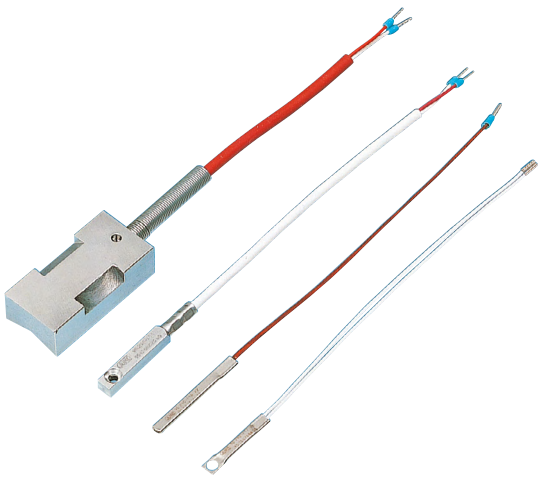

TEMPERATURE
2025
PROFI MESS GMBH
ELECTRONIC THERMOMETERS



PT-00

Surface Resistance Thermometer

Features

/ Easy and fast assembly

/ For round and plane surfaces

/ Temp. range of -50. . .+260°C

/ Different protection fittings

/ Less thermal mass

Description:

The PT-00 series of resistance thermometers are surface temperature sensors on the basis of Pt100. Depending on the requirement, the devices can be supplied with permanent connecting cable or with housing and cable gland. A Pt100 temperature sensor is inserted into the protection fitting in 2-wire circuit which changes its ohmic resistance depending on the temperature. According to the version, the surface fittings are screw-mounted through a mounting hole or clamped by means of strap retainers to the surface to be measured. These thermometers are available in aluminium or stainless steel.

Application:

Thanks to their easy and fast assembly by means of strap retainers, hose band clips or screws, the PT-00 series of surface resistance thermometers well suited for a number of applications such as temperature measurement in closed pipelines as well as on plane surfaces. Since the temperature is measured indirectly, there is no interference with the process medium and, moreover, there is no or very less mechanical groundwork required at the location of measurement. The temperature transmitters in the PT-00 series are not affected by any operational pressure or chemical influences of the medium, thus ensuring their durability. Due to the less thermal mass of the PT-00, the object being measured is not at all affected which enormously simplifies a streamlined measurement of surface temperature.

Versions:

PT-00 Surface Resistance Thermometer

The PT-00 series of contact resistance thermometers is supplied with various fittings for screw-mounting or for fastening with strap retainers or hose clips. In PT-00.1 and PT-00.2 versions, the electrical connection is made through a clamp housing while, in all other versions, it is implemented through a 2.5 meter long cable that has silicon or PTFE sheathing depending the type of fittings.

Protection class: The various versions of PT-00 with clamp housing belong to the IP54 protection class as a standard. Optionally, IP65 protection class is also available.

Accessories: Installation kit (clamping band and thermal conductance paste) for pipes up to a max. diameter of 100 mm.

Technical Specifications:

Connection /	pipe ends Sn-plated, with wire sleeves
Connecting cables /	silicone, ambient temperature -50. . .+180°C PTFE, ambient temperature -50. . .+260°C
Sensor element /	Pt100 temperature sensor, DIN EN 60751, Cl. B, 2-wire
Protection fitting /	stainless steel 1.4571, aluminium, plastic
Process connection /	strap retainers, hose Binder or screw fastening
Cable length /	2500 mm standard, special lengths on request

Ordering Codes:

Order number	**PT-00.**	**1**

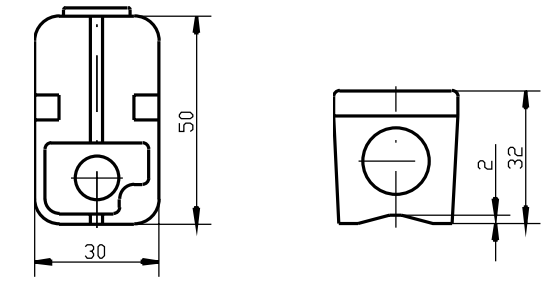
PT-00 Surface Resistance Thermometer

Version /

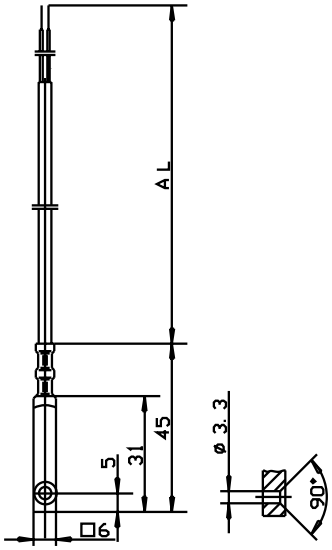
1 = tube contact sensor with clamp housing, (-50°C. . .+120°C)
2 = surface contact sensor with clamp housing, (-50°C. . .+120°C)
3 = with connecting cable PTFE, fixture hole, protective aluminium fittings (-190°C. . .+260°C)
4 = with connecting cable PTFE, fixture hole, protective stainless steel fittings (-190°C. . .+260°C)
5a = with connecting cable PTFE, no fixture hole, protective stainless steel fittings (-190°C. . .+260°C)
6 = with connecting cable Silicon, fixture by container strap, protective aluminium fittings (-50°C. . .+180°C)

Dimensions in mm:

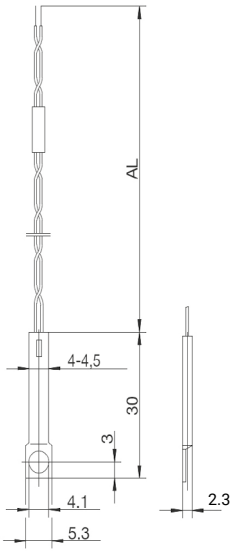
PT-00.1/2



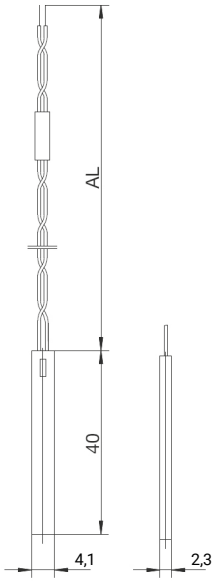
PT-00.3



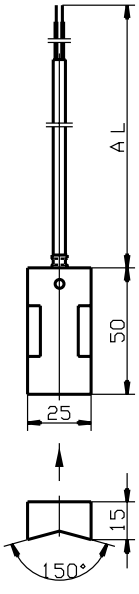
PT-00.4



PT-00.5



PT-00.6



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PT-01

Compact Resistance Thermometer

Features

/ Small design

/ Integrated transmitter

/ Power- or resistance output

/ Stainless steel

/ -200°C to +400°C

Description:

A temperature-dependent electrical resistance is integrated in a stainless steel protection tube. It changes its ohmic resistance in relation to the temperature of the media. In the version with a built-in transmitter, the measured value will be converted into a 4. . .20 mA current signal and made available at the connections of the square-type plug point in 2-wire system. In the version without a transmitter, the plain resistance can be tapped at the plug point. the sensor element is designed in 2-, 3- or 4-wire with a system in order to compensate for the measuring errors through the electrical leads.

Application:

The PT-01 series of Compact Thermometers is unbeatable in their versatility. A choice of 2 shaft diameters, 5 different shaft lengths and various connecting threads allow the user to customize them practically in any location of measurement. In addition, the wide range of temperatures of -200. . .400°C contributes its part to the fact, that these sensors are used nearly in the entire industry with great success. From a temperature of 120°C upwards, the thermometers are provided with an additional neck tube that serves as a cooling section and protects the sensitive electronic components against overheating.

Versions:

PT-01 Compact Resistance Thermometer

Output: Resistance outputs PT100 2-, 3- or 4-wire without a transmitter are possible. With transmitter the device gives a 4. . .20 mA current signal in 2-wire circuit.

Process connection: G½" B male, smooth shaft (others on request)

Shaft diameter: Protective pipes with 6 mm or 8 mm are available.

Shaft length: Depends on the required depth.

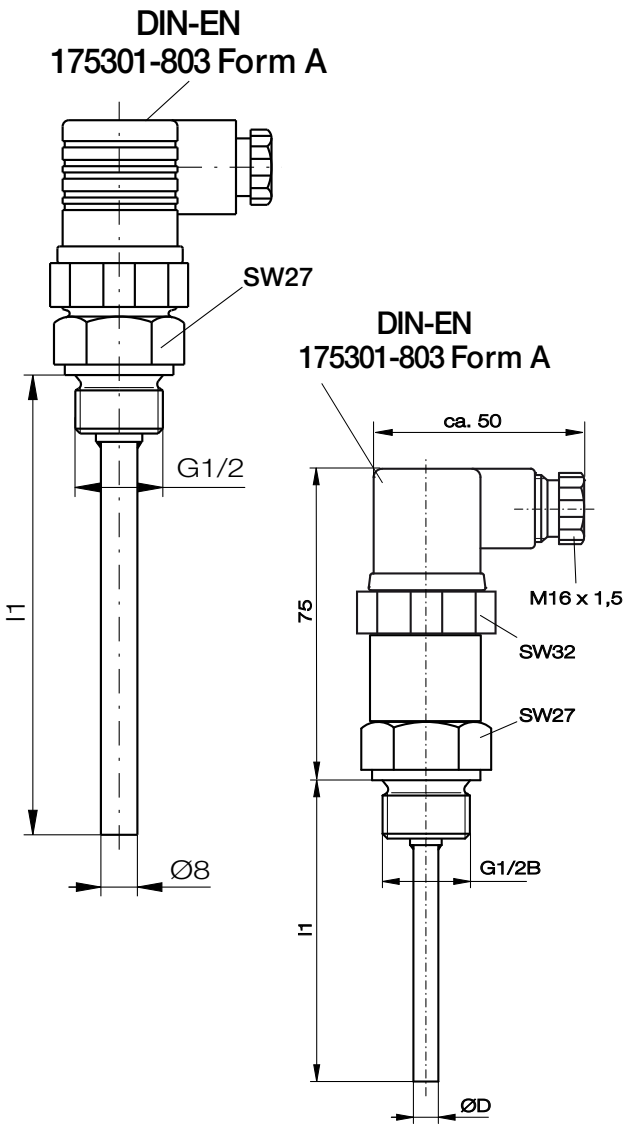
Technical Specifications:

