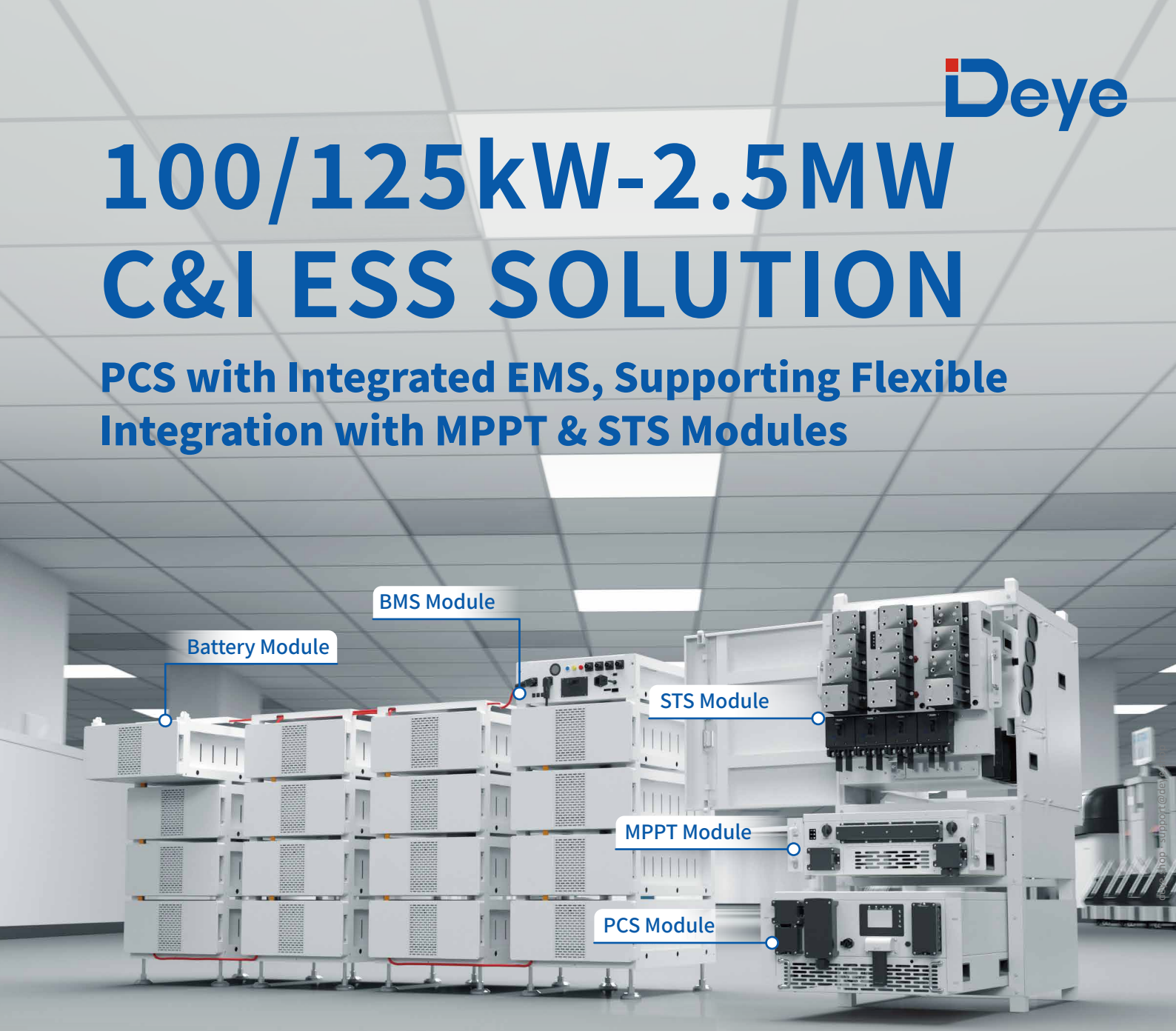
100/125kW-2.5MW C&I ESS SOLUTION

PCS with Integrated EMS, Supporting Flexible Integration with MPPT & STS Modules



Power Continuity

- **UPS-Level Switching:**
  <10 ms seamless on-grid/off-grid switching via STS.
- **Strong Overload Capability:**
  Supports 2 × peak power output for 12s in off-grid mode, ensuring stable operation of critical loads.

