SENTERA DRY Electronic Fan Speed Controller Instruction Manual

Contents

DRY ELECTRONIC FAN SPEED CONTROLLER, DIN RAIL MOUNTING

Mounting and operating instructions

SAFETY AND PRECAUTIONS

Read all the information, the datasheet, Modbus 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 contents before installing, using or maintaining this product.

For safety and licensing (CE) reasons, unauthorised conversion and / or modifications of the product are inadmissible.

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; avoid condensation.

All installations shall comply with local health and safety regulations and 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 safety precautions.

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

Always verify that you apply appropriate power supply to the product and use appropriate wire size and characteristics. 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.

In case there are any questions that are not answered, please contact your technical support or consult a professional.

PRODUCT DESCRIPTION

The DRY electronic fan speed controller is suitable for manual regulation of the speed of single phase (230 VAC / 50–60 Hz) voltage controllable motors / fans from low to high. These electronic fan speed controllers have integrated OFF position of the knob. It is suitable for DIN rail mounting onto a standard 35 mm rail (according to EN 50022). Multiple fans can be connected as long as the current limit is not exceeded. The electronic fan speed controller has a trimmer for minimum speed setting and an additional unregulated (230 VAC) output to connect external devices such as: dampers, relays, run indicators or to disable the OFF position of the device.

ARTICLE CODES

Code	**DRY-1-15-AT**	**DRY-1-25-AT**
Fan speed control	from minimum to maximum	
Trimmer for minimum speed setting	available	
Max. rated current	1,5 A	2,5 A
Max. load L1	0,5 A	0,5 A
Fuse 5*20 mm	3,15 A	5,0 A

INTENDED AREA OF USE

- Speed control of motors / fans in ventilation systems
- For indoor use only
- Building and controlling ventilation systems

TECHNICAL DATA

- Supply: 230 VAC ±10 % / 50–60 Hz
- Unregulated output load (L1): 230 VAC / max. 0,5 A
- Regulated output to motor / fan, U:
  max. load: 1,5 A for DRY-1-15-AT;

max. load: 2,5 A for DRY-1-25-AT.

- Speed control from minimum to maximum
- Minimum speed adjustment by trimmer: 60–230 VAC
- Green operating LED indication: ON / OFF
- Enclosure:
  DIN rail mounting (DIN EN 50022)
  ABS/PC, grey (RAL 7035)
- Protection standard: IP30 (according to EN 60529)
- Operating ambient conditions:
  temperature: 0–40 °C
  relative humidity: < 80 % rH (non-condensing)
- Storage temperature: -14–50 °C

STANDARDS

CE

- Low Voltage Directive 2014/35/EU
  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 61558-1:52005
- 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

1. Power supply
2. Unregulated output 230 VAC / max. 2 A
3. Regulated output

L, N	Supply voltage, 230 VAC ±10 % / 50—60 Hz
U, N	Regulated output
L1, N	Unregulated output 230 VAC / 0,5 A
Connections	Cable cross section: max. 2,5 mm²

NOTE
To disable the OFF position, connect the 230 VAC supply voltage to the unregulated output L1 and N. In this case, do not connect the power supply to L and N.

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. 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. 1** DIN rail locking clip)

Fig. 1 DIN rail locking clip

1. Locking clip
2. Lock release

3. Choose a proper DIN rail as you bear in mind the dimensions (please see **Fig. 2** Mounting dimensions) of the unit and mount the controller, minding the correct position, shown on **Fig. 3** Mounting position.

Fig. 2 Dimensions

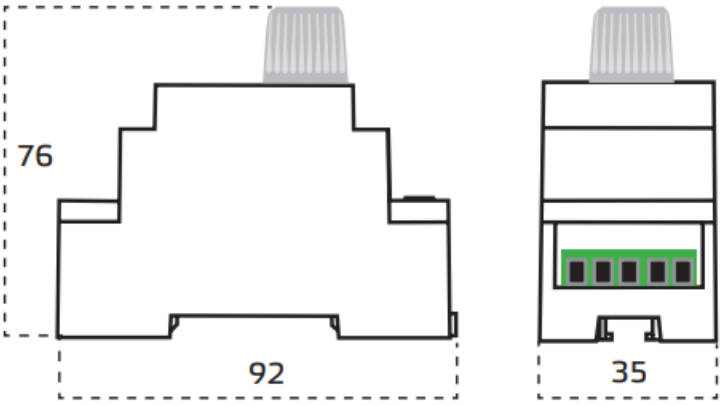
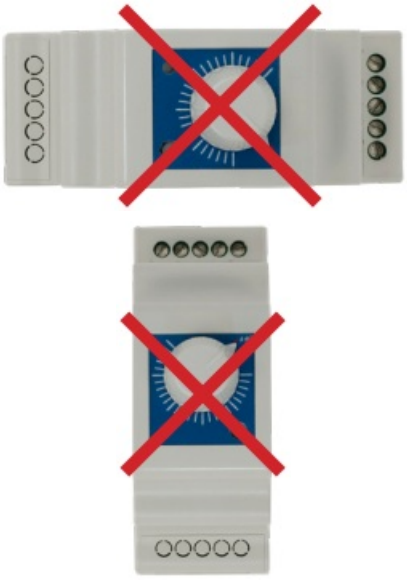


