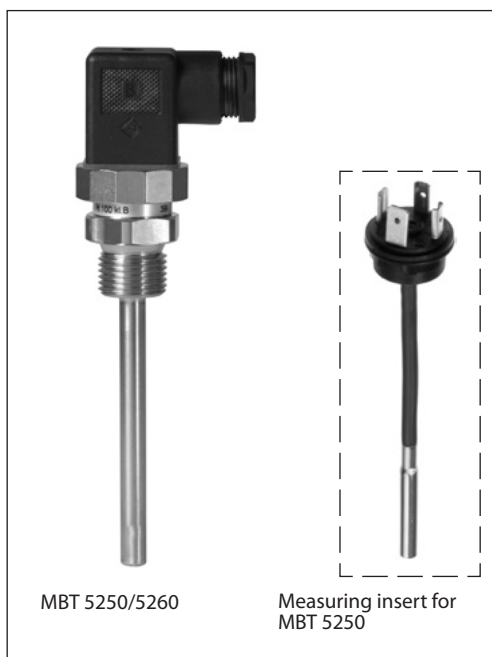


# Temperature sensors types MBT 5250, 5260 and 5252

## Features



- For temperature measurement and regulation in piping systems and refrigeration plants on ships – or points where reliable, robust and accurate equipment is required
- Gaseous or liquid media, e.g. air, gas, vapour, water or oil.
- Up to +200°C media temperatures
- Pt100 or Pt1000 resistance element
- Can be used with 2- or 3-wire connections
- Gold plated male and female connector
- MBT 5250 with interchangeable measuring insert
- MBT 5260 with fixed measuring insert
- Approvals
  - Lloyds Register of Shipping, LR
  - Germanischer Lloyd, GL
  - Bureau Veritas, BV
  - Det Norske Veritas, DNV
  - Nippon Kaiji Kyokai, ClassNK
  - Registro Italiano Navale, RINA
  - American Bureau of Shipping, ABS
  - Korean Register of Shipping, KRS

## Ordering MBT 5250 standard programme

- Measuring range: -50 to +200°C
- Resistance value: 1 × Pt100
- Protection tube: Ø8 × 1 mm, W. No. 1.4571 (AISI 316 Ti)
- Extension length: None
- Tolerance: EN 60751, Class B

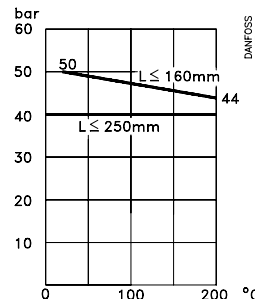
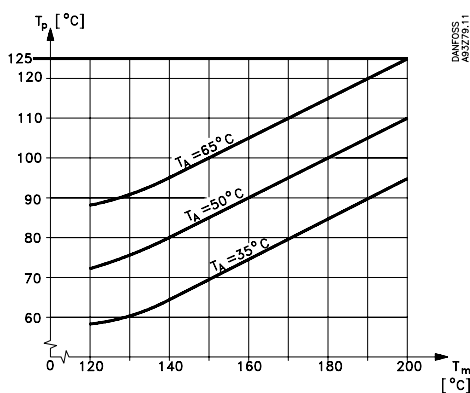
Insertion length [mm]	Process connection	Electrical connection		
		PG 9	PG 11	PG 13.5
		Code no.	Code no.	Code no.
50	G 1/2 A	<b>084Z8011</b>	<b>084Z8036</b>	
100	G 1/2 A	<b>084Z8012</b>	<b>084Z8039</b>	
150	G 1/2 A	<b>084Z8010</b>	<b>084Z8008</b>	
200	G 1/2 A	<b>084Z8022</b>	<b>084Z8043</b>	
50	G 3/4 A		<b>084Z8037</b>	<b>084Z8058</b>
100	G 3/4 A		<b>084Z8006</b>	<b>084Z8013</b>
150	G 3/4 A		<b>084Z8041</b>	<b>084Z8014</b>
200	G 3/4 A		<b>084Z8044</b>	<b>084Z8218</b>
50	1/2 – 14 NPT		<b>084Z8066</b>	
80	1/2 – 14 NPT		<b>084Z8019</b>	
100	1/2 – 14 NPT		<b>084Z8067</b>	
150	1/2 – 14 NPT		<b>084Z8065</b>	
200	1/2 – 14 NPT		<b>084Z8068</b>	

Other specifications on request

Technical data

Max. temperature (Ext. length "None")  
Plug DIN 43650

Max. load on protection tube ( $\varnothing 8 \times 1$ ,  
 $\varnothing 10 \times 2$ ) acc. to DIN 43763



