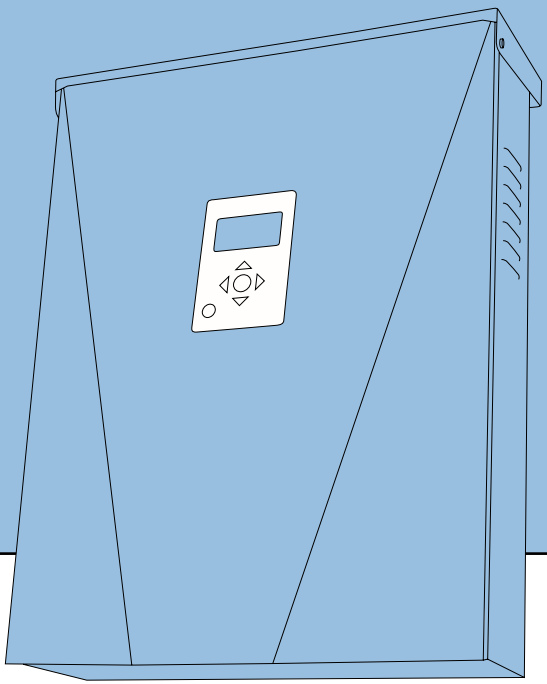

Operation Manual

Pika Islanding Inverter

X7602/X11402

Part of the Pika Energy Island™

Pika ENERGY

M00010-17

Pika ENERGY

Islanding Inverter

Serial Number:

RCP Number:

We are committed to quality and constant improvement. All specifications and descriptions contained in this document are verified to be accurate at the time of printing. However, we reserve the right to make modifications at any time that may result in a change of specification without notice in our pursuit of quality. If you find any inconsistencies or errors in this document, please notify us at sales@pika-energy.com

Check the resources tab at www.pika-energy.com for the latest specifications and manuals.

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Section 1: Introduction

About This Manual

This operation manual provides instructions and recommendations for the use and operation of the Pika Grid Supporting Utility Interactive Islanding Inverter™ (X7602/X11402) for simplified solar-plus-storage. Islanding Inverters are storage-ready inverters that connect to Pika PV Link™ DC optimizers and smart batteries to form a Pika Energy Island™ system.

This operation manual includes full details on programming, configuring, registering and commissioning the X7602/X11402 inverter. The companion document to this installation manual is the X7602/X11402 Installation Manual. Please reference the Installation Manual for complete information on the inverter's initial installation.

Symbols used in this Manual

	**WARNING:** This indicates a fact or feature very important for the safety of the user to prevent injury or death and/or which can cause serious hardware damage if not applied appropriately.
	**CAUTION:** Presents information to prevent damage to this product
	**EARTH** GROUND SYMBOL

About Pika Islanding Inverters: X7602/X11402

Islanding Inverters connect to the Pika PV Link optimizers to form the Pika Energy Island system for grid-tie solar-plus-storage. Upon the loss of grid power, Islanding Inverters disconnect from the grid and provide AC power to support protected loads. The inverter provides islanding power without an external autotransformer. High voltage smart-batteries connect to Islanding Inverters with no additional storage interface.

All Pika Energy products use the REbus™ 380VDC nanogrid to connect energy sources, storage, loads, and the grid. The REbus nanogrid automates the flow of power to enable plug-and-play setup and operation of Pika Energy equipment. For more information about REbus, visit pika-energy.com.

In the diagram below, an X7601 is directly connected to PV Link optimizers and high voltage lithium ion storage on the DC (REbus) line, shown the the left of the inverter. To the right of the inverter are AC lines: 240VAC for grid and home loads, and protected load support up to 50A.

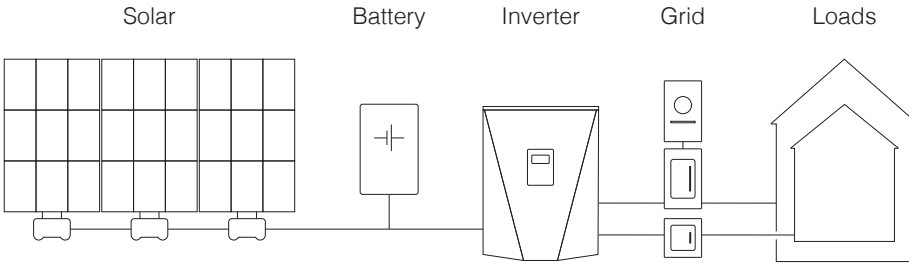


Fig 1. Example Energy Island

For project-specific one-line diagrams, contact Pika Energy.

Section 2: Safety Specifications

IMPORTANT SAFETY INSTRUCTIONS. SAVE THESE INSTRUCTIONS!

