



ORION E OUTDOOR C&I ESS SOLUTION ENERGY STORAGE SYSTEM

GE-F128/F240/F256 Series Outdoor Battery Cabinet

+

SUN-30~125K 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 30~125kW**, 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

ORION E Series Outdoor Battery Cabinet

| | | GE-F128 Series | | GE-F240 Series | | | GE-F256 Series |
|--|---|-----------------|----------------------|-----------------|-----------------|-----------------|-----------------|
| Model | | GE-F112-BC-2-A3 | GE-F128-BC-2-A3 | GE-F176-BC-2-A3 | GE-F208-BC-2-A3 | GE-F240-BC-2-A3 | 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 | 7 | 8 | 11 | 13 | 15 | 16 | |
| System Nominal Energy (kWh) | 112.53 | 128.61 | 176.84 | 208.99 | 241.15 | 257.23 | |
| System Usable Energy (kWh) ¹ | 112.53 | 128.61 | 176.84 | 208.99 | 241.15 | 257.23 | |
| System Nominal Voltage (Vdc) | 358.4 | 409.6 | 563.2 | 665.6 | 768 | 819.2 | |
| System Operating Voltage (Vdc) | 280-408.8 | 320-467.2 | 440-642.4 | 520-759.2 | 600-876 | 640-934.4 | |
| Rated DC Power (kW) | 56 | 64 | 88 | 104 | 121 | 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 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 | | 1303 x 1240 x 2405.5 | | | 1303x1240x2510 | |
| Weight(kg) | 1575 | 1690 | 2150 | 2380 | 2610 | 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.

| Model | SUN-30K-SG02HP3 -AU-BM3(-P)* Coming soon | SUN-40K-SG02HP3 -AU-BM4(-P)* Coming soon | SUN-50K-SG02HP3 -AU-BM4(-P)* Coming soon |
|--|---|--|--|
| Battery Input Data | | | |
| Battery Type | Lithium-ion | | |
| Battery Voltage Range (V) | 160-800 | | |
| Max. Charging Current (A) | 100(160) | 100(160) | 100(160) |
| Max. Discharging Current (A) | 100(160) | 100(160) | 100(160) |
| Charging Strategy for Li-ion Battery | Self-adaption to BMS | | |
| Number of Battery Input | 1 | | |
| PV String Input Data | | | |
| Max. PV Access Power (W) | 60000 | 80000 | 100000 |
| Max. PV Input Power (W) | 48000 | 64000 | 80000 |
| 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 | |
| Max. Input Short-Circuit Current (A) | 55+55+55 | 55+55+55+55 | |
| No. of MPP Trackers/ No. of Strings MPP Tracker | 3/2+2+2 | 4/2+2+2+2 | |
| AC Input/Output Data | | | |
| Rated AC Input/Output Active Power (W) | 30000 | 40000 | 50000 |
| Max. AC Input/Output Apparent Power (VA) | 33000 | 44000 | 55000 |
| Rated AC Input/Output Current (A) | 45.5/43.5 | 60.7/58 | 75.8/72.5 |
| Max. AC Input/Output Current (A) | 50/47.9 | 66.7/63.8 | 83.4/79.8 |
| 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% | | |
| Euro Efficiency | 97.0% | | |
| 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 (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 | | |
| Communication Interface | WIFI/RS485 /CAN | | |
| Monitor Mode | GPRS/WIFI/Bluetooth/4G | | |
| 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) | | |
| Weight (kg) | 65 | | |
| Type of Cooling | Intelligent Air Cooling | | |
| Warranty | Standard 5 years, extended warranty | | |
| 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 | | |

