Qoltec®

# OPERATING INSTRUCTIONS

# 12V 10A CHARGER WITH AGM GEL LIFEPO4 BATTERY REPAIR FUNCTION

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## INTRODUCTION

Thank you for choosing our smart battery charger with repair function. The charger is designed to ensure safe and efficient charging of 12V batteries. This manual contains all the necessary information on how to use the charger.

## ABOUT THE PRODUCT

This high-quality battery charger is designed for efficient and safe charging of car batteries and deep cycle batteries. Thanks to numerous safety measures, it ensures fast and reliable charging, protecting against overcharging, short circuits and damage. Equipped with an intelligent charging system that automatically adjusts the charging mode to the type of battery, ensuring optimal performance and safety.

## SAFETY INSTRUCTIONS WHEN WORKING NEAR A BATTERY

1. Batteries produce explosive gases during normal operation. Use them in well-ventilated areas.
2. When working near a battery, make sure there is someone present who can help you if necessary.
3. DO NOT smoke, light matches or cause sparks near the battery or engine. Avoid explosive gases, flames and sparks.
4. Remove all jewellery (rings, bracelets, necklaces, watches) when working with the vehicle battery. These items can cause a short circuit, leading to serious burns.
5. Be especially careful not to drop metal tools on the battery. This can cause sparks or short circuits, which can lead to explosions or fires.
6. Wear appropriate eye, hand and clothing protection. Avoid touching your face, especially your eyes, when working near the battery.
7. Read the battery manufacturer's recommendations, such as how to charge and the recommended charge level.
8. Clean the battery terminals before connecting the charger. Be careful not to allow corrosion to come into contact with your eyes.
9. When removing the battery from the vehicle for charging, always disconnect the grounded terminal first. Ensure that the vehicle's devices are turned off to avoid sparking.
10. The device is NOT designed to charge dry cell batteries or to power very low voltage systems. Charging such batteries may cause an explosion and damage to property and injury.
11. NEVER charge batteries that are frozen, damaged, leaking, or non-dischargeable.

12. If electrolyte comes into contact with your skin or clothing, immediately wash the area with soap and water. In case of contact with eyes, immediately rinse with clean cold water for at least 15 minutes and consult a doctor.

## PRECAUTIONS WHEN USING THE CHARGER

1. DO NOT place the charger in the engine compartment or near moving parts and the battery. Try to place it as far away from these components as possible, depending on the length of the DC cable. NEVER place the charger directly above the battery being charged, as gases or liquids from the battery may damage the device.
2. DO NOT cover the charger while it is in operation.
3. DO NOT expose the device to rain or damp conditions.
4. Only connect and disconnect the DC output after disconnecting the AC cable from the mains socket.
5. Using accessories that are not recommended or sold by the manufacturer may result in fire, electric shock or other injury.
6. Do not overcharge the batteries by selecting the wrong charging mode.
7. To avoid damage to the plug and electrical cable, always grasp the plug, not the cable, when disconnecting the charger.
8. To reduce the risk of electric shock, unplug the charger from the electrical outlet before performing any maintenance or cleaning.
9. Use caution if the charger has received a direct shock or has been dropped. If it is damaged, it must be inspected and repaired.
10. All repairs must be carried out by the manufacturer or an authorised service representative to avoid danger.
11. The use of lithium-ion batteries is prohibited.
12. Before charging, check that the charger is working properly and that the plug and power cord are not damaged or cracked. If there are any abnormalities, stop using the product and contact your retailer to return it to the manufacturing plant or use a professional service for repair and replacement.
13. Before charging, check that the battery is not damaged and that there is no fluid leakage around it. If you find any irregularities, charge with extreme caution.
14. It is prohibited to charge batteries that do not have an output voltage of 12V, non-dischargeable batteries or batteries without voltage.

## DESCRIPTION OF DISPLAY FUNCTIONS

*Illustration 1 Appendix*

Mode – mode selection

Repair

Reverse connection

## USER MANUAL

1. **Connection**:

   1) Connect **the red clamp** to the **positive (+)** terminal of the battery.
   2) Connect **the black clamp** to the **negative (-)** terminal of the battery.
   3) Ensure that both clamps are securely attached.

