

Product information

► Temperature Monitoring

Thermal control module:

Type: TMS U



- Advantages

- Easy installation on DIN rail in control cabinets.
- Relay outputs with galvanic isolation.
- High quality graphics with various display options.
- Sensor-break detection.
- Short-circuit detection.
- Operates under the principle of closed circuit. That is, it works even if there is a power failure or power off the machine.
- Countless applications for its wide range of AC and DC supply (in preparation).
- Compact 45mm.
- Two high power relays.

- Basic information

The electronic module protects, in combination with temperature sensors, the winding from electrical machines (motors, generators, transformers...) and liquid or gaseous media.

Used properly, ensures reliable protection against thermal overload.

The user can define the level of warning. Whenever this limit is reached, it will trigger the corresponding relay outputs and an optical signal will be activated.

The temperature thresholds designated by the current temperature are always on the display screen.

Moreover, to improve readability, the backlight will turn on when you press a button.

- Application

- For machines with hard start-up.
- Or with impossible cooling system.
- Those with excessive number of start-up.
- Or with fast temperature peaks in the winding.

- General function

Under normal conditions, the relays are activated. This means that there is no room for disallowed temperature increases. When exceeding one of the temperature thresholds set by the user (corresponding to a change in electric resistance), the corresponding relay automatically disconnects.

The thresholds are changeable during the running mode. Both signals, "error" or "warning", are indicated by a status message on the screen.

If the temperature goes down again, it will reach the reclosure value of the electrical resistance, and the relay will be reactivated automatically.

It's perfectly defined hysteresis cycle (T-R) guarantee a switch on-off system which prevents instabilities in the output values.

If the device detects a short circuit and a sensor break, will indicate it with a status warning in the screen.

The failure signal „error“ will remain active while the fault is still on.

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- Technical Data

Supply voltage:

- 24 VDC (isolated)
- 85-265 VAC +/-10% 50Hz (isolated)

Before connecting or disconnecting the sensor, switch of the module!

Inputs:

- 1 – 4 Channels
- Possible sensor types:
Pt100, Pt1000, KTY, PTC, NTC

Measuring ranges:

- KTY83 / -55°C – 175°C
- KTY84 / -40°C – 300°C
- PT100 / -40°C – 600°C
- PT1000 / -40°C – 600°C
- NTC / -40°C – 200°C
- PTC - 9kOhm

Outputs:

- 1 x Current Indicator Relay (switchers)
- Optional: 4 x Relays for each Channel (switchers)
 - Switching voltage: 250V
 - Switching current: 5A
 - Switching power: 1250VA
- Optional: 1 x Analog output I or U, linear (Channel 1)
 - Cable break: 0mA eq. 0V
 - Short circuit: 20mA eq. 10V

Hysteresis:

- 5°C

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- Programming mode

Switching thresholds programming values for overheating control.

The modules are supplied with the standard default values:

Standard values:

- Sensor 1 threshold: +40°C
- Sensor 2 threshold: +45°C
- Sensor 3 threshold: +50°C
- Sensor 4 threshold: +55°C

The user can change them at any time to adapt them to the required application.

To adjust these settings, the module must be unlocked. To do this, you must hold the "menu" button pressed for 1 second at least, followed by the "Up" button. And to finish, press the „Down“ button until you can see the line „set limit values“.

Finally, by pressing the "Menu" button, the options for setting the new temperature limits will show up.

All values are stored in the internal memory, and even if a power failure occurs, the last stored values will remain there available.

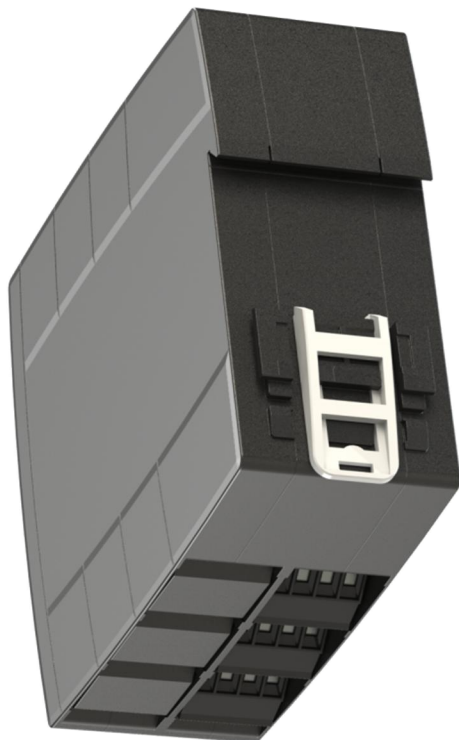
If you wish, you can find further information ready to download in our webpage www.reissmann.com

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- Temperature:

Temperature	Housing and terminals: black polyamid Plastic	Cover: polystyrene
	-40°C...+105°C	+80°C
Flamability under UL94:	V-0	

Ambient temperature:

- -20 - +55°C

- Sizes / Weight:

Weight: 0,2kg
Length x Width x Height: 114x45x108mm

Mounting: DIN Rail

Terminals:

- Intercell distance: 5,0mm
- Maximum cable transversal section.: 2,5mm²

3D Model available

- Connection notes:

Reference to label

Supply voltage:

Sensor connection: 1 - 4

Analog output: 0-20mA / 0-10V

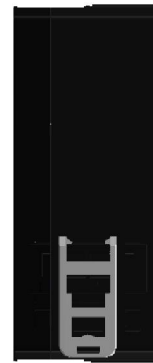
K1 / K2 / K3 / K4 (as switcher)

During assembly, the module must be free of voltage be switched!

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Order information:

TMS	U	X	X	X	X	X	X	X
<p>U = Universal</p>								
<p>Supply:</p> <p>24 (24VDC)</p> <p>85265 (85 ... 265VAC)</p>								
<p>Analog Outputs:</p> <p>empty → no analog output</p> <p>I (0-20mA)</p> <p>U (0-10V)</p>								
<p>Type of sensor per channel:</p> <p>Pt100, Pt1000, PTC, NTC, KTY (84-130)</p> <p>When empty: "empty"</p>								
<p>Channel 1</p>								
<p>Channel 2</p>								
<p>Channel 3</p>								
<p>Channel 4</p>								
<p>Extra:</p> <p>Rel: Relay-Card: each channel has its own digital relay contact (SPDT) + one analog output for channel 1+ one contact relay as collective error indicator for the channels group.</p>								

For example: TMS U 85265 I Pt100 PTC KTY NTC Rel
(Supply: 85-265V AC/DC; current-analog; 4 Channel: Pt100-, PTC-, KTY- und NTC-sensor; Relay-Card)

TMS U 85265 U Pt1000 KTY
(Supply: 20-265V AC/DC; voltage-analog; 2 Channel: Pt1000- und KTY- sensor)

TMS U 24 PTC
(Supply: 24V DC; no analog output; 1 Channel: PTC- sensor)

- When ordering NTC's muss specify the values (R25- and Beta)

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- Please, give with your order the number of temperature channels as well as its type of sensor.

Responsibility:

No responsibility will be accepted for thermistors which have not been installed and tested according to the relevant standards as previously listed in our data sheet.

Due to the ongoing research and development program, product specification may be subject to change, at the manufacturer's discretion.

For further advice and information contact: