



ORION E OUTDOOR C&I ESS SOLUTION

GE-F240 Series Outdoor Battery Cabinet

+

SUN-50~125K 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 50~125kW**, 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 @15s/20~45°C	285				
Other Parameters						
Fire Protection System	Aerosol and Water fire interface CO gas detection, Active exhaust and Explosion venting					
Cooling Method	Smart Air Conditioner					
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					

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



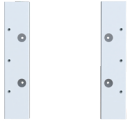
Model	BOS-B-PDU-2-A
Operating Voltage	200~1000Vdc
Nominal Charge/Discharge Current	180A
Operating Temperature	-20~60° C
Ingress Protection	IP20
AC Input Rating	220±10%VAC/2A
Details	526×788.6×167.2(W×D×H), 32kg

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	
			
	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-
SG02HP3-EU-BM4

SUN-60K-
SG02HP3-EU-EM6

SUN-70K-
SG02HP3-EU-EM6

SUN-80K-
SG02HP3-EU-EM6

Battery Input Data

Battery Type	Lithium-ion	
Battery Voltage Range (V)	160~800	160~1000
Max. Charging Current (A)	100	80+80
Max. Discharging Current (A)	100	80+80
Charging Strategy for Li-ion Battery	Self-adaption to BMS	
Number of Battery Input	1	2

PV String Input Data

Max. PV Access Power (W)	100000	120000	140000	160000
Max. PV Input Power (W)	80000	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/	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)	55000	66000	77000	88000
Rated AC Input/Output Current (A)	75.8/72.5	91/87	106.1/101.5	121.3/116
Max. AC Input/Output Current (A)	83.4/79.8	100/95.7	116.7/111.6	133.4/127.6
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)	220/380V, 230/400V 0.85Un-1.1Un			
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55, 60/55-65			
Grid Connection Form	3L+N+PE			
Total Current Harmonic Distortion THDi	<3% (of nominal power)	<3% (Of Rated Power)		
DC Injection Current	<0.5% In			

Efficiency

Max. Efficiency	97.60%	98.7%
Euro Efficiency	97.0%	98.10%
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, 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
Monitor Mode	GPRS/WIFI/Bluetooth/4G	GPRS/WIFI/Bluetooth/4G/LAN(optional)

General Data

Operating Temperature Range (°C)	-40 to +60, >45 Derating	
Permissible Ambient Humidity	0~100%	
Permissible Altitude	3000m	
Noise (dB)	≤ 65	
Ingress Protection(IP) Rating	IP65	
Inverter Topology	Non-Isolated	
Over Voltage Category	OVC II(DC), OVC III(AC)	
Cabinet Size (WxHxD mm)	528×793×278 (Excluding Connectors and Brackets)	606×927×314 (Excluding Connectors and Brackets)
Weight (kg)	65	105
Type of Cooling	Intelligent Air Cooling	

Warranty Standard 5 years, extended warranty 5 Years/10 Years
the Warranty Period Depends the Final Installation Site of Inverter,
More Info Please Refer to Warranty Policy

Grid Regulation IEC 61727,IEC 62116,CEI 0-21,EN 50549, NRS 097,RD 140,UNE 217002,OVE-Richtlinie R25,G99,VDE-AR-N 4105

