# 100/125kW C&I Hybrid Inverter Solution

**SUN-100/125K-SG02HP3-EU-GM8/GM10**

Compatible with Deye GE-F240/256, BOS-B Pro-A3, GB-W & BOS-A Battery Series



### Max Yield

200% PV Oversizing & 160% Input Capability

### Superior Peak Power

Supports 1.5× peak power for 10s

### Maximum Flexibility

8/10 independent MPPTs, 2 strings per MPPT

### Flexible Storage

Dual 100A battery ports with 160-1000V wide voltage range

### MW-Level Scalability

Up to 1.25MW system with Max.10 units in parallel

### Versatile Integration

Diesel generator & AC coupling support

# Key Functions

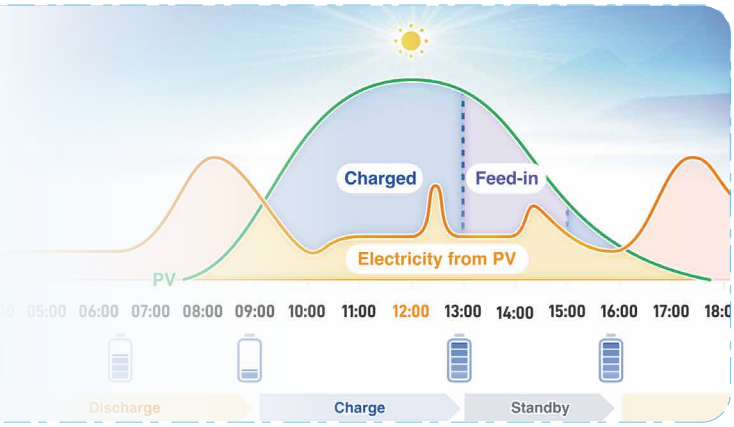
## Customizable Charge and Discharge Function

Supports **6** customizable charge/discharge time slots

Enables **off-peak charging** and **peak-time discharging**

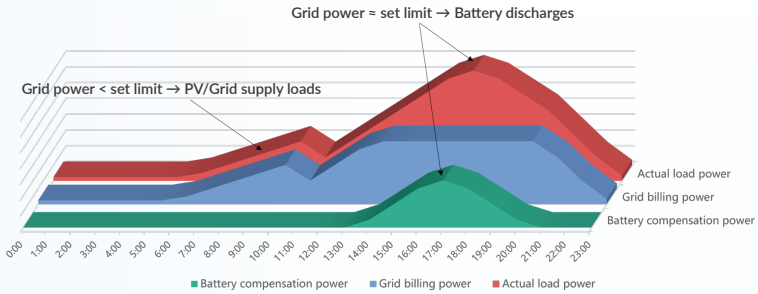
**Solar prioritized** for loads, battery supports at night

