

# T1026

## Cable Resistance Temperature Sensors for Cryogenic Temperatures

- Measuring resistor 1x / 2x Pt100.
- Accuracy class A, B according to EN 60751.
- Measuring range -200 to +180 °C.
- High resistance to temperature shock.
- Stainless steel design.
- Optional immersion length.
- Optional stem diameter.
- Optional size of connection thread.
- Optional length of extension cable.
- Housing IP 67.
- GOST R Certification.

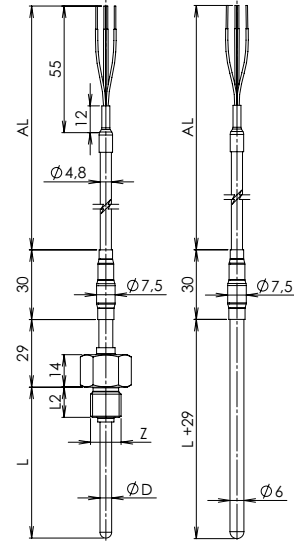
### Application

Cable resistance temperature sensors T1026 with firmly connected connection wires are designed for measuring in areas with cryogenic temperatures. Construction of the sensors allows measuring in areas with repeated abrupt temperature changes in the range -200 to +180 °C.

### Description

Sensor is made of one or two measuring resistors Pt100 embedded in the ceramic housing and metal protective tube. Sensor terminals are firmly connected to the extension wires with cooper wires and FEP insulation, cooper screen and outer silicone insulation.

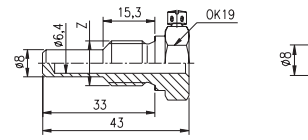
Version without welded connecting pipe union is mounted to the technology by fixing shift pipe union or into protective thermowell. Version with welded connecting pipe union on the protective tube of the sensor is screwed into welded on piece or into inner thread in the technology.



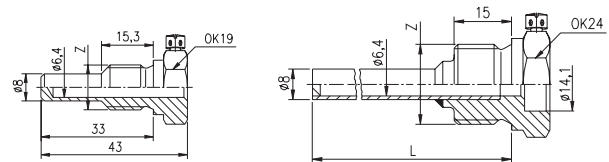
### Dimensional drawings

Stainless steel thermowells 1.4541 for PN 63

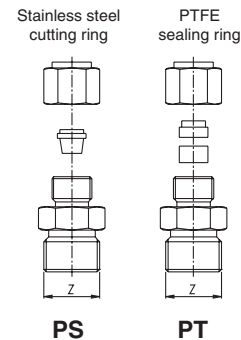
Version A for code S60 M00



Version C for code S60 M00



### Fixing shift pipe union



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## Technical specifications

### Measuring resistor:

1xPt100, accuracy class A, B according to EN 60751,  
four-wire inside wiring (cable 4x0.22 mm<sup>2</sup>)  
two-wire inside wiring (cable 2x0.56 mm<sup>2</sup>)  
2xPt100, accuracy class B according to EN 60751,  
two-wire inside wiring (cable 4x0.22 mm<sup>2</sup>)

### Measuring range:

-200 to +180 °C in accuracy class B

### Measuring current:

recommended 0.3 to 1 mA  
maximal 3 mA

### Dielectric strength:

500 Veff

### Electrical insulation resistance:

min. 100 MOhm according to EN 60751,  
at temperature (25 ±10) °C  
max. 80 % relative humidity

### Used materials:

Thermowell - stainless steel 1.4541  
Pipe union - stainless steel 1.4541  
Inside wiring - Cu  
Core insulation - PFA  
Cable insulation - Silicon

### Connecting wires resistance R<sub>3</sub> for two-wire connections:

- cable 4x0.22 mm<sup>2</sup> ... 0.17 Ohm/m (two cores)  
- cable 2x0.56 mm<sup>2</sup> ... 0.066 Ohm/m (two cores)

