EPIC® SENSORS T-M-P / W-M-P or T-P / W-P

Surface temperature sensor

Features

- temperature range -200...+550 °C
- fitting for plane surfaces
- fitting can be welded to sensor element at factory
- sensors with withou a welded fitting, meet the ATEX, IECEx and EAC Ex (Ex e) requirements
- fitting can be supplied as separate item
- installation typically with welding, bolt or steel ties
- Pt100 or thermocouple as sensing element
- AISI 316L as standard delivery material, other materials on request
- Pt100 accuracy class A as standard delivery
- thermocouple accuracy class 1 as standard delivery
- MI cable structured
- bendable sensor element
- vibration proof
- tailored solutions according to customer specific needs
- ATEX and IECEx compatible Ex i versions available
- 3D step models available on request.

Typical applications

- energy and power plant technology
- process industry
- chemical industry
- machinery and vessel construction
- manufacturing industry.

Technical data

Materials	AISI 316L, maximum temperature +550 °C, temporarily +600 °C, other materials on request (Note. max. safe temperature +100 °C for the sealant tube in cable to sensor element transition)
Cable materials	SIL = silicone, max. +180 °C FEP = fluoropolymer, max. +205 °C GGD = glass silk cable/metal braid jacket, max. +350 °C FDF = FEP wire insulation/braid shield/FEP jacket, max. +205 °C SDS = silicone wire insulation/braid shield/silicone jacket, only available as 2 wire cable, max. +180 °C TDT = fluoropolymer wire insulation/braid shield/fluoropolymer jacket, max. +205 °C FDS = FEP wire insulation/braid shield/silicone jacket, max. +180 °C FS = FEP wire insulation/silicone jacket, max. +180 °C (Note. max. safe temperature +100 °C for the sealant tube in cable to sensor element transition)
Dimensions	5x9x45 (WxHxL) (hole Ø5.1 mm), 12x12x50 (WxHxL) (hole Ø8.0 mm), other dimensions on request
Tolerances Pt100 (IEC 60751)	A tolerance ±0.5 + 0.002 x t, operating temperature -100...+450 °C B tolerance ±0.3 + 0.005 x t, operating temperature -196...+600 °C B 1/3 DIN, tolerance ±1/3 x (0.3 + 0.005 x t), operating temperature -196...+600 °C B 1/10 DIN, tolerance ±1/10 x (0.3 + 0.005 x t), operating temperature -196...+600 °C
Tolerances thermocouple (IEC 60584)	Type J tolerance class 1 = -40...375 °C ±1.5 °C, 375...750 °C ±0.004 x t Type K and N tolerance class 1 = -40...375 °C ±1.5 °C, 375...1000 °C ±0.004 x t
Temperature range Pt100	Model W-P: -200...+350 °C, depending on materials and sensor element length, Model W-M-P: -200...+500 °C, depending on materials and MI element length. (Note. max. safe temperature +100 °C for the sealant tube in cable to sensor element transition)
Temperature range thermocouple	Model T-P: -200...+350 °C, depending on thermocouple type, materials and sensor element length, Model T-M-P: -200...+550 °C, depending on thermocouple type, materials and MI element length. (Note. max. safe temperature +100 °C for the sealant tube in cable to sensor element transition)
Approvals	ATEX, IECEx and EAC Ex (Ex e) with remarks (see features), METROLOGICAL PATTERN APPROVAL
Quality certificate	ISO 9001:2015 and ISO 14001:2015 issued by DNV

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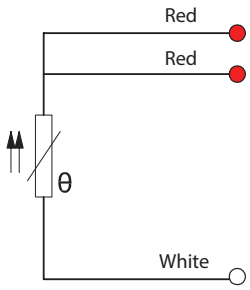
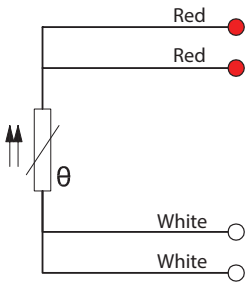
Pt100 connections

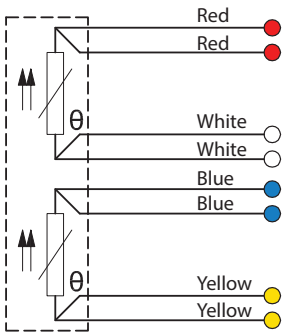
1x Pt100, Class A, 3-wire,
connection acc. to standards EN 60751



1x Pt100, Class A, 4-wire,
connection acc. to standards EN 60751

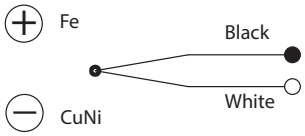


2x Pt100, Class A, 4-wire,
connection acc. to standards EN 60751

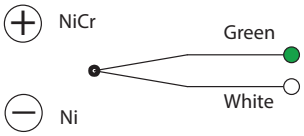


Thermoelement connections

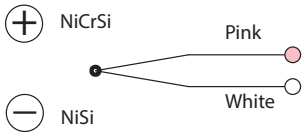
Thermocouple, Type J, Class 1,
Acc. to standard EN 60584-1