Hybrid Inverter

| Model | SUN-60K-SG02HP3-AU-EM6 | SUN-70K-SG02HP3-AU-EM6 | SUN-80K-SG02HP3-AU-EM6 |
|--|--|------------------------|------------------------|
| Battery Input Data | | | |
| Battery Type | Lithium-ion Coming soon | | |
| 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/ No. of Strings MPP Tracker | 6/2+2+2+2+2+2 | | |
| AC Input/Output Data | | | |
| Rated AC Input/Output Active Power (W) | 60000 | 70000 | 80000 |
| Max. AC Input/Output Apparent Power (VA) | 60000 | 70000 | 80000 |
| Rated AC Input/Output Current (A) | 87/87 | 101.5/101.5 | 116/116 |
| Max. AC Input/Output Current (A) | 87/87 | 101.5/101.5 | 116/116 |
| 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) | 230/400V 240/415V 0.85Un-1.1Un | | |
| Rated Input/Output Grid Frequency/Range(Hz) | 50/45-55 | | |
| 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 | | |
| 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 | | |

Hybrid Inverter

| Model | SUN-100K-SG02HP3-AU-GM10* Coming soon | SUN-125K-SG02HP3-AU-GM10* Coming soon |
|--|--|--|
| Battery Input Data | | |
| Battery Type | Lithium-ion Coming soon | |
| Battery Voltage Range (V) | 160-1000 | |
| Max. Charging Current (A) | 100+100 | |
| Max. 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 | 250000 |
| Max. PV Input Power (W) | 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 | |
| Max. Input Short-Circuit Current (A) | 63+63+63+63+63+63+63+63+63 | |
| No. of MPP Trackers/ | 10/2+2+2+2+2+2+2+2+2 | |
| No. of Strings MPP Tracker | | |
| AC Input/Output Data | | |
| Rated AC Input/Output Active Power (W) | 100000 | 125000 |
| Max. AC Input/Output Apparent Power (VA) | 110000 | 125000 |
| Rated AC Input/Output Current (A) | 145.0 | 181.2 |
| Max. AC Input/Output Current (A) | 145.0 | 181.2 |
| Max. Continuous AC Passthrough (grid to load)(A) | 250 | |
| Power Factor Adjustment Range | 0.8 Leading to 0.8 Lagging | |
| Rated Input/Output Voltage/Range (V) | 230/400V 240/415V 0.85Un-1.1Un | |
| Rated Input/Output Grid Frequency/Range(Hz) | 50/45-55 | |
| Grid Connection Form | 3L+N+PE | |
| Total Current Harmonic Distortion THDi | <3% (Of Rated Power) | |
| DC Injection Current | <0.5% In | |
| Efficiency | | |
| Max. Efficiency | 98.70% | |
| Euro Efficiency | 98.10% | |
| MPPT Efficiency | > 99% | |
| Equipment Protection | | |
| Surge Protection Level | TYPE II(DC),TYPE II(AC) | |
| Interface | | |
| LCD/LED Display | LCD+LED | |
| Communication Interface | RS485, RS232,CAN | |
| 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) | 734×1091×344 (Excluding Connectors and Brackets) | |
| Weight (kg) | 161.7 | |
| Type of Cooling | Intelligent Air 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 | |

HESS Solution (Recommend)



GE-F128 Series

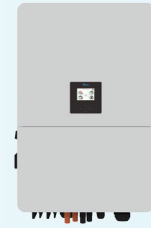
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Coming soon

SUN-30K-SG02HP3-AU-BM3*
SUN-40K-SG02HP3-AU-BM4*
SUN-50K-SG02HP3-AU-BM4-P*

Or



SUN-60K-SG02HP3-AU-EM6



GE-F240 Series

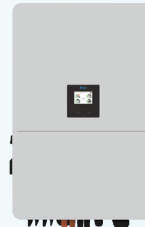
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Coming soon

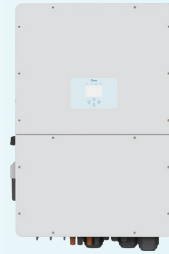
SUN-50K-SG02HP3-AU-BM4*
SUN-50K-SG01HP3-AU-BM4*

Or



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

Or



Coming soon

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



GE-F256 Series

+



Coming soon

SUN-125K-SG02HP3-AU-GM10*

Or



SUN-125K-PCS01HP3-AU+
(SUN MPPT-L01-AU-AM8+SUN-ST5500L)

