

EFCR16011

EMTOP
— Making Difference —

Instructions and user manual



— Making Difference —

EN



CE

Index

1. SECURITY INSTRUCTIONS
2. ADDITIONAL SAFETY WARNINGS
3. TECHNICAL SPECIFICATIONS
4. PRODUCT DESCRIPTION
5. ASSEMBLY AND OPERATING
6. MAINTENANCE AND CLEANING
7. TROUBLESHOOTING
8. ENVIRONMENT
9. EXPLODED VIEW

1. SECURITY INSTRUCTIONS

General safety instructions

Caution

Read all safety warnings and instructions. Failure to follow all warnings and instructions may result in electric shock, fire, and/or serious injury.

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Note: save all warnings and instructions for future reference.

1) Safety in the work area

- a. Explosive gases: avoid flames and sparks, ensure the workplace is well ventilated during charging.
- b. The load contains components such as the switch and fuse that can cause arcing and sparking. Make sure the garage or room is well ventilated.
- c. For indoor use, do not expose to rain or moisture.
- d. Do not place the charger on a hot surface.
- e. There is an acute risk of explosion if there is a smell of gas. Disconnect the charging clips, ventilate the room immediately and thoroughly, have a dealer inspect the charger.

2) Electrical safety

- a. The charger is designed for 12V and 24V lead acid batteries.
- b. Never use the device to charge non-rechargeable batteries or defective batteries.
- c. Do not charge multiple batteries simultaneously.
- d. Do not short circuit the charging clips.
- e. This charger is not suitable for maintenance-free batteries.
- f. Never use the cable for any purpose other than its intended use.
- g. Please indicate the polarity correctly, the anode is red/sign (+), the cathode is black/sign (-).
- h. Voltage spikes can damage electronic components. Therefore, it is advisable to disconnect the battery from the system during charging.

3) Personal security

- a. Wear insulated glasses and gloves when charging the battery. There is a high risk of injury from corrosive acid.
- b. To avoid sparks due to electrostatic discharge, never wear clothing made of synthetic materials when charging the battery.
- c. Keep children and pets away from the battery and charger.
- d. Battery acid is corrosive. If any acid splashes on your skin or clothing, wash immediately and consult a doctor if necessary.
- e. Wear acid-proof gloves and safety glasses whenever you connect the battery, charge it, and whenever you add acid or top up with distilled water.

4) Use and care

- a. The power cable and charging cables must be in perfect condition.
- b. Keep the ventilation slots free of dirt.

- c. Do not carry the appliance by its cord and never pull on the cord to remove the plug from the outlet. Protect the cord from heat, oil and sharp edges.
- d. Keep terminals clean and protect them from corrosion.
- e. If the fuse next to the charging current indicator breaks, replace it with a fuse of the same amperage.

5) Service

- a. Have your tool serviced by a qualified person and use replacement parts recommended by the manufacturer. This will ensure that the safety of the tool is maintained.

Safety symbols



Please read the instruction manual before use.



CE conformity.



Wear safety glasses, hearing protection and a mask.



Waste electrical products should not be disposed of with household waste. Please recycle at the appropriate facilities. Check with your local authority or retailer for recycling advice.



Security alert. Only use accessories approved by the manufacturer.



Static electricity can damage computer boards.



Input power type: Single phase input AC power.



50Hz or 60Hz: Nominal frequency of single-phase AC power supply.



Output current type: Direct current (DC) charging output.



Constant voltage (CV) charging output.

2. ADDITIONAL SAFETY WARNINGS

Do not allow people with a lack of experience and knowledge to use tools, unless they have been supervised or instructed in the use of the appliance by a person responsible for their safety. Children should not use the tool.

Before using

- Read the instructions carefully. Familiarize yourself with the controls and proper use of the machine.
- Carry out a general inspection of the machine before using it, consult the maintenance programs.
- Pay special attention to sparks and always have a fire extinguisher nearby.
- Never charge a damaged battery.
- Battery acid is dangerous and can cause injury. If you come into contact with battery acid, see a doctor immediately.

