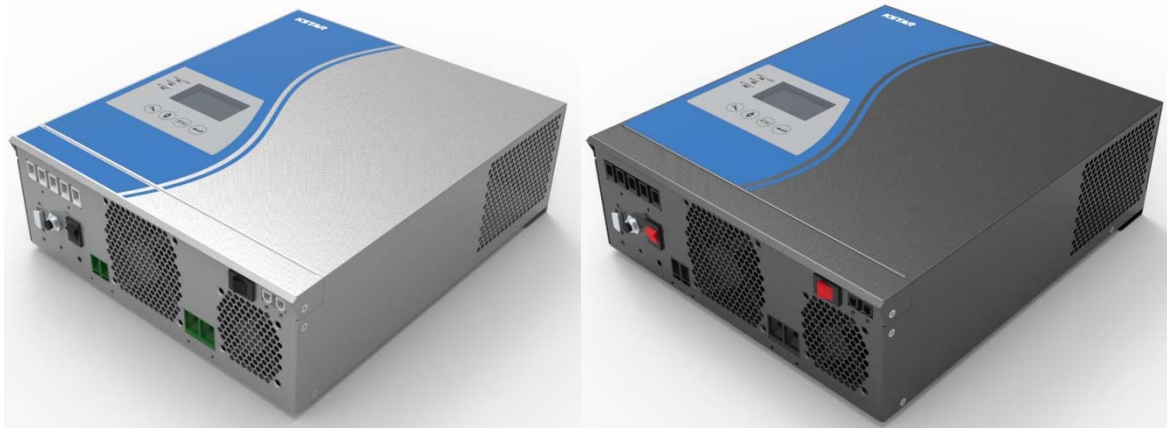


# Specifications of Pure Sine wave high frequency inverter/charger 3KVA



## Overview

This is a pure sine wave stand-alone inverter/charger system combining the function of inverter, solar charger and AC charger, and provides a long run-time uninterruptible power supply. Its comprehensive LCD display provides system status, and user-friendly panel eases parameters settings.

## Key Feature

1. High-frequency switching technology for compact size and light weight
2. Pure sine wave output for wide range of applications and harsh environment
3. Build-in solar charger controller with MPPT technology to optimize the power utilization
4. High efficient DC-to-AC conversion minimizing energy loss
5. Standby Charging Mode enables battery charging even when the unit is switched off
6. Intelligent cooling fan control
7. Input/output isolated design for the maximum operation safety
8. LCD displays comprehensive operation status
9. Configurable AC input voltage range and priority for AC input or PV input
10. Supports Home Appliances / Office Equipment/ Lighting Equipment/ Motor-based Equipment (such as Fan, Air-Conditioner, Washing Machines)
11. Thorough protections: Input low voltage / Overload / Short circuit / Low battery alarm / Input over voltage / Over temperature
12. Supports both rack and wall-mounting set-up for flexible installation

## SPECIFICATIONS

<b>MODEL</b>	<b>Spirit 3KVA+SCC</b>
<b>CAPACITY</b>	2.4KW/3000VA

### Table 1 Line Mode Specifications

<b>INPUT</b>	
Input Voltage Waveform	Sinusoidal (utility or generator)
Nominal Input Voltage	230Vac
Low Loss Voltage	170Vac $\pm$ 7V(UPS) 90Vac $\pm$ 7V (Appliances)
Low Loss Return Voltage	180Vac $\pm$ 7V (UPS) 100Vac $\pm$ 7V (Appliances)
High Loss Voltage	280Vac $\pm$ 7V
High Loss Return Voltage	270Vac $\pm$ 7V
Max AC Input Voltage	300Vac
Nominal Input Frequency	50Hz / 60Hz (Auto detection)
Low Loss Frequency	40 $\pm$ 1Hz
Low Loss Return Frequency	42 $\pm$ 1Hz
High Loss Frequency	65 $\pm$ 1Hz
High Loss Return Frequency	63 $\pm$ 1Hz
<b>OUTPUT</b>	
Output Short Circuit Protection	Circuit Breaker
Efficiency (Line Mode)	>95% ( Rated R load, battery full charged )
Transfer Time	10ms typical (UPS) 20ms typical (Appliances)
Output power derating: When AC input voltage drops to 180V, the output power will be derated.	<p>The graph plots Output Power (O/P Power) on the y-axis against AC Input Voltage (AC I/P V) on the x-axis. The x-axis has markers at 90V, 180V, and 280V. The y-axis has markers for 1.5KVA/1.2KW and 3KVA/2.4KW. The power is zero until 90V, then jumps to 1.5KVA/1.2KW. It then increases linearly to 3KVA/2.4KW at 180V and remains constant at that level until 280V.</p>

### Table 2 Inverter Mode Specifications

<b>INVERTER MODEL</b>	<b>3KVA</b>
<b>Rated Output Power</b>	3KVA/2.4KW
<b>OUTPUT</b>	
Output Voltage Waveform	Pure Sine Wave

Output Voltage Regulation	230Vac±5%
Output Frequency	50Hz
Peak Efficiency	93%
Overload Protection	5s@>150% load; 10s@110%~150% load
Surge Capacity	2* rated power for 5 seconds
Nominal DC Input Voltage	24Vdc
<b>INPUT</b>	
Cold Start Voltage	23.0Vdc
Low DC Warning Voltage @ load < 50%	23.0Vdc
@ load > 50%	22.0Vdc
Low DC Warning Return Voltage	23.5Vdc
@ load < 50%	23.0Vdc
@ load > 50%	
Low DC Cut-off Voltage @ load < 50%	21.5Vdc
@ load > 50%	21.0Vdc
High DC Recovery Voltage	32Vdc
High DC Cut-off Voltage	33Vdc
No Load Power Consumption	<25W

### Table 3 Charge Mode Specifications

<b>Utility Charging Mode</b>		
<b>INVERTER MODEL</b>	<b>3KVA</b>	
Charging Algorithm	3-Step	
AC Charging Current (Max)	25Amp (@Vi/p=230Vac)	
Bulk Charging Voltage	Flooded Battery	29.2
	AGM / Gel Battery	28.2
Floating Charging Voltage	27Vdc	
Charging Curve	<p>The graph illustrates the charging process for a battery cell. The left y-axis represents Battery Voltage (per cell) with markers at 2.35Vdc and 2.43Vdc. The right y-axis represents Charging Current (%), with markers at 50% and 100%. The x-axis represents Time, divided into three stages: Bulk (Constant Current), Absorption (Constant voltage), and Maintenance (Floating). The Bulk stage duration is T0. The Absorption stage duration is T1, defined as T1=10*T0, with a minimum of 10 minutes and a maximum of 8 hours. During the Bulk stage, the voltage rises from 2.35Vdc to 2.43Vdc while the current is constant. In the Absorption stage, the voltage remains constant at 2.43Vdc while the current decreases. In the Maintenance stage, the voltage drops to 2.35Vdc and the current continues to decrease.</p>	
<b>MPPT Solar Charging Mode</b>		
Charging Current	40Amp	
PV Array MPPT Voltage Range	30-80Vdc	
Max. PV Array Open Circuit Voltage	100Vdc	
Max Charging Current (AC charger plus solar charger)	60 Amp	

### Table 4 General Specifications

<b>INVERTER MODEL</b>	<b>3KVA</b>
Safety Certification	CE
Operating Temperature Range	-10°C to 50°C
Storage temperature	-150C~ 60°C
Dimension (D*W*H)/ mm	105*288*345
Net Weight ,kg (MPPT model)	5.8KG