



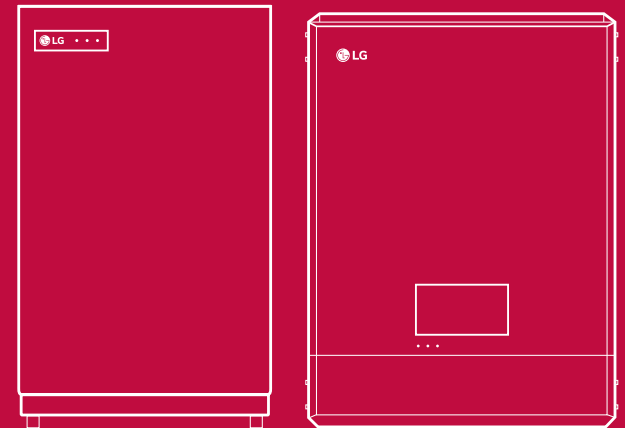
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# LG ENERGY STORAGE SYSTEM

Save Energy!  
Manage Energy!



Smartest way to use solar energy






# LG ENERGY STORAGE SYSTEM

LG Electronics provides energy storage system to improve self-consumption rate of photovoltaic systems. LG's DC-coupled ESS converts power more efficiently than AC-coupled ESS. Thus, LG ESS can achieve higher efficiency. Furthermore, LG ESS generates the three-phase AC current producing the balanced grid power. Above all, the user-friendly touch screen helps the easy system set-up. The web monitoring function also allows installers and users to check their system status anytime and anywhere.



# 5

Checkpoints

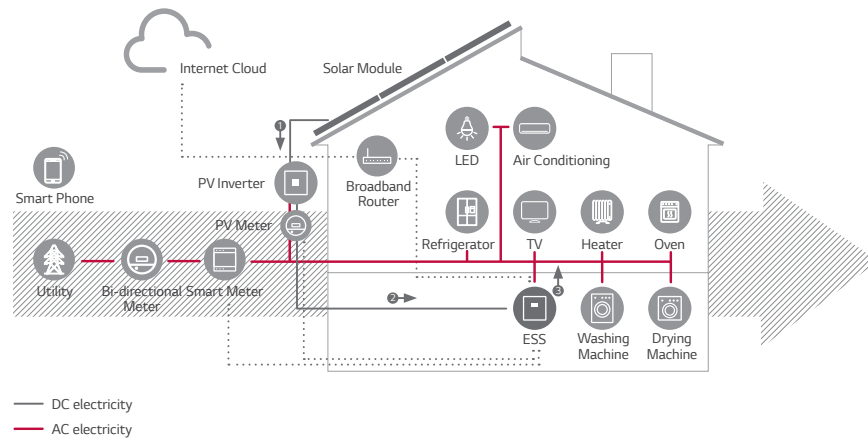
- 
 DC-coupled ESS
- 
 Three Phase Connection
- 
 Smart Management
- 
 Web-monitoring Service
- 
 Easy System Set-up

# 1 DC-Coupled ESS

## Excellent system efficiency by reducing the power conversion steps

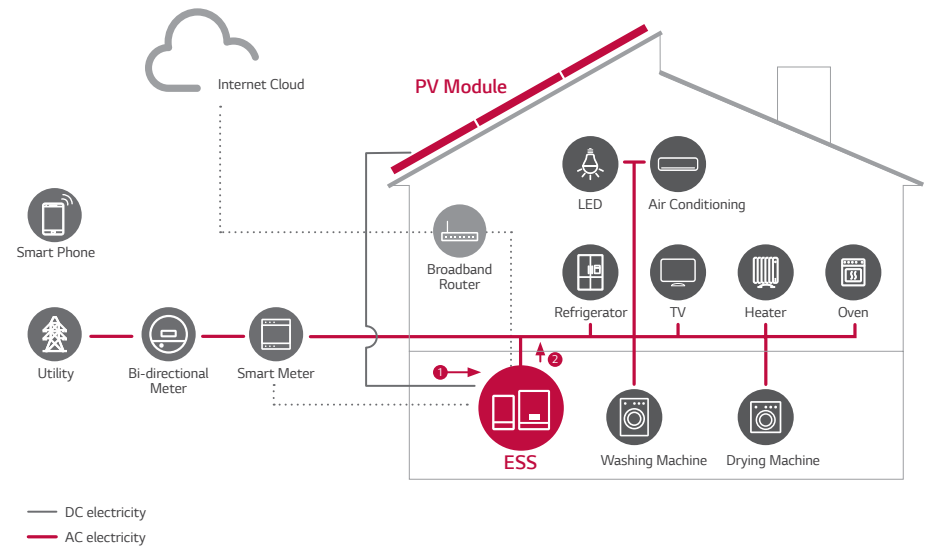
LG ESS can achieve higher system efficiency due to simpler power conversion process.

