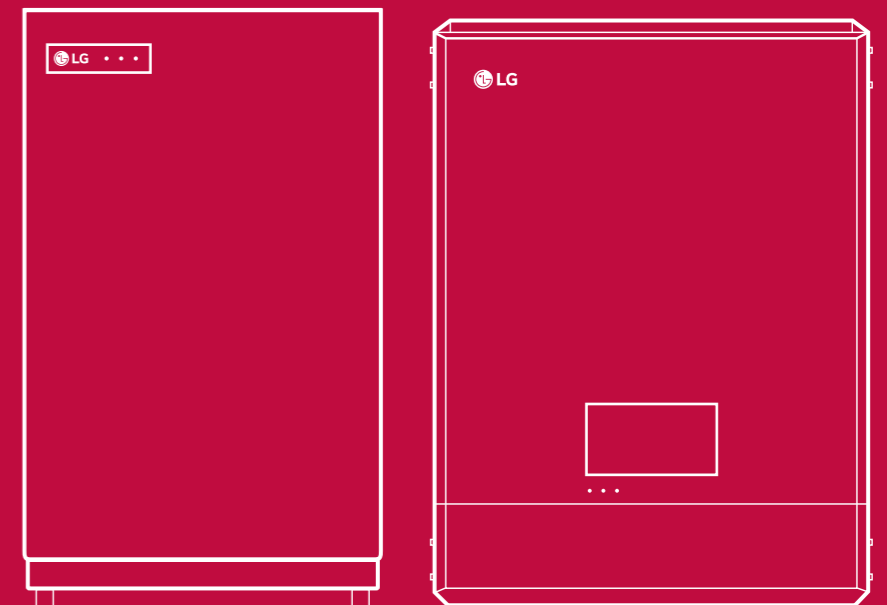


LG ENERGY STORAGE SYSTEM

Save Energy!
Manage Energy!



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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

