



ORION E OUTDOOR C&I ESS SOLUTION

GE-F256 Outdoor Battery Cabinet

+

SUN-60~125K Hybrid Inverter

Or

SUN-100/125K PCS+MPPT+STS Series Module



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 60~125kW**, 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-F256 Outdoor Battery Cabinet

Model		GE-F256-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		16
System Nominal Energy (kWh)		257.23
System Usable Energy (kWh) ¹		257.23
System Nominal Voltage (Vdc)		819.2
System Operating Voltage (Vdc)		640~934.4
Rated DC Power (kW)		129
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)	1303x1240×2510	
Weight(kg)	2770	
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



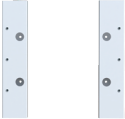
Model	BOS-B-PDU-2-A
Operating Voltage	200~1000Vdc
Nominal Charge/Discharge Current	180A
Operating Temperature	-20~60° C
Ingress Protection	IP20
AC Input Rating	220±10%VAC/2A
Details	526×788.6×167.2(W×D×H), 32kg

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-F256-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-F256-AP-C				For SUN-100/125K-PCS01HP3
	1AWG_3000mm	1AWG_3000mm	Communication Cable_3000mm	

Battery Cabinet Compatible Inverters

Model	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)	160~1000			
Max. Charging Current (A)	80+80			
Max. Discharging Current (A)	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)	120000	140000	160000	
Max. PV Input Power (W)	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)	650			
Max. Operating PV Input Current (A)	36+36+36+36+36+36			
Max. Input Short-Circuit Current (A)	54+54+54+54+54+54			
No. of MPP Trackers/	6/2+2+2+2+2			
No. of Strings MPP Tracker				
AC Input/Output Data				
Rated AC Input/Output Active Power (W)	60000	70000	80000	
Max. AC Input/Output Apparent Power (VA)	66000	77000	88000	
Rated AC Input/Output Current (A)	91/87	106.1/101.5	121.3/116	
Max. AC Input/Output Current (A)	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 Rated Power)			
DC Injection Current	<0.5% In			
Efficiency				
Max. Efficiency	98.7%			
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 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)	606×927×314 (Excluding Connectors and Brackets)			
Weight (kg)	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			

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					

ESS Solution (Recommend)



GE-F256

+



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

Or

NEW



SUN-125K-SG02HP3-EU-GM10

Or



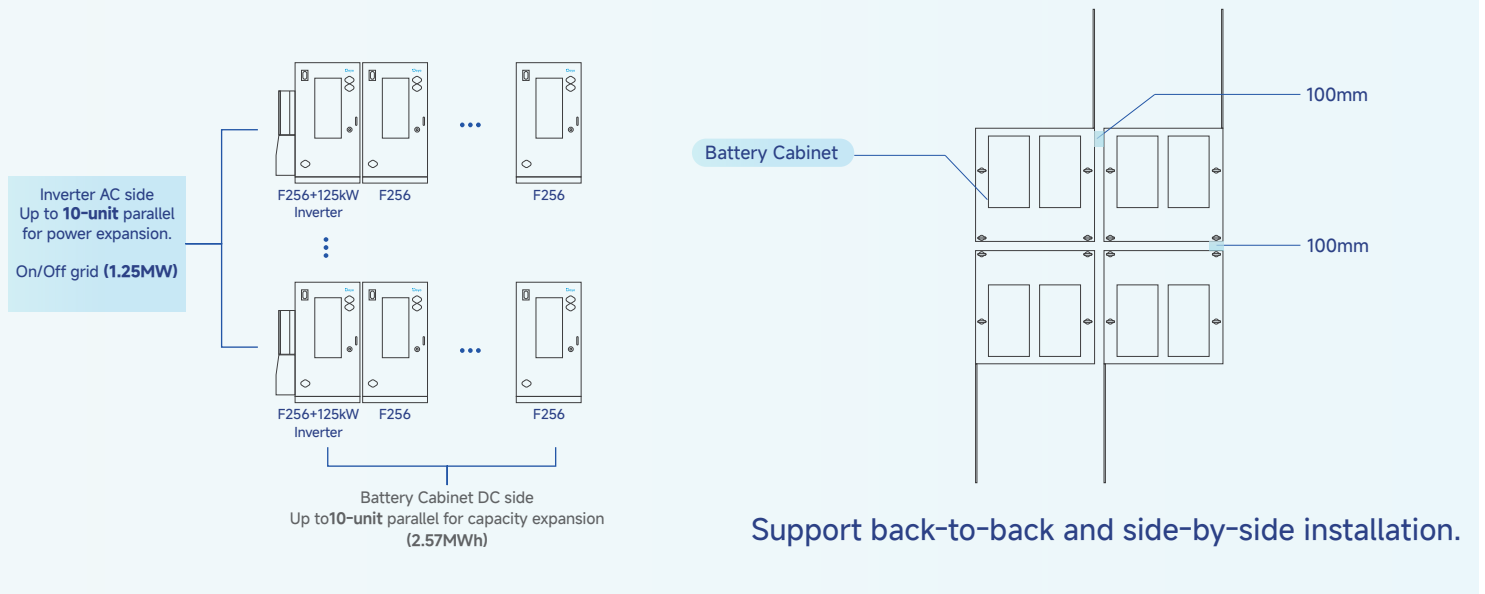
SUN-125K-PCS01HP3+
(SUN MPPT-L01-EU+SUN-ST5500L)

Power Unit	Battery Cabinet Model	Specification
2h ESS Solution		
SUN-125K-SG02HP3-EU-GM10 (100A+100A)	GE-F256-BC-2-A3	125kW/257kWh
SUN-125K-PCS01HP3 (200A) + (SUN MPPT-L01-EU+SUN-ST5500L)*	GE-F256-BC-2-A3	125kW/257kWh
3h ESS Solution		
SUN-80K-SG02HP3-EU-EM6 (80A+80A)	GE-F256-BC-2-A3	80kW/257kWh
4h ESS Solution		
SUN-60K-SG02HP3-EU-EM6 (80A+80A)	GE-F256-BC-2-A3	60kW/257kWh

*: SUN MPPT-L01-EU and SUN-ST5500L are optional

AC/DC Side Parallel Expansion (Capacity & Power)

ENERGY STORAGE SYSTEM

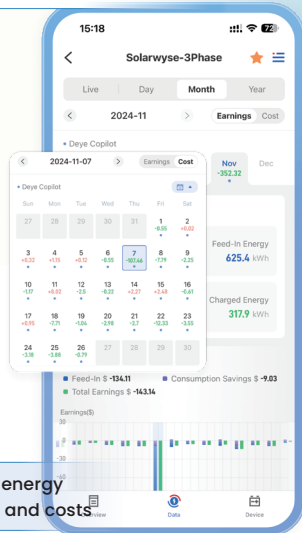


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efficient



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and
performance



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Ensure data
sovereignty and
compliance in EU &
US



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analysis and control



AI Assistant

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efficient, in your
language



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