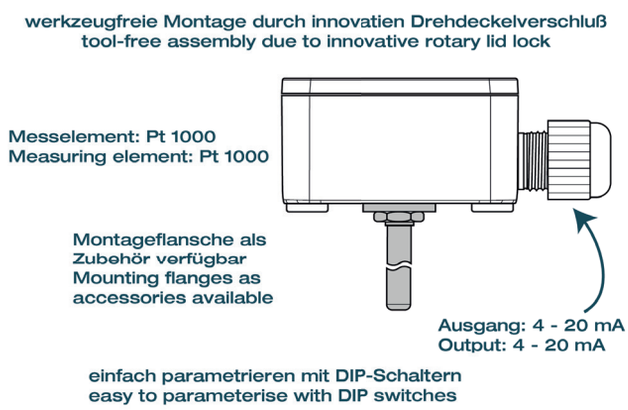
Plug-in transmitter Basic 4-20 mA

Article number: 807003 0X12

The precise Pt1000 plug-in transmitter reliably measures temperatures in ducts and ventilation systems and provides a standardized 4-20 mA output signal. Thus, measured values are transmitted error-free even over long distances. Select the length of the protection sleeve. Measuring range and scaling are easily adjustable via DIP switch. The innovative rotary cover lock enables fast and secure mounting. Due to its robust design, the transmitter is ideal for temperature measurements in gaseous media, e.g. in ducts. Accessories such as immersion sleeves, compression fittings and mounting flanges made of stainless steel, aluminum or plastic are available in our online store.

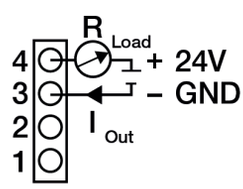
Special features
Inputs and outputs
Input: Pt1000 resistance sensor, permanently installed Output: 4 to 20 mA
Accuracy and Long-term stability
Accuracy: high measuring accuracy Long-term stability: long service life with flexible application possibilities
Alarm function
Sensor break monitoring Sensor short-circuit monitoring Measuring range monitoring
Design
Compact, robust, vibration and shock resistant design
Parametrization
Simple and super-fast parameterization thanks to preset dip switches



Input			
Measuring element	**Norm**	**Configurable measuring range**	**Accuracy**
Pt1000	IEC 60751	-200 °C to +850 °C | -328 °F to +1562 °F	±0.3 °C + 0.1 % of the measuring span
Connection type	2-wire (permanently installed)		

Output	
Output type	analog, temperature linear for RTD
Output signal	4 to 20 mA
Parametrization / Scaling	Configurable via DIP-Switch
Resolution	16 bit dac
Accuracy (°C)	0,1
Load	500 Ω at 24 VDC
Connection type	2-wire

Circuit diagram Output



Sensor monitoring & sensor error		Measured values outside the measuring range	
Sensor failure effects	according to NAMUR NE43	Sensor Status	4 - 20 mA
Alarms		Min. measured value	4 mA
Sensor error	4 - 20 mA	Max. measured value	20 mA
Sensor Status	3,6 mA	Underrange	3,8 mA
Sensor short circuit	21 mA	Overrange	20,5 mA

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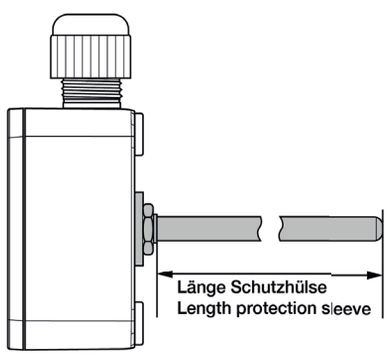
You can find our standard portfolio in our webshop at: www.testo-sensor.shop

Time response		Accuracy and stability	
Closing time (s)	≤ 5	**Cold junction compensation**	
Signal attenuation (s)	0 – 30	Cold Junction Compensation	±0,3 – 0,5 °C (NTC 5K)
Measuring cycle (s)	<0,25 (<4 Hz)	Temperature influence	±0,01 °C per °C
Response time	Depending on sensor type		

Ambient conditions	
Ambient Temperatur	Storage: -20 °C to +70 °C (housing) Operating: -20 °C to +70 °C (housing)
Humidity (%rH)	0 to 98 (non-condensing)
Protection	Housing IP65
EMC	
Standard	Directive: 2014/30/EU | Harmonized standards: EN 61326-1:2013