**AI-driven** dynamic pricing optimization with automated energy arbitrage

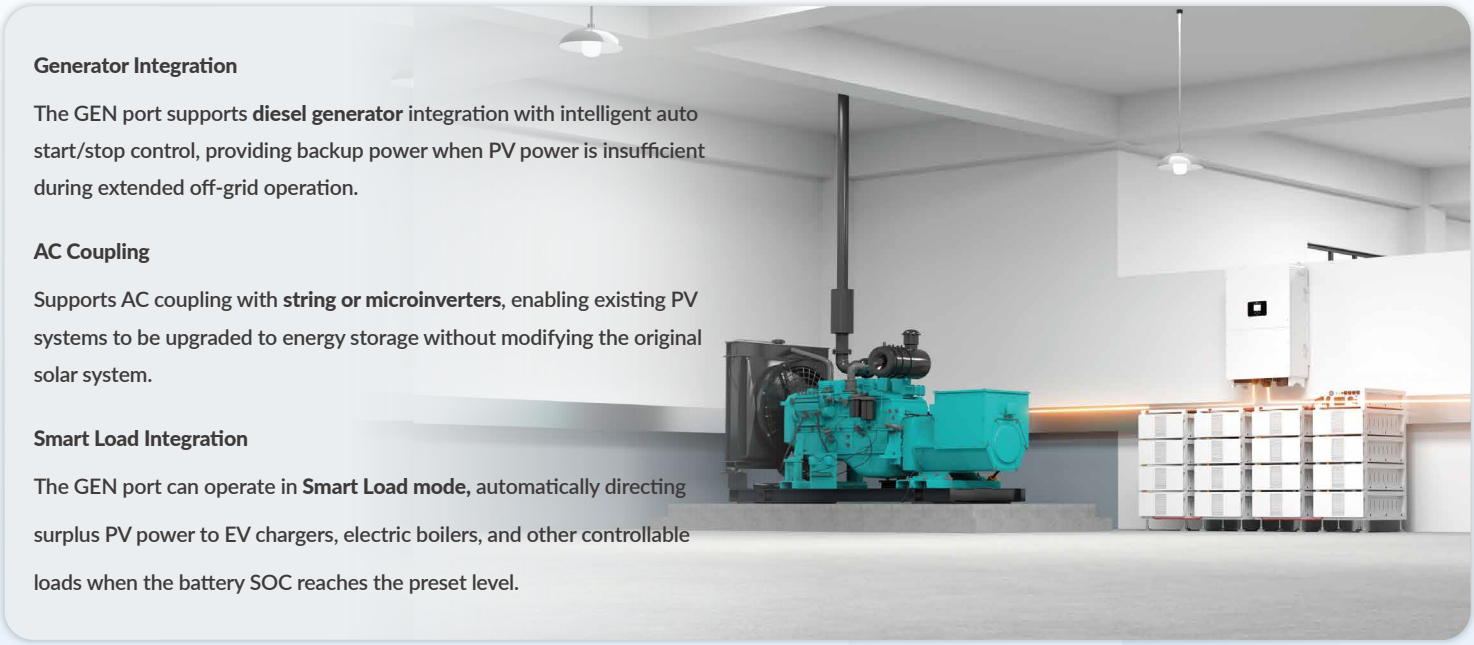



## Grid Peak Shaving Function

When the power drawn from the grid approaches the set limit, the battery discharges to supplement part of the power, preventing high-rate electricity usage and reducing costs.




## Versatile AC Source Integration



**Generator Integration**

The GEN port supports **diesel generator** integration with intelligent auto start/stop control, providing backup power when PV power is insufficient during extended off-grid operation.

**AC Coupling**

Supports AC coupling with **string or microinverters**, enabling existing PV systems to be upgraded to energy storage without modifying the original solar system.

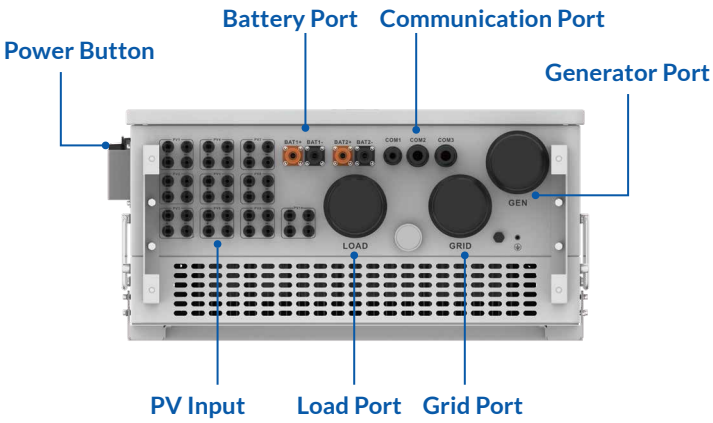
**Smart Load Integration**

The GEN port can operate in **Smart Load mode,** automatically directing surplus PV power to EV chargers, electric boilers, and other controllable loads when the battery SOC reaches the preset level.