Smart Energy Management

- **Integrated EMS:**
  Supports zero-export, TOU optimization, peak shaving and demand management.
- **Flexible Control:**
  Flexible Control: Local touchscreen control and remote monitoring via Deye Cloud.

System Scalability

- **Flexible Expansion:**
  100/125kW PCS units enable system scalability up to 2.5 MW.
- **Large Energy Storage:**
  Up to 257 kWh per battery cluster, supporting up to 16 clusters per PCS.

Smart Battery Management

- **Long Backup Duration:**
  Supports up to 32 hours of continuous backup power.
- **Intelligent Balancing:**
  Independent BMS optimizes charge/discharge distribution, extending overall battery lifespan.

Efficient PV Integration

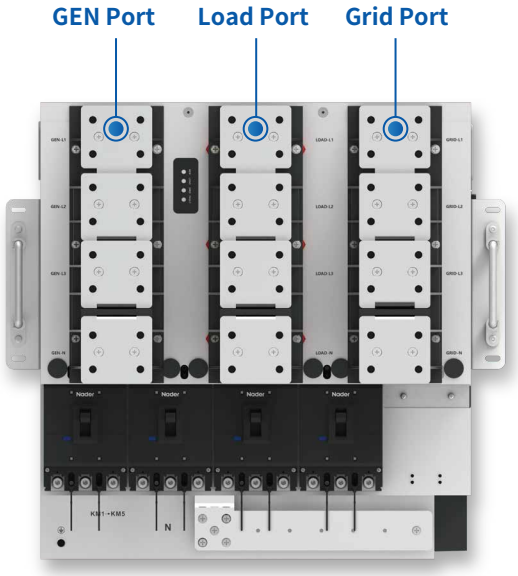
- **Multi-Tracker MPPT Design:**
  Each MPPT module supports up to 10 MPPT trackers, with up to 48 A per tracker.
- **High PV Capacity:**
  Up to 250 kWp PV capacity per MPPT module.

Reliability & Protection

- **IP65 Design:**
  IP65-rated PCS and MPPT modules for reliable operation in demanding environments.
- **Advanced Battery Safety:**
  $LiFePO_4$ cells with integrated aerosol fire suppression for enhanced protection.

100kW-2.5MW C&I ESS Solution

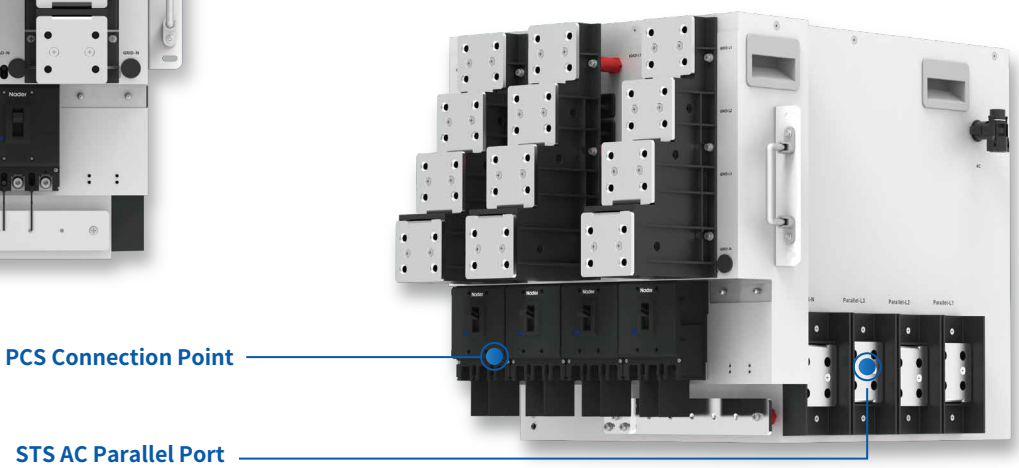
STS Module



◎ Three independent power paths (diesel / load / grid), with each path supporting 500 kW.

