

UL 9540A
Tested to



ORION E OUTDOOR C&I ESS SOLUTION

GE-F128 Series Outdoor Battery Cabinet

+

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-F96-BC-2-A3		GE-F112-BC-2-A3	GE-F128-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	6	7	8	
System Nominal Energy (kWh)	96.46	112.53	128.61	
System Usable Energy (kWh) ¹	96.46	112.53	128.61	
System Nominal Voltage (Vdc)	307.2	358.4	409.6	
System Operating Voltage (Vdc)	240~350.4	280~408.8	320~467.2	
Rated DC Power (kW)	48	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)	1460	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,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-F128 Series Outdoor Battery Cabinet Accessories

Power Distribution Unit



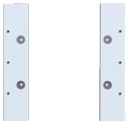
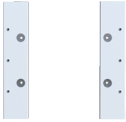
Model	BOS-B-PDU-2-A
Operating Voltage	200~1000Vdc
Nominal Charge/Discharge Current	180A
Operating Temperature	-20~60° C
Ingress Protection	IP20
AC Input Rating	220±10%VAC/2A
Details	526×788.6×167.2(W×D×H), 32kg

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), 116kg

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-29.9K-SG01HP3 -AU-BM3	SUN-40K-SG01HP3 -AU-BM4	SUN-60K-SG02HP3 -AU-EM6
Battery Input Data			
Battery Type	Lithium-ion		
Battery Voltage Range (V)	160-800		160-1000
Max. Charging/Discharging 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)	59800	80000	120000
Max. PV Input Power (W)	44850	60000	96000
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+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	6/2+2+2+2+2+2
AC Input/Output Data			
Rated AC Input/Output Active Power (W)	29900	40000	60000
Max. AC Input/Output Apparent Power (VA)	29900	40000	60000
Rated AC Input/Output Current (A)	43.4	58	87
Max. AC Input/Output Current (A)	43.4	58	87
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	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	97.6%		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°C, >45°C Derating		
Permissible Ambient Humidity	0-100%		
Permissible Altitude	2000m		3000m
Noise (dB)	≤65		
Ingress Protection(IP) Rating	IP 65		
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		

ESS Solution (Recommend)



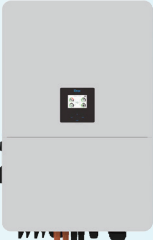
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SUN-29.9K-SG01HP3-AU-BM3
SUN-40K-SG01HP3-AU-BM4

Or

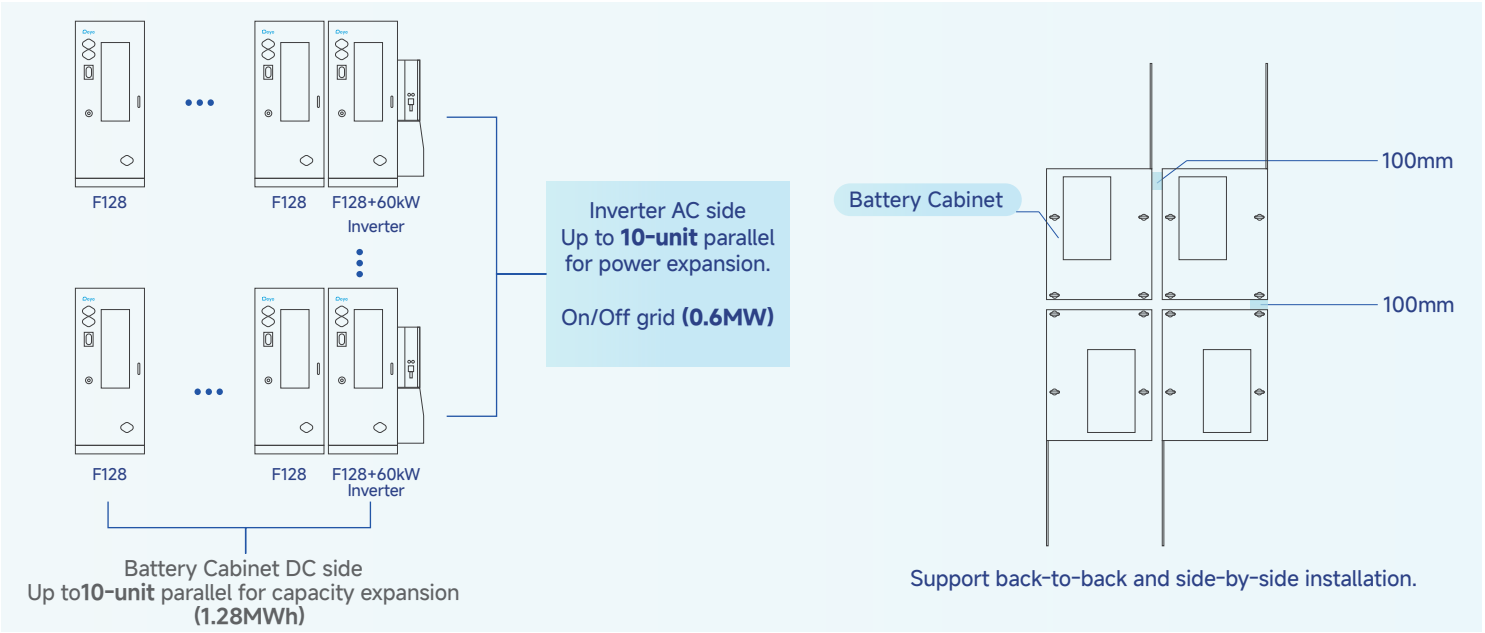


SUN-60K-SG02HP3-AU-EM6

Power Unit	Battery Cabinet Model	Specification
2h ESS Solution		
SUN-60K-SG02HP3-AU-EM6 (80A+80A)	GE-F128-BC-2-A3	60kW/128kWh
3h ESS Solution		
SUN-40K-SG01HP3-AU-BM4 (50A+50A)	GE-F128-BC-2-A3	40kW/128kWh
4h ESS Solution		
SUN-29.9K-SG01HP3-AU-BM4 (50A+50A)	GE-F128-BC-2-A3	29.9kW/128kWh

AC/DC Side Parallel Expansion (Capacity & Power)

ENERGY STORAGE SYSTEM

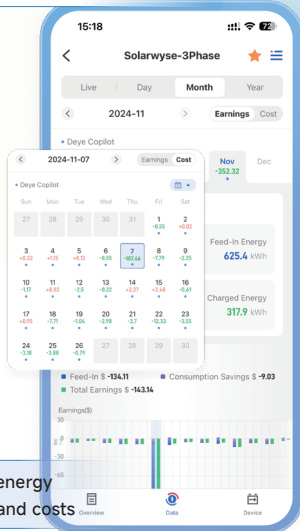


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- Intelligent charging/discharging strategies
- Tailored solution to deye devices
- Real-time equipment monitoring
- Best energy scheduling solutions by Deye Copilot algorithm
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Switch flexibly between autonomous and manual control



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AI Assistant



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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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