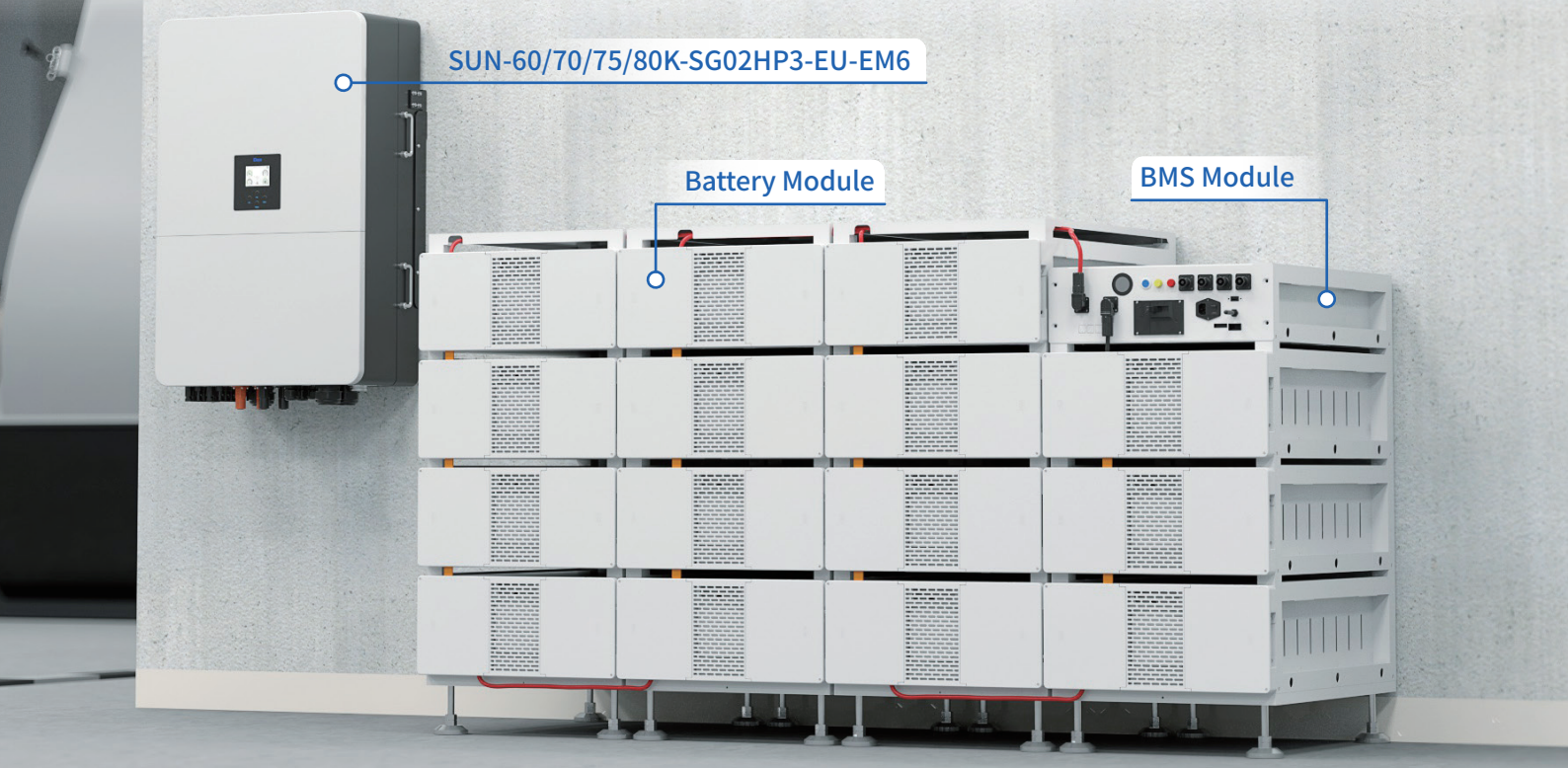
C&I ESS SOLUTION

BOS-B Pro-A3



SUN-(29.9-50)K-SG02HP3-EU-BM4-P / SUN-60/70/75/80K-SG02HP3-EU-EM6

Practicality & Universal Compatibility

- 100% unbalanced output
- AC couple to retrofit existing solar system
- Dual Independent battery circuit