Preparation

- Wear insulated gloves.
- Frequently check the power cord for any damage. If you have any, replace them immediately. Do not use cables with splices.
- Connect the work cable to the battery as close to the charging area as possible to prevent charging current from traveling long and possibly unknown paths and causing electric shock and fire hazards.
- Use the charger only in well-ventilated areas.

Other warnings and risks

Even when the power tool is used as prescribed, it is not possible to eliminate all residual risk factors:

- a. Health defects resulting from the emission of vibrations if the power tool is used for a longer period of time or if it is not properly managed and maintained.
- b. Injuries and property damage due to broken accessories that suddenly break.

Caution

This power tool produces an electromagnetic field during operation. This field may, in some circumstances, interfere with active or passive medical implants.

To reduce the risk of serious injury, we recommend people with medical implants consult their doctor before using this power tool.

If the cable is damaged or cut during work, do not touch the cable, immediately disconnect the tool. Never use the machine with a damaged cord.

The machine should not be wet and should not be used in a humid environment.

Warning

Working safely with this machine is only possible when the operating or safety information is fully read and the instructions contained therein are strictly followed.



- Disposal of unwanted batteries should be done only through automotive workshops, special battery collection stations or special waste collection centres. Ask local authorities for more details.
- Disconnect power before making or breaking connections to battery. If the power cord is damaged, it must be replaced by the manufacturer or its dealer to avoid a hazard.
- The cathode of the battery charger that is not connected to the vehicle chassis must be connected first. The anode must be corrected to that of the battery. And then connected to the main source. After charging, disconnect the battery charger from the mains.
- Motor vehicle manufacturers recommend disconnecting the battery from the vehicle's electrical system before charging.

Maintenance and storage

- When stopping the machine for maintenance, inspection or storage, or to change an accessory, turn off the power source, disconnect the machine from the supply and ensure that all moving parts come to a complete stop.
- Store the machine in a dry place out of the reach of children.
- Replace worn or damaged parts. Use only original spare parts and accessories.
- Never cover the charger while it is in operation.

Caution

This power tool produces an electromagnetic field during operation. This field may, in some circumstances, interfere with active or passive medical implants.



To reduce the risk of serious injury, we recommend people with medical implants consult their doctor before using this power tool. If the cable is damaged or cut during work, do not touch the cable, immediately disconnect the tool. Never use the machine with a damaged cord.




The machine should not be wet and should not be used in a humid environment.

Warning

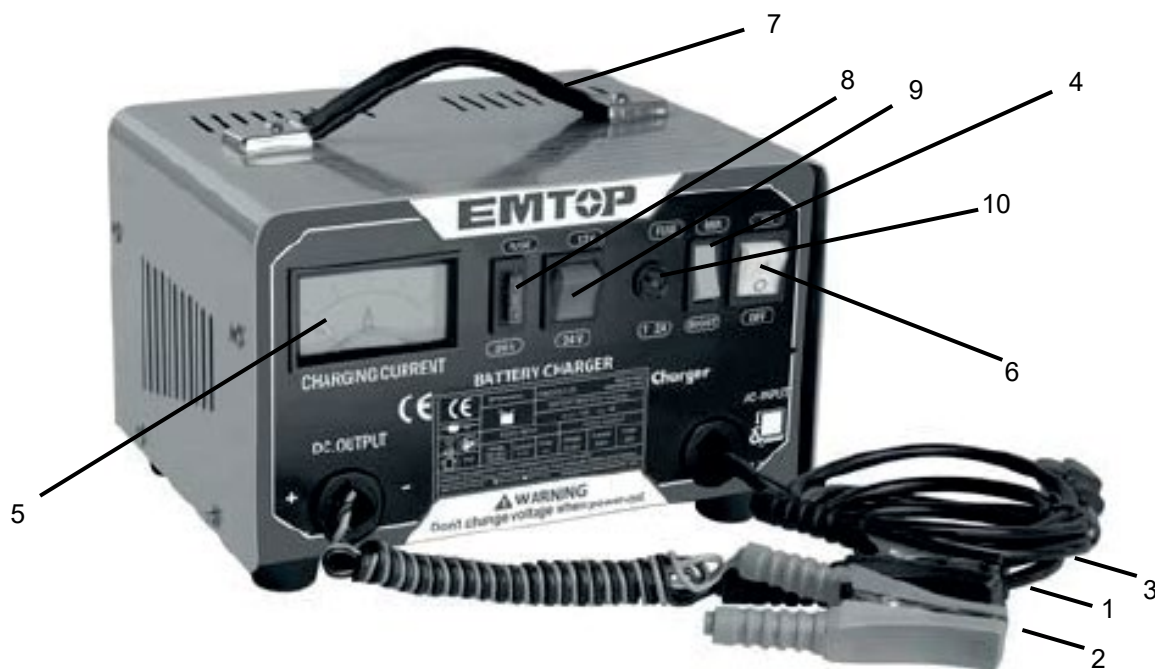
Working safely with this machine is only possible when the operating or safety information is fully read and the instructions contained therein are strictly followed.

