



Small-Scale C&I Energy Storage Solution

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

51.2V314Ah HV

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)

Smart Protection

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

Flexible Expansion

- ◎ Supports multiple battery modules in parallel, USB, and remote upgrades

No Memory Effect

- ◎ Excellent with shallow charge and discharge

Wide Temp Range

- ◎ Working temp range: -20°C to 55 °C

High Performance

- ◎ Superior discharge and ≥ 6000 cycle life

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Model		SUN-50K-SG01HP3-EU-BM4	
Battery Input Data			
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		
PV String Input Data			
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		
AC Input/Output Data			
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		
Efficiency			
Max. Efficiency	97.60%		
Euro Efficiency	97.0%		
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	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
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			

Small-Scale C&I Energy Storage Solution



Model 51.2V314Ah HV

Main Parameters

Cell Chemistry	LiFePO ₄			
Module Energy (kWh)	16.08			
Module Nominal Voltage (V)	51.2			
Module Capacity (Ah)	314			
Battery Module Number	HV-80	HV-128	HV-176	HV-225
Battery Module Qty In Series (Optional)	5 (Min)	8	11	14
System Nominal Voltage (V)	256	409.6	563.2	716.8
System Operating Voltage (V)	232 ~ 288	371.2 ~ 460.8	510.4 ~ 633.6	649.6 ~ 806.4
System Energy (kWh)	80.38	128.61	176.84	225.08
System Usable Energy (kWh) ¹	72.34	115.75	159.16	202.57
Rated DC Power (kW)	80.38	128.61	176.84	225.08
Charge / Discharge Current (A) ²	Recommend			
	Max			
	Peak Discharge(2 mins, 25°C)			
Working Temperature (°C)	-10 ~ 55			
Cooling	Fan Cooling Power			
Communication Port	CAN / RS485			
Humidity	5% ~ 95%RH			
Altitude	≤2000m			
IP Rating of Enclosure	IP20			
Weight Approximate (kg)	660	1076	1442	1808
Installation Location	Rack Mounting			
Storage Temperature (°C)	0 ~ 35			
Recommend Depth of Discharge	90%			
Cycle Life	25±2°C, 0.5C / 0.5C, EOL70%≥10000			
Warranty ³	5+5 years			
Certification	CE, UN38.3, MSDS			

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.

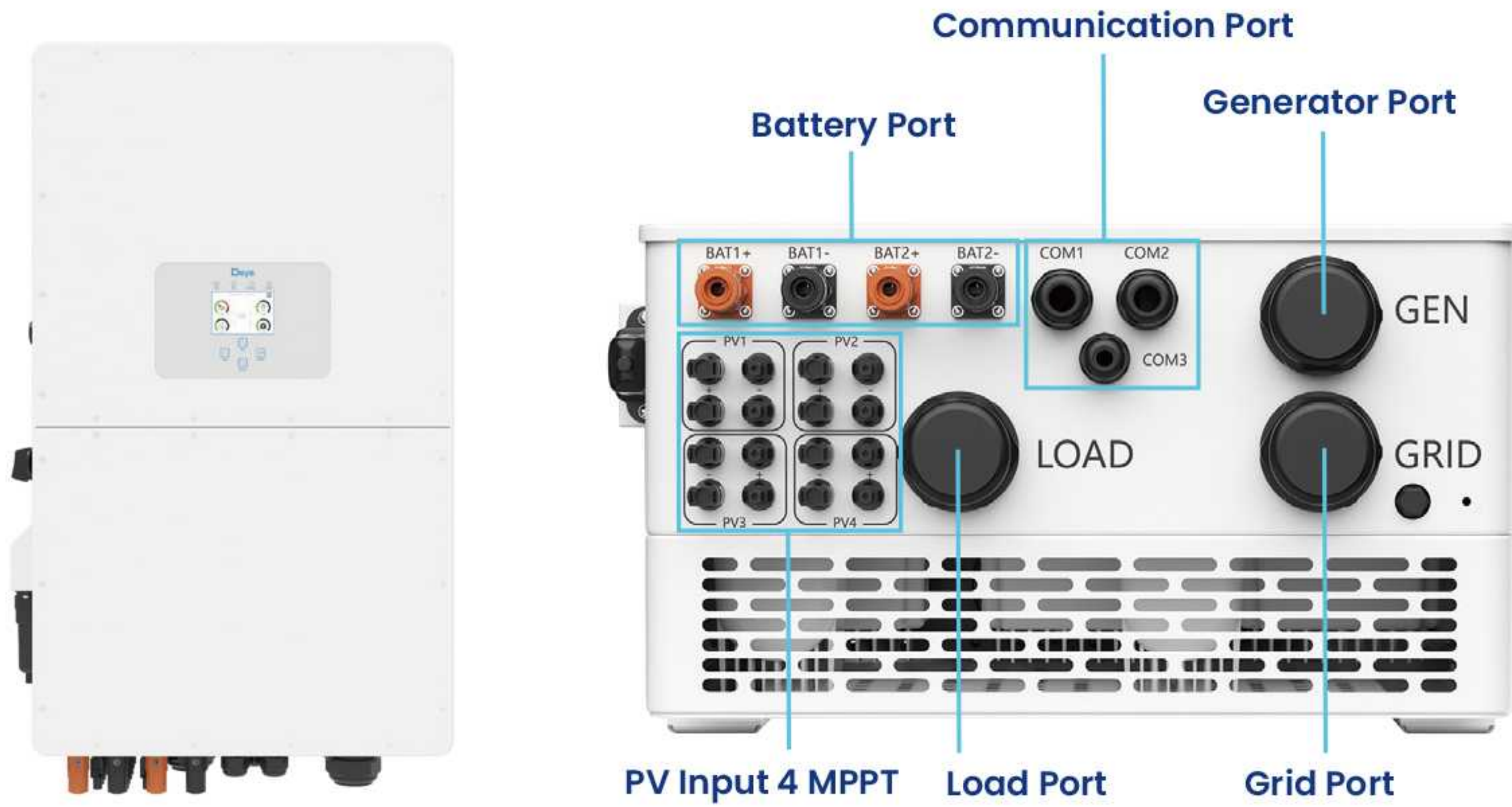
3. The warranty is due whichever reached first of warranty period or life cycle power.

