RESU

Installation Manual for RESU10H(Type-R)

Compatible Inverter: SolarEdge, Fronius, Huawei

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

Version 2.0

LG Chem

Scan the QR code
[Installation Guide]

The information included in this manual is accurate at the time of publication.
However, this manual is subject to change without prior notice. In addition, the illustrations in this manual are meant only to help explain system configuration concepts and installation instructions.
Please note the image shown is for illustration purposes only.

⚠ CAUTION

After installation, the installer must explain the User Guide to the end-user.

Contents

1 Safety 5

1.1 Symbols 5

1.2 Safety Instructions 6

1.2.1 General Safety Precautions 6

1.2.2 Battery Handling Guide 6

1.2.3 Response to Emergency Situations 8

1.3 Warning label 9

1.4 Qualified Personnel 10

2 Product Introduction 11

2.1 Technical Data 11

2.1.1 Dimensions and weight 11

2.1.2 Performance 12

2.2 Feature 13

2.3 Packaging specification 13

3 Installation 14

3.1 Mechanical requirements 14

3.1.1 Unboxing the package 14

3.1.2 Items in the package 16

3.1.3 Installation locations 16

3.1.4 Clearance 17

3.1.5 Tools & Safety gears required 17

3.1.6 Mounting Bracket 19

3.1.7 Appearance and Dimension 20

3.1.8 System clearance 20

3.1.9 Installing the Battery Pack 21

3.2 Cable Connection 24

3.2.1 Spring terminal blocks 26

4 Commissioning 27

4.1 LED indicators 27

4.2 Powering up the battery pack 28

4.3 Shutting off the battery pack 28

5 Troubleshooting 29

5.1 Troubleshooting 29

5.1.1 Post-Installation Check List 30

5.1.2 Troubleshooting Guideline 30

6 Uninstallation & Return 32

6.1 Return/replacement instructions 32

6.1.1 Uninstallation from the wall 32

6.1.2 Contact information 34

7 Maintenance 34

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.



Protective Class 1



Caution, risk of electric shock, energy storage timed discharge.

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 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

- Do not expose battery to open flame.
- Do not place the product nearby highly flammable materials. It may lead to fire or explosion in case of accident.
- Do not expose or place near water sources like downspouts or sprinklers.
- Do not store this product in a place exposed to direct sunlight.
- A ventilated area is strongly recommended for handling the product.
- Store at cool and dry place. (Do not store in greenhouses and storage areas for hay, straw, chaff, animal feed, fertilizers, vegetables or fruit products.)
- Store the product on a flat surface.
- Store the product out of reach of children and animals.
- Store the product where it should be minimal dust and dirt in the area.
- Do not disconnect, disassemble or repair by unqualified personnel. Services must be made by qualified personnel only.
- 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.

- 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 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 Pack and on the cooling fin.
- Do not put the battery pack upside down on the ground.
- Do not connect the power cable at terminal block opposite direction.
- Do not charge or discharge damaged battery.
- If the battery pack is installed in the garage then ensure the product is above the height of the vehicle bumper and/or door.
- The RESU 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
- Only use the product with a LGC-authorized inverter. For a list of compatible inverters, go to : http://www.lgesspartner.com
- Do not connect any AC conductors or Photo-voltaic conductors directly to the battery pack and should be only connected to the Inverter.

1.2.3 Response to Emergency Situations

The RESU10H 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 adove 150°C.
  When the battery pack is burning, it leaks poisonous gases, Do not apporoach.

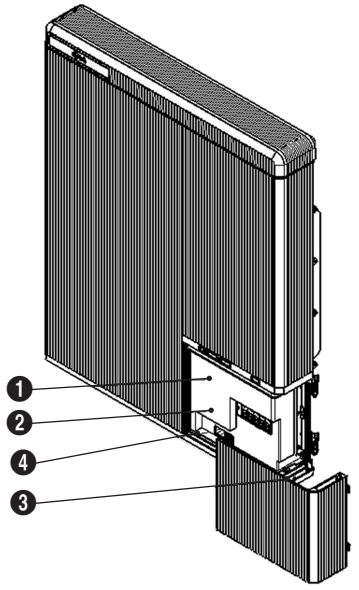
- **Effective Ways to Deal with Accidents**

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

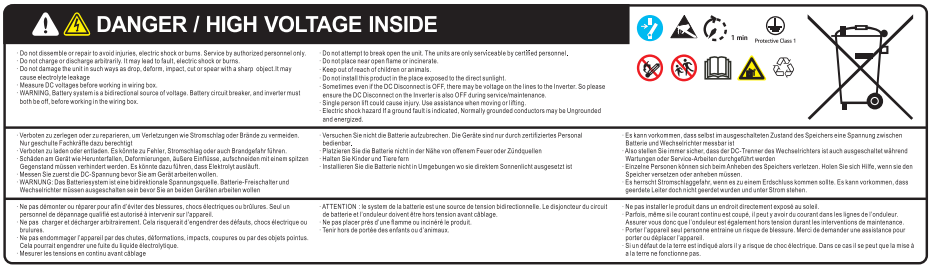
  In water : Stay out of the water and don't touch anything if any part of the battery, inverter, or wiring is submerged.
  Do not use submerged battery again and contact the service engineer.

1.3 Warning label

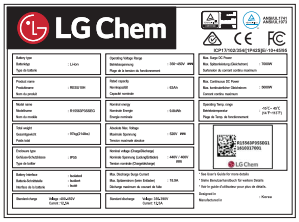
Warning labels and other relevant labels are attached to the inside of the battery pack.



