

USER MANUAL

# Energy Storage System

Please read this manual carefully before installing your set and retain it for future reference.

## MODEL

LG ESS Home 10 (D010KE1N211)

LG ESS Home 8 (D008KE1N211)



<https://www.lg.com/global/business/ess/business-resources/download>

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# Safety Information

**IMPORTANT : THIS PRODUCT SHOULD NOT BE USED FOR ANY PURPOSE OTHER THAN THE PURPOSE DESCRIBED IN THIS INSTALLATION MANUAL.**



## WARNING

**Indicates a potentially dangerous situation. Death or serious injury may result if appropriate precautions are not taken.**

- There is high possibility of electric shock or serious burns due to the high voltages in power conditioning circuits.
- High voltages on AC and DC cables. Risk of death or serious injury due to electric shock.
- A potentially hazardous circumstance such as excessive heat or electrolyte mist may occur due to improper operating conditions, damage, misuse and/or abuse.
- This product have potential danger such as death or serious injury by fire, high voltages or explosion if appropriate precautions are not read or fully understood.
- Do not place flammable or potentially explosive objects near the product.
- Do not place any kind of objects on top of the product during operation.
- All works on the PV modules, power conditioning system, and battery system must be carried out by qualified personnel only.
- Electrical installations must be done in accordance with the local and national electrical safety standards.
- Wear rubber gloves and protective clothing (protective glasses and boots) when working on high voltage/high current systems such as PCS and battery systems.
- There is a risk of electric shock. Do not remove cover. There is no user serviceable parts inside. Refer servicing to qualified and accredited service technician.
- Electrical shock hazard. Do not touch uninsulated wires when the product cover is removed.
- In the event of fault, the system must not be restarted. Product maintenance of repairs must be performed by qualified personnel, or personnel from an authorized support center.
- **If non LG Electronics batteries are connected to LG PCS, it will void warranty of the PCS and battery.**



## CAUTION

**Indicates a situation where damage or injury could occur. If it is not avoided, minor injury and/or damage to property may result.**

- This product is intended for residential use only and should not be used for commercial or industrial.
- Before testing electrical parts inside the system, it takes at least 10-minute standby period of time to complete discharging the system.
- **This inverter includes an integrated residual current device (RCD). If an external residual current device (RCD) is used, a device of type A or B should be used, with a tripping current of 30 mA or higher.**

- The contents included in this box are power conditioning system and its accessories, and the entire weight is very heavy. Serious injury may occur due to the heavy weight of the package with PCS and accessories. Therefore, special care must be taken in handling. Make sure to have at least two persons deliver and remove the package.
- Do not use the damaged, cracked or frayed electrical cables and connectors. Protect the electrical cables from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door or walked upon. Periodically examine the electrical cables of your product, and if its appearance indicates damage or deterioration, discontinue use of this product, and have the cables replaced with an exact replacement part by a qualified personnel.
- Ensure that you connect the earth ground wire to prevent possible electric shock. Do not try to ground the product by connecting it to telephone wires, lightning rods or gas pipes.
- The product should not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, should be placed on the product.
- To prevent fire or electric shock hazard, do not expose this production to rain or moisture.
- Do not block any ventilation openings. Ensure reliable operation of the product and protect it from over heating. The openings shall never be blocked by placing any object on this product.
- The temperature of metal enclosure may be high during operation.
- In order to avoid radio-interference, all accessories (like a energy meter) intended for connection to the product shall be suitable for use in residential, commercial and light-industry areas. Usually this requirement is fulfilled if the equipment complies with the class B limits of EN55022.
- The product must be disposed of according to local regulations.
- The electrical installation of this unit must only be performed by LGE service person or trained installer, qualified to install PCS.
- If the AC circuit breaker is turned off and the PCS is not operated for a long time, the battery may be overdischarged.
- Connect the DC+ and DC- cables to the correct DC+ and DC- terminals on the product.
- Danger of damaging the PCS by overload. Only connect the proper wire to DC terminal block. Refer to the installation wiring diagram for details.
- Do not step on the product or the product package. The product may be damaged.
- Do not leave the ESS in the Fault standby state for a long time because of the battery discharge may occur during the long standby state.
- If the battery fault occurs immediately after starting PCS it means Battery failure. Check the battery SOC also voltage and fault information, and turn off the power of the ESS until service action is taken.
- If the battery SOC is low, the battery may charge from the grid for self-protection. (Emergency Charging) This function is to prevent shutdown of the ESS, deep discharge and failure of the battery. An Emergency Charge is not an ESS fault.
- If the battery SoC is too low during the backup operation of a power outage, the PCS will only charge the battery from Solar PV. It means no power is supplied to the home load. Emergency Charging(backup) will charge the battery up to the backup SoC level that you set (30% by default). Emergency Charging(backup) is not an ESS fault.
- Install the PCS where the noise from the PCS will not inconvenience the neighbors. Failure to do so may result in conflict between neighbors.



## NOTE

Indicates a risk of possible damage to the product.

