

RESU

Installation Manual for RESU10M

Compatible Inverter: SMA Sunny Boy Storage3.7

LG Chem strongly advises to take due care in following LG Chem product installation manual. A warranty claim is invalid if damage is caused by human error, inconsistent with the installation manual.

Version 1.0



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[Installation Guide]



About this manual

This manual describes how to install LG Chem's RESU® battery pack. Read this manual before you attempt to install the product, and follow the instructions throughout the installation process. If you are uncertain about any of the requirements, recommendations, or safety procedures described in this manual, contact LG Chem immediately for advice and clarification. The information included in this manual is accurate at the time of publication. However, the product specifications are subject to change without prior notice. In addition, the illustrations in this manual are meant to help explain system configuration concepts and installation instructions. The illustrated items may differ from the actual items at the installation location.

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1. Safety

1.1 Symbols



Caution, risk of electric shock



Do not place nor install near flammable or explosive materials



Install the product out of reach of children



Read the instruction manual before starting installation and operation



Heavy weight may cause serious injury to the back



Do not dispose of the product with household wastes



Recyclable



Disconnect the equipment before carrying out maintenance or repair



Observe precautions for handling electrostatic discharge sensitive devices

1.2 Safety instructions

For safety reasons, installers are responsible for familiarizing themselves with the contents of this document and all warnings before performing installation.

1.2.1. General safety precautions

Over-voltages or wrong wiring can damage the RESU10M(hereinafter “battery pack”) and cause deflagration, which can be extremely dangerous.

All types of breakdown of the product may lead to a leakage of electrolyte or flammable gas.

Avoid installing the battery pack where flammable materials are stored. Do not install in places where explosive gas or chemicals are present.

During installation of the battery, the utility grid, solar input must be disconnected from the Battery Pack wiring. Wiring must be carried out by a qualified personnel. Battery Pack is not user serviceable. High voltage is present in the device.

The electronics inside the Battery Pack are vulnerable to electrostatic discharge.

Be sure to be grounded before handling the battery pack.

Read the label with Warning Symbols and Precautions, which is visibly under to the Battery Cover (see Section 1.3)

1.2.2. Battery handling guide

- Store the product out of reach of children and animals.
- Store the product where it should be minimal dust and dirt in the area.
- Store at cool and dry place. (Do not store in greenhouses and storage areas for hay, straw, chaff, animal feed, fertilizers, vegetables of fruit products.)
- Store the product on a flat surface.
- Do not store this product in a place exposed to direct sunlight.
- Do not store the battery pack upside down on the ground.
- If the battery pack is installed in the garage then ensure the product is above the height of the vehicle bumper and/or door
- Do not connect the power cable at terminal block opposite direction.
- Do not put the battery pack upside down on the ground.
- Do not expose battery to open flame.
- Do not expose or place near water sources like downspouts or sprinklers.
- Do not place the product nearby highly flammable materials. It may lead to fire or explosion in case of accident.
- Do not disconnect, disassemble or repair by unqualified personnel. Services must be made by qualified personnel only.
- Do not step on the product or the product package. The product may be damaged.
- Do not place any foreign objects on the top of the Battery

or explosion in case of accident.

Do not charge or discharge damaged battery.

Do not connect any AC conductors or Photo-voltaic conductors directly to the battery pack and should be only connected to the Inverter.

The battery pack has been certified IP55 and can be installed indoors as well as outdoors.

- However, if installed outdoors, do not allow the battery pack to be exposed to direct sunlight and water source as it may cause :
 - Power limitation phenomena in the battery (with a resulting decreased energy production by the system)
 - Premature wear of the electrical/electromechanical components and mechanical components.
 - Reduction in performance, service life and possible damage of the battery
- A ventilated area is strongly recommended for handling the product.
- Only use the product with a LGC-authorized inverter. For a list of compatible inverters, go to : <http://www.lgesspartner.com>
- Do not touch if liquid is spilled on the product. There is a risk of electric shock. Handle the battery wearing the insulated gloves.
- Do not damage the unit in such ways as dropping, deforming, impacting, cutting or penetrating with a sharp object. It may cause a leakage of electrolyte or fire.

