



Small-Scale C&I Energy Storage Solution

SUN-80K-SG02HP3-EU-EM6 & BOS-A

SUN-80K-SG02HP3-EU-EM6

Practicality & Universal Compatibility

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

Versatile & High-Performance

- Max. charging/discharging current of 160A
- 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-A

Intelligent Control

- Over-discharge/charge/current and temp protection

10-Year Warranty

- Safest LFP battery & intelligent BMS

Superior Output

- Support up to 160A current output

3U Rack Design

- Connectable to two inverter DC interfaces

Flexible Expansion

- Support 7-21 packs in series
Inverter 50-100kW, Battery 54-161kWh

Battery Protection

- Auto-managed charge/discharge & cell voltage balancing

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Model	SUN-60K-SG02HP3 -EU-EM6	SUN-70K-SG02HP3 -EU-EM6	SUN-75K-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	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	IP 65			
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			

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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 ~ 55 / Discharge : -20 ~ 55		
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)	558	985	1586
Installation Location	Rack-Mounted		
Storage Temperature (°C)	0 ~ 35		
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.

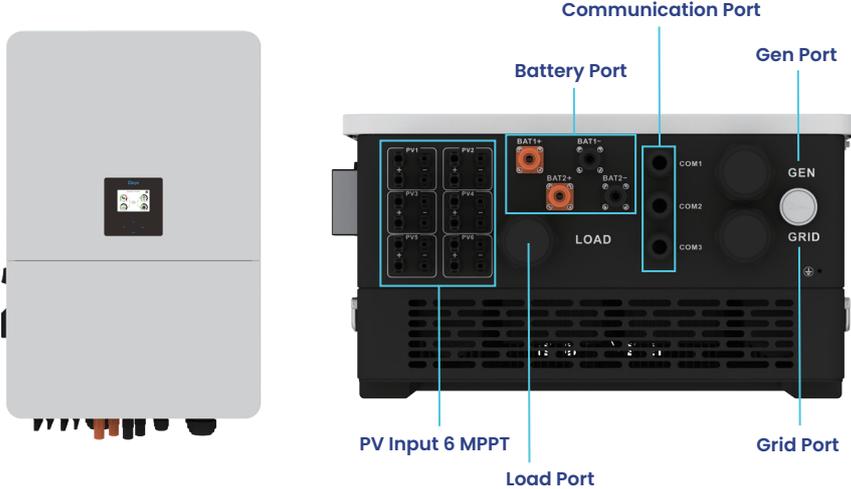
2. The current is affected by temperature and SOC.

3. The warranty is due whichever reached first of warranty period or life cycle power.

Small-Scale C&I Energy Storage Solution

Model

SUN-80K-SG02HP3-EU-EM6

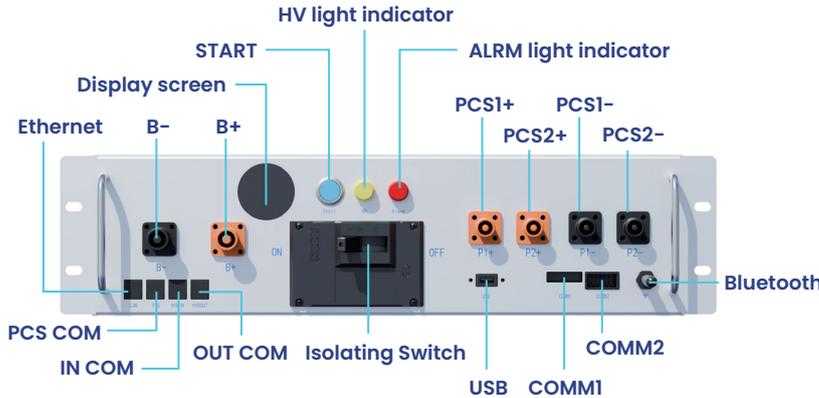


- ⊙ Battery Port: Dual independent battery circuit port, supporting multiple brand battery connection and battery voltage range 160-1000V.
- ⊙ Communication Port: Serve as communicate with battery and data exchange between inverter and extra devices.
- ⊙ Load Port: Offer AC power to connected loads.
- ⊙ 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.

