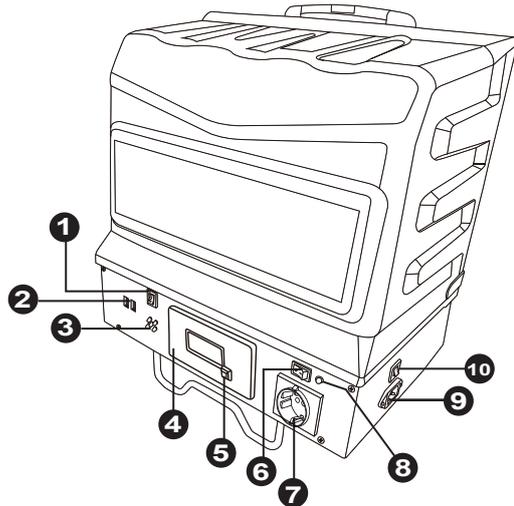


Inverter / Charger (by pass function)

HT-T-S1000

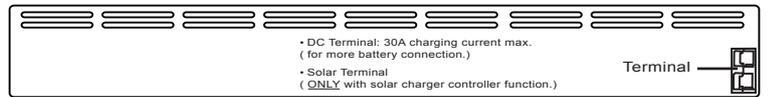


Damage caused by reversed polarity is not covered by the warranty.
Damage caused by wrong AC input volt to charger is not covered by the warranty.

< SIDE VIEW >



< REAR VIEW >



- | | | |
|-----------------------------------|---|---------------------------------------|
| 1 Light Switch | 4 Display | 8 Solar Charger Controller LED |
| • ON permanently | 5 Power LED | 9 Charger AC Input Port |
| • OFF | 6 ON/OFF Switch | 10 Breaker |
| • ON only when AC power is failed | 7 Inverter / City Power AC Output Receptacle | |
| 2 USB Port (2A/5V) | | |
| 3 Emergency Light | | |

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

Specification

Model No.:	HT-T-S1000-12
Inverter	
DC input volt:	12V
Volt range:	10-16VDC
Surge power:	2000W
Continuous power:	1000W
Wave form:	Pure Sine Wave 
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 Plug:	Yes
Output AC Receptacle:	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):	403x340x455mm
Net weight:	9.0kgs(without battery)

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

a. ON/OFF switch:
Leave in the OFF position during installation.

b. Over heat protection:
When product temperature gets high, it would shut down automatically while temperature arrives 55±5°C.

c. Overload protection:
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:

a. Ventilation window:
Do not obstruct, allow at least one inch for airflow.

b. Battery terminals:
Connect to 12V battery or other 12V power source. "+" is positive, "-" is negative. 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°C ~ 45°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.



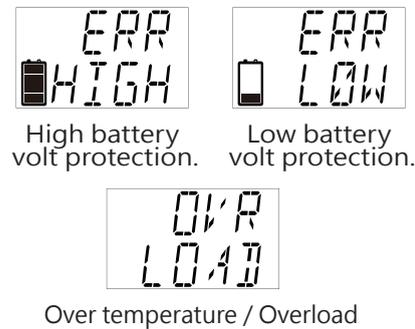
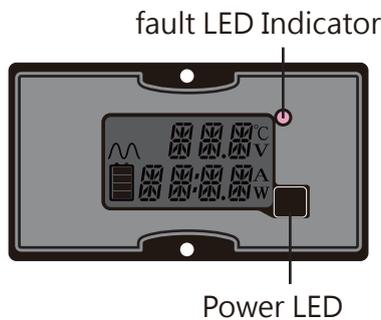
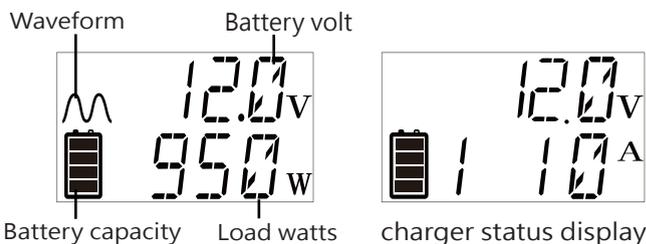
CAUTION!!

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

Optional

EXTRA FUNCTION	
Model no.	HT-T-S1000SC-12
Solar charger controller:	20A(PWM)
Net weight:	9.2kgs

Remote control-LCD



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/charger and check its performance before going ahead with your installation, please follow these guideline.

1. Unpack and inspect the inverter/charger, check to see that the power switch in the OFF position.

2. 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.

3. 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.

4. 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.**

5. 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.

6. 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:

$(AC \text{ Amps} \times 10) \times 1.1 \times \text{hours of operation} = DC \text{ Amp-hours}$

$(AC \text{ watts}/12) \times 1.1 \times \text{hours of operation} = DC \text{ Amp-hours}$

$(AC \text{ VA}/12) \times 1.1 \times \text{hours of operation} = DC \text{ Amp-hours}$

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

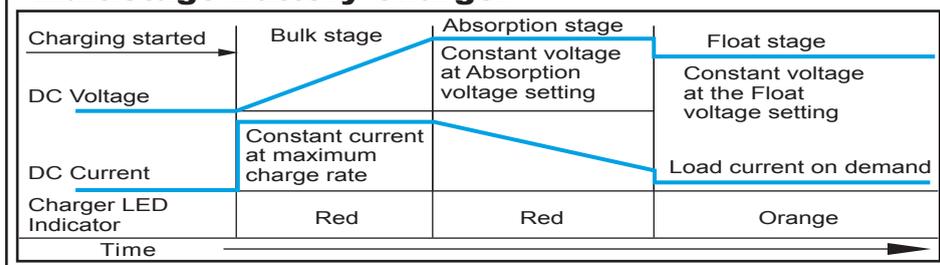
For lead-acid and lead-calcium batteries only.

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.

Multistage Battery Charger



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 charge.

Troubleshooting

Problem	Things to Check
No Inverter Output	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	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.
<p>Warning: Wrong DC volt or AC volt spec., or reversed polarity is not covered by the warranty.</p>	