1. Warning Label



2. Product Label



3. Traceability Label



4. DS Warning Label



1.4 Qualified Personnel

This guide and the tasks and procedures described herein are 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.

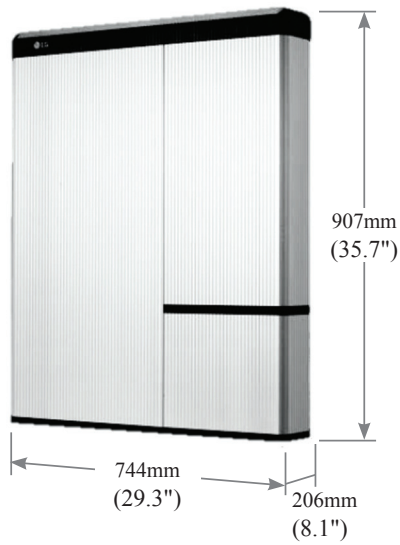
2 Product Introduction

2.1 Technical Data

2.1.1 Dimensions and weight

	RESU10H
P/N	EVESPBO0100B0
Width	744 mm (29.3")
Height	907 mm (35.7")
Depth	206 mm (8.1")
Weight [1)]	97kg (214lbs)

1) A battery pack's weight varies slightly.



2.1.2 Performance

RESU10H

Electrical Characteristics		
Total Energy Capacity		9.8kWh@25°C (77°F), 100% SOE
Usable Energy Capacity[1)]		9.3kWh
Battery Capacity		63 Ah
Voltage Range	Charge	400 to 450 VDC
	Discharge	350 to 430 VDC
Absolute Max. Voltage		520VDC
Max. Charge/Discharge Current		11.9A@420V / 14.3A@350V
Max. Charge/Discharge Power[2)]		5kW
Peak Power[3)] (only discharging)		7kW for 10 sec.
Peak Current (only discharging)		18.9A@370V for 10sec.
Communication Interface		RS485
DC Disconnect		Circuit Breaker
Connection Method		Spring Type Connector
User interface		LEDs for Normal and Fault operation

Operating Conditions	
Installation Location	Indoor / Outdoor (Wall-Mounted)
Operating Temperature	14 to 113°F (-10 to 45°C)
Operating Temperature (Recommended)	59 to 86°F (15 to 30°C)
Storage Temperature	-22 to 131°F (-30 to 55°C)
Humidity	5% to 95%
Altitude	Max. 6,562ft (2,000m)
Cooling Strategy	Natural Convection
Noise Emission	< 40 dBA

Certification		
Safety	Cell	UL1642
	Battery Pack	UL1973 / CE(IEC 60950-1) / RCM / TUV(IEC 62619)
Emissions		FCC
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).
※ Short circuit Current: 496.5A

1) Value for Battery Cell Only(Depth of Discharge 95%).
Actual usable energy at the AC output may vary by condition, such as the battery converter, inverter efficiency and temperature.

2) LG Chem recommends 2.1kW for maximum battery lifetime.

3) Peak Current excludes repeated short duration(less than 10 sec. of current pattern).

2.2 Feature

- Compact Energy storage unit for domestic photovoltaic system compatibility
- Residential 400V DC battery pack system : Daily cycle residential battery system.
- 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 (between Li-Ion battery and DC/DC converter) : Internal Short Circuit, Over Voltage, Over Current, Over Temp, Under Voltage
- Flexible installation : Indoor or Outdoor

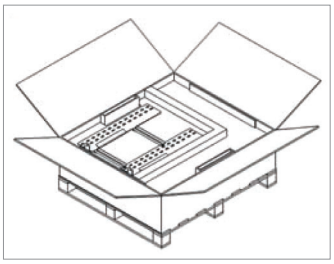
2.3 Packaging specification

Category		Contents	
Size (L×W×H) (mm)		960 (37.8") 1,070 (42.2") 450 (17.7")	Outer Size
Qty/Box (ea)		1	1 piece × 2 layers
Packaging Materials	Box	Corrugated Cardboard	Disposable
	Inner	EPS	Disposable
	Pallet	Wood	Disposable
Weight (kg)	Product	102 (225lbs)	1 piece/Box (Battery + Package Items)
	Packaging	31 (68lbs)	Pallet + Box + Inner
	Gross	133 (293lbs)	Product + Packaging

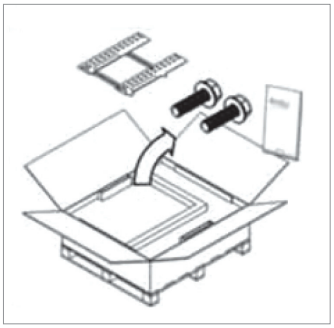
3 Installation

3.1 Mechanical requirements

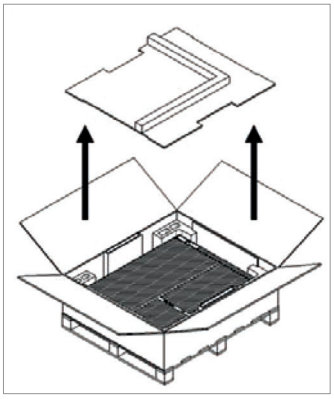
3.1.1 Unboxing the package



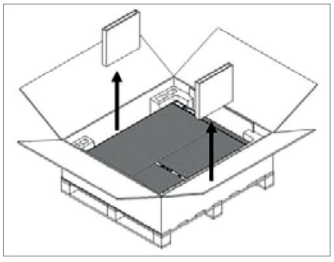
1. Cut the packing tape and open the carton.



