GEH 5-11.4kW Series

Split-phase Hybrid | Up to 4 MPPTs

GEH5.0-1U-US20 | GEH6.0-1U-US20 | GEH7.6-1U-US20

GEH9.6-1U-US20 | GEH11.4-1U-US20

Flexible Storage Applications

- Whole home backup and essential load backup
- Compatible with fossil fuel generators
- Backup power up to 11.4kW

Maximum Energy Production

- Built-in optimization eliminates the need for traditional optimizers
- Up to 4 MPPTs easily address complex roofs and areas with shading
- Optional EV charger integration to maximize self-consumption

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

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Battery Input					
Battery Type	Li-Ion	Li-Ion	Li-Ion	Li-Ion	Li-Ion
Nominal Battery Voltage (V)	300	300	300	300	300
Battery Voltage Range (V)[*1]	80 ~ 495	80 ~ 495	80 ~ 495	80 ~ 495	80 ~ 495
Start-up Voltage (V)	80	80	80	80	80
Number of Battery Input	1	1	1	1	1
Max. Continuous Charging Current (A)	50	50	50	50	50
Max. Continuous Discharging Current (A)	50	50	50	50	50
Max. Charging Power (W)	5000	6000	7600	9600	11400
Max. Discharging Power (W)	5250	6300	7980	10080	11970
PV Input					
Max. Input Voltage (V)[*2]	600	600	600	600	600
MPPT Operating Voltage Range (V)[*3]	50 ~ 550	50 ~ 550	50 ~ 550	50 ~ 550	50 ~ 550
Start-up Voltage (V)	60	60	60	60	60
Nominal Input Voltage (V)	390	390	390	390	390
Max. Input Current per MPPT (A)	16	16	16	16	16
Max. Short Circuit Current per MPPT (A)	23.4	23.4	23.4	23.4	23.4
Number of MPP Trackers	2	2	4	4	4
Number of Strings per MPPT	1	1	1	1	1
AC Output (On-grid)					
Nominal Output Power (W)	5000	6000	7600	9600	11400
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
Nominal Output Voltage (V)	240	240	240	240	240
Output Voltage Range (V)	211 ~ 264	211 ~ 264	211 ~ 264	211 ~ 264	211 ~ 264
Nominal AC Grid Frequency (Hz)	60	60	60	60	60
AC Grid Frequency Range (Hz)	58.5 ~ 61.2	58.5 ~ 61.2	58.5 ~ 61.2	58.5 ~ 61.2	58.5 ~ 61.2
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
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)				
Max. Total Harmonic Distortion	<3%	<3%	<3%	<3%	<3%
Maximum Output Overcurrent Protection Without EV Charger (A)	30	35	40	50	60
Maximum Output Overcurrent Protection With EV Charger (A)	50	50	50	50	60
AC Output (Back-up)					
Back-up Nominal Apparent Power (VA)	5000	6000	7600	9600	11400
Max. Output Apparent Power with Grid (VA)[*4]	5000 (10000@10sec)	6000 (12000@10sec)	7600 (12920@10sec)	9600 (17280@10sec)	11400 (17280@10sec)
Max. Output Apparent Power without Grid (VA)	5000	6000	7600	9600	11400
Max. Output Current (A)	20.8	25.0	31.7	40.0	47.5
Nominal Output Voltage (V)	240 / 120	240 / 120	240 / 120	240 / 120	240 / 120
Nominal Output Frequency (Hz)	60	60	60	60	60
Output THDv (@Linear Load)	<3%	<3%	<3%	<3%	<3%
Efficiency					
Max. Efficiency	97.6%	97.6%	97.6%	97.6%	97.6%
CEC Efficiency	97.0%	97.0%	97.0%	97.0%	97.0%
Max. Battery to AC Efficiency	97.0%	97.0%	97.0%	97.0%	97.0%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%

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Protection					
PV String Current Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated
PV Insulation Resistance Detection	Integrated	Integrated	Integrated	Integrated	Integrated
Residual Current Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated	Integrated	Integrated
Battery Reverse Polarity Protection	Integrated	Integrated	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated	Integrated	Integrated
AC Overcurrent Protection	Integrated	Integrated	Integrated	Integrated	Integrated
AC Short Circuit Protection	Integrated	Integrated	Integrated	Integrated	Integrated
AC Overvoltage Protection	Integrated	Integrated	Integrated	Integrated	Integrated
DC Switch	Integrated	Integrated	Integrated	Integrated	Integrated
DC Surge Protection	Type II	Type II	Type II	Type II	Type II
AC Surge Protection	Type III	Type III	Type III	Type III	Type III
AFCI	Integrated	Integrated	Integrated	Integrated	Integrated
Battery Arc Fault Detection	Integrated	Integrated	Integrated	Integrated	Integrated
Rapid Shutdown	Integrated	Integrated	Integrated	Integrated	Integrated
General Data					
Operating Temperature Range	-31°F ~ +140°F (-35°C ~ +60°C)				
Relative Humidity	0 ~ 95%	0 ~ 95%	0 ~ 95%	0 ~ 95%	0 ~ 95%
Max. Operating Altitude	9842ft (3000m)	9842ft (3000m)	9842ft (3000m)	9842ft (3000m)	9842ft (3000m)
Cooling Method	Natural Convection				
User Interface	LED, APP	LED, APP	LED, APP	LED, APP	LED, APP
Communication with BMS	RS485, CAN	RS485, CAN	RS485, CAN	RS485, CAN	RS485, CAN
Communication with Meter	RS485	RS485	RS485	RS485	RS485
Communication with Portal	LAN (4G Optional) + Bluetooth + WiFi				
Weight (lb)	72.3	72.3	76.7	84.9	84.9
Dimension (W × H × D)	19.1 × 35.4 × 7.5 in (485 × 900 × 191.5 mm)				
Noise Emission (dB)	<20	<20	<20	<40	<40
Topology	Non-isolated	Non-isolated	Non-isolated	Non-isolated	Non-isolated
Self-consumption at Night (W)[*5]	<20	<20	<20	<20	<20
Ingress Protection Rating	NEMA Type 4X	NEMA Type 4X	NEMA Type 4X	NEMA Type 4X	NEMA Type 4X
Mounting Method	Wall Mounted	Wall Mounted	Wall Mounted	Wall Mounted	Wall Mounted
Certification					
Grid Interconnection	UL1741 SB, California Rule 21, HECO Rule 14, IEEE 1547, IEEE 1547.1				
Safety Regulations	UL 1741, CSA 22.2 No. 107.1, UL 1998, UL1699B				
Electromagnetic Compatibility	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 enough.
*5: No Back-up Output.

Technical Parameters for EV Charger:

AC Output Data	
Charging Level	AC Level 2
Nominal AC Power Output (W)	9600
Nominal AC Frequency (Hz)	60
Maximum Continuous Output Current (A)	40[*1]
EV Charger Configuration & Indicator	APP (WiFi, Bluetooth)
EV Charger Cable Length[*2]	7.6m
EV 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
EV Charger	SAE J1772

*1: The Maximum Continuous Output Current can be selected from 40A, 32A, 24A, 16A, and the default current is 16A.
*2: EV charger cable ordered separately.