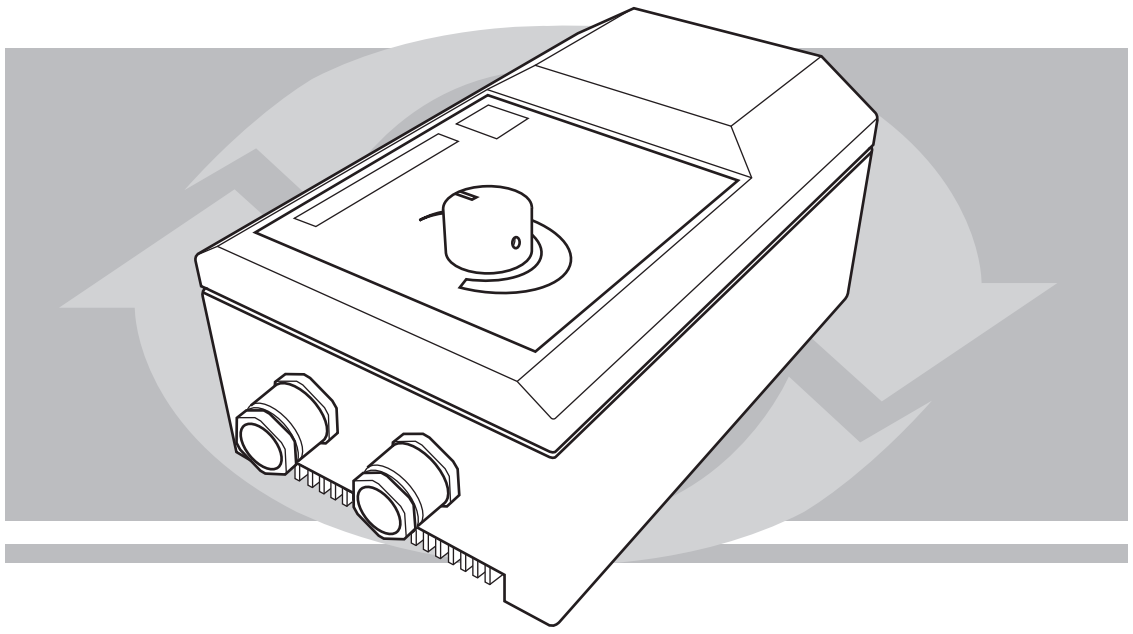
TRIAC SPEED CONTROLLERS RS-..-T SERIES



CONTENTS

PURPOSE

RS-..-T series controllers (hereinafter "Device") are used in ventilation and air conditioning systems to control the output of single-phase fans by means of smooth variation of the voltage supplied to the motor. The device is controlled by means of the control knob 2 (see Fig.1) on the front panel.

The controller has the On/Off button 1 (see Fig.1).

PACKAGE CONTENTS

- Speed controller **1 piece**
- User's Operation Manual **1 piece**
- Packing **1 piece**

TECHNICAL SPECIFICATIONS

Designation	RS-1,5-T	RS-3,0-T	RS-5,0-T	RS-10,0-T
Min. Load Current (A)	0,2	0,3	0,5	1,0
Max. Load Current (A)	1,5	3,0	5,0	10,0
Fuse (A)	1,6	3,15	5,0	10,0
Dimensions (mm)	164x96x85	164x96x85	164x96x85	205x127x95

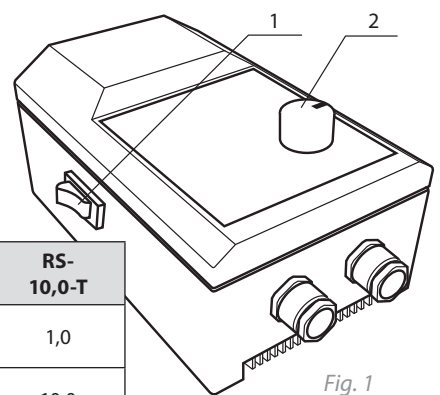


Fig. 1

- Supply Voltage: **230 V/50 Hz**
- Fan Motor Nominal Voltage: **230 V/50 Hz**
- Lead-In: screw terminal block **0.5..2.5 mm²**
- Operating Ambient Temperature: **+5°C..+40 °C**
- Protection Class: **IP54**

DESIGN AND OPERATING PRINCIPLE

The controller operation is based on changing the output voltage by means of a TRIAC. The controller body is made of non-combustible thermoplastic. The controller is equipped with an ON/OFF button. The power output is modulated from 25 to 100% according to the position of control handle **2** (see Fig. 1) in the range selected during setup. The minimum power output from 25 to 100% is set by means of trimming potentiometer **9** (see Fig. 3) mounted **inside** the controller. Fuse **7** (see Fig. 3) prevents the device and the connected fan from excessive current consumption.