Accuracy /	Transmitter: < 0.1% from the range Class A for DIN EN 60751 ±(0.15°C + 0.002°C x |t|) Class B for DIN EN 60751 ±(0.3°C + 0.005°C x |t|)
Material /	Stainless steel 1.4571
Process connection /	G½"B (others on request)
Shaft diameter /	6 mm or 8 mm (others on request)
Shaft length /	50. . .2000 mm
Neck tube /	55 ± 2 mm from 120°C
Storage temp. /	-40. . .85°C
Pressure /	max. 25 bar

Electrical Specifications:

Output /	4. . .20 mA, 2-wire or 1 x PT100, 2-, 3- or 4-wire
Supply voltage /	7.5. . .35 VDC
max. Current /	0.3. . .1.0 mA
Connection /	angled plug from DIN EN 175301-803 A for 2-, 3- or 4-wire
Protection class /	IP65 ENC60529
EMC /	2004/108/EG, EN 61326 emission (Group 1 Class B) and immune to interference (industrial)

Dimensions in mm:



Ordering Codes:

Order number	PT-01.	1.	2.	[][][].	[][][].	[][][]

PT-01 Compact Resistance Thermometer

Output /
1 = 1 x PT100 3-wire
2 = 4. . .20 mA 2-wire

Shaft diameter /
1 = 6 mm
2 = 8 mm

Desired shaft length /
[][][] mm (max. 2000mm)

Temperature range /
[][][] = start value (from -200°C)

Temperature range /
[][][] = end vlaue (up to +400°C)

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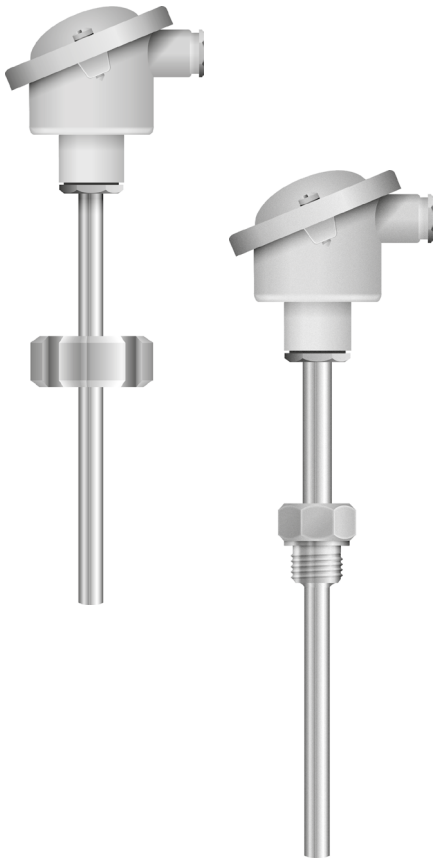
PT-02

Insertion Resistance Thermometer



Features

/ All types of designs

/ Integrated transmitter

/ Current or resistance output

/ Stainless steel

/ -50. . .+550°C

/ Insertible into process- or protection tube

/ Special type connections

Description:

A temperature-dependent electrical Pt100 resistance is situated in a protective stainless steel tube as specified by the customer. It changes its ohmic resistance value proportionally to the temperature of the media and the same is tapped at the connecting head of the PT-02 in 2-, 3- or 4-wire system. This ensures compensation of measuring errors through the electrical feeder lines. If the device has an integrated head transmitter, it generates a 4. . .20 mA current signal, proportional to the temperature, directly from the tapped resistance value as per the proven 2-wire system. The transmitter can also be supplied as ex-version with intrinsically safe operation so that the head of the device can be used in Zone 1.

Application:

The PT-02 series of insertion resistance thermometers is manufactured as per the customer specifications with regard to process connection, shaft length and shaft diameter. They are ideally suited for use in protective tubes (in high pressure applications or hostile media) as well as for direct insertion into the process. The wide range temperatures from -50. . .+550°C contributes to the fact that these sensors are used nearly in the entire industry with great success. The thermometers for temperatures +120°C and up are provided with an additional neck tube that serves as a cooling line and protects the connecting head against overheating. In order to ensure maximum accuracy, only carefully tested measuring elements as per DIN are used, thus allowing the customer to select from Classes A and B.

Versions:

PT-02 Insertion Resistance Thermometer

Neck tube: From a temperature of +120°C upwards using a neck tube is recommendable which serves as a cooling line.

Process Connection: The process connection can be designed as male thread or swivel nut. For pharmaceutical or food-processing industries aseptic glands or clamp connections are available. Chemical and petro-chemical industries can be supplied with any type of flange connection.

Measuring element: The user can select from among elements of Classes A (± (0.15 + 0.002*t) °C) and B (± (0.3 + 0.005*t) °C).

Output: Depending on the further processing of the signal, the Pt 100 can be designed as 2-, 3- or 4-wire system. Also available is a version with two PT 100 measuring elements in one shaft. In this case the Pt100's must be connected as 2- or 3-wire. For integrated head transmitter a 4. . .20 mA 2-wire signal is generated.

Insertion length: Customer can specify the inserting length from the sealing surface.

Connecting head: 6 different connecting heads as per DIN are available. Please refer to "Drawing for connecting heads". In versions with integrated head measuring transmitter the head Form B is used as a standard.

Technical Specifications:

Pressure /	max. 6 bar for protective stainless tube (mounting in high-pressure protective tubes possible)
Temperature /	max. +70°C at head transmitter
Neck tube /	from media temperature +120°C upwards the standard is a 120 mm neck tube (customized manufacturing possible)
Temperature range /	-50. . .+550°C
Material /	shaft, neck tube and thread in stainless steel 1.4571
Accuracy /	Pt100 Class A or B as per DIN IEC 751
Electrical connection /	ceramic clamping block in connecting head
Process connection /	welded or screwed in bushing, protective tube, compression fitting

Electrical Specifications:

Supply voltage /	24 VDC (for head transmitter)
Output /	1 x Pt100 2-wire,1 x Pt100 3-wire, 1 x Pt100 4-wire, 2 x Pt100 2-wire, 2 x Pt100 2-wire or 4 to 20 mA 2-wire
Protection class /	IP54 EN 60529

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Ordering Codes:

Order number	PT-02.	1.	2.	1.	1.	[].	3.	2.	[].	[]

PT-02 Insertion Resistance Thermometers

Neck tube /
1 = no neck tube (up to +120°C)
2 = with neck tube (from +120°C upwards)

Process connection /
1 = smooth shaft
2 = G 1/2"-male
3 = G 1/2" swivel nut
4 = G 3/4"-male
5 = G 3/4" swivel nut
6 = G 1"-male
7 = G 1" swivel nut
8 = NPT 1/2"-male
9 = NPT 3/4"-male
10 = M 18 x 1.5-male
11 = M 18 x 1.5 swivel nut
12 = M 20 x 1.5-male
13 = M 20 x 1.5 swivel nut
14 = M 27 x 2-male
15 = M 27 x 2 swivel nut
16 = clamp 1"
17 = clamp 2"
18 = special connection (flange or aseptic gland) in detailed text

Measuring element:
1 = 1 x Pt100, Class A as per DIN EC 751
2 = 1 x Pt100, Class B as per DIN EC 751
3 = 2 x Pt100, Class A as per DIN EC 751 (2- or 3-wire only)
4 = 2 x Pt100, Class B as per DIN EC 751 (2- or 3-wire only)

Output:
0 = 2-wire
1 = 3-wire
2 = 4-wire
3 = 4 to 20 mA with head transmitter

Insertion length:
[][][][] shaft length from sealing surface in mm

Shaft diameter:
1 = 3 mm (for mounting in protection tube)
2 = 6 mm
3 = 8 mm
4 = 15 mm

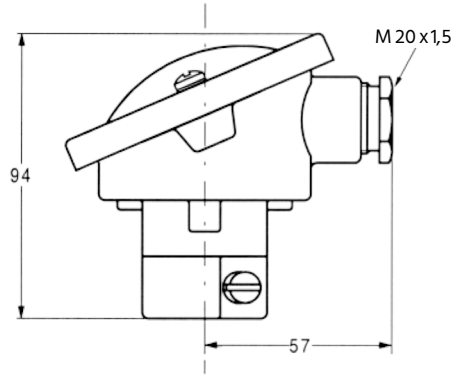
Connecting head /
1 = form A
2 = form B (standard for head transmitter)
3 = form BUZ (DAN)
4 = form BUZ-H (DANW)
6 = form BEG
7 = form GG

Temperature range /
[][][][] initial value

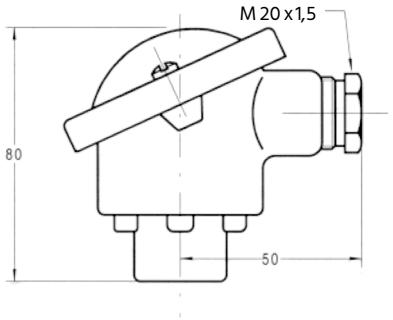
Temperature range /
[][][][] end value

Dimensions in mm:

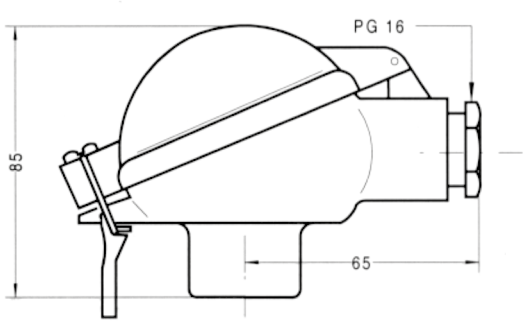
Form A – cover with 2 fastening screws
Material: aluminium pressure casting