- Before making connections, please make sure the PV array open circuit voltage is within 1000 V. Otherwise the product could be damaged.
- Never use any solvents, abrasives or corrosive materials to clean this product.
- Do not store on or place against any objects to the product. It may cause serious defects or malfunction.
- Before making a connection, make sure the PV switch on this product is switched off.
- This unit is designed to feed power to the public grid only. Do not connect this unit to an AC source or generator. Connecting the product to external devices could result in serious damage to your equipment.
- Servicing of batteries should be performed or supervised by LG service person or trained installer.
- The battery does not discharged when the load is under the certain level.
- This product can cause current with a DC component. Where a Residual Current-operated protective (RCD) or monitoring (RCM) device is used for protection in case of direct or indirect contact, only an RCD or RCM of Type A (or type B) is allowed on the supply side of this product.
- This product is designed to be installed indoor use only. Do not install this product outdoor.
- This document is for your reference only. Read the installation manual on the website **below**.
- Please check the following website for warranty policy.  
<https://www.lg.com/global/business/ess/business-resources/download>

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
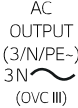

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# LED Indications

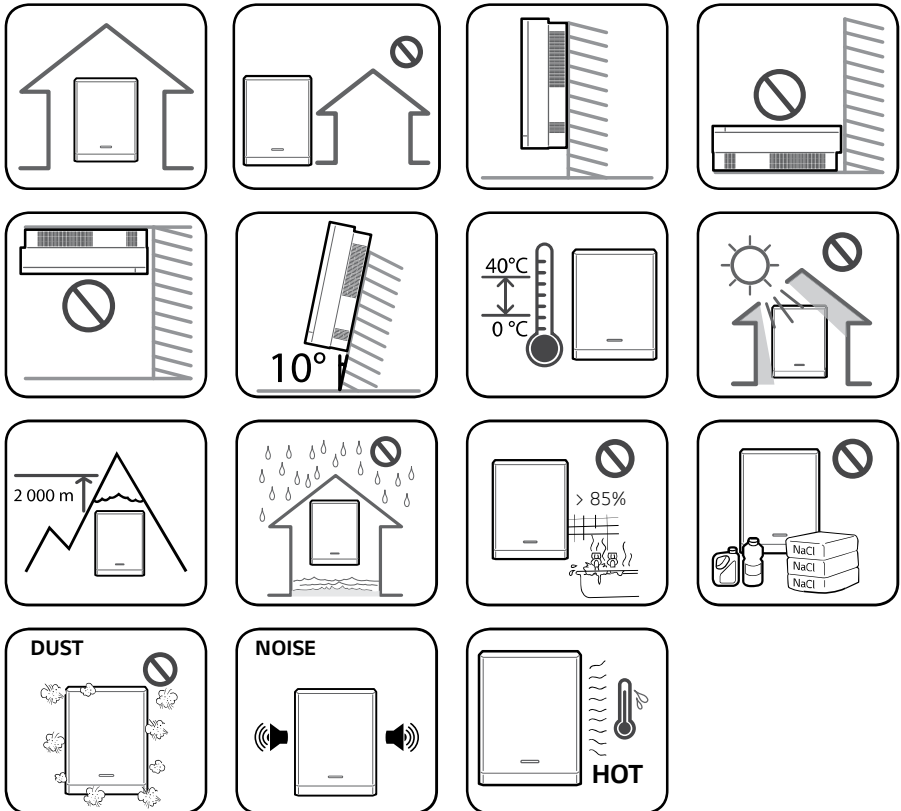
LED	Color	Description
Power	Off	Grid is not connected.
	White	Grid is connected.
	White (Blink)	PCS Fault
Solar	Off	Energy is not being generated.
	Green	Energy is being generated.
	White (Blink)	PCS Fault
Battery	Off	Stand by
	Green	Battery is in charging
	Blue	Battery is in discharging
	Red (Blink)	Battery error
	White (Blink)	PCS Fault
WLAN	Off	Not connected
	Green	Network connected
	Blue	WLAN network connected
	Red (Blink)	Network disconnected

