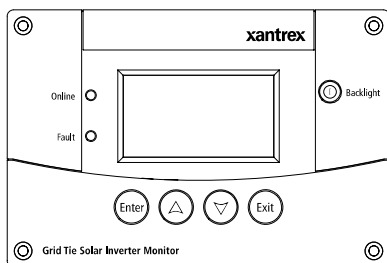


Smart choice for power

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Owner's Guide

Grid Tie Solar Inverter Monitor

www.xantrex.com

Grid Tie Solar Inverter Monitor

Owner's Guide

About Xantrex

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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About This Guide

Conventions Used

The following conventions are used in this guide.



WARNING

Warnings identify conditions 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 describe things which are important for you to know, but not as serious as a caution or warning.

Important Safety Instructions



WARNING: Read and save these instructions

This Owner's Guide contains important safety and operating instructions.

Before using your Grid Tie Solar Inverter Monitor, be sure to read, understand, and save these safety instructions.



WARNING: Restrictions on use

The Grid Tie Solar Inverter Monitor shall not be used in connection with life support systems or other medical equipment or devices.

General Precautions

1. Before installing and using this device, read all appropriate sections of this guide and any cautionary markings on the monitor and the devices to which it connects.
2. If the monitor has been damaged, see "Warranty" on page 25.
3. Do not dismantle the monitor; it contains no user serviceable parts. See "Information About Your System" on page 6 for instructions on obtaining service.
4. Protect the monitor from rain, snow, spray, and water.
5. Before making connections to the GT Inverter, read all instructions and cautionary markings on the inverter, wiring/disconnect box, and all appropriate sections of this guide.

6.



WARNING: Shock hazard

Before opening the GT Inverter wiring/disconnect box, turn OFF the breaker switches connected to the GT Inverter AC output, and turn the DC/AC Disconnect switch to the OFF position. Hazardous voltage will still be present on the DC input (PV) terminals located under the clear plastic insulation barrier. Do not remove the insulation barrier.

7. Use only accessories recommended or sold by the manufacturer. Doing otherwise may result in a risk of fire, electric shock, or injury to persons.

Explosive Gas Precautions



WARNING: Explosion hazard

This equipment is not ignition protected. To prevent fire or explosion, do not install the monitor 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 into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Grid Tie Solar Inverter Monitor Owner's Guide

This is a guide to the features and functions of the Grid Tie Solar Inverter Monitor, which displays the status of your GT Inverter system.

This guide includes installation procedures, descriptions of the indicator lights and buttons, and instructions for operating the monitor.

Features

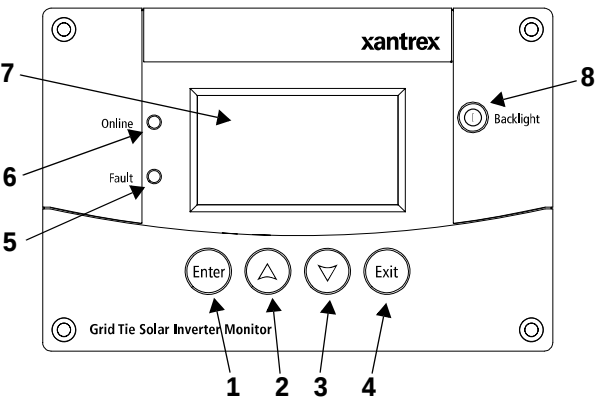


Figure 1 Grid Tie Solar Inverter Monitor Front Panel

Feature	Description
1	Enter button displays the Setup Menu or selects an adjustable setting.
2	Up arrow button displays the previous screen or changes an adjustable setting.
3	Down arrow button displays the next screen or changes an adjustable setting.
4	Exit button returns you to the previous screen after viewing inverter status or the Setup Menu.
5	Fault light indicates a condition that requires your attention. The fault light also comes on during periods when the GT Inverter is not producing power. See “Fault Messages and Descriptions” on page 21.
6	Online light indicates there is sufficient energy from the PV array and the GT Inverter is producing power.
7	Screen shows system information and menus.
8	Backlight button illuminates the screen when pressed.