1.2.3. Response to emergency situations

The battery pack comprises multiple batteries that are designed to prevent hazards resulting from failures. However, LG Chem cannot guarantee their absolute safety.

- If a user happens to be exposed to internal materials of the battery cell due to damage on the outer casing, the following actions are recommended.
 - Inhalation : Leave the contaminated area immediately and seek medical attention.
 - Eye contact : Rinse eyes with running water for 15 minutes and seek medical attention.
 - Contact with skin : Wash the contacted area with soap thoroughly and seek medical attention.
 - Ingestion: Induce vomiting and seek medical attention.

If a fire breaks out in the place where the battery pack is installed, perform the following countermeasures:

- Fire extinguishing media
 - Respirator is not required during normal operations.
 - Use FM-200 or CO2 extinguisher for battery fire.
 - Use an ABC fire extinguisher, if the fire is not from battery and not spread to it yet.
- Fire-fighting instructions
 1. If fire occurs when charging batteries, if it is safe to do so, disconnect the battery pack circuit breaker to shut off the power to charge.
 2. If the battery pack is not on fire yet, extinguish the fire before the battery pack catches fire.
 3. If the battery pack is on fire, do not try to extinguish but evacuate people immediately.

⚠ WARNING

There may be a possible explosion when batteries are heated above 150°C. When the battery pack is burning, it leaks poisonous gases. Do not approach.

- Effective ways to deal with accidents

On land : Place damaged battery into a segregated place and call local fire department or service engineer.

In water : Stay out of the water and don't touch anything if any part of the battery, inverter, or wiring is submerged.

Do not use submerged battery again and contact the service engineer.

1.3 Warning Label

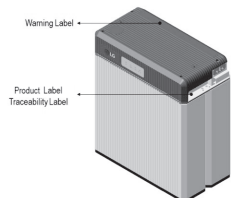
Warning labels and other relevant labels are attached on the battery pack

1. Warning Label



2. Product Label

3. Traceability Label



1.4 Qualified personnel

This guide for the tasks and procedures described herein is intended for use by skilled workers only. A skilled worker is defined as a trained and qualified electrician or installer who has all of the following skills and experience:

- Knowledge of the functional principles and operation of on-grid and off-grid (backup) systems.
- Knowledge of the dangers and risks associated with installing and using electrical devices and acceptable mitigation methods.
- Knowledge of the installation of electrical devices
- Knowledge of and adherence to this guide and all safety precautions and best practices.

2. Product Introduction

2.1 Technical data

2.1.1 Dimensions and weight

RESU10M	
P/N	EH155063P3S7
Width	452 mm (17.8")
Height	510 mm (20.1")
Depth	240 mm (4.5")
Weight¹⁾	80kg(176.4lbs)

1) A battery pack's weight varies slightly.



2.1.2 Performance

Electrical Characteristics	
Total Energy Capacity	9.786kWh
Usable Energy Capacity ¹⁾	9.296kWh
Battery Capacity	63.0Ah
Voltage Range	Charge 176.4V Discharge 126V
Std. Charge/Discharge Current	18.9A
Max Charge/Discharge Power	5kW
Peak Current (only discharging)	40A
Communication Interface	CAN 2.0b
DC Disconnect	Circuit Breaker, Contactor, Fuse
User interface	LEDs for Normal and Fault operation

¹⁾ Value for Battery Cell Only (Depth of Discharge 95%).

Operating Conditions

Installation Location	Indoor (Wall-mounting / Standing) Outdoor (Wall-mounting / Standing)
Operating Temperature	-10 ~ 50°C
Operating Temperature (Recommended)	15 ~ 30°C
Storage Temperature	1) -30 ~ 60°C (acceptable for 7 days in total) 2) -20 ~ 45°C (acceptable for the first 6 months) 3) -20 ~ 30°C (acceptable for 7th month~12th month)
Humidity	5~95%
Altitude	Max. 2,000m
Cooling Strategy	Natural convection

Certification

Safety	Cell	UL 1642
	Battery Pack	IEC 62619 / IEC 60950 / CE
Emissions		IEC 62619 / IEC 60950
Hazardous Materials Classification		Class 9
Transportation		UN38.3
Ingress Rating		IP55

※ Test Conditions - Temperature 25°C, at the beginning of life.

