



# LG Electronics Commercial Energy Storage System 250 kW



## A complete Energy Storage solution

### The LG Electronics Commercial ESS includes:

- PCS, LG Electronics Energy Storage System with BMS.
- LG Electronics are also available in fully Outdoor Rated NEMA 3R enclosures, offering unparalleled flexibility with multiple configuration options.

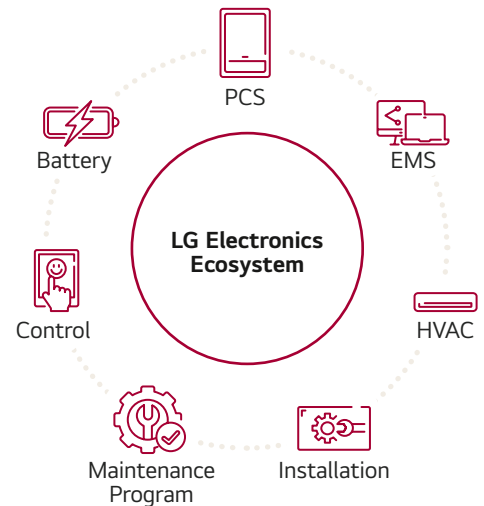
## Why LG Electronics?

LG Electronics Energy Storage Systems are manufactured and tested in South Korea, one of the world's leading technological hubs for innovation and excellence. Like all LG products, LG Electronics solutions are engineered and designed to the highest industry standards of performance and durability.

### Experience resiliency

With LG Electronics, you can realize resiliency and sustainability while obliging governmental and industry-based energy mandates and contributing to corporate ESG goals.

### All-in-One Solution



### LG Electronics and HVAC solutions: design and service offerings

LG Electronics and HVAC Solutions offer a full line of vertically integrated product and service packages—tailored to your specific project needs and requirements.



To learn more please visit [lg.com/ess](http://lg.com/ess)

Life's Good.

# Features at a Glance



## Virtually seamless backup functionality

- Wide temperature range of operation, -22° to 122°F; Derating at >113°F
- Earthquake resistant structure and architecture
- Sealed cabin protects electronics against dust and moisture



## User-friendly HMI/LCD touch panel

- Black start capability for low voltage disconnect
- Rapid power transfer/system response time ~20ms\*

\* System response time of ~20ms achieved in LGE test facility. Requires use of Solid State Relay.



## Compliance/NA certification

- UL1741SA/SB, UL924
- CA Rule 21 Phase 3
- Hawaiian Rule 14H
- UL 9540 listed and UL 9540A tested
- CEC listed

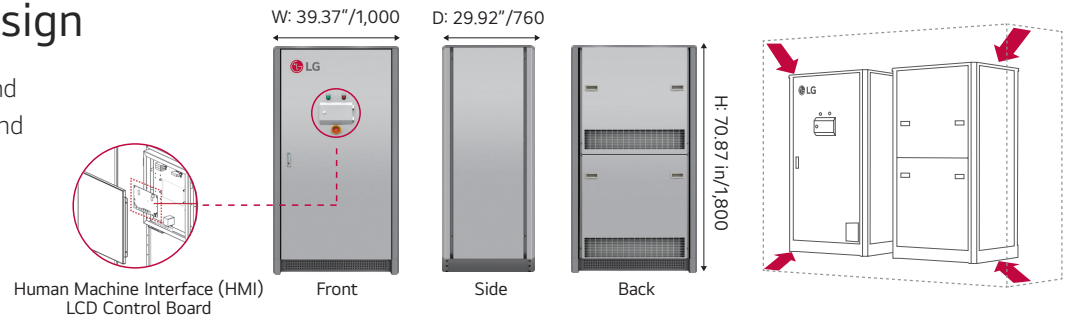


## Robust and reliable design

- 7-inch touch screen/Performance and Configuration viewer
- Self-registration: Parameter settings and mode control

