Pro-Tech TOOLS

Car charger CB-20, CB-30



Instructions for use

Translation of the original instructions

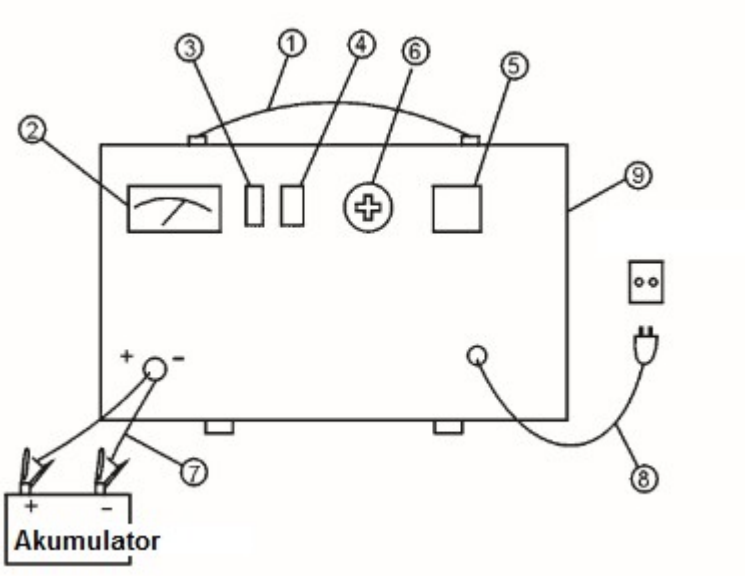
The device is used to charge automotive and other batteries. Use a suitable charger to charge batteries of a certain capacity. Check that the voltage value matches the voltage indicated on the type plate (12 V / 24 V). The unit has a surge protection system to minimize damage to the battery or charger.

Take extra care when working with the equipment

Before connecting the charger, make sure the battery is not damaged.

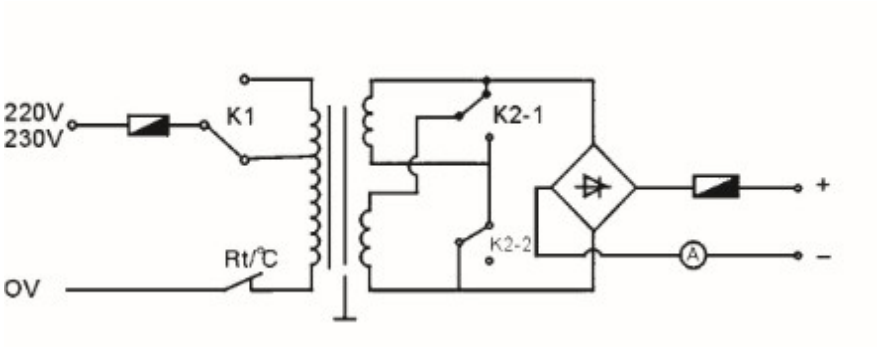
Technical parameters:

Model	**CB-20**	**CB-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× 220 × 210 mm	290 x 255 x 220 mm
Weight	5,3 kg	7,1 kg



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

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 before connecting it.

D. The device is equipped with a 12 V / 24 V charging voltage switch. Set to the correct nominal voltage for the battery.

E. Connect the charger to the battery.

F. The power cord should be connected to a 230V socket. The battery charging process will start. The ampere meter indicates the current charging current.

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

H. When installing the clamps, pay special attention to avoid connecting them.

NOTE

• Equipment based on electronic components. Grinding and cutting of metals in the vicinity may cause chips to enter the interior of the device and cause damage to it.

• The above damage is not subject to warranty repair!

• If you need to work in such an environment, carry out cleaning of the equipment by blowing with compressed air.

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

GENERAL INFORMATION

The charger is adapted to batteries working with petrol and diesel engines. It can also be used for batteries used in motorcycles, boats, etc.

The charger has IP 20 protection for Class 1 equipment and protection against indirect contact with the earth.

Check the available voltage channels located on the front cover of the charger. Check that the plug is grounded.

NOTICE:

The charger should only be connected to a power source with a neutral ground. During

charging the battery generates flammable gases, avoid contact with fire and sparks.

Use only in rooms with fresh air. Protect from contact with rain or snow.

Disconnect the main cables from the battery before connecting or disconnecting the cables.

The charger has relays and switches that can cause sparks. Therefore, it is recommended that you do not use the charger placed in a safe place if used in a garage or similar room.

The charger must be placed on a stable base. Models with wheels should be placed in an upright position.