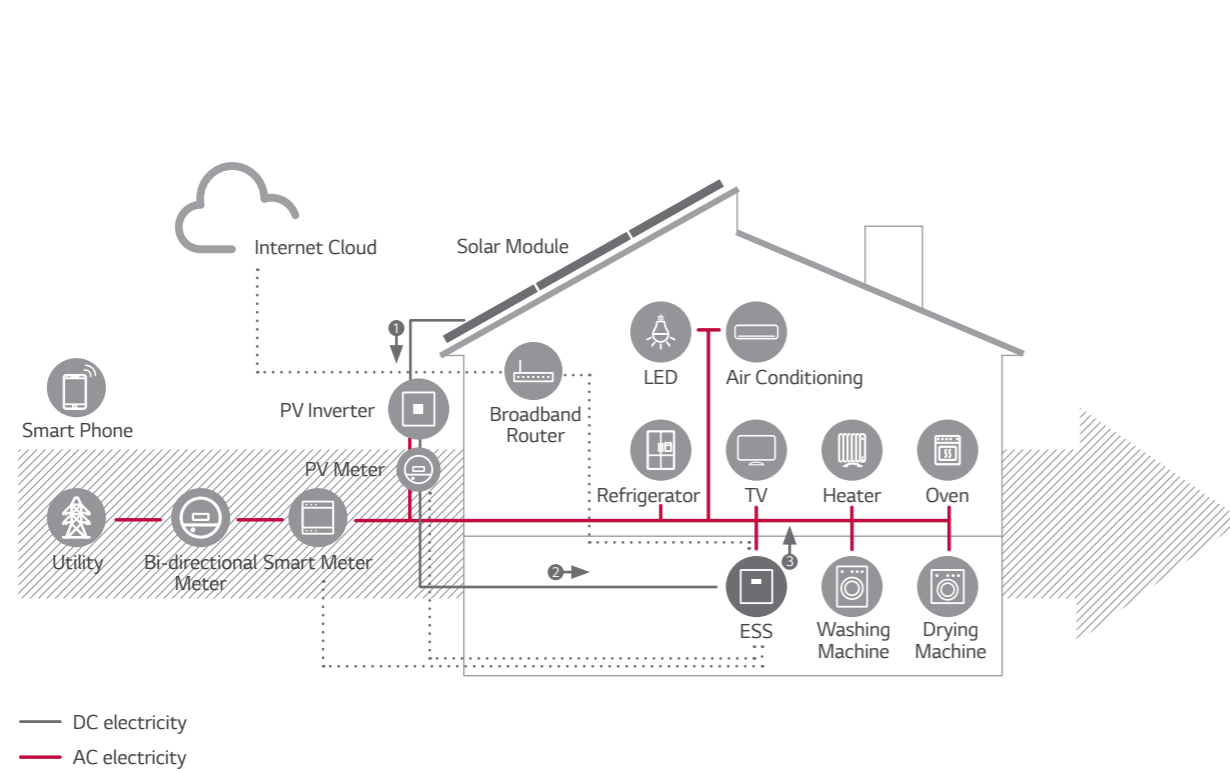


1 DC-Coupled ESS

Excellent system efficiency by reducing the power conversion steps

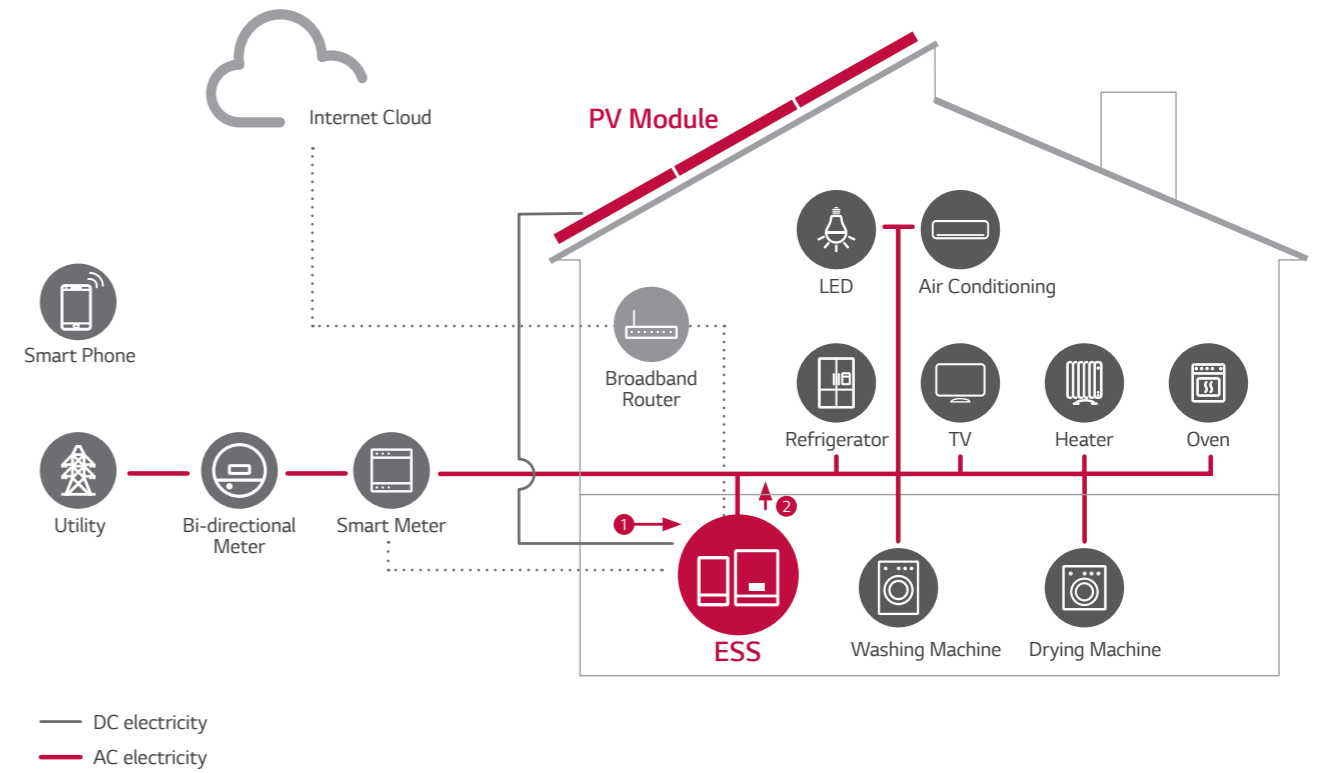
LG ESS can achieve higher system efficiency due to simpler power conversion process.

