



ORION E OUTDOOR C&I ESS SOLUTION

GE-F128 Series Outdoor Battery Cabinet

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SUN-30~60K 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 30~60kW**, 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-F128 Series Outdoor Battery Cabinet

GE-F128 Series		
Model	GE-F112-BC-2-A3	GE-F128-BC-2-A3
Main Parameters		
Cell Type	LiFePO ₄	
Module Capacity (Ah)	314	
Module Nominal Voltage (Vdc)	51.2	
Module Energy (kWh)	16.08	
Module Qty In Series	7	8
System Nominal Energy (kWh)	112.53	128.61
System Usable Energy (kWh) ¹	112.53	128.61
System Nominal Voltage (Vdc)	358.4	409.6
System Operating Voltage (Vdc)	280-408.8	320-467.2
Rated DC Power (kW)	56	64
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)	998 x 1240 x 2405.5	
Weight(kg)	1575	1690
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-F128 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), 126kg

Matching accessory pack

Model	Main Accessories			Application
GE-F128-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-F128-AP-B				For inverters with single battery port ≤ 160A
	1AWG_3000mm	1AWG_3000mm	Communication Cable_3000mm	
				
	Inverter Mounting Bracket		Cable Cover	

Battery Cabinet Compatible Inverters

Model	SUN-30K-SG02HP3 -EU-BM3	SUN-40K-SG02HP3 -EU-BM4	SUN-50K-SG02HP3 -EU-BM4-P	SUN-60K-SG02HP3 -EU-EM6
Battery Input Data				
Battery Type	Lithium-ion			
Battery Voltage Range (V)	160~800			160~1000
Max. Charging Current (A)	100	100	160	80+80
Max. Discharging Current (A)	100	100	160	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)	60000	80000	100000	120000
Max. PV Input Power (W)	48000	64000	80000	96000
Max. PV Input Voltage (V)	1000			
Start-up Voltage (V)	180			
MPPT Voltage Range (V)	150-850			
Rated PV Input Voltage (V)	600			
Max. Operating PV Input Current (A)	36+36+36	36+36+36+36		36+36+36+36+36+36
Max. Input Short-Circuit Current (A)	55+55+55	55+55+55+55		54+54+54+54+54+54
No. of MPP Trackers/ No. of Strings MPP Tracker	3/2+2+2	4/2+2+2+2		6/2+2+2+2+2+2
AC Input/Output Data				
Rated AC Input/Output Active Power (W)	30000	40000	50000	60000
Max. AC Input/Output Apparent Power (VA)	33000	44000	55000	66000
Rated AC Input/Output Current (A)	45.5/43.5	60.7/58	75.8/72.5	91/87
Max. AC Input/Output Current (A)	50/47.9	66.7/63.8	83.4/79.8	100/95.7
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)			
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	IP 65			
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	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			

ESS Solution (Recommend)



GE-F128

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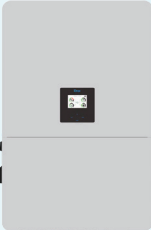
SUN-30K-SG01HP3-EU-BM3
SUN-40K-SG01HP3-EU-BM4

