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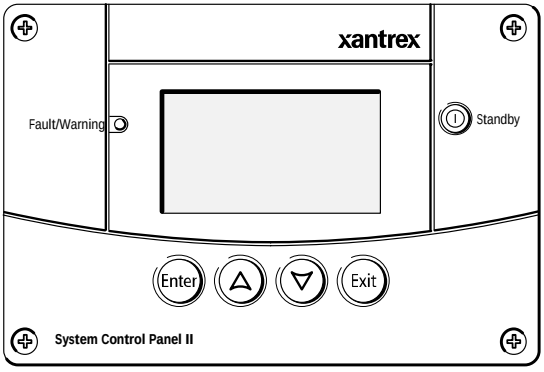

Owner's Guide

XW System Control Panel

xanbus™ ENABLED

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XW System Control Panel

Owner's Guide

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Xantrex Technology Inc. is a world-leading supplier of advanced power electronics and controls with products from 50 watt mobile units to one MW utility-scale systems for wind, solar, batteries, fuel cells, microturbines, and backup power applications in both grid-connected and stand-alone systems. Xantrex products include inverters, battery chargers, programmable power supplies, and variable speed drives that convert, supply, control, clean, and distribute electrical power.

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Date and Revision

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About This Guide

Purpose

The purpose of this Owner's Guide is to provide explanations and procedures for installing and operating the XW System Control Panel.

Scope

The Guide provides safety guidelines, setup information, and procedures for installing and configuring the XW 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 System Control Panel connects. See the owner's guide or operation guide for each Xanbus-enabled device for detailed configuration information.

Firmware Revision

Some System Control Panel 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 3–14.

Audience

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

Organization

This Guide is organized into five chapters and one appendix.

Chapter 1, "Introduction", introduces and describes features of the Xantrex System Control Panel.

Chapter 2, "Installation", contains information and procedures for installing the System Control Panel.

Chapter 3, “Configuration”, contains information and procedures for configuring the System Control Panel and using the System Control Panel to configure another device.

Chapter 4, “Operation”, contains information and procedures for operating the System Control Panel.

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

Appendix A, “Specifications”, contains the electrical, mechanical, and environmental specifications for the System Control Panel.

Conventions Used

The following conventions are used in this guide.

WARNING

Warnings identify conditions or practices that could result in personal injury or loss of life

CAUTION

Cautions identify conditions or practices that could result in damage to the unit or other equipment.

Important: These notes contain information that is important for you to know, but is not as critical as a caution or warning.

Related Information

For more information about related products, refer to:

XW Series Hybrid Inverter/Charger Operation Guide (975-0240-01-01)

XW Series Solar Charge Controller Owner’s Manual (975-0283-01-01)

XW Automatic Generator Start Owner’s Guide (975-0307-01-01)

You can find more information about Xantrex Technology Inc. as well as its products and services at **www.xantrex.com**.

Important Safety Instructions

WARNING: Save these instructions

This Owner's Guide contains important safety and operating instructions. Before using your XW System Control Panel, be sure to read, understand, and save these safety instructions.

General Precautions

1. Before installing and using this device, read all appropriate sections of this guide and any cautionary markings on the System Control Panel and the devices to which it connects.
2. If the System Control Panel has been damaged, see "Warranty and Return Information" on page WA–1.
3. Do not dismantle the System Control Panel; it contains no user-serviceable parts. See "Information About Your System" on page WA–5 for instructions on obtaining service.
4. Protect the System Control Panel from rain, snow, spray, and water.

Explosive Gas Precautions

WARNING: Explosion hazard

This equipment is not ignition protected. To prevent fire or explosion, do not install the System Control Panel 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.

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.

Contents

1 Introduction

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

About the XW System Control Panel

Complete system control

The XW System Control Panel provides configuration and monitoring capability for an XW Power System. The System Control Panel:

- 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 System Control Panel uses Xanbus™, a network communications protocol developed by Xantrex, 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 XW System Control Panel is compatible only with XW System components, including XW Hybrid Inverter/Chargers, XW-MPPT Charge Controllers, and the XW Automatic Generator Start.

System requirements

The System Control Panel requires a Xanbus power supply to operate. Network power is carried by the network cables, and can be supplied by an XW Hybrid Inverter/Charger or an external Xanbus power supply.

As a device that draws network power, the System Control Panel consumes a maximum of 3 watts.

Operational Features

Other features of the System Control Panel include:

- Compatibility—connect additional Xanbus-enabled XW System 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 System Control Panel 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 System Control Panel.

Front Panel Features

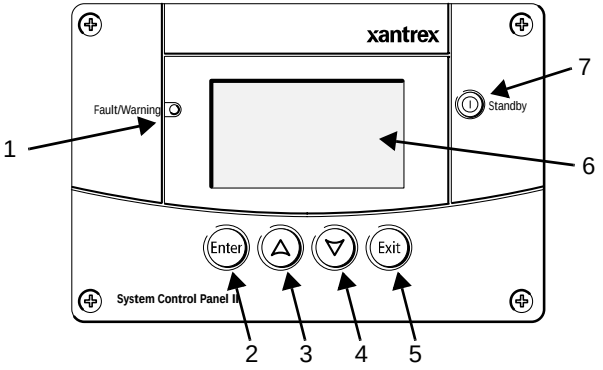


Figure 1-1 Front Panel

Feature	
1	**Fault/Warning light** indicates a device has a fault or warning condition and requires attention. The light flashes when a warning occurs, and turns on steadily when a fault occurs.
2	**Enter button** confirms selection of a menu item or displays the next screen.
3	**Up arrow button** scrolls upwards through screen text or increases a selected value.
4	**Down arrow button** scrolls downwards through screen text or decreases a selected value.
5	**Exit button** cancels selection of a menu item or displays the previous screen.
6	**Screen** shows menus, settings, and system information.
7	**Standby button** disables inverting and charging on all inverter/chargers in the system when pressed for one to two seconds. To enable inverting and charging, press the Standby button again. See “Using the Standby Button” on page 4–3.

Back Panel Features

Two Xanbus network inputs on the back panel let you connect the System Control Panel to other Xanbus-enabled devices. See Figure 1-2.

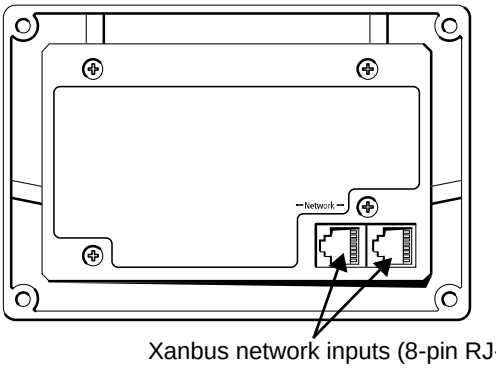


Figure 1-2 Back Panel

System Components

The Xanbus system (Figure 1-3) includes the System Control Panel and other Xanbus-enabled devices.

