

USER MANUAL



PURE SINE WAVE EXIDE INVERTER

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

Exide Industries Ltd.
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Dear Valued Customer,

We congratulate you for your excellent choice of our EXIDE INVERTER. Exide Home GQP Pure Sine Wave 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 Micro Controller Based Technology.

The salient feature of EXIDE HOME GQP Pure Sine Wave Inverter is

- Pure Sine Wave Output Wave shape
- Automatic Battery Charge Management
- Tri State of Charging i.e. Normal, Boost & Fast Charging Rate as HC/NC/EC rate
- LCD Display for better user interface
- Auto sense protection - Overload, Short Circuit, Battery Low, Over temperature, Battery HI, Mains Fuse Trip
- Mains Overload Protection Through MCB
- Phase Reverse Protection
- Manual Mains Bypass Facility
- Great Power Saving
- Easy to Service
- No Humming Noise

This manual provides you through understanding of your Exide Inverter and its optimum use.

Please read installation and operating instructions in the manual carefully before onstalling and using you Exide Home GQP Pure Sine Inverter. Pay special attention to the CAUTION and WARNING statements in this manual.

About the EXIDE HOME GQP

Exide Home GQP 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

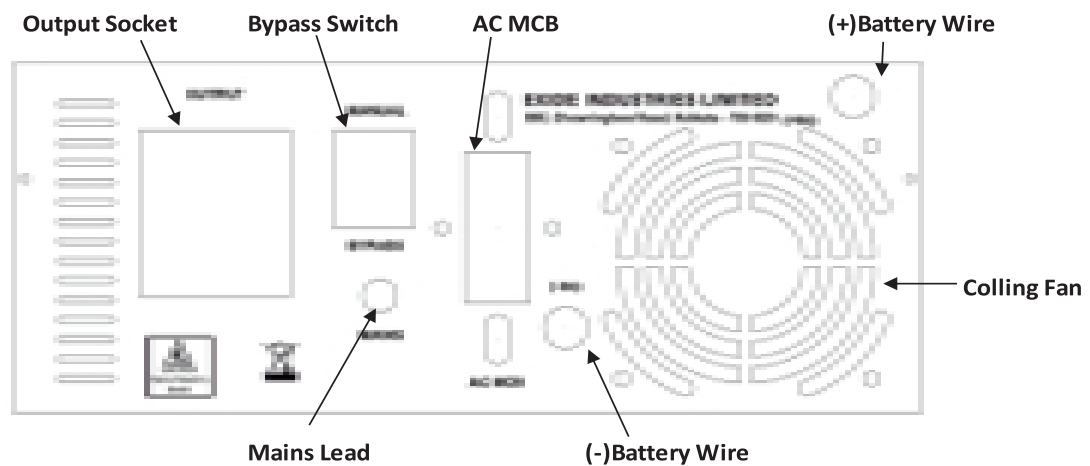
Front Panel - There is ON/OFF Switch and LCD & LED Display.

Message Displayed on LCD			Message Displayed on LED	
Battery Charging	12V	Battery is charging or charged also display the actual battery voltage in $\pm 0.2V$ accuracy	LED Backup ON	Glow when Mains is not available, and system is functioning on battery
Mains	220V	Displays status of AC mains voltage at the input	LED Charging Blinking	Glow when mains is present and battery is charging
Mains	CUT	Display failure status of input AC mains at the input	LED Charging continue glow	When the battery charged
Battery	ON 12V	Display battery voltage and its status		
Mains	Fuse Trip	Displays the protection status of AC mains fuse fail		
Battery	Trip Low	Displays the protection status of battery low trip		
Load	90%	Displays the status of load in percentage on battery		
Overload	Trip	Displays the protection status of trip in case of overload		
Short Circuit	Trip	Displays the protection status of trip in case of short circuit		
UPS mode	ON	Displays the UPS/ Normal switch (rear panel) selection		

Rear Panel

Exide Home GQP Pure Sine Wave Inverter has two battery wires coming out from the rear side, MCB of 6 Amp (for 700VA, 900VA & 1125VA) and 10Amp MCB (for 1625VA & 1425VA). AC 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 Inverter 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 Inverter 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, 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. In correct 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 THE 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 a discharged 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 periodically recharge even if they are not being used.
- **GROUNDING INSTRUCTIONS:** The Exide Home Sine Wave Inverter should be connected to a grounded, permanent wiring system.