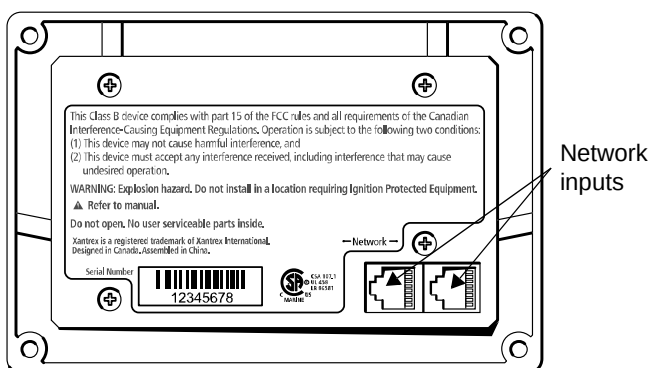


Figure 2 Grid Tie Solar Inverter Monitor Rear View

Installation



WARNING: Shock hazard

For installation by qualified installers or electricians only.

The Grid Tie Solar Inverter Monitor is designed to be flush mounted through an opening in a wall using the supplied mounting plate.

The monitor connects to the GT Inverter with a network cable that is plugged into one of the monitor's network inputs (see Figure 2). The other network input on the monitor must be terminated with a Xantrex network terminator.

Because you cannot access the network inputs when the unit is mounted, the network cable needs to be routed from the GT Inverter and through the wall before you secure the monitor.

The Grid Tie Solar Inverter Monitor uses Xanbus, a communications protocol developed by Xantrex, to communicate with the GT Inverter. For more information on installing a Xanbus network, refer to the *Xanbus System Installation Guide*.

Materials and Tools Required

You will need these materials and tools to complete the installation:

- p mounting plate (supplied)
- p four #6 screws (supplied)
- p Phillips screwdriver
- p jigsaw or small keyhole saw
- p cable bushing for 1-inch conduit hole
- p cable clamps or hardware fasteners
- p Xantrex network cables or equivalent (CAT 5 cable with RJ45 connectors wired to T568A standard)
- p Xantrex male network terminator (supplied)
- p Network power supply (if required—see “Power Supply Requirements” on page 6).

The total length of the network, including all connected GT Inverters and monitors, cannot exceed 130 feet (40 meters). Xantrex network cables are available in lengths from 3 feet (0.9 m) to 75 feet (22.9 m).

The network layout is a series configuration, with components connected by a single cable and terminated with a network terminator at each end. If a network power supply is required for your GT Inverter, the power supply terminates the network at the GT Inverter end. See Figure 2.

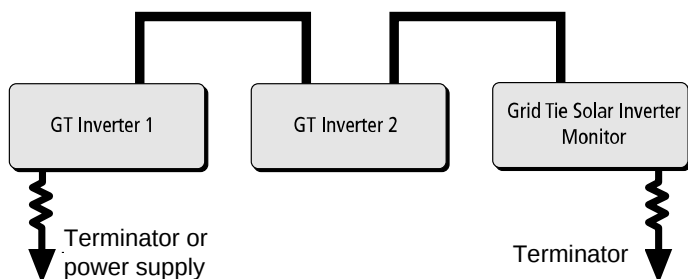


Figure 2 Network Diagram

Call your dealer or visit **www.xantrex.com** to purchase cables and other network components.

Table 1-1 Network Components and Part Numbers

Network Component	Part Number
Network termination — Male (2 per pack)	809-0901
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

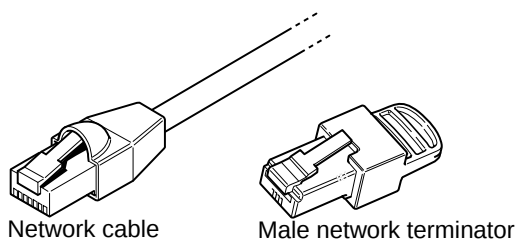


Figure 1-1 Network components

Guidelines for Routing the Network Cables



WARNING: Shock hazard

Do not route the network 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 network cables. Route the cables before installing Xanbus-enabled devices.

- Route the cables away from sharp edges that might damage the insulation. Avoid sharp bends in the cable—no less than a 4 inch (10 cm) radius.
- 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 the appropriate hardware fasteners to avoid damage to the cable.

