



UL 9540A
Tested to



ORION E OUTDOOR C&I ESS SOLUTION

GE-F240 Series Outdoor Battery Cabinet

+

SUN-50~80K Hybrid Inverter



Ultimate Protection, Continuing "0" safety accidents

- **Six-dimensional** safety design, eliminating the risk of fire and explosion
- **D1 electrical isolation + D2 fire detection + D3 active exhaust + D4 explosion venting + D5 fire suppression + D6 Thermal isolation**
- High-intensity cabinet, **unique patented door latch design**, eliminates structural weak points
- **Hour-level fire resistance**, prevent heat spread



Highly Integrated, Plug and play, no debugging required

- Outer cabinet wall preset inverter bracket installation position, **no wall bearing concerns, no need to drill**
- **Hybrid inverter**, covering PV, grid, load, generator, and battery interfaces
- Single cabinet can easily deploy **PV+ESS, PV+ESS+DG**



Stable Efficient, Excellent performance ensures returns

- Long-life lithium iron phosphate battery, **≥ 8000 cycles**
- High-efficiency thermal management, **no derating at 45°C**, cell temperature difference **≤6°C**
- Up to **200%** PV over-matching access



Intelligent Management, Flexible adaptation and expansion

- Self-developed **"3S"(EMS+PCS+BMS)**, full-system Intelligent Control
- Single cabinet can be configured with a **2/3/4h system of 50~80kW**, up to **10 units** AC-side on/off-grid parallel or **10 units** DC-side battery parallel
- Integrated energy platform, **24/7 AI** smart customization of optimal power usage strategies

GE-F240 Series Outdoor Battery Cabinet

GE-F240 Series						
Model	GE-F176-BC-2-A3		GE-F192-BC-2-A3	GE-F208-BC-2-A3	GE-F224-BC-2-A3	GE-F240-BC-2-A3
Main Parameters						
Cell Type	LiFePO ₄					
Module Capcity (Ah)	314					
Module Nominal Voltage (Vdc)	51.2					
Module Energy (kWh)	16.08					
Module Qty In Series	11	12	13	14	15	
System Nominal Energy (kWh)	176.84	192.92	208.99	225.07	241.15	
System Usable Energy (kWh) ^{*1}	176.84	192.92	208.99	225.07	241.15	
System Nominal Voltage (Vdc)	563.2	614.4	665.6	716.8	768	
System Operating Voltage (Vdc)	440~642.4	480~700.8	520~759.2	560~817.6	600~876	
Rated DC Power (kW)	88	96	104	112	121	
Charge/Discharge Current(A) ^{*2}	Recommend	157				
	Max. Continuous	180				
	Peak discharge	285				
	@15s/20~45°C					
Other Parameters						
Fire Protection System	Aerosol and Water fire interface CO gas detection, Active exhaust and Explosion venting					
Cooling Method	Smart Air Cooling					
Communication Port	CAN, RS485					
Communication protocol	CAN2.0, Modbus485					
Operating Temperature(°C) ^{*3}	-30~55					
Recommend Storage Temperature(°C)	0~35					
Humidity	5% ~ 95%RH (No Condensing)					
Altitude	3000m					
IP Protection	IP55					
Anti Corrosion Level	Standard: C4-M, customizable up to C5					
Dimension(W x D x H,mm)	1303 x 1240 x 2405.5					
Weight(kg)	2150	2265	2380	2495	2610	
Installation Location	Floor mount					
Cycle Life	≥8000 (25±2°C,0.5P,EOL70%)					
Warranty	10 years					
Certification	UN38.3,CE,IEC62619,IE62477,IEC62933-5-2,UL9540A,CEC					

1. Test conditions : 100% DOD, 0.5P charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.
2. The current is affected by temperature and SOC.
3. Derated operation at > 45°C.