General Warnings

	**WARNING:** DO NOT ATTEMPT TO SELF-INSTALL INVERTER. A QUALIFIED SOLAR INSTALLATION PROFESSIONAL OR ELECTRICIAN MUST INSTALL AND COMMISSION PIKA ENERGY EQUIPMENT. CONTACT PIKA ENERGY FOR A LIST OF AUTHORIZED INSTALLERS IN YOUR REGION.
	SHOCK RISK: HIGH VOLTAGE ELECTRICITY
	WARNING: Before installing the Pika Energy Island, read all instructions and caution markings in this guide and installation manual. Consult installation documentation for all other REbus devices on the system.
	WARNING: Electrical installation in the United States shall be done in accordance with all local electrical codes and/or the National Electrical Code (NEC), ANSI/NFPA 70.
	WARNING: Electrical installation in Canada shall be done in accordance with all local electrical codes and/or the Canadian Electrical Code.
	WARNING: Connecting the Pika Energy Island to the electric utility grid must only be done after receiving prior approval from the utility company and installation completed only by qualified personnel/licensed electrician(s).
	WARNING: This equipment is NOT intended for use with life support equipment or other medical equipment or devices.
	WARNING: Disconnect all smart batteries and turn their Battery Disconnect switches to OFF before servicing the inverter or touching electrical terminals. Refer to smart battery documentation for complete safety instructions.

Safety Shutdown

The Pika Energy Island system can signal to connected devices on REbus to shut down and limit output voltage to a safe level. The red Safety Shutdown button on the front of X7602/X11402 activates a Safety Shutdown. An external shutdown button may also be installed, given appropriate labeling. See “External Safety Shutdown Switch” on page 29 of the Islanding Inverter Installation Manual

To enter a Safety Shutdown, press and hold the red button on the front of the inverter. The Safety Shutdown LED will illuminate and the LCD screen will indicate a Safety Shutdown has been initiated.

In a system configured to provide backup power, the DC bus will remain energized on loss of AC grid power. Upon entering a Safety Shutdown, a shutdown signal will be transmitted to all devices connected to REbus. In Safety Shutdown, X7602/X11402 will disconnect from the grid, stop sourcing power to REbus, and immediately disable all sources on REbus by sending a global shutdown signal. All PV Link optimizers will disconnect their output. The Safety Shutdown LED will be illuminated to show that the inverter has entered a Safety Shutdown. DC bus voltage will be displayed on the inverter screen.

WARNING: UNLESS THE SYSTEM IS IN A SAFETY SHUTDOWN, LIVE VOLTAGE MAY BE PRESENT, EVEN WHEN THE POWER GRID HAS FAILED AND THERE IS NO SOURCE OF POWER FROM THE SOLAR PANELS. TO ENSURE THE DC BUS IS NOT POWERED, ALWAYS ACTIVATE SAFETY SHUTDOWN BEFORE PERFORMING EMERGENCY OR SERVICE WORK.

Section 3: Operational Modes Overview

Note: Some operational modes require current transformers to be installed with the Pika Energy Island. See "Connecting Current Transformers (CTs)" on page 22 of the Islanding Inverter Installation Manual for more information.

The Pika Energy Island has several operational modes available for various installation configurations, markets, and applications. Connected REbus devices work together to manage the distribution of power based on the selected operational mode.

Some modes interact with high voltage smart batteries over REbus to store power and/or balance production and consumption.

Use the following charts to select the correct operational mode for X7602/X11402 to meet your needs.

Priority	Priority Backup	Clean Backup	Self Supply	Grid Tie
1	Charge batteries from bus	Charge batteries from bus	Support local loads	Support local loads
2	Charge batteries from grid	Support local loads	Charge batteries from bus	Export to grid
3	Support local loads	Export to grid	Export to grid	-
4	Export to grid	-	-	-

Goal	Optimal Inverter Mode
Keep batteries charged as much as possible	Priority Backup
Keep batteries charged using only solar power	Clean Backup
Sell to the grid as much as possible	Grid Connect
Use grid as little as possible	Self Supply
Never sell power to the grid*	Zero Export

Grid Tie

In Grid Tie mode, X7602/X11402 functions as a conventional grid-tied inverter system. The system powers local loads, and when generation exceeds load demand, excess power is exported to the utility for net metering and other credits. Current transformers are optional for this mode. Without current transformers, the inverter LCD will not display separate house and grid consumption.

In the event of a grid outage, the battery will power the system until it is depleted. For applications in which batteries will be connected to the Pika Energy Island at a later date, operate in Grid Connect mode until batteries are installed.

Clean Backup

In Clean Backup mode, Islanding Inverters prioritize keeping batteries charged and ready for grid interruption, using only solar power. Current transformers are optional for this mode.

If the battery is not fully charged, X7602/X11402 will use all available solar power to charge the battery. Grid power will not be used to charge batteries in this mode.

Fig. 3.1

Fig. 3.2

Fig. 3.3

When the batteries are full, solar power is exported to the AC terminals of the inverter, providing power to the building along with the grid [Fig. 3.1].

When the battery is fully charged, any solar power not used in the building is exported to the grid [Fig. 3.2]. When grid service is interrupted, the system will immediately enter Islanding Mode, powering protected loads with solar and battery power together [Fig. 3.3]. If there is enough solar power available, the solar will simultaneously charge the battery and support the loads.

