

Limited Warranty for RESU Prime Home Battery of LG Energy Solution

This limited warranty (hereinafter ‘**Warranty**’) specified below applies to LG Energy Solution Lithium-ion battery and the Accessory Component (hereinafter ‘**Products**’) manufactured by LG Energy Solution, Ltd. (hereinafter ‘**LG Energy Solution**’), purchased by End-users (hereinafter ‘**Buyer**’) through an authorized RESU sales channel (hereinafter ‘**Reseller**’) and installed by ‘**Certified Installer**’. ‘Certified Installer’ must hold LG Energy Solution certificate for RESU Prime products.

The following ‘Warranty’ is provided for the ‘Products’ below.

Product Model	Model Code
RESU10H Prime	EH153064P8S1
RESU16H Prime	EH257064P8S1

1. Purpose

The primary purpose of this ‘Warranty’ is to clearly define the matters related to the warranty policy of the ‘Products’.

2. Obligations

2.1 ‘Buyer’ shall use and maintain the ‘Products’ in accordance with documentation including the Attachment 1 (Battery Technical Specifications) provided by LG Energy Solution.

2.2 ‘Buyer’ shall comply with all precautions specified in documentation provided by LG Energy Solution.

2.3 The ‘Products’ shall be charged only through compatible inverter connected to PV or Grid. In order to maintain minimum charging state, the ‘Products’ must be connected to the Grid. When the ‘Products’ are installed where Grid is not connected, the ‘Warranty’ will be voided.

2.4 The ‘Products’ require using an approved, compatible inverter. When the ‘Products’ are installed with a non-approved inverter, the ‘Warranty’ provided by LG Energy Solution will be voided.

For a list of compatible inverters, ‘Reseller’ or ‘Buyer’ can visit the Battery Website of LG Energy Solution by the URL below and check the ‘Home Battery’ > ‘Product Info’ menu.

<https://www.lgessbattery.com/de> (Germany)

2.5 Any person performing installation and maintenance of the ‘Products’ must have the appropriate electrical qualifications and licenses for battery installations required by the country, and the state in addition to being a ‘Certified Installer’.

3. Product Warranty

LG Energy Solution will replace or repair any defect in the ‘Products’ subject to the terms of this ‘Warranty’ including the exclusions set out in Articles 7, 8 and 9. The Product Warranty shall begin either (i) on the date of the installation or (ii) twelve (12) months from the date of manufacture, whichever occurs first, and such ‘Warranty’ shall be valid for a period of ten (10) years.

4. Performance Warranty

4.1 LG Energy Solution guarantees energy retention (80%) at the earlier of (i) the end of ‘Warranty’ period (10 years) or (ii) when the aggregate energy throughput is met as setout below, including the exclusions set out in articles 7, 8 and 9, provided that the battery systems are operated under the conditions set forth in Attachment 1 (‘Battery Technical Specifications’).

The performance warranty shall begin to take effect either (i) on the date of installation or (ii) twelve (12) months from the date of manufacture, whichever occurs first.

Application	Warranty Period	Aggregate Energy Throughput
Residential storage for solar self-consumption or back-up	10 years from warranty term commencement date	RESU16H Prime : 39.5 MWh RESU10H Prime : 23.7 MWh

4.2 The value of aggregate energy throughput and energy retention (80%) shall be measured on the following conditions by LG Energy Solution:

Capacity measurement condition:

- Ambient temperature : 25 ~ 30°C (77-86°F)
- Initial battery temperature from BMS : 25 ~ 30°C (77-86°F)
- Charging/discharging method :
 - Charge: 0.3CP/CV, Cut-off current 0.05C at:
 - RESU10H Prime: 174.3V(BPI*) RESU16H Prime: 290.5V(BPI*)
 - Discharge: 0.3CP, Cut off voltage at:
 - RESU10H Prime: 126V(BPI*)RESU16H Prime: 210V(BPI*) or cut-off min. cell voltage 3V
- Current and voltage measurements taken at battery side (BPI*)

* BPI : Battery Power Interface

4.3 In the event of the ‘Warranty’ exclusion described in Article 8, the Performance Warranty shall be expired.

5. Warranty Claim

5.1 The 'Buyer' shall notify or contact, within 1 month, their 'Reseller' or LG Energy Solution if the purchased or installed 'Products' are found to be defective, damaged and/or when the quality-related problems occur by using the Contact point in Article 10.