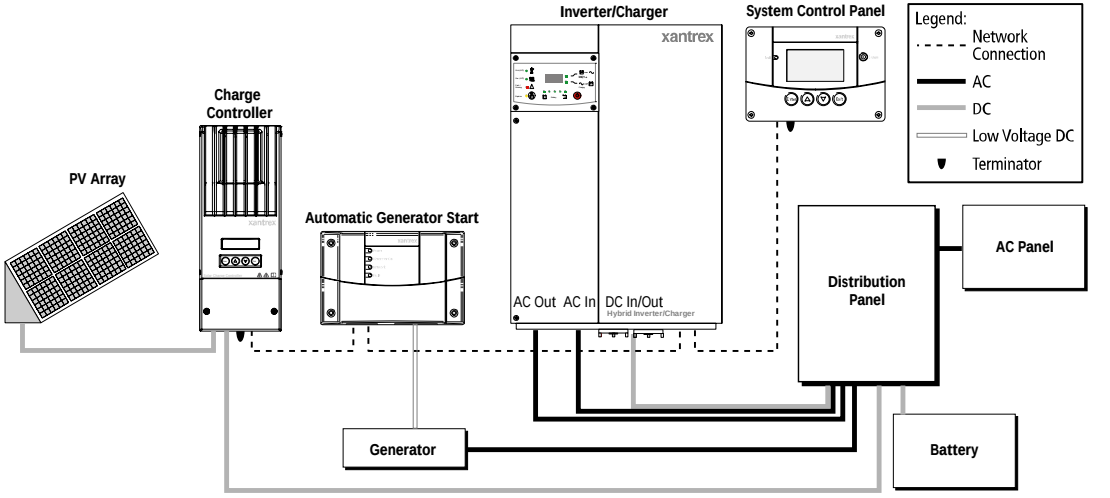


Figure 1-3 Network Diagram

2 Installation

Chapter 2 contains information and procedures for planning and performing a XW System Control Panel installation, including:

- Materials and tools required
- Choosing a location
- Choosing a network layout
- Mounting the unit
- Connecting the System Control Panel to other devices.

Installing the XW System Control Panel

The XW System Control Panel is designed to be wall mounted (see “Mounting the System Control Panel” on page 2–11), and requires no connections other than Xanbus network cables or a terminator plugged into the back of the unit.

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

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 screws (supplied)
- Two #8 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 7 foot/2.1 meter cable is supplied)
- Two network terminators (one male terminator is supplied with each Xanbus-enabled device, but termination requirements vary with network layout)
- 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 System Control Panel screen and buttons.

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

WARNING: Explosion hazard

The System Control Panel is not Ignition Protected. Do not install in areas requiring Ignition-Protected equipment, such as areas containing gasoline engines, tanks, or fuel-line fittings.

Network Installation

This section describes requirements for installing the System Control Panel 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 System Control Panel, the XW Series Inverter/Charger, XW-Automatic Generator Start (AGS), and XW Charge Controller. The network can consist of up to eight Xanbus-enabled devices. A typical XW Power System can include three inverter/chargers, two charge controllers, one AGS and one System Control Panel. Only one System Control Panel can be installed on the Xanbus network.
- Xanbus power supply—the network requires a power supply capable of providing 15 Vdc/200 mA to each device. The XW Series Inverter/Charger provides network power, but if no inverter/charger is installed, an external power supply is required. Contact Xantrex for more information.
- Xanbus cables—each Xanbus-enabled device is connected by a Category 5 (CAT 5 or CAT 5e) cable. The cable consists of eight conductors in four twisted pairs with an RJ-45 modular connector wired to the T568A standard. See Figure 2-2 on page 2–4. A 7 foot (2.1 meter) network cable is included with the System Control Panel. If more cables or a different length are required, these standard cables can be purchased from Xantrex or any computer supply store.

CAUTION: Equipment damage

Do not use crossover cable.

Table 2-1 contains the arrangements of wire colors to pin numbers for the T568A standard.

Figure 2-1 T568A Standard Wiring

Pin Number	Conductor Name	CAT 5 Cable Insulation Color	CAT 5e Cable Insulation Color
1	NET_S	White/Green	White/Orange
2	NET_S	Green	Orange
3	NET_C	White/Orange	White/Green
4	CAN_L	Blue	Blue
5	CAN_H	White/Blue	White/Blue
6	NET_C	Orange	Green
7	NET_S	White/Brown	White/Brown
8	NET_C	Brown	Brown

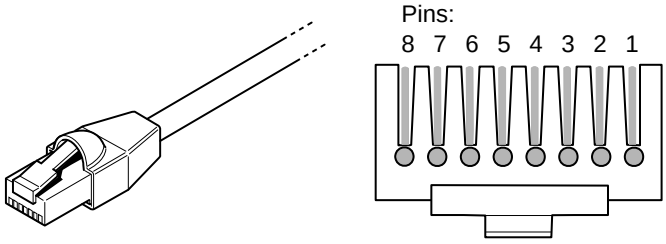


Figure 2-2 RJ-45 Connector

- Network terminators (Figure 2-3)—the Xanbus network must be properly terminated at each end with male or female network terminators to ensure the communication signal quality on the network. 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 Xantrex. The System Control Panel ships with one male terminator already installed. Depending on your network layout, this terminator may need to be removed and inserted into another device elsewhere in the network.

Figure 2-3 Network Terminators

- Network connectors (optional, depending on network layout)—the three-way connector houses three RJ-45 inputs that provide a device connection point on a multi-drop backbone layout (see “Multi-Drop Backbone Layout” on page 2–6). All three inputs are wired identically and can accept either Xanbus cables or terminators. One input is available for connecting to a Xanbus-enabled device. The remaining inputs are reserved for connection to other network connectors, a Xanbus cable terminated with a female terminator, or a male terminator.

  The network connector is mounted to a bulkhead or a wall, as shown in Figure 2-4.

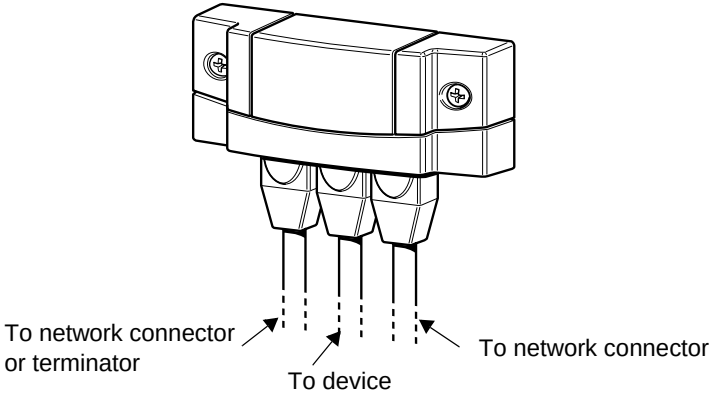


Figure 2-4 Three-Way Network Connector

Ordering Network Components

Table 2-1 provides a partial list of network components and part numbers. Ready-made cables are available in standard lengths from 3 feet to 75 feet.

For the most up-to-date list, call your dealer. Call your dealer or visit the Outlet Store at **www.xantrex.com** to purchase cables and other network components.

