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 5kW 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 backup¹. The ES-US Series features an optional EV Charger function, enabling electric vehicles to charge using either self-generated solar power or grid electricity, with scheduling conveniently managed through the SolarGo app.

1: Automatic Backup Device required.



Fully Integrated Design

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



Smart Monitoring

- $\cdot \ \mathsf{PV} \ \mathsf{string} \ \mathsf{current} \ \mathsf{monitoring}$
- · Smart home integration with multi-protocol communications



Superb Safety & Reliability

- · Battery Arc Fault Detection
- · DC Type II SPD



Flexible & Adaptable Applications

- · Multiple communication protocols supported
- · Fossil fuel generator compatible



Max. Discharging Power (W) S250 S300 7980 10080 117 PV input	Technical Data	GW5000-ES -US20	GW6000-ES -US20	GW7600-ES -US20	GW9600-ES -US20	GW11K4-E9 -US20
Sealiney Wallange (17)	Battery Input					
Seminary Motings (My)	Battery Type			Li-lon		
Seltany Voltage Range (V)						
Start up Natings (V)				80 ~ 495		
Number of Rathery Input			-	80		
Max. Charging Fower (W)				1		
Mex. Charging Power (W) 5000 6000 78000 9800 11 Mox. Claberinging Power (W) 5250 6300 7800 10060 7800 10060 11 14400 14400 17 14400 18 18 18 18 18 18 18	Max. Continuous Charging Current (A)			50		
Max. Discharging Power (W)	Max. Continuous Discharging Current (A)			50		
Max. Input Notinger (W)	Max. Charging Power (W)	5000	6000	7600	9600	11400
Max. Input Power (W) 7500 9000 11400 1440	Max. Discharging Power (W)	5250	6300	7980	10080	11970
Max Input Voltage (V)	PV Input					
Mar	Max. Input Power (W)	7500	9000	11400	14400	17100
Start-up Voltage (V)				600		
Max. Input Current per MPPT (A) 16 Max. Short Circuit Current per MPPT (A) 23.4 Number of MPP Treakers 2 2 4 4 AC Output (On-grid) Nominal Output Power (W) 5000 6000 7600 9600 11 Nominal Output Voltage (V) 240	MPPT Operating Voltage Range (V)*3			50 ~ 550		
Max. Short Circuit Current per MPPT (A) 23.4 4 4 4 4 4 4 4 4 4	Start-up Voltage (V)			60		
Number of MPP Trackers 2 2 4 4 4 4 4 4 4 4	Max. Input Current per MPPT (A)			16		
Nominal Output Power (W) 5000 6000 7600 9600 11 1 1 240 24	Max. Short Circuit Current per MPPT (A)			23.4		
Nominal Output Power (W)	Number of MPP Trackers	2	2	4	4	4
Nominal Output Voltage (V)	AC Output (On-grid)					
Output Voltage Range (V) 211 ~ 264 Nominal AC Grid Frequency (Hz) 50 / 60 AC Grid Frequency Range (Hz) 58.5 ~ 61.2 Max. AC Current Dutput to Utility Grid (A) 20.8 25.0 31.7 40.0 4 Max. AC Current From Utility Grid With EV Charger(A) 40.0 40.0 40.0 40.0 4 Power Factor -1 (Adjustable from 0.8 leading to 0.8 lagging) -4 -4 -4 Max. Total Harmonic Distortion -3% -4 </td <td>Nominal Output Power (W)</td> <td>5000</td> <td>6000</td> <td>7600</td> <td>9600</td> <td>11400</td>	Nominal Output Power (W)	5000	6000	7600	9600	11400
Nominal AC Grid Frequency (Hz)	Nominal Output Voltage (V)			240		
AC Grid Frequency Range (Hz)	Output Voltage Range (V)			211 ~ 264		
Max. AC Current Output to Utility Grid (A) 20.8 25.0 31.7 40.0 4 Max. AC Current From Utility Grid (With EV Charger(A) 40.0 40.0 40.0 40.0 40.0 4 Power Factor ~1 (Adjustable from 0.8 leading to 0.8 leaging) ************************************	Nominal AC Grid Frequency (Hz)			50 / 60		
Max. AC Current From Utility Grid With EV Charger(A) 40.0 11.0 10.0 40.0	AC Grid Frequency Range (Hz)			58.5 ~ 61.2		
Power Factor Activate Integrated Int	Max. AC Current Output to Utility Grid (A)	20.8	25.0	31.7	40.0	47.5
Ac Output (Back-up) Back-up Nominal Apparent Power (VA) 5000 6000 7600 9600 11 Max. Output Apparent Power with Grid (VA)* 5000 (10000@10sec) 6000 (12200@10sec) 7600 (12220@10sec) 9600 (17280@10sec) 11400 (17 Max. Output Current (A) 20.8 25.0 31.7 40.0 4 Nominal Output Voltage (V) 20.8 25.0 31.7 40.0 4 Nominal Output Frequency (Hz) 60 60 33 ************************************	Max. AC Current From Utility Grid With EV Charger(A)	40.0	40.0	40.0	40.0	47.5
Max. Output (Back-up) S000 S000 7600 9600 11	Power Factor		~1 (Adjusta	ble from 0.8 leading to	0.8 lagging)	
Back-up Nominal Apparent Power (VA) 5000 6000 7600 9600 11400 (1780 Max. Output Apparent Power with Grid (VA)' ⁴ 5000 (10000@10sec) 6000 (12000@10sec) 7600 (12920@10sec) 9600 (17280@10sec) 11400 (1780 Max. Output Current (A) 20.8 25.0 31.7 40.0 4	Max. Total Harmonic Distortion			<3%		
Max. Output Apparent Power with Grid (VA)*4 5000 (10000@10sec) 6000 (12200@10sec) 9600 (17280@10sec) 11400 (17 Max. Output Current (A) Max. Output Voltage (V) 20.8 25.0 31.7 40.0 4 Nominal Output Voltage (V) 240 / 120	AC Output (Back-up)					
Max. Output Current (A) 20.8 25.0 31.7 40.0 4 Nominal Output Voltage (V) 240 / 120 60 3240 / 120 33% 50	Back-up Nominal Apparent Power (VA)	5000	6000	7600	9600	11400