# 100/125KW-1.25MW C&I ESS Solution

## SUN-100/125K-SG02HP3-EU-GM10






## System Architecture

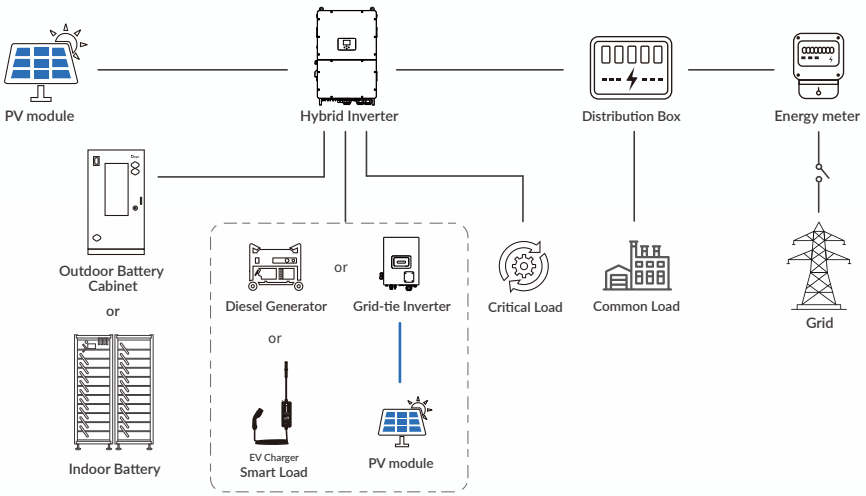
### Partial Backup Architecture

Load Port: Critical loads
Grid Port: Common loads

Common loads are not limited by inverter power, enabling larger load connection.

Grid ON: PV + ESS + Grid supply loads, prioritizing critical loads with excess solar supporting common loads.

Grid OFF: Critical loads remain powered; normal loads shut down.



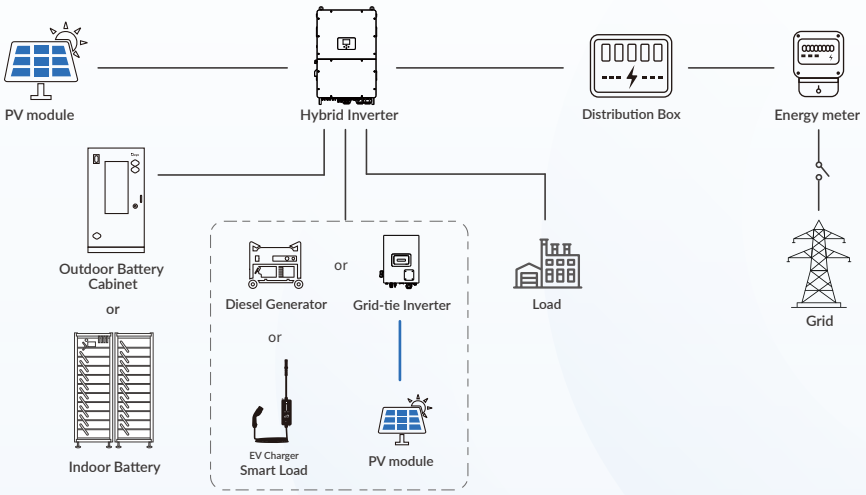

### Full Backup Architecture

Load Port: All loads

All loads are backed up through the inverter, enabling whole-site power continuity.

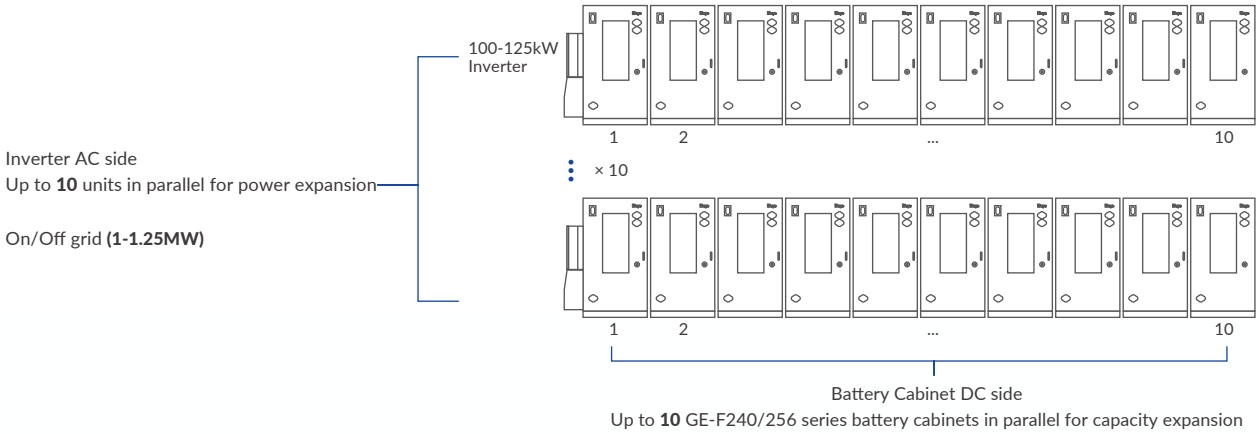
Grid ON: PV + ESS + Grid supply all loads to meet total energy demand.

