GOODWE

ES LD Series

5-10kW I Split & Two Phase I 2 MPPTs Hybrid Inverter

The GoodWe ES LD Series (5-10kW) is a split & two phase hybrid inverter designed for residential and small commercial applications. It offers flexible compatibility with both on-grid and off-grid systems, supporting 48V low-voltage lithium or lead-acid batteries with battery-ready functionality. The ES LD Series delivers AC output voltages of 120/208, 127/220V, 120/240V, and 127/254V to meet diverse market requirements.

High Performance

- 200% DC oversizing & 200% AC overload
- Continuous charging & discharging current up to 220A
- Low-noise design <35dB

Flexible & Adaptable Applications

- 3-in-1 Port: Generator & On-grid Inverter & Smart Load
- Battery-ready, single micro-grid & half-wave load support
- Two-phase and split-phase output options available

Superb Safety & Reliability

- AI-driven AFCI 3.0
- Type II SPD on DC & AC sides
- IP66 ingress protection

Smart Control for Smart Energy

- Seamless switching <4ms
- 24/7 load consumption monitoring

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Technical Data	GW5K-ES-LD-G10	GW7.5K-ES-LD-G10	GW10K-ES-LD-G10
Battery Side			
Battery Type		LFP / Lead-acid	
Nominal Voltage (V)		48	
Voltage Range (V)		40 ~ 60	
Start-up Voltage (V)		44.2	
Number of Battery Inputs		1	
Max. Continuous Charging Current (A)	120	165	220
Max. Continuous Discharging Current (A)	120	165	220
Max. Charging Power (kW)	5.0	7.5	10.0
Max. Discharging Power (kW)	5.5	8.2	11.0
PV Side			
Max. Input Power (kW)	10	15	20
Max. Input Voltage (V)*1		600	
MPPT Operating Voltage Range (V)*2		50 ~ 550	
Start-up Voltage (V)		60	
Nominal Input Voltage (V)		360	
Max. MPPT Current (A)	20 / 20	40 / 20	40 / 40
Max. MPPT Short Circuit Current (A)	26 / 26	52 / 26	52 / 52
Number of MPPTs		2	
Number of Strings per MPPT	1 / 1	2 / 1	2 / 2
AC Side (Grid Port)			
Rated Power (kW)	5.0	7.5	10.0
Max. Power (kW)	5.0	7.5	10.0
Rated Apparent Power from Grid (kVA)	5.0	7.5	10.0
Rated Apparent Power to Grid (kVA)	5.0	7.5	10.0
Max. Apparent Power to Grid (kVA)	5.0	7.5	10.0
Max. Apparent Power from Grid (kVA)	16.0	16.0	16.0
Nominal Voltage (V)	120 / 208, 2L / N / PE; 127 / 220, 2L / N / PE; 120 / 240, 2L / N / PE; 127 / 254, 2L / N / PE		
Voltage Range (V)	170 ~ 290		
Nominal Frequency (Hz)	50 / 60		
Frequency Range (Hz)	45 ~ 55 / 55 ~ 65		
Rated Current from Grid (A)	24.0@120/208V, 2L/N/PE; 22.7@127/220V, 2L/N/PE; 20.8@120/240V, 2L/N/PE; 19.7@127/254V, 2L/N/PE	36.1@120/208V, 2L/N/PE; 34.1@127/220V, 2L/N/PE 31.3@120/240V, 2L/N/PE; 29.5@127/254V, 2L/N/PE	48.1@120/208V, 2L/N/PE; 45.5@127/220V, 2L/N/PE 41.7@120/240V, 2L/N/PE; 39.4@127/254V, 2L/N/PE