◎ <10 ms on-grid/off-grid switching[1].

◎ 5×100 kW or 4×125 kW PCS units per STS module, up to 5 STS modules in parallel.



MPPT Module & PCS Module

MPPT Module[2] (8 MPPT Trackers / 10 MPPT Trackers)

◎ 8 MPPT Trackers (AM8 / AM8-P): Up to 200/250 kWp PV module connection and 40/48 A per tracker.

◎ 10 MPPT Trackers (AM10): Up to 250 kWp PV module connection and 40 A per tracker.

PCS Module[3] (100kW/125kW)

◎ **175A/200A** charge and discharge current.

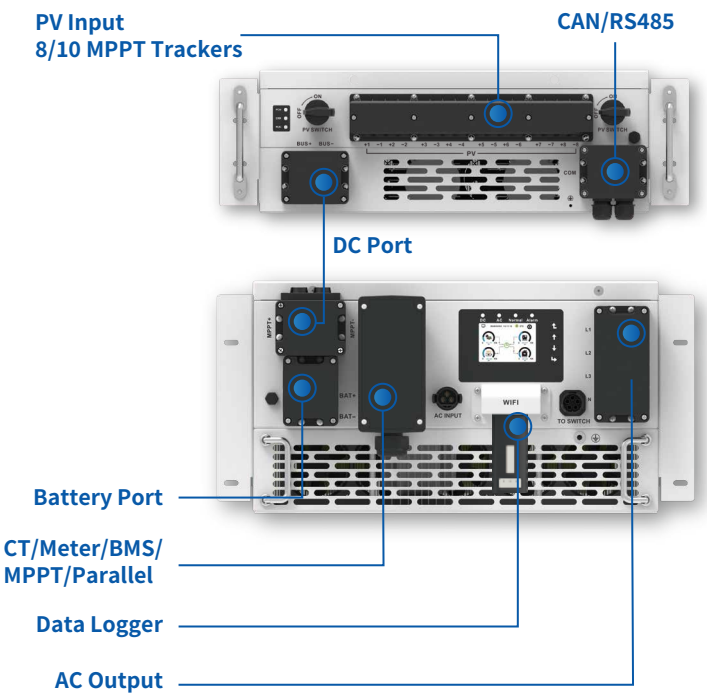
◎ Maximum efficiency of **98.5%**.

◎ System rated power up to **2.5MW**.

◎ Supports instantaneous peak power up to 200% of rated power.

◎ Integrates zero-export and time-of-use control functions.

◎ Built-in EMS for intelligent energy management and optimized system operation.



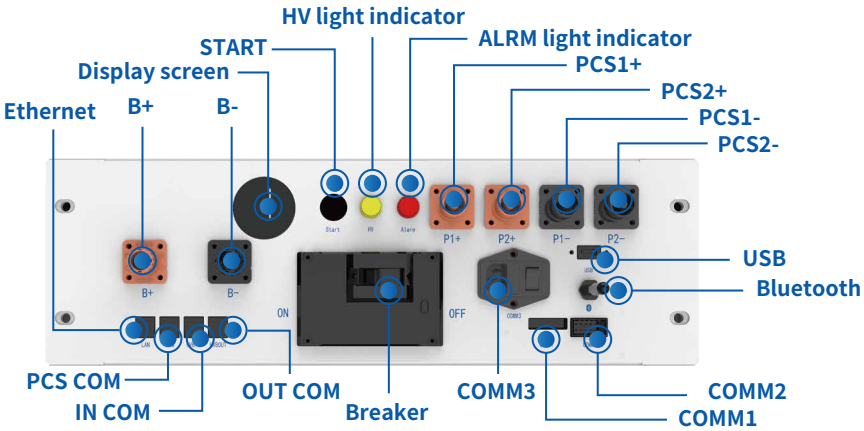
[1]: For stable off-grid operation, the continuous off-grid load should not exceed 70% of the PCS rated power.

