

# Specification Energy Storage System

## Models (PCS)

	LG ESS Home 5	LG ESS Home 8	LG ESS Home 10
Max. Input Voltage	800V	1000V	
Min. Input Voltage	210V	150V	
Max. DC Power (per channel)	6.6 kW (3.3kW)	12kW (6kW)	13.5kW (7.5kW)
Input Voltage Range MPPT at Rated AC Output Power	210 - 680V	150 - 800V	
Number of MPPT	2	3	
Number of String per MPPT	1	1	
Max. Input Current per MPPT	13A	13A	

## AC Output

Rated Grid Voltage	3-NPE 400V / 230V		
AC Voltage Range	319 - 458V / 184 - 264.5V		
Frequency (Frequency Range)	50 Hz (47.5 Hz - 51.5 Hz)		
Rated Output Power	5.0 kVA	8kVA	10kVA
Rated Output Current	8A	11.5A	14.4A
THD / Power Factor	< 5% / ±0.9		
Phases	3		

## Efficiency (PCS)

Max. Efficiency (PV to Grid)	97.7%	> 97.7%
European Efficiency (PV to Grid)	96.0%	> 97.0%

## General Data

Dimension(W/H/D, mm)	408 / 490 / 185	450 / 599 / 210
Weight	25 kg	34kg
Operation Temperature	0°C - 40°C	0-60°C (derating at 40°C)

## Feature & Function

Noise emission(Typical)	< 40dB	40dB
Cooling Type	Forced Convection	
Topology	Transformerless	
Degree of Protection	IP21	
Max. Permissible value of RH	85%	
Warranty (PCS)	10 years	
Certification (PCS)	IEC/EN 62109-1/-2, VDE-AR-N 4105, VDE 0126-1-1, ÖVE/ÖNORM E 8001-4-712, TOR D4:2016, IEC61000 Series	

## Compatibility List

Energy Meter	ABB ( B23 112-100, B23 212-100, B23 312-100 )	
AWHP (Air to Water Heat Pump)	LGE(Monobloc, Split-Hydro Box)	
PV Optimizer	Tigo (TS4-R-S, TS4-R-O)	
Auto Transfer Switch (option)	-	Enwitec (10005950)
Battery	LG HB 6.4	LG HB 7H, LG HB 10H
Battery Expansion Kit (option)	APEPT000008	-

## Models (Battery)

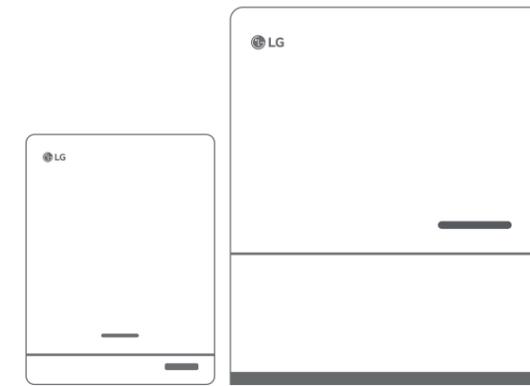
	LG HB 6.4	LG HB 7H	LG HB 10H
Battery Type	Lithium Polymer	Lithium Polymer High Voltage	
Total Capacity	6.4 kWh	7kWh	9.8kWh
Usable Capacity	5.8 kWh	6.6kWh	9.3kWh
Max. Charge/Discharge power (Single/Dual)	3kW	3.5kW / 7kW	5kW / 7kW
Peak Power (Single/Dual)	-	5kW / 10kW for 5sec	7kW / 10kW for 10sec
Rated Input Voltage	207.2 V	400V	
Backup power (Single/Dual)	-	5kVA / 7kVA	

## General Data

Dimension(W/H/D, mm)	408 / 682 / 180	746 / 688 / 206	746 / 903 / 206
Weight	58 kg	78kg	99kg
Operation Temperature	0°C - 40°C	0°C - 60°C (derating at 40°C)	

## Feature & Function

Degree of Protection	IP21	IP55	
Warranty(Battery)	10 years (SOH 80%)		
Certification (Battery)	CE/IEC 62133/IEC 62619/UN38.3		



**LG ESS**  
HOME ENERGY STORAGE SYSTEM

## Contact

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## The LG ESS - The Evolution of Home Energy Storage

LG is focusing its energy business on the next generation growth engine. LG is the only company that has comprehensive business capabilities in the entire stage of the energy value chain: Generation, Storage, Efficient Use, and Management. LG is one of the world's leading companies with top-class technology and product line-up for each segment: Energy generation (High Efficiency solar cell) and Efficient Use (smart system air conditioner, system boiler, electric vehicle battery, charger). Now, LG introduces the home energy storage system(ESS) that maximizes the value of a home owner's PV system.

