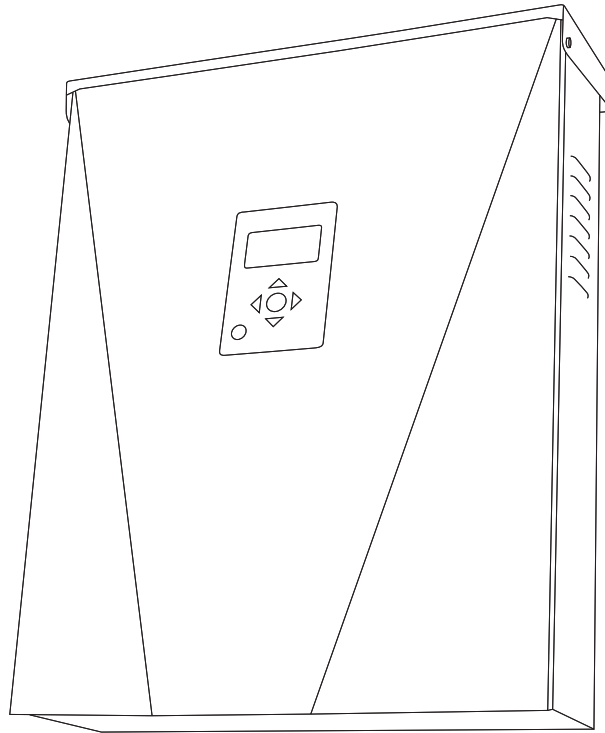


Installation Manual

Generac PWRcell™ Inverter



009954



WARNING

Loss of life. This product is not intended to be used in a critical life support application. Failure to adhere to this warning could result in death or serious injury. (000209b)

Register your Generac product at:

<https://pwrfleet.generac.com>

1-888-GENERAC
(888-436-3722)

Para español, visita: <http://www.generac.com/service-support/product-support-lookup>

Pour le français, visiter: <http://www.generac.com/service-support/product-support-lookup>

SAVE THIS MANUAL FOR FUTURE REFERENCE

Use this page to record important information about your Generac Product

Record the information found on your unit data label on this page. See [Serial Number Location](#).

When contacting an Independent Authorized Service Dealer (IASD) or Generac Customer Service, always supply the complete model number and serial number of the unit.

Table 1: PWRcell Inverter Important Information

Unit Model Number	
Unit Serial Number	
Date Purchased	
Commissioning Date	

 **WARNING**

CANCER AND REPRODUCTIVE HARM

www.P65Warnings.ca.gov

(000393a)

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Section 1: Safety Rules & General Information

Introduction

Thank you for purchasing a Generac PWRcell™ product. The Generac PWRcell inverter is a storage-ready inverter that connects to the PV Link™ optimizers and PWRcell batteries to form the Generac PWRcell system.

This manual provides instructions for installing the PWRcell inverter, including mounting, wiring, and battery integration information. The companion document to this installation manual is the Generac PWRcell Inverter Owner's Manual. See the owner's manual for complete information on programming and configuring the PWRcell inverter.

The information in this manual is accurate based on products produced at the time of publication. The manufacturer reserves the right to make technical updates, corrections, and product revisions at any time without notice.

Read This Manual Thoroughly



WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

If any section of this manual is not understood, contact the nearest Independent Authorized Service Dealer (IASD) or Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or visit www.generac.com for assistance. The owner is responsible for correct maintenance and safe use of the unit.

This manual must be used in conjunction with all other supporting product documentation supplied with the product.

SAVE THESE INSTRUCTIONS for future reference. This manual contains important instructions that must be followed during placement, operation, and maintenance of the unit and its components. Always supply this manual to any individual that will use this unit, and instruct them on how to correctly start, operate, and stop the unit in case of emergency. The contents of this manual are applicable to PWRcell Inverters operating with software version > 13120.

NOTE: Verify the latest software version is installed to ensure the most up to date features and functionality are available. See [Verifying Inverter Software Version](#) for more information on verifying the inverter software. To get the latest software version go to generac.com/pwrcell/update and follow the instructions, or call 1-855-395-7841 for additional help or questions.

Safety Rules

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The alerts in this manual, and on tags and decals affixed to the unit, are not all inclusive. If using a procedure, work method, or operating technique that the manufacturer does not specifically recommend, verify that it is safe for others and does not render the equipment unsafe.

Throughout this publication, and on tags and decals affixed to the unit, DANGER, WARNING, CAUTION, and NOTE blocks are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Alert definitions are as follows:

DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

(000001)

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

(000002)

CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

(000003)

NOTE: Notes contain additional information important to a procedure and will be found within the regular text of this manual.

These safety alerts cannot eliminate the hazards that they indicate. Common sense and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

How to Obtain Service

For assistance, contact the nearest Independent Authorized Service Dealer (IASD) or Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or visit www.generac.com.

When contacting an IASD or Generac Customer Service, always supply the complete model and serial number of the unit as given on its data decal located on the unit. Record the model and serial numbers in the spaces provided on the front cover of this manual.

General Hazards



⚠ DANGER

Electrocution. Do not wear jewelry while working on this equipment. Doing so will result in death or serious injury.

(000188)

⚠ DANGER

Automatic start-up. Disconnect utility power and render unit inoperable before working on unit. Failure to do so will result in death or serious injury.

(000191)



⚠ WARNING

Electrocution. Potentially lethal voltages are generated by this equipment. Render the equipment safe before attempting repairs or maintenance. Failure to do so could result in death or serious injury.

(000187)

⚠ WARNING

Risk of injury. Do not operate or service this machine if not fully alert. Fatigue can impair the ability to operate or service this equipment and could result in death or serious injury.

(000215a)



⚠ WARNING

Loss of life. This product is not intended to be used in a critical life support application. Failure to adhere to this warning could result in death or serious injury.

(000209b)

⚠ WARNING

Equipment damage. Connecting inverter to electric utility grid must only be done after receiving prior approval from utility company. Failure to do so could result in equipment or property damage.

(000640)

⚠ WARNING

Electric shock. Only a trained and licensed electrician should perform wiring and connections to unit. Failure to follow proper installation requirements could result in death, serious injury, and equipment or property damage.

(000155a)

⚠ WARNING

Equipment damage. Only qualified service personnel may install, operate, and maintain this equipment. Failure to follow proper installation requirements could result in death, serious injury, and equipment or property damage.

(000182a)

⚠ CAUTION

Equipment damage. Connect only to REbus-compatible devices to the DC bus. Never connect to any other DC power source. Connecting to other DC power sources could result in equipment damage.

(000598a)

- Connecting the PWRcell inverter to the electric utility grid must only be done after receiving prior approval from the utility company.
- Only competent, qualified personnel should install, operate, and service this equipment. Strictly comply to local, state, and national electrical and building codes. When using this equipment, comply with regulations established by the National Electrical Code (NEC), CSA Standard; the Occupational Safety and Health Administration (OSHA), or the local agency for workplace health and safety.
- Protection against lightning surges in accordance with local electric codes is the responsibility of the installer.

NOTE: Lightning damage is not covered by warranty.

- Never work on this equipment while physically or mentally fatigued.
- Any voltage measurements should be performed with a meter that meets UL3111 safety standards, and meets or exceeds overvoltage class CAT III.

Electrical Hazards



⚠ DANGER

Electrocution. Water contact with a power source, if not avoided, will result in death or serious injury.

(000104)



⚠ DANGER

Electrocution. PWRcell Battery front cover should be removed by a qualified technician only. Removing the front cover could result in death, serious injury, equipment or property damage.

(000604)



⚠ DANGER

Electrocution. In the event of electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help. Failure to do so will result in death or serious injury.

(000145)



⚠ DANGER

Electrocution. Turn battery disconnect OFF and de-energize REbus before touching terminals. Failure to do so will result in death, serious injury, equipment and property damage.

(000599)



⚠ DANGER

Electrocution. Verify electrical system is properly grounded before applying power. Failure to do so will result in death or serious injury.

(000152)

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Section 2: General Information

Specifications

Description	Units	X7602	X11402
Max. cont. grid-tied AC power @ 122° F (50° C)	kW	7.6	11.4
Max. cont. islanded AC power without an external transfer switch ¹	kW	7.6	7.6
Max. cont. islanded AC power w/ external transfer switch and single 6 module battery cabinet ²	kW	9.0	9.0
Max. cont. islanded AC power w/ external transfer switch and 2 battery cabinets (8 modules minimum) ²	kW	11.0	Range 9.6 to 11.0*
Peak motor starting current (2 sec)	A rms	50	
Normal output frequency AC	Hz	60	
Grid Voltage Line to Neutral (L-N)	VAC	120	
Grid Voltage Line to Line (L-L)	VAC	240	208
Peak efficiency	%	97.3	97.7
Allowable split phase imbalance	%	Up to 30%	
CEC weighted efficiency	%	96.5	97.5
AC terminals wire size	AWG	14 to 6	
DC terminals wire size	AWG	18 to 6	
STOP terminals wire size	AWG	30 to 14	
Weight	lb (kg)	70.9 (32.1)	
Thermal management	-	forced convection	
Weatherization rating	-	NEMA Type 3R	
Enclosure material	-	powder-coated steel	

Description	Units	Min	Nominal	Max
REbus voltage	V	360	380	420
REbus current	A			30 [†]
REbus Input short circuit current ³	A			30
REbus Input source backfeed current to input source	A			30
Output power factor rating AC	-			1
Operating voltage range AC, X7602 Series (L-N)	V rms	106	120	132
Operating voltage range AC, X7602 Series (L-L)	V rms	212	240	264
Operating voltage range AC, X11402 Series (L-N)	V rms	106	120	132
Operating output voltage range AC, X11402 Series (L-L)	V rms	184	208	228
Continuous output current AC grid-tied	A rms			32
PCS controlled current grid-tied	A rms			32
Continuous output current AC islanded ¹	A rms			42
Output fault current duration	A / ms		50 / 2,000	
Full Power operating ambient temperature range ⁴	°F (°C)	-4 (-20)		+122 (+50)
Utility interconnection voltage and frequency trip limits and trip times	See Voltage and Frequency Trip Thresholds for more information.			
Trip voltage and frequency limits				
Trip voltage accuracy				
Trip time accuracy	-	2% +/-2 cycles		

¹ When islanded, continuous power output is restricted to 7.68kW unless backup power is routed through an external transfer switch.

² Peak performance, values provided for 104° F (40° C)

³ Rating for one DC input. Four total.

⁴ Includes ambient temperature rising from inverter operation.

* In Island mode XVT11402 Protected loads only supply 2 phases 120 VAC L-N, 208 L-L which results in lower power than in grid tied 3 phase mode. The low value of the range is for full L-L loading while high value of the range is full L-N loading.

[†]Inverter limits its REbus current to adhere to its AC power rating. Total REbus current capability from multiple REbus sources may safely exceed this value as the inverter safely limits the amount utilized.

Serial Number Location

Refer to **Figure 2-2** to locate unit serial number (A). Record the information from this tag in **Table 1: PWRcell Inverter Important Information** on the inside front cover of this manual.

Unit Dimensions

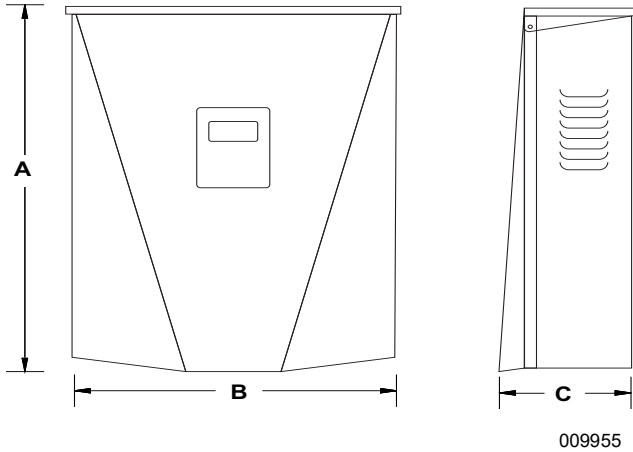


Figure 2-1. Unit Dimension

- A 24-3/4 in (628 mm)
- B 19-3/8 in (491 mm)
- C 8-3/8 in (214 mm)

Component Locations

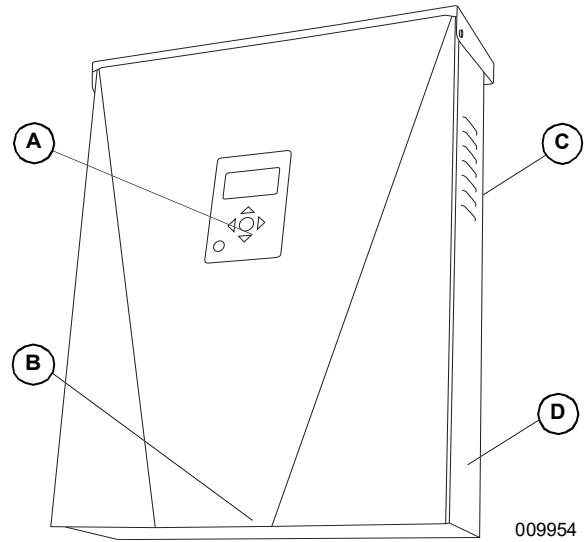


Figure 2-2. Component Locations

- A Control Panel
- B Intake Filter
- C Exhaust Vent
- D Serial Number Tag

About PWRcell Inverters

The PWRcell inverter connects to PV Link™ optimizers and PWRcell batteries to form the PWRcell system for grid-interactive solar-plus-storage.

Upon the loss of grid power, PWRcell inverters disconnect from the grid and provide AC power to support protected loads when configured to do so. This capability is referred to as islanding.

All PWRcell products use the REbus™ 380 VDC nanogrid to connect to each other. The REbus nanogrid

automates the flow of power to enable plug-and-play setup and operation of PWRcell equipment. For more information about REbus, visit www.generac.com.

In **Figure 2-3** PWRcell inverter (E) is directly connected to PV Link optimizers (B) and PWRcell battery (C) on DC (REbus) line (D). To the right of the inverter are AC lines: 120/240 VAC for grid and home loads (G) and protected loads (H).

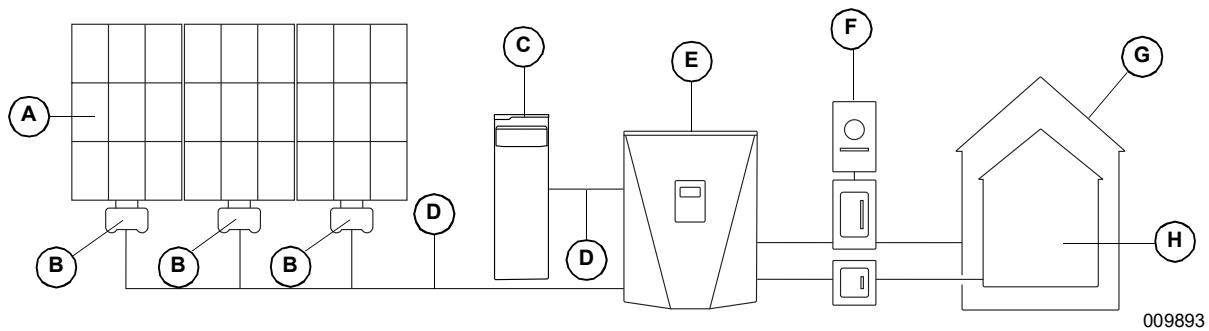


Figure 2-3. Generac PWRcell System Example

- | | | |
|-------------------|--------------------|-------------------|
| A Solar Panels | D REbus | G Loads |
| B PV Link | E PWRcell Inverter | H Protected Loads |
| C PWRcell Battery | F Grid | |

Inverter Control Panel

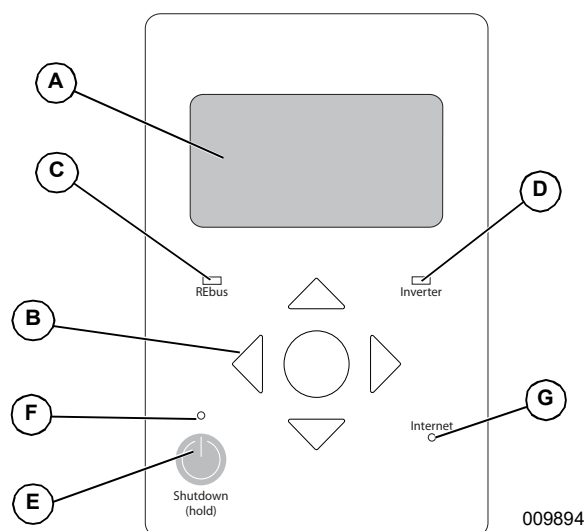


Figure 2-4. Inverter Control Panel

- A LCD Display
- B Navigation Keys
- C REbus Status LED
- D Inverter LED
- E Shutdown
- F Shutdown LED
- G Internet LED

See [Figure 2-4](#). The PWRcell system is controlled through the PWRcell inverter control panel. The inverter control panel is used for adjusting system settings and for interacting with devices.