Grid OFF: PV + ESS, with optional generator support, keep all loads powered for uninterrupted operation.

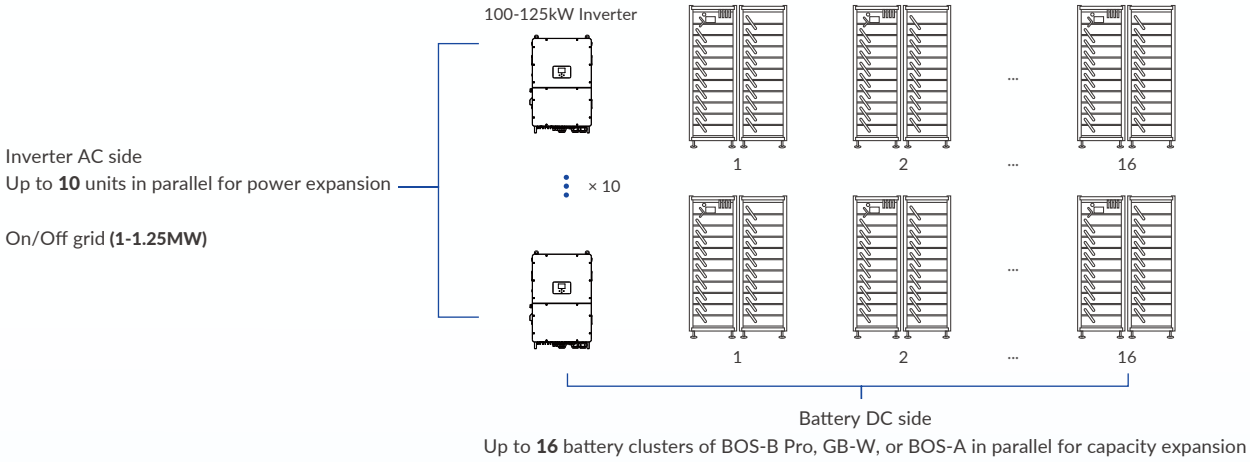


# 100/125KW-1.25MW C&I ESS Solution

## Parallel configuration: Outdoor Solution




## Parallel configuration: Indoor Solution




## Typical Collocation

| Dimension | 314Ah Outdoor Solution<br>GE-F240/256 Series | 314Ah High-Capacity Solution<br>BOS-B Pro-A3 | 235Ah Stackable Solution<br>GB-W | 200Ah Flexible Solution<br>BOS-A |
|---|---|---|---|---|
| Charge/Discharge Rate | 0.5C | 0.5C | 1.0C | 0.8C |
| Capacity per Unit | 16.08 kWh | 16.08 kWh | 12.03 kWh | 7.68 kWh |
| Single Cluster Capacity | 241/257 kWh | 257 kWh | 192kWh | 161kWh |
| Max Parallel Configuration | 10 Cabinets | 16 Clusters | 16 Clusters | 16 Clusters |
| Max DC Battery Capacity | 2.41/2.57 MWh | 4.1 MWh | 3 MWh | 2.5 MWh |
| Installation Method | All-in-one Floor Cabinet | 5U Rack | Modular Stacking<br>(Cable-free) | 3U Rack |
| Deployment Location | Outdoor (IP55) | Indoor (IP20) | Indoor (IP20) | Indoor (IP20) |
| Cycle Life | ≥8000<br>(25±2°C 0.5P EOL70%) | ≥6000<br>(25±2°C, 0.5C/0.5C, EOL70%) | ≥6000<br>(25+2°C, 0.5C/0.5C, 70%EOL) | ≥6000<br>(25±2°C, 0.5C/0.5C, EOL70%) |
| Other Features | Space-saving;<br>Whole cabinet cluster expansion | High-Capacity Scalability | Easy installation;<br>Supports mixing new & old packs | Meets precise capacity ratio requirements |