Power Unit

Battery Cabinet Model

Specification

2h HESS Solution

| | | |
|--|----------------------|------------------|
| SUN-50K-SG02HP3-AU-BM4-P* | GE-F112-BC-2-A3 | 50kW/112kWh |
| SUN-60K-SG02HP3-AU-EM6 | GE-F128-BC-2-A3 | 60kW/128kWh |
| SUN-80K-SG02HP3-AU-EM6 | GE-F176-BC-2-A3 | 80kW/176kWh |
| SUN-100K-SG02HP3-AU-GM10* | GE-F208-BC-2-A3 | 100kW/208kWh |
| SUN-125K-SG02HP3-AU-GM10* | GE-F240/F256-BC-2-A3 | 125kW/241&257kWh |
| SUN-125K-PCS01HP3-AU+ (SUN MPPT-L01-AU-AM8+SUN-ST5500L) | GE-F256-BC-2-A3 | 125kW/257kWh |

3h HESS Solution

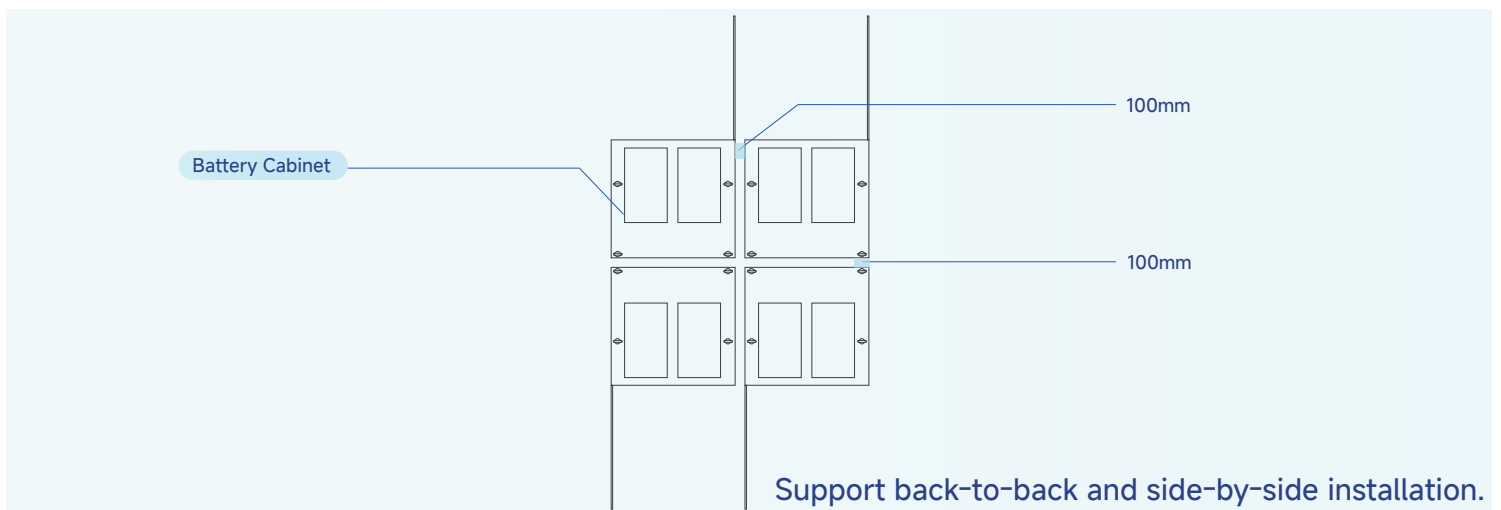
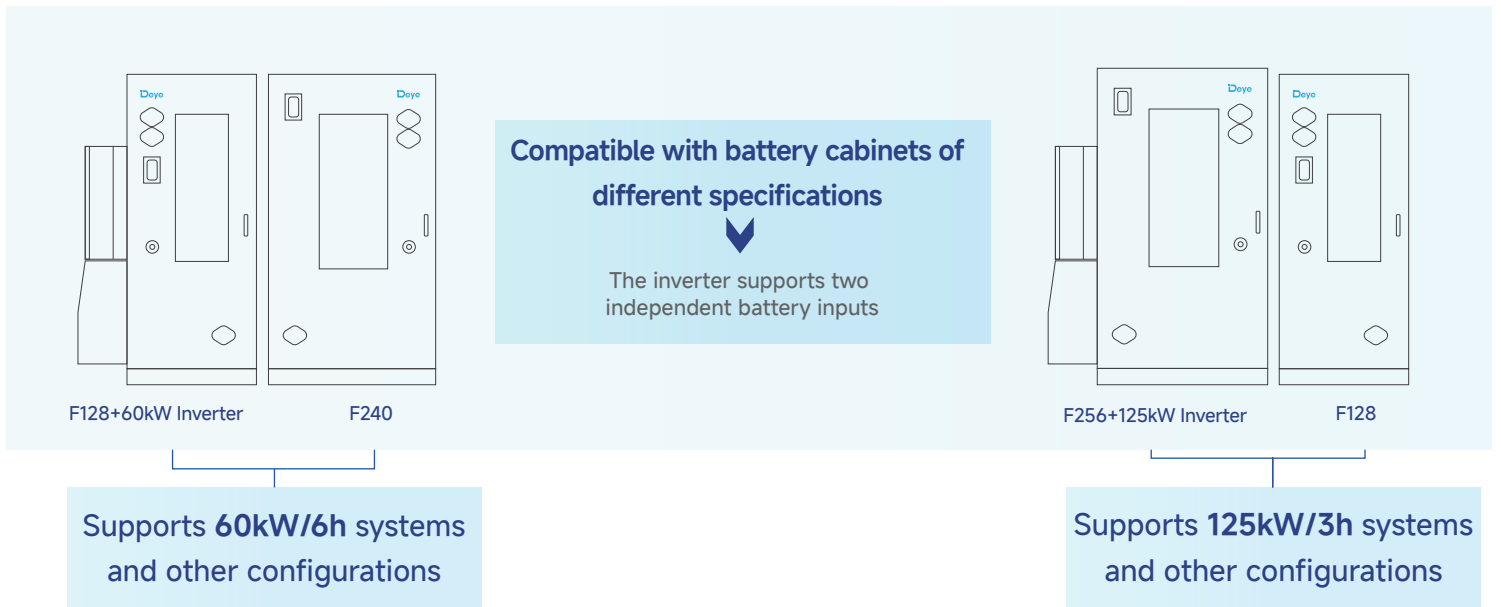
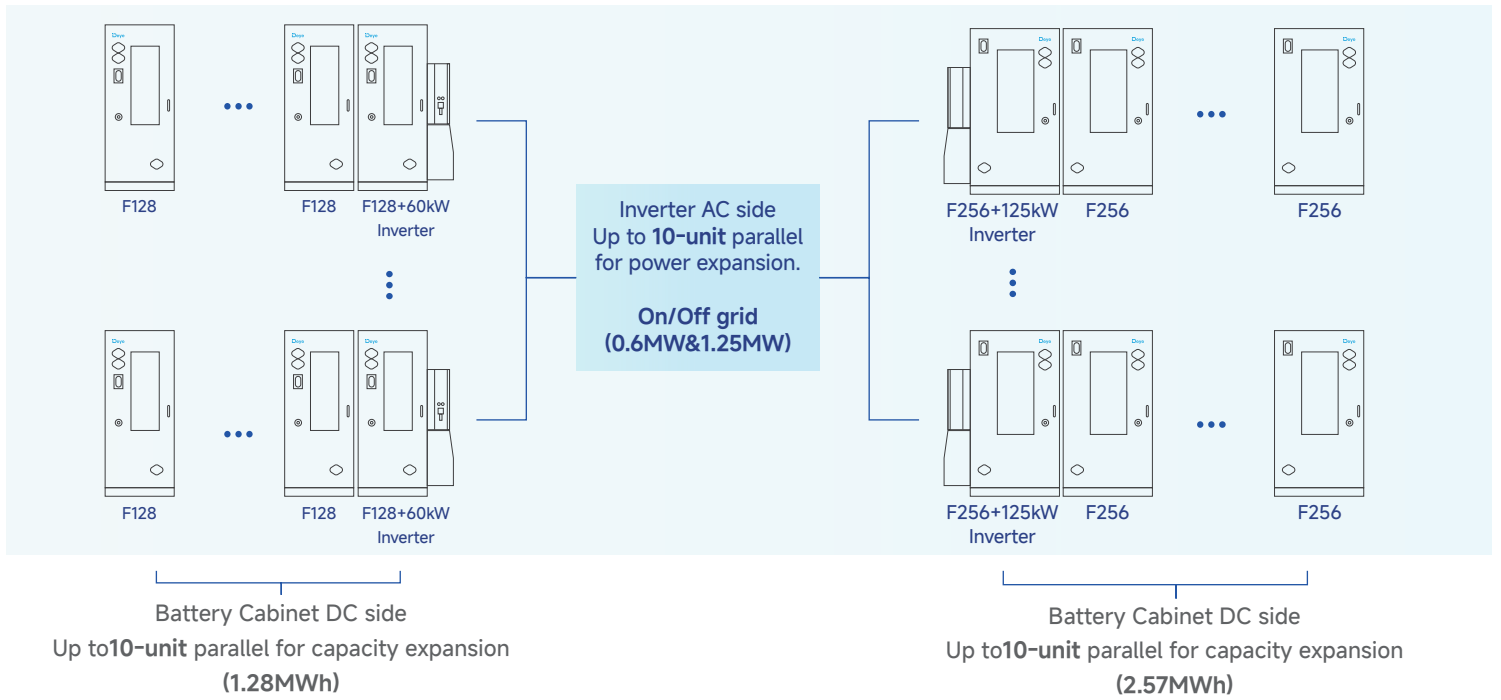
| | | |
|--|-----------------|-------------|
| SUN-40K-SG02HP3-AU-BM4*/SUN-40K-SG01HP3-AU-BM4 | GE-F128-BC-2-A3 | 40kW/128kWh |
| SUN-60K-SG02HP3-AU-EM6 | GE-F176-BC-2-A3 | 60kW/176kWh |
| SUN-70K-SG02HP3-AU-EM6 | GE-F208-BC-2-A3 | 70kW/208kWh |
| SUN-80K-SG02HP3-AU-EM6 | GE-F240-BC-2-A3 | 80kW/241kWh |

