

# **Instruction Manual**

IMPORTANT: Read this manual and safety guide and ensure you fully understand its operations before using this battery charger. Please retain this manual for future reference.

# IMPORTANT INSTRUCTIONS FOR YOUR SAFTEY

To help reduce the risk of injury, it is important you read and understand the operation of this equipment and all the relevant safety precautions that must be observed along with any warnings and instructions issued by the battery manufacturer.

#### BATTERY TYPES

This battery charger is designed specifically for charging automotive lead-acid batteries only. Not suitable for AGM or EFB batteries mainly used with start/stop technology.

Do not use this charger with dry-cell, NiCd, NiMH , Li-ion or Li-ion polymer batteries commonly used in home appliances such as, radios, toys, torches etc. These batteries may burst and cause injury to persons and damage to property.

#### LEAD ACID BATTERIES MAJOR RISKS

#### Explosives Gases

Working with or in the vicinity of Lead-Acid batteries is a dangerous environment as batteries will generate explosive Hydrogen gases when in normal operation or when being charged.

#### Electric Shocks

Exposed terminals, even on disconnected batteries, present an electrical shock hazard. Accidental shorting of terminals or cables can result in severe electrical arcing, causing burns, electric shock and resulting in the ignition of explosive gases if present.

# PERSONAL PRECAUTIONS

**ALWAYS** wear the correct Personal Protective Equipment.

**ALWAYS** wear complete eye protection, indirect vent goggles conforming to EN166:1B (3,4,9).

**ALWAYS** wear rubber acid resistant gloves.

**ALWAYS** remove rings, watches and dangling jewellery when working with or near batteries. Metal jewellery can act as a conductor and cause a shock or burn if in contact with the battery terminals.

**ALWAYS** stay away from a charging battery when possible.

**ALWAYS** keep other people away from a battery. If they are not wearing the correct Personal Protective Equipment.

**ALWAYS** avoid direct contact with battery acid, or surface corrosion on the battery casing or its terminals.

**ALWAYS** have plenty of fresh water and soap nearby in case battery acid comes in to contact with your eyes, skin or clothing. If battery acid contacts skin or clothing, wash immediately with soap and water.

**EYE CONTACT** If the electrolyte is splashed into an eye, immediately force the eye open and flood it with clean, cool water for at least 15 minutes. **SEEK MEDICAL ATTENTION IMMEDIATLY.** 

**ALWAYS** use extreme caution if you are handling electrolyte and keep an acid neutralizing solution, such as baking soda readily available.

# **OPERATING PRECAUTIONS**

**DO NOT** put your face near to the battery or position your face directly above the battery when removing the filler caps.

**DO NOT** touch both battery terminals with your bare hands at the same time.

**DO NOT** expose the charger to rain, snow, water, gas, oil, etc.

**DO NOT** use the charger in damp or wet conditions.

**DO NOT** operate the charger if it has received a sharp blow, been dropped or damaged in any way.

**DO NOT** operate the charger with a damaged power cable or plug. These should be replaced immediately.

**DO NOT** block the air holes at the top or bottom of the charger or place the charger on a vehicle seat.

**DO NOT** place a battery on top of the charger.

**DO NOT** operate the charger with the crocodile clips joined together (shorted).

**DO NOT** use this charger on board a boat. Move the battery to dry land before charging using this charger. Charging a battery on board a boat floating in water requires a charger specially designed to marine charging standards.

**DO NOT** lay tools or other metal objects on top of a battery.

**DO NOT** put flammable material on, under or near the charger.

**DO NOT** use the charger near petroleum or other spirits that can produce flammable vapours.

**DO NOT** overfill the battery, battery acid expands during charge. After charging is complete fill to the level specified by the battery manufacturer. **DO NOT** attempt to recharge sealed maintenance free batteries that have a battery condition indicator, a light or bright coloured dot that indicates a low water level. These types of batteries need to be replaced and should not be recharged or jump started.

**DO NOT** attempt to charge a frozen battery, in very cold weather conditions a discharged battery may freeze.

**DO NOT** overcharge batteries, nonautomatic (manual) battery charger models can overcharge a battery if left connected for an extended period of time, resulting in loss of water and creation of hydrogen gas.

**ALWAYS** follow the manufacturer's instructions when charging a battery without removable caps (low maintenance battery).

**ALWAYS** determine the battery voltage by referring to the vehicle or equipment owner's manual and make sure it matches the DC output voltage shown on the charger nameplate.

**ALWAYS** ensure the polarity of the charger and the battery match to avoid damage to the battery and charger.

ALWAYS locate the power cable so that it cannot be stepped on, present a trip hazard or be subjected to damage or stress.

**ALWAYS** keep the charger's DC and AC cables away from any exposed moving parts of the vehicle including fan belts, fan blade and alternator.

**ALWAYS** avoid the radiator cooling fan. Automatic fans on some cars may start up without the engine running. With no prior warning. **ALWAYS** disconnect the charger before starting the engine, this charger does not have an engine starting feature.

**ALWAYS** use insulated/non-conducting tools to remove cell caps or when disconnecting a battery.

**ALWAYS** keep flames, matches, lighters, cigarettes or other ignition sources away from the battery.

**ALWAYS** make sure the chargers crocodile clips make good contact with the battery terminals, twist or rock them back and forth several times to ensure a good contact is achieved.

**ALWAYS** ensure the second crocodile clip connection is made away from the battery. See Operating Instructions (Page 6 Step 3).

**ALWAYS** plug the charger into an electrical outlet after all connections have been made. See Operating Instructions (Page 6 Step 1).

**ALWAYS** remove the ground terminal (negative terminal connected to the cars frame) from the battery first. If the battery is to be removed from the vehicle for charging.

