



Speed Control Panel

RVM 3,5 - 6 - 9 - 14



Operating Instructions



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Transformer based controllers for variable voltage 1~ motors

Operating Instructions

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1 General notes

1.1 Structure of the operating instructions

Before installation and start-up, read this manual carefully to ensure correct use!

We emphasize that these operating instructions apply to specific units only, and are in no way valid for the complete system!

Use these operating instructions to work safely with and on the device. They contain safety instructions that must be complied with as well as information that is required for failure-free operation of the device.

Keep these operating instructions together with the device. It must be ensured that all persons that are to work on the device can refer to the operating instructions at any time.

1.2 Exclusion of liability

To allow for future developments, construction methods and technical data given are subject to alteration. We do not accept any liability for possible errors or omissions in the information contained in data, illustrations or drawings provided.

We accept no liability for damage caused by misuse, incorrect use, improper use or as a consequence of unauthorized repairs or modifications.

2 Safety instructions

- Installation, electrical connection and commissioning to be carried out by trained service personnel only. The specifications of the manufacturer or supplier, and instructions relating to the equipment, should be rigidly adhered to. Failure to comply with these conditions will invalidate the guarantee on our controllers and accessories!
- The 5 electrical safety rules must be observed!
- It is strictly forbidden for work to be carried out on any components while they are connected to live voltage. The open equipment is protected to IP00. It is possible to come into direct contact with dangerous voltages!
- The safe isolation from the supply must be checked using a **two-pole** voltage detector.
- During operation the equipment must be closed or installed in a switching cabinet.
- Never clean electrical equipment with water or similar liquids.
- Fuses must be replaced and not repaired or bridged.
- The equipment is to be used solely for the purposes specified and confirmed in the order. Other uses which do not coincide with, or which exceed those specified will be deemed unauthorised unless contractually agreed. Damages resulting from such unauthorised uses will not be the liability of the manufacturer. The user will assume sole liability.
- During commissioning, unexpected and hazardous conditions can arise in the entire installation due to defective adjustments, defective components or incorrect electrical connections. Remove all persons and objects from the hazardous area.
- Any faults detected in the electric system/modules/operating equipment must be corrected immediately. If these faults are not corrected, the device/system is potentially very dangerous. The device/system must therefore not be operated when it is faulty.
- Pay attention to smooth, low vibration running of the motor/fan, the appropriate instructions in the drive documentation must be observed!
- This device is not intended to be used by people (including children) who have restricted mental, sensory or intellectual abilities or who have a lack of experience and/or knowledge.






Information

A separate fault and performance monitoring-system with an alarm signal function is necessary in order to prevent personal injuries and material damages during malfunctions and in case the device fails. Substitute operation must be taken into consideration!

2.1 Explanations of symbols

Safety instructions are highlighted with warning triangles and are depicted according to the degree of hazard as follows.

	Attention! General hazardous area. Death or severe injury or significant property damage can occur if the corresponding precautions are not taken!
	Danger due to electric current Warning of dangerous voltage or dangerous current.
	Information Important additional information and advice for user

3 Product overview

3.1 Function

- The transformer based controllers type RVM are designed for controlling voltage controllable single-phase fans.
- The selection of output voltages is done manually with a 5-step switch.
- Additional voltage output 230 V (terminals 1 and 2) is activated, if fan runs at steps 1, 2, 3, 4 or 5. It could be used e. g. for a signal lamp or damper control (maximum contact rating 1 A).
- A power on lamp is integrated.



Attention!

Automatically restart after a power failure or mains disconnection!

3.2 Maintenance

The device must be checked for soiling and, if necessary, cleaned in periodic intervals.

3.3 Transport

- The device is packed ex factory to suit the transport method previously agreed.
- Always use the original packaging materials when transporting the device.
- Avoid shocks and impacts to the device during the transport.
- During manual handling the human lifting and carrying restrictions must be observed and adhered to.

3.4 Storage

- The device must be stored in its original packaging in a dry and weather-proof room.
- Avoid exposure to extreme heat and cold.
- Avoid over-long storage periods (we recommend a maximum of one year).

3.5 Disposal / recycling



Disposal must be carried out professionally and environmentally friendly in accordance with the legal stipulations.

4 Installation

4.1 General notes



Attention!

