

Temperature sensor TF-M-VAL with spring

The temperature-based change in the viscosity of hydraulic and lubricating oils requires closely monitoring and stabilising the medium temperature. Furthermore, close temperature monitoring impacts the life of the oils. The oil tank is typically accepted as the control point for the oil temperature, which generally provides an informative mean value. It may further be helpful to also monitor segments or individual devices in a system.

The values determined by the measuring points must be transmitted to the system control in a compliant manner. However, for safety reasons it is advisable to at least display the current oil temperature on the oil tank.

Bühler Technologies GmbH's comprehensive range of temperature monitoring products is specially designed for use in hydraulics and lubrication technology.

Temperature sensor with spring

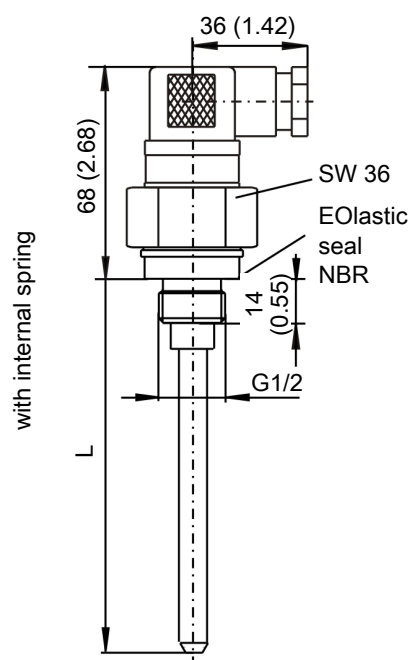
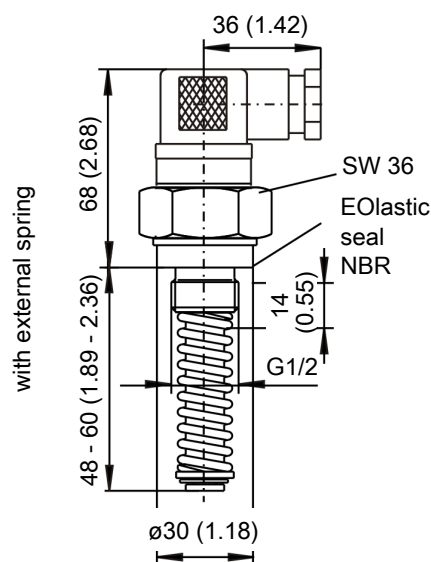
Continuous temperature detection with Pt100 sensor element

Integrated spring for variable sensor length



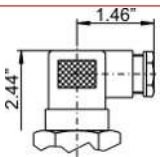
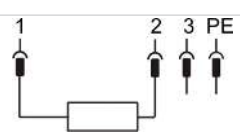
Technical Data TF-M-VAL with spring

Version with external spring			Version with internal spring		
Length:	L	Spring displacement	Lengths:	L	Spring displacement
	55 (2.17")	48–60 mm (1.89 - 2.36")		210 (8.27")	206–215 mm (8.11 - 8.46")
Fastening torque:	25 Nm (18.4 ft lb)			330 (12.99")	325–334 mm (12.8 - 13.15")
Probe material:	Anodised aluminium/spring steel		Probe material:	Brass	
Seal:	NBR		Seal:	NBR	
Max. operating pressure:	1 bar (14.5 psi)		Max. operating pressure:	1 bar (14.5 psi)	
Connection:	G1/2		Connection:	G1/2	
Medium temperature:	-40 °C to +100 °C (-40 °F to 212 °F)		Medium temperature:	-40 °C to +100 °C (-40 °F to 212 °F)	
Ambient temperature:	-20 °C to +80 °C (-4 °F to 176 °F)		Ambient temperature:	-20 °C to +80 °C (-4 °F to 176 °F)	
Sensor element:	Pt100 Class B, DIN EN 60751		Sensor element:	Pt100 Class B, DIN EN 60751	
Tolerance:	± 0.8 °C (1.4 °F)		Tolerance:	± 0.8 °C (1.4 °F)	
Switching type:	2 lead		Switching type:	2 lead	


Pt100 measuring resistance base values

°C (°F)	0 (32)	10 (50)	20 (68)	30 (86)	40 (104)	50 (122)	60 (140)	70 (158)	80 (176)	90 (194)	100 (212)
Ohm	100.00	103.90	107.79	111.67	115.54	119.40	123.24	127.07	130.89	134.70	138.50

Standard pin assignment TF-M-VAL with spring

Connector:	M3 valve connector
Dimensions:	
Number of pins:	3-pin + PE
DIN EN:	175301-803
IP rating:	IP65
Cable fitting:	PG 11
Standard pin assignment:	
2 lead	

Ordering instructions TF-M-VAL with spring

Item no.:	Spring displacement	Model
18 92 599	48 - 60 mm (1.89 - 2.36 in)	TF-M-PT100-VAL-M3/55
18 94 599	206 - 215 mm (8.11 - 8.46 in)	TF-M-PT100-VAL-M3/210
18 95 799	325 - 334 mm (12.8 - 13.15 in)	TF-M-PT100-VAL-M3/330

Ordering example

You need: Temperature sensor with spring, spring deflection 48–60 mm (1.89 - 2.36")

You order: Item no. 1892599 temperature sensor TF-M-PT100-VAL-M3/55