◦ AC-Coupled ESS



	3-Step Conversion Process	Conversion Efficiency	System Efficiency
1	DC (PV)->AC	about 96%	Max. 85%
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%	Approx. 90%
2	DC (Battery) -> AC discharging	about 95%	



For Installer
**Easy Installation
by Lesser Steps**



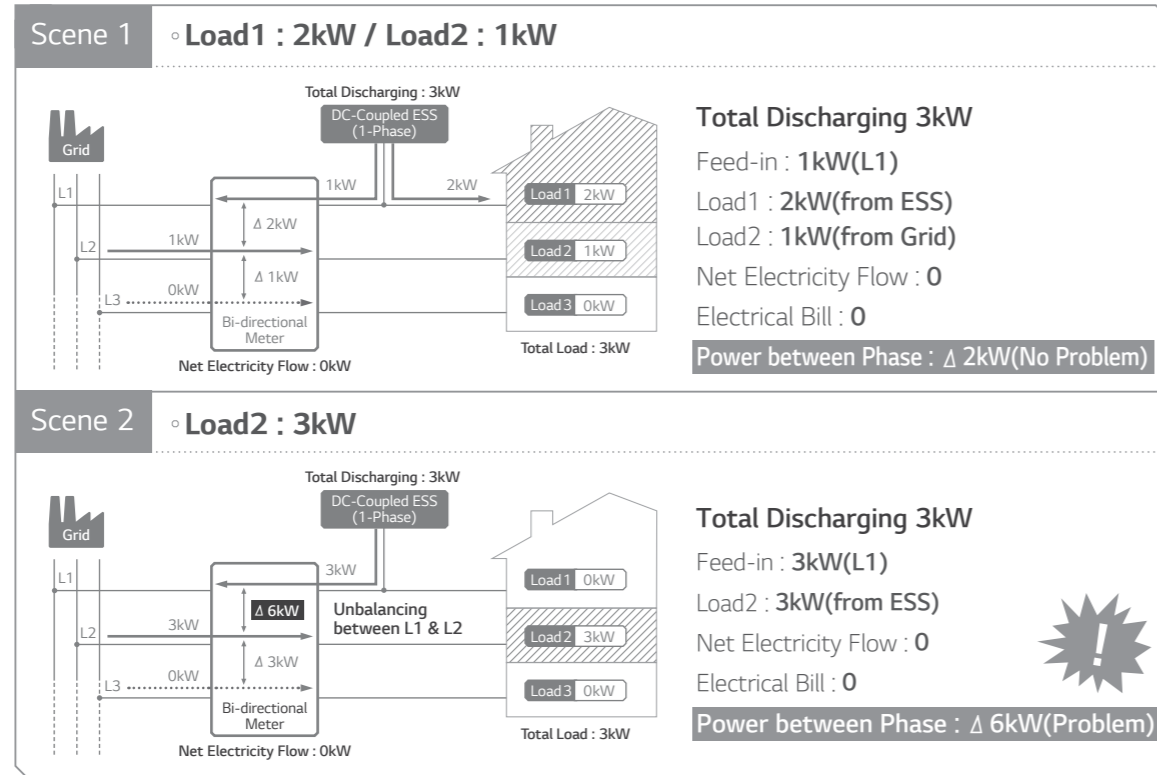
For Customer
**Save Money by High Efficiency
& Low Installation Cost**

2 Three-Phase Connection

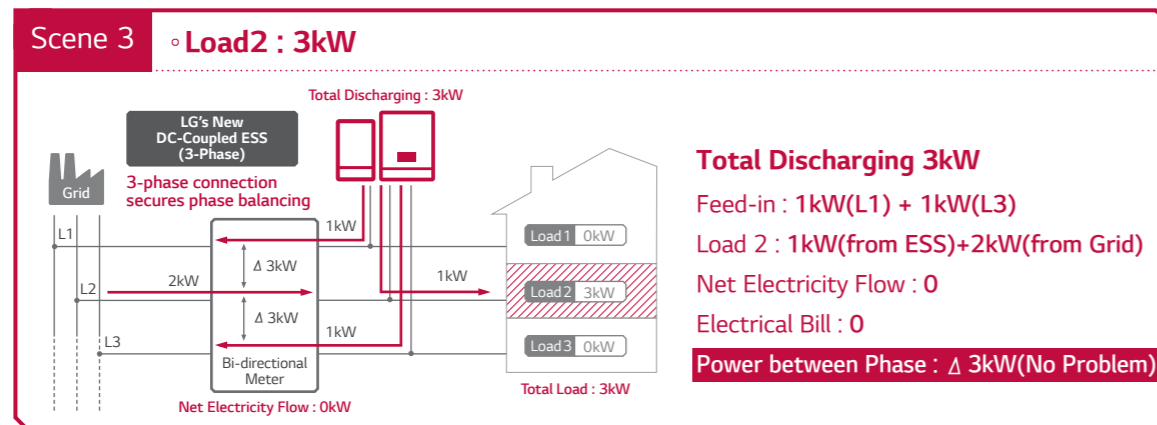
Stable electricity flow with 3-Phase connection

3-phase connection secures phase balancing.

