

USER MANUAL

THE INVERTER OF THE FUTURE IS HERE



For any service related issue call our Toll Free No. 1800-103-5454

Exide Industries Ltd.
59E, Chowringhee Road, Kolkata - 700 020

Dear Valued Customer,

We congratulate you for your excellent choice of our Exide Home Star Pure Sine Wave Inverter. Exide Home Star Pure Sine Wave Inverter will provide you complete comfort during the absence of utility power and provide your appliances the exact replication of mains supply because of the latest Technology.

THE SALIENT FEATURES OF EXIDE HOME STAR PURE SINE WAVE INVERTER ARE

- Pure Sine Wave Output Wave Shape
- **Automatic Battery Charge Management**
- Dual Mode of Charging i.e. High Charging (HI), Low Charging (Low)
- LED Indications for better user interface
- Protection: Overload, Input/Output Short Circuit, Battery Low, Battery High, Over Temperature, Mains, Fuse Trip, Reverse Battery Polarity, Reverse Phase
- Wide Mains Voltage Charging Range i.e. 90V - 300V
- Mains Low Voltage Charging Facility
- Manual Mains Bypass Facility
- Great Power Saving
- Easy to Service
- No Humming Noise

This manual provides you thorough understanding of your **Exide Home Star Inverter** and its optimum use. Please read installation and operating instructions in the manual carefully. Before installing and using your **EXIDE HOME Star Pure Sine Wave Inverter**. Pay special attention to the **CAUTION** and **WARNING** statements in this manual.



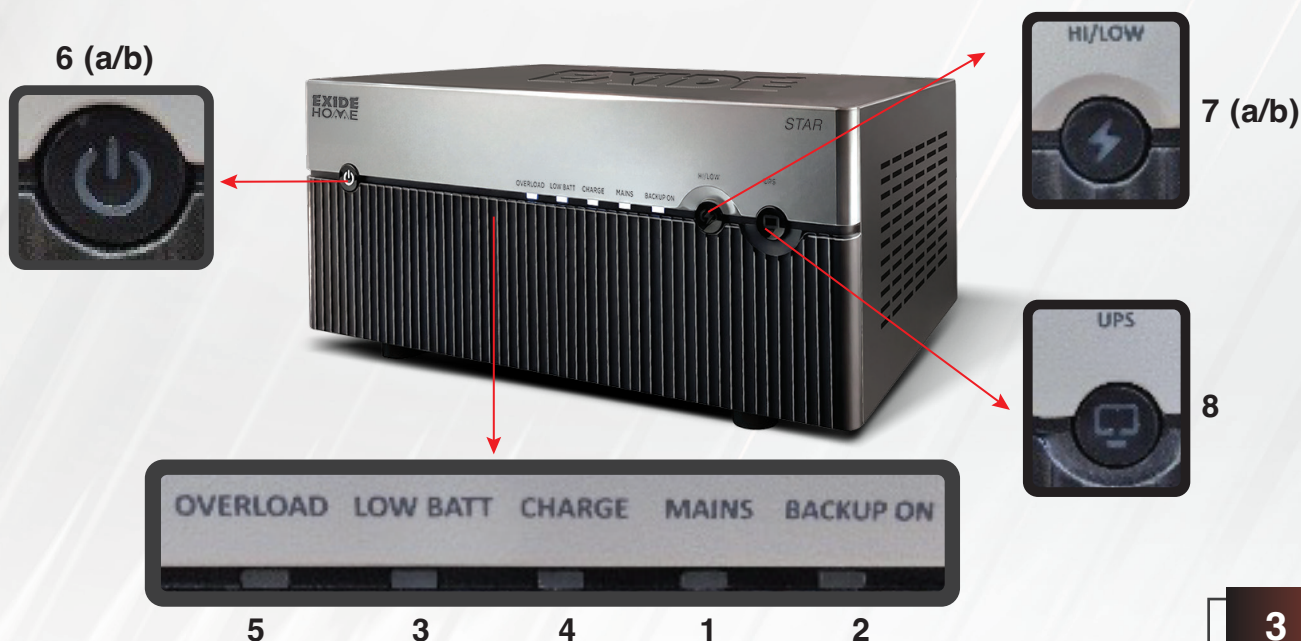
ABOUT THE EXIDE HOME STAR INVERTER

Exide Home Star Pure Sine Wave Inverter transforms Direct Current (DC) to Alternating Current (AC). The battery acts as a reservoir ensuring continuous supply when utility power is not available

CONTROLS

FRONT PANEL

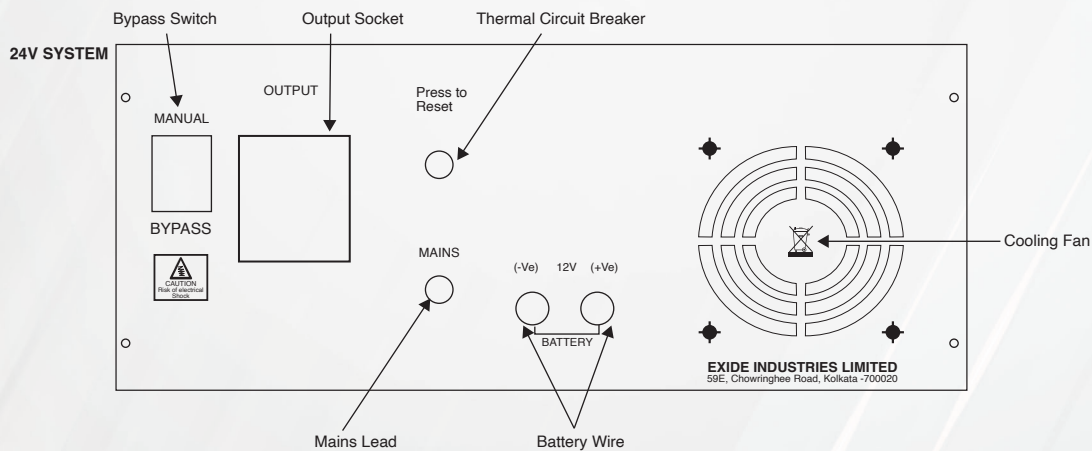
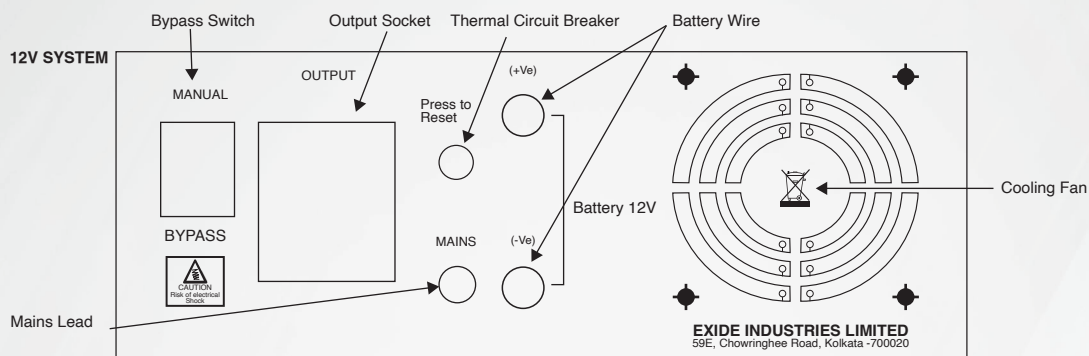
Graphic Description	Indication	Meaning
1. MAINS ON	Continuous Glow	Mains Present
	Blinking with beep sound	Mains fuse blown
2. BACK-UP ON	Continuous Glow	Back-up ON
3. BATTERY LOW	Continuous glow with beep sound	Battery Voltage Low
	Continuous glow without beep sound	Battery Voltage Low Cut
4. CHARGING/CHARGED	Blinking	Battery Charging
	Continuous Glow	Battery Charged
5. OVERLOAD/SHORTCIRCUIT	Blinking with beep sound	Overload Alarm
	Blinking without beep sound	Shutdown
	Continuous glow with beep sound	Short Circuit
6.a ON/OFF - ON	ON/OFF Switch LED Glow	Inverter ON
6.b ON/OFF - OFF	ON/OFF Switch LED Not Glow	Inverter OFF
7.a FAST CHARGING	Fast Charging Switch LED Glow	Fast Charging Mode
7.b NORMAL CHARGING	Normal Charging Switch LED Not Glow	Normal Charging Mode
8. UPS MODE	UPS Mode Switch ON LED Glow	UPS Mode Operation



REAR PANEL

Exide Home Star Pure Sine Wave Inverter has two battery wires coming out from the rear side, a Circuit Breaker 7/ 10/12 Amp (7Amp for 700VA, 900VA, 1125VA & 1375VA, 10Amp for 1625VA and 12Amp for 2550VA), output socket and a three pin top power cord to connect with mains supply. Red coloured battery wire is to be connected to positive terminal of battery and black coloured wire to be connected to negative terminal of the battery.

Caution: Do not reverse the battery connections, it will blow the DC fuse connected in series with battery connection inside the Power Card.



SOME SAFETY MEASURES

IMPORTANT PRECAUTIONS

The output side of the AC wiring of Exide Home Star should never be connected to utility power or a DG set. This condition is far worse than a short circuit. If the unit survives this condition, it will shut down until connections are made.

Installation should ensure that the AC output of Exide Inverter should not be connected to AC input.

Note: Connecting the battery cables to the Exide Inverter battery terminals may cause spark, usually accompanied by a "snap". This is normal, don't let it scare you. Never disconnect battery cables while the Exide Home Star is delivering power or battery charger is operating. Always turn the switch off first.

GENERAL PRECAUTIONS

- Before installing, connecting any wiring or using the Exide Inverter Star, read all instructions of this instruction manual.
- **CAUTION:** Do not install or connect batteries to this unit unless instructed to do so. Failure to comply with this instruction can cause damage or complete failure of the unit.
- **CAUTION:** To reduce risk of injury, use only deep-cycle lead acid batteries.
- Do not expose the system to rain, snow or liquids of any type. Do not disassemble the system; call EXIDE authorised service centre when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
- To reduce risk of electric shock, disconnect all the wiring from the system before attempting any maintenance cleaning. Turning off the system will not reduce this risk.
- **WARNING: WORKING IN VICINITY OF A LEAD ACID BATTERY IS DANGEROUS.**
- Be extra cautious when working with metal tools on, or around batteries. The potential exists to drop a tool and short-circuit the batteries or other electrical parts resulting in sparks that could cause an explosion.
- Do not leave batteries in discharge state for more than a day or two. They will undergo a chemical process called sulfation which can permanently damage the battery. Also batteries will self-discharge over a period of 3-6 months, so they should be periodically recharge even if they are not being used.
- **GROUNDING INSTRUCTIONS:** The Exide Home Star Sine Wave Inverter should be connected to a grounded, permanent wiring system.

PERSONAL PRECAUTIONS

- Someone should be in your audible range to come to your aid when you work near batteries.
- In case battery acid comes into contact with the skin, clothing, or eyes, immediately flush the affected area with plenty of clean water.
- Always wear appropriate eye protection and protective clothing when handling batteries. Avoid touching your eyes while working with batteries and wash your hands thoroughly after handling.
- If battery acid comes into contact with the skin or clothing, wash immediately with soap and water. If acid enters the eyes, flush immediately with clean running water for at least **15 minutes** and seek immediate medical attention.
- **Do not attempt to charge a frozen battery.**
Before touching the battery terminals, ensure that the inverter is switched OFF and the AC mains supply to the Exide Inverter is disconnected.
- **Do not smoke or allow sparks, open flames, or other sources of ignition near the battery.**
- Remove all personal metal items such as rings, bracelets, necklaces, and watches before working on the battery or electrical circuits. These items may cause a short circuit, resulting in severe burns or injury.
- If it is necessary to disconnect the battery, always disconnect the **grounded (negative) terminal first**. Ensure all connected electrical loads and accessories are switched OFF to prevent arcing. Always work in a well-ventilated area.
- Keep the battery terminals clean. Exercise caution to prevent corrosion or battery residue from coming into contact with the eyes or skin.
- Follow all battery manufacturer instructions, including recommended charging procedures, safety precautions, and charging rates.
- Refill battery cells only with **distilled water**, and only up to the level specified by the battery manufacturer. Do not overfill. For batteries without removable caps, follow the manufacturer's maintenance and charging instructions.
- **CAUTION:** The Exide Home Inverter must be connected to a properly grounded permanent wiring system in accordance with applicable electrical codes and regulations.

SPECIAL NOTICES

1. The Exide Inverter charge is for use with a nominal supply voltage of 12V/ 24V DC.
2. No AC or DC disconnects are provided as an integral part of this system.
3. No over current protection for the battery supply is provided as an integral part of this system. Both AC & DC disconnects must be provided as part of the system installation.
4. No over current protection for the AC output wiring is provided as an integral part of the system. Over current protection of the AC output wiring is provided as part of the system installation.

