Conext™ System Control Panel

Owner's Guide

Conext SCP

Event/Warning

Standby

Enter

Exit

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Conext™
System Control Panel

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Product Part Number: 865-1050

Contact Information

www.schneider-electric.com

Please contact your local Schneider Electric Sales Representative or visit our website at: http://www.SESolar.com

Information About Your System

As soon as you open your product, record the following information and be sure to keep your proof of purchase.

Serial Number   _____

Product Number   _____

Purchased From   _____

Purchase Date   _____

About This Guide

Purpose

The purpose of this Guide is to provide explanations and procedures for installing and operating the Schneider Electric Conext System Control Panel (SCP).

Scope

The Guide provides safety guidelines, setup information, and procedures for installing and configuring the Conext System Control Panel. This Guide also includes information about operating and troubleshooting the unit. This Guide does not contain guidelines for configuring every Xanbus™-enabled device to which the SCP connects. See the owner's guide or operation guide for each Xanbus-enabled device for detailed configuration information.

Firmware Revision

Some SCP features and functions described in this manual may be incompatible with later firmware revisions. To view the firmware revision number of your product, see "Viewing Device Information" on page 3–18.

Audience

The Guide is intended for anyone who needs to install and/or operate the SCP. Installers should be certified technicians or electricians.

This manual is for use by qualified personnel only

Organization

This Guide is organized into five chapters and one appendix.

Chapter 1, "Introduction", introduces and describes features of the SCP.

Chapter 2, "Installation", contains information and procedures for installing the SCP.

Chapter 3, "Configuration", contains information and procedures for configuring the SCP and using the SCP to configure another device.

Chapter 4, "Operation", contains information and procedures for operating the SCP.

Chapter 5, "Troubleshooting", contains reference tables of warning and fault messages.

Appendix A, "Specifications", contains the electrical, mechanical, and environmental specifications for the SCP.

Conventions Used

The following conventions are used in this guide.

⚠ DANGER

DANGER indicates an imminently hazardous situation which if not avoided **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a potentially hazardous condition which, if not avoided, **can result in** minor or moderate injury.

NOTICE

NOTICE indicates a potentially hazardous situation, which, if not avoided, can result in equipment damage.

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Related Information

For more information about related products, refer to:

Conext XW+ Inverter/Charger Owner's Guide NA (975-0240-01-01)

Conext XW+ Inverter/Charger Owner's Guide E (975-0385-01-02)

Conext SW Inverter/Charger 120/240V Split-Phase Owner's Guide (975-0638-01-01)

Conext SW Inverter/Charger 230V Owner's Guide (975-0636-01-01)

Conext MPPT 60 150 Solar Charge Controller Owner's Guide (975-0400- 01-01)

Conext MPPT 80 600 Solar Charge Controller Owner's Guide (975-0560-01-01)

Conext Automatic Generator Start Owner's Guide (975-0307-01-01)

Conext ComBox Owner's Guide (975-0679-01-01)

Conext Battery Monitor Owner's Guide (975-0691-01-01)

You can find more information about Schneider Electric as well as its products and services at **www.SESolar.com.**

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Important Safety Instructions

⚠ WARNING
SAVE THESE INSTRUCTIONS
This Owner's Guide contains important safety and operating instructions. Before using your Conext System Control Panel, be sure to read, understand, and save these safety instructions. **Failure to follow these instructions can result in death or serious injury.**

General Precautions

1. Before installing and using this device, read all appropriate sections of this guide and any cautionary markings on the SCP and the devices to which it connects.
2. If the SCP has been damaged, see your warranty.
3. Do not dismantle the SCP; it contains no user-serviceable parts. See your warranty for instructions on obtaining service.
4. Protect the SCP from rain, snow, spray, and water.

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Explosive Gas Precautions

⚠ **WARNING**
EXPLOSION HAZARD
This equipment is not ignition protected. To prevent fire or explosion, do not install the SCP in compartments containing flammable materials or in locations that require ignition-protected equipment. This includes any space containing gasoline-powered machinery, fuel tanks, as well as joints, fittings, or other connections between components of the fuel system. **Failure to follow these instructions can result in death or serious injury.**

FCC Information to the User

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to a different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Important Safety Instructions

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4   Operation

5   Troubleshooting

A   Specifications

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1 Introduction

Chapter 1 introduces and describes operational and physical features of the Conext System Control Panel.

It includes:

- About the Conext System Control Panel
- Physical Features
- System Components

About the Conext System Control Panel

Complete system control
The Conext System Control Panel (SCP), provides configuration and monitoring capability for a Conext XW+ and Conext SW system.

The SCP:

- Monitors activity throughout your power system
- Displays the settings and status of each Xanbus-enabled device
- Enables you to adjust settings for each Xanbus-enabled device.

System component
The SCP uses Xanbus, a network communications protocol developed by the manufacturer, to communicate its settings and activity to other Xanbus-enabled devices.

Xanbus-enabled products are:

- Easy to use. The Xanbus network simplifies operation and automates routine tasks.
- Reliable. Software control eliminates errors due to analog signaling.
- Accurate. Digital information is less susceptible to interference and line loss.

Important: The SCP is compatible with Conext system components, including Conext XW+ and Conext SW inverter/chargers, Conext MPPT charge controllers, the Conext Automatic Generator Start (AGS) and Conext ComBox.

System requirements
The SCP requires a Xanbus power supply to operate. Network power is carried by the network cables, and can be supplied by a Conext XW+ or Conext SW inverter/charger.

As a device that draws network power, the SCP consumes a maximum of 3 watts.

Operational Features
Other features of the SCP include:

- Compatibility—connect additional Xanbus-enabled Conext devices without requiring additional device-specific control panels.
- Internal clock—keeps time for the entire system.
- Audible alarm—if enabled, alerts you when a fault condition arises.
- Low power consumption—automatically turns off the backlight after a period of inactivity.
- Non-volatile memory—preserves SCP settings if network power is interrupted or network communication is disrupted.

Physical Features

See Figure 1-1 and Figure 1-2 for the front and back features of the SCP.

Front Panel
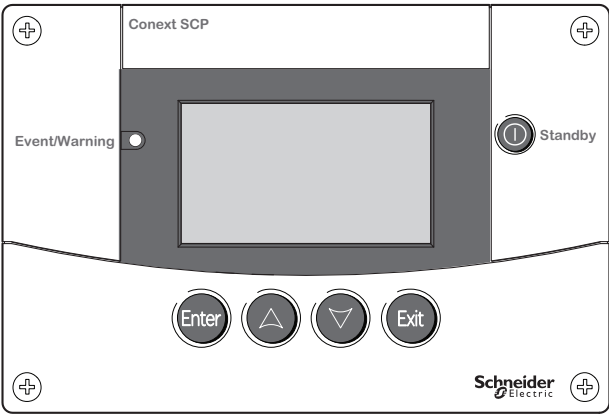
Figure 1-1 Front Panel

Button/LED	Function
Enter	• Confirms selection of a menu item • Displays the next screen
△	• Scrolls up one line of text • Increases a selected value • Displays the previous device home screen
▽	• Scrolls down one line of text • Decreases a selected value • Displays the next device home screen

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Button/LED	Function
Exit	• Cancels selection of a menu item • Displays the previous screen
⏻ Standby	• Disables inverting and charging on all inverter/chargers in the system when pressed for one to two seconds.
Event/ Warning	• Indicates a device has a fault or warning condition and requires attention. • Flashes red when a warning occurs, and turns solid red when a fault occurs.

Back Panel

Two Xanbus network inputs on the back panel let you connect the SCP to other Xanbus-enabled devices. See Figure 1-2.
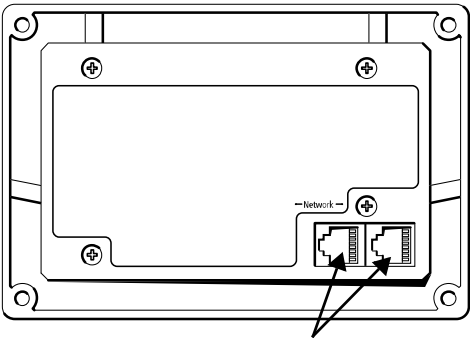
Xanbus network inputs (8-pin RJ-45)