### ◦ AC-Coupled ESS



	3-Step Conversion Process	Conversion Efficiency	System Efficiency
1	DC (PV) -> AC	about 96%	<b>Max. 85%</b>
2	AC -> DC (Battery) charging	about 94%	
3	DC (Battery) -> AC discharging	about 94%	

### ◦ LG DC-Coupled ESS



	2-Step Conversion Process	Conversion Efficiency	System Efficiency
1	DC (PV) -> DC (Battery) charging	about 95%	<b>Approx. 90%</b>
2	DC (Battery) -> AC discharging	about 95%	



For Installer  
**Easy Installation  
by Lesser Steps**



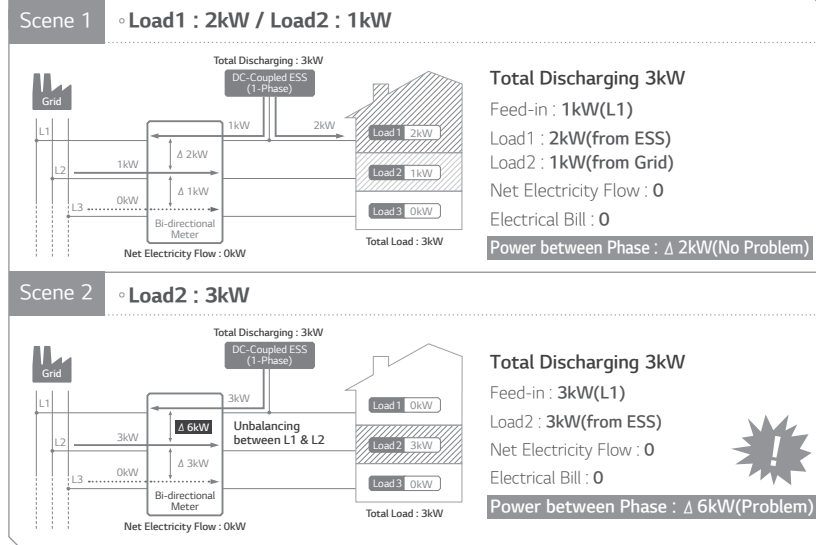
For Customer  
**Save Money by High Efficiency  
& Low Installation Cost**

# 2 Three-Phase Connection

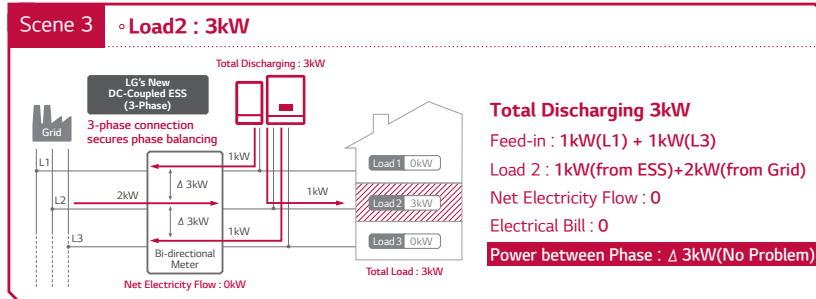
## Stable electricity flow with 3-Phase connection

3-phase connection secures phase balancing.

### Single-Phase Connection



### 3-Phase Connection



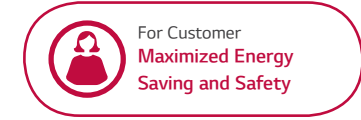
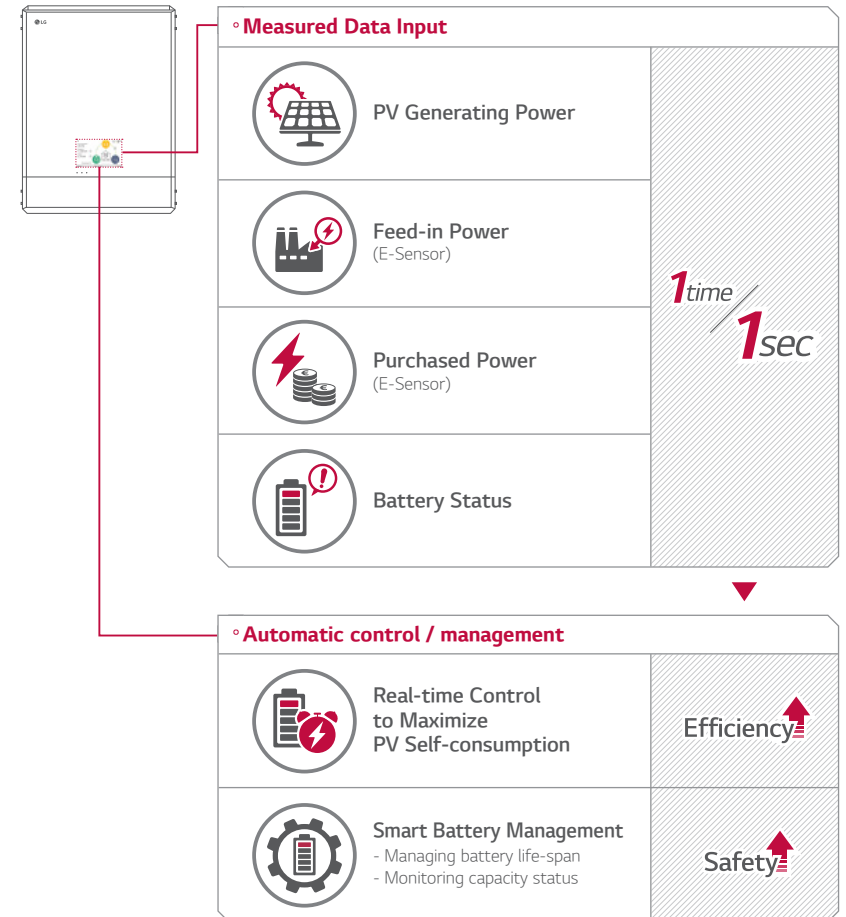
\*Comparing Scene 2 and 3



# 3 Smart Management

## Maintaining the optimum condition with real-time monitoring

With built-in Smart PMS, it analyses PV generation and load consumption and implements to charge and discharge immediately. Also it monitors main system & battery conditions to maintain its stable condition always.



# 4 Web-monitoring Service

## 24hrs web-monitoring service for installers and customers

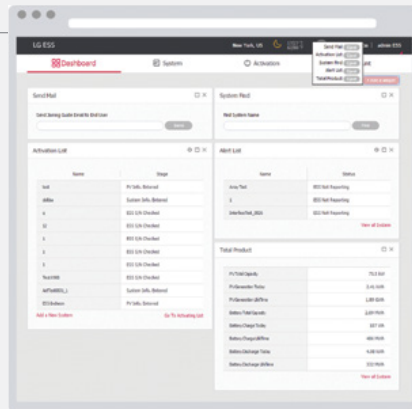
Customers and installers can monitor their ESS with various devices such as PC, tablet or smart phones.

### For Installer

#### ◦Widget Service



You can customize dash-board screen as you want using Widget Service



#### ◦Auto-Respond E-mailing Service

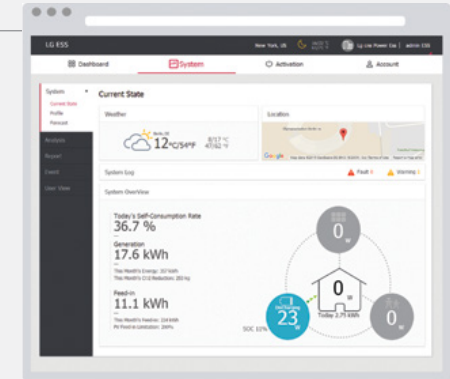


Warning e-mail is sent to you automatically when any trouble arises in your ESS.

#### ◦User-Friendly UI



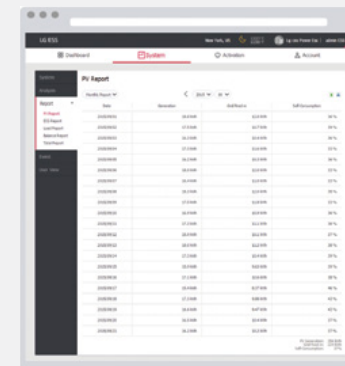
User-friendly UI enables you to check self consumption rate, PV generation, feed-in electricity, load consumption, charging/discharging power and more at a glance.



#### ◦Intuitive Analysis Tools



Graph zooming & panning and report function enables you to analyze data and manage records easily.