Table 2-1 Network Components and Part Numbers

Network Component	Part Number
Network termination—Male (2 per pack)	809-0901
Network termination—Female (2 per pack)	809-0905
Three-way network connector	809-0903
Network cable 3 ft. (0.9 m)	809-0935
Network cable 5 feet (1.5 m)	809-0936
Network cable 7 feet (2.0 m)	809-0937
Network cable 10 feet (3.0 m)	809-0938
Network cable 14 feet (4.3 m)	809-0939
Network cable 25 feet (7.6 m)	809-0940
Network cable 50 feet (15.2 m)	809-0941
Network cable 75 feet (22.9 m)	809-0942

Network Layout

Xanbus-enabled devices can be connected in one of two Xanbus System layouts: multi-drop backbone or daisy chain. Each network layout has advantages and disadvantages, depending on the application and/or environment. It is up to you or your system designer to decide which layout is best for your installation.

Important: Do not mix the two types of network layouts. Mixed configurations are not supported by Xantrex.

Multi-Drop Backbone Layout

In a multi-drop backbone layout, each Xanbus-enabled device on the network is connected by a drop cable to the network bus or backbone using a network connector, as shown in Figure 2-5.

Network terminators are required at both ends of the network, and the Xanbus-enabled devices do not require their own termination.

If cables are placed at the end of the network, female terminators are required. Otherwise, male terminators must be inserted directly into the open input of each network connector at the end of the network.

Advantages In this layout, Xanbus-enabled devices can be removed or replaced while still keeping the network operating.

Disadvantage The main disadvantage of this layout is the cost of the network connectors (a daisy chain layout uses no network connectors). Each device in this layout requires its own network connector.

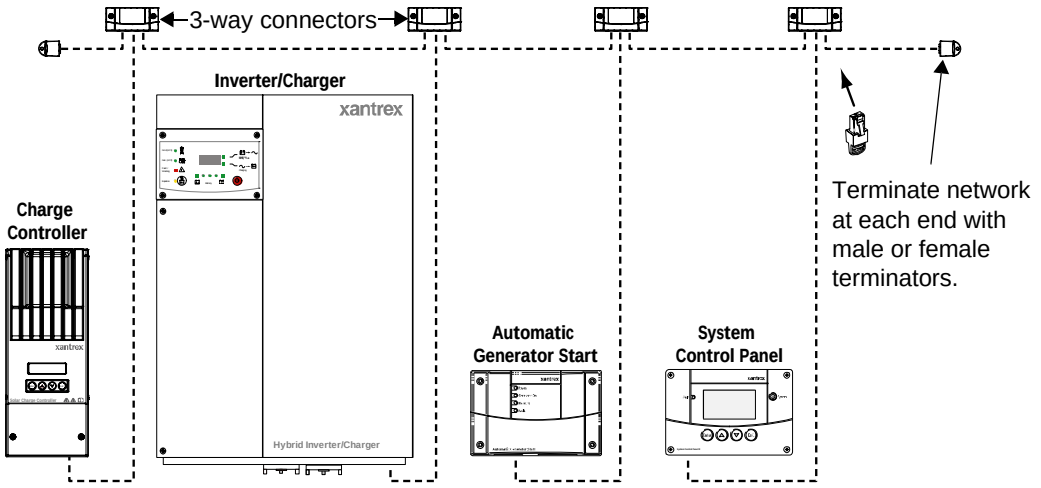


Figure 2-5 Multi-Drop Backbone Layout

Daisy Chain Layout

In a daisy chain layout, each device on the network is linked with separate lengths of Xanbus cable, as shown in Figure 2-6. This layout does not require network connectors.

As in the multi-drop backbone layout, two terminators are required to ensure the communication signal quality on the network. The Xanbus-enabled devices at each end of the chain must have a male terminator inserted into their open network inputs.

Advantage The advantage of this layout is that it is less expensive to install because network connectors are not required.

Disadvantage The disadvantage of the daisy chain layout is that Xanbus-enabled devices cannot be removed from the network without interrupting the network. To make the network function after removing a device, you must connect the Xanbus-enabled devices on either side of the missing device to each other or replace the device.

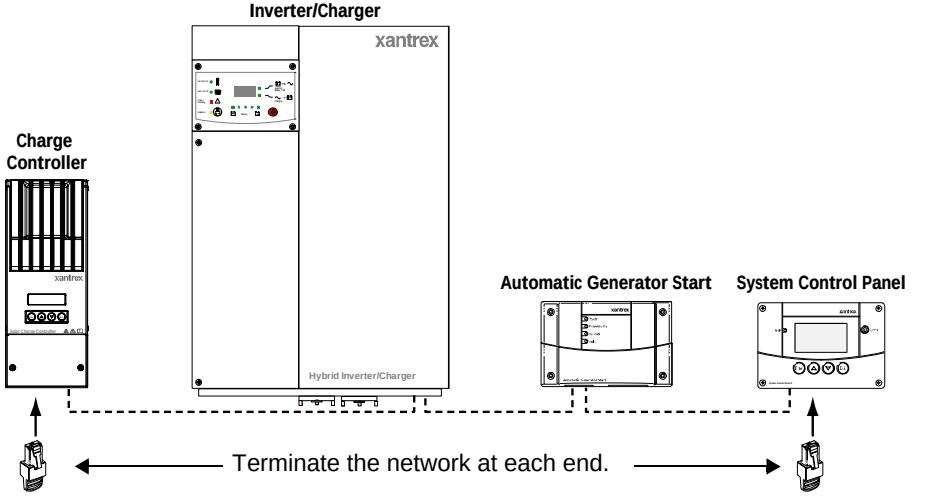


Figure 2-6 Daisy Chain Layout

Guidelines for Routing the Xanbus Cables

WARNING: Shock hazard

Do not route the Xanbus cables in the same conduit or panel as the AC and DC power cabling.

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

- Route the cables away from sharp edges that might damage the insulation. Avoid sharp bends in the cable—no less than a 4-inch (100 mm) radius.
- Allow at least 2 ¼ inches (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 System Control Panel, cannot exceed 130 feet (40 m). Xanbus cables are available in lengths from 3 feet (0.9 m) to 75 feet (22.9 m).

Connecting Xanbus Cables

Follow these guidelines for connecting Xanbus cables to the System Control Panel. The cables are connected to the System Control Panel at the same time the System Control Panel is mounted. Read “Mounting the System Control Panel” on page 2–11 before performing the following procedures.

CAUTION: Equipment damage

Connect the System Control Panel 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.

CAUTION: Unpredictable device behavior

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

Multi-Drop Backbone Layout

To connect Xanbus cables to the System Control Panel:

1. Install one network connector for the System Control Panel and each Xanbus-enabled device.
2. Connect a Xanbus cable from the nearest network connector to a Xanbus network input in the System Control Panel.
3. Repeat the previous step for each additional Xanbus-enabled device.
4. Connect each network connector with a Xanbus cable as shown in Figure 2-5.
5. Ensure the factory-supplied male network terminators (or a Xanbus cable and female terminator) are inserted into the empty inputs in the network connectors at the beginning and end of the network. There should be no empty inputs in any of the network connectors.

