Deye

Small-Scale C&I Energy Storage Solution

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

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

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BOS-W

Safe & Reliable
◎ LFP batteries, with low self-discharge (up to 6 months without charging)

Flexible Expansion
◎ Supports multiple battery modules inparallel, USB, and remote upgrades

Wide Temp Range
◎ Working temp range: -20℃ to 55℃

Smart Protection
◎ Protects against over-discharge /charge/current and extreme temps
◎ Auto-manages charge discharge and cell balancing

No Memory Effect
◎ Excellent with shallow charge and discharge

High Performance
◎ Superior discharge and ≥ 6000 cycle life

Small-Scale C&I Energy Storage Solution

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℃, >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)	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			

Small-Scale C&I Energy Storage Solution

Model	BOS-W			
Main Parameters				
Cell Chemistry	$LiFePO_4$			
Module Energy (kWh)	5.12			
Module Nominal Voltage (V)	51.2			
Module Capacity (Ah)	100			
Battery Module Number	BOS-W25	BOS-W40	BOS-W60	BOS-W80
Battery Module Qty In Series (Optional)	5 (Min)	8	12	16
System Nominal Voltage (V)	256	409.6	614.4	819.2
System Operating Voltage (V)	220 ~ 292	352 ~ 467.2	528 ~ 700.8	704 ~ 934.4
System Energy (kWh)	25.6	40.96	61.44	81.92
System Usable Energy (kWh) [1]	23.04	36.86	55.3	73.73
Rated DC Power (kW)	25.6	40.96	61.44	81.92
Charge / Discharge Current (A) [2] — Recommend	50			
Charge / Discharge Current (A) [2] — Nominal	100			
Charge / Discharge Current (A) [2] — Peak Discharge(2 mins, 25°C)	125			
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 / RS485			
Humidity	5% ~ 85%RH			
Altitude	≤3000m			
IP Rating of Enclosure	IP20			
Weight Approximate (kg)	249	387	571	755
Installation Location	Rack Mounting			
Storage Temperature (°C)	0 ~ 35			
Recommend Depth of Discharge	90%			
Cycle Life	25±2°C, 0.5C / 0.5C, EOL70%≥6000			
Warranty[3]	5 years			
Certification	UN38.3			

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.
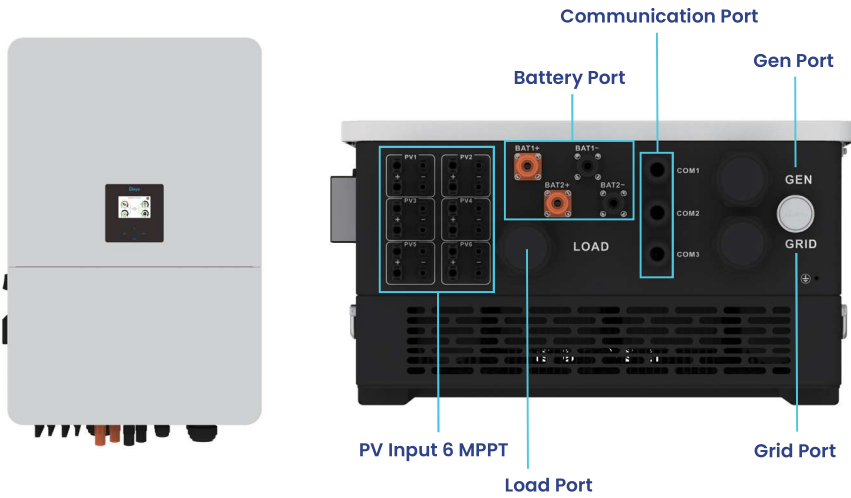
2. The current is affected by temperature and SOC.

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

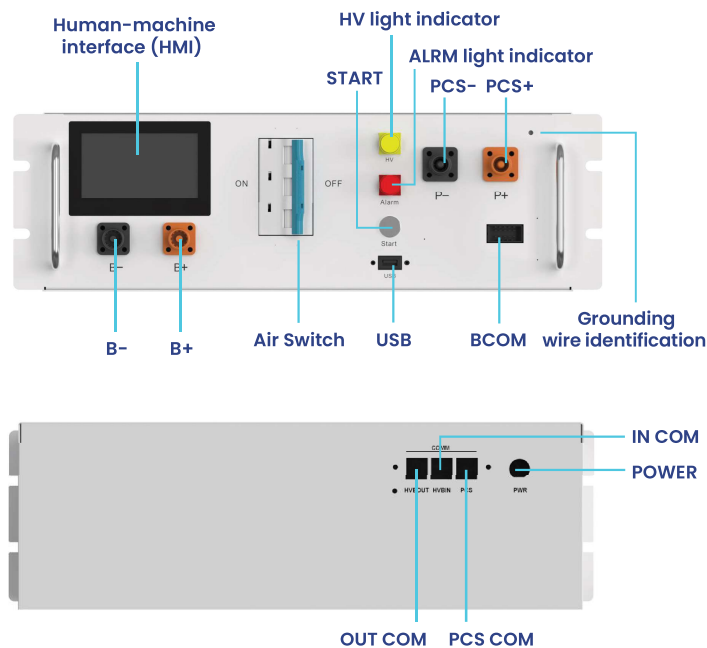4. Made in China.

Small-Scale C&I Energy Storage Solution

Model   SUN-80K-SG02HP3-EU-EM6

Communication Port

Battery Port

Gen Port

PV Input 6 MPPT

Load Port

Grid Port

◎ 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.