Figure 1-2 Back Panel

System Components

The Xanbus system (see Figure 1-3) includes the SCP and other Xanbus-enabled devices.
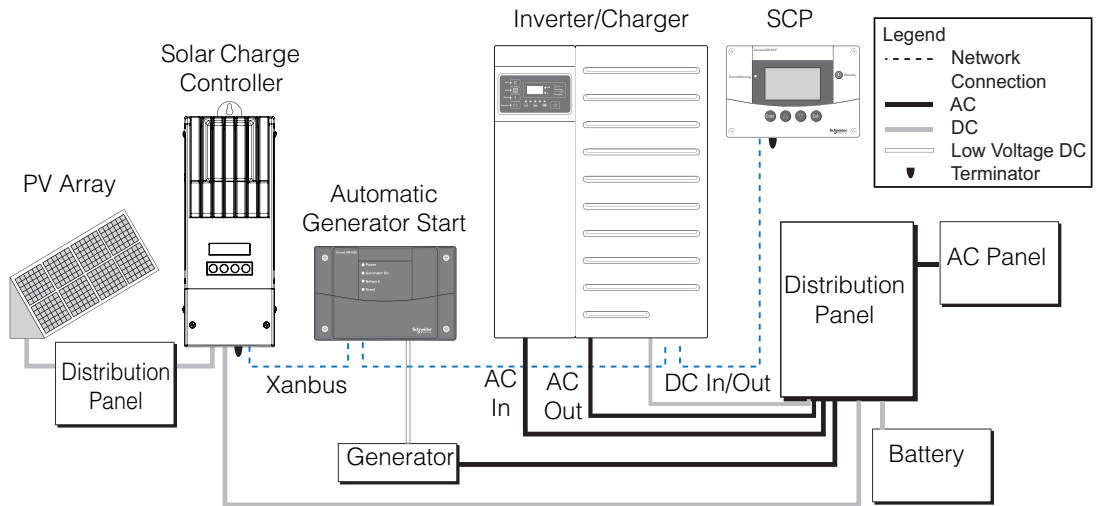
Figure 1-3 Xanbus Network Diagram

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2 Installation

Chapter 2 contains information and procedures for planning and installing the Conext System Control Panel.

It includes:

- Installing the SCP
- Installing the Xanbus Network
- Mounting the SCP
- Verifying the SCP

Installing the Conext System Control Panel

The Conext System Control Panel (SCP) is designed to be wall mounted (see page 2–8), and requires no connections other than Xanbus network cables or a terminator plugged into the back of the unit.

Because you cannot access the SCP network inputs once the unit is mounted, the Xanbus cables must be routed through the wall and connected before securing the SCP.

Materials and Tools Required

The following materials and tools are required to complete the installation:

❒ Mounting template sticker (supplied)

❒ Mounting plate (supplied)

❒ Mounting bracket (supplied)

❒ Four #6 (M3), self-tapping screws (supplied)

❒ Two #8 (M4), self-tapping screws (supplied)

❒ Cable clamps or hardware fasteners

❒ Xanbus network cables or equivalent (CAT 5 or CAT 5e cable with RJ-45 connectors wired to T568A standard. One 2.1 meter cable is supplied

❒ Two network terminators (one terminator is supplied with the SCP and each Xanbus-enabled device)

❒ Phillips head screwdriver

❒ Jigsaw or small keyhole saw

❒ Power drill with 1/8" bit (optional)

Choosing a Location

Choose a location that allows unobstructed access to the SCP screen and buttons.

The location should be indoors, dry, and free from corrosive or explosive fumes.

> **⚠ WARNING**
>
> ### EXPLOSION HAZARD
>
> The SCP is not Ignition Protected. Do not install in areas requiring Ignition-Protected equipment, such as areas containing gasoline engines, tanks, or fuel-line fittings.
>
> **Failure to follow these instructions can result in death or serious injury.**

Installing the Xanbus Network

This section describes requirements for installing the SCP as part of a Xanbus network-managed power system. For the system to function properly, requirements for network layout and termination must be followed.

Network Components

A Xanbus network consists of the following components:

- Xanbus-enabled devices—these include the Conext SCP, the Conext XW+ and Conext SW inverter/charger, Conext Automatic Generator Start (AGS), and Conext MPPT solar charge controllers. The network can support up twelve Conext XW+ inverter/chargers, and up to twenty Xanbus-enabled devices total. However, a typical Conext XW+ system on one Xanbus network would require fewer devices. For example: three inverter/chargers, two charge controllers, one AGS and one SCP.

- Xanbus power supply—the network requires a power supply capable of providing 15 VDC/200 mA to each device. The Conext XW+ provides network power, but if no inverter/charger is installed, an external power supply is required. Contact Schneider Electric for more information.

- Xanbus cables—each Xanbus-enabled device is connected by a standard straight-through Ethernet cable—CAT 5e. See Figure 2-1. A 2.1 meter network cable is included with the SCP. If more cables or a different length are required, these standard cables can be purchased from Schneider Electric or any computer supply store.

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NOTICE

EQUIPMENT DAMAGE

Do not use crossover cable for the Xanbus network cable.
On crossover cable, the order of color-coded wires at each end of the cable is different.

Failure to follow these instructions can result in serious damage to equipment.
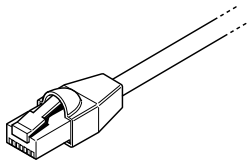
Figure 2-1 Xanbus Cable

- Network terminators (Figure 2-2)—the Xanbus network must be properly terminated at each end with network terminators. If the network is not properly terminated, signal quality is degraded and performance on the network is reduced. Permanent configuration without terminators is not supported by Schneider Electric.
  One terminator is included with the SCP. Depending on your network layout, this terminator may need to be inserted into another device elsewhere in the network.
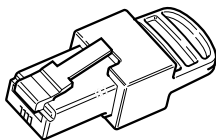
Figure 2-2 Xanbus Network Terminators

Network Layout

Xanbus-enabled devices are linked with separate lengths of Xanbus cable, as shown in Figure 2-3.

To ensure communication signal quality, each end of the network must be terminated. The Xanbus-enabled devices at each end of the network must have a male terminator inserted into their open network ports.

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If the SCP is the last device on the network, the open port on the SCP must be terminated.
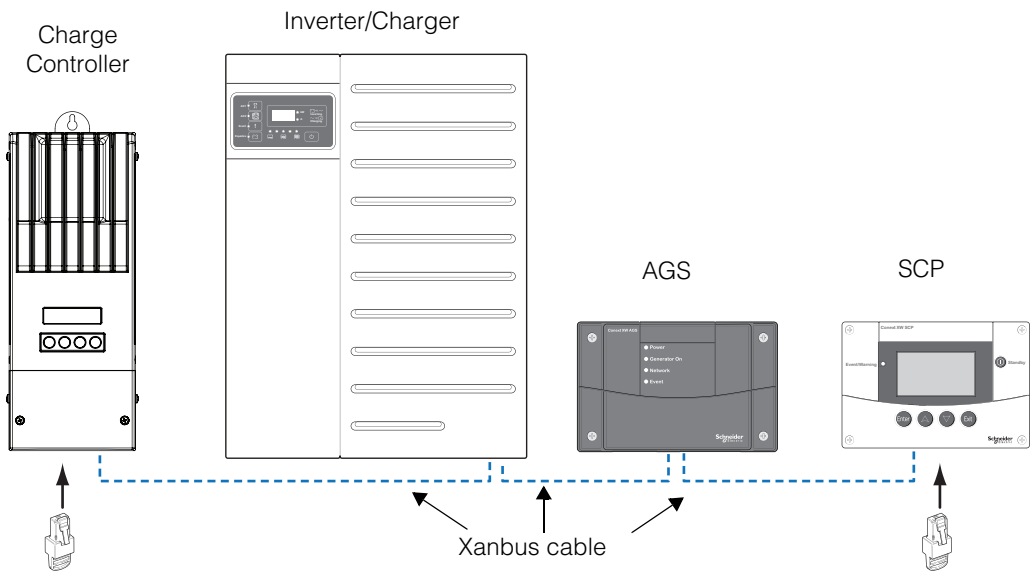
Figure 2-3 Daisy Chain Layout

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Guidelines for Routing Xanbus Cables

⚠ **WARNING**
SHOCK HAZARD Do not route the Xanbus cables in the same conduit or panel as the AC and DC power cabling. **Failure to follow these instructions can result in death or serious injury.**

To ensure maximum performance of your network, follow these guidelines when routing the Xanbus cables. Route the cables before installing the SCP.

• Route the cables away from sharp edges that might damage the insulation. Avoid sharp bends in the cable—no less than a 100 mm radius.

• Allow at least 57 mm of space behind the wall to accommodate the depth of the unit and allow room for the cables to bend.

• Allow for some slack in the cable tension.

• Keep the alignment of wire pairs inside the sheath as straight as possible.

• Allow separation between data and power cables (data cables should only cross a power cable at right angles).

• Do not staple the cable with metal cable staples. Use appropriate hardware fasteners to avoid damage to the cable.

The total length of the network, including all connected Xanbus-enabled devices and the SCP, cannot exceed 130 feet (40 m).

Connecting Xanbus Cables

Follow these guidelines for connecting Xanbus cables to the SCP. The cables are connected to the SCP at the same time the SCP is mounted. Read "Mounting the SCP" on page 2–8 before performing the following procedures.

