

## Overview

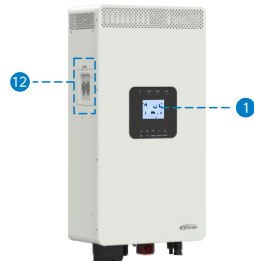
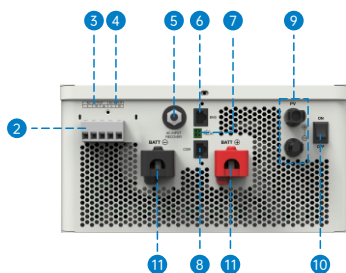
The HP-AHP20A series is a high-frequency inverter charger. It supports multiple charging options, including utility, diesel generator, and solar. It is designed for utility bypass, inverter output, and energy management. The advanced DSP chip, along with its control algorithm, ensures rapid response 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

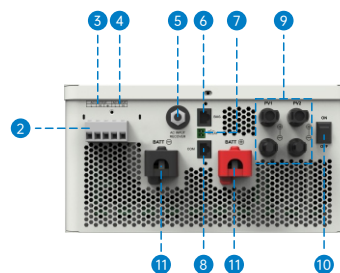
- Pure sine wave output
- Supports battery or non-battery modes
- PFC technology reduces the demand on the power grid capacity
- Advanced MPPT technology, with max. tracking efficiency higher than 99.5%
- HP5542-AH1050P20A supports two PV inputs to improve PV utilization
- Supports charging from multiple 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
- 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

• HP3522-AH1250P20A / HP3542-AH0650P20A / HP2022-AH0750P20A / HP2042-AH0450P20A



• HP5542-AH1050P20A



- |                  |   |                                 |
|------------------|---|---------------------------------|
| ① LCD            | ⑤ Utility over-current protector                      | ⑨ PV terminals                  |
| ② Terminal cover | 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 |

# Specifications

Model	HP2022-AH0750P20A	HP3522-AH1250P20A	HP3542-AH0650P20A	HP5542-AH1050P20A	HP2042-AH0450P20A
<b>Utility input</b>					
Utility Voltage	176VAC ~ 264VAC (Default) 90VAC ~ 280VAC (Configurable)				
Utility Frequency	45Hz~65Hz				
Maximum Utility Charging Current	70A	110A	60A	100A	40A
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)	2000W	3500W	5500W	2000W	
3-second Transient Surge Output Power	4000W	7000W	8500W	4000W	
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	90%		92%	90%	
Maximum Inverter Efficiency	92%	93%	94%	92%	
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 ~ 400V				
PV Maximum Input Power	3000W	4000W	6000W	3000W	
MPPT Input Channels	One way			Two ways	One way
PV Maximum Input Current	One way, 10A	One way, 16A	Two ways, 2x15A	One way, 10A	
PV Maximum Short-circuit Current	One way, 12A	One way, 18A	Two ways, 2x18A	One way, 12A	
PV Maximum Charging Current	70A	120A	60A	100A	40A
MPPT Maximum efficiency	≥99.5%				
<b>Battery</b>					
Battery Rated Voltage	24VDC		48VDC		
Battery Work Voltage Range	21.6VDC ~ 32.0VDC		43.2VDC ~ 60.0VDC		
Battery Maximum Charging Current	70A	120A	60A	100A	40A
<b>Others</b>					
No-load Losses	<1.1 A	<1.2A	<0.8A	<1.1 A	<0.8A
	Test condition: Utility, PV and Load are not connected, AC output is ON, fan stops, @24V input		Test condition: Utility, PV and Load are not connected, AC output is ON, fan stops, @48V input		
Standby Current	<0.9A	<0.9A	<0.6A	<0.75A	<0.8A
	Test condition: Utility, PV and Load are not connected, AC output is OFF, fan stops, @24V input		Test condition: Utility, PV and Load are not connected, AC output is OFF, fan stops, @48V input		
Work Temperature Range	-20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately)				
Storage Temperature Range	-25°C ~ +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(mm) (Length x Width x Height)	629×291.4×163	654×291.4×163	629×291.4×163	679×291.4×163	629×291.4× 163
Mounting size(mm) (Length x Width)	592x200	617 x 200	592x 200	642x 200	592x 200
Mounting hole size	Φ9mm/Φ10mm				
Net Weight	13.3 Kg	15.3 Kg	14.3Kg	17.5Kg	13.3 Kg