Bimetal temperature switch TSA-Atex, TÖA-Atex

BÜHLER TECHNOLOGIES

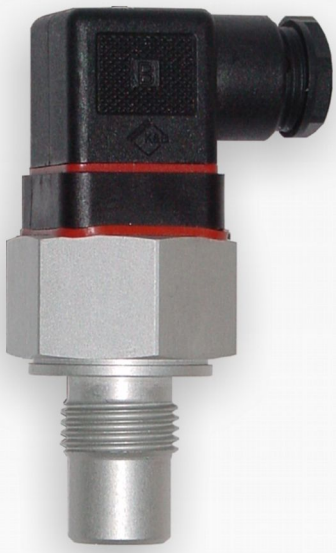
FluidControl

Since the viscosity of oil changes based on the temperature, operating temperatures must be monitored. Depending on the requirements, monitoring by means of indicating the minimum temperature to warning points and ending with shut down, will suffice. The warning or shut-off points are implemented using a bimetallic switch and in the process, hysteresis can also be used as a reset point.

When applying switch points below 50 °C the temperature difference between the system and ambient should be adequate or the reset point cannot be reached reliably.

The TSA-Atex series consists of simple electrical equipment without a separate voltage source. In the case of intrinsically safe connections as per EN 60079-14, the TSA-Atex can be used in Zone 1 (group IIC, device category 2G) explosive areas; this also applies to the inner zone of the tank. The temperature switches are classified as temperature class T4.

The temperature switch was designed to allow removing the electrical inner workings without having to remove the switching tube from the tank. This is convenient if the temperature switch is installed laterally inside oil.



ATEX applications: Zone 1 (cat. 2G), simple electrical equipment according to EN 60079-11
Simple, robust design
Electrical inner part, easy to remove
DIN connector cable outlet direction adjustable in 90° steps
Elastic sealing ring

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Technical Data TSA-Atex/TÖA-Atex

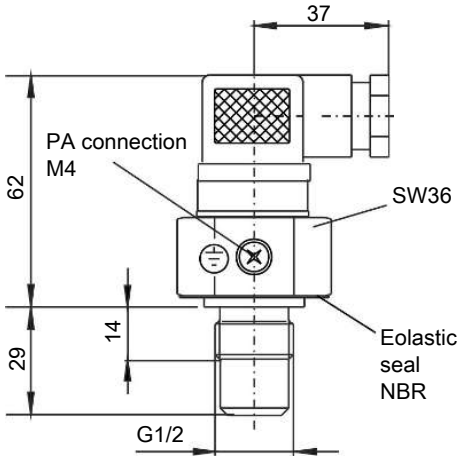
TSA-Atex, TÖA-Atex			
Switch element:	bi-metal		
Switching function:	NO contact (NO)		
Switching temperature:	25 to 80 °C		
Probe length:	29 mm		
Probe material:	Anodised aluminium		
Max. operating pressure:	15 bars		
Operating temperature:	max. +80 °C		
Ambient temperature:	-20 to +80 °C		
Temperature contacts			
Tolerance:	± 5 K		
Switch-back difference:	15 K ± 3 K		
Switching point:		**NO***	**NC***
	25 °C	TSA-25	TÖA-25
	40 °C	TSA-40	TÖA-40
	50 °C	TSA-50	TÖA-50
	60 °C	TSA-60	TÖA-60
	70 °C	TSA-70	TÖA-70
	80 °C	TSA-80	TÖA-80

Other temperatures available upon request
*NC = NC contact/NO = NO contact All data for rising temperature

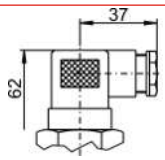
Accessories
Connection cable M12x1 (5-pin) 3.0 m long, item no.: 9144050018
Switch amplifier for temperature switches see data sheet no. 18 0003

The device is suitable for use in ATEX category II 2 G Ex ib IIC T4.
The temperature switch may only be operated on intrinsically-safe circuits!

Dimensions



Temperature contacts	
P_i	100 mW
U_i	30 V
I_i	50 mA
L_i; C_i	Negligible

Plug connection	M3
Dimensions:	
Number of pins:	3-pin + PE
DIN EN:	175301-803
Protection class:	IP65
Cable fitting:	PG 11

Other plug connections available upon request

Ordering Instructions

Description	Item no.	Plug connection
TSA-25-Atex	1139699A	M3
TSA-40-Atex	1139599A	M3
TSA-50-Atex	1138599A	M3
TSA-60-Atex	1138699A	M3
TSA-70-Atex	1138799A	M3
TSA-80-Atex	1139299A	M3
TÖA-25-Atex	1142899A	M3
TÖA-40-Atex	1143299A	M3
TÖA-50-Atex	1142199A	M3
TÖA-60-Atex	1143399A	M3
TÖA-70-Atex	1140299A	M3
TÖA-80-Atex	1140899A	M3

Ordering example

You require:	Temperature contact to close at 50 °C, type M3 plug
Order:	Item number 1138599A, temperature switch TSA-50-Atex-M3