

Overview

HP-AHP30A is a high-frequency inverter charger that integrates grid power/oil generator with solar charging, grid bypass power supply, inverter output, and energy management. The AC output allows for easy parallel operation in single-phase or three-phase setups. The series adopts advanced DSP control technology, ensuring high quality, stability, and reliability. Users can flexibly utilize solar or grid power through settings, maximizing energy efficiency and system power supply reliability. This product is suitable for solar, grid/oil generator hybrid power generation systems, providing users with stable electrical energy.

Features

- Pure sine wave output
- AC output supports parallel operation of multiple units (configurable for single-phase or three-phase), expandable up to 12 times the system capacity
- Supports battery or non-battery mode
- Compatible with various battery types: lithium, gel, sealed, etc
- Equipped with BMS communication interface for safe charge and discharge control of lithium batteries
- PFC technology provides power factor, reducing grid capacity consumption.
- Supports charging from various types of generators
- MPPT technology with a maximum tracking efficiency greater than 99.5%
- HP5542-AH1050P30A supports two PV inputs to improve PV utilization
- RS485 communication interface, optional 4G, WIFI modules for remote monitoring
- Features a historical data recording function with a storage capacity of 25,000 entries, configurable recording intervals from 1 to 3600 seconds
- Comprehensive electronic protection functions to maximize system reliability
- Noise reduction design with noise level below 45dB
- -20°C~55°C operating temperature range to meet more environmental requirements



Technical Specifications

Model	HP3522-AH1250P30A	HP3542-AH0650P30A	HP5542-AH1050P30A
Utility input			
Utility Input Voltage	176VAC-264VAC (Default), 90VAC-280VAC (Configurable)		
Utility Input Frequency	45Hz-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		
Inverter output			
Inverter Rated Power (@30°C)	3500W	3500W	5500W
3-second Transient Surge Output Power	7000W	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	89%	92%	91%
Maximum Inverter Efficiency	93%	94%	94%
Solar controller			
PV Maximum Open-circuit Voltage	500V (At minimum operating environment temperature)		
	440V (At 25°C)		
MPPT Voltage Range	85-400V	85-400V	
Number of MPPTs	1	1	2
PV Maximum Input Current	One way, 20A/way	One way, 20A/way	Two ways, 2x15A
PV Maximum Input Power	4000W	4000W	2×3000W
PV Maximum Charging Current	120A	60A	100A
MPPT Maximum efficiency	≥99.0%	≥99.5%	
Battery			
Battery Rated Voltage	24VDC	48VDC	
Battery Work Voltage Range	21.6VDC-32.0VDC	43.2VDC-64VDC	
Battery Maximum Charging Current	120A	60A	100A
Others			
No-load Losses	<1.3A	<0.6A	<1.0 A
	Test condition: Utility, PV and Load are disconnected, AC output is ON, fan stops, @24V input		Test condition: Utility, PV and Load are disconnected, AC output is ON, fan stops, @48V input
Standby Current	<0.3A	<0.15A	
	Test condition: Utility, PV and Load are disconnected, AC output is OFF, fan stops, @24V input		Test condition: Utility, PV and Load are disconnected, AC output is OFF, fan stops, @48V input
Work Temperature Range	-20°C-+55°C (When the environment temperature exceeds 35°C, the actual output power is reduced appropriately)		
Storage Temperature Range	-25°C-+60°C		
Enclosure	IP30		
Relative Humidity	< 95% (N.C.)		
Altitude	<4000M (If the altitude exceeds 2000 meters, the actual output power is reduced appropriately)		
Mechanical parameters			
Dimension (Length x Width x Height)	541mm x 414mm x 228mm	513mm x 414mm x 224mm	541mm x 414mm x 228mm
Mounting Size (Length x Width)	340mm x 130mm		
Mounting Hole Size	Φ10mm		
Net Weight	23.2kg	20.4kg	24.4kg