Nominal Output Voltage (V) 60 Nominal Output Frequency (Hz) 60 Output THDv (@Linear Load) 3% Efficiency Max. Efficiency Max. Efficiency Protection PV String Current Monitoring Integrated PV Insulation Resistance Detection Integrated Residual Current Monitoring Integrated PV Reverse Polarity Protection Integrated PV Reverse Polarity Protection Integrated Anti-islanding Protection Integrated Anti-islanding Protection Integrated AC Overcurrent Prote	Max. Output Apparent Power with Grid (VA)*4	5000 (10000@10sec)	6000 (12000@10sec)	7600 (12920@10sec)	9600 (17280@10sec)	11400 (17280@10s
Nominal Output Frequency (Hz) 60 Output THDv (@Linear Load) <3% Efficiency Max. Efficiency Protection PV String Current Monitoring PV Insulation Resistance Detection Residual Current Monitoring Integrated PV Reverse Polarity Protection Integrated Battery Reverse Polarity Protection Integrated Act Overcurrent Protection Act Overcurrent Protection Integrated AC Overcurrent Protection Integrated AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated AC Surge Protection Integrated	Max. Output Current (A)	20.8	25.0	31.7	40.0	47.5
Compter THDV (@Linear Load) <3% Efficiency 97.6% Protection PV String Current Monitoring Integrated PV Insulation Resistance Detection Integrated PV Reverse Delarity Monitoring Integrated PV Reverse Polarity Protection Integrated Activisianding Protection Integrated Activities Protection Integrated AC Overcurrent Protection Integrated AC Overvoltage Protection Integrated DC Switch Integrated DC Surge Protection Type II ACC Surge Protection Type III AFCI Integrated	Nominal Output Voltage (V)			240 / 120		
Max. Efficiency 97.6% Protection PV String Current Monitoring Integrated PV Insulation Resistance Detection Integrated PV Reverse Polarity Protection Integrated PV Reverse PV R	Nominal Output Frequency (Hz)			60		
Max. Efficiency 97.6% Protection PV String Current Monitoring Integrated PV Insulation Resistance Detection Integrated Residual Current Monitoring Integrated PV Reverse Polarity Protection Integrated PV Reverse Polarity Protection Integrated Anti-islanding Protection Integrated AC Overcurrent Protection Integrated AC Overcurrent Protection Integrated AC Short Circuit Protection Integrated AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated AC Surge Protection Integrated	Output THDv (@Linear Load)			<3%		
Protection PV String Current Monitoring PV Insulation Resistance Detection 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 CD Switch Integrated DC Surge Protection Type II AC Surge Protection Type III AFCI Integrated	Efficiency					
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 Overcurrent Protection Integrated AC Short Circuit Protection Integrated AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated AC Switch Integrated AC Surge Protection Type II AC Surge Protection Type III AFCI Integrated	Max. Efficiency			97.6%		
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 AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated AC Switch Integrated AC Switch Integrated AC Switch Integrated AC Surge Protection Type II AC Surge Protection Type III AFCI Integrated	Protection					
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 CO Switch Integrated	PV String 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	PV Insulation Resistance Detection			Integrated		
Battery Reverse Polarity Protection Integrated Anti-islanding Protection Integrated AC Overcurrent Protection Integrated AC Short Circuit Protection Integrated AC Overvoltage Protection Integrated CO Switch Integrated CO Switch Integrated CO Switch Integrated CO Surge Protection Type II CO Surge Protection Type III AC Surge Protection Integrated CO Surge Protection Type III CO Surge Protection Integrated	Residual Current Monitoring			Integrated		
Anti-islanding Protection Integrated AC Overcurrent Protection Integrated AC Short Circuit Protection Integrated AC Overvoltage Protection Integrated CC Switch Integrated DC Switch Integrated DC Surge Protection Type II AC Surge Protection Type III AFCI Integrated	PV Reverse Polarity Protection			Integrated		
AC Overcurrent Protection Integrated AC Short Circuit Protection Integrated AC Overvoltage Protection Integrated AC Overvoltage Protection Integrated DC Switch Integrated DC Surge Protection Type II AC Surge Protection Type III AFCI Integrated	Battery Reverse Polarity 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	Anti-islanding Protection			Integrated		
AC Overvoltage Protection Integrated DC Switch Integrated DC Surge Protection Type II AC Surge Protection Type III AFCI Integrated	AC Overcurrent Protection			Integrated		
DC Switch Integrated DC Surge Protection Type II AC Surge Protection Type III AFCI Integrated	AC Short Circuit Protection			Integrated		
DC Surge Protection Type II AC Surge Protection Type III AFCI Integrated						
AC Surge Protection Type III AFCI Integrated				Integrated		
AFCI Integrated	DC Surge Protection			Type II		
	-					
Battery Arc Fault Detection Integrated				Integrated		
Rapid Shutdown Integrated	Battery Arc Fault Detection			Integrated		