## Symbol used on the Label

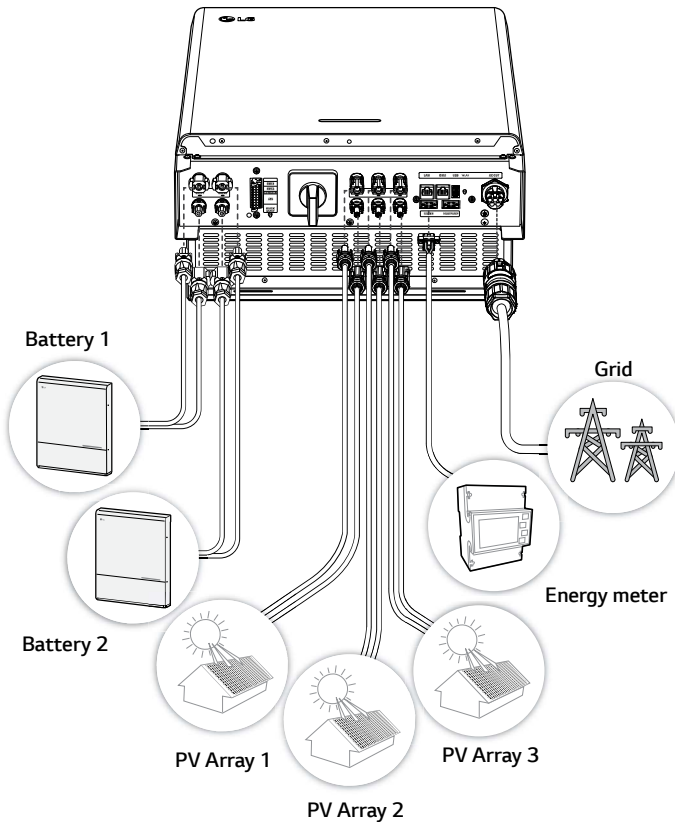
Symbol	Description	Symbol	Description
	Direct current input		Three phase four wire alternating current conductor
IP21	This product is protected against insertion of fingers and will not be damaged during a specified test in which it is exposed to vertically dripping water.		This product should not be disposed of with other household waste. Disposal regulations should be observed in this country.

Symbol	Description	Symbol	Description
	Caution, risk of danger		Refer to the installation manual or operating manual.
	Caution, hot surface		Caution, risk of electric shock, energy storage timed discharge
	The relevant equipment complies with the requirements in the EU guidelines.		

## Choice of Location



# Connection Overview



## **!** WARNING

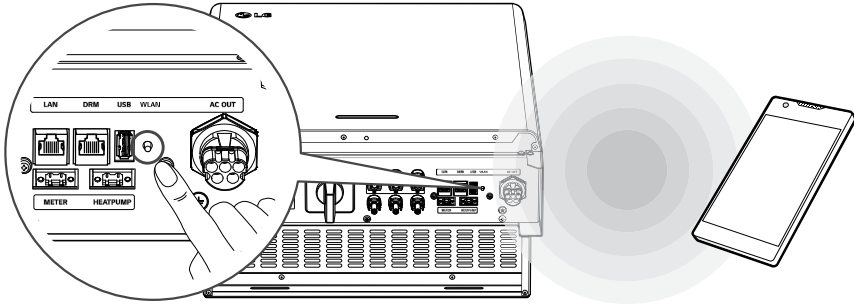
- Electrical shock hazard. Do not touch uninsulated wires when the PCS cover is removed.
- Before starting electrical cable connections or removing the cover, turn off the AC circuit breaker, PV switch and DC circuit breaker of the battery. (In case of re-installation, turn them off and wait at least 10-minute standby period of time for complete discharge within this product.)
- When the photovoltaic array is exposed to light, it supplies a DC voltage to the PCS.



## Connecting to a Mobile Device

To connect the system to a mobile device, the LG EnerVu Plus mobile application must be installed on your mobile device. Search and download 'LG EnerVu Plus' application from Apple App store or Google Play store.

To connect to the system directly, the WLAN dongle must be connected to the system. Make sure that the supplied WLAN dongle is connected to the system.

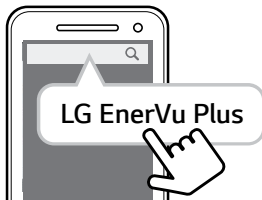


2

Operating

## Installing 'LG EnerVu Plus' App

Download 'LG EnerVu Plus' on the Apple App Store or Google Play Store.



OR



### NOTE

- Depending on the device, 'LG EnerVu Plus' app may not work.
- LG EnerVu Plus app will be available in version of the software as follow;
  - Android O/S : Lollipop (5.0) or later
  - iOS O/S : iPhone 6 (9.0) or later

## Connect via Home WLAN

### Preparation

- To connect the mobile device with the system via home network, the system must be connected to your home network. Check the [Network] setting menu on the system.
- Note the SSID of your home network.

1



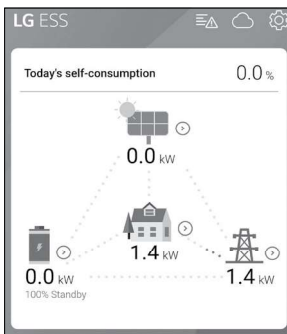
Run 'LG EnerVu Plus' app on your mobile device.

2



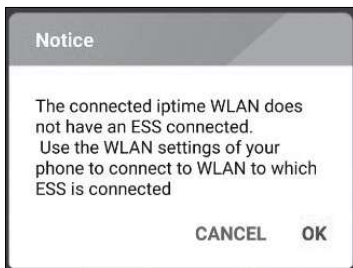
Tap [Connect via Home WLAN] in the connection method selection screen.

3



The connection will automatically be proceeded and main screen appears when the connection is successful.

4



If the connection fails, a pop-up message appears on the screen.

Tap [OK] to move to the WLAN selection menu of the mobile device.

Select the SSID of your home network.

