ZIEHL industrie-elektronik GmbH+Co, Daimlerstr.13, D-74523 Schwäbisch Hall, Tel.: +49 791 504-0, Fax: -56, e-mail: info@ziehl.de www.ziehl.de

Operating manual - Archive document

TMS 400

Application

Thermostats of the TMS series are temperature controllers. The thermostat switches operate when the value of the preset is exceeded.
TMS thermostats and thermcouples sensors are a reliable monitoring system. Possible damage by excess temperature in machines and plants are positively avoided.
ZIEHL thermostats of the TMS series are electronic two- position controllers. Modern circuitry, well- proved components as well as function and routine tests ensure high repeat accuracy and a long service life.

Function

As standard, the TMS 400 thermostats operate according to the closed- circuit current principle. If a temperature sensor is connected, the installed relay picks up.
The relay always switches off in the case of a sensor breakdown.

Features

- exact temperature sensing and precise switching operations with high repeatability
- 1 sensor, 1 adjustable limits, 1 relay
- LED display for state of the relay
- internal reference with temperature sensor
- option: operating current design
- easy to install and service as the cables are wired directly to the plug base and the upper electronic part can easily be replaced
- housing can be snapped onto a mounting rail according to DIN EN 50 022 or fixed with M4 screws
- gold- coated contact springs and plugs ensure a perfect contact and a long service life

Technical data

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Type - Plate
Order number
Supply voltage Us / frequency
Power consumption

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Tolerance voltage Us	AC 0.9 ... 1.1 Us
Tolerance frequency Us	48 ... 62 Hz

Sensor connection

Sensor	thermocouple (see type plate)

Limit value

Adjustment accuracy	approx. 1 % of span
Repeat accuracy	approx. 0,2 % of span
Hysteresis	≤ 2 % of span
Switching state	standard: closed - circuit current principle option: operating current principle
Relay standard	true > set value = relay released
LED Display	relay released = LED off

Relay output	1 relay,1 x CO-contact
Switching voltage	max. AC 415 V
Switching current	max. 6 A
Switching power consumption	max. 1100 VA
Rated operational current	2,5 A 400 V AC 15 4 A 250 V AC 15 3 A 24 V DC 13

Testing conditions	VDE 0660 / VDE 0160
Rated insulation voltage Ui according to VDE 0110	AC 415 V
Isolation	VDE 110 / Gr. C
Transformer	VDE 0550
Test voltage between supply voltage, relay output and sensor side	2.5 kV
On period	100 %
max. ambient temperature	-20 ... +55 °C
Climatic category	F (according to DIN 40 040)

Housing:	design S-12, plug-in housing
Dimensions (H x W x D)	82 x 42 x 121 mm
Line connection	12-pole, max. 2 x 1.5 mm^2 each
Protection Housing	IP 30
Protection contacts	IP 20
Panel inclination	any
Mounting	snapable on 35 mm standard rail according to DIN or assembly with screws M 4

Installation - Putting into operation

The plug base can be mounted

- 35 mm mounting rail according to DIN 50 002
- M4 screws

When installing the device into the switch-gear cabinet, please observe the max. admissible temperature. Care for both sufficient clearance to other devices or sources of heat or enough forced draught. Generally recommended mininum clearance: 2 cm.

Wiring directly to plug base

- Connect wires as per wiring scheme
- Plug in electronics and fix with knurled screw

