YOUR SOLAR ENGINE GOODWE INVERTER PORTFOLIO 27

Power Whenever You Need



EM Series

Hybrid Inverter

- Smart battery management function
- Export control (Zero export)
- UPS function with 10 ms automatic switchover
- 50A charge & discharge capacity
- IP65 dustproof and waterproof
- Fanless design, long lifespan



The GoodWe EM series bi-directional energy storage inverter can be used for both on-grid and off-grid PV systems, with the ability to control the flow of energy intelligently. During the day, the PV array generates electricity which can be provided either to the loads, fed into the grid or charge the battery, depending on the economics and set-up. The electricity stored can be released when the loads require it during the night. Additionally, the power grid can also charge the storage devices via the inverter. An all-round intelligent system for maximum energy flexibility.

Max. Charging Voltage (V) ≤60 (Configurable) ≤60 (Configurable) Max. Charging Current (A)** 50 50 Max. Discharging Current (A)** 50 50 Battery Capacity (Ah)*² 50 50 So-2000 50-2000 So-2000 Max. Deling Strategy for Li-lon Battery PV String Input Data Max. Deling Power (W) 3900 4600 Max. Deling Power (W) 3900 100-500 So-2000 Max. Deling Voltage (V)*3 550 550 MPPT Range (V) 100-500 100-500 So-2000 Max. Input Voltage (V)*4 150 150 Mominal Deling Voltage (V) 360 360 Max. Input Current (A) 11 11 11/11 Max. Short Current (A) 13.8 13.8/13.8 No. of MPP Trackers 1 2 No. of Strings per MPP Tracker 1 1 2 No. of Strings per MPP Tracker 1 1 1 AC Output Data (On-grid) Nominal Deling Power Output to Utility Grid (VA) 3000 3680 Max. Apparent Power Output to Utility Grid (VA) Soon 360 Nominal Output Voltage (V) 230 3300 Nominal Output Frequency (Hz) Max. AC Current Courtput to Utility Grid (VA) 3300 5300 Nominal Output Frequency (Hz) Max. AC Current From Utility Grid (A) 23.6 23.6 Output Power Factor Cutyput THDI (@Nominal Output) AC Output Data (Bok-up) Max. AC Current From Utility Grid (A) 230 230 Peak Output Apparent Power (NA) AC Output Data (Bok-up) Max. Output Apparent Power (NA) 230 230 Peak Output Apparent Power (NA) 230 230 Peak Output Apparent Power (NA) 230 230 Peak Output Data (Bok-up) Max. Output Voltage (V) 230 (±2%) Nominal Output Frequency (Hz) 50/60 (±0.2%) 50/60 (±0	Li-lon or Lead-acid*1 48 ≤60 (Configurable) 50 50 50 50 50 2000 Self-adaption to BMS 3900 6500 100~500 150 360 11 13.8/13.8 2 1 5000*5 5000 5300 230 50/60 22.8*7 23.6 Iging) <a href="mailto:square: aparts: apar</th></tr><tr><td> Li-lon or Lead-acid** Alterny Type</td><td>48 ≤60 (Configurable) 50 50 50 50 50 50 50 50 50 5</td></tr><tr><td> Mominal Battery Voltage (V)</td><td>≤60 (Configurable) 50 50 50 50 50-2000 Self-adaption to BMS 3900 6500 100~500 150 360 11 13.8/13.8 2 1 5000*5 5000 5300 230 50/60 22.8*7 23.6 Iging) <a href=" mailto:square:="" square:="" square:<="" td="">
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Residual Current Monitoring Unit Integrated Integrated	Integrated
Output Over Current Protection Integrated Integrated Integrated	Integrated
Output Short Protection Integrated Integrated Integrated	Integrated
Output Over Voltage Protection Integrated Integrated	Integrated
General Data	
Operating Temperature Range (°C) -25~60 -25~60	-25~60
Relative Humidity 0~95% 0~95%	0~95%
Operating Altitude (m) 4000 4000	4000
Cooling Natural Convection	
Noise (dB) <25 <25	<25
User Interface LED & APP LED & APP	LED & APP
Communication with BMS*9 RS485; CAN RS485; CAN	RS485; CAN
Communication with Meter RS485 RS485	RS485
Communication with Portal Wi-Fi Wi-Fi	Wi-Fi
Weight (kg) 16 17	17
Size (Width*Height*Depth mm) 347*432*175 347*432*175	347*432*175
Mounting Wall Bracket Wall Bracket	Wall Bracket
Protection Degree IP65 IP65	IP65
Standby Self Consumption (W) <13 <13	<13
	<13
1 37	
Certifications & Standards Grid Regulation AS/NZS 4777.2:2015, G83/2, G100, CEI 0-21, VDE4105-AR-N, VDE0126-1-1, NF	

 $[\]ensuremath{^{*1}}\xspace$ Lead-acid battery use refers to Approved Battery Options Statement .

Safety Regulation

IEC/EN62109-1&-2, IEC62040-1

^{**:} Lead-acta battery use refers to Approve a battery Options Statement .

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

*2: Under off-grid mode, then battery capacity should be more than 100Ah.

*3: Maximum operating dc voltage is 530V.

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

EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN61000-4-16, EN61000-4-18, EN61000-4-29

^{*5: 4600} for VDE0126-1-1&VDE-AR-N4105 & CEI 0-21(GW5048-EM).
*6: For CEI 0-21 GW3048-EM is 3300, GW3648-EM is 4050, GW5048-EM is 5100; for VDE-AR-N4105 GW5048-EM is 4600.

^{*7: 21.7}A for AS4777.2.

^{**: 21.7}A for A34777.2.

**: Can be reached only if PV and battery power is enough.

**: The standard configuration is CAN.