



## BSTW Safety Temperature Monitor

## BTB/BSTB Safety Temperature Limiter

### Features

- 16 A switching capacity
- Pre-set limit point for BSTB
- Suitable for use in Zone 1 + Zone 2 areas
- Temperature setting directly in Zone 1, Zone 21 and 22 areas possible
- Resettable lockout on the device
- Direct heating circuit connection via sheathed cable/cold lead
- Temperature ranges from -20 °C up to +500 °C possible

### Application example

The BTB, BSTB and BSTW thermostats can directly switch temperature-dependent equipment loads (heaters etc.) of up to 16 A. Higher switching currents of 3-phase applications are switched by means of a contactor.

### Key to the type designations

#### BSTW

Fail-safe safety temperature monitor

#### BTB

Fail-safe temperature limiter

#### BSTB

Fail-safe safety temperature limiter

### Description

The 16 A Ex temperature monitor BSTW/temperature limiter BTB/BSTB are change-over controllers housed in an Ex e certified polyester enclosure.

Heaters, fans, motors and other equipment are energised and de-energised by means of this thermostat when specific temperature ranges are exceeded.

These devices can also be used to control the temperature in air or on various surfaces. The fail-safe temperature limiter BTB and the fail-safe temperature limiter BSTB are produced with restart lockout, resetting (reopening) is only possible at the device.

### Function

Any change in temperature at the sensor bulb causes a change in the volume of fluid in the measuring system, which in turn results in a movement of the diaphragm membrane. This membrane is connected to a mechanical device that activates a microswitch.

If the temperature at the sensor bulb exceeds the pre-set value, terminals 1 and 4 are opened.

The BTB and BSTB devices 'lock-out' permanently if the set temperature is exceeded. After a temperature decrease of about 9 % below the set value, both BTB and BSTB can be re-set manually. If there is a rupture or break in the sensor tube (leakage), then the switch remains permanently open (fail-safe). If the temperature falls below the minimum setting, the autocontrol opens the circuit but closes again on temperature rise.

### Explosion protection

#### Ex protection type

- II 2G Ex ed IIC T6 or T5
- II 2D tD A21 IP 65 T 95 °C, T 80 °C

#### Certification

PTB 03 ATEX 1180

### Technical data

#### Protection class

IP 65/EN 60529

#### Min. Ambient temperature

- 20 °C standard
- 40 °C/-55 °C on request

#### Min. storage temperature

-50 °C

#### Max. storage temperature

+65 °C

#### Capillary tube

- Length 1000 mm
- OD sensor line 1.5 mm
- min. bend radius 5 mm
- sensor bulb diameter 6 mm
- sensor material stainless steel SS 1.4571