Model   BOS-W-PDU-2

Human-machine interface (HMI)

HV light indicator

ALRM light indicator

START

PCS- PCS+

B-   B+

Air Switch   USB   BCOM

Grounding wire identification

IN COM

POWER

OUT COM   PCS COM

◎ B-:Connection position of the common negative pole of the battery (black).
◎ B+:Connection position of the common positive pole of the battery (orange).
◎ Air switch:Used to manually control the connection between the battery rack and external devices.
◎ USB BMS:Upgrade interface and storage expansion interface.
◎ BCOM:Communicative connection with the first battery module; and Providing 12VDC power for the first battery module.
◎ Human-machine interface (HMI):Display some important battery information.
◎ 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).
◎ PCS-:Connection position of PCS negative pole (black).
◎ PCS+:Connection position of PCS positive pole (orange).
◎ Grounding wire identification:Connection to the battery rack and the ground point.
◎ OUT COM:Connection position with next BOS-W-PDU-2 communication input.
◎ IN COM:Connection position with previous BOS-W-PDU-2 communication output.
◎ PCS COM:PCS COM battery communication terminal: (RJ45 port) follow the CAN Protocol (default baud rate: 500bps) and RS485 Protocol (default baud rate:9.6bps), used to output battery information to the inverter.
◎ POWER:Connection position of external 12VDC power supply.
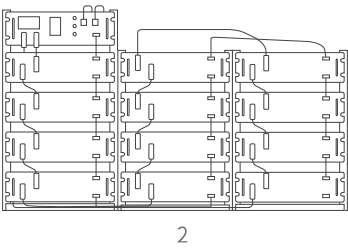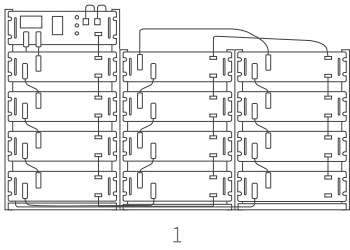
Model   BOS-W-Pack5.1

B-   B+

COMM1

COMM2

◎ B-:Battery module negative pole (black).
◎ B+:Battery module positive pole (orange).
◎ COMM1:Used for communication and providing power.
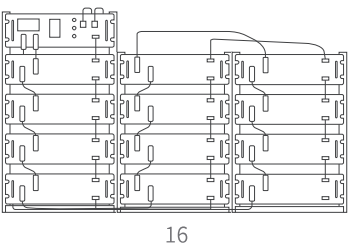◎ COMM2:Used for communication and providing power.
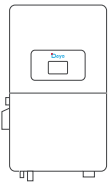
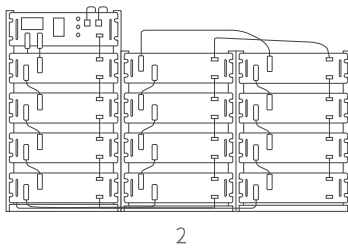## Typical Application Scenarios

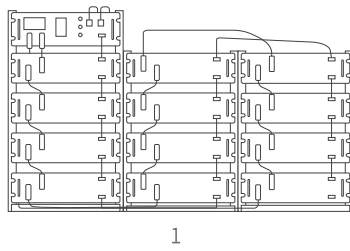BOS-W60

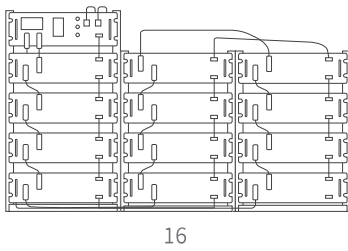1   2   16

Inverter 50kW

Maximum support for 16 racks of batteries in parallel
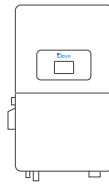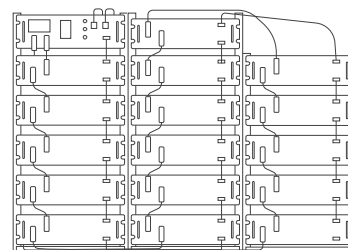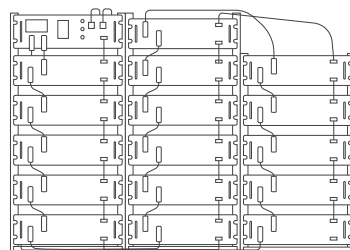
BOS-W60

1   2   16
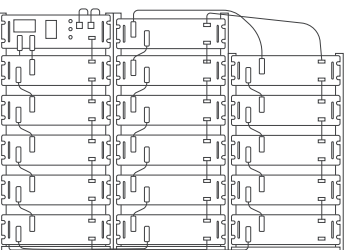
Inverter 50kW

× 10

Maximum support for 10 inverters in AC parallel operation
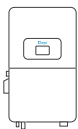
BOS-W80

1   2   16
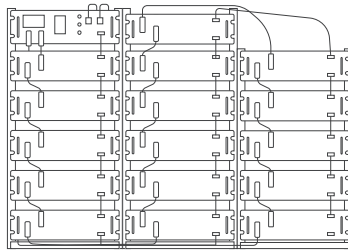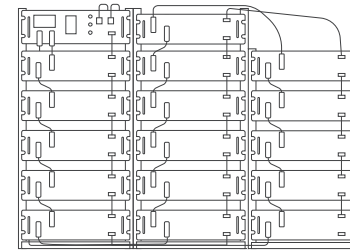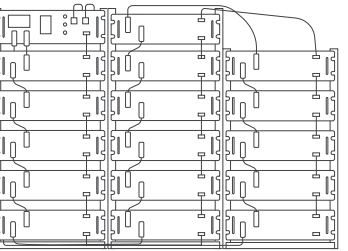
Inverter 80kW

Maximum support for 16 clusters of batteries in parallel
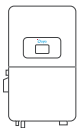
BOS-W80

1   2   16

Inverter 80kW

× 10

Maximum support for 10 inverters in AC parallel operation

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

Smarten Up Your Home Energy

←

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Optimized for speed and performance

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