



Manual

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TEL: 01384 986 026
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Automotive IP65 Charger 12V/4A – 12V/0,8A

LG-220V/12V

1. Introduction

This charger has been designed for charging a variety of 12V lead acid batteries, such as WET, GEL and AGM, which are widely used for cars, motorcycles and other vehicles. Battery capacities range from 1,2Ah to 120Ah. Full protection against reverse polarity and short-circuiting ensures that the charging operation is much safer. The charger will wait until a charging mode has been selected before a connected battery can be charged.

2. Indicator panel

LED	STATE
STANDBY	Standby, or stopped due to bad connection
<14Ah	Mode 1 (14,4V/0,8A) selected
>14Ah	Mode 2 (14,4V/4A) selected
COLD	Mode 3 (14,7V/4A) selected
!	Reverse connection detected, check polarity
CHARGE	Battery is being charged
FULL	Battery fully charged



3. Charging modes, safeguards

[1] CHARGING MODE SELECTION

When the mode selection button is repeatedly pressed, the charging cycle goes through the following sequence:

(STANDBY) → (<14Ah) → (>14Ah) → (COLD) → (STANDBY) ...etc.

Before a charging mode is activated, there is a short delay which enables the user to proceed to the next charging mode. When the battery is fully charged the charger continues in the same trickle charge phase, even if the user decides to change mode. This prevents a fully charged battery from overcharging.

[2] STANDBY (STANDBY)

Once connected to the mains, the charger automatically resets and remains in standby mode until activated by pressing the MODE button.

[3] MODE 1 (14,4V/0,8A; <14Ah)

This mode is suitable for charging small batteries with a capacity of less than 14Ah. To charge the battery, connect the charger's output cable to the terminals on the battery, ensuring the correct polarity, and then press the mode button once only to select this mode. The corresponding LED (<14Ah) will light up and after a short delay, if no further action is carried out, the electronic switch will start the charging cycle with a 0,8A current. If there are no errors, the LED (CHARGE) will stay illuminated for the entire charging cycle until the battery is charged to 14,4V. When the battery is fully charged, the LED (FULL) will light up. A trickle charge then ensures that the battery is kept properly charged.

[4] MODE 2 (14,4V/4A; >14Ah)

This mode is suitable for charging batteries with capacities larger than 14Ah. To charge the battery, connect the charger's output cable to the battery, ensuring the correct polarity, and then press the mode button twice to select this mode. The corresponding LED (>14Ah) will light up and after a short delay, if no further action is carried out, the electronic switch will start the charging cycle with a 4A current. If there are no errors, the LED (CHARGE) will stay illuminated for the entire charging cycle until the battery is charged to 14,4V. When the battery is fully charged, the LED (FULL) will light up. A trickle charge then ensures that the battery is kept properly charged.



[5] MODE 3 (14,7V/4A; COLD)

This mode is suitable for charging batteries with capacities larger than 14Ah in cold ambient conditions, or charging batteries which require a high charge voltage. To charge the battery, connect the charger's output cable to the battery, ensuring the correct polarity, and then press the mode button three times to select this mode. The corresponding LED (>14Ah) and the LED (COLD) will light up and after a short delay, if no further action is carried out, the electronic switch will start the charging cycle with a 4A current. If there are no errors, the LED (CHARGE) and the LED (COLD) will stay illuminated for the entire charging cycle until the battery is charged to 14,7V. When the battery is fully charged, the LED (FULL) will light up. A trickle charge then ensures that the battery is kept properly charged.



[6] RESCUING DEEPLY DISCHARGED BATTERIES

When the charger is connected to a battery, it will detect the voltage of the battery automatically. If the voltage is within a range of 7,5V to 10,5V then the device will change to pulse-charging mode. This pulse-charging cycle will only stop when the battery voltage reaches 10,5V. Once it reaches this point, the charger will revert to the charging mode initially selected by the user. Depending on the condition of the battery, this will improve the charge acceptance of a fully discharged battery.

[7] SAFEGUARDS AGAINST BAD CONNECTIONS

The charger will remain in standby mode in case of short-circuit, battery voltage below 7,5V, open circuit, or reverse polarity connection of the output terminals. In case of reverse polarity connection the LED (!) will signal the error.