REbus Status LED

REbus Status LED (C) communicates REbus nanogrid status through LED color.

- Green – all devices are functioning normally and PV Links are generating power on REbus.
- Yellow – no PV Links are generating power from PV on REbus.
- Red – one or more REbus device has a fault that requires attention before operation will continue.

NOTE: A red LED can also indicate a fault with the REbus nanogrid itself. See display (A) for more information about the specific fault detected.

Inverter LED

Inverter LED (D) communicates the status of the utility grid and/or inverter through LED color and state.

- Green – the inverter is enabled and functioning properly in either state “grid connected” or state “islanded.”

- Yellow – utility grid is not within normal conditions, but user intervention typically is not required. The inverter will restart as soon as the utility grid returns to normal conditions.
- 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 display (A) for more information about the fault detected.
- No light – the inverter is disabled or powered off.

Internet LED

Internet LED (G) is illuminated when the inverter is connected to a router and has an IP address.

A blue Internet LED does not mean that the inverter has connected with the Generac server.

Shutdown Mode



⚠ DANGER

Electrocution. Initiate a system-wide shutdown and turn the PWRcell DC Disconnect Switch OFF on all connected batteries before performing service. Failure to do so will result in death, serious injury, or equipment and property damage.

(000600)

NOTE: A loss of grid power will not de-energize REbus in a PWRcell system configured to island with enabled energy storage.

Shutdown button (E) activates a transition to shutdown system mode. Disabled PWRcell equipment will limit output voltages to a safe level for servicing. See [Rapid Shutdown](#) for more information.

NOTE: The AC section of the inverter will still be energized unless the building AC disconnect or main service breaker is shut off.

To enter shutdown, press and hold shutdown button (E).

In shutdown mode:

- PWRcell inverter will stop sourcing power to REbus, and immediately disable all communicating power sources on REbus by sending a system-wide system mode change signal.

NOTE: Successful signal transmission relies upon proper configuration of PLM channels across REbus devices (PV Links and Batteries).

- Shutdown LED (F) will illuminate.
- Inverter screen (A) will display REbus DC bus voltage and text indicating shutdown mode has been initiated.

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Section 3: Location and Compliance

Location

When installing the PWRcell inverter, consider the following:

- The unit can be installed in indoor or outdoor locations.
- The inverter installation location must meet the working space requirements in NEC Article 110.26.

Compliance

DANGER

Loss of life. Property damage. Installation must always comply with applicable codes, standards, laws and regulations. Failure to do so will result in death or serious injury. (000190)



WARNING

Electrocution. Refer to local codes and standards for safety equipment required when working with a live electrical system. Failure to use required safety equipment could result in death or serious injury. (000257)

WARNING

Equipment damage. Only qualified service personnel may install, operate, and maintain this equipment. Failure to follow proper installation requirements could result in death, serious injury, and equipment or property damage. (000182a)

Follow all instructions included in this manual and use appropriate practices for all product wiring and installation.

Note on DC Wiring and the NEC

Some electricians or installers may be unfamiliar with DC wiring in a residential setting. Note the following:

- NEC 690.31(G) for DC PV circuits in buildings.
- NEC 215.12(C)(2) for correct DC wiring identification.

Always adhere to applicable codes when marking and installing DC conductors. See [Table 3-1: REbus DC Wiring Coloring Convention](#). Mark or flag all conductors as appropriate.

- It is recommended that REbus (+) conductors NOT be green, white, gray, blue, or black.
- It is recommended REbus (-) conductors NOT be green, white, gray, or red.

Table 3-1. REbus DC Wiring Coloring Convention

Wire	Color
REbus + (RE+)	Red
REbus - (RE-)	Black
Ground (GND)	Green

Rapid Shutdown

The PWRcell Inverter is equipped with four DC disconnects to initiate the Photovoltaic Rapid Shutdown System (PVRSS). Each disconnect switch can be used to initiate Rapid Shutdown in compliance with NEC 690.12 for all PV Link and SnapRS units connected to that disconnect.

NOTE: If an additional DC disconnect is added, ensure the disconnect switch is rated for a minimum of 30 amperes, 450 volts.

To initiate the PVRSS:

- Open the inverter lid.
- Locate the four DC disconnects to the left of the Generac Power Core.
- Turn all disconnects with connected PV sources to the “off” position.
- PV Links will open all SnapRS devices within 30 seconds controlling all PV conductors within the array to less than 80V, and all conductors leaving the array to below 30V.

NOTE: Where the DC disconnect(s) in the inverter are used as the Rapid Shutdown initiation device, proper labeling is required for the exterior of the inverter lid to indicate to first responders where to initiate Rapid Shutdown.

Voltage and Frequency Trip Thresholds

This unit or system is provided with fixed trip limits and shall not be aggregated above 30 kW on a single point of common connection.

All PWRcell inverters are shipped from the factory in compliance with all UL1741 requirements, including IEEE1547. If permission to operate (PTO) is dependent on compliance to a specific utility standard, follow the steps covered in [Installer Configuration Tool](#) section in this manual.

Voltage Trip Thresholds

See [Table 3-2](#) for the default fixed voltage trip setpoints. All over voltage and under voltage trip conditions result in a 300-second restart delay time after the trip threshold has been exceeded for the listed number of cycles.

Frequency Trip Thresholds

See [Table 3-2](#) for the default fixed frequency trip setpoints. All over frequency and under frequency trip conditions result in a 300-second restart delay time after the trip threshold has been exceeded for the listed number of cycles.

Table 3-2. Voltage Trip and Frequency Thresholds

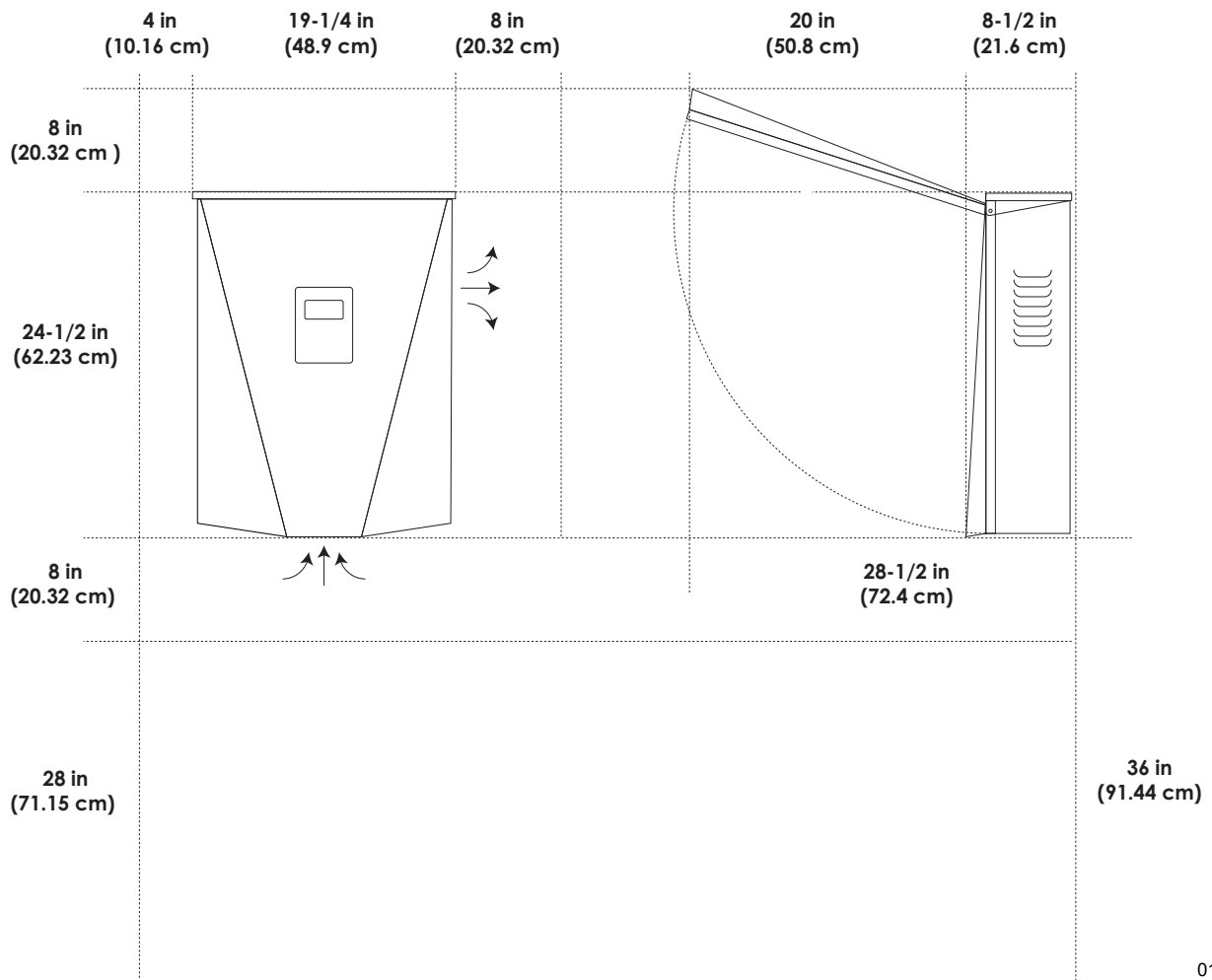
Voltage Trip Thresholds			Frequency Trip Thresholds		
Threshold	Threshold (% of nominal)	No. of Cycles	Threshold	Hz Over/ Under Nominal	No. of Cycles
OV1	110	120	OF1	0.5	120
OV2	120	10	OF2	2	6
OV3	130	1	OF3	1.3	0
OV4	999*	1	OF4	0**	1
UV1	88	120	UF1	0.5	120
UV2	50	10	UF2	2	10
UV3	999*	1	UF3	0**	1
UV4	999*	1	UF4	0**	1

*Value of 999 indicates a disabled threshold for voltage trips

**Value of zero indicates a disabled threshold for frequency trips

Section 4: Installing PWRcell Inverter

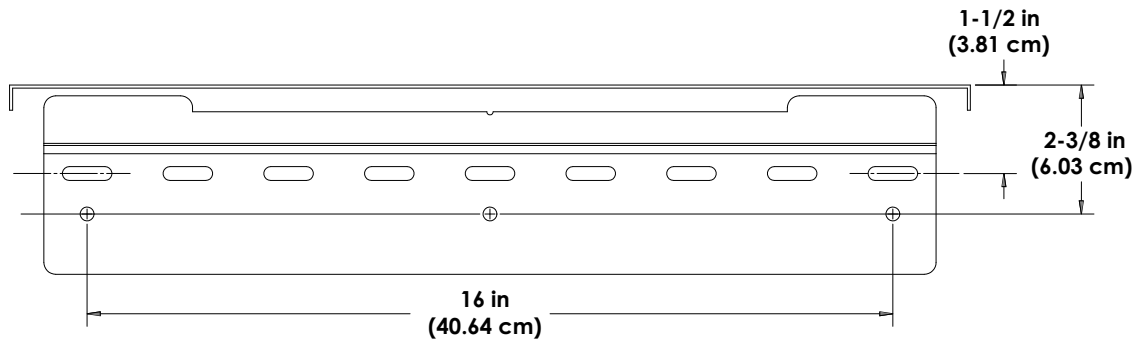
PWRcell Inverter Dimensions and Mounting Clearances



010508

Figure 4-1. PWRcell Inverter Dimensions and Mounting Clearances

Mounting Bracket Dimensions



009990

Figure 4-2. Mounting Bracket Dimensions

Mounting the Inverter

⚠ CAUTION

Equipment damage. Mount inverter to a strong, stable surface. Never mount to drywall, plaster, or other non-structural wall treatments. Failure to mount inverter to a strong, stable surface could result in equipment or property damage.

(000641a)

1. Verify mounting location adheres to the following requirements:
 - Location must meet all PWRcell inverter requirements listed in Section 3 of this manual. See [Location and Compliance](#) for more information.
 - Inverter must be mounted upright on a vertical wall.
 - Never obstruct intake or exhaust vents.
 - Never allow water to enter intake or exhaust vents.
 - Observe all mounting clearances. See [PWRcell Inverter Dimensions and Mounting Clearances](#).
2. Secure mounting bracket mounting surface through mounting holes.
 - Fasteners must adequately secure the 70.9 lbs (32.1 kg) inverter weight to the wall.
 - Fasteners must be suitable for the mounting surface.
 - Fasteners must engage at least two studs or other structural members.
 - Mounting bracket has clearance holes for 1/4" fasteners with slots to accommodate different stud spacings.
3. See [Figure 4-3](#). Insert mounting bracket tabs (A) into inverter body slot (B).

NOTE: [Figure 4-3](#) is for illustration purposes only.

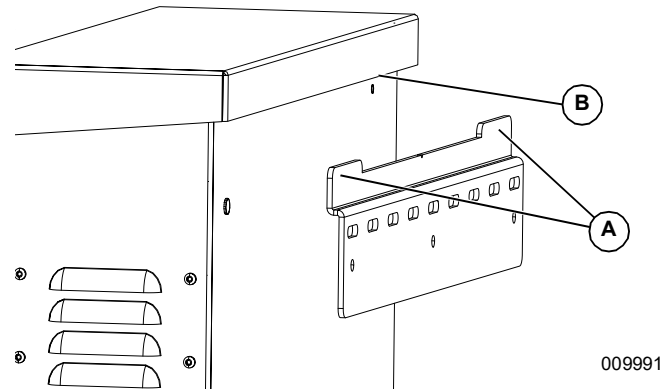


Figure 4-3. Mounting Inverter onto Bracket

4. See [Figure 4-4](#). Secure the bottom of the inverter to wall with two fasteners through mounting holes (C). Holes are spaced at 11 1/4 in from each other. Use anchors or blocking as needed.

