

T1027

Cable Resistance Temperature Sensors

- Measuring resistors Pt100, Pt500, Pt1000 or Ni1000
- Measuring range -40 to +600 °C (sensors Pt)
-50 to +150 °C (sensors Ni), pair sensors 0 to +180 °C
- Accuracy class A, B according to EN 60751
- Selectable thermowells sensor PN 63
- Housing IP 67

Application

Cable resistance temperature sensors T1027 with close connected cables are designed for remote measuring of temperature of liquid and gaseous mediums.

Description

A sensor of the thermometer is one or two measuring resistors which are placed in the metal measuring insert stem and connected to cable. There is made use of sensor resistance-temperature dependence. Measuring stems are pushed into thermowells, where they are adjusted by lead screw union or by aluminium ring. Thermowell are mounted by a shift pipe union into a straight or an oblique welded-on piece and the like.

Technical Specifications

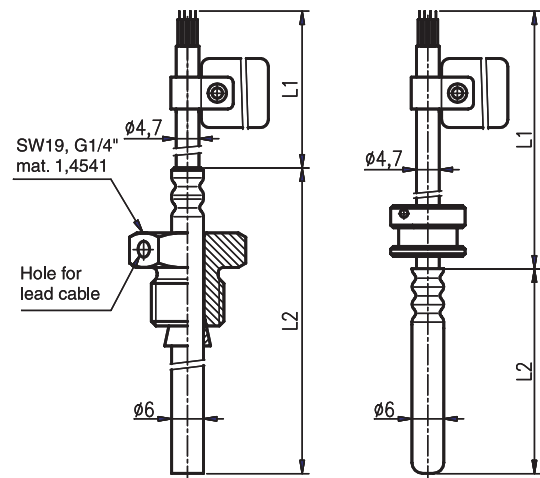
Measuring Resistor:

1xPt100, 1xPt500, 1xPt1000, 1xNi1000
accuracy class A, B according to EN 60751,
four-wire inside wiring (cable 4x0.22 mm²)
two-wire inside wiring (cable 2x0.56 mm²)
2xPt100, 2xPt500, 2xPt1000, accuracy class B
according to EN 60751, two-wire inside wiring
(cable 4x0.22 mm²)

Measuring Range:

-40 to +180 °C (sensor Pt)
-50 to +150 °C (sensor Ni)
0 to + 180 °C - pair construction (sensor Pt)

S31
(Stem mat. 1.4541) **S32**
(Stem mat. brass)



Measuring Current:

Pt100	0.3 to 1 mA
PT500	0.1 to 0.7 mA
Pt1000	0.1 to 0.3 mA
Ni1000	up to 0.8 mA

Dielectric Strength: 500 V eff

Electrical insulation resistance:

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

Materials:

Thermowell - stainless steel 1.4541
Stem - brass
- stainless steel 1.4541
Inside wiring - Cu

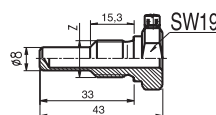
Connecting Leads Resistance R_s for two-wire connections:

- cable 4x0.22 mm² ... 0.17 Ω/m (two core)
- cable 2x0.56 mm² ... 0.066 Ω/m (two core)

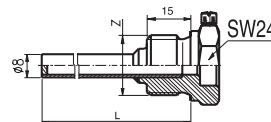
Housing: IP 67 (according to head)

