

# DRY | ELECTRONIC FAN SPEED CONTROLLER, DIN RAIL MOUNTING

Mounting and operating instructions



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## SAFETY AND PRECAUTIONS



Read all the information, the datasheet, Modbus Register map, mounting and operating instructions and study the wiring and connection diagram before working with the product. For personal and equipment safety, and for optimum product performance, make sure you entirely understand the content before installing, using or maintaining this product.



Unauthorised conversion and/or modification of the product is not permitted for safety and licensing (CE) reasons.



The product should not be exposed to abnormal conditions, such as extreme temperatures, direct sunlight or vibrations. Long-term exposure to chemical vapours in high concentration can affect the product performance. Make sure the work environment is as dry as possible and avoid condensation.



All installations shall comply with local health and safety regulations, local electrical standards and approved codes. This product can only be installed by an engineer or a technician who has expert knowledge of the product and the safety precautions.



Avoid contact with energised electrical parts. Always disconnect the power supply before connecting, servicing or repairing the product.



Always ensure that the product is powered properly and that the wire size and characteristics are appropriate. Make sure that all the screws and nuts are well tightened and fuses (if any) are fitted well.



Recycling of equipment and packaging should be taken into consideration and these should be disposed of in accordance with local and national legislation / regulations.



If you have any further questions, please contact your technical support or consult a professional.

## PRODUCT DESCRIPTION

DRY series are variable speed controllers for AC fans with single-phase voltage controllable motor. Using the rotary knob on the front panel, the regulated voltage can be set from low to high. By turning the knob completely to the left (Off position) the motor can be switched off. The trimmer allows the minimum speed to be optimised for the application. The enclosure is suited for DIN rail mounting.

## ARTICLE CODES

Code	Fan speed control	Trimmer for minimum speed setting	Max. rated current	Fuse 5*20 mm
<b>DRY-1-15-AT</b>	from minimum to maximum	available	1,5 A	3,15 A
<b>DRY-1-25-AT</b>			2,5 A	5,0 A

## INTENDED AREA OF USE

- Speed control of motors / fans in ventilation systems
- For installation on a DIN-rail (e.g. in an electrical cabinet)

## TECHNICAL DATA

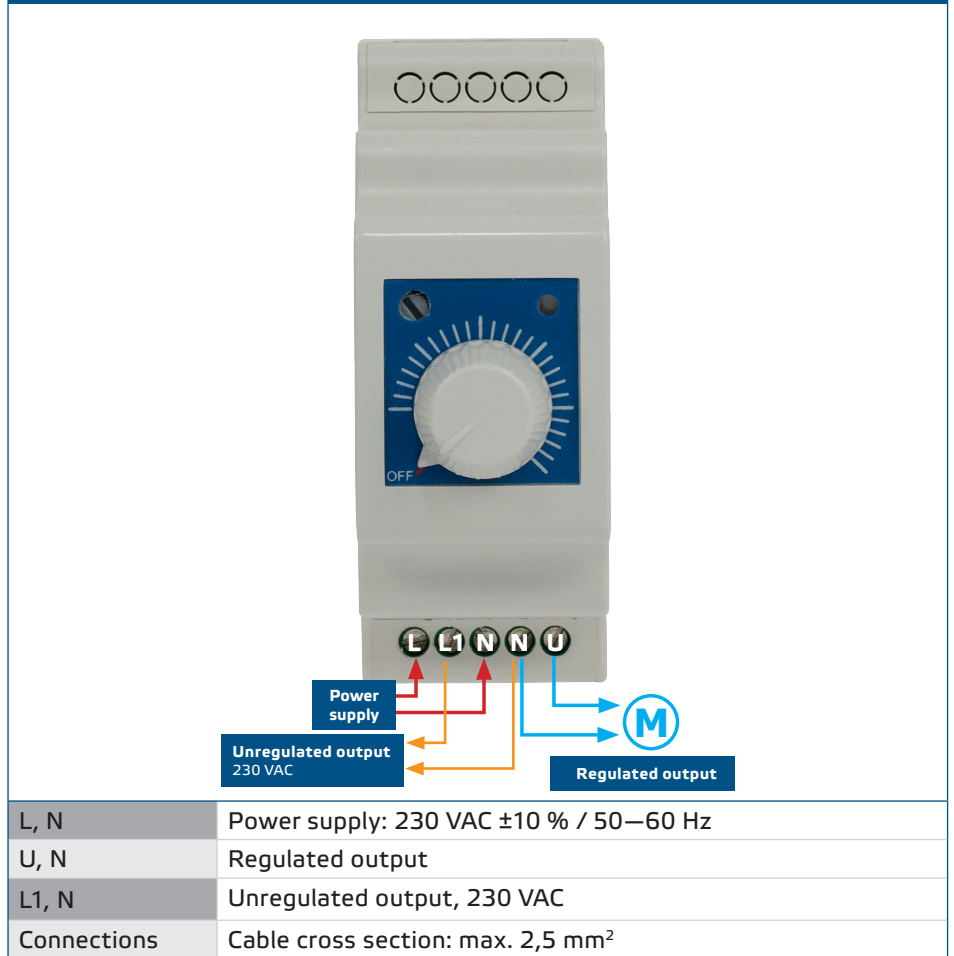
- Supply voltage: 230 VAC  $\pm 10\%$  / 50—60 Hz
- Regulated output to motor (U):
  - ▶ max. load: 1,5 A for DRY-1-15-AT;
  - ▶ max. load: 2,5 A for DRY-1-25-AT.
- Unregulated output load (L1): 230 VAC / max. 0,5 A
- Speed control from minimum to maximum
- Minimum speed adjustment by trimmer: 100—230 VAC
- Green operating LED is ON when the regulated output is active
- Enclosure:
  - ▶ 35 mm DIN rail mounting (DIN EN 50022)
  - ▶ ABS/PC, grey (RAL 7035)
- Protection standard: IP30 (according to EN 60529)
- Operating conditions:
  - ▶ temperature: 0—40 °C

