

## Overview

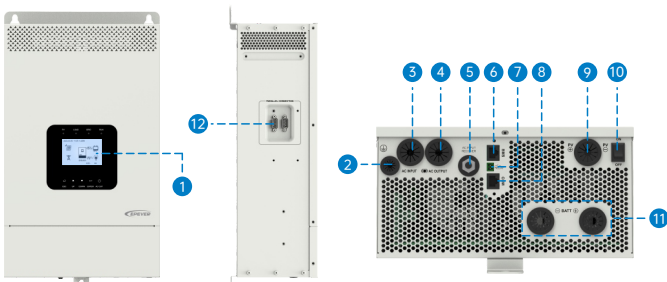
The HP-AHP20SA series is a cost-effective product. It supports multiple charging options, including utility, diesel generator, and solar. It is designed for utility bypass, inverter output, and energy management. The advanced DSP chip, along with its control algorithm, ensures rapid response times, reliability, and high conversion efficiency. Customers can efficiently utilize energy by flexibly switching between solar and utility power using customized settings. This high-quality product provides a stable power supply and is suitable for hybrid power generation systems that combine solar, utility, and oil engine sources. It meets the application requirements for customers seeking cost-effective residential power supply solutions.

## Features

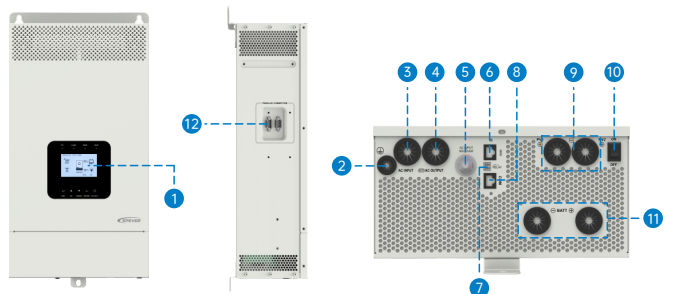
- Pure sine wave output
- Supports battery or non-battery modes
- Built-in BMS-Link module for secure battery charge and discharge control
- Lithium battery self-activation
- PFC technology reduces the demand on the power grid capacity
- Advanced MPPT technology, with Max. tracking efficiency higher than 99.5%
- HP5542-AH1050P20SA supports two PV inputs to improve PV utilization
- Supports charging from multiple types of generators
- Battery charging or discharging current limits are compatible with various types of batteries
- Adjustable maximum utility charging current for flexible configuration of utility charging power.
- Large size LCD display for better status monitoring
- RS485 communication interface with optional 4G, WiFi, or TCP modules for remote monitoring
- Comprehensive electronic protections
- -20°C~+50°C operating temperature range to meets more environment requirements
- A new type of all-digital energy storage integrated machine for multi-source management
- AC output supports parallel operation, standard configuration of 12 units in parallel
- AC output parallel operation supports single-phase and three-phase settings
- With the function of historical data recording, storage capacity for 25,000 records (the interval time of 1~3600 seconds settable)

## Appearance

• HP3542-AH0650P20SA



• HP5542-AH1050P20SA



- |                      |   |                                 |
|----------------------|---|---------------------------------|
| ① LCD                | ⑤ Utility over-current protector                      | ⑨ PV terminals                  |
| ② Grounding terminal | ⑥ BMS port (RJ45, with isolation design)              | ⑩ Power switch                  |
| ③ AC input port      | ⑦ Dry contact interface                               | ⑪ Battery terminals             |
| ④ AC output port     | ⑧ RS485 port (RJ45, with isolation design) 5VDC/200mA | ⑫ Parallel connection interface |

Model	HP3522-AH1250P20SA	HP3542-AH0650P20SA	HP5542-AH1050P20SA
<b>Utility input</b>			
Utility Voltage	176VAC to 264VAC (Default) 90VAC to 280VAC (Configurable)		
Utility Frequency	45Hz to 65Hz		
Maximum Utility Charging Current	110A	60A	100A
Switch Response Time	Switch Response Time – Inverter to Utility: 10ms Switch Response Time – Utility to Inverter (when the load power is higher than 100W): 20ms		
<b>Inverter output</b>			
Inverter Rated Power (@30°C)	3500W		5500W
3-second Transient Surge Output Power	7000W		8500W
Inverter Output Voltage	220/230VAC±3%		
Inverter Frequency	50/60Hz±0.2%		
Output Voltage Waveform	Pure sine wave		
Load Power Factor	0.2 - 1(VA ≤ Rated output power)		
THDu (Total Harmonic Voltage Distortion)	≤3% (24V resistive load)	≤3% (48V resistive load)	
Maximum Load Efficiency	91%	92%	
Maximum Inverter Efficiency	93%	94%	
Parallel Function	Yes, 12 units in standard, 16 units at most		
<b>Solar controller</b>			
PV Maximum Open-circuit Voltage	500V (At minimum operating environment temperature) 440V (At 25°C)		
MPPT Voltage Range	85V to 400V		
PV Maximum Input Power	4000W		6000W
MPPT Input Channels	One way		Two ways
PV Maximum Input Current	One way, 16A	One way, 13A	Two ways, 2x15A
PV Maximum Short-circuit Current	One way, 18A	One way, 15A	Two ways, 2x18A
PV Maximum Charging Current	120A	60A	100A
MPPT Maximum efficiency	≥99.5%		
<b>Battery</b>			
Battery Rated Voltage	24VDC	48VDC	
Battery Work Voltage Range	21.6VDC to 32.0VDC	43.2VDC to 60.0VDC	
Battery Maximum Charging Current	120A	60A	100A
<b>Others</b>			
No-load Losses	<1.4 A Test condition: Utility, PV and Load are not connected, AC output is ON, fan stops, @24V input	<0.7A Test condition: Utility, PV and Load are not connected, AC output is ON, fan stops, @48V input	<1.0 A
Standby Current	<0.9A Test condition: Utility, PV and Load are not connected, AC output is OFF, fan stops, @24V input	<0.5A Test condition: Utility, PV and Load are not connected, AC output is OFF, fan stops, @48V input	<0.75A
Work Temperature Range	-20°C to +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately)		
Storage Temperature Range	-25°C to +60°C		
Enclosure	IP20		
Relative Humidity	< 95% (N.C.)		
Altitude	<4000M (If the altitude exceeds 2000 meters, the actual output power is reduced appropriately)		
<b>Mechanical parameters</b>			
Dimension (Length x Width x Height)	590mm x 288mm x 163mm	534mm x 288mm x 163mm	590mm x 288mm x 163mm
Mounting size (Length x Width)	568mm x 245mm	512mm x 245mm	568mm x 245mm
Mounting hole size	Φ9mm/Φ10mm		
Net Weight	14 Kg	12.0Kg	14.8Kg



# Three phase parallel wiring diagram