5.2 If the 'Buyer' intends to raise a claim due to the quality defect of the 'Products' pursuant to Articles 3 or 4, the 'Buyer' shall provide LG Energy Solution with the following information.

- (1) Dated proof of purchase from authorized RESU sales channel

For authorized RESU sales channel information, 'Reseller' or 'Buyer' can visit the Battery Website of LG Energy Solution by the URL below and check the 'Home Battery' > 'Where to Buy'.

<https://www.lgessbattery.com/de> (Germany)

- (2) Description of defects, symptoms and when it occurred
- (3) Product(s) serial number (The 'Products' have 3 serial numbers.)
 - a) Battery Module #1
 - b) Battery Module #2
 - c) BCU (Battery Control Unit)
- (4) Further information requested by LG Energy Solution to determine the defect and its cause (for example, error code, description of defect and other information)
- (5) 'Certified Installer' or 'Reseller' name, company name and company address

5.3 LG Energy Solution shall identify the defect notified by the 'Buyer', and repair or replace if the defect would be covered by the Product Warranty set out in article 3 or the Performance Warranty set out in article 4 in accordance with the terms of this Warranty.

6. Replace or Repair

6.1 When a claim is submitted under the Product Warranty or Performance Warranty, LG Energy Solution shall decide whether to (i) repair, or (ii) replace the defective 'Products' with refurbished parts equal in value.

6.2 The 'Warranty' period for the repaired or replaced part/product shall be the remainder of the warranty period for the original part/product.

6.3 Subject to the requirements of any law, no obligation for LG Energy Solution to indemnify or compensate 'Buyers' for any damages which shall arise out of Product Warranty or Performance Warranty unless otherwise explicitly specified herein.

6.4 The 'Warranty' for defective products are only valid when they have been repaired or replaced by personnel appointed by LG Energy Solution.

In the event the 'Products' are no longer commercially available, LG Energy Solution, at its option, may complete the replacement with alternative equipment deemed to be equivalent in function and performance, or refund the remaining depreciated value of the purchase price of the 'Products' during the Free Warranty Period as set out in the Compensation Scheme below. The Purchase Price of the Product is defined by the price paid, in local currency, by the 'Reseller' or 'Certified Installer'.

- Compensation Scheme (For performance warranty) -

- Residual value in [Local Currency] = purchasing price in [Local Currency] / 120 x (120 - Operation time after installation in month)
- No warranty of performance will be provided from the 121st month

7. Exclusion for Failure to Connect to the Internet or Failure to Register the Product

In order to provide the 'Warranty' for the full warranty period as set out in Article 3 and Article 4, LG Energy Solution requires the ability to perform the remote firmware updates. These remote updates may interrupt the operation of the 'Products' for a short period, but LG Energy Solution can provide important firmware updates when the 'Products' are connected to the Internet. When the 'Products' are connected to the Internet, it means that you agree with LG Energy Solution to perform the remote updates, without further notice to you.

When the 'Products' are not connected to the Internet or not registered in the RESU Monitor website (<http://resumonitor.lgensol.com>), and LG Energy Solution cannot provide important updates for the 'Products', LG Energy Solution may not be able to honour the full Warranty period. However, LG Energy Solution will provide the 'Warranty' for at least five years notwithstanding lack of registration and/or internet connection. Please also note that the registration process will request you for accepting of collecting personal information.

8. General Exclusions

This 'Warranty' does not apply to any defects or performance failures comprising or resulting from any of the following.