4. Made in China.

Small-Scale C&I Energy Storage Solution

Model

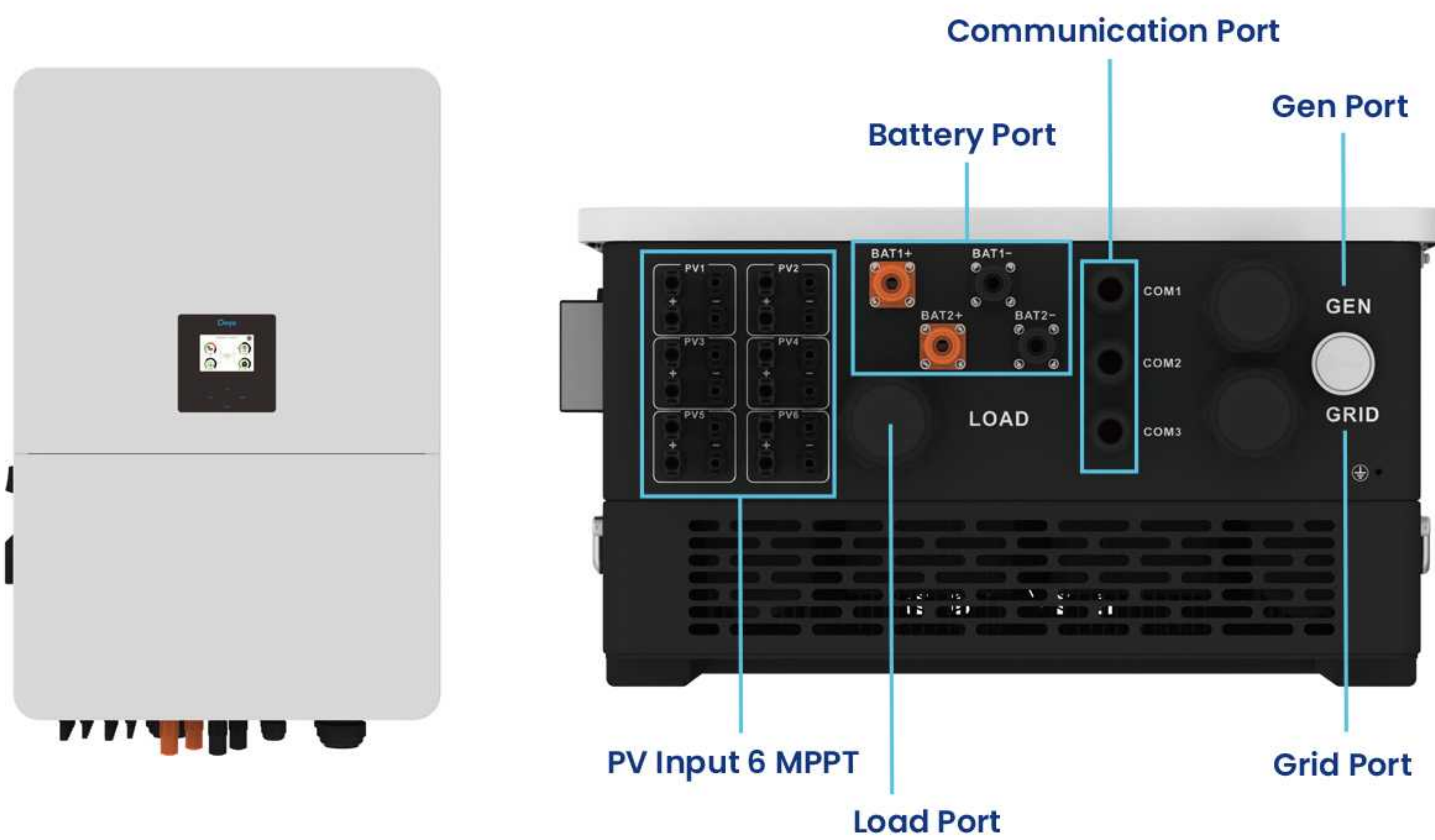
SUN-50K-SG01HP3-EU-BM4



- ⊙ 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

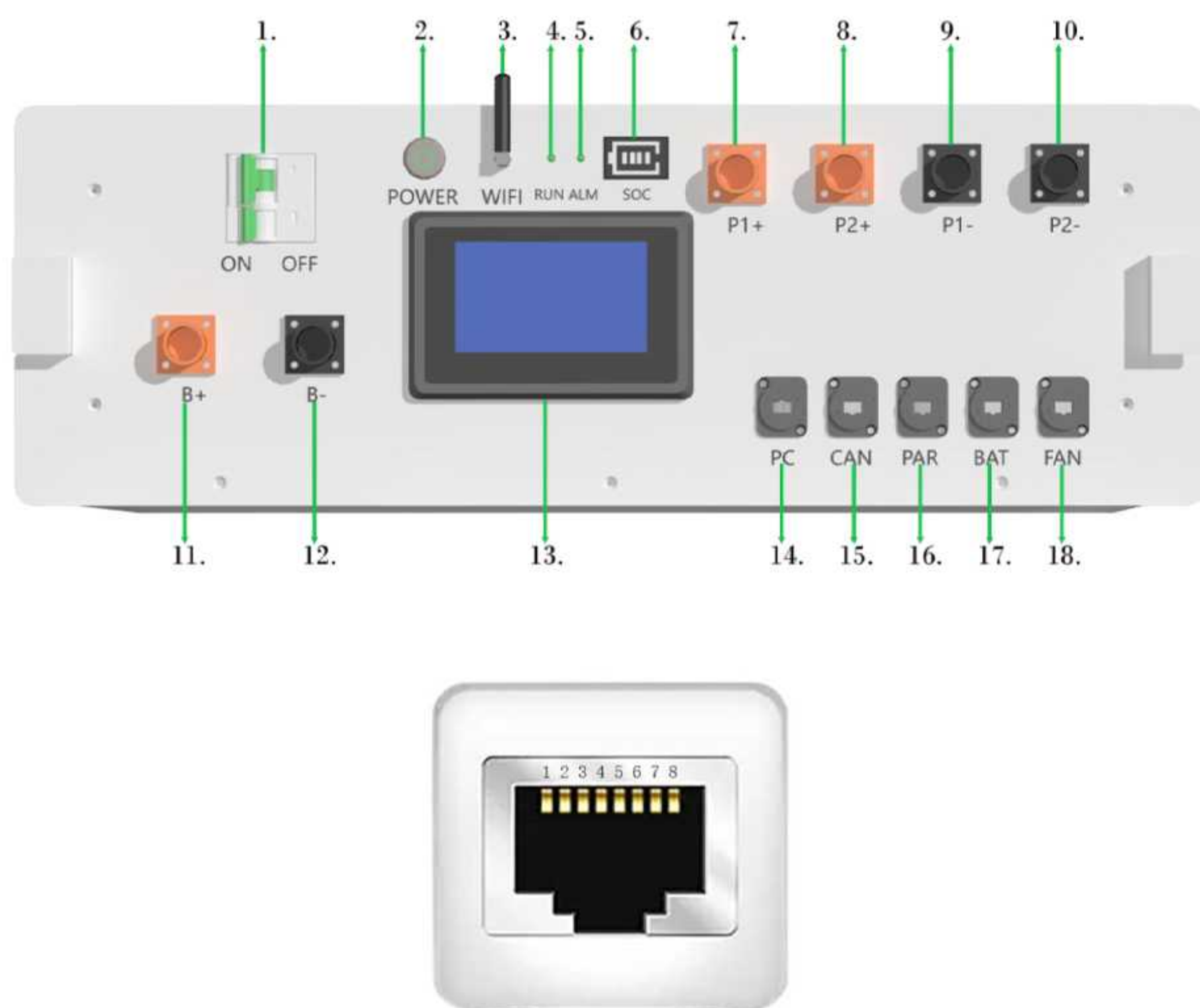
SUN-80K-SG02HP3-EU-EM6



- ⊙ 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

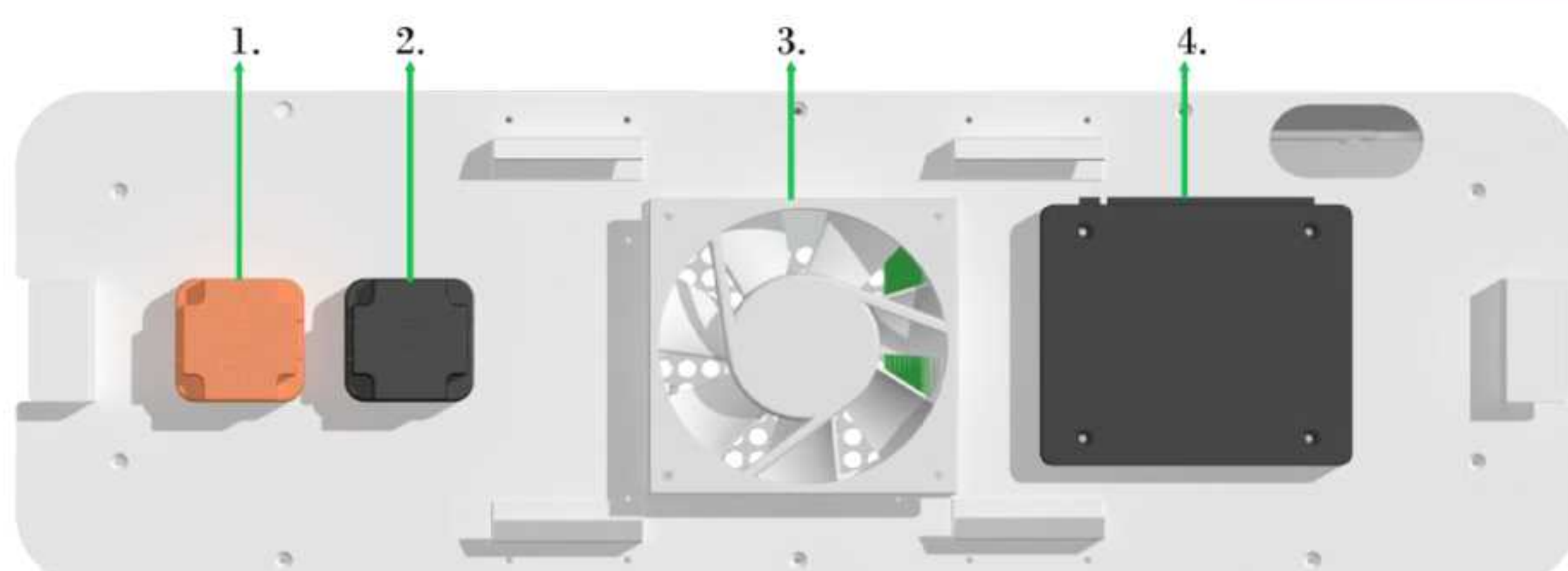
51.2V314Ah-HV BCU Port



1. ON/OFF: Cut-off protection switch.
2. POWER: Power switch.
3. WIFI: WIFI module.
4. RUN: Normal operation.
5. ALM: Alarm.
6. SOC: Power indicator.
7. P1+: Connection position of PCS positive pole.
8. P2+: Connection position of PCS positive pole.
9. P1-: Connection position of PCS negative pole.
10. P2-: Connection position of PCS negative pole.
11. B+: Connection position of battery positive pole.
12. B-: Connection position of battery negative pole.
13. Screen: Touch screen.
14. PC: Connect to the computer.
15. CAN: Inverter communication port.
16. PAR: Parallel communication port.
17. BAT: Battery communication port.
18. FAN: Fan power supply port.