## STANDARDS

- Low Voltage Directive 2014/35/EU CE
  - ▶ EN 60335-1:2012 Household and similar electrical appliances - Safety - Part 1: General requirements. Amendment A11:2014 and AC:2014 to EN 60335-1:2012
  - ▶ EN 61558-1:2005 Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests. Amendment AC:2006 and A1:2009 to EN 61558-1:2005
- EMC Directive 2014/30/EU
  - ▶ EN 61000-6-3:2007 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
  - ▶ EN 61000-6-2:2006 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
  - ▶ EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements
- RoHs Directive 2011/65/EU

## WIRING AND CONNECTIONS

**Fig. 1 Wiring**



## MOUNTING INSTRUCTIONS IN STEPS

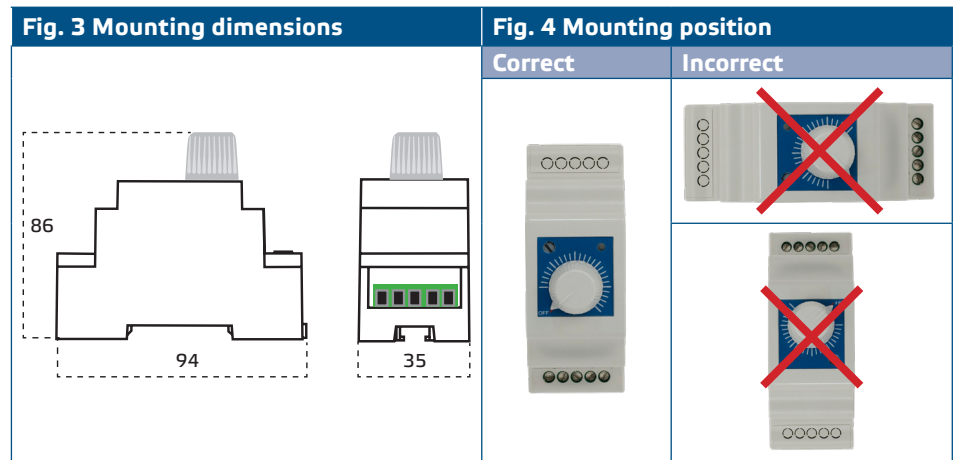
Before you start mounting the unit, read carefully “**Safety and Precautions**”. Then proceed with the following mounting steps:

1. Switch off the power supply.
2. Mount the controller on a standard 35 mm DIN rail in a well-ventilated electrical cabinet. Mind the acceptable operating ambient conditions for this product. Pull the locking clip before you place the unit onto the rail, and then release the locking clip back to its original position to fix the enclosure to the rail (See **Fig. 2** *DIN rail locking clip*)

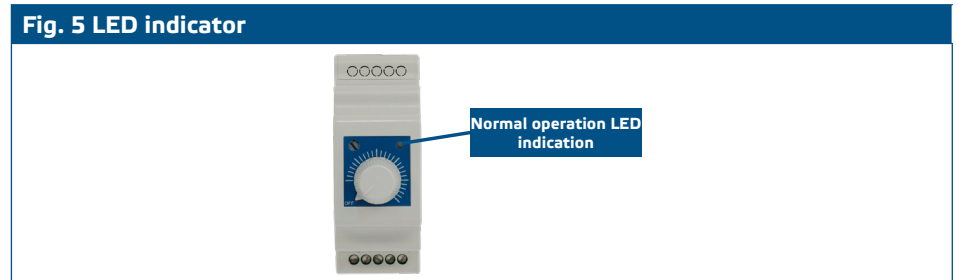
**Fig. 2 DIN rail locking clip**



3. Choose a proper DIN rail as you bear in mind the dimensions ( see **Fig. 3 Mounting dimensions**) of the unit and mount the controller, minding the correct position, shown on **Fig. 4 Mounting position**.



