

All-In-One Solar ESS

Specification for Inverter & Battery

12KW+32KWH

Scope

This product is suitable for 51.2V product applications and can be used in conjunction with photovoltaics and inverters to supply power to household televisions, air conditioners, lighting fixtures, etc. This product has voltage, current, and temperature protection functions.

Product Specification

Testing Condition

Unless otherwise specified in the testing project, all tests in this specification shall be conducted under the following conditions:

Environmental temperature: 25 ± 2 °C;

Relative humidity: $65\% \pm 20\%$

Test Instrumentation & Device Characteristics

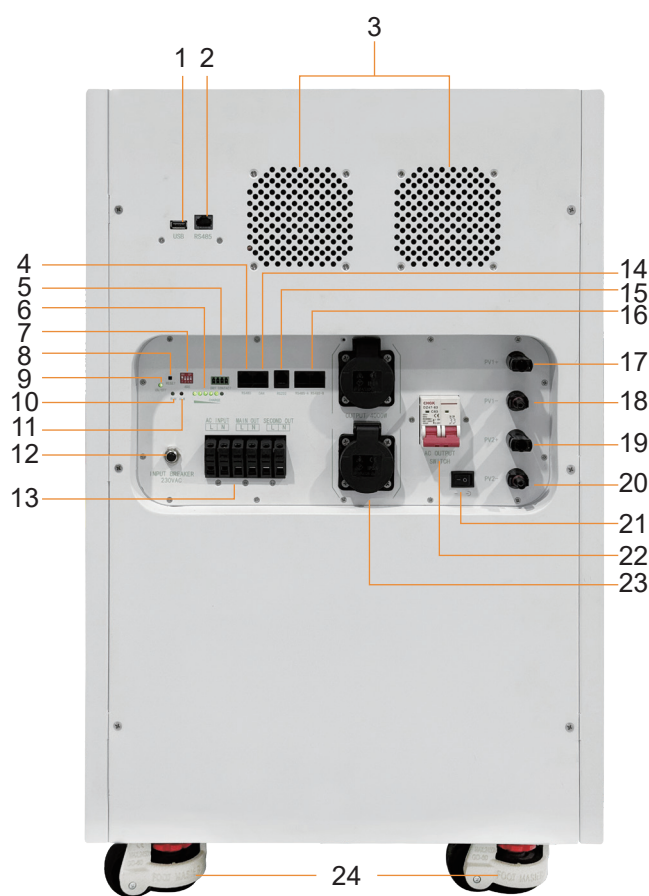
The accuracy of the voltage measuring instrument should not be lower than level 0.5, and the internal resistance should not be less than $10k \Omega/V$; The accuracy of the current measuring instrument should not be lower than level 0.5; The accuracy of the instrument used for measuring time shall not be less than $\pm 0.1\%$; The temperature measuring instrument should not be lower than ± 1 °C; The voltage output and detection accuracy of the battery charge and discharge tester shall not be less than $\pm 0.5\%$; The current output and detection accuracy shall not be less than $\pm 0.1\%$;

Safety Performance Requirements

Item	Test Method	Require
Short Circuit	After being fully charged using the standard charging method at 25 °C, short-circuit the positive and negative terminals of the battery pack's discharge port with wires (wire resistance $80 \pm 20m \Omega$) for 1 hour.	The battery pack should not leak, ignite, or explode.
OverCharge	After charging with the standard charging method at 25 °C, set the constant current source to 1.25 times the nominal voltage and 0.1I (A),	
Discharge	Discharge the battery pack to the termination voltage or battery pack protection, and then continue discharging for 5 hours at 0.1I (A).	
Constant Damp Heat Test	After charging using the standard charging method at 25 °C, place it in a constant temperature and humidity chamber at (40 ± 2) °C and relative humidity of 90-95% for 48 hours; After 7 hours of storage, visually inspect.	Visually inspect the appearance and ensure that there is no leakage, smoke, fire, or explosion.
High and low temperature impact	After charging using the standard charging method at 25 °C, place the battery pack in an environment with a temperature of $75 \text{ °C} \pm 2 \text{ °C}$ for 6 hours, then move it to an environment with a temperature of -40 °C for 6 hours. The time interval between moving from the highest temperature to the lowest temperature should not exceed 3 minutes. Repeat the above steps, after 10 cycles, remove and let it sit for 24 hours, and visually inspect.	