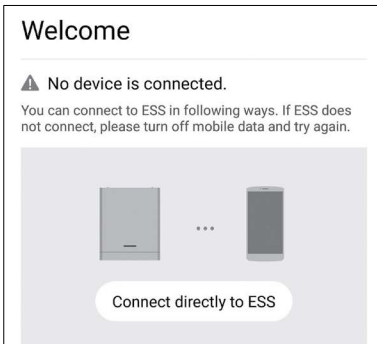
## Connect directly to ESS

1



Run 'LG EnerVu Plus' app on your mobile device.

2



If it is the first time to connect to the system, connection method selection screen appears.

Tap [Connect directly to ESS] option.

3



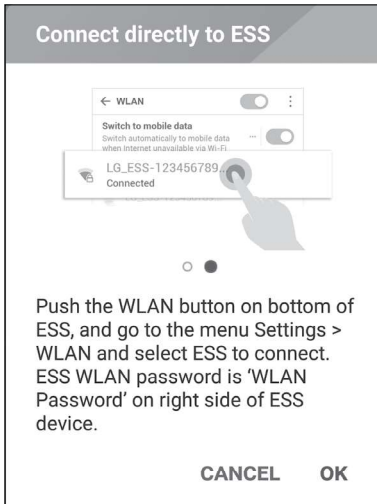
Press and hold the wireless connection button on the system until [WLAN] LED is lights in blue.

On your mobile device, tap [OK] to go to the next step.

### NOTE

If the connection has not been made for 5 minutes, the [WLAN] LED lights green and the WLAN signal is disabled.

4



Read the guidance and tap [OK] to display WLAN selection screen.

Select the SSID which starts with 'LGE\_ESS'. The password input screen appears.

### NOTE

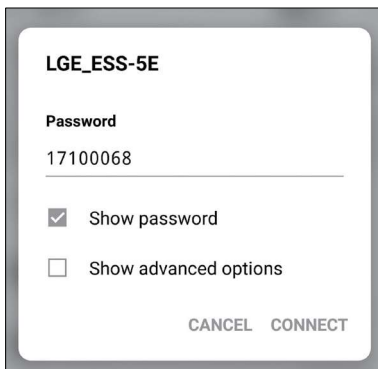
The last 2 characters of the SSID are the same as the last 2 characters of the system registration number.

Example :

SSID (LGE\_ESS-5E)

Registration No. (LGE-ESS-DE1710BKRH00685E)

5



Input WLAN password in the password field to connect to the system.

The WLAN password is 8 digit numbers. Find the 'WLAN password' printed in the label outside of the PCS.

### NOTE

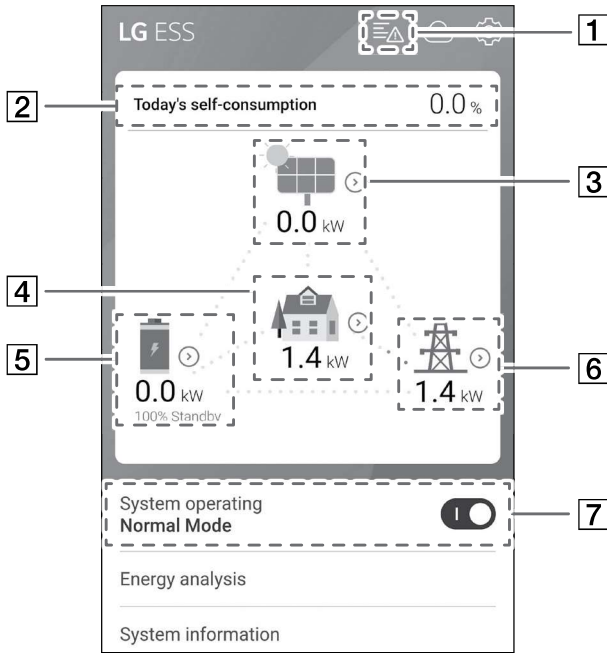
If the connection failed, try after turning off the mobile data option on your mobile device.

**Android :** If the connection is successful, main screen appears as shown in the figure.

**iOS :** If the connection is successful, run [LG EnerVu Plus] app to display the main screen as shown in the figure.

# ESS Status Menu

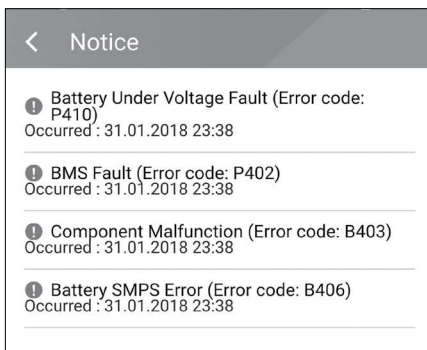
The main screen displays and indicates current ESS status briefly. When you select an area indicated above, it displays detailed information.



## NOTE

- The displayed values are not exact values. The values may differ from actual values.
- Please turn on the AP again, if there is a problem at connection with AP.

1



Displays a notice list of system status. When there is an error occurred, error code, time and date are displayed on the list.

Refer to installation manual for more information of messages.

