

EPIC® SENSORS T-K / T-AK / T-AKK

Immersible thermocouple sensor

Features

- similar to DIN 43733
- temperature range *) -200...+1600 °C
- thermocouple as sensing element
- thermocouple accuracy class 1 as standard delivery
- ceramic thermowell with C610 or C799 as typical material, other materials on request
- ceramic C610 and C799 are gas-tight materials
- typical neckpipe materials AISI304/316L
- thermo-cement filling in between neckpipe and ceramic
- installation recommendation with weldable flange, adjustable flange or with gas tight compression fitting
- tailored solutions according to customer specific needs
- ATEX and IECEx compatible Ex i versions available
- 3D step models available on request.

Typical applications

- very high temperature applications
- energy and power plant technology
- process industry
- chemical industry
- machinery and vessel construction
- manufacturing industry.



Technical data

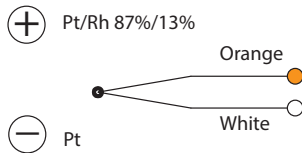
*) Thermowell material	Ceramic C610 max. temperature +1500 °C, gas-tight, medium to good thermal shock resistance Ceramic C799 max. temperature +1600 °C, gas-tight, medium thermal shock resistance Other materials on request
Tolerances thermocouple (IEC 60584)	Type J tolerance class 1 = -40...+375 °C ±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 Type R and S tolerance class 1 = 0...+1100 °C ±1 °C, 1100...1600 °C ±[1+0.003(t-1100)] °C
*) Temperature range	-200...+1700 °C, depending on thermocouple type, thermowell material and neck pipe length
Approvals	ATEX, IECEx
Quality certificate	ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 issued by DNV
IP rating	IP65, higher IP rating on request

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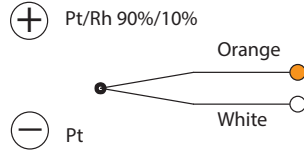
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Thermoelement connections

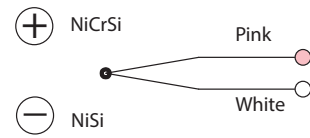
Thermocouple, Type R, Class 1,
Acc. to standard EN 60584-1



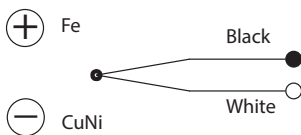
Thermocouple, Type S, Class 1,
Acc. to standard EN 60584-1



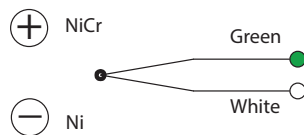
Thermocouple, Type N, Class 1,
Acc. to standard EN 60584-1



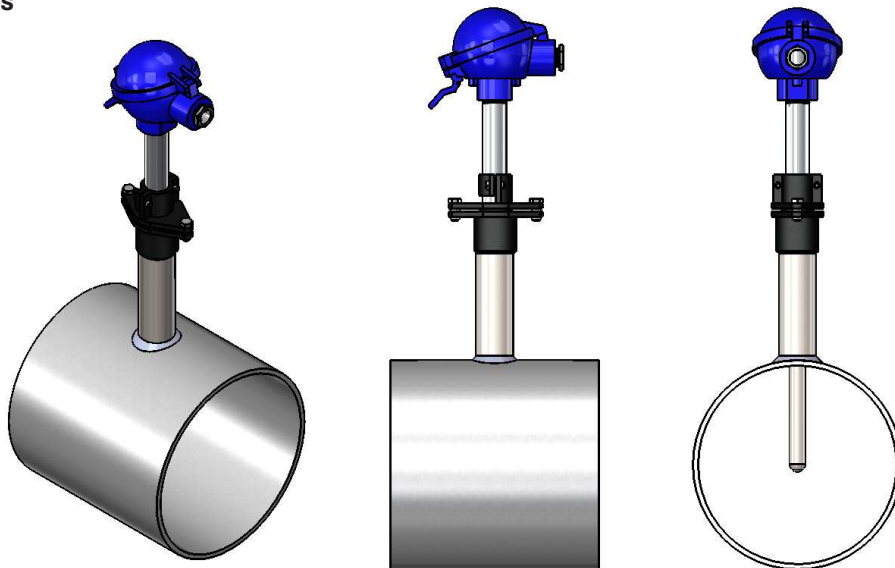
Thermocouple, Type J, Class 1,
Acc. to standard EN 60584-1