For Installer  
Prompt Response  
& Solution

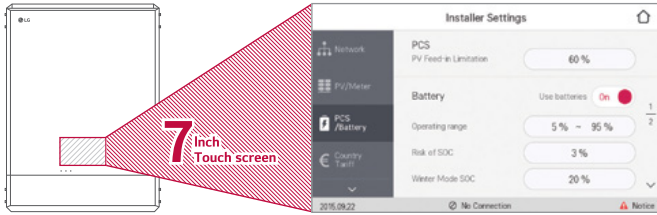


For Customer  
Easy Management

# 5 Easy System Setup

## Simple setting with no complicated connections

With 7" touch-screen, installer does not need a PC for system installation. Touch screen UI allows installer to set-up, pre-test and monitor system.



### Easy Set-up for System Operation

**Country Code**  
Germany

**Network**  
LAN, Web Server

**Energy Sensor**  
Maker, Baud rate

**PV**  
Maker, Angle  
Nominal Power

**Battery**  
Makers, Winter  
Mode SoC

**PCS**  
Feed-in Limitation

**Firmware**  
USB, Web Server

**No PC Needed**

### Easy operating test

**Battery Charging Test**

**Battery Discharging Test**

**PV Test**

For Installer  
**Direct Setting**

For Customer  
**Direct Monitoring**

## Specification

### DC Input

Max. Input Voltage	800 V
Min. Input Voltage	210 V
Max. DC Power	6,600W (3,300W per MPPT)
Input Voltage Range MPPT at Rated AC Output Power	210 ~ 680 V
Number of MPPT	2
Number of String per MPPT	1
Max. Input Current per MPPT	12 A

### AC Output

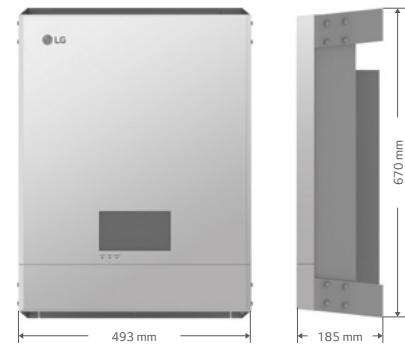
Rated Grid Voltage	3-NPE 400 V / 230 V
AC Voltage Range	319 ~ 458 V 184 ~ 264.5 V
Frequency (Frequency Range)	50 Hz (47.5 Hz ~ 51.5 Hz)
Max. Output power	5,000 VA
Rated Output Power	5,000 W
Max. Output Current	8.5 A
Total Harmonic Distortion / Power Factor with Rated Power	< 5% / 0.95
Phases	3

### Battery

Battery Type	Lithium Polymer
Max. Charger Power	3.0 kW
Capacity (Gross Capacity)	6.4 kWh
DoD	90 %
Current Capacity	31.5 Ah
Rated Input Voltage	207.2 V

### Dimensions

#### PCS



### Efficiency (PCS)

Max. Efficiency (PV to Grid)	95.7%
European Efficiency (PV to Grid)	93.6%

### General Data

Dimension (W/H/D, mm)	493 / 670 / 185 (PCS) 408 / 682 / 180 (Battery)
Weight (PCS/Battery)	34kg / 58kg
Operation Temperature	0 °C ~ 40 °C

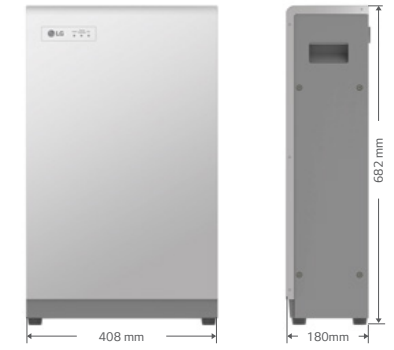
### Feature & Function

Noise Emission	40dB
Cooling Type	Forced Convection
Topology	Transformerless
Degree of Protection	IP 21
Max. Permissible Value of Relative Humidity (Non-condensing)	85% (Climate Class 3K5)
Display	7" Touch LCD
Warranty (PCS)	10 years
Warranty (Battery)	10 years (SOH 80%)
Certification (PCS)	CE / IEC 62109-1 / -2 VDE AR-N 4105 / VDE 0126-1-1
Certification (Battery)	CE / IEC 62133 / IEC 62619 / UN38.3

### Smart Meter Compatibility List

Manufacturer	Model
ABB	B23 212-100
EASTRON	SDM630-MODBUS
CARLO GAVAZZI	EM340

#### Battery



\* The specifications are subject to change without prior notice.