

TT01 Series RTD Temperature Transducer

The TT01 series is a Screw-In RTD temperature transducer which is perfectly suitable for temperature measurements in liquids and gases. The installation type ensures the reliable seals for vacuum and overpressure applications. The measuring insert is usually fitted with a PT100 temperature sensor as standard. Versions with PT500 or PT1000 are also available.



Features

- With terminal head form J
- For temperatures from -50 to 400 °C
- Single/double RTD temperature probe
- Three-wire and four-wire circuit available
- Available with Built-In transmitter
- Protection type IP67
- Neck tube version

Applications

- Wind turbine
- Gearbox construction
- Air-conditioning and refrigeration technology
- Mechanical engineering
- Heating and oven construction
- Apparatus construction
- Thermostat bath
- Meat processing industry

Advantages

- Fast measurements
- Enhanced precision and repeatability
- Wide temperature measuring range
- Reliable performance, and high flexibility

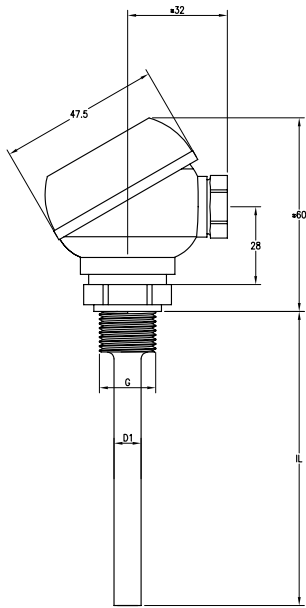
Standards

- DIN EN IEC 60751
- DIN EN 60529
- DIN EN 60068-2-6
- DIN EN 60068-2-27
- DIN EN 61326

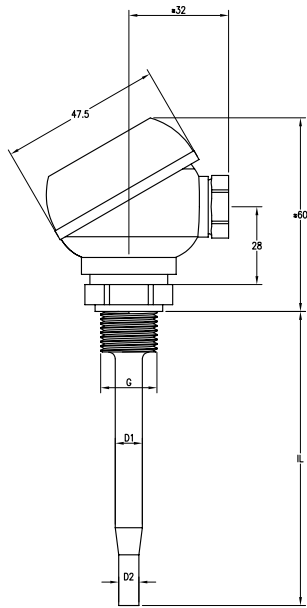
Technical data

Parameter	Description
Terminal head	Aluminium die-cast, Form J, M16 × 1.5
Process connection	Thread, stainless steel AISI 316L
Protection tube	Stainless steel AISI 316L, Ø 6 and Ø 8 mm
Protection type	IP67
Measuring insert	RTD temperature resistance, DIN EN IEC 60751, class A or class B
Measuring temperature range	-50 to 400 °C
Sensor element	PT100, PT500 or PT1000
Response time	$t_{0.5} = 8 \text{ s}, t_{0.9} = 20 \text{ s}$, in water 0.4 m/s, Ø 8 mm $t_{0.5} = 5 \text{ s}, t_{0.9} = 12 \text{ s}$, in water 0.4 m/s, Ø 6 mm $t_{0.5} = 75 \text{ s}, t_{0.9} = 185 \text{ s}$, in air 3.0 m/s, Ø 8 mm $t_{0.5} = 40 \text{ s}, t_{0.9} = 110 \text{ s}$, in air 3.0 m/s, Ø 6 mm $t_{0.5} = 2 \text{ s}, t_{0.9} = 5 \text{ s}$, in water 0.4 m/s, Ø 6 mm stepped down to Ø 3.5 mm $t_{0.5} = 25 \text{ s}, t_{0.9} = 85 \text{ s}$, in air 3.0 m/s, Ø 6 mm stepped down to Ø 3.5 mm
Transmitter output	4 to 20 mA
Power supply (Transmitter)	10 to 30 VDC
Transfer accuracy(Transmitter)	$\leq \pm 0.1\%$
Temperature coefficient of output(Transmitter)	0.25% / 1 0°C
Ambient operating temperature	-40 to 100 °C without transmitter, -40 to 85 °C with transmitter
Storage temperature	-40 to 100 °C
Ambient operating humidity	0 to 95 % RH
Shock	100 g / 6 ms
Vibrations	4 g sine function 5 – 200 Hz

