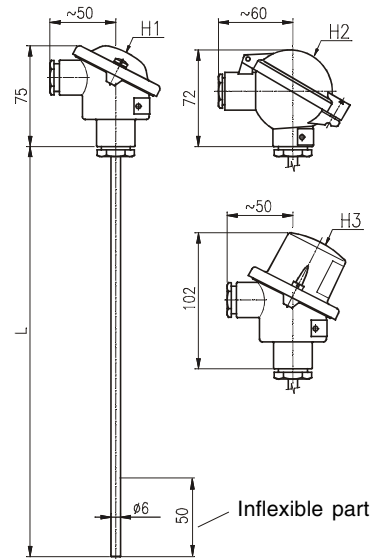


T1007

Resistance Temperature Sensors without Thermowells without/with Transmitters 4 to 20 mA

- Measuring resistor Pt100
- Measuring range -50 to +600 °C
- Accuracy class A, B according to EN 60751
- Head form B according to DIN
- Stem material: stainless steel DIN 1.4541
- Selectable stem length
- Flexible stem (bending radius ≥ 30 mm)
- Mounting temperature sensor by means of Fixing Shift Pipe Union
- Housing IP 54, IP 65
- Optional headmounted programmable transmitter with output 4 to 20 mA, including circuit isolation version and II 1G EEx ia IIC T4 ... T6 (ATEX) version



Application

Resistance temperature sensors T1007 without thermowells are designed for remote measuring of temperature of flowing liquid and gaseous mediums in pipings, tanks and the like. Temperature sensors can be supplied with or without 4 to 20 mA headmounted transmitters.

Description

A sensor of the thermometer is one or two measuring resistors which are placed in the stem and connected through an inside wiring to a terminal board inside the head form B according to DIN. There is made use of sensor resistance-temperature dependence. With a version with a transmitter the resistance signal is converted to a unified linear current signal of 4 to 20 mA. The thermometer should be mounted on piping by a fixing shift pipe union into a straight or an oblique welded-on piece.

Technical Specifications

Measuring Resistor:

1xPt100, accuracy class A, B according to EN 60751, four-wire inside wiring or two-wire inside wiring
 2xPt100, accuracy class B according to EN 60751, two-wire inside wiring or three-wire inside wiring

Measuring Range: -50 to +600 °C (according to sensor)

Measuring Current ¹⁾: recommended ≤ 1 mA
 maximal 3 mA

Output signal: linearized 4 to 20 mA ²⁾

Dielectric Strength: 500 V eff

Electrical insulation resistance:

min. 100 M Ω according to EN 60751, for temperature (25 \pm 10)°C, max. 80 % relative humidity

Materials: Head - Aluminium alloy
 Stem - Stainless steel DIN 1.4541
 Inside wiring - Cu

Minimal radius of stem flexibility: $R_{min} = 30$ mm

Housing: IP 54 or IP 65 (according to head)

Operation conditions

Maximal Temperature of Head:

100 °C (without transmitter)
 80 °C (with transmitter PT-011 and P3301)
 85 °C (with transmitter P5102, P5201 and P5310)

Other specifications

EMC (Electromagnetic Compatibility):

According to EN 61326-1:98 / A1:99

Weight:

a) without transmitters with head H1:

Nominal length: 110 ... 0.32 kg
 170 ... 0.33 kg
 240 ... 0.34 kg
 300 ... 0.35 kg
 390 ... 0.37 kg
 500 ... 0.39 kg
 540 ... 0.40 kg
 710 ... 0.42 kg
 770 ... 0.43 kg
 1000 ... 0.48 kg
 1400 ... 0.55 kg
 2000 ... 0.66 kg

b) with head H2 plus 0.04 kg
 H3 plus 0.05 kg

c) with transmitter PT-011 plus 0.02 kg
 with transmitter P5102 plus 0.04 kg
 with transmitter P5201 plus 0.05 kg
 with transmitter P5310 plus 0.04 kg
 with transmitter P3301 plus 0.04 kg