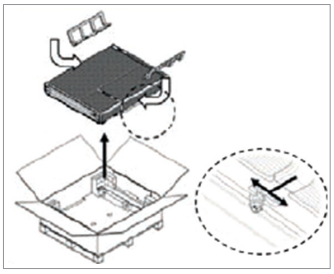
2. Pull out other items.
   Take them out and check if any item is missing.
   See Package items on section 3.1.2



3. Remove the wall bracket guide pad & cushioning pad.



4. Remove the side pad.



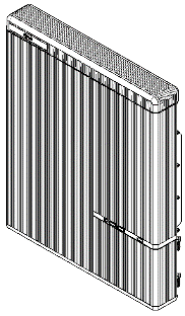
5. Pull out the battery pack using handles and stand it up. (Lift handles are sold separately for this product.)

⚠ CAUTION

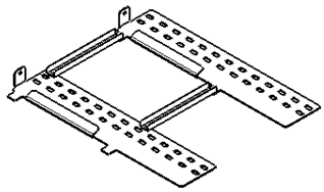
According to regional regulations, several people may be required for moving equipment.

3.1.2 Items in the package

These items are included in the package.



Battery pack



Wall bracket



M6 wall mount bolts (2EA)



Manual

3.1.3 Installation locations

Required :

- There must be no highly flammable or explosive materials nearby.
- The ambient temperature should be within the range of 14 ~ 113°F (-10 ~ 45°C).
- Battery pack must be installed on walls that are upright and can support battery weight.
- Product shall be installed indoors (ex. Basement or garage); or, outdoor but must be installed under an eave and out of direct sunlight.

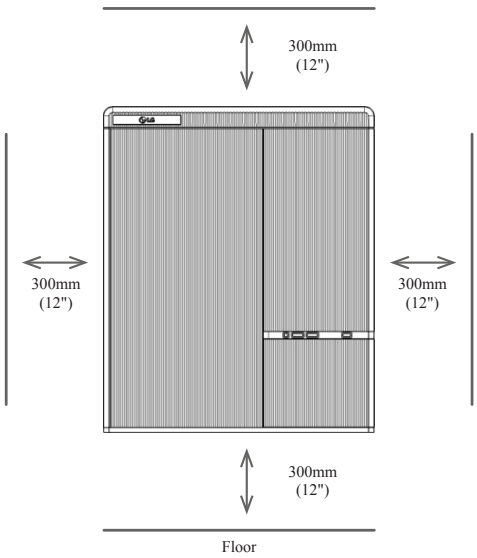
Recommended :

- The building should be designed to withstand earthquakes.
- The waterproof and properly ventilated area is recommended. (IP55)
- Install the product on a flat wall.
- Install this product out of reach of children and animals.

⚠ CAUTION

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 operating is from 59 to 86(15 to 30°C). Frequent exposure to harsh temperatures may deteriorate the performance and life of the battery pack.

3.1.4 Clearance

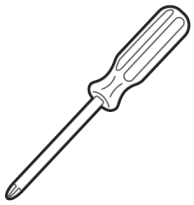


- Minimum clearances for the left, right, top and bottom of the product is shown in the figure for the proper ventilation and installer convenience.

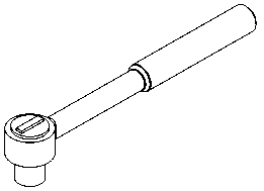
3.1.5 Tools & Safety gears required

- **Tools**

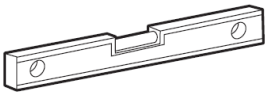
  The following tools are required to install the battery pack :



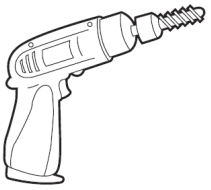
Precision screwdriver



M6 Torque wrench



Inclinometer



Drill
(Min. Diameter 10mm, 0.4")



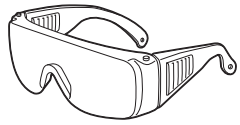
Pencil or Marker

- **Safety gears for personal protection**

  It is recommended to wear the following safety gears when handling the battery pack.



Insulated gloves



Safety goggles



Safety shoes

NOTE

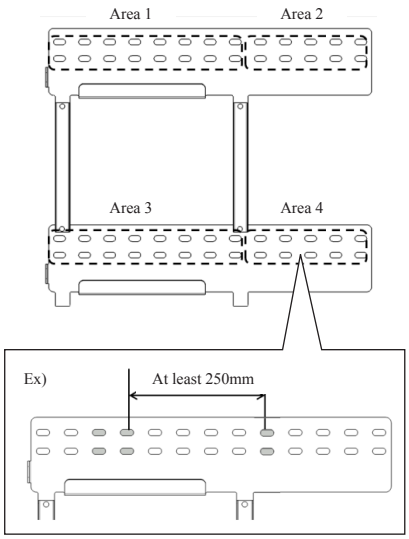
RESU HV is heavy and challenging to lift. Lift handles are recommended.

3.1.6 Mounting Bracket

When installing the battery pack on a wall, make sure that the wall is capable of supporting the weight of the battery pack.

To mount the battery pack on a wall, take the following steps :

1. Mark the location on the wall for the holes.
2. Drill holes for fasteners in the wall.
3. Drive the fasteners through the mounting bracket into the holes.