Thermowell stainless steel 1.4541 for PN 63

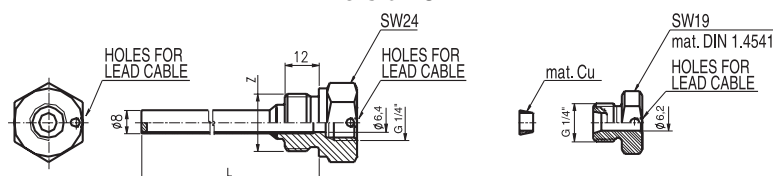
Version A



Version B



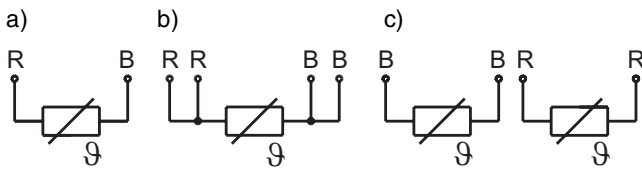
Version C



Cable Resistance Temperature Sensors T1027

Electrical Connections

Picture 1



- a) 1x Pt100, Pt500, Pt1000, Ni1000 two-wire connections
 - b) 1x Pt100, Pt500, Pt1000, Ni1000 four-wire connections
 - c) 2x Pt100, Pt500, Pt1000, two-wire connections
- B - white, R - red

Type	Description	
° T1027-2 →	Cable Resistance Temperature Sensors T1027	
Code	Temperature Sensor	Measuring Range
° 01	1xPt100, Four-wire Inside Wiring	-40 to +180 °C
° 02 →	1xPt500, Four-wire Inside Wiring	-40 to +180 °C
° 03	1xPt1000, Four-wire Inside Wiring	-40 to +180 °C
21	1xPt100, Two-wire Inside Wiring	-40 to +180 °C
22	1xPt500, Two-wire Inside Wiring	-40 to +180 °C
23	1xPt1000, Two-wire Inside Wiring	-40 to +180 °C
° 04	2xPt100, Two-wire Inside Wiring	-40 to +180 °C
° 05	2xPt500, Two-wire Inside Wiring	-40 to +180 °C
° 06	2xPt1000, Two-wire Inside Wiring	-40 to +180 °C
° 33	1xNi1000 ($W_{100} = 1,6180$), Two-wire Inside Wiring	-50 to +150 °C
13	1xNi1000 ($W_{100} = 1,6180$), Four-wire Inside Wiring	-50 to +150 °C
99	Other	
Code	Accuracy class	
° 1 →	with Accuracy Class B according to EN 60751	
° 2	with Accuracy Class A according to EN 60751 (for Sensors with Four-wire Inside Wiring Only)	
3	with Accuracy Class A according to EN 60751 ,performance according to DIN 43760 (for Ni Sensors Only)	
Code	Nominal Length L2	
° 104 →	40 (no for code S31)	
111	111	
112	126	
114	146	
117	176	
123	236	
999	Other	
Kód	Stem	Stem Coat Material
S31	Outside Diameter D [mm]	
° S32 →	Ø 6 (for L2 = 111, 126, 146, 176 and 236 mm)	1.4541
	Ø 6 (for L2 = 40 mm)	brass
Code	Cable	
Code	Nominal Length L1	
° K216 →	1600	
K220	2000	
° K225	2500	
° K240	4000	
K260	6000	
K999	Other	
Kód	Outside isolation, shading	Ambient temperature of cable
° 01 →	Silicone isolation, shading Steel Wire Braiding	-50 až +180 °C
Kód	Close Cable	
° 00 →	free	

