

Data sheet

Temperature sensor and temperature transmitter

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	Sensor tube IP67 according to IEC 60529; Terminal box IP65 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	
	$t_{0.5}$	$t_{0.9}$
$\varnothing 10 \times 2$	150 s	450 s

Net weight

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

Ordering standard

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

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Preferred versions

Dimensions