In a multiple-inverter installation, the Grid Tie Solar Inverter Monitor must connect to the nearest GT Inverter. The male terminator or power supply must connect to the final GT Inverter in the networked chain (see Figure 2). For more information about installing a multiple-inverter network, see “Communications Wiring for Multiple Inverters” in the *Xantrex Grid Tie Solar Inverter Owner's Manual*.



CAUTION: Unpredictable device behavior

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

Power Supply Requirements



WARNING: Fire hazard

Use only the network power supply recommended by Xantrex for the GT Inverter and Grid Tie Solar Inverter Monitor.

The Grid Tie Solar Inverter Monitor requires network power from the GT Inverter to operate. The network power supply is built into some GT Inverter models.

GT Inverters with FGA number 864-0001 do not have a built-in power supply (the FGA number is located on the label on the top of the inverter). To use a monitor with those inverters, you will need to purchase and install a separate power supply.

The power supply is installed inside the GT Inverter's wiring box. Order part number 864-0205 (power supply and installation instructions) from www.xantrex.com/outletstore.

Choosing a Location

Choose a location that is easily accessible. The monitor should be mounted where you can have unobstructed access to the screen and buttons.

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



WARNING: Explosion hazard

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

Mounting the Monitor



WARNING: Shock hazard

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

Important: 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 network cables to bend.

To mount the monitor:

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 3/4 inch (19 mm) thick.
2. Route the network cable from the GT Inverter 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).

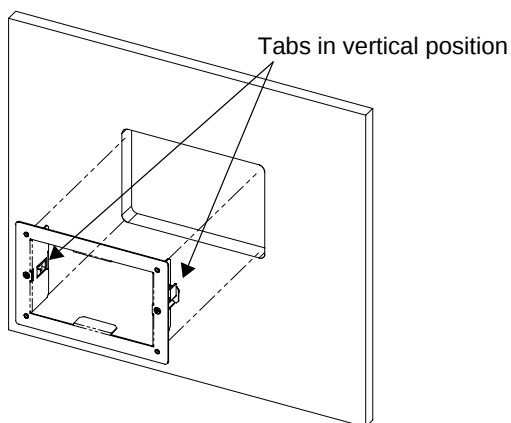


Figure 2 Inserting the Mounting Plate

4. Secure the mounting plate by tightening the two screws to rotate the tabs to the horizontal position (see Figure 3) and pull the tabs tight against the inner surface of the wall. Be careful not to overtighten the screws and damage the wall.

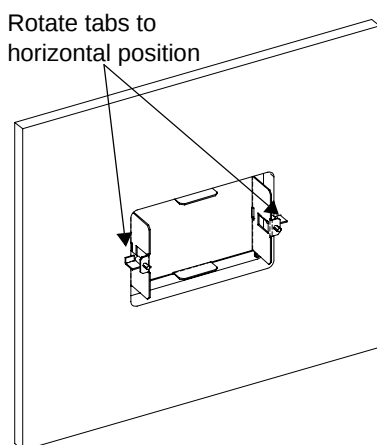


Figure 3 Securing the Mounting Plate



CAUTION: Equipment damage

Connect the monitor only to a Xantrex Grid Tie Solar Inverter.

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 attempting to connect these two different systems.

5. Connect one network cable and a network terminator to the network inputs on the monitor.

Important: To ensure communication signal quality, the network **must** be terminated at the monitor with a male terminator, and at the GT Inverter with a male terminator or separate power supply (if required).

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

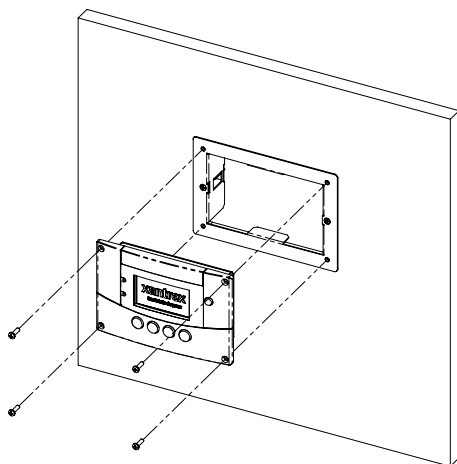


Figure 4 Securing the Monitor

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

Connecting the Monitor to the Inverter

The GT Inverter is equipped with two network inputs that are accessible from inside the wiring box. See Figure 5.

