

Bi-metal-Temperature switch

TSM, TSK, TSA

High operating temperatures significantly reduce the life of oils in the hydraulics and the lubrication. To prevent exceeding harmful limits, e.g. due to unforeseeable overloads or reduced cooling capacity, the systems must be shut off in a timely manner. In the following temperature switches this is done by a bi-metal which interrupts the flow of electricity with a temperature rise. After resolving the cause for the excess temperature, following a cooling phase (hysteresis) the bi-metal element automatically returns to operating mode. However, for safety reasons it is advisable to still display the current oil temperature on the oil tank.

TSM-G1/2, TSE-G1/2

G1/2" threaded connection

Up to 2 temperature switching points

Sensor length up to 1 m

TSK-G3/4

G3/4" threaded connection

Up to 2 temperature switching points

Sensor length up to 1 m

Low hysteresis

TSA

G1/2" threaded connection

1 x temperature switching point

Fixed length of 29 mm for line installation e.g.



TSM-G1/2
TSK-G3/4



TSA



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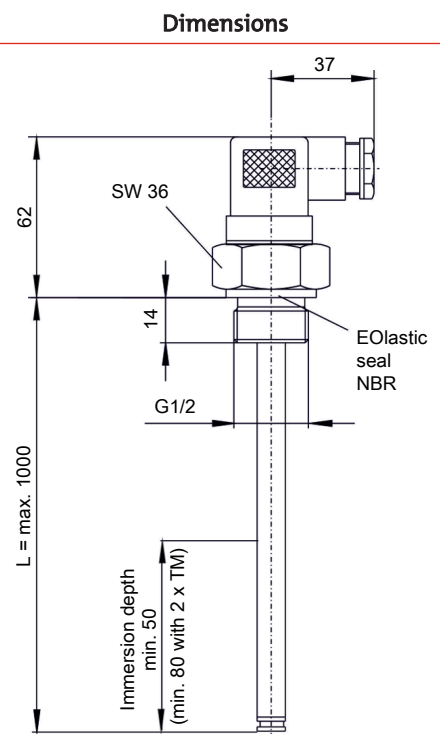


Technical Data TSM/TSE

Model	TSM-G1/2	TSE-G1/2
Version:	M5	VA
Probe material:	Brass	1.4571
Max. operating pressure:	5 bar	10 bar
Connection:	G1/2	G1/2
Operating temperatures:	-40 °C to +80 °C	
Lengths:	280, 370, 500 (standard) variable to max. 1000 mm	
Temperature contact	TMxx	
Switch element:	Bi-metal	
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:	50/60/70/80	50/60/70/80
Switching point tolerance:	± 5 K	± 5 K
Max. hysteresis:	18 K ± 5 K	26/35/40/45 K ± 5 K

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.



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Model Key for TSM/TSE

XXX - XX - XX - G1/2 - XX - XX - XX - XX

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)

T2 (2nd temperature contact)

NC contact	NO contact
TM50NC	TM50NO = 50 °C
TM60NC	TM60NO = 60 °C
TM70NC	TM70NO = 70 °C
TM80NC	TM80NO = 80 °C

T1 (1st temperature contact)

NC contact	NO contact
TM50NC	TM50NO = 50 °C
TM60NC	TM60NO = 60 °C
TM70NC	TM70NO = 70 °C
TM80NC	TM80NO = 80 °C

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



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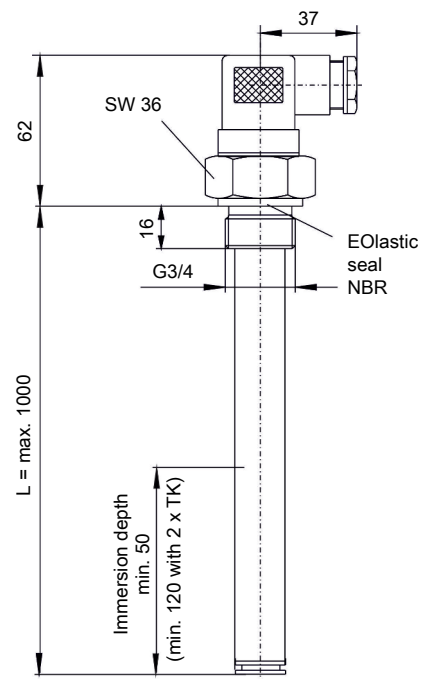
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Technical Data TSK

