

Quick Start Guide

Any-Grid PSW-H-6.5kW-120/48V & PhocosLink Cloud



English

For further languages see
Für weitere Sprachen siehe
Pour autres langues voir
Para otros idiomas ver
对于其他语言请参阅

www.phocos.com



Only qualified personnel who have received proper training should be allowed to install and work on the inverter. Poor workmanship or incorrect operation can result in serious injury or damage. Local rules and regulations at the installation site should be followed.

The high voltage present in and around the inverter can be deadly, so it is crucial to de-energize the device and secure it against being switched back on during installation, maintenance, and repairs. It is also important to never connect or disconnect DC cables from the device during operation to prevent dangerous arcs from forming.



This Quick Start Guide accompanies the user manual but does not replace it. It is important to read and understand the user manual before working with the inverter. This document may not cover all possible system configurations.

Additional information about the inverter, such as troubleshooting instructions, comprehensive technical specifications, and details on faults and warranty terms, can be found on our website at: <https://www.phocos.com/>

Congratulations on your new Phocos product!



Introducing Any-Grid™ - the ultimate solution for all your power needs! Whether you're Off-Grid or simply want to reduce energy costs, Any-Grid™ has got you covered. This versatile inverter can function as an Off-Grid inverter, a solar-enabled UPS, and even connect to the grid or an AC generator to charge the battery and supply loads. With two high-voltage MPPT solar charge controllers, it eliminates the need for expensive combiner boxes and is compatible with different battery types. It can also operate in a battery-free mode using solar power as the priority.

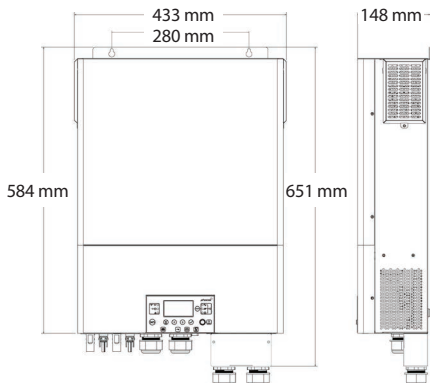


Experience real-time monitoring of your unit's performance with the PhocosLink Mobile App. And for ultimate control, add the Phocos Any-Bridge™ AB-PLC or AB-PLC-CAN Monitoring & Control Internet Gateway to remotely monitor your unit from anywhere in the world via a web browser.

Components Included

- User Manual
- RS-232 cable (Only used for updates)
- Parallel communication cable
- Current sharing cable
- Ring Terminals x3
- Battery Wiring Extension Box
- Cable Glands

Preparing For Install

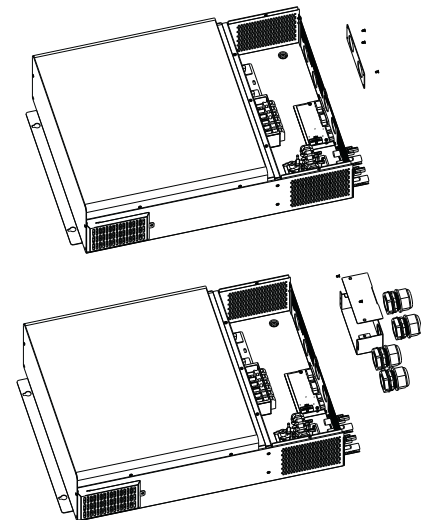


Step 1

Unscrew the four screws that hold the faceplate in place and remove it.

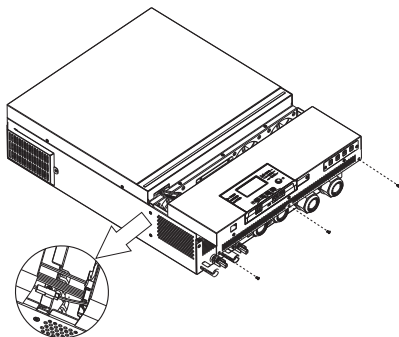
Step 2

Assemble the extension box and attach it to the wall in the same location as the faceplate, using screws. Next, install the cable glands.