Daisy Chain Layout

To connect Xanbus cables to the System Control Panel:

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

The System Control Panel can be mounted three 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.

WARNING: Shock hazard

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

To flush mount the System Control Panel 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 ¾ inch (19 mm) thick.
2. Route the Xanbus cable(s) inside the wall and through the opening.
3. Insert the mounting plate with the two tabs in a vertical position into the hole (see Figure 2-7).

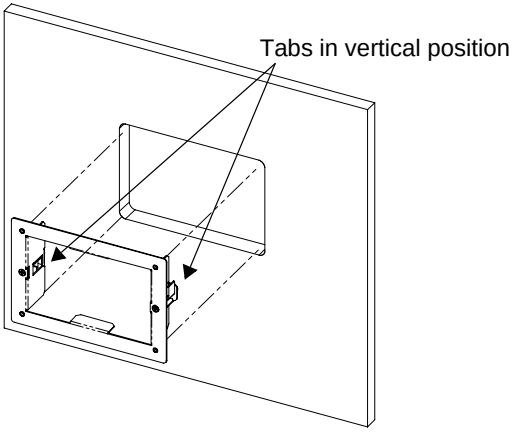


Figure 2-7 Inserting the Mounting Plate

4. Secure the mounting plate by tightening the two screws to rotate the tabs to the horizontal position (see Figure 2-8) and pull the tabs tight against the inner surface of the wall. Be careful not to overtighten the screws and damage the wall.

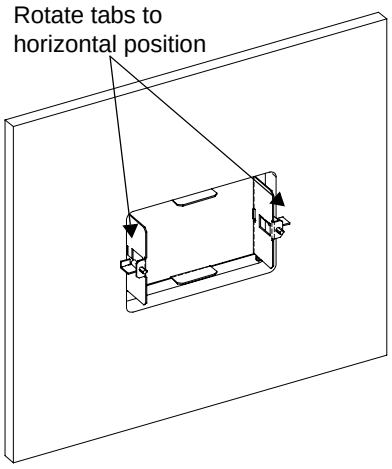


Figure 2-8 Securing the Mounting Plate

5. Connect the Xanbus cable(s) (and terminator if necessary) to either network input on the back of the System Control Panel. See Figure 2-9.

   Connect a network terminator to the System Control Panel 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.

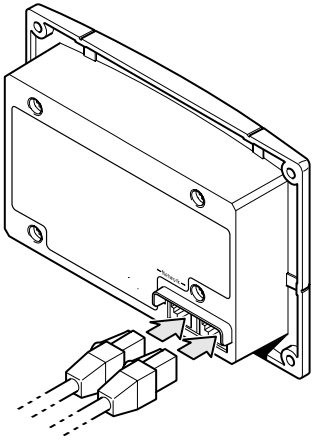


Figure 2-9 Connecting the network cables

6. Place the unit into the mounting plate and secure it with four #6 screws.

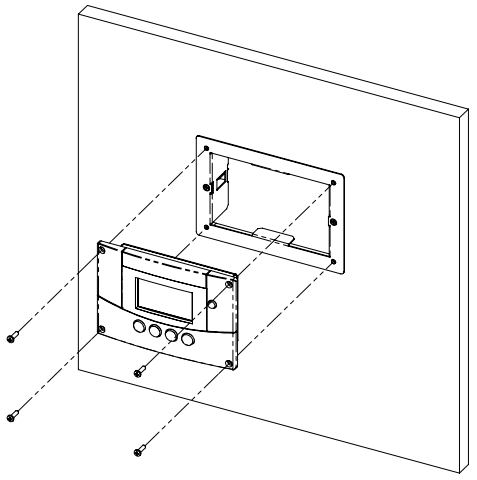


Figure 2-10 Securing the System Control Panel

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

To flush mount the System Control Panel 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 System Control Panel 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 System Control Panel. See Figure 2-9.

   Connect a network terminator to the System Control Panel 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 System Control Panel:

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 System Control Panel.

   Connect a network terminator to the System Control Panel 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 2-11.
7. Peel off the protective plastic coating covering the screen and indicator light.

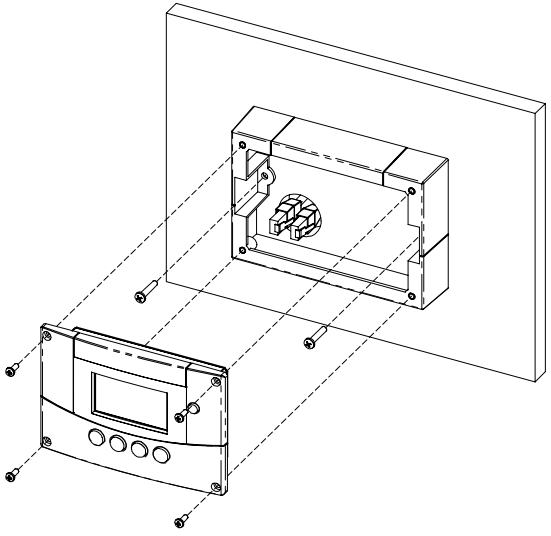


Figure 2-11 Surface Mounting the System Control Panel

Verifying the Installation

If network power (from an inverter/charger or external power supply) is present, the backlight will come on and the System Control Panel will show the startup screen (see page 3–3).

When the System Control Panel 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 3–11 and “Setting the Date” on page 3–12.

3 Configuration

Chapter 3 contains guidelines for configuring the XW System Control Panel and for using the XW System Control Panel to configure other Xanbus-enabled devices.

This chapter does not recommend specific settings for devices on your system. For device configuration information, refer to the Owner’s Guide or Operation Guide for each Xanbus-enabled device.

Configuration Using the System Control Panel

The System Control Panel can display and change the settings for any Xanbus-enabled device in the Xanbus system.

Using System Control Panel Buttons

The System Control Panel has four buttons for:

- moving between status screens and menus
- highlighting settings you want to change
- selecting and changing configurable values for Xanbus-enabled devices.

See Table 3-1 for the function of each button on the System Control Panel.

Table 3-1 System Control Panel buttons

Button	Function
Enter	• Displays the next screen • Confirms selection of a menu item
Up arrow	• Displays the previous Device Home screen • Scrolls up one line of text • Increases a selected value
Down arrow	• Displays the next Device Home screen • Scrolls down one line of text • Decreases a selected value
Exit	• Cancels selection of a menu item • Displays the previous screen

Reading Screens and Menus

The content of XW System Control Panel screens and menus varies depending on power system activity or the device you have selected to view information for.

Viewing the System Control Panel Home Screens

The top level screens on the System Control Panel are the Startup screen, the System Status screen and the Device Home screens. After power is applied and the Startup screen appears, the System Control Panel 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.

