Bi-metal-Temperature switch
TSM, TSE

Fluidcontrol

High operating temperatures significantly reduce the life of oils in the hydraulics and the lubrication. The prevent exceeding harmful limits, for example due to unforeseeable overloads or reduced cooling capacity, the systems must be shut off in a timely manner. This shut-off is performed using the following temperature switches of the Bühler TSM and TSE series.

These switches contain a bimetal that bends as the temperature rises. If the temperature exceeds a certain limit, the bimetal interrupts the current flow and thus protects the system from damage. After resolving the cause of the excess temperature, following a cooling phase (hysteresis) the bimetal element automatically returns to operating mode. However, for safety reasons it is advisable to still display the current oil temperature on the oil tank.

- G1/2" threaded connection
- Up to 2 temperature switching points
- Sensor length up to 1 m

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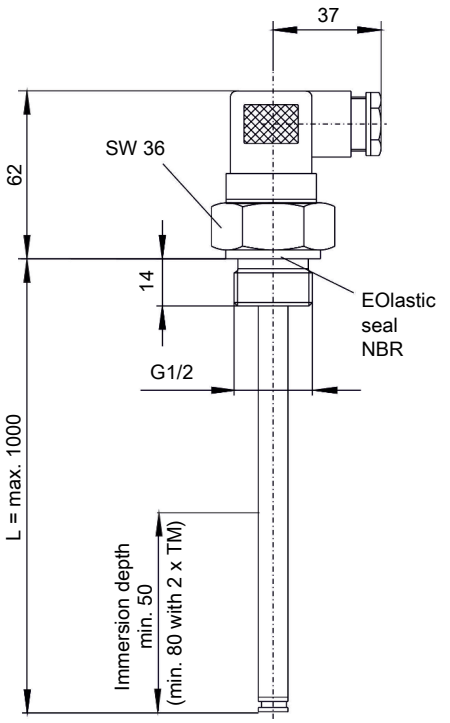
Technical Data TSM/TSE

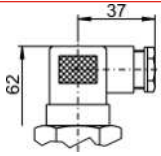
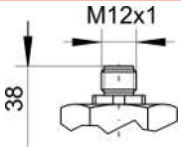
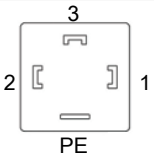
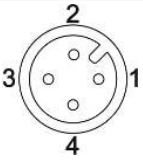
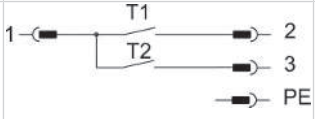
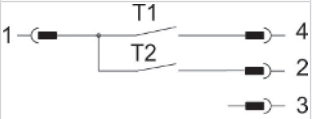
Model	TSM	TSE
Version:	MS	VA
Probe material:	Brass	1.4571
Max. operating pressure:	5 bar	10 bar
Connection:	G1/2	G1/2
Medium temperature:	-40 °C to +100 °C	
Ambient temperature:	-20 °C to +80 °C	
Lengths:	280, 370, 500 (standard) variable to max. 1000 mm	
Temperature contact	**TMxx**	
Switch element:	Bimetal	
Number of contacts:	1 or 2	
Max. voltage:	230 V	
Max. switching current:	2 A	
Max. contact load:	100 VA	
Function	**NC***	**NO***
Switching point °C:	40/50/60/70/80/90/100	50/55/60/70/80/90/100
Switching point tolerance:	± 5 K	± 5 K
Max. hysteresis:	18 K ± 5 K	26/30/35/40/45/52/58 K ± 5 K

Other temperatures available upon request
** NC = NC contact/NO = NO contact (all data for rising temperature)*

Dimensions



Standard Pin Assignment TSM/TSE

Plug connection*:	M3 valve connector	M12 plug A coded
Dimensions:		
Connection schematic:		
Number of pins:	3-pin + PE	4-pin
DIN EN:	175301-803	61076-2-101
Max. voltage:	230 V AC/DC	30 V DC
IP rating:	IP 65	IP 67**
Cable fitting:	PG 11	
Standard pin assignment:		

T1 = lower temperature/T2 upper temperature.
** other connectors available on request.*
*** with IP67 cable box screwed on.*

Model Key for TSM/TSE

XXX - XX - XX - G1/2 - XX - XX - T1 - T2

TSM for Version MS
TSE for Version V

Number of temperature contacts
1 or 2

Version
MS Brass
VA Stainless steel

Connector
M3
M12

Length (max. 1000 mm)
280
370
500
variable (please specify)

T1/T2*

NC contact	NO contact	
TK40NC	-	= 40 °C
TK50NC	TK50NO	= 50 °C
-	TK55NO	= 55 °C
TK60NC	TK60NO	= 60 °C
TK70NC	TK70NO	= 70 °C
TK80NC	TK80NO	= 80 °C
TK90NC	TK90NO	= 90 °C
TK100NC	TK100NO	= 100 °C

*Listing can be selected for the first temperature contact T1 and for the second temperature contact T2.

Ordering example

You need:	Brass temperature switch, G1/2 connection, length L= 300 mm, M3 plug 2 x temperature contact: 1st Contact 50 °C NC, 2nd contact 70 °C NO
Order:	TSM-2-M3/300 -TM50NC-TM70NO