- Recommended diameter :
  10mm(0.4") Min.
- Recommended length :
  70mm(2.8") Min.
- Recommended material :
  Stainless steel (8.8T)
- Recommended fastener count :
  4(Area1)/2(Area2)/4(Area3)/2(Area4)
  - Vertically
- Recommended minimum fastener clearance :
  At least 250mm (10")
  ex. Between Area 1's last fastener and Area 2's first fastener

⚠ CAUTION

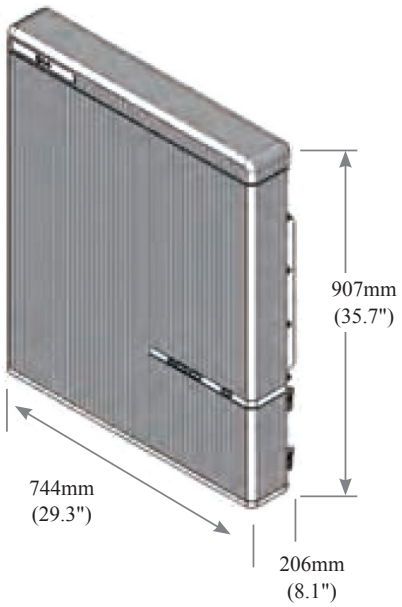
Make sure that the battery pack is at all times exposed to the ambient air.
The battery pack is cooled by natural convection. If the battery pack is entirely or partially covered or shielded, it may cause the battery pack to stop operating.

3.1.7 Appearance and Dimension

- **Appearance**

  Proper handling and care is recommended as disassembly, change of color, scratches, leakage of liquid, and stains may influence the economic value of the battery pack.

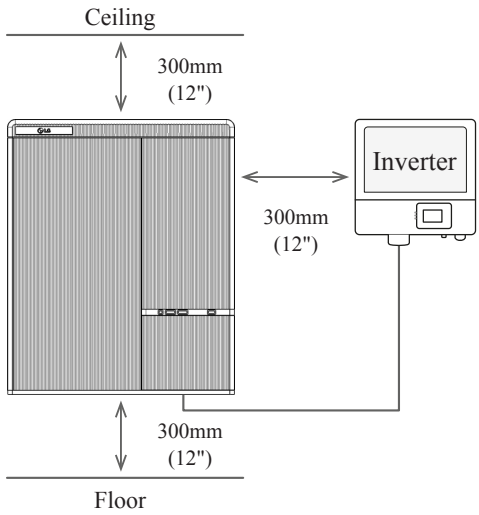
- **Pack appearance and dimension**



- **Color and Material**
  - Front / Rear Cover : Silver or Gold, Aluminum
  - Top / Bottom / LED Cover : Black, Plastic

3.1.8 System clearance

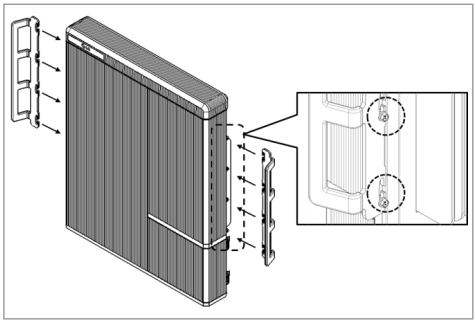
Battery requires adequate clearance for installation, cabling and air flow.
Minimum clearance in the system configuration is as follows.



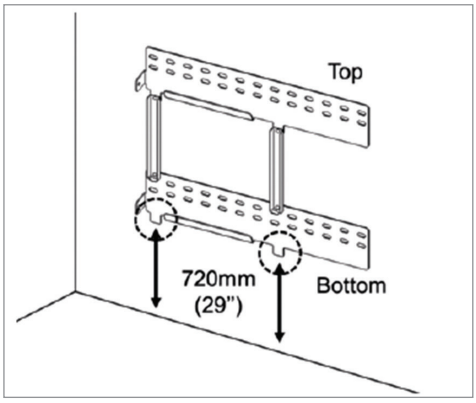
3.1.9 Installing the Battery Pack

⚠ CAUTION

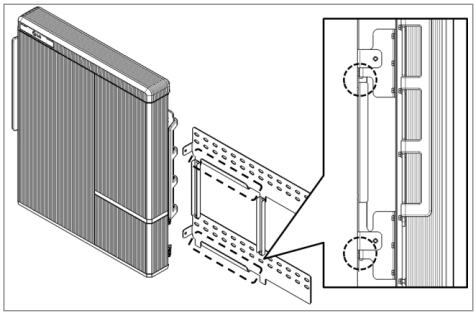
Make sure that the inverter AC and DC disconnects are turned off before connecting the power cable to the battery pack.



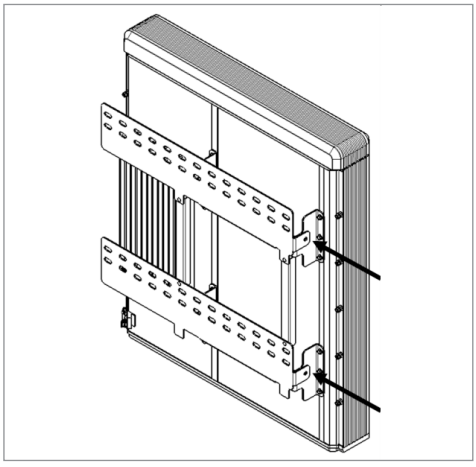
1. Fix the lift handles to the hex-socket screws on the rear (marked position) of both left and right sides.



