

Pt100-Temperature-Relay Type TR600

Digital, 6 Sensors, 6 Limits

TR600



Temperature Relay for 6 Sensors Pt100

The Pt100-temperature relay TR600 monitors up to six sensors Pt100 (RTD) at the same time. Six switching points and six relays permit almost any combination of switching action. It also can select the highest temperature of groups of sensors. The temperatures of two sensors or groups of sensors can be issued to 2 analog

outputs i.e. for remote displays or further evaluation. Programming is very variable and simple.

Due to the fact that 6 type Pt100 sensors can be connected, the unit is especially suitable for temperature monitoring wherever up to 6 different measuring points must be monitored simultaneously:

- machines, bearings, plants
- motors and generators with simultaneous monitoring of bearings and coolant.
- transformers with additional monitoring of the core temperature also

Function

- measuring and monitoring range -199 ... +800 °C
- 6 sensor inputs with 2- or 3-wire connection
- 6 relay outputs K1 to K6 with change-over contacts
- switching points for single sensor or group of 2, 3 or 6 sensors
- sensor error relay K7 monitors sensor break or sensor short circuit as well as an interruption of the power-supply.
- 2 analog outputs, 0/4...20 mA and 0/2...10 V, with individual scaling.
- universal power supply in 2 ranges AC/DC 24 - 240 V
- USB-Stick-Terminal for up- and download of sets of parameters and for firmware-updates

Displays

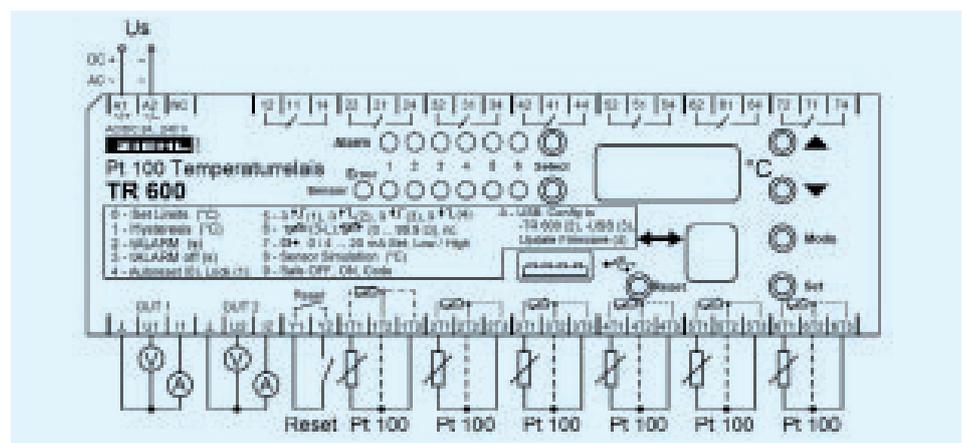
- built-in 3 digit temperature display and 1 digit program-mode display
- LED Alarm showing state of the alarm relays
- LED Sensor Error blinking at sensor short circuit or sensor interruption.
- Stored Values of MIN- and MAX- temperature can be displayed
- „Sensor select“ showing temperatures of the different sensors
- „Alarm select“ showing switching points .

Programmable for each relay extra:

- hysteresis
- electronic reclosing lock or autoreset
- switch-on delay and switch-off delay
- MIN or MAX- function of relay
- relay releases or picks up when exceeding the setpoint

Options:

- interface RS485 protocols ZIEHL and Modbus RTU



Technical Data TR600

Rated supply voltage U_s	tolerance DC-supply tolerance AC-supply	AC/DC 24 – 240 V DC 20,4...297 V AC 20...264 V	
	power consumption frequency	< 4 W, < 13 VA 0 / 50 / 60 Hz	
Relay outputs	switching voltage switching current switching power	7 change-over contacts (co) max. AC 415 V max. 5 A max. 1250 VA (ohmic load) max. 120 W at DC 30 V	
	Nominal operational current I_e AC 15 AC 13	$I_e = 0,1 \text{ A}$ $U_e = 250 \text{ V}$ $I_e = 2 \text{ A}$ $U_e = 24 \text{ V}$ $I_e = 3 \text{ A}$ $U_e = 250 \text{ V}$	
	recommended fuse for contacts expected life mechanical expected life electrical	T 3,15 A (gL) 3 x 10 ⁷ operations 1 x 10 ⁵ operations with AC 250 V / 5 A, cos $\varphi = 1$	
Testing conditions	ambient temperature range	EN 60 010-1 - 20 ... + 65 °C	
	galvanic separation	Us-Relay, Sensors, USB, Analog output Reset input -> DC 3820 V Relay - Sensors, USB, Analog output Reset input -> DC 3820 V	
	No galvanic separation	Sensors, USB, Analog output, Reset input	
Sensor connection	measuring accuracy sensor current measuring delay time t_m	6 x Pt 100 acc. to EN 60751 / IEC 60751, 2- / 3-wire $\pm 0,5 \%$ of value ± 1 Digit $\leq 0,7 \text{ mA}$ <1,5 s	
Temperature alarm	switch points hysteresis delay time tALARM delay time tALARM off	-199 ... +800 °C 1 ... 99 K 0,1 ... 99,9 s 0 ... 999 s	
Analog output OUT 1/2	voltage outputs current outputs output resistance current no-load voltage accuracy	DC 0/2 V – 10 V , max. DC 10 mA DC 0/4 mA – 20 mA max. 500 Ω max. DC 16 V 1% of span ± 1 K	
Interface RS485	address/busnumber baudrate parity bit stopbit Response time ZIEHL RS485 protocol	Modbus RTU/ZIEHL RS485 protocol 1-247 (Modbus)/0-99 (ZIEHL RS485 protocol) 4800/9600/19200/57600 no, odd, even 1 (at modbus and parity no, stopbit = 2) 7-9 ms after reception of last sign	
Housing	design dimensions (h x w x d) line connection solid wire protection housing / terminals attachment weight	V8 90 x 140 x 58 [mm] 1 x 1,5 mm ² (1,0 mm ² with end sleeves for strands) IP 30 / IP 20 on 35 mm DIN rail according to DIN EN 60 715 or M4 screw app. 360 g	
Order-numbers		analog output (= standard) T224360	interface RS 485: without analog output T224361