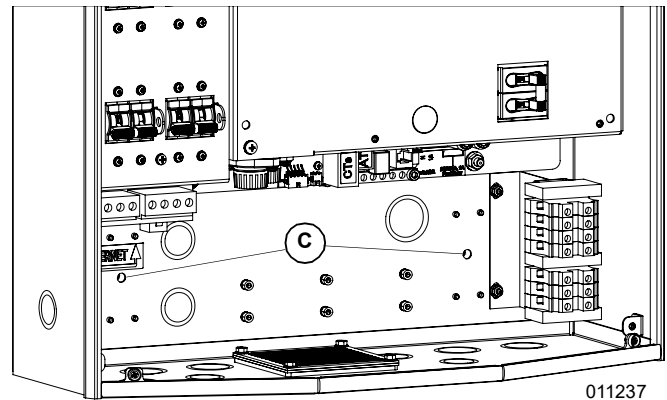
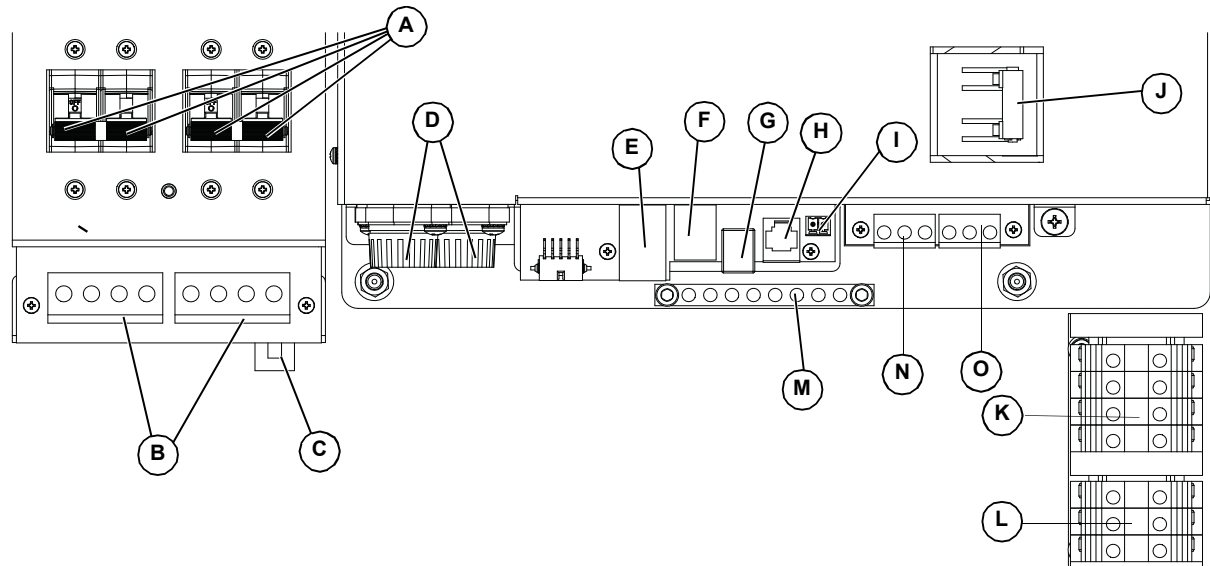


Figure 4-4. Mounting Holes

Section 5: Electrical Connections

PWRcell Inverter Wiring Compartment



009993

Figure 5-1. PWRcell Inverter Wiring Compartment

- | | |
|---|---------------------------------------|
| A PWRcell DC Disconnects | I STOP Terminals |
| B REbus Bi-directional DC Terminals | J Protected Loads Disconnect |
| C Internet Connection | K AC Grid Connection Terminals |
| D DC Main Fuses | L Protected Loads Terminals |
| E Current Transformers (CTs) Accessory Ports | M Grounding Bar |
| F Automatic Transfer Switch (ATS) Accessory Port | N Gen Sense |
| G REbus Beacon Port | O Gen Start |
| H Authorized Generac Personnel Only | |

Accessing Wiring Compartment



⚠ DANGER

Electrocution. Initiate a system-wide shutdown and turn the PWRcell DC Disconnect Switch OFF on all connected batteries before performing service. Failure to do so will result in death, serious injury, or equipment and property damage. (000600)



⚠ DANGER

Electrocution. Verify all system voltages are safe before wiring. Disconnect all AC and DC sources of power before touching terminals. Failure to ensure no dangerous voltages are present on conductors and terminals before wiring will result in death or serious injury. (000642)

3. Disconnect AC Grid source from inverter. Wait for Inverter LCD screen to turn off.
4. Open inverter front cover by lifting the bottom to horizontal (B) and pushing inward (C).
5. Locate wiring compartment cover (D).
6. Remove five M4X10 screws (E) and wiring compartment cover.
7. Verify all PWRcell DC and AC terminals are below 10V, using a multi-meter.

See [Figure 5-2](#). To access the wiring compartment:

1. Initiate an inverter shutdown.
2. Open all PWRcell DC disconnects (A). Verify DC voltage reported on LCD screen has dropped to below 10VDC.

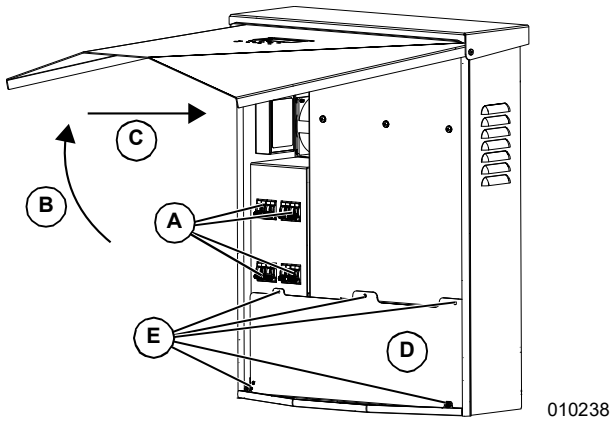


Figure 5-2. Wiring Compartment

See [Figure 5-3](#) for knockout locations, sizes, and quantities.

When using knockouts:

- Install reducing washers to accommodate smaller conduit sizes.
- Install rain-tight or wet locations hubs in compliance with UL514B.

Table 5-3. Combination Knockout Size and Quantity

Combination Knockout Size	Quantity
3/4 in X 1 in	6
1/2 in X 3/4 in	7

Knockout Dimensions and Locations

NOTE: All knockouts are combination knockouts.

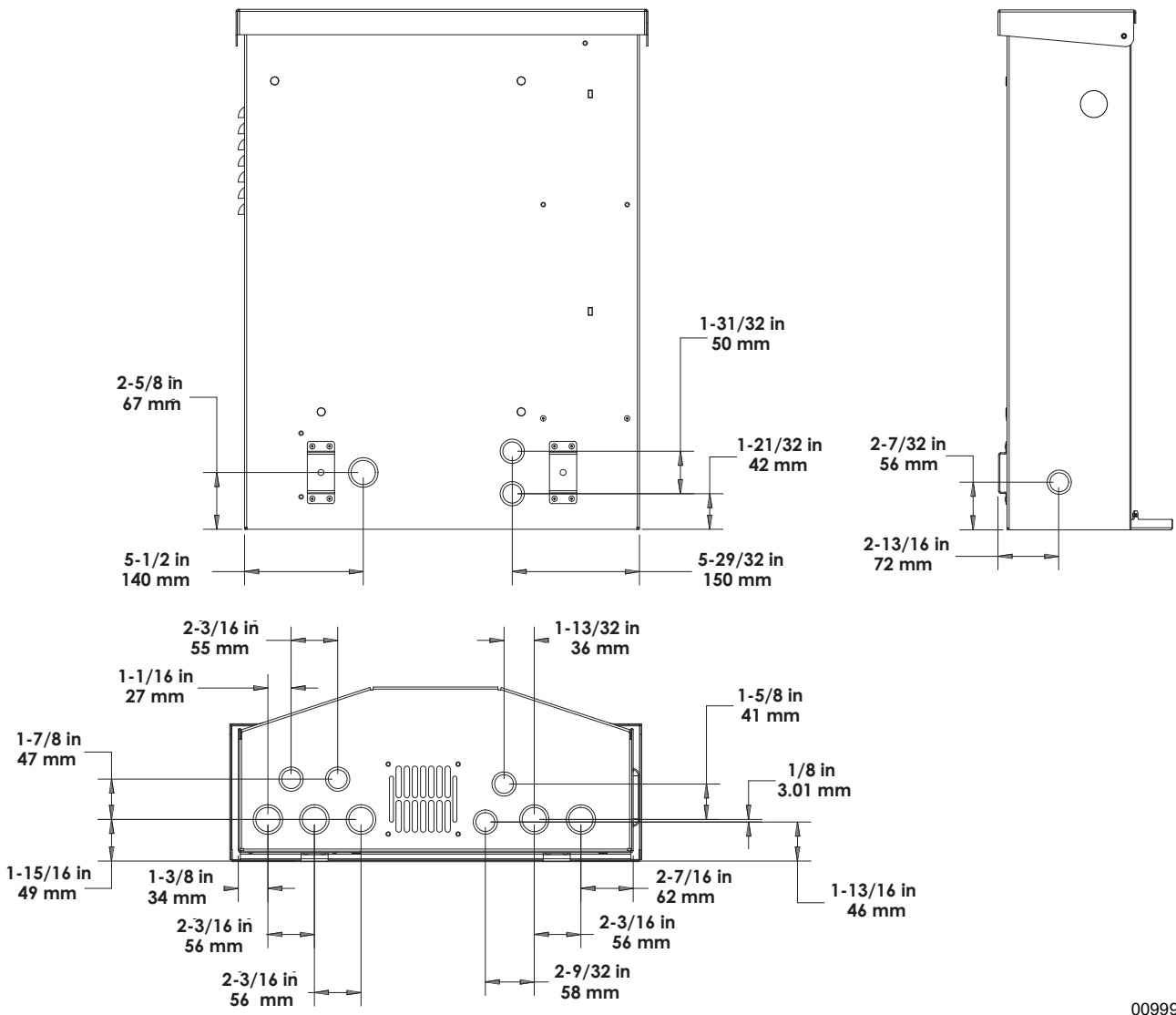


Figure 5-3. Knockout Locations

009995

Wiring Guidelines



⚠ DANGER

Electrocution. Verify all system voltages are safe before wiring. Disconnect all AC and DC sources of power before touching terminals. Failure to ensure no dangerous voltages are present on conductors and terminals before wiring will result in death or serious injury. (000642)



⚠ DANGER

Electrocution. Turn battery disconnect OFF and de-energize REbus before touching terminals. Failure to do so will result in death, serious injury, equipment and property damage. (000599)

- The inverter shall be installed in accordance with NEC Article 705.
- Proper installation techniques must be employed to restrain service loops and to separate AC, DC and isolated circuits.
- All conductors must be rated for at least 420 V.
- Always use wiring methods in accordance with National Electrical Code (ANSI/NFPA 70) or other applicable codes.
- Field terminals are for copper conductors only.
- Do not use field wiring leads smaller than 18 AWG.
- All permanently installed conductors within the unit are sized in compliance with NEC Table 310.15(B)(16) (formerly Table 310.16).
- Torque all terminals as specified in [Table 5-4](#).

Table 5-4. Terminal Torques

Wiring Terminal	Torque
AC terminals	13.3 to 15.9 in-lb (1.5 to 1.8 Nm)
DC terminals	12 in-lb (1.35 Nm)
Ground terminals	4 to 6 AWG: 45 in-lb (5 Nm) 8 AWG: 40 in-lb (4.5 Nm) 10 to 14 AWG: 35 in-lb (4 Nm)
STOP terminals	1.9 to 2.2 in-lb (0.22 to 0.25 Nm)

Grounding Bar Wiring

⚠ CAUTION

Equipment damage. Never connect REbus conductors to ground. Connecting REbus conductors to ground could result in equipment or property damage.

(000607a)

- Bond the inverter enclosure to the equipment grounding conductor of the normal power source power feeder.
- The grounding bar provides central grounding for up to 8 conductors.
- Input and output circuits are isolated from the enclosure.
- The neutral conductor is not bonded to the equipment ground terminal bar within the enclosure.
- The inverter and its connected PV and battery sources are not separately derived systems.
- DC system grounding is critical for REbus communications. REbus grounding wires are used as communications wires. Ensure the following REbus devices have a low resistance wired connection back to the inverter grounding terminal bar:
 - PV Link
 - PWRcell batteries
- Torque all terminals as specified in [Table 5-5](#).

Table 5-5. Grounding Bar Wiring Terminal Specifications

Wire Size (AWG)	Torque
4 – 6	45 in-lb (5 Nm)
8	40 in-lb (4.5 Nm)
10	30 in-lb (4 Nm)

DC Wiring



⚠ DANGER

Electrocution. Never touch terminals when inverter and PWRcell DC disconnects are ON. Doing so will result in death or serious injury.

(000686a)

⚠ WARNING

Equipment damage. Obey polarity markings when connecting REbus devices. Reverse-polarizing DC circuits could result in equipment or property damage.

(000646)

⚠ WARNING

Equipment damage. Do not connect raw, unregulated battery output to inverter. Connect only REbus-compatible batteries. Connecting batteries that are not REbus-compatible could result in equipment or property damage.

(000645)

⚠ CAUTION

Equipment damage. Do not connect PV string output directly to inverter. PV must be connected via Generac PWRcell PV Link. Connecting PV output directly to inverter could result in equipment or property damage.

(000644a)

⚠ CAUTION

Equipment damage. Connect only one wire to each DC wiring terminal. Doubling wires on a terminal could result in equipment or property damage.

(000647a)

⚠ CAUTION

Equipment damage. Connect only to REbus-compatible devices to the DC bus. Never connect to any other DC power source. Connecting to other DC power sources could result in equipment damage.

(000598a)

NOTE: Disable REbus before turning PWRcell DC disconnects to ON position.

- Connect all REbus devices to the REbus bi-directional DC terminals.
- Each terminal is protected by a 30 A two-pole circuit disconnect.
- PWRcell DC disconnects indicate state and may be used to disconnect DC circuits.
- PWRcell DC disconnects disconnect both ungrounded DC conductors simultaneously.
- Torque all terminals as specified in [Table 5-6](#).

Table 5-6. DC Wiring Terminal Specifications

Wire Size	Terminal Temp Range	Wire Min Temp Rating	Torque
18 – 6 AWG (.75 – 10 mm)	-40 to 266°F (-40 to 130°C)	194°F 90°C	12 in-lb (1.35 Nm)

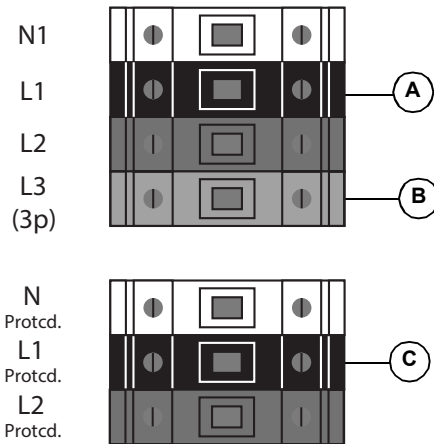
AC Wiring

NOTE: The installer is responsible for providing sufficient overcurrent protection for the AC grid wiring terminals. The conductors and overcurrent protection device shall be sized in accordance with NEC Article 705 for the utility power connection. All other conductors shall be sized in accordance with NEC Table 310.15 and all other applicable NEC Articles. This system is equipped with a power control system (PCS). The PCS controlled AC grid conductors shall be protected with a suitably rated overcurrent device appropriately sized for the conductor ampacity.

- See [Figure 5-4](#). The PWRcell inverter is equipped with four AC grid connection terminals and three protected loads terminals.
- Use the top four terminals (A) for connection to the utility grid.

NOTE: Use L3 terminal (B) with 3-phase inverters only.

- Use the bottom three terminals (C) for protected loads output. See [Protected Load](#).



009996

Figure 5-4. AC Wiring Terminals

- Torque all terminals as specified in [Table 5-7](#).

Table 5-7. AC Wiring Terminal Specifications

Wire Size	10 to 6 AWG (2.08 mm ² to 16 mm ²)
Terminal Temp Range	Up to 248°F (120°C)
Wire Min Temp Rating	194°F (90°C)
Torque	13.3 in-lb to 15.9 in-lb (1.5 Nm to 1.8 Nm)

Protected Load

⚠ CAUTION

Equipment damage. Never connect protected loads terminals to other sources of power, including any other inverter, the utility grid, or a generator. Doing so could result in equipment or property damage. (000648a)

⚠ CAUTION

Equipment damage. Never connect protected loads output from inverters in parallel. Doing so could result in equipment or property damage. (000649a)

For systems equipped with energy storage, the inverter's protected loads terminals provide power during a grid outage.

NOTE: The protected loads terminals can only provide two phases of power in a three-phase system.

See [Figure 5-5](#). By default, the grid powers any protected loads connected to the inverter protected loads terminals. The PWRcell Inverter is configured to pass

grid power from AC grid terminals through to the protected loads terminals. This includes when the inverter is disabled. During a grid outage, internal relays inside the inverter isolate the AC grid connection and the inverter powers the protected loads only using PV array and battery power. This transition takes place in a fraction of a second.

NOTE: To create a protected loads panel, connect the circuits that require backup to a subpanel. Connect this subpanel to the protected loads terminals.

- The protected loads output can provide on the order of 8kW of continuous power. See [Specifications](#) for exact values.
- The inverter can surge up to 50A for motor starting capabilities.

NOTE: Actual power output for protected loads during a grid outage will depend on system sizing for batteries and solar array.

NOTE: Backup power ratings are separate from the power ratings for PWRcell inverters while grid connected- 7.6kW and 11.4kW respectively.

