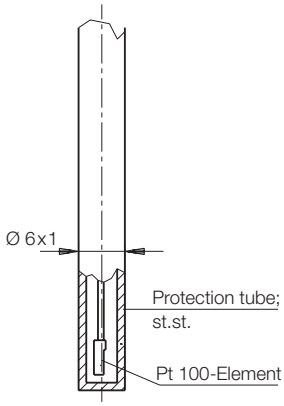
Temperature Sensor Pt 100
Compact Version

- 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 thread
- Sensor completely assembled
  in stainless steel 1.4571 (316 Ti)
- Measurements for reduced
  mounting space
- Optional with head mounted
  transmitter (4-20 mA)
- Temperature sensor also with
  neck well for high temperatures

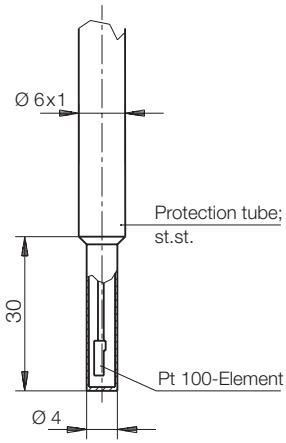
KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ (06192) 299-0
Fax (06192) 23398
E-mail: info.de@kobold.com
Internet: www.kobold.com

Model:
LTS-NK

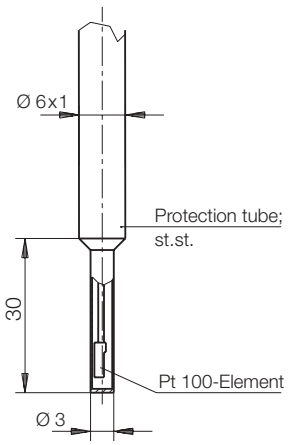
Sensor tip Ø 6 mm
Halftime: $t_{50} \leq 3.0$ s
90 % time: $t_{90} \leq 8.0$ s



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



Sensor tip Ø 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-NK.

The devices are connected electrically with M12 plug connection and 4-wire technology, the connection is manufactured completely from corrosion-resistant stainless steel. Alternatively, the temperature sensor can be connected to a 4-20 mA current input (2-wire 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 are suited for measuring permanently high temperatures (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 sensor immersed in boiling water.

Areas of application

- Temperature measurement in food applications
- Measuring high temperatures
- Temperature measurements for reduced mounting space

01/0202/Ko/10

Technical details

Measuring sensor:

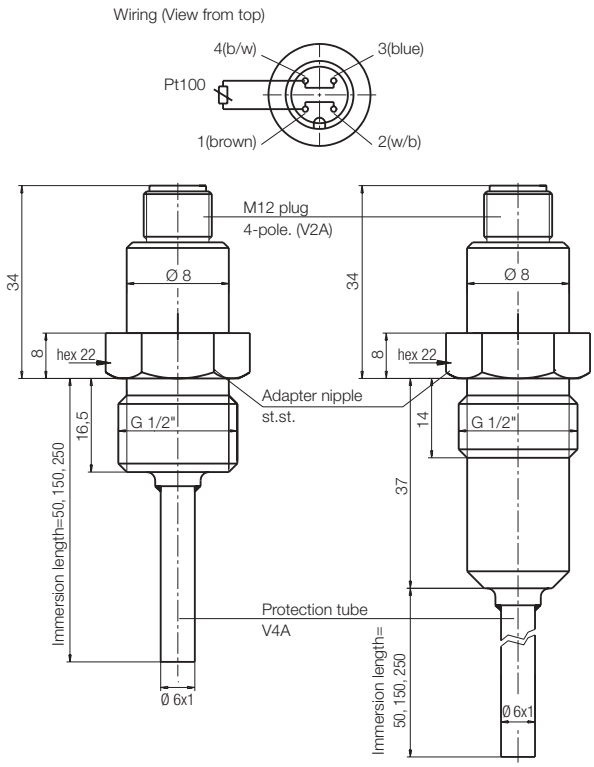
Sensor:	Pt 100 class A acc. to DIN IEC 751 1 or 2 Pt 100 per instrument
Temperature range:	head (plug connector): -50 to +90 °C (-30 °C with transmitter option) Sensor tip: -50 to +250 °C (-30 °C with transmitter option)
Tolerances class A:	0 °C: ±0.15 K, 100 °C: ±0.35 K
Max. pressure:	10 bar
Materials	
head + neck well:	st. steel 1.4305 (V2A), Ø 55 mm
screwed gland:	st. steel 1.4571 (V4A), SW22 mm
protective tube:	st. steel 1.4571 (V4A) Ø 6 mm
Process connection:	M12 x1.5 cavity free (with sleeves LZE, LZE-NR) G 1/2, standard G 1/2 cavity free (with sleeves LZE, LZE-NR) without screw thread (with clamp screw 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 M12 plug connector
Terminal:	4-pole (1 x Pt 100), 2 x 4 pin (2 x Pt 100)
Output (without transmitter):	1 x Pt 100: 4-wire connection 2 x Pt 100: 2-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:

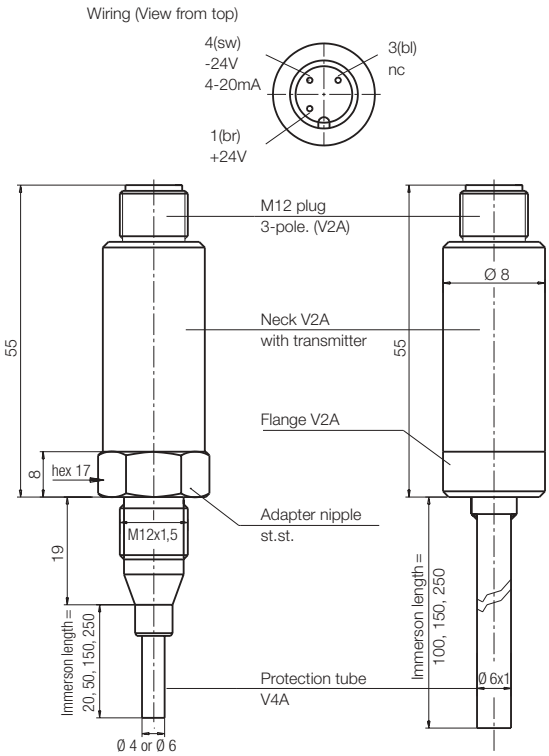
Standard measuring ranges:	-10 to +40, 0-50/100/150/200 °C
Accuracy:	< ±0.2 % of upper range value
Temperature drift:	±0.01 % / K
Service temperature:	-30 to +90 °C
Storage temperature:	-30 to +120 °C
Humidity:	0-95 % non-condensing
Input:	Pt 100 sensor
Output:	4-20 mA corresponds to measuring range (2-wire loop)
Overranging:	23 mA
Underranging:	3.3 mA
Supply voltage:	15-36 V_{DC}

Dimensions

LTS-NK without transmitter



LTS-NK with transmitter



Order Details (Example: **LTS-NK 1 S M 02 6 00**)

Model	Description	Number of detecting sensors	Neck well	Process connection	Mounting length
LTS-NK	Temperature sensor Pt 100 compact version	**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 **10** = 100 mm (with ...X only) **15** = 150 mm **25** = 250 mm (with ...M12 not) **YY** = special length max. 1000 mm

Sensor tip	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	**00** = without transmitter **2A** = -10 to +40 °C **2B** = 0-50 °C **2C** = 0-100 °C **2D** = 0-150 °C **2E** = 0-200 °C

01/0202/Ko/10