Priority Backup

In Priority Backup mode, Islanding Inverters prioritize keeping batteries charged and ready for grid interruption, using solar power or grid power. Batteries charge using solar power as it is available, and take additional power from the grid to charge as fast as possible. Current transformers are optional for this mode.

If the battery is not fully charged, all available solar power will be used to charge the battery, with the goal of filling the battery before a grid failure. If available solar power does not meet bus voltage requirements for recharging the battery, the grid will provide power to expedite battery recharging.

Fig. 4.1

Fig. 4.2

Fig. 4.3

If solar and grid power are available, both can be used to charge the battery. With current transformers installed, the system will display the amount of power being drawn from the grid and how much is being consumed by local loads before reaching the battery [Fig. 4.1]. Without current transformers, only DC power being used to charge batteries through the inverter [Fig. 4.2] will be displayed.

In the event of a grid failure, the inverter will enter Islanding Mode. Protected loads are supported by solar and battery power. If there is enough solar power available, the solar will simultaneously charge the battery and support the loads [Fig. 4.3].

Self Supply

In Self Supply mode, X7602/X11402 prioritizes powering local loads using solar and/or stored power first. Current transformers are required for this mode.

In this mode, generated solar power will be used to charge batteries before any power is exported to the grid. This mode is optimal in markets in which net metering is unavailable or unfavorable, making battery-stored power economically more attractive than grid-provided power.

Fig. 2.1

Fig. 2.2

Fig. 2.3

If more power is being produced by the solar array than is needed by local loads, X7602/X11402 will store energy in the battery for later use [Fig. 2.1]. If the battery is full and a surplus of power is available, that surplus is exported to the grid [Fig. 2.2]. When local demand exceeds available solar-generated power (e.g. at night), the battery supplies power to support local loads. [Fig. 2.3] If the building requires more power than the battery and solar can provide, then the excess demand is supported by the grid.

Self Supply Setpoints

In certain situations, it is possible to use the TargMinImprtP and TargMaxImprtP setpoints to allow the building to deliberately import power from the grid within certain limits. This is useful for specialized applications, including peak avoidance.

These setpoints are only relevant to Self Supply, and are typically only useful for specifc applications. Please contact Pika Energy for more information on how to use these setpoints for your application.

Setpoint	Description	Default	Units
TargMaxImprtP	**Target Maximum Import Power** Maximum level of power you would like to import from the grid at any point. If the overall building load is greater than this setpoint, then the inverter will supply additional power from the battery and solar array to keep the grid import power below this level. This maximum is not guaranteed. If there is not enough power available from the battery and solar to cover the load, then the grid will supply the additional power.	0	W

Setpoint	Description	Default	Units
TargMinImprtP	**Target Minimum Import Power** Use this setpoint to charge the battery from the grid while in Self Supply. If the overall building load is less than this setpoint, the inverter will import power to the battery to keep the grid import power up to the setpoint. If the building load is above the setpoint, the inverter will not import additional power to charge the battery. This minimum is not guaranteed. Once the battery is full, grid import power may fall below this level.	0	W

Sell

This mode commands the system to export all available power to the grid. Any connected batteries will drain to the grid until their state of charge reaches the “Min Arbitrage” setpoint (refer to your battery documentation for explanation of battery setpoints). Once a battery is depleted to this point, it will not charge again until the operational mode is changed.

Zero Export

In some markets, solar PV systems are prohibited from back-feeding the AC grid. For these applications, enable Zero Export. With Zero Export enabled, the inverter will not send excess solar power to the grid. Instead, the system will limit solar power generation such that it exactly matches the power consumed by local loads resulting in no exported power. Current transformers are required for this mode.

Section 4: Operation and User Interface

Each device connected to the system has its own device page. The device page contains basic information about the device, such as its power level and state. There is also an Ethernet settings page, and a Home Screen showing a Power Flow diagram.

Naviagte between pages by using the left and right arrows. Press the center button from a device page to Enable or Disable the device, or to modify the device's settings. Change operational modes by pressing the center button from the Home Screen.

