



# 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-F208-BC-2-A3	GE-F240-BC-2-A3
<b>Main Parameters</b>			
Cell Type	LiFePO <sub>4</sub>		
Module Capacity (Ah)	314		
Module Nominal Voltage (Vdc)	51.2		
Module Energy (kWh)	16.08		
Module Qty In Series	11	13	15
System Nominal Energy (kWh)	176.84	208.99	241.15
System Usable Energy (kWh) <sup>1</sup>	176.84	208.99	241.15
System Nominal Voltage (Vdc)	563.2	665.6	768
System Operating Voltage (Vdc)	440~642.4	520~759.2	600~876
Rated DC Power (kW)	88	104	121
Charge/Discharge Current(A) <sup>2</sup>	Recommend	157	
	Max. Continuous	180	
	Peak discharge @15s/20~45°C	285	

<b>Other Parameters</b>			
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) <sup>3</sup>	-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	2380	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






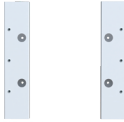



Model	BOS-B-PDU-2-A
Operating Voltage	200-1000Vdc
Nominal Charge/Discharge Current	180A
Operating Temperature	-20~60° C
Ingress Protection	IP20
AC Input Rating	220±10%VAC/2A
Details	788.6×526×167.2(W×D×H), 32kg

## 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	795.9 × 526 × 274.2 (W × D × H), 126kg

## Matching accessory pack

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

# Hybrid Inverter

Model	SUN-50K-SG02HP3-EU-BM4	SUN-60K-SG02HP3-EU-EM6	SUN-70K-SG02HP3-EU-EM6	SUN-80K-SG02HP3-EU-EM6
<b>Battery Input Data</b>				
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	
<b>PV String Input Data</b>				
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/				
No. of Strings MPP Tracker	4/2+2+2+2	6/2+2+2+2+2+2		
<b>AC Input/Output Data</b>				
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			
<b>Efficiency</b>				
Max. Efficiency	97.60%	98.7%		
Euro Efficiency	97.0%	98.10%		
MPPT Efficiency	> 99%			
<b>Equipment Protection</b>				
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)			
<b>Interface</b>				
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)		
<b>General Data</b>				
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
<b>Battery Input Data</b>			
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		
<b>PV String Input Data</b>			
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+2	10/2+2+2+2+2+2+2+2+2	
<b>AC Input/Output Data</b>			
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		
<b>Efficiency</b>			
Max. Efficiency	98.70%		
Euro Efficiency	98.10%		
MPPT Efficiency	>99%		
<b>Equipment Protection</b>			
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)		
<b>Interface</b>			
LCD/LED Display	LCD+LED		
Communication Interface	RS485,RS232,CAN		
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN(optional)		
<b>General Data</b>			
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



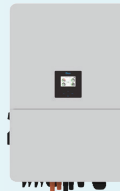
GE-F240 Series

+



SUN-50K-SG02HP3-EU-BM4

Or



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(8) (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

