=Qualification Good

## Section 13: AC2 Frequency Qualification

AC2 Frequency Qualification can report one of the following values:

- 0=Not Qualifying
- 1=Qualifying
- 2=Missing
- 3=Too Low
- 4=Too High
- 5=Qualification Good

## Section 14: Auxiliary Output Trigger Mode

Auxiliary Output Status can report one of the following values:

- 1=AutoOn
- 2=Auto Off
- 3=Manual On
- 4=Manual Off

## Section 15: Auxiliary Output On Reason

Auxiliary Output On Reason can report one of the following values:

- 0=Not on
- 1=Manual on
- 2=Battery Voltage Low
- 3=Battery Voltage High
- 4=Array Voltage High
- 5=Battery Temp Low
- 6=Battery Temp High
- 7=Heat Sink Temp High
- 8=Fault

## Section 16: Auxiliary Output Off Reason

Auxiliary Output Off Reason can report one of the following values.

- 0=Not off
- 1=Manual Off
- 2=No Active Trigger
- 3=Trigger Override
- 4=Fault
- 5=Bulk Exit
- 6=Absorption Exit

## Section 17: Clear Command

The Clear command clears the fault, warning, event, and communication logs. Configure Clear using one of the following values:

- 1=Fault Log
- 2=Active Faults
- 4=Warning Log
- 8=Active Warnings
- 16=State Event Log
- 32=Communication Statistics
- 64=Statistics
- 128=User Statistics
- 255=All

## Section 18: Conext XW/XW+ Inverter Configuration

Configure Inverter Mode using one of the following values:

- 0=Invalid
- 1=Single Phase Stand Alone

- 11=Single Phase Master
- 12=Single Phase Slave
- 20=Split Phase Stand Alone
- 21=Split Phase Master
- 22=Split Phase Slave
- 23=Two Phase - Phase1-Master
- 24=Two Phase - Phase1-Slave
- 25=Two Phase - Phase2-Master
- 26=Two Phase - Phase2-Slave
- 30=Three Phase Stand Alone
- 31=Three Phase Master
- 32=Three Phase Slave
- 33=Three Phase - Phase1-Master
- 34=Three Phase - Phase1-Slave
- 35=Three Phase - Phase2-Master
- 36=Three Phase - Phase2-Slave
- 37=Three Phase - Phase3-Master
- 38=Three Phase - Phase3-Slave

## Section 19: Battery Type

Configure Battery Type using one of the following values:

- 0=Flooded
- 1=Gel
- 2=AGM
- 3=Custom
- 6=Li-Ion

## Section 20: AC Output Association

Configure AC Output Association using one of the following values:

- 51=AC Load 1
- 52=AC Load 2
- 53=AC Load 3
- 54=AC Load 4
- 55=AC Load 5
- 56=AC Load 6
- 57= AC Load 7
- 58=AC Load 8
- 59=AC Load 9
- 60=AC Load 10

## Section 21: AC Input Association

Configure AC2 Association (Generator) using one of the following values:

- 1=None
- 19=Generator 1
- 20=Generator 2
- 21=Generator 3
- 22=Generator 4
- 23=Generator 5
- 24=Generator 6
- 25=Generator 7
- 26=Generator 8
- 27=Generator 9
- 28=Generator 10
- 67=Grid 1
- 68=Grid 2
- 69=Grid 3
- 70=Grid 4
- 71=Grid 5
- 72=Grid 6
- 73=Grid 7
- 74=Grid 8
- 75=Grid 9
- 76=Grid 10

## Section 22: AC Input Output Association

Configure AC1 Association (Grid) using one of the following values:

- 1=None
- 19=Generator 1
- 20=Generator 2
- 21=Generator 3
- 22=Generator 4
- 23=Generator 5
- 24=Generator 6
- 25=Generator 7
- 26=Generator 8
- 27=Generator 9
- 28=Generator 10
- 67=Grid 1
- 68=Grid 2
- 69=Grid 3
- 70=Grid 4

- 71=Grid 5
- 72=Grid 6
- 73=Grid 7
- 74=Grid 8
- 75=Grid 9
- 76=Grid 10

## Section 23: DC Input Output Association

Configure DC Association (Battery) using one of the following values:

- 3=House Battery Bank 1
- 4=House Battery Bank 2
- 5=House Battery Bank 3
- 6=House Battery Bank 4
- 7=House Battery Bank 5

## Section 24: Auxiliary Output Trigger Source

Configure Auxiliary Output Trigger Source using one of the following values:

- 3=Low Battery Voltage
- 12=High Battery Voltage
- 48=Low Battery Temperature
- 192=High Battery Temperature
- 768=Fault
- 1024=Bulk Exit
- 2048=Absorption Exit
- 12288=Heat Sink Over Temperature
- 49152=Battery Low State of Charge
- 196608=Time of Day

## Section 25: Gen1 Voltage Qualification

The following AC qualification states may be reported:

- 0=Not Qualifying
- 1=Qualifying
- 2=Missing
- 3=Too Low
- 4=Too High
- 5=Qualification Good



## Section 26: Gen1 Frequency Qualification

The following AC qualification states may be reported:

- 0=Not Qualifying
- 1=Qualifying
- 2=Missing
- 3=Too Low
- 4=Too High
- 5=Qualification Good

## Section 27: Gen2 Voltage Qualification

The following AC qualification states may be reported:

- 0=Not Qualifying
- 1=Qualifying
- 2=Missing
- 3=Too Low
- 4=Too High
- 5=Qualification Good

## Section 28: Gen2 Frequency Qualification

The following AC qualification states may be reported:

- 0=Not Qualifying
- 1=Qualifying
- 2=Missing
- 3=Too Low
- 4=Too High
- 5=Qualification Good

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