#### Enclosure sizes

- Single unit 122 x 120 x 90 mm
- Double unit 220 x 120 x 90 mm

#### Weight

- Single unit 1.1 kg
- Double unit 2.0 kg

### Electrical data

#### Contacts

- 1 change-over contact

#### Terminals

- 4 with 2.5 mm<sup>2</sup> + 1 PE

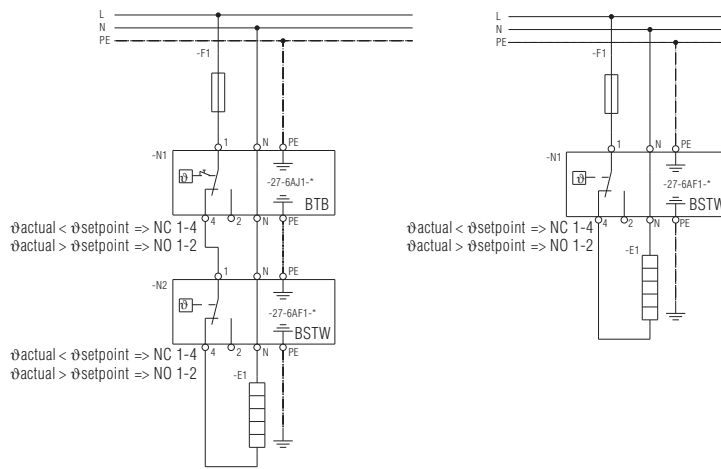
#### Cable glands

- 2 x M25

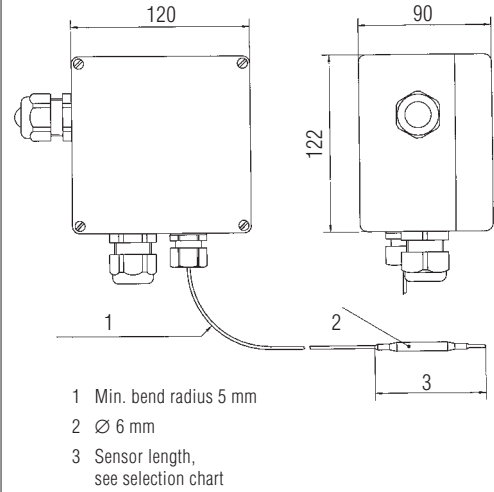
	Switching capacity	Control current	
Opener	16 A, AC-1	2 A, AC-15	0,25 A, DC-13
Closer	10 A, AC-1	1,5 A, AC-15	0,25 A, DC-13
	Rated voltage		
	AC 250 V/50 Hz	AC 230 V/50 Hz	DC 250 V



**Wiring diagram**



**Dimensions**



<b>Temperatures ranges</b>		<b>-20 °C up to +50 °C</b>	<b>0 °C up to +200 °C</b>	<b>+50 °C up to +300 °C</b>
Switching accuracy in the lower third of the scale range	BSTW	-0 K up to +3.5 K	-0 K up to +10 K	-
	BTB	-	+0 K up to -10 K	-
Switching accuracy in the upper third of the scale range	BSTW	-	-	0 K up to +12.5 K
	BTB	-	-	0 K up to -12.5 K
Max. sensor temperature	BSTW/BTB	+60 °C	+230 °C	+345 °C
Sensor length	BSTW/BTB	130 mm	71 mm	57 mm

**Selection chart**

<b>Designation</b>	<b>Switched off temperature</b>	<b>Temperature setting range</b>	<b>Order no. at minimal ambient temperature</b>		
			<b>-20 °C</b>	<b>-40 °C</b>	<b>-55 °C</b>
BSTW Fail-safe temperature monitor	-40 °C	-20 °C up to +50 °C	<b>27-6AF1-0252/2000</b>	<b>27-6AF1-0252/2040</b>	<b>27-6AF1-0252/2055</b>
BSTW Fail-safe temperature monitor	-30 °C	0 °C up to +200 °C	<b>27-6AF1-0254/2000</b>	<b>27-6AF1-0254/2040</b>	<b>27-6AF1-0254/2055</b>
BSTW Fail-safe temperature monitor	-30 °C	+50 °C up to +300 °C	<b>27-6AF1-0257/2000</b>	<b>27-6AF1-0257/2040</b>	-
BTB Fail-safe temperature limiter	-30 °C	0 °C up to +200 °C	<b>27-6AJ1-1254/2000</b>	<b>27-6AJ1-1254/2040</b>	-
BTB Fail-safe temperature limiter	-30 °C	+50 °C up to +300 °C	<b>27-6AJ1-1257/2000</b>	<b>27-6AJ1-1257/2040</b>	-
BSTB Fail-safe temperature limiter	-30 °C	T4 0 °C up to +130 °C	<b>27-6AG1-1258/2000</b>	-	-
	-30 °C	T3 130 °C up to +190 °C	<b>27-6AG1-1259/2000</b>	-	-
BSTW/BTB Combination of temperature monitor BSTW and fail-safe temperature limiter BTB	-30 °C	0 °C up to +200 °C 0 °C up to +200 °C	<b>27-6AK1-9264/2U00</b>	-	-
BSTW/BSTB Combination of fail-safe temperature monitor BSTW and fail-safe temperature limiter BSTB	-30 °C	0 °C up to +200 °C 130 °C up to +190 °C	<b>27-6AK1-92602V94</b>	-	-

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Other temperature ranges or combinations on request.