SAFETY PRECAUTIONS AND WARNINGS

⚠ The controller application range is limited by the fan electric motor characteristics.
- The fan electric motor must be designed for TRIAC voltage regulation.
- The downward regulation range is selected based on the fan parameters. The entire fan regulation range must be within its operating envelope to prevent the fan motor breakdown.

⚠ The speed controller and its connected equipment may present an electric shock hazard. Therefore, the device shall be connected and operated only by adequately qualified staff familiar with this manual. The speed controller belongs to electrical machinery with voltages up to 1,000 V. The device must be disconnected from the power mains for any and all operations with the device internals.

⚠ The speed controller shall only be used with single-phase motors.

⚠ The total current consumption of the electrical appliances connected to the device shall not exceed the limit value (see Technical specifications). The device should not be operated under the limit load current.

⚠ The speed controller must be properly earthed.

⚠ Use the device with due caution. Do not subject it to shocks and overloads or expose it to liquids and dirt. Should any foreign objects penetrate onto the controller circuit board, disconnect the unit from the mains and remove them.

⚠ **Do not apply overvoltage to any of the speed controllers parts while testing the device (e.g. with a megohmmeter etc.). Disconnect the cable from the speed controller prior to any measurements on the cable or motor!**

DO NOT:

⊗ Operate the device in the presence of smoke or smell commonly associated with burning insulation, elevated noise or vibration, in case of structural integrity loss or formation of cracks in the casing or with broken connectors;

⊗ Cover the device with any materials, mount any gauges and objects on top, block the vents or fill them with any foreign objects;

⊗ Do not use the device in areas with an explosive or chemically aggressive environment detrimental to metals and insulation or under the influence of droplets or spray; do not use outdoors;

⊗ Connect any electric motors (individual or part of any equipment) with the phase current consumption (usually stated on the nameplate) in excess of the limit phase load current for the device;

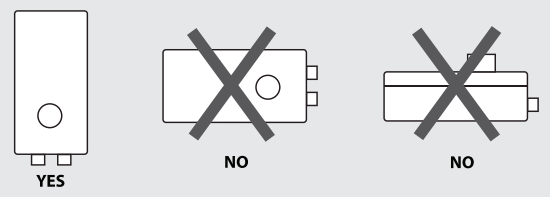
⊗ Connect the device output terminals to the power mains.

INSTALLATION AND PRE-STARTING PROCEDURES

ATTENTION!
Following the device transportation or storage under temperatures below zero let the unit warm up in the specified operating conditions for at least 4 hours.

- Check the device visually for any damage to the casing;
- Remove the front panel by unscrewing self-tapping screws **3** (see Fig. 2);
- To facilitate installation unplug connector **8** (see Fig. 3);
- Fasten the controller to the mounting surface using mounting holes **4** (see Fig. 2) in the rear wall of the unit (see Fig. 2);

ATTENTION!
MOUNT THE DEVICE VERTICALLY FOR PROPER OPERATION



- Complete the electrical connections according to the wiring diagram (see Fig.4). The external wires are connected to the device by means of bolt-and-nut terminals **6** (see Fig.3). The cables are routed into the unit through sealed lead-ins **4** (see Fig.3). The external lead-in (220V/50Hz) must be equipped with an automatic switch built into the stationary wiring.
- Supply the power voltage and start the device.
- Plug in connector **8** and set speed selector handle **2** (see Fig.1) to the minimum value (counter-clockwise). Then use potentiometer **9** (see Fig. 3) to set the minimum fan speed as required.
- Replace the front cover.

ATTENTION! The speed control range is limited by the fan characteristics.

