Operating instructions for the charger with a turbostarter

Warranty and the conditions of warranty

24-month warranty

The warranty includes a free repair due to material faults or manufacturer's faults. The customer should send a non-functioning or a malfunctioning part to the supplier or to an authorized service by mail or quick mail. The manufacturer undertakes to repair the malfunctioning part or to replace it within 10 days after the date of receipt. The conditions of warranty exclude faults, which were caused by unprofessional use or disregard of security instructions. The manufacturer is not responsible for faults caused by:

- unprofessional use of the device,
- low-quality compressed air (presence of water, oil),
- mains over-voltage shock,
- mechanical damage

or **when the following security instructions were not observed!**

- Please read the enclosed instructions carefully before using the device.
- The charger is designed for a connection to a 230 V / 50 Hz power supply.
- The charger is designed to charge lead batteries in vehicles with a 24 V supply and has to be connected to the turbostarter on the vehicle.
- The system is designed for professional use in firefighting, military and other intervention vehicles.
- Do not use the charger in extreme conditions:
  - spaces with more than 85% relative humidity (or condensing),
  - temperatures below -10 and over 60°C,
  - near flammable gases and vapour.
- The airing apertures on the charger must not be blocked.
- Before charging make sure that the batteries are not damaged.
- Do not trigger a short circuit in the batteries.
- Always use the enclosed cable for the connection of the device.
- Observe proper polarity.
- Do not carry out measurements and tests if you are not informed about the special characteristics of this charger.

Faults which occurred after the warranty had expired or which are due to unprofessional handling will be repaired against payment in the shortest possible time.

The following units are available as spare parts:

- the connecting cable with connectors
- the processor charger with a holder (the old one in exchange for a new one)
- the filter regulator
- the turbostarter (the old one in exchange for a new one)

Description of the product's functioning

The turbostarter is a device that connects intervention vehicles with outside sources of energy (air, electricity). It is designed for intervention vehicles in voluntary and professional firefighting units and for police and military vehicles, which need compressed air to function. Since we know that these vehicles are often stationary and since air installations are not completely tight there are decreases of air pressure in the brake system.

Such a vehicle is temporarily incapable to participate in an intervention. The compressing of air in a garage can fill the room with smoke and lead to unnecessary fuel consumption while increasing the time of driving the vehicle out of the garage by at least four minutes. When vehicles remain stationary for a long time, especially in winter time, there is a danger of a voltage drop in the batteries. This problem can also be solved by the turbostarter.

The device is mounted on the vehicle's cab, on an easily accessible and visible place. It is made of non-corroding materials. When you start the engine the device will make sure that the vehicle is automatically disconnected from the outside sources of energy. The connecting hose is moved to an appropriate place out of the vehicle's maneuver space. When driving the vehicle back into the garage you can connect it to the turbostarter in a quick and simple manner.

Instructions for the installation of the charger and connection in the garage

You will receive:

- a charger with a holder
- a hanging hook with installation materials
- a cable
- a filter regulator with a holder

Installation of the charger and the filter regulator:

1. Srew the charger and the filter regulator with wall plugs on to the wall at the height of 3 to 3.5 m. They should be placed as parallel as possible to the position of the turbostarter on the parked vehicle. The filter regulator and the charger can also be screwed onto the ceiling of the garage by using a special holder. When mounting the device onto a wall you should adjust the length of the connecting cable and attach it with a hanging hook that is mounted on the wall. When mounting the device on the ceiling you should attach the connecting cable to the holder, which has two holes drilled in exactly for this purpose.

2. Using an earthed wall socket, connect the rectifier to a power supply (230 – 240 V / 50 Hz). Connect the filter regulator to the house installation of compressed air (minimal pressure 8 bar) by using the enclosed 6 ¼ quick connector (outer screw thread).

