



SolisStorage

NEW

SolisStorage PrimePower ESS

PrimePower-109kWh-50kW-NV



5 Unique Advantages

- Uses high-capacity 306Ah CATL cells for exceptional performance and reliability
- Features an aluminium alloy baseplate with patented natural cooling and IP67 protection
- Fan-less design means no regular maintenance, with a flammable gas detector that stays accurate for 10 years
- 14-level safety protection across cell, pack, and system
- Zero heat transfer between inverter and cells enhances stability and extends lifespan

4 Leading Advantages

- Supports 13 operating modes under both strong and weak grid conditions
- Switches between on-grid and off-grid in under 10 milliseconds to prevent interruptions ^①
- Flexible system expansion, up to 500kW/6.5MWh to meet growing energy needs
- Enables remote monitoring and over-the-air updates via SolisStorage Cloud

^① When multiple inverters in parallel, transfer time within 20ms.

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DATASHEET

PrimePower-109kWh-50kW-NV

Models	PrimePower-109kWh-50kW-NV
System	
System energy	109.7 kWh
System usable energy	98.7 kWh
Maximum cycle rate	0.5 CP
Maximum cycle efficiency ^①	89%
Depth of charge and discharge	90%
Dimensions (W × D × H)	1270 × 2094 × 1340 mm
Weight	1320 kg (battery) + 73 kg (inverter)
Operating temperature range	-25 ~ +60°C
Storage temperature range	-20 ~ +45°C
Operating humidity range	≤95% (non-condensing)
Maximum working altitude	4000 m
System temperature control mode	Industrial-grade air-conditioning (Cabinet); Natural cooling (Pack); Intelligent fan-cooling(Inverter)
Fire suppression mode	Default: Aerosol, Explosion relief valve, Fire water inlet Optional: Flammable gas detector, Explosion relief panel
Protection degree	IP55 (battery) + IP66 (inverter)
Anti-corrosion class(Battery)	C4/C5 (Optional)
Anti-corrosion class (Inverter)	C5
Noise (rated operating condition)	70 dB @ 1 m
Lightning protection	Type II (AC port), Type II (PV&Battery)
Protection mode	Anti-islanding protection, residual current detection, insulation resistance detection, AC overcurrent protection, and AC cable connection protection
Certification standards	IEC62619, IEC61000-6/2/4, IEC62040, IEC63056, IEC62477, UN38.3
Battery	
Battery type	Li-ion
Battery cell	CATL 306 Ah
System battery configuration	1P112S
Rated voltage	358.4 V
Normal charge / discharge current	153 A
Battery Module number	7
Battery Module energy	15.67 kWh
Battery Module weight	105 kg
Normal charge / discharge current	153 A
Communication	LAN, Optional: Wi-Fi, Cellular
Inverter	
Inverter model	S6-EH3P50K-H
Rated output power	50 kW
Max. apparent output power@On-grid	50 kVA
Rated grid voltage	3/N/PE, 220 V / 380 V; 3/N/PE, 230 V / 400 V
Rated output current	76 A / 72.2 A
Max. apparent output power@Off-grid	1.6 times of rated power, 2 s
Back-up switch time	< 10 ms
Power factor	> 0.99 (0.8 leading - 0.8 lagging)
THDi/THDv (@linear load)	<2%, < 3%
Max. usable PV Input Power	96 kW
Recommended max. PV array size	100 kW
Max. input voltage	1000 V
Rated voltage	600 V
Start-up voltage	180 V
MPPT voltage range	150 - 850 V
Full load MPPT voltage range	600 - 850 V
Max. input current	4 × 40 A
Max. short circuit current	4 × 60 A
MPPT number / Max. input strings number	4/8
Communication	CAN, RS485, LAN, Optional: Wi-Fi, Cellular

① Rated operating condition: In the on-grid scenario, the ambient temperature is 25°C, the charge/discharge rate is 0.5 CP, and the AC output voltage is 400 Vac.