

Temperature sensors

Changes in the viscosity of hydraulic oil and lubricants due to the temperature requires precisely monitoring and stabilising the operating temperature.

Carefully monitoring the temperature further also affects the service life of the oils. The oil tank is generally accepted as the control point for the oil temperature, which will usually provide helpful averages. It may further be helpful to also monitor segments or individual units within a system.

The values determined from the measuring points must be transferred to the system control according to standards. For safety reasons, it is advisable to at a minimum display the current oil temperature on the oil tank.

The comprehensive line of system-compatible temperature sensors is tailored specifically for use in hydraulics and lubrication technology.

TF-M/E-G1/2

Pt100 temperature probe

Continuous temperature measurement

Sensor length up to 1 m

Brass or stainless steel housing

MK2-G1/2 / EK2-G1/2

Analogue output 4-20 mA

Continuous temperature measurement

Nearly any length of cable connection between sensor and control unit

Sensor length up to 1 m

Brass or stainless steel housing

TF-M-VAL

Temperature probe Pt100 with spring

Pt100 temperature probe

Continuous temperature measurement

Integrated spring for variable sensor length



TF-M-G1/2



MK2-G1/2



TF-M-VAL



Technical Data Temperature Probe TF with Pt100

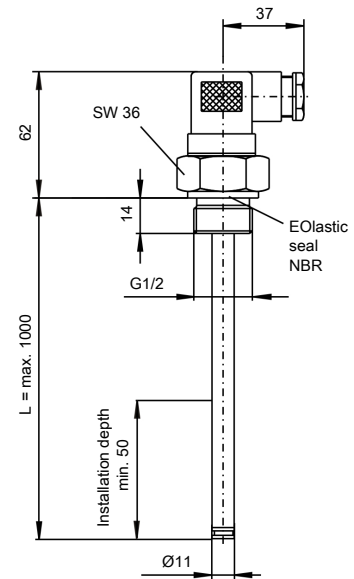
Temperature probe TF with Pt100

	TF-M-G1/2	TF-E-G1/2
Version:	MS	VA
Probe material:	Brass	1.4571
Max. operating pressure:	5 bar	10 bar
Connection:	G1/2	G1/2
Operating temperatures:	-40 °C to +100 °C	
Lengths:	280, 370, 500 (standard) variable to max. 1000 mm	

Temperature sensor

Sensor element:	Pt100 Class B DIN EN 60751
Tolerance:	±0.8 °C
Switching type:	2, 3 or 4 lead

Dimensions



Pt100 measuring resistance base values

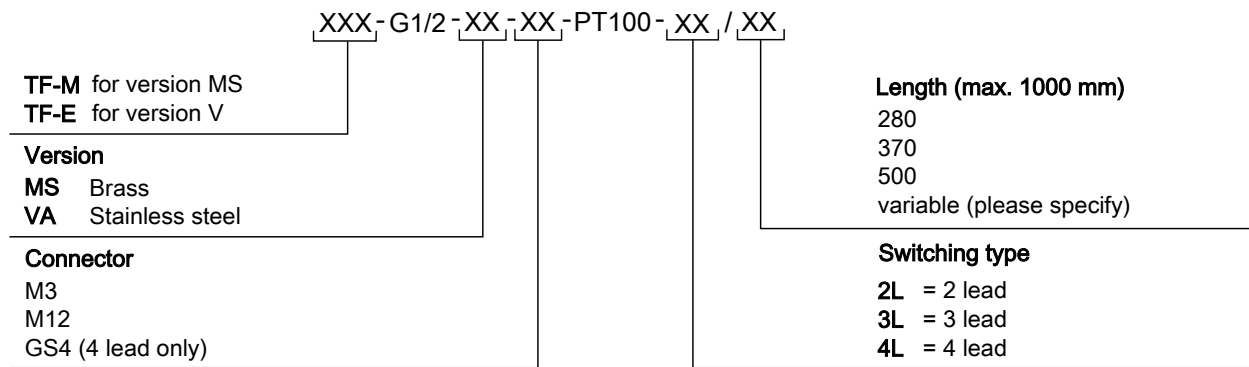
°C	0	10	20	30	40	50	60	70	80	90	100
Ohm	100.00	103.90	107.79	111.67	115.54	119.40	123.24	127.07	130.89	134.70	138.50

Connector	M3	GS4	M12 (base)
Dimensions:			
Number of pins:	3-pin + PE	4-pin	4-pin+PE
IP rating:	IP 65	IP 65	IP 67**
Cable fitting:	PG 11	PG 7	
Standard pin assignment			
2 lead		---	
3 lead		---	
4 lead	---		

**with respective plug top

Other plug connections available upon request

Model key for TF temperature probe



Ordering example

You need: Temperature probe brass version, with M3 plug connection, length L = 520 mm, Pt100 with 2 lead circuit, operating pressure 2 bar

Order: Temperature probe TF-M-G1/2-MS-M3-PT100-2L/520

Technical Data Temperature Transmitter MK2/EK2

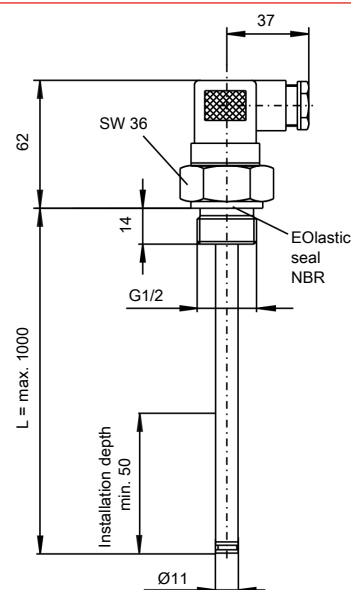
MK2/EK2 with temperature transmitter

	MK2-G1/2	EK2-G1/2
Version:	MS	VA
Probe material:	Brass	1.4571
Max. operating pressure:	5 bar	10 bar
Connection:	G1/2	G1/2
Operating temperatures:	-20 °C to +80 °C	
Lengths:	280, 370, 500 (standard) variable to max. 1000 mm	