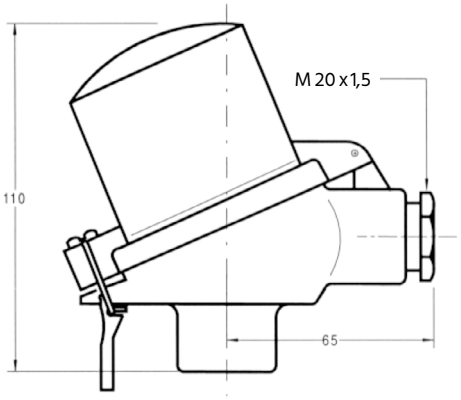
Form B – over with 2 fastening screws
Material: aluminium pressure casting



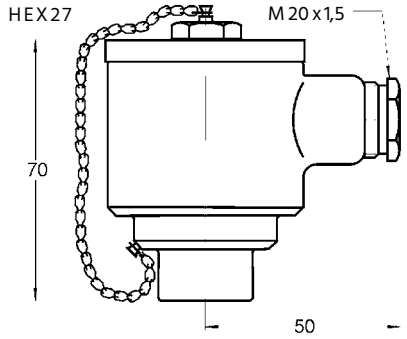
Form BUZ (DAN) – flap cover with bracket
Material: aluminium pressure castin



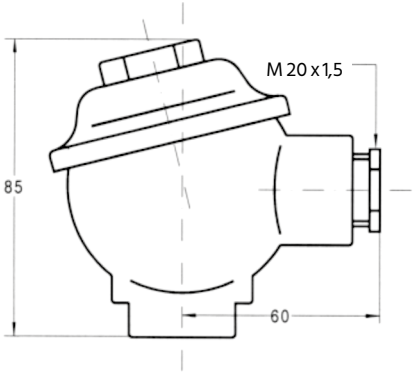
Form BUZ-H (DANW) – high flap cover with bracket



Form BEG – screw cap with chain
Material: stainless steel 1.4571



Form GG – cover with screw closure
Material: steel/cast iron



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PT-03

Resistance Thermometer or Thermocouples with Cable Connection

Features

/ With thread or smooth shaft

/ Cable tolerance up to 260°C

/ Sleeve -50 up to +1200°C

/ Pt-100, 2-, 3- or 4-wire

/ 3, 4 or 6 mm sensor diameter

/ Thermocouple K and J

/ Customer-specific solutions

Description:

The PT-03 cable thermometer is an universally applicable temperature sensor on the basis of Pt100 or a thermocouple. A temperature-sensitive measuring element is situated in a protective sleeve made of stainless steel which is permanently fixed to a cable. It can be supplied in different variants with regard to material and length. The measuring element is available as a PT100 class B (optional accuracy class A) in 2-, 3- or 4-wire technology or as a thermocouple type K or J. Using the PT-03, a temperature range of -50. . .+1200°C can be easily detected. However, the maximum temperature on the cable must not exceed 260°C. Customer-specific special solutions are available on request.

Application:

Cable thermometers are widely used in the industry in a variety of versions. Besides the versions with clamp connection housing or plug, the PT-03 exemplifies a simple and cost-effective method for measuring temperatures securely and accurately even in places which are difficult to access, e.g. shafts or narrow spaces, safely and accurately. By attaching an additional protective hose on the joint between the cable and protective sleeve, the protection class in some of the versions can be upgraded to IP68 so that the PT-03 is also suitable for measuring temperatures in wells. Basically, any type of fluid and gaseous media can be measured which are compatible with the material used.

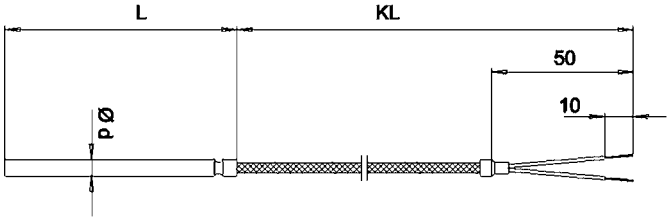
Technical Specifications:

Protection sleeve /	stainless steel 1.4571, optionally 1.4541 or 2.4816 Inconel
Shaft length /	25 mm, 50 mm, 100 mm, 150 mm, 200 mm, 250 mm, 400 mm, special types on request
Shaft diameter /	3 mm, 4 mm or 6 mm
Connecting thread /	G1/2"-male or smooth shaft, optionally G1/4"-male, 1/4"-NPT, 1/2"-NPT or slidable compression fitting, special type connections on request
Media-temperature /	-50. . .+550°C for resistance thermometer -50. . .+1200°C for thermocouples
Temperature ranges /	-20. . .+70°C (PVC-cable) -60. . .+180°C (Silicone-cable) -65. . .+200°C (Teflon-cable) -50. . .+260°C (glass fibre insulated cable)
Cable length /	1000 mm standard, special type lengths on request

Electrical Specifications:

Measuring element /	1 x Pt100 2-wire, 1 x Pt100 3-wire, 1 x Pt100 4-wire, 2 x Pt100 2-wire, or 2 x Pt100 3-wire, 1 or 2 thermocouples type K or J
Accuracy /	Class B, optionally Class A for Pt100, Class 1 for thermocouples type K or J
Prot. Class /	IP65 as per IEC 751 Class B, optionally IP68 (cable material glass fibre: IP50)
El. Connection /	bare cable ends, insulated, or core cable ends, optionally miniature plug for thermocouples

Dimensions in mm:



Ordering Codes:

Order number	**PT-03.**	**3.**	**2.**	**1.**	**1.**	**1.**	**3**

PT-03 Resistance Thermometer with Cable Connection

Version /
3 = ø 3 mm, for inserting
3a = ø 4 mm, for inserting
4 = ø 6 mm, for inserting

Insertion or sleeve length /
1 = 25 mm
2 = 50 mm
3 = 100 mm
4 = 150 mm
5 = 200 mm
6 = 250 mm
7 = 400 mm
□□□□ = special type length in mm

Cable material /
1 = -20. . .+70°C with PVC cable
2 = -60. . .+180°C with silicone cable
3 = -65. . .+200°C with PTFE cable
4 = -50. . .+260°C with glass fibre insulated cable
5 = -55. . .+180°C with shielded FEP cable
6 = -50. . .+260°C with SS-shielded glass fibre cable
7 = special material

Cable length /
1 = 1000 mm (standard)
□□□□ = special type length in mm

Measuring element /
1 = 1 x Pt100 Class B, 2-wire
2 = 1 x Pt100 Class B, 3-wire
3 = 1 x Pt100 Class B, 4-wire
4 = 2 x Pt100 Class B, 2-wire
4a = 2 x Pt100 Class B, 3-wire
5 = 1 x NiCr-Ni
6 = 1 x Fe-CuNi
7 = 2 x NiCr-Ni
8 = 2 x Fe-CuNi

Options / (multiple entries such as /2/9/10 are possible):
0 = none
1 = process connection G¼"-male fixed
2 = process connection G½"-male fixed
3 = process connection ¼"-NPT fixed
4 = process connection ½"-NPT fixed
5 = process connection G¼"-male slidable
6 = process connection G½"-male slidable
7 = process connection ¼"-NPT slidable
8 = process connection ½"-NPT slidable
8a = special connection, please specify in detailed text
9 = sensor class A instead of Class B
10 = material 1.4541 instead of stainless steel 1.4571
11 = material Inconel instead of stainless steel 1.4571
12 = miniature plug for thermocouples (only thermocouples)

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PT-05N

Resistance Thermometer in wall-mounted Housing

Features

/ Room temperature measurement

/ Wall-mounting

/ Class A or Class B

/ Optionally with analogue output

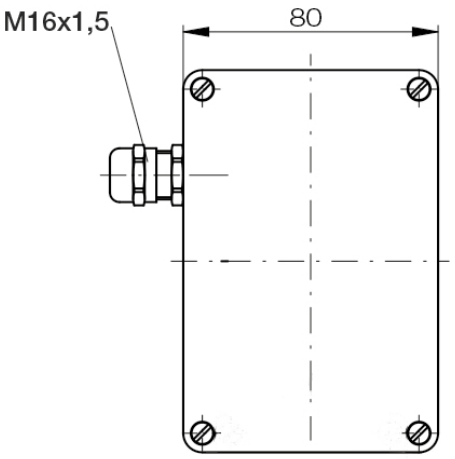
Description:

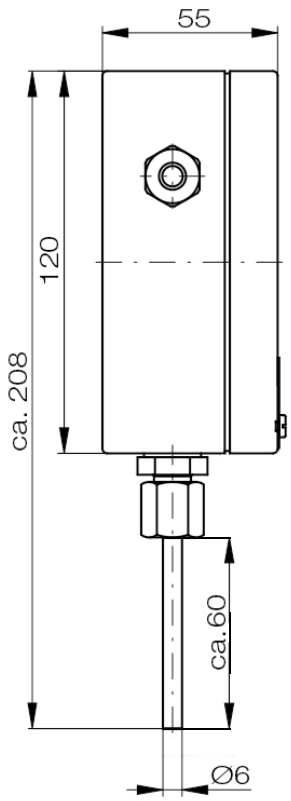
A Pt100 sensing resistor of accuracy class A or B is situated in a stainless steel tube; it changes its ohmic resistance according to the room temperature present outside the measuring tube. This resistance value is tapped either unaltered at the connecting terminals inside the wall-mounted housing of the PT-05 or, first, converted into a 4 to 20 mA output signal and then made available in 2-wire system.

Application:

The PT-05 resistance thermometer is used for simple measuring of room temperatures and is, therefore, used in building and air-conditioning technologies. Wherever room temperature plays an important role in regulating processes, it must be tapped accurately and output electrically. In this respect, PT-05 offers a cost-effective and yet robust solution.