[2]: AM8, AM8-P, and AM10 refer to the SUN-MPPT-L01-EU-AM8, SUN-MPPT-L01-EU-AM8-P, and SUN-MPPT-L01-EU-AM10 models, respectively.

[3]: SUN-100/125K-PCS02HP3 is compatible with AM8, AM8-P, and AM10. For optimal performance, SUN-100/125K-PCS01HP3 is recommended for use with AM8. Pairing SUN-100/125K-PCS01HP3 with AM8-P or AM10 may cause MPPT module derating.

Battery Pack Accessories

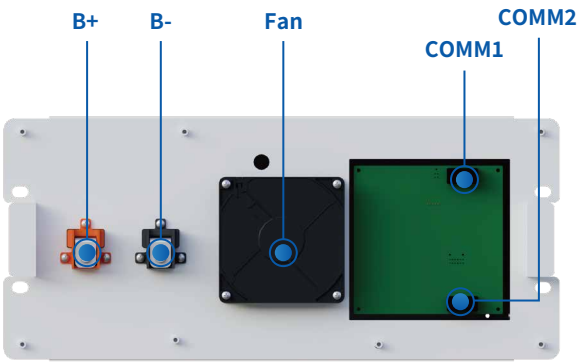
Model	BOS-B-PDU-2-A
Operating Voltage	200~1000Vdc
Nominal Charge/Discharge Current	180A
Operating Temperature	-20~60°C
Ingress Protection	IP20
AC Input Rating	220±10%VAC/2A
Details	526×788.6×167.2(W×D×H),32kg



◎ 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
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



◎ 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	BOS-B-AP-A

This accessory package is designed for use with the 125 kW PCS and includes the following cables:
Positive PowerCable：1AWG_1000mm*1，1AWG_2500mm*1，1AWG_3000mm*1
Negative Power Cable：1AWG_240mm*1，1AWG_3000mm*1
PE Cable：10AWG_600mm*1

100kW-2.5MW C&I ESS Solution

MPPT Module	SUN-MPPT-L01-EU-AM8	SUN-MPPT-L01-EU-AM8-P	SUN-MPPT-L01-EU-AM10
PV String Input Data			
Max. PV access power(kW)	200	250	250
Max. PV Input Power(kW)	160	200	200
Max. PV Input Voltage (V)	800		
Start-up Voltage (V)	200		
MPPT Voltage Range (V)	180-750		
Full Load MPPT Voltage Range (V)	450-750		
Rated PV Input Voltage (V)	600		
Max. Operating PV Input Current (A)	40+40+40+40+40+40+40+40	48+48+48+48+48+48+48+48	40+40+40+40+40+40+40+40+40+40
Max. Input Short-Circuit Current (A)	60+60+60+60+60+60+60+60	72+72+72+72+72+72+72+72	60+60+60+60+60+60+60+60+60+60
No. of MPP Trackers	8	8	10
DC Output Data			
DC Output Voltage Range(V)	630-1000	630-1000	630-1000
Max. DC Output Current(A)	200	250	250
Efficiency			
Max. Efficiency	>99%		
MPPT Efficiency	>99.9%		
Equipment Protection			
DC input reverse protection	YES		
DC ARC protection	Optional		
Anti-PID(Potential Induced Degradation)	Optional		
DC Switch	YES		
Surge Protection Level	TYPE II		
General Data			
Operating Temperature Range (°C)	-40°C to 60°C		
Permissible Ambient Humidity	0-95%		
Permissible Altitude (m)	4000m		
Ingress Protection(IP) Rating	IP65		
Over Voltage Category	OVC II		
Cabinet Size[W×H×D] (mm)	543x198x700	543x198x700	543x198x720
Weight (kg)	41.75	41.75	50.6
Warranty	10 years		
Type Of Cooling	Intelligent air cooling		
Safety EMC/Standard	IEC/EN 62109-1		
Features			
DC port/AC port	OT terminal		
Display	LED		
Communication Interface	CAN/RS485		

