

Pt100-Temperature Relays type TR400

Digital, 4 Sensors, 4 Limits

TR400



Ce 100 US

Part number:

T224380 AC/DC 24-240 V

Function

The Pt100 thermostat TR400 is a temperature controller and monitors up to four Pt100 (RTD) sensors at the same time. Four switching points and four relays permit almost any combination of switching action. It also can select the highest temperature of a group of three or four 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 4 type Pt100 sensors can be connected, the unit is especially suitable for temperature monitoring wherever up to 4 different measuring points must be monitored simultaneously:

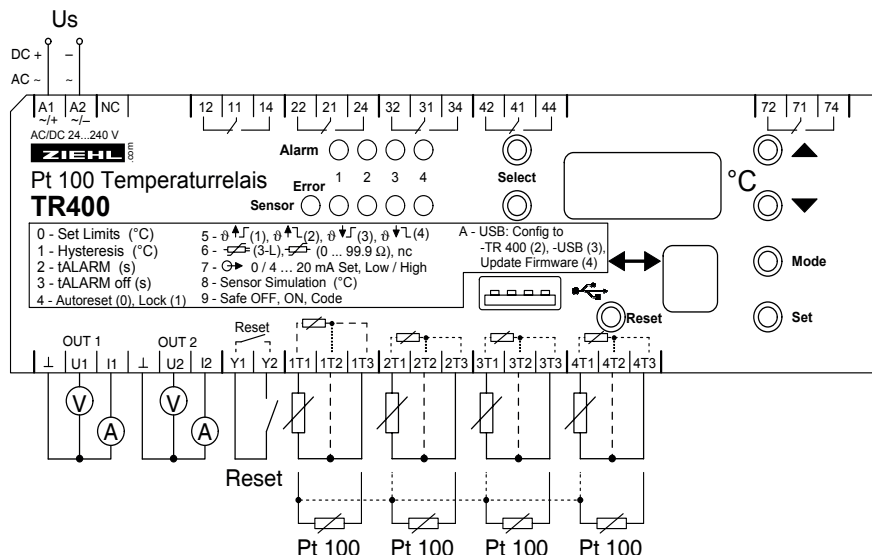
- machines, bearings, plants
- motors and generators with simultaneous monitoring of bearing or coolant
- transformers with additional monitoring of the core temperature also

Function overview

- Measuring and monitoring range -199 ... +800 °C
- 4 sensor inputs with 2- or 3-wire connection
- 4 relay outputs K1 to K4 with change-over contact
- Sensor Error Relay K7 monitors sensor break or sensor short circuit as well as an interruption of the powersupply.
- 2 analog outputs, 0/4...20 mA and 0/2...10 V, with individual scaling.
- Universal power supply. 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 programm-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 .



Technical Data TR400

Rated supply voltage U_s	tolerance DC-supply	AC/DC 24 – 240 V
	tolerance AC-supply	DC 20,4...297 V AC 20...264 V
Relay outputs	power consumption	< 4 W, < 13 VA
	frequency	0 / 50 / 60 Hz
Testing conditions	switching voltage	5 change-over contacts (co) max. AC 415 V
	switching current	max. 5 A
	switching power	max. 1250 VA (ohmic load) max. 120 W at DC 30 V
	Nominal operational current I_e AC15 DC13	$I_e = 3 \text{ A}$ $U_e = 250 \text{ V}$ $I_e = 0,1 \text{ A}$ $U_e = 250 \text{ V}$ $I_e = 2 \text{ A}$ $U_e = 24 \text{ V}$
	recommended fuse NO recommended fuse NC expected life mechanical expected life electrical	4 A time-lag or miniature circuit-breaker MCB B4 3.15 A time-lag 3 x 10 ⁷ operations 1 x 10 ⁵ operations with AC 250 V / 5 A, cos $\varphi = 1$
Sensor connection	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
Temperature alarm	measuring accuracy	4 x Pt 100 acc. to EN 60751 / IEC 60751, 2-/3-wire $\pm 0,5 \%$ of value ± 1 Digit
	sensor current	$\leq 0,7 \text{ mA}$
Analog output OUT 1/2	measuring delay time t_M	<1,5 s
	switch points	-199 ... +800 °C
	hysteresis	1 ... 99 K
Housing	delay time tALARM	0,1 ... 99,9 s
	delay time tALARM off	0 ... 999 s
	voltage outputs	DC 0/2 V – 10 V , max. DC 10 mA
	current outputs	DC 0/4 mA – 20 mA
Housing	output resistance current	max. 500 Ω
	no-load voltage	max. DC 16 V
	accuracy	1% of span $\pm 1 \text{ K}$
	design	V8
Housing	dimensions (h x w x d)	90 x 140 x 58 [mm]
	line connection solid wire	1 x 1,5 mm ² (1,0 mm ² with end sleeves for strands)
	protection housing / terminals	IP 30 / IP 20
	attachment	on 35 mm DIN rail according to DIN EN 60 715 or M4 screw
Housing	weight	app. 360 g