Dimensions in mm:





Technical Specifications:

Housing /	120 x 80 x 55 mm (H x W x D)
Sensor length /	60 mm stainless steel (other lengths available on request)
Sensor diameter /	6 mm
Temperature range /	-50. . .+70°C
Accuracy of measurement /	Class A as per DIN EN 60751 ± (0.15°C + 0.002°C x |t|) Class B as per DIN EN 60751 ± (0.3°C + 0.005°C x |t|)
Output /	MU-410 4. . .20 mA
Measuring resistance /	Pt100 as per DIN EN 60751 Load capacity: 0.3. . .1.0 mA
Options /	PT1000 & Ni100

Electrical Spec.(Transmitter):

Protection class /	IP68
Cable gland /	M16 x 1.5
Power output /	4. . .20 mA, 2-wire technology
max. Load /	Rb ≤ (Ub–12V) 20 mA
Supply voltage /	12. . .30 VDC

Ordering Codes:

Order number	**PT-05N.**	**1B.**	**1.**	**0.**	**0**

PT-05N Resistance thermometer in wall-mounted housing

Sensing resistor /
1B = 1 x Pt100, Class B, 3-wire
1A = 1 x Pt100, Class A, 3-wire
2B = 2 x Pt100, Class B, 3-wire
2A = 2 x Pt100, Class A, 3-wire

Transmitter /
0 = none
1 = standard transmitter 4. . .20 mA, 2-wire, factory configured

Temperature range of power output /
0 = no power output
□□□ - □□□°C Assignment of power output to temp. range in detailed text

Special features /
0 = none
1 = please specify in detailed text

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PT-06

Resistance Thermometer for Pipes

Features

/ For round surfaces

/ Pt100, Pt1000, NiCr-Ni

/ Aluminium sensor

Description:

The PT-06 is a resistance temperature-sensor, specifically designed for round surfaces. The slightly angled form of the sensor helps to obtain the value from a greater area from rounded objects for a more accurate measurement of temperatures, as opposed to other, flat thermometers. A thermal-element (NiCr-Ni Typ K) or a resistance-temperature-sensor (Pt100/Pt1000) can be used for the measurement. The standard Version of the PT-06 comes with a 2 m silicone-cable with loose ends and end ferrules. Other lengths are available on request.

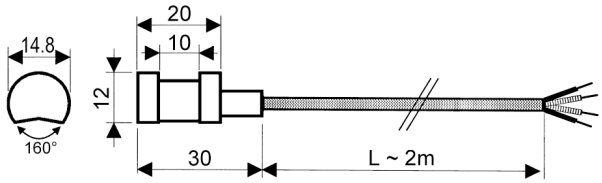
Application:

The PT-06 can be installed via tension belts or hose connectors, making it very easy to use. The indirect measuring does not disturb the media and only few to none mechanical work has to be done on the pipe itself. The PT-06 series thermometers are not subjected to any kind of process-pressures or chemical influences of the media, increasing their lifespan. To reach the highest efficiency, the use of thermal compund between sensor and pipe is strongly advised.

Technical Specifications:

Sensor /	Pt100 (4-wire) Pt1000 (4-wire) NiCr-Ni
Measuring range /	-50. . .+200 °C
Accuracy /	Pt100 / Pt1000: DIN class B NiCr-Ni: class 1
Sensor material /	aluminium
Cable connection /	silicone cable or rather silicone compensation-cable, loose ends length: 2 m (max. 200 °C) other lengths on request
Protection class /	IP54

Dimensions in mm:



Ordering Codes:

Order number	**PT-06.**	**1.**	**2**

PT-06 Surface-Sensor for pipes

Sensor /
1 = Pt100 (4-wire)
2 = Pt1000 (4-wire)
3 = NiCr-Ni

Cable length L /
1 = 2 m (Standard)
2 = any, please specify in m □□□

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PT-07

Resistance thermometer for Ambient Temperatures

Features

/ Efficient temperature measuring

/ Surface mounted

/ IP66 protection for outside areas

/ Economic alternative

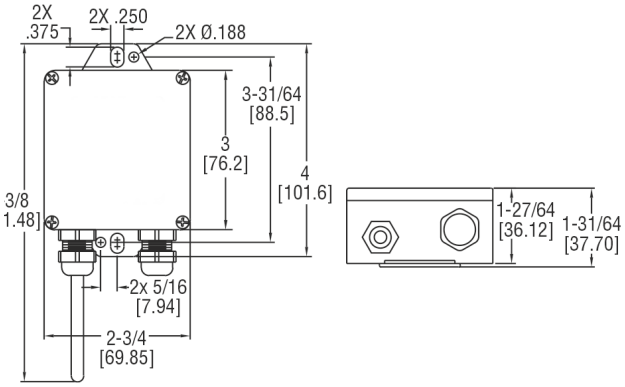
Description:

A Pt100 sensing resistor of accuracy class B is situated in a stainless steel tube, changing its ohmic resistance according to the room temperature present outside the measuring tube. This resistance value is tapped unaltered at the connecting terminals inside the wall-mounted housing of the PT-07, available as a 2-wire signal.

Application:

The resistance thermometer PT-07 supplies an easy way of measuring ambient temperatures and is best used within the fields of building- and climate-technologies. Whenever the room- or ambient-temperature is of concern for a process, it has to be measured accurately. The PT-07 offers a solution for that, while being very cost-effective but still resillient.

Dimensions in inch [mm]:



Technical Specifications:

Accuracy /	Thermistor temperature sensor: ±0.22°C @ 25°C (± 0.4°F @ 77°F); PT100 temperature sensor: DIN class B: ± 0.3°C @ 0°C (±0.54°F @ 32°F)
Operating temperature /	-40. . .+120°C
Probe diameter /	6 mm
Probe length /	88.9 mm
Probe material /	304 SS
Temperature sensor /	Pt100 Class B two wire DIN 385
Mounting /	Suspension or surface
Enclosure /	NEMA 4X (IP66)
Weight /	85 g

Ordering Codes:

Order number	**PT-07.**	**1**

PT-07 Resistance thermometer

Version /

1 = 10 kΩ thermistor, Type III
2 = 10 kΩ thermistor, Type II
3 = 3K Ω
4 = Pt100 Ω RTD
5 = Pt1000 Ω RTD
6 = 20K Ω thermistor

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TD-01

Digital Thermometer

Features

/ Large size LCD-display

/ Optional analogue output

/ Various process connections

/ Completely from stainless steel

/ Protection class IP65

Description:

A temperature-sensitive resistor is located in the stainless steel sensor TD-01, which responds to a change of the upcoming temperature. The electronic modul of the unit evaluates this process and either purely indicates the temperature on a large LCD display. The purely indicating version of the TD-01 is supplied via a 3.6 VDC long life lithium battery and doesn´t need any auxiliary energy. The version with power output however needs a 17 to 30 VDC supply voltage. To connect the TD-01 to the monitored process seven standard threads are available and can even be supplemented by customized versions. The electronic housing of the unit is either rigidly or cable connected to the stem and it is fixed either directly to the measuring spot by means of the process connecti-on or wall or surface mounted by 3-hole flanges and wall brackets.

Application:

With the material-version (wetted parts stainless steel) and an IP65 protection class for the NG100 stainless steel housing, the TD-01 is well prepared for duty in common machine-, apparatus-, tank- or pipe-con-structions, as well as in chemical- and food-production. Besides the standard versions (see ordering codes) special versions of the digital thermometer can be manufactured on demand. The advantage of this is that existing measuring points (protective tubes) as well as outdated, defective temperature indicators or transmitters can easily be replaced.

Technical Specifications:

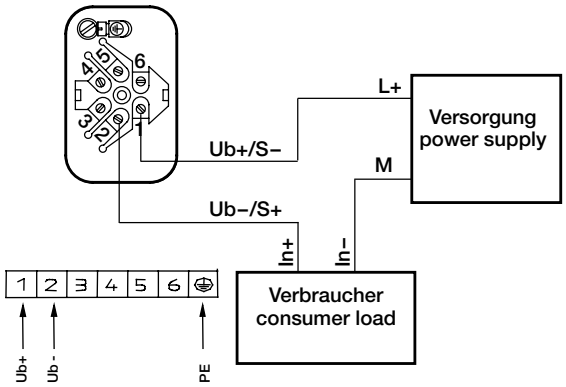
Temp. range /	-200. . .+600°C DIN EN 60751
Ambient temp. /	-10. . .+50°C
Storage temp. /	-20. . .+70°C
Protection class /	IP65 EN 60529
Neck tube /	beginning with medium temperatures of +120°C a 120 mm neck tube is standard (customized version e.g. for thicker pipe or vessel isolations are possible)
Accuracy /	Display: 0,3% FS ± 1 Digit Sensor: ± 0,3K at 0°C; ±(0,3 + 0,005*|t|) Version with transmitter: Pt 100 Class 0,5 Temperature indicator: Pt1000 Class B, DIN EN 60751
Display /	4-digit LCD display, character height 18 mm
Housing /	Ø 100mm, stainless steel 1.4301
Protective tube /	Stainless steel 1.4571
Cable material /	PTFE

Electrical Specifications:

Supply voltage /	Temperature indicator: 3.6 V lithium battery, AA, changeable, life span 5 year (lifespan in months, dep. on use, about 56h cont. operation) Temperature indicator with 2-wire transmitter: 17. . .30 VDC
Power consumption /	P max: 1 W
Output /	4. . .20 mA 2-wire
Load /	Temperature indicator with transmitter: $R_B = (U_B - 17V) / 20$ mA max. R_B = burden, U_B = supply voltage
El. connection /	Cable housing

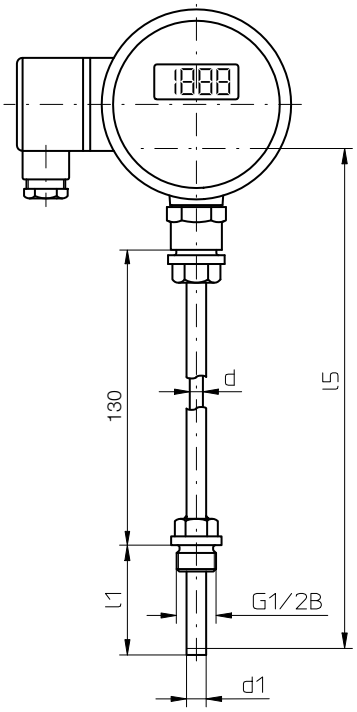
Electrical Connection:

2-Leitersystem / 2 wire-system

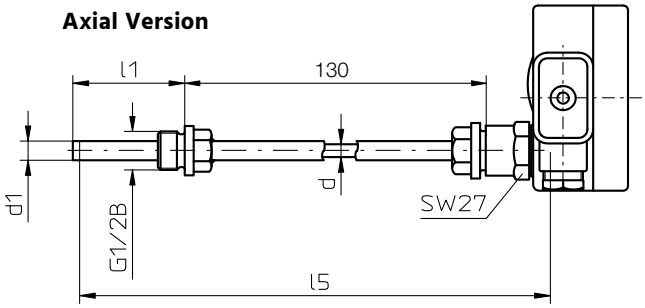


Dimensions in mm:

Vertical Version



Axial Version



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Ordering Codes:

Order number	TD-01.	1.	3.	B.	[].	1.	[].	[].	[].	A.	0.