4h HESS Solution

| | | |
|--|-----------------|-------------|
| SUN-30K-SG02HP3-AU-BM3*/SUN-30K-SG01HP3-AU-BM3 | GE-F128-BC-2-A3 | 30kW/128kWh |
| SUN-50K-SG02HP3-AU-BM4*/SUN-50K-SG01HP3-AU-BM4 | GE-F208-BC-2-A3 | 50kW/208kWh |
| SUN-60K-SG02HP3-AU-EM6 | GE-F240-BC-2-A3 | 60kW/241kWh |

AC/DC Side Parallel Expansion (Capacity & Power)

ENERGY STORAGE SYSTEM

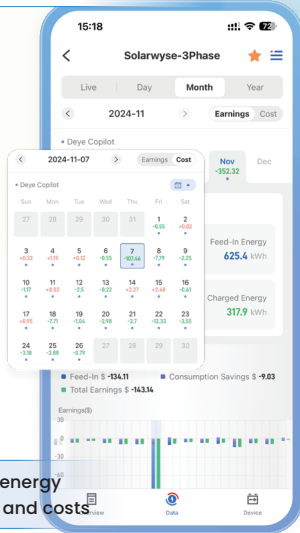


Deye Cloud

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
- 24/7 AI Assistant support

Switch flexibly between autonomous and manual control



Display energy savings and costs



Support dynamic tariff and flat-rate

AI Assistant



Offer response suggestions and personalized support experience

Support over 30 languages

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



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



APP & Web
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



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