

SINE WAVE INVERTER



MODEL: **CO-SinusUPS-600W-LCD**

APPLICATIONS: Household appliances such as Home Theater,
TV, VCD, DVD, Lamp, Fan, etc.

USER MANUAL

Please read and save this manual!

This manual is an important instruction that you should follow during installation and maintenance of the inverter. Please read all instructions before using the equipment and save this document for future reference.

1. INTRODUCTION

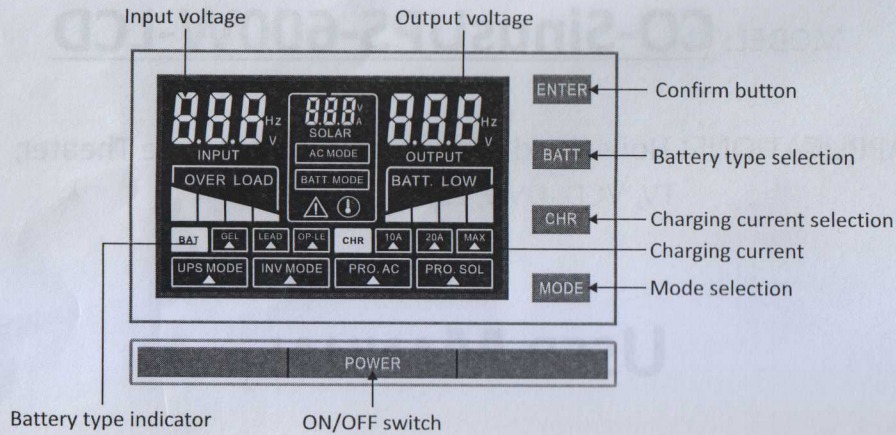
This product is an advanced line-interactive pure sine wave inverter that provides backup power for your equipment. Unlike the traditional off-line inverter, this series is also characterized by low harmonic distortion and has a very short transfer time when the blackout occurs. It provides efficiency over 98% under normal power conditions. Two charge modes, quick charge and trickle charge are provided to maintain the condition of batteries.

2. MAIN FEATURES

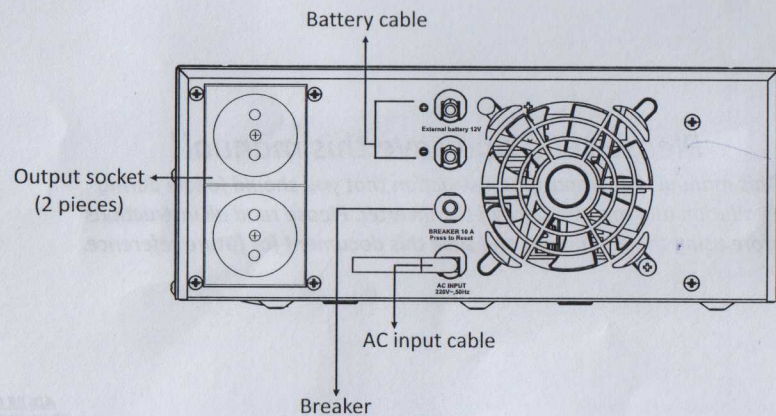
- Pure sine wave output.
- Microprocessor-based design.
- True Line-interactive structure.
- Smart charging.
- Real time auto-detection of battery condition.
- Overload, short circuit, & over temperature protection.
- Isolation between battery and AC circuitry.
- Good dynamic performance.
- Speed control of cooling fan.

3. FRONT AND REAR PANEL DESCRIPTION

Front panel



Rear panel



4. OPERATION

Battery connecting procedure

- Please use the proper battery voltage, rated 12VDC.
- Connect red battery cable to positive terminal and black battery cable to negative terminal of the battery input.
- When connecting the battery cable, occurrence of sparks is a normal phenomenon.