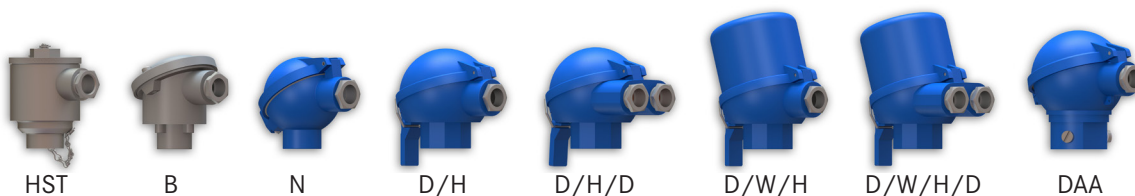
Thermocouple, Type K, Class 1,
Acc. to standard EN 60584-1



Installation examples



Connection heads

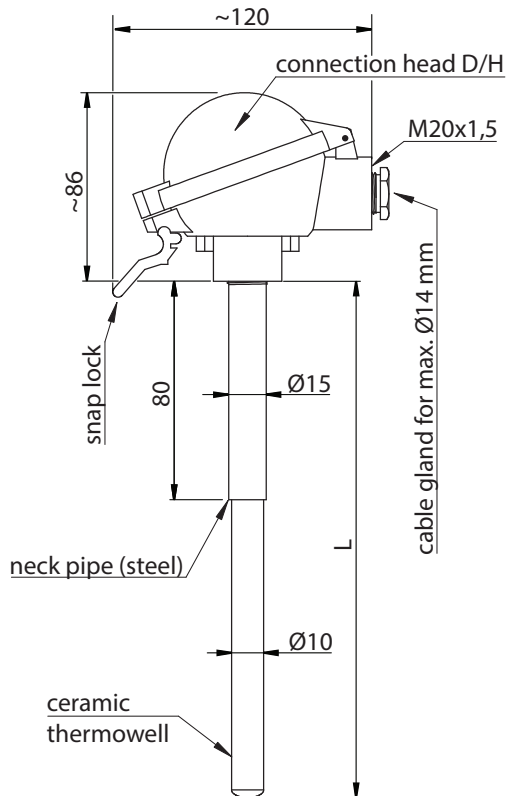


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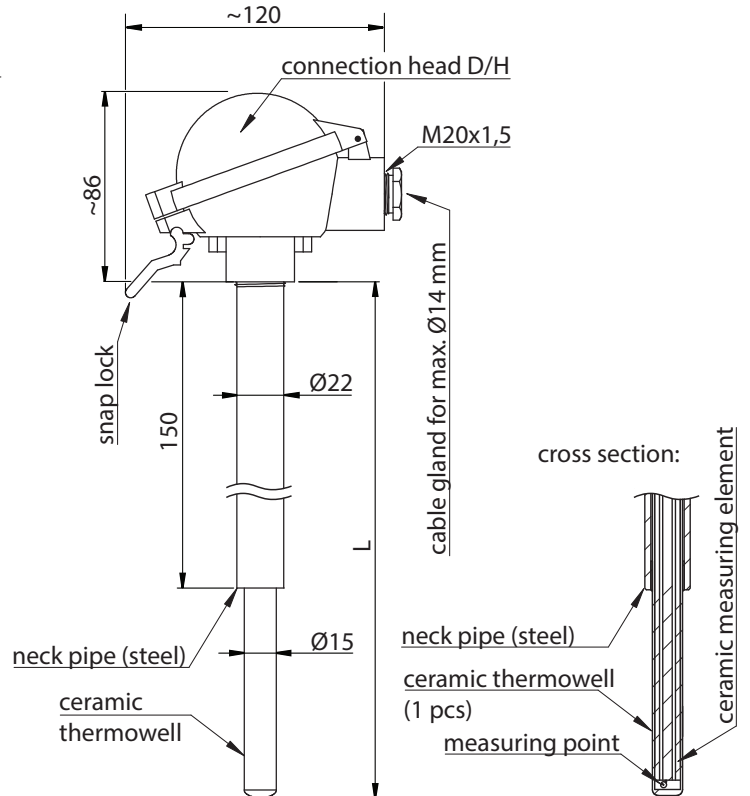
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Drawing T-K

Typical dimensions
with Ø10 ceramic:

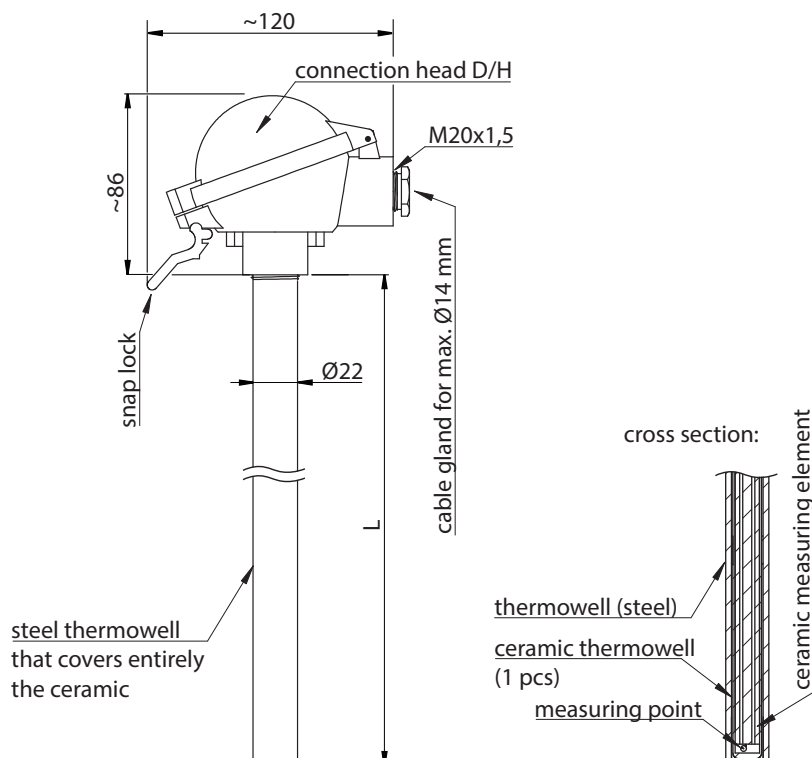


Typical dimensions
with Ø15 ceramic:



Drawing T-AK

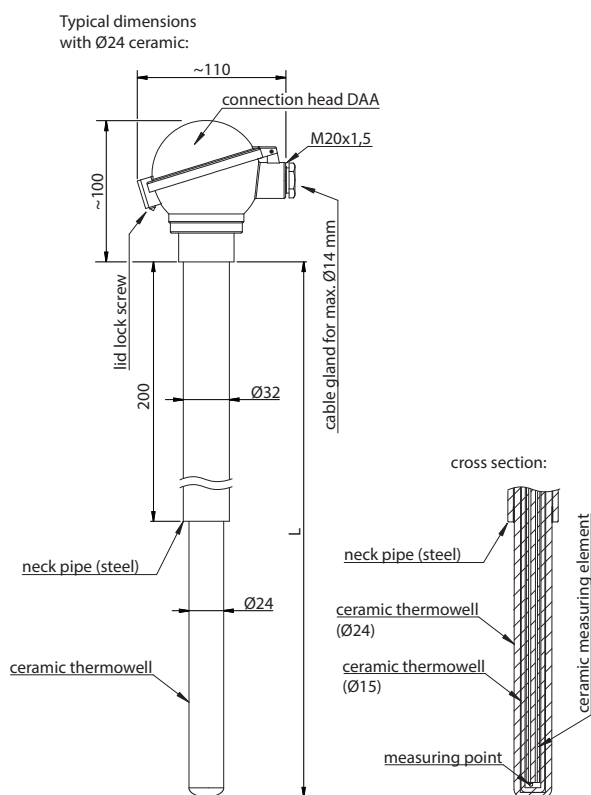
Typical dimensions
with Ø22 steel thermowell:



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Drawing T-AKK



Product code key

Example code: T — AK — 24 — DAA — 1000 — S / 0.5 — 1 — CB — X

T	= thermocouple
2xT	= 2 x thermocouple
K	= gastight ceramic well
AK	= flame proof outer tube, internal well gastight
AKK	= gastight ceramic inner and outer tube
10	= gastight ceramic C799, Ø10 mm
15	= gastight ceramic C799, Ø15 mm
24	= flameproof ceramic outer tube C610, Ø24 mm and gas tight internal ceramic tube C799, Ø15 mm (only with DAA enclosure) (special versions with Ø24 can be customized)
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)
HST	= acid-proof connection head
N	= connection head N
DAA	= connection head DAA (only with Ø24 ceramic)
1000	= immersion lenght [mm]
J, K, N, S, R, B	= thermocouple type
0.5	= platinum sensor wire diameter (0.5 mm diameter 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