Single-Phase Connection



3-Phase Connection



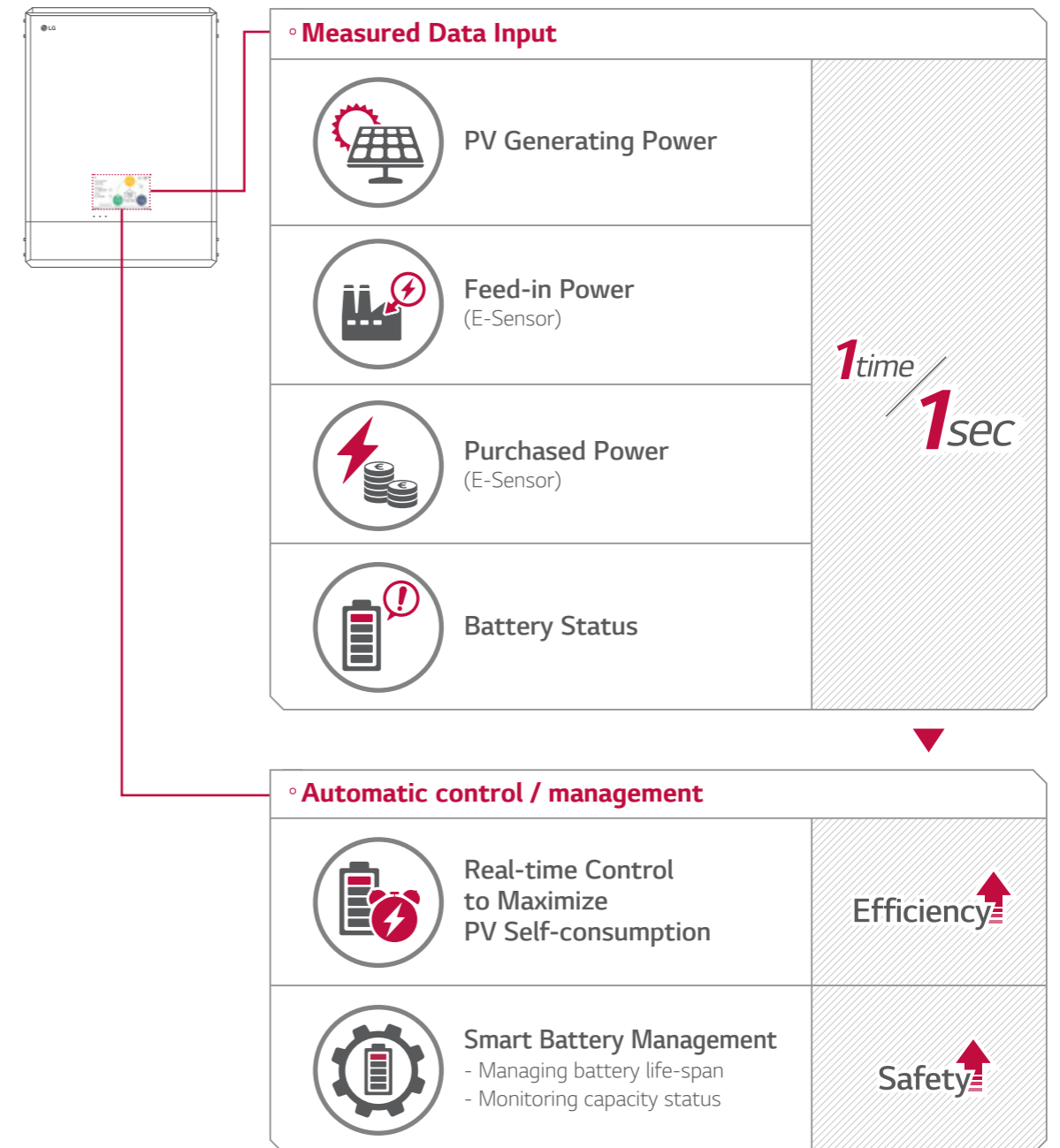
*Comparing Scene 2 and 3

For Network Operator
 Easy Management of
 Grid Operation

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.