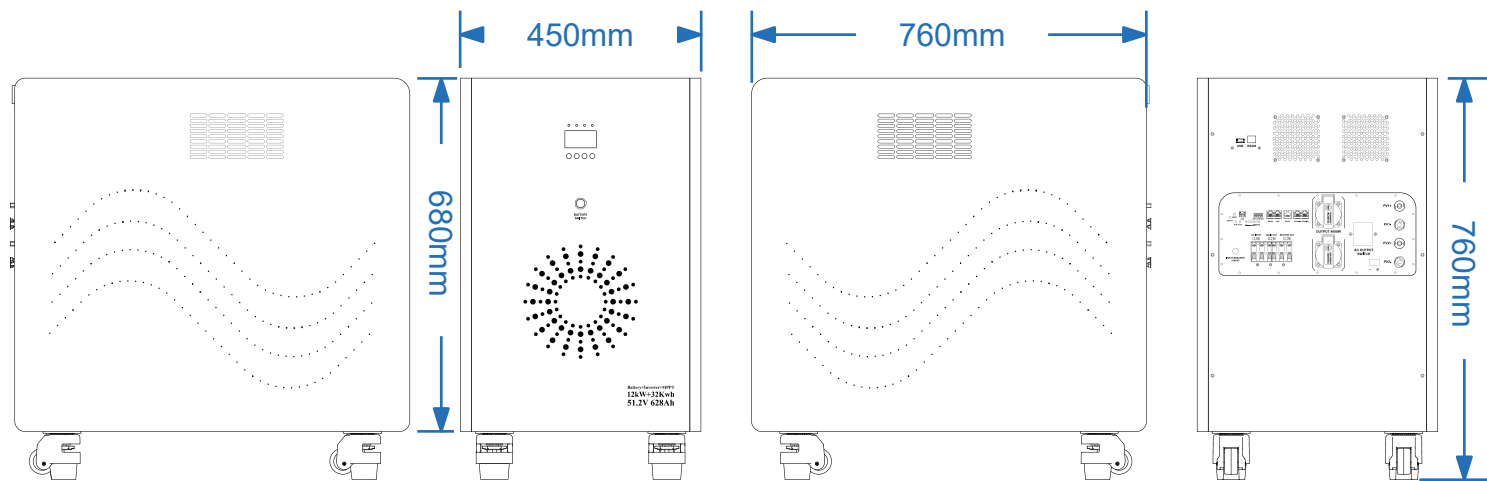


Description



1	USB
2	RS485
3	Fan
4	RS485
5	Dry Contact
6	Charge(LED)
7	ADS
8	Reset
9	ON/OFF(LED)
10	Run(LED)
11	Alarm(LED)
12	Input Breaker 230VAC
13	AC terminal block
14	CAN
15	RS232
16	RS485
17	PV1 Positive
18	PV1 Negative
19	PV2 Positive
20	PV2 Negative
21	ON/OFF(Switch)
22	AC Output Switch
23	Universal Gauge AC Output
24	Universal Wheel