※ Energy is measured under specific condition from LGC (0.3CCCV/0.3CC).

2.2 Feature

- Compact Energy storage unit for domestic photovoltaic system compatibility
- No Additional Devices : Protection Devices* Included
 - * Protection Devices
 - Inverter interface (between Battery Pack and Inverter) : Over Voltage, Over Current, External Short Circuit, Reverse Polarity, Inrush Current, Ground Fault, Over Temp.
 - Battery inside : Internal Short Circuit, Over Voltage, Over Current, Over Temp, Under Voltage
- Flexible installation : Indoor or Outdoor

2.3 Packaging specification

Category	Contents		
Size (LxWxH) (mm)	720 (28.3")	820 (32.3")	520 (20.5")
Outer Size			
Qty/Box (ea)	2		
Packaging	Box	Corrugated Cardboard	Disposable
Materials	Inner	EPS	Disposable
	Pallet	Wood	Disposable
Weight (kg)	Product	80 (176.4lbs)	2 piece/Box (Battery (36kg x 2ea) + Bracket, BPU, etc (10kg))
	Packaging	25 (55.1lbs)	Pallet (10kg) + Box (15kg)
	Gross	107 (235.9lbs)	Product + Packaging

3. Installation

3.1 Installation materials

These installation materials shall be prepared by installers.

- Charging cable
- Network cable
- Ground wire
- RJ45 plug
- Silicone sealant or putty

3.2 Installation location

Make sure that the installation location meets the following conditions:

- The building is designed to withstand earthquakes.
- The location is far away from the sea, to avoid salt water and humidity.
- The floor is flat and level.
- There are no flammable or explosive materials nearby.
- The optimal ambient temperature is between 15 and 30°C.
- There is minimal dust and dirt in the area.
- There are no corrosive gases present, including ammonia and acid vapor.

NOTE

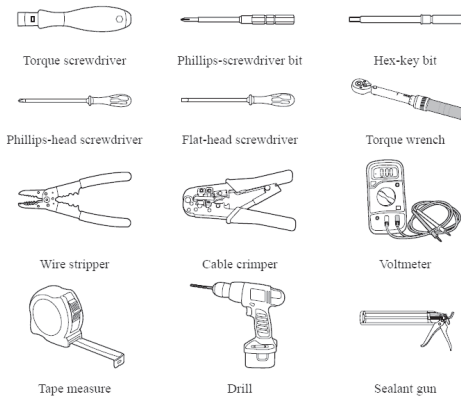
The RESU battery pack is rated at IP55 and thus can be installed outdoors as well as indoors. However, if installed outdoors, do not allow the battery pack to be exposed to direct sunlight and moisture.

NOTE

If the ambient temperature is outside the operating range, the battery pack stops operating to protect itself. The optimal temperature range for the battery pack to operate is 15°C to 30°C. Frequent exposure to harsh temperatures may deteriorate the performance and lifetime of the battery pack.

3.3 Tools

These tools are required to install the battery pack.



Use properly insulated tools to prevent accidental electric shock or short circuits. Use adjustable tools and measuring instruments that are certified for precision and accuracy.

3.4 Safety gear

Wear the following safety gear when dealing with the battery pack. Installers must meet the relevant requirements on the national standards, such as IEC 60364 or the domestic legislation.



Insulated gloves



Safety goggles



Safety shoes

4. Battery Pack Installation

NOTE

Recommend the grounding between the battery pack and the inverter.

4.1 Unpacking

Unpack the battery pack from its packaging.



