

EPIC® SENSORS T-BTD / W-BTD

Bearing temperature sensor

Features

- temperature range *) -60...+250 °C
- suitable for bearing temperature measurement
- flat tip
- spring-loaded screw for installation
- Pt100 or thermocouple as sensing element
- Pt100 accuracy class A as standard delivery
- thermocouple accuracy class 1 as standard delivery
- AISI 316L as standard delivery material, other materials on request
- brass tip as standard delivery material, other tip materials on request
- tailored solutions according to customer specific needs
- ATEX and IECEx compatible Ex i versions available
- 3D step models available on request.

Typical applications

- machinery
- motor manufacturing industry
- gear manufacturing industry.



Technical data

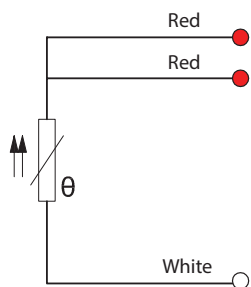
*) Materials	AISI 316L/brass tip, maximum temperature +250 °C, temporarily +300 °C, other materials on request (Note: overall maximum temperature according to the cable and O-ring material used)
Tip diameter	8 mm, other diameters on request (Note: sensor tube is tapered from tip portion to reduce the heat conduction)
Cable material	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 PUR = polyurethane cable, extremely good oil resistance, max. +80 °C (Note: PUR cable available only for this sensor type)
Thread	R3/8" as standard delivery, R1/2" as option, other threads on request
Tolerances Pt100 (IEC 60751)	AA tolerance $\pm 0.1 + 0.0017 \times t$, operating temperature -50...+250 °C A tolerance $\pm 0.15 + 0.002 \times t$, operating temperature -100...+450 °C B tolerance $\pm 0.3 + 0.005 \times t$, operating temperature -196...+600 °C B 1/3 DIN, 0.1 °C +0.5%, B1/10 DIN 0.03 °C +0.5%, operating temperature -196...+250 °C
Tolerances thermocouple (IEC 60584)	Type J tolerance class 1 = -40...375 °C ± 1.5 °C, 375...750 °C $\pm 0.004 \times t$ Type K and N tolerance class 1 = -40...375 °C ± 1.5 °C, 375...1000 °C $\pm 0.004 \times t$
*) Temperature range Pt100	-200...+300 °C, depending on materials
*) Temperature range thermocouple	-40...+250 °C, depending on thermocouple type and other materials
Approvals	ATEX, IECEx
Quality certificate	ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 issued by DNV

EPIC® SENSORS T-BTD / W-BTD

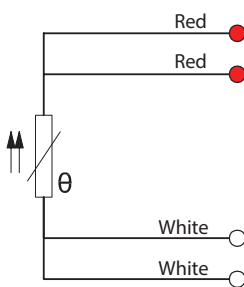
Bearing temperature sensor

Pt 100 connections

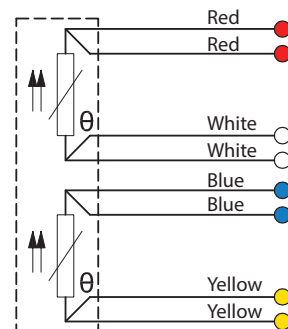
1x Pt100, Class A, 3-wire,
connection acc. to standards EN 60751



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

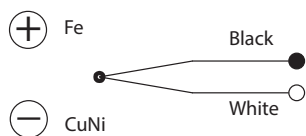


2x Pt100, Class A, 4-wire,
connection acc. to standards EN 60751

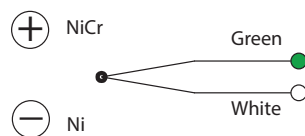


Thermoelement connections

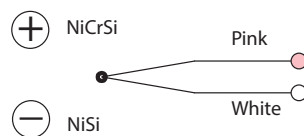
Thermocouple, Type J, Class 1,
Acc. to standard EN 60584-1



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



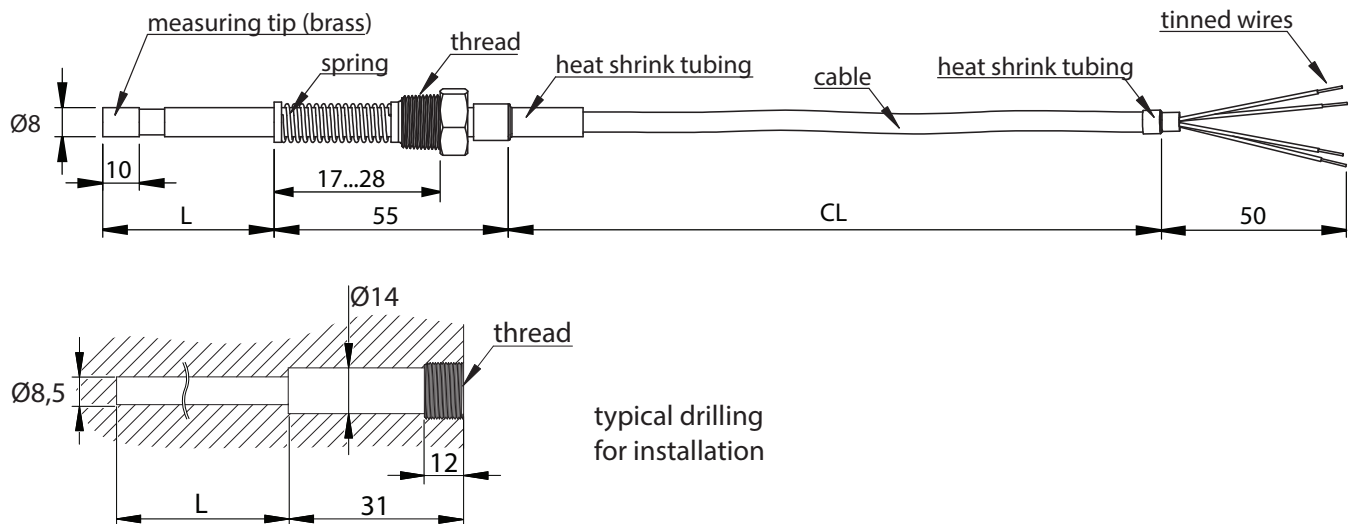
Thermocouple, Type N, Class 1,
Acc. to standard EN 60584-1



EPIC® SENSORS T-BTD / W-BTD

Bearing temperature sensor

Drawing



Product code key

Example code: W — BTD — Pt100A — L30 — 4M / SIL — X

W	= Pt100 resistance thermometer
2xW	= 2 x Pt100 resistance thermometer
T	= thermocouple
2xT	= 2 x thermocouple
BTD	= bearing sensor (constant in code)
Pt100A	= Pt100, with accuracy class A
TC-K1	= thermocouple type K, accuracy class 1
TC-N1	= thermocouple type N, accuracy class 1
TC-J1	= thermocouple type J, accuracy class 1
L30	= length [mm]
4M	= cable length, CL [m]
SIL, FEP, GGD, FDF, TDT, SDS, FDS, FS, PUR	= cable material (for more information, look technical data on first page of the datasheet)
EXI	= Ex i certified sensor
X	= additional details on the text line