Versatile & High-Performance

- TOU function, Six time periods for battery charging/discharging
- Diesel generator-ready, VSG application

Reliability & Scalability

- Max. 10 pcs parallel for on-grid and off-grid operation
- Seamless switching between on-grid and off-grid modes in less than 10ms

BOS-B Pro-A3

Intelligent Control

- Peak-valley mgmt, anti-backflow
- Overload protection, load tracking, demand control, backup power, phase separation

Reliable

- Operating temp : -20°C to 55°C
- Operate up to 3000m altitude
- 1.1x overload capacity
- Balancing solutions extend battery life
- Triple auxiliary power design for stable supply

Easy Maintenance

- 5U Standard Chassis
- User Interface & Bluetooth App
- USB & Cloud Upgrades
- TCP Protocol for EMS
- Fault Signal Input Support

Scalable

- Support up to 20 units in parallel, maximum 1.38MW/2.4MWh

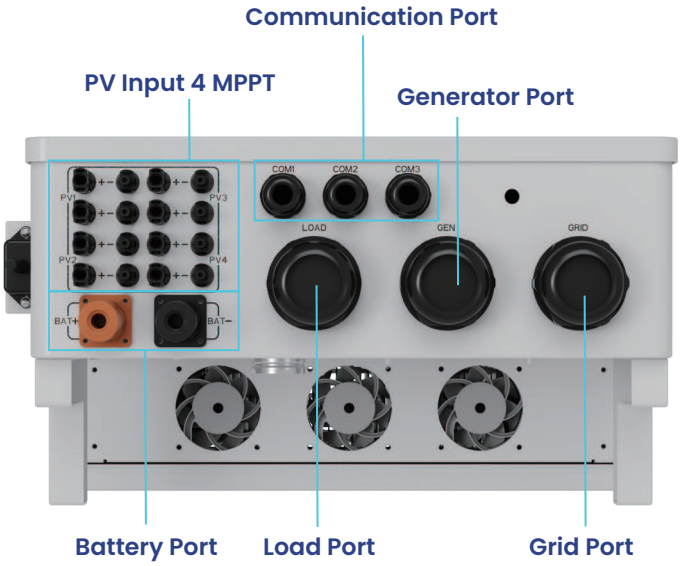
Safer

- LFP batteries
- Support aerosol fire extinguishing

Eco-friendly

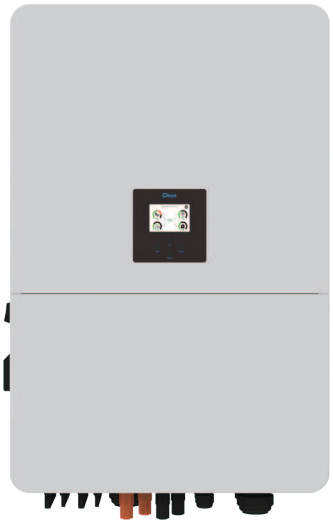
- The whole module is non-toxic, non-polluting and environmentally friendly

