

Temperature sensors types MBT 153, MBT 120 and MBT 3260

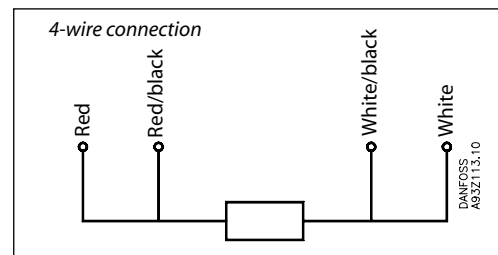
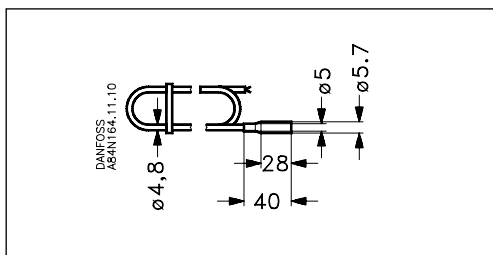
Features



Universal cable temperature sensor
Type MBT 153

- For temperature measurement and regulation where reliable, robust and accurate equipment is required
- Temperature range -50 to +200°C
- Short response times
- Pt100 or Pt1000 resistance element
- 2- or 4-wire connection

Dimensions and colour code



Technical data

Response times

Indicative response times according to VDI/VDE 3522			
Water		Air	
0.2 m/s		1 m/s	
$t_{0.5}$	$t_{0.9}$	$t_{0.5}$	$t_{0.9}$
1 s	5 s	28 s	107 s

Weight approx.

Cable length	Weight approx.
3.5 m	98 g
5.5 m	154 g
8.5 m	238 g

Mechanical and environmental specifications

Max. ambient temperature ¹⁾	PVC: → 100°C Silicone: → 200°C
Sensor tolerance	EN 60751 class B: $\pm (0.3 + 0.005 \times t)$ t = temperature of medium, numerical value
Vibration stability	Shock: 100 g in 6 ms Vibrations: 4g sine function 5 - 200 Hz, measured acc. to IEC 68-2-6
Enclosure	IP 67
Cable	PVC $2 \times 0.25 \text{ mm}^2$ Silicone $2 \times 0.25 \text{ mm}^2$ (2-wire) Silicone $4 \times 0.14 \text{ mm}^2$ (4-wire)

¹⁾According to max. allowed temperature for the cable

Ordering - Standard programme

Cable	Sensor element	Cable length [m]	Connection	
			2-wire Code no.	4-wire Code no.
PVC max. 100°C	Pt100	3.5	084Z6030	
	Pt100	8.5	084Z6032	
	Pt1000	3.5	084Z6033	
	Pt1000	5.5	084Z6034	
	Pt1000	8.5	084Z6035	
Silicone max. 200°C	Pt100	3.5	084Z6036	084Z6215
	Pt100	5.5	084Z6037	084Z6042
	Pt100	8.5	084Z6038	084Z6216
	Pt1000	3.5	084Z6039	

