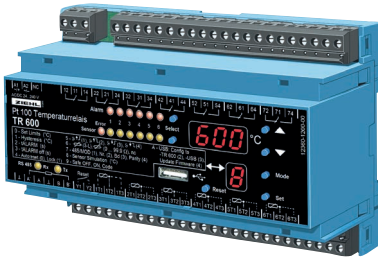


# Pt100-Temperature-Relay Type TR600

Digital, 6 Sensors, 6 Limits, RS485

## TR600 RS485



### Part number:

**T224361** with interface RS485  
no analog output

### Function

### 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

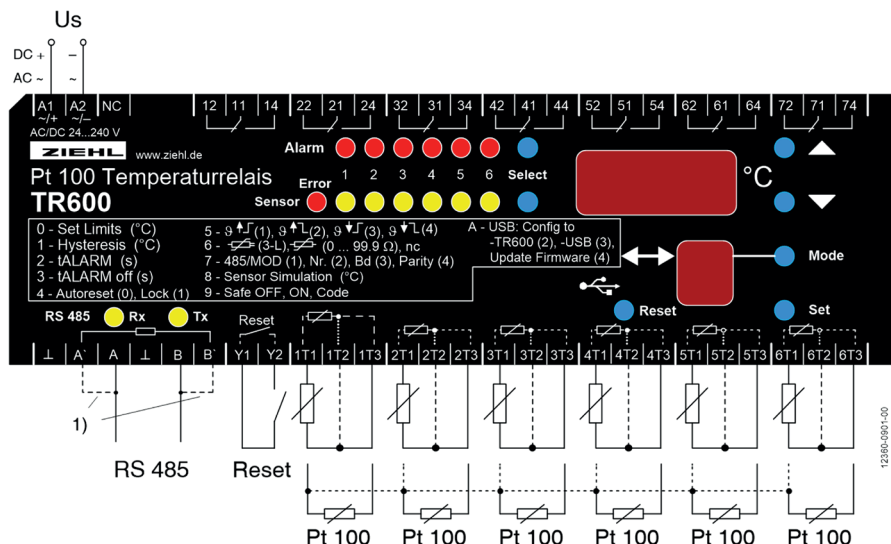
- measuring and monitoring range -199 ... +800 °C
- 6 sensor inputs with 2- or 3-wire connection
- 6 relay outputs K1 to K6 with change-over contacts
- switching points for single sensor or group of 2, 3 or 6 sensors
- sensor error relay K7 monitors sensor break or sensor short circuit as well as an 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 $U_s$	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	7 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 $I_e$	
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	$3 \times 10^7$ operations	
expected life electrical	$1 \times 10^5$ 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	6 x Pt 100 acc. to EN 60751 / IEC 60751, 2- / 3-wire $\pm 0,5$ % of value $\pm 1$ Digit
	sensor current	$\leq 0,7$ 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	address/busnumber	Modbus RTU/ZIEHL RS485 protocol 1-247 (Modbus)/0-99 (ZIEHL RS485 protocol)
	baudrate	4800/9600/19200/57600
	parity bit	no, odd, even
	stopbit	1 (at modbus and parity no, stopbit = 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	$1 \times 1,5 \text{ mm}^2$ (1,0 mm <sup>2</sup> 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