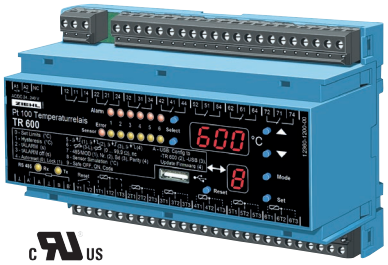
Pt100-Temperature-Relay Type TR600

Digital, 6 Sensors, 6 Limits, RS485

TR600 RS485



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Temperature Relay for 6 Sensors Pt100

The Pt100-temperature relay TR600 monitors up to six sensors Pt100 (RTD) at the same time. 6 switching points and 6 relays permit almost any combination of switching action. It also can select the highest temperature of groups of sensors.
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

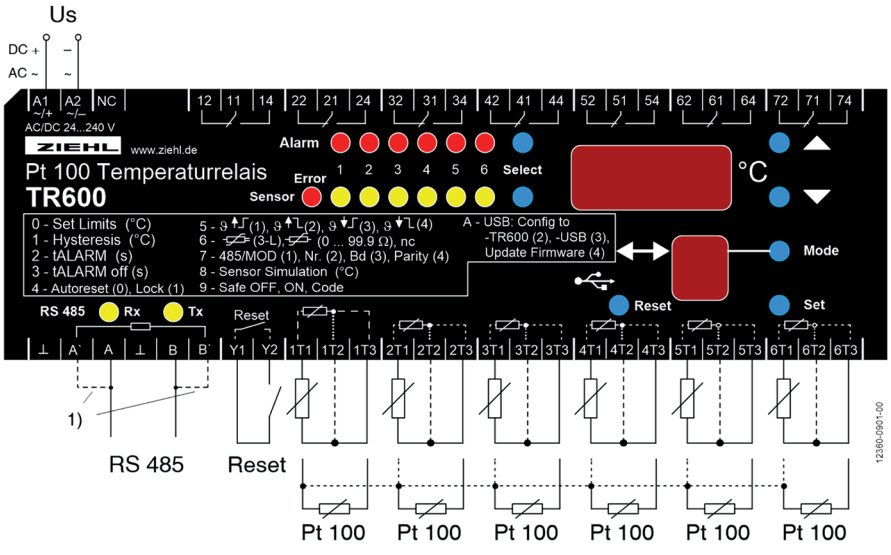
- measuring and monitoring range -199 ... +800 °C
- 6 sensor inputs with 2- or 3-wire connection
- 6 relay outputs K1 to K6 with change-over contacts
- switching points for single sensor or group of 2, 3 or 6 sensors
- sensor error relay K7 monitors sensor break or sensor short circuit as well as an interruption of the power-supply.
- interface RS485 protocols ZIEHL and modbus RTU
- 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



Technical Data TR600

Rated supply voltage Us

	AC/DC 24 – 240 V
tolerance DC-supply	DC 20,4...297 V
tolerance AC-supply	AC 20...264 V
power consumption	< 4 W, < 13 VA
frequency	0 / 50 / 60 Hz

Relay outputs

	7 change-over contacts (co)
switching voltage	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	
AC 15	I_e = 3 A U_e = 250 V
DC 13	I_e = 2 A U_e = 24 V I_e = 0,1 A U_e = 250 V
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 x 10^7 operations
expected life electrical	1 x 10^5 operations with AC 250 V / 5 A, cos φ = 1

Testing conditions

	EN 60 010-1
ambient temperature range	- 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

	6 x Pt 100 acc. to EN 60751 / IEC 60751, 2- / 3-wire
measuring accuracy	±0,5 % of value ±1 Digit
sensor current	≤ 0,7 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

Interface RS485

	Modbus RTU/ZIEHL RS485 protocol
address/busnumber	1-247 (Modbus)/0-99 (ZIEHL RS485 protocol)
baudrate	4800/9600/19200/57600
parity bit	no, odd, even
stoppbit	1 (at modbus and pority no, stoppit = 2)
Response time ZIEHL RS485 protocol	7-9 ms after reception of last sign

Housing

design	V8
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 EN 60715 or M4 screw
weight	app. 360 g