2. **Turning on the charger**:

   1) Plug the charger into a mains socket.
   2) The display will start automatically, showing the battery voltage and the current operating mode.

3. **Selecting the mode**:

   The charger can automatically recognise the battery type. If necessary, use the MODE button to manually select the appropriate mode:

   **CAR** – for AGM/STD car batteries

   **MOTO** – for small batteries (e.g. motorcycle batteries)

   **REPAIR** – pulse repair mode for partially damaged batteries

4. **Charging process**:

1) The display shows the current charging parameters, such as voltage, current and charge level.
2) When charging is complete, the display will show "100%" or "FULL".

5. **Switching off and disconnecting the charger**:

1) Disconnect the charger from the power socket.
2) First remove the black clamp (–), then the red clamp (+).

## WINTER AND SUMMER CHARGING MODES

The charger is equipped with winter and summer charging modes for optimal performance at different temperatures (Winter <10°C, Summer >28°C).

Normal temperature: 10°C-27°C

## AUTOMATIC TEMPERATURE DETECTION AND CHARGING OPTIMISATION

During the charging process, the microcomputer automatically detects the ambient temperature and the operating temperature of the device, without the need for manual adjustment. Based on the detected conditions, the charger automatically adjusts the appropriate charging status, ensuring:

1. Longer battery life
2. Safe charging
3. With this feature, the charger adapts to changing conditions for optimal battery protection.
4. The ambient temperature in the range of 3-5°C is detected once, and there may be a certain margin of error during detection. However, this does not affect normal charging and does not interfere with the operation of the charger.

## REPAIR MODE

Used for sulphated or old batteries to restore their capacity.

Leave the charger in repair mode for several hours.

Note: Repair mode does not guarantee full regeneration of severely damaged batteries.

If the battery becomes very hot during the repair process, stop charging immediately and discontinue the process to avoid danger!

Main reasons for battery overheating:

1. The battery is heavily sulphated.
2. The battery is low on water and needs to be replaced with a new one.

## NINE-STAGE CHARGING FUNCTION

The product has a nine-stage charging function, which includes the following stages:

1. Battery detection
2. Desulphation

3. Half power - constant current
4. Full power - constant current
5. Constant voltage charging
6. Repair
7. Floating charging
8. Power maintenance
9. Switch-off

The charging curve is as follows: *Illustration 2 in the appendix*

## MODE CHANGE LOCK

The mode change function prevents accidental errors. After charging has started, the touch button is automatically locked after approximately 25 seconds and cannot be activated.

To change the operating mode:

1. Disconnect the terminals from the battery or
2. Disconnect the charger from the mains power supply.
3. After performing one of these actions, the lock will be released, allowing you to select the mode again.

## SMART MEMORY FUNCTION

The charger has a smart memory function. After charging is complete and the device is restarted, the charger will automatically return to the last operating mode used. This function facilitates operation and ensures convenience of use.

Note: Repair mode does not support the memory function and must always be selected manually.

## TROUBLESHOOTING

| PROBLEM | POSSIBLE SOLUTION |
|---|---|
| The charger does not turn on | Check that the charger is properly connected to the power source. Ensure that the power point is working by connecting another device. Check the power cord for damage. If the problem |

| | |
|---|---|
| | persists, contact an authorised service centre. |
| The battery is not charging | Check that the clamps are correctly connected to the battery terminals (red to +, black to -). Make sure that the battery is not damaged, sulphated or too discharged for the charger to recognise it. Also check that the correct charging mode is selected. |
| The charger is overheating | Ensure that the charger is in a well-ventilated area and is not covered. If the problem persists, switch off the device and contact the service department. |
| Incorrect charging current | Check that the correct charging mode is selected for the battery type. If the settings do not comply with the battery manufacturer's recommendations, change the mode. |
| There is a burning smell | Immediately disconnect the charger from the power supply and stop using it. Contact an authorised service centre to have the device checked and repaired. |
| The charger switches off during operation | Check for overload or battery problems. Ensure that the charger is operating within the acceptable temperature range. |
| The charger does not recognise the battery | Ensure that the battery is of the correct type (e.g. 12V lead-acid) and that its voltage is not too low. |
| The terminals spark when connected | Ensure that the battery and charger are switched off before connecting the terminals. Sparks may occur if the battery is short-circuited or the charger is damaged – in this case, contact the service department. |

## DISPOSAL OF THE DEVICE

When the device is no longer in use, do not dispose of it with municipal waste. Follow local regulations for the disposal of electrical and electronic equipment. Take the device to a specialised electronic waste collection or recycling point.