The 5/8/10kW DC-coupled product offers unparalleled solar + storage performance, allowing homeowners to seamlessly store excess solar energy to power their home both day and night. The new 8/10kW DC coupled products can be easily integration to Air to Water Heat Pump(AWHP), offering a reliable and cost-effective way to manage Self consumption rates. Both 8kW and 10kW DC-coupled ESS products can provide back up power in case of a black out.



**Revenue**  
\$55.4 billion(2017)

**Workforce**  
75,150

**World Presence**  
118 Global Operations

\* LGE consolidated basis, Exchange Rate KRW 1,108.51 per USD



## One LG

LG ESS offers a solution for home energy management with technologically outstanding LG Solar Panels and Home Energy Monitoring System (EnerVu). LG is ready to present any solution you need for your home - having comprehensive technology in energy generation, storage, management, and energy related business models. The LG ESS provides a one-stop shop option where we provide the LG Chem battery, PCS, and even the modules. This all in one means that LG can provide authoritative, professional support, and give its customers the level of service they deserve.

LG is constantly researching and developing products to provide world-class ESS.



## Why the LG Home Energy Storage System?

### Best solution for maximizing the efficiency of your home's renewable energy use.

For consumers, the biggest concern regarding energy is the increase in energy costs, for example, electricity bills. By adopting renewable energy generation equipment to reduce electricity use, they may be able to reduce their costs to some degree. To obtain the best possible result, however, they need a plan to maximize the self-consumption ratio of the generated power. To do so, it is important to adopt an effective energy storage system (ESS).

### LG ESS ensures ease of product installation and use.

We at LG have focused considerable R&D efforts on ESS in order to provide a world-class system. Our DC-coupled product based on 3-level topology helps save ESS installation costs and features compact design for a small footprint and ease of installation. It also features Wi-Fi connectivity with mobile devices to provide a straightforward monitoring function, as well as auto operation mode for improved convenience.

### Feel assured with your choice of LG, the trusted company.

LG ESS is a complete solution with LG-made parts from the battery to the PCS, providing one solution with one warranty. LG offers a true one-stop solution – from the incubation phase, through consulting, to design, with safety assured by certifying bodies in Europe and other parts of the world



**10-year Warranty & One-Stop Service**  
ESS can be paired with LG PV modules for a single provider for all warranty issues.



**Powerful Back-up power**  
In the event of a sudden power outage, LG ESS will keep the PV system operating, ensuring that power is available to support critical loads.



**Flexible Installation**  
Multi-String & advanced 3MPPTs for multi-angled roof. Easy expandable battery capacity (up to 19.6kW)



**Luxury & Durability Design**  
Full stainless steel ESS feature an elegant appearance and enhanced durability compared to plastic models.



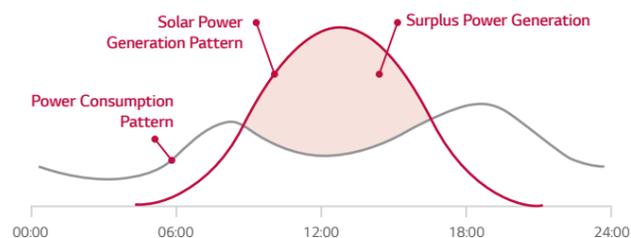
**Smart Energy Management**  
Remote Firmware upgrade and System Monitoring  
Maximize self-consumption through Compatible with LG Air to Water Heat Pump

## How does the LG Home Energy Storage System work?

### Self-Consumption

If you are already planning to go solar, you can maximize your benefits even more by introducing an ESS at the same time. A typical household requires high energy during the morning and evening times. However, solar modules generate the most energy during the middle of the day, so all that excess energy is at risk of being wasted. The LG ESS enhances the efficiency of electric power use by allowing customers to store all that energy from the sun to use when it most needed.

Solar Power Generation Pattern and Household Power Consumption Pattern



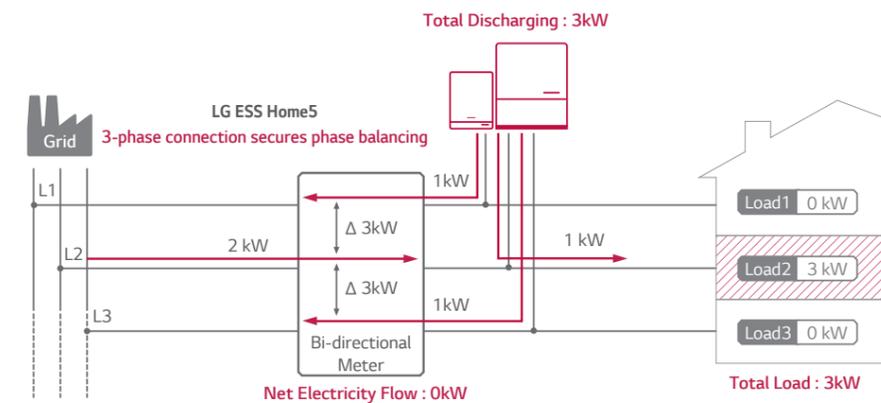
### Back-up Power

It is unimaginable to live a life without electricity, and a sudden power outage is never what any family wants. Loss of power leads to many inconveniences more than just frustration in the dark and food concerns. The LG ESS will always be ready to ride through a power outage by retaining a certain amount of charge on the battery. This emergency power function is extremely beneficial for customers living in areas where abrupt grid blackouts occur.