CHARGING AND LOAD CHART

CHARGING MODE

Model With Rating							
Parameter	STAR 700VA 12V	STAR 900VA 12V	STAR 1125VA 12V	STAR 1375VA 12V	STAR 1625VA 12V	STAR 1625VA 24V	STAR 2550VA 24V
Fast Charging Current ($\pm 1A$)	15A	17A	18A	24A	27A	17A	20A
Normal Charging Current ($\pm 1A$)	11A	12A	13A	17A	19A	12A	14A
Battery Boost Voltage	14.4V $\pm$ 0.2V					28.8V $\pm$ 0.4V	
Battery Float Voltage	13.7V $\pm$ 0.2V					27.4V $\pm$ 0.4V	

LOAD CHART

MODEL	STAR 700 12V				STAR 900 12V				STAR 1125 12V				STAR 1375 12V				STAR 1625 VA 12V				STAR 2250 VA 24V			
Options	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Computer (TFT)	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	3	0	0	0	3
Printer (Laser)	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1
TV (LCV 26")	0	0	1	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	4	0
TUBE LIGHT (40W)	4	0	2	2	6	0	5	3	7	0	8	6	8	0	6	4	10	0	9	7	15	0	15	12
Fan (80W))	4	0	4	3	5	0	5	4	6	0	5	4	8	0	8	6	10	0	10	7	15	0	15	12
CFL (15W)	5	37	6	4	5	48	6	7	9	60	10	6	10	73	11	7	6	86	7	7	16	136	9	16

APPLICATION CHART EXIDE INVERTER*

Back-up Power of electrical loads:

- Computer & Printer
- Fan, Tubelight CFL, LED Light
- T.V. Sets, DVD & Music System

*Ideal for Computer & Printer

INSTALLATION

WHERE TO INSTALL

The system should be installed in a location that meets the following requirements:



Dry - Do not allow water to drip or splash on the **Exide Home Star Inverter**



Cool - The ambient air temperature around the system should be between 0°C to 45°C (32°F to 113°F). Cooler environment is better for the system.



Ventilation: Allow at least two inches (5cm) of clearance around the system for air flow.



Safe: DO not install the **Exide Home Star Inverter** in the same compartment as batteries or in any compartment which are storing flammable liquids such as gasoline.



Close to battery - Install the system as close to the battery as possible in order to minimise the length of cable required to connect the system to the battery. It is better and cheaper to run longer AC wires than longer DC cables.

CAUTIONS!



To prevent fire, do not cover or obstruct ventilation openings. Do not install the system in a zero-clearance compartment. May result in overheating.

WARNING!



This equipment contains components which tend to produce arcs or sparks. To prevent fire or explosion do not install in compartment containing batteries or flammable materials or in locations which require ignition protected equipment.

HOW TO INSTALL

DC CABLING

1. Ensure that the ON/OFF switch on the front panel of the Inverter is OFF position before you begin the installation.
2. Connect the negative terminal of the battery to the thick black wire of system.
3. Connect the positive terminal of the battery to the thick red wire of system.