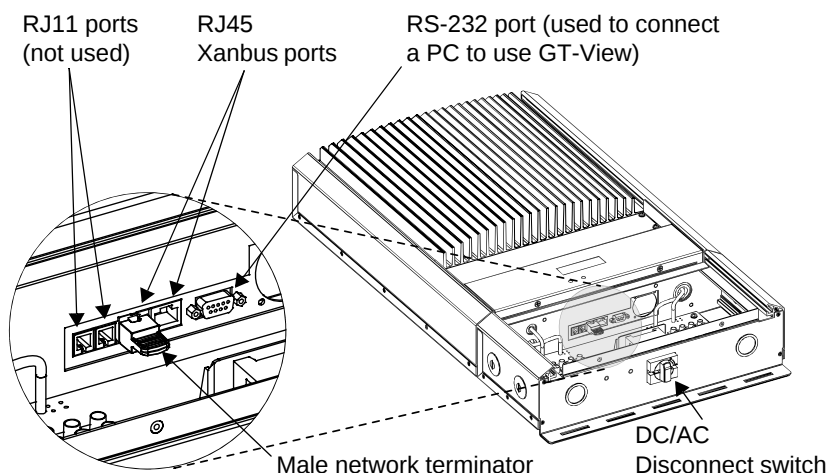


Figure 5 Xanbus RJ45 Ports in the GT Inverter Wiring Box



WARNING: Shock hazard

Before opening the GT Inverter wiring/disconnect box, turn OFF the breaker switches connected to the GT Inverter AC output, and turn the DC/AC Disconnect switch to the OFF position. Hazardous voltage will still be present on the DC input (PV) terminals located under the clear plastic insulation barrier. Do not remove the insulation barrier during this procedure.

To connect the monitor to the GT Inverter:

1. Remove the two screws along the bottom edge of the wiring/disconnect box cover and lift off the wiring/disconnect box cover from the GT Inverter.
2. Remove the plug from a side conduit hole and install a cable bushing or clamp.

-
3. Pass the network cable from the Grid Tie Solar Inverter Monitor through the cable bushing or clamp and into the GT Inverter wiring/disconnect box.

Inside the wiring box, ensure the network cable runs horizontally along the flat-bottomed channel formed when the insulation barrier is in place. The cable should run on top of the insulation barrier and out the side conduit hole, avoiding any contact with the AC and DC wiring.

4. Connect the network cable to any RJ45 port in the inverter.
5. Secure the cable bushing or clamp so that no water or debris can enter the wiring/disconnect box.
6. If no separate network power supply is needed, insert a male network terminator into the empty RJ45 port in the inverter.

If necessary, install the power supply according to the instructions provided with the power supply.

7. Replace the wiring/disconnect box cover.
8. Turn the DC/AC Disconnect switch on the inverter to the ON position, and turn the breaker switches in the main utility service panel on.

Menu Map

This menu map provides an overview of the screens and menus you can view on the Grid Tie Solar Inverter Monitor.

