

EM Series

Single Phase Hybrid Inverter (LV Battery)



Technical Data		GW3048-EM	GW3648-EM	GW5048-EM
Battery Input Data	Battery Type	Li-Ion or Lead-acid*1		
	Nominal Battery Voltage (V)	48		
	Max. Charging Voltage (V)	≤60 (Configurable)		
	Max. Charging Current (A)*1	50		
	Max. Discharging Current (A)*1	50		
	Battery Capacity (Ah)*2	50~2000		
	Charging Strategy for Li-Ion Battery	Self-adaption to BMS		
PV String Input Data	Max. DC Input Power (W)	3900	4600	6500
	Max. DC Input Voltage (V)*3	550		
	MPPT Range (V)	100~500		
	Start-up Voltage (V)*4	150		
	Nominal DC Input Voltage (V)	360		
	Max. Input Current (A)	11	11/11	11/11
	Max. Short Current (A)	13.8	13.8/13.8	13.8/13.8
	No. of MPP Trackers	1	2	2
	No. of Strings per MPP Tracker	1		
AC Output Data (On-grid)	Nominal Apparent Power Output to Utility Grid (VA)	3000	3680	5000*5
	Max. Apparent Power Output to Utility Grid (VA)*6	3000	3680	5000
	Max. Apparent Power from Utility Grid (VA)	5300		
	Nominal Output Voltage (V)	230		
	Nominal Output Frequency (Hz)	50/60		
	Max. AC Current Output to Utility Grid (A)	13.6	16	22.8*7
	Max. AC Current From Utility Grid (A)	23.6		
	Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)		
	Output THDi (@Nominal Output)	<3%		
AC Output Data (Back-up)	Max. Output Apparent Power (VA)	2300		
	Peak Output Apparent Power (VA)*8	3500,10sec		
	Automatic Switch Time (ms)	10		
	Max. Output Current (A)	10		
	Nominal Output Voltage (V)	230 (±2%)		
	Nominal Output Frequency (Hz)	50/60 (±0.2%)		
	Output THDv (@Linear Load)	<3%		
Efficiency	Max. Efficiency	97.6%		
	Max. Battery to Load Efficiency	94.5%		
	European Efficiency	97.0%		
Protection	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		
	Output Short Protection	Integrated		
	Output Over Voltage Protection	Integrated		
General Data	Operating Temperature Range (°C)	-25~60		
	Relative Humidity	0~95%		
	Operating Altitude (m)	4000		
	Cooling	Natural Convection		
	Noise (dB)	<25		
	User Interface	LED & APP		
	Communication with BMS*9	RS485; CAN		
	Communication with Meter	RS485		
	Communication with Portal	Wi-Fi		
	Weight (kg)	16	17	17
	Size (Width*Height*Depth mm)	347*432*175		
	Mounting	Wall Bracket		
	Protection Degree	IP65		
Standby Self-Consumption (W)	<13			
	Topology	High Frequency Isolation		
Certifications & Standards	Grid Regulation	AS/NZS 4777.2:2015, G83/2, G100, CEI 0-21, VDE4105-AR-N, VDE0126-1-1, NRS 097-2-1, RD1699, UNE206006, EN50438		
	Safety Regulation	IEC/EN62109-1&-2, IEC62040-1		
	EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4, EN 61000-4-16, EN 61000-4-18, EN 61000-4-29		

*1: Lead-acid battery use refers to Approved Battery Options Statement .

The actual charge and discharge current also depends on the battery.

*2: Under off-grid mode, then battery capacity should be more than 100Ah.

*3: Maximum operating dc voltage is 530V.

*4: When there is no battery connected, inverter starts feeding in only if string voltage is higher than 200V.

*5: 4600 for VDE0126-1-1&VDE-AR-N4105 & CEI 0-21 (GW5048-EM).

*6: For CEI 0-21 GW3048-EM is 3300W, GW3648-EM is 4050W, GW5048-EM is 5100W; for VDE-AR-N4105 GW5048-EM is 4600.

*7: 21.7A for AS4777.2.

*8: Can be reached only if PV and battery power is enough.

*9: The standard configuration is CAN.