Model	TSK-G3/4	
Version:	MS	VA
Probe material:	Brass	1.4571
Max. operating pressure:	1 bar	5 bar
Connection:	G3/4	G3/4
Operating temperatures:	-40 °C to +80 °C	
Lengths:	280, 370, 500 (standard) variable to max. 1000 mm	
Temperature contact	TKxx	
Switch element:	Bi-metal	
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	
Switching point tolerance:	± 3 K	
Max. hysteresis:	10 K ± 5 K	
<i>Other temperatures available upon request</i>		
<i>* NC = NC contact/NO = NO contact (all data for rising temperature)</i>		

Dimensions



Standard Pin Assignment TSK

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.		



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Model Key for TSK

TSK - XX - XX - G3/4 - XX - XX - XX - XX

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)

T2 (2nd temperature contact)

NC contact NO contact

TK40NC TK40NO = 40 °C

TK50NC TK50NO = 50 °C

TK60NC TK60NO = 60 °C

TK70NC TK70NO = 70 °C

TK80NC TK80NO = 80 °C

T1 (1st temperature contact)

NC contact NO contact

TK40NC TK40NO = 40 °C

TK50NC TK50NO = 50 °C

TK60NC TK60NO = 60 °C

TK70NC TK70NO = 70 °C

TK80NC TK80NO = 80 °C

Ordering example

You need: Brass temperature switch, G3/4 connection, length L= 300 mm, M3 plug
2 x temperature contact: 1st Contact 50 °C NC, 2nd contact 70 °C NO,

Order: TSK-2-M3/300 -TK50NC-TK70NO



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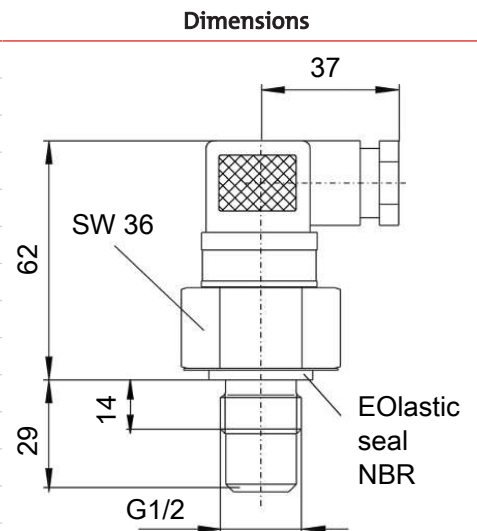
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Technical Data TSA

Model	TSA
Probe length:	29 mm
Probe material:	Anodised aluminium
Max. operating pressure:	15 bars
Operating temperatures:	-40 °C to +80 °C
Temperature contacts	
Switch element:	Bi-metal
Max. voltage:	230 V
Max. switching current:	2 A
Max. contact load:	100 VA
Tolerance:	± 5 K
Switch-back difference:	15 K ± 3 K
Function	NC*/NO*
Switching point °C:	25/40/50/60/70/80

Other temperatures available upon request

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



Standard Pin Assignment TSA

Plug connection*:	M3 valve connector
Dimensions:	
Connection schematic:	
Number of pins:	3-pin + PE
DIN EN:	175301-803
Max. voltage:	230 V AC/DC
IP rating:	IP 65
Cable fitting:	PG 11
Standard pin assignment:	

* other connectors available on request.



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Ordering Instructions TSA

Switching function	NO (NO contact)		NC (NC contact)	
	Model	Item no.	Model	Item no.
25 °C	TSA-25-M3	11 39 699	TÖA-25-M3	11 42 899
40 °C	TSA-40-M3	11 39 599	TÖA-40-M3	11 43 299
50 °C	TSA-50-M3	11 38 599	TÖA-50-M3	11 42 199
60 °C	TSA-60-M3	11 38 699	TÖA-60-M3	11 43 399
70 °C	TSA-70-M3	11 38 799	TÖA-70-M3	11 40 299
80 °C	TSA-80-M3	11 39 299	TÖA-80-M3	11 40 899

Ordering example

You need: Temperature contact at 50 °C NO, type M3 plug

Order: Item no. 1138599 Temperature switch TSA-50-M3