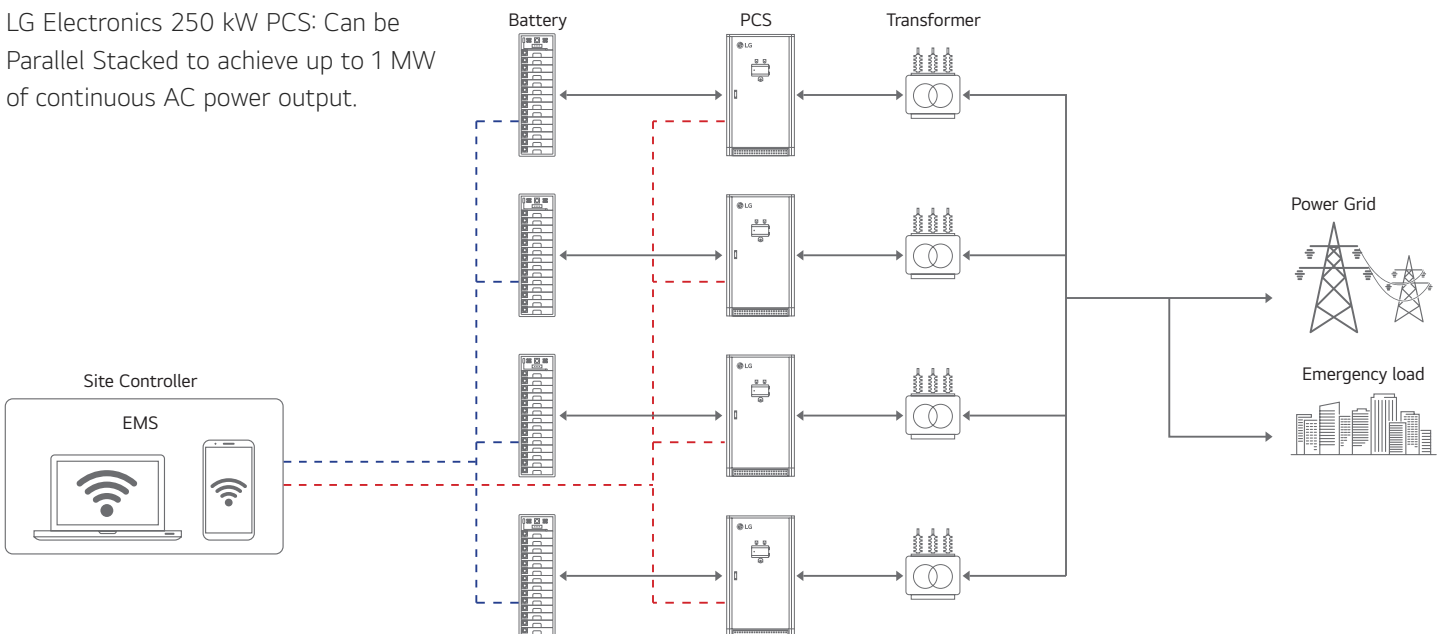
# Compact cabinet design

LG Electronics 250 kW PCS: Sleek and modern design maximizes function and minimizes floorspace and footprint.



# Optimized layout delivers maximum performance

LG Electronics 250 kW PCS: Can be Parallel Stacked to achieve up to 1 MW of continuous AC power output.



## Electrical specifications

250 kW PCS	Description
DC bus voltage	750 VDC Min / 870 VDC Nom / 1,000 VDC Max
AC voltage range	422 VAC Min / 480 VAC Nom / 528 VAC Max
Current THD	<1%
Battery chemistry	Lithium-ion, NMC
BESS nameplate capacity	1.25 MWh
System power rated	Input 250 kW / output 250 kW
Standalone operation	175 kVA
CEC rated efficiency	97%
Standby tare loss	90 Watts
Auxiliary voltage	120 / 240 VAC
System maximum continuous current (DC)	Input 340A / output 342A
System operating frequency	60 Hz
Maximum short circuit current	Calculated with 3rd party supplied transformer
Connection point	1x480V/3ph, 250 kVA, 1x1ph 15 kVA Aux. power, (opt. internal connected), 1x ModBus TCP or Internet source
Default Power Factor Range	-0.8 - 0.8
Electrical connection	Bottom access, customizable

## Mechanical & environmental interface specification

Insulated system enclosure	Dimensions 96" x 114" x 240"
Ambient temperature range	-22°F to 122°F
Enclosure rating	Outdoor, NEMA 3R, IP65
Enclosure insulation thickness	Fiberglass 6.5" base, 2" top and sides
Cooling technology	Cooling heat pump
PCS system weight	1,110 lbs

## LG Electronics 250 kW ESS industry-leading safety and protection

All LG Electronics ESS Commercial Systems are designed to the highest safety standards in the industry. The BMS (Battery Management System) monitors and controls all cell level charge/discharge activity, and proactively disengages the ESS if any discrepancies are detected. The LG cell level water injection system eliminates thermal runaway potential and the 3M Novec 1230 fire suppression system keeps the entire system safeguarded.

## Energy Management System (EMS): Unit controller

Protection	EMS technical parameters
Communication interface	Modbus / CAN / Ethernet / Wi-Fi and Serial Connection
Power source / supply	24-30 VDC
Graphical display	Touchscreen HMI / Also accessible via laptop or tablet
Communication protocol	Supports multiple coms including TLS 1.2, DNP3, IEC 61850, IEC 60870-5-104 and TCP/IP
Dimension	Dimensions 5"x19"x13"
Temperature rating	Range -22°F to 170°F
Storage capacity	528 MB
Automation controller	RTAC
UPS	120 VAC
Connectivity	Cellular modem
Network security	Highly secure: VPN access with NIST 800-53 compliance
Web and data collection	Cloud based and local
Metering capability	Synchro Phaser PMU
Integration	EMS and SCADA
Standards conformity	MESA and SunSpec
User verification & authentication	Multi-Level Access

