

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

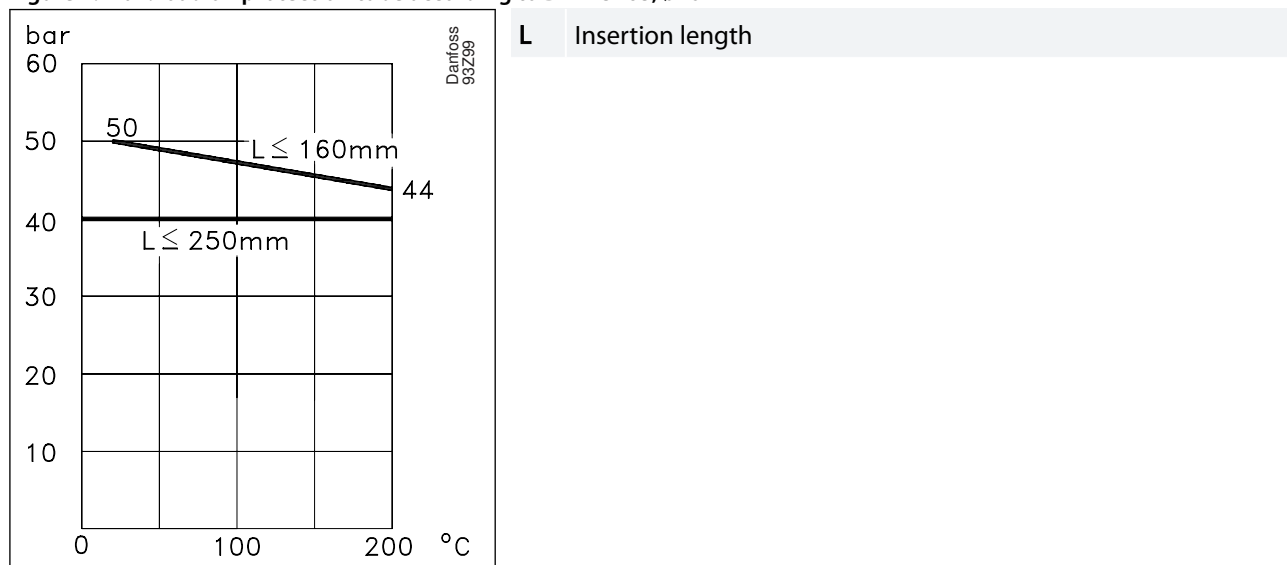
Features	Description
Max. temperature ⁽¹⁾	Ambient: 90 °C for sensors without temperature transmitter
	Transmitter: 85 °C for sensors with temperature transmitter
Sensor tolerance	EN 60751 Class B: $\pm (0.3 + 0.005 \times t)$ t = temperature of medium, numerical value
Vibration stability	Shock: 100 g / 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

⁽¹⁾ 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

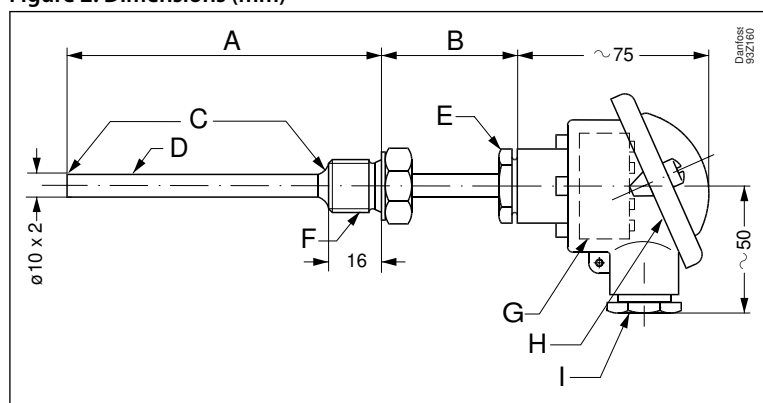
Features	Description
Protection tube in contact with media	W.no. 1.4571 (AISI 316 Ti)
Process connection in contact with media	W.no. 1.4404 (AISI 316 L)
Extension length	W.no. 1.4571 (AISI 316 Ti)
Union nut	Nickel plated brass
Connection head	Die cast aluminium

