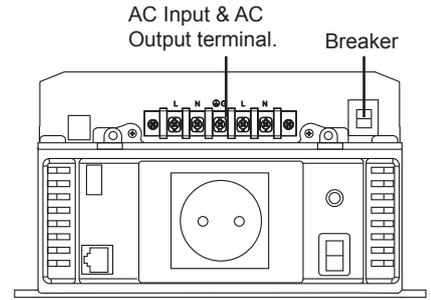
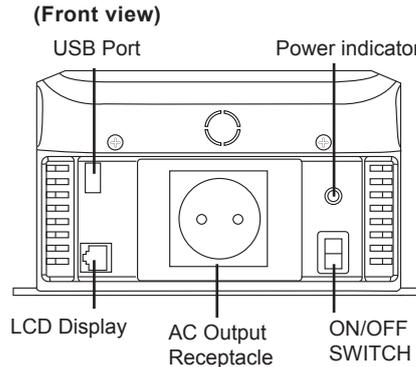
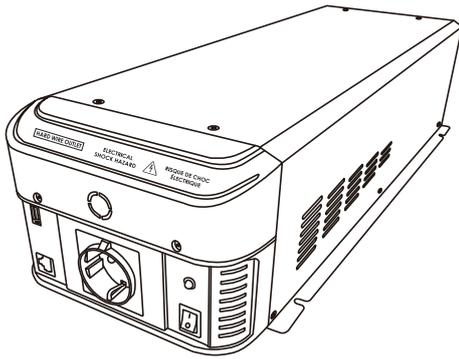


Inverter / Charger (bypass function)

HT-B-S1000

 Damage caused by reversed polarity is not covered by the warranty.



Firstly, thank you for purchase our product.
Please read this manual carefully before installing or using this product.

Specification

Model No.:	HT-B-S1000-12	
Inverter		
DC input volt:	12V	
Volt range:	10-16VDC	
Surge power:	2000W	
Continuous power:	1000W	
Wave form:	Pure sine wave	
THD:	<2%	
AC voltage:	100V / 120V / 230V	
Frequency:	50/60Hz±3%	
AC Regulation:	±8%(100V:±10%)	
DC no load current:	0.9A	
Bat. low alarm:	10.5±0.5V	
Bat. low shutdown:	10±0.5V	
Over voltage:	16±0.5V	
Bat. Polarity Reverse:	Fuse burn out	
Over load:	Re-start 1 time, shutdown if failed	
USB port:	5V / 2A	
Efficiency:	85%	
Bypass function:	Yes	
Low AC input volt transfer to inverter mode.:	90Vac+/-5% or 180Vac+/-5%	
Low AC input volt recovery to AC mode.:	95Vac+/-5% or 190Vac+/-5%	
Connector	Input AC terminal:	Yes, hard wiring.
	Output AC Terminal:	Yes, hard wiring.
	Output Receptacles:	Yes
Charger		
Output current:	10A	
AC input volt:	120V(90-135V) / 230V(180-265V)	
Charging type:	multistage	
Bulk stage:	14.5±0.5V, 10A	
Absorption stage:	14.5±0.5V, 10A-1A	
Float stage:	13.6±0.5V, min. 0.5A	
Frequency:	45-65Hz	
Recommended Battery Type:	Lead acid	
Recommended Battery Size:	40-160AH	
Efficiency:	80%	
PROTECTION		
Over load protection:	Yes	
Over temp protection:	Yes	
Inverter input reverse protection:	Fuse blow	
Charger output reverse protection:	Fuse blow	
Inverter output short circuit protection:	Shut-off	
Over temperature:	55°C ±5°C	
ENVIRONMENT		
Working temp.:	-15°C ~45°C	
Storage temp.:	-25°C ~70°C	
Working humidity:	20%~90% RH non-condensing	
Storage humidity:	-30°C ~70°C, 10~95% RH	
Temp. Coefficient:	±0.05%/°C(0~55°C)	
OTHERS		
Dimension(LxWxH)	520*215*130mm	
Net weight	6.7kgs	

Optional

EXTRA FUNCTION	
Model no.	HT-B-S1000SC-12
Solar charger controller:	20A(PWM)
Net weight:	6.9kgs

Introduction

The Inverter/Charger series are the member of the most advanced line of mobile AC power systems available.

This model is used in a wide range of application including remote homes, RVs, sailboats and powerboats. It will operate most televisions and VCR's, personal computers, small appliances and tools such as drills, sanders, grinders, mixers and blenders.

To get the most out of the inverter/charger, it must be installed and used properly. Please read the instructions in this manual before installing and using this model.