## Protection systems

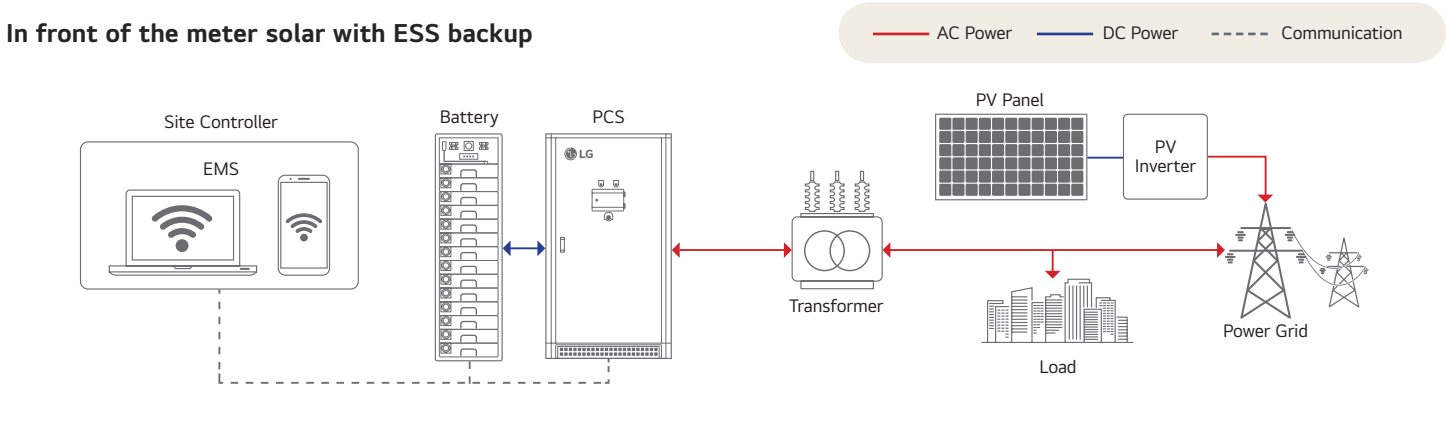
Features	Description
Arc fault	Comprehensive detection and mitigation
Intrusion monitoring	Door, lighting, temperature, and humidity
Transient	Surge suppression
Fire suppression	3M Novec 1230 fire suppression system
Thermal event	Fully automated cell level water injection system
Emergency shutdown	Includes E STOP shutdown system with push button control
Visual safety indicator	Strobe light front and rear
Utility disconnect	UL 1741SA/SB
Off-grid	Grid forming when operating independent from utility source
Ground fault	Complete ground fault detection and protection
Over current	Complete AC and DC over current protection
Graphical display	Touchscreen HMI / Also accessible via laptop or tablet

# System design and layout

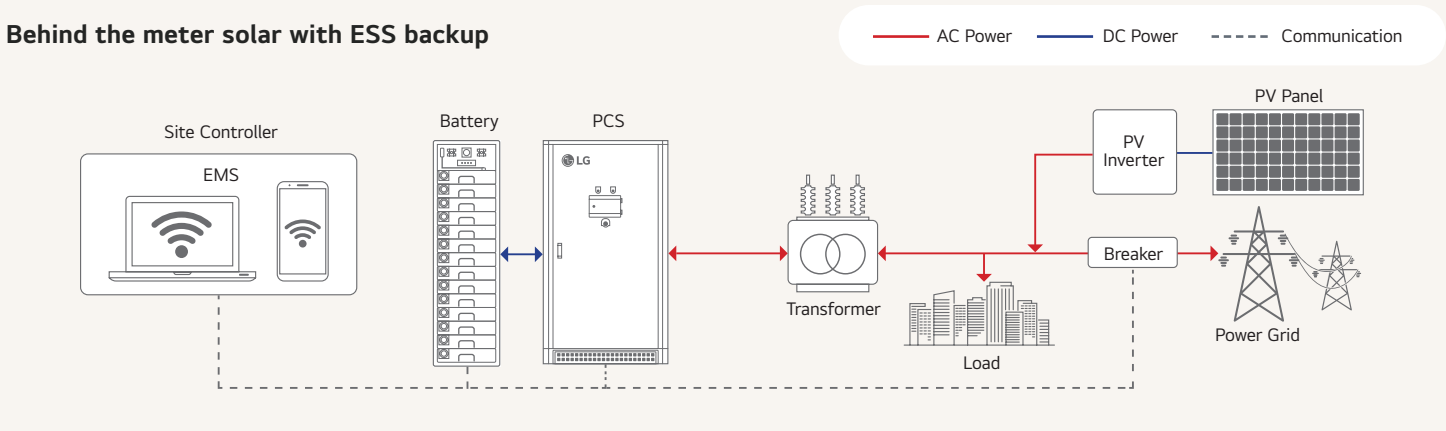
## Common configurations and utility interconnections

How can LG Electronics ESS support your resiliency and sustainability needs? Whether you're looking to respond to TOU rates, schedule peak shaving for demand charge reduction, improve grid power quality, serve as a backup for reliable emergency power, or reduce reliance on gas fired gensets—LG Electronics is here to support your power and renewable energy needs.

### In front of the meter solar with ESS backup



### Behind the meter solar with ESS backup



### Rapid transfer with AC-coupled solar and ESS backup