Other specifications on request

Features



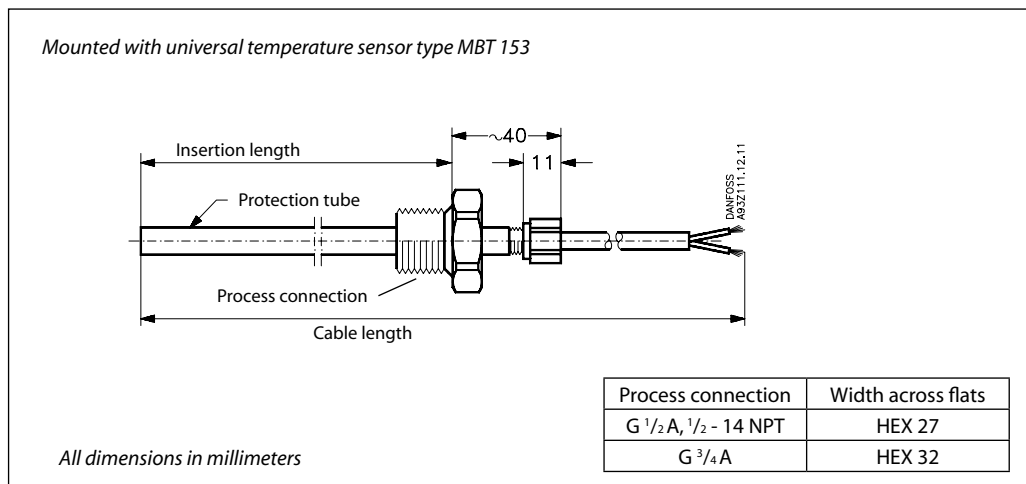
MBT 5253 mounted with MBT 153

Sensor pocket for MBT 153

Type MBT 120

- For measuring and regulating temperature in piping systems and refrigeration plant on ships - or at all points where reliable, robust and accurate equipment is required
- Gaseous or liquid media, e.g. air, gas, vapour, water or oil
- Temperature range -50 to +200°C
- Short response times

Dimensions



Technical data

Response times. MBT 5253 mounted with temperature sensor type MBT 153

Protection tube	Indicative response times according to VDI/VDE 3522			
	Water 0.2 m/s		Air 1 m/s	
	t _{0.5}	t _{0.9}	t _{0.5}	t _{0.9}
∅8 × 1	9 s	33 s	95 s	310 s
∅8 × 1, filled with heat conductive compound ¹⁾	3 s	10 s	90 s	300 s

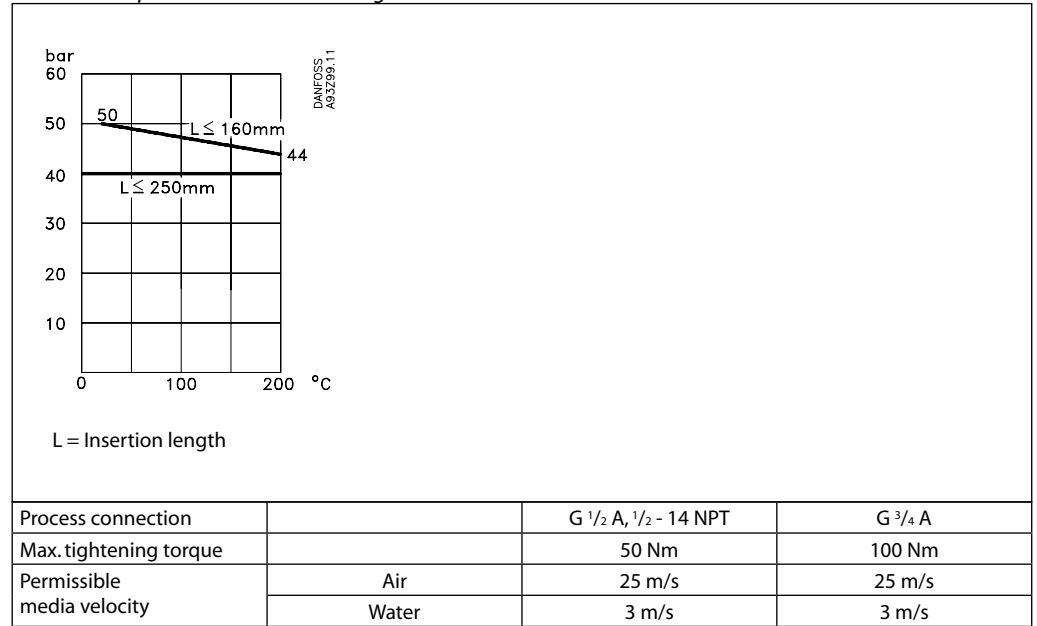
¹⁾ The sensor is supplied without heat conductive compound

Weight approx. (excl. MBT 153)

Insertion length	Process connection		
	G 1/2 A	G 3/4 A	1/2 - 14 NPT
50 mm	87 g	128 g	87 g
100 mm	96 g	137 g	96 g
150 mm	105 g	146 g	105 g
200 mm	114 g	155 g	114 g
250 mm	123 g	164 g	123 g

