



Deye

# Micro Hybrid Energy Storage System

## MICRO HYBRID ESS

Suitable for on-grid, off-grid, and portable use

SUN-BK160/180/200-2.0KWH-EU-AM2

SUN-BK160/180/200-2.0KWH-EU-AM4



**Hybrid Grid-Tied Mode**  
Self-consumption



**Off-Grid Mode**  
Standalone & portable energy storage



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

96.5%

**High Conversion Efficiency**  
DC-AC conversion efficiency of up to 96.5%

4ms

**UPS-Grade Backup Power**  
Grid-tie and off-grid switchover time is less than 4ms

Max. 4 MPPTs

Supports flexible connection  
of multiple PV panels



2000W Rated Power AC Charge/Discharge



**Local Bluetooth Communication**  
Supports offline control  
via the Deye Cloud APP

3200W

**High-Power PV Input**  
Supports up to 4000W for PV access  
and allows a maximum PV power input of 3200W

IP65

**IP65 Protection Rating**  
10-year standard warranty

Deye  
Wireless Energy Management System

**Wireless Energy Management System**  
Smart plug, smart switch, wireless CT



**Seamless Scalability**

Easily expand the system with additional battery capacity





# Micro Hybrid Energy Storage System



4000W PV  
MPPT Input



2kWh  
LFP Battery



2000W On-grid and  
Off-grid Operation



Model	SUN-BK160-2.0 KWH-EU-AM2	SUN-BK180-2.0 KWH-EU-AM2	SUN-BK200-2.0 KWH-EU-AM2	SUN-BK160-2.0 KWH-EU-AM4	SUN-BK180-2.0 KWH-EU-AM4	SUN-BK200-2.0 KWH-EU-AM4
AC Input/Output Data						
Rated AC Input / Output Active Power	1600W	1800W	2000W	1600W	1800W	2000W
Max. AC Input / Output Active Power	1600W	1800W	2000W	1600W	1800W	2000W
AC Input / Output Frequency and Voltage	50Hz ( 45Hz ~ 55Hz ) , 60Hz ( 55Hz ~ 65Hz ) , L+N+PE , 220 / 230 Vac					
Grid Type	Single phase					
Rated Grid Input / Output Current	7.3A / 7.0A	8.2A / 7.9A	9.1A / 8.7A	7.3A / 7.0A	8.2A / 7.9A	9.1A / 8.7A
Max.Grid Input / Output Current	8.0A / 7.7A	9.0A / 8.7A	10.0A / 9.6A	8.0A / 7.7A	9.0A / 8.7A	10.0A / 9.6A
Peak Power ( off-grid )	2 time of rated power, 10s					
Power Factor Adjustment Range	0.8 leading to 0.8 lagging					
Max. Continuous AC Passthrough (grid to load)	20A			30A		
DC Injection Current	<0.5%In					
PV String Input Data						
Max. PV Access Power	3200W	3600W	4000W	3200W	3600W	4000W
Max. PV Input Power	2560W	2880W	3200W	2560W	2880W	3200W
Max. Operating PV Input Current	32A+32A			16A+16A+16A+16A		
Max. Input Short-Circuit Current	48A+48A			24A+24A+24A+24A		
Rated PV Input Voltage	42.5V ( 20V ~ 55V )					
Start-up Voltage	25Vdc					
MPPT Voltage Range	20 ~ 55V					
No. of MPP Trackers/No. of Strings MPP Tracker	2/2+2			4/1+1+1+1		
Battery Input Data						
Battery Type	LiFePO <sub>4</sub>					
Max.Charging/Discharging Current	40A					
Battery Nominal Energy	2000Wh					
Battery Voltage Range	40V ~60V					
Charging Strategy for Li-ion Battery	Self-adaption to BMS					
General Data						
Communication Interfaces	Wi-Fi, Bluetooth, LoRa					
Dimension ( W × D × H )	560 × 210 × 331mm					
Operating Temperature Range	-10℃ ~ 50℃					
Permissible Altitude	2000m					
Permissible Ambient Humidity	0~100%					
Ingress Protection(IP) Rating	IP 65					
Safety EMC / Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2					
Grid Regulation	IEC 61727,IEC 62116,CEI 0-21,EN 50549,NRS 097,RD 140,UNE 217002, OVE-Richtlinie R25,G98,VDE-AR-N 4105					
Battery Certification	UN38.3, IEC 62619					
Installation Style	Floor-Mounted					
Warranty	10 years					



Model		AE-F2.0
Battery Technical Specification		
Battery Chemistry		LiFePO <sub>4</sub>
Battery Nominal Voltage		51.2V
Battery Nominal Energy		2000Wh
Max. Charging / Discharging Current		40A
Battery Operating Voltage		40V ~ 60V
Battery Cycle Life		≥6000 ( @25°C±2°C, 0.5C / 0.5C, 70%EOL )
Parallel Capability		5 pcs*
Other Technical Specification		
Display		LED ( SOC, Alarm )
Communication Interfaces		CAN2.0, LoRa
Dimension ( W × D × H )		450 × 210 × 244mm
Weight Approximate ( kg )		20
Operating Temperature Range		-10°C ~ 50°C
Max. Operating Altitude		2000m
Relative Humidity		0% ~ 95% ( No Condensing )
Certification		UN38.3, IEC 62619, CE
Installation Style		Floor-Mounted
Warranty		10 years

\*Maximum 5 Pieces AE-F2.0 Packs in Parallel, Up to 10kWh.



App Interface Subject to Change

## 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



## SMARTEN-UP YOUR HOME ENERGY

Real-time monitoring, with data information at a glance.  
Create scenario-based tasks that adapt to your daily routines.  
A smarter way to manage your electricity bills.

## CONNECT, MONITOR, CONTROL

Seamlessly integrated with Deye devices for a smarter,  
more efficient energy experience.

User-friendly interface demystifies complex settings.  
Clear menu hierarchy, key information at your finger tips.