2

Energy Overview	
Today's self-consumption rate	54.5 %
This month's CO2 reduction	2.4 kg
Generation	
Today	0.9 kWh
This month	3.3 kWh
Feed-in	
Today	0.4 kWh
This month	1.7 kWh
PCS	
Feed in limitation	100 %
Status	Running

Displays the [Energy Overview] information on the screen.

**Today's self-consumption rate** : Displays rate of the consumed energy amount from ESS today.

**This month's CO2 reduction** : Displays monthly amount of CO2 reduction.

**Generation**: Displays generated energy information.

**Feed-in** : Displays consumed energy information.

**PCS** : Displays PCS information.

3

PV	
Brand	LGE-SOLAR
System Capacity	13.5kWp
DC Voltage	395V/390V/401V
DC Power	4490W/4641W/4361W
DC Current	11A/12A/11A
Today's generation	3.9 kWh
This month's generation	6.3 kWh

Displays generating status of the connected PV briefly.

The status values are the sum of PV1, PV2 and PV3.

**Brand** : PV Manufacturer (Default : LGE)

**System Capacity** : PV capacity

**DC Voltage** : Current PV voltage

**DC Power** : Current PV power

**DC Current** : Current PV electric current

**Today's generation**: Generated PV energy today.

4

Load	
Load Power	<b>0.1 kW</b>
Today	
Total consumption	<b>2.0 kWh</b>
From PV	<b>0.0 kWh</b>
From Battery	<b>0.0 kWh</b>
From Grid	<b>2.0 kWh</b>
This Month	
Total consumption	<b>2.0 kWh</b>
From PV	<b>0.0 kWh</b>
From Battery	<b>0.0 kWh</b>

Displays detailed status of energy consumed in household.

**Load Power** : Current power consumed in household

**Today**

**Total consumption** : Amount of consumed energy today

**From PV** : Amount of energy from PV to household today

**From Battery** : Amount of energy from the battery to household today

**From Grid** : Amount of energy from the power grid to household today

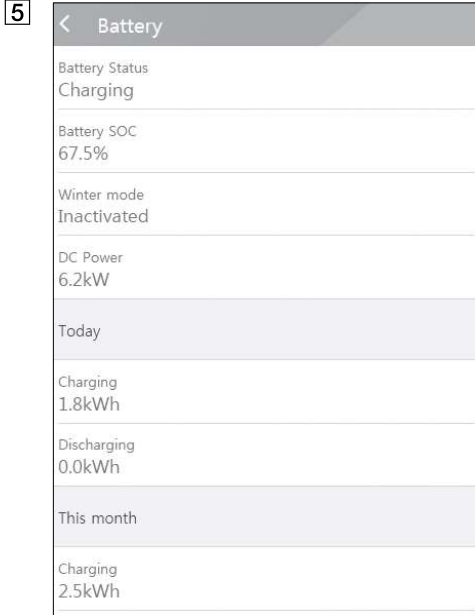
**This month**

**Total consumption** : Amount of consumed energy this month

**From PV** : Amount of energy from PV to household this month

**From Battery** : Amount of energy from the battery to household this month

**From Grid** : Amount of energy from the power grid to household this month



Displays charging and discharging status of the battery briefly.

**Battery Status** : Charging/Discharging/ Standby

**Battery SOC**: Current SOC (state of charge) level

**Winter Mode** : Shows winter mode status.

**DC Power** : Current output power from battery

**Today**

**Charging** : Amount of charged energy to the battery today.

**Discharging** : Amount of discharged energy from the battery today

**This month**

**Charging** : Amount of charged energy to the battery in this month

**Discharging** : Amount of discharged energy from the battery in this month



Displays current status of power grid.

**Power**: Current grid power

**Voltage**: Current grid voltage

**Frequency** : Current grid frequency

**Today**

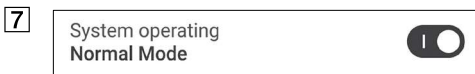
**Into Grid** : Amount of sold energy today

**From Grid** : Amount of purchased energy today

**This month**

**Into Grid** : Amount of sold energy today and this month

**From Grid** : Amount of purchased energy this month



**[System Operating]**

Tap switch to start or stop system operation.



# ESS Setting Menu

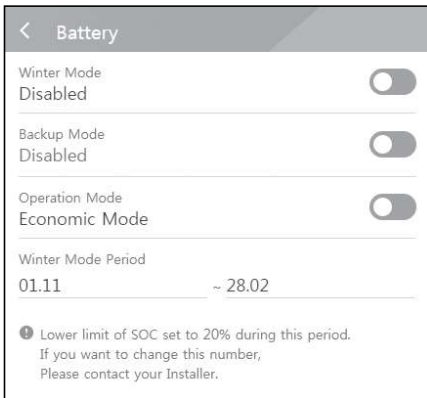
You can adjust general settings of the system. Select [main screen] > [Settings] to display the [Setting] screen.

## Language

Select [Settings] > [Language] to display the language selection screen. Select the desired language.

## Battery

Select [Settings] > [Battery] to display the battery setting screen.