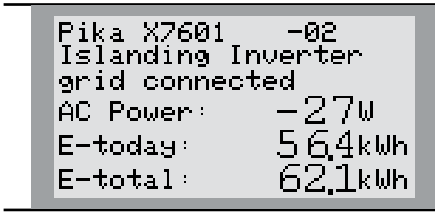


Fig 34. The Inverter device page

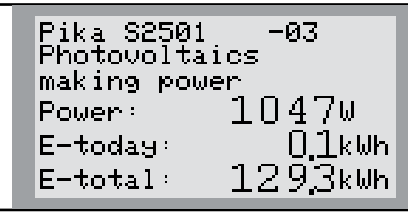


Fig 38. A PV Link device page

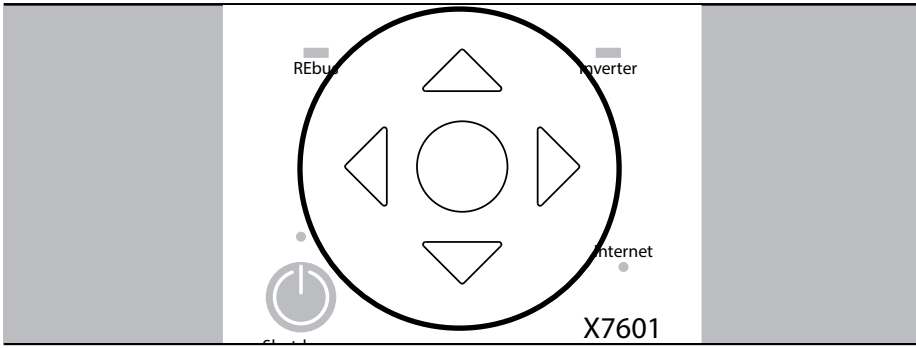


Fig 26. These arrow keys are used for navigation

The Home Screen

The power flow display on the Home Screen illustrates the flow of power in the Energy Island system. As power is generated, stored and consumed, animated arrows indicate the flow and direction of power.

The system AC and DC voltage levels are displayed near the center of the screen. The current operational mode is displayed at the top of the screen. Press the center button to bring up the list of available operational modes.

Selecting Operational Modes

Once a system is installed, the correct operational mode must be selected. Typically, you will select one operational mode for your Energy Island, and the system will remain in that mode without needing to be changed. However, you may change the operational mode at any time.

To select an operational mode:

1. While viewing the home screen, press the center button.

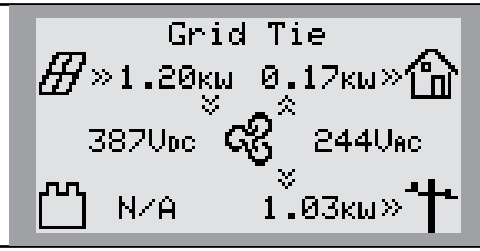


Fig 39. The system is currently in Grid Tie mode, this can be seen on the home display

2. A list of operational modes will be displayed [Fig. 40]. The current operational mode will have an asterisk (*) next to it. (It is possible that the list of modes will not include all those shown here. Not all modes are available for all situations.)

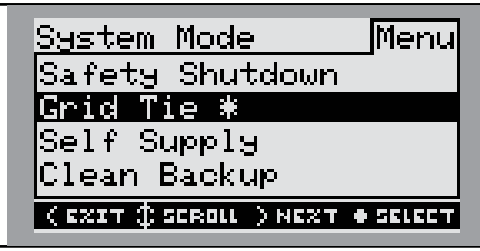


Fig 40. The active operational mode will be highlighted with an asterisk

3. Use the up and down arrows to highlight the desired operational mode. Press the center button to select it.

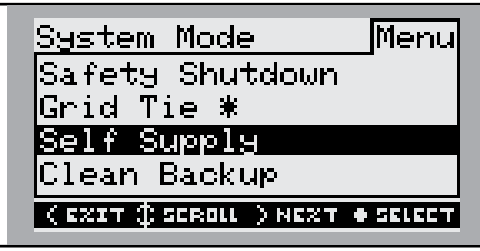


Fig 41. Toggle the desired operational mode using the up/down directional arrows

4. Arrow right and press the center button to select “Confirm.”
5. The inverter will now be in the new operational mode. Confirm that the mode listed at the top of the LCD screen is the desired mode.

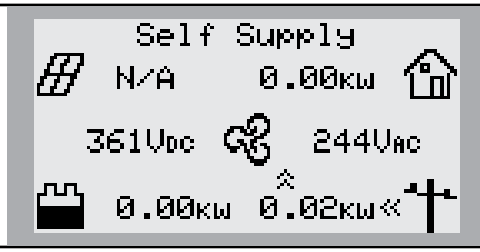


Fig 43. Self Supply is now selected as the inverter’s operational mode, as shown on the home display

Device Pages

Each device connected to the system has its own device page. The device page contains basic information about the device, such as its power level and state. Use the left and right arrow keys to scroll through the device pages. Press the center button to bring up the main menu for the device.

If a device is disconnected or otherwise loses communication with the inverter, then its device page will read “device offline”.

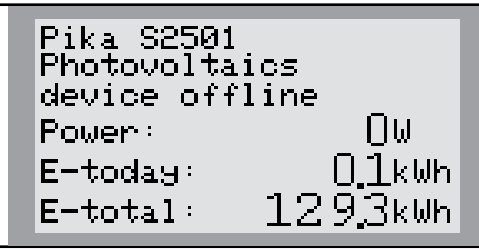


Fig 58. PV Link device page showing “Device Offline.”