### Three-phase DC Coupled

LG ESS is a DC-coupled system that uses a simpler energy conversion process for greater energy efficiency. Compared with the AC-coupled product, it operates more simply and needs no PV inverter, saving on installation costs and time. In addition, LG ESS has 3-phase connection to prevent power imbalance and overload, so it is able to supply power more steadily.



## The Smartest Way to use Solar Energy

### LG ESS Home 5

PCS 5kW, Battery 6.4kWh

### LG ESS Home 8

PCS 8kW, Battery 7kWh, 9.8kWh

### LG ESS Home 10

PCS 10kW, Battery 7kWh, 9.8kWh

LG Electronics provides energy storage system to enhance self-consumption rate of photovoltaic systems. LG's high power DC-coupled ESS converts energy 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. Also, emergency power to protect the customer's home in the event of a sudden power outage, Above all, the user-friendly EnerVu mobile application helps the easy system set-up. The web monitoring function also allows installers and users to check their system status anytime and anywhere.

## System Line-Up

### LG ESS Home 5

PCS 5kW, Battery 6.4kWh, Battery Expansion

### LG ESS Home 8 | LG ESS Home 10

PCS 8/10kW, Battery Pack 7kWh, Battery 9.8kWh



## Technical Data

Models (PCS)		LG ESS Home 5	LG ESS Home 8	LG ESS Home 10
DC Input	Max. Input Voltage Range (Min. ~ Max.)	210V ~ 800V	150V ~ 1000V	
	Number of MPPT	2	3	
AC Output	Rated Output Power	5kVA	8kVA	10kVA
	Phases	3		
Efficiency (PCS)	European Efficiency (PV to Grid)	96.0%	> 97.0%	
General Data	Dimension(W/H/D, mm) & Weight	408/490/185, 25 kg	450/599/210, 34kg	
	Degree of Protection	IP21		
Feature & Function	Warranty (PCS)	10 years		
	Compatible battery	LG HB 6.4	LG HB 7H, LG HB 10H	

## Feature

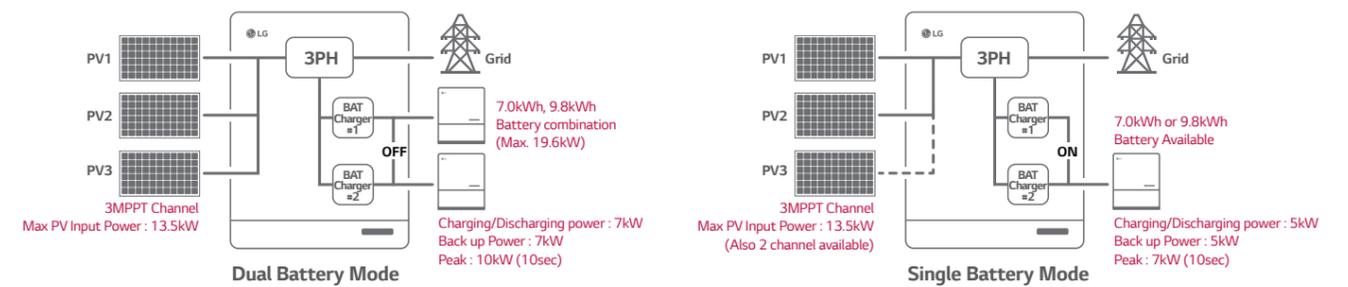
### 10-year Warranty & One-Stop Service

ESS can be paired with LG PV modules for a single provider for all warranty issues.



### 3 MPPT, 2 Battery Channel provide more flexibility

Multi-String & advanced 3MPPTs for multi-angled roof. Easy expandable battery capacity (From 7.0kW to 19.6kW)



### Slim & Luxury Design

Full stainless steel ESS feature an elegant appearance and enhanced durability compared to plastic models. More Compact ESS for smaller volume and light weight.



		LG	Conventional
		10kW / 9.8 kWh	10kW / 10.2kWh
PCS	Volume (L)	56.6	53.1
	Weight (kg)	34.0	21.6
Battery	Volume (L)	138.8	276.4
	Weight (kg)	99.0	226.0
Total (ESS)	Weight (kg)	195.4	329.5
	Weight (kg)	133.0	247.6

### Smart Management using by EnerVu

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



- Benefits of EnerVu**
- Remote firmware update
  - Easy Wi-Fi installation
  - Automatic system faults notification
  - Energy profiling function