Or



SUN-30K-SG02HP3-EU-BM3
SUN-40K-SG02HP3-EU-BM4
SUN-50K-SG02HP3-EU-BM4-P

Or

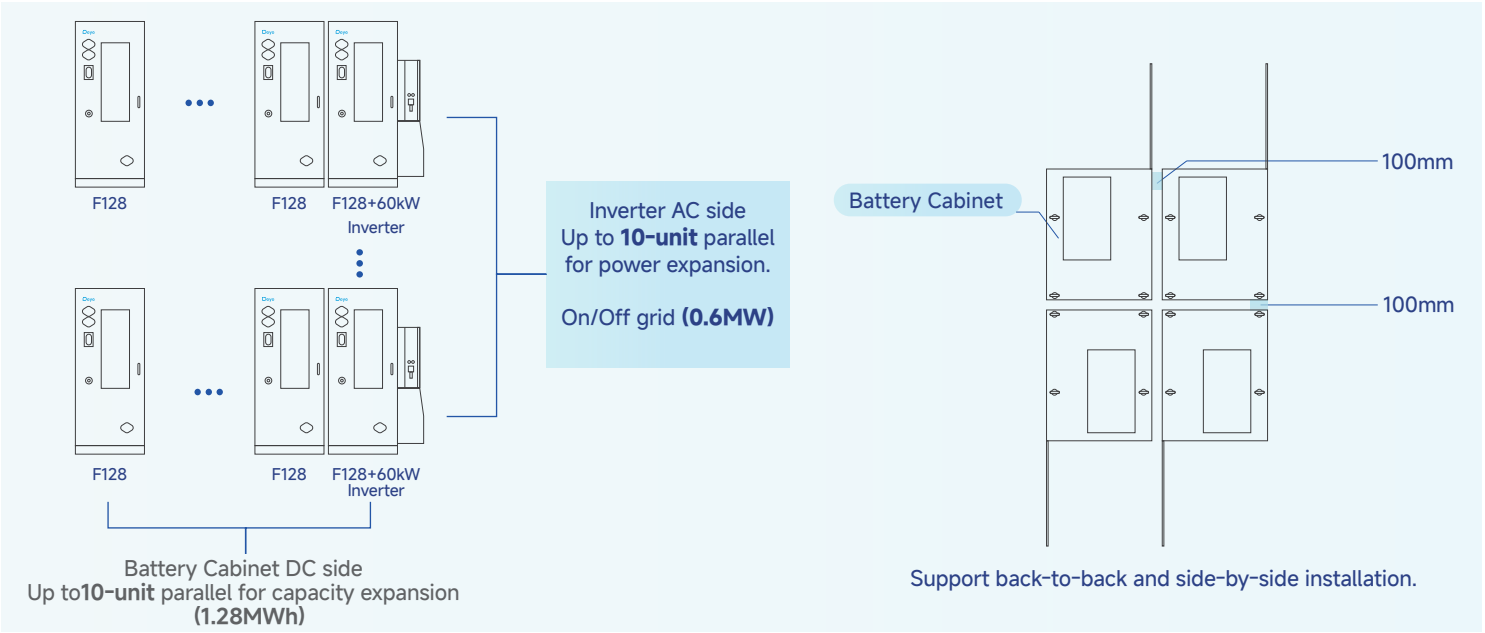


SUN-60K-SG02HP3-EU-EM6

Power Unit	Battery Cabinet Model	Specification
2h ESS Solution		
SUN-50K-SG02HP3-EU-BM4-P (160A)	GE-F112-BC-2-A3	50kW/112kWh
SUN-60K-SG02HP3-EU-EM6 (80A+80A)	GE-F128-BC-2-A3	60kW/128kWh
3h ESS Solution		
SUN-40K-SG02HP3-EU-BM4 (100A)	GE-F128-BC-2-A3	40kW/128kWh
SUN-40K-SG01HP3-EU-BM4 (50A+50A)	GE-F128-BC-2-A3	40kW/128kWh
4h ESS Solution		
SUN-30K-SG02HP3-EU-BM4 (100A)	GE-F128-BC-2-A3	30kW/128kWh
SUN-30K-SG01HP3-EU-BM4 (50A+50A)	GE-F128-BC-2-A3	30kW/128kWh

AC/DC Side Parallel Expansion (Capacity & Power)

ENERGY STORAGE SYSTEM

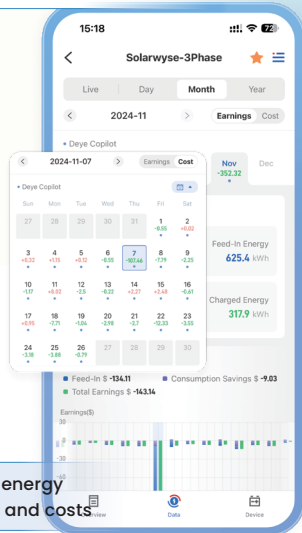


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performance



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