Enabling and Disabling Devices

The Pika Energy Island system is able to operate independently without input from a user. The inverter and other parts of the system are able to return to operation automatically, even after events such as power outages. To ensure this behavior is safe and predictable, all REbus devices must be Enabled by the user before they will operate. Enabling the device gives it permission to resume operation on power-up. If a device is Disabled, it will stay in a Disabled state, and will not resume operation until it receives user input.

Once Enabled, if grid power is present the X7602/X11402 will create a DC voltage, establishing the REbus nanogrid. Devices connected to REbus will wake up and begin communications. Each connected device must be Enabled before allowing it to operate. Once Enabled, connected devices will automatically resume operation whenever a REbus DC nanogrid is established.

If a device has never been enabled, it will stay in a “Disabled” state until it is enabled by a user.

WARNING: Never Enable any device during an installation or while there are exposed wires present. Always be sure to initiate a safety shutdown and disconnect power sources when performing service.

To enable a device:

1. Press the right arrow button on the inverter LCD until the inverter device page is displayed. The inverter will display a status of “Disabled.”

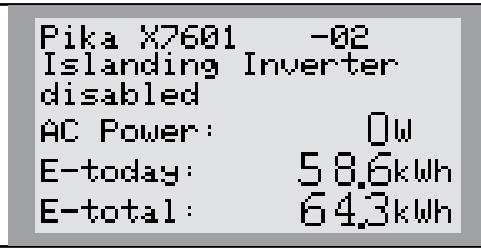


Fig 31. Example inverter device page, showing disabled X7601 inverter

2. Press the center button.
3. Highlight “Enable” and press the center button [Fig. 32].
4. Arrow sideways and press the center button to select “Confirm” [Fig. 33].

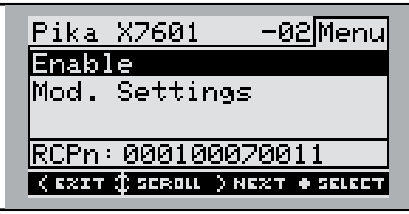


Fig 32. Enable device, Step 3

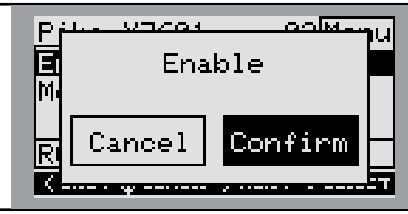
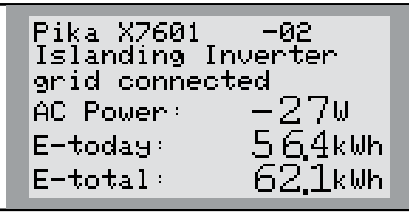


Fig 33. Confirm to enable

The inverter is now enabled. In some situations, the inverter may wait up to five minutes or longer before beginning to export power.



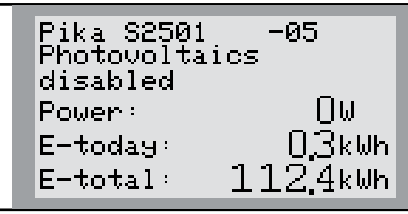


Fig 34. The inverter begins exporting power

Fig 35. All REbus devices need enabling

Follow the same steps to enable other REbus devices:

1. Navigate to the device page.
2. Press the center button to select “Enable”.
3. Arrow sideways and confirm your choice.

Fig 36. Follow the same steps to enable other REbus devices. S2501 PV Link™ shown.

Mod. Settings Menu

Most REbus devices have user-adjustable settings for making adjustments to parameters such as PLM channel, startup voltage or charge setpoints. To access these settings, use the left and right arrows to navigate to the device page. Then press the center button and select “Mod. Settings” using the arrow keys and center button.

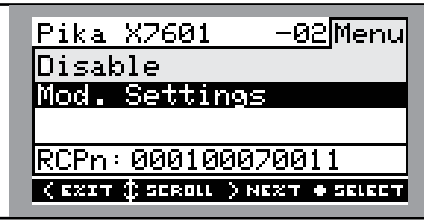


Fig 59.

X7602/X11402 will fetch settings from connected devices and display them onscreen. This may

take a moment. A brief message will be displayed while settings load. A list of available settings will be displayed for the selected device.

Scroll through the lines using the up and down arrow keys. Select a setting to modify by pressing the center button. Use up and down arrow keys to adjust the setting. Press the center button to deselect the setting.

To save your settings, scroll to the bottom of the page and highlight “Commit”. Press the center button to commit. This will save the new settings and bring you back to the device page.

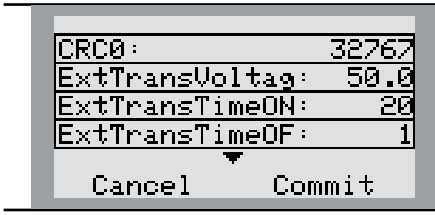


Fig 60.

Fig 61.

