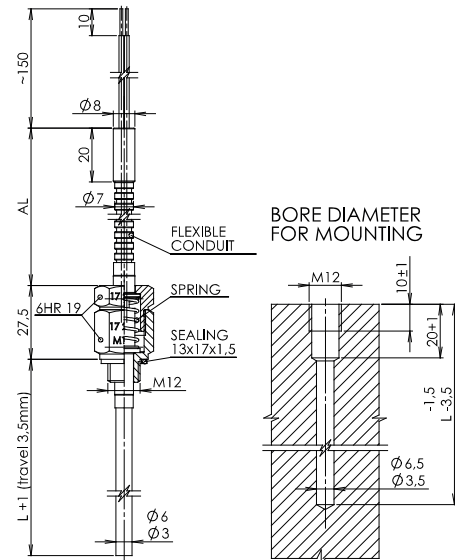


## T1061, T1561

### Temperature Sensors for Plastic Industry and Bearings with Flexible Steel Conduit

- Measuring resistor 1x / 2x Pt100.
- Accuracy class A, B according to EN 60751.
- Thermocouple “J” or “K”.
- Accuracy class 1, 2 acc. to IEC 584-2.
- Measuring range -50 to +400 °C.
- Suspended measuring stem.
- Full stainless steel design including protective conduit.
- Optional diameter of measuring stem.
- Optional length of protective conduit.
- Housing IP 67 (sensor), IP 40 (conduit).
- GOST R Certification.



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## Application

Resistance and thermocouple temperature sensors T1061 and T1561 are designed for temperature measurement in solid materials where a hole and inner screw-thread for sensor installation can be drilled. It is primarily plastics forms, bearing houses, engine units etc. Stainless steel flexible conduit allows using sensor in harsh environment, where standard connecting cable would fail.

## Description

The sensor is composed of screw coupling, suspended measuring stem and extension or compensation cable embedded in metal protective conduit. The sensor can have single or double resistance sensor Pt100 or single or double thermocouple sensor type "J" or "K".

The sensor is to be mounted to the screw bore with diameters according to selected sensor version. Measuring stem of the sensor is suspended with suspension travel of 3.5 mm. This allows additional tolerance during making of a bore and sufficient downforce of the measuring stem to the bore bottom. All outer parts of the sensor are made of stainless steel.

## Technical specifications

### Measuring resistor (RTD):

- 1xPt100, accuracy class B according to EN 60751 two-wire inside wiring
- 1xPt100, accuracy class A,B according to EN 60751 four-wire inside wiring
- 2xPt100, accuracy class B according to EN 60751 two-wire inside wiring (only for stem diameter 6 mm)

### Thermocouple (TC):

- "J" (Fe-CuNi), accuracy class 1, 2 acc. to IEC 584-2
- "K" (NiCr-NiAl), accuracy class 1, 2 acc. to IEC 584-2

### Measuring range:

- 50 to +400 °C
- 30 to +300 °C (resistance sensor, accuracy class A)

### Measuring current (resistance sensor):

- recommended 0.3 to 1.0 mA
- maximal 3 mA

### Dielectric strength:

- 500 V<sub>eff</sub>
- 250 V<sub>eff</sub> (outer stem diameter 3 mm / four-wire)

### Used materials:

- resistance sensor sheath:
  - stainless steel 1.4401
  - stainless steel 1.4541 (for stem diameter 6 mm)
- thermocouple sensor sheath:
  - stainless steel 1.4541 (for thermocouple "J")
  - chrome-nickel alloy 2.4816 (Inconel 600) (for TC "K")
- flexible steel conduit:
  - stainless steel 1.4006

### Connecting and compensation wires:

- wiring diameter 0.22 mm<sup>2</sup>
- silicone isolation

### Connection thread:

- M12

### Housing (according EN 60529):

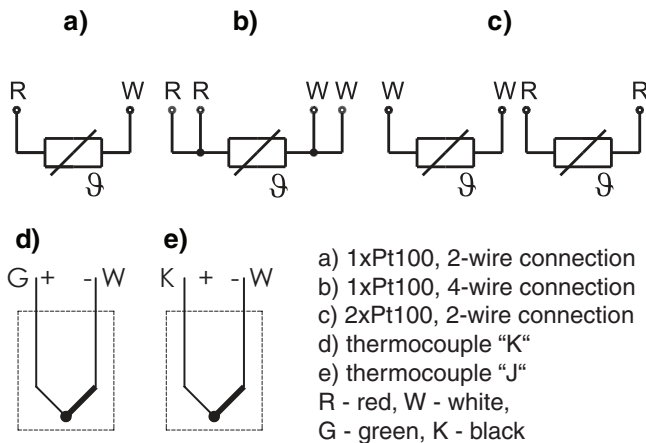
- IP 67 (temperature sensor)
- IP 40 (flexible stainless steel conduit)

## Operational conditions

### Maximal temperature of screw couplings:

- 120 °C

## Electrical connection



- a) 1xPt100, 2-wire connection
- b) 1xPt100, 4-wire connection
- c) 2xPt100, 2-wire connection
- d) thermocouple "K"
- e) thermocouple "J"
- R - red, W - white, G - green, K - black

Type	Description	
T1061	Resistance temperature sensor for plastic industry and bearings with flexible steel conduit	
T1561	Thermocouple temperature sensor for plastic industry and bearings with flexible steel conduit	
Code	Temperature sensor	Inside wiring
Resistance (RTD)		
04	1xPt100, 2-wire inside wiring	Cu
06	1xPt100, 4-wire inside wiring	Ni
08	2xPt100, 2-wire inside wiring	Cu
Thermocouple (TC)		
21	1x"J" (Fe-CuNi), insulated	
61	2x"J" (Fe-CuNi), insulated, isolated junctions	
22	1x"K" (NiCr-NiAl), insulated	
62	2x"K" (NiCr-NiAl), insulated, isolated junctions	
99	Other	
Code	Accuracy class	Measuring range <sup>1)</sup>
Resistance (RTD)		
F1	B, according to EN 60751	-50 to +400 °C
F4	A, according to EN 6075 (only for sensors with four-wire inside wiring)	-30 to +300 °C
Thermocouple (TC)		
T7	2, according to IEC 584-2	
T6	1, according to IEC 584-2	
Code	Stem	
Outer diameter of stem D [mm]		
S51	3	
S71	6	
Code	Nominal immersion length [mm]	
L063	63	
L080	80	
L100	100	
L120	120	
L160	160	
L . . . .	Other (specify length in mm)	
Code	Connecting thread	
M12	M12 outer	
M99	Other	
Code	Protective conduit	
Outer conduit diameter [mm]		
D070	7	1.4006
D999	Other	
Code	Conduit length AL [mm]	
AL1000	1000	
AL2500	2500	
AL4000	4000	
AL6300	6300	
AL . . . .	Other (specify length in mm - in 100 mm steps)	
Code	Insulation of wires	
I2	Teflon insulation	
I9	Other	
Code	Wire termination	
00	Flying leads (standard)	
01	Insulated pressing tube according to DIN 46228	
09	Other	
Code	OPTIONAL ACCESSORIES	
Calibration in customer defined points, including certificate of calibration		
KTE31A	Resistance temperature sensor calibration in three points in range -40 to +400 °C	
KTE32A	Thermocouple temperature sensor calibration in three points in range -40 to +400 °C	
KTE9	Other	
Code	Certificates	
GR	GOST R Certificate	

Example of order: T1561 21 T7 S71 L100 M12 AL4000 I2 01 KTE32A (0, 50, 100 °C)

<sup>1)</sup> ... Temperature of screw coupling max. 120 °C.

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