

Data sheet

# Temperature Sensors

## MBT 3250



Heavy-duty temperature sensors for controlling cooling water, lubrication oil, hydraulic oil and refrigeration plants within general industry and marine applications.

On a standardized Pt 100 or Pt 1000 element, which gives a reliable and accurate measurement. The sensor can also be delivered with NTC / PTC elements on request.

The MBT 3250 with changeable measuring insert is equipped with EN 175302-803-A Pg plug as standard.

The measuring insert is based on a silicone cable, which makes the sensor very resistant towards vibrations.

### Features

- Gaseous or liquid media, e.g. air, gas, vapour, water or oil.
- Up to 200 °C media temperature
- Pt 100 or Pt 1000 sensing element
- 1 or 2 elements
- Can be used with 2- or 3-wire connections
- Gold plated male and female connector
- With interchangeable measuring insert

## Data sheet | Temperature Sensor, Type 3250

### Technical data

#### General data

Measuring range	-50 – 200 °C
Sensing element	1 or 2 x Pt 100, 1 or 2 x Pt 1000
Protection tube	ø8 × 1 mm

#### Response times

Type	Protection tube	Indicative response times			
		Water 0.2 m/s		Air 1 m/s	
		t <sub>0.5</sub>	t <sub>0.9</sub>	t <sub>0.5</sub>	t <sub>0.9</sub>
MBT 3250 with interchangeable measuring insert	ø8 × 1 mm	9 s.	33 s.	95 s.	310 s.

#### Materials

Protection tube in contact with media	W.no. 1.4571 (AISI 316 Ti)
Process connection	W.no. 1.4404 (AISI 316 L)
Extension length	W.no. 1.4571 (AISI 316 Ti)
Union	Nickel plated brass
Gasket	Silicone
Plug EN 175301-803	PA 6.6 (max 125 °C)

#### Mechanical and environmental specifications

Sensor tolerance	EN 60751 Class B: $\pm (0.3 + 0.005 \times t)$	t = temperature of medium, numerical value
Vibration stability	Shock:	100 g / 6 ms
	Vibrations:	4 g sine function 5 – 200 Hz, measured acc. to IEC 60068-2-6
Enclosure	IP65 according to IEC 60529	
Cable entry EN 175301-803	Pg 9, Pg 11 or Pg 13.5	

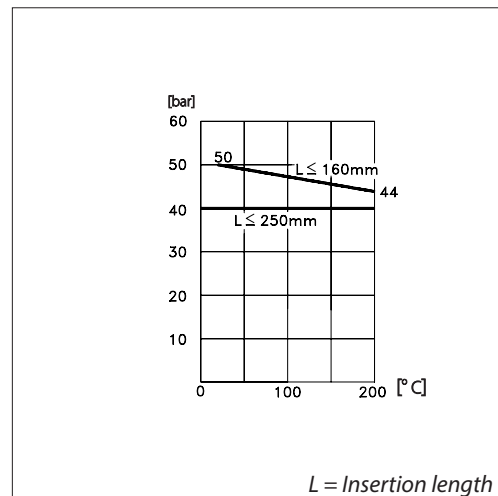
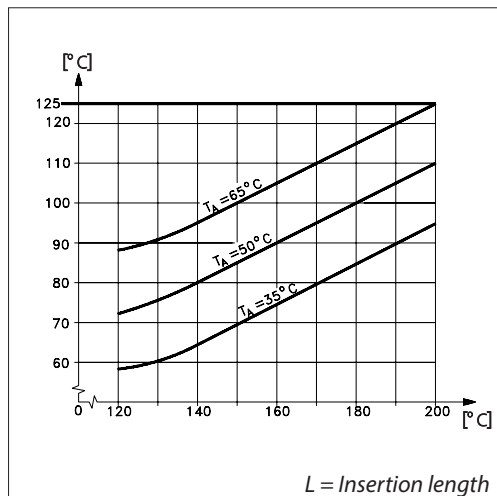
Ordering standard