Dimensions



Parameters

Inverter Parameters		INV 12000	
Power	12KVA /12KW		
Maximum photovoltaic input power	Single Circuit 9000W ; Dual Circuit 15000W		
Two AC outputs	Yes		
Universal Gauge AC Output Power	3KVA/3KW+3KVA/3KW		
Terminal Strip AC Output Power	12KVA / 12KW		
Maximum AC total output power	12KVA / 12KW		
Parallel machine function	NO		
Lithium-ion communication	RS232/RS485/Dry Contact		
Lithium battery activation	Yes (photovoltaic or mains)		
Input			
Rated voltage	230VAC		
Voltage range	170-280VAC (computer application); 90-280VAC (household appliances)		
Frequency	50 / 60 Hz (automatic detection)		
Output			
Rated voltage	220/240VAC±5%		
Instantaneous power	18000VA		
Frequency	50/60 Hz		
Output waveform	Pure sine wave		
Switching time	10ms (computer application); 20ms (household appliances)		
Peak efficiency (PV to INV)	96%		
Peak power (Battery to INV)	93%		
Overpower protection	5s@ > =140% load; 10s@100%~140% load		
Peak coefficient	3:1		
Power factor	0.6~1 (capacitive or inductive)		
Grid connection mode	Not support		
PV Charging & AC Charging			
Charge mode	MPPT		
Maximum photovoltaic input power	7500W+7500W		
Maximum photovoltaic open circuit voltage	500VDC		
MPPT voltage range	120VDC~450VDC		
Maximum photovoltaic input current	22.5A+22.5A		
Maximum photovoltaic charging current	160A		
Maximum mains charging current	120A		
Maximum charging current	160A		
Battery Parameters		BAT 512628	Remarks
Nominal Capacity		628AH	0.3C charging, 1C discharging, 25 °C
Rated Voltage		51.2V	16S
Discharge Cut-off Voltage		44V	
Charging Cut-off Voltage		56.4V	
Float charging voltage		56V	
Continuous charging maximum current		160A	Can Set
Maximum current for continuous discharge		200A	
Battery Energy		32000Wh	
Rated Output Power		12000W	
Communication Interface		RS232/RS485/Dry Contact	
Discharge working temperature		-15°C ~ 50°C	
Charging working temperature		0°C ~ 50°C	

Relative Humidity		5 ~ 90%	
Altitude		≤4000m	
Protection Grade		IP21	
Storage Time		Keep charging at least once every 3 months	
Number of cycles		6000 times, DOD≥90% ; 10000 times, DOD≥80%	75% DOD 25℃
Main Parameters For BMS			
Overcharge Protection	Overcharge detection voltage	Monomer 3.65 ± 0.05V	
	Overcharge protection delay	0.5S	
Over Discharge Protection	Overdischarge detection voltage	Monomer 2.7 ± 0.05V	
	Overdischarge detection delay	0.5S	
Overcurrent Protection	Greater than rated current	1.1%	
Overcurrent Recovery	Disconnect Load	/	
Self Consumption Power	Working Current	≤10mA	
	Sleep Current	≤50uA	
Physical Property			
Product Size, length x width x height (mm)		760*450*760	
Package Size, length x width x height (mm)		780*470*780	
Net Weight (Kgs)		238	
Gross Weight (Kgs)		258	
LCD		Yes	
Application Environment			
Operating temperature range		-10℃ to 55℃	
Storage temperature range		-15℃~ 60℃	
Humidity		5% to 95% relative humidity (no frost)	

Product Appearance Requirements

The edge sealing tape of the battery pack must be neatly applied and free of bubbles;
The position of the anti vibration sponge attached to the outside of the battery pack is regular and neat;
Clean appearance of battery pack;

Packing, Shipping & Storage Requirements

Product outer packaging box packaging requirements:
comply with the requirements of the product packaging schematic diagram.

Product transportation requirements:

- 1.During transportation, batteries should be protected from severe vibration, impact, or compression, as well as exposure to sunlight and rain. They can be transported by vehicles such as cars, trains, ships, and airplanes;
- 2.During the loading and unloading process, batteries should be placed gently to prevent falling, rolling, and heavy pressure. Product storage requirements: 1.The battery should be stored indoors in a clean, dry, and ventilated environment with an ambient temperature of -10℃ to 35℃ and a relative humidity of no more than 85%; 2. The battery should be kept away from corrosive substances and kept away from sources of fire and heat;
3. Battery storage SOC: 40% to 60%.