Operation modes

- Press **POWER** for 3 seconds to turn on or turn off the inverter. Quick double press of **POWER** button selects **PRO AC** mode (AC preferred). **PRO SOL** mode (Solar preferred) is inactive in this version of the product. In **PRO AC** mode, the inverter would be powered from mains if the battery is fully charged.
- To select a proper battery type, please press **BATT** button and follow the indicator ▲. Once the battery type is selected, press **ENTER** to confirm. Battery types include Gel, sealed Lead-Acid and open Lead-Acid batteries.
- To set the charging current, please press **CHR** and follow the indicator ▲. You can choose both 10A and 20A. **MAX** charging current is not available in this model.
- To select the operation mode, please press **MODE** button. There are two available modes: **UPS MODE** and **INV MODE**. To confirm, press **ENTER**.
- To enter **Advanced Menu**, press **ENTER** for about 4 seconds. First menu allows to select the cut-off voltage of the battery, when in battery mode (10.0V, 10.5V, 10.8V or 11.1V). To proceed, press **CHR**. To move to the previous menu, press **BATT**. To select the option temporarily, press **ENTER**. Second menu allows to set AC charging voltage threshold (11.4V, 11.6V, 11.8V, 12.0V). Third menu allows to select maximum current of the solar charger (unavailable in this device). The last menu is a confirmation page. Select **YES** to save settings or **NO** to cancel.

5. IMPORTANT SAFETY INSTRUCTIONS

- When replacing the batteries, use the same number and the same type of batteries.
- Keep batteries away from fire in order to avoid explosion.
- Do not open batteries. Released electrolyte is harmful to skin and eyes.
- A battery can present a risk of electric shock and high short circuit current. The following precautions should be taken when working on batteries.
 - Remove watches, rings and other metal objects.
 - Use tools with insulated handles.
- The equipment cannot be operated by any unexperienced person.
- The socket shall be installed near the equipment and be easily accessible.
- Attention: Electric shock hazard! Even after disconnecting the unit from the mains voltage supply, hazardous voltage level may be present, since the battery is still connected to the device.
- The battery supply should be therefore disconnected when maintenance or service work inside the inverter is to be done.
- The lead acid battery may cause chemical hazard.
- The battery presents a risk of electric shock and severe short circuit due to high energy density.

6. SPECIFICATION

<i>Model</i>	CO-SinusUPS-600W-LCD
<i>Output Power</i>	800VA/640W
<i>Input Voltage range/ Frequency</i>	145 ÷ 270VAC ± 5VAC (UPS mode) 100 ÷ 290VAC ± 5VAC (Inverter mode)/ 45 ÷ 65Hz
<i>Output Voltage Range (AC mode)</i>	203VAC ÷ 238VAC ± 5VAC (UPS mode) 150VAC ÷ 255VAC ± 5VAC (Inverter mode)
<i>Output Voltage and Frequency (Battery mode)</i>	220 ± 5VAC, 50Hz ± 0.5Hz
<i>Transfer Time</i>	max. 10ms
<i>Battery Voltage</i>	12VDC
<i>Charging Current</i>	10A/20A (selectable)
<i>Output Waveform (Battery mode)</i>	Sine Wave
<i>Operation Temperature</i>	0 ÷ 40°C
<i>Operation Humidity</i>	20 ÷ 90%
<i>Unit dimension</i>	290 x 257 x 123mm
<i>Net weight</i>	10.8kg

7. TROUBLESHOOTING

Problem	Possible Causes	Action to take
Inverter is not starting when connected to the mains voltage supply	1. Line cord plug is loose. 2. Breaker is broken. 3. Wall socket is damaged.	1. Check the line cord plug. 2. Replace the breaker. 3. Check wall socket with a lamp.
Output voltage is present, inverter emits continuous beep sound, the yellow LED flashes every 0.5 seconds	Inverter is overloaded	Turn off inverter and unplug excessive loads.
Inverter emits beep sound, battery capacity indicator flickers	Low battery	1. Charge batteries. 2. Replace batteries. 3. Call the service.
Inverter does not provide expected backup time	1. Excessive loads connected. 2. Battery is weak and cannot provide enough energy.	Do not draw any current from the inverter. Leave the device plugged in to the mains voltage for 10 hours. Then test it again. If inverter still can not provide expected backup time, battery should be replaced.
Button on front panel does not work	1. The CPU inside inverter is not running correctly. 2. Button is damaged.	Unplug line cord and battery terminals from the inverter to let it shut down automatically. Then, plug in line cord and battery again. If the button still fails, please call the service.
Inverter cannot turn on the battery mode	1. Battery polarity is wrong. 2. Battery is overcharged. 3. Battery is discharged. 4. Inverter fault.	1. Check battery and connections. 2. Check battery voltage using a voltmeter. 3. Connect the inverter to mains voltage and charge the battery. 4. Call the service.