EPIC® SENSORS T-H-12 / W-H-12
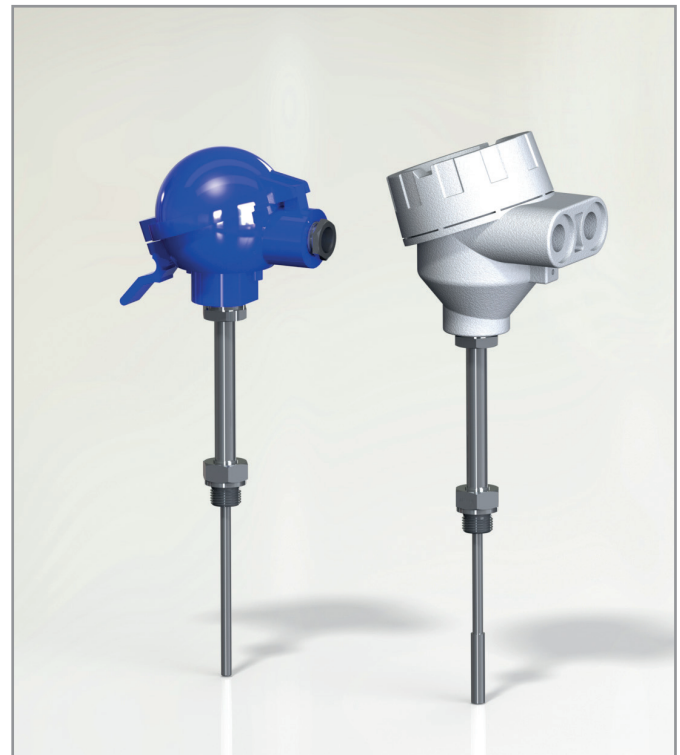## Threaded temperature sensor with neck pipe and sensing element

Features

- temperature range –200...+1200 ºC
- neck pipe for heat source clearance
- thread attachable to thermowell or process
- Pt100 or thermocouple as sensing element
- Pt100 accuracy class A as standard delivery
- thermocouple accuracy class 1 as standard delivery
- MI cable structured sensor element
- internal sensor element replaceable on the fly
- standard delivery length for sensor element is 315, 375 or 435mm, other lengths available on request
- neck pipe length 165 mm as standard delivery, other lengths on request
- tailored solutions according to customer specific needs
- ATEX and IECEx compatible Ex db and Ex i versions available
- 3D step models available on request.

Typical applications

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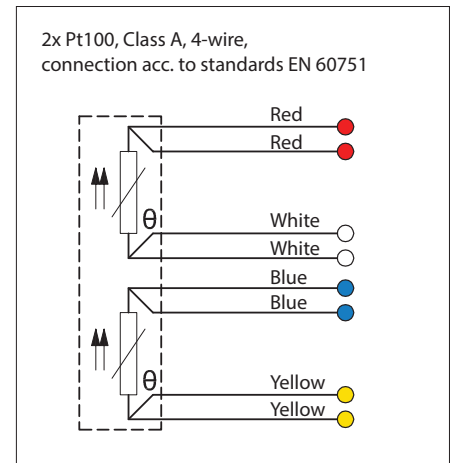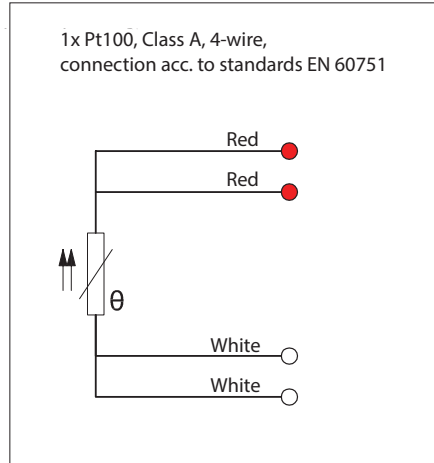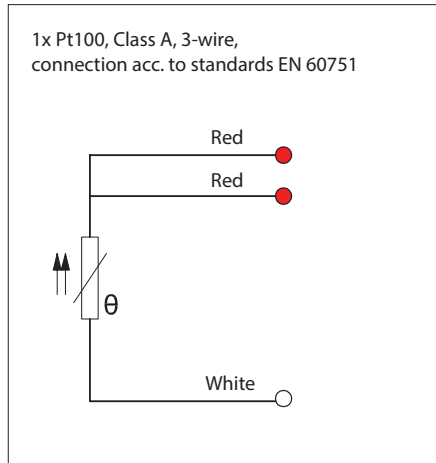- machinery and vessel construction
- manufacturing industry.

Technical data

Thread	M14x1.5 or M18x1.5 thread as standard delivery, other threads on request
Internal sensor element diameter	3, 6 or 8 mm
Tolerances Pt100 (IEC 60751)	A tolerance ±0.5 + 0.002 x t, operating temperature -100...+450 ºC B tolerance ±0.3 + 0.005 x t, operating temperature -196...+600 ºC B 1/3 DIN, tolerance ±1/3 x (0.3 + 0.005 x t), operating temperature -196...+600 ºC B 1/10 DIN, tolerance ±1/10 x (0.3 + 0.005 x t), operating temperature -196...+600 ºC
Tolerances thermocouple (IEC 60584)	Type J tolerance class 1 = -40...375 ºC ±1.5 ºC, 375...750 ºC ±0.004 x t Type K and N tolerance class 1 = -40...375 ºC ±1.5 ºC, 375...1000 ºC ±0.004 x t
Temperature range Pt100	–200...+550 ºC
Temperature range thermocouple	–200...+1200 ºC depending on thermocouple type, thermowell materials and cooling neck length Neck pipe length = 250 mm → temp. max. +750 ºC Neck pipe length = 300 mm → temp. max. +1000 ºC Neck pipe length = 350 mm → temp. max. +1200 ºC
Approvals	ATEX, IECEx, EAC Ex, EAC EMC, METROLOGICAL PATTERN APPROVAL
Quality certificate	ISO 9001:2015 and ISO 14001:2015 issued by DNV
IP rating	IP65, higher IP rating on request