Technical Data	GW5000-ES -US20	GW6000-ES -US20	GW7600-ES -US20	GW9600-ES -US20	GW11K4-ES -US20
General Data					
Operating Temperature Range		-31°l	F ~ +140°F (-35°C ~ +1	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	LAN (4G Optional) + Bluetooth + WiFi				
Weight (lb)	72.3	72.3	76.7	84.9	84.9
Dimension (W \times H \times D)	$19.1 \times 35.4 \times 7.5$ in (485 × 900 × 191.5 mm)				
Noise Emission (dB)	<20	<20	<40	<40	<40
Topology	Non-isolated				
Self-consumption at Night (W)*5	<20				
Ingress Protection Rating	NEMA Type 4X				
Mounting Method	Wall Mounted				
Certification					
Grid Interconnection	U	L1741 SB, California F	Rule 21, HECO Rule 14	, IEEE 1547, IEEE 1547	7.1
Safety Regulations		UL 1741, CS/	A 22.2 No. 107.1, UL 1	998, UL1699B	
Electromagnetic Compatibility	FCC part15 CLASS B				

SAE J1772

EV Charger (Optional) Specifications



Charging Level	AC Level 2		
Nominal AC Power Output (W)	9600		
Nominal AC Frequency (Hz)	60		
Maximum Continuous Output Current (A)	40 ⁻¹		
V Charger Configuration & Indicator	APP (WiFi, Bluetooth)		
V Charger Cable Length ^{*2}	7.6m		
V Charger Cable Operating Temperature Range	-31°F ~ +140°F (-35°C ~ +60°C)		
Operating Altitude	≤ 9842ft (3000m)		
Protection Degree	NEMA Type 4X		
Certifications & Standards			
Safety Regulation	UL2594, UL2231-1, UL2231-2, NEC Article 625 compliant		

^{*1:} The Maximum Continuous Output Current can be selected from 40A, 32A, 24A, 16A, and the default current is 16A.

^{*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.

^{*2:} EV charger cable ordered separately.