

Bi-metal-Temperature switch TSM, TSE



Fluidcontrol

High operating temperatures significantly reduce the life of oils in the hydraulics and the lubrication. To 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

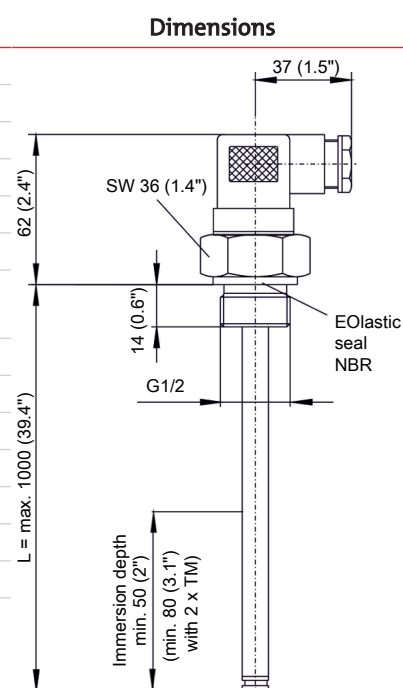
Up to 2 temperature switching points

Sensor length up to 1 m (3.3 ft)



Technical Data TSM/TSE

Model	TSM	TSE
Version:	MS	VA
Probe material:	Brass	1.4571
Max. operating pressure:	5 bar (72.5 psi)	10 bar 145 psi)
Connection:	G1/2	G1/2
Medium temperature:	-40 °C to +100 °C (-40 °F to 212 °F)	
Ambient temperature:	-20 °C to +80 °C (-4 °F to 176 °F)	
Lengths:	280 (11"), 370 (14.6"), 500 (19.7") (standard) variable to max. 1000 mm (39.4")	
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 (°F):	40/50/60/70/80/90/100 (104/122/140/158/176/194/ 212)	50/55/60/70/80/90/100 (122/131/140/158/176/194/212)
Switching point tolerance:	± 5 K (± 9 Ra)	± 5 K (± 9 Ra)
Max. hysteresis:	18 K ± 5 K (32 Ra ± 9 Ra)	26/30/35/40/45/52/58 K ± 5 K (47/54/63/72/81/94/104 Ra ± 9 Ra)



Other temperatures available upon request

* NC = NC contact/NO = NO contact (all data for rising temperature)

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

<div>XXX-XX-XX-G1/2-XX-XX-T1-T2</div>																																
<div>TSM for Version MS</div> <div>TSE for Version V</div>																																
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*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 (11.8"), M3 plug
 2 x temperature contact: 1st Contact 50 °C (122 °F) NC, 2nd contact 70 °C (158 °F) NO

Order: TSM-2-M3/300 -TM50NC-TM70NO