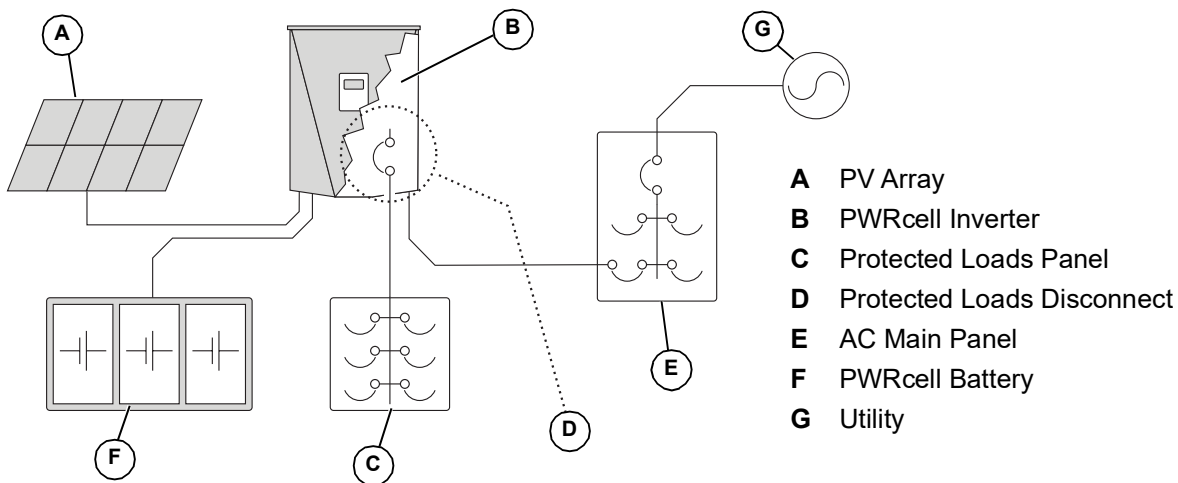
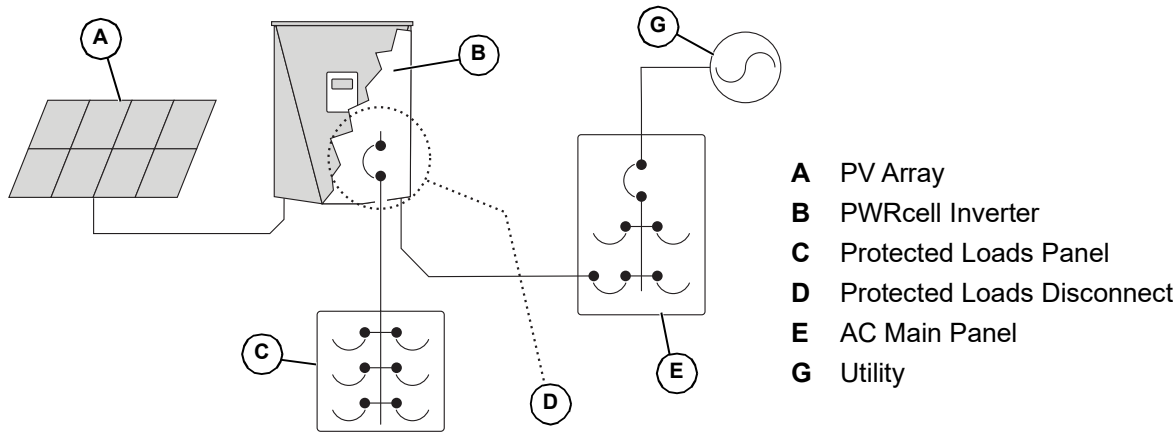


Figure 5-5. Single Inverter Backup Installation with Protected Loads Panel

009997

NOTE: See [Figure 5-6](#). On systems that do not include battery storage but battery storage is expected in the future, install a protected loads panel during inverter installation. The protected loads panel will be fed by the grid while the system operates in Grid Tie mode.



009998

Figure 5-6. Configuration for Adding Batteries Later

Connecting Ethernet

IMPORTANT NOTE: Generac requires all PWRcell system components to be connected to the Internet and to maintain such connection throughout the warranty period. Internet connectivity is established via the PWRcell inverter. By installing the PWRcell inverter and connecting it to the Internet, Customer agrees that Generac may remotely monitor the use and condition of the system and update the system's software and firmware, as necessary, without further notice. If the PWRcell system loses Internet connection for an extended period, Generac may not be able to provide important remote upgrades. In such cases, Generac may not be able to honor the full warranty.

- See [PWRcell Inverter Wiring Compartment](#) for the Inverter Ethernet jack location.
- Use an appropriate cord grip or strain-relief connector when running Ethernet cable with a conduit.
- Cat 5 for Ethernet should not exceed 328 ft (100 meters) in length.
- Basic high speed broadband internet service with 5 Mbps upload/download required.
- Inverters connected by a router to a DHCP network will automatically detect settings.
- For manual IP setup, see [Configuring Static IP Settings](#).

NOTE: It is the installer's responsibility to verify the Internet connection is reliable and secure. Generac recommends using a hardwired connection to provide Internet connectivity. Generac does not support using any wireless or power line carrier network devices. Use these devices at your own discretion.

NOTE: Ethernet cable run must be dedicated for the inverter. This cable may not be daisy-chained to another device, including another PWRcell inverter.

Current Transformers (CTs)



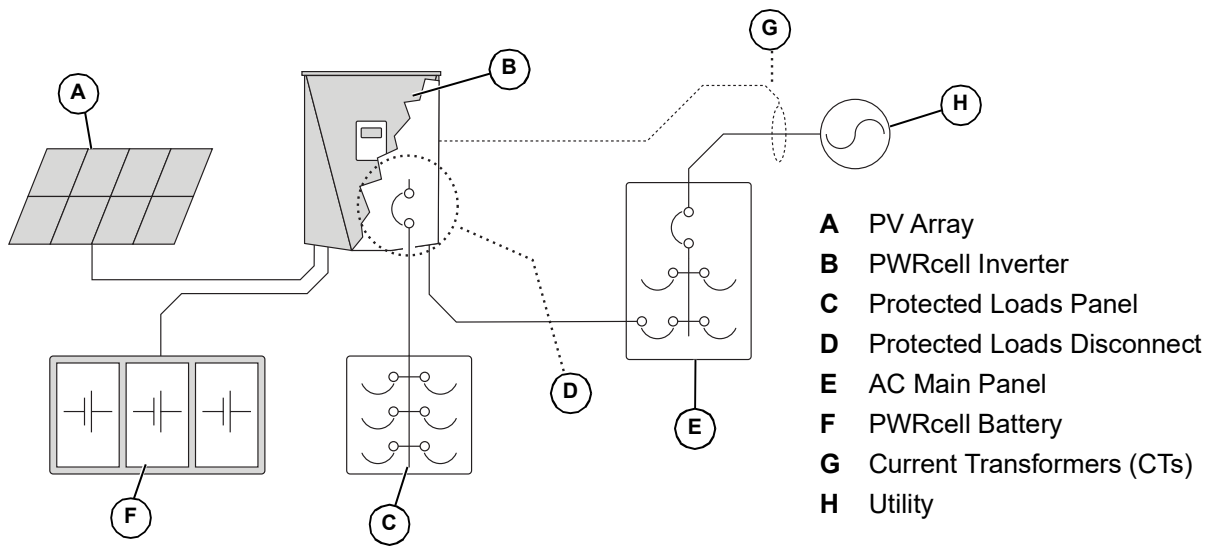
Equipment damage. Only connect CTs provided by Generac. Never connect to any other CTs. Connecting to other CTs could result in equipment damage.

(000732)

Current transformers (CTs) are required to configure Self Supply mode, the Export Override setting, and to enable Import / Export limiting capability. CTs are also required when setting a specific ESS Grid Usage Mode. CTs also allow the inverter to provide information on utility consumption through the PWRcell inverter control panel and the PWRview monitoring app.

Connecting Current Transformers

- See [Figure 5-7](#). Install CTs around the main service conductors between the service meter and point of interconnection with subsequent service entrance panel / device.
- Install one current transformer per phase:
 - Install two CTs for split phase grids.
 - Install three CTs for three-phase grids.



010000

Figure 5-7. Connecting Current Transformers (CTs)

Connecting CTs to the Inverter

1. See [Figure 5-8](#). Connect CT leads to RJ-45 Breakout Adapter's (M) push terminals according to the label on the breakout adapter.

NOTE: Use yellow lead for CTx+ and use green lead for CTx-.

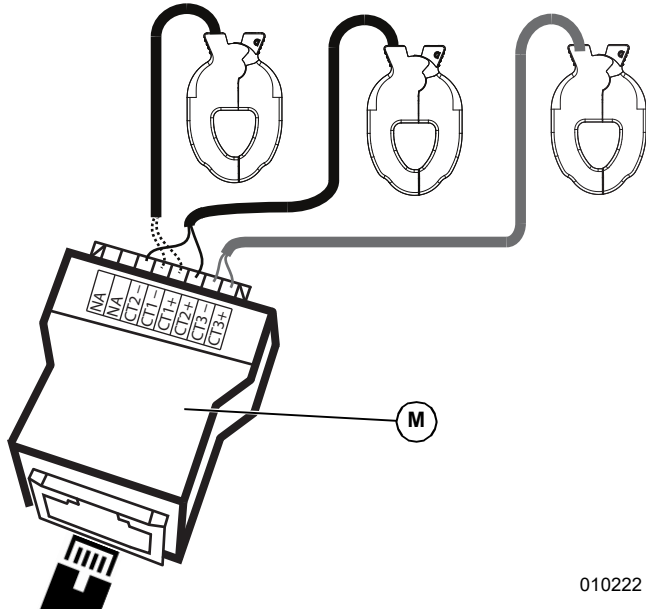


Figure 5-8. RJ-45 Breakout Adapter

NOTE: RJ-45 Breakout Adapter is included in the Generac PWRcell Kit.

NOTE: If the RJ-45 Breakout Adapter is not available, the CT leads can be wired to a Category 5 (Cat 5) cable. Use [Table 5-8](#) to wire CTs directly to stripped Cat 5 wire.

Table 5-8. CT RJ-45 Pinout

Pin	Wire Color (T-568A)	Wire Color (T-568B)	Value
1	White / Green	White / Orange	CT3+
2	Green	Orange	CT3-
3	White / Orange	White / Green	CT2+
4	Blue	Blue	CT1+
5	White / Blue	White / Blue	CT1-
6	Orange	Green	CT2-
7	White / Brown	White / Brown	Not Used
8	Brown	Brown	Not Used

2. See [Figure 5-9](#). Connect Cat 5 cable to CT input jack (H).

NOTE: The connection between the RJ-45 breakout adapter and the inverter is made using a widely available installer supplied Cat 5 style cable.

- CT input jack is a double-stacked RJ-45 jack.

- Either the top or bottom port may be used.
- Both jacks may be used when multiple sets of CTs are required.

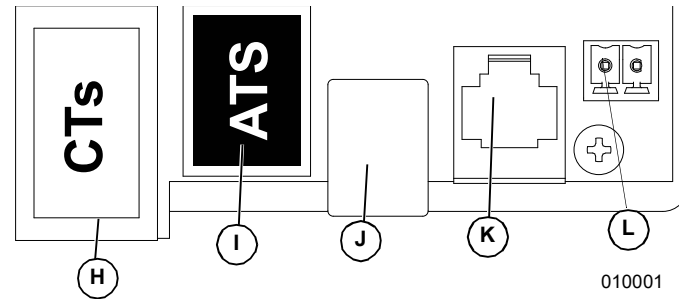


Figure 5-9. Accessory Ports

- H** Current Transformers (CTs) accessory port (RJ-45)
- I** Automatic Transfer Switches (ATS) accessory port (RJ-45)
- J** REbus Beacon Port (USB-B)
- K** Authorized Generac Personnel Only
- L** STOP Terminals

NOTE: When setting an ESS Grid Usage Mode other than the default unrestricted mode, attach the label packaged with the CTs to the inverter.

Connecting Multiple Sets of CTs

When installing CTs, local factors may require multiple sets of CTs to fully measure the utility power being sent to the building.

For 4-wire, 120/240 VAC, split-phase service:

- Use two pairs of CTs to measure the service. Use each pair of CTs to measure a pair of service conductors/feeders within the main panel.
- Use both RJ-45 jacks with two Cat 5 cables.
- Connect CT1 from both cables to the same phase and CT2 cable from both cables to the second phase.
- See [Table 5-9: Multiple CT Connection](#). Connect Cat 5 cables from the adapters into the two CT accessory ports.

NOTE: Make sure to use the same pinout and connections.

Table 5-9. Multiple CT Connection

CT	Service Phase and Wire Adapter	Adapter	Adapter Pins	CT Port Row Values
1-1	L1-1	1	4 and 5	Front Port
1-2	L2-1	1	3 and 6	Front Port
2-1	L1-2	2	4 and 5	Back Port
2-2	L2-2	2	3 and 6	Back Port

Connecting CTs to Multiple PWRcell Systems / Inverters

When an installation has multiple PWRcell inverter systems, either:

- Run a set of CTs for each inverter.
- Run a set of CTs to one inverter and then run a Cat 5 cable from the spare CT port within that inverter to any CT port within a second inverter.

NOTE: One set of CTs may be utilized for up to two inverters.

When running separate sets of CTs for each inverter, the load value displayed on each inverter screen will be the total load measured by the CTs.

When daisy-chaining two inverters, the total measured value is shared evenly between the inverters.

NOTE: Daisy-chaining CTs between two inverters for distributed load-share is most applicable when each inverter has a battery attached. Otherwise, this configuration may not be necessary or desirable.

To daisy-chain a CT signal:

1. Connect and calibrate a set of CTs to the first inverter.
2. Run a new Cat 5 cable between the spare CT accessory port of the first inverter to either CT accessory port on the second inverter.
3. Set GridParInvtrts to a value of 2. See [Table 5-10](#) below.

NOTE: Running a new Cat 5 cable between inverter CT ports prior to calibration in Step 1 may cause calibration issues.

CT Calibration

- Install CTs before powering ON the inverter.
- The inverter automatically detects CTs when turned ON.
- Once CTs are detected, a utility pole symbol will appear on the lower right corner of the home screen power flow diagram. Verify operation by noting power flow.
 - To calibrate CTs, navigate to the inverter device page, access the sub-menu, and select the Calibrate CTs option. When the CT calibration process is successfully complete, the inverter screen will provide feedback showing ct cal success. Otherwise, the screen will show ct cal = X, where the value of X can be found in [Table 5-11: Automatic Detection Troubleshooting Table](#).
 - CT1 must be connected to Line 1.
 - CT2 must be connected to Line 2.
 - CT3 must be connected to line 3 (for three phase applications).
 - All CTs must be orientated in the same relative direction.
 - In certain scenarios, additional setpoint modifications may need to be made. See [Table 5-10: CT Setpoints](#) for more information.

Table 5-10. CT Setpoints

Setpoint	Behavior	Default	Units
CalOverride	<ul style="list-style-type: none"> • Overrides CT calibration. • When set to OFF, the inverter detects the CTs number and direction of CTs. • A value of ON assumes a specific orientation and direction of CTs. 	OFF	N/A
CTTurnsRatio	<ul style="list-style-type: none"> • Turns ratio of the CTs installed. • Default turns ratio of 1,500 is compatible with included clamp type CTs. • If installation restriction requires larger accessory CTs, set point shall be adjusted to 3,000. Verify turn ratio of CTs before modifying this setting. 	1,500	Turns
GridParInvtrts	<ul style="list-style-type: none"> • Allows two inverters to share one set of CTs. • If set to "1", only one inverter should be using a single set of CTs. • If set to "2", two inverters can share one set of CTs. 	1	N/A

Table 5-11. Automatic Detection Troubleshooting Table

Event Name	Event Code	Description	Possible Solution
ct cal = 1	0x8061	Line 1 doesn't have a valid CT calibration	Check wiring and CT integrity
ct cal = 2	0x8062	Line 2 doesn't have a valid CT calibration	Check wiring and CT integrity
ct cal = 3	0x8063	Line 1 & 2 don't have a valid CT calibration	Check wiring and CT integrity
ct cal = 4	0x8064	Line 3 doesn't have a valid CT calibration	Check wiring and CT integrity
ct cal = 5	0x8065	Line 1 & 3 don't have a valid CT calibration	Check wiring and CT integrity
ct cal = 6	0x8066	Line 2 & 3 don't have a valid CT calibration	Check wiring and CT integrity
ct cal = 7	0x8067	Line 1 & 2 & 3 don't have a valid CT calibration	Check wiring and CT integrity
ct cal = 9	0x8069	Line 1 has multiple CTs on it (or a CT is on the neutral wire)	Check wiring and CT integrity
ct cal = A	0x806A	Line 2 has multiple CTs on it (or a CT is on the neutral wire)	Check wiring and CT integrity
ct cal = B	0x806B	Lines 1 and 2 have multiple or missing CTs on them (or a CT is on the neutral wire)	Check wiring and CT integrity
ct cal = C	0x806C	Line 3 has multiple CTs on it (or a CT is on the neutral wire)	Check wiring and CT integrity
ct cal = D	0x806D	Lines 1 & 3 have multiple or missing CTs on them (or a CT is on the neutral wire)	Check wiring and CT integrity
ct cal = E	0x806E	Lines 2 & 3 have multiple or missing CTs on them (or a CT is on the neutral wire)	Check wiring and CT integrity
ct cal = F	0x806F	Lines 1 & 2 & 3 have multiple or missing CTs on them (or a CT is on the neutral wire)	Check wiring and CT integrity
ct cal success	0x8070	Calibration was successful	Check wiring and CT integrity

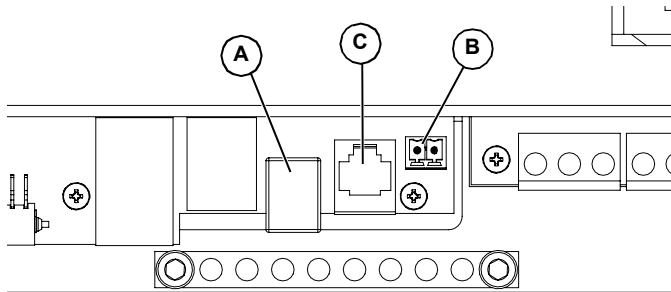
Other Accessories

PWRcell ATS

A Generac PWRcell ATS can be integrated into the PWRcell installation to facilitate alternate backup power configurations. Refer to the PWRcell ATS manual for additional information regarding configurations and installation instructions.