- When the 'Products' are not installed as specified in the Installation Manual
- When the 'Products' are installed by a person lacking the appropriate electrical qualification and license/certificate for the battery installation required by the law, including country and state jurisdictions.
- When the 'Products' are not purchased through authorized sales channel designated by LG Energy Solution.
- When the 'Products' are not installed and/or serviced by the 'Certified Installer' of LG Energy Solution.
- When the 'Products' are not manufactured by LG Energy Solution.
- When the 'Products' are transported, stored, installed, assembled, tightened, or wired out of compliance of the official installation manual and datasheet of the 'Products'.
- When the 'Products' are disassembled or dismantled without prior consent of LG Energy Solution.

- When the 'Products' are damaged by physical or electrical stresses such as, inclusive but not exclusive of, inrush current, lightning, flood, tidal wave, fire, or incidental damage.
- When the defect or performance failure occurs or the scope of the defect expands due to improper repair of the 'Products' carried out by technicians who are not approved by LG Energy Solution and/or instructed by the 'Buyer' without the consent of LG Energy Solution.
- When the defect or performance failure occurs in the 'Products' due to the wilful misconduct or negligence of the 'Buyer' or 'Reseller'.
- When the defect or performance failure occurs due to the misuse, faulty use, or negligent use of the 'Products'.
- When the 'Products' are used for purposes other than the Application under Article 4 and Attachment 1.
- When a claim is raised for the 'Products' after the warranty period specified in Article 3 and Article 4 has expired.
- When the scope of the defect or performance failure has expanded because LG Energy Solution or the 'Reseller' were not notified of the defect or failure in the period specified in Article 5.
- When the defect and/or any expanded scope of the defect are caused by force majeure events, such as war, riot, civil war, natural disasters, etc., that are not wholly or predominantly attributable to the acts or omissions of LG Energy Solution.
- When the 'Products' are externally damaged but its performance and function are not affected.
- When the 'Products' are damaged during the transportation from the 'Reseller' to the 'Buyer'.
- When the 'Buyer' or 'Reseller' violates applicable law, including laws or regulations of the state, country or local government while using the 'Products'.
- When a claim for the 'Products' is not raised as prescribed in Article 5.
- Other defects not attributable to LG Energy Solution and up to the extent general exclusions are permitted under the applicable laws.

9. Special Exclusions

9.1 Exclusion of Warranties

The 'Warranty' will not apply if the 'Buyer' violates any of the following provisions:

- The 'Products' shall not be used in facilities with radiation control, nuclear reactors, and facilities related to nuclear safety or nuclear power uses, as well as facilities that may have direct contact with patients.
- The 'Products' shall not be used to power medical devices or life-support equipment.
- The 'Products' shall not be used or installed in a location where vibrations may occur. For example, aircraft, ship (vessel, boat, yacht), car or train are not allowed.
- The 'Products' shall be used for residential stationary storage applications.

9.2 Exclusion of Incidental or Consequential Damages

- To the maximum extent permitted by applicable law, in no event will ‘LG Energy Solution’ or any of its representatives be liable to ‘Buyer’ for any incidental or consequential damages arising out of breach of the warranty whether or not the ‘Buyer’ has been advised of the possibility of such damages.

9.3 Disclaimer of Implied Warranties

- The warranty set forth herein is in lieu of, and ‘Reseller’ expressly disclaims all other product warranties of any kind whatsoever whether express, implied, statutory, arising by course of dealing or performance, custom, usage in the trade or otherwise, any warranty of merchantability, or fitness for a particular purpose, and in any event no such implied warranty has applicability beyond the time period covered by this warranty.

10. Contact

If the ‘Buyer’ has any questions or wants to file a claim, the first step is to contact the ‘Reseller’. And the ‘Reseller’ shall contact LG Energy Solution using the following contact information.