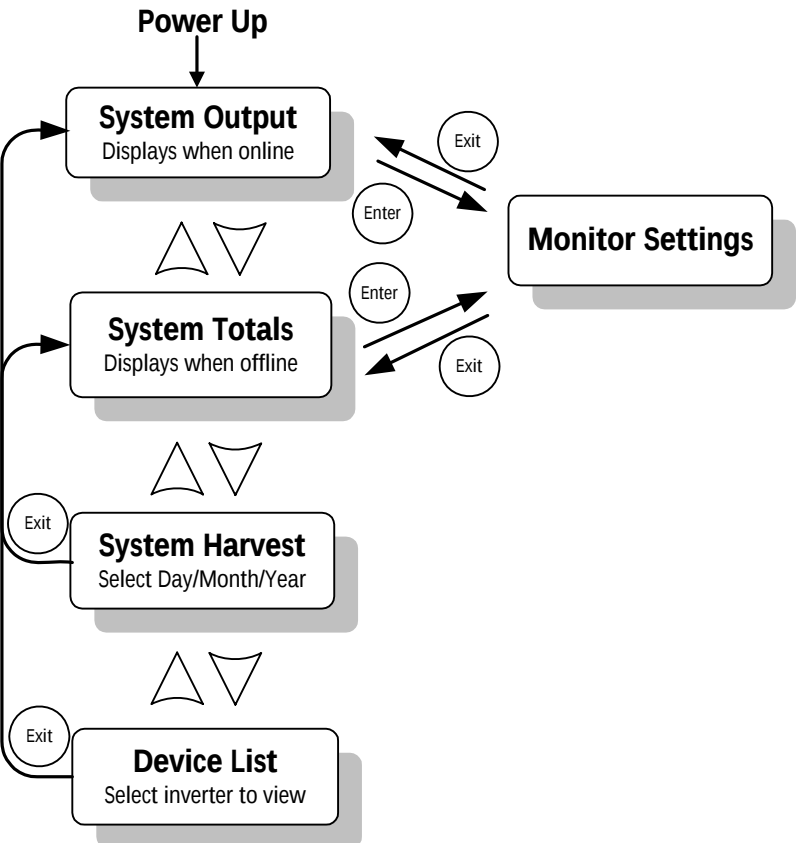


Figure 6 Grid Tie Solar Inverter Monitor Menus

Setting Up the Grid Tie Solar Inverter Monitor

The Monitor Settings screen contains options for changing the appearance of the display and configuring the information displayed on the Home screens.

If you have more than one monitor installed, changing settings on one remote affects that remote only (except for changes to the time setting, which are reflected on all remotes). To ensure multiple remotes are configured identically, you must change settings for each individual remote.

Monitor Settings	
Set Time:	[11:20AM]
Set Date:	[Nov 14, 05]
Energy Cost	[\$0.15/kW]
Clear History	[No]

Figure 7 Monitor Settings Screen

To use the Monitor Settings Screen:

1. On the Home screen, press Enter.
The Monitor Settings screen appears.
2. Press the down or up arrow button to highlight the desired setting to change.
3. Press Enter to highlight the adjustable value.
4. Press the down or up arrow button to change the adjustable value.
5. Press Enter to select the value.
6. Press Exit to return to the Home screen.

Table 2 Monitor Settings Menu Options

Menu item	Description	Values	Default
Set Time	Sets the time of day (necessary for accurate System Harvest data).	hh:mm	n/a
Set Date	Sets the date	Mmm DD, YY	n/a
Energy Cost	Sets the energy cost in dollars and cents per kilowatt for your area (necessary for accurate \$\$ saved data).	\$xx.xx (steps of 1 cent. Holding arrow button increases value by 10 cents.)	\$0.15
Clear History	Clears the daily, monthly and yearly System Harvest logs.	Yes/No	No
12/24 Hour	Configures the monitor to use a 12-hour clock or 24-clock.	12hr, 24hr	12hr
Brightness	Adjusts the brightness of the backlight.	20% to 100% (steps of 10%)	60%
Contrast	Adjusts the contrast of the display to suit viewing angle and enhance visibility.	0% to 100% (steps of 5%)	60%
Light Timer	Adjusts the length of time the back light remains on after the last button press or after the back light button is pressed.	0 to 60 mins	2 mins
Button Beep	Enables buttons to beep when pressed. This feature can be a useful aid to confirming button presses.	On, Off	Off

Monitoring Your Power System

Monitoring the power system with the Grid Tie Solar Inverter Monitor is usually done using one of two Home screens. The Home screen changes according to GT Inverter operation. When the GT Inverter is getting sufficient power from the PV array (the Online light is on), the remote displays the System Output screen. When the GT Inverter is not online, the remote displays the System Totals screen.

The monitor takes readings from the GT Inverter every two seconds and updates the Home screen if new data is detected.

You can also view detailed status information for each GT Inverter in the system (see “Device List Screen” on page 18).

Home Screen: System Output

When the GT Inverter is online and getting sufficient power from the PV array, the System Output screen displays your system’s total power output.

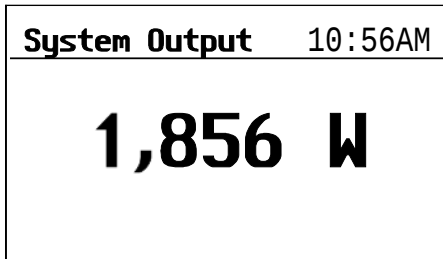


Figure 8 System Output Screen

Home Screen: System Totals

When the GT Inverter is not online, this screen displays more detailed real-time information about your system performance.

