

LGES-5048

LGES-5048 Hybrid Inverter Specification



LGES-5048
Battery Input Data

Battery Type	Li-Ion RESU6.5, RESU10, RESU12, RESU13
Nominal Battery Voltage	48 V
Max. Charging Voltage	≤ 60 V (Configurable)
Max. Charging Current ¹⁾	100 A
Max. Discharging Current ¹⁾	100 A
Battery Capacity	126~504 Ah
Charging Strategy for Li-Ion Battery	Self-adaptation to BMS

PV String Input Data

Max. DC Input Power - without battery	6500 W
Max. DC Input Power – with battery	8500 W
Max. DC Input Voltage	580 V
Max. DC Input Voltage for battery charging	500 V
MPPT Voltage Range	120~550 V
Start-up Voltage ²⁾	125 V
Min Feed-in Voltage ³⁾	150 V
MPPT Voltage Range for Full Load	215~500 V
Nominal DC Input Voltage	360 V
Max. Input Current	11 A
Max. Short Current	13.8 A *See Page 5
PV Over-current Protection	21 A
PV Back-feed Current	0 A
No. of MPP Trackers	2
No. of Strings per MPP Tracker	1
DC Overvoltage Category	II

Efficiency

Max. Efficiency	97.6 %
Max. Battery to Load Efficiency	94.0 %
European Efficiency	97.0 %
MPPT Efficiency	99.9%

AC Output Data (Back-up)

Max. Output Apparent Power	4600 VA
Peak Output Apparent Power ⁴⁾	6900 VA, 3sec
Max. Output Current	20 A
Nominal Output Voltage	230 V (±2%)
Nominal Output Frequency	60 Hz (±0.2%)
Back-up Over Current Protection	30 A
Output Inrush Current (Peak / Duration)	55 A, 2 μs
Automatic Switch Time	10 ms
Output THDv (@Linear Load)	<3%

1) The actual charge and discharge current also depends on the battery.. -

2) When there is no battery connected, inverter starts feeding in only if string voltage is higher than 200V.

3) If there is no battery connected, inverter starts feeding into grid only if PV voltage > 200V.

4) On condition of battery and PV power being enough.

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AC Output Data (On-grid)

Nominal Power Output Grid	5000 W
Rated/Max. Apparent Power Output to Utility Grid	5000 VA
Max. Apparent Power from Utility Grid	9200 VA
Nominal Output Voltage (V)	230 single phase
Nominal Output Frequency (Hz)	60
Max. AC Output Current to Grid (A)	24.5
Max. AC Current from Grid (A) ⁵⁾	40 A
AC Back-feed Current	0 A
Max. Output Fault Current (Peak / Duration)	43 A, 0.2s
Output Inrush Current (Peak / Duration)	55 A, 2 μ s
Output Inrush Current (Peak / Duration)	60 A, 3 μ s
Output Power Factor	~(Adjustable from 0.8 leading to 0.8 lagging)
Output THDi (@Nominal Output)	<3%
AC Overvoltage Category	III

General Data

Operating Temperature Range	-25~60°C
Storage Temperature Range	-30~65°C
Relative Humidity	0~95 %
Moisture Location Category	4K4H
External Environment Pollute Degree	Grade 1,2,3
Environment Category	Outdoor & Indoor
Operating Altitude	\leq 4000 m
Cooling	Natural Convection
Noise	<25 Db
User Interface	LED & APP
Communication with BMS	CAN
Communication with Meter	RS485
Communication with Portal	Wi-Fi ⁶⁾
Mounting	Wall Bracket
Protection Degree	IP65
Standby Self-Consumption	<13 W
Topology	Non-isolated topology
Country of manufacture	China

Protection

Anti-Islanding Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
Insulation Resistor Detection	Integrated
Residual Current Monitoring Unit	Integrated
Output Over Current Protection	Integrated
Output Short Protection	Integrated
Output Over Voltage Protection	Integrated
PV String over-current	Installer-supplied

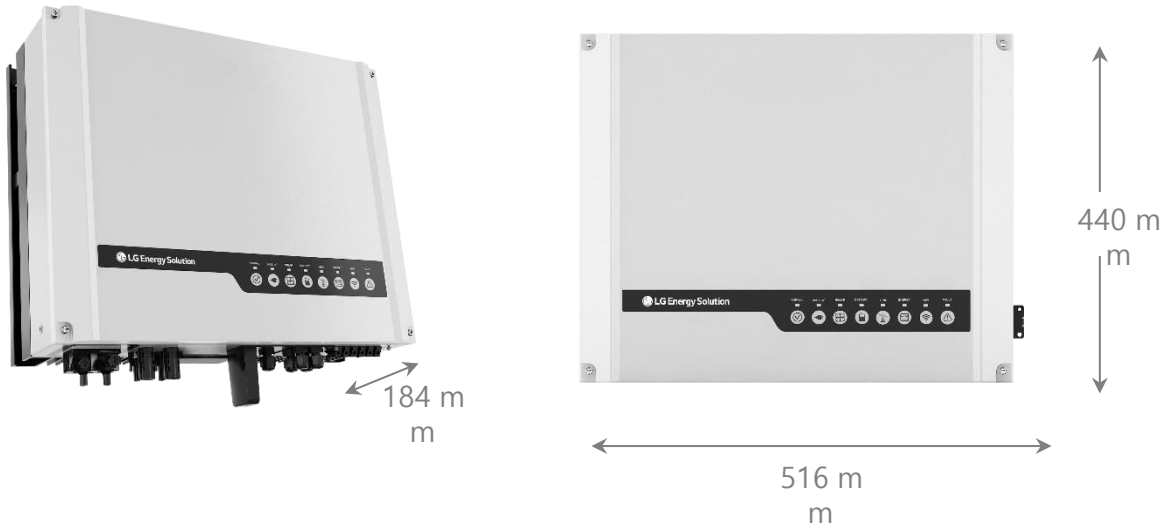
5) 40A to inverter and backup, maximum 21.5A to inverter.

6) Only compatible with 2.4Ghz network.

Features

LGES-5048 inverter is designed to fit perfectly with RESU6.5, RESU10, RESU12 and RESU13 and is part of a Home PV Storage system package of LG Energy Solution.

- One home battery package of LG Energy Solution
- UPS Backup
- Reliable 10 Years Warranty provided by LG Energy Solution
- PV oversizing to 8.5kW with battery
- Single point of Technical Support through LG Energy Solution Service



Mechanical Characteristics

Dimensions	Width	516 mm
	Height	440 mm
	Depth	184 mm
Weight		30 kg

LG Energy Solution Statement

Maximum Short Circuit Current

We hereby confirm that LGES-5048 series inverter models have the certificate IEC62109.1 which already has the $1.25-1.5 \times I_{sc}$ allowance built in. The internal protective device and components used on the inverters have therefore been designed for adequate over-current protection in the event of short circuit of PV panels.

LG Energy Solution can confirm that the inverter models listed below have been tested and allow at least 18A DC maximum short circuit current.

Series	Model	Tested Short Circuit Current per MPPT
LGES-5048	LGES-5048	18A
	LGES-5048 NS	18A



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9th June, 2022



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