Step 1

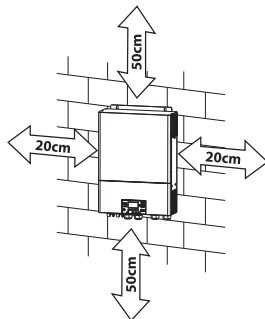
Remove the bottom cover by unscrewing the five screws and sliding it down.



Total weight: 40 lbs

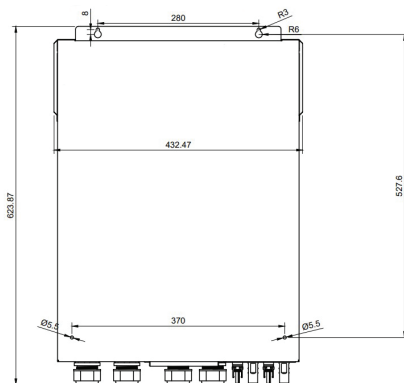
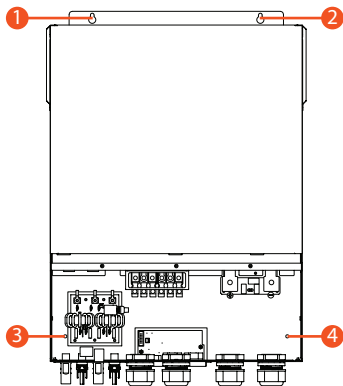
IP rating: IP21

Mounting Location: Indoor only



Step 2

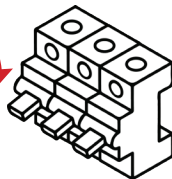
Use four M4 screws to securely attach the unit to the wall.



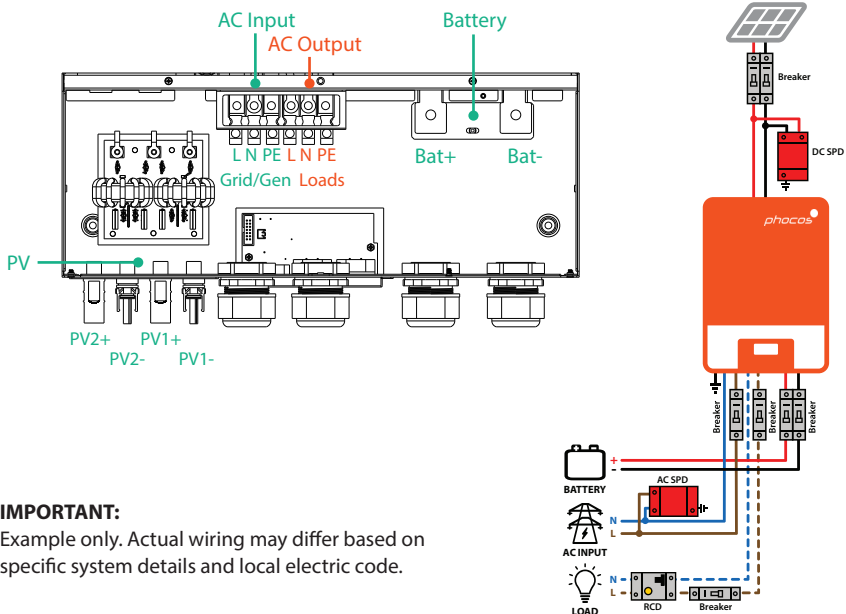


SWITCH OFF ALL BREAKERS PRIOR TO MAKING CONNECTIONS.

OFF



- Before connecting any wires, verify that all cables are de-energized by ensuring that all AC breakers are locked in the Open/OFF position.
- Do not energize the equipment with the cover removed.
- When switching the equipment on, always follow the correct order of operations as specified on page 5 of the commissioning guide. This will help ensure safe and proper startup of the inverter.



IMPORTANT:

Example only. Actual wiring may differ based on specific system details and local electric code.

