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## RT-833

Temperature regulator,  
with fan speed control



**Do not dispose of this device in the trash along with other waste!**

According to the Law on Waste, electro coming from households free of charge and can give any amount to up to that end point of collection, as well as to store the occasion of the purchase of new equipment (in accordance with the principle of old-for-new, regardless of brand). Electro thrown in the trash or abandoned in nature, pose a threat to the environment and human health.



### Purpose

The controller is designed to directly control the speed of 12/24 V DC fans in control cabinets (or similar installations) as a function of temperature.

### Functioning

When the temperature rises above the set value  $T_{min}$ , the fan will be activated and its speed will be proportional to the measured temperature and the controller settings:

- » for temperature  $T_{min}$ , the speed will be equal to the set minimum speed;
- » for a temperature  $T_{min} + \Delta$ , the speed will be 100%;
- » for a temperature in the range  $T_{min} < T < T_{min} + \Delta$ , the speed will be proportional from the set minimum speed to 100%.

The regulator has a relay output to signal an excessively high temperature or damage (lack of power supply) to the regulator. During normal operation, contact 7-9 is open. If the measured temperature is higher than the maximum value ( $T_{min}+\Delta$ ) for 3 minutes, the contact will be closed. In the event of a regulator fault or power failure, contacts 7-9 can be used to signal a fault. To avoid the problem of motor stalling at low speeds, the controller has a maximum speed start function – the fan starts at maximum speed and then decelerates to the appropriate value.

## Signalling

1. Green LED U (system power supply):
  - » OFF – temperatura below  $T_{min}$  value
  - » blinks (50% ON - 50% OFF) - temperature above  $T_{min}$  value, but within the control range.
  - » ON – temperature permanently (more than 3 minutes) above the limit value ( $T_{min}+\Delta$ ).
2. Red LED  $\surd$  (contact operation status):
  - » ON – contact closed;
  - » OFF – contact opened.

## Settings

$T_{min}$  – minimum temperature, control range 25÷60°C;

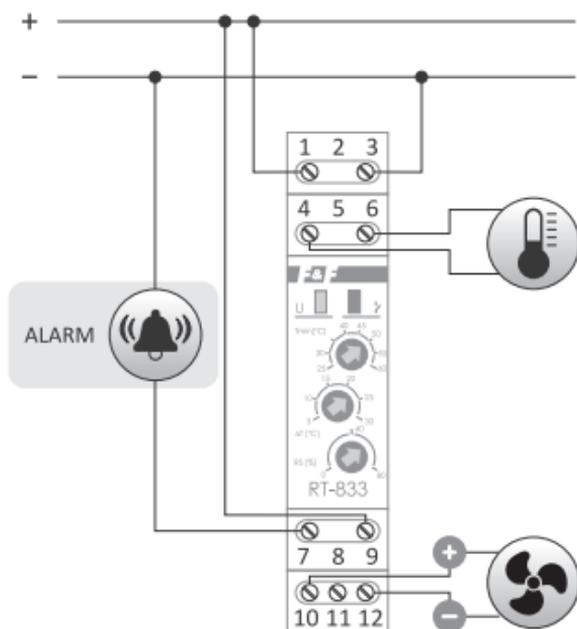
$\Delta T$  – temperature rise, control range 5÷30°C;

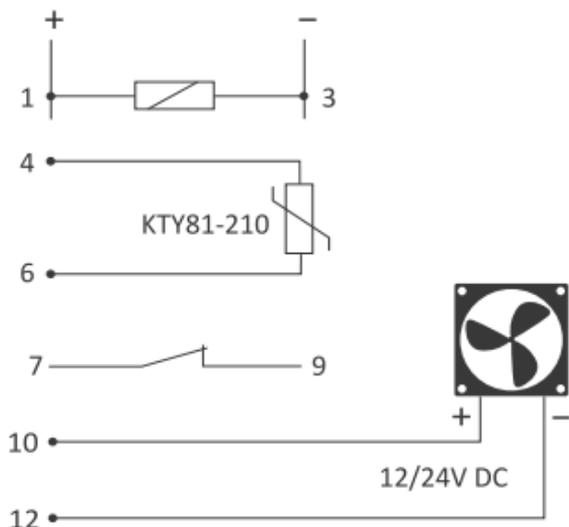
RS – minimum speed, control range 0÷80%.

## Mounting

1. Switch off power supply.
2. Fix the controller on the rail in the control box.
3. Connect the supply wires: "+" to terminal 1; "-" to terminal 3.
4. Connect the temperature probe to terminals 4 and 6. Any polarity.
5. Connect the fan: "+" to terminal 10 and "-" to terminal 12.
6. Connect the over-temperature and error indication circuit in series with terminals 7 and 9.

## Wiring diagram





- 1-3 regulator power supply
- 4-6 temperature probe input
- 7-9 separable 1xNC contact
- 10-12 fan control output

## Technical data

power supply	12÷24 V DC
<b>control output</b>	
maximum load current (AC-1)	6 A
control	PWM
<b>alarm output</b>	
contact	separated 1×NC
maximum load current (AC-1)	10 A
temperature adjustment range	
T <sub>min</sub>	25÷60°C
ΔT	5÷30°C
measurement accuracy	±1°C
setting starting speed	0÷80%
probe type	RT/RT2
power indication	green LED
working status indication	red LED
power consumption	
standby	0.05 W
on	0.6 W
working temperature	-25÷50°C
terminal	2.5 mm <sup>2</sup> screw terminals
tightening torque	0.4 Nm
dimensions	1 module (18 mm)
mounting	on TH-35 rail
ingress protection	IP20

## Dedicated temperature probes (F&F)

type	RT
temperature sensor	KTY 81-210
sensor dimensions	ø5; H= 20 mm
sensor insulation	shrink sleeve
wire	OMY 2×0.34 mm <sup>2</sup> ; L= 2.5 m

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type	RT823
temperature sensor	KTY 81-210
sensor dimensions	ø8; H= 40 mm
sensor insulation	metal sleeve
wire	SIHF heat resistant 2×0.5 mm <sup>2</sup> ; L= 2.5 m

## Warranty

The F&F products are covered by a warranty of the 24 months from the date of purchase. Effective only with proof of purchase. Contact your dealer or directly with us.

## CE declaration

F&F Filipowski L.P. declares that the device is in conformity with the essential requirements of The Low Voltage Directive (LVD) 2014/35/EU and the Electromagnetic Compatibility (EMC) Directive 2014/30/UE.

The CE Declaration of Conformity, along with the references to the standards in relation to which conformity is declared, can be found at [www.fif.com.pl](http://www.fif.com.pl) on the product page.