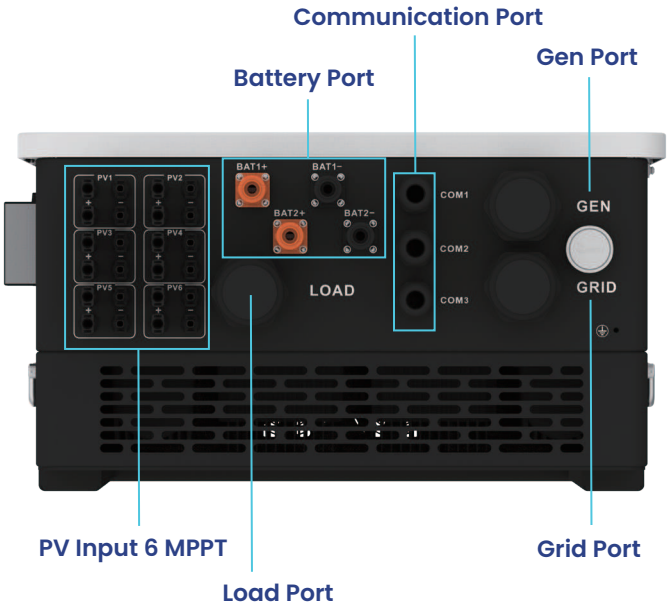
SUN-(29.9-50)K-SG02HP3-EU-BM4-P



◎ Battery Port: Dual independent battery circuit port, supporting multiple brand battery connetion and battery voltage range 160-800V.
◎ Communication Port: Serve as communicate with battery and data exchange between inverter and extra devices.
◎ Load Port: Offer AC power to connected loads.
◎ Grid Port: Connect to utility grid, for bidirectional power transfer: importing from and exporting to the grid.
◎ Generator Port: Connect to diesel generator for backup power supply during outages, also can connect with existing solar inverter for AC Coupling.
◎ PV Input: Connect to PV panels with 4 MPPTs.

SUN-60/70/75/80K-SG02HP3-EU-EM6

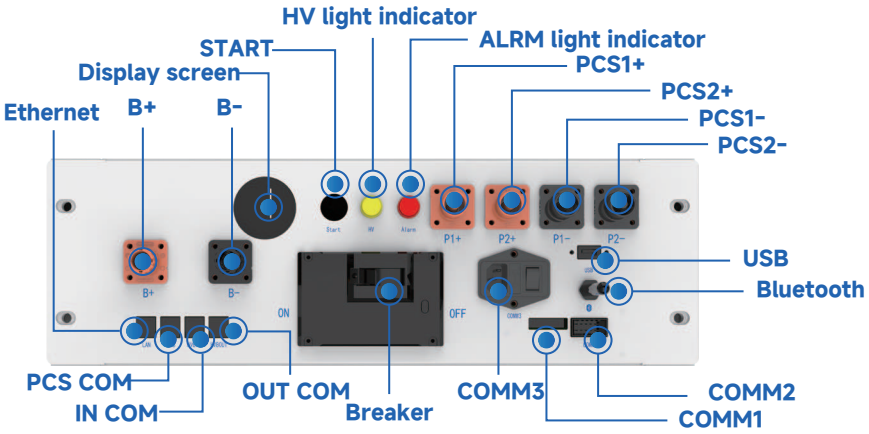




◎ Battery Port: Dual independent battery circuit port, supporting multiple brand battery connetion and battery voltage range 160-1000V.
◎ Communication Port: Serve as communicate with battery and data exchange between inverter and extra devices.
◎ Load Port: Offer AC power to connected loads.
◎ Grid Port: Connect to utility grid, for bidirectional power transfer: importing from and exporting to the grid.
◎ Generator Port: Connect to diesel generator for backup power supply during outages, also can connect with existing solar inverter for AC Coupling.
◎ PV Input: Connect to PV panels with 6 MPPTs.