Technical Service Connection

Service RJ-11 jack (C) is for authorized Generac personnel only. Never connect any device to this jack without direct instructions from Generac Technical Service.



010005

Figure 5-10. Accessory Ports

- A** REbus Beacon USB-B Jack
- B** STOP Terminals
- C** Authorized Generac Personnel Only

Load Management Options

Load management systems are designed to work together to prevent the PWRcell system from being overloaded by large appliance loads when islanded. Load management options for PWRcell include the PWRcell ATS Controller and Smart Management Module (SMM).

When utilizing these load management solutions be sure to select the appropriate value for the “EnaLoadShed” setpoint. This setpoint is accessible through the Mod. Settings menu via the inverter device page as shown in [Figure 5-11](#). Select a value of “1” if using SMMs to shed load. Select a value of “2” if using the PWRcell ATS Controller (with or without SMMs) to shed load.



Figure 5-11. Mod Settings Menu

If this setpoint is not set to either 1 or 2 respectively, the devices will not operate correctly with the system. In addition, be sure to thoroughly read and understand each load management device manual before installation.

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Section 6: Commissioning and Setup

System Configuration

The PWRcell system is a flexible, highly customizable system that can be configured in a number of ways to meet customer need. Correct system configuration requires selecting the right equipment and the correct system mode for the system. See the Generac PWRcell Inverter Owner's Manual for information on system modes and other user-configurable settings.

General Information

All REbus devices are configured and controlled through the Generac PWRcell Inverter. Connected devices will appear on the inverter screen with their own device page.

NOTE: See [Commissioning Multiple Inverter Systems](#) for instructions on commissioning multiple inverter systems.

Commissioning the System

NOTE: See the Generac PWRcell Commissioning Quick Start Guide for more information.

Before powering up the system for the first time:

- Verify AC voltage is within the specified range for system configuration.
 - 240 V split-phase (110-128 VAC Line to Neutral)
 - 208 V 3-phase (110-128 VAC Line to Neutral)
- Verify all wiring terminations are tight and secure.
- Verify DC wiring field terminations are secure and polarity is correct.
- Verify DC disconnects for all connected devices are turned ON.

Commissioning consists of nine steps:

1. Connect the PWRcell inverter to high speed broadband Internet.
2. Register system.
3. Energize the PWRcell inverter with AC power.
4. Select Inverter system mode.
5. Configure inverter settings.
6. Select inverter compliance setting (optional).
7. Select ESS Grid Usage Mode (optional).
8. Enable REbus devices.
9. Test islanding.

Connect the PWRcell inverter to High Speed Broadband Internet

Refer to [Connecting Ethernet](#) for more information.

Registration

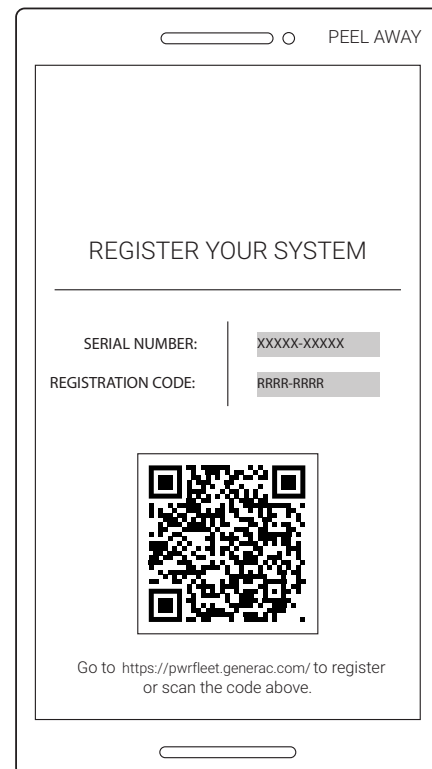
NOTE: If the system is not connected to the Internet, the installer will not be able to register the system or take advantage of PWRfleet, the home owner will not have access to the PWRview mobile app or the web-base monitoring dashboard, and the warranty will be limited to five years. Ensure solid connection to the Internet and contact Generac at 1-888-ACTIVATE to complete the registration.

NOTE: Registering an inverter automatically registers all REbus system components connected to that inverter.

Every REbus-enabled device can be monitored from the PWRfleet fleet management platform and the PWRview™ online monitoring system and mobile app.

To register a system for PWRview monitoring:

1. See [Figure 6-1](#). Locate the serial number and registration code on the registration decal on the front of the inverter. This information will be required for registration.
2. Navigate to <https://pwrfleet.generac.com> or if using a mobile device scan the registration label QR code.
3. Follow the on-screen prompts to complete the profile.



009984

Figure 6-1. Registration Decal

Connecting PWRcell Inverter to AC Power

Turn ON main AC backfeed to power-up the inverter. See [Figure 6-2](#). On power-up, the home screen will appear on the control panel LCD with the system mode listed at the top of the home screen.

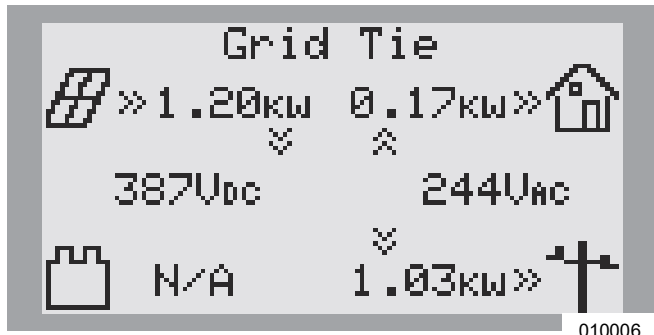


Figure 6-2. Inverter Power-Up

NOTE: If there is no grid power at the site and the system includes a PWRcell battery, blackstart can be used to start the system from the battery. See the Generac PWRcell Battery Owner’s manual for information on blackstarting a system.

Selecting Inverter System Mode

NOTE: See the Generac PWRcell Inverter Owner’s Manual for more information on system mode options.

To select a system mode:

1. See [Figure 6-2](#). While viewing the home screen press the center button.
2. See [Figure 6-3](#). A list of system modes will be displayed with the current mode marked with an asterisk.

NOTE: The list of system modes may not include all those shown in [Figure 6-3](#).

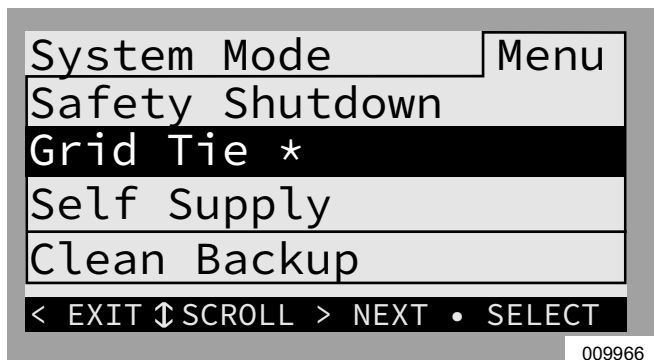


Figure 6-3. Selecting System Modes (1 of 4)

3. See [Figure 6-4](#). Use the up and down arrows to highlight the desired mode and press the center button to select.

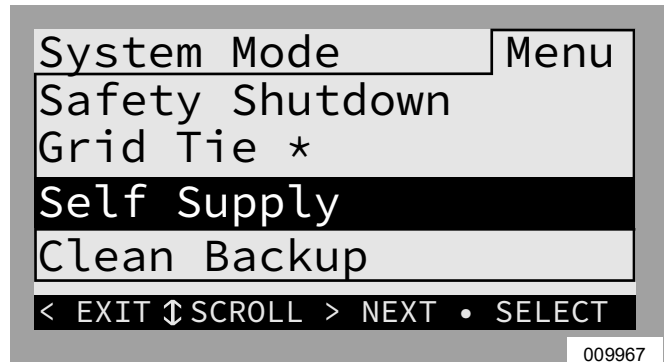


Figure 6-4. Selecting System Modes (2 of 4)

4. Arrow right and press the center button to select Confirm.
5. See [Figure 6-5](#). Arrow right and press the center button to select Confirm.

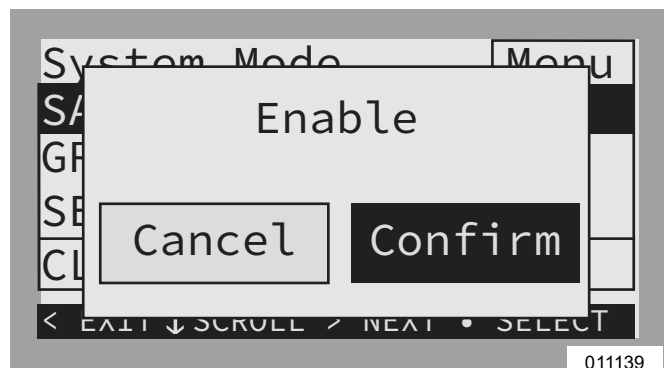


Figure 6-5. Selecting System Modes (3 of 4)

6. See [Figure 6-6](#). Verify the mode listed at the top of the home screen is the desired mode.



Figure 6-6. Selecting System Modes (4 of 4)

Configuring Inverter Settings

Configuring Systems with PWRcell Batteries

Systems with the PWRcell battery must have the Enalstanding setpoint set to ON in order to island. This setpoint is accessible through the Mod. Settings menu via the inverter device page. See the Generac PWRcell Inverter Owner's Manual for information on accessing and adjusting the Enalstanding setpoint.

Verify the PWRcell inverter protected loads disconnect is in the ON position.

Verify Battery Disconnect on the PWRcell battery is ON.

NOTE: Reference the PWRcell Battery Owner's Manual for advanced battery settings.

Adjusting Inverter Settings

1. See [Table 6-1](#). Navigate to the inverter device page using the right arrow key (next page right of the home screen).
2. Push the center button.
3. Select Mod. Settings using the down arrow to scroll and the center button to select.
4. Scroll through the settings using the up / down arrow keys.
5. Use the center button to select a setting.
6. Use the up / down arrow keys to change the value of a setting.
7. Use the center button to deselect a setting.
8. Scroll down and save all changes before exiting the Mod. Settings menu.
9. Select Mod. Settings again to verify changes were saved.

Table 6-1. Adjusting Inverter Settings

Setpoint	Range	Default	Description
PLM_Channel	0 – 12	1	Channel for REbus communications. All devices in a system must use the same channel (except REbus Beacon). Do not set equipment to channel 0 unless performing Multiple Inverter System Commissioning Procedure .
TargMaxImprtP	-30,000 to +30,000 Watts	0	Maximum Threshold for importing power before the battery will discharge in Self Supply Mode to offset.
TargMinImprtP	-30,000 to +30,000 Watts	0	Minimum power import maintained by charging the battery from the grid in Self Supply Mode.
Enalstanding	on / off	on	Allows system to island, providing backup power during a grid outage.
EnaExtTransfer	on / off	off	Turn on if an external automatic transfer switch (ATS) has been installed to operate with the Inverter.
ExtTransVolt	50 – 200 Volts	95	Minimum voltage from the utility that must be present for the inverter to reconnect an ATS back to the grid.
GridGoodTime	1 – 360 Seconds	15	Length of time the inverter will wait to trigger an ATS to reconnect to the utility upon sensing grid voltage return.
Export Override	on / off	off	Formerly called Zero Export, this setting will inhibit the PWRcell system from exporting power to the grid.
PLM_Disable	on / off	off	This setting will disable the power line communications coming from the inverter.
CalOverride	on / off	off	Overrides inverter logic for automatic detection of included Generac current transformers (CTs).
CTTurnsRatio	1,500 – 3,000 Turns	1,500	Allows a different turns ratio to be set for specific CTs.
EnaLoadShed	0,1,2	0	Select 1 if using SMM devices to shed loads. Select 2 if using the PWRcell ATS Controller to shed loads (with or without SMMs).
EnaACdump	on / off	off	When available this setting will shed AC coupled PV where necessary.
GridParInvrtrs	1 – 2	1	This setting allows for two inverters to share one set of CTs. Set to 2 if daisy chaining CTs between two inverters.

Selecting Inverter Compliance Setting (optional)

By default, all Generac PWRcell Inverters ship in compliance with UL 1741 including IEEE 1547. If the system needs to be configured to comply with a different grid interconnection standard, activate the new configuration before proceeding via the Installer Configuration Tool. See [Installer Configuration Tool](#) for more information.

Selecting ESS Grid Usage Mode (Optional)

By default, all Generac PWRcell Inverters ship without restrictions on how the PWRcell Battery (ESS) may be charged from, or supply power to, an interconnected utility grid. If the system needs to be configured to comply with specific utility interconnection requirements a different ESS Grid Usage Mode may be selected.

An ESS Grid Usage Mode is set through the Installer Configuration Tool.

NOTE: The ESS Grid Usage Mode is one-time settable and, therefore, once set cannot be changed by an installer or user without support from Generac Power Systems.

NOTE: There is no time allowance provided to further change this mode after it is set.

There are two ESS Grid Usage Modes that Generac refers to as Zero Import and Export Limiting.

Zero Import mode (CRD200 Export Only compliance) allows the battery to export power to a connected utility grid but will not allow the battery to be charged from the utility grid. In this mode the battery will only be charged by a connected REbus source such as a PV Link. Power from the battery can supply all local loads as well as supplying power to a utility (when connected). See [Setting for Import / Export Compliance](#) for more information.

Export Limiting mode allows the user to restrict the export to a connected utility grid to an Export Limit value set by the user. When the Export Limit value is set to 0, this mode functions as a “Zero Export” mode (CRD200 Export Only compliance) allowing the battery to be charged from a connected utility grid but will not allow any REbus-connected source (either from the battery or PV) to export power to the utility grid. Configured this way, the battery can be charged by a connected REbus source and/or a utility grid source but no power will be exported to the utility.

See [Setting for Import / Export Compliance](#) for more information.

NOTE: Both ESS Grid Usage Modes rely upon proper CT functionality. Ensure CTs placement is correct for the system configuration. Ensure CTs are calibrated and functioning

Enabling REbus Devices



DANGER

Electrocution. Never enable any device during an installation or while wires are exposed. Doing so will result in death, serious injury, or equipment or property damage.

(000627a)

NOTE: All PWRcell devices are enabled and configured individually through the PWRcell inverter control panel.

Following installation, the inverter must be enabled before all other REbus devices.

To enable the inverter:

1. See [Figure 6-7](#). Use the right arrow key to scroll the inverter device page.
2. Verify inverter status reads disabled.