Fig. 3 Mounting position

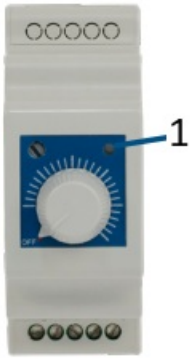
Correct

Incorrect



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

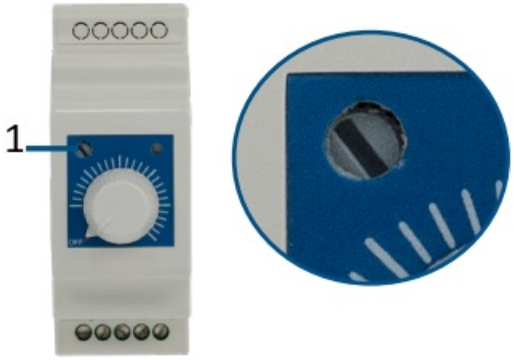
Fig. 4 LED indicator



1. Normal operation LED indication

8. 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.4**.

Fig. 5 Trimmer for output voltage adjustment

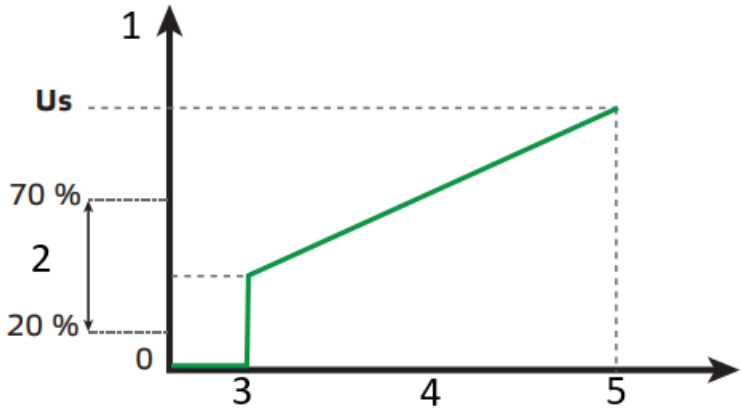


1. Min. speed adjustment trimmer

OPERATIONAL DIAGRAM

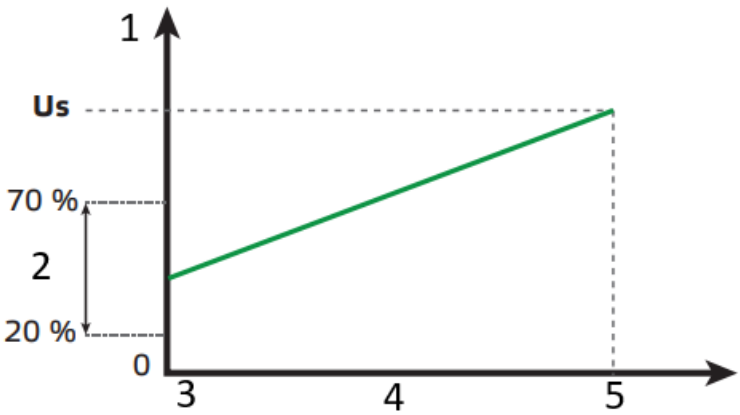
Use a regular screwdriiver to adjust the desired output voltage from 100 VAC to 230 VAC via the integrated trimmer on the device. The factory preset setting of the voltage is 100 VAC. Turn the trimmer clockwise to set the maximum speed of the fan and counterwise to set the fan speed at minimum.
When you’re ready, adjust the desired fan speed, turning the main knob clockwise to maximum and counterwise to minimum.

OFF position enabled: supply voltage connected to L and N



1. Uout [%]
2. **Umin** range
3. Min Off ↔ On Switch
4. **Potentiometer position**
5. Maximum Clockwise

OFF position disabled: supply voltage connected to L1 and N



1. Uout [%]
2. **Umin** range
3. Min
4. **Potentiometer position**

5. Maximum Clockwise

DRY: from low to high speed

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. Just remove the front cover and replace the fuse with another one.

TRANSPORT AND STORAGE

Avoid shocks and extreme conditions; stock in original packing.

TROUBLESHOOTING

After connecting the device to the fan, if it doesn't work, proceed with the following steps:

1. Check the power supply.
2. Check the fuse.
3. Verify the wiring, according to the "Wiring and connections" chapter.

WARRANTY AND RESTRICTIONS

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

In normal conditions this product is maintenance-free. If soiled, clean with a dry or damper 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.

Documents / Resources

	**SENTERA DRY Electronic Fan Speed Controller** [pdf] Instruction Manual DRY-1-15, DRY Electronic Fan Speed Controller, DRY, Electronic Fan Speed Controller, Fan Speed Controller, Speed Controller, Controller

References

- **User Manual**