UL 9540A



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-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		
Charge/Discharge Current(A)*2 Max. Continuous	180		
Charge/Discharge Current(A)*2 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 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)	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



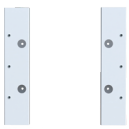
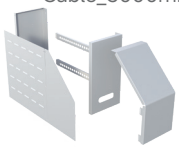
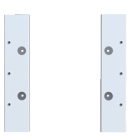
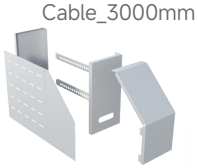
Model	BOS-B-PDU-2-A
Operating Voltage	200~1000Vdc
Nominal Charge/Discharge Current	180A
Operating Temperature	-20~60° C
Ingress Protection	IP20
AC Input Rating	220±10%VAC/2A
Details	526×788.6×167.2(W×D×H), 32kg

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	 3AWG_3000mm*2  3AWG_3000mm*2  Communication Cable_3000mm  Inverter Mounting Bracket  Cable Cover	For inverters with single or dual battery ports ≤ **100A**
GE-F128-AP-B	 1AWG_3000mm  1AWG_3000mm  Communication Cable_3000mm  Inverter Mounting Bracket  Cable Cover	For inverters with single battery port ≤ **160A**

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)	50000	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)



GE-F128

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

Or

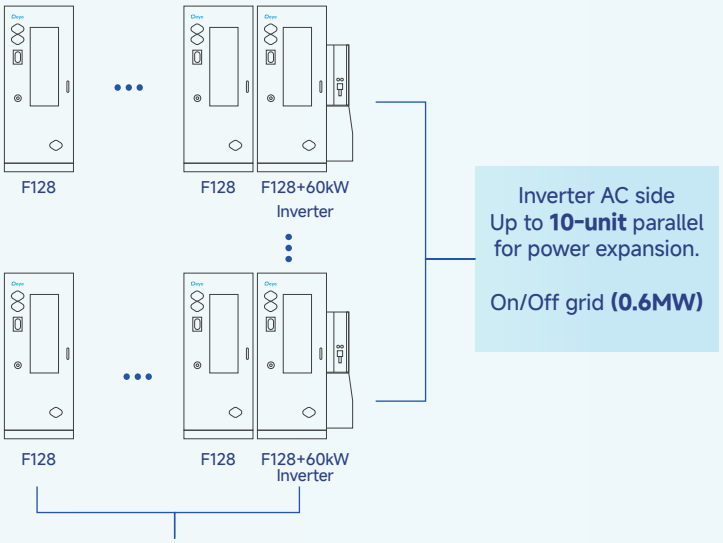


SUN-60K-SG02HP3-AU-EM6

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-29.9K-SG01HP3-AU-BM3(50A+50A)	GE-F96-BC-2-A3	29.9kW/96kWh
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)

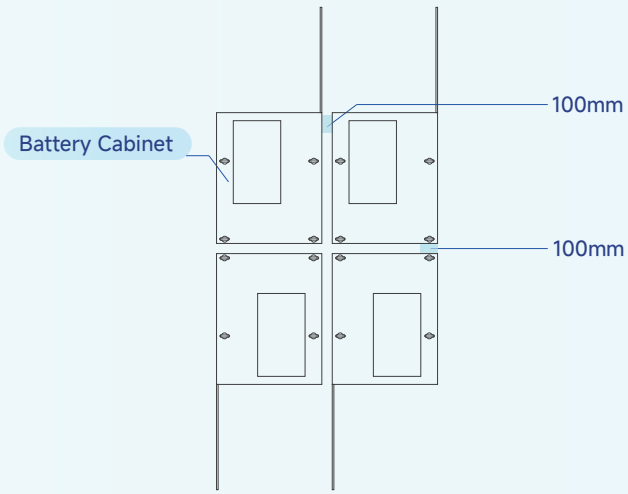
ENERGY STORAGE SYSTEM



Inverter AC side
Up to **10-unit** parallel for power expansion.

On/Off grid **(0.6MW)**

Battery Cabinet DC side
Up to**10-unit** parallel for capacity expansion
(1.28MWh)



Support back-to-back and side-by-side installation.

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 algorithm
- 24/7 AI Assistant support

AI Assistant

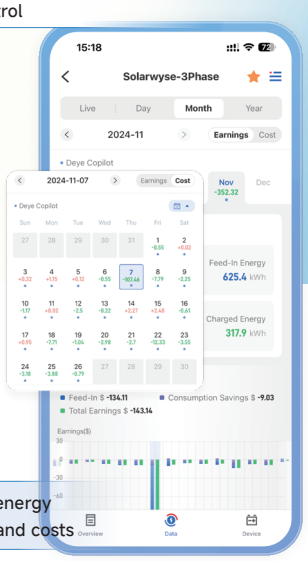


Offer response suggestions and personalized support experience

Support dynamic tariff and flat-rate



Switch flexibly between autonomous and manual control



Display energy savings and costs

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

Deye Copilot

ToU

Support over 30 languages

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

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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

Scan to access Deye Partner Platform