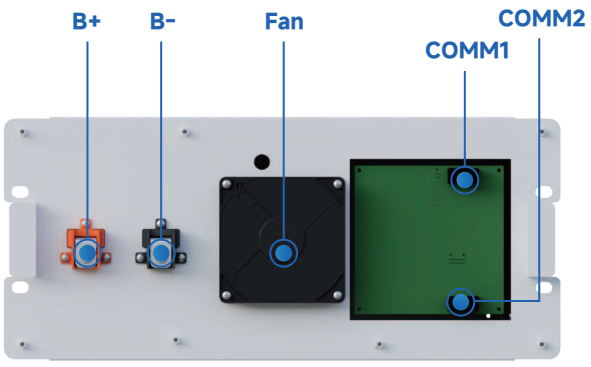
Battery Pack Accessories

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



◎ Ethernet:Features not yet developed.
◎ PCS COM:PCS COM battery communication terminal: used to output battery information to the inverter.
◎ IN COM:Connection position with previous BOS-B-PDU-2 communication OUT COM .
◎ OUT COM:Connection position with next BOS-B-PDU-2 communication IN COM.
◎ Breaker:It is used to manually control the connection between the battery rack and external devices.
◎ COMM3:The product must be connected to the auxiliary power input AC200~240V-3A-50~60Hz when used.
◎ COMM1:Emergency power-off triggered the interface. RS485-Enabled.
◎ COMM2:Communicative connection with the first battery module; and providing 12VDC power for the first battery module.
◎ Bluetooth:The mobile APP connects to the data acquisition rod of the energy storage system.
◎ B+:Battery common positive connection position (orange).
◎ B-:Battery common negative connection position (black).
Display screen:Display SOC and fault codes.
START:A start switch of 12VDC power inside the high-voltage control box.
◎ HV light indicator:High-voltage hazard indicator (yellow).
ALRM light indicator:Battery system fault alarm indicator (red).
◎ PCS1+:First PCS positive connection position (orange).
◎ PCS2+:Second PCS positive terminal connection position (orange).
◎ PCS1-:First PCS negative connection position (black).
◎ PCS2-:Second PCS negative connection position (black).
◎ USB:BMS upgrade port and storage expansion port.

Model	BOS-B-Pack16-A3
Nominal Capacity	314Ah
Nominal Energy	16.08kWh
Nominal Voltage	51.2Vdc
Nominal Charge/Discharge Current	180A
Ingress Protection	IP20
Operating Temperature(Charge)	0~55℃
Operating Temperature(Discharge)	-20~55℃
Storage Temperature	0~35℃
Details	795.9×526×274.2(W×H×D),126kg



◎ B+: Battery module positive pole (orange)
◎ B-: Battery module negative pole (black)
◎ Fan: Ventilation and heat dissipation.
◎ COMM1: Connection position of battery module communication and power supply input
◎ COMM2: Connection position of battery module communication and power supply output

Model	SUN-29.9K-SG02HP3-EU-BM3-P	SUN-30K-SG02HP3-EU-BM3-P	SUN-35K-SG02HP3-EU-BM3-P	SUN-40K-SG02HP3-EU-BM4-P	SUN-50K-SG02HP3-EU-BM4-P
Battery Input Data					
Battery Type	Lithium-ion				
Battery Voltage Range (V)	160-800				
Max. Charging Current (A)	160				
Max. Discharging Current (A)	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)	59800	60000	70000	80000	100000
Max. PV Input Power (W)	47840	48000	56000	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)	29900	30000	35000	40000	50000
Max. AC Input/Output Apparent Power(VA)	29900	33000	38500	44000	55000
Rated AC Input/Output Current (A)	45.4/43.4	45.5/43.5	53.1/50.8	60.7/58	75.8/72.5
Max. AC Input/Output Current (A)	45.4/43.4	50/47.9	58.4/55.8	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°C, >45°C 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)	528×793×278(Excluding Connectors and Brackets)				
Weight (kg)	65				
Type of Cooling	Intelligent Air Cooling				
Warranty	Standard 5 years, extended warranty				
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				