4. Do the wiring according to the wiring diagram (see **Fig. 1**) using the information from section “**Wiring and connections**”.
5. Switch on the power supply.
6. Verify if the green LED is on.

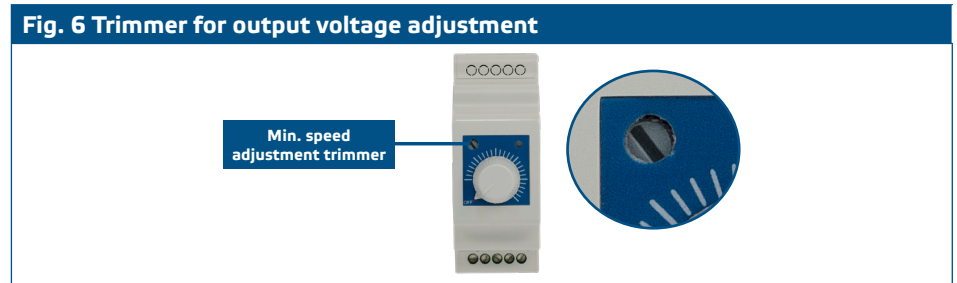


7. Set the required output voltage with the help of the potentiometer on the front cover. Adjust the minimum speed with the trimmer (if necessary), according to the instructions in **Fig. 6**. The factory preset setting of the minimum voltage is 100 VAC. The minimum acceptable motor voltage depends on the type of motor and the application. Too low a motor voltage can be harmful to the motor.



## NOTE

*Set the minimum motor voltage according to the application requirements and motor specifications.*

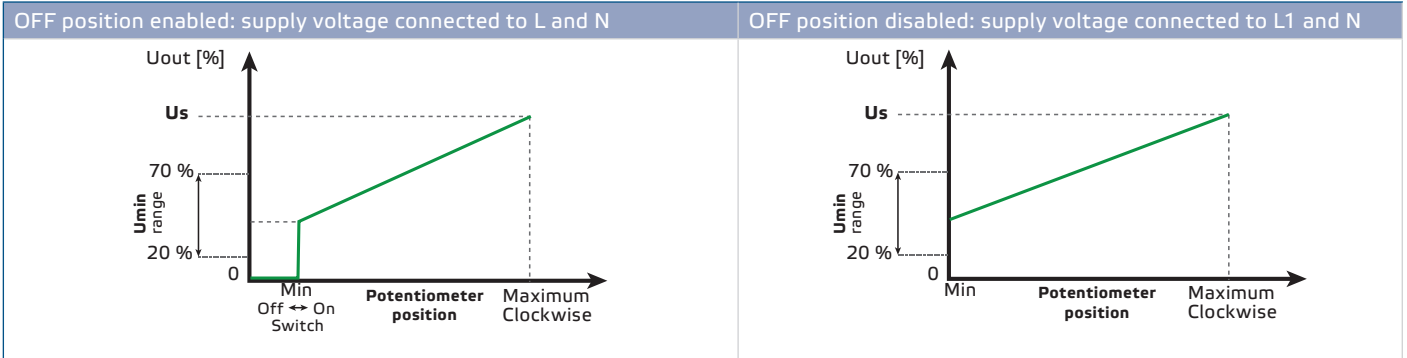


## OPERATIONAL DIAGRAM

Use a regular screwdriver to adjust the desired output voltage from 100 VAC to 230 VAC via the integrated trimmer on the device.

### NOTE

*To disable the OFF position, connect the 230 VAC power supply to the unregulated output L1 and N.*



## TRANSPORT AND STORAGE

Avoid shocks and extreme conditions; stock in original packing.

## TROUBLESHOOTING

If the device is connected to the fan and it does not work, continue with the following steps:

1. Verify the wiring, according to the 'Wiring and connections' chapter.
2. If the wiring was correct, check if the problem is related to the fan speed controller or to the motor cable or motor.
3. To check this, first disconnect the motor.
  - ▶ Check the power supply;
  - ▶ Check the fuse (see **Fig. 7 Fuse**).
  - ▶ Connect a load to the unregulated output (minimum 10% of the maximum rated current) and measure the unregulated voltage.

**Fig. 7 Fuse**



### ATTENTION

*The fuse of the electronic fan speed controllers from DRY series is made from high-quality ceramic 5\*20 mm material. In case of failure, you can replace it. If the fuse must be replaced, use a screwdriver to push the plastic tabs on each side of the cover, remove the cover and replace the fuse with a new one.*

## WARRANTY AND RESTRICTIONS

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Two years from the delivery date against defects in manufacturing. Any modifications or alterations to the product after the date of publication relieve the manufacturer of any responsibilities. The manufacturer bears no responsibility for any misprints or mistakes in this data.

## MAINTENANCE

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In normal conditions this product is maintenance-free. If soiled, clean with a dry or damp cloth. In case of heavy pollution, clean with a non-aggressive product. In these circumstances the unit should be disconnected from the supply. Pay attention that no fluids enter the unit. Only reconnect it to the supply when it is completely dry.