Type MBT 3250		Sensor										
<b>Measuring range, sensor element</b>												
-50 – 200 °C	0									0	<b>Tolerance</b>	
										9	EN 60751 Class B	
											Other	
<b>Sensing element</b>												
1 × Pt 100	0									0	<b>Process connection</b>	
1 × Pt 1000 (Class B only)	1									1	None	
2 × Pt 100	2									2	G 1/4 A	
2 × Pt 1000 (Class B only)	3									3	G 1/2 A	
Other	9									4	1/2 – 14 NPT	
										5	G 3/4 A	
										9	M18 × 1.5	
											Other	
<b>Protection Tube, W.nr. 1.4571 (AISI 316 Ti)</b>												
Acid-proof steel, ø8 × 1 mm	0											
Other	9											
<b>Extension length</b>												
None	0											
50 mm	1											
<b>Insertion length</b>												
50 mm	050									0	<b>Electrical Connections</b>	
80 mm	080									1	EN175301/803 excl. female plug	
100 mm	100									2	EN175301/803 plug Pg 9 (IP65)	
150 mm	150									3	EN175301/803 plug Pg 11 (IP65)	
200 mm	200									8	EN175301/803 plug Pg 13,5 (IP65)	
250 mm	250									A	ITT Canon 4 pins Au	
xx0 mm	xx0									B	EN175301/803 GL. plug Pg 13,5 (IP65) Sn pins	
										C	EN175301/803 Pg 9–4 pins without earth (IP65)	
										9	EN175301/803 Pg 11–4 pins without earth (IP65)	
											Other	
<input checked="" type="checkbox"/>	Preferred versions											

Technical data

Max. temperature (Ext. length "None")  
 Plug EN 175301-803

Max. load on protection tube  
 (ø8 × 1, ø10 × 2) acc. to EN 175301-803



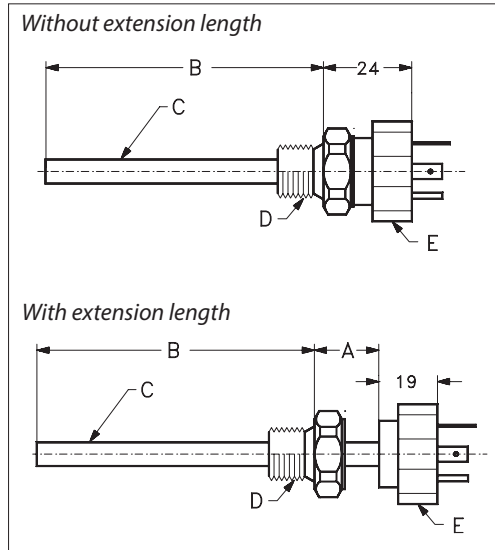
$T_m$  = Media temperature  
 $T_D$  = Temperature for electric plug  
 $T_A$  = Ambient temperature

**Note:** for extension length = 50 mm  
 no limitations up to 200 °C media temperature  
 and 90 °C ambient temperature

Permissible media velocity	Air	Water
	25 m/s	3 m/s

Process connection	G ¼ A	G ½ A G ¾ A – M18	G ¾ A M24
	Max. tightening torque	25 Nm	50 Nm

**Dimensions [mm]**

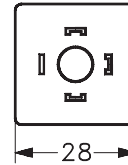


- A = Extension length
- B = Insertion length
- C = Protection tube
- D = Process connection
- E = Union

Please note:

- Tightening torque for the mounting screw at the rear end of the electrical connection plug: 25 Ncm
- Tightening torque for the union (position "E"): 17 Nm

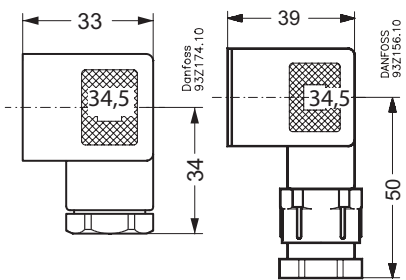
**Gasket**



**Plugs**

Pg 9, Pg 11

Pg 13.5



All dimensions in millimeters

Process connection	G ¼	G ¼ A – G ½ A G ¾ A – M18	G ¾ A M24
Width across flats	HEX 22	HEX 27	HEX 32

**Electrical connections**

