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Owner's Manual

GT100E Wireless Modem Option

www.xantrex.com

GT100E Wireless Modem Option

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About This Manual

Purpose

The purpose of this Owner's Manual is to provide explanations and procedures for installing and configuring the GT100E Wireless Modem Option.

Scope

The Manual provides safety guidelines, procedures for installing the GT100E Wireless Modem Option, as well as information about configuring the modem. It does not provide details about the GT100E Grid Tie Inverter. You need to consult the GT100E Grid Tie Inverter Installation Manual and GT100E Grid Tie Inverter Operation and Installation Manual for this information.

Audience

The Manual is intended for anyone who needs to install and operate the GT100E Wireless Modem Option. Installers should be certified technicians or electricians.

Organization

This Manual is organized into three chapters:

Chapter 1, "Introduction", Chapter 1 contains a description of the Wireless Modem and lists the specifications and requirements needed to use it.

Chapter 2, "Installation", Chapter 2 contains procedures on how to de-energize the GT100E, remove the old telephone modem, install the new Wireless Modem and re-energize the GT100E.

Chapter 3, "Configuration", Chapter 3 describes how to configure the Wireless Modem to establish communication with the GT100E and how to set-up fault notification via the Xantrex Solar GUI.

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

Abbreviations and Acronyms

GSM - Global System for Mobile Communication

Related Information

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

Important Safety Instructions



WARNING

This chapter contains important safety and operating instructions. Read and keep this Owner's Manual for future reference.

1. Before installing and using the GT100E Wireless Modem Option, read all instructions and cautionary markings on the GT100E Wireless Modem Option, GT100E Grid Tie Inverter, and all appropriate sections of this manual.
2. Use only attachments recommended or sold by the manufacturer. Doing otherwise may result in a risk of fire, electric shock, or injury to persons.
3. To avoid a risk of fire and electric shock, make sure that existing wiring is in good condition and that wire is not undersized. Do not operate the GT100E Wireless Modem Option with damaged or substandard wiring.
4. Do not operate the GT100E Wireless Modem Option if it has received a sharp blow, been dropped, or otherwise damaged in any way. If the GT100E Wireless Modem Option is damaged, see the Warranty section.
5. Do not disassemble the GT100E Wireless Modem Option. It contains no user-serviceable parts. See Warranty for instructions on obtaining service. Attempting to service the GT100E Wireless Modem Option yourself may result in a risk of electrical shock or fire. Internal capacitors remain charged after all power is disconnected.
6. To reduce the risk of electrical shock, disconnect both AC and DC power from the GT100E Grid Tie Inverter before attempting any maintenance or cleaning or working on any circuits connected to the GT100E Wireless Modem Option. Turning off controls will not reduce this risk.

Contents

Important Safety Instructions -----v

1 Introduction

 Description of the Wireless Modem----- 1-2

 Data Communication Specifications ----- 1-2

 Interface Requirements ----- 1-2

 GUI Requirements ----- 1-2

2 Installation

 Equipment Required ----- 2-2

 Isolation Procedure ----- 2-2

 Removing the Telephone Modem ----- 2-3

 Installing the Wireless Modem ----- 2-4

 Turn-On Procedure ----- 2-7

3 Configuration

 Configuring the Wireless Modem ----- 3-2

Warranty and Return Information ----- WA-1

Figures

Figure 2-1	Removing the Telephone Modem	2-3
Figure 2-2	Installing Mounting Clips to the Wireless Modem	2-4
Figure 2-3	Installing the Wireless Modem to the GT100E-	2-4
Figure 2-4	Installing the Power Supply into the Bracket	2-5
Figure 2-5	DC Cord Looped Through Toroid	2-5
Figure 2-6	Finished Configuration-	2-6
Figure 3-1	Fault Notification Set-up	3-2

1

Introduction

Chapter 1 contains a description of the Wireless Modem and lists the specifications and requirements needed to use it.

Description of the Wireless Modem

The Wireless Modem is an option for the GT100E Grid Tie Inverter. The Wireless Modem will provide remote access to the GT100E through the GSM cellular network. The customer will have the ability to control and monitor the status of the inverter through this connection. Wireless Modem also has the ability to notify the customer that a fault has occurred on the inverter.

Data Communication Specifications

All methods of data communications with the GT100E unit – landline modem, Wireless modem, FAX modem, and LAN interface – are interchangeable.