Rated Current to Grid (A)	24.0@120/208V, 2L/N/PE; 22.7@127/220V, 2L/N/PE; 20.8@120/240V, 2L/N/PE; 19.7@127/254V, 2L/N/PE	36.1@120/208V, 2L/N/PE; 34.1@127/220V, 2L/N/PE 31.3@120/240V, 2L/N/PE; 29.5@127/254V, 2L/N/PE	48.1@120/208V, 2L/N/PE; 45.5@127/220V, 2L/N/PE 41.7@120/240V, 2L/N/PE; 39.4@127/254V, 2L/N/PE
Max. Current from Grid (A)	63		
Max. Current to Grid (A)	24.0@120/208V, 2L/N/PE; 22.7@127/220V, 2L/N/PE; 20.8@120/240V, 2L/N/PE; 19.7@127/254V, 2L/N/PE	36.1@120/208V, 2L/N/PE; 34.1@127/220V, 2L/N/PE 31.3@120/240V, 2L/N/PE; 29.5@127/254V, 2L/N/PE	48.1@120/208V, 2L/N/PE; 45.5@127/220V, 2L/N/PE 41.7@120/240V, 2L/N/PE; 39.4@127/254V, 2L/N/PE
Power Factor	0.8 leading ~ 0.8 lagging		
THDi	<3%		
AC Side (Back-up Port)			
Rated Output Apparent Power (kVA)	5.0	7.5	10.0
Max. Output Apparent Power (kVA)	Off-grid: 5.5 (10.0, 10s); On-grid: 16.0	Off-grid: 8.2 (15.0, 10s); On-grid: 16.0	Off-grid: 11.0 (20.0, 10s); On-grid: 16.0
Nominal Output Voltage (V)	120 / 208, 2L / N / PE; 127 / 220, 2L / N / PE; 120 / 240, 2L / N / PE; 127 / 254, 2L / N / PE		
Nominal Output Frequency (Hz)	50 / 60		
Max. Output Current (A)*3	Off-grid: 24.0; On-grid: 63.0	Off-grid: 36.1; On-grid: 63.0	Off-grid: 48.1; On-grid: 63.0
THDv (@Linear Load)	<3%		
On / Off-grid Switching Time (ms)	≤4		
AC Side (Smart Port)			
Rated Apparent Power (kVA)	5.0	7.5	10.0
Max. Apparent Power (kVA)	12.7		
Nominal Voltage (V)	120 / 208, 2L / N / PE; 127 / 220, 2L / N / PE; 120 / 240, 2L / N / PE; 127 / 254, 2L / N / PE		
Voltage Range (V)	170 ~ 290		
Nominal Frequency (Hz)	50 / 60		
Frequency Range (Hz)	45 ~ 55 / 55 ~ 65		
Max. Current (A)	50		
Efficiency			
Max. Efficiency	97.6%		
Max. Battery to AC Efficiency	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		
Battery 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	Integrated		
Rapid Shutdown	Optional		
Remote Shutdown	Integrated		
General Data			
Operating Temperature Range (°C)	-35 ~ +60		
Relative Humidity	0 ~ 95%		
Max. Operating Altitude (m)	3000		
Cooling Method	Natural Cooling	Smart Fan Cooling	Smart Fan Cooling
User Interface	LCD, WLAN + APP		
Communication with BMS	CAN		
Communication	RS485, WiFi + LAN+Bluetooth		
Communication Protocols	Modbus-RTU, Modbus-TCP		
Weight (kg)	26.4	27.3	28.9
Dimension (W × H × D mm)	561 × 445 × 230		
Noise Emission (dB)	<35	<45	<45
Ingress Protection Rating	IP66		
Anti-corrosion Class	C4		
Mounting Method	Wall Mounted		

*1: When the input voltage ranges from 560V to 600V, the inverter will enter the standby mode, and the voltage returns to 560V to enter the normal operation state.
*2: Please refer to the user manual for the MPPT Voltage Range at nominal Power.
*3: The Max. Output Current in off-grid operation accounts for a three-phase maximum 150% unbalanced capability.
*: Please visit GoodWe website for the latest certificates.