[8] TEMPERATURE PROTECTION

If the charger becomes too hot for any reason during charging, the output power will be reduced automatically to protect itself against any damage. This may lengthen the charging cycle.



4. Operating Instructions

Please read these instructions carefully before using the charger.

[1] This charger has been designed for use on a normal 220V - 240V 50/60Hz mains voltage. It can be used to charge a variety of 12V lead acid batteries, such as WET, GEL and AGM, which are widely used for cars, motorcycles and other vehicles. Battery capacities range from 1,2Ah to 120Ah.

[2] This charger is suitable to charge 12V lead-acid batteries only.

[3] Clean the battery terminals. Take care to prevent eye or skin-contact with any corrosion.

[4] Make sure that the area around the battery is well ventilated during the charging process. When the battery is being charged some fluid bubbling may occur: this is generated by gases during the charging cycle.

[5] Whenever possible, disconnect and remove the battery from the vehicle before charging. Read section 6, Safety Instructions for more information.

[6] Connect the crocodile clamps to the battery in the following sequence: First, connect the positive charging lead (red) to the positive terminal. Second, connect the negative lead (black) to the negative terminal.



It is extremely important to ensure that both crocodile clamps are properly in contact with the respective terminals, otherwise it might not be possible to complete the charging cycle.

[7] When the battery leads are in their correct position, connect the power cable to the power supply and then select the most suitable charge mode to begin charging. In case of reverse polarity connection the fault indicator LED (!) will light up. Unplug the charger and reconnect with the correct polarity.

[8] The LED (CHARGE) will indicate that the battery is being charged and later the LED (FULL) will indicate that the battery is fully charged and the maintenance charge phase is on.

5. Specifications

Input voltage: 220 - 240VAC, 50/60HZ

Input current: 0,7A rms maximum

Battery drain current: 5mA maximum (with no input power)

Cut-off voltage: 14,4V or 14,7V

Charging current: 4A or 0,8A

Ripple: 150mV maximum

Battery type: 12V lead acid battery, 1,2Ah - 120Ah

Protection level: IP65



6. Safety Instructions

Please read these instructions carefully before using the charger.

[1] Charge 12V, 1,2Ah - 120Ah lead-acid type rechargeable batteries only.

WARNING! DO NOT ATTEMPT TO CHARGE A NON-RECHARGEABLE BATTERY.

[2] The charger is for indoor use only.

[3] This appliance is not designed for use by people who cannot read or understand the manual unless they are under the supervision of a responsible person to ensure that they can use the battery charger safely.

[4] Store and use the battery charger out of the reach of children, and ensure that children cannot play with the charger.

[5] Do not use the battery charger on dry-cell batteries as they may burst and cause injury to people and damage to property

[6] Do not operate the charger if either cable is damaged. Please contact your dealer/distributor's service department.

[7] Do not operate the charger if it appears to be damaged or malfunctioning. Please contact your dealer/distributor's service department.



[8] Do not operate the charger if its case is cracked or broken. Please contact your dealer/distributor's service department.

[9] Never open or disassemble the charger, it may result in electric shock or fire and will annul the warranty. In the event of any problems, please contact your dealer/distributor's service department.

[10] Position the charger as far away from the battery as the cable will permit. Never place the charger on top of a battery being charged.

[11] Ensure proper ventilation and do not cover the charger while charging.

[12] During charging, the battery must be placed in a well-ventilated space.

[13] Remove all metal items, such as rings, bracelets, necklaces and watches when working with a lead-acid battery. A lead-acid battery can produce a short-circuit current high enough to melt such metallic objects, causing severe burns.

[14] During charging always wear safety glasses, gloves, protective clothing and keep your face away from the battery.

[15] Disconnect the power supply before making or breaking the connection to the battery.



[16] Explosion hazard! A battery which is being charged may emit explosive gases. Avoid smoking or naked flames in the vicinity of the battery. Explosive and flammable substances such as fuel or solvents should not be kept in the vicinity of the charger or the battery.

[17] Danger of chemical burns! The acid in the battery is highly corrosive. If your skin or eyes come into contact with acid, rinse the affected part of the body with excessive water immediately and seek medical advice.