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⚠ **CAUTION**

UNPREDICTABLE DEVICE BEHAVIOUR

Do not connect one end of the network to the other to make a ring or loop.

Failure to follow these instruction can result in serious injury.

NOTICE

EQUIPMENT DAMAGE

Connect the SCP only to other Xanbus-enabled devices.

Although the cabling and connectors used in this network system are the same as Ethernet connectors, **this network is not an Ethernet system.** Equipment damage may result from connecting a Xanbus system directly to a personal computer.

Failure to follow these instructions can result in serious damage to equipment.

To connect Xanbus cables to the SCP:

1. Connect the Xanbus cable (or two Xanbus cables, if the SCP is located between two Xanbus-enabled devices) to a Xanbus network input in the SCP.

2. Route and connect the cable(s) to the nearest Xanbus-enabled device(s).

3. For additional devices, continue connecting cable as described above.

4. Ensure the factory-supplied male network terminators are inserted into the empty inputs in the Xanbus-enabled devices at the beginning and end of the network. When the network is completely connected, there should be no empty network inputs in any Xanbus-enabled device.

Mounting the SCP

The SCP can be mounted four ways:

- Flush mounted through an opening in a wall using the mounting plate.
- Surface mounted using the mounting bracket.
- Flush mounted through an opening in a wall and secured with four #6 screws.
- Installed in the Conext XW+ inverter/charger front panel. For instructions on this option, see the *Conext XW+ Inverter/Charger Installation Guide*.

⚠ **WARNING**

SHOCK HAZARD

Before making an opening in a wall or panel, ensure there is no wiring or other obstruction within the wall.

Failure to follow these instructions can result in death or serious injury.

NOTICE

EQUIPMENT DAMAGE

Provide adequate space within the wall for the Xanbus cables to bend. Do not bend the cable to one side after it leaves the Xanbus port. The mounting bracket itself does not provide enough space for the cables to bend. Attempting to route the cables through the side of the mounting bracket without providing space for the cables within the wall may damage to the SCP Xanbus ports and cause network communication problems.

Failure to follow these instruction can result in serious damage to equipment.

To flush mount the SCP with mounting plate:

1. Using a jigsaw and the supplied template sticker as a guide, cut out the hole for the mounting plate. The mounting plate fastens to walls up to 19 mm thick.
2. Route the Xanbus cable(s) inside the wall and through the opening.

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3. Insert the mounting plate with the two tabs in a vertical position into the hole (see Figure 2-4).

Tabs in vertical position
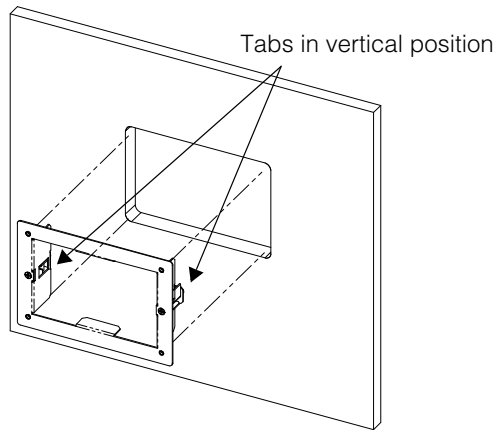
Figure 2-4 Inserting the Mounting Plate

4. Secure the mounting plate by tightening the two screws to rotate the tabs to the horizontal position (see Figure 2-5) and pull the tabs tight against the inner surface of the wall. Be careful not to overtighten the screws and damage the wall.

Rotate tabs to horizontal position

Figure 2-5 Securing the Mounting Plate

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5. Connect the Xanbus cable(s) (and terminator if necessary) to either network input on the back of the SCP. See Figure 2-6.

   Connect a network terminator to the SCP if it is the last device at the end of a daisy chain network layout.

Important: To ensure communication signal quality, the network must be terminated at each end with a terminator.

Figure 2-6 Connecting the Network Cables

6. Place the unit into the mounting plate and secure it with four #6 screws.
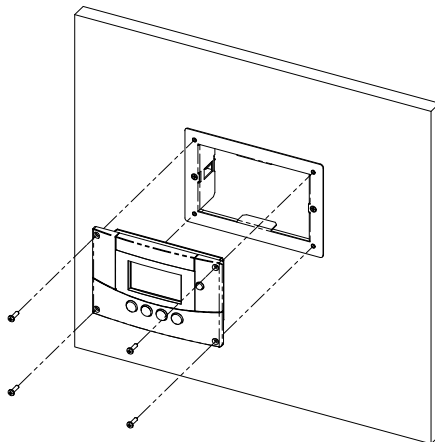
Figure 2-7 Securing the SCP

7. Peel off the protective plastic coating covering the screen and indicator light.

To flush mount the SCP with no mounting plate:

1. Peel the backing from the supplied mounting template sticker and place it in your chosen installation location. Use the template to mark the location for the area to be cut out.

2. Pilot-drill the mounting holes (if necessary, depending on your mounting surface) and, using a jigsaw, cut out the hole in which the SCP will be inserted.

3. Route the Xanbus cable(s) from other Xanbus-enabled devices inside the wall and through the opening.

4. Connect the Xanbus cable(s) (and terminator if necessary) to either network input on the back of the SCP. See Figure 2-6.

   Connect a network terminator to the SCP if it is the last device at the end of a daisy chain network layout.

5. Place the unit in the opening and secure it with four #6 screws.

6. Peel off the protective plastic coating covering the screen and indicator light.

To surface mount the SCP:

1. Using the supplied template sticker as a guide, mark the locations for two mounting screws and the access hole for the Xanbus cables.

2. Using a hole saw, cut out the access hole for the Xanbus cable(s).

3. Route the Xanbus cable(s) from other Xanbus-enabled devices inside the wall and through the access hole.
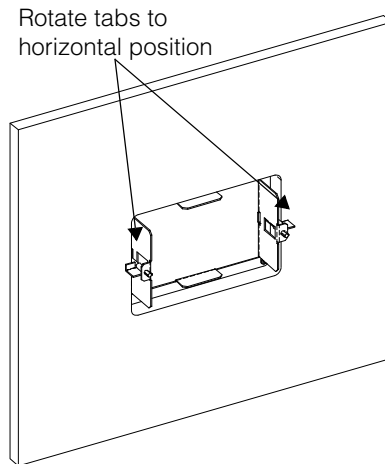
4. Attach the mounting bracket with two #6 screws.

5. Connect the Xanbus cable(s) (and terminator if necessary) to either network input on the back of the SCP.

   Connect a network terminator to the SCP if it is the last device at the end of a daisy chain network layout.

Important: To ensure communication signal quality, the network must be terminated at each end with a terminator.
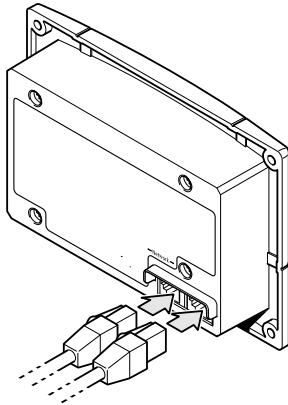
6. Place the unit into the mounting bracket and secure it with four #6 screws. See Figure 2-8.

7. Peel off the protective plastic coating covering the screen and indicator light.

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Access hole must be large enough to easily fit the network wire connectors
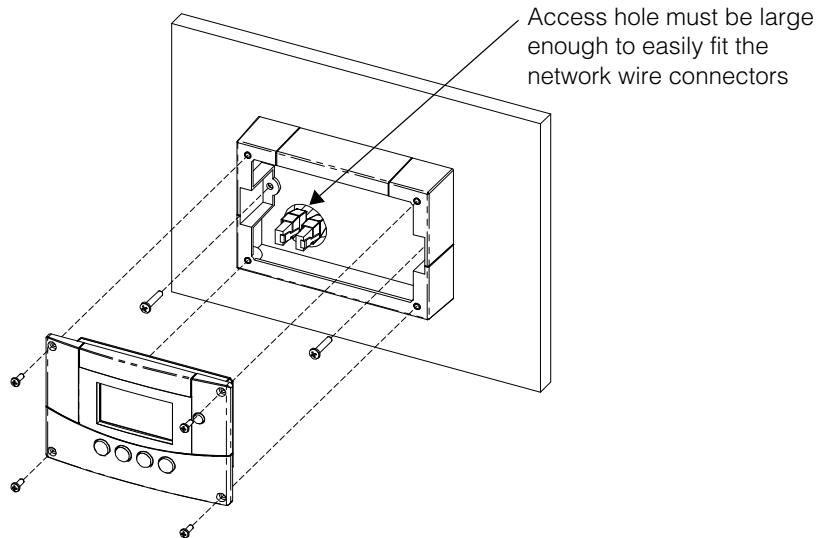
Figure 2-8 Surface Mounting the SCP

Verifying the Installation

If network power from an inverter/charger or external power supply is present, the LCD backlight comes on and the SCP shows the startup screen (see page 3–3).