Model

BOS-A-PDU-2

Operating Voltage	200~1000Vdc
Max.Charge/Discharge Current	160A
Operating Temperature	-20~65°C
Ingress Protection	IP20
DC Input Rating	12±2%V/4.15A
Details	632×572×142.2(W×H×D),21kg



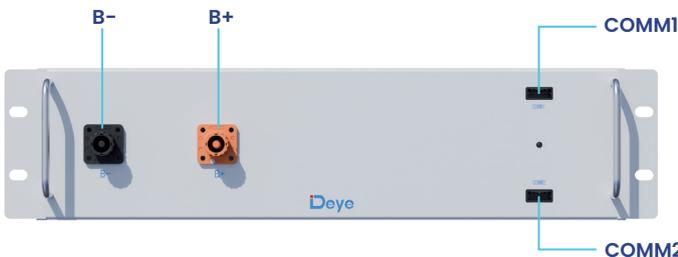
- ⊙ Ethernet:Features not yet developed.
- ⊙ PCS COM:PCS COM battery communication terminal: used to output battery information to the inverter.
- ⊙ IN COM:Connection position with previous BOS-A-PDU-4 communication input.
- ⊙ OUT COM:Connection position with next BOS-A-PDU-4 communication output.

- ⊙ Isolating Switch:It is used to manually control the connection between the battery rack and external devices.
- ⊙ USB:BMS upgrade port and storage expansion port.
- ⊙ COMM1:Connection position of external 12VDC power supply.
- ⊙ COMM2:Used for communication and providing power.
- ⊙ Bluetooth:The mobile APP connects to the data acquisition rod of the energy storage system.
- ⊙ B+:Battery common positive connection position (red).
- ⊙ 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)Y.
- ⊙ 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).

Model

BOS-A-Pack7.68

Nominal Capacity	200Ah	Ingress Protection	IP20
Nominal Energy	7.68kWh	Operating Temperature(Charge)	0~55°C
Nominal Voltage	38.4Vdc	Operating Temperature(Discharge)	-20~55°C
Nominal Charge/Discharge Current	160A	Storage Temperature	0~35°C
Details	632×576×135.2(W×H×D),66kg		



- ⊙ B-:Battery module negative pole (black).
- ⊙ B+:Battery module positive pole (orange).
- ⊙ COMM1:Used for communication and providing power.
- ⊙ COMM2:Used for communication and providing power.

Small-Scale C&I Energy Storage Solution

Model

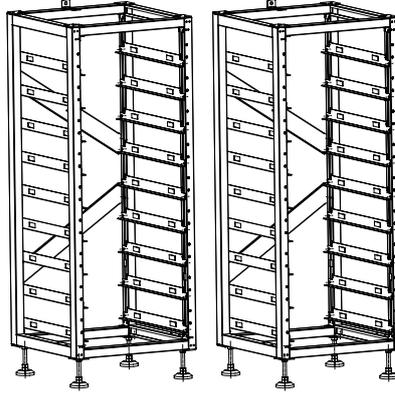
BOS-A

BOS-A-Rack9 *2

Can install 16 pcs batteries and 1 pcs High Voltage Battery cluster control box.

Dimension (W × D × H)
Weight Approximate

1220 × 610 × 1600mm
84kg

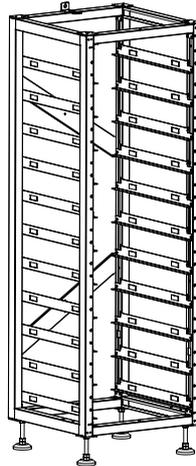


BOS-A-Rack11 BOS-A-Rack11 *2

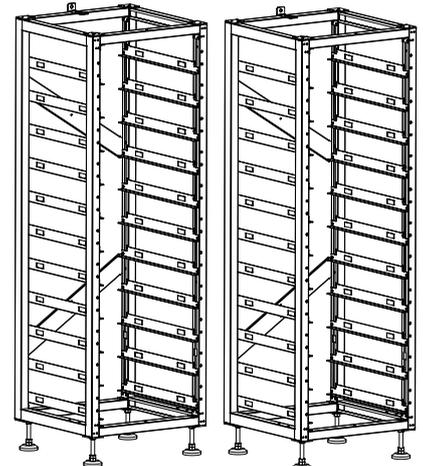
Can install 10 pcs batteries and 1 pcs High Voltage Battery cluster control box.
Can install 21 pcs batteries and 1 pcs High Voltage Battery cluster control box.