1. Open the package and pull out the drilling template.



2. Remove the sleeve.



3. Open the BPU box and take out the enclosed BPU and base bracket box. Take them out and check if any item is missing. See Package items on section 4.2



4. After opening upper battery module box, take out product.



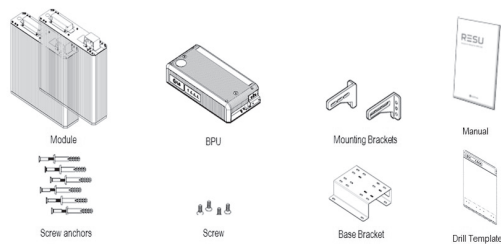
5. Remove the upper battery module box.



6. Take out the product in lower battery module box.

4.2 Package items

These items are included in the package.



The table below lists the number of each item included.

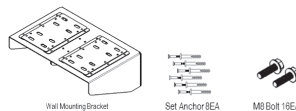
Battery Pack Installation

Item	Q'ty
Module	2
Mounting Brackets	2
Base Bracket	1
M6 × 40 screw anchors	6
M5 × 8 screws	4
M5 × 15 screws	8
M8 X L12 with washer	16
BPU	1

Use only the parts included with the battery pack, except for the screw anchors, to ensure proper installation. If anything is damaged or missing, contact LG Chem or your distributor.

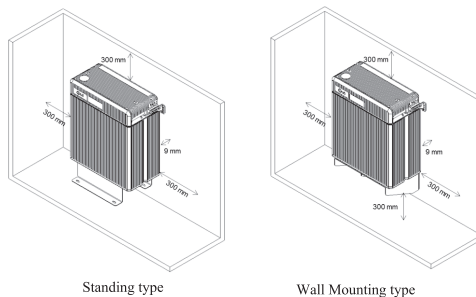
4.3 Optional accessories

The Wall Mounting Bracket is sold separately.



These accessories shall be utilized for wall mounting type.

4.4 Installation clearance



Make sure to leave a space of at least 9 mm between the battery pack and the wall. A clearance of at least 9 mm must be left around the battery pack for proper cooling.

NOTE

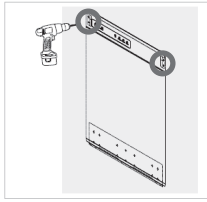
Make sure that the battery pack is always exposed to the ambient air. The battery pack is cooled by natural convection. If the battery pack is entirely or partially covered or shielded, it may cause the battery pack to stop operating.

Battery Pack Installation

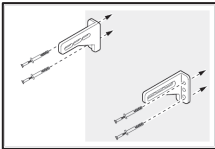
4.5 Battery Pack Installation

Secure the battery pack to a wall to prevent it from moving. If the battery pack is installed above the floor or on a platform, make sure that the wall or platform is capable of supporting the battery pack's weight.

4.5.1 Standing Type



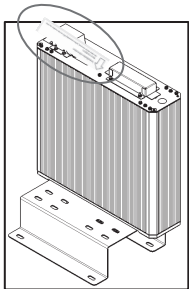
1. Determine where the mounting brackets are to be placed using the drill template.
2. Drill holes in the wall for the M6(0.25in) screw anchors. The drilling depth should be at least 50mm.



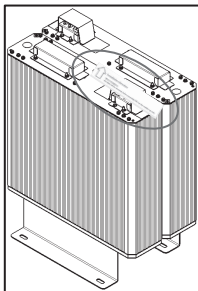
3. Drive the screw anchors through the mounting brackets into the holes.
4. Tighten the screws to a torque of 5Nm.

NOTE

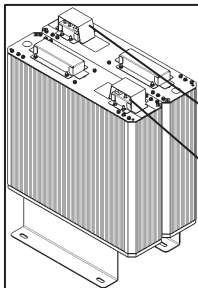
It is allowed to use any other type of fastening suitable for the wall material.



5. Assemble Base plate and module(rear side) on bottom side by fastening 8 point bolts.(M8). Check the label direction to match the red circle.



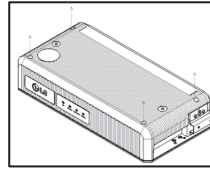
6. Assemble Base plate and module(front side) on bottom side by fastening 8point bolts.(M8) Check the label direction to match the red circle.



