SAN Electro Heat

Member of the NIBE Group

BSTW II Safety Temperature Monitor and BTB II/BSTB II Limiter

Features

- Direct connection of self-limiting heating tapes by means the cold-applied technology reduces wiring and materials
- Switching voltage up to 400 V and 2 M20 x 1.5 boreholes as standard for an enhanced operation of EKL heating circuits
- Safety cut-out temperature -45 °C or -55 °C for reliable operation, even in very cold conditions
- Minimum operating temperature -55 °C for all standard variants for use all over the world without restrictions
- Wide regulating range from -20 °C to +500 °C, depending on the switch insert

Description

BSTW II 25-A Ex temperature monitors and BTB II/BSTB II temperature limiters are two-state controllers in Ex e-certified polyester enclosures.
In addition to the use of conventional wiring by means of a sheathed cable, the BSTW II and BTB II/BSTB II are suitable and approved for the direct connection of self-limiting heating systems in the enclosure.
As a result, a verification of thermal safety and a further acceptance test by a capable person is no longer necessary. The benefit for the customer is obvious. The direct connection of self-limiting heating tapes does away with the need for junction boxes and considerably reduces the extent of wiring required. BSTW II and BTB II/BSTB II can monitor the ambient temperature but also the different surface temperatures. In conformance to EN 60079-30-1, the BTB II and BSTB II fail-safe temperature limiters are designed to switch off and remain switched off when the preset limit temperature is reached. The restart lockout requires manual resetting directly in the device.

Function

Any change in temperature in the sensor causes a change in the volume in the liquid-filled measuring system, which in turn results in a movement of the diaphragm membrane, which is connected to a transmission mechanism, and this opens a microswitch.
If the sensor temperature exceeds the set value, the contacts 1 and 2 remain continuously open. The contacts in the BTB II/BSTB II remain continuously open until there is a manual intervention.

Explosion protection

Ex protection type
EX II 2G Ex de IIC T6, T5, T4, T3
Certification
EPS 11 ATEX 1356 X

Technical data

Protection class
IP 65/EN 60529
Min. ambient temperature
-55 °C standard
Min. ambient temperature
depends on the type of heating cable connection
5torage temperature
-50 °C to +65 °C
Capillary tube
Length 1000mm
OD sensor line 1.5 mm
min. bend radius 5 mm
sensor bulb diameter 6 mm
sensor material: SS 1.4571
Contacts
1 change-over contact
Contact decks 1-2:
AC 400V/16A, AC 230V/25A

Contact decks 1-4:
AC 400V/6,3A, AC 230V/6,3A
Switching hysteresis
Approx. 7%

BSTW II

fail-safe safety temperature monitor

- Falling calibration to maintain the temperature during the process
- Turns on and off automatically whenever the temperature exceeds or drops below the setpoint value.

BTB II

fail-safe temperature limiter

- Rising calibration to limit temperature during the process
- Switches off and remains switched off once the limit temperatures are reached

BSTB II

fail-safe safety temperature limiter

- The BSTB II functions in the same manner as the BTB II temperature limiter, whereby the setting range is limited here to 0 °C to 130 °C or 130 °C to 190 °C based on the temperature classes T3 and T4.

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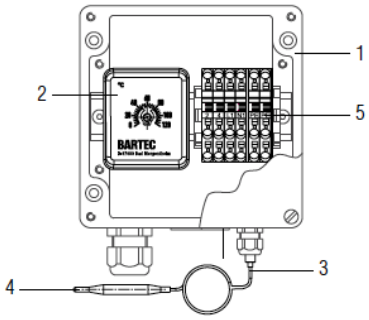
BSTW II Safety Temperature Monitor and BTB II/BSTB II Limiter

Device for 1 heating circuit
(Heating cable connection direct via sheathed cable/Plexo or cold lead)

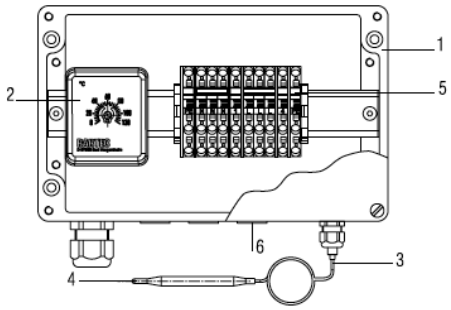


1 Enclosure
2 Switch insert
3 Capillaries
4 Sensor
5 Rail-mounted terminals
6 Blind plug M20

Technical Data:

Dimensions.....160mm x 160mm x 90mm
Terminals .....4 x 6mm² + 2 x PE
Heating cable connections 2 x M20, closed with blind plug

Device for 1 to 3 heating circuits
(Heating cable connection direct, via sheathed cable/Plexo or cold lead)



1 Enclosure
2 Switch insert
3 Capillaries
4 Sensor
5 Rail-mounted terminals
6 Blind plug M20

Technical Data:

Dimensions.....260mm x 160mm x 90mm
Terminals .....8 x 6mm² + 3 x PE
Heating cable connections 3 x M20, closed with blind plug

