



Temperature Sensor Pt 100 with Neck Well Option



measuring
•
monitoring
•
analysing



- Measuring range: - 50 to + 250 °C
- Accuracy class A according to DIN IEC 751
- p_{max}: 10 bar
- Process connection: G 1/2 standard, G 1/2 or M12 cavity free with sleeve LZE (EHEDG and 3-A reports), without screw thread
- Sensor completely assembled from stainless steel 1.4571
- Optional with integrated transmitter (4-20 mA)
- Temperature sensor also with neck well for high temperatures



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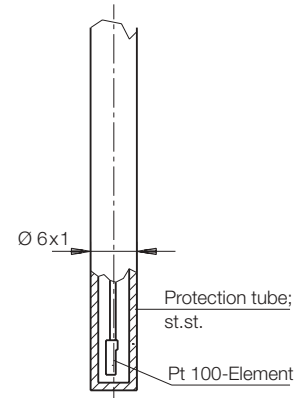
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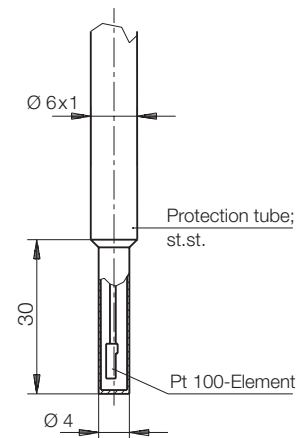
Model:
LTS



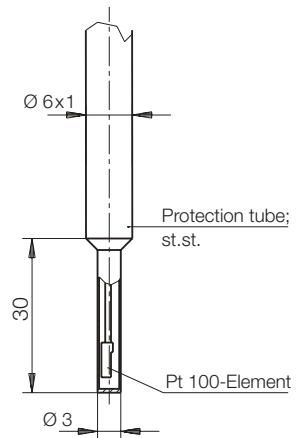
Sensor tip \varnothing 6 mm
 halftime: $t_{50} \leq 3.0$ s
 90% time: $t_{90} \leq 8.0$ s



Sensor tip \varnothing 4 mm
 halftime: $t_{50} \leq 2.4$ s
 90% time: $t_{90} \leq 6.5$ s



Sensor tip \varnothing 3 mm
 halftime: $t_{50} \leq 0.5$ s
 90% time: $t_{90} \leq 1.5$ s



Description

The change in resistance of platinum in relation to the temperature to be measured is used for temperature measurement with the KOBOLD Pt 100 temperature sensors LTS. The devices are connected electrically with 2-, 3- or 4-wire technology, depending on the input of the evaluation device and the line length. Alternatively, the thermal sensor can be connected to a 4-20 mA current input (2-wire current loop) through the built-in 2-wire transmitter. The temperature sensors with a connection that is cavity free (...T, ...M) are fitted with a food-compatible metallic sealing system, that forms a hygienic measuring point in conjunction with the associated weld-in sleeve LZE (confirmed by the EHEDG and 3-A report).

The temperature sensors with neck well LTS-NH are suited for measuring permanently high temperatures (up to 250 °C).

Sensor tips and response times

All temperature sensors are available with tapered tips to ensure faster response times. The times specified below refer to a Pt 100 temperature sensor immersed in boiling water.

Areas of application

- Temperature measurement for food applications
- Measuring high temperatures

Technical details

Measuring sensor:

Sensor: Pt 100 class A acc. to DIN IEC 751
1 or 2 Pt 100 per device

Temperature range: head: -50 to +90 °C
(-30 °C with transmitter option)
sensor tip: -50 to +250 °C

Tolerances class A: 0 °C: ±0.15 K, 100 °C: ±0.35 K

Max. pressure: 10 bar

Material
head + neck well: st. steel 1.4305 (V2A), Ø 55 mm
screwed gland: st. steel 1.4571 (V4A), SW 22 mm
protection tube: st. steel 1.4571 (V4A) Ø 6 mm

Process connection: M12x1.5 cavity free
(with sleeves LZE, LZE-NR)
G1 /2,
G1/2 cavity free
(with sleeves LZE, LZE-NR),
without screw thread
(with clamp screwing LZE-NM)

Mounting lengths: 50, 150 and 250 mm
(...1000 mm) Ø 6 mm
20 (Ø 4 mm, with process
connection M12)

Electrical connection: cable gland Pg 9,
M12x1 plug connector

Terminal: 1 xPt 100: 4 -pole
(4-wire connection)

Terminal: 2xPt 100: 2x4 -pole
(4-wire connection)