Dimension (W × D × H)
Weight Approximate

610 × 610 × 1900mm
47kg



1220 × 610 × 1900mm
94kg

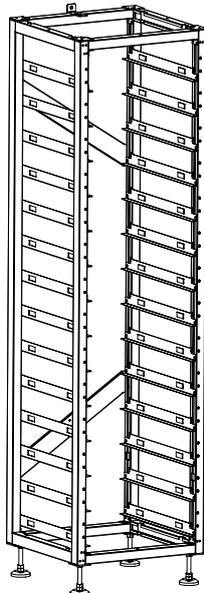


BOS-A-Rack14

Can install 13 pcs batteries and 1 pcs High Voltage Battery cluster control box.

Dimension (W × D × H)
Weight Approximate

610 × 610 × 2350mm
55kg



Small-Scale C&I Energy Storage Solution

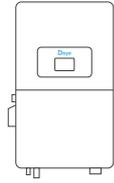
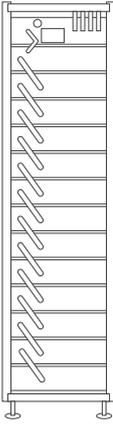
Backup Power Duration Plan

2 hours

4 hours

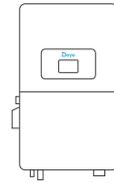
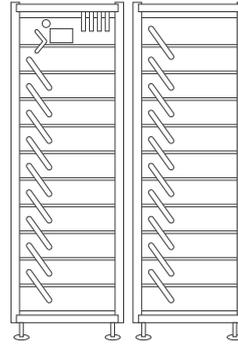
Hybrid inverter power	50kW	80kW	50kW	80kW
Battery model	BOS-A100	BOS-A160	BOS-A100	BOS-A160
Number of batteries	1 pc	1 pc	2 pcs	2 pcs

BOS-A100



50kW / 100kWh

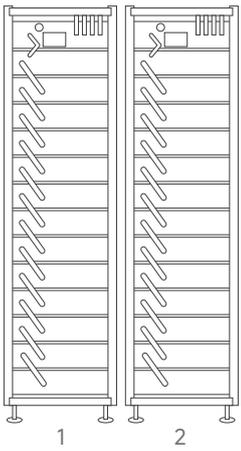
BOS-A160



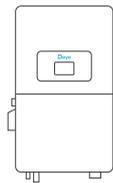
80kW / 160kWh

Typical Application Scenarios

BOS-A100

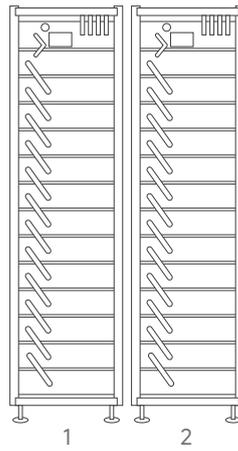


Inverter 50kW

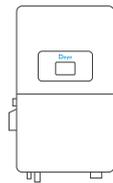


Maximum support for 16 racks of batteries in parallel

BOS-A100

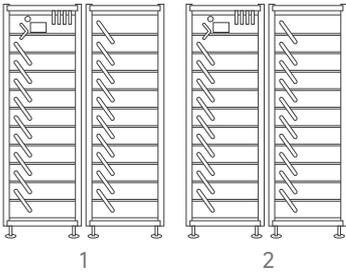


Inverter 50kW



Maximum support for 10 inverters in AC parallel operation

BOS-A160

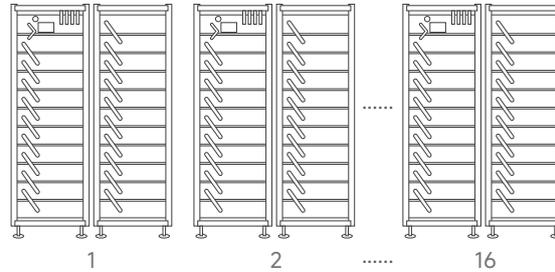


Inverter 80kW



Maximum support for 16 clusters of batteries in parallel

BOS-A160



Inverter 80kW



Maximum support for 10 inverters in AC parallel operation

Deye Cloud

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-  Tailored Solution to Deye Devices
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