Weight of MBT 153, see page 1

Max. load on protection tube according to DIN 43763



Mechanical and environmental specifications ¹⁾

Max. ambient temperature	100°C (limited by the O-ring sealing at cable entry)	
Sensor tolerance	EN 60751 class B: $\pm (0.3 + 0.005 \times t)$	t = temperature of medium numerical value
Vibration stability	Shock: 100 g i 6 ms Vibrations: 4g sine function 5 - 200 Hz, measured acc. to IEC 68-2-6	
Enclosure	IP 67	
Cable	PVC 2 x 0.25 mm ² Silicone 2 x 0.25 mm ² (2-wire) Silicone 4 x 0.14 mm ² (4-wire)	
Materials in contact with medium	W. no. 1.4571 (AISI 316 Ti)	

¹⁾ 1) For MBT 120 mounted with temperature sensor type MBT 153

Ordering - Standard programme

Insertion length	Process connection		
	G 1/2 A	G 3/4 A	1/2 - 14 NPT
	Code no	Code no.	Code no.
50 mm	084Z6050	084Z6060	084Z6070
100 mm	084Z6051	084Z6061	084Z6071
200 mm	084Z6053	084Z6063	084Z6073
250 mm	084Z6054	084Z6064	084Z6074

Note!

Temperature sensor type MBT 153 must also be ordered for use with the MBT 120 sensor pocket. Please see pages 1 - 2 for technical information and code numbers for MBT 153.

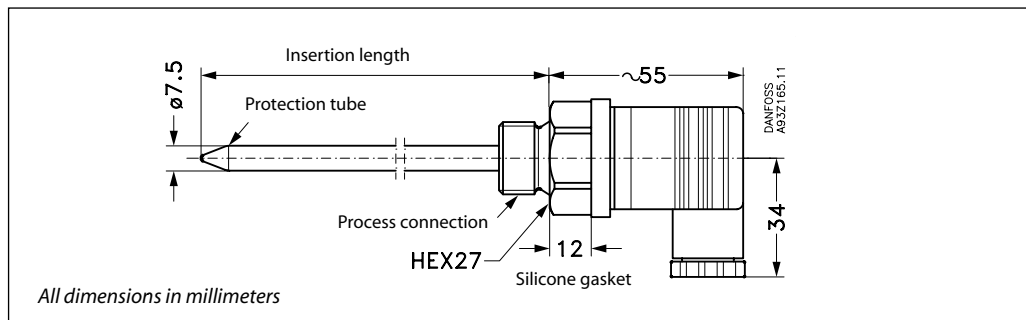
Features



Universal temperature sensor for screwing in
Type MBT 3260

- For temperature measurement and regulation in piping- and ventilation systems and other light industrial applications
- Pt100 or Pt1000 resistance element
- Temperature range -50 to +120°C
- Copper tube
- Short response times
- G1/2A brass process connection
- Goldplated connectors
- Fixed measuring insert
- Insertion lengths: 50, 100 or 250 mm

Dimensions



Technical data

Response times

Protection tube	Indicative response times acc. to VDI/VDE 3522			
	Vand 0.2 m/s		Luft 1 m/s	
	t _{0,5}	t _{0,9}	t _{0,5}	t _{0,9}
Ø7.5 mm	2 s	2.5 s	6 s	12 s

Weight

Insertion length	Weight approx
50 mm	119 g
100 mm	125 g
250 mm	143 g

Mechanical and environmental specifications

Max. ambient temperature	120°C	
Max. media pressure	75 bar external water pressure at room temperature acc. to DIN 43763	
Sensor tolerance	EN 60751 class B: $\pm (0.3 + 0.005 \times t)$	t = temperature of medium
Enclosure	IP 54 according to IEC 529	
Materials	Protection tube Process connection Plug	Copper Brass PA 6.6 design according to DIN 43650

Ordering - Standard programme

Insertion length [mm]	Resistance value	
	Pt100 Code no.	Pt1000 Code no.
50	084Z6055	084Z6056
100	084Z8181	084Z8180
250	084Z8183	084Z8182



MBT program

Danfoss offers a complete range of MBT temperature sensors for all types of applications. The range consists of exhaust gas sensors, universal sensors, bearing sensors, cargo sensors, stern tube sensors as well as general purpose sensors.

General features

- Fixed or replaceable measuring insert
- Pt100, Pt1000 resistance element or thermocouple
- Wide temperature range
 - up to +800°C with thermocouple
 - up to +600°C with resistance element

Further information

Further information about our MBT sensors can be found in separate data sheets, which can be ordered by contacting your local Danfoss representative.

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