Thermocouple, Type K, Class 1,
Acc. to standard EN 60584-1

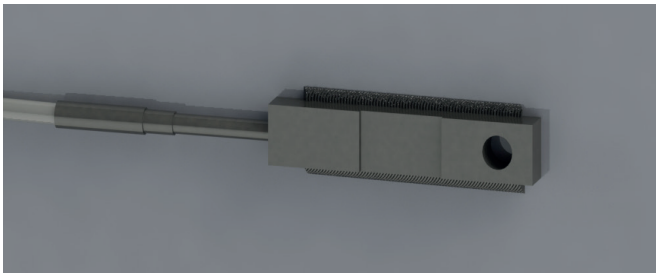


Thermocouple, Type N, Class 1,
Acc. to standard EN 60584-1

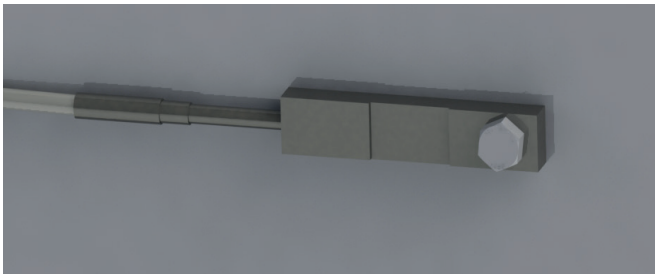


Installation examples

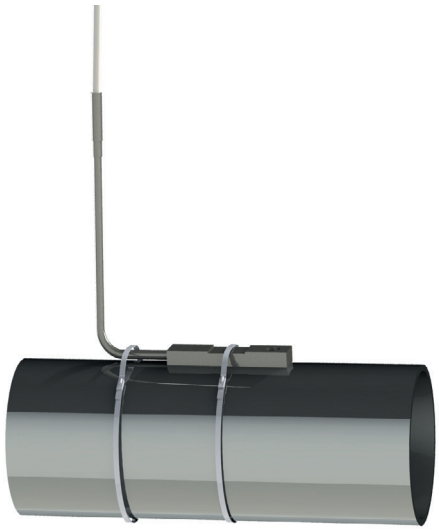
Welded



Screw



Steel collar installation



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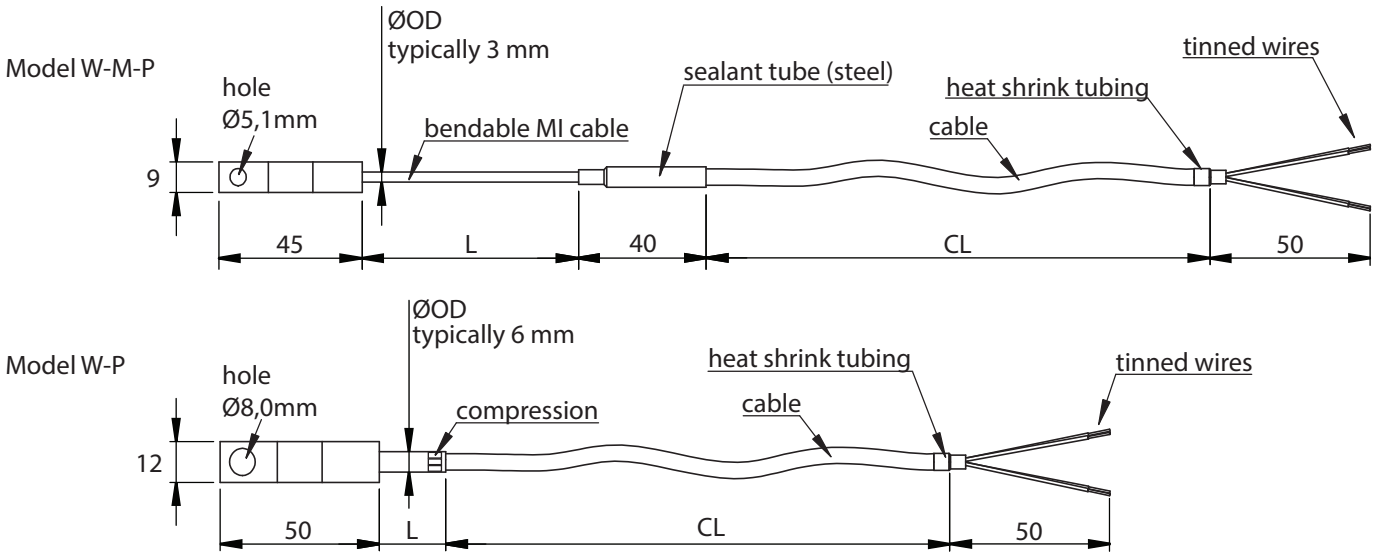
Surface temperature sensor

Drawing



Product code key

Example code: W — M — P — 5x9x45 — 3 / 500 — 5000 / SIL — 4 — A — X

W	= Pt100 resistance thermometer
2xW	= 2 x Pt100 resistance thermometer
T	= thermocouple
2xT	= 2 x thermocouple
empty	= non-bendable sensor element
M	= bendable MI cable as sensor element
P	= surface temperature sensor (constant in code)
5x9x45	= dimensions of the tip piece
12x12x50	(Note: 5x9x45 tip only with 3 mm element)
3, 6	= outer diameter of sensor element (ØOD) [mm]
500	= length of sensor element, L [mm]
5000	= cable length, CL [mm]
SIL, FEP, GGD, FDF, TDT, SDS, FDS, FS	= cable materials (for more information, look technical data on first page of the datasheet)
4,3,2	= Pt100 wire count
K,N,J	= thermocouple type
A,B	= Pt100 accuracy class, (class A as standard delivery)
1,2,3	= thermocouple accuracy class, (class 1 as standard delivery)
EXI	= Ex i certified sensor
X	= additional details on the text line

W-M-P-5x9x45-3/50-15000/GGD-4-A
Pt100 resistance thermometer for 4-wire measurement, surface temperature sensor with bendable MI-structure, sensor element with diameter of Ø3 mm, tip piece dimensions 5x9x45 mm, delivered with 15 meter glass silk cable, maximum temperature +350°C.