Application of the GT100E modem in a manner inconsistent with these specifications may cause the modem to have improper functionality.

Interface Requirements

Customer is responsible for acquiring a Provider of GSM network wireless modem service configured for Circuit Switch Data. The Provider will issue a SIM card to be installed into the modem, to enable service.

GUI Requirements

Xantrex Solar GUI Software Revision: 2.0.0 or higher

2

Installation

Chapter 2 contains procedures on how to de-energize the GT100E, remove the old telephone modem, install the new Wireless Modem and re-energize the GT100E.

Equipment Required

- Metric hex wrench set
- Philips Screwdriver

Isolation Procedure

Use the following procedure to de-energize the GT100E for maintenance:

1. Turn the ON/OFF switch to the OFF position.
2. Place the Emergency switch in the active position (push in).
3. Open the AC disconnect switch.
4. Open, lockout, and tag the PV input circuit breaker at the PV array.
5. Open, lockout, and tag the AC Grid power circuit breaker at the Grid transformer.



WARNING: Shock hazard

The terminals of the PV input may be energized if the arrays are energized. In addition, allow 5 minutes for all capacitors within the enclosure to discharge after disconnecting the GT100E Grid Tie Inverter from AC and DC sources.

Removing the Telephone Modem

Use the following procedure to remove the existing telephone modem:

1. Remove the two M5 screws mounting the modem bracket to the panel. Remove the bracket.

Important: Keep the M5 hardware; it will be used to reinstall the Wireless Modem.

2. Disconnect the D-sub connector P13 from the modem.
3. Disconnect the telephone line from the modem.
4. Disconnect the modem power supply from the modem.
5. Disconnect the AC power cord from the power supply.
6. Remove the modem and power supply from the GT100E.

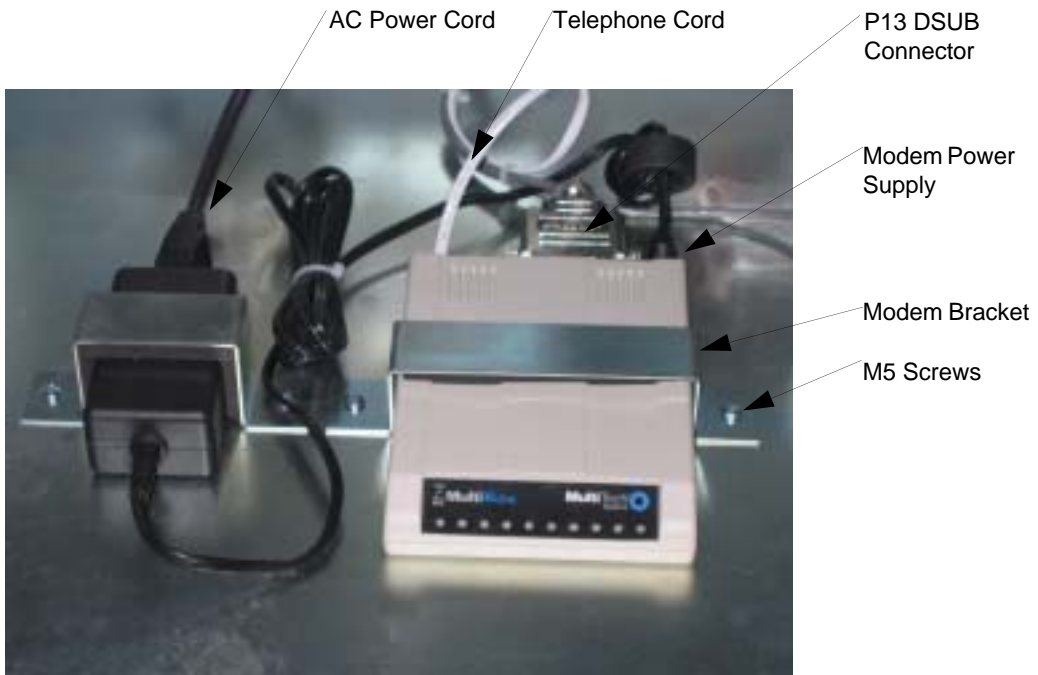


Figure 2-1 Removing the Telephone Modem

Installing the Wireless Modem

Use the following procedure to install the new Wireless Modem:

1. Install the SIM card, from your GSM provider, into the modem. You must first pull out the rubber cover of the SIM bay. Replace the rubber cover after installation.
2. Install the mounting clips onto the wireless modem, see Figure 2-2.
3. Install the antenna onto the SMA connector.