# C&I Hybrid Inverter: SUN-100/125K-SG02HP3-EU-GM8/GM10

| 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 | 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 | 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+2 | 10/2+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 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<br>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 | | |

# Compatible Battery: GE-F240/256 Series



| | | GE-F240 Series | | | GE-F256 Series |
|---|---|---|---|---|---|
| **Model** | | **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 | | 11 | 13 | 15 | 16 |
| System Nominal Energy (kWh) | | 176.84 | 208.99 | 241.15 | 257.23 |
| System Usable Energy (kWh)*1 | | 176.84 | 208.99 | 241.15 | 257.23 |
| System Nominal Voltage (Vdc) | | 563.2 | 665.6 | 768 | 819.2 |
| System Operating Voltage (Vdc) | | 440~642.4 | 520~759.2 | 600~876 | 640~934.4 |
| Rated DC Power (kW) | | 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 to +55°C | | | |
| Recommend Storage Temperature(°C) | | 0 to +35°C | | | |
| Humidity | | 5-95%RH (No Condensing) | | | |
| Altitude | | 3000m | | | |
| IP Protection | | IP55 | | | |
| Anti Corrosion Level | | C4-M | | | |
| Dimension (W x D x H,mm) | | 1303 x 1240 x 2405.5 | | | 1303x1240×2510 |
| Weight (kg) | | 2150 | 2380 | 2610 | 2770 |
| Installation Location | | Floor mount | | | |
| Cycle Life | | ≥8000 (25±2°C,0.5P,EOL70%) | | | |
| Warranty | | 10 years | | | |
| Certification | | UN38.3, CE, CB, IEC62933, ROHS, REACH | | | |

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.

# Compatible Battery: BOS-B Pro-A3



| Model | BOS-B Pro-A3 |
|---|---|
| **Main Parameter** | |
| Battery Module Energy ( kWh ) | 16.08 |
| Battery Module Nominal Voltage ( V ) | 51.2 |
| Battery Module Capacity ( Ah ) | 314 |
| Module Weight Approximate ( kg ) | 126 |
| Battery Module Qty In Series ( Optional ) | 5~16 |
| Max.System Nominal Voltage ( V ) | 819.2 |
| Max.System Energy ( kWh ) | 257.23 |
| Max.System Usable Energy ( kWh ) | 231.51 |
| Max.Charge/Discharge Current ( A) | 180 |
| **Other Parameter** | |
| Operating Temperature ( ℃ ) | Charge： 0 to +55℃ Discharge： -20 to +55℃ |
| Storage Temperature ( ℃ ) | 0 to +35℃ |
| Thermal Management | Smart fan cooling |
| LCD Display | SOC / Fault Code |
| Status Indicator | Yellow : Battery High Voltage Power On Red : Battery System Alarm |
| Communication Port | TCP / RS485 / CAN |
| Communication With BMS | CAN |
| Humidity | 5 - 85% |
| Altitude | ≤3000m |
| IP Rating of Enclosure | IP20 |
| Noise ( dB ) | TBD |
| System Dimension ( W × H × D, mm ) | 2150 × 1305 × 800 |
| System Weight Approximate ( kg ) | 2240 |
| Installation Location | Rack Mounted |
| Recommend Depth of Discharge | 90% |
| Cycle Life | 25±2℃, 0.5C / 0.5C, EOL70%≥6000 |
| Warranty Period | 10 years |
| Certification | CE / IEC62619 / IEC62040 / UN38.3 |

