GOODWE

ES-US Series

(North America Only) 5-11.4kW Split phase I up to 4 MPPTs Hybrid inverter (HV)

GoodWe ES-US Series is a split-phase hybrid inverter designed to increase the self-consumption of your generated solar energy. GoodWe ES-US is compatible with high voltage (80-495V) batteries with a power capacity ranging from 5 kW to 11.4kW. With up to 4 MPPTs, the ES-US inverter seamlessly adapts to complex residential rooftops. Featured with rapid battery charge function, the series is perfectly capable of whole home backup[1]. Equipped with an optional EV Charger function, the ES-US Series allows vehicles to be chargered with self-generated solar power under smart charging management.

1: Automatic Backup Device required.

Smart Monitoring

· PV string current monitoring
· Smart home integration with multi-protocol communications

Fully Integrated Design

· Whole home backup
· External auto-transformer is not needed

Superb Safety & Reliability

· Battery Arc Fault Detection
· DC Type II SPD

Flexible & Adaptable Applications

· Multiple communication protocols supported
· Fossil fuel generator compatible

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Technical Data	GW5000-ES -US20	GW6000-ES -US20	GW7600-ES -US20	GW9600-ES -US20	GW11K4-ES -US20
Battery Input Data					
Battery Type			Li-Ion		
Nominal Battery Voltage (V)			300		
Battery Voltage Range (V)[1]			80 ~ 495		
Max. Continuous Charging Current (A)			50		
Max. Continuous Discharging Current (A)			50		
Max. Charging Power (W)	5000	6000	7600	9600	11400
Max. Discharging Power (W)	5250	6300	7980	10080	11970
PV String Input Data					
Max. Input Power (W)	7500	9000	11400	14400	17100
Max. Input Voltage (V)[2]			600		
MPPT Operating Voltage Range (V)[3]			50 ~ 550		
Start-up Voltage (V)			60		
Nominal Input Voltage (V)			390		
Max. Input Current per MPPT (A)			16		
Max. Short Circuit Current per MPPT (A)			23.4		
Number of MPP Trackers	2	2	4	4	4
Number of Strings per MPPT			1		
AC Output Data (On-grid)					
Nominal Apparent Power Output to Utility Grid (VA)	5000	6000	7600	9600	11400
Max. Apparent Power Output to Utility Grid (VA)	5000	6000	7600	9600	11400
Max. Apparent Power from Utility Grid (VA)	5000	6000	7600	9600	11400
Max. Apparent Power from Utility Grid Without EV Charger (VA)	5000	6000	7600	9600	11400
Max. Apparent Power from Utility Grid With EV Charger (VA)	9600	9600	9600	9600	11400
Nominal Output Voltage (V)			240		
Nominal AC Grid Frequency (Hz)			60		
Max. AC Current Output to Utility Grid (A)	20.8	25.0	31.7	40.0	47.5
Max. AC Current From Utility Grid (A)	20.8	25.0	31.7	40.0	47.5
Max. AC Current From Utility Grid Without EV Charger (A)	20.8	25.0	31.7	40.0	47.5
Max. AC Current From Utility Grid With EV Charger (A)	40.0	40.0	40.0	40.0	47.5
Nominal AC Current From Utility Grid (A)	20.8	25.0	31.7	40.0	47.5
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)	5000	6000	7600	9600	11400
Max. Output Apparent Power (VA)[4]	5000 (6000@60sec)	6000 (7200@60sec)	7600 (9120@60sec)	9600 (11520@60sec)	11400 (13680@60sec)
Max. Output Current (A)	20.8	25.0	31.7	40.0	47.5
Nominal Output Voltage (V)			240 / 120		
Nominal Output Frequency (Hz)			60		
Output THDv (@Linear Load)			<3%		
Efficiency					
Max. Efficiency			97.6%		
CEC Efficiency			97.0%		
Max. Battery to AC Efficiency			97.0%		
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 III		
AFCI			Integrated		
Battery Arc Fault Detection			Integrated		
Emergency Power Off			Integrated		
Rapid Shutdown			Integrated		
General Data					
Operating Temperature Range			-31°F ~ +140°F (-35°C ~ +60°C)		
Relative Humidity			0 ~ 95%		
Max. Operating Altitude			9842ft (3000m)		
Cooling Method			Natural Convection		
User Interface			LED, APP		
Communication with BMS			RS485, CAN		
Communication with Meter			RS485		
Communication with Portal			Bluetooth, WiFi, LAN (Optional), 4G (Optional)		
Weight	72.3lb (32.8kg)	72.3lb (32.8kg)	76.7lb (34.8kg)	84.9lb (38.5kg)	84.9lb (38.5kg)
Dimension (W × H × D)			19.1 × 35.4 × 7.5 in (485 × 900 × 191.5 mm)		
Topology			Non-isolated		
Self-consumption at Night (W)[5]			<20		
Ingress Protection Rating			NEMA Type 4X		
Mounting Method			Wall Mounted		

*1: Battery discharge/charge power limited by voltage.
*2: Inverter will not work when PV input voltage ≥585V.
*3: When there is no battery connected, inverter starts feeding in only if string voltage is higher than 200V.
*4: Can be reached only if PV and battery power is enough.
*5: No Back-up Output.
*: Please visit GoodWe website for the latest certificates.