

Overview

HPS-AHL series is a high-frequency home battery backup with built-in lithium iron phosphate battery, featuring utility charging, oil generator charging, solar charging, utility output, inverter output, and energy management. The device structure adopts a compartmentalized design with separate cooling channels and sensor components, providing superior protection. The series offers three models ranging from 1KW to 2.5KW, with a variety of DC output interfaces and different charging/discharging modes. Users can flexibly select the energy supply method according to their needs, achieving efficient energy utilization and high power supply reliability. It can be widely used in areas with limited or no electricity access.

Features

- Excellent dust-proof performance with separate compartment design
- Built-in LiFePO₄ lithium battery
- Multiple DC output ports (5VDC/3A ports, 12VDC/2A ports, Type C ports)
- Large-sized LCD screen to monitor and modify system parameters
- RS485 communication interface Optional Bluetooth, WiFi, 4G. etc
- Circuit breaker on PV input for equipment safety
- Circuit breaker on battery output for battery safety
- Advanced MPPT technology, Max. tracking efficiency $\geq 99.5\%$
- Pure sine wave output
- Comprehensive electronic protection



Technical Specifications

Model	HPS1022-AHL0210	HPS1522-AHL0310	HPS2522-AHL0610	HPS1021-AHL0210	HPS1521-AHL0310	HPS2521-AHL0610
Utility Input						
Rated Voltage	220VAC			120VAC		
Recommended Input Voltage	200VAC-240VAC			90VAC-140VAC		
Failure Voltage	290VAC			----		
Utility Frequency	50Hz/60Hz			50Hz/60Hz		
Max. Work Current (Charging plus Bypass)	7A @220VAC	10A @220VAC	15A @220VAC	15A @120VAC		
Switch Response Time	Switch Response Time-Utility to Inverter: ≤20ms Switch Response Time-Inverter to Utility: ≤20ms			Switch Response Time-Utility to Inverter: ≤20ms Switch Response Time-Inverter to Utility: ≤20ms		
AC Input Overload Relay	HAVE					
Inverter Output						
Rated Power (@25°C)	1,000W	1,500W	2,500W	1,000W	1,500W	2,500W
4-second Transient Surge Output Power	1,800W	2,700W	4,500W	1,800W	2,700W	4,500W
Output Voltage	220VAC ± 3%			120VAC ± 3%		
Inverter Frequency	50Hz/60Hz ± 0.2%			60Hz/50Hz ± 0.2%		
Output Voltage Waveform	Pure sine wave					
Output Voltage Harmonic Distortion Rate	≤ 3% (Resistive load)			≤ 5% (Resistive load)		
Output Gradual Start	Supported					
Solar Controller						
Max. Input Withstand Voltage	95VDC @25°C					
Solar Controller Type	MPPT					
MPPT Max. Efficiency	≥ 99.5%					
MPPT Voltage Range	24VDC-76VDC					
MPPT Input Channels	One way					
Max. Charging Current	20A	30A	60A	20A	30A	60A
Battery						
Battery Type	LFP8S2P	LFP8S3P	LFP8S1P	LFP8S2P	LFP8S3P	LFP8S1P
Battery Rated Capacity	40Ah	60Ah	102Ah	40Ah	60Ah	102Ah
Cell Dimension (mm)	Diameter: 40.0 +0.5/- 0 Height: 136.25 ±0.5		Length: 160.0 ± 0.8 Height: 118.5 ± 0.5 Width: 50.1 ± 0.5	Diameter: 40.0 +0.5/- 0 Height: 136.25 ±0.5		Length: 160.0 ± 0.8 Height: 118.5 ± 0.5 Width: 50.1 ± 0.5
Battery Rated Voltage	25.6VDC					
Max. Continuous Charging Current	1C					
Max. Continuous Discharging Current	1.8C	1.8C	1C	1.8C	1.8C	1C
Battery Work Voltage Range	21.0VDC-30.0VDC					
Battery Work Temperature Range	Discharging Mode: -20°C to 50°C			Charging Mode: 0°C to 50°C		
Cycle Times	2,000 times		5,000 times	2,000 times		5,000 times
DC Output						
12V DC Output (*2)	12V= 2A, Max. 24W/port, Total 48W					
USB-A Output (*2)	5V= 3A, Max. 15W/port, Total 30W					
USB-C Output (*1)	5V= 3A, Max. 15W					
USB-C Output (*1)	5/9/12/15V= 3A, 20V= 5A, Max. 100W					
DC Output Switch	HAVE					
Others						
Work Temperature Range	-20°C to 50°C					
Enclosure	IP30					
Communication Method	Bluetooth, RS485 (WiFi optional)					
LCD	Monochrome LCD, English interface					
Warranty	Two years					
Dimension (L × W × H)(mm)	385 × 307 × 345	385 × 307 × 345	427 × 325.4 × 368	385 × 307 × 345	385 × 307 × 345	427 × 325.4 × 368
Net Weight	20.0kg	24.0kg	37.0kg	20.0kg	24.0kg	37.0kg