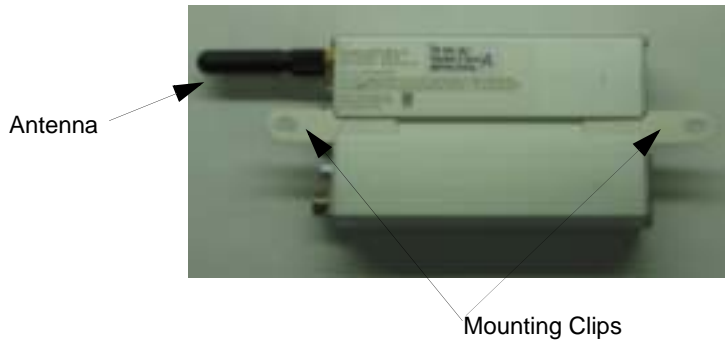


Figure 2-2 Installing Mounting Clips to the Wireless Modem

4. Install the Wireless Modem onto the GT100E panel using the M5 hardware, see Figure 2-3.



Figure 2-3 Installing the Wireless Modem to the GT100E

5. Insert the power supply into the power supply bracket, see Figure 2-4.
6. Connect the power supply to the unit's AC power cord.

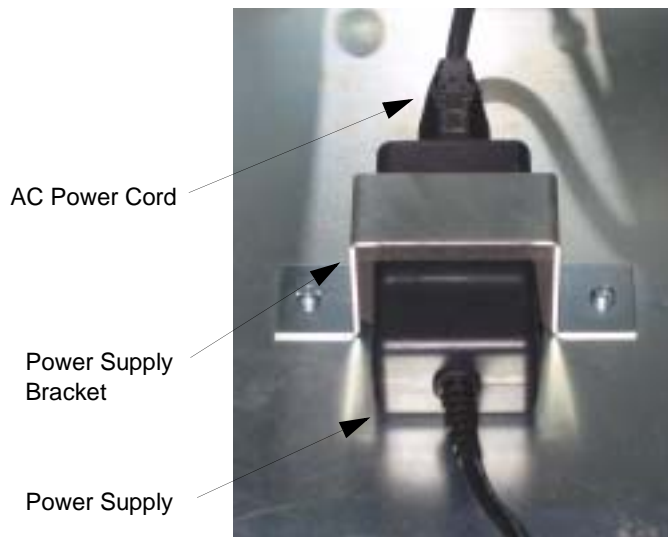


Figure 2-4 Installing the Power Supply into the Bracket

7. Loop the DC cord from the power supply through the toroid 2-3 times, see Figure 2-5.



Figure 2-5 DC Cord Looped Through Toroid

8. Connect the DC cord to the Wireless Modem, see Figure 2-6.
9. Connect the Wireless Modem Interface cable (1-152522-01) J13 to the GT100E's P13 connector.

10. Connect the RS232 connector of the modem cable (supplied with modem) to the Wireless Modem Interface cable connector 'to modem'.
11. Connect the Wireless connector of the modem cable to the modem.