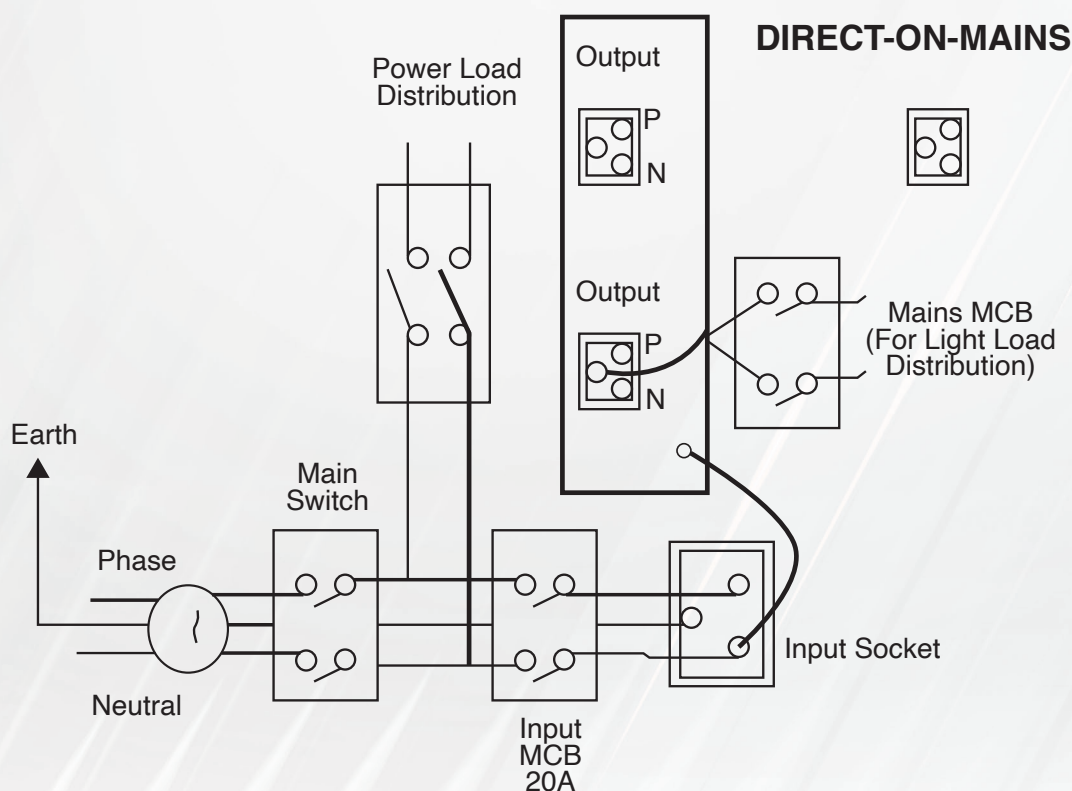
AC CABLING

Plug in the power cord to the mains socket on the wall. The cabling should have proper earthing.

Connect AC input supply to the 3 way terminal of the system such that the line is connected to 'L' , neutral is connected to 'N' and earth is connected to 'E'.

Input supply should remain ON once the system is installed.

Take out from output socket.



START OPERATION

Once the AC and DC wiring have been installed and connected, take a moment to go re-examine all the connections and make sure they are secured and in the proper terminals.

1. Check to see that the **Exide Home Star Inverter** is turned off and then apply battery (DC) power to it. Ensure that all wiring has been installed properly. Next turn On the battery bank DC disconnects or connect the proper fuse in line to the battery to complete the battery circuit.
2. Put ON/OFF switch to the ON position. This system should run a load without AC input (battery only). Place a load on the system and make sure it works.
3. To charge your batteries connect AC power to the system by plugging in the AC power and turning on the mains line. This shows that charger is working properly. Any AC load powered by the system should also work at this point since a portion of the AC power is passed through this Exide Inverter to power the loads.
4. Disconnect the AC power, the system should transfer to battery mode immediately. This will be indicated by clicking sound as the internal transfer relay changes position.
5. The system will begin to take power from the batteries and use it to power the load. And the load continues to operate uninterrupted.

The above steps will complete the functional test of the Exide Home Star Inverter. If all areas pass, the system is ready for use. If something fail figure out the reason before proceeding or contact the service centre.

MAINTENANCE



Very little maintenance is required to keep your Exide Home Star Pure Sine Wave Inverter operating properly. You should clean the exterior of the unit periodically with a damp cloth to prevent the accumulation of dust and dirt.

TROUBLESHOOTING GUIDE AND TECHNICAL SPECIFICATIONS

Problems and Symptoms	Possible Cause	Solution
No Output voltage No indication	Poor battery condition or battery connection loose	Use new battery or make proper connections
No output voltage Overload indication	Excess Load Applied	Reduce the excessive load from the Exide Inverter & reset by ON/OFF Switch
No output voltage LCD shows all trip	Thermal shut down	Call the service support. There is overheat problem in the system
Buzzer Continuous Beep	Circuit Breaker Trip	Reset Circuit Breaker on the rear side of the inverter
Mains ON but Not Charging	UPS / Normal Selection switch may be in UPS mode	Check Mains voltage at LCD Display & Selection of Normal/UPS mode as per specified voltage range

MODEL RATING							
Parameters	STAR 700VA 12V	STAR 900VA 12V	STAR 1125VA 12V	STAR 1375VA 12V	STAR 1625VA 12V	STAR 1625VA 24V	STAR 2550VA 24V
No Load Output Voltage	220V + 7V						
Output Frequency	50Hz + 1Hz						
Output Wave Form	Pure Sine Wave						
Nominal Battery Voltage	12V					24V	
Battery Low Cut Off	10.5V = 0.2V					21.0V±0.4V	
Mains Input Voltage Range (at Normal Mode)	90V - 300V +10V						
Mains Input Voltage Range (at UPS Mode)	180V - 270V + 10V						
Changeover Time - Mains to Back-up (UPS Mode)	≤ 10 msec						
Changeover Time - Mains to Back-up (Normal Mode)	≤ 20 msec						
Changeover Time - Back-up to Mains (UPS Mode)	≤ 10 msec						
Changeover Time - Back-up to Mains (Normal Mode)	≤ 10 msec						