



# Monitoring relay ZTH - Thermistor protection relay 17.5mm housing

## Application

Motor protection; for example, thermal overload, high ambient temperature, faulty cooling, switching frequency and phase failure.

## Description

The **ZTH Thermistor protection relay** monitors temperatures of commercial thermistors according to DIN 44081. A maximum of 6 thermistors can be connected in series to the sensor terminals P1 and P2. The relay's power supply is connected to the terminals A1 and A2 for 230VAC or A3 and A2 for 24V AC/DC. The green LED indicates the connection of the power supply.

## Function

Because the ZTH uses a closed-circuit principle, the output relay switches immediately into its working position as soon as the sensor resistance is less than 1.5k. After the thermistor reaches its nominal shut off temperature (sensor resistance > 3.2k), the relay switches into its rest position. This status is indicated by the red LED. The measuring circuit is electrically isolated from the power supply. The DIP switches on relay's front panel are used to select for short-circuit monitoring of the sensors and re-start inhibitors. The re-closing interlock is zero voltage protected.

## Options

Other supply voltages, relay contacts, switching limits available upon request.

## Approvals



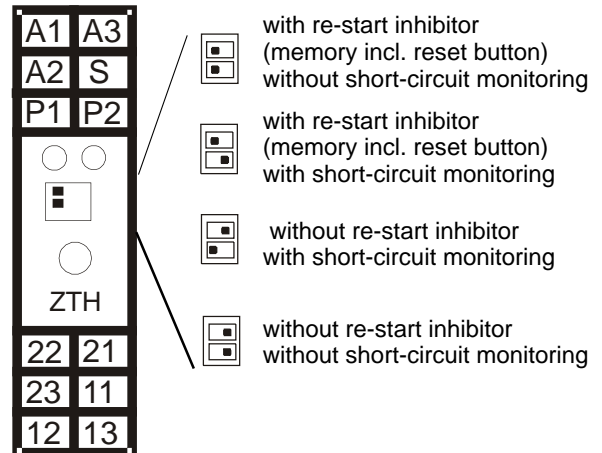
## Mounting

Snap-on mounting using a standard DIN rail EN 50022. The unit is designed to allow side-by-side mounting, with an ambient temperature of < 60°C.

## Part number

<b>015022</b>	<b>ZTH1 Thermistor relay</b>	<b>1c/o</b>
<b>015023</b>	<b>ZTH2 Thermistor relay</b>	<b>2c/o</b>

## Functions and contacts



## Technical data

### Supply

Supply voltage	24V AC/DC -15 / +10%
	230V AC -15 / +10%

Frequency range: 50 ... 60 / 0Hz

Power consumption: 1 VA at 24V  
6 VA at 230V

Operating mode: continuous

Insulation voltage: 1kV / DC

### Measuring range

Temperature sensor: PTC sensor according to DIN 44081/082

Number of sensors: 1 - 6 units in series

Operating value: 2.2 - 3.3k

Disengaging value: approx. nominal shut-off temp. 5°C

Total PTC resistance: < 1.5k

Sensor voltage: < 5.0V

Sensor current: approx. 1mA

Sensor line resistance: < 100 without short-circuit monitoring  
< 10 with short-circuit monitoring

### Operation indicators

Supply voltage: LED, green

Relay in rest position: LED, red

### Contact

Number of changeovers: 1 or 2

Contact material: AgSnO<sub>2</sub>

max. switching voltage: 440 V AC

max. switching current: 8 A

max. start up current: 30 A

max. switching power : 2000VA

mechanical life: 30 x 10<sup>5</sup>

### General data

Ambient temperature: - 25 ... + 60°C

Mounting position: any

Test voltage: 4kV

Connection cross section: 2 x 2.5mm<sup>2</sup>

Mounting: Symmetrical DIN rail EN 50022

Dimensions l x w x h: 90mm x 17.5mm x 69,5mm

Weight: 100g