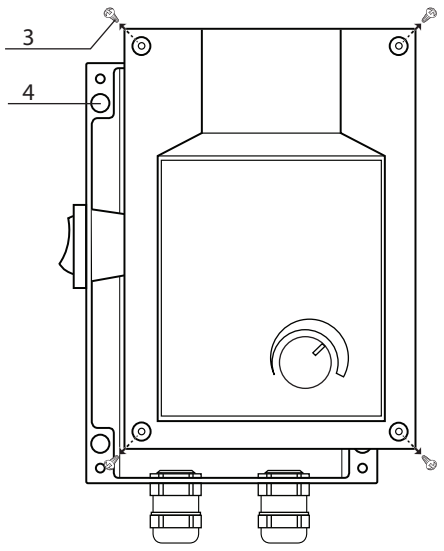


Fig.2

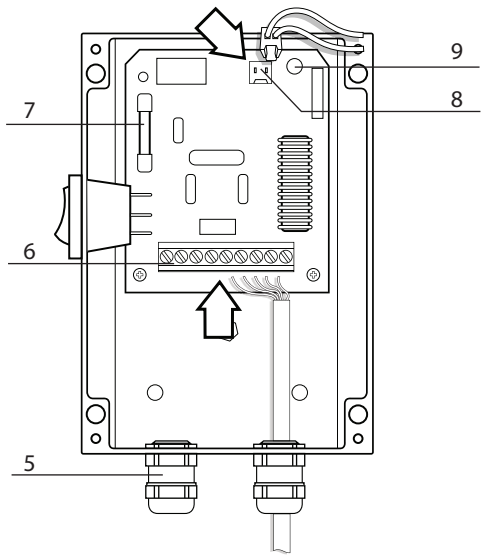


Fig.3

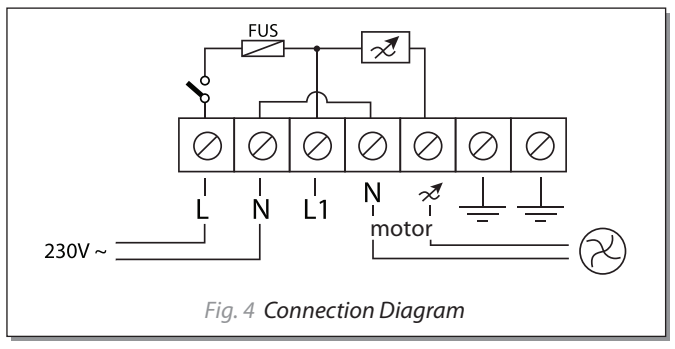


Fig. 4 *Connection Diagram*

TECHNICAL MAINTENANCE

- Periodically clean dust, fibres and other contamination from the ventilation holes.
- Make sure the external wires are tightly connected to the screw terminals of the device.

TRANSPORTATION

The device shall be carried in the manufacturer's packing without limitation to the means of transport, distance or speed. Once received by the user the devices shall be stored in the original packing at temperatures ranging from -40 to +35 °C and relative humidity up to 80%. The storage premises shall be free from dust and corrosive acid or alkaline vapours.

WARRANTY

The manufacturer warrants trouble-free operation of the speed controller over the period of 12 months from the sale date within the warranty storage period. The warranty storage period is 24 months from the manufacturing date. If the sale date and vendor's stamp are missing, the warranty period shall be calculated from the manufacturing date. The customer shall be entitled to free repair of the device in case of any malfunction of the controller occurring through the manufacturer's fault within the warranty period.

ATTENTION! The manufacturer shall not be liable for any injuries or damage caused by non-compliance with the installation and operation regulations set forth herein.

ATTENTION! Check the controller certificate of sale and acceptance for completeness (the required information includes the manufacturing and sale dates, manufacturer's and vendor's stamps).

WARRANTY SERVICE IS DENIED IN THE FOLLOWING CASES:

- Violation of the storage, transportation, installation and operation rules set forth herein;
- Failure to present the original certificate of sale and acceptance providing evidence of sale;
- Missing warranty card;
- Device repair by unauthorized persons and entities;
- Mechanical damage, traces of chemicals and penetration of foreign objects;
- Damage caused by force majeure consequences (e.g. fire, lightning strike, flood, accident etc.);
- *Misuse of the device:*
  - Connection to the power mains non-compliant with the required parameters specified in p.3 of the Operation Manual;
  - Connection of loads with current consumption in excess of the maximum permissible current as specified in p.3 of the Operation Manual.

WARRANTY CARD

Acceptance inspector's stamp

Manufacturing date _____

Shipment date _____

FULL NAME _____

Date _____

Signature _____

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