When the SCP is started up on the Xanbus system for the first time, it displays a fault message asking you to set the clock before proceeding. For procedures for setting the clock, see "Setting the Time" on page 3–14 and "Setting the Date" on page 3–15.

3

Configuration

Chapter 3 contains guidelines for configuring the Conext System Control Panel.

It includes:

- Displaying Device Home Screens
- Displaying Device Menus
- Configuring SCP Preferences

For the specific settings for the Xanbus devices on your system, refer to the Owner's Guide or Installation Guide for each device.

Displaying Device Home Screens

The SCP displays a number of screens and menus for changing the settings of any Xanbus-enabled device in the system.

The top level screens on the SCP are the Startup, System Status and the device Home screens. After power is applied and the Startup screen appears, the SCP displays the System Status screen. The device Home screens can be viewed by pressing the up and down arrow buttons, as shown in Figure 3-1.
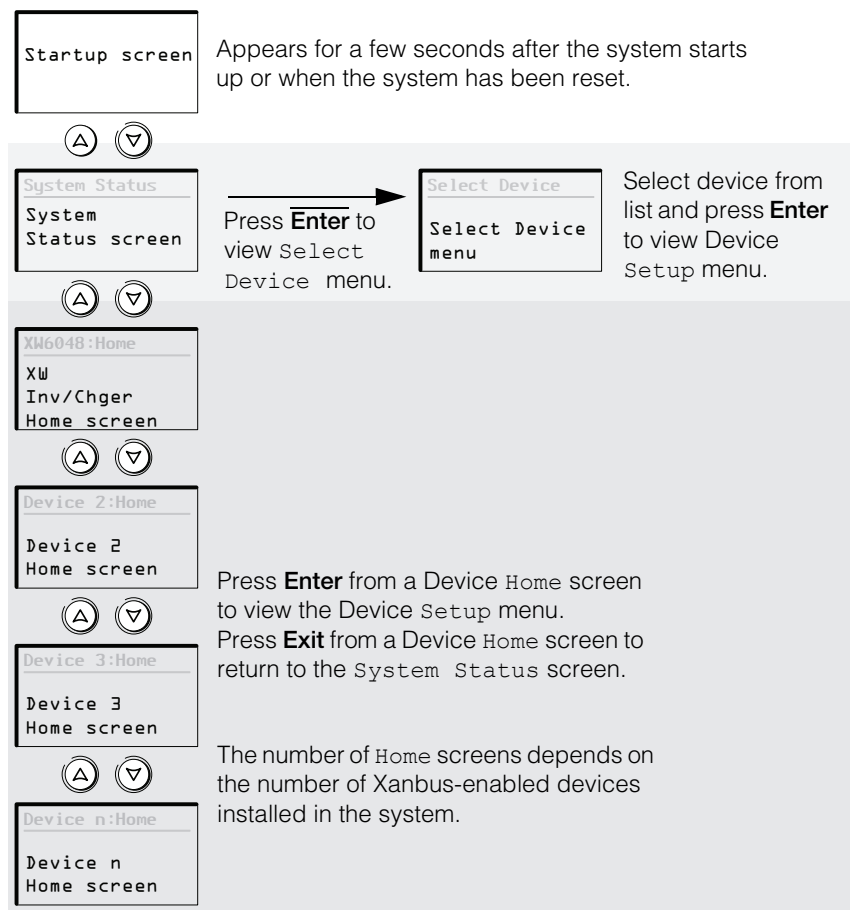
Figure 3-1 SCP Home Screens

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System Status Screen

The `System Status` screen appears after the `Startup` screen and displays aggregated status information for the entire Conext system.

The `System Status` screen displays:

- Qualified AC source (if applicable) and total power to and from the source.
- Battery voltage and capacity level.
- Net battery input or output current.
- Total inverter loading.
- Time and date.

```
System Status
Battery    20.4A      53.9V
BatLev ████████     E--F
Load   ████▯▯▯▯     1235W
AC1        115V     3202W
 ↓ menu         9:18AM   Mar 10
```

Line 1: Battery voltage and input/output current (positive when charging; negative when inverting)

Line 2: Battery level meter

Line 3: Power supplied to loads

Line 4: AC input source and line-to-neutral voltage (averaged between L1 and L2). The bottom left corner displays `AC1` or `AC2` depending on the active input source. When selling to the grid, the power displayed is positive. When charging, the power displayed is negative.

Menu arrow indicates the **Enter** button. Pressing **Enter** displays the `Select Device` menu.

Figure 3-2 System Status Screen

A typical system may have up to three Conext XW+ inverter/chargers, two MPPT solar charge controllers, one Conext AGS and one Conext SCP connected to a single battery bank, generator and a common utility grid.

The `System Status` screen always features a "`menu`" arrow pointing to the **Enter** button. Pressing **Enter** displays the `Select Device` menu.

Important: If you are uncertain which SCP screen or menu you are viewing, you can always return to the starting point by pressing **Exit** until the `System Status` screen appears.

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Conext XW+ Inverter/Charger Home Screen

The Conext XW+ (or Conext SW) `Home` screen is the first of the device home screens. Each device installed in the system (except the SCP) has its own `Home` screen.

To view additional device `Home` screens, press the down arrow button.

The Conext XW+ `Home` screen displays status information for the inverter/charger (Standby, Inverting, Charging, AC Bypass, Search, or Equalize). For more information, see the *Conext XW+ Inverter/Charger Owner's Guide.*

To display the Conext XW+ Home screen:

◆ From the `System Status` screen, press the down arrow key.

```
XW6848 00:Home                  ◄── Device name and number
Status              Invert      ◄── Line 1: Conext XW+ status
Battery  -26.4A      51.9V      ◄── Line 2: Battery current (in + or out -) and voltage.
Load          ▮▮▮▮   1250W          Battery current is negative when selling
AC1        0.0V        0W            Amps * Volts = Total Power Sold
 ⬇ setup          system ⬇
                                    Line 3: Power supplied to loads
                                    Line 4: AC in status
```

Setup arrow indicates the **Enter** button. Pressing **Enter** displays the Conext XW+ `Setup` menu.

System arrow indicates the **Exit** button. Pressing **Exit** displays the System `Home` screen.

Figure 3-3 Conext XW+ Home Screen

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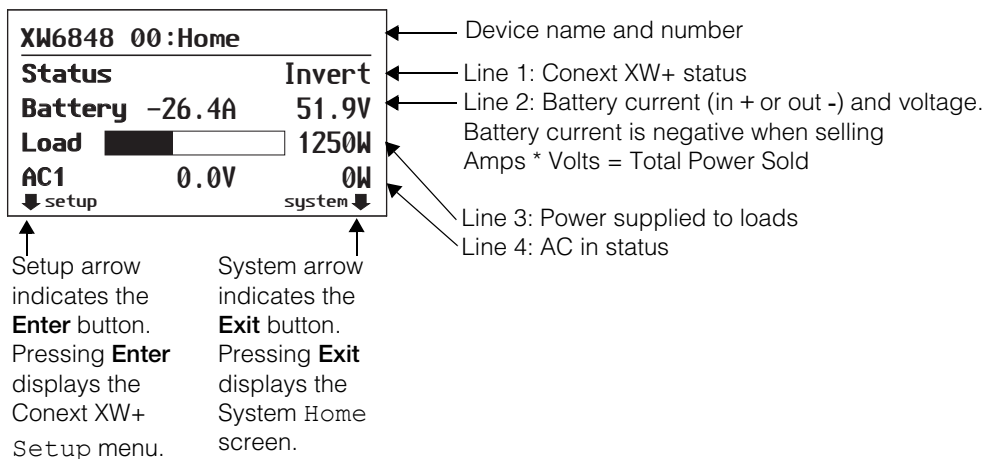
Displaying Device Menus

This section describes the device and setup menus on the SCP.

Select Device Menu

The `Select Device` menu displays a list of Xanbus-enabled devices in the system, including the Conext XW+ and the SCP. The `Select Device` menu is where you can access the setup menus for each device in the system. The length of the `Select Device` menu depends on how many Xanbus-enabled devices are installed.

The `Select Device` menu also contains the `Clock` menu (where the time and date are set) and the `System Settings` menu (where system-level settings can be configured). The `System Settings`, `XW SCP`, and `Clock` menus are always available from the `Select Device` menu, regardless of the number of Xanbus-enabled devices installed.

To display the Select Device menu:

◆ From the `System Status` screen, press **Enter**.