100kW-2.5MW C&I ESS Solution

STS Module	SUN-STS500L
Grid/PCS Side Data	
Rated AC Input/Output Active Power（kW）	500
Rated AC Input/Output Current（A）	758/725
Rated Input/Output Voltage(V)	220/380, 230/400 (three phase)
Grid Connection Form	3L/N/PE
Rated Input/Output Grid Frequency	50Hz/60Hz
Load Side Data	
Rated Output Active Power（kW）	500
Rated Output Current（A）	758/725
Rated Output Voltage(V)	220/380, 230/400 (three phase)
Grid Connection Form	3L/N/PE
Rated Output Grid Frequency	50Hz/60Hz
GEN Side Data	
Rated AC Input Active Power（kW）	500
Rated AC Input Current（A）	758/725
Rated Input Voltage(V)	220/380, 230/400 (three phase)
Grid Connection Form	3L/N/PE
Rated Input Grid Frequency	50Hz/60Hz
General Data	
Off grid switching time	<10ms
Operating Temperature Range (°C)	-25°C to 60°C
Permissible Ambient Humidity	0-95%
Permissible Altitude (m)	4000m
Ingress Protection(IP) Rating	IP20
Over Voltage category	OVC III
Warranty	10 years
Cabinet Size[W×H×D] (mm)	543x575x671
Weight (kg)	108
Type Of Cooling	Natural Cooling
Safety EMC/Standard	IEC/EN 61439-1/-2
Features	
DC port/AC port	OT terminal
Communication Interface	CAN/RS485

100kW-2.5MW C&I ESS Solution

PCS Model	SUN-100K-PCS01HP3	SUN-125K-PCS01HP3	SUN-100K-PCS02HP3	SUN-125K-PCS02HP3
Battery Data				
Battery Type	Lithium-ion			
Battery Voltage Range (V)	630-1000			
Max. Charging Current (A)	175	200	175	200
Max. Discharging Current (A)	175	200	175	200
Charging Strategy for Li-ion Battery	Self-adaption to BMS			
Number of Battery Input	1			
DC Input Data				
DC Input Voltage Range(V)	630-1000		630-1000	
Max. DC Input Current(A)	200		250	
AC Input/Output Data				
Rated AC Input/Output Active Power (kW)	100	125	100	125
Max. AC Input/Output Apparent Power (kVA)	110	125	110	125
Rated AC Input/Output Current (A)	151.6/145	189.4/181.2	151.6/145	189.4/181.2
Max. AC Input/Output Current (A)	166.7/159.5	189.4/181.2	166.7/159.5	189.4/181.2
Rated Input/Output Voltage/Range(V)	220/380, 230/400V 0.85Un-1.1Un			
Grid Connection Form	3L+N+PE			
Rated Input/Output Grid Frequency/Range	50Hz/45Hz-55Hz 60Hz/55Hz-65Hz			
Power Factor Adjustment Range	-1~1			
Total Current Harmonic Distortion THDi	<3% (of nominal power)			
DC Injection Current	<0.5% In			
Efficiency				
Max. Efficiency	98.5%			
Euro Efficiency	97.8%			
Equipment Protection				
Integrated	AC Output Overcurrent Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, Thermal Protection,Anti-islanding Protection, 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, Meter			
General Data				
Operating Temperature Range(°C)	-40°C-60°C,>45°C Derating			
Permissible Ambient Humidity	0-95%			
Permissible Altitude	4000m			
Noise	<75dB			
Ingress Protection(IP) Rating	IP65 (PCS Module)			
Cabinet Size[W×H×D] (mm)	543x310x775 (Excluding connectors and brackets)			
Weight (kg)	81.86			
Inverter Topology	Non-Isolated			
Over Voltage Category	OVC II(DC), OVC III(AC)			
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, UNE217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105			
Safety/EMC Standard	IEC/EN 62477-1			

100kW-2MW 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)		126
Battery Module Qty In Series (Optional)		5~16
Matching Mode	PCS	14-16 units for PCS on-grid applications, 15~16 units for PCS off-grid applications
	PCS + MPPT	16 units (on/off-grid) for MPPT Open-Circuit Voltage ⩽800V;15 units (on/off-grid) for MPPT Open-Circuit Voltage ⩽ 750V 14 units (on-grid) for MPPT Open-Circuit Voltage ⩽ 700V
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 ~ 55 Discharge： -20 ~ 55
Storage Temperature (℃)		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 × 1305 × 800
System Weight Approximate (kg)		2240
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

