

Temperature sensor

TF-M, TF-E



Fluidcontrol

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.

Continuous temperature detection with Pt100 sensor element

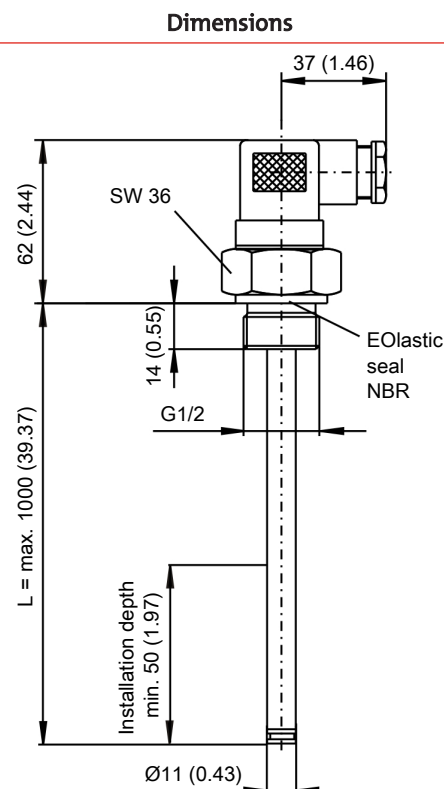
Sensor length up to 1 m (3.3 ft)

Brass or stainless steel housing



Technical Data TF

Model	TF-M	TF-E
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 (11.02"), 370 (14.57"), 500 (19.69") (standard) variable to max. 1000 mm (39.37")	
Sensor element:	Pt100 Class B, DIN EN 60751	
Tolerance:	± 0.8 °C (1.4 °F)	
Switching type:	2, 3 or 4 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

Connector:	M3 valve connector	GS4	M12 plug A coded
Dimensions:			
Number of pins:	3-pin + PE	4-pin	4-pin
DIN EN:	175301-803		61076-2-101
IP rating:	IP65	IP65	IP67**
Cable fitting:	PG 11	PG 7	
Standard pin assignment:			
2 lead		---	
3 lead		---	
4 lead	---		
**with IP67 cable box screwed on Other connectors available on request			

Model key TF

XXX - G1/2 - XX - XX - PT100 - XX / XX	
TF-M for version MS TF-E for version V	Length (max. 1000 mm/39.37 in) 280 (11.02) 370 (14.57) 500 (19.69) variable (please specify)
Version MS Brass VA Stainless steel	Switching type 2L = 2 lead 3L = 3 lead 4L = 4 lead
Connector M3 M12 GS4 (4 lead only)	

Ordering example

You need: Brass temperature sensor, with M3 plug connection, length L = 520 mm (20.47 in), Pt100 with 2 lead circuit, operating pressure 2 bar (29 psi)

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