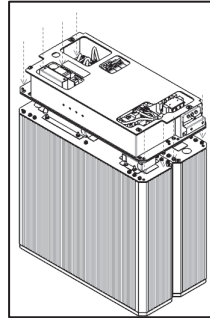
7. Pull out the battery pack and stand it upright. Check if the battery pack is damaged.
8. When module setting, check the direction of the arrow is opposite such as picture below.

↓ Installation direction
When installation, this label will be removed, before assembly BPU on the module top side.

↑ Installation direction
When installation, this label will be removed, before assembly BPU on the module top side.
9. Remove connector labels.

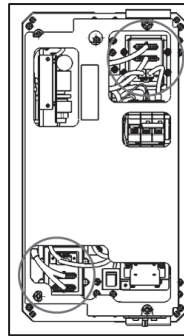


10. Remove Top cover of BPU. (M5 bolt, 4point)

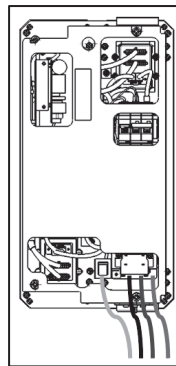


11. Assemble BPU without top cover on the module top side. Check that the LED direction is facing forward.
12. Tighten the M5 bolt.(8point, 5Nm)

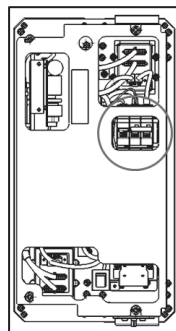
CAUTION
Be careful not to let metallic material fall into the BPU inside.



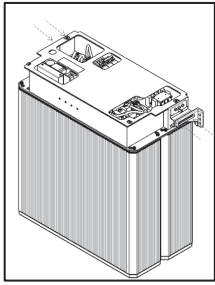
13. Connect Power & Sensing Connector between BPU ~ Module. (Red Circle)



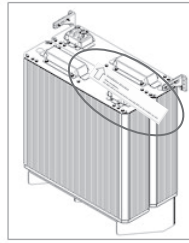
14. Connect Power, Communication, Earth cable between battery ~ Inverter. All cable should pass through the grommet on the BPU.



15. After connection of cables, turn on Circuit breaker.
16. After CB on, check LED is on.

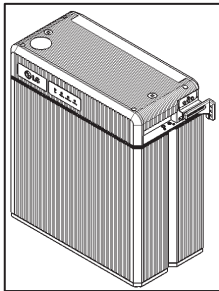


17. Assemble Wall Mounting Bracket Left/Right on BPU side.
(4 point, M5 bolt)

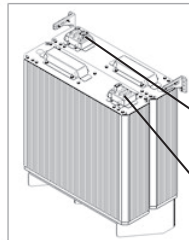


9. Assemble Wall Mounting bracket and module(front side) on bottom side by fastening bolt.(M8, 8point)

CAUTION
Be careful not to reverse or drop the module.

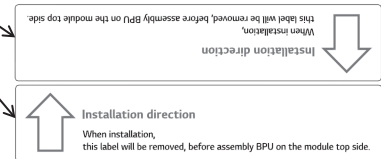


18. Assemble Top cover.(4point, M5, 3Nm)



10. Pull out the battery pack and stand it upright. Check if the battery pack is damaged.

11. When module setting, check the direction of the arrow is opposite such as picture below.



12. Remove connector labels.

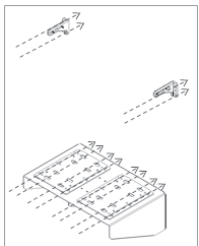
4.5.2 Wall Mounting Type

CAUTION

In case of wall mounting type, Wall mounting brackets are required. (optional parts)



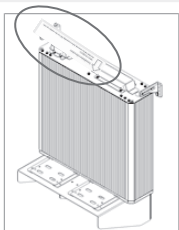
1. Determine where the mounting brackets are to be placed using the drill template.
2. Drill holes in the wall for the M6(0.25in) screw anchors. The drilling depth should be at least 50mm.
3. Drill holes in the wall for the M8(0.33in) screw anchors. The drilling depth should be at least 50mm.



