

CPS1200EILCD/CPS2200EILCD User's Manual

K01-C000012-00

IMPORTANT SAFETY INFORMATION

(SAVE THESE INSTRUCTIONS)

This manual contains important safety instructions. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate the INVERTER.

Insure the wall outlet and INVERTER are located near the equipment being attached for proper accessibility.

To reduce risk of damage and injury, please use batteries with good quality.

Provide adequate ventilation for the battery compartment. The battery enclosure should be designed to prevent accumulation and concentration of hydrogen gas at the top of the compartment.

DO NOT expose the INVERTER to rain, snow or liquids of any type. The INVERTER is designed for indoor use only.

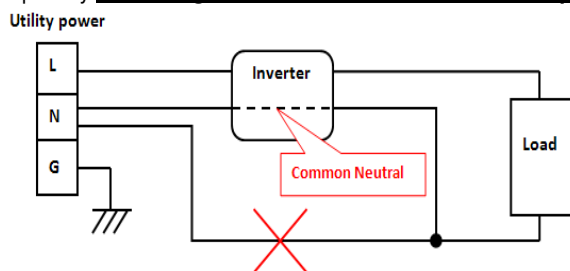
DO NOT obstruct the ventilation openings.

DO NOT connect neutral of the power distribution box on the wall to:

(a) The **OUTPUT neutral of inverter**.

or (b) The **INPUT neutral of equipment**.

Otherwise the reversed polarity **will damage the inverter and the connected equipment**.



CAUTION! Risk of electric shock, do not remove cover. No user serviceable parts inside.

The battery can energize hazardous live parts inside even when the AC input power is disconnected.

To avoid electrical shock, turn off the INVERTER and unplug it from the AC power source before servicing the battery. Servicing the battery can only be performed by trained personnel.

INSTALLING YOUR INVERTER SYSTEM

UNPACKING

Inspect the unit upon receipt. The box should contain the following:

Inverter Unit × 1; Power Cord × 1; User Manual × 1

HOW TO DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

- Insure that the equipment plugged into the AC outlet does not exceed the INVERTER unit's rated capacity (1200VA/720W for CPS1200EILCD; 2200VA/1320W for CPS2200EILCD). If rated unit capacities are exceeded, an overload condition may occur and cause the INVERTER unit to shut down or the circuit breaker trip.
- If the power requirements of your equipment are listed in units other than Volt-Amps (VA), convert Watts (W) or Amps (A) into VA by doing the calculations below. Note: The below equation only calculates the maximum amount of VA that the equipment can use, not what is typically used by the equipment at any one time. Users should expect usage requirements to be approximately 60% of below value.

TO ESTIMATE POWER REQUIREMENTS

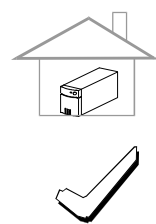
- $220\text{ V} \times \text{Amps (A)} = \text{VA}$
- Add the totals up for all pieces of equipment and multiply this total by 0.6 to calculate actual requirements. There are many factors that can affect the amount of power that your computer system will require. The total load that you will be placing on the battery-powered outlets should not exceed 80% of the unit's capacity.

HARDWARE INSTALLATION GUIDE

Before installation, please read and understand the following instructions:

1. Placement

The Inverter must be installed in a protected environment away from heat-emitting appliances such as a radiator or heat register. Do not install this product where excessive moisture is present.



2. Ventilation

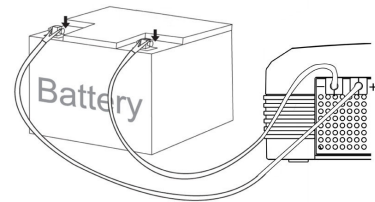
The location should provide adequate air flow around the INVERTER with 10 CM minimum clearance on all sides for proper ventilation.

3. Connect the Battery

Connect the external battery with the DC cables from the back of the INVERTER. Follow battery polarity guide located near battery cables as below.

“+” Red cable for battery positive polarity;

“-” Black cable for battery negative polarity.



4. Connect to AC and Charge the Battery

Connect the INVERTER to a wall outlet. Avoid using extension cords and adapter plugs. Charging the battery for at least 8 hours is recommended to insure that the battery is fully charged. To recharge the battery, simply leave the unit plugged into a wall outlet. To maintain optimal battery charge, leave the INVERTER plugged into an AC outlet at all times.