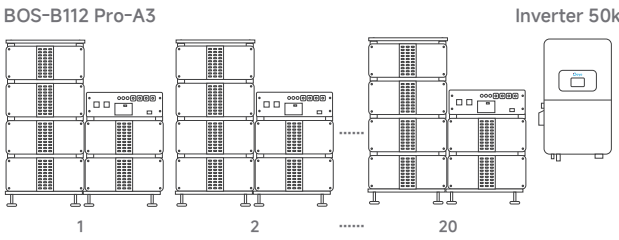
Model	SUN-60K-SG02HP3-EU-EM6	SUN-70K-SG02HP3-EU-EM6	SUN-75K-SG02HP3-EU-EM6	SUN-80KSG02HP3-EU-EM6
Battery Input Data				
Battery Type	Lithium-ion			
Battery Voltage Range (V)	160-1000			
Max. Charging Current (A)	80+80			
Max. Discharging Current (A)	80+80			
Charging Strategy for Li-ion Battery	Self-adaption to BMS			
Number of Battery Input	2			
PV String Input Data				
Max. PV Access Power (W)	120000	140000	150000	160000
Max. PV Input Power (W)	96000	112000	120000	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	75000	80000
Max. AC Input/Output Apparent Power(VA)	66000	77000	82500	88000
Rated AC Input/Output Current (A)	91/87	106.1/101.5	113.7/108.7	121.3/115.9
Max. AC Input/Output Current (A)	100/95.7	116.7/111.6	125/119.6	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 nominal power)			
DC Injection Current	<0.5% In			
Efficiency				
Max. Efficiency	98.70%			
Euro Efficiency	98.10%			
MPPT Efficiency	>99%			
Equipment Protection				
Integrated	DC Polarity Reverse Connection Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Overvoltage Load Drop Protection, Ground Fault Current Monitoring, Arc Fault Circuit Interrupter (optional), Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC Input Switch, DC Terminal Insulation Impedance Monitoring, Residual Current (RCD) Detection, Surge protection level			
Surge Protection Level	TYPE II(DC), TYPE II(AC)			
Interface				
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	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			

C&I ESS Solution

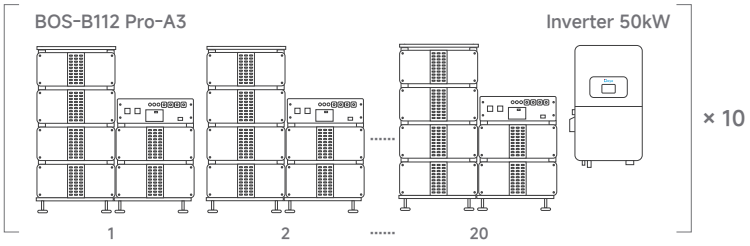
Model	BOS-B Pro-A3
Main Parameter	
Battery Module Energy (kWh)	16.08
Battery Module Nominal Voltage (V)	51.2
Battery Module Capacity (Ah)	314
Module Weight Approximate (kg)	123
Battery Module Qty In Series (Optional)	15
Scalability	14-16 units for PCS on-grid applications 15-16 units for PCS off-grid applications 5-15 units for hybrid inverter systems
System Nominal Voltage (V)	768
System Energy (kWh)	241.15
System Usable Energy (kWh)	217.04
Max.Charge/Discharge Current (A)	180
Other Parameter	
Operating Temperature (°C)	Charge : 0 ~ 55 Discharge : -20 ~ 55
Storage Temperature (°C)	0 ~ 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 × 1136 × 800
System Weight Approximate (kg)	1989
Installation Location	Rack Mounted
Recommend Depth of Discharge	90%
Cycle Life	25±2°C, 0.5C / 0.5C, EOL70%≥6000
Warranty Period	10 years
Certification	CE / IEC62619 / IEC62040 / UN38.3