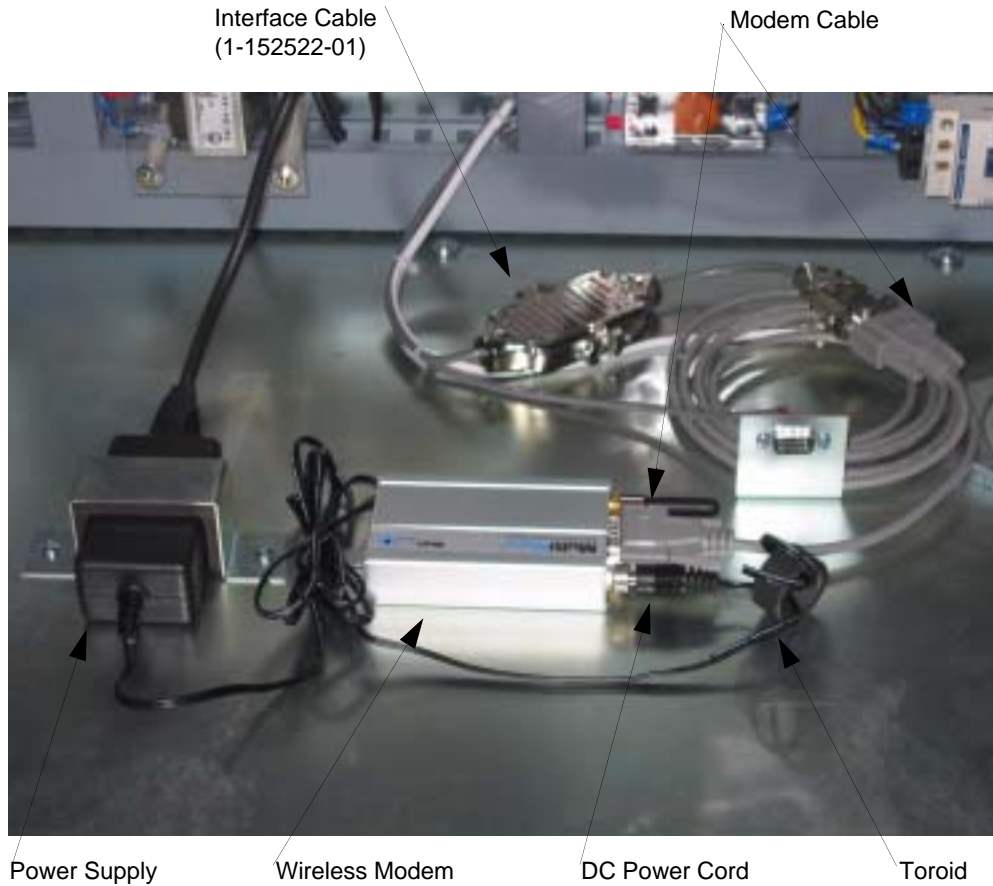


Figure 2-6 Finished Configuration

Turn-On Procedure

Use the following procedure to turn on the GT100E:

1. Remove any lockout devices from the PV and utility grid circuit breakers.
2. Close the PV and utility grid circuit breakers.
3. Close the AC disconnect switch.
4. Turn the on/off switch to the on position.
5. Disengage (pull out) the Emergency Stop switch.
After a 15 second initialization period and a 5 minute wake up period, the GT100E will automatically begin power tracking, given the PV voltage is greater than the PV start voltage setpoint.

3

Configuration

Chapter 3 describes how to configure the Wireless Modem to establish communication with the GT100E and how to set-up fault notification via the Xantrex Solar GUI.

Configuring the Wireless Modem

The Wireless Modem can be configured through the Xantrex Solar GUI software.

You can establish remote or local communication with the GT100E, using the Xantrex Solar GUI software.

Use the following procedure to set-up Fault notification for a Wireless Modem interface:

1. From the Xantrex Solar GUI main page, click Tools
2. Click Inverter Data
3. Click Connection
4. Click Telephone Fault Configuration

The screenshot shows the 'Telephone Fault Configuration' window within the Xantrex Solar GUI. The window has a title bar 'Inverter "GT100E" at Site #1'. It features three tabs: 'Detail', 'Contact', and 'Operational Configuration'. The 'Detail' tab is active, showing a 'Connection' section with 'Recent Config at Inverter' and 'Desired Config' fields. The 'Recent Config' section shows 'Dial Up Activated for 1 party' with '1st Phone #' set to '1-525-444-1234'. The 'Desired Config' section has a table with columns 'Phone Numbers' and 'Description'. The '1st Phone #' is '1-525-444-1234' and the 'Description' is 'Field Service workstation RT'. There are also fields for '2nd Phone #' and '3rd Phone #'. A checkbox 'Activate Dial up for' is checked, and a 'Parties' field is set to '1'. At the bottom, there are buttons for 'Read Configuration' and 'Send Configuration'. The window also has a 'Connect' section on the right with 'Connect', 'Cancel', and 'End' buttons, and an 'Off' button at the top right. The bottom of the window has tabs for 'General', 'Telephone Fault Configuration', and 'Telephone Configuration'.

Phone Numbers	Description
1-525-444-1234	Field Service workstation RT

Figure 3-1 Fault Notification Set-up

Important: Your GSM provider may require the area code, even for local calling.

Refer to the GUI Help menu for complete configuration instructions.