Personal Precautions

- Someone should be your audible range to come to your aid when you work near batteries.
- Have plenty of fresh water and so nearby in case battery acid contacts skin, clothing or eyes
- Wear complete eye protection and clothing protection. Avoid touching eyes while working near batteries. Wash hands when done.
- If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eyes, immediately flood eyes with running cool water for at least 15minutes and get medical attention immediately.
- Never attempt to charge a frozen battery.
- Before touching battery terminal makes sure that the system front system is OFF and AC mains to the Exide Home are also OFF.
- NEVER smoke or allow spark or flame in vicinity of the batteries.
- Remove personal metal items such as rings, bracelets, necklaces and watches when working electrical circuit. These items can cause a short circuit current high enough to weld a ring and may cause severe burns
- If it is necessary to remove any battery, always remove the grounded terminal from the battery first. Make sure all the accessories are off, so as not to cause arcing. Be sure that the area around the battery is well ventilated.
- Clean battery terminals. Be careful not to allow corrosion to come in contact with eyes.
- Study all battery manufacturers' specific precautions and recommended rate of charge.
- Add only distilled water in each cell until battery acid reaches level specified by the battery manufacturer. This helps purge excess gas from cells. Do not over fill. For a battery without caps, carefully follow manufacturer's charging instructions.
- CAUTION: The EXIDE HOME Pure Sine Wave Inverter should be connected to grounded, permanent wire system.

SPECIAL NOTICES:

1. The Exide Inverter 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	GQP 700VA 12V	GQP 900VA 12V	GQP 1125VA 12V	GQP 1450VA 12V	GQP 1625VA 24V
Fast Charging Current	15±1Amp	17±1Amp	18±1Amp	27±1Amp	17±1Amp
Boost Charging Current	13±1Amp	15±1Amp	16±1Amp	23±1Amp	15±1Amp
Normal Charging Current	11±1Amp	12±1Amp	13±1Amp	19±1Amp	12±1Amp
Battery Boost Voltage	14.4V ± 0.2V				28.8V ± 0.4V
Battery Float Voltage	13.7V ± 0.2V				27.4V ± 0.4V
Charging Technique	Automatic Sense Intelligent Control (ASIC)				

LOAD CHART EXIDE INVERTER*

Model	700VA				900VA				1125VA				1450VA				1625VA			
Options	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Computers (TFT)	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	3
Printer (Laser)	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
TV (LCD 26")	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Tube light (40W)	4	0	3	2	6	0	5	3	7	0	8	6	9	0	8	6	10	0	9	7
Fan (80W)	4	0	4	3	5	0	5	4	6	0	5	4	8	0	8	4	10	0	10	7
CFL (15W)	5	37	6	4	5	48	6	7	9	60	10	6	9	76	10	6	6	86	7	8

* Depending on the actual VA rating/technical specifications of the appliance. Specifications are subject to change without prior notice due to constant R&D effort. Accessories show in the picture is not the standard part of the product.

APPLICATION CHART*

Back-up Power of all electrical loads:

- Computer & Printers
- Fan, Tube lights, CFL, LED Lights
- 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 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 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. Overheating may result.

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.