4. Drive the 2ea screw anchors through the mounting brackets into the holes.
5. Tighten the screws to a torque of 5Nm.
6. Drive the 8ea set anchors through the wall mounting bracket into the holes.
7. Tighten the screws to a torque of 8Nm.

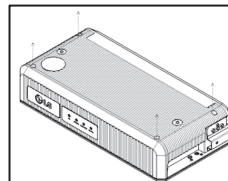
NOTE

It is allowed to use any other type of fastening suitable for the wall material.

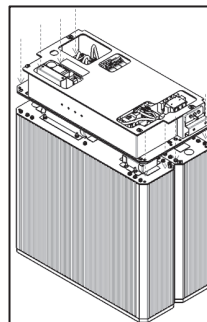


8. Assemble Wall Mounting bracket and module(rear side) on bottom side by fastening bolt.(M8, 8point)

CAUTION
Be careful of the reversed and dropped module unexpectedly.



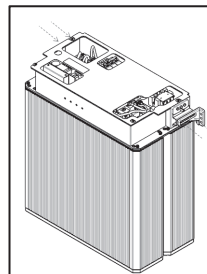
13. Remove Top cover of BPU.
(M5 bolt, 4point)



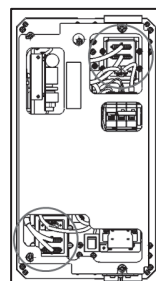
14. Assemble BPU without top cover on the module top side. Check that the LED direction is facing forward.

15. Tighten the M5 bolt.(8point, 5Nm)

CAUTION
Be careful not to let metallic material fall into the BPU inside.

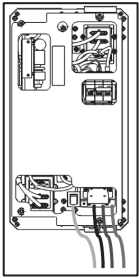


16. Assemble Wall Mounting Bracket Left/Right on BPU side.(4 point, M5 bolt)

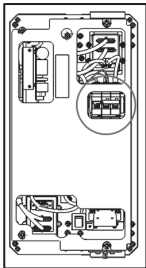


17. Connect Power & Sensing Connector between BPU ~ Module. (Red Circle)

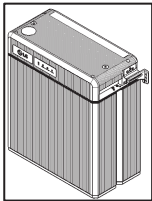
Battery Pack Installation



18. Connect Power, Communication, Earth cable between battery ~ Inverter. All cable should pass through the grommet on the BPU.



19. After connection of cables, turn on Circuit breaker.
20. After CB on, check LED is on.



21. Assembly Top cover.(4point, M5, 3Nm)

4.6 Cable connections

⚠ WARNING

Make sure that the inverter is turned off before connecting the battery pack to the inverter.

4.6.1 Connecting network cable

It is required for the battery pack to communicate with the inverter for proper operation. Connect a network cable between the battery pack and the inverter

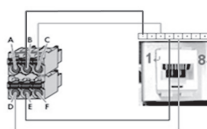
- The small grommet is too small for an RJ45 plug to pass through. Without RJ45 plug at the end, feed the network cable through a small grommet and then through the top of the small cable entries.
- Attach an RJ45 plug to the network cable using a wire stripper and cable crimper. Use this method to make a network cable, which is to be connected between the battery pack and the inverter.
 - Cut network cable to the needed length.
 - Strip 2.5 to 5 cm of the outer sheath at one end of the cable.
 - Untwist and separate each pair of wires.
 - Arrange the wires in this order:
 - BPU Signal Connector PIN Map (RJ45)

1	Enable
2	N.C
3	GND
4	CAN H
5	CAN L
6	N.C
7	N.C
8	N.C



□ Inverter Signal Connector PIN Map

SBS3.7	BPU
A	N.C
B	1
C	3
D	5
E	4
F	N.C



NOTE



Do not attach any boot to the network cable to keep the connector short. Using a connector longer than 23 mm may prevent the top cover from being reassembled properly.

- Connect the network cable to the network port.
- Push the grommet into the cable entry.