LAPP AUTOMAATIO

EPIC® SENSORS T-H-12 / W-H-12
Threaded temperature sensor with neck pipe and sensing element

Pt100 connections

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

Red
Red

θ

White

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

Red
Red

θ

White
White

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

Red
Red

θ

White
White
Blue
Blue

θ

Yellow
Yellow

Thermoelement connections

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

+ Fe
　　　　　　Black
− CuNi
　　　　　　White

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

+ NiCr
　　　　　　Green
− Ni
　　　　　　White

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

+ NiCrSi
　　　　　　Pink
− NiSi
　　　　　　White

Installation examples

Connection heads

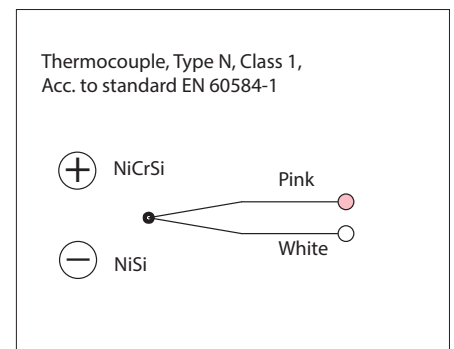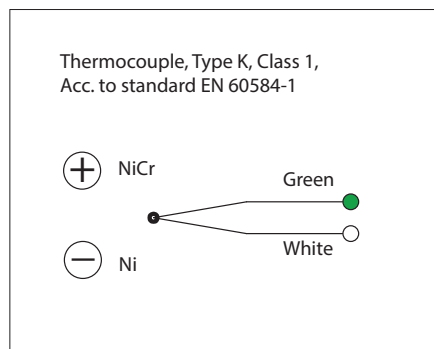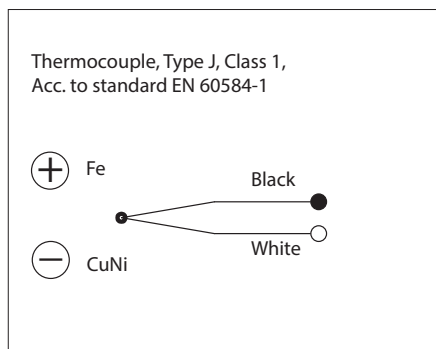| HST | B | N | D/H | D/H/D | D/W/H | D/W/H/D | EXD |
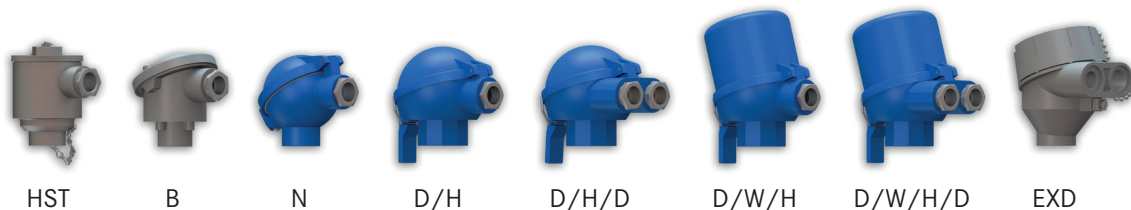
EPIC® SENSORS T-H-12 / W-H-12
Threaded temperature sensor with neck pipe and sensing element

Drawing

connection head D/H
lid hinge
M20x1,5
snap lock
M24x1,5
neck pipe
typically Ø12
thread (all available)
sensing point

wires for transmitter (TR)
cable gland for max. Ø14mm
mineral insulated element
ØOD
X
L

connection head EXD (ATEX compatible)
closed
thread lock
M20x1,5
M24x1,5
neck pipe
typically Ø12
thread (all available)
sensing point

ceramic block (CB)
chain (lid fall prevention)
junction point (for potential leveling)
mineral insulated element
ØOD
X
L

Product code key

Example code: W — H — 12 — D/H — M18x1,5 — 6 / 375 / 200 — 4 — A — TR — X

Code	Description
W	= Pt100 resistance thermometer
2xW	= 2 x Pt100 resistance thermometer
T	= thermocouple
2xT	= 2 x thermocouple
H	= sensor with cooling neck (constant in code)
12	= external diameter of neck pipe [mm]
B	= connection head B
D/H	= connection head with snap lock
D/H/D	= connection head with snap lock and double barrel (2x cable gland)
D/W/H	= high cover connection head with snap lock
D/W/H/D	= high cover connection head with snap lock and double barrel (2x cable gland)
EXD	= ATEX-compatible connection head
HST	= acid proof connection head
N	= connection head N
M18x1,5	= thread size (all available: M14x1.5, M18x1.5, M20x1.5, G1/2", R1/2", NPT1/2")
3, 6, 8	= outer diameter of sensor element (ØOD) [mm]
375	= length of the sensor element, X [mm]
200	= immersion length, L [mm]
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)
TR	= wires for transmitter connection
CB	= with ceramic terminal block
EXI	= Ex i certified sensor
X	= additional details on the text line