

Pt100-Temperature Relays type TR400

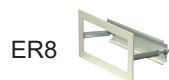
Digital, 4 Sensors, 4 Limits

TR400



Part numbers:

TR400 T224380



ER8 T224388

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

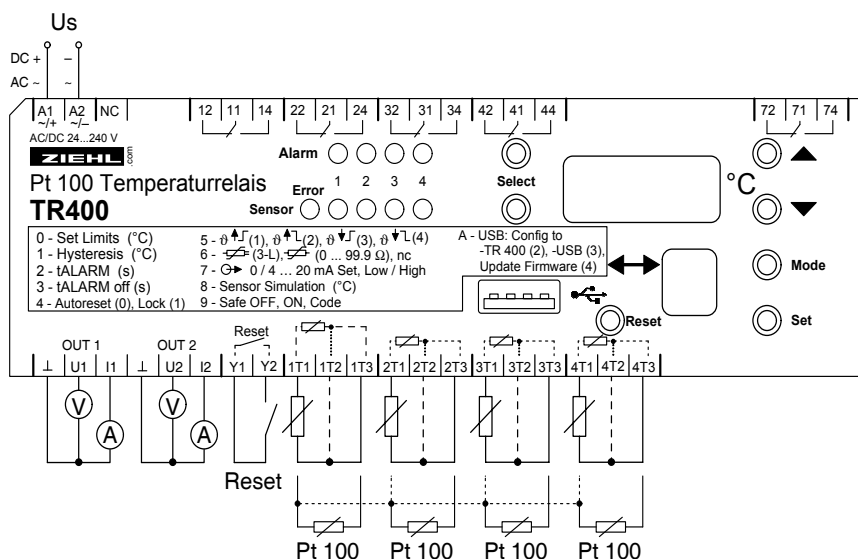
Accessory: [Installation frame ER8 for panel mount](#)

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
Relay outputs	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	$I_e = 3 \text{ A}$ $U_e = 250 \text{ V}$ $I_e = 0,1 \text{ A}$ $U_e = 250 \text{ V}$ $I_e = 2 \text{ A}$ $U_e = 24 \text{ V}$
Testing conditions	recommended fuse NO	4 A time-lag or miniature circuit-breaker MCB B4
	recommended fuse NC	3.15 A time-lag
	expected life mechanical	3×10^7 operations
expected life electrical	1×10^5 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	4 x Pt 100 acc. to EN 60751 / IEC 60751, 2-/3-wire $\pm 0,5 \%$ of value ± 1 Digit
	sensor current	$\leq 0,7 \text{ mA}$
	measuring delay time t_M	<1,5 s
Temperature alarm	switch points	-199 ... +800 °C
	hysteresis	1 ... 99 K
	delay time tALARM	0,1 ... 99,9 s
	delay time tALARM off	0 ... 999 s
Analog output OUT 1/2	voltage outputs	DC 0/2 V – 10 V , max. DC 10 mA
	current outputs	DC 0/4 mA – 20 mA
	output resistance current	max. 500 Ω
	no-load voltage	max. DC 16 V
	accuracy	1% of span ± 1 K
Housing	design / Installation Frame	V8 / Front mounting kit ER8, 8 TE
	dimensions (h x w x d)	90 x 140 x 58 [mm] mounting height 55 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
	weight	app. 360 g