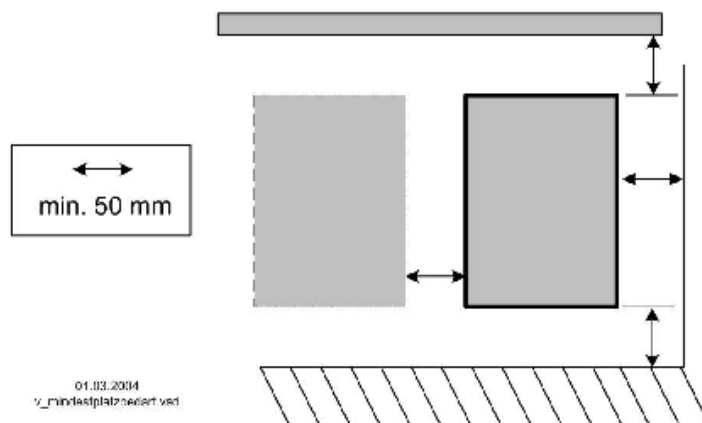
Mounting, electrical connection, and start-up operation may only be carried out by an electrical specialist in accordance with electrotechnical regulations (e.g. EN 50110, EN 60204, IEC 364)!

- Before installation remove the device from the packing and check for any possible shipping damage!
- Assemble the device on a clean and stable base. Do not distort during assembly! Use the appropriate mounting devices for proper installation of the unit!
- Do not mount equipment on vibrating base!
- Do not allow drilling chips, screws and other foreign bodies to reach the device interior!
- The device should be installed in a location where it will not be disturbed, but at the same time can be easily accessed!
- Depending on the housing model use supplied stoppers for cable inlets, cut off necessary cable inlets respectively to the cable diameter. Or alternative use cable inlet for cable glands. Any cable ducts openings not used must be sealed!
- Metal screwed-connections are not permitted in plastic housing parts because there is no potential equalization.
- Care must be taken to avoid direct radiation from the sun!
- The device is designed for vertical installation (cable inlet down). A horizontal or reclined installation is only permissible after technical release of the manufacturer!
- Be sure to observe proper heat dissipation (☞ Technical data, heat dissipation).

4.2 Minimum space requirement

In order to ensure sufficient ventilation of the device, clearance on all sides of at least 50 mm has to be maintained to the housing walls, switch cabinet doors, wiring ducts, etc. The same clearance applies to the installation of several devices next to each other.

When installing several devices on top of each other, the danger of reciprocal heating exists. This layout is only then permissible when the air suctioned from the upper unit does not become warmer than the permissible ambient temperature (☞ Technical data). I.e., a correspondingly larger clearance or thermal shielding is required.



4.3 Mains connection

Power from the mains is connected to terminals: PE, L1, N. Here it must be strictly observed that, the mains voltage lies within the allowable tolerance specifications (☞ Technical data and nameplate affixed to the side). The mains voltage must comply with the EN 50160 quality characteristics and the defined standard voltages in IEC 60038!



Danger due to electric current

The internal autotransformer is not short-circuit-proof, note maximum size of line fuse absolutely (☞ Technical data)!

4.4 Motor connection

The motor leads are connected to the terminals: PE, U1, U2. Several fans can be connected to the controller - the maximum total current of all motors must not exceed the current rating for the controller.



Information

Motor thermostats cannot be connected to these controller. I.e. a separate motor protection is required. We cannot under any circumstances accept liability for damage to the motors which do not have the required motor protection. It is recommended that every fan is equipped with a separate motor protection unit e.g. type S-ET10!