### Housing:

IP 67

Type	Description
T1026	Cable resistance temperature sensor for cryogenic temperatures
<b>Code</b>	<b>Temperature sensor</b>
04	1xPt100, 2-wire inside wiring
06	1xPt100, 4-wire inside wiring
08	2xPt100, 2-wire inside wiring
99	Other
<b>Code</b>	<b>Accuracy class according to EN 60751</b>
1	B
2	A (only for sensors with four-wire inside wiring and in range -30 to +180 °C)
<b>Code</b>	<b>Stem</b>
	<b>Outer diameter of stem D [mm]</b>
S50	5
S60	6
<b>Code</b>	<b>Stem material</b>
S50	1.4541
S60	1.4541
<b>Code</b>	<b>Nominal immersion length [mm]</b>
L065	65
L100	100
L160	160
L250	250
L . . . .	Other (specify length in mm)
<b>Code</b>	<b>Connecting thread</b>
M00	without connecting pipe union
G14	G 1/4" outer
M12	M12 outer
P20	diameter 20 mm, height 7 mm (for cap nut)
M99	Other
<b>Code</b>	<b>Thread length L2 [mm]</b>
M00	-
G14	12
M12	12
P20	- not for stem diameter 5 mm
M99	Other
<b>Code</b>	<b>Length of extension wires AL [mm]</b>
AL1600	1600
AL2500	2500
AL4000	4000
AL6000	6000
AL . . . .	Other (specify length in mm - in 100 mm steps)
<b>Code</b>	<b>Outer insulation / screen / inner insulation</b>
I1	Silicon / Cu braid / Teflon FEP
<b>Code</b>	<b>Wire termination</b>
00	Flying leads (standard)
01	Insulated pressing tube according to DIN 46228
09	Other
<b>Code</b>	<b>OPTIONAL ACCESSORIES</b>
	<b>Calibration in customer defined points, including certificate of calibration</b>
KTE31A	Temperature sensor calibration in three points in range -40 to +180 °C
KTE31B	Temperature sensor calibration in three points, value -196 °C and range -40 to +180 °C
KTE9	Other (optional temperature points from value -196 °C and range -75 to +180 °C)
<b>Code</b>	<b>Certificates</b>
GR	GOST R Certificate
<b>Code</b>	<b>Certificates</b>
J01	Thermowell, version A, length L= 34.5 mm, material stainless steel 1.4541, PN 63, thread G1/4"
J02	Thermowell, version A, length L= 34.5 mm, material stainless steel 1.4541, PN 63, thread M12x1.5
J11	Thermowell, version C, length L= 100 mm, material stainless steel 1.4541, PN 63, thread G1/2"
J12	Thermowell, version C, length L= 150 mm, material stainless steel 1.4541, PN 63, thread G1/2"
J13	Thermowell, version C, length L= 85 mm, material stainless steel 1.4541, PN 63, thread G1/2"
J14	Thermowell, version C, length L= 120 mm, material stainless steel 1.4541, PN 63, thread G1/2"
J15	Thermowell, version C, length L= 210 mm, material stainless steel 1.4541, PN 63, thread G1/2"
J16	Thermowell, version C, length L= 100 mm, material stainless steel 1.4541, PN 63, thread M20x1.5
J17	Thermowell, version C, length L= 150 mm, material stainless steel 1.4541, PN 63, thread M20x1.5
J18	Thermowell, version C, length L= 85 mm, material stainless steel 1.4541, PN 63, thread M20x1.5
J19	Thermowell, version C, length L= 120 mm, material stainless steel 1.4541, PN 63, thread M20x1.5
J20	Thermowell, version C, length L= 210 mm, material stainless steel 1.4541, PN 63, thread M20x1.5
J99	Other
<b>Example of order: T1026 06 1 S50 L065 G14 AL6000 I1 00 KTE31A (-40, 0, 20)</b>	

## Cable Resistance Temperature Sensors T1026 for Cryogenic Temperatures

Type	OPTIONAL ACCESSORIES		
	Description		
P	Fixing shift pipe union for sheath temperature sensors		
Code	Version	Tmax	Pmax
S <sup>1)</sup>	With stainless steel cutting ring, pipe union of stainless steel material	600 °C / 0.1 MPa	4 MPa / 100 °C
T <sup>2)</sup>	With PTFE sealing ring, pipe union of stainless steel material	200 °C / 0.1 MPa	0.6 MPa / 100 °C
Code	Connection thread Z		
M02	M12x1.5		
M03	M16x1.5		
M04	M20x1.5		
G02	G1/4"		
G03	G3/8"		
G04	G1/2"		
N02	1/4" NPT		
N03	3/8" NPT		
N04	1/2" NPT		
Code	Outside diameter of sensor stem		
D60	6 mm		
<b>Example of order: PS M04 D60</b>			

<sup>1)</sup> ... Adjustable nominal length only for first time of mounting.

<sup>2)</sup> ... Always adjustable nominal length.

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