System Totals	11:17AM
Today:	1,320W h
Lifetime:	2,505kW h
\$\$ Saved	\$400
CO2 Avoided:	3,100kg

Figure 9 System Totals Screen

Item	Description
Today	Total watt-hours produced since becoming operational that day. If output is 0 W for a two-hour period during the day, the Today total resets to 0.
Lifetime	Total kilowatt-hours produced since the system was installed.
\$\$ Saved	Money saved on utility energy costs since the GT Inverter was installed. The rate at which this is calculated is adjustable. See “Monitor Settings Menu Options” on page 14.
CO2 Avoided	The amount of greenhouse gasses the system has saved from being released into the atmosphere (pollutants that would have been produced by non-renewable energy sources) since the system was installed. This calculation is based on U.S. Department of Energy 1999 estimated carbon dioxide emissions from U.S. electric plants (pounds per kilowatt hour).

System Harvest Screen

The System Harvest screen displays GT Inverter energy production as a graph over a selectable time period—either Today's Total (previous 24 hours), Monthly Total (previous 30 days), or Yearly Total (previous 365 days).

The time period runs horizontally along the bottom of the graph. Depending on which time period you have selected, 0 represents the current time or day or month.

The vertical axis measures power output over a range that varies according to the highest recorded power level. For example, in Figure 10, “3k” at the top of the vertical axis represents the highest power, in watts, recorded that day (rounded off to the nearest thousandth). If you have selected to view the Monthly Total, the number represents the highest daily total watt-hours recorded that month. If you have selected to view the Yearly Total, the number represents the highest monthly total watt-hours recorded that year.

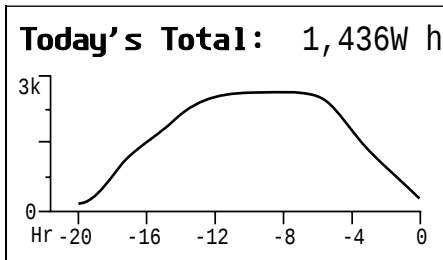


Figure 10 System Harvest Screen

To select a time period for which to view data:

- On the System Harvest Screen, press Enter.

Device List Screen

The Device List screen lists the GT Inverters installed in your system and allows you to select a single unit and view its detailed performance data.

This screen also shows the real-time power output of each inverter. For any inverter that has faulted, “Fault” is displayed instead of power output.

Device List	11:17AM
Sr l#1234ABCD	1,856W
Sr l#5678EFGH	1,725W
Sr l#8765HGFE	1,135W
Sr l#4321DCBA	Fault

Figure 11 Device List Screen

To select an inverter:

- 1. On the Device List Screen, press Enter to select the first inverter.
- 2. Press the down or up arrow keys to highlight the desired inverter.
- 3. Press Enter.

The Inverter Screen for the selected inverter appears.

Inverter Screen

The Inverter screen shows detailed performance data for the selected GT Inverter. The data is updated every two seconds. To view all the information available on this screen, press the down arrow button. Screen position is indicated by the cursor along the scroll bar on the right-hand side of the screen.

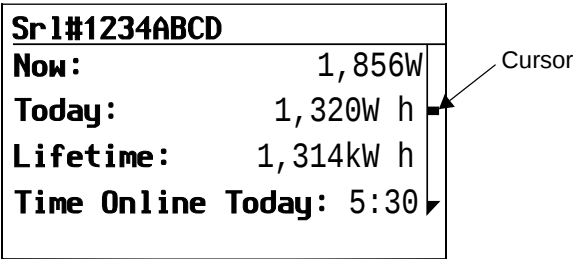


Figure 12 Inverter Screen

Item	Description
Now	Real-time power output
Today	Total watt-hours produced since becoming operational that day. If the inverter’s output is 0 W for a two-hour period during the day, the Today total resets to 0.
Lifetime	Total kilowatt-hours produced since installation.
Time Online Today	Total time the GT Inverter has spent producing power that day, in hours and minutes (hh:mm).
Array Voltage	Real-time voltage produced by the PV array.
Array Current	Real-time current produced by the PV array.
Grid Voltage	Utility grid voltage
Grid Frequency	Utility grid frequency
Identify	For multiple inverter installations, to help identify the inverter for which you are viewing data, select “On.” This causes the selected inverter’s LCD screen to flash on and off.