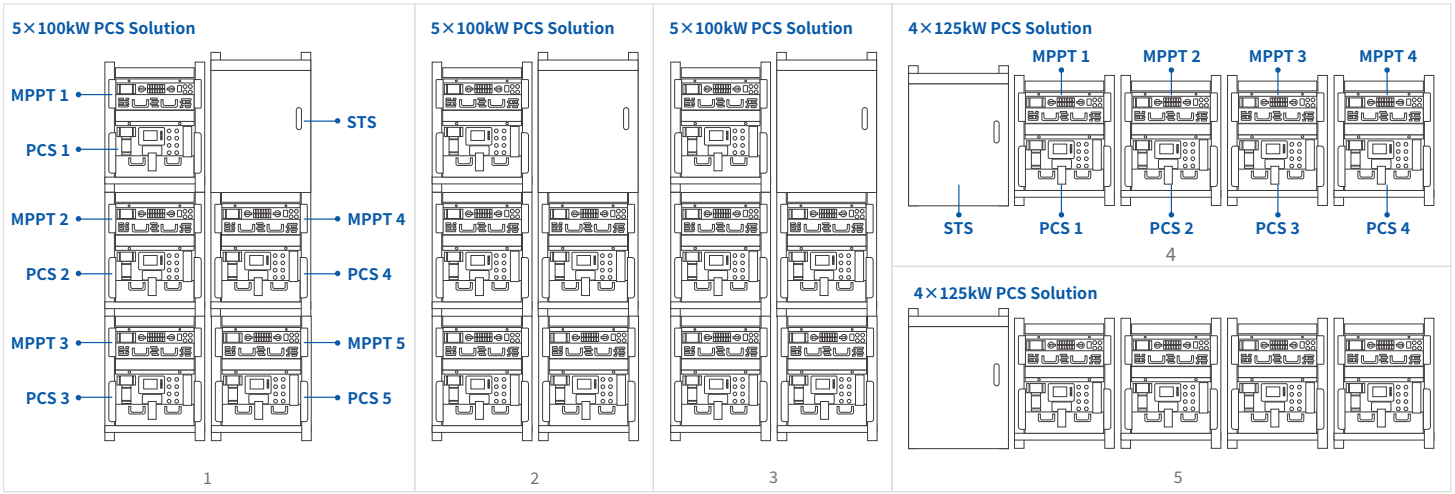
Typical Application Scenarios

One PCS can support up to 16 racks of batteries in parallel

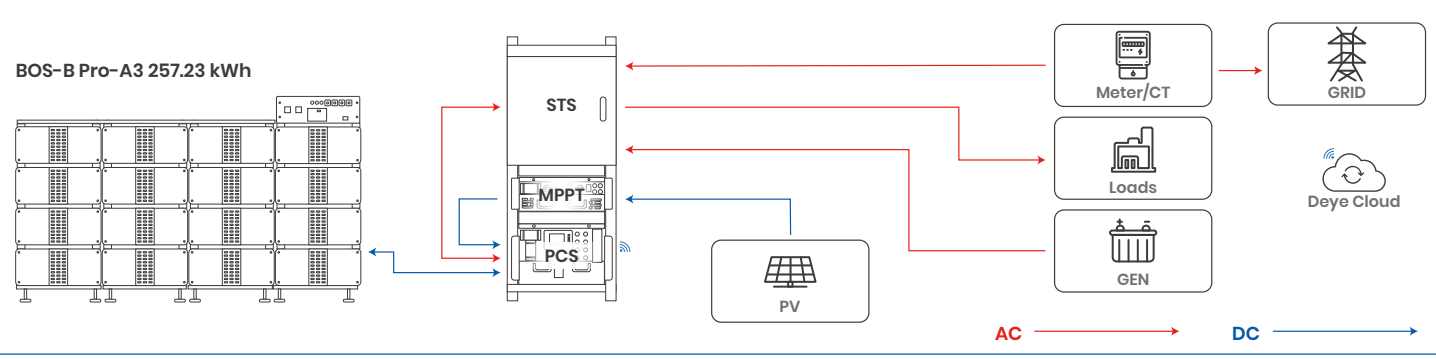


*For 100kW PCS: n ⩽ 5; for 125kW PCS: n ⩽ 4

One STS module can connect to five 100kW PCS modules or four 125kW PCS modules for parallel operation