TD-01 Digital Thermometer

Sensor /
1 = sensor directly mounted to the electronic housing (rigid)
2 = sensor cable mounted to the electronic housing (flexible)

Process connection /
1 = without thread
2 = G 1/2"-AG turnable
3 = G 3/4"-AG turnable
4 = G 1"-AG turnable
5 = M 18 x 1.5 turnable
6 = M 20 x 1.5 turnable
7 = M 24 x 1.5 turnable
8 = M 27 x 1.5 turnable

Version /
A = Batterieversion mit reinem Temperaturanzeiger (Pt1000)
B = Anzeige der Temperatur mit zusätzlichem
4. . .20 mA Ausgang (Pt100)

Insertion length L1 /
□□□□ insertion length from sealing surface in mm

Shaft diameter d1 /
1 = 6 mm
2 = 8 mm
3 = 10 mm

Cable length for flexible sensor /
0 = no cable, connected to the housing
□□□□ = cable length in meter

Temperature range start value /
□□□□ start value in °C (for transmitter = 4 mA)

Temperature range end value /
□□□□ end value in °C (for transmitter = 20 mA)

Mounting position /
F = flexible sensor with cable connection on the side of the electronic housing
A = rigid sensor mounted to the back of the electronic housing
V = rigid sensor mounted to the bottom of the electronic housing

Housing /
0 = standard housing without mounting flange
1 = prepared for wall mounting with separate wall bracket
2 = 3 hole front ring for flush mounting
3 = 3 hole ring at the back for surface mounting

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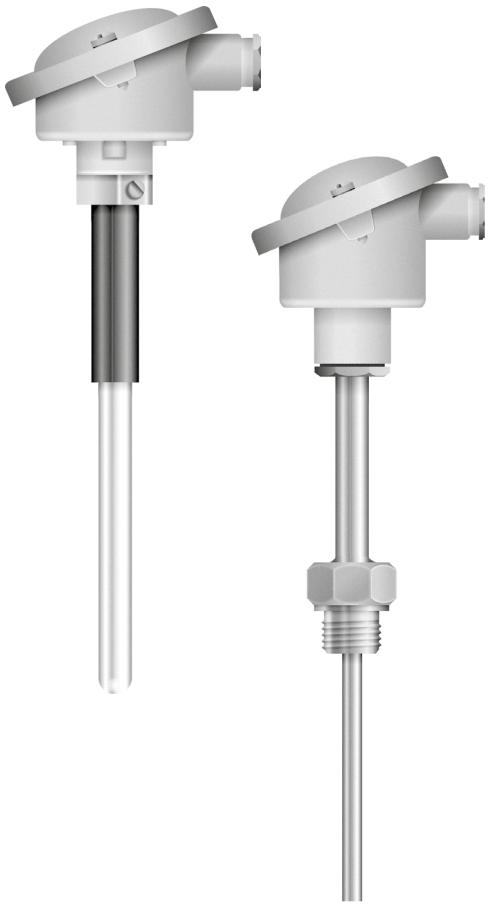
TE-01

Insertion-Thermocouple



Features

/ Temperatures up to 1600°C

/ Head-mounted measuring transmitter

/ Wide range of thread variants

/ Insertion length as per customer specification

Description:

In thermocouples, the temperature dependence of the electrical voltage between two wires of different materials is utilized to which a setpoint of the temperature to be measured and to which another point of a fixed reference temperature are subjected. In the TE-01 the welded ends of both wires being used are embedded in a metallic or ceramic protection tube which are insulated from each other. The reference point is situated in the connecting head of the device. When the temperature of the measuring point at the tip of the protection tube changes in relation to the reference temperature, a thermal voltage occurs which is proportional to the change in the temperature and the same can be tapped at the connecting head. For foolproof and accurate functioning of the thermoelements, the reference temperature must be constant and 0°C. In case of values like 20. . .50°C, the resulting errors can be balanced by generating a compensation voltage or by taking the ratios in the evaluating software outputs into consideration. However, if the TE-01 is used with a head-mounted measuring transmitter which is capable of converting the thermal voltage directly into a 4. . .20 mA current signal, the compensation will be generated internally and hence minimizes the measuring errors.

Application:

Thermoelements are used in the industry wherever conventional resistance thermometers reach their limitations. This is the case, mostly, if the media temperatures are too high or if space constraints exist. For operating the TE-01, the user has a choice of three mostly used elements (Type J, Type K and Type S) depending on the required working temperature and the extent of the resulting thermal voltage. Normally, only elements belonging to Class 1 are used which ensures the maximum accuracy. Depending on the media temperature and media properties protection tubes made of stainless steel or ceramic can be supplied. A wide range of connection variants offer maximum possible compatibility with the process. Insertion lengths and shaft diameters can be implemented directly according to customer specifications so that the TE-01 can be customized to any point of measurement.

Versions:

TE-01 Thermocouples in Protection Tube

Protection tube: For temperatures up to 800°C protection tubes made of stainless steel can be used. For higher temperatures, we recommend ceramic protection tubes with a metallic support tube that is capable of managing temperatures up to 1600°C.

Process connection: The versions with a metallic protection tube can be supplied with a variety of connecting thread types or with a smooth shaft. Linking to the process can be, for example, by means of a screw in bushing or compression fitting. In the case of variants with ceramic protection tube, the materials like C610 and C799 are available which can be supplied with 15 mm or 24 mm diameters. In this case, the process connection is on the metallic support tube over a stopper flange or a screw in bushing with compression fitting.

Output: Depending on the temperature range and the required thermal voltage, thermoelements of Types J (Fe-CuNi up to 750°C), K (NiCr-Ni up to 1200°C) or S (Pt10Rh-Pt up to 1600°C) are mounted. Other DIN types can be supplied on request. In the versions with integrated head-mounted measuring transmitter the resulting thermal voltage is converted directly into a 4 to 20 mA current signal in 2-wire system.

Insertion length: The insertion length is the length of the shaft from the sealing surface and is manufactured as per the customer specifications.

Shaft diameter: In the case of stainless steel protection tubes the diameters can be selected from 6 mm, 9 mm, 11 mm and 15 mm depending on the conditions of available space. In the case of ceramic protection tubes only 15 mm or 24 mm are used.

Connecting head: Six different connecting heads as per DIN are available. Please refer to "Drawings for connecting heads". For versions with integrated head measuring transmitters, we're using head form B by standard. The connecting head BUZ-H is optional.

Ordering Codes:

Order number	TE-01.	1.	2.	1.	[].	3.	2.	[].	[]

TE-01 Insertion Thermocouple

Protection tube /
1 = screw in version with stainless steel protection tube (up to 800°C)
2 = version with ceramic protection tube (up to 1600°C)

Process connection /
1 = smooth shaft (for version TE-01.1)
2 = G½" (for version TE-01.1)
3 = G¾" (for version TE-01.1)
4 = G1" (for version TE-01.1)
5 = NPT½" (for version TE-01.1)
6 = NPT¾" (for version TE-01.1)
7 = M18 x 1.5 (for version TE-01.1)
8 = M20 x 1.5 (for version TE-01.1)
9 = M27 x 2 (for version TE-01.1)
10 = Protection tube 15x2 of C610 capable up to 1500°C (for version TE-01.2), support tube 200 mm 22x2
11 = Protection tube 15x2 of C799 capable up to 1600°C (for version TE-01.2), support tube 200 mm 22x2
12 = Protection tube 24x2.5 of C610 capable up to 1500°C (for version TE-01.2), support tube 200 mm 32x2
13 = Protection tube 24x2.5 of C799 capable up to 1600°C (for version TE-01.2), Support tube 200 mm 32x2

Output /
1 = Type J (Fe-CuNi) as per DIN IEC 584 (up to 750 °C)
2 = Type K (NiCr-Ni) as per DIN IEC 584 (up to 1200 °C)
3 = Type S (Pt10Rh-Pt) as per DIN IEC 584 (up to 1600 °C)
4 = Type J (Fe-CuNi) with head-mounted transmitter
5 = Type K (NiCr-Ni) with head-mounted transmitter
6 = Type S (Pt10Rh-Pt) with head-mounted transmitter

Insertion length /
□□□□ Shaft length from sealing surface in mm

Shaft diameter of stainless steel protection tube /
1 = 6 mm
2 = 9 mm
3 = 11 mm
4 = 15 mm
5 = Ceramic protection tube

Connecting head /
1 = Form A (standard for ceramic protection tube)
2 = Form B (standard for stainless steel protection tube)
3 = Form BUZ (DAN)
4 = Form BUZ-H (DANW) (standard for head-mounted transmitter)
5 = Form BEG
6 = Form GG