LED Indicators

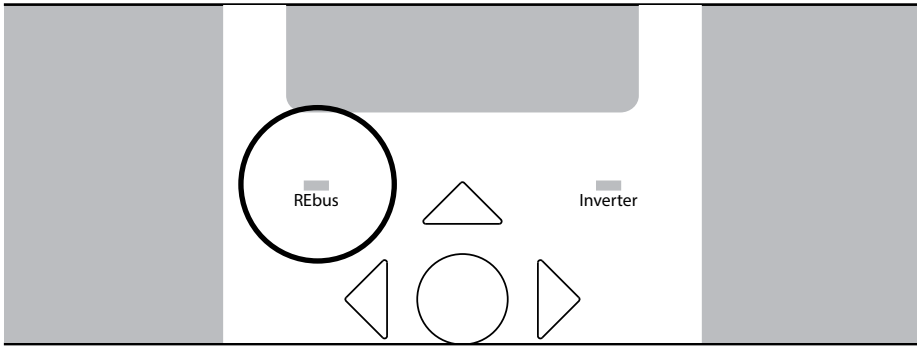


Fig 25. REbus status LED

REbus Status LED

This green/yellow/red LED indicates the status of the REbus nanogrid and devices. When green, all devices are functioning normally and are either generating power or ready to generate power. A yellow light indicates that there are no connected, enabled devices. When red, one or more of the REbus devices has a fault that requires attention before operation will continue. A red light could also indicate a fault with the REbus nanogrid itself (e.g. a ground fault). See the LCD for more information about the specific fault that has been detected.

Inverter LED

This green/yellow/red LED indicates the status of the utility grid and/or inverter itself. When green, the utility is connected and within normal operational voltage and frequency. When yellow, the utility grid is not within normal conditions, but no user intervention is typically required. The inverter will restart as soon as the utility grid returns to normal conditions. When red, a serious fault with the utility grid or inverter has been detected and user attention is required before the unit will resume operation. See the LCD display for more information about the specific fault that has been detected.

LED State	Inverter State
Solid Yellow	Waiting
Blink Green	Standby, Powering Up, or Initializing
Solid Green	Connecting Grid or Grid connected
Solid Red	Error or Ground Fault
OFF	Disabled or Powered OFF

Safety Shutdown LED

This LED is illuminated when the system is in Safety Shutdown Mode. Safety Shutdown Mode may be initiated either from the Safety Shutdown button on the unit or an externally-installed shutdown switch.

Internet LED

This blue LED is illuminated when the inverter is connected to a router and has an IP address. A blue light does not mean that the inverter has connected with the Pika Energy server. See “Section 5: Ethernet Configuration” on page 22 for more information on configuring your internet connection. See “Section 6: Serial Number and Registration” on page 26 for more information about monitoring.

Section 5: Ethernet Configuration

For maximum connection reliability, X7602/X11402 has an onboard hardwired RJ45 ethernet jack. After connecting an ethernet cable with a valid internet connection, make sure Ethernet is enabled to allow the inverter to communicate with the Pika server.

Note: If installing a REbus Beacon, refer to the Beacon documentation for instructions on installing Beacon and connecting to the internet.

Setup

X7602/X11402 should typically be plugged into a router, and network settings will be automatically detected. Once an ethernet connection is made to the internet, perform the following steps:

1. Press the left arrow button until the Ethernet Status screen appears appears on the LCD. The MAC address will be listed on the top of the screen. If the screen reads “Ethernet Disabled”, follow steps 2 through 4 to Enable ethernet capability. Otherwise, skip to step 5.

Fig 44.

2. Press the center button to open the settings menu.
3. Use the up and down arrows and the center button to select “Enable Ethernet”.

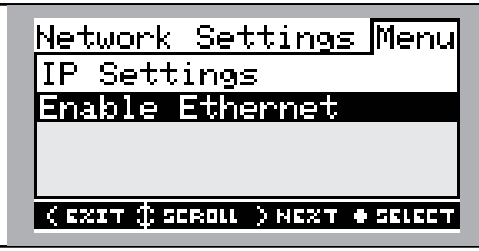


Fig 45.

4. For advanced settings select “IP Settings” from Ethernet setting main menu.
5. Press the right Arrow, then the center button to select “Confirm.”

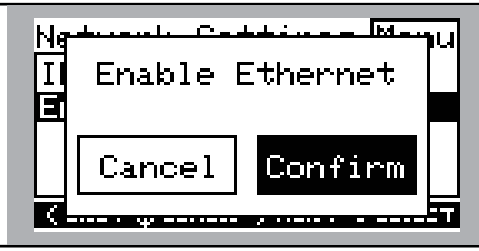


Fig 46.

6. The Pika Energy Island system is now Ethernet-enabled and can send and receive data. The blue Internet LED should now be illuminated.
7. Log onto profiles.pika-energy.com to sign up and register your REbus devices.

The ethernet screen on X7602/X11402’s LCD displays IP address, MAC address and connection status. Below is the ethernet screen from a successfully connected X7602/X11402.

