



# Small-Scale C&I Energy Storage Solution

SUN-50K-SG01HP3-EU-BM4 / SUN-80K-SG02HP3-EU-EM6

BOS-W

## SUN-50K-SG01HP3-EU-BM4 / 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**
- 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-W

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

- Flexible Expansion**
- Supports multiple battery modules in parallel, USB, and remote upgrades

- High Performance**
- Superior discharge and  $\geq 6000$  cycle life

- 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

# Small-Scale C&I Energy Storage Solution

Model	SUN-50K-SG01HP3-EU-BM4		
<b>Battery Input Data</b>			
Battery Type	Lithium-ion		
Battery Voltage Range (V)	160-800		
Max. Charging Current (A)	50+50		
Max. Discharging Current (A)	50+50		
Charging Strategy for Li-ion Battery	Self-adaption to BMS		
Number of Battery Input	2		
<b>PV String Input Data</b>			
Max. PV Access Power (W)	100000		
Max. PV Input Power (W)	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		
Max. Input Short-Circuit Current (A)	55+55+55+55		
No. of MPP Trackers/ No. of Strings MPP Tracker	4/2+2+2+2		
<b>AC Input/Output Data</b>			
Rated AC Input/Output Active Power(W)	50000		
Max. AC Input/Output Apparent Power(VA)	55000		
Rated AC Input/Output Current (A)	75.8/72.5		
Max. AC Input/Output Current (A)	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		
<b>Efficiency</b>			
Max. Efficiency	97.60%		
Euro Efficiency	97.0%		
MPPT Efficiency	>99%		
<b>Equipment Protection</b>			
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)		
<b>Interface</b>			
Communication Interface	RS485/RS232/CAN		
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN(optional)		
<b>General Data</b>			
Operating Temperature Range(°C)	-40 to +60°C, >45°C Derating		
Permissible Ambient Humidity	0-100%		
Permissible Altitude	2000m		
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)	527×894×294 ( Excluding Connectors and Brackets)		
Weight (kg)	80		
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	SUN-60K-SG02HP3 -EU-EM6	SUN-70K-SG02HP3 -EU-EM6	SUN-75K-SG02HP3 -EU-EM6	SUN-80K-SG02HP3 -EU-EM6
<b>Battery Input Data</b>				
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			
<b>PV String Input Data</b>				
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			
<b>AC Input/Output Data</b>				
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			
<b>Efficiency</b>				
Max. Efficiency	98.70%			
Euro Efficiency	98.10%			
MPPT Efficiency	>99%			
<b>Equipment Protection</b>				
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)			
<b>Interface</b>				
Communication Interface	RS485/RS232/CAN			
Monitor Mode	GPRS/WIFI/Bluetooth/4G/LAN(optional)			
<b>General Data</b>				
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			

# Small-Scale C&I Energy Storage Solution



Model		BOS-W			
Main Parameters					
Cell Chemistry		LiFePO <sub>4</sub>			
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 ) <sup>1</sup>		23.04	36.86	55.3	73.73
Rated DC Power ( kW )		25.6	40.96	61.44	81.92
Charge / Discharge Current ( A ) <sup>2</sup>	Recommend	50			
	Nominal	100			
	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 <sup>3</sup>		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.

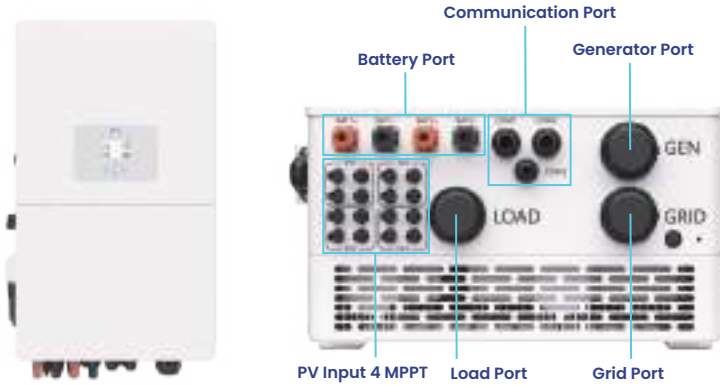
3. The warranty is due whichever reached first of warranty period or life cycle power.

