



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 costeffective residential power supply solutions.

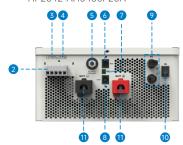
Features

- 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)

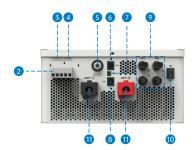
Appearance

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





HP5542-AH1050P20A





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









PV Maximum Short-circuit Current PV Maximum Charging Current PV Maximum Charging Current PV Maximum efficiency Battery Battery Battery Rated Voltage Battery Work Voltage Range Battery Maximum Charging Current PV And Load are not connected, AC output is ON, fan stops, @48V input AC output is OFF, fan stops, @48V input PV and Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops, @48V input PV And Load are not connected, AC output is OFF, fan stops,	Model	HP2022-AH0750P20A	HP3522-AH1250P20A	HP3542-AH0650P20A	HP5542-AH1050P20A	HP2042-AH0450P20A
Washimum Natily Changing Current 70A 110A 60A 100A 40A 40A 50A 100A 40A 40A 50A 50A 100A 40A 50A 50A 50A 50A 40A 50A 5	Utility input				,	
Maximum Utility Charging Current 70A	Utility Voltage	176VAC ~ 264VAC (Default) 90VAC ~ 280VAC (Configurable)				
Switch Response Time	Utility Frequency	45Hz~65Hz				
Name	Maximum Utility Charging Current	70A	110A	60A	100A	40A
Inverter Rated Power (@30°C)	Switch Response Time					
3-second Translent Surge Output Power 4000W 7000W 8500W 4000W 1 weter Output Voltage 220 / 230/AC.39% Inverter Foupeut Voltage 220 / 230/AC.39%	Inverter output					
Inverter Output Voltage	Inverter Rated Power (@30°C)	2000W	3500W		5500W	2000W
Inverter Frequency	3-second Transient Surge Output Power	4000W	7000W 7000W		8500W	4000W
Dutput Voltage Waveform	Inverter Output Voltage	220 / 230VAC±3%				
Load Power Factor	Inverter Frequency	50/60Hz±0.2%				
THDu (Total Harmonic Voltage Distortion) Maximum Load Efficiency 90% 93% 92% 99% 92% 90% Maximum Inverter Efficiency 92% 93% 94% 92% 92% 92% 92% 92% 93% 94% 92% 92% 92% 92% 92% 92% 92% 92% 92% Parallel Function Yes, 12 units in standard, 16 units at most Solar controller PV Maximum Open-circuit Voltage MPPT Voltage Range 9500V (At minimum operating environment temperature) 440V (At 25°C) MPPT Input Channels 000W 4000W 6000W 3000W MPPT Input Channels 00e way, 10A 00e way, 16A 17wo ways, 2x15A 00e way, 10A 0PV Maximum Input Current 00e way, 10A 00e way, 18A 17wo ways, 2x15A 00e way, 10A PV Maximum Charging Current 70A 120A 60A 100A 40A MPPT Maximum efficiency 299.5% Battery Battery Work Voltage Range 216VDC 32.0VDC 43.2VDC 60.0VDC Battery Work Voltage Range 216VDC 32.0VDC 43.2VDC 60.0VDC Battery Work Voltage Range 21.6VDC 32.0VDC 43.2VDC 60.0VDC 43.	Output Voltage Waveform	Pure sine wave				
Maximum Load Efficiency 90% 93% 94% 90% 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 850 × 400V PV Maximum Input Power 3000W 4000W 6000W 3000W MPPT Input Channels One way Two ways One way 100 ways One way 100 ways One way 100 ways 200 ways 100 was 100 was 100 way	Load Power Factor	0.2 - 1(VA ≤ Rated output power)				
Maximum Load Efficiency 90% 93% 94% 90% 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 850 × 400V PV Maximum Input Power 3000W 4000W 6000W 3000W MPPT Input Channels One way Two ways One way 100 ways One way 100 ways One way 100 ways 200 ways 100 was 100 was 100 way	THDu (Total Harmonic Voltage Distortion)	≤3% (24V resistive load) ≤3% (48V resistive load)				ad)
Maximum Inverter Efficiency 92% 93% 94% 92% 92%		,		92	2%	90%
