GOODWE

ES G2 Series

3-6kW I Single Phase I 2 MPPTs Hybrid inverter (LV)

The GoodWe ES G2 inverter, ranging from 3 to 6kW, is a single-phase hybrid inverter designed to increase self-consumption of the generated solar energy, with the ability to control the flow of energy intelligently. The inverter can automatically realize UPS-level switching to the back-up mode in less than 10ms, with strong backup ability to withstand heavy loads like air conditioners. Its smart design also offers great flexibility for demanding scenarios as it supports parallel connection for dependable backup power supply. Featured with plug-and-play, compact design, and minimal weight, PV installations are quicker and easier to complete than ever before. Importantly, ES G2 is compatible with a wide range of low voltage batteries such as GoodWe Lynx Home U battery. For homeowners looking to achieve a high degree of energy autonomy, reliable power supply and affordable energy prices, the ES G2 is the right choice.

Smart Control & Monitoring

- Smart load control with dry contacts
- Smart home integration with multi-protocol communications

Friendly & Thoughtful Design

- Plug & Play
- Elegant and compact design

Superb Safety & Reliability

- Optional AFCI on DC side[1]
- Remote Shutdown

Flexible & Adaptable Applications

- Compatible with lithium-ion & lead-acid batteries
- Maximum 16A DC input current per string and high-power module compatibility
- Strong backup power supply

1: Optional functions or devices are purchased separately.