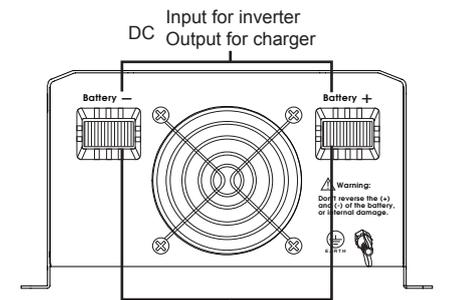
Name and Main function

1. Front view

- ON/OFF switch:
Leave in the OFF position during installation.
- Over heat protection:
LED sparkles when product temperature gets

(Rear view)

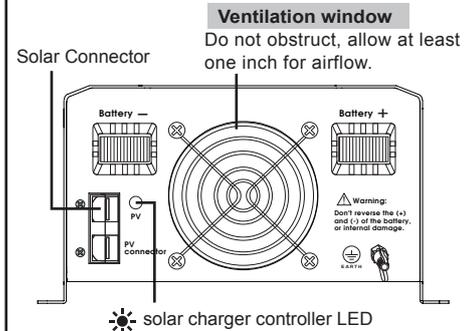
Standard (no solar charger controller)



Battery terminals

Connect to battery or other power source. "+" is positive (Red), "-" is negative (Black). Reverse polarity connection will blow internal fuse and may damage inverter permanently.

With solar charger controller



high, it would shut down automatically while temperature arrives 55±5°C.

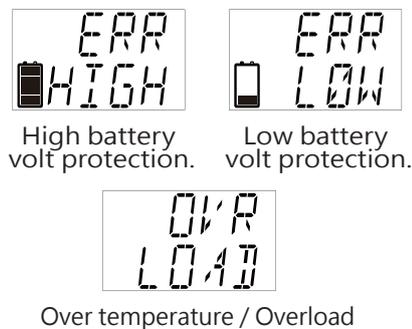
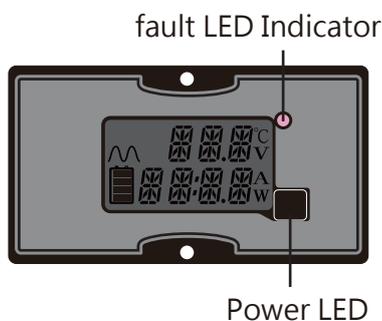
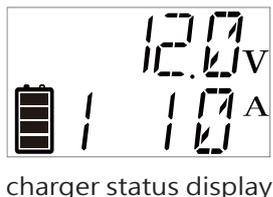
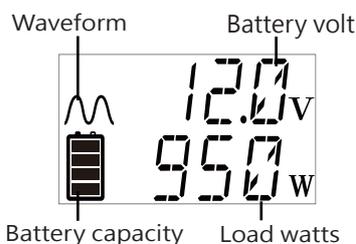
c. Overload protection:
Orange LED lights when inverter/charger shut down due to overloading. Inverter would re-start one time, if failed, inverter would shut down. Please turn inverter OFF, reduce load and turn inverter ON to reset.

d. AC socket:
Outlet sockets available: Australia
NZ
North America
Europe
Universal
Japan

2. Rear view:

- Ventilation window:
Do not obstruct, allow at least one inch for airflow.
- Battery terminals:
Connect to 12V battery or other 12V power source. "+" is positive, "-" is negative.

Remote control-LCD



Reverse polarity connection will blow internal fuse and may damage inverter/charger permanently.

⚠ WARNING!!

Operation of the inverter/charger without a proper ground connection may result in an electrical safety hazard.

Installation

1. Where to install

The inverter/charger should be installed in a location that meets the following requirements:

- Dry - Do not allow water to drip or splash on the inverter/charger.
- Cool - Ambient air temperature should be between $-15^{\circ}\text{C} \sim 45^{\circ}\text{C}$, the cooler environment is better.
- Ventilated - Allow at least 3 inch (15cm) of clearance around the inverter for airflow. Ensure the ventilation openings on the rear and bottom of the unit are not obstructed.
- Safe - Do not install the inverter/charger in the same compartment as batteries or in any compartment capable of storing flammable liquids such as gasoline.

⚠ CAUTION!!

This equipment is not ignition protected and employs components that tend to produce arcs or sparks. To reduce the risk of fire or explosions, do not install in compartments containing batteries or flammable materials or areas in which ignition protected equipment is required.

⚠ CAUTION!!

To reduce the risk of electric shock and prevent premature failure due to corrosion, do not mount where exposed to rain or spray.

⚠ CAUTION!!

To prevent fire, do not obstruct ventilation openings. Do not mount in a zero clearance compartment, overheating may result.

⚠ CAUTION!!

Risk of electrical shock. Both AC & DC voltage sources are existed inside this equipment. Each circuit must be individually installed.

⚠ CAUTION!!

Risk of electrical shock. Do not remove cover, no user serviceable parts inside. Refer servicing to qualified service personnel.

APPLICATION INFORMATION:

Provided with integral electronic protection against AC & DC overloads.

Quick hook - up and testing

If you would like to quick hook-up the power inverter/

If you would like to quick hook-up the power inverter/charger and check its performance before going ahead with your installation, please follow these guideline.