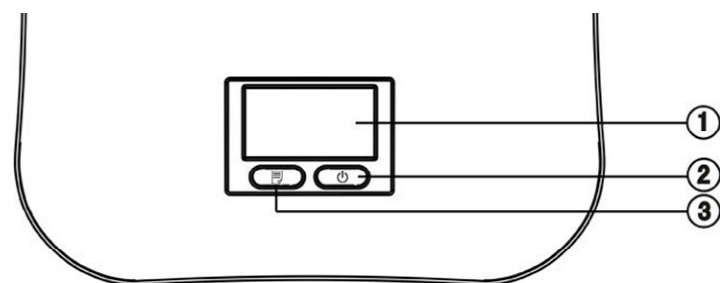
This INVERTER can be charged even when INVERTER is not turned on.

5. Connect the Load

Connect the equipment to the INVERTER outlet. Please make sure that the total loads of your equipments are less than the maximum total power load of the INVERTER.

BASIC OPERATION

FRONT PANEL DESCRIPTION



1. LCD Module Display.

High resolution and intelligent LCD display shows all the INVERTER information with icons and messages. For more information please check the “Definitions for Illuminated LCD Indicators” section.

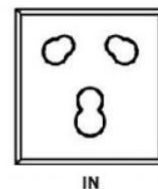
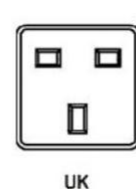
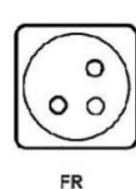
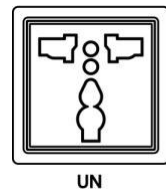
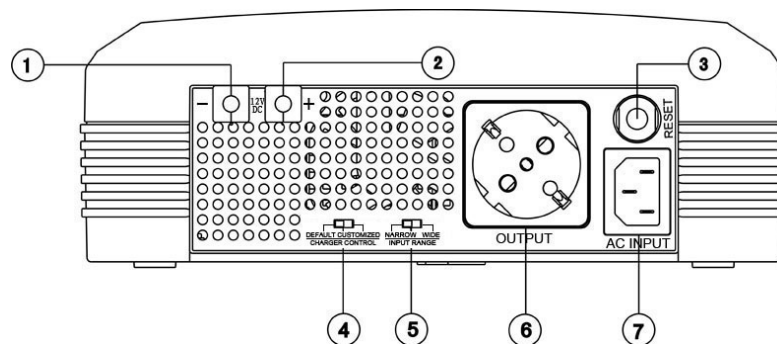
2. Power Switch

Press the power switch to turn the INVERTER ON or OFF.

3. LCD Function Selected Switch

The switch can be used to select the LCD display contents including input/output voltage and load percentage, etc.

REAR PANEL DESCRIPTION



***6 outlet types available including:** Universal, Schuko, French, UK, India and NEMA, type.

1. DC Input Cable (Black)

Connect to battery negative polarity.

2. DC Input Cable (Red)

Connect to battery positive polarity.

3. Input Circuit Breaker

The circuit breaker provides optimal overload protection.

4. **Charger Control***

A. Select “**Default**” setting for general application. The charge voltage is 13.7V, 27.4V respectively for CPS1200EI and CPS2200EI.

B. Select “**Customized**” setting for special battery condition. The charge voltage is 13.3V, 26.6V, respectively for CPS1200EI and CPS2200EI.
***Note:** Operate by **trained professionals ONLY**. Incorrect operation will damage the battery.
5. **Input Voltage Range Selector**

Input voltage range is defined in specification section. Output voltage is the same as input voltage in AC mode.
A. Select “**Narrow**” setting for general electrical appliance such as TUBE LIGHT, ENERGY SAVING LAMP, TV, JUICER & MIXER etc. It is not suitable for high-power motor or inductive load, such as the fridge of 1KW, the motor of 800W, AIR COOLER (having risk of rebooting) and so on. In this mode, the INVERTER operating voltage in AC mode is within 190~ 260Vac with the same output voltage. The line sensitivity is higher.

B. Select “**Wide**” setting to save energy. In this mode the operating range of voltage for the INVERTER is 100-280Vac. Therefore the output voltage will be the same as the MAINS input voltage. The INVERTER unit in this mode has a lower sensitivity with a longer transfer time for switching from AC mode to battery mode in the event of power failure. You can safely connect and use home appliances which are not sensitive to transfer time limitations such as florescent tubes, bulbs, TV etc.
6. **AC outlet****

The INVERTER provides one outlet for connected equipment to insure temporary uninterrupted operation during a power failure and against surges and spikes.
****Note: 6 outlet types available**, including Universal, Schuko, French, UK, India and NEMA, type.
7. **AC Inlet**

Connect to utility power through the input power cord.

Functional Test

AC Mode

The INVERTER delivers power to the load derived from the utility and maintains proper battery charge.

On-Battery Mode

The INVERTER operates on battery when the utility voltage has fallen outside the limits. Local users are alerted to this mode of operation by visual and audible indicators. The INVERTER provides power to the load from the battery and the output voltage of the INVERTER are regulated within a narrow range

1. **Switch On**

Press the power switch then the status LCD will light up.
2. **Switch Off**

Press again the power switch, the status LCD will go off.
3. **Cold Start / Start on Battery:**

This INVERTER can be turned on even when AC is not present.
Press the power switch then the status LCD will light up.

