
Modbus Map: Conext System Control Panel (SCP) Device

503-0251-01-01
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 System Control Panel (Conext SCP). 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.

Document Applicability

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

Table 1 Applicable Products

Product ID	Product Description
865-1050-01	Conext System Control Panel
865-1050	XW System Control Panel

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]
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)

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 (975-0298-01-01).

Section 1: Conext SCP 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	Units	Scale	Offset	Notes
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	

Table 3 Configuration and Status Registers

Modbus Address	Name	Type	read/write (r/w)	Units	Scale	Offset	Notes
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 (all data invalid) 1=Active (data valid)
0x0042	Active Faults Flag	uint16	r		1.0	0.0	0=No Active Faults 1=Has Active Faults
0x0043	Active Warnings Flag	uint16	r		1.0	0.0	0=No Warnings 1=Unit has active Warnings
0x0044	Fault Bitmap 0	uint16	r		1.0	0.0	See section 3
0x0045	Warning Bitmap 0	uint16	r		1.0	0.0	See section 4
0x0046	Configuration Errors	uint32	r		1.0	0.0	
0x0048	Reset	uint16	rw		1.0	0.0	0=Reboot 2=Reset to Factory
0x0049	Operating Mode	uint16	rw		1.0	0.0	2=Standby 3=Operating
0x004A	Clear	uint16	rw		1.0	0.0	See section 5
0x004B	Display Brightness	uint16	rw		1.0	0.0	
0x004C	Display Contrast	uint16	rw		1.0	0.0	
0x004D	Backlight Timeout	uint16	rw		1.0	0.0	
0x004E	Button Beep	uint16	rw		1.0	0.0	0=Disabled 1=Enabled
0x004F	Fault Alarm	uint16	rw		1.0	0.0	0=Disabled 1=Enabled
0x0050	Set Degrees	uint16	rw		1.0	0.0	0=Fahrenheit 1=Celsius
0x0051	Time Format	uint16	rw		1.0	0.0	0=AM/PM 1=24-Hour
0x0052	Identify Enable	uint16	rw		1.0	0.0	0=Disable 1=Enable
0x0053	Refresh Configuration Data	uint16	rw		1.0	0.0	1=Refresh

Section 2: 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 Bits

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

- bit0=F250 System clock not set
- bit1=F251 A device is lost
- bit2=F252 New device detected
- bit3=F500 Internal failure
- bit4=F501 Memory failure
- bit5=F503 Internal reset
- bit6=F504 Lost network connection
- bit7=F505 Internal failure

Section 4: Warning Bits

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

- bit0=W250 The value failed to change
- bit1=W251 User confirm prompt: Equalization process
- bit2=W252 User confirm prompt: Restore default settings
- bit3=W254 The value failed to change
- bit4=W255 System clock not set
- bit5=W256 A device is lost
- bit6=W257 New device detected
- bit7=W258 Device instance is duplicated
- bit8=W298 Caution: changing frequency can damage loads
- bit9=W501 SCP has fixed a memory problem - restored defaults

Section 5: 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

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Contact Information solar.schneider-electric.com

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