# Compatible Battery: GB-W



| Model | | GB-W | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Battery System Data** | | | | | | | | | | | | | |
| Cell Chemistry | | $LiFePO_4$ | | | | | | | | | | | |
| Module Energy (kWh) | | 12.03 | | | | | | | | | | | |
| Module Capacity (Ah) | | 235 | | | | | | | | | | | |
| Module Nominal Voltage (V) | | 51.2 | | | | | | | | | | | |
| Battery Module Qty in series (Optional) | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Battery Model Number | | GB-W60 | GB-W72 | GB-W84 | GB-W96 | GB-W108 | GB-W120 | GB-W132 | GB-W144 | GB-W156 | GB-W168 | GB-W180 | GB-W192 |
| System Nominal Voltage (Vdc) | | 256 | 307.2 | 358.4 | 409.6 | 460.8 | 512 | 563.2 | 614.4 | 665.6 | 716.8 | 768 | 819.2 |
| System Operating Voltage (Vdc) | | 208~292 | 249.6~350.4 | 291.2~408.8 | 332.8~467.2 | 374.4~525.6 | 416~584 | 457.6~642.4 | 499.2~700.8 | 540.8~759.2 | 582.4~817.6 | 624~876 | 665.6~934.4 |
| System Energy (kWh) | | 60.1 | 72.1 | 84.2 | 96.2 | 108.2 | 120.3 | 132.3 | 144.3 | 156.4 | 168.4 | 180.4 | 192.5 |
| System Usable Energy (kWh) | | 54.1 | 64.9 | 75.8 | 86.6 | 97.4 | 108.2 | 119.1 | 129.9 | 140.7 | 151.6 | 162.4 | 173.2 |
| System Nominal Charge/Discharge Power (kW) | | 58.8 | 70.6 | 82.4 | 94.2 | 105.9 | 117.7 | 129.5 | 141.3 | 153 | 164.8 | 176.6 | 188.4 |
| Charge / Discharge Current | Max.Continuous | 230 | | | | | | | | | | | |
| | Peak | 322 (1s) | | | | | | | | | | | |
| Working Temperature (°C) | | Charge： 0 to +55°C Discharge： -20 to +55°C | | | | | | | | | | | |
| Communication Port | | CAN / RS485 | | | | | | | | | | | |
| Thermal Management | | Natural air cooling | | | | | | | | | | | |
| Recommend Depth of Discharge | | 90% | | | | | | | | | | | |
| Cycle Life | | 25±2℃,0.5C/0.5C,70%EOL≥6000 | | | | | | | | | | | |
| Warranty | | 10 years | | | | | | | | | | | |
| **Other Data** | | | | | | | | | | | | | |
| Humidity | | 0-85% | | | | | | | | | | | |
| Altitude (m) | | ≤3000 | | | | | | | | | | | |
| IP Rating of Enclosure | | IP20 | | | | | | | | | | | |
| Noise (dB) | | ≤50 | | | | | | | | | | | |
| Storage Temperature (°C) | | -30 to +60°C | | | | | | | | | | | |
| Installation Location | | Floor Mount | | | | | | | | | | | |

