

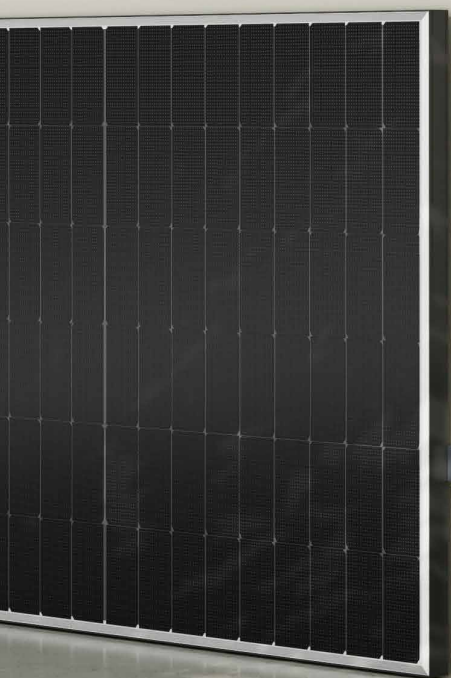


Micro Hybrid Energy Storage System

MICRO HYBRID ESS

Higher Capacity, Longer Backup

SUN-BK80/160/200/250-5.12KWH-EU-AM4-18/32L



Hybrid Grid-Tied Mode
Self-consumption



Off-Grid Mode
Standalone & portable energy storage



AC-Coupled Mode
Upgrade the existing PV balcony system to ESS



Plug and Play

Installs easily with any standard socket



Wireless Zero-Export Function

Precise control & ultra-low latency



Time-of-Use Electricity Strategy

Sets up 6 time periods for charging/discharging



96.5% Conversion Efficiency

Low energy loss



UPS-Grade Backup Power

≤4ms on-grid/off-grid switchover



Strong Performance

Up to 2.5kW rated AC power



Intelligent Load Control

Supports smart plug, smart switch, smart EV charger



IP65 Protection Rating

10-year warranty



99% PV Module Compatibility

Max. 5760W PV access power



Higher Single-Unit Capacity

Longer backup time



Remote O&M

Control via Deye Cloud App



Local Bluetooth Communication

Supports offline control



Micro Hybrid Energy Storage System



Max. 5760W PV
power input



5.12kWh
LFP Battery



Max. 2500W On-grid
& Off-grid operation



Model	SUN-BK80-5.12KWH -EU-AM4-18L	SUN-BK160-5.12KWH -EU-AM4-18L	SUN-BK200-5.12KWH -EU-AM4-18L	SUN-BK250-5.12KWH -EU-AM4-18L
Battery Input Data				
Battery Type	LiFePO ₄			
Battery Voltage Range(V)	44.8-57.6 V			
Battery Nominal Energy (Wh)	5120Wh			
Max.Charging/Discharging Current(A)	50A			
Charging Strategy for Li-ion Battery	Self-adaption to BMS			
PV String Input Data				
Max. PV access power (W)	4400W			
Max. Operating PV Input Current (A)	18+18+18+18A			
Max. Input Short-Circuit Current (A)	32+32+32+32A			
Rated PV Input voltage (V)	42.5V			
Start-up Voltage (V)	25Vdc			
MPPT voltage range (V)	20 ~ 55V			
No. of MPP Trackers/No. of Strings MPP Tracker	4/1+1+1+1			
AC Input/Output Data				
Rated AC Input/Output Active Power (W)	800W	1600W	2000W	2500W
Max. AC Input/Output Active Power (W)	880W	1760W	2200W	2750W
Max. off grid power (W)	2500W			
Rated AC Input/Output Current (A)	3.7A / 3.5A	7.3A / 7.0A	9.1A / 8.7A	11.4A / 10.9A
Max. AC Input/Output Current (A)	4A / 3.9A	8A / 7.7A	10A / 9.6A	12.5A / 12A
Peak Power (off-grid) (W)	2 times of rated power,10s			
AC Input / Output Frequency and Voltage	50Hz (45Hz ~ 55Hz) , 60Hz (55Hz ~ 65Hz) , L + N + PE , 220 / 230 Vac			
Power Factor Adjustment Range	0.8 leading-0.8lagging			
Max. Continuous AC Passthrough (grid to load)(A)	30A			
DC Injection Current	<0.5%In			
Efficiency				
Max. Efficiency	96.5%			
Euro Efficiency	96.0%			
MPPT Efficiency	>99%			
Equipment Protection				
Integrated	DC reverse polarity protection, AC Output Overcurrent Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, Thermal Protection, Insulation Impedance detection, Anti-islanding protection			
Surge Protection Level	TYPE II(DC),TYPE II(AC)			
General Data				
Max. Inverter Parallel NO.	3 pcs (up to 7.5 kW rated output)			