3. TECHNICAL SPECIFICATIONS

<i>Characteristics</i>	
Input voltage	Single phase, 220~240V
Frequency	50/60Hz
Fuse	2A (input) / 20A (output)
Output current	4A for 24V/28Ah~180Ah 9A for 12V/28AhAh~180Ah
Rated output	12V/24V
Dimensions	300x210x185mm
Weight	5.8kg

CE		EFCR16011			EN60335-2-29		
1~		+			MAX180Ah MIN28Ah		
					I _{BOOST} 12A I _{min} 4A		
 		NOMINAL INPUT			NOMINAL OUTPUT		
 IP20		Voltage	Current	Fuse	Voltage	Current	Fuse
		220-240V~ 50/60Hz	0.9A	2A	12/24V	9/4A	20A
Disconnect power before making or breaking connections to battery. Warning: Explosive gases. Avoid flames and sparks. Provide adequate ventilation during charging.							

4. PRODUCT DESCRIPTION



1. Negative pole output
2. Positive pole output
3. Power cord
4. Current output switch
5. Current meter
6. Ignition switch
7. Handle
8. Output fuse
9. Voltage switch
10. Input fuse

Note: not all accessories illustrated or described in this manual need to be included in the standard delivery.

5. ASSEMBLY AND OPERATING

Battery charge

Battery mounting

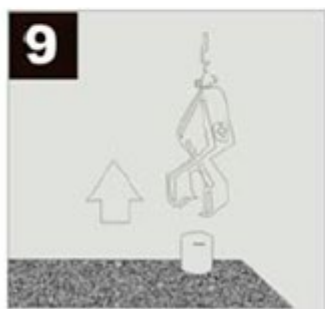
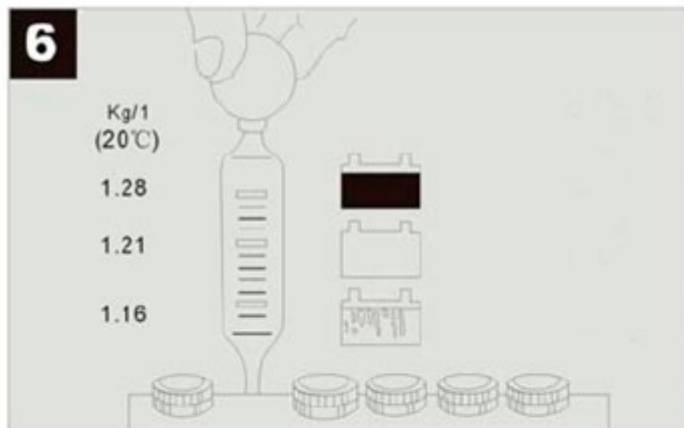
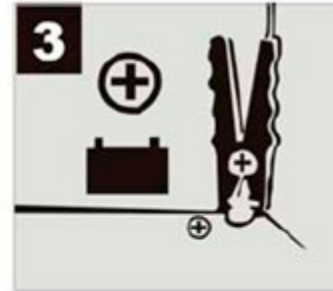


Figure 1

Unplug or remove the battery cap.

Figure 2

Check the acid level in your battery. Refill with distilled water if necessary.

Remember that battery acid is corrosive, so wash away acid splashes immediately and thoroughly with plenty of water and consult a doctor if necessary.

Dangerous electrolyte gases may arise during charging. Therefore, you should avoid sparks and open flames during charging. Risk of explosion.

Figure 3

First connect the red charging cable to the positive pole of the battery.