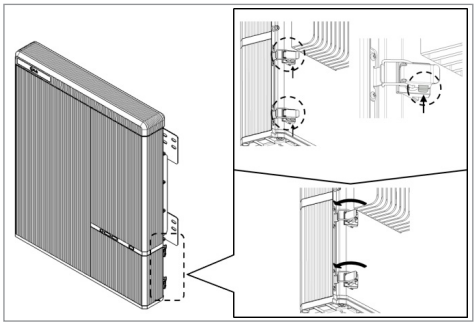
2. Mount the wall bracket to a wall. Tighten the screws, ensuring that they are horizontally driven into the wall. (Must be installed with recommended clearances(720mm[29"]) on the edge of the wall bracket as shown in the figure)



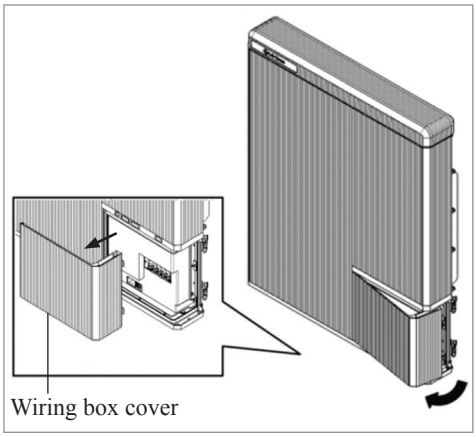
3. Mount the battery pack to a wall bracket's "U" shape clip using the support by lift handles. Remove the lift handles.



4. Tighten the two hex-socket screws enclosed and remove the lift handles. The nuts for these screws are welded to the battery pack chassis. Tighten to a torque of 5 N•m using the M6 torque wrench.



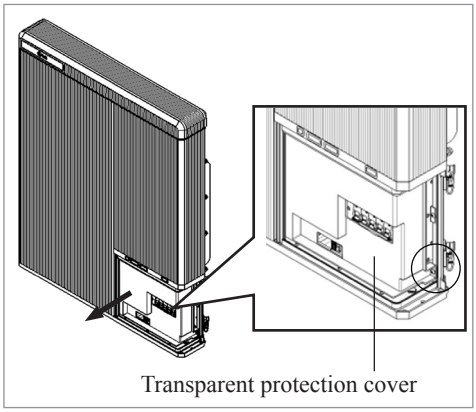
5. Press the two buttons and pull the two latches (marked position) on the rear side of the wiring box cover (hinged door).



6. Open the wiring box cover (about 2~10 degrees), and pull to remove it.

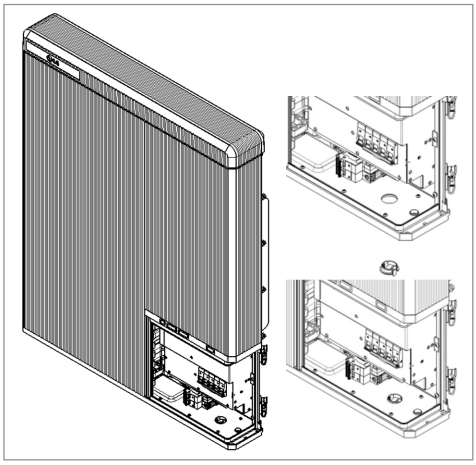
⚠ CAUTION

The wiring box cover is heavy. [approx. 1.6kg(3.5lb)] If dropped it may cause injury.

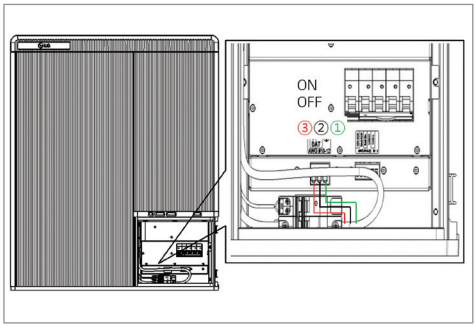


7. Loosen the screw (marked position), and remove the transparent protection cover.

> **⚠ CAUTION**
>
> If you lose or break a protection cover, that violates NEC Regulation.

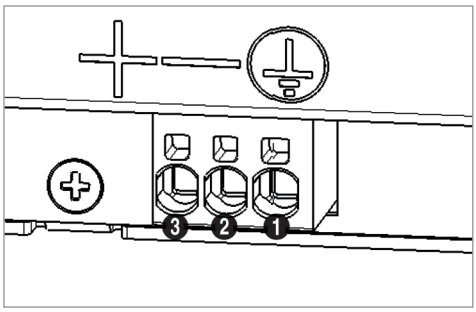


8. Remove the cap on hole in the bottom side, and assemble the ¾" conduit plug. In the case outdoor, it must be sealed to comply “IP55” [ex) gasket, sealing foam, silicon, etc], where the battery pack installation is outdoor.



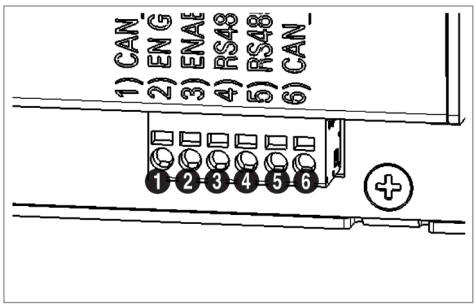
9. Connection Power / Communication cables, according to the labels marked.