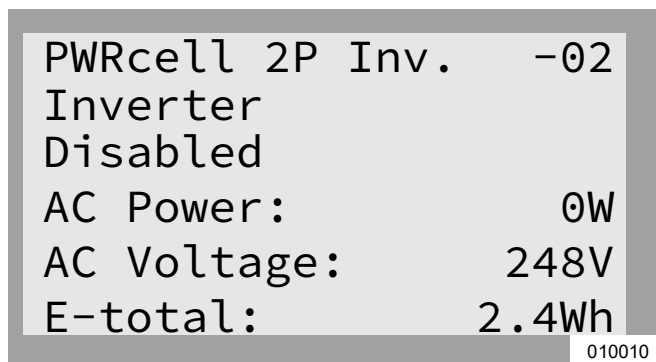


Figure 6-7. Enabling Inverter (1 of 4)

3. Press the center button.
4. See [Figure 6-8](#). Highlight Enable and press the center button.

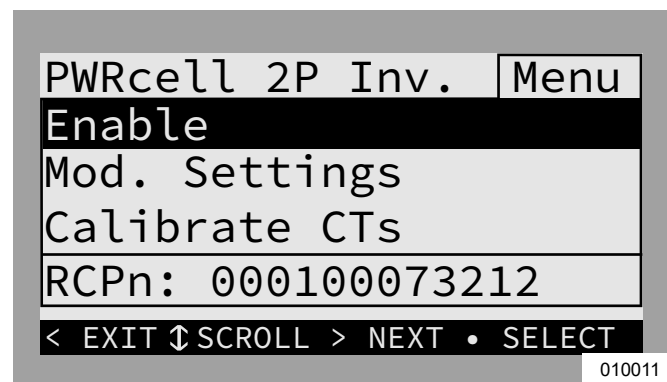


Figure 6-8. Enabling Inverter (2 of 4)

5. See [Figure 6-9](#). Arrow right and press center button to Confirm.

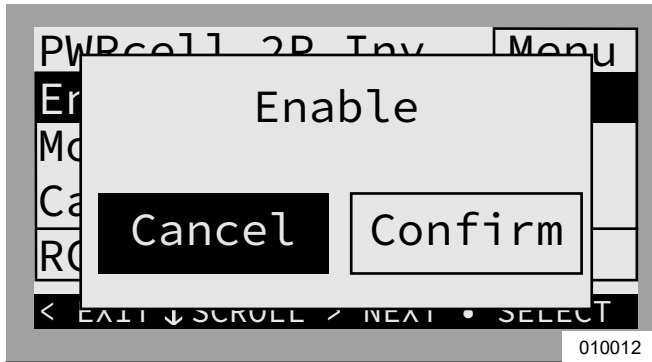


Figure 6-9. Enabling Inverter (3 of 4)

- See [Figure 6-10](#). The inverter is enabled. It will create voltage at the DC terminals and begin communicating over REbus.

NOTE: Per UL 1741, the PWRcell inverter may require five minutes upon recovery from a grid outage or islanding event before exporting power.

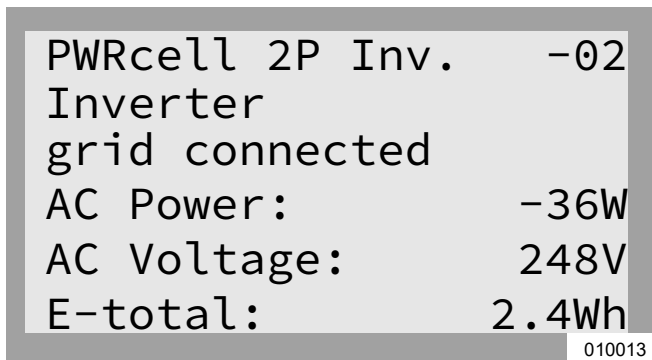


Figure 6-10. Inverter Enabled (4 of 4)

- Enable all other REbus devices connected to the system by repeating steps 1-5 for each device. For further commissioning instruction for REbus devices, see their respective installation manuals.

REbus Beacon Setup

REbus Beacon allows the PWRcell system to manage energy production and storage over the course of the day. This is called Time of Use (TOU) energy management. To take advantage of this functionality, the PWRcell system must include a PWRcell battery and a reliable connection to the Internet via an Ethernet connection to a router.

NOTE: Enabling and setup of the REbus Beacon is only required when utilized for TOU scheduling. Otherwise, do not enable the REbus Beacon.

Configuring and Running a TOU Schedule

- See [Figure 6-11](#). Navigate to the Beacon device page and press the center button to enter the device menu.

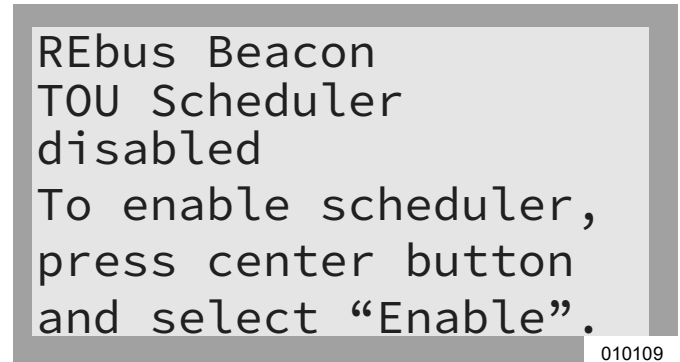


Figure 6-11. Configuring TOU Schedule (1 of 4)

- See [Figure 6-12](#). Use the up and down arrows to highlight Mod. Settings and press the center button to enter the settings menu.

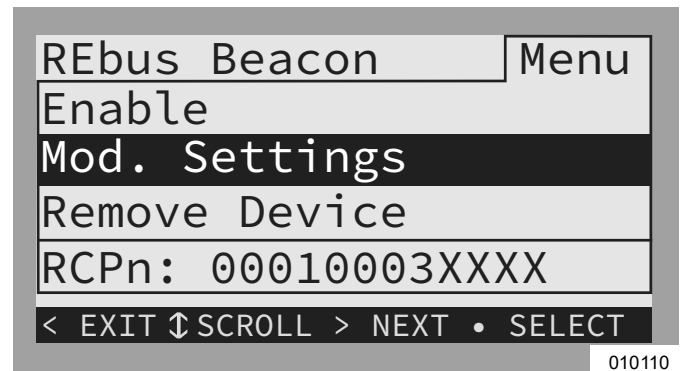


Figure 6-12. Configuring TOU Schedule (2 of 4)

- See [Figure 6-13](#). Use the up and down arrows to highlight Access Code and press the center button to select.
- Use the up and down arrows to set the Access Code to 57, and press the center button.

NOTE: The access code is valid for five minutes. After five minutes, the access code must be entered again to enable changes.

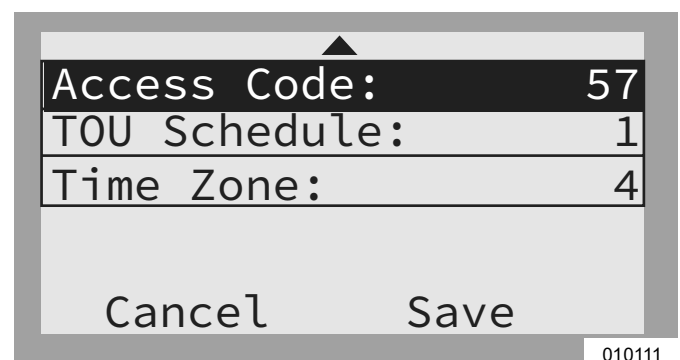


Figure 6-13. Configuring TOU Schedule (3 of 4)

- Use the up and down arrows to highlight TOU Schedule and press the center button to select.
- Use the up and down arrows to adjust the TOU Schedule. Once the desired value is set, press the center button to exit edit mode.

NOTE: See the latest Time of Use Program Guide for current TOU schedule values. The program guide is available at https://www.generac.com/GeneracCorporate/media/Library/Images/home/rotatoritems/PWR-cell-TOU_2.pdf.

- Set the Time Zone to the desired location based on **Table 7: Time Zone Codes**. Once the desired value is set, press the center button to exit edit mode.

Table 7 - Time Zone Codes

Time Zone	Units
UTC	0
US/Eastern	1
US/Central	2
US/Mountain	3
US/Pacific	4
US/Alaska	5
US/Hawaii	6
US/Arizona	7
US/Puerto Rico	8

- See **Figure 6-14**. To commit changes to all entries, highlight Commit. Press the center button, then use the arrows and center button to confirm the choice.

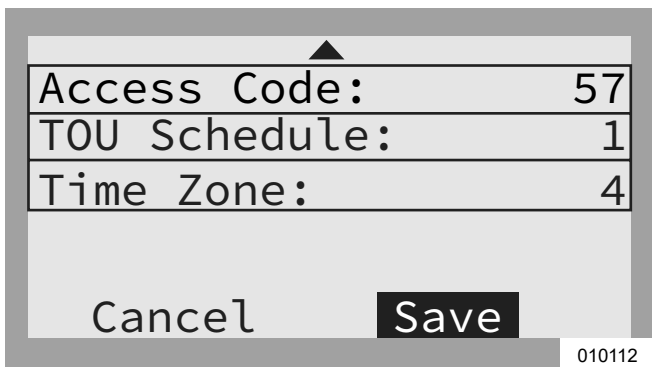


Figure 6-14. Configuring TOU Schedule (4 of 4)

See **Figure 6-15** and **Figure 6-16**. When enabled, the LCD will alternate between a TOU Scheduler Running Screen and a Current System Mode screen. Both screens will display the time until the next system change and the mode the system will change to. The TOU Schedule name will be listed at the bottom of the device page.

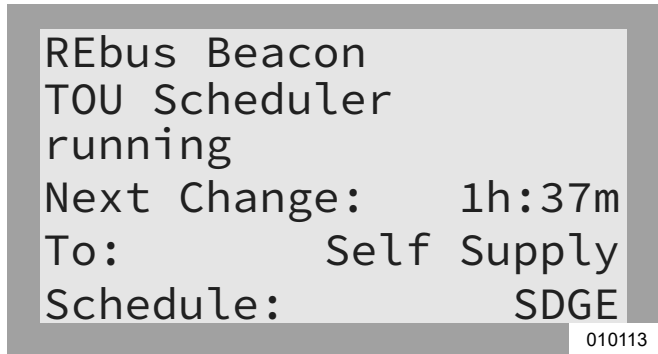


Figure 6-15. Running.

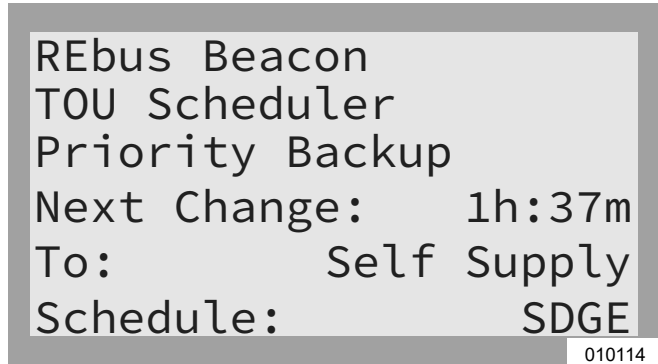


Figure 6-16. Current System Mode.

See **Figure 6-17** and **Figure 6-18**. On the home page, the text above the power flow diagram will alternate between Scheduler Active and the current system mode.

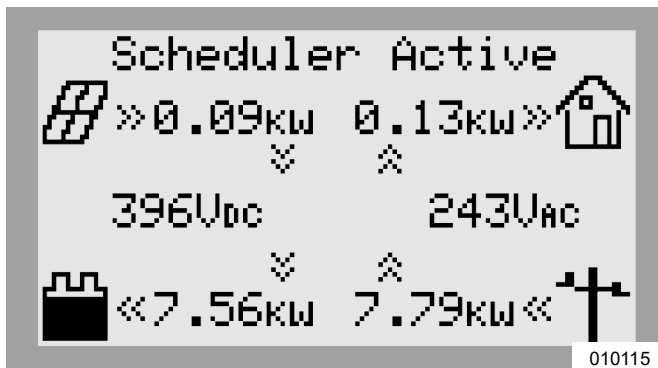


Figure 6-17. Scheduler Active

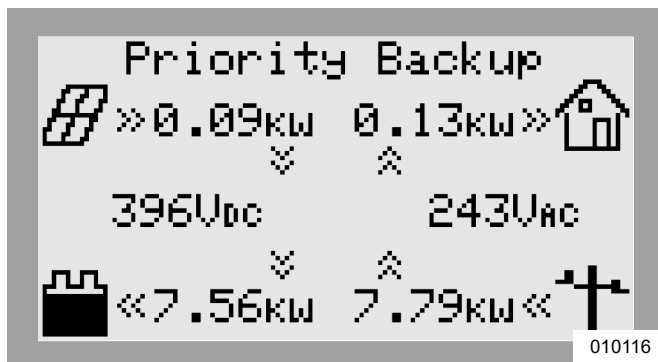


Figure 6-18. Current Mode

Enabling Beacon TOU

Once the TOU Schedule is set, the scheduler will automatically enable itself and begin running. However, if the scheduler becomes disabled for any reason, follow the instructions below to re-enable the scheduler:

1. See [Figure 6-19](#). Navigate to the Beacon device page and press the center button to enter the device menu.

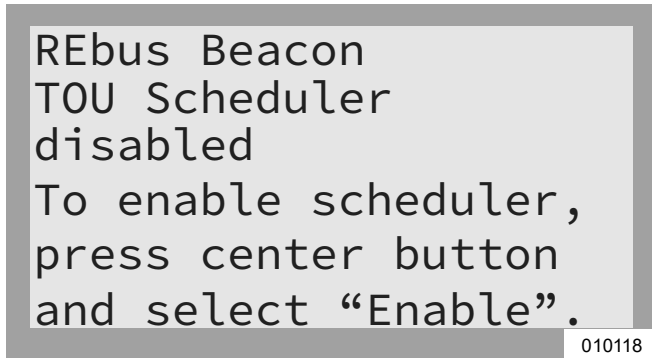


Figure 6-19. Enabling Beacon (1 of 2)

2. Highlight Enable and press the center button.
3. See [Figure 6-20](#). Arrow sideways to Confirm and press the center button.

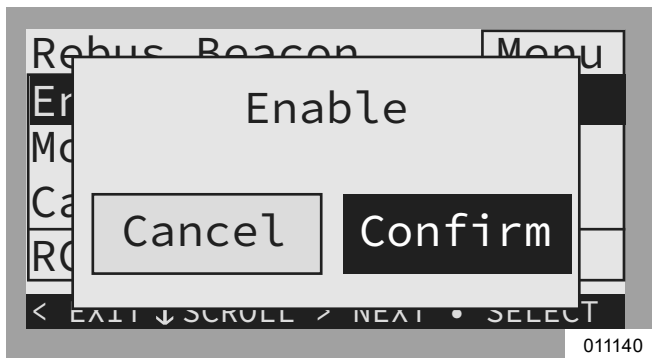


Figure 6-20. Enabling Beacon (2 of 2)

Disabling Beacon TOU

The scheduler can be disabled at any time. To disable the scheduler:

1. See [Figure 6-21](#). Navigate to the Beacon device page and press the center button to enter the device menu.

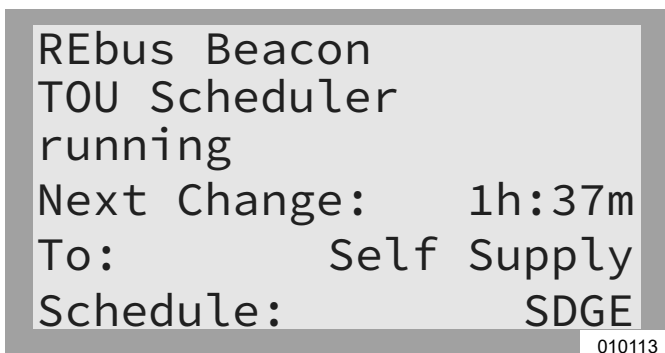


Figure 6-21. Disabling Beacon (1 of 3)

2. Highlight Disable and press the center button.
3. See [Figure 6-22](#). Arrow sideways to Confirm and press the center button.