Model

51.2V314Ah-HV Battery Module



1. B+: Battery module positive pole (orange).
2. B-: Battery module negative pole (black).
3. FAN: Cooling fan.
4. BMU: Salve BMS.

Typical Application Scenarios

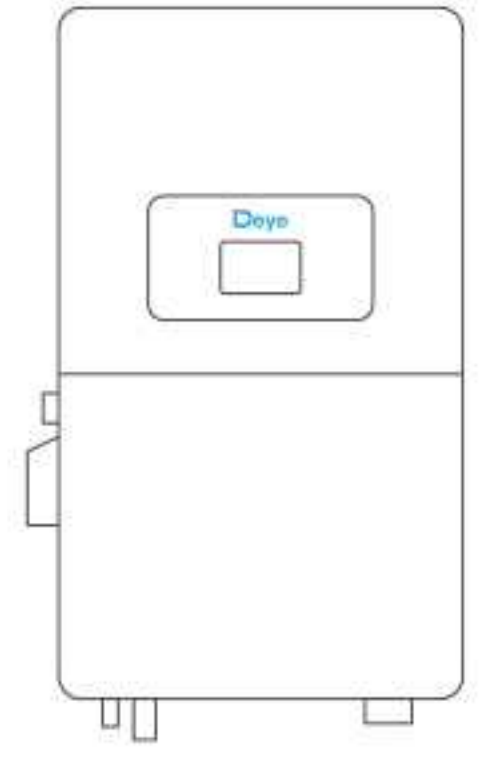
51.2V314Ah HV



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Inverter 50kW



Maximum support for 17 racks of batteries in parallel

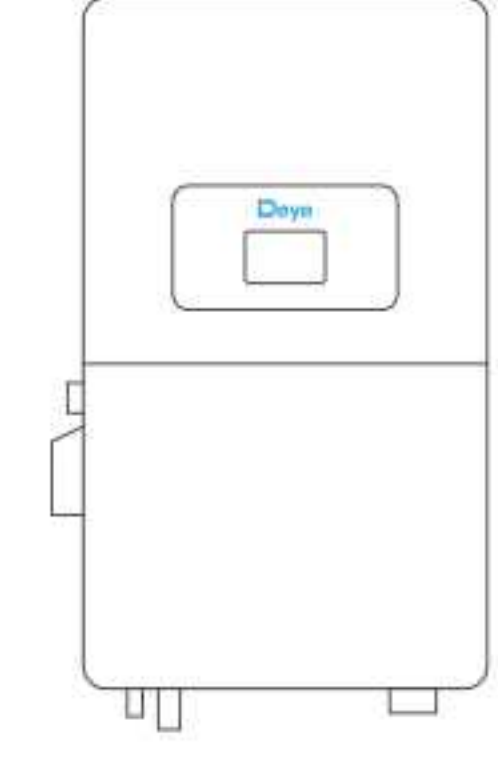
51.2V314Ah HV



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Inverter 50kW



× 10

Maximum support for 10 inverters in AC parallel operation

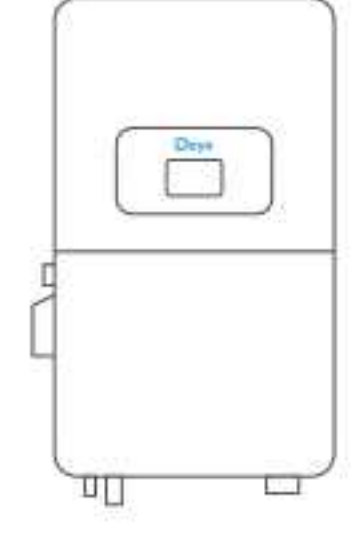
51.2V314Ah HV



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Inverter 80kW



Maximum support for 17 clusters of batteries in parallel

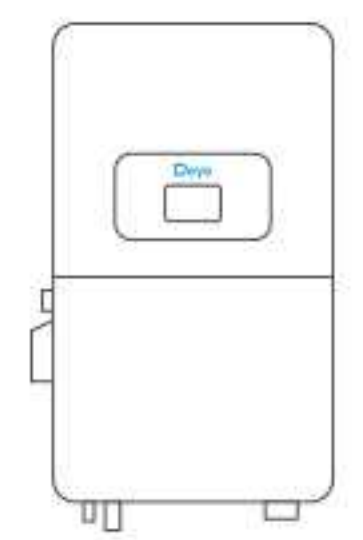
51.2V314Ah HV



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Inverter 80kW



× 10

Maximum support for 10 inverters in AC parallel operation