CAUTION: Equipment Damage

To avoid damaging the unit and invalidating the warranty, please observe the following guidelines:

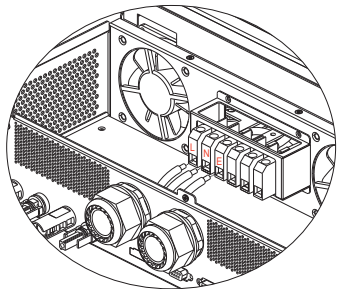


- Do not connect an AC source to the 'AC OUTPUT' as this can cause irreparable damage to the unit.
- When using the unit with a single-phase source, ensure that a Neutral wire is present. Do not attempt to use two phases on a single unit as this is not allowed.
- Avoid short-circuiting a Live line to the metal body of the unit as this can damage the unit and pose a serious safety hazard.

AC Input

To connect the Grid Line (L), Neutral (N), and Ground (PE or E) wires, follow these steps:

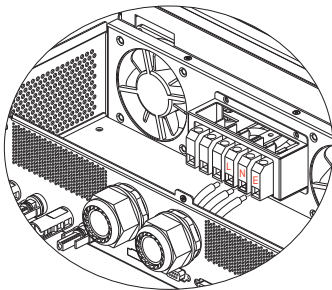
1. Use a wire stripper to remove 10mm of insulation from the ends of the wires.
2. Insert the Ground wire first, followed by the L and N wires, into the lugs.
3. Route the wires through the left cable gland to ensure a secure and organized installation.



AC Output

To connect the Loads Line (L), Neutral (N), and Ground (PE or E) wires, follow these steps:

1. Use a wire stripper to remove 10mm of insulation from the ends of the wires.
2. Insert the Ground wire first, followed by the L and N wires, into the lugs.
3. Route the wires through the left cable gland to ensure a secure and organized installation.



AC Wire Sizes and Torque Values

Unless local code requires otherwise, Phocos advises using copper conductors that are #6 AWG THHN or larger and rated for a minimum of 75°C.

Wire Size		Torque	
AWG	Mm ²	lbf-in	Nm
#14 to #10	2.5 to 6	15	1.6
#8	10	15	1.6
#6 to #4	16 to 25	15	1.6

Connecting the Battery



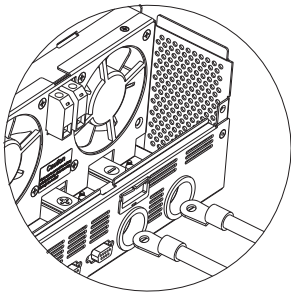
**SWITCH OFF BATTERY BREAKERS
PRIOR TO MAKING CONNECTIONS.**



CAUTION: Equipment Damage

It is important to follow the correct polarity when connecting the battery cables. Failure to do so can result in damage or destruction of the equipment and may also invalidate the warranty.

1. Make sure that the battery cables are of the correct size.
2. Attach ring terminals with a diameter of 8.4 mm to the battery cables that are connected to the circuit breaker.
3. Take off the nuts that are already on the battery terminal bolts. Put the cables, with the ring terminals attached, through the cableglands of the device and lay them flat on the matching battery terminals.
4. Torque the terminal to the correct spec listed in the next page and check that the ring connectors are properly secured on the connectors.



DC Circuit Breaker Cables

Circuit Breaker	Cable Size	Torque	
		lbf-in	Nm
80	#4 AWG (25 mm ²)	45	5
125	1/0 (70 mm ²)	45	5
175	2/0 (70 mm ²)	45	5
250	4/0 (120 mm ²)	45	5

Connecting PV



SWITCH OFF PV BREAKERS PRIOR TO MAKING CONNECTIONS.

Make sure to turn off or open the circuit breakers that are located between the unit and the PV panels. The PV cables can become energized immediately upon exposure to light.

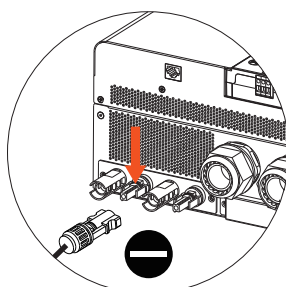
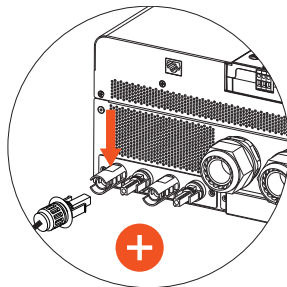