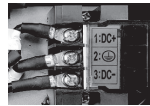
4.6.2 Connecting charging cables

- Feed a pair of charging cables through each of the grommets and then through each of the cable entries

NOTE

Pay attention not to reverse polarity. Connection with reversed polarity causes severe damage to the battery pack.

- Connect the charging cables to the terminal block.
 - Open the terminal cover plate, which is placed over the terminal block to protect it.
 - Connect the negative cable (-) to the terminal on the left, GND to the terminal on the middle and the positive cable (+) to the one on the right. Tighten the cross socket screws to a torque of 6 N·m.

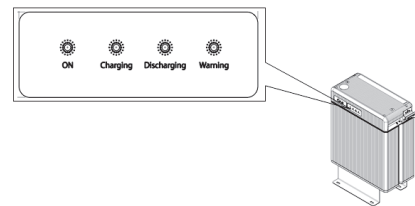


c) Close the cover

- Push the grommets into the cable entries.

5. Commissioning

5.1 LED indicators



There are four LED indicators on the front of the battery packs to show its operating status.

ON: This indicator stays on while the battery pack is supplied with power for operation.

Charging: This stays on while the battery pack is charging.

Discharging: This stays on while the battery pack is discharging.

Warning: This comes on when the battery pack is in a warning state.

5.2 Powering up the battery pack

Put the battery pack in operation by taking the following steps:

- Remove the top cover from the battery pack.
- Make sure that the circuit breaker switch is in the OFF position.
- Move the circuit breaker switch to the ON position to turn on the main battery pack.
 - See if the battery pack is successfully initialized.
 - The power on indicator on the front should turn on.
- Close the top cover.
- Turn on the inverter.

NOTE

If communication with the inverter is not established within 10 minutes after the battery pack is turned on, the circuit breaker automatically trips.

5.3 Shutting off the battery pack

To shut down the battery pack, take the following steps:

1. Turn off the inverter.
2. Remove the top cover from the battery pack.
3. Turn off the battery pack by moving the circuit breaker switch to the OFF position.
4. Make sure that every indicator on the battery pack is off.
5. Close the top cover.

6. Troubleshooting

6.1 Troubleshooting

Check the indicators on the front to determine the state of the battery pack. A warning state is triggered when a condition, such as with voltage or temperature, is beyond design limitations. The battery pack's BMS periodically reports its operating state to the inverter.

When the battery pack falls outside prescribed limits, it enters a warning state. When a warning is reported, the inverter immediately stops operation.

Use the monitoring software on the inverter to identify what caused the warning. The possible warning messages are as follows:

- Battery Over Voltage
- Battery Under Voltage
- Battery Over Temperature
- Battery Under Temperature
- Battery Discharge Over Current
- Battery Charge Over Current
- BMS Internal Communication
- Battery Cell Voltage Imbalance

The abnormal state is cleared when the battery pack recovers normal operation. If battery pack is not working correctly and the issue persists, contact a qualified personnel, Installer or LGC regional contact point.

NOTE

For a serious warning, if no proper corrective actions are taken by the inverter, the battery pack's circuit breaker automatically trips to protect itself.

CAUTION

If the battery pack or the inverter indicates FAULT or fails to operate, contact LGC regional contact point (page 35) or your distributor immediately.

6.1.1 Post-Installation Check List

- | | | |
|--|-----------------------|-----------------------|
| | YES | NO |
| 1. Visual check if the wiring matches with the installation manual. (3.2 Cable connection) | <input type="radio"/> | <input type="radio"/> |
| 2. The power cable connector is connected. | <input type="radio"/> | <input type="radio"/> |
| 3. The Circuit Breaker is ON. | <input type="radio"/> | <input type="radio"/> |
| 4. The battery "ON" LED is ON. | <input type="radio"/> | <input type="radio"/> |
| 5. The inverter power is ON. | <input type="radio"/> | <input type="radio"/> |
| 6. The inverter has the latest firmware. ¹⁾ | <input type="radio"/> | <input type="radio"/> |
| 7. The inverter recognizes the battery. ²⁾ | <input type="radio"/> | <input type="radio"/> |
| 8. The battery can operate after installation is correctly done. | <input type="radio"/> | <input type="radio"/> |
| 8-1. The AC grid is connected. | <input type="radio"/> | <input type="radio"/> |
| 8-2. The Meter is installed. | <input type="radio"/> | <input type="radio"/> |
| 8-3. The government approval is complete. | <input type="radio"/> | <input type="radio"/> |
| 9. IF ANY OF #8 IS CHECKED AS "NO" OR THE INVERTER NEEDS TO BE TURNED OFF, TURN OFF THE CIRCUIT BREAKER. ³⁾ | <input type="radio"/> | <input type="radio"/> |

