

2-channel temperature transmitter TM2R

- 2 inputs for resistance thermometer (RTD)
- 2 isolated outputs: 4-20mA or 0-10V or 0-5V
- RS-485 Modbus RTU, isolated
- 2 relays outputs

Application

The TM2R temperature transmitter was developed for use in stationary systems for measuring temperatures, in particular temperatures of bearings in rotating machines such as compressors, fans, pumps, electric motors, and others.

It can be used for:

- visualisation and archiving of temperature measurements
- signaling and protection of the machine from the excessive temperature level.

Description

It works with most commonly used temperature sensors type PT100, Ni100. The temperature measured value is provided in digital form (Modbus RTU protocol) and in standard analog outputs: 4-20mA or 0-10(5)V. The advantage of the TM2R transmitter is the galvanic isolation of the module's power supply circuit from the input circuits and each of the output interfaces, as well as mutual isolation between all inputs and outputs. This isolation enables application of the transmitter in noisy industrial environments or in distributed systems, where the distance between elements of the system is considerable.

The transmitter has two relays at the outputs, their actuation takes place after exceeding threshold values of temperature. Each of the two measurement channels can be programmed with two threshold values.

The transducer is made in a narrow housing for mounting on the TS35(DIN) rail. The device configuration is carried out via a miniature connector on the front side, by delivered configuration software. Two 3-colour LEDs (each for one channel) on the front side show the information of proper operation and of exceeding both thresholds values.

Performances

METROLOGICAL

Inputs:

2 x PT100 or Ni100 (2 or 3-wires)

Outputs:

- two isolated: 4...20mA, $R_{load} < 500\Omega$ or 0-10V, $R_{load} > 10k\Omega$ or 0-5V, $R_{load} > 10k\Omega$
- 2 relays, contacts 2A/250V AC, 2A/24V DC,
- isolated interface RS-485 with ModbusRTU protocol



Measuring range

PT100: -200°C to +850°C

Ni100: -60°C to +180°C

Minimum span range: 100°C

Accuracy of processing

±0,20% of the measuring range

Time delay of relays actuation: 0-60s

Relays energizing: normally energized or de-energized

ELECTRICAL

Power supply: 21,6 to 26,4 VDC, < 100mA

Insulation: power supply: 1kV, analog outputs and RS485: 2,5kV within 1min

ENVIRONMENTAL

Operating temperature: -30°C to +70°C

Relative humidity: 95% non-condensing

CE requirements: Directive 2014/30/EC – Electromagnetic compatibility

MECHANICAL

Weight: 150g

Enclosure material: ABS, mounted on TS35 rail

Dimensions: 22,5x99x114mm

Protection rating: IP20

Ordering information

A

TM2R- □□

A □□ Type of RTD input sensor

0 1 Pt100

0 2 Ni100

In order to obtain a fully configured transmitter, please also specify in the order: the temperature measuring range for the analog output, the signal type for the analog output, threshold values for the relays actuation, time delay of relays actuation, relays energizing - normally energized or de-energized