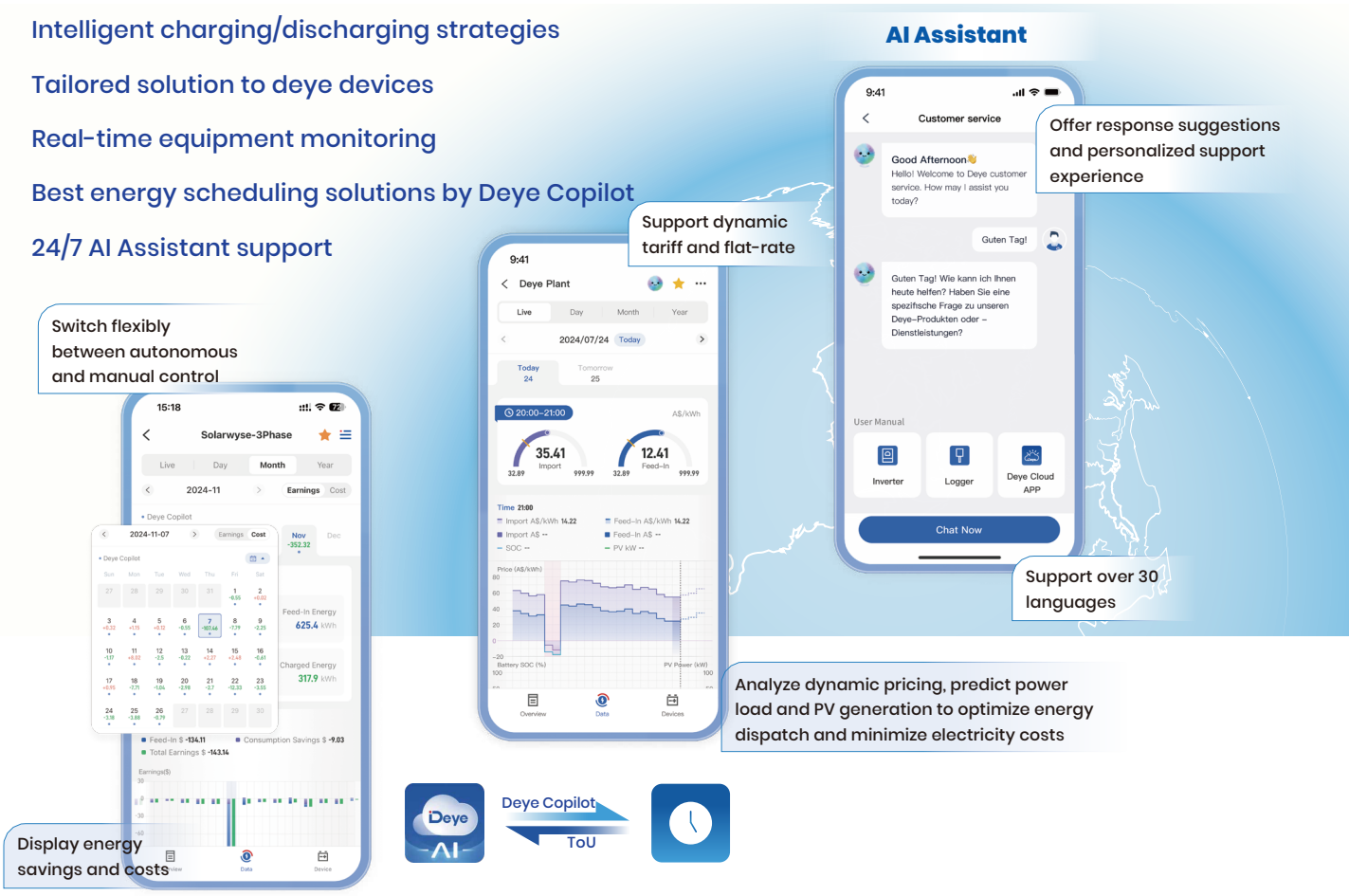
Five STS modules can provide parallel support for twenty-five 100kW PCS modules or twenty 125kW PCS modules, forming a 2.5MW system.