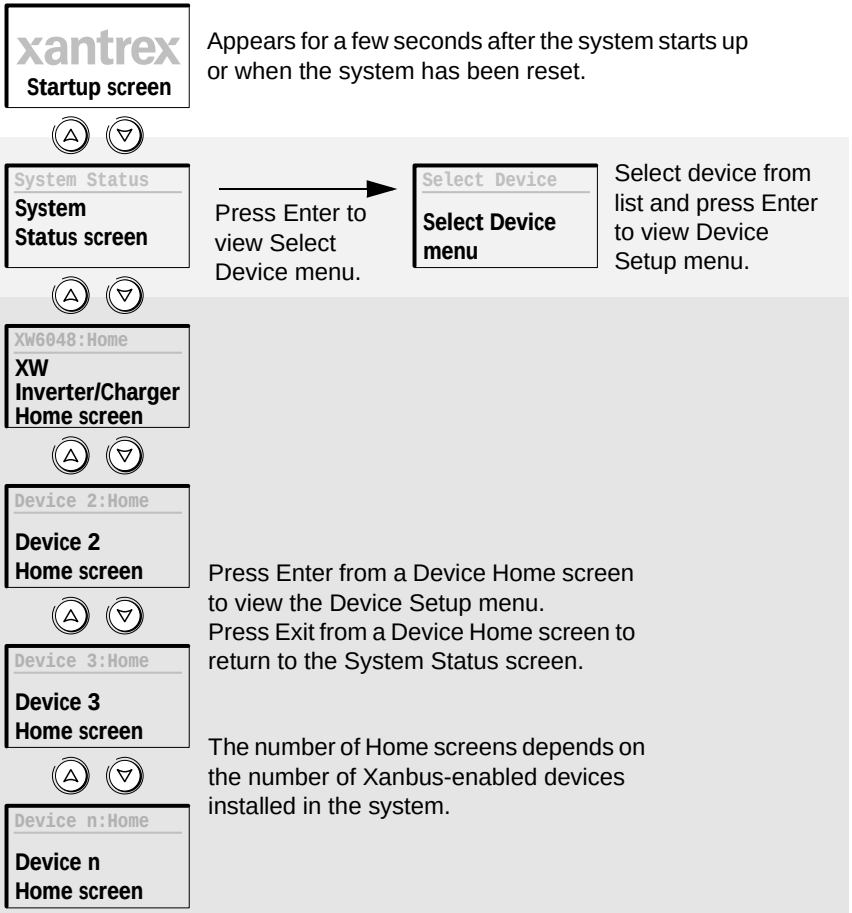


Figure 3-1 System Control Panel **Top Level** Screens

System Status Screen

The System Status screen appears after the Startup screen. The System Status screen displays aggregated status information for the entire power system. A single system may have up to three Xanbus™ network-connected XW Inverter/Chargers, up to two XW Solar Charge Controllers, one XW-Automatic Generator Start module and one XW System Control Panel all connected to a single battery bank, a single 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 System Control Panel screen or menu you are viewing, you can always return to the starting point—the System Status screen—by pressing Exit until the System Status screen appears.

XW Inverter/Charger Home Screen

The XW Inverter/Charger Home screen is the first of the Device Home screens. Each device installed in the system (except the System Control Panel) has its own Home screen. To view additional Device Home screens from the XW Inverter/Charger Home screen, press the down arrow button.

The XW Inverter/Charger Home screen displays status information for the XW Inverter/Charger. The screen appearance varies with the status of the inverter/charger (Standby, Inverting, Charging, AC Bypass, Search, or Equalize). For more information, see the *XW Series Hybrid Inverter/ Charger Operation Guide*.

To display the XW Inverter/Charger Home screen:

- From the System Status screen, press the down arrow key.

Viewing Other Screens

This section describes the next level of screens and menus on the System Control Panel.

Select Device Menu

The Select Device menu displays a list of Xanbus-enabled devices in the system, including the XW Inverter/Charger and the System Control Panel (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, 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

Device 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:

u On the Select Device menu, highlight the device name and press Enter.

-Or-

From the Device Home screen, press Enter.

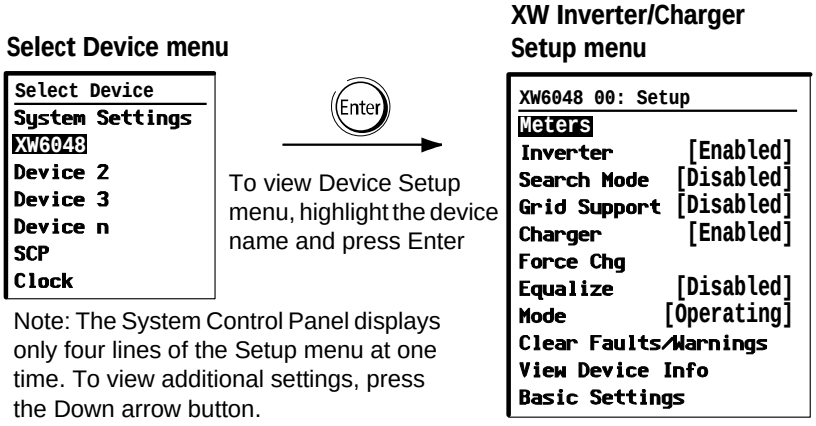


Figure 3-2 Selecting a Device Setup Menu

Changing Settings for a Device

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 System Control Panel 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 System Control Panel 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.

To view the Advanced menu:

- On the Device Setup menu, press Enter + up arrow + down arrow at the same time.

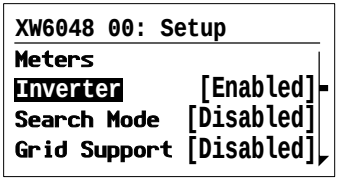
Note: This keypress displays Advanced menus for every device in the system.

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:

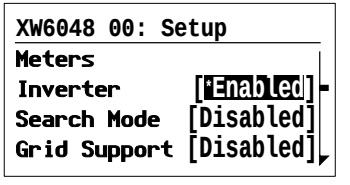
1. On the Device Setup menu, press the up arrow or down arrow button to highlight the setting you want to change.



Basic menu shown.

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

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



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 the XW System Control Panel

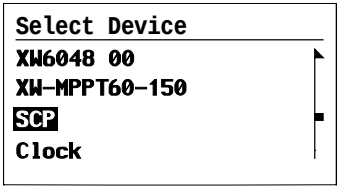
You can configure the System Control Panel to suit your preferences and the requirements of the Xanbus system. Some settings, such as the system time, affect the entire system. Other settings affect only the System Control Panel, such as the brightness of the display.

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

Configuring the System Control Panel 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 SCP and press Enter.



System Control Panel Configuration Items

The SCP Setup menu contains settings for changing the appearance of the display, enabling button-press and alarm sounds, and setting the temperature scale. Items in gray appear only on the advanced menu.

Menu item	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 System Control Panel.	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 System Control Panel will display.	Fahrenheit, Celsius	Fahrenheit
Name	Allows you to customize the name of the System Control Panel 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 3–9.	SCP
Clear Faults/ Warnings	Clears active faults and warnings generated by the System Control Panel.	Press Enter to clear faults and warnings.	n/a
View Fault Log	Displays the Fault Log, containing the last 20 System Control Panel faults.	Press Enter to view log.	n/a
View Warning Log	Displays the Warning Log, containing the last 20 System Control Panel warnings.	Press Enter to view log.	n/a
View Event Log	Displays the Event Log, containing the last 20 System Control Panel events.	Press Enter to view log.	n/a
Restore Defaults	Restores the System Control Panel 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 System Control Panel as it is displayed on other screens and menus.