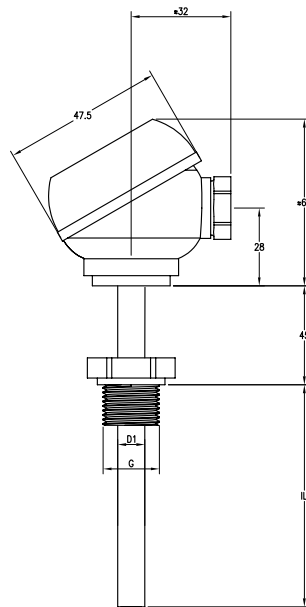
Dimension (mm)



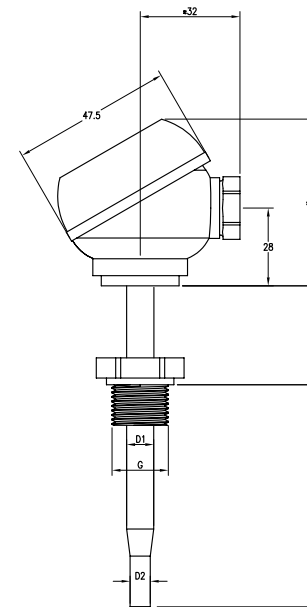
Type code 10:
continuous protection tube



Type code 11:
Stepped protection tube



Type code 20:
Extension tube and continuous
protection tube



Type code 21:
Extension tube and stepped
protection tube

Name Guide Description

TT01 - XX - XXX - XXXX - X - X - XXX - XXX - X

Type

10: Continuous protection tube
 11: Stepped protection tube*1
 20: Extension tube and continuous protection tube
 21: Extension tube and stepped protection tube
 *1 Stepped protection tube: D1 Ø 6 stepped down to D2 Ø 3.5 mm
 or D1 Ø 8 stepped down to D2 Ø 6 mm)

Measuring temperature in °C

150: -20 to 150 °C
 200: -50 to 200 °C
 260: -50 to 260 °C
 400: -50 to 400 °C

RTD insert

1001: 1× PT100 in two-wire circuit
 1003: 1× PT100 in three-wire circuit
 1005: 1× PT1000 in two-wire circuit
 1007: 1× PT100 in four-wire circuit
 1009: 2×PT100 in two-wire circuit

Tolerance class according to DIN EN 60751:2009

1: Class B (standard) (-50 to 500 °C)
 2: Class A (-30 to 300 °C)

Protection tube diameter D in mm

6: Ø 6 mm (standard)
 8: Ø 8 mm

Insertion length (IL) in mm

050: 50 mm
 100: 100 mm
 150: 150 mm
 250: 250 mm
 300: 300 mm
 Customized

Process connection (G)

101: Screw connection G 1/4
 103: Screw connection G 3/8
 104: Screw connection G 1/2
 Customized

Extra codes

Notes

The content of this document is subject to revision without notice. Luksens shall have no liability for any error or damage of any kind resulting from the use of this document.

Safety and Environment



The product is to be installed by manufacturer trained personnel or competent person trained in accordance with manufacturer installation instructions.

With respect to applicable standards IEC 61010-1/ EN 61010-1 *safety requirements for electrical equipment for measurement, control and laboratory use part 1 general requirements*, the product should be used in limited energy secondary circuits.



Risk of electrical shock

Certain parts of the module can carry hazardous voltage during the operation process of the product because hazardous live voltage of primary conductor, power supply occurs, injury and/or serious damage will be caused if this warning is ignored.

Conducting parts must be inaccessible after installation of the product. Additional protection including shield or protective housing could be used according to IEC 60664 Insulation coordination for equipment within low-voltage supply systems.

Disconnection of the main supply will protect against possible injury and serious damage.



ESD protection

Damage from an ESD event will occur if the personnel is not well grounded when handling.

Important notice

Luksens reserves the right to make changes to or discontinue any product or service identified in this publication without notice. Luksens advises its customers to obtain the latest version of the relevant information to verify, before placing any orders. The information included herein is believed to be accurate and reliable. However, since additional design, measure, production, quality control take effect in the end product, therefore Luksens shall have no liability for any potential hazards, damages, injuries or less of life resulting from the end product.

Luksens products are not to be used in any equipment or system, including but not limited to life support equipment or systems, where failure of Luksens products may cause bodily harm.