3.2 Cable Connection



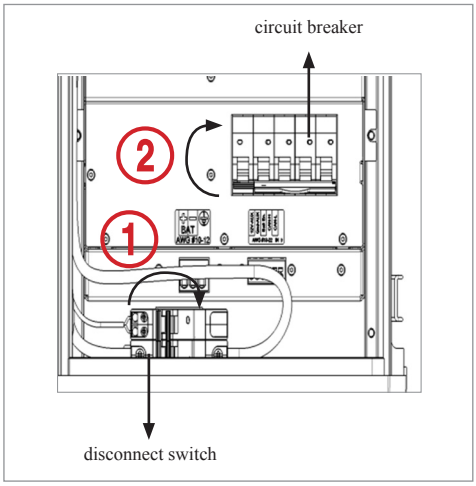
1. See 3.2.1. for Power Cable specifications

   a) Connect the ground wire to terminal 1.
   b) Connect the negative line of the power cable to terminal 2.
   c) Connect the positive line of the power cable to terminal 3.



2. See 3.2.1. for Communication Cable specifications
   At first, connect the ground wire to terminal 2. Then, make connections to the other terminals one after another.

   Install protection cover before turning on.



3. Connecting the battery pack to the inverter
   Refer to the Installation Instructions
   For the inverter to connect the power cable
   And communication cable to the inverter.
   Then, push the disconnect switch up
   So that it is in the ON position.

※ Must turn off the disconnect switch to reduce self-discharge of battery during shipping and storage.

4. After turning disconnect switch ON,
   Turn on the circuit breaker.

⚠ CAUTION

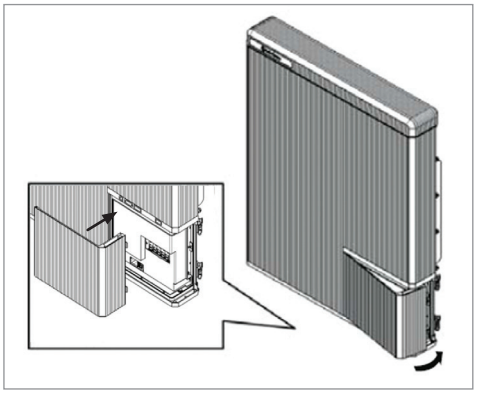
MUST follow the turn on procedure.

⚠ CAUTION

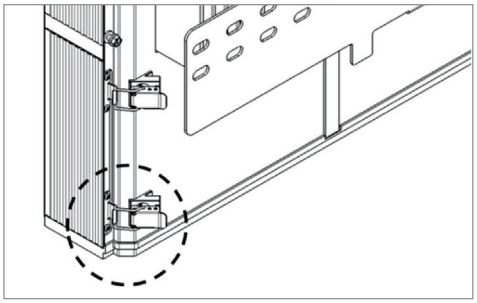
Please turn on or off the switch by pushing the middle of the bar.
It is forbidden to push either end side of the bar.
Any improper use could damage the product.





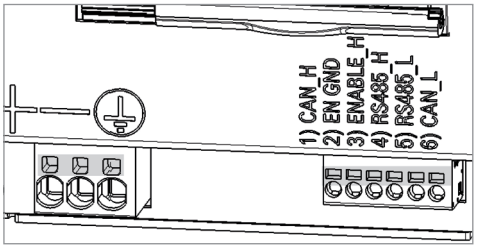



5. Close the wiring box cover.
   Reattach battery over the two latches on the rear.



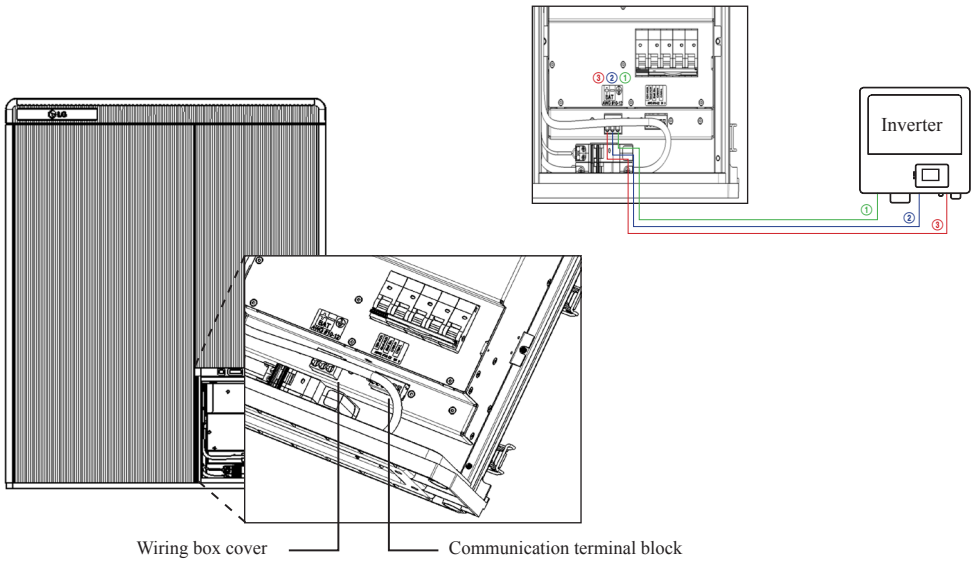
6. Hang the User Guide onto the latch on the rear of the battery.

※ Connect/disconnect the wire to connector sequence



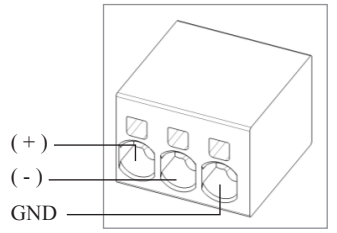
1. Make sure the circuit breaker off and the disconnect switch off.
   If removing power cables, check for voltage at power cable terminal.
2. To remove one of the wires from its terminal, insert a small screwdriver into the rectangular hall above the terminal.
3. Apply slight pressure to the screwdriver and at the same time pull out the wire.