Device Setup Menus

`Setup` menus display status information and changeable settings. Changeable settings are identified by the square brackets [ ] around values in the right-hand column.
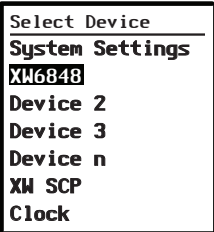
To display the Setup menu for a device:

◆ On the `Select Device` menu, highlight the device name and press **Enter**.

   -Or-
   From the device `Home` screen, press **Enter**.

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Select Device menu   Conext XW+ Setup menu

To view Device Setup menu, highlight the device name and press Enter
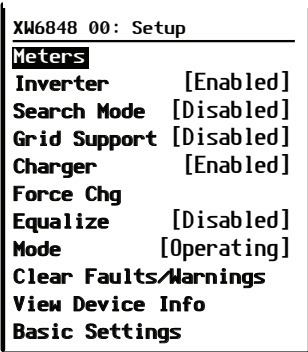
Note: The SCP displays four lines of the Setup menu at a time. To view additional settings, press the Down arrow button.

Figure 3-4 Selecting a Device Setup Menu

Changing Settings Using a Device Setup Menu

You can view and change device settings from the device setup menu.

Basic menu Each device Setup menu can be displayed in Basic and Advanced formats. The Basic menu contains configuration items you may have to adjust routinely, or as part of initial setup.

Advanced menu The Advanced menu gives you access to the full set of configuration menus for that device, including everything displayed on the Basic menu. As a safeguard against unintended advanced configuration, the SCP displays the Basic menu by default. To view the Advanced menu, you must perform a special keypress.

⚠ WARNING

RISK OF FIRE AND SHOCK HAZARD

The Advanced settings for devices other than the SCP are intended for qualified installation/service personnel only. Before changing advanced settings, you must be familiar with the settings and the system-wide impact of changing those settings. Setting parameters incorrectly could damage connected equipment (such as batteries) or could severely affect the performance of your system. Incorrect charging configuration can lead to battery damage and risk of fire. Consult the local utility before enabling sell mode or changing sell mode settings.

Failure to follow these instructions can result in serious injury.

To view the Advanced menu:

◆ On the device Setup menu, press **Enter** + up arrow + down arrow at the same time.

Note: This keypress displays Advanced menus for every device in the system.

Identifying Changeable Settings

A device Setup menu displays changeable settings and commands to view other menus. Changeable settings are enclosed in square brackets.

To select and adjust a setting:

1. On the device Setup menu, press the up arrow or down arrow button to highlight the setting you want to change.

```
XW6848 00: Setup
Meters
Inverter      [Enabled]
Search Mode   [Disabled]
Grid Support  [Disabled]
```
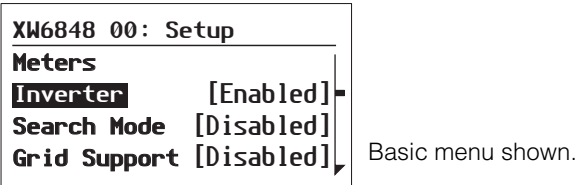Basic menu shown.

Figure 3-5 XW+ Setup Menu

2. Press **Enter** to highlight the current value of that changeable setting.

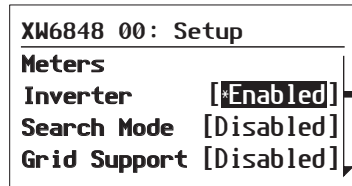   The previously set value appears with an asterisk (*) beside it.

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```
XW6848 00: Setup
Meters
Inverter      [*Enabled]
Search Mode  [Disabled]
Grid Support [Disabled]
```

Figure 3-6 XW+ Setup Menu Values

3. Press the up arrow or the down arrow button to change the value. Hold down the button to scroll through a large range of values quickly.

4. Press **Enter** to select the value or **Exit** to cancel the value selection.

5. If you have another setting to change, return to step 1.

   Or

   If you have no more settings to change, press **Exit** twice to return to the System Home screen.

Configuring SCP Preferences

You can configure the SCP to suit your preferences and the requirements of the Xanbus system. Some settings, such as the system time, affect the entire system. Other settings affect only the SCP, such as the brightness of the display.

You can perform all these tasks on the SCP Setup menu, the Clock menu, and the System Settings menu.

SCP Setup Menu

Configuring the SCP is done on the SCP Setup menu, which you can view in either Basic or Advanced formats.

To view the SCP Setup menu:

1. From the System Status screen, press **Enter** to view the Select Device menu.

2. On the Select Device menu, highlight XW SCP and press **Enter**.

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```
Select Device
XW6848 00
XW-MPPT60-150
XW SCP
Clock
```
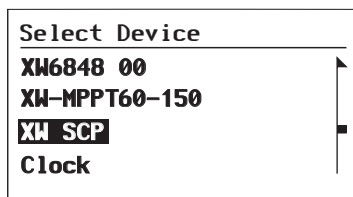
Figure 3-7

The `XW SCP Setup` menu contains settings for changing the appearance of the display, enabling button-press and alarm sounds, and setting the temperature scale.

The following table lists the configuration items included on the `XW SCP Setup` menu. Advanced menu items are in gray:

Menu item	Menu item (translation)	Description	Values/Action	Default
Brightness		Adjusts the brightness of the display to suit interior light conditions and enhance visibility.	20% to 100% (increments of 10%)	60%
Contrast		Adjusts the contrast of the display to suit viewing angle and enhance visibility.	0% to 100% (increments of 5%)	60%
Light Timer		Sets how long the backlight remains on after the last button press on the SCP.	Off, 1mins–60mins (increments of 1 minute)	2mins
Button Beep		Enables buttons to beep when pressed.	On, Off	Off
Fault Alarm		Enables an alarm to sound when a fault occurs.	On, Off	Off
LoBatt Alarm		Enables an alarm to sound when a low battery voltage condition exists.	On, Off	Off
Set Degrees		Selects the temperature scale the SCP will display.	Fahrenheit, Celsius	Fahrenheit

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Menu item	Menu item (translation)	Description	Values/Action	Default
Name		Allows you to customize the name of the SCP as it is displayed on the setup menu and the Select Device menu.	Press **Enter** to begin customizing the name. See "Setting the Device Name" on page 3–10.	SCP
Clear Faults/ Warnings		Clears active faults and warnings generated by the SCP.	Press **Enter** to clear faults and warnings.	n/a
View Fault Log		Displays the Fault Log, containing the last 20 SCP faults.	Press **Enter** to view log.	n/a
View Warning Log		Displays the Warning Log, containing the last 20 SCP warnings.	Press **Enter** to view log.	n/a
View Event Log		Displays the Event Log, containing the last 20 SCP events.	Press **Enter** to view log.	n/a
Restore Defaults		Restores the SCP to its original factory or installer settings. After restoring defaults, please ensure the clock is set correctly.	Press **Enter** to restore defaults.	n/a

Setting the Device Name

The Name setting allows you to customize the name of the SCP as it is displayed on other screens and menus.

The characters available are:

- A to Z
- a to z
- 0 to 9
- space

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To customize the SCP name:

Note: Increasing the number of letters in a device name may cause other text on the same line to run off the edge of the screen. Device names should be limited to 10 characters or less.

---

1. Select Name on the XW SCP Setup menu.

2. Press **Enter**. The last letter of "SCP" is highlighted.

```
XW SCP: Setup
Fault Alarm        [Off]
Lo Batt Alarm      [Off]
Set Degrees [Fareneheit]
Name              [SCP]
```
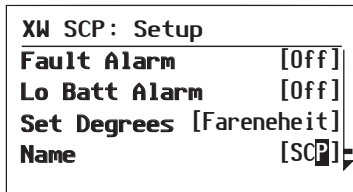
Figure 3-8 Customizing the SCP Name

3. Begin customizing the device name.

   - To change the character, press the up or down arrow button. Holding down the button causes the characters to scroll more quickly.

   - To delete the character, press **Exit**.

   - To add characters, press **Enter**.

4. When the correct character is shown, press **Enter** to select it.

5. After pressing **Enter** to select the last character of your customized device name, press **Enter** again to return to the Setup menu.

Clock Menu

Use the Clock menu to set the clock, the date, and the time format you prefer.

The clock is listed as a separate device on the Select Device menu.

Note: If the system has a Conext ComBox installed, the network time configured on the ComBox overrides the time settings configured on the SCP (or any other individual device) in the Conext system.

To view the Clock menu:

◆ On the Select Device menu, highlight Clock and press **Enter**.