Temperature range /
□□□□ Initial value

Temperature range /
□□□□ End value

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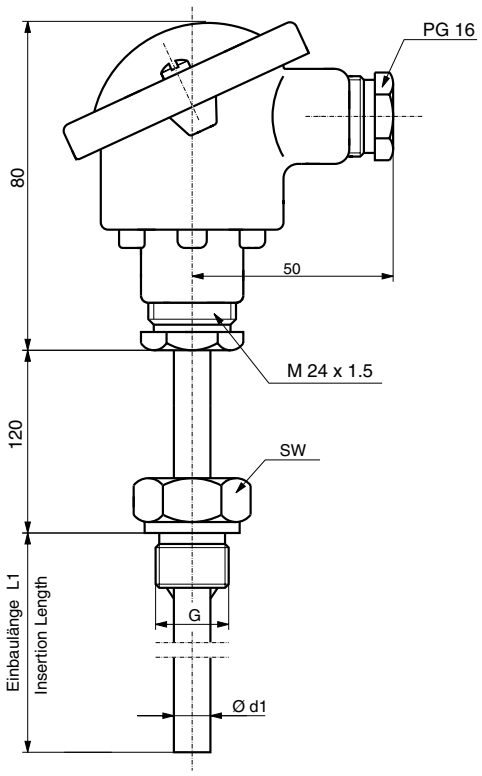
Technical Specifications:

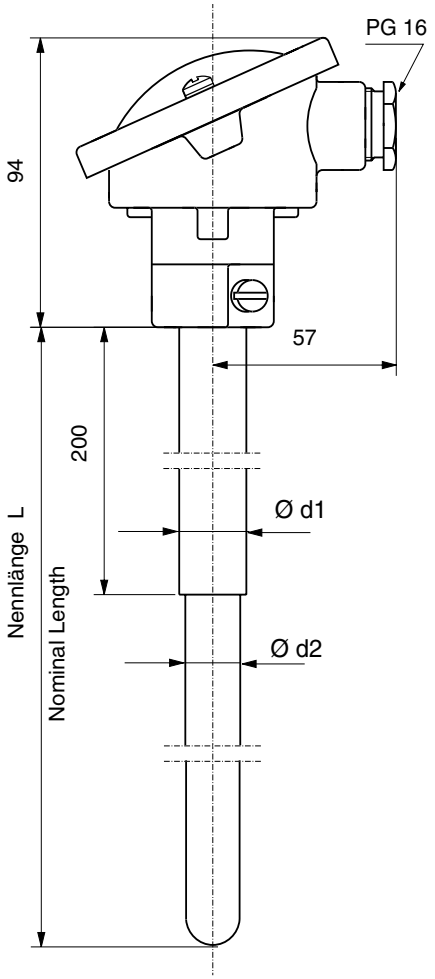
Pressure /	max. 6 bar for stainless steel protection tube (insertion into high-pressure protection tubes possible) pressureless for ceramic protection tube
Temperature /	max. 70°C at the connecting head for head-mounted transmitter
Neck tube /	120 mm (standard)
Temp. range /	up to 1600°C
Material /	Measuring unit: <600 °C: st. steel 1.4571 >600 °C: Inconel 600 2.4816 Protection tube: <600 °C: st. steel 1.4571 >600 °C: st. steel 1.4749
Accuracy /	Class 1 as per DIN IEC 584
El. Connection /	ceramic connection terminal in connection head
Process Connection /	stopper flange, welded or screw in bushing

Electrical Specifications:

Supply voltage /	24 VDC (for head transmitter)
Output /	Typ J, Typ K, Typ S or 4. . .20 mA
Protection class /	IP65

Dimensions in mm:

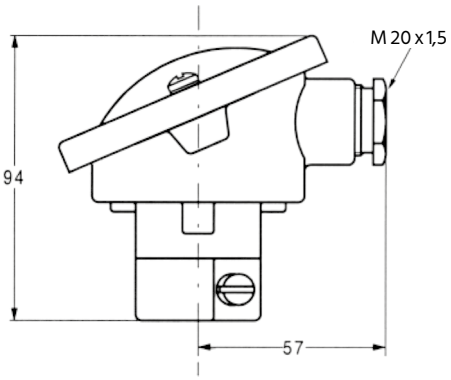




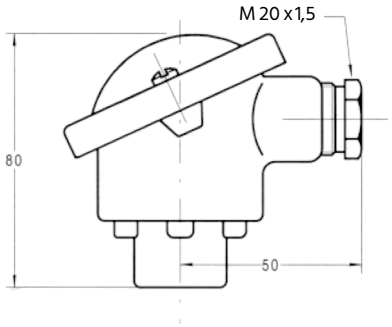
ø d2/ceramic	ø d1/tube
15 mm	22 mm
24 mm	32 mm

Connecting Heads for Insertion-Thermocouples:

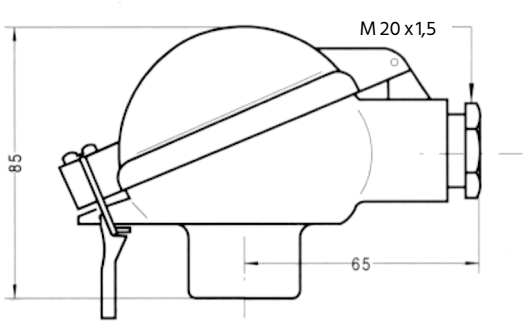
Form A – cover with 2 fastening screws
Material: aluminium pressure casting



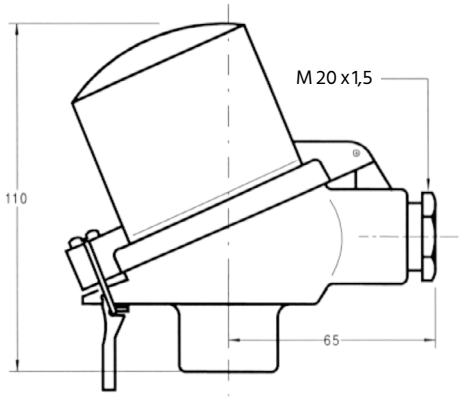
Form B – cover with 2 fastening screws
Material: aluminium pressure casting



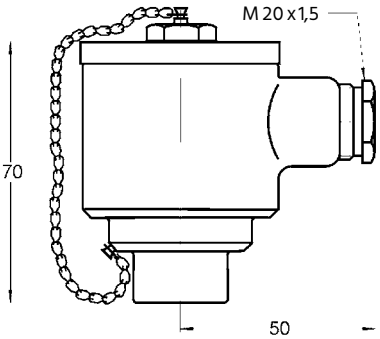
Form BUZ (DAN) – flap cover with bracket
Material: aluminium pressure casting



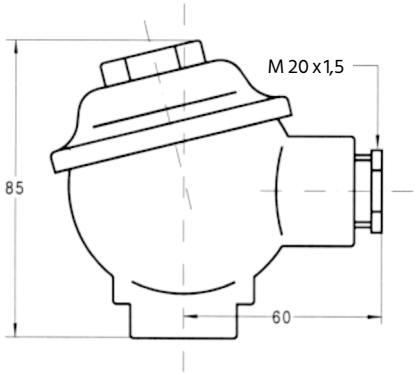
Form BUZ-H (DANW) – high flap cover with bracket Material: aluminium pressure casting



Form BEG – screw cap with chain
Material: stainless steel 1.4571



Form GG – cover with screw closure
Material: steel/cast iron



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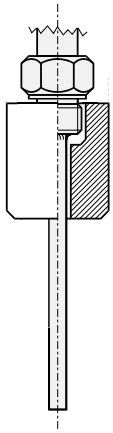
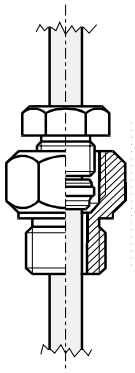
Possibilities of Installation for Insertion-Thermocouples:

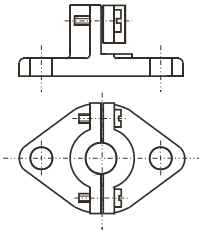
welded bushing for male thread



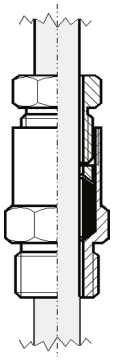
compression fitting for screwing in for smooth shaft



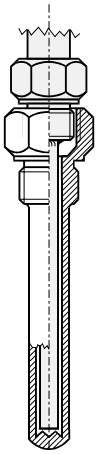
stopper flange for ceramic protection tube



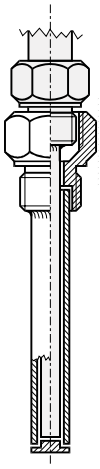
screw in bushing for ceramic protection tube



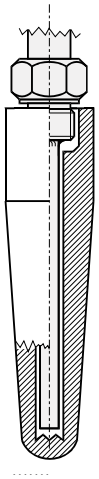
screw in protection tube for male thread, one-piece



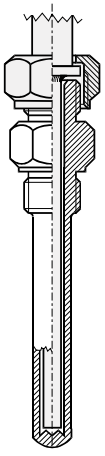
screw in protection tube for male thread, multi-piece



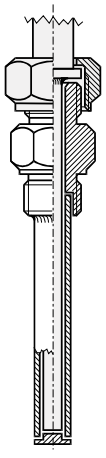
weld in protection tube for male thread



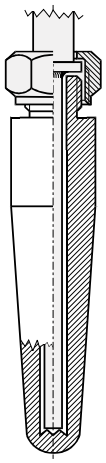
screw in protection tube for swivel nut, one-piece



screw in protection tube for swivel nut, multi-piece



weld in protection tube for swivel nut



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IR-03

Compact Infrared Thermometer

Description:

The IR-02 infrared thermometer is a pyrometer with a thermopile detector. It utilizes the spectral region of 8 to 14 micrometers so as to measure temperatures in the range of 0. . .+500°C at a distance ratio of 20:1 without contacting. The radiation of the object of measurement in this wavelength is constantly compared with the radiation of the sensor's surroundings and the current value of the object's surface temperature is delivered to the output of the IR-03 within at least 500 milliseconds. A 4. . .20 mA signal proportional to the temperature is available in 2-wire system.