Load side connection variant heating circuits	Fuse (C characteristics)	Ambient temp.	Temp. class
PSBL system 27-1580-.910/...	1 x 16A	-55 °C up to +50 °C	T5
PSB system 27-1680-.910/...	1 x 25A	-55 °C up to +40 °C	T6
	1 x 25A	-55 °C up to +50 °C	T5
MSB system 27-1980-.910/...	1 x 25A	-55 °C up to +50 °C	T4
HSB system 27-1780-.910/...	1 x 25A	-55 °C up to +50 °C	T3
Sheathed cable/PLEXO or cold lead	1 x 16A	-55 °C up to +50 °C	T5
	1 x 20A	-55 °C up to +40 °C	T5
	1 x 25A	-55 °C up to +40 °C	T4

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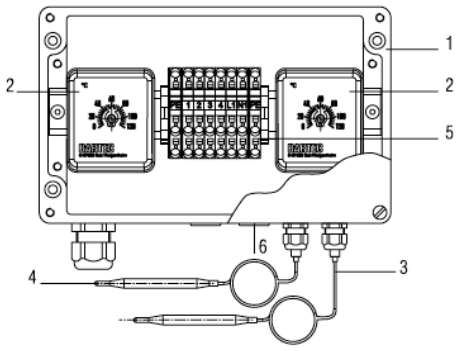
BSTW II Safety Temperature Monitor and BTB II/BSTB II Limiter

Combination unit Safety temperature monitor and limiter
(Heating cable connection direct via sheathed cable/Plexo or cold lead)

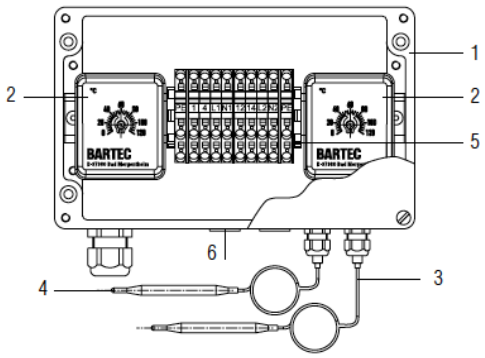


1 Enclosure
2 Switch insert
3 Capillaries
4 Sensor
5 Rail-mounted terminals
6 Blind plug M20

Technical Data:

Dimensions.....260mm x 160mm x 90mm
Terminals .....6 x 6mm² + 3 x PE
Heating cable connections 2 x M20, closed with blind plug

Combination unit Safety temperature monitor
(Heating cable connection direct, via sheathed cable/Plexo or cold lead)



1 Enclosure
2 Switch insert
3 Capillaries
4 Sensor
5 Rail-mounted terminals
6 Blind plug M20

Technical Data:

Dimensions.....260mm x 160mm x 90mm
Terminals .....8 x 6mm² + 3 x PE
Heating cable connections 2 x M20, closed with blind plug

Load side connection variant heating circuits	Fuse (C characteristics)	Ambient temp.	Temp. class	Fuse (C characteristics)	Ambient temp.	Temp. class
PSBL system 27-1580-.910/...	1 x 16A	-55 °C up to +50 °C	T5	2 x 16A	-55 °C up to +50 °C	T5
PSB system 27-1680-.910/...	1 x 25A	-55 °C up to +40 °C	T6	2 x 25A	-55 °C up to +40 °C	T6
	1 x 25A	-55 °C up to +50 °C	T5	2 x 25A	-55 °C up to +50 °C	T5
MSB system 27-1980-.910/...	1 x 25A	-55 °C up to +50 °C	T4	2 x 25A	-55 °C up to +40 °C	T4
HSB system 27-1780-.910/...	1 x 25A	-55 °C up to +50 °C	T3	2 x 25A	-55 °C up to +40 °C	T3
Sheathed cable/PLEXO or cold lead	1 x 16A	-55 °C up to +50 °C	T5	2 x 16A	-55 °C up to +50 °C	T5
	1 x 20A	-55 °C up to +40 °C	T5	-	-	-
	1 x 25A	-55 °C up to +40 °C	T4	-	-	-

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Selection Chart		
Device for 1 heating circuit		
Designation	**Switching temperature**	**Switching point deviation**
BSTW II	-20 °C up to +50 °C	+5K/-0 K
	0 °C up to +200 °C	+16K/-0 K
	+50 °C up to +300 °C	+24K/-0 K
BTB II	0 °C up to +200 °C	+0 K/-16K
	+50 °C up to +300 °C	+0 K/-24K
BSTB II	0 °C up to +130 °C	+0 K/-16K
	+130 °C up to +190 °C	+0 K/-16K
Device for 3 heating circuits		
Designation	**Switching temperature**	**Switching point deviation**
BSTW II	-20 °C up to +50 °C	+5K/-0 K
	0 °C up to +200 °C	+16K/-0 K
	+50 °C up to +300 °C	+24K/-0 K
Combination unit		
Designation	**Switching temperature**	**Switching point deviation**
BSTW II/BTB II	-20 °C up to +50 °C -20 °C up to +50 °C	+5K/-0 K +0 K/-5 K
	0 °C up to +200 °C 0 °C up to +200 °C	+16K/-0 K +0 K/-16 K
	+50 °C up to +300 °C +50 °C up to +300 °C	+24K/-0 K +0 K/-24 K
	-20 °C up to +50 °C -50 °C up to +300 °C	+5K/-0 K +0 K/-24 K
	0 °C up to +200 °C +50 °C up to +300 °C	+16K/-0 K +0 K/-24K
Combination unit		
Designation	**Switching temperature**	**Switching point deviation**
BSTW II/BSTW II	-20 °C up to +50 °C	each +5K/-0 K
	0 °C up to +200 °C	each +16K/-0 K

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