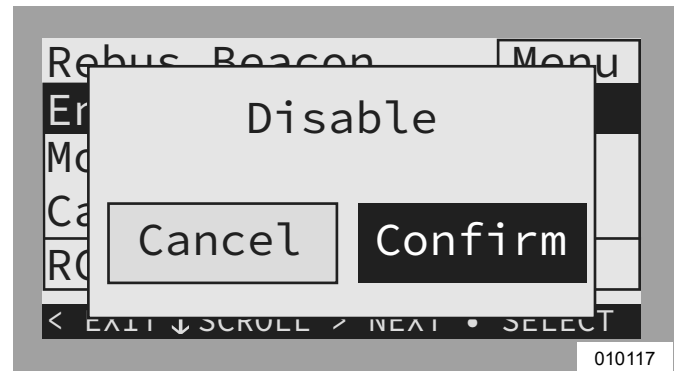


Figure 6-22. Disabling Beacon (2 of 3)

4. See [Figure 6-23](#). The status line on the Beacon device page will read Disabled.

NOTE: The system will remain in the current system mode until the mode is changed manually or the scheduler is re-enabled.

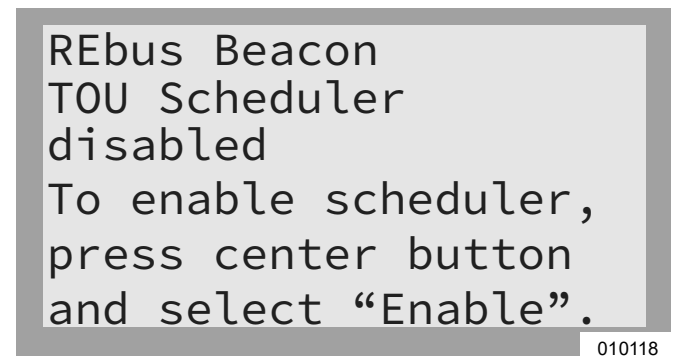


Figure 6-23. Disabling Beacon (3 of 3)

Temporarily Overriding the TOU Scheduler

The scheduler can be temporarily overridden at any time without disabling it. The manual override will apply until the next regularly scheduled system mode change.

To temporarily override the scheduler:

1. Navigate to the system home page.
2. Press the center button.
3. Select the desired temporary system mode.

NOTE: See the Generac PWRcell Inverter Owner's Manual for more information on system modes.

When the scheduler has been overridden:

- Temporary Override will display on the home page, alternating with the words Scheduler Active and the name of the current system mode.
- See [Figure 6-24](#). Running, Overridden will display on the Beacon device page.

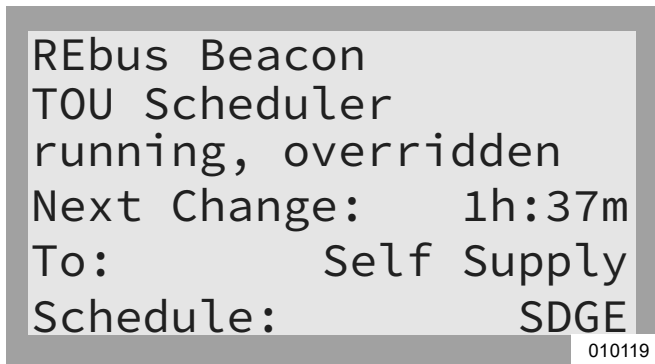


Figure 6-24. Overriding Scheduler

- The countdown timer on the Beacon device page will indicate the remaining time until the next mode change.

After the next scheduled mode change, the scheduler will resume normal operation.

Disabling the TOU Scheduler in Anticipation of a Grid Outage

In the event of an impending storm and potential outage, top off the battery by disabling the scheduler and switching the system mode to priority backup or clean backup mode.

To disable the TOU Scheduler:

- Navigate to the Beacon device page and disable the scheduler. See [Enabling Beacon TOU](#) for more information.
- Navigate to the system home page and change the system mode to a backup-only mode, such as Priority Backup or Clean Backup. See the Generac PWRcell Inverter Owner's Manual for more information on system modes.
- Once the emergency has passed, re-enable the scheduler. See [Enabling Beacon TOU](#) for more information.

NOTE: If Priority Backup mode is not listed with the other system modes, the system installer may have removed the mode to comply with utility rules. Some utilities do not permit charging the battery from the grid.

Configuring Static IP Settings

NOTE: For networks not configured for DHCP, use the MAC address to locate the device on the network.

To manually configure settings:

- From the Beacon device page on the inverter screen, select the installer tool. See [Accessing the Installer Configuration Tool](#) for more information.
- After logging into the Installer Configuration Tool, select 'Beacon' from the menu.

- Select Simple IP Network Settings. See [Figure 6-25](#).
- Adjust any of the following network configuration information as needed.
 - Name
 - Config
 - Address
 - Netmask
 - Gateway
 - DNS1
 - DNS2
 - MAC
- Press Submit to commit settings.

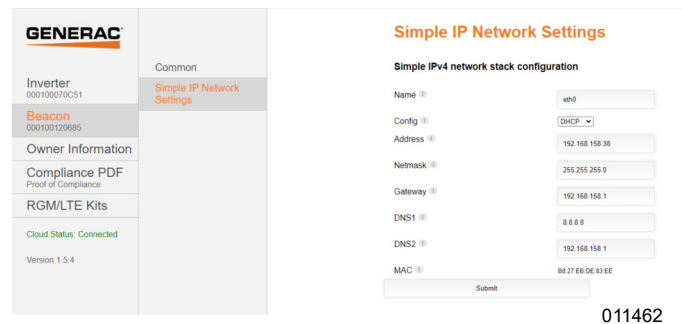


Figure 6-25. Configure Static IP Settings

NOTE: Contact your network system administrator to connect the PWRcell inverter to a restricted network.

NOTE: Beacon must retain an Internet connection in order to use the PWRview mobile app.

Ethernet Troubleshooting

NOTE: Use a laptop or other device to verify the Internet connection is working properly before troubleshooting.

For a successful connection the following must be valid:

- The Internet LED on the control panel must be lit.

NOTE: A lit Internet LED is a necessary, but not sufficient indication of a successful connection to the PWRview server. The blue LED may be lit even if the inverter is not connected to the server.

- A valid IP address must be displayed on the Ethernet settings page.

NOTE: The PWRview State on the Ethernet settings page must read Listen.

To validate the connection to the server, the Ethernet settings page must be accessed. To access the Ethernet settings page:

- Relocate the blue Cat 5 cable connector inserted into the RJ-45 port on the top of the Beacon to the RJ-45 port on the backside of the inverter control Panel.

- Navigate the inverter control panel until a screen similar to [Figure 6-26](#). When properly installed, the inverter control panel will have an additional device page called Ethernet Settings.

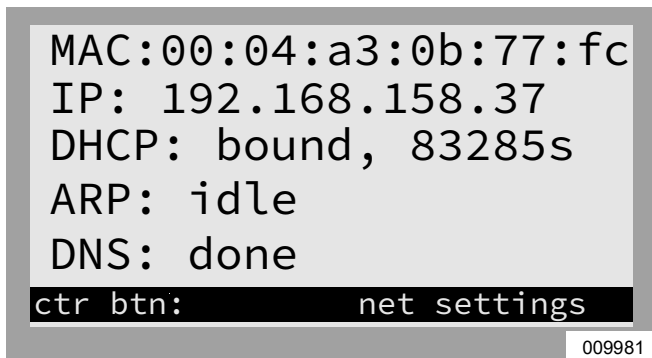


Figure 6-26. Ethernet Troubleshooting

NOTE: Ensure blue Cat 5 cable is reconnected to the Beacon after troubleshooting is complete.

If the PWRview State reads Get Connected then a successful connection has not been made to the PWRview server.

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

- Verify an Ethernet connection has been enabled by pressing the center button on the Ethernet page and selecting Enable Ethernet.
- Verify the network is configured for DHCP and that DHCP is enabled.
- If the network is not configured for DHCP, obtain the MAC address and contact the system administrator for IP address assignment.
- Input IP address under Manual settings. See [Configuring Static IP Settings](#).
- Restart router and modem.
- Contact system administrator for further troubleshooting steps.

NOTE: It is the installer's responsibility to make sure the Internet connection is reliable and secure. Generac recommends always using a hardwired connection. Generac does not recommend or support using any wireless or power line carrier network devices. Use these devices at your own discretion.

Commissioning Multiple Inverter Systems

PLM Cross-talk

NOTE: Do not energize two or more inverters before commissioning. Energizing two or more inverters prior to commissioning will result in cross-talk.

PWRcell inverters are manufactured with some common default parameters. One of these default parameters is the default Power Line Modem (PLM) channel. PWRcell inverters use the PLM channel to communicate with and send commands to REbus-powered devices. In this way, a PWRcell inverter behaves like a master device. If two or more master devices are communicating on the same PLM channel, REbus devices become unable to respond properly to the intended master device and the master devices will attempt to provide control for the other, often leading to communication and reporting issues. This is referred to as cross-talk.

How to identify PLM Cross-talk

Cross-talk can be easily identified by navigating to the device pages on an inverter control panel. If two inverter device pages exist, or if devices connected to one inverter show up on the other, cross-talk has occurred.

NOTE: To differentiate one device page from another, confirm the RCP numbers via the device page sub-menu.

NOTE: It is recommended to keep a list of which REbus devices are connected to specific inverters at multi-system sites.

Multiple Inverter System Pre-Commissioning Checklist

Before commissioning multiple inverter systems, confirm the following:

- Inverter systems (including PV Links and PWRcell batteries) have been installed per manufacturer instructions and to local and state code requirements.
- PWRcell batteries have their Battery Disconnect switches in the OFF position.
- PWRcell inverters are de-energized with no voltage present at their AC Grid input terminals. Use an appropriately rated multi-meter/voltmeter to verify if AC voltage is present at the AC Grid terminals.

NOTE: To determine if the inverter is de-energized, check the inverter control panel and the system backfeed breaker. If de-energized, the inverter control panel will be powered off and the inverter backfeed breaker will be OPEN.

Multiple Inverter System Commissioning Procedure

NOTE: Throughout this process, it is important that only one inverter is energized at any time. If two or more inverters are energized at any point during this process, the inverters will cross-talk. To resolve cross-talk, see [PLM Cross-talk Recovery Procedure](#). After resolving cross-talk, the commissioning process will need to be restarted for the cross-talked inverters.

1. Close the AC backfeed breaker to supply AC power to one PWRcell Inverter AC Grid Input/Output Terminals. This will allow the inverter to energize and illuminate the Inverter control panel.
2. Perform [Commissioning the System](#) steps 1-8.
3. Modify the PWRcell inverter PLM Channel to 0.

NOTE: PLM Channel 0 is a catchall channel. Only use for inverters during programming. Do not set REbus devices to channel 0. Do not leave inverter on channel 0.

4. Choose a channel from 2 -12 to use as the only number for addressing all devices on the system. The goal is to address the system to its own unique channel across all devices.

NOTE: Do not leave any device, including the inverter, on channel 0 or channel 1 by the end of the process.

5. Use arrow keys to navigate to all REbus devices (expect REbus Beacon) to change the PLM channel.
6. Access Mod. Settings for each device and change the PLM channel to the chosen channel (step 4) for that system. See device installation manual for specific instructions.
7. Modify the PLM channel setpoint for the PWRcell inverter to match the PLM channel its REbus devices were set to in the previous step.

NOTE: Be sure to click Save at the bottom of the menu after modifying the channel on each device.

8. De-energize inverter. Once the inverter is de-energized, repeat steps 1-7 for the next system.

NOTE: It may take a few seconds for the inverter screen to power off due to capacitance in the power core. Wait until the screen goes blank before energizing the next inverter system.

9. After programming each system separately, re-energize all PWRcell inverters by closing their AC Grid backfeed breakers, enable the inverters, and all REbus devices.

PLM Cross-talk Recovery Procedure

For each PWRcell Inverter that has cross-talked, perform the following procedure to clear the foreign devices from the display:

1. De-energize all but one inverter.
2. Access the Installer Configuration Tool using the instructions below.
3. Navigate to the 'Inverter' using the Installer Tool and select PWRcell Configuration.
4. Select Clear Display to wipe the screen of that inverter of unwanted devices from other systems on site.

5. Follow steps 1- 8 for Multiple Inverter System Commissioning. See [Multiple Inverter System Commissioning Procedure](#) for more information.
6. Proceed to next cross-talked inverter and repeat the procedure.

Installer Configuration Tool

The Installer Configuration Tool allows configuration and provisioning of Generac PWRcell systems from a smartphone or laptop. The interface allows installers to configure basic settings, set inverter compliance, generate a compliance report, and understand system performance. The interface is only available on Generac PWRcell systems with a REbus Beacon installed. Close proximity to the Beacon is required for use. It is not possible to access this tool remotely. 45 minutes after being activated, the Beacon's WIFI signal will time out and may need to be reactivated.

NOTE: All PWRcell inverters come with a REbus Beacon pre-installed.

Accessing the Installer Configuration Tool

1. Navigate to the Beacon device page on the PWRcell inverter control screen and press the center button.
2. Select Installer Tool from the menu and click Confirm. This will activate the Beacon's Wi-Fi network.
3. Use a smartphone or laptop to connect to the Wi-Fi network SSID titled: **REbus_Beacon_xxxx** where **xxxx** is the last 4 digits of the Beacon's RCP number.

NOTE: The Beacon's RCP number can be found on the front of the Beacon located inside the inverter, as well as on the Beacon device page through the inverter's screen. To find this number through the inverter's screen press the center button on the Beacon device page. The RCP number will be displayed at the bottom of the menu screen.

4. Type in the password (labeled "CODE") for the REbus Beacon's Wi-Fi network.

NOTE: The code for the REbus Beacon's Wi-Fi network is located on the back of the Beacon inside of the inverter. The Beacon is mounted on the upper left-hand sidewall of the inverter housing. Unstick the Beacon to view the code labeled on the back.

NOTE: Where utility requirements contain provisions for security against adjusting compliance settings, consider removing code label for the Beacon after successful commissioning.

5. See [Figure 6-27](#). Open a web browser on a smartphone or laptop and enter 10.10.10.10 for the browser URL. The installer tool will appear in the browser.

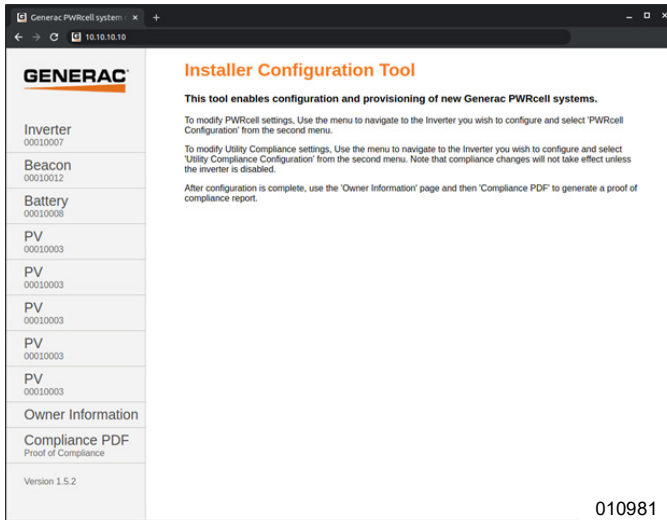


Figure 6-27. Installer Configuration Tool

Configuring Basic PWRcell Settings

NOTE: To customize basic settings, the inverter must be disabled. Before disabling the inverter, ensure all REbus devices have first been disabled. Settings changes will not be applied if the inverter is enabled.

1. Select Inverter from the Beacon menu.

NOTE: If using a smartphone, open the menu by clicking the hamburger icon in the upper-right corner of the screen. Laptop users will see the menu displayed on the left side of the screen.

2. Select PWRcell Configuration.
3. See [Figure 6-28](#). To adjust a setting, click on it, select the desired change, and click Submit. Any changes selected to be made, will not be implemented unless Submit is selected at the end.

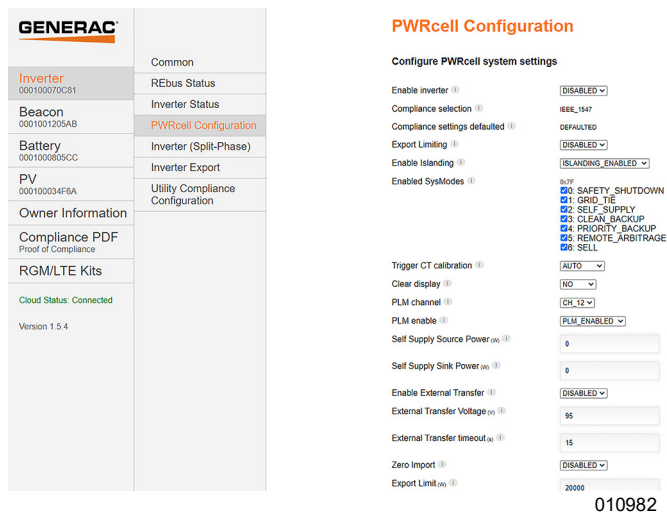


Figure 6-28. PWRcell Configuration

Most device settings can be adjusted through the inverter’s screen with the exception of the following settings, which can only be adjusted through the Installer Configuration Tool:

- **Enabled SysModes.** Allows installers the option to disable system modes, such that they cannot be enabled through the inverter control screen. To disable a system mode, tap the checkbox to uncheck the box for that mode. Click Submit to save.
- **Clear Display.** Allows installers to wipe the screen of any unwanted devices being retained by the memory card in the screen module. Select Clear and click Submit. The screen will go blank and test its LEDs. Allow time for the screen to reload before accessing.
- **Import/Export Limiting** (see below).