5 Enclosure

5.1 Technical data

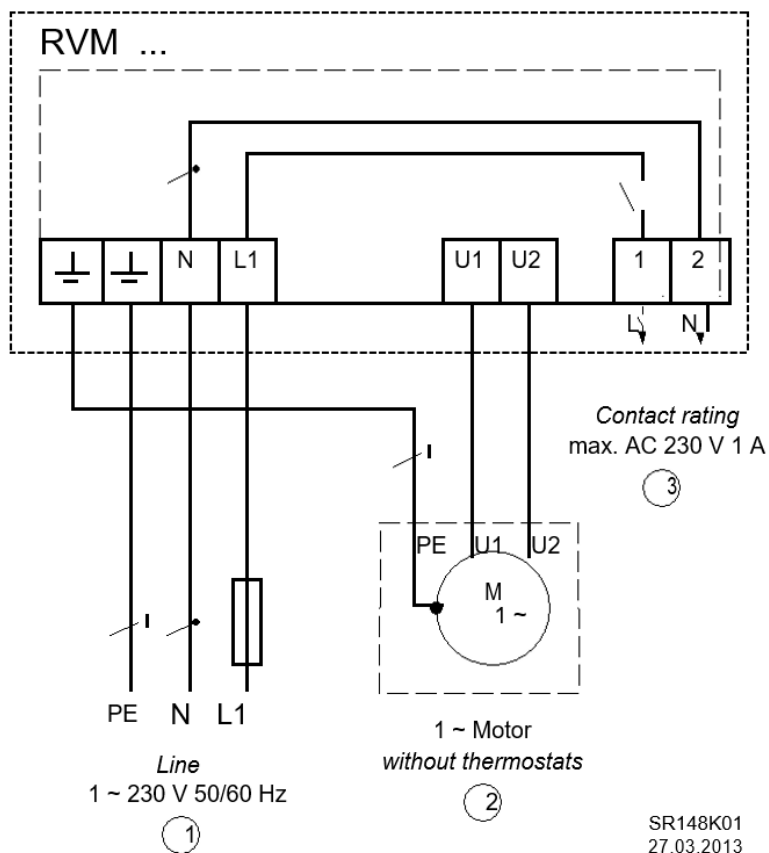
Line voltage: 1 ~ 230 V (-15 % / +10 %), 50/60 Hz

Max. ambient temperature: 40 °C

The output voltages are selectable by a 5-step switch: 65V - 110V - 135V - 170V - 230V

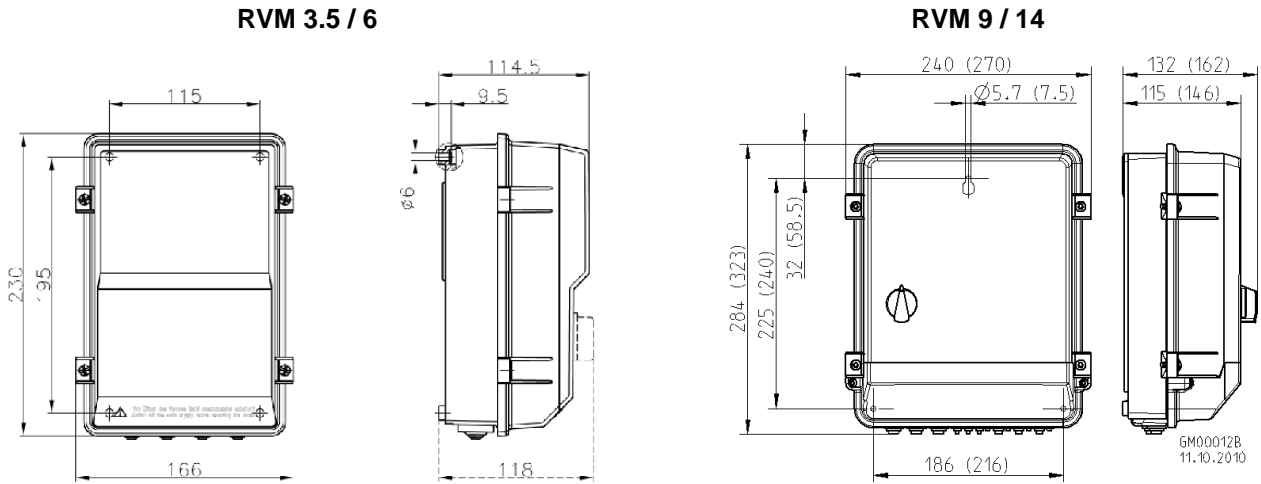
Type	Rated current [A]	Max. line fuse [A]	Max. heat dissipation approx. [W]	Weight [kg]	Housing Protection
RVM 3.5	3.5	T 4	30	3.5	IP54
RVM 6	6.0	T 8	35	5.0	IP54
RVM 9	9.0	T 16	50	10.5	IP54
RVM 14	14.0	T 20	105	12.5	IP54

5.2 Connection diagram



- 1- Line 1 ~ 230 V, 50/60 Hz
- 2- 1 ~ Motor without thermostats
- 3- Contact rating 230 V AC max 1 A

5.3 Dimensions [mm]



5.4 Manufacturer reference



Our products are manufactured in accordance with the relevant international regulations. If you have any questions concerning the use of our products, please contact:

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