Communication Interface	Wi-Fi, Bluetooth, LoRa			
Operating Temperature Range (°C)	-10°C ~ 55°C, >45°C Derating, (-20°C~55°C with heating, optional)			
Permissible Altitude (m)	2000m			
Ingress Protection(IP) Rating	IP 65			
Cabinet Size (W X H X D)	560 × 510 × 210mm			
Weight (kg)	52±3kg			
Permissible Ambient Humidity	0% ~ 95% (No Condensing)			
Warranty	10 years			
Grid Regulation	VDE 4105, IEC 61727/62116, VDE 0126, AS 4777.2, CEI 0-21, EN 50549-1, G98, C10-11, UNE 217002			
Safetv EMC/Standard	IEC 62619, UN38.3, IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 61000-6-1/2/3/4			



Micro Hybrid Energy Storage System



Max. 5760W PV
power input



5.12kWh
LFP Battery



Max. 2500W On-grid
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Battery Input Data				
Battery Type	LiFePO ₄			
Battery Voltage Range(V)	44.8-57.6 V			
Battery Nominal Energy (Wh)	5120Wh			
Max.Charging/Discharging Current(A)	50A			
Charging Strategy for Li-ion Battery	Self-adaption to BMS			
PV String Input Data				
Max. PV access power (W)	5760W			
Max. Operating PV Input Current (A)	32+32+32+32A			
Max. Input Short-Circuit Current (A)	48+48+48+48A			
Rated PV Input voltage (V)	42.5V			
Start-up Voltage (V)	25Vdc			
MPPT voltage range (V)	20 ~ 55V			
No. of MPP Trackers/No. of Strings MPP Tracker	4/1+1+1+1			
AC Input/Output Data				
Rated AC Input/Output Active Power (W)	800W	1600W	2000W	2500W
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AC Input / Output Frequency and Voltage	50Hz (45Hz ~ 55Hz) , 60Hz (55Hz ~ 65Hz) , L + N + PE , 220 / 230 Vac			
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General Data				
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Ingress Protection(IP) Rating	IP 65			
Cabinet Size (W X H X D)	560 × 510 × 210mm			
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Warranty	10 years			
Grid Regulation	VDE 4105, IEC 61727/62116, VDE 0126, AS 4777.2, CEI 0-21, EN 50549-1, G98, C10-11, UNE 217002			
Safety EMC/Standard	IEC 62619, UN38.3, IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 61000-6-1/2/3/4			



Battery Modules



Model		AE-F5.12
Battery Technical Specification		
Battery Chemistry		LiFePO ₄
Battery Nominal Voltage		51.2V
Battery Nominal Energy		5120Wh
Max. Charging / Discharging Current		50A
Battery Operating Voltage		44.8V ~ 57.6V
Battery Cycle Life		≥6,000 (@25°C±2°C, 70%EOL)
Max. Stack NO.		3 pcs (up to 15.36kWh)
Parallel Capability		16 pcs*
Other Technical Specification		
Display		LED (SOC, Alarm)
Communication Interfaces		LoRa
Dimension (W × D × H) (mm)		450 × 210 × 420 (without terminal)
Ingress Protection(IP) Rating		IP 65
Weight Approximate		40±3kg
Operating Temperature Range		-10°C~55°C (-20°C~55°C with heating, optional)
Max. Operating Altitude		2000m
Relative Humidity		0% ~ 95% (No Condensing)
Certification		UN38.3, IEC 62619, CE
Installation Style		Floor-Mounted,Stacked-Mounted
Warranty		10 years

*Maximum 16 AE-F5.12 packs in parallel, providing up to 81.92 kWh.

