

B4850

B4850 is a low-voltage energy storage battery designed for home applications. It features a modular design that supports up to 40 parallel units and an energy capacity range from 2.4 kWh to 96 kWh. It can be installed using stackable brackets, ensuring reliable and efficient home energy consumption.



Flexible Expansion

Up to 40 units in parallel,
2.4kWh--96kWh capacity



Easy Installation

Standardized 19-inch 2U chassis design,
Installation by one person



Battery Equalization

Support extreme mixing of modules at
0% and 100% charge



All-round Safety

Short-circuit lockout, surge-resistant,
safe and reliable

Model	B4850
Battery Type	LiFePO ₄
Nominal Battery Energy	2.4 kWh
Nominal Capacity	50Ah
Nominal Voltage	48V
Operating Voltage	42~54.75V
Recommended Charge & Discharge C Rate	0.5C
Recommended Charge/Discharge Current	25A
Max. Power Charge/Discharge Current	50A
Peak Power Charge/Discharge Current	55A (Protect)
Depth of Discharge (DOD)	90%
Net Weight	22 kg
Dimension[W/D/H](mm)	480/360/90 480/405/90
Charging Temp. Range	0~55°C
Discharging Temp. Range	-20~55°C
Communication	CAN/RS485
Cycle Life *	≥6000 Cycles
Protection Level	IP20
Expansion	Up to 40 units in parallel
Pros	Can be used in both off-grid and hybrid setups, compact design
Certification & Safety Standard	UN38.3/CE-EMC/IEC62619/IEC62040/CEC Accredited/CEI-021/UL1973/REACH/ROHS/UKCA/GOST-R
Compatible Inverters	SMA/Schneider/Victron energy/Ingeteam/Solis/GoodWe/Growatt/Soplanet/Luxpower/DEYE etc.

* Test conditions: 0.2C Charging & Discharging, @25°C, 90% DOD



ECO HYBRID

Single-Phase

SNA 12K

- 2 MPPTs with 4 strings, Max. 24kW PV input
- Max. charging and discharging current: 250A
- Off-grid application for high demand with 12kW output power
- Dual AC output ports for multiple load connections
- Separate GEN port
 - Up to 19.2kW Gen/AC coupling input
 - Auto generator start and stop control
- Integrated Design with Load and Battery Breaker
- PV or AC or Generator wake up battery



Specification

INPUT (PV DC)		SNA 12K
Max. PV array power (W)		24000 (12000/12000)
Rated PV input voltage (V)		320
Number of independent MPPT inputs		2/(2:2)
PV input voltage range (V)		100-480
MPPT voltage range (V)		120-385
Start-up voltage (V)		100
Max. PV input current per MPPT (A)		35/35
Max. PV short-circuit current input per MPPT (A)		44/44
Battery		
Compatible battery type		Lithium-ion/Lead-Acid
Rated battery voltage (V)		48/51.2
Battery voltage range (V)		46.4-60/38.4-60
Max. charging / discharging current (A)		250
Max. charging / discharging power (W)		12000
Force wake up battery from PV and Grid function		YES
Grid		
Rated AC voltage (V)		230
Acceptable Input Voltage Range (V)		90~280
Rated AC frequency (Hz)		60/50
Rated AC input current (A)		100
Rated AC input power (W)		24000
PF		0.99
THDI		<5%
Max. continuous AC passthrough current(A)		100
UPS		
Rated output power (W)		12000
Rated output voltage (V)		230
Rated output current (A)		50
Rated output frequency (Hz)		50/60
Surge power, duration		2Pn, 5s
Switching time (UPS)		<10ms@Single and Parallel
Wave form		Sine wave
THDV		3%
GEN		
Acceptable input voltage range		230
Max. AC input voltage (V)		280
Max. AC input current (A)		63
Rated input frequency		50Hz/60Hz (Auto detection)
Transfer time		<10ms@Single; <20ms@Parallel
THDV		<3%
Overload protection		5s@≥150% load /10s@110%~150% load
Efficiency		
Max. efficiency		93.5%
Max. charging / discharging efficiency		93.0%
Max. MPPT efficiency		99.0%
Protection		
PV reverse polarity protection(Y/N)		YES
Over current / voltage protection(Y/N)		YES
AC Short-circuit current protection(Y/N)		YES
Grid monitoring(Y/N)		YES
DC switch(Y/N)		YES
DC / AC Surge protection Type III		YES
Battery reverse polarity protection(Y/N)		YES
General		
Dimensions (W*H*D mm)		530*830*150mm(17.72*25.59*5.9inch)
Weight		40kg/88.2lbs
Ingress protection rating		IP20
Operating environment temperature range(°C)		0~45
Storage temperature range(°C)		-15~60
Relative humidity		5% ~ 95%
Display & Communication interface		LCD+RGB, RS485 / Wifi / CAN
Warranty		2 years
Cooling method		Smart cooling
Topology on AC / Battery side		Transformer-less / Transformer
Altitude (m)		<2000
Noise emission (typical)		<50dB
Standard & Certification		
CE		



TWMNH

N-type Half-cell
Bifacial Black Frame Module (48)