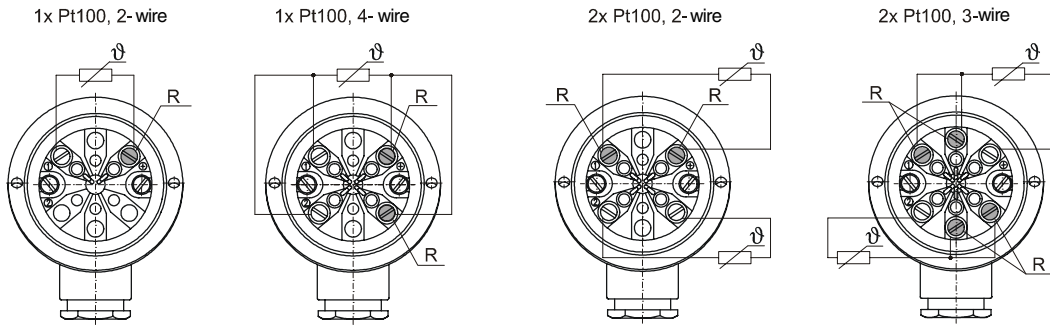
¹⁾... Only for sensor without transmitter

²⁾... Only for sensor with transmitter

Resistance Temperature Sensors without Thermowells T1007

Electrical Connections

R - red



Type	Description
◦ T1007-5 →	Resistance Temperature Sensors T1007 without Thermowells
Code	Temperature Sensor Measuring Range
◦ 04	1xPt100, Two-wire Inside Wiring -50 to +600 °C
◦ 06 →	1xPt100, Four-wire Inside Wiring -50 to +600 °C
◦ 07	2xPt100, Three-wire Inside Wiring -50 to +600 °C
◦ 08	2xPt100, Two-wire Inside Wiring -50 to +600 °C
◦ 99	Other
Code	Accuracy Class according to EN 60751
◦ 1 →	B
◦ 2	A (for Sensors with Four-wire Inside Wiring Only, Range to 0 to +300 °C)
Code	Nominal Length L
◦ 111 →	110
◦ 117	170
◦ 124	240
◦ 130	300
◦ 139	390
◦ 150	500
◦ 154	540
◦ 171	710
◦ 177	770
◦ 210	1000
◦ 214	1400
◦ 220	2000
◦ 999	Other
Code	Stem
Code	Outside Diameter [mm] Stem Coat Material
◦ S31 →	∅ 6 Stainless Steel DIN 1.4541
Code	Head
◦ H1	Al Alloy, Cable Outlet M20x1.5, Housing IP 54, with Terminal Board
◦ H2	Al Alloy, Cable Outlet M20x1.5, Housing IP 65, with Terminal Board
◦ H3 →	Al Alloy, with High Cap for Mounting of Transmitter ∅ 44 mm into Cap, Cable Outlet M20x1.5, Housing IP 54, with Terminal Board
◦ H9	Other
Code	OPTIONAL ACCESSORIES
Code	Calibration
◦ KTE3	Sensor Calibration in Three Customer's Given Temperature Points (0 to +500 °C)
◦ KTE9	Other
Code	Fixing Pipe Unions and Holders
◦ P1 →	Fixing Shift Pipe Union for Stem Diameter of 6 mm UPS6 M20 (See Data Sheet No. 126)
◦ P9	Other
◦ D1	Thermometer Holder for Wallmounting (for Head H1, H3)
◦ D2	Thermometer Holder for Wallmounting (for Head H2)
Code	Transmitters for Headmounting
• P5310	Programmable Transmitter P5310 with LHP Communication, Input Accuracy up to 0.1 % from Set Range (See Data Sheet No. 824)
• PT-011	Programmable Transmitter for Resistance Sensors PT-011, Base Accuracy 0,15 % from Input Range (See Data Sheet No. 471)
• P5102	Programmable Transmitter P5102 H11, Base Accuracy to 0,07 % from Set Range (See Data Sheet No. 451)
◦ P5102EEx	Intrinsically Safe Programmable Transmitter P5102 H11EEx, Base Accuracy to 0,07 % from Set Range (See Data Sheet No. 451)
• P5201 →	Universal Programmable Transmitter P5201 H10 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: T1007-5 06 1 111 S31 H3 P1 P5201 H10 R11 C3 RL 0 °C RH 350 °C ECL

◦ ... Ex Stock Version

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