

## Overview

The HP-AHP65A is a high-frequency inverter charger with an IP65 protection rating. It integrates grid power/oil generator with solar charging, supporting 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 employs advanced DSP control technology, ensuring high quality, stability, and reliability. Users can flexibly utilize solar or grid power, maximizing energy efficiency and system reliability through customizable settings. This series is suitable for solar, grid/oil generator hybrid power generation systems, meeting outdoor power supply requirements in harsh environments like salt spray and humidity.

This product is suitable for solar, grid/oil generator hybrid power generation systems, it stands strong in challenging conditions like salt spray and humidity, providing a dependable outdoor power solution.

## Features

- High IP65 protection rating, suitable for harsh outdoor environments: salt spray and humidity
- 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-AH1050P65A 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-AH1250P65A	HP3542-AH0650P65A	HP5542-AH1050P65A
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		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	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		
Number of MPPTs	1	2	
PV Maximum Input Current	One way, 20A/way		Two ways, 2x15A
PV Maximum Input Power	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	-25°C~+60°C	
Enclosure	IP65		IP65
Relative Humidity	< 100% (N.C.)		< 100% (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)	545mm × 428mm × 248mm	537mm × 428mm × 246mm	545mm × 428mm × 248mm
Mounting Size (Length x Width)	350mm x 130mm	350mm x 130mm	350mm x 130mm
Mounting Hole Size	Φ10mm	Φ10mm	Φ10mm
Net Weight	25.0kg	21.0kg	25.4kg