Safety / EMC Standard IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2

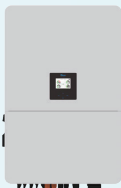
Model	SUN-100K-SG02HP3-EU-GM8		SUN-100K-SG02HP3-EU-GM10	SUN-125K-SG02HP3-EU-GM10
Battery Input Data				
Battery Type	Lithium-ion			
Battery Voltage Range (V)	160-1000			
Max. Charging/Discharging Current (A)	100+100			
Charging Strategy for Li-ion Battery	Self-adaption to BMS			
Number of Battery Input	2			
PV String Input Data				
Max. PV access power (W)	200000	200000	250000	
Max. PV Input Power (W)	160000	160000	200000	
Max. PV Input Voltage (V)	1000			
Start-up Voltage (V)	180			
MPPT Voltage Range (V)	150-850			
Rated PV Input Voltage (V)	650			
Max. Operating PV Input Current (A)	42+42+42+42+42+42+42+42	42+42+42+42+42+42+42+42+42+42		
Max. Input Short-Circuit Current (A)	63+63+63+63+63+63+63+63	63+63+63+63+63+63+63+63+63+63		
No. of MPP Trackers/ No. of Strings MPP Tracker	8/2+2+2+2+2+2+2	10/2+2+2+2+2+2+2+2+2+2		
AC Input/Output Data				
Rated AC Input/Output Active Power (W)	100000	100000	125000	
Max. AC Input/Output Apparent Power (VA)	110000	110000	135000	
Rated AC Input/Output Current (A)	151.6/145.0	151.6/145.0	189.4/181.2	
Max. AC Input/Output Current (A)	166.7/159.5	166.7/159.5	204.6/195.7	
Max. Continuous AC Passthrough (grid to load) (A)	250			
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	220/380V, 230/400V 0.85Un-1.1Un 3L+N+PE			
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55, 60/55-65			
Total Current Harmonic Distortion THDi	<3% (of nominal power)			
DC Injection Current	<0.5% In			
Efficiency				
Max. Efficiency	98.70%			
Euro Efficiency	98.10%			
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, DC Switch, Insulation Impedance Detection, Residual Current Detection			
Surge Protection Level	TYPE II(DC), TYPE II(AC)			
Interface				
LCD/LED Display	LCD+LED			
Communication Interface	RS485,RS232,CAN			
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN(optional)			
General Data				
Operating Temperature Range (°C)	-40°C to +60°C, >45°C Derating			
Permissible Ambient Humidity	0-100%			
Permissible Altitude	3000m			
Noise(dB)	≤65			
Ingress Protection(IP) Rating	IP 65			
Inverter Topology	Non-Isolated			
Over Voltage Category	OVC II(DC), OVC III(AC)			
Cabinet Size (WxHxD mm)	734×1091×344 (Excluding Connectors and Brackets)			
Weight (kg)	161.7			
Type of Cooling	Intelligent Air Cooling			
Warranty	5 Years/10 Years the Warranty Period Depends the Final Installation Site of Inverter, More Info Please Refer to Warranty Policy			
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105			
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-60K/80K-SG02HP3-EU-EM6

