

# GOODWE

## ES G2 Series

3-6kW | Single Phase | 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<sup>1</sup>
- 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

<sup>1</sup>: Optional functions or devices are purchased separately.

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 <sup>*16</sup>	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) <sup>*1</sup>	60	75	75	60	120	60	120	60	
Max. Continuous Discharging Current (A) <sup>*1</sup>	60	75	75	60	120	60	120	60	
Max. Charge Power (W) <sup>*15</sup>	3000	3500	3600	3000	5000	3000	6000	3000	
Max. Discharge Power (W) <sup>*5</sup>	3200	3800	3900	3200	5300	3200	6300	3200	
PV String Input Data									
Max. Input Power (W) <sup>*2</sup>	4500	6300	5400	5400	7500	7500	9000	9000	
Max. Input Voltage (V) <sup>*4</sup>	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 <sup>*3</sup>	5000 <sup>*3</sup>	6000 <sup>*3</sup>	6000 <sup>*3</sup>	
Max. Apparent Power Output to Utility Grid (VA)	3000	3500	3680	3680	5000 <sup>*3</sup>	5000 <sup>*3</sup>	6000 <sup>*3</sup>	6000 <sup>*3</sup>	
Nominal Power at 40°C (W) <sup>*3</sup>	3000	3500	3680	3680	5000	5000	6000	6000	
Max. Power at 40°C (Including AC Overload) (W) <sup>*3</sup>	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	127	220 / 230 / 240						
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	127	220 / 230 / 240						
Nominal Output Frequency (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: The actual charge and discharge current / power also depends on the battery.

\*2: 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.

\*3: 4600 for VDE-AR-N4105 & NRS 097-2-1.

\*4: 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.

\*5: 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.

\*6: The Li-Ion battery usually contain two mainstream type: LFP and Ternary Lithium battery.

\*: Please visit GoodWe website for the latest certificates.

\*: All pictures shown are for reference only. Actual appearance may vary.