ROUTINE MAINTENANCE AND STORAGE

ROUTINE MAINTENANCE

1. Use dry soft clothes to clean the panel and plastic parts. Do not use any detergent that contains alcoholic ingredient.
2. Unplug the INVERTER from power inlet if the INVERTER will not operate for long period of time.

STORAGE

1. First turn off your INVERTER and disconnect its power cord from the wall outlet. Disconnect all cables connected the INVERTER to avoid battery drain.
2. The INVERTER should be stored in a cool dry location.
3. Make sure the battery is fully charged before the INVERTER is stored.
4. For extended storage in moderate climates, the battery should be charged for 12 hours every 3 months by plugging the power cord into the wall receptacle and turning on the main switch. Repeat it every 2 months in high temperature locations.

TROUBLE SHOOTING

Problem	Possible Causes	Remedy
No LCD display	1. Battery Weak	1. Re-charge battery
	2. Battery defective	2. Battery replacement.
	3. Power switch is not pressed	3. Press and hold power switch.
Mains normal but not works in AC mode	1. AC Input missing	1. Check AC input connection.
	2. Input protector is effective	2. Reset the input protector.
Alarm buzzer beeps continuously	Overload	Verify that the load matches the capability specified in the specs.
Backup time is shortened	Overload	Remove some non-critical load.

	Battery voltage is too low.	Charge battery for 8 hours or more.
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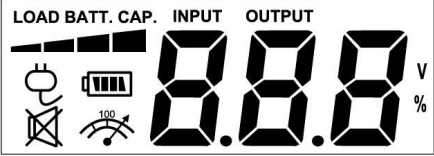
If any abnormal situations occur that are not listed above, please contact service personnel.

TECHNICAL SPECIFICATIONS

Model	CPS1200EILCD	CPS2200EILCD
Capacity (VA)	1200VA	2200VA
Capacity (Watts)	720W	1320W
Input		
Input Voltage Range	Wide mode: 100VAC-280VAC Narrow mode: 190VAC-260VAC	
Frequency Range	50/60Hz	
Output		
On Battery Output Voltage	Simulated Sine Wave at 220Vac +/-10%	
On Battery Output Frequency	50/60Hz	
Overload Protection	On Utility: Circuit Breaker, On Battery: Internal Current Limiting	
Physical		
Total # of INVERTER Receptacles	(1) Shuko/FR/UK/India/NEMA/UN	
Maximum Dimensions	265mm(L)* 250cm(W)* 90cm(H)	
Weight	2.05 kg / 4.5 Lbs	2.2 kg / 4.9 Lbs
Battery		
Lead Acid Battery	12V	24V
Warning Diagnostics		
Indicators	INVERTER Status Display,	
Audible Alarms	Low Battery, Overload, Fault	
Environmental		
Operating Temperature	+32°F to 104°F (0°C to 40°C)	
Operating Relative Humidity	0 to 90% NON-CONDENSING	
Management		
Auto-Charger	Yes	
Auto-Restart	Yes	

DEFINITIONS FOR ILLUMINATED LCD INDICATORS

LCD Indication



Line mode

Select SW Press	INVERTER Status Display				Capacity Display		Digital Value Display		
					Load Cap.	Battery Cap.	Input Voltage	Output Voltage	% of Load
Initial	V	X	X	--	X	V		V	
1st	V	X	X	--	V	X			V
2nd	V	X	X	--	X	V	V		
(Overload)	V	X	X	V	--	--	--	--	--

“V” : Illuminated, “X” : Not Illuminated, “--” : Either

Battery mode

Select SW Press	INVERTER Status Display				Capacity Display		Digital Value Display		
					Load Cap.	Battery Cap.	Input Voltage	Output Voltage	% of Load
Initial	X	V	--	--	X	V		V	
1st	X	V	--	--	V	X			V
2nd	X	V	--	--	X	V	V		
Press >3sec (Sound Disable)	X	V	V	--	--	--	--	--	--
Press >3sec again (Sound Enable)	X	V	X	--	--	--	--	--	--
(Overload)	X	V	--	V	--	--	--	--	--

“V” : Illuminated, “X” : Not Illuminated, “--” : Either

Off charging mode (Auto bypass)

Select SW Press	INVERTER Status Display				Capacity Display		Digital Value Display		
					Load Cap.	Battery Cap.	Input Voltage	Output Voltage	% of Load
Initial	V	X	X	X	X	X	X	X	X

“V” : Illuminated, “X” : Not Illuminated, “--” : Either

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