The characters available are:

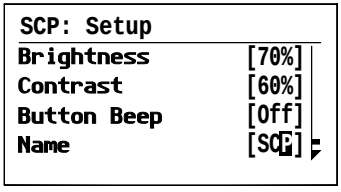
- A to Z
- a to z
- 0 to 9
- space.

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.

To customize the System Control Panel name:

1. Select Name on the SCP Setup menu.
2. Press Enter.

   The last letter of “SCP” is highlighted.



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.

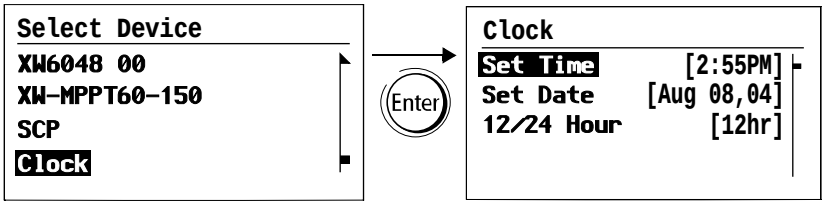
Using the Clock Menu

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.

To view the Clock menu:

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



Clock Menu Configuration Items

Menu item	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 System Control Panel to use a 12-hour clock or 24-hour clock.	12hr, 24hr	12hr

Setting the Time

Because the System Control Panel 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 System Control Panel, it will not begin operating normally until you set the time.

Note: The System Control Panel 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 the Xanbus system 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.

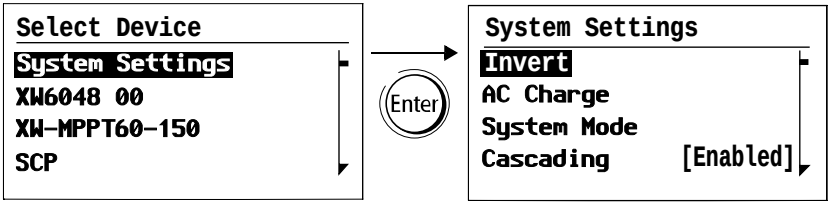
   If you make an error, press Exit to move back to the value you need to reset. If you decide to abandon resetting the date, press Exit repeatedly until you return to the Clock menu.

Using the System Settings Menu

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

To view the System Settings menu:

u On the Select Device menu with System Settings highlighted, press Enter.



System Settings Menu Configuration Items

Menu item	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 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” on page 3–14.	Enabled, Disabled	Disabled
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

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 System Control Panel screen.

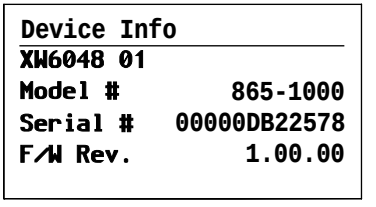
Viewing Device Information

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.



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.

4 Operation

Chapter 4 contains information and procedures for operating the XW System Control Panel, including:

- System modes
- Faults and warnings

System Modes

The system modes described in this section affect the performance and behavior of the System Control Panel 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 3–12). The system modes are:

- Operating
- Standby.

Operating Mode

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

Standby Mode

While in Standby mode, the System Control Panel 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 Xantrex Automatic Generator Start is part of the system) and puts the System Control Panel (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 the Standby Button produces the same result as disabling "Invert" and "AC Charge" from the System Settings menu on the System Control Panel. Pressing the Standby button does not affect Charge Controller operation. After disabling inverting and charging with the Standby button, the system continues to pass AC input through to the loads.

Pressing the Exit and Standby buttons at the same time puts the entire XW power system (including Charge Controllers) into standby mode. In standby mode, the 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 XW-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 System Control Panel, along with recommended actions to correct the fault or warning condition, refer to Chapter 5, "Troubleshooting".

Important: The System Control Panel 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.

Warning Messages

Warning messages appear when the System Control Panel detects a condition that may eventually affect its continued operation. When a warning occurs, the System Control Panel 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.

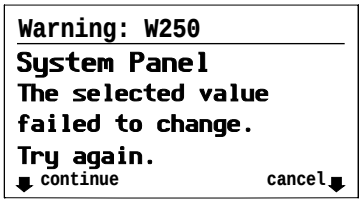


Figure 4-1 System Control Panel warning message

Types

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

If you see a warning message on the System Control Panel, you will have to acknowledge it and (if necessary) clear it. Acknowledging the warning allows you to continue operating the System Control Panel. 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 System Control Panel screen.

To acknowledge an automatic warning message, press Enter. After you acknowledge the warning, the System Control Panel displays the menu for the device that caused the warning.

The System Control Panel 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 System Control Panel on the Warning log. See "Viewing the System Control Panel Warning Log" on page 4–5.

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 System Control Panel. It will not disappear after three minutes. After you respond to the warning message the System Control Panel 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 System Control Panel 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 System Control Panel. 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.

Viewing the System Control Panel Warning Log

The System Control Panel warning log displays the 20 most recent warnings that the System Control Panel 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 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.

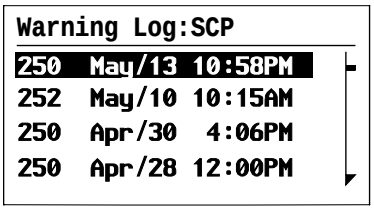


Figure 4-2 System Control Panel warning log

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 System Control Panel’s operation is affected by a condition that requires immediate attention. When a fault occurs, the System Control Panel stops operating until either the fault condition goes away or until you manually clear the fault and take action to eliminate the fault condition.

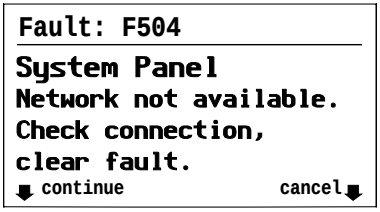


Figure 4-3 System Control Panel fault message

Types of fault messages

There are two types of System Control Panel fault messages: automatic and manual. For a list of faults and their associated types, refer to Chapter 5, “Troubleshooting”.

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 System Control Panel Fault Log

The fault log lists the most recent System Control Panel 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.

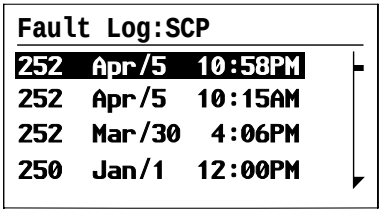


Figure 4-4 System Control Panel fault log

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”).

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 System Control Panel displays the accumulated messages on a fault list. The fault list displays messages from all network-enabled devices, not just the System Control Panel. 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 System Control Panel 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.

5 Troubleshooting

Chapter 5 contains reference tables of warning and fault messages that relate to the System Control Panel. For information about warning and fault messages that relate another device, see the guide for that device.

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.

Troubleshooting Reference

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	Type	Cause	Action
W250	The value failed to change. Try again.	Automatic	A Xanbus-enabled device rejected the new setting. A temporary communication problem stopped the System Control Panel changing a value that you entered.	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. Try changing the value again.
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.