Parallel Function Yes, 12 units in standard, 16 units at most	Maximum Inverter Efficiency	92%	93%	94	1%	92%
Solar controller	•					
PV Maximum Open-circuit Voltage						
PV Maximum Input Power 3000W 4000W 6000W 3000W						
MPPT Input Channels	MPPT Voltage Range	85V ~ 400V				
PV Maximum Input Current	PV Maximum Input Power	3000W	3000W 4000W		6000W	3000W
PV Maximum Short-circuit Current One way, 12A One way, 18A Two ways, 2x18A One way, 12A	MPPT Input Channels	One way			Two ways	One way
PV Maximum Charging Current 70A 120A 60A 100A 40A	PV Maximum Input Current	One way, 10A One way, 16A Two ways, 2x15A One way				One way, 10A
MPPT Maximum efficiency ≥99.5%	PV Maximum Short-circuit Current	One way, 12A	One wa	ay, 18A	Two ways, 2x18A	One way, 12A
Battery Battery Rated Voltage 24VDC 48VDC	PV Maximum Charging Current	70A	120A	60A	100A	40A
Battery Rated Voltage	MPPT Maximum efficiency	≥99.5%				
Battery Work Voltage Range 21.6VDC ~ 32.0VDC	Battery					
Battery Maximum Charging Current 70A 120A 60A 100A 40A Others <1.1 A	Battery Rated Voltage	24\	/DC	48VDC		
Others Comparison Comparis	Battery Work Voltage Range	21.6VDC ~ 32.0VDC		43.2VDC ~ 60.0VDC		
Countries Coun	Battery Maximum Charging Current	70A	120A	60A	100A	40A
No-load Losses Test condition: Utility, PV and Load are not connected, AC output is ON, fan stops, @24V input	Others					
PV and Load are not connected, AC output is ON, fan stops,@24V input Standby Current Standby Current Country of the standby Country of the standby Current Country of the standby Country of the standby Current Country of the standby Country of the standby Current Country of the standb		<1.1 A	<1.2A	<0.8A	<1.1 A	<0.8A
Standby Current Test condition: Utility, PV and Load are not connected, AC output is OFF, fan stops, @24V input Work Temperature Range Work Temperature Range Storage Temperature Range Enclosure Relative Humidity Actual Value Actual output power is reduced appropriately PV and Load are not connected, AC output is OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately PV and Load are not connected, AC output is OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately PV and Load are not connected, AC output is OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately PV and Load are not connected, AC output is OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately FPV and Load are not connected, AC output is OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately FPV and Load are not connected, AC output is OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately FPV and Load are not connected, AC output is OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately FPV and Load are not connected, AC output is OFF, fan stops, @48V input -20°C ~ +50°C FRICTION ACTUAL	No-load Losses	PV and Load an	e not connected,	PV and Load are not connected,		
PV and Load are not connected, AC output is OFF, fan stops, @24V input Work Temperature Range When the environment temperature exceeds 30°C, the actual output power is reduced appropriately. Storage Temperature Range Enclosure Relative Humidity Altitude ACoutput is OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately) Relative Humidity AUDITION Altitude ACOUTPUT IS OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately) Relative Humidity ACOUTPUT IS OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately) Relative Humidity ACOUTPUT IS OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately) Relative Humidity ACOUTPUT IS OFF, fan stops, @48V input -20°C ~ +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately) Relative Humidity ACOUTPUT IS OFF, fan stops, @48V input -20°C ~ +50°C FURDITION IS OFF, fan stops, @48V input -20°C ~ +50°C FURDITION IS OFF, fan stops, @48V input -20°C ~ +60°C FURDITION IS OFF, fan stops, @48V input -20°C ~ +60°C FURDITION IS OFF, fan stops, @48V input -20°C ~ +60°C FURDITION IS OFF, fan stops, @48V input -20°C ~ +60°C FURDITION IS OFF, fan stops, @48V input -20°C ~ +60°C FURDITION IS OFF, fan stops, @48V input -20°C ~ +60°C FURDITION IS OFF, fan stops, gaster is stops. -20°C ~ +60°C FURDITION IS OFF, fan stops, gaster is stops. -20°C ~ +60°C FURDITION IS OFF, fan stops, gaster is stops. -20°C ~ +60°C FURDITION IS OFF, fan stops, gaster is stops. -20°C ~ +60°C FURDITION IS OFF, fan stop		<0.9A	<0.9A	<0.6A	<0.75A	<0.8A
When the environment temperature exceeds 30°C, the actual output power is reduced appropriately. Storage Temperature Range -25°C ~ +60°C Enclosure Relative Humidity < 95% (N.C.) Altitude < 4000M (If the altitude exceeds 2000 meters, the actual output power is reduced appropriately) Mechanical parameters 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	Standby Current	PV and Load are not connected,		PV and I oad are not connected.		
Enclosure Relative Humidity 4000M (If the altitude exceeds 2000 meters, the actual output power is reduced appropriately) Mechanical parameters Dimension(mm) (Length x Width x Height) 629×291.4×163 654×291.4×163 629×291.4×163 629×291.4×163 679×291.4×163 629×291.4×16 Mounting size(mm) (Length x Width) 592x200 617 x 200 592x 200 642x 200 592x 200 Mounting hole size	Work Temperature Range	-20°C ~ +50°C (When the environment temperature exceeds 30°C,the actual output power is reduced appropriately)				
Relative Humidity < 95% (N.C.) Altitude <4000M (If the altitude exceeds 2000 meters, the actual output power is reduced appropriately) Mechanical parameters Dimension(mm) (Length x Width x Height) 629×291.4×163 654×291.4×163 629×291.4×163 679×291.4×163 629×291.4×16 Mounting size(mm) (Length x Width) 592x200 617 x 200 592x 200 642x 200 592x 200 Mounting hole size Φ9mm/Φ10mm	Storage Temperature Range	-25°C ~ +60°C				
Altitude < 4000M (If the altitude exceeds 2000 meters, the actual output power is reduced appropriately) Mechanical parameters Dimension(mm) (Length x Width x Height) 629×291.4×163 654×291.4×163 629×291.4×163 679×291.4×163 629×291.4×16 Mounting size(mm) (Length x Width) 592x200 617 x 200 592x 200 642x 200 592x 200 Mounting hole size Φ9mm/Φ10mm	Enclosure	IP20				
Mechanical parameters Dimension(mm) (Length x Width x Height) 629×291.4×163 654×291.4×163 629×291.4×163 679×291.4×163 629×291.4×16 Mounting size(mm) (Length x Width) 592x200 617 x 200 592x 200 642x 200 592x 200 Mounting hole size Φ9mm/Φ10mm	Relative Humidity	< 95% (N.C.)				
Dimension(mm) (Length x Width x Height) 629×291.4×163 654×291.4×163 629×291.4×163 679×291.4×163 629	Altitude	<4000M (If the altitude exceeds 2000 meters, the actual output power is reduced appropriately)				
Mounting size(mm) (Length x Width) 592x200 617 x 200 592x 200 642x 200 592x 200 Mounting hole size Φ9mm/Φ10mm	Mechanical parameters					
Mounting hole size Φ9mm/Φ10mm	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
Net Weight 13.3 Kg 15.3 Kg 14.3 Kg 17.5 Kg 13.3 Kg	Mounting hole size			Ф9тт/Ф10тт		
	Net Weight	13.3 Kg	15.3 Kg	14.3Kg	17.5Kg	13.3 Kg