### [Winter mode]

Tap this switch to select [Enable] or [Disable].

The minimum SOC level of winter mode can be changed by the installer only.

### [Backup mode]

Tap this switch to select [Enable] or [Disable].

The minimum SOC level of Backup mode can be changed by the installer only.

### [Operation Mode]

Tap this switch to select [Economic Mode] or [Fast Charge Mode]. You can change mode on your own.

**Economic Mode** : Make Feed-in more and make more efficiency to System.

**Fast Charge Mode** : Make fast charge to battery first.

### [Winter Mode Period]

Tap current value to display the setting menu. You can change the period

1. Select the currently selected value. Period setting menu is displayed.
2. Adjust [Month] and [Day] using **▼** or **▲**.
3. Select [APPLY] to complete the setting.

## Quick Install Guide

Select [Settings] > [Quick install guide] to display the install guidance screen.

You can check the brief installation instruction on the [Quick install Guide] screen.

## Open source

You can check the open source information of the application and the system.

Select [⚙️] > [Open source] to display the open source notice screen.

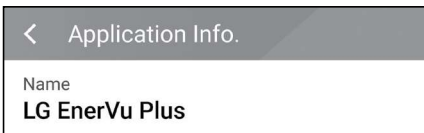
To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit <http://opensource.lge.com>.

In addition to the source code, all referred license terms,

warranty disclaimers and copyright notices are available for download. LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to [opensource@lge.com](mailto:opensource@lge.com). This offer is valid for three(3) years from the date on which you purchased the product.

## Application Information

Select [⚙️] > [Application information] to display the application information screen.



You can check the information of this application such as application name and application version.

## Energy Device

Select [⚙️] > [Energy Device] to display the Energy Device screen.



### [EV]

Tap this switch to select [On] or [Off]. When 'EV Meter Enable' not setting, Error Popup occurred. After setting, EV monitoring can be enable.

### [AWHP]

Tap this switch to select [On] or [Off]. When AWHP is not connected, can not be set on and Error Popup occurred.

## Installer Settings

The system needs various system settings by installer when installing. Users are not allowed to enter [Installer Settings] menu. Try not to enter the menu. It may cause serious malfunction on the system, if user changes settings on the [Installer Settings] menu.

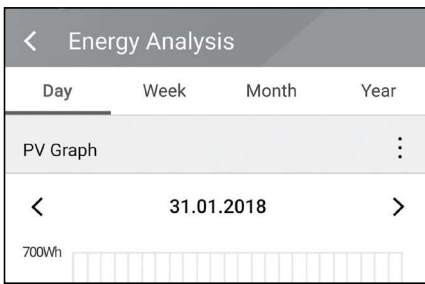
# ESS Information Menu

## Energy Analysis

On [Energy Analysis], you can check the statistical information of this system. You can review the amount of energy generated, consumed, sold and purchased on this system. The statistical data of the day, week, month and year are supported.

### PV Graph

Analyzes the energy generated and sold from PV within selected period and displays as a graph.



Select [PV Graph] on [Energy Analysis].

Generated energy is marked with green and sold energy is marked with purple on the line graph.

You can change the period by tapping [Day], [Week], [Month] and [Year].

< : Goes to previous [Day], [Week], [Month] or [Year].

> : Goes to next [Day], [Week], [Month] or [Year].

### Battery Graph

Analyzes the energy charged and discharged on the battery within selected period and displays as a graph. The usage is the same as the PV graph.

### Load Graph

Analyzes the energy consumed and purchased from grid within selected period and displays as a graph. The usage is the same as the PV graph.

## System Information



Displays system information of this ESS. You can check information on PCS, battery and network status. Scroll up or down to display next or previous information.

# ATS time setting guide

## ATS Box - Version 10013677 / 10013678

After 5 seconds of recovering grid power from the outage, the PCS stops the backup mode. At the same time, supplies power to the critical load and the PCS. The PCS will be restarted in normal mode.

Using the EnerVu application, you can set the interval of restarting the system after power recovery. Follow the steps as described below.

1. In the EnerVu application, select [Installer settings] > [PCS] > [Grid] > [Reconn. Condition (Tripping)] > [Observation Time].
2. Enter an interval value in the [Observation Time] option. The default value is 60 (sec) and the minimum value you can set is 30 (sec).

## ATS Box - Version 10013679 (Bender VMD460)

After 5 seconds of recovering grid power from the outage, the PCS stops the backup mode. The power will be supplied to the critical load and the PCS after the time set by the ATS box. And then, the PCS automatically restarts in normal mode.

Using the EnerVu application, you can set the interval of restarting the system after power recovery. Follow the steps as described below.

1. In the EnerVu application, select [Installer settings] > [PCS] > [Grid] > [Reconn. Condition (Tripping)] > [Observation Time].
2. Enter an interval value in the [Observation Time] option. The default value is 60 (sec) and the minimum value you can set is 30 (sec).

If the time setting in ATS box is 30 seconds and the PCS settings in [Observation Time] option is 60 seconds, the PCS restarts in 90 seconds after power recovery.

