

# Temperature sensor TF-M, TF-E

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.

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Continuous temperature detection with Pt100 sensor element

Sensor length up to 1 m

Brass or stainless steel housing

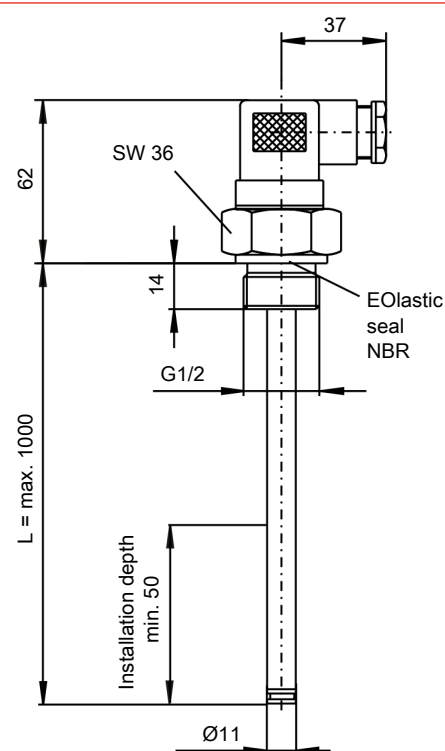
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## Technical Data TF

Model	TF-M	TF-E
Version:	MS	VA
Probe material:	Brass	1.4571
Max. operating pressure:	5 bar	10 bar
Connection:	G1/2	G1/2
Medium temperature:	-40 °C to +100 °C	
Ambient temperature:	-20 °C to +80 °C	
Lengths:	280, 370, 500 (standard) variable to max. 1000 mm	
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

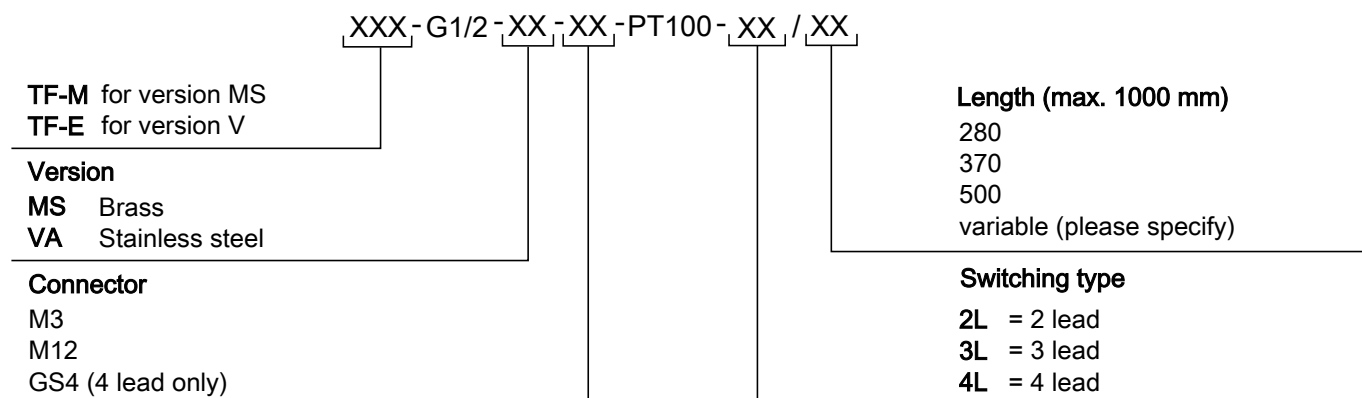
## Standard pin assignment TF

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



## Ordering example

You need: Brass temperature sensor, with M3 plug connection, length L = 520 mm, Pt100 with 2 lead circuit, operating pressure 2 bar

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