CAUTION: Equipment Damage

If any of the following actions are taken, it can result in damage or destruction of the unit and the warranty being invalidated:

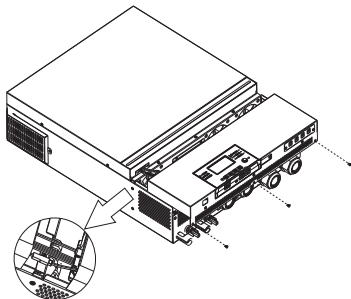
- Short-circuiting the PV+ to the PV- terminal or to the metal body of the unit.
- Connecting the wrong polarity.
- Connecting the positive or negative terminal of PV1 input with PV2 input.

Repeat the two steps below for each PV input.



Step 1

After completing the wiring for AC, battery, and PV, and ensuring that all breakers are still in the disconnected or OFF position, slide the cover back up onto the unit. Reconnect the 3-connector interface and then secure the cover in place by fastening the five screws.



Step 2



Make sure to verify that all wiring and polarity connections are accurate and match the instructions provided in the previous sections before proceeding with the next steps.

Step 3

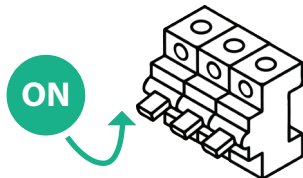
Check to confirm that the 'ON/OFF' button, which is situated on the display module, is in the OFF position. The button should be depressed and not flush with the display.



Step 4

SWITCH ON the circuit breakers in the following order:

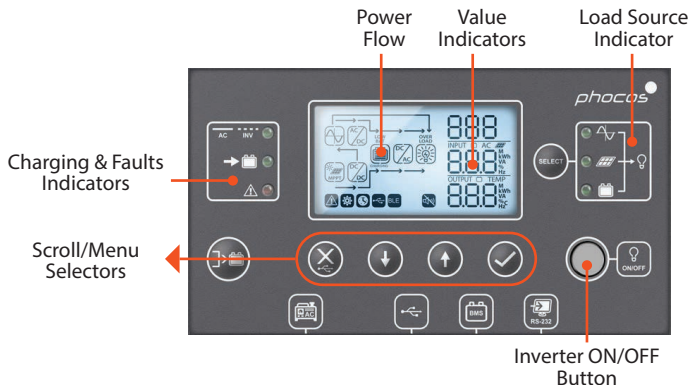
1. AC Input
2. PV
3. Battery
4. AC Output



Step 5

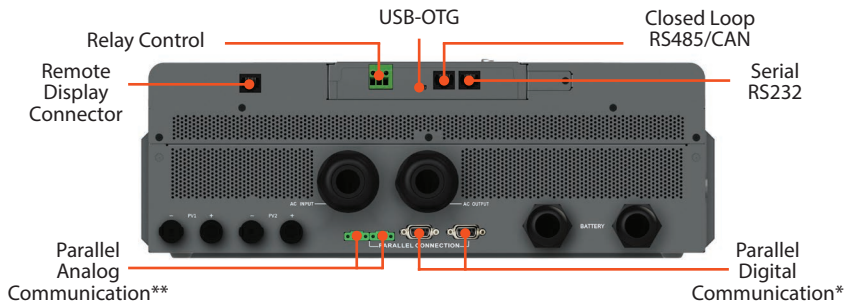
To power your critical loads, press the ON/OFF switch on the display module (as described in STEP 3) to activate the AC OUTPUT of the inverter.

Congratulations on completing commissioning for single unit systems!



Adjusting Settings

- Press for 3 seconds to enter settings mode.
- Press or to toggle between available settings.
- Press to select a setting and or to change the setting value.
- Press to confirm the selection and to exit.



*Always required for synchronization between multiple units.

** Only required for multiple units on the same phase.

Notes

- Any-Grid™ units with the same model numbers can be paralleled to either increase power capacity or form a multi-phase system.
- Each unit must be connected to its own Neutral and Line conductors, never to two lines.
- All inverters must share the same battery bank but have their own separate PV arrays.
- Each inverter should have its own circuit breakers. The wiring procedure described previously should be followed for each unit.