Supply voltage: 15 -32 V_{DC} (2-conductor loop)

Noise immunity: EN 50082-2 (industrial)

Protection: IP 67

Weight: approximately 0.3 kg

Transmitter:

Standard meas. ranges: -10 to +40,
0 -50/100/150/200 °C

Special meas. ranges: minimum span: 25 K
maximum: -200 to +850 °C

Accuracy: < ± 0.1% of upper range value

Temperature drift: typ. 0.003 % /K, max. 0.01 % /K

Connection: 4 screw terminals 1.5 mm²

Service temperature: -40 to +85 °C

Storage temperature: -40 to +120 °C

Humidity: 0-98 %, non-condensing

Input: Pt 100 sensor,
2-wire connection

Output: 4-20 mA corresponds to meas.
range (2-wire loop)

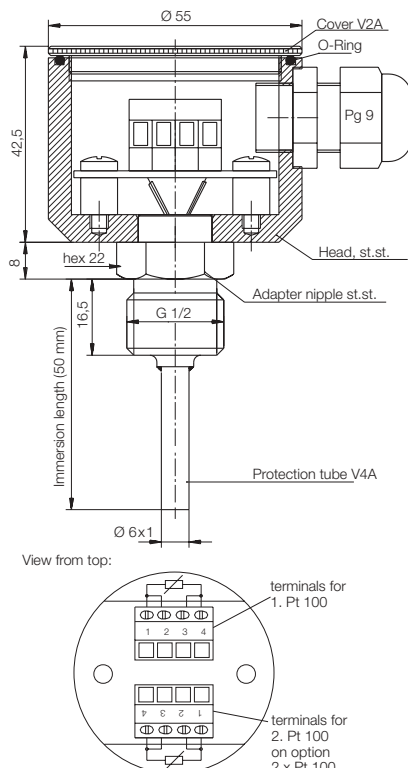
Overflow: 23 mA

Underflow: 3.3 mA

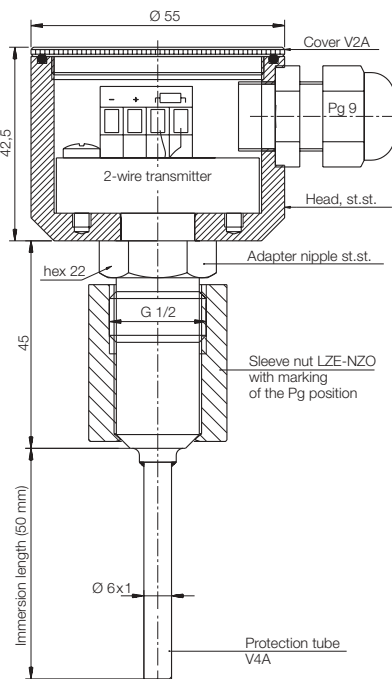
Supply voltage: 8-35 V_{DC}, residual ripple ≤ ± 5 %

Dimensions (standard version)