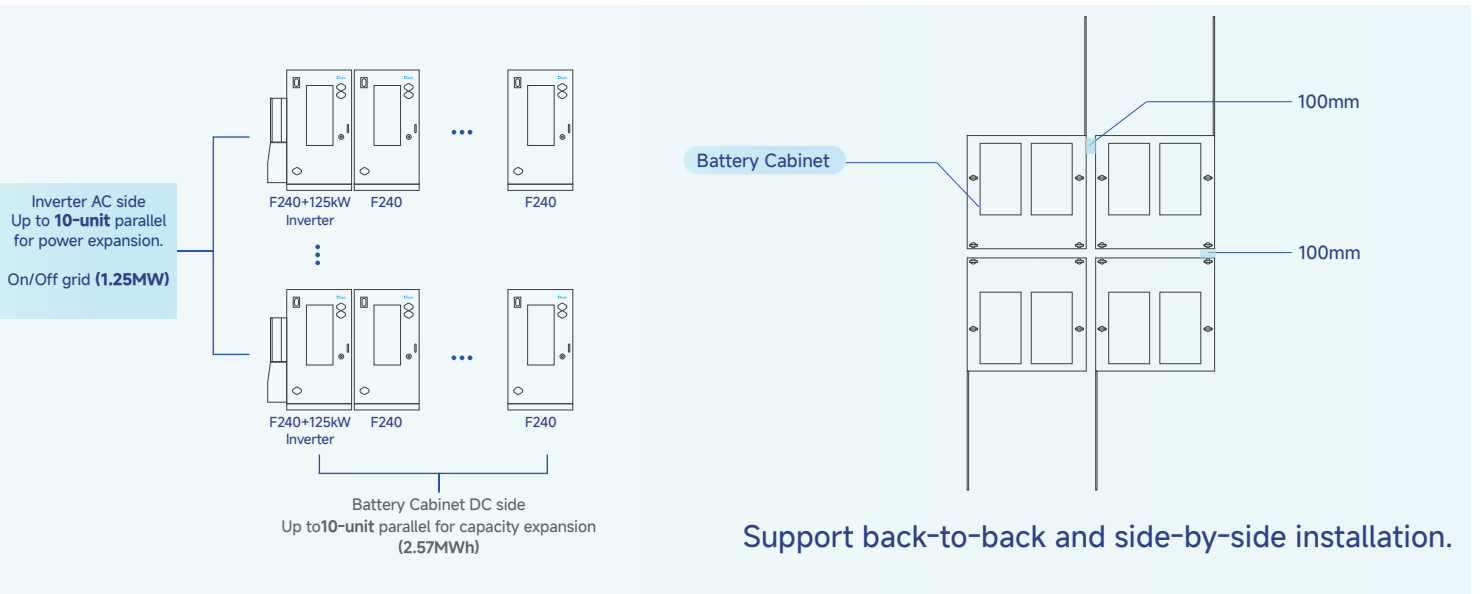
SUN-60K-SG02HP3-EU-EM6 (80A+80A)	GE-F176-BC-2-A3	60kW/176kWh
SUN-70K-SG02HP3-EU-EM6 (80A+80A)	GE-F208-BC-2-A3	70kW/208kWh
SUN-80K-SG02HP3-EU-EM6 (80A+80A)	GE-F240-BC-2-A3	80kW/241kWh

### 4h ESS Solution

SUN-50K-SG02HP3-EU-BM4 (100A)	GE-F208-BC-2-A3	50kW/208kWh
SUN-50K-SG01HP3-EU-BM4 (50A+50A)	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

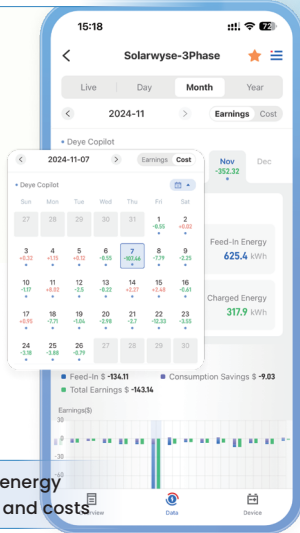


# Deye Cloud

## All-in-one Energy & Device Management Platform

- Unlock significant savings
- 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
- 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



## Smarten Up Your Hybrid Energy Storage System

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



 <b>APP &amp; Web</b> Manage your energy effortlessly	 <b>Cloud-edge Collaboration</b> Faster and more efficient	 <b>Accelerated Connection</b> Optimized for speed and performance	 <b>Localized Data Centers</b> Ensure data sovereignty and compliance in EU & US	 <b>Deye Copilot</b> AI-powered energy analysis and control	 <b>AI Assistant</b> 24/7 support, fast, efficient, in your language
---	--	--	--	---	--



**POWERING YOUR LIFE**



[www.deyeess.com](http://www.deyeess.com) / [www.deyeinverter.com](http://www.deyeinverter.com)



Deye ESS / Deye New Energy