GE-F256 Series Outdoor Battery Cabinet Accessories

Power Distribution Unit



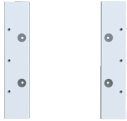
Model	BOS-B-PDU-2-A
Operating Voltage	200~1000Vdc
Nominal Charge/Discharge Current	180A
Operating Temperature	-20~60° C
Ingress Protection	IP20
AC Input Rating	220±10%VAC/2A
Details	526×788.6×167.2(W×D×H), 32kg

Battery Pack



Model	BOS-B-Pack16-A3
Nominal Capacity	314Ah
Nominal Energy	16.08kWh
Nominal Voltage	51.2Vdc
Max Charge/Discharge Current	180A
Ingress Protection	IP20
Operating Temperature (Charge)	0 - 55° C
Operating Temperature (Discharge)	-20 - 55° C
Storage Temperature	0 - 35° C
Details	526 × 795.9 × 274.2 (W × D × H), 116kg

Matching accessory pack

Model	Main Accessories			Application
GE-F256-AP-A				For inverters with single or dual battery ports < 100A
	3AWG_3000mm*2	3AWG_3000mm*2	Communication Cable_3000mm	
			Inverter Mounting Bracket Cable Cover	
GE-F256-AP-C				For SUN-100/125K-PCS01HP3
	1AWG_3000mm	1AWG_3000mm	Communication Cable_3000mm	

Hybrid Inverter

Model	SUN-50K-SG01HP3-AU-BM4	SUN-60K-SG02HP3-AU-EM6	SUN-70K-SG02HP3-AU-EM6	SUN-80K-SG02HP3-AU-EM6
Battery Input Data				
Battery Type	Lithium-ion			
Battery Voltage Range (V)	160~800	160~1000		
Max. Charging Current (A)	50+50	80+80		
Charging Strategy for Li-ion Battery	Self-adaption to BMS			
Number of Battery Input	2			
PV String Input Data				
Max. PV Access Power (W)	100000	120000	140000	160000
Max. PV Input Power (W)	75000	96000	112000	128000
Max. PV Input Voltage (V)	1000			
Start-up Voltage (V)	180			
MPPT Voltage Range (V)	150~850			
Rated PV Input Voltage (V)	600	650		
Max. Operating PV Input Current (A)	36+36+36+36	36+36+36+36+36+36		
Max. Input Short-Circuit Current (A)	55+55+55+55	54+54+54+54+54+54		
No. of MPP Trackers/	4/2+2+2	6/2+2+2+2+2+2		
No. of Strings MPP Tracker				
AC Input/Output Data				
Rated AC Input/Output Active Power (W)	50000	60000	70000	80000
Max. AC Input/Output Apparent Power (VA)	50000	60000	70000	80000
Rated AC Input/Output Current (A)	72.5	87	101.5	116.0
Max. AC Input/Output Current (A)	72.5	87	101.5	116.0
Max. Continuous AC Passthrough (grid to load)(A)	200			
Peak Power (off-grid) (W)	1.5 times of rated power, 10s			
Power Factor Adjustment Range	0.8 leading to 0.8 lagging			
Rated Input/Output Voltage/Range (V)	230/400V 240/415V 0.85Un~1.1Un 3L+N+PE			
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55			
Total Current Harmonic Distortion THDi	<3% (of nominal power)			
DC Injection Current	<0.5% In			
Efficiency				
Max. Efficiency	97.60%	98.7%		
Euro Efficiency	97.0%	98.1%		
MPPT Efficiency	> 99%			
Equipment Protection				
Integrated	DC Reverse Polarity Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Arc Fault Circuit Interrupter (AFCI) (optional), Anti-islanding Protection(Active Frequency shift), DC Switch, Insulation Impedance Detection, Residual Current Detection			
Surge Protection Level	TYPE II(DC),TYPE II(AC)			
Interface				
LCD/LED Display	LCD	LCD+LED		
Communication Interface	WIFI,RS485,CAN	RS485,RS232,CAN		
General Data				
Operating Temperature Range (°C)	-40 to +60, >45 Derating			
Permissible Ambient Humidity	0~100%			
Permissible Altitude	2000m	3000m		
Noise (dB)	≤ 65			
Ingress Protection(IP) Rating	IP65			
Protection Level	Class I			
Inverter Topology	Non-Isolated			
Over Voltage Category	OVC II(DC), OVC III(AC)			
Cabinet Size (WxHxD mm)	527×894×294 (Excluding Connectors and Brackets)	606×927×314 (Excluding Connectors and Brackets)		
Weight (kg)	80	105		
Type of Cooling	Intelligent Air Cooling	Smart Cooling		
Warranty	10 Years			
Grid Regulation	AS/NZS 4777.2			
Safety / EMC Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2			

