

Overview

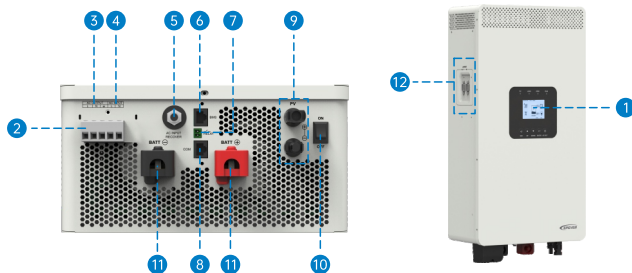
The HP-AHP20A series is a high-frequency inverter charger. It supports multiple charging options, including utility, diesel generator, and solar. It is designed for utility bypass, inverter output, and energy management. The advanced DSP chip, along with its control algorithm, ensures rapid response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

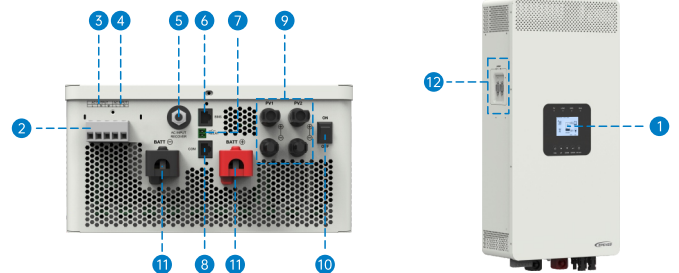
- Pure sine wave output
- Supports battery or non-battery modes
- PFC technology reduces the demand on the power grid capacity
- Advanced MPPT technology, with max. tracking efficiency higher than 99.5%
- HP5542-AH1050P20A supports two PV inputs to improve PV utilization
- Supports charging from multiple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



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|------------------|---|---------------------------------|
| 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 |

Model	HP2022-AH0750P20A	HP2042-AH0450P20A	HP3522-AH1250P20A	HP3542-AH0650P20A	HP5542-AH1050P20A
Utility input					
Utility Voltage	176VAC~264VAC(Default) 90VAC~280VAC(Configurable)				
Utility Frequency	45Hz~65Hz				
Maximum Utility Charging Current	70A	40A	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				
Inverter output					
Inverter Rated Power (@30°C)	2000W		3500W		5500W
3-second Transient Surge Output Power	4000W		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				
THDu (Total Harmonic Voltage Distortion)	≤ 3% (48V resistive load)		≤3% (24V resistive load)	≤ 3% (48V resistive load)	
Maximum Load Efficiency	90%		90%	92%	92%
Maximum Inverter Efficiency	92%	92%	93%	94%	94%
Parallel Function	Yes, 12 units in standard, 16 units at most				
Solar controller					
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	4000W	6000W
MPPT Input Channels	One way			One way	Two ways
PV Maximum Input Current	One way, 15A		One way, 16A		Two ways, 2x15A
PV Maximum Short-circuit Current	One way, 18A		One way, 18A		Two ways, 2x18A
PV Maximum Charging Current	70A	40A	120A	60A	100A
MPPT Maximum efficiency	≥99.5%				
Battery					
Battery Rated Voltage	24VDC	48VDC	24VDC	48VDC	
Battery Work Voltage Range	21.6VDC~32.0VDC	43.2VDC~60.0VDC	21.6VDC~32.0VDC	43.2VDC ~ 60.0VDC	
Battery Maximum Charging Current	70A	40A	120A	60A	100A
Others					
No-load Losses	<1.1 A	<0.8A	<1.2A	<0.8A	<1.1A
	Test condition: Utility, PV and Load are not connected,AC output is ON, fan stops.@24 Vinput	Test condition: Utility, PV and Load are not connected, AC output is ON, fan stops.@48V input	Test condition: Utility, PV and Load are not connected,AC output is ON, fan stops.@24 Vinput	Test condition: Utility, PV and Load are not connected, AC output is ON, fan stops.@48V input	
Standby Current	<0.9A	<1.2A	<0.9A	<0.6A	<0.75A
	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	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 (> 30°C derating)				
Storage Temperature Range	-25°C ~ +60°C				
Enclosure	IP20				
Relative Humidity	< 95% (N.C.)				
Altitude	< 4,000m (> 2,000 meters derating)				
Mechanical parameters					
Dimension(mm) (Length x Width x Height)	629×291.4×163	629×291.4×163	654×291.4×163	679×291.4×163	679×291.4×163
Mounting size(mm) (Length x Width)	592x200	592x200	617x200	592x200	642x200
Mounting hole size	Φ9mm/Φ10mm				
Net Weight	13.3 Kg	13.3Kg	15.3Kg	14.3Kg	17.5 Kg