- Unpack and inspect the inverter/charger, check to see that the power switch in the OFF position.
- Connect the cables to the power input terminals on the rear panel of inverter/charger. The red terminal is positive (+) and black terminal is negative (-). Connect the cables into the terminals and tighten the wing nut to the wires securely.
- Connect the cable from the negative terminal of the inverter/charger to the negative terminal of the power source. Make a secure connection.

⚠ CAUTION!!

Loosely tightened connectors result in excessive drop and may cause overheated wires and melted insulation.

- Before proceed further, carefully check if the terminals connect correctly.

⚠ CAUTION!!

Reverse polarity connection will blow a fuse in inverter/charger and may permanently damage the inverter/charger. **Damage caused by reverse polarity connection is not covered by our warranty.**

- Connect the cable from the positive terminal of inverter/charger to the positive terminal of the power source. Make secure connection.

⚠ WARNING!!

You may observe a spark when you make this connection since current may flow to charge capacitors in the power inverter. Do not make this connection in the presence of flammable fumes, explosions or fire may result.

- Set power inverter switch to the ON position and turn the test load on, the inverter should supply power to the load.

Batteries

To achieve 50% cycling you should calculate your Amp-hour consumption between charging cycles and use a battery bank with twice that capacity.

To calculate Amp-hour consumption first look at the rating plate on your AC appliance or tools. Each appliance or tool will be rated in either AC Amps or AC watts or AC VA (Volts-Amps) apparent power.

Use one of the following formulas to calculate the DC Amp-hour draw for a 12 Volt system:

$$\begin{aligned} &(\text{AC Amps} \times 10) \times 1.1 \times \text{hours of operation} \\ &= \text{DC Amp-hours} \\ &(\text{AC watts}/12) \times 1.1 \times \text{hours of operation} \\ &= \text{DC Amp-hours} \\ &(\text{AC VA}/12) \times 1.1 \times \text{hours of operation} \\ &= \text{DC Amp-hours} \end{aligned}$$

In all formulas, 1.1 is the factor for inverter/charger efficiency.

Calculate the above for every AC appliance or tool you intend to use on your inverter. This will give you the total number of Amp-hours used between recharges. Size your battery bank using this number as a guideline. A good rule to follow is to size the battery bank about 2 times larger than your total Amp-hour load requirement. Plan on recharging when 50% discharged.

Many electric motors have momentary starting requirements well above their operational rating. Start up watts are listed where appropriate.

Individual styles and brands of appliances may vary.

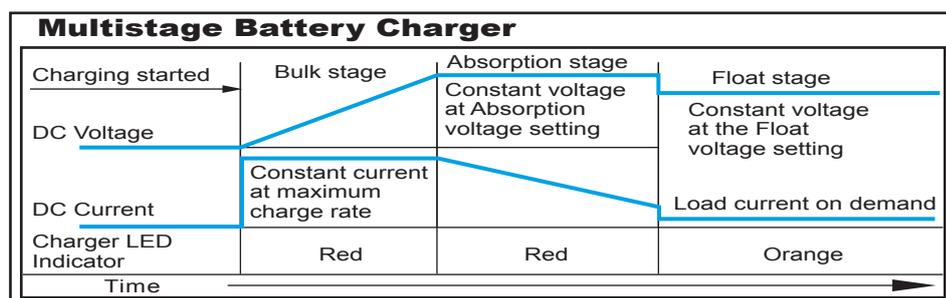
Battery Charger

For lead-acid and lead-calcium batteries only.

Stage1: Bulk Charge Max 14.5±0.5V, 10A.

Stage2: Absorption Charge 14.5±0.5V, 10~1A.

Stage3: Float Charge 13.6±0.5V, min. 0.5A.



Solar Charger Controller LED

Green LED flashing regularly --- battery charging and all normal.

Green LED flashing irregularly --- No battery / solar panel voltage is < 14.6V (+/-0.5V).

Green LED off --- No solar power / Solar panel voltage is similar to battery volt, no charger.

Troubleshooting

Problem	Things to Check
No Inverter Output	<ol style="list-style-type: none">1. Battery voltage under load.2. Battery connections and DC fuse.3. Circuit breaker on side panel.4. Thermal condition, high powered loads or inadequate ventilation may cause overheating.5. Overloads or short circuit, check for excessive loads or bad wiring connections.
Low Inverter Output Voltage	Confirm that your volt meter is a true RMS meter. Standard volt meters will not accurately read the waveform of the inverter. If a true RMS meter is not available, check the brightness of an incandescent light bulb - if it appears normal, the output voltage is properly regulated.
Little or No Output from Battery Charger	<ol style="list-style-type: none">1. Wiring connections-check both the AC and DC connections.2. AC input voltage -- low voltage input will result in low DC output current.3. AC input spec. isn't correct to Inverter/Charger spec.
 Warning: Wrong DC volt or AC volt spec., or reversed polarity is not covered by the warranty.	