



GEC 5-11.4kW Series

Split Phase | AC-coupled retrofit inverter (HV)

GEC5.0-1U-US20

GEC6.0-1U-US20

GEC7.6-1U-US20

GEC9.6-1U-US20

GEC11.4-1U-US20

Flexible Storage Applications

- Micro-grid application & Whole home backup
- Compatible with fossil fuel generators
- Backup power up to 11.4kW

Fully Integrated for the U.S. Market

- Optional EV charger function without additional hardware
- Built-in autotransformer to reduce installation & system cost
- Now offering larger power classes up to 11.4kW

As an AC-coupled product, the GEC supports whole home backup, off-grid applications as well as unbalanced output for load consumption (no extra autotransformer required). Additionally, the inverter is specially designed to offer microgrid operation during blackouts, which enables the PV system to generate power to support load consumption even when the grid is down. To better adapt to the North America market, the GEC is compatible with fossil fuel generators to rapidly reduce the fuel cost while maintaining stable power supply. Lastly, this retrofit inverter provides an optional EV charger function that allows users to eliminate additional hardware and plug the EV charger cable directly into the inverter.



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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
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%
AC Output (On-grid)					
Back-up Nominal Apparent Power (VA)	5000	6000	7600	9600	11400
Max. Output Apparent Power with Grid (VA) ²	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	97.0%	97.0%	97.0%	97.0%	97.0%
CEC Efficiency	96.0%	96.0%	96.0%	96.0%	96.0%
Max. Battery to AC Efficiency	97.0%	97.0%	97.0%	97.0%	97.0%
Protection					
Residual Current Monitoring	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
AC Surge Protection	Type III	Type III	Type III	Type III	Type III
Battery Arc Fault Detection	Integrated	Integrated	Integrated	Integrated	Integrated



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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)	65.9	65.9	66.6	74.7	74.7
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) ³	<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. The maximum battery voltage is 450V for AC-Coupled inverters in the microgrid application.

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

*3: No Back-up Output.

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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.