LOCATION	TELEPHONE	E-MAIL
GERMANY	+49 (0) 6196 5719 660	lgchem@e-service48.de
HQ (KOR)	-	essservice@lgensol.com

11. Applicable law

The ‘Warranty’ is governed by the law of the country or state or jurisdiction in which the ‘Buyer’ resides. This ‘Warranty’ only applies to the ‘Buyer’ who has purchased the ‘Products’ for his or her own use.

12. Applicable Countries

This ‘Warranty’ is applicable only in the countries listed as below. LG Energy Solution is not responsible for any claims against this Warranty made in and/or based on the event occurred in any countries other than listed herein.

- Germany

13. Specific Provisions for Countries

The Buyer's rights and remedies under the applicable national legislation, i.e. the rights of the Buyer derived from the purchase contract against 'LG Energy Solution' and/or the 'Reseller', are not affected by this Warranty. This Warranty applies in addition to the applicable contractual and/or statutory product defect liability provisions and does not limit any rights and remedies of Buyers against 'LG Energy Solution' or the 'Reseller' or other mandatory rights and remedies existing under national or European law. In the event of inconsistencies between the provisions of this Warranty and the applicable contractual and/or statutory product defect liability provisions existing under national or European Law, the latter will prevail.

General statement for consumers in the EU: Consumers in the EU are entitled to legal guarantees, as applicable, the conditions of which may vary depending on the EU Member State where the consumer resides.

Attachment 1. Battery Technical Specifications

Items		RESU10H Prime (EH153064P8S1)	RESU16H Prime (EH257064P8S1)	
Electrical	Voltage Range	Charge	410 ~ 450V	
		Discharge	350 ~ 400V	
	Usable Energy ¹⁾		9.6kWh	16.0kWh
	Max. Power / Max. Current		5kW / 14.3A	7 kW / 20A
	Peak Power (for 10sec)		7kW _p	11kW _p
	Standard Charging /Discharging Condition	Charging Power	Following Power limit under 0.3 CP @ 25±2°C (77±3.6°F)	
		Cut off Condition	Charge Power limit = 0 or SoC 100%	
		Discharging Current	Following Power limit under 0.3 CP @ 25±2°C (77±3.6°F)	
		Cut off Condition	Discharge Power limit = 0 or SoC 0%	
	Round-trip Efficiency		>90.3% (under specific condition)	
Communication Interface		CAN 2.0B (500kbps), RS485		
Environmental	Installation Method		Standing / Wall Mount Fixture	Standing
	Installation Site		Indoor ²⁾ / Outdoor	
	Operating Temperature Range	Discharge	-20 ~ 50°C (-4 ~ 122°F)	-20 ~ 50°C(-4 ~ 122°F)
		Charge	-10 ~ 50°C (14 ~ 122°F)	
	Optimal Range		15 ~ 30°C (59 ~ 86°F)	
	Storage Temperature Range (At shipping state)		1) - 30°C ~ 60°C (-22 ~ 140°F) (acceptable for 7 days in total) 2) - 20°C ~ 45°C (-4 ~ 113°F) (acceptable for the first 6 months) 3) - 20°C ~ 30°C (-4 ~ 86°F) (acceptable for 7th ~ 12th month)	
	Operating/Storage Humidity Range		5 ~ 95%, RH (Non Condensing)	
Altitude		Max. 2,000m (6562ft)		
Cooling Strategy		Natural convection		
Reliability & Certification	Safety	Cell	UL1642	
		Battery Pack	CE/ FCC / RCM / IEC 62619/ UL1973/ IEC62477	
	Hazardous Materials Classification		Class 9	
	Transportation		UN38.3 (UNDOT)	
	Ingress		IP55	

¹⁾ DOD 100%. DC/DC converter one way efficiency 97.5%. Ambient 77°F (25°C)

²⁾ The 'Products' shall not be installed in an airtight enclosure or in an area without adequate air flow to support natural air convection cooling methods. The 'Product' shall not be installed in sleeping areas or near flammable materials.