Battery Cabinet Compatible Inverters



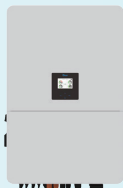
GE-F240 Series

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SUN-50K-SG01HP3-AU-BM4

Or



SUN-60K/80K-SG02HP3-AU-EM6

Power Unit

Battery Cabinet Model

Specification

2h ESS Solution

SUN-80K-SG02HP3-AU-EM6 (80A+80A)	GE-F176-BC-2-A3	80kW/176kWh
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3h ESS Solution

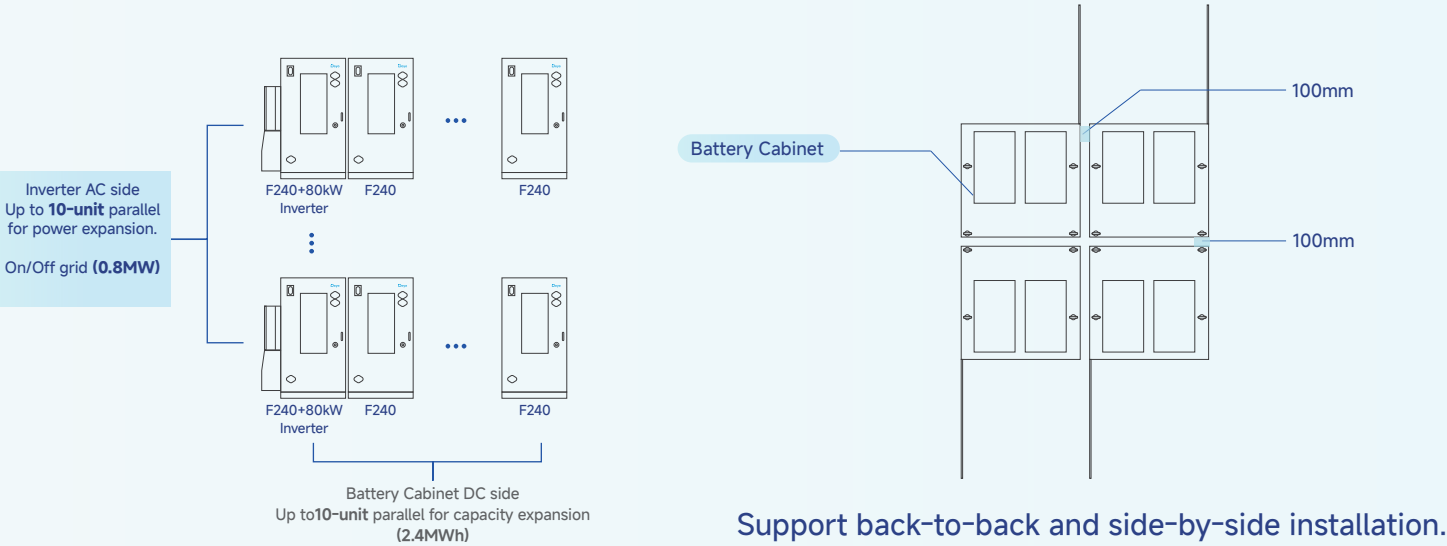
SUN-60K-SG02HP3-AU-EM6 (80A+80A)	GE-F176-BC-2-A3	60kW/176kWh
SUN-70K-SG02HP3-AU-EM6 (80A+80A)	GE-F208-BC-2-A3	70kW/208kWh
SUN-75K-SG02HP3-AU-EM6 (80A+80A)	GE-F224-BC-2-A3	75kW/225kWh
SUN-80K-SG02HP3-AU-EM6 (80A+80A)	GE-F240-BC-2-A3	80kW/241kWh

4h ESS Solution

SUN-50K-SG01HP3-AU-BM4 (100A)	GE-F192-BC-2-A3	50kW/192kWh
SUN-50K-SG01HP3-AU-BM4 (100A)	GE-F208-BC-2-A3	50kW/208kWh
SUN-60K-SG02HP3-AU-EM6 (80A+80A)	GE-F240-BC-2-A3	60kW/241kWh

