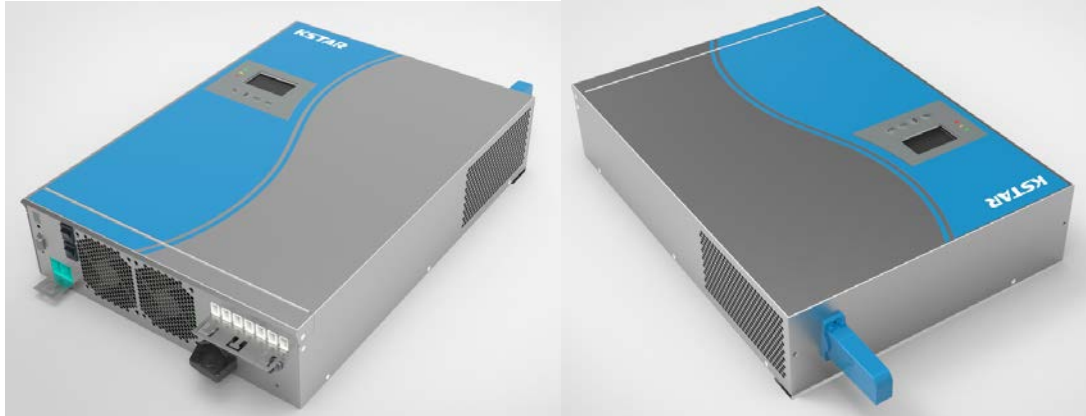


# Specifications of pure sine wave high frequency inverter/charger 5KVA



## 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 5KVA+SCC</b>
<b>CAPACITY</b>	5000VA/4000W

Table 1 Line Mode Specifications

<b>MODEL</b>	<b>Spirit 5KVA+SCC</b>
<b>INPUT</b>	
Input Voltage Waveform	Sinusoidal (utility or generator)
Nominal Input Voltage	230ac
Low Loss Voltage	175Vac $\pm$ 7V (UPS) 125Vac $\pm$ 7V (Appliances)
Low Loss Return Voltage	185Vac $\pm$ 7V (UPS) 135Vac $\pm$ 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 de-rating: When AC input voltage drops to 180V, the output power will be de-rated.	<p>The graph illustrates the output power de-rating characteristics. The x-axis represents Input Voltage in Volts (V), with marked values at 125V, 180V, and 280V. The y-axis represents output power in KVA and KW, with marked values at 2.5KVA/2KW and 5KVA/4KW. The power output is constant at 5KVA/4KW for input voltages between 180V and 280V. At 125V, the power output is de-rated to 2.5KVA/2KW. A vertical dashed line at 180V indicates the point where the power output begins to de-rate from the 5KVA/4KW level.</p>

## Table 2 Inverter Mode Specifications

<b>MODEL</b>	<b>Spirit 5KVA+SCC</b>
Rated Output Power	5000VA/4000W
<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
Capable of starting electric motor	2.5HP
Nominal DC Input Voltage	48Vdc
<b>INPUT</b>	
Cold Start Voltage	46.0Vdc
Low DC Warning Voltage	42.0V
Low DC Warning Return Voltage	43.2 V
Low DC Cut-off Voltage	40.0V
High DC Cut-off Voltage	58.0V

### Table 3 Charge Mode Specifications

Utility Charging Mode		
<b>MODEL</b>	<b>Spirit 5KVA+SCC</b>	
Charging Algorithm	3-Step	
AC Charging Current (Max)	35Amp (@Vi/p=230Vac)	
Bulk Charging Voltage	Flooded Battery	58.4Vdc
	AGM / Gel Battery	56.4Vdc
Floating Charging Voltage		54Vdc
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 2.43Vdc and 2.35Vdc. The right y-axis represents Charging Current as a percentage, with markers at 100% and 50%. The x-axis represents Time, divided into three stages: Bulk (Constant Current), Absorption (Constant Voltage), and Maintenance (Floating). The Bulk stage is labeled T0. The Absorption stage is labeled T1, with a note: T1=10*T0, minimum 10 minutes, maximum 8 hours. The Maintenance stage is labeled Floating. The Voltage curve starts at 2.35Vdc, rises to 2.43Vdc during the Bulk stage, remains constant during Absorption, and then slightly drops during Maintenance. The Current curve starts at 100% during Bulk, drops to 0% during Absorption, and remains at 0% during Maintenance.</p>	

MPPT Solar Charging Mode	
<b>MODEL</b>	<b>Spirit 5KVA+SCC</b>
Charging Current	60Amp
PV Array MPPT Voltage Range	60Vdc to150Vdc
Max. PV Array Open Circuit Voltage	150V
Max Charging Current (AC charger plus solar charger)	95 Amp

### Table 4 General Specifications

<b>MODEL</b>	<b>Spirit 5KVA+SCC</b>
Communication Port	RS232
Monitoring Function	WIFI (Optional)
Safety Certification	CE
Operating Temperature Range	-10°C ~ 50°C
Storage temperature	-15°C ~ 60°C
Dimension (D*W*H)/ mm	518*355*111
Net Weight ,kg (MPPT model)	11.6