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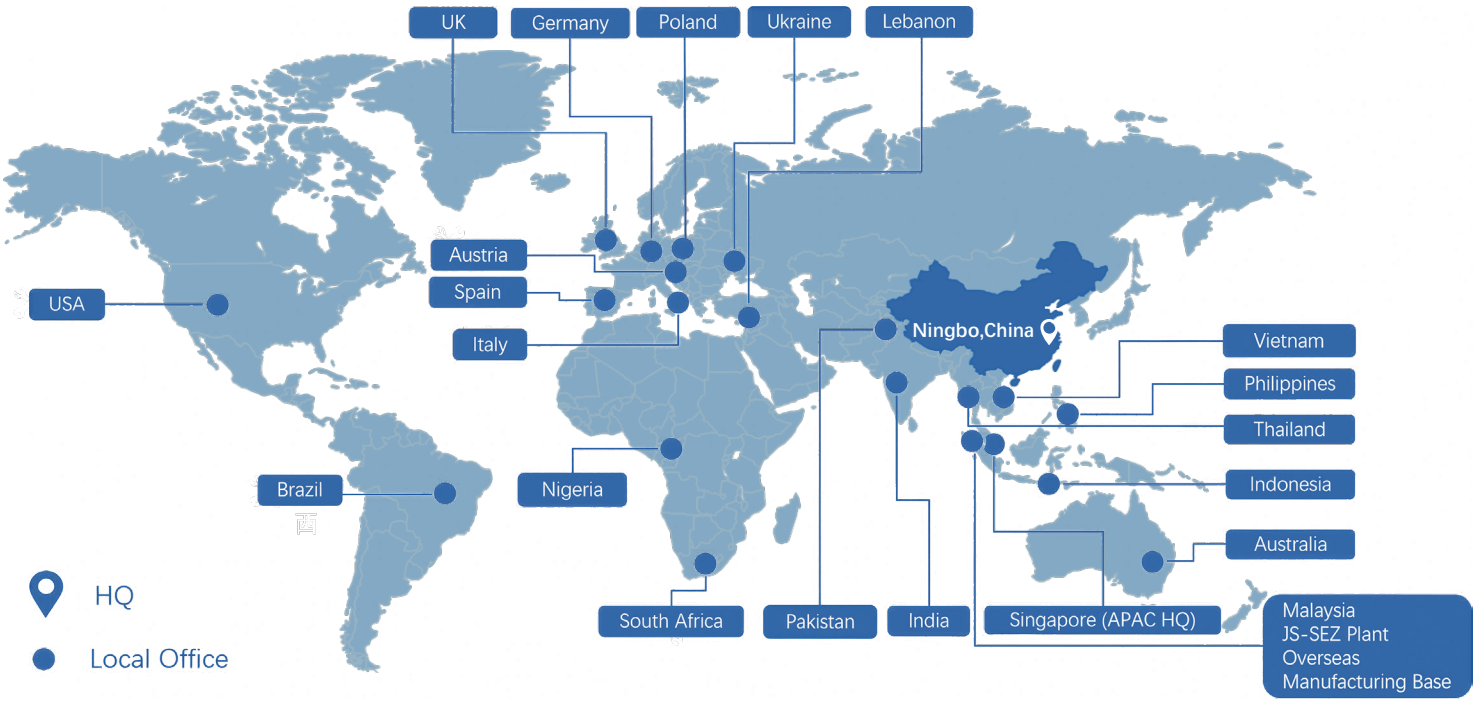
AI Assistant
24/7 support, fast, efficient, in your language

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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.



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