Pro-Tech TOOLS

Car charger CBR-20, CBR-30



Instructions for use

Translation of the original instructions

EN

Please read this instruction manual carefully before putting the equipment into operation

The device is used to charge car batteries and other batteries. A charger suitable for this purpose must be used to charge batteries of a certain capacity. Check that the voltage value corresponds to the value indicated on the nameplate (12V/24V). The charger has a surge protection system to minimize damage to the battery or charger.

Special care must be taken when handling the equipment. Before connecting

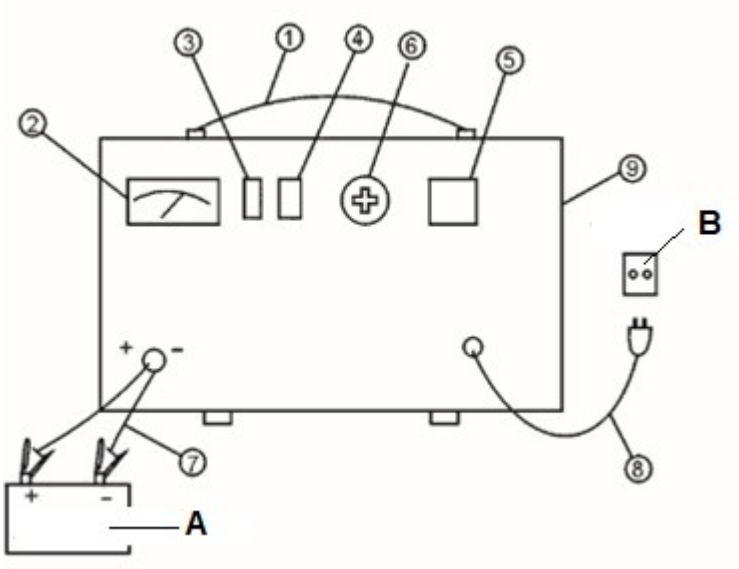
the charger, check that the battery is not damaged
.

TECHNICAL DATA

Model	CBR-20	CBR-30
Supply voltage	220 V	220 V
Frequency	50 Hz	50 Hz
Rated power	220/320 W	260/480 W
Charging voltage	12/24 V	12/24 V
Rated current	20 A	30 A
Suitable battery capacity	20 - 125 Ah	30 - 200 Ah
Cover	IP21S	IP21S
Insulating class	H	H
Dimensions	270 × 270 × 210 mm	290 x 305 x 220 mm
Weight	5,3 kg	7,1 kg

Pro-Tech shop

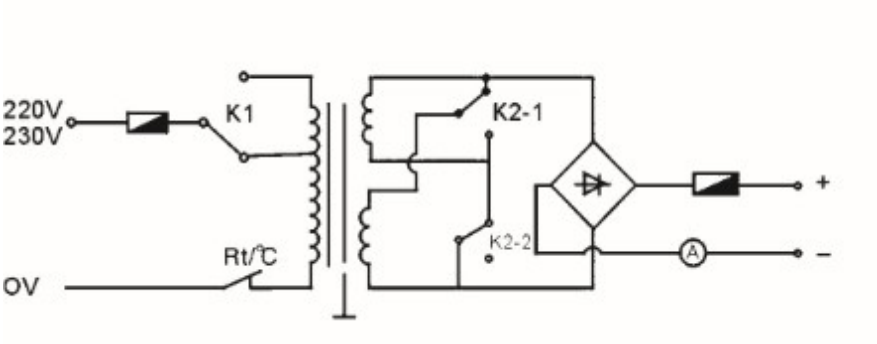
RECTIFIER DESIGN



1. Handle
2. Indicator
3. Surge protection
4. "Large/small" switch
5. Switch "12V / 24V"
6. Insurance
7. Clamps
8. Power cord
9. Cover

A - Accumulator **B -** Power supply

3. Electrical wiring diagram



TRANSPORT

A. Set the charger according to the values in the table above.

B. Place the charger on a stable surface

C. Clean the battery components before connecting.

D. The unit is equipped with a 12V/24V charging current switch. It should be set to the correct position for the nominal battery voltage.

E. Connecting the charger to the battery.

F. Connect the power cord to a 230 V socket. The battery charging process begins. The ammeter shows the current charging current

G. When charging is complete, unplug the device from the power outlet before disconnecting the terminals from the battery poles.

H. When connecting the terminals, special care must be taken to avoid connecting them.

NOTE

- A device based on electronic components. Grinding and cutting metals near the charger can cause contamination of the inside of the unit, which can lead to damage.
- The above damage is not subject to warranty repair!
- If it is necessary to work in such an environment, cleaning of the equipment must be carried out by blowing out the inside of the welder with compressed air.

Please read the enclosed operating instructions carefully before using the device!

GENERAL INFORMATION

The charger is suitable for batteries operated with petrol and diesel engines. Also suitable for batteries used in motorcycles, boats, etc.
The charger has IP 20 protection and protection against direct contact with the ground as specified for Class I equipment.
Check the available voltage channels located on the front cover of the charger. Check that the plug is equipped with a ground connection.