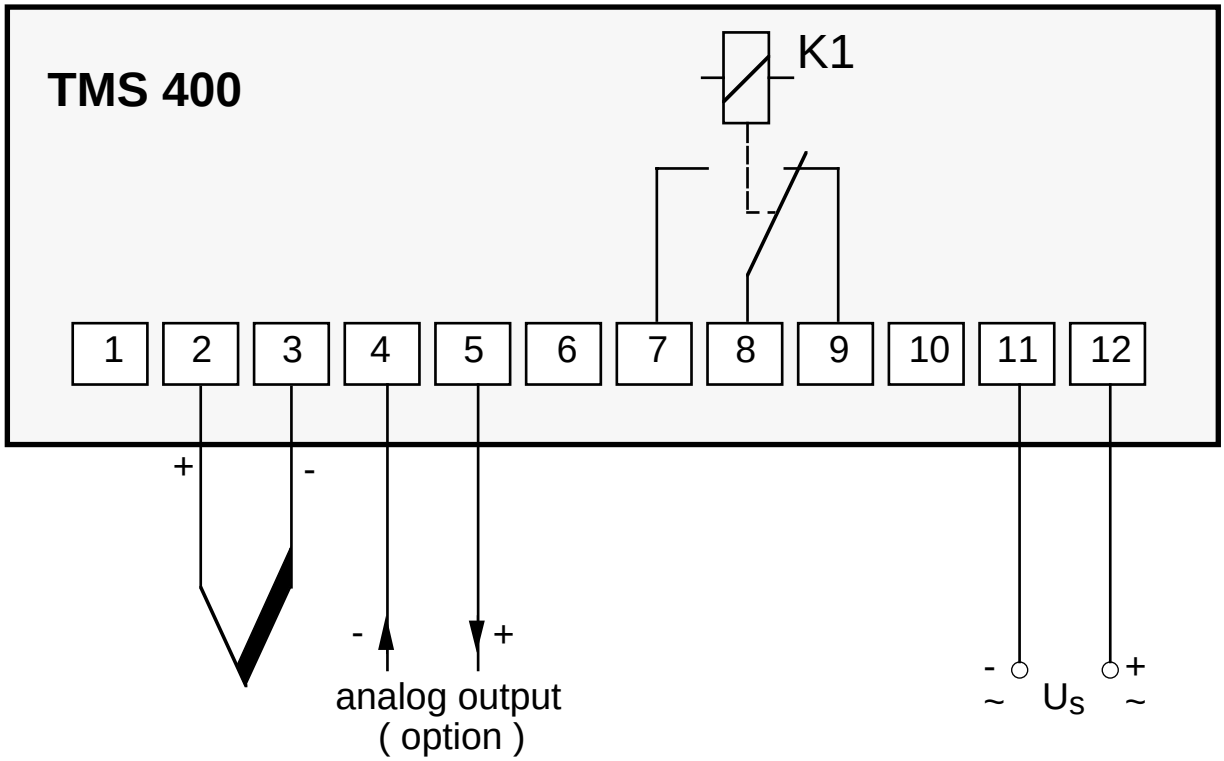
Attention!
Do not plug in device alive nor detach it from socket.

Before switching on make sure that the operational voltage Us of the lateral type plate and the mains voltage are the same.

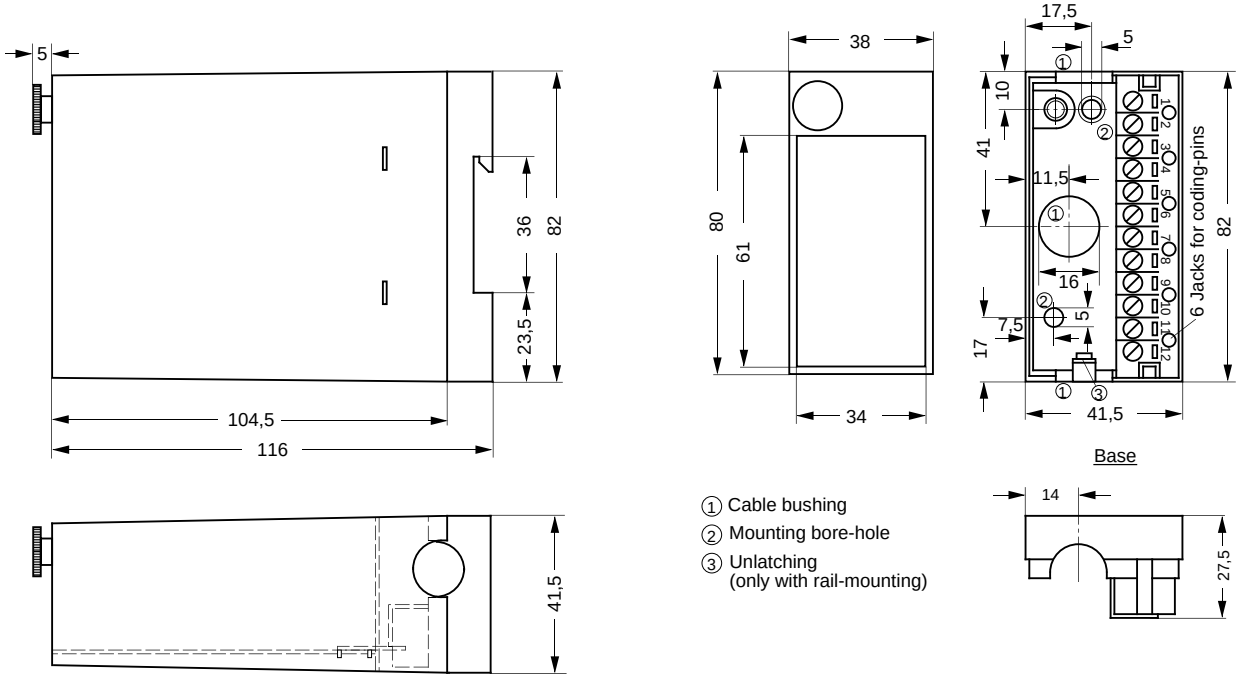
Put into operation the thermostat as follows

- Connect thermocouple.
- Switch on mains voltage
- At correct state, the LED lights up (tempeature lower than the set limit), contacts 7,8 closed. (Relay picked up).
- Set limit with screwdriver to desired value
- Relay releases when set temperature is exceeded, the relevant LED is switched off.

Wiring scheme



Design S12



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Subject to technical modifications.

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