Figure 4

Then, connect the black charging cable to the negative pole of the battery.

Figure 5

Once the battery is connected to the charger, you can connect the charger to a 220-240V ~ 50/60Hz and 110-120V ~ 60Hz power outlet. It is prohibited to connect the charger to a power outlet with any other supply voltage.

Figure 6

The only way to determine the exact condition of the battery (charge level) is to measure the density of the acid with an acidimeter.

Please note that gases are released during charging.

Figure 7

Unplug the power plug or outlet.

Figure 8

First disconnect the black charging cable from the negative pole of the battery.

Figure 9

Then disconnect the charging cable from the positive terminal of the battery.

Figure 10

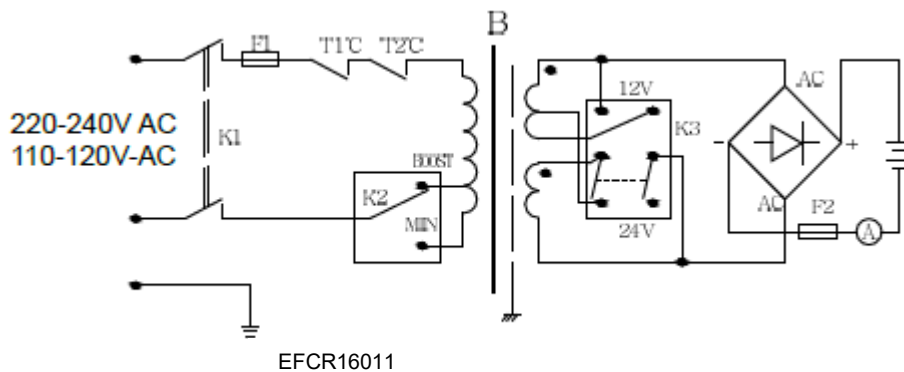
Screw or press the battery plug into place.

Figure 11: Overload Protection

The blade fuse provides protection against polarity reversal and short circuits. A defective fuse must be replaced with an identical one.

Note: The automatic circuit breaker interrupts the load in case of thermal overload. The circuit breaker turns on again automatically after a cooling interval.

Electric diagram



These chargers are compatible with 12V and 24V gel, lead acid and VRLA batteries. Do not use them for other purposes.

This charger is single phase, 220~240V/50~60Hz.

Start up

Make sure you have single-phase voltage, 220~240V/50~60Hz.

Current meter: indicates the charging current.

12V or 24V switch: Two charging modes are available, 12V or 24V. 12V STD charging mode can be used for 12V acid, VRLA batteries and also 24V STD for acid and gel batteries.

ON/OFF switch

Input fuse: 2A

Output fuse: 20 A

MIN/BOOST switch: current control switch.

Output current: $I_{Boost}=12A$ / $I_{min}= 4A$

6. MAINTENANCE

Maintenance

- Make sure your battery is always securely placed in the vehicle.
- Check that the battery is properly connected to the vehicle's electrical system.
- Keep the battery clean and dry. Apply some acid-free, acid-resistant grease (Vaseline) to the terminals.
- The acid level in maintenance-free batteries should be checked approximately every 4 weeks. Refill with distilled water as necessary.
- Keep the charger in a dry room. Remove any traces of corrosion from the charging terminals.

Note: If you are unsure of the necessary maintenance, how to perform it or to carry out other repairs not described in this manual, have it carried out by an official Emtop dealer.

