



# **Quick Installation Guide**

## Hybrid Inverter

LGES-5048

V1.0 -2021 -11-01

#### 01 Safety Precautions

### General Disclaimer

- The information in this quick installation guide is subject to change due to product updates or other reasons. This guide cannot replace the product labels or the safety precautions in the user manual unless otherwise specified. All descriptions here are for guidance only.
- Before installations, read through the quick installation guide and the user manual to learn about the product and the precautions.
- All installations should be performed by trained and knowledgeable technicians who are familiar with local standards and safety regulations.
- Check the deliverables for correct model, complete contents, and intact appearance. Contact the manufacturer if any damage is found or any component is missing.
- Use insulating tools and wear personal protective equipment when operating the equipment to
  ensure personal safety. Wear anti-static gloves, clothes, and wrist strip when touching electron
  devices to protect the inverter from damage. The manufacturer shall not be liable for any damage
  caused by static electricity.
- Strictly follow the installation, operation, and configuration instructions in this guide and user manual. The manufacturer shall not be liable for equipment damage or personal injury if you do not follow the instructions. For more warranty details, please visit <u>https://www.lgessbattery.com/au/</u><u>home-battery/product-info.lg</u>

## Safety Disclaimer

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#### DC Side:

- 1. Ensure the component frames and the bracket system are securely grounded.
- 2. Connect the DC cables using the delivered PV connectors. The manufacturer shall not be liable for the damage if other connectors are used.
- 3. Ensure the DC cables are connected tightly, securely, and correctly. Inappropriate wiring may cause poor contacts or high impedances, and damage the inverter.
- 4. Measure the DC cable using the multimeter to avoid reverse polarity connection. Also, the voltage should be under the max DC input voltage. The manufacturer shall not be liable for the damage caused by reverse connection and extremely high voltage.
- 5. Ensure the minimum isolation resistance of the PV string to the ground exceeds  $19.33 k\Omega$  to avoid shock hazards.
- Keep the battery off, and the inverter disconnects with PV panels and other AC power before connecting the battery and the inverter. The rated voltage of the battery should meet specifications of the inverter.

## AC Side:

- 1. The voltage and frequency at the connecting point should meet the on-grid requirements.
- An additional protective device like the circuit breaker is recommended on the AC side.
   Specification of the protective device should be at least 1.25 times the AC output rated current.
- 3. PE cable of the inverter must be connected firmly.
- 4. You are recommended to use copper cables as AC output cables. Contact the manufacturer if you want to use other cables.

#### Inverter:

- 1. Terminals at the bottom of the inverter cannot bear much load. Otherwise, the terminals will be damaged.
- 2. All labels and warning marks should be clear after the installation. Do not scrawl, damage, or cover any label on the device.
- 3. Do not touch the running equipment to avoid being hurt as its temperature may exceed 60°C. Do not install the equipment at a place within children's reach.
- 4. Unauthorized dismantling or modification may damage the equipment, the damage is not covered under the warranty.
- 5. Do not start the BACKUP function if the inverter is not connected to the battery.
- 6. Warning labels on the inverter are as follows.

4	High voltage hazard. Power off the inverter first before any operations.	<u>^</u>	Potential risks exist. Wear proper PPE before any operations.
	Read through the guide before any operations.		Delayed discharge. Wait until the components are totally discharged after power off.
	High-temperature hazard. Do not touch the equipment to avoid being burnt.	NA	NA

## Check Items Before Switching Power ON

No.	Check Item			
1	The inverter is firmly installed at a clean place where is well-ventilated and easy-to- operate.			
2	The PE cable, DC input cable, AC output cable, and communication cable are connected correctly and securely.			
3	Cable ties are routed properly and evenly, and no burrs.			
4	Unused ports and terminals are sealed.			
5	The voltage and frequency at the connection point meet the on-grid requirements.			

## 02 Product Introduction





- 1. Battery Terminal (BATTERY +/-)
- 4. METER Communication Port
- 7. RS485 Communication Port
- 10. Indicators
- 13. PE Terminal

- 2. PV Input Terminal (PV1/PV2)
- DRED or Remote 5. Shutdown Communication Port
- 8. Reserved Port
- 11. Mounting Plate



- 3. Communication Module Port (WiFi/LAN)
- 6. BMS Communication Port
- 9. AC Terminal (ON-GRID/ BACKUP)
- 12. Heat Sink

#### Dimensions





#### Packing List











#### Angle Requirements







#### Inverter Installation

Avoid water pipes and cables buried in the wall when drilling holes. The lock and its accessories should be prepared by customers.



#### Connecting the PE Cable



Connecting the AC Cable (ON-GRID & BACKUP)





#### Connecting the DC Cable (PV)









#### Connecting the Battery Cable (BATTERY)



05 Communication Connection

### Connecting the DRED Communication Cable







Connecting the Remote Shutdown Communication Cable



#### Connecting BMS or Smart Meter



No.	Color	BMS	Smart Meter	RS485 (to third party EMS devices)
1	Orange&White	485_A2	NC	485_A
2	Orange	NC	NC	485_B
3	Green&White	485_B2	485_B1	485_A
4	Blue	CAN_H	NC	NC
5	Blue&White	CAN_L	NC	NC
6	Green	NC	485_A1	485_B
7	Brown&White	NC	485_B1	NC
8	Brown	NC	485_A1	NC



#### **Connecting the Communication Module**

Notice: Use the delivered module remover when removing the communication module. Otherwise, the module may be damaged.



## 06 Wiring System



an external DC breaker shall be added.



#### Wiring with SP3T Bypass Switch

Notice: The purpose of SP3T bypass switch is to allow for continued operation of back-up loads in case of inverter fault. SP3T bypass switch is not provided with inverter, it can be purchased from electrical wholesalers.





## 07 Commissioning and Monitoring

## Commissioning via LGES PV Master App





## Monitoring via LG RESU HOME App



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