

Compact and safe all-in-one solution for solar power storage

- ✓ Maximised power back-up
- ✓ Highest safety standards
- ✓ Smart and efficient operation
- ✓ Modern and compact design

The GoodWe ESA all-in-one PV power storage solution combines a hybrid inverter, battery cells, battery charger and UPS in one compact casing, thereby reducing system complexity for residential applications. The robust unit can withstand tough weather conditions (IP54 rated), thus allowing for outside installation if required, and is neatly packed for a modern and elegant appearance. The pre-wired modular system eases the installation process.



High back-up output power



Safe battery technology (LFP)



UPS level switching <10ms



Technical Data GW5048-ESA

Battery Enclosure Data

Weight (kg)	37
Dimension (W x H x D mm)	516 x 1205 x 280
Mounting	Wall Mounted
Protection Degree	IP54

Inverter Data

Battery Input Data

Battery Type ^{*1}	Li-Ion
Nominal Battery Voltage (V)	48
Battery Voltage range (V)	40 ~ 60
Max. Continuous Charging Current (A) ^{*1}	90
Max. Continuous Discharging Current (A) ^{*1}	100
Max. Charging Power (W)	4600
Max. Discharging Power (W)	4600

PV String Input Data

Max. Input Power (W)	6500
Max. Input Voltage (V)	580
MPPT Operating Voltage Range (V)	125 ~ 550
Start-up Voltage (V)	125
Nominal Input Voltage (V)	360
Max. Input Current per MPPT (A)	14
Max. Short Circuit Current per MPPT (A)	17.5
Number of MPPTs	2
Number of Strings per MPPT	1

AC Output Data (On-grid)

Nominal Apparent Power Output to Utility Grid (VA) ^{*5}	5000
Max. Apparent Power Output to Utility Grid (VA) ^{*2}	5000
Max. Apparent Power from Utility Grid (VA)	9200
Nominal Output Voltage (V)	230
Nominal AC Grid Frequency (Hz)	50 / 60
Max. AC Current Output to Utility Grid (A)	22.8
Max. AC Current From Utility Grid (A)	40
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)
Max. Total Harmonic Distortion	<3%

AC Output Data (Back-up)

Back-up Nominal Apparent Power (VA)	4600
Max. Output Apparent Power (VA) ^{*3}	4600 (6900@10sec)
Max. Output Current (A)	20
Nominal Output Voltage (V)	230 (±2%)
Nominal Output Frequency (Hz)	50 / 60 (±0.2%)
Output THDv (@Linear Load)	<3%

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Efficiency	General Data
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Max. Efficiency	97.6%	Operating Temperature Range (°C)	-25 ~ +60
European Efficiency	97.0%	Relative Humidity	0 ~ 95%
Max. Battery to AC Efficiency	94.0%	Max. Operating Altitude (m)	3000
MPPT Efficiency	99.9%	Cooling Method	Natural Convection

Protection	Communication
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PV Insulation Resistance Detection	Integrated	Communication with BMS ^{*4}	RS485, CAN
Residual Current Monitoring	Integrated	Communication with Meter	RS485
PV Reverse Polarity Protection	Integrated	Communication with Portal	Wi-Fi
Anti-islanding Protection	Integrated	Weight (kg)	44
AC Overcurrent Protection	Integrated	Dimension (W x H x D mm)	516 x 832 x 290
AC Short Circuit Protection	Integrated	Typical Noise Emission (dB)	<25
AC Overvoltage Protection	Integrated	Topology	Non-isolated
		Self-consumption at Night (W)	<13
		Ingress Protection Rating	IP65
		Mounting Method	Wall Mounted

*1: The actual charge and discharge current also depends on the battery.
 *2: 4600 for VDE 0126-1-1 & VDE-AR-N4105 & NRS 097-2-1, 5100 for CEI 0-21 (GW5048D-ES).
 *3: Peak output apparent power can be reached only if PV and battery power is enough.
 *4: CAN communication is configured by default. If 485 communication is used, please replace the corresponding communication line.

*5: 4600 for VDE 0126-1-1 & VDE-AR-N4105 & NRS 097-2-1 & CEI 0-21.
 *: When there is no battery connected, inverter starts feeding in only if string voltage is higher than 200V.
 *: Please visit GoodWe website for the latest certificates.