# Maintenance

## Cleaning the Product

Wipe off the outside of the product with a soft towel with lukewarm water and wipe it with a clean hand towel so that dirt will not occur when using a neutral detergent. When cleaning the outside of the product, do not brush it with a rough brush, toothpaste, or flammable materials. Do not use cleaning agents containing flammable substances.

- It may cause discoloration of the product or damage to the product.
- Flammable substances : Alcohol (Ethanol, Methanol, Isopropyl alcohol, Isobutyl alcohol, etc.), Thinner, Benzene, Flammable liquid, Abrasive etc.)

Wiping with strong pressure may damage the surface. Do not leave rubber or plastic products in contact with the product for a long period of time.

When cleaning the air duct, shut off all the systems including PCS, PV module, battery, AC circuit breaker. After that, clean the filter with soft brush.

## Inspecting Regularly

It is recommended to check the operating status and connection status once a year. It should be done by technician or authorized people. Contact authorized dealer or where you purchased.

## Contact

If you have technical problems or questions, contact installation company or LG Electronics.

### 1. Installation Company

Address :

Tel :

### 2. Customer Service

LG Electronics ESS | Solar Service  
E-Service Haberkorn GmbH  
Augustenhöhe 7  
06493 Harzgerode

Tel : Germany: 0049 (0)39484 / 976 380

Austria: 0043 (0)720 / 11 66 01

Switzerland: 0041 (0)44 / 505 11 42

Belgium, Netherlands, Luxembourg:  
0031 20 / 456 1660

E-Mail : [lge@e-service48.de](mailto:lge@e-service48.de)

### 3. LG Electronics Contact

LG Electronics Deutschland GmbH  
Alfred-Herrhausen-Allee 3-5  
65760 Eschborn  
Tel. : + 0049 18 06 807 020  
E-Mail: [b2b.service@lge.de](mailto:b2b.service@lge.de)

LG Electronics Benelux  
Krijgsman 1, 1186 DM, Amstelveen,  
The Netherlands  
Tel: +0031 (0)20 456 3100  
E-Mail: [b2b.service@lge.de](mailto:b2b.service@lge.de)

## Disposing the Product

When the product reached to the end of its service life or defect beyond repair, dispose the product according to the disposal regulations for electronic waste in your area. Disposing the product must be carried out by qualified personnel only. Contact authorized dealer or where you purchased.



1. This crossed-out wheeled bin symbol indicates that waste electrical and electronic products (WEEE) should be disposed of separately from the municipal waste stream.
2. Old electrical products can contain hazardous substances so correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.  
Your old appliance may contain reusable parts that could be used to repair other products, and other valuable materials that can be recycled to conserve limited resources.
3. You can take your appliance either to the shop where you purchased the product, or contact your local government waste office for details of your nearest authorised WEEE collection point. For the most up to date information for your country please see [www.lg.com/global/recycling](http://www.lg.com/global/recycling)

### Removal of waste batteries and accumulators

#### (Product with embedded battery ONLY)

In case this product contains a battery incorporated within the product which cannot be readily removed by end-users, LG recommends that only qualified professionals remove the battery, either for replacement or for recycling at the end of this product's working life. To prevent damage to the product, and for their own safety, users should not attempt to remove the battery and should contact LG Service Helpline, or other independent service providers for advice.

Removal of the battery will involve dismantling of the product case, disconnection of the electrical cables/contacts, and careful extraction of the battery cell using specialized tools. If you need the instructions for qualified professionals on how to remove the battery safely, please visit <http://www.lge.com/global/sustainability/environment/take-back-recycling>

### Disposal of waste batteries/accumulators



1. This symbol may be combined with chemical symbols for mercury (Hg), cadmium (Cd) or lead (Pb) if the battery contains more than 0.0005% of mercury, 0.002% of cadmium or 0.004% of lead.
2. All batteries/accumulators should be disposed separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old batteries/accumulators will help to prevent potential negative consequences for the environment, animal and human health.
4. For more detailed information about disposal of your old batteries/ accumulators, please contact your city office, waste disposal service or the shop where you purchased the product.  
(<http://www.lg.com/global/sustainability/environment/take-back-recycling/global-network-europe>)

# Specifications

PV Input	LG ESS Home 8	LG ESS Home 10
Input Voltage Range	150 ~ 1,000 V <sub>DC</sub>	
Max. DC Power (per channel)	12 kW (6 kW)	13.5 kW (7.5 kW)
Usable MPP Voltage Range	150 ~ 800 V	
Number of MPPT	3	
Number of String per MPPT	1	
Max. Input Current per MPPT	13 A	
Max. inverter backfeed current to the array	0 A	

AC Output	LG ESS Home 8	LG ESS Home 10
Rated Grid Voltage	3-NPE 400 V / 230 V	
AC Voltage Range	319 ~ 458 V / 184 ~ 264.5 V	
Frequency(Range)	50Hz (47.5 Hz ~ 51.5 Hz)	
Rated Output Power	8 kVA	10 kVA
Rated Output current	11.5 A	14.4 A
THD / Power Factor	< 5 % / ± 0.8	
Inrush current (peak and duration)	70 Aac / 0.02 ms	
Max. output fault current	80 Aac / 20 ms	
Max. output overcurrent protection	55.6 A <sub>peak</sub>	