# Compatible Battery: BOS-A



| Model | | BOS-A | | |
|---|---|---|---|---|
| **Main Parameters** | | | | |
| Cell Chemistry | | $LiFePO_4$ | | |
| Module Energy ( kWh ) | | 7.68 | | |
| Module Nominal Voltage ( V ) | | 38.4 | | |
| Module Capacity (Ah) | | 200 | | |
| Module Dimension ( W × D × H, mm ) | | 601.5 × 520 × 135 | | |
| Module Weight Approximate ( kg ) | | 70 | | |
| Battery Module Qty In Series ( Optional ) | | 7 | 13 | 21 |
| System Nominal Voltage ( V ) | | 268.8 | 499.2 | 806.4 |
| System Operating Voltage ( V ) | | 235.2 ~ 306.6 | 436.8 ~ 569.4 | 705.6 ~ 919.8 |
| System Energy ( kWh ) | | 53.76 | 99.84 | 161.28 |
| System Usable Energy ( kWh ) [1] | | 48.38 | 89.85 | 145.15 |
| Charge / Discharge [2] Current ( A ) | Recommend | 100 | | |
| | Max | 160 | | |
| Working Temperature ( °C ) | | Charge : 0 to +55°C Discharge : -20 to +55°C | | |
| Status Indicator | | Yellow : Battery High Voltage Power On Red : Battery System Alarm | | |
| Communication Port | | CAN2.0 | | |
| Humidity | | 5 - 85%RH | | |
| Altitude | | ≤3000m | | |
| IP Rating of Enclosure | | IP20 | | |
| Dimension ( W × D × H, mm ) | | 610 × 610 × 1900 | 610 × 610 × 2350 | ( 610 × 610 × 1900 ) × 2 |
| Weight Approximate ( kg ) | | 525 | 934 | 1501 |
| Installation Location | | Rack-Mounted | | |
| Storage Temperature ( °C ) | | 0 to +35°C | | |
| Recommend Depth of Discharge | | 90% | | |
| Cycle Life | | ≥6000 ( 25±2°C, 0.5C / 0.5C, EOL70% ) | | |
| Warranty [3] | | 10 years | | |
| Certification | | CE / IEC 62619 / IEC 62040 / UN38.3 / VDE-2510 | | |

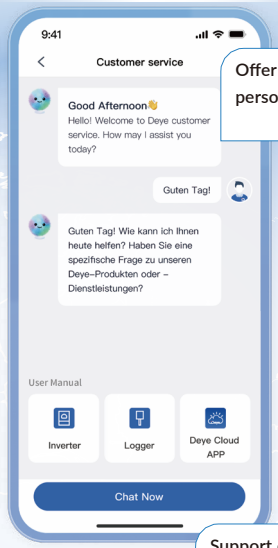
1. DC Usable Energy, test conditions : 90%DOD, 0.3C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.
2. The current is affected by temperature and SOC.
3. The warranty is due whichever reached first of warranty period or life cycle power.

# 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

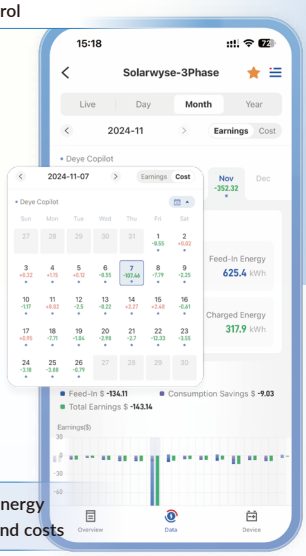



Offer response suggestions and personalized support experience

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 Home Energy

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

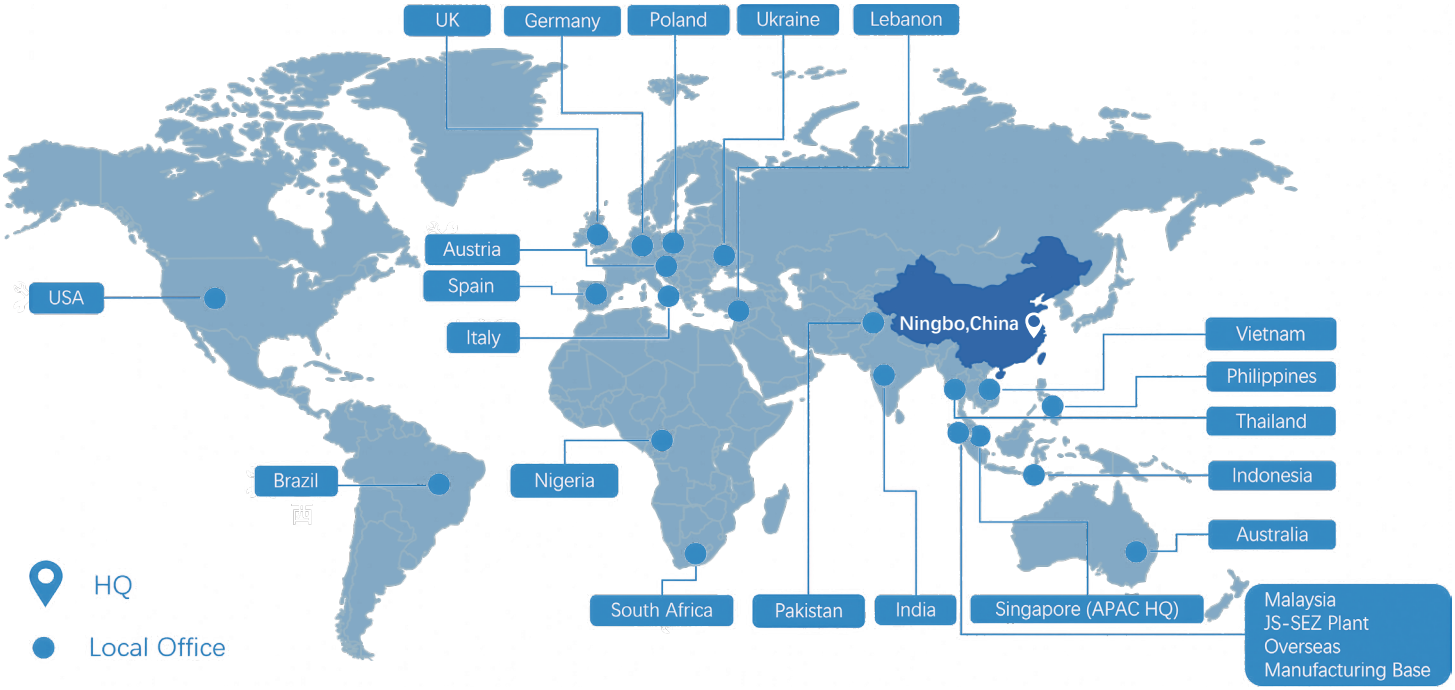
**Deye Copilot**
AI-powered energy analysis and control

**AI Assistant**
24/7 support, fast, efficient, in your language

# About Deye

Founded in 2000 (Stock Code: 605117.SH), Deye is a globally leading provider of photovoltaic (PV) inverter and energy storage system solutions. Deye has built an integrated value chain spanning R&D, design, production, sales and service, supported by modern intelligent manufacturing bases in Ningbo, Jiaxing and Johor, Malaysia, equipped with comprehensive production and testing facilities.

Through years of dedicated innovation, Deye has developed industry-leading R&D capabilities and scale advantages, delivering integrated solar PV and energy storage solutions for residential, commercial, industrial and utility-scale applications. Recognized for outstanding performance and reliability, Deye has established a global sales network covering over 160 countries and regions.



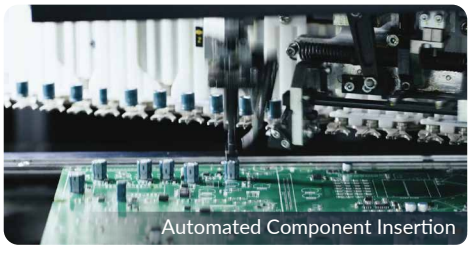

- **World-Class R&D and Manufacturing**

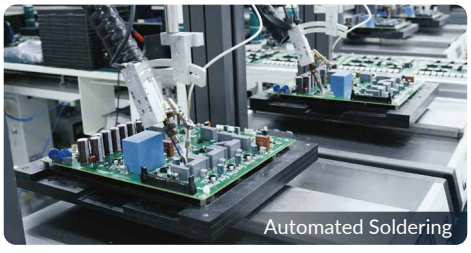

Electronic Component Testing


Rain and Snow Testing


85°C/85% RH Testing


SMT Placement


Automated Component Insertion


Automated Soldering


Assembly Workshop


Aging Testing


ATE Functional Testing

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Information is subject to change without notice. Please scan the QR code or contact Deye representative for the latest updates.

Deye Inverter Website

Deye ESS Website

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