The functions of the charger:

1. The main ON/OFF switch, which is turned on after the installation of the system and is constantly turned on.
2. The yellow LED is glowing – the battery is full.
3. The green LED is glowing – the battery is being charged.
4. The green LED is blinking – the battery is re-charged.
5. The red LED is glowing – the battery is not connected or is malfunctioning.
The red LED is blinking: the fuse in the charger is malfunctioning.
6. Protected by 1 A fuse.
7. Connection to the turbostarter.
8. Connection to the mains.

The functioning of the charger together with the turbostarter:

1.) After starting the vehicle the supplying cable is automatically disconnected from the turbostarter and the vehicle is ready for you to drive it.
2. Before driving off check if the supplying cable was disconnected from the turbostarter in the rear view mirror.
3. If the supplying cable with the hose for air wasn't automatically disconnected you can disconnect the turbostarter manually (like an ordinary quick connector). Then check the possible cause of the fault in the table below.
4. When you arrive back at the garage connect the connectors for air and the cable to the turbostarter.

Possible faults:

Fault	Cause	Solution
The red LED on the charger is glowing	The charger is not connected to the vehicle.	Check if the connecting cable is connected to the turbostarter on the vehicle.
The red LED on the charger.is glowing	The car fuse for the connection of turbostarter and the car battery on the vehicle is malfunctiong	There is a fuse between the car battery and the turbostarter. Replace it with a fuse that is identical to the previously installed one.
The red LED on the charger is glowing.	The battery voltage is lower than 20 V.	Check the battery voltage and the functioning of the alternator.
The green LED has been glowing for more than 10 hours or constantly.	The vehicle consumes too much > 25 W. Malfunctioning batteries. Lack of electrolyte in the batteries.	Check the electrical devices in the vehicle. Check the batteries. Check the electrolyte level in the batteries.
The green LED has been glowing for more than 10 hours or constantly.	Malfunctioning fuses in the interior of the charger (max. 3.15 A).	An unconnected charger generates a voltage of 0,8 V. If this voltage is not present at the exit, then unscrew the charger case and check the fuses.
The batteries don't charge. LEDs do not signalize the functioning in the way it is described above.	Malfunctioning fuses in the interior of the charger (max. 3.15 A).	An unconnected charger generates a voltage of 0,8 V. If this voltage is not present at the exit, then unscrew the charger case and check the fuses.
The ON/OFF switch is not illuminated when you turn it on.	A malfunctioning fuse on the case of the charger (1 A). There is no voltage in the mains.	Replace the fuse on the charger or check the mains voltage.
After starting the vehicle the turbostarter does not disconnect automatically. The green LED on the charger is not glowing.	The pressure of compressed air in the installation < 3 bar. A malfunction of the fuse on the vehicle.	Check the pressure of the compressed air in the house installation. Check the settings of the filter regulator. There is a fuse between the battery and the turbostarter. Replace it with a fuse that is identical to the previously installed one.

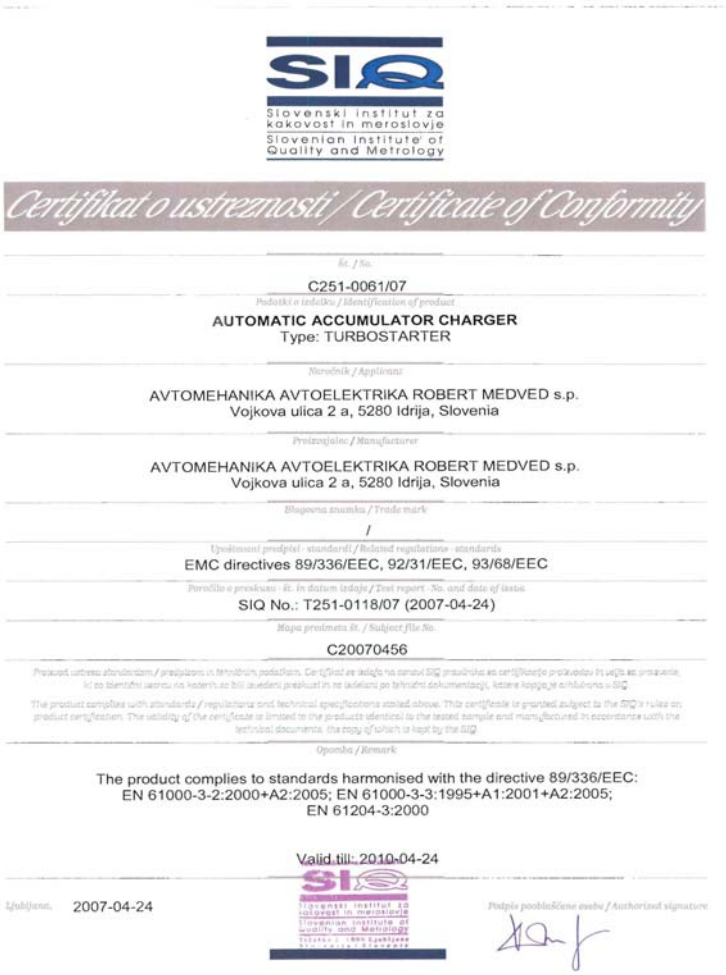
Technical data:

Incoming pressure: min. 7.5 bar, max. 10 bar
Power supply: 230 V / 50 – 60 Hz
Charger: Incoming voltage: 230 V / 50 – 60 Hz
Mains voltage fuse: 1 A
Outcoming voltage: 24 V
Max. outcoming current: 2 A
Outcoming current fuse (in the charger): 2 x 2 A
Operating temperature: - 10 to + 60°C
At max. 85% relative humidity (non condensing)

CE The manufacturer of this device Avtomehanika Avtoelektrika Medved Robert s.p. states that this device is compatible with the European EMC standards and directives: 89/336/EEC, 92/31/EEC and 93/68/EEC and that it is designed in accordance with the normatives: EN 61000-3-2:2000+A2:2005; EN 61000-3-3: 1995+A1:2001+A2:2005; EN 61204-3:2000.

Turbostarter:

This device is patented at the Ministry of Science and Technology – Industrial Property Protection Office of the Republic of Slovenia – under the number Pn 9600302.



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Certifikat o ustreznosti / Certificate of Conformity

št. / No.
C251-0061/07

Podatki o izdelku / Identification of product
AUTOMATIC ACCUMULATOR CHARGER
Type: TURBOSTARTER

Naročnik / Applicant
AVTOMEHANIKA AVTOELEKTRIKA ROBERT MEDVED s.p.
Vojkova ulica 2 a, 5280 Idrija, Slovenia

Proizvajalec / Manufacturer
AVTOMEHANIKA AVTOELEKTRIKA ROBERT MEDVED s.p.
Vojkova ulica 2 a, 5280 Idrija, Slovenia

Blagovna znamka / Trade mark
/

Uporabljeni predpisi - standardi / Related regulations - standards
EMC directives 89/336/EEC, 92/31/EEC, 93/68/EEC

Poročilo o preskusu - št. in datum izdaje / Test report - No. and date of issue
SIQ No.: T251-0118/07 (2007-04-24)

Mapa predmeta št. / Subject file No.
C20070456

Proizvod ustreza standardom / predpisom in tehničnim podatkom. Certifikat se izdaja na osnovi SIQ pravilnika za certificiranje proizvodov in velja za proizvode, ki so identični vzorcu na katerih so bili izvedeni preskusi in ne izdelani po tehnični dokumentaciji, katere kopijo je arhivirala v SIQ.

The product complies with standards / regulations and technical specifications stated above. This certificate is granted subject to the SIQ's rules on product certification. The validity of the certificate is limited to the products identical to the tested sample and manufactured in accordance with the technical documents, the copy of which is kept by the SIQ.

Opomba / Remark
The product complies to standards harmonised with the directive 89/336/EEC:
EN 61000-3-2:2000+A2:2005; EN 61000-3-3:1995+A1:2001+A2:2005;
EN 61204-3:2000

Valid till: 2010-04-24

Ljubljana, 2007-04-24

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