7. TROUBLESHOOTING

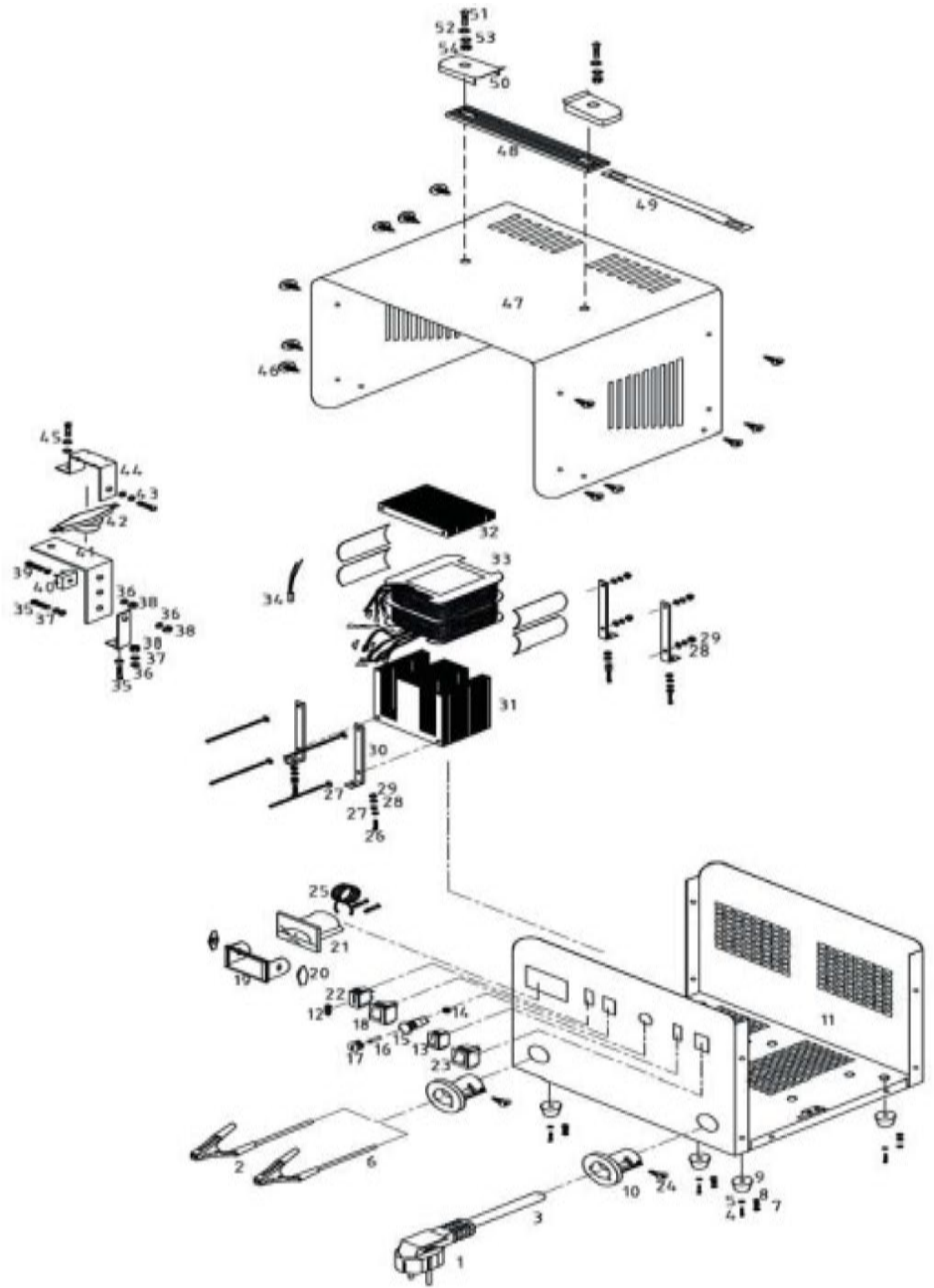
Problem	Possible cause	Solution
The charger does not work	<ol style="list-style-type: none"> 1. Power supply switch out of service. 2. Power outlet out of service. 	<ol style="list-style-type: none"> 1. Change the switch. 2. Change the power outlet.
The charger works but does not charge.	<ol style="list-style-type: none"> 1. The connection is out of service. 2. The fuse is broken. 	<ol style="list-style-type: none"> 1. Check the connection. 2. Change the fuse
The mode cannot be selected.	The mode change switch is broken.	Check it out.

8. ENVIRONMENT



- Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.
- Please contact your local authority for information on available collection systems.
- If electrical appliances are disposed of in landfills, hazardous substances can leach into groundwater and enter the food chain, harming your health and well-being.
- Recycle raw materials instead of throwing them away as waste.
- The machine, accessories and packaging must be sorted for environmentally friendly recycling.

9. EXPLODED VIEW



EMTOP

EFCR16011 BATTERY CHARGER



— *Making Difference* —