Optional Interfaces:

Parallel communication port & load port

RS485 port

CT port

Note: Optional interfaces are not field-upgradable and must be selected at the time of order with the required hardware.

Optional Accessory:

Deye Wireless CT (Model: SUN-SMART-CT01)

Installed in the distribution box to monitor power consumption, enabling wireless zero-export control.



SCENARIO-BASED ENERGY MANAGEMENT SOLUTIONS

Utilize energy in every outdoor adventure or household needs. Embrace effortless energy experience that's both eco-friendly and budget-friendly with our intelligent assistant.

Scenario 1 :



Compact Balcony Solar Plant
Automated Energy-Saving Strategies

Scenario 2 :

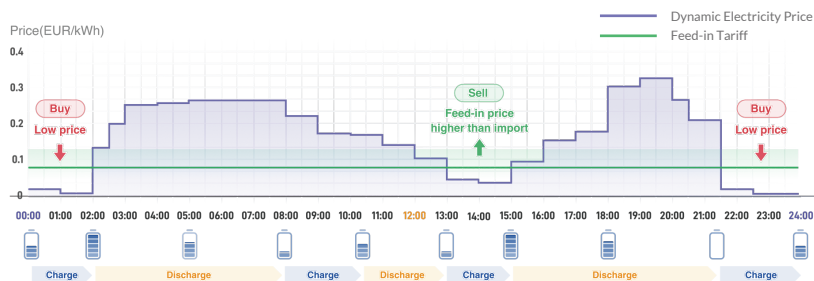


Camping Power Solution
Empower Your Outdoor Adventure

Scenario 3 :



Reliable Home Emergency Power Source
Ensure You Stay Powered Up When You Need It Most



* Selling electricity back to grid is available where local regulations permit.

One-Tap Setup, Real-Time Optimization

Flexible Scheduling

Sets up 6 customizable charging/discharging time slots to utilize time-of-use electricity pricing and reduce costs.

Deye Copilot Function

Enables Deye Cloud to access local dynamic electricity prices and intelligently decide the optimal time for electricity trading.





What Can It Power

Max. 2.5 kW/ 5.12 kWh

1 Inverter + 1 Battery Design



Typical Device Runtime

No Electricity Anxiety for Emergency Power Backup



Phone

270 Times



Laptop

46 Times



Light

6 Days



TV

15 Hours



Camera

266 Times



UAV

40 Times



Microwave

3.6 Hours



Mini Refrigerator

2-4 Days



Wi-Fi Router

6 Days



Space Heater

50 Hours

* The data above is for reference only. Actual runtime may vary with use.

Compatible Appliances



Kitchen Appliances

Electric kettle
1800W

Microwave oven
1000W

Blender
500W

Rice cooker
800W

Air fryer
1500W



Household Appliances

Hair dryer
1800W

Vacuum cleaner
1000W

Air purifier
100W

Space heater
1500W

Washing machine
500W



Office & Entertainment

Wi-Fi router
10W

Laptop
60W

Printer
50W

Projector
300W

Television
120W



Lighting & Small Electronics

Light
10W DC

Phone charger
25W

Fan
40W

Loudspeaker
60W

Tablet
45W

Key Power Note:

The rated powers above are for reference only. All devices with a rated power of $\leq 2500W$ are compatible.
Operational Safety: Ensure the total power of all devices running simultaneously stays under 2500W.