MEASURES:
The charger should only be connected to a power source with a neutral ground. The battery produces flammable gases when charging, avoid contact with fire and sparks.
FIRE HAZARD.
Use only in rooms with fresh air supply. Protect from contact with rain or snow.
Before connecting or disconnecting the battery cables, disconnect the main cables.
The charger has relays and switches that can cause arcing and discharges. It is therefore recommended to place the charger in a suitable box (cabinet, enclosure) if it is used in a garage or similar.
The charger should be placed on a stationary base. Models with wheels should be placed in an upright position.
Never use the charger in the car or under the hood.
Place the charger in a place with sufficient ventilation. Do not cover the charger! Read and follow the vehicle manufacturer's instructions before using the charger.
To ensure adequate protection against indirect contact, the charger must be connected to a plug that has a ground.
Only a qualified technician may repair or maintain the components inside the charger. The main cable should only be replaced with an original part.
Do not use the charger to charge non-rechargeable batteries.
For models without a plug, connect a plug with a capacity corresponding to the fuse value shown in the table.

Pro-Tech shop

BEFORE CHARGING

Before charging, check the capacity of the battery to be charged (Ah).
Remove the battery cover (if the model has one) to release the gas. Check that the battery plates are immersed in sulphuric acid electrolyte. If the plates have not been covered, add distilled water to cover them by 5-10 mm.
It is important to remember that the correct state of charge of the battery can be determined by using a densitometer to measure the specific gravity of the electrolytes.
The following values (kgs/1 at 20 C) are given as information points: 1.28 = battery is charged
1,21= battery half charged 1,14 = battery not charged

WARNING: Extreme caution should be exercised when charging as the electrolytes contain acid with a high corrosive factor.

With the main charger cable disconnected from the main plug, adjust the 12/24 charge switch (if available on the model) according to the battery voltage.
Connect the red terminal to the positive battery terminal (+) and the black terminal to the negative terminal (-). Insert the main cable of the charger into the mains and switch the power button to the "ON" position.

The ammeter of the charger will indicate the current supplied to the battery (start of charging). During charging, the ammeter needle will slowly move towards the lowest values depending on the capacity and condition of the battery.
When the battery is charged, the liquid inside the battery starts to boil. This will be the best time to stop charging the battery: this will prevent oxidation of the plates and keep the battery in good condition.

FOR MODELS, IF AVAILABLE:
Switch in automatic position.
During this phase, the charger continuously monitors the voltage at the battery terminals and, if necessary, supplies or cuts off the power supply.
Switch in manual position.
In this position, the automatic switch is deactivated.

Please refer to the instructions supplied with the battery for all other information regarding charging the battery.
WARNING: CHARGING MAINTENANCE-FREE BATTERY
Extreme care must be taken when charging this type of battery. Charge slowly and constantly monitor the voltage at the battery terminals.
When the voltage reaches 14.4/28.8 V (this can be detected with a conventional tester), it is recommended to stop charging.

SIMULTANEOUS CHARGING OF MULTIPLE BATTERIES.
If we are charging more than one battery at the same time, we can use a parallel or series connection. Of the two options, the series connection is better because we can monitor the current flowing into each battery as indicated by the ammeter.
NOTE: When connecting two batteries in series that have a 12 V indicator, it is recommended to set the 12/24 button to the 24 V position.
Fig. C.

END OF CHARGING
When charging is complete, first turn off the power by switching the power switch to the "OFF" position or disconnect the main cord from the power outlet. Then disconnect the charging terminals from the battery terminals and put the charger away in a dry place. Be sure to replace the battery covers.

PROTECTION
Protects the charger in case of an accident:
Overcharging (too much current supplied to the
battery) Short circuit (charging terminals touching each
other) Changes in battery polarity.
In fuse-equipped chargers, replacement parts with the same voltage rating as the fuses being replaced must be used to replace the fuses.
WARNING: If the replaced fuses have a different voltage value than the original fuses, there is a risk of damage to persons or objects near the charger. For the same reason, do not replace fuses with copper bridges, wires, etc.
Fuses must only be replaced when the cable is disconnected from the mains socket.

PRACTICAL ADVICE:
To prevent the accumulation of gases, the charger should be stored in a ventilated place. Check that the liquid level in the battery covers the plates. If the liquid does not cover the plates, add distilled water to the maximum level indicated on the battery.
Do not touch the liquids inside the battery, they are dangerous if they come into contact with your skin.

The positive and negative terminals that may oxidize should be cleaned to ensure good contact with the terminals.
When the charger is switched on, avoid contact between the two terminals. If this happens, the fuses will be destroyed.
If the charger is connected to a battery permanently attached to the vehicle, refer to the "ELECTRICAL EQUIPMENT" or "MAINTENANCE" section of the manual supplied with the vehicle. Before charging, it is recommended to disconnect the positive lead, which is the vehicle's electrical equipment. Check the battery voltage before connecting to the charger. If you have two 12 volt batteries in series, you must set the voltage to 24 volts to charge both batteries.
Check the polarity of both terminals: positive (+), negative (-). If the symbols are not visible, remember that the negative terminal "comes out" directly from the inside of the charger case.

Environmental protection



Electrical products must not be disposed of with household waste. They must be disposed of in designated recycling facilities. Contact your local authority for information on how to dispose of electrical appliances.



Safe operation of the appliance is only possible if you have read all the information on operation and safety precautions and have carefully followed the instructions in this manual.

Pro-Tech shop