Never use the charger in the car or under the bonnet.

Place the charger in a place with adequate ventilation. Do not cover the charger! Read and

follow the manufacturer's instructions before using the charger.

To ensure adequate protection from indirect contacts, connect the charger to a grounded plug.

Repairs or maintenance of the components inside the charger should only be carried out by a qualified Technician.

The main cable should only be replaced with original products.

Do not use the charger to charge batteries that cannot be charged.

For models without a plug, connect a plug with a capacity that matches the fuse value listed in the data in the table.

BEFORE CHARGING

Before charging, check the capacity of the charged battery (Ah).

Remove the battery cover (if the model contains one) and release any gas generated.
Check that the battery plates are immersed in sulfuric acid electrolyte. If the plates have not been covered, distilled water should be added to cover 5-10 mm.

Remember that the correct state of charge of the battery can be determined by using a density meter, which allows you to measure the specific gravity of the electrolytes.

The following values (kgs/1 at 20° C) are given as information points: 1.28 =

charged battery

1,21= battery is partially charged

1.14= uncharged battery

WARNING: Use extreme caution when charging as the electrolytes contain acid with a highly corrosive agent.

With the main rectifier lead disconnected from the main plug, switch the 12/24 charge switch (if available on the model) to battery voltage.

Connect the red terminal to the positive terminal (+) and the black terminal to the negative terminal (-). Insert the main rectifier cable into the mains and switch the main switch to the
"ON".

The rectifier ammeter will indicate the current supplied to the battery (start of charging). During charging, the ammeter needle will slowly drop to the lowest values depending on the capacity and condition of the battery.

After the battery is charged, the liquid inside the battery will start to boil. This is the best time to stop charging the battery: it prevents oxidation of the discs and keeps it in good condition.

FOR MODELS THAT INCLUDE:

Switch in automatic position.

During this phase, the rectifier will continuously monitor the voltage at the battery terminals and will energize or de-energize if necessary.

Switch in manual position.

In this position, the auto switch is inactive.

If you need more information about charging the battery, read the instructions that came with the battery.

Charging an unmaintained battery:

Be very careful when charging this type of battery. Charge slowly and keep an eye on it at all times the voltage at the battery terminals.

When the voltage reaches 14.4 / 28.8 V (this can be detected by a normal tester), it is advisable to stop charging.

CHARGING MULTIPLE BATTERIES SIMULTANEOUSLY.

If we are charging more than one battery at the same time, we can use a parallel or serial connection. Between these two options, the better solution is to use serial connections, because in this way we can observe the current flowing into each of the batteries, and that's how the ammeter shows it.

NOTE: If two batteries are connected in series with a 12 V indicator, it is advisable to set the 12/24 button to 24 V.

END OF CHARGING

When charging is complete, first disconnect the power by turning the power switch to the "OFF" position and/or disconnect the main cord from the power outlet. Then disconnect the charging terminals from the battery poles and place the charger in a dry place. Do not forget the battery covers.

PROTECTION

The charger protects in case of:

Overcharging (too much current supplied to the battery)

Short circuit (charging terminals are in contact)

Battery polarity changes.

In fuse-equipped chargers, when replacing fuses, spare parts with the same voltage as the fuses to be replaced must be used.

WARNING: If the fuses listed above have a different voltage rating than the original, there is a risk of personal injury or damage to objects near the charger. For the same reason, fuses should not be replaced with copper bridges, wire, etc.

The fuses can only be replaced after the power cord has been disconnected.

PRACTICAL TIPS:

The charger must be stored in a ventilated place to prevent gas accumulation.

Check that the liquid level from the battery covers the discs. If the plates do not cover the fluid, add distilled water to the maximum level indicated on the battery.

Do not touch the liquids inside the battery; they are dangerous in contact with skin.

The positive and negative oxidizable terminals must be cleaned to ensure good contact with the terminals.

When the charger is switched on, avoid contact between the two terminals. Doing so will damage the fuses.

If the charger is connected to a battery permanently attached to the vehicle, refer to the section on instructions attached to the vehicle in the paragraph "ELECTRICAL DEVICES" or "MAINTENANCE ". Before charging, it is recommended to disconnect the positive cable, which is the electrical
the vehicle's equipment. Check the battery voltage before connecting to the charger. If you have two 12
V. batteries connected in series you must set the voltage to 24V. and 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 as household waste. They should be stored at designated recycling points. For information on the storage of electrical equipment, please contact your local authorities.

Safe operation of the equipment is only possible after reading all the operating and safety information and provided that the instructions given in this manual are strictly followed.