

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.

LGES-5048
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 | ≤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 |

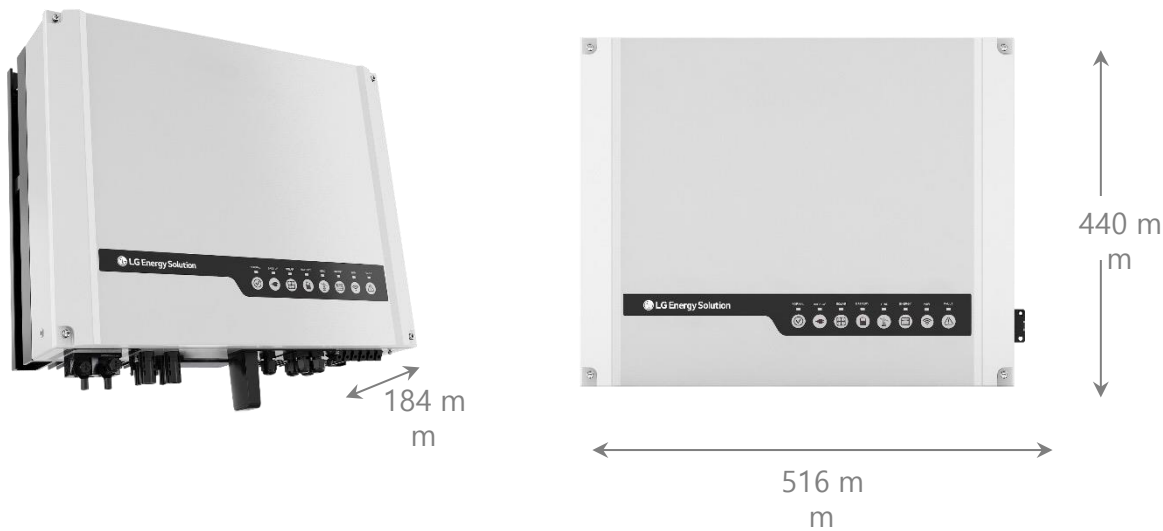
5) 40A to inverter and backup, maximum 21.5A to inverter.

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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