For Customer
 Maximized Energy
 Saving and Safety

4 Web-monitoring Service

24hrs web-monitoring service for installers and customers

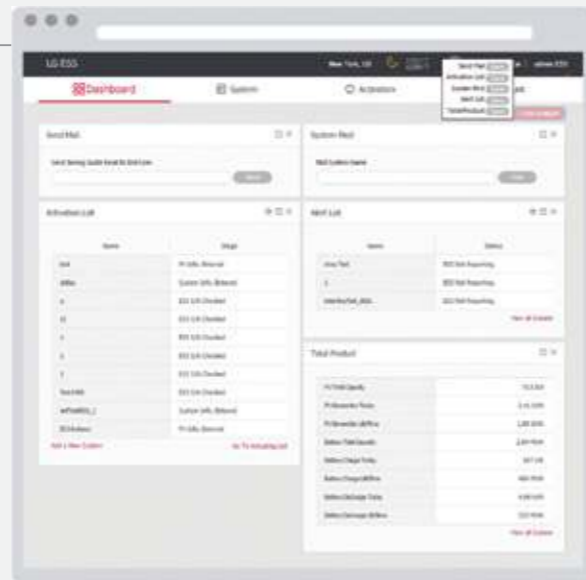
Customers and installers can monitor their ESS with various devices such as PC, tablet or smart phones.

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



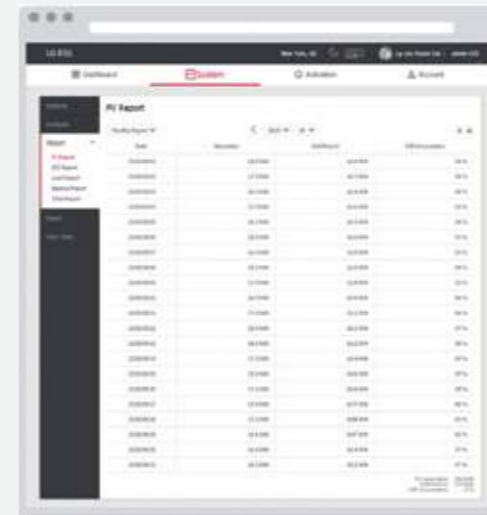
User-friendly UI enables you to check self consumption rate, PV generation, feed-in electricity, load consumption, charging/discharging power and more at a glance.



◦ Intuitive Analysis Tools



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



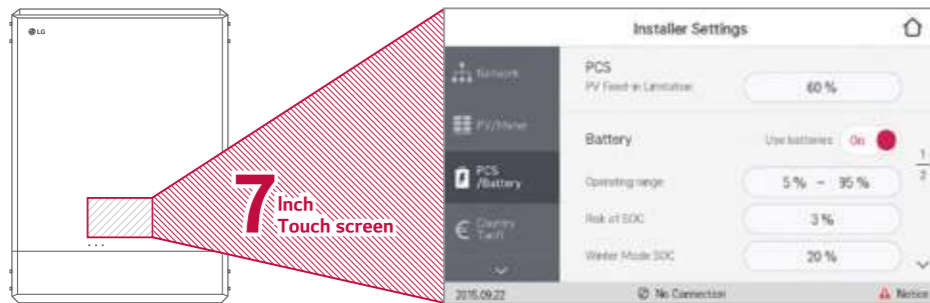
 For Installer
Prompt Response
& Solution

 For Customer
Easy Management
& Solution

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
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 For Installer Direct Setting	 For Customer Direct Monitoring
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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

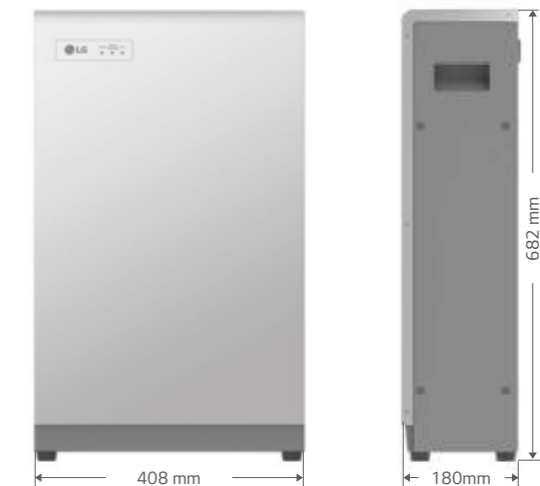
Battery Type	Lithium Polymer
Max. Charger Power	3.0 kW
Capacity (Gross Capacity)	6.4 kWh
DoD	90 %
Current Capacity	31.5 Ah
Rated Input Voltage	207.2 V

Dimensions

PCS



Battery



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

* The specifications are subject to change without prior notice.