## CLEANING AND MAINTENANCE

1. Disconnecting the power supply: Always disconnect the charger from the mains socket before carrying out any maintenance or cleaning work to avoid the risk of electric shock.

2. Cleaning the casing: Use a soft, dry or slightly damp cloth to clean the casing of the device. Do not use aggressive cleaning agents, alcohol or solvents, as these may damage the surface of the charger.
3. Technical inspection: Regularly check the charger for mechanical damage, such as cracks in the casing, damage to the power cord or plug. If you detect any irregularities, stop using the device.

## SERVICE AND REPAIR

Never use a damaged charger or attempt to repair it if there are signs of short circuit, overheating or leakage. Such a device should be switched off immediately and reported for repair.

All charger repairs must be carried out by the manufacturer or an authorised service centre. DIY repairs may damage the device, create a hazard and void the warranty.

If the charger stops working properly, e.g. it does not charge the battery, makes unusual noises, overheats or other malfunctions occur, switch it off, disconnect it from the power supply and contact an authorised service centre.

Attachement

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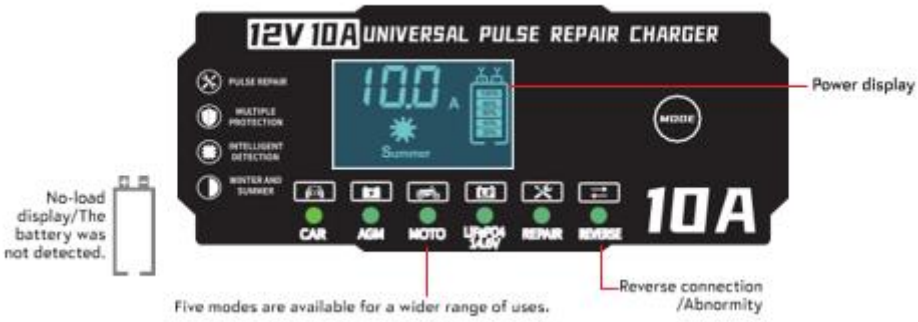

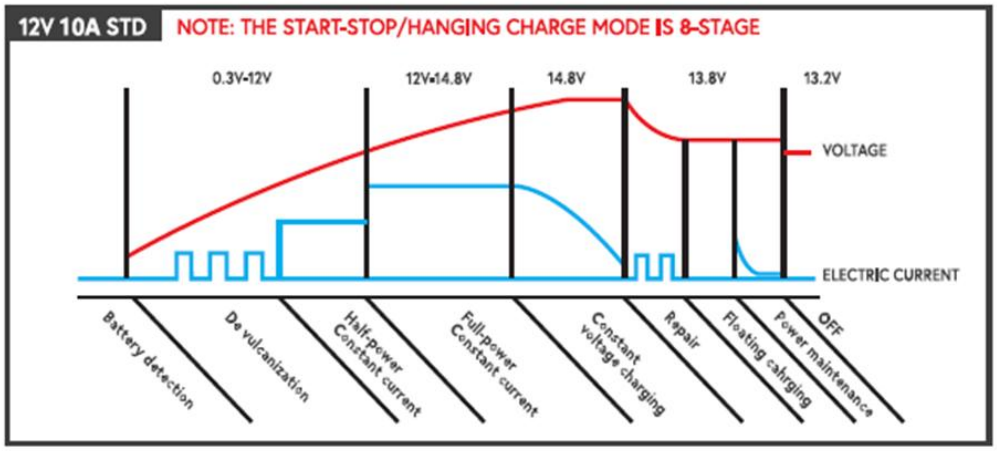
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