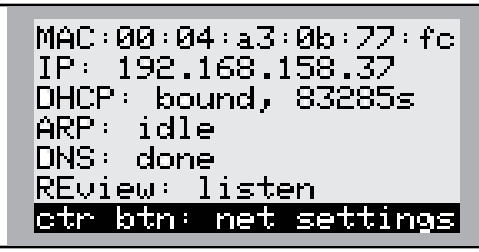


Fig 62. The Ethernet page. This inverter is successfully connected to the internet. The IP address is valid and the REview status is “listen”.

If your network is not configured for DHCP, the MAC address can be used to locate the device on the network and manually assign an IP address. Contact the system administrator for your network to connect X7602/X11402 to a restricted network. To configure manual settings, press the center button from the Ethernet settings screen and select “IP Settings”.

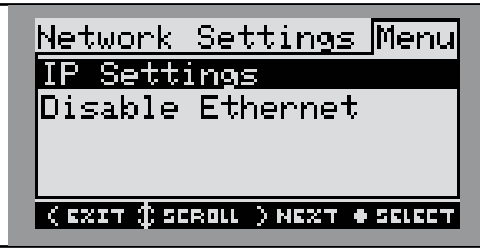


Fig 63.

From the “IP Settings” menu select “Manual” to adjust the IP, Subnet Mask, DNS and Gateway.

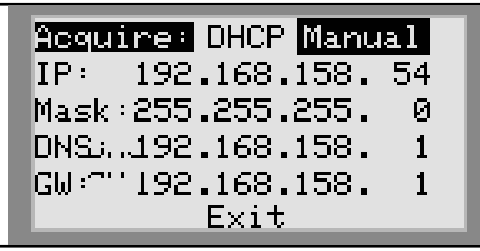


Fig 64.

Successful Connection

Upon successful connection to the network, the ethernet status page will show the network settings for the device, including a valid IP address. The REview status will read “listen”. See page 23 for an example of a successfully connected inverter.

Ethernet Troubleshooting

Pro Tip: Ensure your internet connection is working properly before troubleshooting! Use a laptop

or other device to independently verify the status of your internet connection before attempting to troubleshoot the connection to X7602/X11402.

For a successful connection, the inverter must be assigned a valid IP address. The IP address is displayed on the Ethernet settings page. In addition, the REview state must read “Listen” to indicate successful connection to the server. If the REview state shows “Get connected”, then a sucessful connection has not been made to the REview server.

A blue internet LED indicates that the inverter has an IP address. This is a necessary but not sufficient indication of a successful connection to the REview server. The blue LED may be lit even if the inverter is not connected to the server. Check the Ethernet settings page to verify a successful connection.

If the inverter does not automatically connect to the network and begin communicating with the REview server, perform the following steps:

1. Verify ethernet connection has been enabled by pressing the center button on the ethernet page and selecting “Enable Ethernet.”
2. Verify your network is configured for DHCP and that DHCP is enabled.
3. If your network is not configured for DHCP (MAC filtering) obtain your MAC address and contact the system administrator for IP address assignment.
4. Input IP address under “manual” settings. See “Section 6: Serial Number and Registration” on page 26 section for more information.
5. Restart router and modem.
6. Contact system administrator for further troubleshooting steps.

Note: It is the installer’s responsibility to make sure the internet connection is reliable and secure. Pika Energy recommends always using a hardwired connection to provide internet connectivity. We do not recommend or support using any wireless or powerline carrier network devices. Use these devices at your own discretion.

Section 6: Serial Number and Registration

Every REbus-enabled device can be monitored from REview™ online monitoring system. Locate the serial number and Registration code for each REbus device (on unit or on Device ID card) and keep this information for registration on REview.

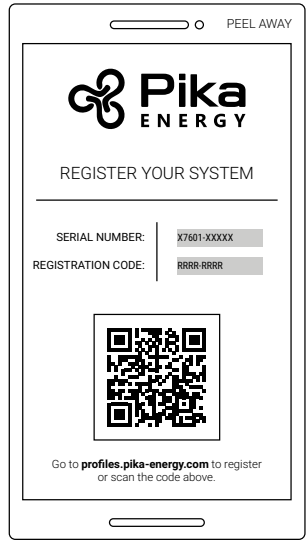
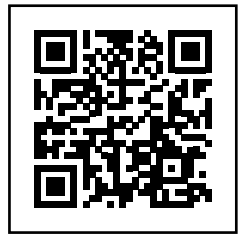


Fig 47. Example Pika Device Serial Number Sticker included with inverter

Go to **profiles.pika-energy.com** and follow the guided setup to register the inverter to the system owner. REbus devices connected to the inverter will be automatically registered to the system owner and appear on their REview dashboard. In multi-inverter configurations, each inverter must be registered individually.

See the REview setup guide for complete instructions.

Scannable QR code for device registration



Scan the QR code above to be taken to the REbus device registration site.
(http://www.profiles.pika-energy.com)

Section 7: Other External Communications

REbus Beacon

The REbus Beacon is an accessory control and communications module for use in certain areas. Beacon provides additional communications and control when required by the local utility. Beacon connects to the Islanding Inverter through a USB-B connector.

