

## Data Sheet

Temperature sensor  
Type **MBT 3252**

Heavy-duty industrial application temperature sensor.



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

This temperature sensor is based on a standardised Pt 100 element, which gives a reliable and accurate measurement.

The changeable measuring insert is equipped with a silicone cable, which makes the sensor very resistant towards vibrations.

The MBT 3252 is equipped with a B-head as standard.

If needed, a transmitter (MBT 9110) can be ordered as an integrated part of the MBT 3252 sensor.

**Features:**

- Gaseous or liquid media, e.g. air, gas, vapour, water or oil
- Resistance or 4 – 20 mA signal
- Up to 200 °C media temperature
- Pt sensing element with silicone cable
- Can be used with 2 or 3 wire connections
- Interchangeable measuring insert
- Available with built-in transmitter
- Also available in a marine version as MBT 5252

## Product specification

### Technical data

**Table 1: General data**

Features	Description	
Measuring range	-50 – 200 °C	
Sensing element	Pt 100	
Protection tube	ø10 × 2 mm	
Permissible media velocity	Air	25 m/s
	Steam	25 m/s
	Water	3 m/s

**Table 2: Connection**

Process connection	G ½ A
Max. tightening torque	50 Nm
Width across flats	HEX 27

**Table 3: Response time**

Type	Protection tube	Indicative response times			
		Water 0.2 m/s		Air 1 m/s	
		$t_{0.5}$	$t_{0.9}$	$t_{0.5}$	$t_{0.9}$
MBT 3252	ø10 × 2 mm	14 s	42 s	110 s	390 s

**Table 4: Mechanical and environmental specifications**

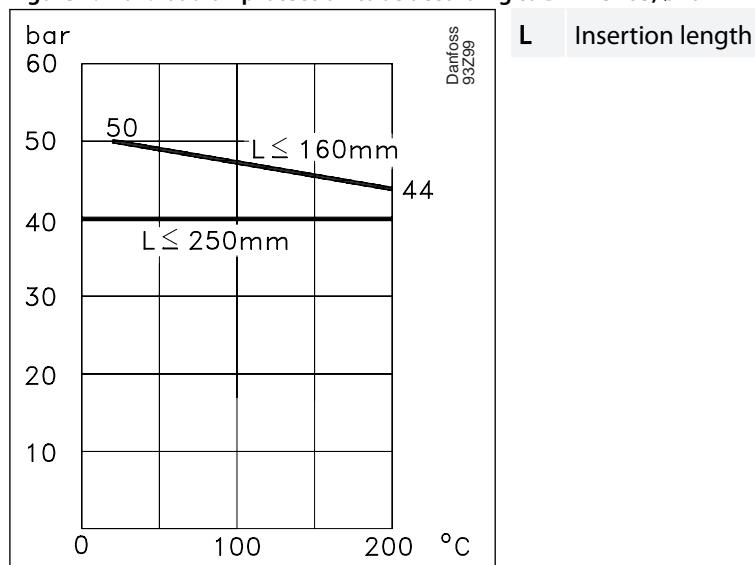
Features	Description
Max. temperature <sup>(1)</sup>	Ambient: 90 °C for sensors without temperature transmitter
	Transmitter: 85 °C for sensors with temperature transmitter
Sensor tolerance	EN 60751 Class B: $\pm (0.3 + 0.005 \times t)$ t = temperature of medium, numerical value
Vibration stability	Shock: 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 B-head	Pg 16
Temperature transmitter MBT 9110	Supply voltage: 8 – 35 V DC
	Output: 4 – 20 mA

<sup>(1)</sup> The temperature of the transmitter is influenced by media temperature, ambient temperature and ventilation in the surroundings. If the temperature of the transmitter exceeds the max. allowed temperature the, transmitter must be placed in a separated enclosure, as described in the separate data sheet for MBT 9110.

**Table 5: Materials**

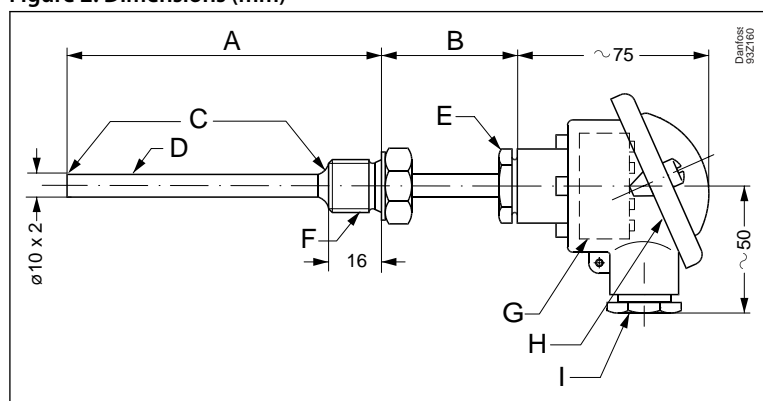
Features	Description
Protection tube in contact with media	W.no. 1.4571 (AISI 316 Ti)
Process connection in contact with media	W.no. 1.4404 (AISI 316 L)
Extension length	W.no. 1.4571 (AISI 316 Ti)
Union nut	Nickel plated brass
Connection head	Die cast aluminium