Table 5-1 Warning Reference Table

Warning number	Message	Type	Cause	Action
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 3–10.
W256	A device is lost. Check connection.	Manual	The System Control Panel has lost communications with another device on the network.	Check network connection between the System Control Panel and the device.
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 System Control Panel encountered an internal memory problem upon startup. To remain operational, the System Control Panel restored its default settings.	Acknowledge the warning and reset configurable settings if necessary.
W502	Not reporting; Info may be missing.	Manual		

Fault Reference Table

Table 5-2 Fault Reference Table

Fault number	Message	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 3–10.
F251	A device is lost. Check connection.	Manual	The System Control Panel has lost communications with another device on the network.	Check network connection between the System Control Panel 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 System Control Panel has gone into Standby mode.	Reset the System Control Panel by removing and restoring network power. If problem persists, call customer service.
F501	Memory failure. Service required.	Manual	The System Control Panel has suffered a non-volatile memory failure.	Reset the System Control Panel by removing and restoring network power. If problem persists, call customer service.
F503	Internal reset. Call customer support.	Manual	The real-time clock in the System Control Panel has failed.	Reset the System Control Panel by removing and restoring network power. If problem persists, call customer service.
F504	Lost network connection.	Automatic	The System Control Panel has lost communications with the network because of a faulty connection or electronic signal disruption.	Check connection between the System Control Panel and the network.

Table 5-2 Fault Reference Table

Fault number	Message	Type	Cause	Action
F505	Internal failure. See guide.	Manual	A controller fault has occurred and the System Control Panel has gone into Standby mode.	Reset the System Control Panel by removing and restoring network power. If problem persists, disconnect and reconnect network cables.

A Specifications

Appendix A contains the electrical and physical specifications for the XW 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	130 ft (40 m)
Connectors	2 RJ-45—8 pins
Display	Dot matrix 128 × 64 LCD with white LED backlight
Electromagnetic compatibility (EMC)	Class B per FCC Part 15B and Industry Canada ICES-003

Mechanical Specifications

Dimensions (W × H × D)	6 × 4 × 1 $\frac{9}{16}$ " (152 × 103 × 40 mm)
Shipping dimensions	10½ × 8 ¼ × 2 ½" (267 × 210 × 63 mm)
Weight	0.46 lb (208 g)
Shipping weight	1.72 lb (780 g)

Environmental Specifications

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

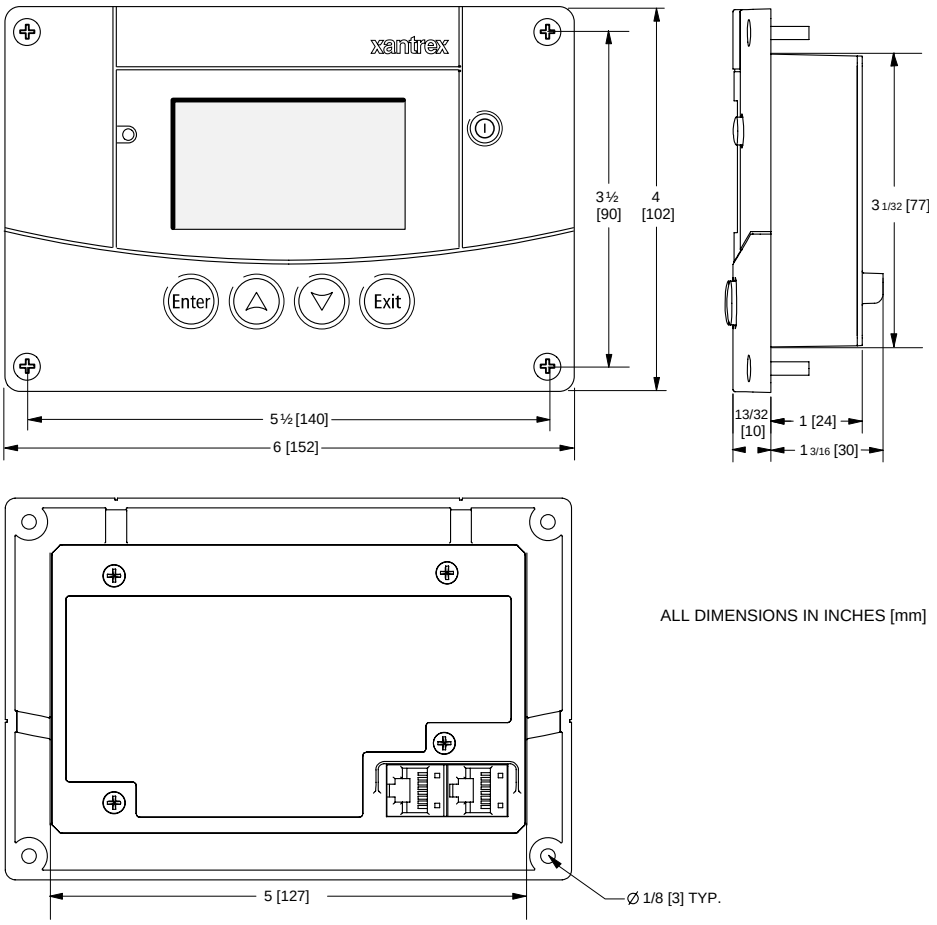


Figure A-1 System Control Panel Dimensions

Warranty and Return Information

Warranty

What does this warranty cover? This Limited Warranty is provided by Xantrex Technology, Inc. ("Xantrex") and covers defects in workmanship and materials in your XW System Control Panel. This warranty period lasts for 5 years from the date of purchase at the point of sale to you, the original end user customer. You require proof of purchase to make warranty claims.

This Limited Warranty is transferable to subsequent owners but only for the unexpired portion of the Warranty Period. Subsequent owners also require proof of purchase.

What will Xantrex do? Xantrex will, at its option, repair or replace the defective product free of charge, provided that you notify Xantrex of the product defect within the Warranty Period, and provided that Xantrex through inspection establishes the existence of such a defect and that it is covered by this Limited Warranty.

Xantrex will, at its option, use new and/or reconditioned parts in performing warranty repair and building replacement products. Xantrex reserves the right to use parts or products of original or improved design in the repair or replacement. If Xantrex repairs or replaces a product, its warranty continues for the remaining portion of the original Warranty Period or 90 days from the date of the return shipment to the customer, whichever is greater. All replaced products and all parts removed from repaired products become the property of Xantrex.

Xantrex covers both parts and labor necessary to repair the product, and return shipment to the customer via a Xantrex-selected non-expedited surface freight within the contiguous United States and Canada. Alaska and Hawaii are excluded. Contact Xantrex Customer Service for details on freight policy for return shipments outside of the contiguous United States and Canada.

How do you get service? If your product requires troubleshooting or warranty service, contact your merchant. If you are unable to contact your merchant, or the merchant is unable to provide service, contact Xantrex directly at:

Telephone:	1 800 670 0707 (toll free North America) 1 360 925 5097 (direct)
Fax:	1 800 994 7828 (toll free North America) 1 360 925 5143 (direct)
Email:	customerservice@xantrex.com

Direct returns may be performed according to the Xantrex Return Material Authorization Policy described in your product manual. For some products, Xantrex maintains a network of regional Authorized Service Centers. Call Xantrex or check our website to see if your product can be repaired at one of these facilities.