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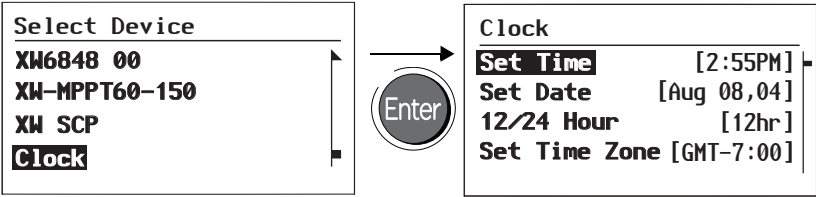
Figure 3-9

The configuration items included on the Clock menu are:

Menu item	Menu item (translation)	Description	Values	Default
Set Time		Sets reference time for the power system.	12:00 AM–11:59 PM, 00:00–23:59	n/a
Set Date		Sets the reference date for the power system.	month day year (Jul 1, 04, for example)	n/a
12/24 Hour		Configures the SCP to use a 12-hour clock or 24-hour clock.	12hr, 24hr	12hr
Set Time Zone		Configures the SCP to set a time zone based on GMT.	GMT+0:00, GMT-1:00...GMT+1:00	GMT +0:00

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Setting the Time

Because the SCP keeps time for the power system, setting the clock to the correct local time is essential for the system to operate as expected. The clock also provides the time stamps for the Warning and Fault logs.

When you first power up the SCP, it will not begin operating normally until you set the time.

Note: The SCP does not automatically adjust for Daylight Savings Time or leap year.

To set the clock:

1. On the `Clock` menu, with `Set Time` highlighted, press **Enter**.

   The hour value is highlighted.

2. Press the up arrow or down arrow button to change the hour.

3. When the correct hour is shown, press **Enter** to select it and highlight the minute.

   If you make an error, press **Exit** to move back to the value you need to reset. If you decide to abandon resetting the time, press **Exit** repeatedly until you return to the `Clock` menu.

4. Press the up arrow or down arrow button to change the minute.

5. When the correct minute is shown, press **Enter** to select it and highlight the `AM/PM` value.

   If you are using a 24-hour clock, you will return to `Set Time` at this point. Proceed to step 8.

6. Press the up arrow or down arrow button to choose `AM` or `PM`.

7. When the correct value is shown, press **Enter** to select it and return to the `Clock` menu.

8. Press **Exit** to return to the `Select Device` menu.

   If you make an error, press **Exit** to move back to the value you need to reset. If you decide to abandon resetting the time, press **Exit** repeatedly until you return to the `Clock` menu.

Setting the Date

You can set the reference date for Xanbus-enabled devices from the `Clock` menu.

To set the date:

1. On the `Clock` menu, press the up arrow or down arrow button to highlight `Set Date`.
2. Press **Enter** to highlight the month.
3. Press the up arrow or down arrow button to change the month.
4. When the correct month is shown, press **Enter** to select it and highlight the day.

    If you make an error, press **Exit** to move back to the value you need to reset. If you decide to abandon resetting the date, press **Exit** repeatedly until you return to the `Clock` menu.
5. Press the up arrow or down arrow button to change the day.
6. When the correct day is shown, press **Enter** to select it and highlight the year.
7. Press the up arrow or down arrow button to change the year.
8. When the correct year is shown, press **Enter** to select it and return to the `Clock` menu.

    If you make an error, press **Exit** to move back to the value you need to reset. If you decide to abandon resetting the date, press **Exit** repeatedly until you return to the `Clock` menu.

System Settings Menu

The `System Settings` menu displays information related to the operation of the entire Xanbus system.

To view the System Settings menu:

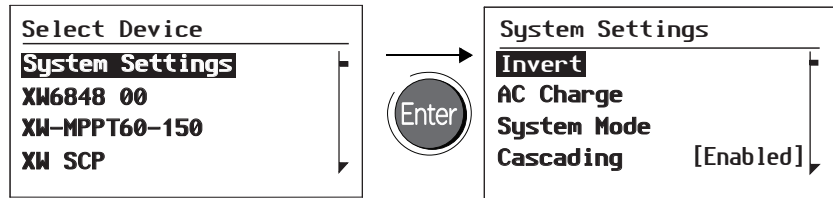◆ On the `Select Device` menu with `System Settings` highlighted, press **Enter**.

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Figure 3-10

The configuration items available on the System Settings menu are:

Menu item	Menu item (translation)	Description	Values/Action	Default
Invert		Enables or disables inverting for all inverters in the system. Press **Enter** to view and select values.	Enabled, Disabled	Enabled
AC Charge		Enables or disables charging on AC input for all inverter/chargers in the system. Press **Enter** to view and select values. This command does not affect MPPT solar charge controllers.	Enabled, Disabled	Enabled
System Mode		Places all the devices in the system in the selected mode. Press **Enter** to view and select values. See "System Modes" on page 4–2.	Operating, Standby	Operating
Cascading		Enables or disables cascading parameters when configuring device settings. See "Using Cascading Parameters to Configure All Devices at Once" on page 3–16.	Enabled, Disabled	Enabled

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Menu item	Menu item (translation)	Description	Values/Action	Default
`Connection Names`		Customizes the names of AC and DC connections in the system. For example, "AC1" can be changed to "Grid Power."	House Battery, Start Battery, Solar Array, Grid, Generator, AC Load	n/a
`View Fault List`		Displays the `Fault List` screen, which shows active faults in the system (up to 20). See page 4–9.	Press **Enter** to view list.	n/a
`View Warning List`		Displays the `Warning List` screen, which shows active warnings in the system (up to 20). See page 4–5.	Press **Enter** to view list.	n/a
`Clear All Flts/Wrns`		Clears active faults and warnings on all devices on the system.	Press **Enter** to clear faults and warnings	n/a
`View Device Info`		Shows the model number, firmware serial number and firmware revision for each Xanbus-enabled device.	Press Down arrow to view information for each device.	n/a

Using Cascading Parameters to Configure All Devices at Once

Xanbus-enabled devices are configured one at a time. However, because devices often have common settings, cascading parameters can simplify and speed up system configuration. When a parameter is "cascaded," a newly configured device setting is applied to all devices of the same device type on a common AC or DC connection.

For example, if cascading parameters are enabled and a Battery Size (Ah) parameter is changed on the inverter/charger setup menu, the same battery size setting is applied to other inverter/chargers that share the same DC connection in the system.

To enable or disable cascading parameters:

1. On the `System Settings` menu, with `Cascading` highlighted, press **Enter**.

2. Use the up arrow or down arrow button to change the current setting—`Enabled` or `Disabled`.

3. Press **Enter** to select the new setting.

When configuring the network-managed power system with cascading parameters enabled, you should verify that the configurations have been cascaded correctly to other devices. Communication errors may cause parameters to revert to their original values or generate a warning message on the SCP.

Viewing Device Information

The `Device Info` screen shows the model number, silicon chip serial number and firmware revision for each Xanbus-enabled device. You cannot select or change any information on this screen.

To view device information:

1. On the `System Settings` menu, with `View Device Info` highlighted, press **Enter**.

   The `Device Info` screen appears.

```
Device Info
XW6848 01
Model #          865-1000
Serial #    00000DB22578
F/W Rev.         1.00.00
```

Figure 3-11

2. Press the down arrow button to view information for each Xanbus-enabled device on the system.

3. Press **Exit** to return to the `System Settings` menu.

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4

Operation

Chapter 4 contains information and procedures for operating the Conext System Control Panel.

It includes:
- System Modes
- Faults and Warnings

System Modes

The system modes described in this section affect the performance and behavior of the SCP and all other Xanbus-enabled devices. You will have to change the system mode when putting your system in storage or when installing a new Xanbus-enabled device.

Changing System Modes

System modes are changed using the `System Settings` menu (see "Using the System Settings Menu" on page 3–16). The system modes are:

- Operating
- Standby

Operating Mode

The default state of the SCP is Operating mode. In Operating mode, the SCP communicates with other Xanbus-enabled devices and displays all the network information it is configured to display.

Standby Mode

While in Standby mode, the SCP remains powered, "listening" and reporting its status to the network. However, the output power of all Xanbus-enabled devices is disabled and all inverting, charging, and generator starting activity stops. Selecting Standby mode stops the generator (if it is running and a Conext Automatic Generator Start is part of the system) and puts the SCP (and all Xanbus-enabled devices) into Standby mode.

When to use   Use Standby mode when you are adding or removing devices from the network. Authorized service personnel must also put the network in Standby mode before performing software upgrades and diagnostics.

To put the power system into Standby mode:

1. On the `System Settings` menu, highlight "`System Mode`," and press **Enter**.
2. Select "`Standby`" and press **Enter**.

To return to Operating mode:

1. On the `System Settings` menu, highlight "`System Mode`," and press **Enter**.

2. Select "`Operating`" and press **Enter**.

Using the Standby Button

Pressing and holding the Standby Button produces the same result as disabling "`Invert`" and "`AC Charge`" from the `System Settings` menu on the SCP. Pressing and holding the **Standby** button does not affect MPPT charge controller operation. After disabling inverting and charging with the Standby button, the system continues to pass AC input through to the loads.