48HD435-455W

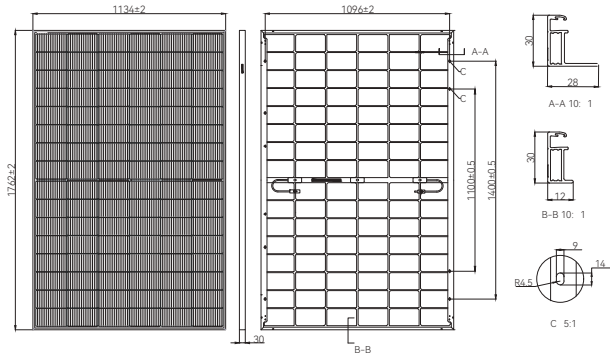


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DRAWINGS (Unit: mm)



MECHANICAL PARAMETERS

Cells	TNC (N Type Monocrystalline Cell)
Cell Orientation	96[6×16]
Dimension	1762±2×1134±2×30mm
Weight	20.9kg
Front Glass	1.6mm high transmittance, AR tempered glass
Rear Glass	1.6mm semi-tempered glass
Frame	Anodized aluminum alloy black frame
Junction Box	IP68, 3 diodes
Output Cable	4.0mm ²
Cable Length	±1200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	36pcs per pallet, 936pcs per 40'HC

ELECTRICAL CHARACTERISTICS (STC)

Module Type: TWMNH-48HDXXX

Maximum Power: Pmax [W]	435	440	445	450	455
Open Circuit Voltage: Voc [V]	34.49	34.67	34.85	35.03	35.21
Short Circuit Current: Isc [A]	15.90	15.95	16.00	16.05	16.10
Voltage at Maximum Power: Vmp [V]	29.54	29.72	29.90	30.08	30.26
Current at Maximum Power: Imp [A]	14.73	14.81	14.89	14.97	15.04
Module Efficiency: η [%]	21.8	22.0	22.3	22.5	22.8

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: ±3%

ELECTRICAL CHARACTERISTICS (NMOT)

Maximum Power: Pmax [W]	327	331	335	338	342
Open Circuit Voltage: Voc [V]	32.77	32.94	33.11	33.28	33.45
Short Circuit Current: Isc [A]	12.84	12.88	12.92	12.96	13.00
Voltage at Maximum Power: Vmp [V]	27.51	27.68	27.88	27.96	28.18
Current at Maximum Power: Imp [A]	11.89	11.96	12.02	12.09	12.14

* NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

ELECTRICAL CHARACTERISTICS (Rear Power Gain)

5%	Maximum Power: Pmax[W]	456	462	467	472	477
	Module Efficiency: η [%]	22.8	23.1	23.4	23.6	23.9
15%	Maximum Power: Pmax[W]	500	506	511	517	523
	Module Efficiency: η [%]	25.0	25.3	25.6	25.9	26.2
25%	Maximum Power: Pmax[W]	543	550	556	562	568
	Module Efficiency: η [%]	27.2	27.5	27.8	28.1	28.4

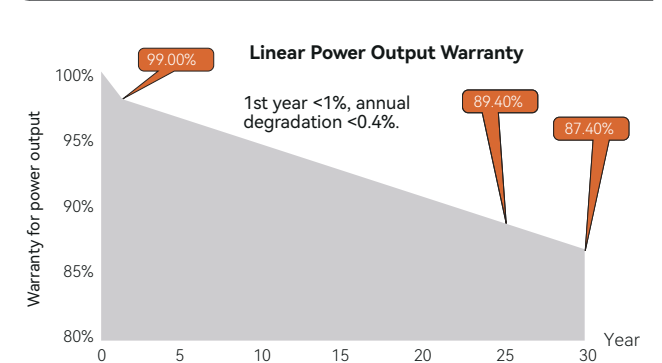
TEMPERATURE PARAMETERS

Temperature Coefficient (Pmax)	-0.30%/°C
Temperature Coefficient (Voc)	-0.25%/°C
Temperature Coefficient (Isc)	+0.046%/°C
NMOT	45±2°C

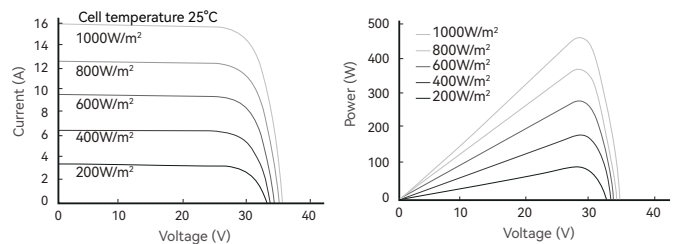
MAXIMUM RATINGS

Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Output Tolerance	0~+5W
Maximum Bifaciality	80±10%

WARRANTY



I-V CURVE



CERTIFICATIONS

Quality Management System and Product Certification

- ISO 9001: 2015/Quality management system
- ISO 14001: 2015/Environmental management system
- ISO 45001: 2018/Occupation health safety management system
- ISO 50001: 2018/Energy management system
- IEC 62941: 2019/Quality system for PV module manufacturing
- IEC 61215/61730, IEC 62804(PID), IEC 61701(Salt), IEC 62716 (Ammonia), IEC 60068-2-68(Sand)