6.1.2 Troubleshooting Guideline

If the battery LED is OFF

1. Turn off the Circuit Breaker.
2. Disconnect the power cable connector.
3. Turn off the inverter. Verify there is no power at the battery connection.
4. Unplug all the wires and reconnect. Re-check the wiring on the battery is done correctly. Refer to the installation manual (3.2 Cable connection).
5. After connecting the power cable connector, Turn on the Circuit Breaker.
6. Turn on the inverter. and check the battery LED.
7. If the LED is still off, turn off the Circuit Breaker.
8. Disconnect the power cable connector.

9. Contact LGC regional contact point.

- 1) Contact the inverter manufacturer.
- 2) Refer to the inverter installation manual or troubleshooting guideline.
- 3) Refer to the User guide or Installation manual (3.2 Cable connection) for the location of the battery. And the Circuit Breaker.

If the battery LED is ON, but the battery is not charging or discharging

1. Update both the inverter and battery firmware version. Refer to the inverter's troubleshooting guide for instruction.
2. Check the inverter's setting for battery. Refer to the inverter's troubleshooting guide for the battery set-up instruction.
3. If the battery is recognized, inverter set up is correct.
4. If the issue persists,
 - 4-1. Turn off the Circuit Breaker.
 - 4-2. Disconnect the power cable connector.
 - 4-3. Turn off the inverter. Verify there is no power at the battery connection.
 - 4-4. Unplug all the wires and reconnect. Re-check the wiring on the battery is done correctly. Refer to the installation manual (3.2 Cable connection).
 - 4-5. After connecting the power cable connector, Turn on the Circuit Breaker.
5. If the battery set up is correctly done, but if the battery still does not operate, turn off the Circuit Breaker
6. Disconnect the power cable connector.
7. Contact LGC regional contact point.

Status	ON	Charging	Discharging	Warning
On	●			
Charging	●	●		
Discharging	●		●	

If the battery FAULT LED is ON

1. Check if the inverter recognizes the battery. Refer to the inverter's troubleshooting guide on the battery set-up instruction.
2. Read the battery's fault ID through the inverter monitoring program via PC. Refer to the inverter's troubleshooting guide for instruction.
 - 2-1. Send the fault ID to LGC regional contact point.
 - 2-2. Turn off the Circuit Breaker
 - 2-3. Disconnect the power cable connector.
 - 2-4. Wait further instruction from LGC

Status	ON	Charging	Discharging	Warning
Fault	●			●

6.1.3 Contact information

Damaged batteries are dangerous and must be handled with extreme caution. They are not fit for use and may pose a danger to people or property. If the battery pack seems to be damaged, contact LGC regional contact point or your distributor. Use the contacts below for technical assistance. These phone numbers are available only during business hours on weekdays.

Service Contact

Region	Address	Telephone	Email
HQ (KOR) / Other Regions	LG Twin Towers, 128, Yeouui-daero, Yeongdeungpo-gu, Seoul, South Korea		essservice@lgchem.com
US	1064 Chicago Rd, Troy, MI 48083, USA	+1 888 375 8044	CSNorthAmerica.ESS@lgchem.com
Europe	Otto-Volger Str. 7C 65843 Sulzbach (Taunus), Germany	+49 6196 5719 660	techcenter@lgchem.com
Australia	Unit 12, 25-37 Dunlop Road, Mulgrave, 3170, Victoria, Australia	+61 1300 178 064	essserviceau@lgchem.com