

Overview

The brand new Unicorn series is an inverter/charger that supports utility charging, oil generator charging, solar charging, dual output from utility or inverter, multiple operating modes, and smart energy management. It supports parallel operation for multiple units in single phase or three phase. The inverter with power of 3.5KW and 6KW perfectly suits residential applications, schools, health facilities, government buildings, and areas where the electricity is unstable.

Features

- Applicable for pure off grid / backup power / self-consumption
- PV input voltage range: 80Vdc-500Vdc
- PV input current up to 32A
- Supports battery mode & non battery mode
- Battery & PV reverse polarity protection
- Dual pure sine wave output
- Supports single-phase or three-phase parallel operation (up to 16 units)
- Sleep mode triggered by low power output or low battery voltage
- Independent BMS communication interface
- Built-in WiFi for mobile monitoring*
- Isolated RS485 interface: Connects with Bluetooth, WiFi, 4G, etc.
- Optional 320 x 480 high-resolution color LCD touchscreen or monochrome screen
- Historical data recording function, storage capacity of 25000 records
- Comprehensive electronic protection ensures safer and more stable operation
- IP20 enclosure design with anti-dust kit

*Only applicable to color screen series



Technical Specifications

Model	UC3522-1250P20C	UC3542-0650P20C	UC5542-1050P20C	UC6042-1250P20C
Utility Input				
Utility Input Voltage	176VAC to 264VAC (Default), 90VAC to 285VAC (Configurable)			
Utility Input Frequency	45Hz to 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			
Utility output				
Utility Output Voltage	176VAC to 264VAC			
Utility Output Frequency	45Hz to 65Hz			
Rated Output Power	100W ~ 3500W (Default: 2300W)		100W~5500W (Default: 3400W)	100W~6000W (Default: 3400W)
Power Factor	0.99			
Inverter output				
Inverter Rated Power (@30°C)	3500W		5500W	6000W
3-second Transient Surge Output Power	7000W		8500W	12000W
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)		≤3% (24V resistive load)
Maximum Load Efficiency	92%			
Maximum Inverter Efficiency	94%			
Maximum Main Load	3500W		5500W	6000W
Maximum Second Load	3500W		5500W	6000W
Main Output Cut-Off Voltage	Equal to "UVW (Under Voltage Warning Voltage)"			
Second Output Cut-Off Voltage	Equal to "LVD (Low Voltage Disconnect Voltage)"			
Dual Output Recovery Voltage	Equal to "LVR (Low Voltage Reconnect Voltage)"			
Solar controller				
PV Maximum Open-circuit Voltage	500V (At minimum operating environment temperature) 440V (At 25°C)			
MPPT Voltage Range	85V to 450V			
Number of MPPTs	1	1	2	2
PV Maximum Input Current	One way, 16A/way		Two ways, 2x16A	2 ways, 2*16A
PV Maximum Short-circuit Current	One way, 18A/way		Two ways, 2x18A	2 ways, 2*18A
PV Maximum Input Power	4200W		2x3300W	8000W
PV Maximum Charging Current	120A		100A	120A
MPPT Maximum efficiency	≥99.5%			
Battery				
Battery Rated Voltage	24VDC		48VDC	
Battery Work Voltage Range	20.4VDC to 32.0VDC		40.8VDC to 64.0VDC	
Battery Maximum Charging Current	120A		100A	120A
Others				
No-load Losses	≤1.5A	≤0.8A	≤1.1A	≤1.1A
	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	≤1.1A	≤0.6A	≤0.8A	≤0.8A
	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	
Communication with BMS	RS485			
Communication with Portal	RS485			
Parallel Function	Yes, 12 units for standard configuration, up to 16 units			
Work Temperature Range	-20°C to +50°C (When the environment temperature exceeds 30°C, the actual output power is reduced appropriately)			
Storage Temperature Range	-25°C to +60°C			
Enclosure	IP20 (With ANTI-DUST KIT)			
Relative Humidity	< 95% (N.C.)			
Altitude	<4000M (If the altitude exceeds 2000 meters, the actual output power is reduced appropriately)			
Certifications and Standards	IEC 62109-1, IEC 62109-2, IEC 61683, IEC 62368			IEC 62109-1, IEC 62109-2, IEC 61683
Mechanical parameters				
Dimension (Length x Width x Height)(mm)	590 × 300 × 163	534 × 300 × 163	590 × 300 × 163	590 × 300 × 163
Mounting size (Length x Width)	568mm × 245mm	512mm × 245mm	568mm × 245mm	568mm × 245mm
Mounting hole size	Φ9mm/Φ10mm			
Net Weight	13.8Kg	12.7Kg	15.5Kg	15.5Kg