° ... Marked Version can be Dispatched up to 10 Working Days

Cable Resistance Temperature Sensors T1027

OPTIONAL ACCESSORIES	
Code	Calibration
◦ KTE3 KTE9	Sensor Calibration in Three Customer's Given Temperature Points (0 to +180 °C) Other
Code	Extension Piece
◦ N01	Straight Welded-on Piece G1/4", L = 22 mm, Carbon Steel DIN 1.0036
◦ N02	Straight Welded-on Piece M12x1.5, L = 22 mm, Carbon Steel DIN 1.0036
◦ N03	Straight Welded-on Piece G1/2", L = 20 mm, Carbon Steel DIN 1.0036
◦ N04	Straight Welded-on Piece M20x1.5, L = 20 mm, Carbon Steel DIN 1.0036
◦ N05	Oblique Welded-on Piece G1/4", L = 19 mm, Carbon Steel DIN 1.0036
◦ N06	Oblique Welded-on Piece M12x1.5, L = 19 mm, Carbon Steel DIN 1.0036
◦ N07	Oblique Welded-on Piece G1/2", L = 26 mm, Carbon Steel DIN 1.0036
◦ N08	Oblique Welded-on Piece M20x1.5, L = 26 mm, Carbon Steel DIN 1.0036
◦ N11	Straight Welded-on Piece G1/2", L = 70 mm, Carbon Steel DIN 1.0036
◦ N12	Oblique Welded-on Piece G1/2", L = 70 mm, Carbon Steel DIN 1.0036
N99	Other
Code	Thermowells
◦ J01	Thermowell, Version A, Length L 33 mm, Stainless Steel DIN 1.4541, PN 63, G1/4" Thread
◦ J02	Thermowell, Version A, Length L 33 mm, Stainless Steel DIN 1.4541, PN 63, M12x1.5 Thread
◦ J03	Thermowell, Version B, Length L 54 mm, Stainless Steel DIN 1.4541, PN 63, G1/2" Thread
◦ J04	Thermowell, Version B, Length L 100 mm, Stainless Steel DIN 1.4541, PN 63, G1/2" Thread
◦ J05	Thermowell, Version B, Length L 160 mm, Stainless Steel DIN 1.4541, PN 63, G1/2" Thread
◦ J06	Thermowell, Version B, Length L 54 mm, Stainless Steel DIN 1.4541, PN 63, M20x1.5 Thread
◦ J07	Thermowell, Version B, Length L 100 mm, Stainless Steel DIN 1.4541, PN 63, M20x1.5 Thread
◦ J08	Thermowell, Version B, Length L 160 mm, Stainless Steel DIN 1.4541, PN 63, M20x1.5 Thread
◦ J11	Thermowell, Version C, Length L 100 mm, Stainless Steel DIN 1.4541, PN 63, G1/2" Thread
◦ J12	Thermowell, Version C, Length L 150 mm, Stainless Steel DIN 1.4541, PN 63, G1/2" Thread
◦ J13	Thermowell, Version C, Length L 85 mm, Stainless Steel DIN 1.4541, PN 63, G1/2" Thread
◦ J14	Thermowell, Version C, Length L 120 mm, Stainless Steel DIN 1.4541, PN 63, G1/2" Thread
◦ J15	Thermowell, Version C, Length L 210 mm, Stainless Steel DIN 1.4541, PN 63, G1/2" Thread
J99	Other
Code	Transmitters
• P5310	Programmable Transmitter P5310 L10 with Communication LHP for DIN Rail Mounting, Base Accuracy 0,1 % from Set Range (See Data Sheet No. 824)
◦ PT-021	Programmable Transmitter for Resistance Sensors PT-021, Wall Mounted, Base Accuracy 0,15 % from Input Range (See Data Sheet No. 07)**
• PT-022	Programmable Transmitter for Resistance Sensors PT-011, DIN Rail Mounted, Base Accuracy 0,15 % from Input Range (See Data Sheet No. 07)**
P5101	Programmable Transmitter P5101 H11, Base Accuracy to 0,15 % from Set Range (See Data Sheet No. 775)**
• P5102 →	Programmable Transmitter P5102 L11, Base Accuracy to 0,07 % from Set Range (See Data Sheet No. 451)**
◦ P5102EEx	Intrinsically Safe Programmable Transmitter P5102 L11EEx, Base Accuracy to 0,07 % from Set Range (See Data Sheet No. 451)**
• P5201	Universal Programmable Transmitter P5201 L10 with Circuit Isolation, Base Accuracy to 0,05 % from Set Range (See Data Sheet No. 288)**
◦ P5201EEx	Intrinsically Safe Universal Programmable Transmitter P5201 H10EEx with Circuit Isolation, Base Accuracy to 0,05 % from Set Range (See Data Sheet No. 288)**
• P3301	Universal Programmable Transmitter P3301 SMART with Circuit Isolation, Base Accuracy to 0,065 % from Set Range HART Communication Interface (See Data Sheet No. 507)**
Example of order: T1027-2 021 104 S32 K216 01 00 P5102 L11 R12 C3 RL 0°C RH 100 °C ECL	

◦ ... Ex Stock Version

◦ ... Marked Version can be Dispatched up to 10 Working Days

** ... Ordering Tables of Transmitters are Situated in the End of the Catalog.