Warranty and Product Information

Limited Warranty

1.1 What does this warranty cover and how long does it last?

This Limited Warranty is provided by Xantrex Technology Inc. ("Xantrex") and covers defects in quality in workmanship and materials ("Defects") in your GT100E Wireless Modem Option. This warranty lasts for a period of Warranty period (the "Warranty Period") from the date of commissioning indicated on the product warranty registration form submitted to Xantrex. .

1.2 What will Xantrex do?

If there is a Defect, Xantrex will repair or replace the defective product free of charge, provided that:

- a) you have followed the procedure at 1.3 and not been able to get a remedy from the system integrator of the product;
- b) you notify Xantrex, without undue delay, of the Defect within the Warranty Period; and
- c) Xantrex, through inspection, troubleshooting, or other means establishes the existence of a Defect 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, the warranty is suspended during the repair or replacement and continues for the remaining portion of the original Warranty Period or 90 days from the date of the completed repair activity, whichever is greater. All replaced products and all parts removed from repaired products become the property of Xantrex.

Xantrex covers both parts and labour necessary to repair the product. If the product was sold in Spain, Xantrex will cover costs via a Xantrex-selected non-expedited surface freight and packing.

1.3 How do you get service?

If you are unable to contact your system integrator. If the system integrator is unable to provide service, contact Xantrex directly at the following numbers:

GERMANY

Telephone: 49 0180 2240400
Fax: 49 (0) 7531 8199868
Email GTSupport.Germany@xantrex.com

SPAIN

Telephone: 34 935 560 976
Fax: 34 934 736 093
Email GTSupport.Spain@xantrex.com

1.4 What does this warranty not cover?

This Limited Warranty does not cover normal wear and tear of the product or costs associated with replacing consumable items such as like air filter, fuses, arrestors etc. A shorter than normal life during the Warranty Period caused by excessive use, or incorrect use not considered a Defect. Please consult your Owner's Manual to determine the proper use of the product.

This warranty does not apply to and Xantrex will not be responsible for any damage to the product:

- a. if it has not been used in accordance with the Owner's Manual supplied with the product, if it has been damaged during shipping, mishandled, neglected, improperly installed, physically damaged or altered (either internally or externally) or damaged from improper use or use in an unsuitable environment;
- b) 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) if repairs have been done to it other than by Xantrex or an Authorized Service Center;
- d) if it is used as a component part of a product expressly warranted by another manufacturer; and
- e) if its original identification (trade-mark, serial number) markings have been defaced, altered, or removed.

1.5 Exclusions

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, where permitted by law, 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, or any damage or injury arising from or as a result of misuse or abuse or the incorrect installation, integration or operation of the product.

1.6 Limitations on Exclusions

This Limited Warranty does not affect your rights as prescribed by law and as established in the Law on Warranties for Consumer Goods (Spain) or the German Civil Code ("BGB"). In Germany, the legal provisions regarding suspension or expiration ("Ablaufhemmung"), suspension ("Hemmung") and recommencement of limitation periods remains unaffected.

Some countries 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.

For example, in Germany, the exclusion at 1.5 shall not apply in the case of mandatory liability, i.e. under the German Product Liability Act ("Produkthaftungsgesetz") or in the case of intent, gross negligence, and injury of life, body or health, or breach of a condition which goes to the root of the contract ("wesentliche Vertragspflichten"). However, claims for damages arising from a breach of a condition which goes to the root of the contract shall be limited to the foreseeable damage which is intrinsic to the contract, unless caused by intent or gross negligence or based on liability for injury of life, body or health. The exclusion at 1.5 in Germany also does not imply a change in the burden of proof to your detriment.

1.7 Exclusion for Documentation

Without limiting the generality of the foregoing, unless specifically agreed to by it in writing, Xantrex:

- a. makes no warranty as to the accuracy, sufficiency or suitability of any technical or other information provided in manuals or other documentation provided by it in connection with the product; and
- b) assumes no responsibility or liability for losses, damages, costs or expenses, whether special, direct, indirect, consequential or incidental, which might arise out of the use of such information.

The use of any such information will be entirely at the user's risk.

1.8 WARNING: LIMITATIONS ON USE

Please refer to your Owner's Manual for limitations on uses of the product. Specifically, please note that the GT100E Wireless Modem Option is not intended for use in connection with life support systems or other medical equipment or devices and Xantrex makes no representation or warranty in connection with any use of the product for such purposes.

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Out of Warranty Service

If the warranty period for your GT100E Wireless Modem Option 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, repaired or replaced for applicable charges.

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