Fault Screen

When a fault condition is present, the Fault screen shows the same information as the Inverter screen, with a fault message replacing “Output.”

Sr1#1234ABCD	
Fault:	ExtSD
Today:	1,320W h
Lifetime:	1,314kW h
Time Online Today: 5:30	

Figure 13 Fault Screen

Fault Messages and Descriptions

If the monitor displays one of the following messages, check the LCD on the GT Inverter and refer to the GT Inverter Owner's Manual for more information.

Some of these messages occur as part of normal operation. Such faults do not require any action from the user. The fault recovers automatically when the condition that caused the fault goes away. For example, the DCUVSD1 fault and the Aps1Off fault occur when PV array voltage drops at night. The DCUVSD1 fault occurs first, followed by the Aps1Off fault. When the PV array begins producing power again, the Aps1Off fault recovers, followed by the DCUVSD1 fault. When the fault condition goes away and power production resumes, the fault light turns off.

Fault Message	Message on GT Inverter	Description
Aps1Off	n/a	The auxiliary power supply in the GT Inverter is off. The GT Inverter is unable to measure AC grid voltage. This fault usually occurs during periods of insufficient PV power. This fault is self clearing, and no action is required.
Heatsink1OvrTempSD	Over Temp Fault	Heat sink overtemperature shutdown. The inverter's internal temperature is over 80 °C (176 °F). The inverter restarts when the temperature has dropped to less than 70 °C (158 °F).
GroundFault	Ground Fault Reset System	A ground fault has been detected. The PV system should be checked by a qualified electrician and repaired.

Fault Message	Message on GT Inverter	Description
ExtSD	External Shutdown	External Shutdown. The GT Inverter has been manually turned off using the button located inside the unit, next to the LCD. This button shuts off the inverter prior to using a connected PC and Xantrex software to change factory settings. Changing factory settings should only be performed after consultation with your utility and Xantrex Customer Service.
ACOut1VSD	AC Voltage Fault	AC output voltage shutdown—AC output voltage out of range fault. This is a utility fault; it will clear itself when the utility AC voltage comes within the specified range.
ACOut1FreqSD	Frequency Fault	AC output frequency out of range fault. This is a utility fault; it will clear itself when the utility AC frequency comes within the specified range.
ACOut1ImpedanceSD	n/a	AC output impedance fault. The ENS (impedance detection) has shut the unit down. This fault applies only to GT Inverters sold in Germany.
Reconnecting1	Reconnecting in sss seconds	The protection timer is active and the inverter reconnects to the grid when the countdown is complete.
DCDC1Saturated	n/a	The isolation stage within the inverter has failed. Call your dealer for service.

Fault Message	Message on GT Inverter	Description
DCOVSD1	DC Voltage Fault	DC overvoltage shutdown. The PV array voltage is over the allowable range. This fault is self clearing, and no action is required.
DCUVSD1	DC Voltage Fault	DC undervoltage shutdown. The PV array voltage is under the allowable range. This fault usually occurs during periods of insufficient PV power (at night, for example). This fault is self clearing, and no action is required.
LostInterProcComms	n/a	Lost interprocessor communications. The GT Inverter has been manually turned off using the button located inside the unit, next to the LCD. This button shuts off the inverter prior to using a connected PC and Xantrex software to change factory settings. Changing factory settings should only be performed after consultation with your utility and Xantrex Customer Service.
Network Error	n/a	Device detection problem. Check network connections.

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 Grid Tie Solar Inverter Monitor. This warranty period lasts for five 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.

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: 1 360 925 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.

Warranty and Return

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, 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.

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 28.

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.

If the warranty period for your Grid Tie Solar Inverter Monitor 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 unit may be serviced or replaced for a flat fee.

To return your Grid Tie Solar Inverter Monitor 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 27.

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.

As soon as you open your Grid Tie Solar Inverter Monitor package, record the following information and be sure to keep your proof of purchase.

p Serial Number _____

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

p	Warning, Error or Panel Fault Message

p Description of problem _____

Xantrex Technology Inc.

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