Pressing and holding the **Exit** and **Standby** buttons at the same time puts the entire Conext XW+ system (including MPPT charge controllers) into standby mode. In standby mode, the Conext XW+ inverter/chargers stop passing AC input through to the loads, and "`Stb`" is displayed on Inverter Information Panel.

After the keypress command to enter standby mode, the Conext AGS (if installed) shuts down the generator if it is running, after a cool-down cycle.

Warnings and Faults

This section describes how fault and warning messages behave, and what you should do when they appear. For a complete list of fault and warning messages specific to the SCP, along with recommended actions to correct the fault or warning condition, refer to Chapter 5, "Troubleshooting".

Important: The SCP displays fault and warning messages for all Xanbus-enabled devices in the system. For information about fault and warnings for other devices, refer to the Troubleshooting chapter in the Owner's Guide or Operation Guide for each device.

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Warning Messages

Warning messages appear when the SCP detects a condition that may eventually affect its continued operation. When a warning occurs, the SCP continues operating. However, you should consult the Troubleshooting chapter to find out what actions you can take to prevent the warning from escalating into a fault.
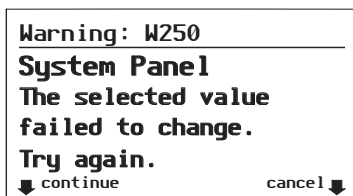
```
┌─────────────────────────────────┐
│ Warning: W250                   │
│ System Panel                    │
│ The selected value              │
│ failed to change.               │
│ Try again.                      │
│ ▼ continue            cancel ▼  │
└─────────────────────────────────┘
```

Figure 4-1 SCP Warning Message

Types
There are two types of warning messages: manual and automatic. Each differs in its behavior and appearance. For a list of SCP warnings and their associated types, refer to Chapter 5, "Troubleshooting".

If you see a warning message on the SCP, you will have to acknowledge it and (if necessary) clear it. Acknowledging the warning allows you to continue operating the SCP. Clearing the warning message stops the warning condition from escalating into a fault.

Acknowledging Warning Messages

Automatic warnings
Acknowledging an automatic warning message removes the message from the SCP screen.

To acknowledge an automatic warning message, press **Enter**. After you acknowledge the warning, the SCP displays the menu for the device that caused the warning.

The SCP removes an unacknowledged automatic warning message from the screen after three minutes. However, if the condition that caused the warning still exists, the warning message will reappear.

You can view a list of the last 20 warning messages from the SCP on the Warning log. See "Viewing the SCP Warning Log" on page 4–6.

Manual warnings
A manual warning message requires you to make a choice (usually by pressing **Enter** for "yes" or **Exit** for "no") before you can proceed monitoring or configuring the SCP. It will not disappear after three

minutes. After you respond to the warning message the SCP clears the warning message and returns to the screen it was displaying before the warning message appeared.

Clearing Warning Messages

Automatic warning messages clear when the warning condition on the SCP disappears or when the criteria for clearing the warning are met.

You can clear a manual warning message by pressing **Enter** or **Exit** in response to the message.

Viewing Multiple Warning Messages

If several warning messages occur before you can acknowledge or clear them, they are displayed together on a warning list. The warning list contains messages from every Xanbus-enabled device, not just the SCP. You can select a message from the warning list and view its details.

To view a message from the warning list:

1. On the warning list, use the up arrow or down arrow button to highlight the warning message you want to view.

2. Press **Enter**.

   The complete warning message appears.

After viewing the warning message, you can return to the warning list by pressing **Exit** or continue to the menu for the device that caused the warning by pressing **Enter**. Each time you return to the warning list after viewing a complete message, the viewed message is removed from the list.

If you have left the warning list, you can view it at any time from the System Settings menu.

To view the warning list:

1. On the Select Device menu, highlight System Settings and press **Enter**.

2. On the System Settings menu, highlight View Warning List and press **Enter**.

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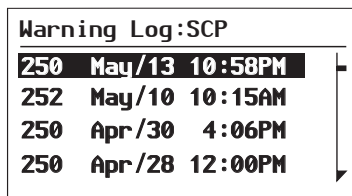
Viewing the SCP Warning Log

The SCP warning log displays the 20 most recent warnings that the SCP generated. These warnings can be both active and cleared. Each warning in the log is identified by a warning code and the time that it occurred. You may need to refer to the warning log before consulting Chapter 5, "Troubleshooting", or before you call technical support.

To view the warning log:

1. On the `XW SCP` menu, press the down arrow button to highlight `View Warning Log`.

2. Press **Enter**.

To return to the SCP menu:

◆ From the Warning log, press **Exit**.

```
Warning Log:SCP
250   May/13 10:58PM
252   May/10 10:15AM
250   Apr/30  4:06PM
250   Apr/28 12:00PM
```

Figure 4-2 SCP Warning Log

Viewing Individual Warning Messages from the Warning Log

On the warning log, you can also select an individual warning and view its details.

To view details for a warning:

1. Use the up arrow or down arrow button to highlight the warning message you want to view.

2. Press **Enter**.

   The complete message appears.

To return to the warning log:

◆ Press **Exit** (as indicated by the arrow marked `cancel`).

To proceed to the device menu and adjust device settings to eliminate the warning condition:

◆ Press **Enter** (as indicated by the arrow marked `continue`).

Fault Messages

Fault messages appear when the SCP's operation is affected by a condition that requires immediate attention. When a fault occurs, the SCP stops operating until either the fault condition goes away or until you manually clear the fault and take action to eliminate the fault condition.
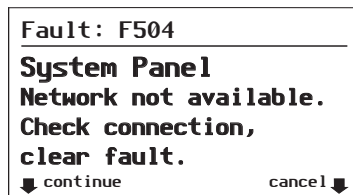
```
Fault: F504
─────────────────
System Panel
Network not available.
Check connection,
clear fault.
  continue        cancel
```

Figure 4-3 SCP Fault Message

Types of fault messages

There are two types of SCP fault messages: automatic and manual. For a list of faults and their associated types, refer to Chapter 5.

Automatic faults   clear themselves automatically if the fault condition goes away.

Manual faults   require you to clear them by:

• Selecting `Clear Faults/Warnings` on the menu of the device that generated the fault (if the fault condition still exists, the fault message will reappear).

• Correcting the condition that caused the fault.

Viewing the SCP Fault Log

The fault log lists the most recent SCP faults, up to a total of 20. On each line, the log shows the fault code, the date the fault occurred, and the time the fault occurred.

```
Fault Log:SCP
252   Apr/5   10:58PM
252   Apr/5   10:15AM
252   Mar/30   4:06PM
250   Jan/1   12:00PM
```

Figure 4-4 SCP Fault Log

To view the fault log:

1. On the SCP advanced menu, press the down arrow button to highlight `Fault Log`.
2. Press **Enter**.

To return to the SCP menu:

◆ Press **Exit**.

Viewing Individual Fault Messages from the Fault Log

On the fault log, you can also select an individual fault and view its details.

To view details for a fault:

1. Use the up arrow or down arrow button to highlight the fault message you want to view.
2. Press **Enter**.

   The complete fault message appears.

To return to the fault log:

◆ Press **Exit** (as indicated by the arrow marked "`cancel`").

To proceed to the device menu and reconfigure the device to eliminate the fault condition:

◆ Press **Enter** (as indicated by the arrow marked "`continue`").

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On the device menu, you can also attempt to clear the fault by selecting `Clear Faults/Warnings`.

Viewing Multiple Fault Messages

If several faults occur before you can acknowledge or clear them, the SCP displays the accumulated messages on a fault list. The fault list displays messages from all network-enabled devices, not just the SCP. You can select a message and view complete information for it from the fault list.

To view a message from the fault list:

1. On the fault list, use the up arrow or down arrow button to highlight the fault message you want to view.

2. Press **Enter**.

   The complete fault message appears.

3. To return to the fault list, press **Exit**.

   Or

   To return to the `SCP` menu, press **Enter**.

Each time you return to the fault list after viewing a complete message, the message you viewed is removed from the list.

You can also view the fault list at any time.

To view the fault list at any time:

1. On the `Select Device` menu, use the up arrow or down arrow button to highlight `System Settings`.

2. Press **Enter**.

3. On the `System Settings` menu, use the down arrow button to highlight `View Fault List`.

4. Press **Enter**.

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5

Troubleshooting

Chapter 5 contains reference tables of warning and fault messages that relate to the SCP.

For information about warning and fault messages that relate another device, see the guide for that device.

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Troubleshooting Reference

Use these tables to help you identify the cause of the fault or warning, and determine the best course of action to correct the condition that caused the fault or warning.

Types of Faults and Warnings

The various types of fault and warning messages behave differently, and give you the option to treat them differently when they appear. For more information about the types of fault and warning messages, see "Types" on page 4–4 and "Types of fault messages" on page 4–7.