Verifying Inverter Software Version

Some features, such as those found in [Setting for Import / Export Compliance](#), require inverter software that may not come default to the unit installed. The software version of an inverter can be verified using the Beacon Installer Tool. To verify the inverter software version in the Beacon Installer Tool, select the 'Common' sub-menu option under the “Inverter” object as shown in [Figure 6-29](#).



Figure 6-29. Verifying Inverter Software

The information populated upon selecting the 'Common' sub-menu option lists the manufacturer, model, version, and serial number for the inverter. The value displayed for 'Version' contains the hardware version and software version of the inverter displayed as the sequence of numbers separated by an underscore. Where an “H” represents the hardware version and an “S” represents the software version, the value shown for 'Version' would be “HHH_SSSSS”.

Setting for Import / Export Compliance

NOTE: The PWRcell Inverter must be disabled prior to making changes to import or export settings.

Utility interconnection requirements may require the ability to restrict or limit system import or export power from/to the Utility grid. To setup a PWRcell system to comply with these requirements, access the PWRcell Configurations page following the instructions in Configuring Basic PWRcell Settings. Once the configuration page loads, you may adjust import and export setting.

Once all settings adjustments have been made, click the “Submit Query” button at the bottom of the configuration page. Import and Export settings are explained in detail below.

NOTE: These settings are included in the Compliance PDF. See [Proof of Compliance](#) section for more information.

Export Limiting: This option is one-time settable. To unset, please contact Generac PWRcell Technical Support. Please be aware that once set, certain Utilities may require the request to unset this setting to come from the Utility. Changing this setting from “DISABLED” to “ENABLED” via the dropdown list will limit the inverter power export to the utility grid to the value specified for Export Limit.

NOTE: This feature is only available for inverter firmware version 13290 or greater. See [Verifying Inverter Software Version](#) for more details. To request a firmware update for an inverter, please contact PWRcell Technical Support.

Zero Import: See [Figure 6-30](#). This option is one-time settable. Please be aware that once set, certain Utilities may require the request to unset this setting come from the Utility. To unset Zero Import, please contact Generac PWRcell Technical Support. Changing the value from “DISABLED” to “ENABLED” via the dropdown list will prevent the PWRcell batteries from importing power from the utility grid.

Enabled SysModes ⓘ	0x7F <input checked="" type="checkbox"/> 0: SAFETY_SHUTDOWN <input checked="" type="checkbox"/> 1: GRID_TIE <input checked="" type="checkbox"/> 2: SELF_SUPPLY <input checked="" type="checkbox"/> 3: CLEAN_BACKUP <input type="checkbox"/> 4: PRIORITY_BACKUP <input checked="" type="checkbox"/> 5: REMOTE_ARBITRAGE <input checked="" type="checkbox"/> 6: SELL
Trigger CT calibration ⓘ	AUTO ▾
Clear display ⓘ	NO ▾
PLM channel ⓘ	CH_2 ▾
PLM enable ⓘ	PLM_ENABLED ▾
Self Supply Source Power (w) ⓘ	<input type="text" value="0"/>
Self Supply Sink Power (w) ⓘ	<input type="text" value="0"/>
Enable External Transfer ⓘ	DISABLED ▾
External Transfer Voltage (v) ⓘ	<input type="text" value="95"/>
External Transfer timeout (s) ⓘ	<input type="text" value="15"/>
Zero Import ⓘ	ENABLED ▾
Export Limit (w) ⓘ	<input type="text" value="20000"/>

011685

Figure 6-30. Zero Import

Export Limit: See [Figure 6-31](#). Once set from its default value, this feature can only be decreased from its current value. Please be aware that once set, certain Utilities may require the request to unset this setting come from the Utility. To reset the value of this feature, please contact PWRcell Technical Support. The units for this feature are Watts. The value of this setting is the limit to what the inverter can export to the grid once the **Export Limiting** is enabled. To set up the inverter to not export any excess power to the grid, set this value to be 0. This will enforce CRD200 Import Only Mode.

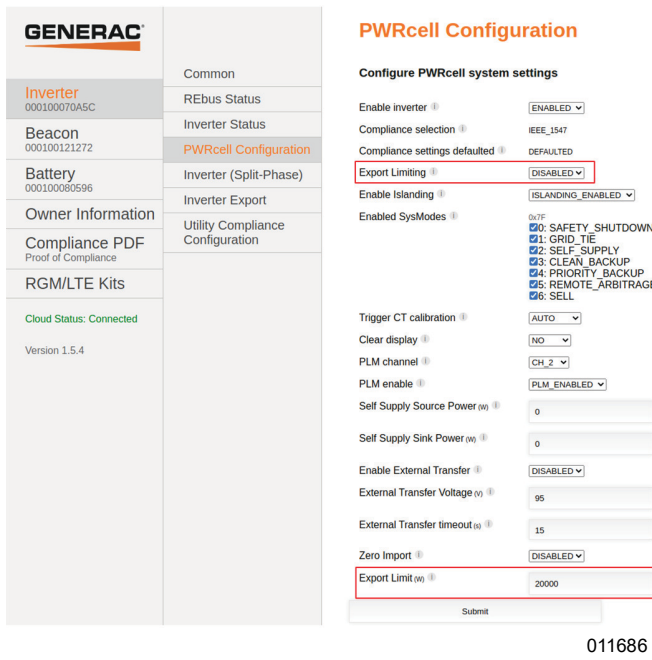


Figure 6-31. Export Limit

NOTE: This feature is only available for inverter firmware version 13290 or greater. See [Verifying Inverter Software Version](#) for more details. To request a firmware update for an inverter, please contact PWRcell Technical Support.

Setting Inverter Grid Compliance

NOTE: The inverter must be disabled before changing utility compliance settings. Before disabling inverter, ensure that all REbus devices have first been disabled. Compliance settings changes will not be applied if inverter is enabled.

1. To set an inverter to comply with a utility's requirements, navigate to the drop-down menu in the upper right-hand corner of the Installer Configuration Tool home page and select Inverter from the drop-down menu.
2. See [Figure 6-32](#) Click on Utility Compliance Configuration and select the appropriate utility compliance standard from the menu at the bottom of the page. Click Submit to apply the compliance standard. The settings entered will not take effect until the Submit button has been clicked.

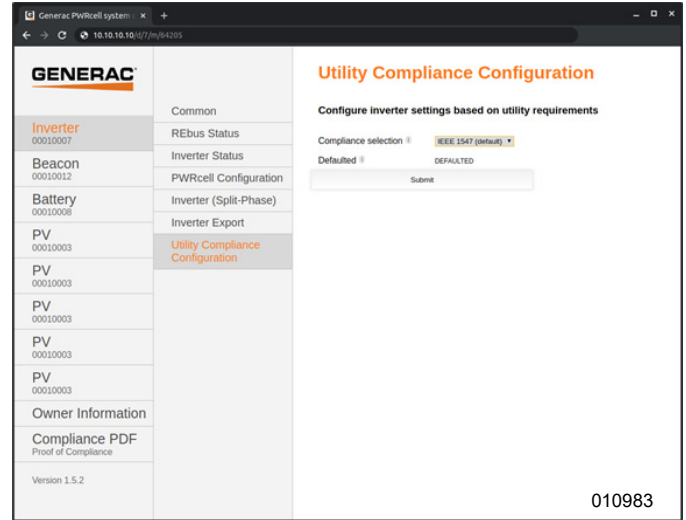


Figure 6-32. Utility Compliance Configuration

NOTE: Verify the Compliance Selection field shows the desired compliance rule after clicking Submit.

NOTE: For multi-system sites, compliance must be set on each inverter separately through each respective Beacon.

Proof of Compliance

See [Figure 6-33](#). The Compliance PDF validates whether the system has been set up to conform to a utility compliance ruleset. Please double check that the system is configured properly by observing the 'In compliance with' line in the PDF. If your utility requires proof of correct configuration, save this PDF and send it to your utility. It is recommend that you keep a copy on file as well.

1. To generate a proof of compliance PDF, click on the Compliance PDF tab in the navigation menu.
2. Click on Download Report.
3. A new window will open in the browser with the report. Verify information is correct and save the document or send via email.

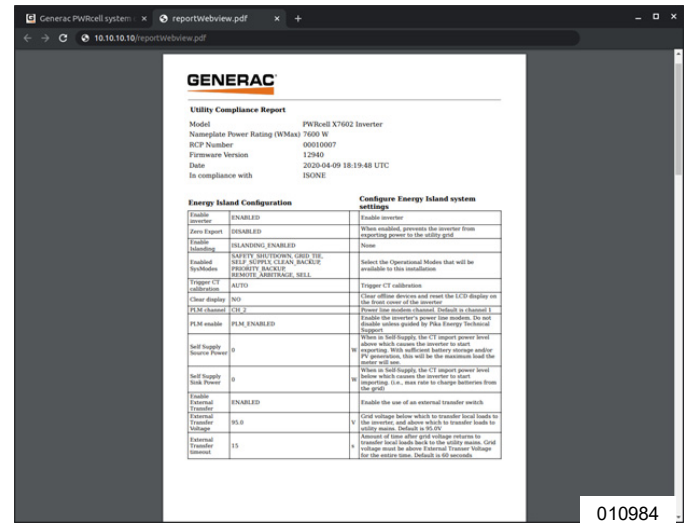


Figure 6-33. Proof of Compliance

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Section 7: Maintenance

Service



⚠ DANGER

Electrocution. Verify all system voltages are safe before wiring. Disconnect all AC and DC sources of power before touching terminals. Failure to ensure no dangerous voltages are present on conductors and terminals before wiring will result in death or serious injury. (000642)



⚠ DANGER

Electrocution. Initiate a system-wide shutdown and turn the PWRcell DC Disconnect Switch OFF on all connected batteries before performing service. Failure to do so will result in death, serious injury, or equipment and property damage. (000600)

For any servicing needs, contact the nearest Independent Authorized Service Dealer (IASD), contact Generac PWRcell Technical Support at 1-855-635-5186, or call Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or visit www.generac.com.

Accessing Wiring Compartment

To access the wiring compartment:

1. Initiate an inverter shutdown.
2. Allow DC voltage to drop to below 10VDC.
3. Open inverter front cover by lifting the bottom to horizontal (B) and pushing inward (C).
4. See [Figure 7-1](#). Open all PWRcell DC Disconnects (A). Verify DC voltage reported on LCD screen has dropped to below 10VDC.
5. Disconnect AC Grid source from inverter. Wait for Inverter LCD screen to turn off.
6. Locate wiring compartment cover (D).
7. Remove five M4X10 screws (E) and wiring compartment cover.
8. Verify all PWRcell DC and AC terminals are below 10V with a multi-meter.

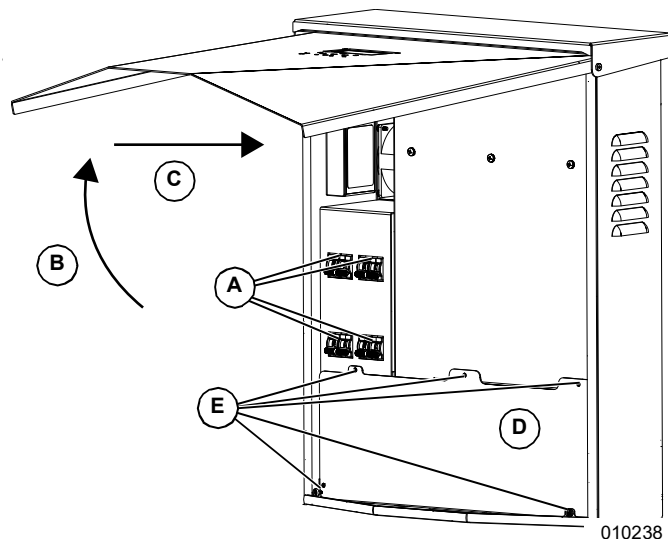


Figure 7-1. Wiring Compartment

Replacing Fuses

⚠ CAUTION

Equipment damage. Never replace a fuse with a different size or style. Doing so will void the inverter warranty and could result in equipment or property damage. (000653a)

⚠ CAUTION

Equipment damage. Never remove DC fuses under load. Removing DC fuses under load could result in equipment or property damage. (000652a)

Two main fuses are installed between the power core and the PWRcell DC disconnects. See [PWRcell Inverter Wiring Compartment](#) for location.

If a main fuse has blown, determine the root cause of the issue before replacing it. For assistance, contact the nearest Independent Authorized Service Dealer (IASD), contact Generac PWRcell Technical Support at 1-855-635-5186, call Generac Customer Service at 1-888-436-3722 (1-888-Generac), or visit www.generac.com.

To replace a fuse:

1. Initiate an inverter shutdown. See [Shutdown Mode](#) for more information.
2. See [Figure 7-1](#). Open all PWRcell DC Disconnects (A). Verify DC voltage reported on LCD screen has dropped to below 10VDC.
3. Disconnect all sources of AC and DC Power.

4. Removing wiring compartment cover. See [Accessing Wiring Compartment](#).
5. See [Figure 7-2](#). Locate DC fuse holders (B).
6. Using a multi-meter, verify all PWRcell DC and AC terminals are below 10V.
7. Press fuse holder up and turn counterclockwise to release.
8. Remove fuse from fuse holder and check for continuity using a multimeter.
9. Insert replacement fuse into fuse holder.
10. Reinstall fuse holder. Turn clockwise until tight.

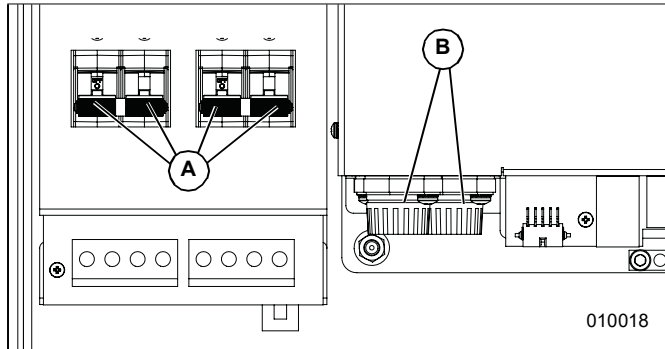


Figure 7-2. Removing Wiring Compartment Cover

Recovery From an Error State

Error events will force the PWRcell inverter into an 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, contact Generac Technical support for assistance in resetting an error state.

Section 8: Troubleshooting

General Troubleshooting

Some of the more common problems are listed in the table below. This information is intended to be a check or verification that simple causes can be located and fixed. It does not cover all types of problems. Procedures that require in-depth knowledge or skills should be referred to an Independent Authorized Service Dealer.

Table 8-1. General Troubleshooting Guide

Problem	Possible Cause	Solution
System will not exit Shutdown	External shutdown button depressed	Release external shutdown button
	No jumper between STOP terminals	Verify jumper is in place between STOP terminals.
CTs will not calibrate	Loose connection	Check CT wiring.
		Trigger manual CT calibration from the inverter device menu.
No REbus Beacon device page	Beacon USB cable not connected	Verify the USB cable is correctly connected to the Beacon and also to the Beacon accessory port in the inverter wiring compartment. Inspect exposed sections of cable for damage.
	Beacon wrap-around cable not connected	Verify the short wrap-around cable is plugged into Beacon, from one port to the other.
Inverter isn't connected to server	Inverter not connected to the Internet	Verify the inverter is connected to the Internet via a router.

If problems persist, contact the nearest Independent Authorized Service Dealer (IASD), contact Generac PWRcell Technical Support at 1-855-635-5186, or call Generac Customer Service at 1-888-436-3722 (1-888-GENERAC).

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