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Technical Data	GW3000-ES-20	GW3500L-ES-BR20	GW3600-ES-20	GW3600M-ES-20	GW5000-ES-20	GW5000M-ES-20	GW6000-ES-20	GW6000M-ES-20
Battery Input Data								
Battery Type[*1]	Li-Ion / Lead-acid			Li-Ion	Li-Ion / Lead-acid	Li-Ion	Li-Ion / Lead-acid	Li-Ion
Nominal Battery Voltage (V)	48							
Battery Voltage Range (V)	40 ~ 60							
Start-up Voltage (V)	47	40	47	47	47	47	47	47
Number of Battery Input	1							
Max. Continuous Charging Current (A)[*2]	60	75	75	60	120	60	120	60
Max. Continuous Discharging Current (A)[*2]	60	75	75	60	120	60	120	60
Max. Charge Power (W)[*2*3]	3000	3500	3600	3000	5000	3000	6000	3000
Max. Discharge Power (W)[*3]	3200	3800	3900	3200	5300	3200	6300	3200
PV String Input Data								
Max. Input Power (W)[*4]	4500	6300	5400	5400	7500	7500	9000	9000
Max. Input Voltage (V)[*5]	600							
MPPT Operating Voltage Range (V)	60 ~ 550							
Start-up Voltage (V)	58							
Nominal Input Voltage (V)	360							
Max. Input Current per MPPT (A)	16							
Max. Short Circuit Current per MPPT (A)	23							
Number of MPP Trackers	1	2	2	2	2	2	2	2
Number of Strings per MPPT	1							
AC Output Data (On-grid)								
Nominal Output Power (W)	3000	3500	3680	3680	5000	5000	6000	6000
Nominal Apparent Power Output to Utility Grid (VA)	3000	3500	3680	3680	5000[*6]	5000[*6]	6000[*6]	6000[*3]
Max. Apparent Power Output to Utility Grid (VA)	3000	3500	3680	3680	5000[*6]	5000[*6]	6000[*6]	6000[*3]
Nominal Power at 40°C (W)[*6]	3000	3500	3680	3680	5000	5000	6000	6000
Max. Power at 40°C (Including AC Overload) (W)[*6]	3000	3500	3680	3680	5000	5000	6000	6000
Max. Apparent Power from Utility Grid (VA)	6000	5500	7360	3680	10000	5000	10000	6000
Nominal Output Voltage (V)	220 / 230 / 240[*7]	127	220 / 230 / 240[*7]					
Output Voltage Range (V)	170 ~ 280	95 ~ 165	170 ~ 280					
Nominal AC Grid Frequency (Hz)	50 / 60	60	50 / 60					
AC Grid Frequency Range (Hz)	45 ~ 55 / 55 ~ 65	55~65	45 ~ 55 / 55 ~ 65					
Max. AC Current Output to Utility Grid (A)	13.6	27.6	16.7	16.7	22.7	22.7	27.3	27.3
Max. AC Current From Utility Grid (A)	27.3	43.5	33.5	16.7	43.5	22.7	43.5	27.3
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)	3000	3500	3680	3680	5000	5000	6000	6000
Max. Output Apparent Power without Grid (VA)	3000 (6000@10sec)	3500 (5800@10s)	3680 (7360@10sec)	3680	5000 (10000@10sec)	5000	6000 (10000@10sec)	6000
Max. Output Apparent Power with Grid (VA)	3000 (6000@10sec)	3500	3680 (7360@10sec)	3680	5000 (10000@10sec)	5000	6000 (10000@10sec)	6000
Max. Output Current (A)	13.6	27.6	16.7	16.7	22.7	22.7	27.3	27.3
Nominal Output Voltage (V)	220 / 230 / 240[*7]	127	220 / 230 / 240[*7]					
Nominal Output Fregency (Hz)	50 / 60	60	50 / 60					
Output THDv (@Linear Load)	<3%							
Efficiency								
Max. Efficiency	97.6%	96.0%	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%
European Efficiency	96.7%	95.6%	96.7%	96.7%	96.7%	96.7%	96.7%	96.7%
Max. Battery to AC Efficiency	95.5%	94.0%	95.5%	95.5%	95.5%	95.5%	95.5%	95.5%
MPPT Efficiency	99.9%							
Protection								
PV String Current Monitoring	Integrated							
PV Insulation Resistance Detection	Integrated							
Residual Current Monitoring	Integrated							
PV Reverse Polarity Protection	Integrated							
Anti-islanding Protection	Integrated							
AC Overcurrent Protection	Integrated							
AC Short Circuit Protection	Integrated							
AC Overvoltage Protection	Integrated							
DC Switch	Integrated							
DC Surge Protection	Type II							
AC Surge Protection	Type II							
AFCI	Optional							
Remote Shutdown	Integrated							
General Data								
Operating Temperature Range (°C)	-25 ~ +60							
Relative Humidity	0 ~ 95%							
Max. Operating Altitude (m)	3000 (>2000 Derating)							
Cooling Method	Natural Convection							
User Interface	LED, WLAN + APP							
Communication with BMS	CAN							
Communication with Meter	RS485							
Communication with Portal	WiFi / WiFi + LAN / 4G							
Weight (kg)	19.6	21.5	20.8	20	21.5	20	21.5	20
Dimension (W × H × D mm)	505.9 × 434.9 × 154.8							
Topology	Non-isolated							
Self-consumption at Night (W)	<10							
Ingress Protection Rating	IP65							
Mounting Method	Wall Mounted							

*1: For EU and ANZ, Lead-acid battery is not available.
*2: The actual charge and discharge current / power also depends on the battery.
*3: When the PV input voltage is higher than 490V, the battery charging and discharging power will be gradually limited, and the power limitation will be lifted after the input voltage is lowered.
*4: The max power is the actual power of PV. Besides, in Australia, for most of the PV module, the max. input power can achieve 2*Pn, Such as the max. input power of GW3000-ES-20 can achieve 6000W.
*5: When the input voltage is greater than 560V, the inverter will enter standby mode. When the voltage returns to below 550V, the inverter will return to normal operation state.
*6: 4600 for VDE-AR-N4105 & NRS 097-2-1.
*7: In South America, back-up output does not support relative phase (F-F) connections and 110-127V loads; Only supports relative neutral wire (F-N) 208-240V connection and 208-240V load.
*: Please visit GoodWe website for the latest certificates.
*: All pictures shown are for reference only. Actual appearance may vary.