Backup output	LG ESS Home 8		LG ESS Home 10
Maximum usable home load capacity in backup operation <sup>1)</sup>	Single Battery LGHB 7H	Single Battery LGHB 10H LGHBP 10H LGHBP 16H	Dual Batteries LGHB 10H+10H LGHB 10H+7H LGHB 7H+7H LGHBP 10H+10H LGHBP 16H+16H
Total	3.5 kW	5 kW	7 kW
Each phase	1.2 kW	1.7 kW	2.3 kW

1) The capacity may decrease as the battery ages.

Efficiency (PCS)	
Max. Efficiency (PV to Grid)	97.7 %

General Data	
Dimensions (W/H/D, mm)	450/599/210 (PCS), 746/688/206 (LGHB 7H), 746/903/206 (LGHB 10H), 504/816/295 (LGHBP 10H), 504/1086/295 (LGHBP 16H)
Weight	34 kg (PCS) / 75 kg (LGHB 10H), 97 kg (LGHB 16H), 112 kg (LGHBP 10H), 160 kg (LGHBP 16H)
Operating temperature	0 °C to 40 °C (derating at 40-60 °C)

Energy Meter Compatibility	
ABB	B23 112-100, B23 212-100, B23 312-100

ATS (option)	
enwitec	Type 10013677, Type 10013678, Type 10013679

- An external ATS is required for stand alone mode.
- For LG Electronics' ATS Box, you can use enwitec.
- For installation and connection to the ESS, refer to the ATS Box manual.

Battery	LGHB 7H	LGHB 10H	LGHBP 10H	LGHBP 16H
Battery Type	Lithium Polymer High Voltage			
Total Capacity	7.0 kWh	9.8 kWh	9.87 kWh	16.45 kWh
Usable Capacity	6.6 kWh <sup>1)</sup>	9.3 kWh <sup>1)</sup>	9.6 kWh <sup>2)</sup>	16kWh <sup>2)</sup>
Max. Charge/Discharge power (Single/Dual) <sup>3)</sup>	3.5 kW / 7kW		5 kW / 7 kW	
Peak Power (Single/Dual)	5 kW / 10 kW for 5 sec.		7 kW / 10 kW for 10 sec.	
Rated output voltage	400 V			
Communication Interface	RS485			
Max. Charge/Discharge Current	8.5 A@420 V /10 A@350 V		11.9 A@420 V /14.3 A@350 V	
Voltage (nominal or range)	Charge : 400-450 V <sub>DC</sub> / Discharge: 350-430 V <sub>DC</sub>			

- 1) Value for battery cell only (depth of discharge 95 %). Approximately 10 % of the battery usable capacity is used by system for battery protection. The capacity may decrease as the battery ages.
- 2) Value for battery cell only (depth of discharge 97.5 %). Approximately 10 % of the battery usable capacity is used by system for battery protection. The capacity may decrease as the battery ages.
- 3) Charging and discharging may take longer depending on ambient temperature and SoC.

Feature & function	
Noise emission (Typical)	< 40 dB
Cooling	Forced convection
Topology	Transformerless
Degree of protection	IP21
Max. permissible value of relative humidity (non-condensing)	85 % (Climate class 3K5)
Warranty (PCS)	10 years
Warranty (Battery) <sup>1)</sup>	10 years
Certification (PCS)	2014/53/EURED, IEC/EN62109-1/-2, EN61000 Series, EN55011, EN301, EN50549-1:2019, VDE-AR-N 4105, DIN VDE V 0124-100, TOR, C10/11, OVE-R25, RD1699, NTS2.0, UNE206007-1, UNE217001/2, TF3.3.1, AS4777.2
Class B Group 1 Product	Protection Class(Class I)
Pollution degree	2

1) Germany (DACH): SOH 80%, other countries : SOH 60%

- The noise emission value is measured in a soundproof room and can vary depending on the environment.
- If you are installing in a place sensitive to noise, please consult the installer.
- Design and specifications are subject to change without notice.



Contact office for compliance of this product : LG Electronics European Shared Service Center B. V  
 Krijgsman 1, 1186 DM Amstelveen, The Netherlands  
[www.lg.com/global/business/ess](http://www.lg.com/global/business/ess)

**SIMPLIFIED EU DECLARATION OF CONFORMITY**

Hereby, LG Electronics declares that the radio equipment type

PCS Unit is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

<http://www.lg.com/global/support/cedoc/cedoc#>

This device is a 2.4 GHz wideband transmission system, intended for use in all EU member states and EFTA countries.

For consideration of the user, this device should be installed and operated with a minimum distance of 20 cm between the device and the body.

Frequency Range	2412 - 2472 MHz
Output Power (Max.)	19 dBm
Software Version	LG P1 01.00.01.00