Typical Application Scenarios

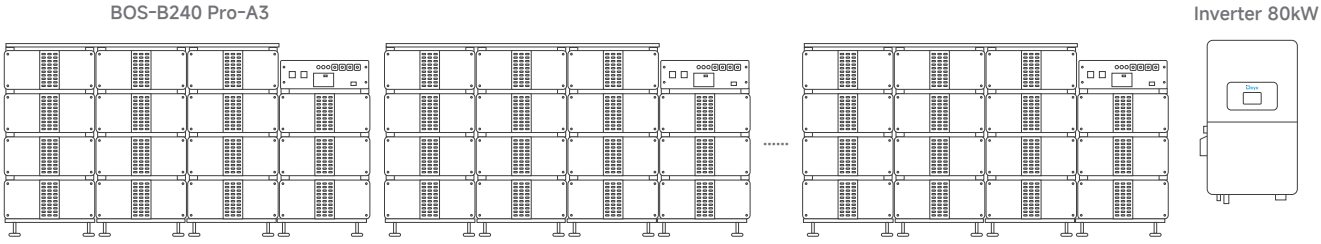
Typical Application Scenarios



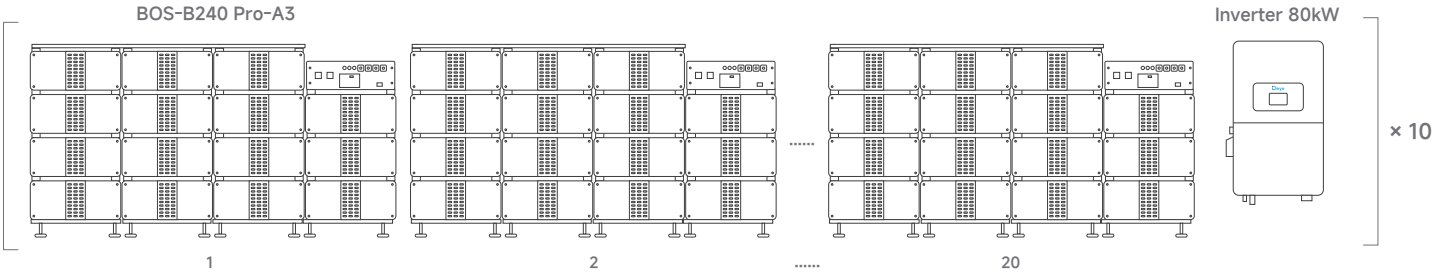
Maximum support for 20 battery clusters in parallel