Figure 1: Max. load on protection tube according to DIN 43763,  $\phi 10 \times 2$



### Dimensions

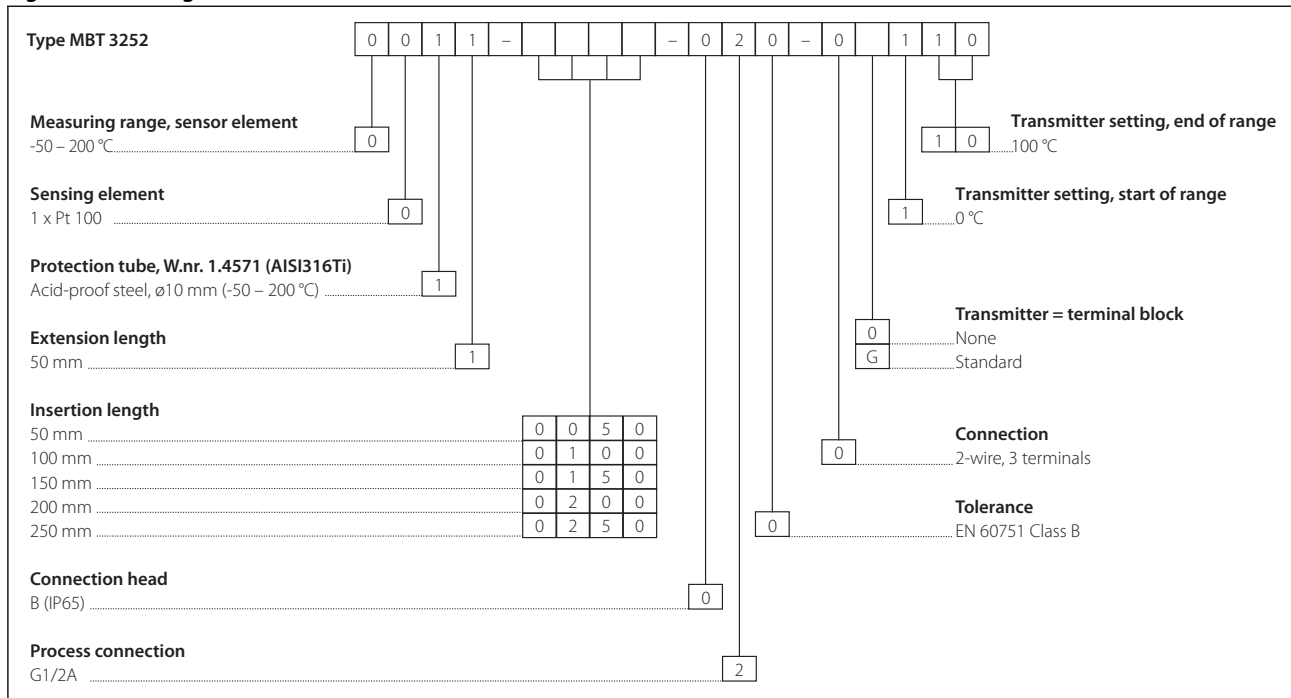
Figure 2: Dimensions (mm)



<b>A</b>	Insertion length	<b>F</b>	Process connection
<b>B</b>	Extension length	<b>G</b>	Transmitter type MBT 9110, as terminal block
<b>C</b>	Welded	<b>H</b>	Connection head, type B
<b>D</b>	Protection tube	<b>I</b>	Pg 16
<b>E</b>	Union nut		

**Ordering**

Figure 3: Ordering for MBT 3252



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**Table 6: MBT 3252**

File name	Document type	Document topic	Approval authority
084R1019.01	EU Declaration	EMCD/ROHS	Danfoss
084R1022.01	Manufacturers Declaration	China RoHS	Danfoss
097R0004.01	Manufacturers Declaration	RoHS	Danfoss
087R0017.00	Manufacturers Declaration	Simple apparatus	Danfoss
RU Д-DK.AJ187.B.00022_19	EAC Declaration	EMC	EAC
OC.C.32.004.A 75977	Measuring - Performance Certificate	–	GOST

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