GHM-Martens

Product information

TB225

Thermal Limiter TB225

(in accordance with DIN EN 14597)

- ● **Can be used as a temperature limiter and monitor**
- ● **Certified in accordance with DIN EN 14597**
- ● **Pt100 inputs, dual thermocouple, input signals**
- ● **2 changeover relays**
- ● **Configuration via backlit graphic display**
- ● **'White / Red' display colour change in the case of an alarm**
- ● **Safe galvanic isolation between input / output / auxiliary voltage**
- ● **Automatic recognition of the output signal**
- ● **Wide-range mains adapter**
- ● **Carrier rail mounting TS 35**

Characteristics

The safety temperature limiter TB225 is used for applications where thermal processes must be monitored and the system must
be switched to a safe operating state in the case of a fault. The device has universal inputs for the connection of dual thermocouples,Pt100 sensors, and input signals (0/4..20mA or 0/2..10V). The safety function is provided by means of the main relay with configurable threshold. An additional relay with an independently adjustable threshold is provided for additional signalling. The TB225 also offers an analog output which can be freely defined within the measuring range of the temperature input. The resetting of the device in the operating mode as a temperature limiter can take place via the buttons on the front, the integrated graphic display, or using an external switch or external voltage. The TB225 has safe 3-way electrical isolation between input, output, and auxiliary voltage.

Brief information

The connected temperature signal is evaluated and monitored. If the permissible threshold is reached or an error occurs within the permissible temperature range, the TB225 switches off immediately. The additional relay output of the TB225 enables the function of a preliminary alarm with an independent threshold. The following operating modes are possible through configuration:

Temperature limiter:
Maximum or minimum monitoring with catch, manual resetting after fault elimination via the front keys or an external switch / voltage signal
Operating methods in accordance with EN14597: 09/2012: Type 2B, 2H, 2V

Temperature monitor:

Maximum or minimum monitoring without catch, automatic resetting on return to the permissible range operating methods in accordance with EN 14597: 09/2012: Type 2B

Technical data

Auxiliary power

Auxiliary voltage	:	18 – 230 V AC/DC
Power consumption	:	< 5 VA
Rated voltage	:	250V AC in accordance with EN 60730-1: 10/2012, between input / relay output / auxiliary voltage, Degree of contamination 2, Overvoltage category III Rated surge voltage 4kV
CE Conformity	:	EN 14597 09/2012 EN 61326: 07/2013

Environmental conditions

Operating temperature	:	-10..+55 °C
Transport and storage temperature	:	-20..+60 °C
Relative air humidity	:	< 95 %
Condensation	:	not permitted

Approvals	Title
DIN EN 14597	: 09/2012

Input

Pt100	:	-100.0..600.0°C
Type J	:	Fe-CuNi-100..800°C
Type K	:	NiCr-Ni -150..1200°C
Type N	:	NiCrSi-NiSi -150..1200°C
Type S	:	Pt10RH-PT 0..1600°C Reference junction compensation integrated
Basic precision	:	<0.3 %, ±1 digit
Temperature coefficient	:	0.01 %/K
Display	:	graphic LC display with 32 x 90 pixel, with white/red background lighting

Outputs

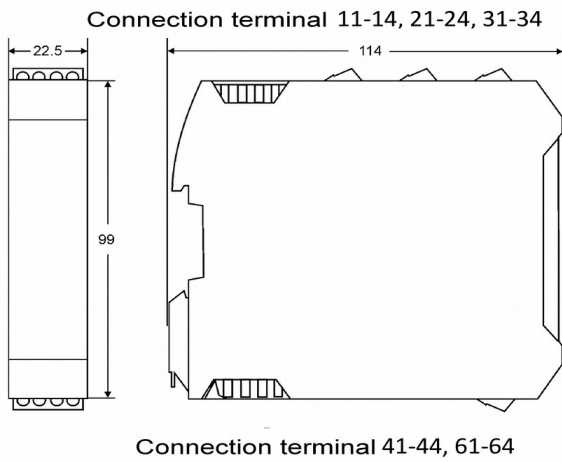|		
Switching outputs	:	2 x relay
Changeover relay	:	< 250 V AC < 500 VA < 2 A ohmic load < 30 V DC < 60W < 2 A ohmic load Internal main relay secured with 2A fuse! Fuse is not interchangeable!
Analog output	:	0/4..20 mA load ≤ 500 Ω 0/2..10 V DC load > 500 Ω electrically isolated. Output switches automatically (load-dependent)
Housing	:	polyamide (PA) 6.6 , UL94V-0, TS35 in accordance with DIN EN 60715
Weight	:	approximately 180 g
Connection	:	screw terminals 0.14..2.5 mm² with wire protection 0.14 - 2.5 mm² (AWG 26 - 14)
Protection rating	:	IP20, BGV A3

. . . p r o f e s s i o n a l I n s t r u m e n t s " M A D E I N G E R M A N Y "

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Dimensions

Connection terminal 11-14, 21-24, 31-34

22.5   114

99

Connection terminal 41-44, 61-64

Ordering code

TB225 - [ ] - [ ] - [ ] - [ ]
         1.   2.   3.   4.

1.	Version/input	
	0	Universal input
2.	Output	
	0	2 relay / 1 analog output 0/4..20 mA
3.	Auxiliary voltage	
	0	18 – 230 V AC/DC
4.	Options	
	00	without option

Connection diagram

11 12 13 14 Supply voltage

21 22 23 24 Mainrelay
K1   Internal time-lag Fuse 2A

31 32 33 34 Alarmrelay
KV

RTD Pt100

41 42 43 44

TC1

TC2

U   0/2 ... 10V

I   0/4 ... 20mA

61 62 63 64 Analog output
             0/4 ... 20mA

0 / 24V   Ext. reset

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