Maximum support for 10 inverters in AC parallel operation

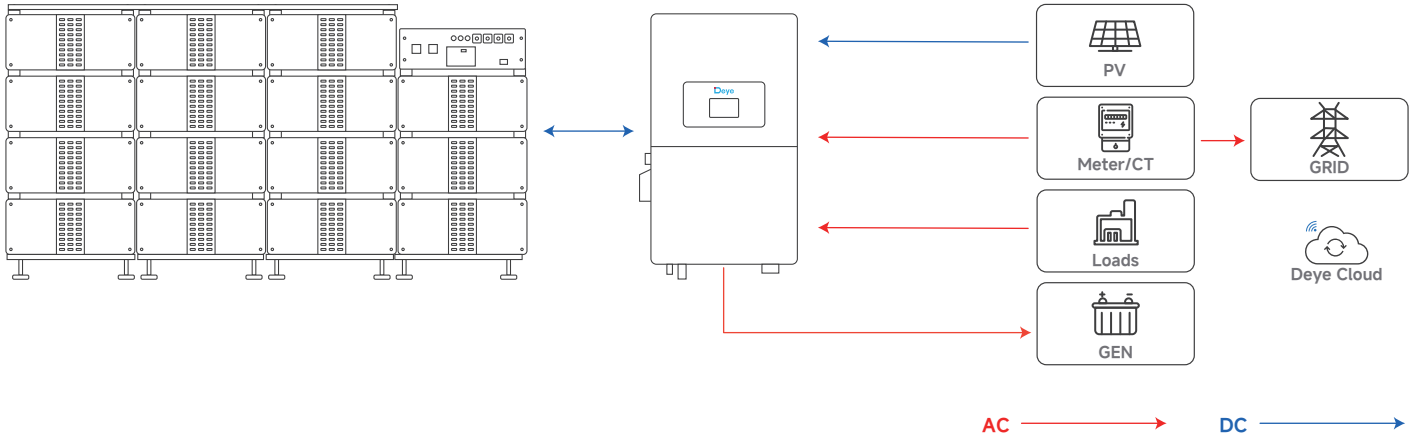


Maximum support for 20 battery clusters in parallel



Maximum support for 10 inverters in AC parallel operation

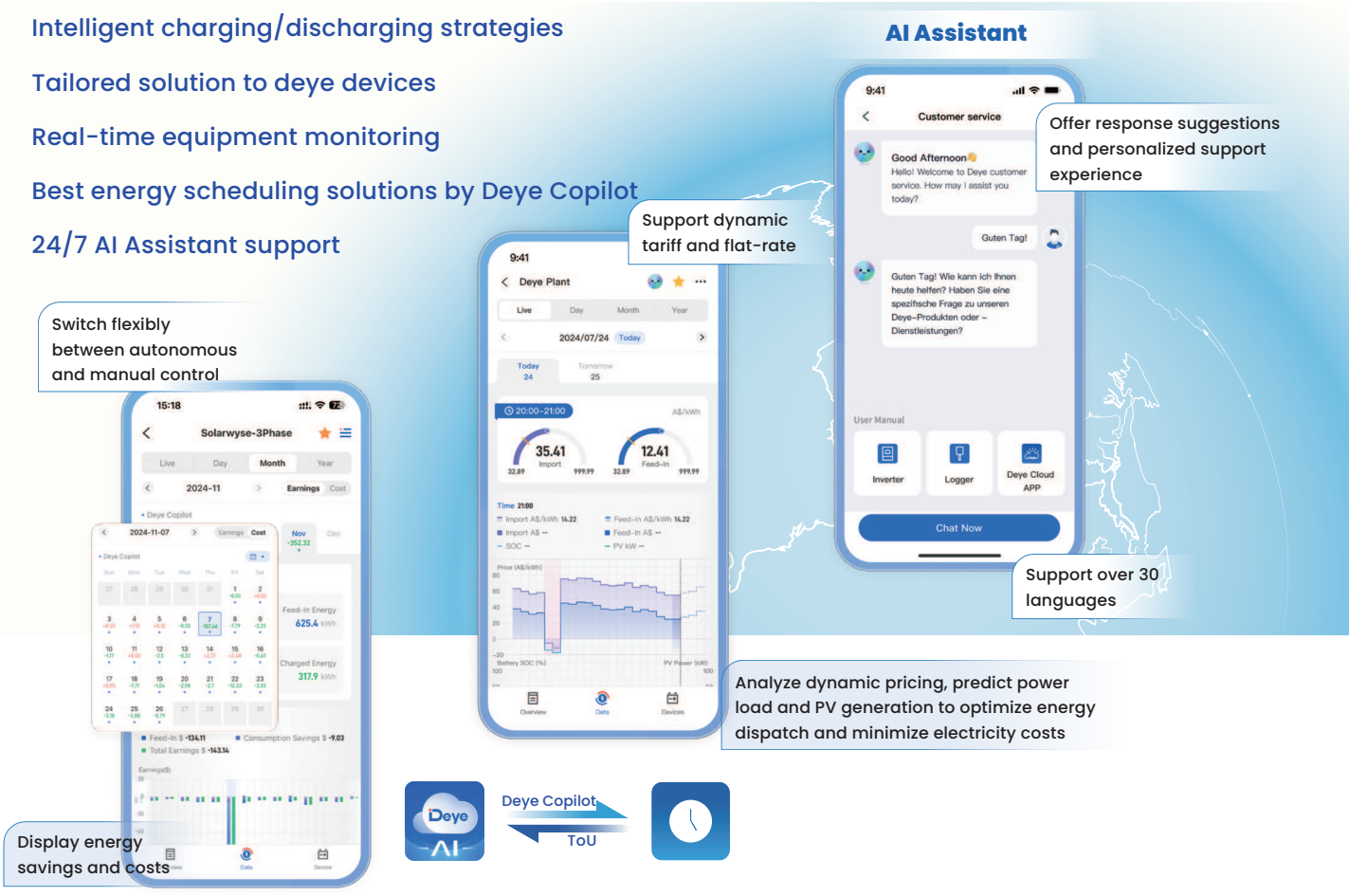
BOS-B Pro-A3 241.15kWh



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



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