L = Insertion length

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

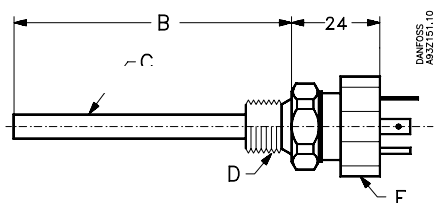
Note: for extension length = 50 mm  
no limitations up to 200 °C media  
temperature and 90 °C ambient  
temperature

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

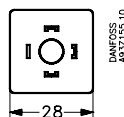
Process connection	G 1/4 A – G 1/2 A G 3/8 A – M18	G 3/4 A M24
Max. tightening torque	50 Nm	100 Nm

Dimensions

Without extension length

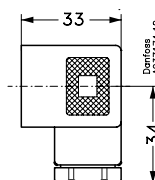


Gasket

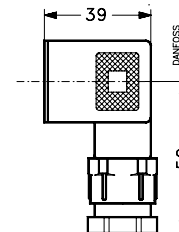


Plugs

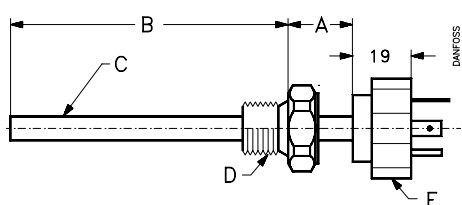
PG 9, PG 11



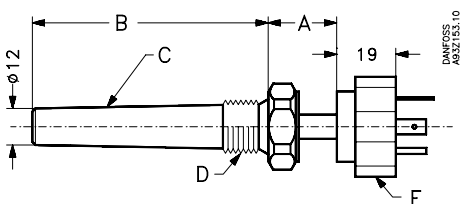
PG 13.5



With extension length



Solid drilled with extension length



A = Extension length  
B = Insertion length  
C = Protection tube  
D = Process connection 1)  
E = Union

All dimensions in millimeters

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

1)	Process connection	Width across flats
	G 1/4 A	HEX 22
	G 1/2 A, 1/2 - 14 NPT, M18 x 1.5, G 3/8 A	HEX 27
	M24 x 2, G 3/4 A	HEX 32

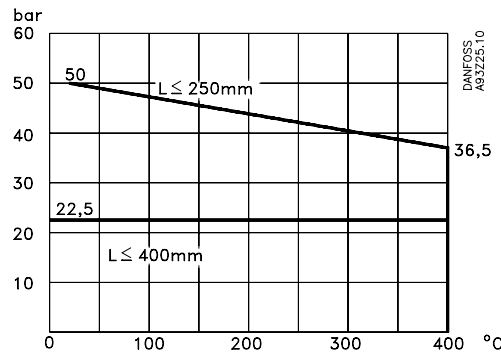
Technical data

Weight

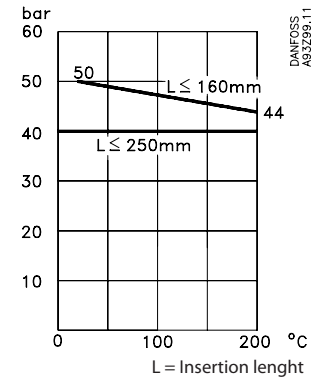
Insertion length [mm]	Electrical connection	Transmitter setting	Process connection		
			G 1/2 A	G 3/4 A	1/2-14 NPT
			Weight [g]	Weight [g]	Weight [g]
50	2-wire, 3 terminals	Sensors are without transmitter	430	480	430
100			460	510	460
150			490	540	490
200			520	570	520
250			550	600	550
50	4 - 20 mA, 2-wire universal temperature transmitter	0 -> +100°C	420	470	420
100			450	500	450
150			480	530	480
200			510	560	510
250			540	590	540

Max. load on protection tube according to DIN 43763

Ø 11 × 1, Ø 15 × 3



Ø 8 × 1, Ø 10 × 2



Protection tube		Ø 10 × 2
Max. tightening torque G 1/4 - M18		50 Nm
Permissible media velocity	Air	25 m/s
	Steam	25 m/s
	Water	3 m/s

Materials

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

Mechanical and environmental specifications

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: ± (0.3 + 0.005 × t) 1/3 EN 60751 Class B: ± (0.1 + 0.005 × t) 1/6 EN 60751 Class B: ± (0.05 + 0.005 × t)	t = temperature of medium, numerical value
Vibration stability	Shock: 100 g in 6 ms	
	Vibrations: 4g sine function 2 - 100 Hz, measured acc. to IEC 68-2-6	
Enclosure	IP 65 according to IEC 529	
Cable entry B-head/screw-cap	PG 16	
Cable entry BM	PG 9	
Temperature transmitter MBT 9110	Supply voltage:	8 - 35V d.c.
	Output:	4 - 20 mA

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