AC/DC Side Parallel Expansion (Capacity & Power)

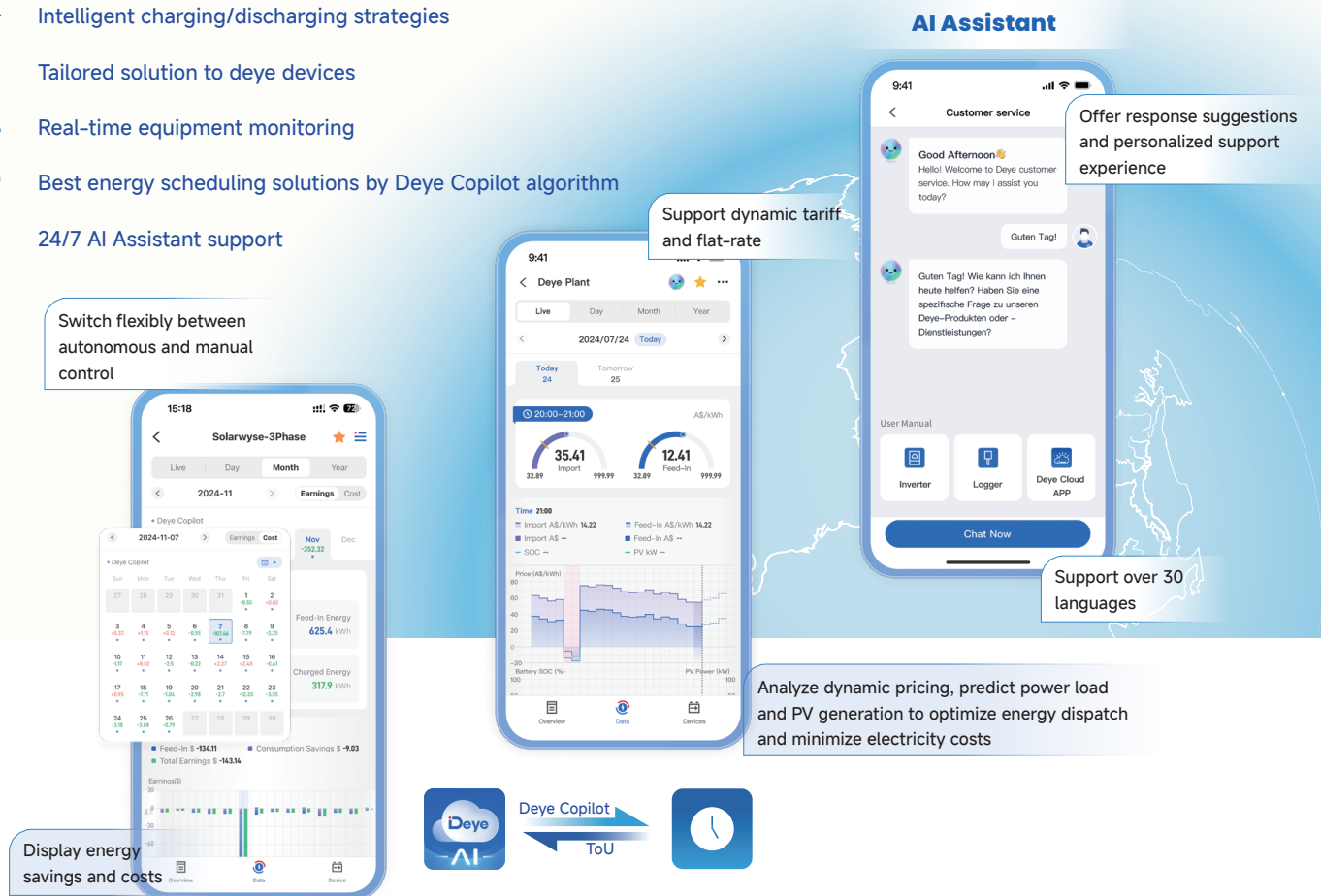
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