Temperature transmitter

Sensor element:	Pt100 Class B DIN EN 60751
Tolerance Pt100:	±0.8 °C
Operating voltage (U _B):	10 - 30 VDC
Measuring range*	0 °C to +100 °C
Output*	4 - 20 mA
Load Ω max.	(U _B - 7.5 V)/0.02 A

Dimensions



*Other measuring ranges and outputs available on request.

Connector	M3	M12 (base)
Dimensions:		
Number of pins:	3-pin + PE (DIN EN 175301-803)	4-pin
Voltage max.	30 VDC	30 VDC
IP rating:	IP 65	IP 67**
Cable fitting:	PG 11	
Standard pin assignment		
**with respective plug top Other plug connections available upon request		

Model key for Model key for temperature transmitter MK2/EK2

XXX - G1/2 - XX - XX / XX	
<p>MK2 for version MS EK2 for version V</p> <p>Version MS Brass VA Stainless steel</p> <p>Connector M3 M12</p>	<p>Length (max. 1000 mm) 280 370 500 variable (please specify)</p>

Ordering example

You need: Temperature transmitter brass version, with M3 plug connection, output 0-100 °C = 4-20 mA, length L= 520 mm, operating pressure 2 bar

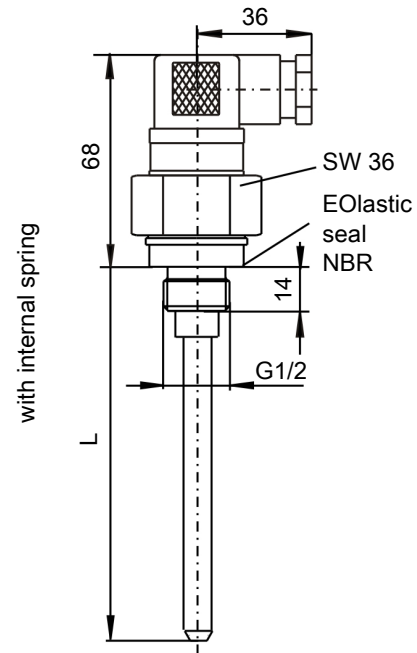
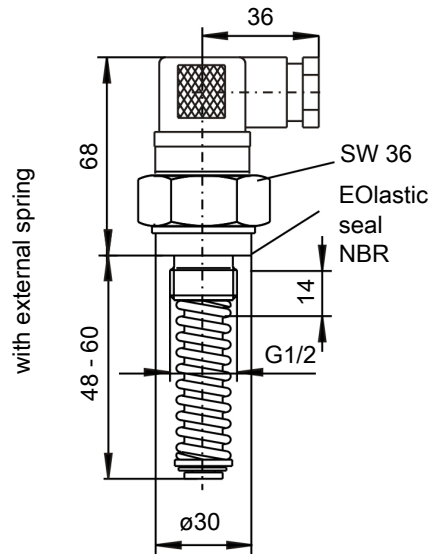
Order: Temperature transmitter MK2-G1/2-MS-M3/520

Technical Data Temperature Probe with Pt100 and Spring

Version with external spring

Version with internal spring

Length:	L	Spring displacement	Lengths:	L	Spring displacement
	55	48 - 60 mm		210	206 - 215 mm
Fastening torque:	25 Nm			330	325 - 334 mm
Probe material:	Anodised aluminium/spring steel		Probe material:	Brass	
Seal:	NBR		Seal:	NBR	
Max. operating pressure:	1 bar		Max. operating pressure:	1 bar	
Connection:	G1/2		Connection:	G1/2	
Operating temperature	-40 °C to +100 °C		Operating temperature:	-40 °C to +100 °C	

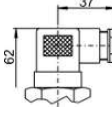
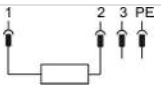


Temperature sensor

Sensor element:	Pt100 Class B, DIN EN 60 751
Tolerance:	±0.8 °C
Switching type:	2 lead

Pt100 measuring resistance base values

°C	0	10	20	30	40	50	60	70	80	90	100
Ohm	100.00	103.90	107.79	111.67	115.54	119.40	123.24	127.07	130.89	134.70	138.50

Connector	M3
Dimensions:	
Number of pins:	3-pin + PE (DIN EN 175301-803)
IP rating:	IP 65
Cable fitting:	PG 11
Standard pin assignment	
2 lead	

Ordering instructions temperature probe TF-M-VAL with Pt100 and spring

Item no.:	Spring displacement	Type
18 92 599	48 - 60 mm	TF-M-PT100-VAL-M3/55
18 94 599	206 - 215 mm	TF-M-PT100-VAL-M3/210
18 95 799	325 - 334 mm	TF-M-PT100-VAL-M3/330

Ordering example

You need: Temperature probe with Pt100 with spring, spring deflection 48 - 60 mm

Order: Item no. 18 92 599 temperature probe TF-M-PT100-VAL-M3/55