

A-ES Series

Hybrid Inverter Up to 4 MPPTs, Single Phase

Technical Data	GW5000A-ES	GW6000A-ES	GW7000A-ES	GW7600A-ES	GW8600A-ES	GW9600A-ES
Battery Input Data						
Battery Type	Li-Ion					
Battery Voltage Range (V)*1	80~495					
Max. Charging Current (A)	50					
Max. Discharging Current (A)	50					
Charging Method for Li-Ion Battery	Self-adaption to BMS					
PV String Input Data						
Max. DC Input Power (W)	7500	9000	10500	11400	12900	15000
Max. DC Input Voltage (V)*2	600					
MPPT Range (V)*3	80~550					
Start-up Voltage (V)	95					
MPPT Range for Full Load (V)	300~500	360~500	210~500	230~500	260~500	300~500
Nominal DC Input Voltage (V)	380					
Max. Input Current (A)	12.5/12.5			12.5/12.5/12.5/12.5		
Max. Short Current (A)	15.2/15.2			15.2/15.2/15.2/15.2		
No. of MPP Trackers	2			4		
No. of Strings per MPP Tracker	1/1			1/1/1/1		
AC Output Data (On-grid)						
Output Voltage Range (Vac)	211 to 264 @240					
Nominal Output Frequency (Hz)	60					
Max. Apparent Power Output to Grid (VA)	5000	6000	7000	7600	8600	9600
Max. Apparent Power from Grid (VA)	6000	7200	8400	9120	9600	9600
Max. AC Current Output to Grid (A)	20.8	25	29.2	31.7	35.8	40
Max. AC Current From Grid (A)	25	30	35	38	40	40
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)					
Output THDi (@Nominal Output)	<3%					
AC Output Data (Back-up)						
Nominal Output Voltage L1-L2/L-N(Vac)	240/120					
Nominal Output Frequency (Hz)	60					
Output THDv (@Linear Load)	<3%					
Max. Output Apparent Power@240V (VA)	5000	6000	7000	7600	8600	9600
Peak Output Apparent Power@240V (VA)*4	6000, 60sec	7200, 60sec	8400, 60sec	9120, 60sec	10320, 60sec	11520, 60sec
Max. Continuous Output Current @240V (A)	20.8	25	29.2	31.7	35.8	40
Efficiency						
PV Max. Efficiency	97.6%					
PV CEC Efficiency	97.0%					
Battery Charged By PV Max. Efficiency	98.1%					
Battery Charge/discharge to AC Max. Efficiency	96.6%					
Protection						
PV Arc Fault Detection	Integrated					
Anti-islanding Protection	Integrated					
PV String Input Reverse Polarity Protection	Integrated					
Insulation Resistor Detection	Integrated					
Residual Current Monitoring Unit	Integrated					
Output Over Current Protection	Integrated					
Back-up Output Short Protection	Integrated					
Output Over Voltage Protection	Integrated					
Battery Input Reverse Polarity Protection	Integrated					
General Data						
Operating Temperature Range	-31°F~-140°F (-35°C~60°C)					
Relative Humidity	0~95%					
Operating Altitude	≤13123ft (4000m)					
Cooling	Intelligent Fan					
Noise (dB)	<45					
User Interface	LED & APP (WiFi, Bluetooth)					
Communication with BMS	RS485; CAN					
Communication with Meter	RS485					
Communication with EMS	RS485 (Insulated)					
Communication with Portal	Wi-Fi; LAN, 4G (Optional)					
Communication with RSD	SUNSPEC					
Weight	62.8lb (28.5kg)			70.5lb (32kg)		
Size (Width*Height*Depth)	16.3in * 31.1in * 6.9in (415mm * 791mm * 175mm)					
Mounting	Wall Bracket					
Protection Degree	NEMA Type 4X					
Standby Self-Consumption (W)*5	<20					
Topology	Transformerless					
Certifications & Standards						
Grid Regulation	UL1741 SA, California Rule 21, HECO Rule 14, IEEE 1547, IEEE 1547.1					
Safety Regulation	UL 1741, CSA 22.2 No. 107-01, UL 1998, UL1699B					
EMC	FCC part15 CLASS B					

*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 high enough.

*5: No Back-up Output.