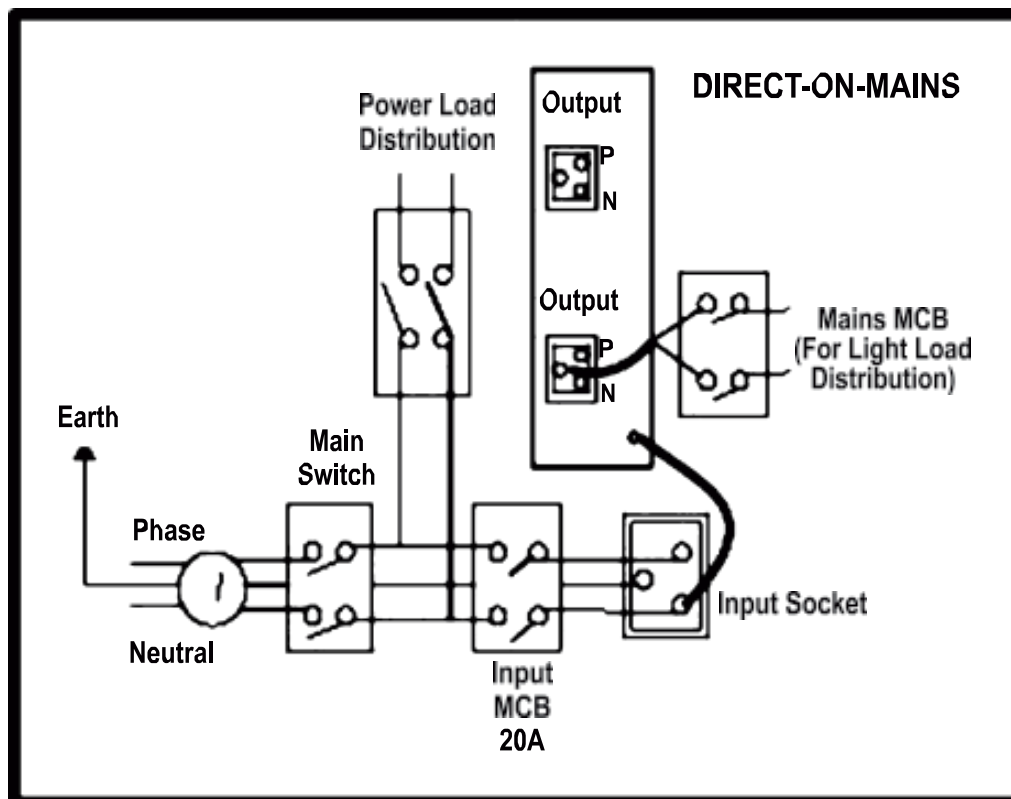
How to Install

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 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 lugging 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 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

Note: Manual / Bypass switch selection should be manual mode, if Inverter faulty, than select Bypass selection.

Maintenance

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

Troubleshooting Guide

Problems and Symptoms	Possible Cause	Solution
No Output voltage No Display	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
Fuse Trip	MCB trip	Reset MCB
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
Mains ON but Not Charging	Bypass Switch may be in Bypass Mode	It should be in Manual Mode while Home is OK

Specifications

Technical Specifications

Model with Rating					
Parameters	GQP 700VA 12V	GQP 900VA 12V	GQP 1125VA 12V	GQP 1450VA 12V	GQP 1625VA 24V
No Load Output Voltage	220V $\pm$ 7V				
Output Frequency	50Hz $\pm$ 1Hz				
Output Wave Form	Pure Sine Wave				
Nominal Battery Voltage	12V				24V
Battery Low Cut Off	10.5V $\pm$ 0.2V				21.0V $\pm$ 0.4V
Mains Input Voltage Range (at Normal Mode)	90V - 290V $\pm$ 10V				
Mains Input Voltage Range (at UPS Mode)	180V - 260V $\pm$ 10V				
Chargeover Time - Mains to Back-up (UPS Mode)	$\leq$ 10 msec				
Chargeover Time - Back-up to Mains (UPS Mode)	$\leq$ 10 msec				
Chargeover Time - Mains to Back-up (Normal Mode)	20 msec				
Changeover Time - Back-up to Mains (Normal Mode)	$\leq$ 10 msec				