3.2.1 Spring terminal blocks



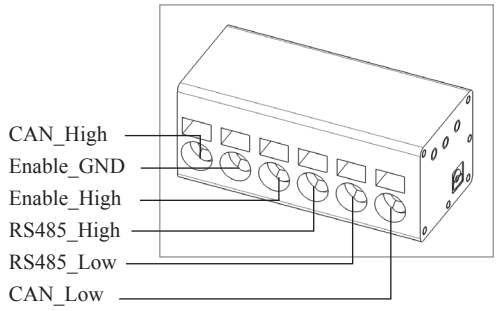
1. Power terminal block

- Max cable length: 10m (35ft)
- Cable Type : 4~10㎟ (8~12AWG)
- DC 600V insulated
- Pinning
- Phoenix Contact
- PCB Terminal Block SPT 5/3-V-7,5-ZB
- P/N : 1719325



2. Communication terminal block (SELV)

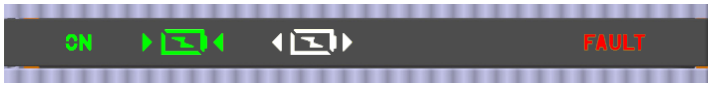
- Max cable length: 10m (35ft)
- Cable Type : 0.2~1.5㎟ (18~24AWG)
- Pinning
- Phoenix Contact
- PCB Terminal Block SPT 2,5/6-V-5,0
- P/N : 1991134

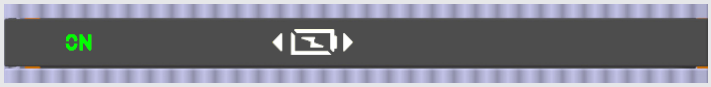


4 Commissioning

4.1 LED indicators

The LED indicators on the front of the battery pack show its operational state as follows:



LED Status	Action
	Power on, Idle
	Charging
	Discharging
	Fault

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 ON.

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

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

FAULT : This comes on when the battery pack is in a warning state.
See Troubleshooting on page 29

4.2 Powering up the battery pack

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

1. Remove the wiring box cover.
2. Turn on the disconnect switch after installation battery pack.
   Make sure that the Circuit Breaker switch is in the OFF position.
   (including Trip position)
3. Move the circuit breaker switch to the ON position within 60 seconds after turn on the Disconnect switch.
4. Seconds after the Circuit Breaker switch is ON, 4 LEDs will be lit.
5. Make sure that ON indicator is on and see if the battery pack is successfully initialized.
   The power on indicator on the front should turn on in green.
6. Close wiring box cover.
7. Turn on the inverter.

⚠ CAUTION

If it stays off, indicates FAULT or fails to operate, do not use the battery pack and contact LG Chem (page 34) or your distributor.

4.3 Shutting off the battery pack

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

1. Turn off the inverter.
2. Remove the wiring box cover.
3. Turn off the battery pack by moving the Circuit Breaker switch to the OFF position.
4. Turn off the disconnect switch.
5. Close the wiring cover box.

⚠ WARNING

Do not turn off the disconnect switch at normal operation (Charge/Discharge/Idle).
If not commissioning after installation or there is any fault on the battery pack, turn off the Circuit Breaker, then turn off the disconnect switch.

5 Troubleshooting

5.1 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 warming, if no proper corrective actions are taken by the inverter, the battery pack's circuit breaker and disconnect switch automatically trip to protect it self.

⚠ CAUTION

If the battery pack or the inverter indicates FAULT or fails to operate, contact LGC regional contact point(page 34) or your distributor immediately.

5.1.1 Post-Installation Check List

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

5.1.2 Troubleshooting Guideline

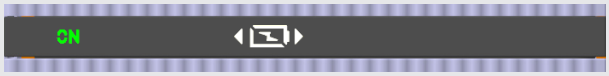
If the battery LED is OFF

1. Turn off the Circuit Breaker.
2. Turn off the disconnect switch.
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. Turn on the Circuit Breaker.
6. Turn on the inverter.
7. If the LED is still off, turn off the Circuit Breaker.
8. 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 Disconnect switch 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. Turn off the disconnect switch.
   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. Turn on the disconnect switch first, then 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 first, then turn off the Disconnect switch.
6. Turn off the disconnect switch.
7. Contact LGC regional contact point.

LED Status	Action
	Power on, Idle
	Charging
	Discharging

If the battery FAULT LED is ON

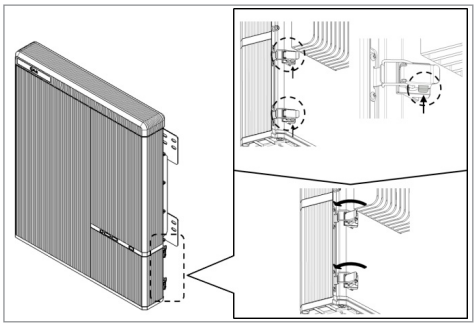
1. Check if the inverter recognizes the battery. Refer to the inverter's troubleshooting guide on the battery set-up instruction.
2. If the inverter is connected to the internet, collect the log file from the inverter company.
   2-1. Send the fault ID to LGC regional contact point.
   2-2. Turn off the Circuit Breaker first, then turn off the disconnect switch.
   2-3. Wait further instruction from LGC
3. If the inverter is not connected to the internet, check the inverter LCD to read battery's fault ID. Refer to the inverter's troubleshooting guide for instruction.
   3-1. Send the fault ID to LGC regional contact point.
   3-2. Turn off the Circuit Breaker first, then turn off the Disconnect switch.
   3-3. Wait further instruction from LGC

