

## Data sheet

# Temperature sensor and temperature transmitter

## Type MBT 5410



The MBT 5410 is a heavy-duty temperature sensor that can be used for controlling freezing installations and room temperature within general industry and marine applications. This temperature sensor is based on a standardized Pt 100 or Pt 1000 element, which gives a reliable and accurate measurement. If needed a transmitter (MBT 9110) can be ordered as an integrated part of the sensor.

### Features

- For measuring temperature in marine and industrial refrigeration, freezing installations
- Temperature range: From -50 – 70 °C
- High measuring accuracy
- Robust construction with resistance to shock and vibration
- Available with built-in transmitter

### Approvals

Lloyds Register of Shipping, LR  
 Germanischer Lloyd, GL  
 Det Norske Veritas, DNV  
 Registro Italiano Navale, RINA

Nippon Kaiji Kyokai, NKK  
 American Bureau of Shipping, ABS  
 Korean Register of Shipping, KRS  
 Bureau Veritas, BV  
 China Classification Society, CCS

**Technical data**
*Mechanical and environmental specifications*

Ambient temperature	Approval from Lloyds Register of Shipping covers measuring range -30 – 70 °C. Because of this limitation the products are marked -30 – 70 °C.	
	Max. ambient temperatures for sensors with temperature transmitter are:	
	Standard:	-40 – 70 °C (Brief in max. 2 hours: 80 °C)
	Without transmitter:	-50 – 70 °C (Brief in max. 2 hours: 80 °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 / 6 ms
	Vibrations:	4 g sine function, 2 – 100 Hz, measured acc. to IEC 60068-2-6
Enclosure	IP67 according to IEC 60529	
Cable entry	Pg 13.5	
Material (sensor tube)	W.no. 1.4571 (AISI 316 Ti)	

Further information about temperature transmitter type MBT 9110 available in separate data sheet

*Response time*

Protection tube	Indicative response times	
	Air 1 m/s	
	$t_{0.5}$	$t_{0.9}$
ø10 × 2	150 s	450 s

*Net weight*

	Without temperature transmitter	With temperature transmitter
Net weight, approx.	550 g	600 g

Ordering standard

Type MBT 5410		Sensor		Transmitter		
<b>Temperature range</b>	-50 – 100 °C (-30 – 70 °C) <sup>1)</sup>	0		00	0 °C (or none)	
<b>Resistance value</b>	1 × Pt 100	0		05	50 °C	
	1 × Pt 1000	2		10	100 °C	
	Other	9		11	110 °C	
				99	Other	
<b>Protection Tube, W.nr. 1.4571 (AISI 316 Ti)</b>						
	ø10 mm	0				
	Other	9				
<b>Insertion length</b>						
	60 mm		060	0	None	
	100 mm		100	1	0 °C	
				2	-10 °C	
				3	-30 °C	
				4	-50 °C	
				6	-20 °C	
				9	Other	
<b>Tolerance</b>						
	EN 60751 Class B		0			
	Other		9			
<b>Connection</b>						
	2 wire 3 terminals		0	0	None	
	3 wire		1	1	Standard	
	4 wire		2			
					<b>Transmitter setting, start of range</b>	
					0	None
					1	0 °C
					2	-10 °C
					3	-30 °C
					4	-50 °C
					6	-20 °C
					9	Other
						<b>Transmitter type</b>
				0	None	
				G	Standard	
					<b>Connection box</b>	
					KPS with plastic lid	
					KPS with metal lid	

■ Preferred versions

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Dimensions