4. Made in China.

# Small-Scale C&I Energy Storage Solution

Model

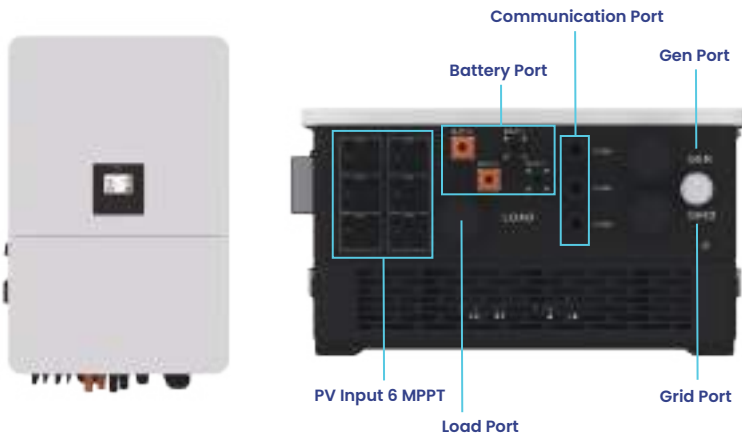
**SUN-50K-SG01HP3-EU-BM4**



- ⊙ Battery Port: Dual independent battery circuit port, supporting multiple brand battery connection 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.

Model

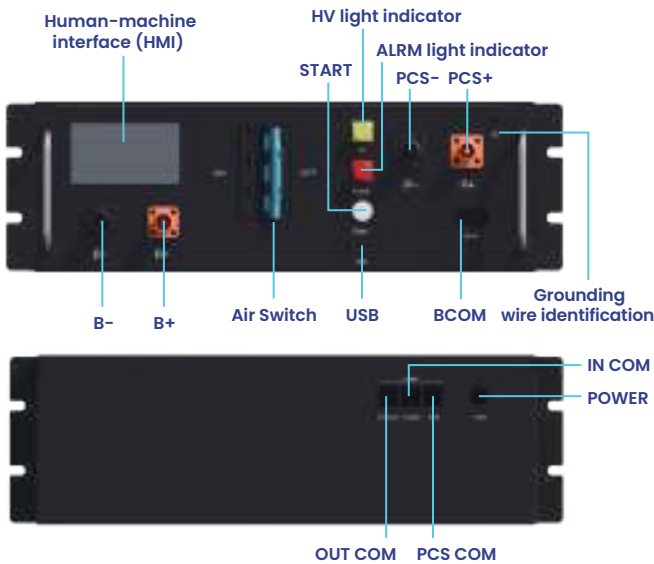
**SUN-80K-SG02HP3-EU-EM6**



- ⊙ 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

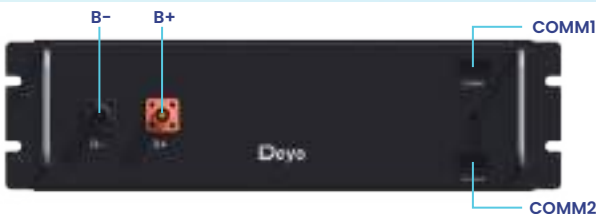
**BOS-W-PDU-2**



- ⊙ 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.
- ⊙ IN COM:Connection position with previous BOS-W-PDU-2 communication output.
- ⊙ 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

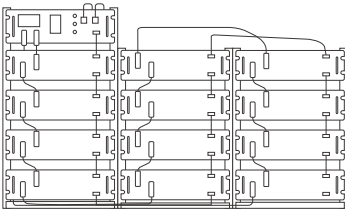
**BOS-W-Pack5.1**



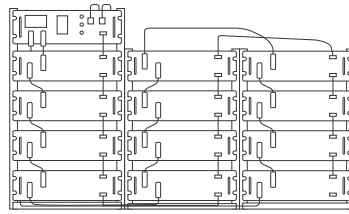
- ⊙ B-:Battery module negative pole (black).
- ⊙ B+:Battery module positive pole (orange).
- ⊙ COMM1:Used for communication and providing power.
- ⊙ COMM2:Used for communication and providing power.