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



Dimensions

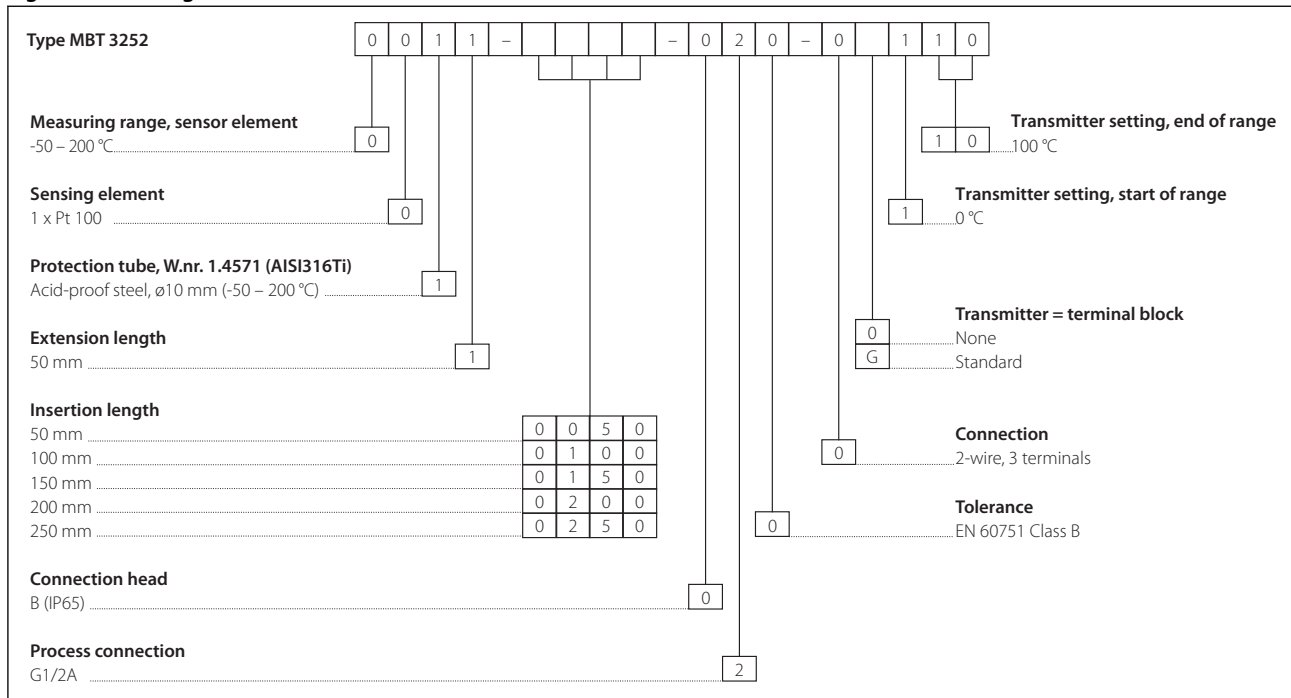
Figure 2: Dimensions (mm)



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

Ordering

Figure 3: Ordering for MBT 3252



Certificates, declarations, and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

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

Online support

Danfoss offers a wide range of support along with our products, including digital product information, software, mobile apps, and expert guidance. See the possibilities below.

The Danfoss Product Store



The Danfoss Product Store is your one-stop shop for everything product related—no matter where you are in the world or what area of the cooling industry you work in. Get quick access to essential information like product specs, code numbers, technical documentation, certifications, accessories, and more.

Start browsing at store.danfoss.com.

Find technical documentation



Find the technical documentation you need to get your project up and running. Get direct access to our official collection of data sheets, certificates and declarations, manuals and guides, 3D models and drawings, case stories, brochures, and much more.

Start searching now at www.danfoss.com/en/service-and-support/documentation.

Danfoss Learning



Danfoss Learning is a free online learning platform. It features courses and materials specifically designed to help engineers, installers, service technicians, and wholesalers better understand the products, applications, industry topics, and trends that will help you do your job better.

Create your Danfoss Learning account for free at www.danfoss.com/en/service-and-support/learning.

Get local information and support



Local Danfoss websites are the main sources for help and information about our company and products. Find product availability, get the latest regional news, or connect with a nearby expert—all in your own language.

Find your local Danfoss website here: www.danfoss.com/en/choose-region.