Section 8: Inverter Device Settings

Setpoint	Range	Description
PLM_Channel	0 to 12	PLM communications channel. Set all devices on the same system to the same channel. Assign different channels to different systems at the same site.
Bklight Time (Seconds)	0 to 600	Time in seconds backlight will remain lit after last button press
LED Brightness	1 to 10	Unitless brightness scale for indicator LEDs
timezone_offset	-14 to 14	Hours offset from UTC. Set to match timezone at installation.
Islanding	0 to 1	Enable Islanding. Value of 1 allows inverter to provide backup power during grid outages. If value is 0 then the inverter **will not** provide backup power.

Section 9: Service, Maintenance, and Troubleshooting

WARNING: UNLESS THE SYSTEM IS IN A SAFETY SHUTDOWN, LIVE VOLTAGE MAY BE PRESENT, EVEN WHEN THE POWER GRID HAS FAILED AND THERE IS NO SOURCE OF POWER FROM THE SOLAR PANELS. TO ENSURE THE DC BUS IS NOT POWERED, ALWAYS ACTIVATE SAFETY SHUTDOWN BEFORE PERFORMING EMERGENCY OR SERVICE WORK.

WARNING: Users should not attempt to service X7602/X11402. Only an authorized technician should attempt to service Islanding Inverters.

Service

X7602/X11402 must be serviced by a qualified technician. Refer to the the Islanding Inverter Installation Manual for information and instructions on service and field-replacable parts.

Maintenance

Periodically check the intake filter on the bottom of the enclosure to ensure it is not clogged with dust. Clean the filter with a soft brush or vacuum cleaner. Clean the exterior of the enclosure with a soft cloth.

Recovery From an Error State

Error events will force X7602/X11402 into a error state where no DC power is exported, though voltage may still be present on REbus from connected devices. To recover a device from an error state, use the front control panel to Disable and then Enable the device. If the system is unable to be accessed, but is connected to the internet, call Pika Technical support at (207) 808-0362 for assistance in resetting an error state.

Technical Support Information

Support department hours: 9AM to 5PM Eastern Standard Time Zone, Monday – Friday (excluding holidays)
Phone: (207) 808-0362
Email: support@pika-energy.com

Section 10: Specifications

Quick Reference

Specification	X7600 Series	X11400 Series	Units
Max. cont. AC power @ 50°C	7.6	11.4	kW
Grid voltage	240 (1-ph)	120/208 (3-ph)	VAC
Max cont. REbus current (peak)	20	30	A
Max cont. grid output current	32		A
AC terminals wire size	14 to 6		AWG
DC terminals wire size	18 to 6		AWG
STOP terminals wire size	28 to 16		AWG
Gen Sense/Gen Start wire size	30 to 12		AWG
Weight	29 (64)		kg (lb)
Thermal Management	forced convection		-
Temperature Range	-20 to +50		ºC
Weatherization rating	NEMA 3R		-
Enclosure Material	Powder-Coated Steel		-
Size (H x W x D)	622 x 489 x 203 (24.5 x 19.25 x 8)		mm (in)
Warranty	10 years standard		-

Detailed Ratings

Rating Type	Alt Rating Name	Min	Nominal	Max	Units
Maximum Input Voltage	Maximum nanogrid voltage			420	V
Range of Input Operating Voltage	Nanogrid operating voltage range	360		400	V
Maximum input current	Maximum nanogrid input current			20	A
Maximum input short circuit current	Maximum nanogrid short circuit current			30	A
Maximum input source backfeed current to input source	Maximum nanogrid output current			30	A
Output power factor rating	AC power factor rating			1	-
Operating Voltage range (ac) 2ph		108		130	V,rms
Operating Voltage range (ac) 3ph		106		132	V,rms
Operating frequency range or single frequency		59.6		60.4	Hz
Nominal output voltage (ac)	Nominal AC voltage		120/240 & 208V 3ph		V,rms
Normal output frequency	Nominal AC frequency		60		Hz
Maximum continuous output current (ac)	Maximum continuous AC current			32	A, rms
Maximum output overcurrent protection	Maximum AC overcurrent protection			50	A
Max output fault current and duration			50 / 17		A/ms
Utility interconnection voltage and frequency trip limits and trip times	See “Voltage and Frequency Trip Thresholds” on page 30 of the Islanding Inverter Installation Manual				
Trip voltage and frequency limits					
Trip Voltage Accuracy					
Trip Time Accuracy			2% +/-2 cycles		-
Normal operation temperature range		-20		+50	C
Output power temperature derating and maximum full power operating ambient		-20		+50	C
Peak Efficiency				97.5	%
CEC Weighted Efficiency				97	%

Notes

Use the following pages to record notes about your system or to document phone calls with our service department, available M-F 9AM-5PM ET at 207-808-0362.


Pika
ENERGY

www.pika-energy.com

35 Bradley Drive #1
Westbrook Maine
04092