## Typical Application Scenarios

BOS-W60

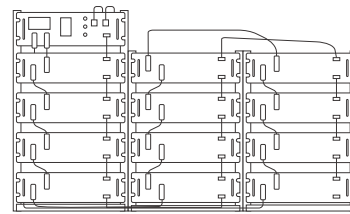


1



2

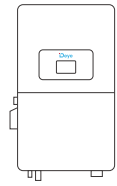
.....



16

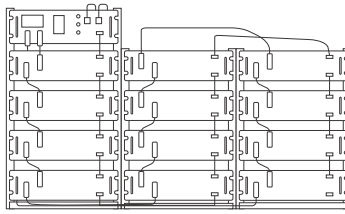
.....

Inverter 50kW

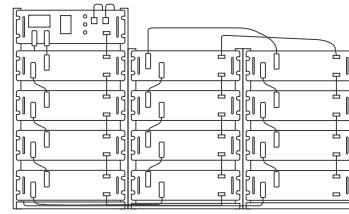


Maximum support for 16 racks of batteries in parallel

BOS-W60

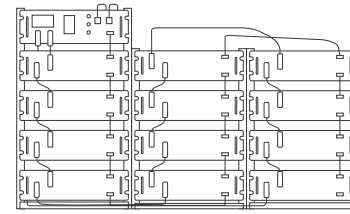


1



2

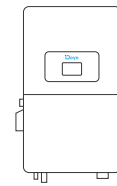
.....



16

.....

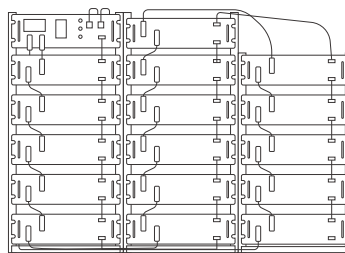
Inverter 50kW



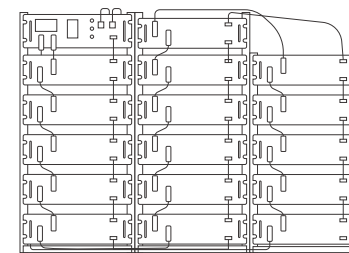
× 10

Maximum support for 10 inverters in AC parallel operation

BOS-W80

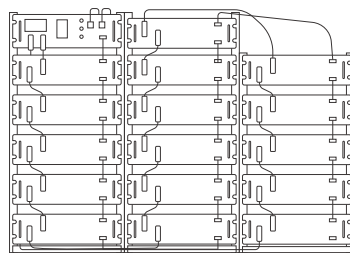


1



2

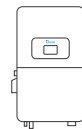
.....



16

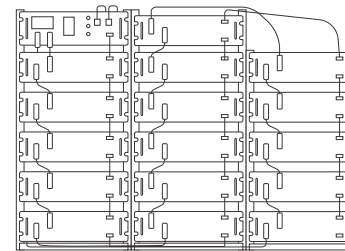
.....

Inverter 80kW

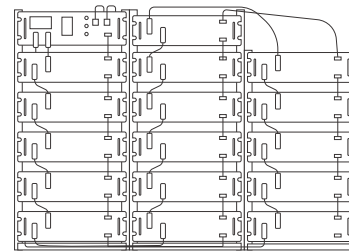


Maximum support for 16 clusters of batteries in parallel

BOS-W80

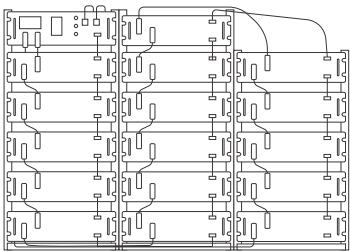


1



2

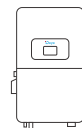
.....



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



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



### All in One

Smarter home energy and device management



### Cloud-edge Collaboration

Faster and more efficient data processing



### Accelerated Connectivity

Optimized for speed and performance



### Advanced Smart Energy

A smarter way to manage your electricity bills



**POWERING YOUR LIFE**



[www.deyeess.com](http://www.deyeess.com) / [www.deyeinverter.com](http://www.deyeinverter.com)



**Deye ESS / Deye New Energy**