Procedure

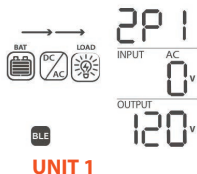
1. Please follow the Wiring section instructions to ensure proper installation of each unit with all breakers turned OFF.
2. Connect the left communication port of unit 1 to the right port of unit 2. After completing the wiring, move on to step 3.



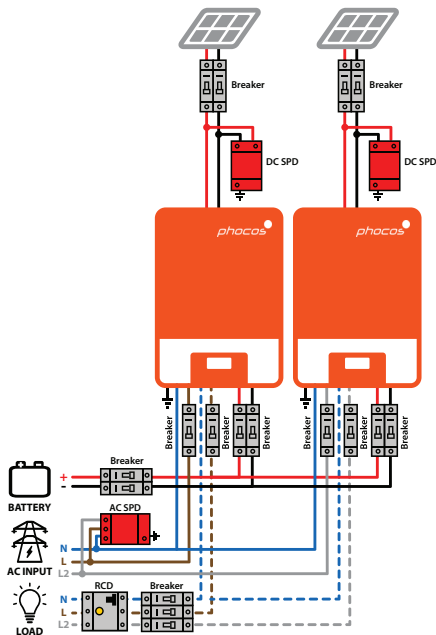
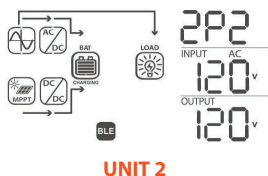
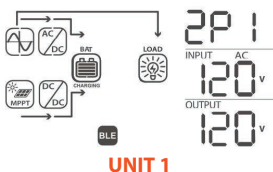
3. Switch ON the PV or AC source breakers on unit 1, if available. Next, turn ON the battery breaker and go to menu number 28.
4. Turn OFF the AC output button on the display of unit 1. The inverter will stay ON for less than a minute, if only a battery is connected.
5. Set menu number 28 to '2P1' (instead of defaults 'SIG')
6. Switch OFF the PV and AC breakers and wait for the unit and display to shut down.
7. Repeat steps 3 to 6 on the second inverter (unit 2).

Split Phase With Two Units

8. Turn ON both units using the AC output button on the display. Make sure that each screen displays this information.



9. Quickly switch ON the AC input breaker of each unit. The displays will show the following.



IMPORTANT:

Example only. Actual wiring may differ based on specific system details and local electric code.

Using the Any-Bridge AB-PLC-CAN



Step 1

Connect the AB-PLC-CAN internet gateway to the inverter using the RS232 ports on each device and power it up.



Step 2

Download and open the PhocosLink App on your smartphone or tablet.

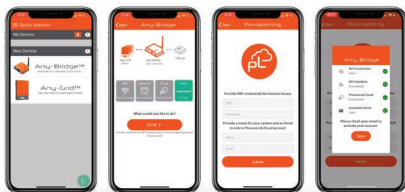


Step 3

Connect to the Any-Bridge and follow the provided 'SETUP' instructions.

Step 4

Check your email to confirm the invitation and then log in to www.cloud.phocos.com.



Phocos Group



Americas USA

Phocos Americas, Inc.
325 S. Euclid Ave., Ste. 101
Tucson, AZ 85719 USA
Phone +1 520 777-7906
info.na@phocos.com
tech.na@phocos.com
www.phocos.com

EMEA Germany

Phocos AG
Magirus-Deutz-Str. 12
89077 Ulm Germany
Phone +49 731 9380688-0
Fax +49 731 9380688-50
info@phocos.com
www.phocos.com

SAARC India

Phocos India Solar Pvt Ltd.
Plot No. 201 - 203, 231 & 233
AR Nivas, Navayuga Nagar
Pattapur, Vanur TK, Villupuram
- 605 111
Tamil Nadu, India
Phone +91 (0) 413 2972328
info-india@phocos.com
www.phocos.com

APAC China

Phocos China Ltd.
Room 1304, Qingdao International Shipping Center,
No.66 Lianyungang Road,
Qingdao 266034, China
Phone +86 532 83837020
info-china@phocos.com
www.phocos.com



SCAN ME



Version: 2023-05-15

Subject to change without notice