**ALWAYS** exercise caution when using metal tools on or near a battery. A metal tool touching both battery terminals simultaneously or a positive terminal and a metal car part will create a short circuit that will spark, possibly causing a battery explosion. Do not drop a metal tool on to a battery.

**ALWAYS** add distilled water to each cell until the battery acid covers the plates before connecting the charger this helps to purge excess gas from the battery. **ALWAYS** ensure the area is well ventilated before and during the charging process. Never charge in an enclosed or restricted area.

**ALWAYS** locate the charger as far away from the battery as the DC cables permit.

**ALWAYS** follow other manufacturer's recommendations in conjunction with your chargers instructions.

**ALWAYS** read all instructions and caution markings on: (1) charger, (2) battery, (3) any related product being used in the charging process. Follow the recommended rate of charge and any other instructions provided.

# **ELECTRICAL SAFETY**

Incorrect use or tampering with this product may result in a risk of electrical shock or a fire hazard. Which could result in death, a serious injury, shock or burns.

**DO NOT** attempt to operate a battery charger if it appears to be damaged in any way.

**DO NOT** use the charger in damp or wet conditions.

**DO NOT** expose the charger to rain, snow, water, gas, oil, etc.

**DO NOT** modify any part of this charger or its circuitry.

**DO NOT** use on 110 volt power supplies this charger is for use on a nominal 240 volt circuit.

**DO NOT** use this charger to supply lowvoltage power for applications other than battery charging. It is not intended or designed for such use.

**DO NOT** use this charger with a fuse of the incorrect rating the BS approved plug should be fitted with 3amp fuse for charging applications.

**ALWAYS** disconnect the charger from the wall socket by removing the plug, do not pull on the power cord.

**ALWAYS** inspect the AC and DC cables for any breaks or splits in their insulation at regular intervals.

#### ADDITIONAL INFORMATION

**MODEL TYPES** some chargers offer a dual rate of charge which is marked clearly on their front panel. Use the high rate setting for normal charging and the low rate for slow or overnight charging of automobile batteries.

AC POWER FAILURE the battery will not discharge back through the charger if the AC power is turned off.

**NEW DRY CHARGED BATTERIES** require a conditioning charge after being filled with electrolyte. Follow the battery manufacturer's charging instructions.

#### MAINTENANCE

■ ALWAYS unplug the charger from the mains outlet before attempting any maintenance or cleaning.

■ ALWAYS take this charger to a qualified service engineer when a repair or service is required. Incorrect carried out repairs may result in a risk of electric shock or fire.

# **Operating Instructions**

Please read the technical data on the front of these instructions for the maximum battery capacity recommended for use with this charger. Using this product with batteries smaller than this capacity may lead to damage to your battery.

If you have a maintenance free/ sealed battery it is not necessary to carry out the following checks.

Carefully remove all the caps from each battery cell and ensure the liquid is at the recommended level. Top up with distilled or de-ionised water if required (Always wear protective gloves as this liquid is corrosive). Tap water should not be used under any circumstances. Allow time for any gases to escape before replacing the caps.

# Step 1 Switch Off Power

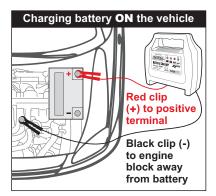
Make sure the AC power cord is unplugged from the mains before connecting the charger to the battery.

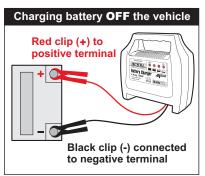
# Step 2 Red Positive

Connect the RED (+ **POSITIVE**) clip to the positive post of the battery. All car batteries have a "+" sign stamped near the positive terminal post.

# **Step 3 Black Negative**

Next connect the BLACK (- NEGATIVE) charger clip onto a non-painted metal bracket or bolt head as far away from an installed car battery as possible. This will reduce the risk of sparks from occurring near the battery, which can cause an explosion.





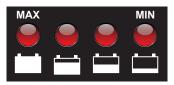
For batteries removed from the vehicle, place the black clip directly onto the negative terminal post (marked with a "-" symbol).

# Step 4 Turning the Charger On

Plug the power cable in to a mains power source to activate the charger, the battery will then commence charging. It only requires 3 to 4 hours to charge your car battery.

# **Step 5 Charging**

The charger has four LED lights from Min to Max. When all lights turn off, the charging process is complete.



LEDs indicate the state of the battery. When all 4 LEDs are on the battery is flat. When all lights have turned off the battery is fully charged.

## Step 6 Disconnecting

Unplug the charger from the mains before removing it from the battery. Remove the Black (- Negative) connector of the charger first and then the Red (+ Positive).

The charger can also be used as a battery tester to check on the batteries voltage when NOT connected to AC 230V mains power. Simply connect the red and black clips to the appropriate battery terminals to read the current charge.

## **Battery Maintenance**

Please check your battery regularly throughout the year and especially in the winter. Faulty cells can cause problems with your battery, check the cells with a hydrometer, if any cell is reading lower than the others it can indicate a faulty cell. If this is the case have your battery checked, as you may need a new battery. It is possible that a battery may appear flat when it could simply be a loose connection of the battery terminals. Check the terminals and tighten if necessary then check the battery again.

Specifications	
Power supply voltage:	AC 220~240V 50Hz
Output voltage:	DC 12V
Battery capacity:	20Ah - 65Ah
Maximum output:	4Amp / 48W
Power cable length:	1.6metres
Battery leads length:	1.4 metres



PLEASE NOTE: This charger is NOT suitable for AGM or EFB batteries mainly used with start/stop technology.







#### FAITHFULL TOOLS

Phoenix House, 3 White Lodge Business Estate, Hall Road, Norwich, Norfolk, NR4 6DG, United Kingdom.

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