Warning Reference Table

Table 5-1 Warning Reference Table

Warning number	Message	Message (translation)	Type	Cause	Action
W250	The value failed to change. Try again.		Automatic	A Xanbus-enabled device rejected the new setting.	Check device operation guide and settings. The setting may be out of range, the system mode may be incorrect, or another device setting is overriding the setting you want to change.
				A temporary communication problem stopped the SCP changing a value that you entered.	Try changing the value again.

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Table 5-1 Warning Reference Table

Warning number	Message	Message (translation)	Type	Cause	Action
W251	Please confirm: Equalization process.		Manual	You have enabled Equalization on the inverter/ charger or charge controller menu.	Press **Enter** to begin equalizing batteries or **Exit** to return to the previous menu.
W252	Please confirm: Restore default settings.		Manual	You have selected the Restore Defaults command.	Press **Enter** to restore default settings or **Exit** to cancel.
W254	The value failed to change. Try again.		Manual	The setting you are changing can only be changed when the system is in Standby mode.	Put the system in Standby mode, change the setting, then return the system to Operating mode.
W255	System clock not set. Set correct time.		Manual	On initial startup, the clock needs to be set. The system will not operate correctly until it is.	Set the clock to the correct time. See "Using the Clock Menu" on page 3–13.
W256	A device is lost. Check connection.		Manual	The SCP has lost communications with another device on the network.	Check network connection between the SCP and the device.

Table 5-1 Warning Reference Table

Warning number	Message	Message (translation)	Type	Cause	Action
W257	New device detected. Check device settings.		Manual	You have connected a new device to the network or reconnected a disconnected device.	Acknowledge the message and check that the device is properly configured.
W258	Device instance is duplicated.		Manual	Two networked devices of the same type have the same instance.	Select a different instance ID on one of the devices' Setup menu.
W501	SCP has fixed a memory problem, restored defaults.		Manual	The SCP encountered an internal memory problem upon startup. To remain operational, the SCP restored its default settings.	Acknowledge the warning and reset configurable settings if necessary.
W502	Not reporting; Info may be missing.		Manual		

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Fault Reference Table

Table 5-2 Fault Reference Table

Fault number	Message	Message (translation)	Type	Cause	Action
F250	System clock not set. Set correct time.		Manual	On initial startup, the clock needs to be set. The system will not operate correctly until it is.	Set the clock to the correct time. See "Using the Clock Menu" on page 3–13.
F251	A device is lost. Check connection.		Manual	The SCP has lost communications with another device on the network.	Check network connection between the SCP and the device.
F252	New device detected. Check device settings.		Manual	You have connected a new device to the network or reconnected a disconnected device.	Acknowledge the message and check that the device is properly configured.
F500	Internal failure. Service required.		Manual	The silicon serial ID number has failed and the SCP has gone into Standby mode.	Reset the SCP by removing and restoring network power. If problem persists, call customer service.
F501	Memory failure. Service required.		Manual	The SCP has suffered a non-volatile memory failure.	Reset the SCP by removing and restoring network power. If problem persists, call customer service.

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Table 5-2 Fault Reference Table

Fault number	Message	Message (translation)	Type	Cause	Action
F503	Internal reset. Call customer support.		Manual	The real-time clock in the SCP has failed.	Reset the SCP by removing and restoring network power. If problem persists, call customer service.
F504	Lost network connection.		Automatic	The SCP has lost communications with the network because of a faulty connection or electronic signal disruption.	Check connection between the SCP and the network.
F505	Internal failure. See guide.		Manual	A controller fault has occurred and the SCP has gone into Standby mode.	Reset the SCP by removing and restoring network power. If problem persists, disconnect and reconnect network cables.

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A Specifications

Appendix A contains the electrical and physical specifications for the Conext System Control Panel.

All specifications are subject to change without notice.

Electrical Specifications

Nominal input network voltage	15 Vdc
Minimum operating network voltage	14.25 Vdc
Maximum operating network voltage	15.75 Vdc
Maximum operating current	200 mA @ nominal input network voltage
Communication physical layer	2, CAN
Communication protocol	Xanbus
Maximum cable length	40 m (130 ft)
Connectors	2 RJ-45—8 pins
Display	Dot matrix 128×64 LCD with white LED backlight

Mechanical Specifications

Dimensions (W × H × D)	152×103×40 mm (6×4×1$\frac{9}{16}$ ")
Shipping dimensions	267×210×63 mm (10½×8¼×2½")
Weight	208 g (0.46 lb)
Shipping weight	780 g (1.72 lb)

Environmental Specifications

Operating temperature	-20 to 50°C (-4 to 122°F)
Storage temperature	-40 to 85°C (-40 to 185°F)
Maximum case temperature	60°C (140°F)
Operating humidity	5% to 95%
Storage humidity	5% to 95%

Regulatory Compliance

Safety	CSA certified to CSA107.1-01 and UL 458 4th Ed. including the Marine Supplement
EMC	FCC part 15B Class B
	Industry Canada ICES-0003 Class B
CE Marked under the EMC Directive 2004/108/EC	Complies with the following:
	EN61000-6-1:2007 Generic standards - Immunity for residential, commercial and light industrial environments
	EN61000-6-3:2007 Generic standards - Emissions for residential, commercial and light industrial environments
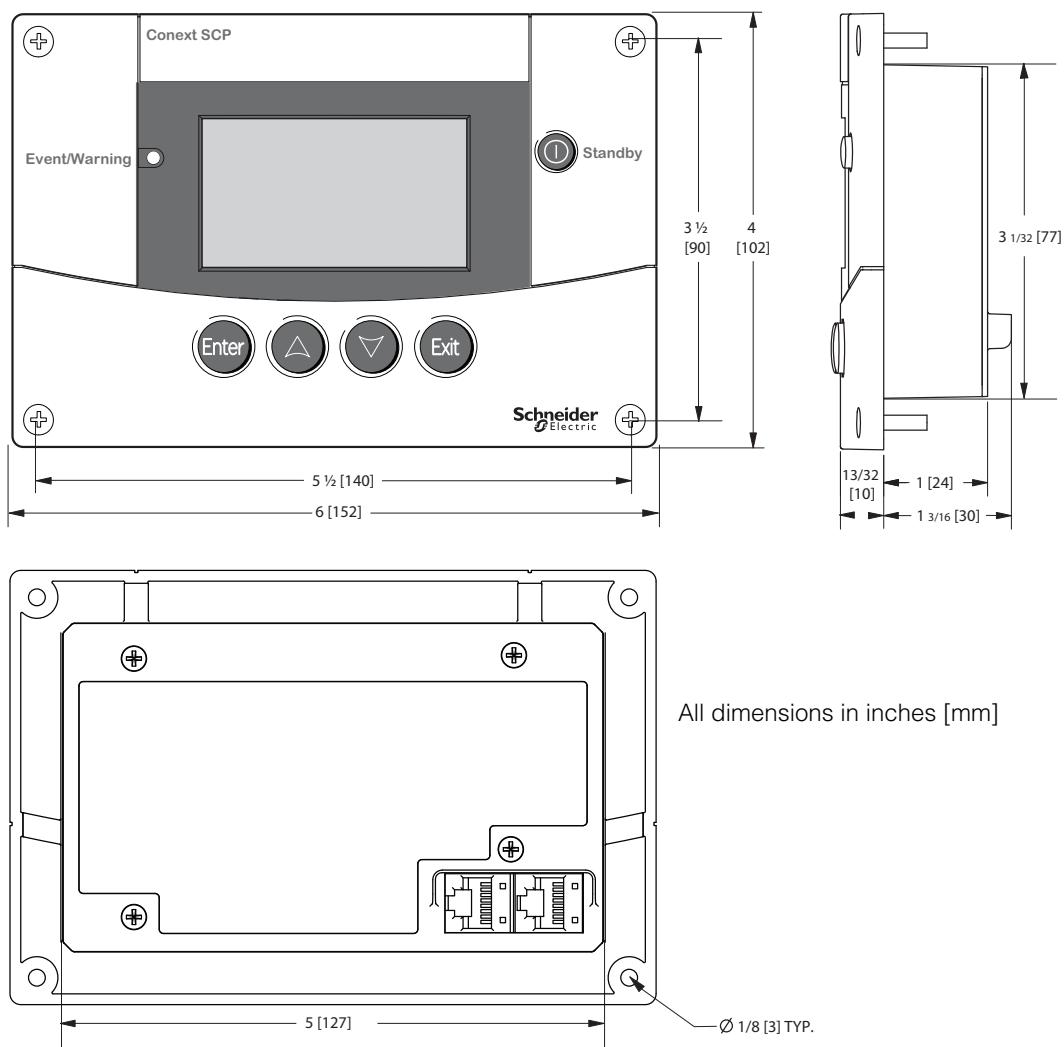
Figure A-1 SCP Dimensions

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