What proof of purchase is required? In any warranty claim, dated proof of purchase must accompany the product and the product must not have been disassembled or modified without prior written authorization by Xantrex.

Proof of purchase may be in any one of the following forms:

- The dated purchase receipt from the original purchase of the product at point of sale to the end user, or
- The dated dealer invoice or purchase receipt showing original equipment manufacturer (OEM) status, or
- The dated invoice or purchase receipt showing the product exchanged under warranty

What does this warranty not cover? This Limited Warranty does not cover normal wear and tear of the product or costs related to the removal, installation, or troubleshooting of the customer's electrical systems. This warranty does not apply to and Xantrex will not be responsible for any defect in or damage to:

a) the product if it has been misused, neglected, improperly installed, physically damaged or altered, either internally or externally, or damaged from improper use or use in an unsuitable environment;

b) the product if it has been subjected to fire, water, generalized corrosion, biological infestations, or input voltage that creates operating conditions beyond the maximum or minimum limits listed in the Xantrex product specifications including high input voltage from generators and lightning strikes;

c) the product if repairs have been done to it other than by Xantrex or its authorized service centers (hereafter "ASCs");

d) the product if it is used as a component part of a product expressly warranted by another manufacturer;

e) the product if its original identification (trade-mark, serial number) markings have been defaced, altered, or removed.

Disclaimer

Product

THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED BY XANTREX IN CONNECTION WITH YOUR XANTREX PRODUCT AND IS, WHERE PERMITTED BY LAW, IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS, GUARANTEES, REPRESENTATIONS, OBLIGATIONS AND LIABILITIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE IN CONNECTION WITH THE PRODUCT, HOWEVER ARISING (WHETHER BY CONTRACT, TORT, NEGLIGENCE, PRINCIPLES OF MANUFACTURER'S LIABILITY, OPERATION OF LAW, CONDUCT, STATEMENT OR OTHERWISE), INCLUDING WITHOUT RESTRICTION ANY IMPLIED WARRANTY OR CONDITION OF QUALITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE TO THE EXTENT REQUIRED UNDER APPLICABLE LAW TO APPLY TO THE PRODUCT SHALL BE LIMITED IN DURATION TO THE PERIOD STIPULATED UNDER THIS LIMITED WARRANTY.

IN NO EVENT WILL XANTREX BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSSES, COSTS OR EXPENSES HOWEVER ARISING WHETHER IN CONTRACT OR TORT INCLUDING WITHOUT RESTRICTION ANY ECONOMIC LOSSES OF ANY KIND, ANY LOSS OR DAMAGE TO PROPERTY, ANY PERSONAL INJURY, ANY DAMAGE OR INJURY ARISING FROM OR AS A RESULT OF MISUSE OR ABUSE, OR THE INCORRECT INSTALLATION, INTEGRATION OR OPERATION OF THE PRODUCT.

Exclusions

If this product is a consumer product, federal law does not allow an exclusion of implied warranties. To the extent you are entitled to implied warranties under federal law, to the extent permitted by applicable law they are limited to the duration of this Limited Warranty. Some states and provinces do not allow limitations or exclusions on implied warranties or on the duration of an implied warranty or on the limitation or exclusion of incidental or consequential damages, so the above limitation(s) or exclusion(s) may not apply to you. This Limited Warranty gives you specific legal rights. You may have other rights which may vary from state to state or province to province.

Warning: Limitations On Use

Please refer to your product manual for limitations on uses of the product.

SPECIFICALLY, PLEASE NOTE THAT THE XW SYSTEM CONTROL PANEL SHOULD NOT BE USED IN CONNECTION WITH LIFE SUPPORT SYSTEMS OR OTHER MEDICAL EQUIPMENT OR DEVICES. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, XANTREX MAKES NO REPRESENTATIONS OR WARRANTIES REGARDING THE USE OF THE XANTREX XW SYSTEM CONTROL PANEL IN CONNECTION WITH LIFE SUPPORT SYSTEMS OR OTHER MEDICAL EQUIPMENT OR DEVICES.

Return Material Authorization Policy

Before returning a product directly to Xantrex you must obtain a Return Material Authorization (RMA) number and the correct factory "Ship To" address. Products must also be shipped prepaid. Product shipments will be refused and returned at your expense if they are unauthorized, returned without an RMA number clearly marked on the outside of the shipping box, if they are shipped collect, or if they are shipped to the wrong location.

When you contact Xantrex to obtain service, please have your instruction manual ready for reference and be prepared to supply:

- The serial number of your product
- Information about the installation and use of the unit
- Information about the failure and/or reason for the return
- A copy of your dated proof of purchase

Record these details in “Information About Your System” on page WA–5.

Return Procedure

1. Package the unit safely, preferably using the original box and packing materials. Please ensure that your product is shipped fully insured in the original packaging or equivalent. This warranty will not apply where the product is damaged due to improper packaging.
2. Include the following:
   - The RMA number supplied by Xantrex Technology, Inc. clearly marked on the outside of the box.
   - A return address where the unit can be shipped. Post office boxes are not acceptable.
   - A contact telephone number where you can be reached during work hours.
   - A brief description of the problem.
3. Ship the unit prepaid to the address provided by your Xantrex customer service representative.

If you are returning a product from outside of the USA or Canada In addition to the above, you MUST include return freight funds and are fully responsible for all documents, duties, tariffs, and deposits.

If you are returning a product to a Xantrex Authorized Service Center (ASC) A Xantrex return material authorization (RMA) number is not required. However, you must contact the ASC prior to returning the product or presenting the unit to verify any return procedures that may apply to that particular facility.

Out of Warranty Service

If the warranty period for your XW System Control Panel has expired, if the unit was damaged by misuse or incorrect installation, if other conditions of the warranty have not been met, or if no dated proof of purchase is available, your product may be serviced or replaced for a flat fee.

To return your XW System Control Panel for out of warranty service, contact Xantrex Customer Service for a Return Material Authorization (RMA) number and follow the other steps outlined in “Return Procedure” on page WA–3.

Payment options such as credit card or money order will be explained by the Customer Service Representative. In cases where the minimum flat fee does not apply, as with incomplete units or units with excessive damage, an additional fee will be charged. If applicable, you will be contacted by Customer Service once your unit has been received.

Information About Your System

As soon as you open your XW System Control Panel package, record the following information and be sure to keep your proof of purchase.

- Product Number 865-1050
- Serial Number _____
- Purchased From _____
- Purchase Date _____

If you need to contact Customer Service, please record the following details before calling. This information will help our representatives give you better service.

- Length of time System Control Panel has been installed _____
- Alarm sounding? _____
- Description of indicators on front panel _____
- Appliances operating when problem occurred _____
- Warning or Fault message _____
- Description of problem _____

_____

_____

Index

P

S

T

U

V

W

X

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