Or

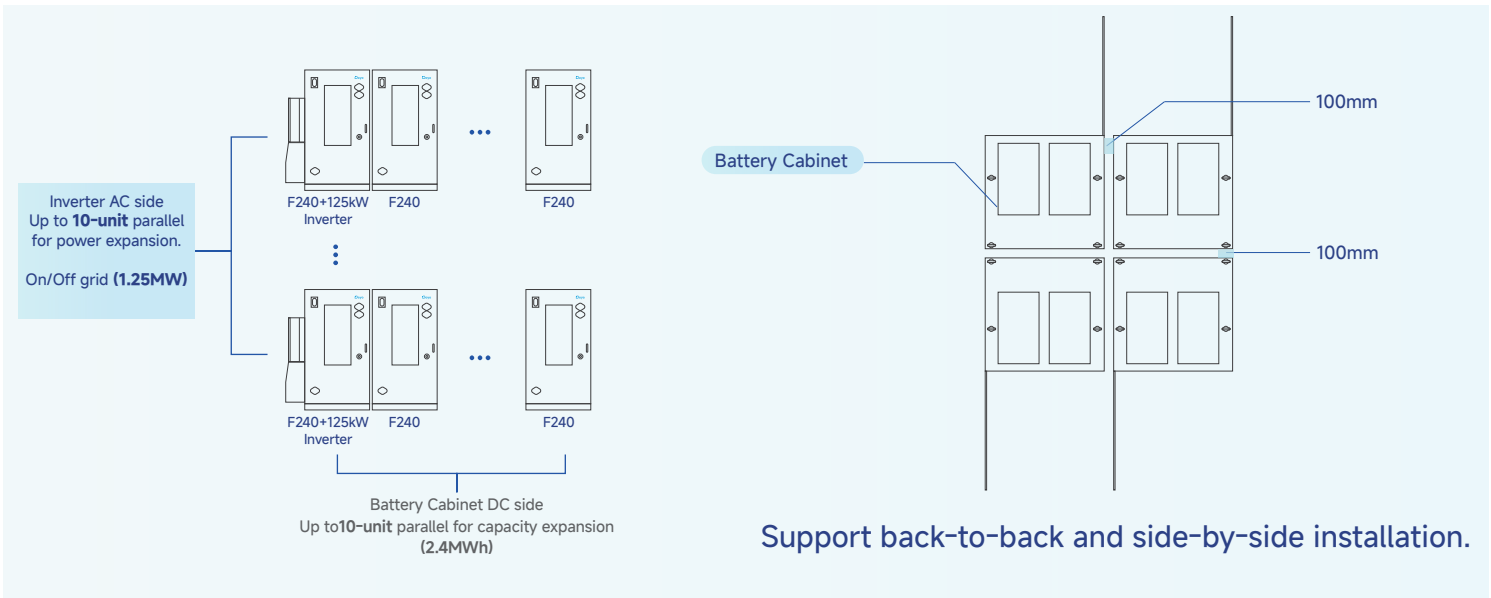


SUN-100K/125K-SG02HP3-EU-GM10 (8)

Power Unit	Battery Cabinet Model	Specification
2h ESS Solution		
SUN-80K-SG02HP3-EU-EM6 (80A+80A)	GE-F176-BC-2-A3	80kW/176kWh
SUN-100K-SG02HP3-EU-GM10 (100A+100A)	GE-F208-BC-2-A3	100kW/208kWh
SUN-125K-SG02HP3-EU-GM10 (100A+100A)	GE-F240-BC-2-A3	125kW/241kWh
3h ESS Solution		
SUN-60K-SG02HP3-EU-EM6 (80A+80A)	GE-F176-BC-2-A3	60kW/176kWh
SUN-70K-SG02HP3-EU-EM6 (80A+80A)	GE-F208-BC-2-A3	70kW/208kWh
SUN-80K-SG02HP3-EU-EM6 (80A+80A)	GE-F240-BC-2-A3	80kW/240kWh
4h ESS Solution		
SUN-50K-SG02HP3-EU-BM4 (100A)	GE-F208-BC-2-A3	50kW/208kWh
SUN-60K-SG02HP3-EU-EM6 (80A+80A)	GE-F240-BC-2-A3	60kW/241kWh

AC/DC Side Parallel Expansion (Capacity & Power)

ENERGY STORAGE SYSTEM

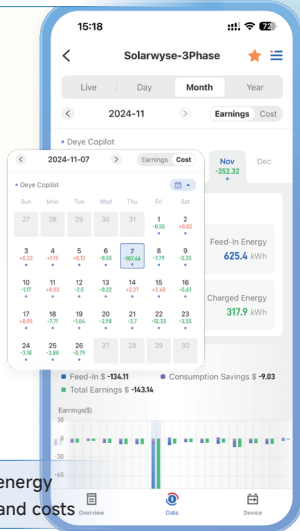


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- Individual Add-on for dynamic tariff
- Intelligent charging/discharging strategies
- Tailored solution to deye devices
- Real-time equipment monitoring
- Best energy scheduling solutions by Deye Copilot algorithm
- 24/7 AI Assistant support

Switch flexibly between autonomous and manual control



Display energy savings and costs



Support dynamic tariff and flat-rate

AI Assistant



Offer response suggestions and personalized support experience

Support over 30 languages

Analyze dynamic pricing, predict power load and PV generation to optimize energy dispatch and minimize electricity costs



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Download Deye Cloud APP to join us!

Embrace a seamless, effortless energy experience that's both eco-friendly and budget-friendly with our intelligent assistant



APP & Web

Manage your energy effortlessly



Cloud-edge Collaboration

Faster and more efficient



Accelerated Connection

Optimized for speed and performance



Localized Data Centers

Ensure data sovereignty and compliance in EU & US



Deye Copilot

AI-powered energy analysis and control



AI Assistant

24/7 support, fast, efficient, in your language



POWERING YOUR LIFE



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