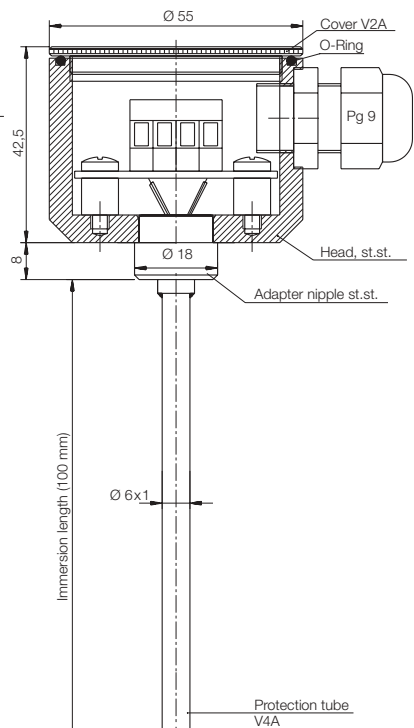
Connection: G 1/2



Connection: G 1/2 cavity free

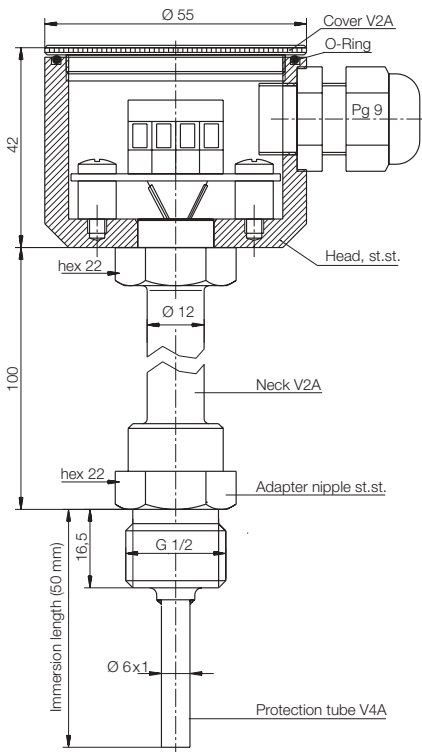


Connection: without screw thread

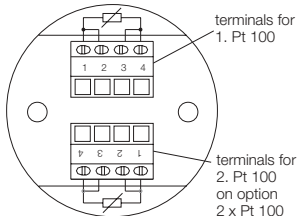


Temperature sensor with neck well

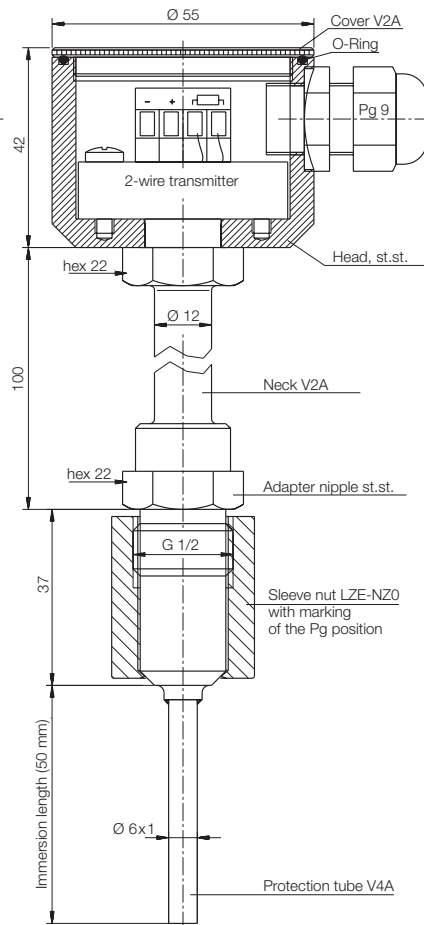
Connection: G 1/2



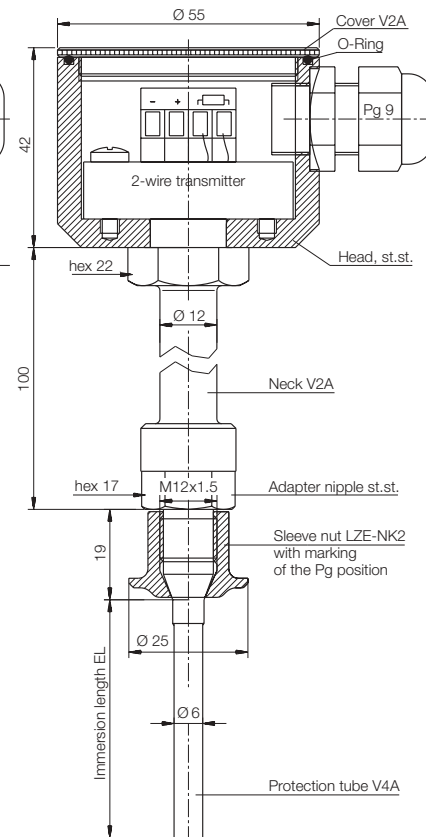
View from top:



Connection: G 1/2 cavity free



Connection: M12x1.5 cavity free



Order Details (Example: LTS-N 1 S M 02 6 P 00)

Model	Description	Number of detecting sensors	Neck well	Process connection	Mounting length
LTS-N	Temperature sensor Pt 100	1 = 1 Pt 100 2 = 2 Pt 100	S = without neck well H = with neck well	M = M12x1.5 cavity free G = G 1/2, standard T = G 1/2 cavity free X = without thread (not with neck well option)	02 = 20 mm (with...M12 only) 05 = 50 mm 15 = 150 mm 25 = 250 mm (not with...M12) YY = special length max. 1000 mm

Sensor tip	Electrical connection	Measuring range of transmitter (with 1 Pt 100 only)
6 = Ø 6 mm (not with 20 mm) 4 = Ø 4 mm 3 = Ø 3 mm	P = Pg 9 cable gland M = M12 plug connector	00 = without transmitter 2A = -10 to +40 °C 2B = 0-50 °C 2C = 0-100 °C 2D = 0-150 °C 2E = 0-200 °C 2S = special