Features

/ Compact, with integrated sensor

/ Low cost

/ IP 65 (NEMA 4)

/ 4. . .20 m analog output

/ Constructed of 304 stainless steel

/ Temperature range up to 500°C

/ 24V DC power

Application:

Non-contacting infrared thermometers are used in the industry whenever it is not possible to attach a conventional temperature sensor due to high temperature of the object being measured or due to its geometrical characteristics. Pyrometers recognize only surface temperatures; they are free from repercussions and can measure even objects of small specific heat capacity or less thermal conduction such as plastic or various types of glass. The dynamics are solely determined by the evaluation electronics, with the result that fast changing conditions of temperature can be captured. Typical applications are found, for example in the glass, paper and plastic industries as well as in Research & Development activities.

Technical Spezifications:

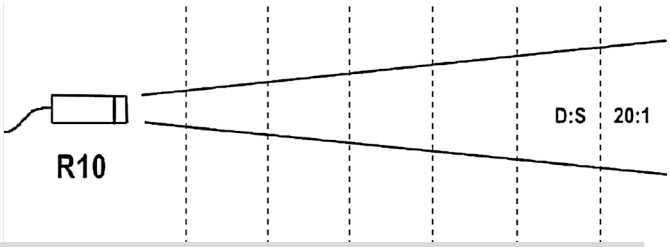
Range /	0°. . .500°C
D:S Ratio /	20:1
Spectral range /	8. . .14µm
Emissivity /	0,95 fixed
Accuracy /	0° to 500°C: ± 1% of reading or ±2°C, wichever is greather
Repeatability /	1% or ±1°C
Resolution /	120 µA, 0,3°C
Response time /	500 mS
Ambient /	0°. . .50°C
with air cooling	0°. . .90°C
with water cooling	0°. . .200°C
Storage /	-20°. . .70°C
Relative humidity/	10%. . .95% none-condensing
Hausing material /	304 stainless steel
Dimensions	18 x 120 mm / thread M18 x 1
Weight	270 g

Electrical Spezifications:

Output /	4. . .20 mA, 2-wire
Wiring /	3 m PVC-Kabel
Supply /	24 V DC
Protection Class /	IP65 (NEMA 4)

Optics:

Distance (mm)	0	200	400	600	800	1000
Target (mm)	8,9	10	20	30	40	50



Distance (in)	0	8	16	24	32	40
Target (in)	0,35	0,4	0,8	1,2	1,6	2

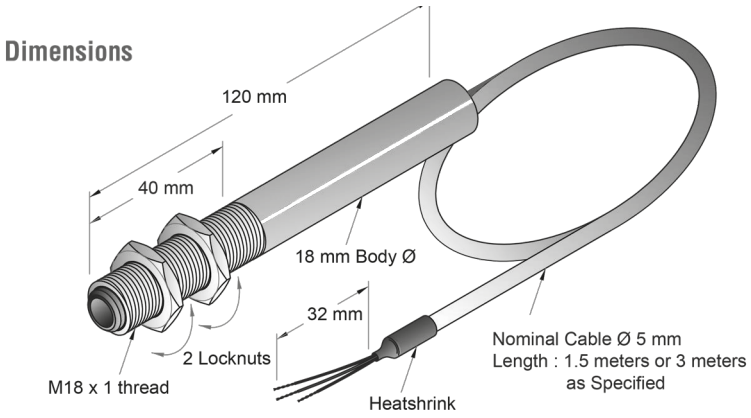
Ordering Codes:

Order number	**IR-03.**	**1**

IR-03 Compact Infraredthermometer

Option /
0 = none
1 = fixed 90° mounting bracket
2 = compact air purge collar
3 = air/water cooling jacket

Dimensions in mm:



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IR-04

Infrared Thermometer

Description:

The IR-04 series infrared thermometers measure temperatures in the range of -32°C to +1500°C at a distance ratio from 8:1 to 50:1 without contact to the object. The radiation of the object of measurement is constantly compared with the radiation of the sensor's surroundings and the current value of the object's surface temperature is displayed by the IR-04 within at least 500 milliseconds. An additional thermocouple probe can be attached to the IR-04 for measuring inside objects or fluids. The thermocouple can also be used to measure the emissivity of the target and automatically corrects the measurement accordingly. A version with USB adapter and data logging software can be used for easily recording the measured values or for stationary use over time, in intervals from 1 second to 999 hours. A tripod is optionally available. The data can be stored in a text file to be used with programs such as Excel™, Access™ or Word™ for further analysis, graphing and reports. All handheld devices use a 9 V battery as power source, offering continuous measuring up to 16 hours.

Features

/ For temperatures up to 1500°C

/ Very robust

/ Ranges up to 50:1 (D:S ratio)

/ Memory log

/ Continuous reading

/ USB connector

Application:

Handheld infrared thermometers are used in the industry whenever a quick measuring is needed. Because of their range and versatility, they can be used to measure the surface temperature of very hot and hard to reach objects from a safe distance. An additional probe expands the range of application even further, as well as various configuration options, like adjustable emissivity. The probe can be used for cooling chain testing in the food industry or automotive maintenance. The IR-04s recognize surface temperatures; they are free of repercussions and can measure even objects of small specific heat capacity or less thermal conduction such as plastic or various types of glass. The dynamics are solely determined by the evaluation electronics, with the result, that fast changing conditions of temperature can be captured.

Standard Thermometers:

Model	IR-04.85	IR-04.115	IR-04.115P	IR-04.125
Description	Close range (< 600mm)	Mid temperature, mid range (< 1000 mm)	Mid temperature, mid range (< 1000 mm), extended features	High temperature, mid range (< 1000 mm), extended features, probe*
Temperature range	-4°. . .+619°F -20°. . .+326°C	-25°. . .+999°F -32°. . .+535°C	-25°. . .+999°F -32°. . .+535°C	-25°. . .+1400°F -32°. . .+760°C
Distance to spot ratio	8:1	12:1	12:1	12:1
Spectral range	5. . .14µm	5. . .14µm	5. . .14µm	5. . .14µm
Emissivity	Fixed at 0.95	Fixed	Adjustable 0.10 to 1.00	Adjustable 0.1 to 1.0
Accuracy	± 2% of reading or 2°C whichever is greater	± 5.4°F (± 3°C) -25°. . .-4°F (-32°. . .-20°C) ± 3,6°F (± 2°C) -4°. . .+212°F (-20°. . .+100°C) ± 2% 212°. . .999°F (100°. . .535°C)		± 5°F (± 3°C) -25°. . .-4°F (-32°. . .-20°C) ± 3,6°F (± 2°C) -4°. . .+212°F (-20°. . .+100°C) ± 2% > 212°F (100°C)
Repeatability	± 2°F (± 1°C)	± 2°F (± 1°C)	± 2°F (± 1°C)	± 2°F (± 1°C)
Resolution	0.1°F (0.1°C)	0.1°F (0.1°C)	0.1°F (0.1°C)	0.1°F (0.1°C)
Response time	500 ms.	500 ms.	500 ms.	500 ms.
Operating temperature	32°. . .122°F (0. . .50°C) 10 - 90% RH	32°. . .122°F (0. . .50°C) 10 - 90% RH	32°. . .122°F (0. . .50°C) 10 - 90% RH	32°. . .122°F (0. . .50°C) 10 - 95% RH
Storage temperature	14°. . .140°F (-10°. . .60°C)	14°. . .140°F (-10°. . .60°C)	14°. . .140°F (-10°. . .60°C)	14°. . .140°F (-10°. . .60°C)
LCD backlight	Yes	Yes	Yes	Yes
Dual display	NA	NA	NA	Yes
°F & °C Selectable	Yes	Yes	Yes	Yes
Laser sight switchable	User selectable, class II laser, less than 1mW			
Auto power off	Automatically after approx. 6 seconds			
Max/Min/Avg/ΔT	No	No	Yes	Yes
Auto measuring	No	No	Yes	Yes
Audible alarm	No	Yes	Yes	Yes
10 Point memory	No	No	Yes	Yes
Electronic trigger lock	No	Yes	Yes	Yes
Tripod mount	Yes	No	No	Yes
USB data output	No	No	No	No
Type K thermocouple	No	No	No	Yes
Operating software	No	No	No	No
Power supply	9V Battery	9V Battery	9V Battery	9V Battery
Battery life (laser off)	16 hrs for continuous operation	15 hrs for continuous operation		15 hrs for continuous operation
Dimensions	5.9 x 5.2 x 1.8“ (150 x 133 x 45 mm)	6.8 x 3.6 x 1.8“ (173 x 93 x 45 mm)		7.09 x 5.12 x 1.57“ (180 x 130 x 40 mm)
Weight (with battery)	4.7 oz (135 g)	7.8 oz (220 g)	7.8 oz (220 g)	6.87 oz (195 g)
Included accessories	User manual, 9V battery	User manual, 9V battery, soft pouch		User manual, 9V battery, carrying case

*different kinds of probes are available, depending on the application. Please specify the desired use when ordering.

