

## Overview

The brand new Neptune 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 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
- Isolated RS485 interface:  
Connects with Bluetooth, WiFi, 4G, etc.
- Optional 320 x 480 high-resolution color LCD screen or monochrome screen
- Historical data recording function  
Storage capacity of 25,000 records
- Comprehensive electronic protection ensures safer and more stable operation
- IP20 enclosure design with anti-dust kit



## Technical Specifications

Model	SN6042-1250P20C
<b>Utility Input</b>	
Utility Input Voltage	176VAC to 264VAC (Default), 90VAC to 285VAC (Configurable)
Utility Input Frequency	45Hz ~ 65Hz
Max. Utility Charging Current	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
<b>Inverter output</b>	
Inverter Rated Power (@30°C)	6000W
3-second Transient Surge Output Power	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)
THDv (@linear load)	≤3% (48V resistive load)
Max. Load Efficiency	92%
Max. Inverter Efficiency	94%
Max. Main Load	6000W
Max. Second Load	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)"
<b>Solar controller</b>	
PV Max. Open-Circuit Voltage	500V (At minimum operating environment temperature) 440V (At 25°C)
MPPT Voltage Range	85V ~ 450V
Number of MPPTs	2
Max. Input Current	Two ways, 2x16A
PV Max. Short-Circuit Current	Two ways, 2x18A
PV Max. Input Power	8000W
PV Max. Charging Current	120A
MPPT Max. Efficiency	≥99.5%
<b>Battery</b>	
Battery Rated Voltage	48VDC
Battery Work Voltage Range	40.8VDC ~ 64.0VDC
Battery Max. Charging Current	120A
<b>Others</b>	
No-load Losses	≤1.1A  Test condition: Utility, PV and Load are disconnected, AC output is ON, fan stops, @48V input
Standby Current	≤0.8A  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, Standard 12 units, 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 ~ +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
<b>Mechanical parameters</b>	
Dimension (Length x Width x Height)	590mm × 300mm × 165mm
Mounting Size (Length x Width)	568mm × 245mm
Mounting Hole Size	Φ9mm/Φ10mm
Net Weight	15Kg