



ORION E OUTDOOR C&I ESS SOLUTION

GE-F240 Series Outdoor Battery Cabinet

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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
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	13	15	
System Nominal Energy (kWh)	176.84	208.99	241.15	
System Usable Energy (kWh) ¹	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) 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	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.

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/	4/2+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)	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+2		10/2+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					

HESS Solution (Recommend)



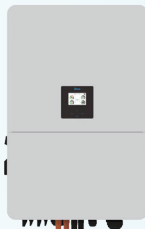
GE-F240 Series

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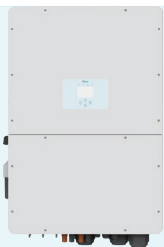
SUN-50K-SG02HP3-EU-BM4

Or



SUN-60K/70K/80K-SG02HP3-EU-EM6

Or

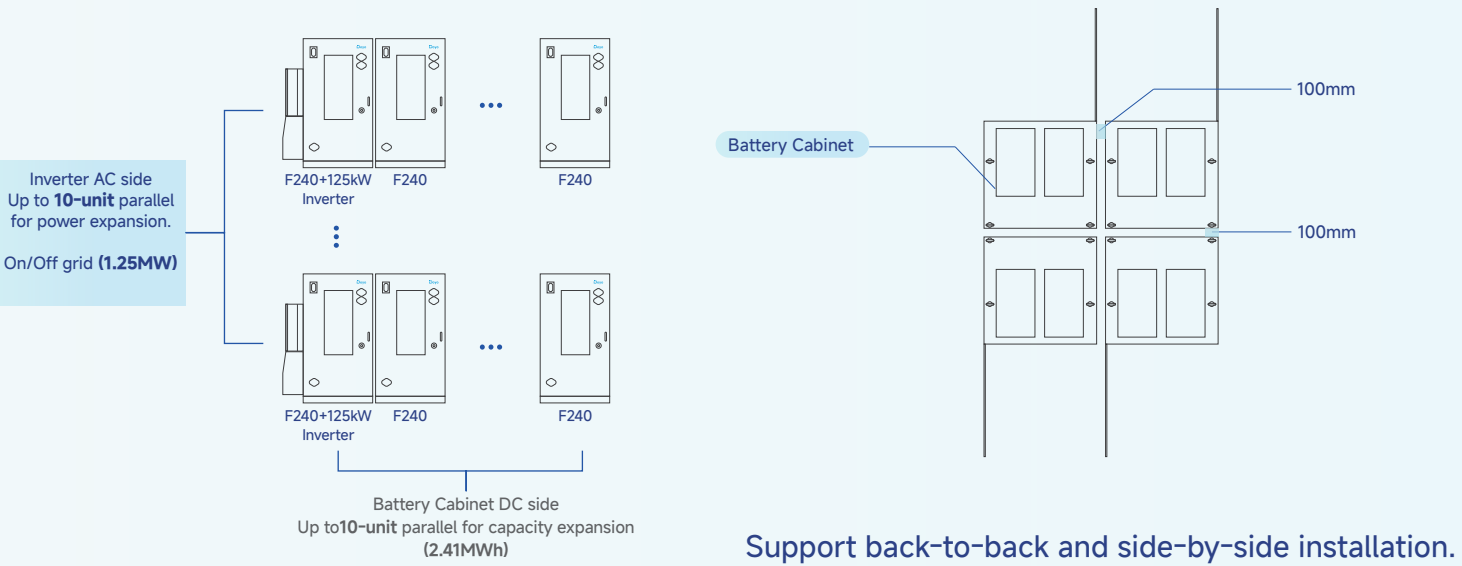


SUN-100K/125K-SG02HP3-EU-GM10

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

AC/DC Side Parallel Expansion (Capacity & Power)

ENERGY STORAGE SYSTEM

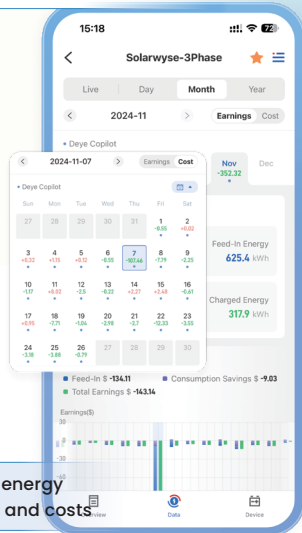


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savings and costs



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tariff and flat-rate

AI Assistant



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experience

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languages

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load and PV generation to optimize energy
dispatch and minimize electricity costs



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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



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