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High-Temperature Thermometers:

Model	IR-04.135	IR-04.215	IR-04.235
Description	High temperature, long range (< 1500 mm), extended features	High temperature, extra long range (> 1500 mm), extended features, USB, probe*	extra high temperature, extra long range, extended features
Temperature range	-58°. . .+1832°F -50°. . .+1000°C	-58°. . .+1832°F -50°. . .+1000°C	-58°. . .+2732°F -50°. . .+1500°C
Distance to spot ratio	30:1	50:1	50:1
Spectral range	8 to 14µm	8 to 14µm	8 to 14µm
Emissivity	Adjustable 0.10 to 1.00	Adjustable 0.10 to 1.00	Adjustable 0.10 to 1.00
Accuracy	± 5.4°F (± 3°C) -58. . .-4°F (-50. . .-20°C)	and ± 3,6°F (± 2°C) -4. . .+212°F (-20. . .+100°C)	and ± 2% > 212°F (100°C)
Repeatability	± 2°F (± 1°C)	± 2°F (± 1°C)	± 2°F (± 1°C)
Resolution	0.1°F (0.1°C)	0.1°F (0.1°C)	0.1°F (0.1°C)
Response time	500 ms.	500 ms.	500 ms.
Operating temperature	32. . .122°F (0. . .+50°C) 10 - 90% RH	32. . .122°F (0. . .+50°C) 10 - 90% RH	32. . .122°F (0. . .+50°C) 10 - 90% RH
Storage temperature	14. . .140°F (-10. . .+60°C)	14. . .140°F (-10. . .+60°C)	14. . .140°F (-10. . .+60°C)
LCD backlight	Yes	Yes	Yes
Dual display	Yes	Yes	Yes
°F & °C Selectable	Yes	Yes	Yes
Laser sight switchable	User selectable, class II laser, less than 1mW		
Auto power off	Automatically after approx. 6 seconds	Automatically after approx. 30 seconds	Automatically after approx. 6 seconds
Max/Min/Avg/ΔT	Yes	Yes	Yes
Auto measuring	Yes	Yes	Yes
Audible alarm	Yes	Yes	Yes
10 Point memory	Yes	Yes	Yes
Electronic trigger lock	Yes	Yes	Yes
Tripod mount	Yes	Yes	Yes
USB data output	No	Yes	No
Type K thermocouple	No	Yes	No
Operating software	No	Software included	No
Power supply	9V Battery	9V Battery	9V Battery
Battery life (laser off)	15 hrs for continuous operation	15 hrs for continuous operation	15 hrs for continuous operation
Dimensions	7.9 x 5.0 x 1.9" (200 x 127 x 47mm)	7.9 x 5.0 x 1.9" (200 x 127 x 47mm)	6.7 x 5.2 x 1.8" (200 x 132 x 45mm)
Weight (with battery)	12.7 oz (360 g)	12.7 oz (360 g)	11.6 oz (330 g)
Included accessories	User Manual, 9V Battery, Carrying Case, and Wrist Strap	User Manual, 9V Battery, Carrying Case, Wrist Strap & Software	User Manual, 9V Battery, Carrying Case, and Wrist Strap

Ordering Codes:

Order number	**IR-04.**	**115**
IR-04 Infrared Thermometer		
Model - see table / 85, 115, 115P, 125, 135, 215, 235		

*different kinds of probes are available, depending on the application. Please specify the desired use when ordering.

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RF-01N

Transmitter for relative humidity and temperature of Gases

Description:

A capacitance-based polymer sensor is used to measure relative humidity in the RF-01N. Polymer sensors consist of two electrods seperated by a film of thermoset polymer that absorbs or releases water as the relative humidity of the gas that surrounds the sensor changes. Capacitance measurements of the polymer film are used to determine the relative humidity. Polymer sensors can measure relative humidity from 0. . .100%, respond rapidly and exhibit no drift. Capacitance sensors are unaffected by most contaminants and are not damaged by freezing or inundation by water. Sofisticated integrated circuits provide a high level, fully conditioned and temperature compensated 4. . .20 mA or 0. . .10 VDC output signal. A temperature sensor is also integrated in the dual output combined humidity/temperature version transmitters.

Features

/ Duct mount or outdoor installation

/ Long term stability

/ Accuracy 2%, 3% or 5%

/ Recovers rapidly from 100% saturation

/ Analog output for humidity and optional for temperature

/ Local alpha-numeric display for duct mount models (optional)

Application:

The RF-01N is a two-wire transmitter with a 4. . .20 mA loop powered output or 0. . .10 VDC output.The sensor recovers rapidly from 100% saturation and is calibration free. The polymer capacitance sensor is not affected by condensation, fog, high humidity or contaminants. The RF-01N provides a stable, repeatable, and accurate means of measuring humidity only or both temperature and humidity in the harshest of environments. The combined humidity/temperatur version provides dual 4. . .20 mA or 0. . .10 VDC output signals to control both humidity and temperature with one sensor which reduces installation costs. The duct mount version is also available with an optional alpha-numeric LCD display to provide local indication of humidity and temperature simultaneously. Typical applications are monitoring of humidity and temperature such as exhaust, outside air and supply air.

Versions:

RF-01N Transmitter for relative humidity and temperature of Gases

The series RF-01N for relative humidity and temperature can be supplied as an outside air model or as a duct mount model. To protect the sensor from damage caused by particle bombardment and damaging deposits or even dust portions both models can be supplied fitted with a sintered filter. Duct mount models are available with an optional 2-line alpha numeric LCD-display.

Options:

LCD-Dispaly: 2-line alpha numeric LCD, 8 characters / line, display resolution: 0.1 % RH; 0.1°C
(for duct mount only)

PT100 / PT1000: RTD temperature sensor DIN Class B; ± 0.3°C at 0°C, (Option only for models with a single humidity output signal)

Ordering Codes:

Order number	RF-01N.	1.	2.	1.	1

RF-01N Temp. and Humidity Transmitter

Version /
1 = Duct mount
1a = Duct mount with sintered filter
2 = Outside air model
2a = Outside air model with sintered filter

Accuracy humidity sensor /
2 = 2 % accuracy
3 = 3 % accuracy
5 = 5 % accuracy

Output signal /
1 = 4. . .20 mA, humidity
2 = 4. . .20 mA, humidity and temperature
3 = 0. . .10 VDC, humidity
4 = 0. . .10 VDC, humidity and temperature

Options /
0 = none
1 = LCD display (Duct mount only)
2 = temperature sensor PT100 DIN class B *
3 = temperature sensor PT1000 DIN class B *

* Option only for models with a simple humidity output signal !

Technical Specifications:

Humidity sensor /	Capacitance polymer
Relative Humidity range /	0. . .100 % RH
Accuracy:	± 2 % for 10. . .90 % RH at 25°C or ± 3 % for 20. . .80 % RH at 25°C or ± 5 % for 20. . .80 % RH at 25°C depending on the sensor
Temperaturesensor /	RTD
Accuracy:	DIN Class B; ± 0.3°C at 0°C
Hysteresis /	± 1 %
Repeatability /	± 0.1 %
Temperature limits /	-40. . .+60°C (-40. . .+140°F)
Storage temp. /	-40. . .+80°C (-40. . .+176°F)
Compensated temperature range /	-20. . .+60°C (-4. . .140°F)
Response time /	15 seconds
Drift /	< 1 % RH / year
Enclosure rating /	IP66 for Duct mount (housing only) IP66 for OSA mount
Housing material /	Duct mount model: PBT Outside air model: Polycarbonate
Weight /	Duct mount model: 0.3 kg Outside air model: 0.45 kg
Agency approvals /	CE

Electrical Specifications:

Supply voltage /	10. . .35 VDC
Output signal /	1x output: 4. . .20 mA for humidity 2x outputs: 4. . .20 mA for humidity and temperature
or Output signal /	1x output: 0. . .10 VDC @ max. 5 mA for humidity 2x outputs: 0. . .10 VDC @ max. 5 mA for humidity and temperature measurement
Electrical connection /	removable screw terminal block

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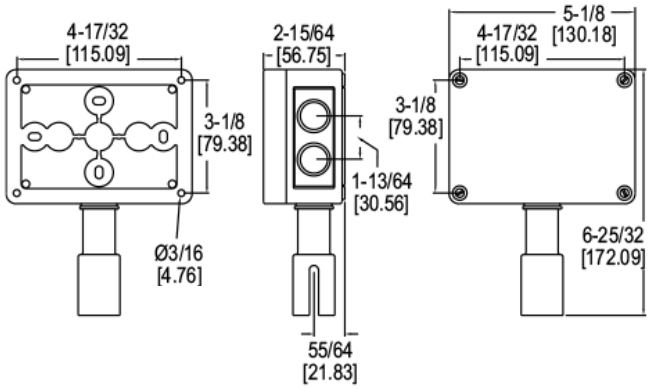
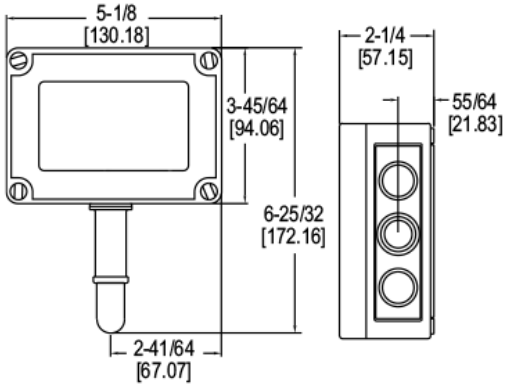
Dimensions in mm:

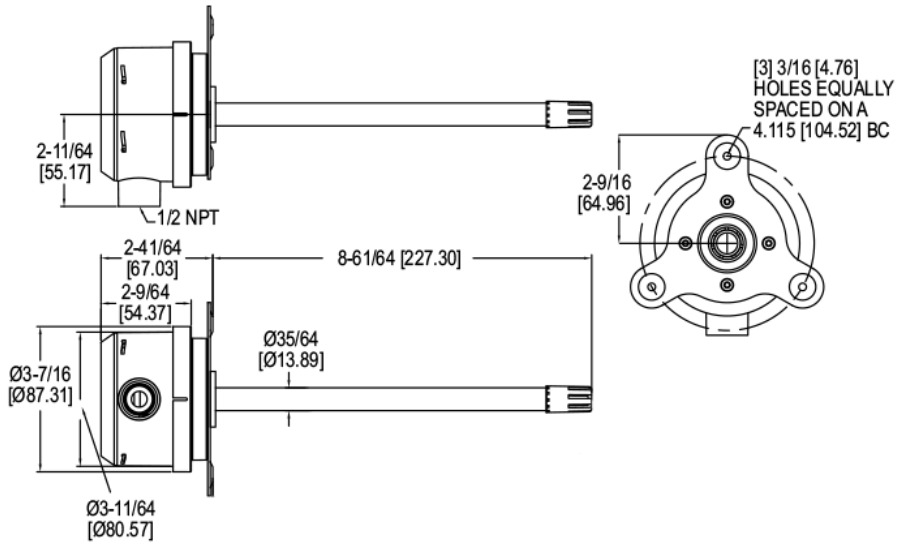
Outside air model [mm]



Outside ait model with sintered filter for poluted gases [mm]



Duct mount model (top without / bottom with sintered filter [mm]



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