LED Status	Action
	Fault

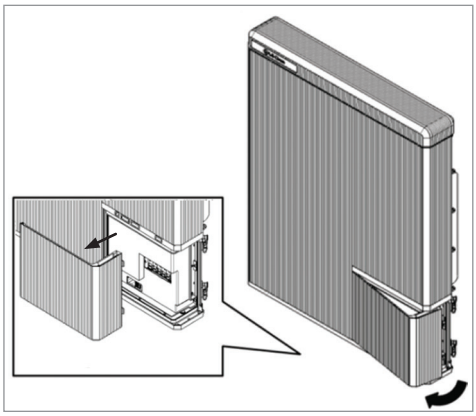
6 Uninstallation & Return

6.1 Return/replacement instructions

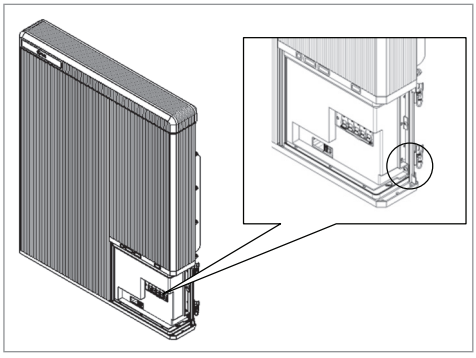
6.1.1 Uninstallation from the wall



1. Switch OFF the Inverter before starting the uninstallation of the battery pack.
2. Press the two buttons and pull the two latches (marked position) on the rear.



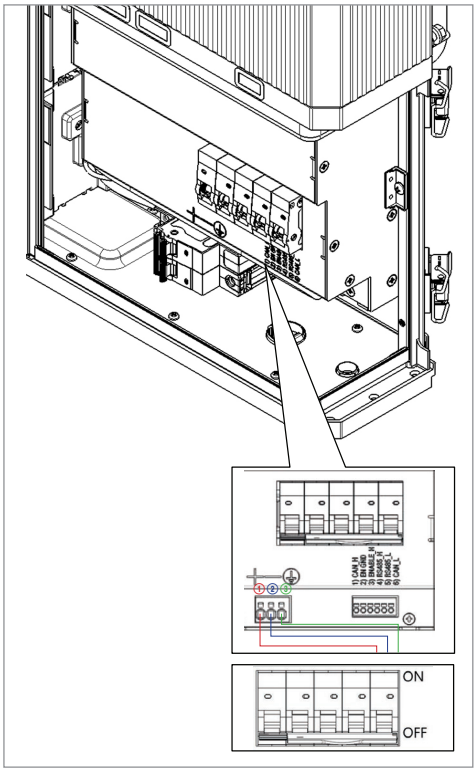
3. Open the wiring box cover (about 2~10 degrees), and pull to remove it.



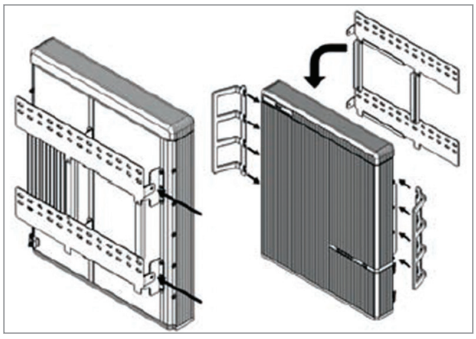
4. Switch off the circuit breaker and make sure that is in the OFF position.After that turn off the disconnect switch.

> **⚠ CAUTION**
>
> MUST follow the turn off procedure.
> and do not turn off the disconnect switch while the battery is in operation.

5. Loosen the screw (marked position), and remove the transparent protection cover.



6. Check for voltage at power cable terminal.
7. Disconnect the communication cable from the communication port.
8. Disconnect the power cable from the terminal block. Disconnect the positive terminal (+) ① first, and next the negative terminal (−) ② and finally ground terminal ③.
9. Assemble transparent protection cover. Close the wiring box cover, and lock the ratchet.



10. Loosen the two hex-socket screws using a socket wrench to detach the battery pack from the wall using lift handles.

> **⚠ CAUTION**
>
> According to regional regulations, several people may be required for moving equipment.

11. Repack in Box (See 3.1.1)

6.1.2 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		
HQ (KOR) / Other Regions	Address	29, Gwahaksaneop-3-ro, Oksan-myeon, Heungdeok-gu, Cheongju-si , Chungcheongbuk -do, South Korea
	E-mail	essservice@lgchem.com
US	Address	1064 Chicago Rd, Troy, MI 48083, USA
	Telephone	+1 888 375 8044
	E-mail	CSNorthAmericaESS@lgchem.com
Europe	Address	Otto-Volger Str. 7C 65843 Sulzbach (Taunus), Germany
	Telephone	+49 6196 5719 660
	E-mail	techcentereu@lgchem.com
Australia	Address	Unit 12/35 Dunlop Road, Mulgrave, 3170, Victoria, Australia
	Telephone	+61 1300 178 064
	E-mail	essserviceau@lgchem.com

7 Maintenance

Check sealing components [ex)gasket, sealing foam, silicon, etc] (p.23 no9) every half year for IP 55

LG Chem

Keep this manual for later use.

© 2018 LG Chem ESS Battery Division
LG Guanghwamun Building, 58, Saemunan-ro, Jongno-gu, Seoul, 03184, Korea
http://www.lgesspartner.com http://www.lgchem.com