Type				Protection sleeve
Dimensions (mm)	84 x 60 x 34 (see drawing)			
Weight (g)	75			
Material | Flammability	ABS white RAL 9010 UV resistant, RoHS compliant			
Mounting	Enclosed mounting kit (housing)			
Connection	Single wires, max. 1,5 mm²), AWG 16			
Protection sleeve				
Material	Stainless steel 1.4404 | 316L			
Diameter (mm)	6			
Please select the appropriate length of the protection sleeve				
Mounting length (mm)	50	100	200	
Article number	807003 0112	807003 0212	807003 0412	

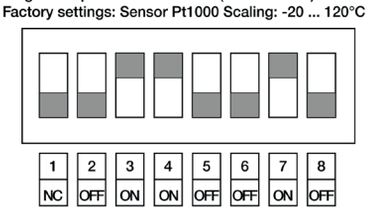


Factory configuration	
Input	Pt1000 fixed
Scaling	0 °C to +100 °C

General data	
Isolation	none
Supply Voltage (VDC)	12 to 36, polarity protected
Delivery	
Transmitter, Instruction manual, individually packed in PE bag	

Factory settings

Kanaltemperaturtransmitter (RTD Sensoren)
Werkseinstellungen: Sensor Pt1000 Skalierung: -20 .. 120°C
Plug-in temperature transmitter (RTD sensors)
Factory settings: Sensor Pt1000 Scaling: -20 ... 120°C



Matching accessories	
DIN rail power supply	On request
Table power supply	On request
Matching connection cables	in the Webshop: testo-sensor.shop
Suitable mounting flanges	in the Webshop: testo-sensor.shop
Matching immersion sleeves	in the Webshop: testo-sensor.shop
Suitable compression fittings	in the Webshop: testo-sensor.shop

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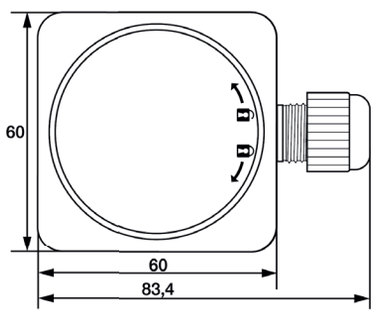
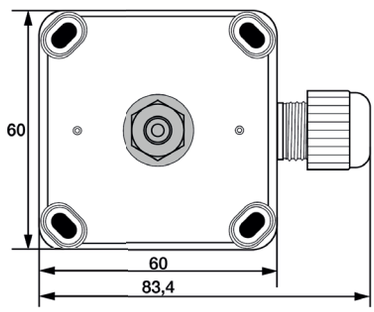
Technical drawing

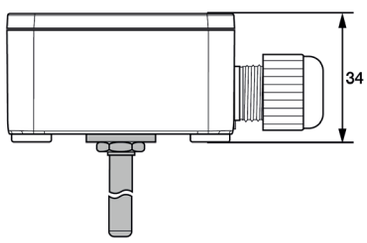
Front view



Rear view



Side view



All dimensions in mm

Pin assignment input and output

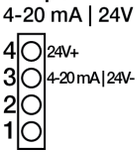
Input

Pt1000
fest
verbaut

Pt1000
fixed
mounted

Output

Output
4-20 mA | 24V



Setting the input signal

With the DIP switches of the transmitter you can configure the transmitter according to your needs.Please just leave the DIP switches 1-4 in position. Switches 5-8 are used to set the scaling and the measuring range. Please refer to the adjacent table for the exact configuration.

Parametrization

Setting the measuring range (0 .. 250 °C)

Einstellen der Skalierung via DIP-Schalter
Setting the scaling range via DIP switch

on	on	on	on	
Bit 5	Bit 6	Bit 7	Bit 8	Scaling Range
on	on	on	on	0 .. +50°C
off	on	on	on	0 .. +100°C
on	off	on	on	0 .. +150°C
off	off	on	on	0 .. +200°C
on	on	off	on	0 .. +250°C
off	on	off	on	0 .. +400°C
on	off	off	on	0 .. +600°C
off	off	off	on	0 .. +800°C
on	on	on	off	0 .. +1.000°C
off	on	on	off	0 .. +1.200°C
on	off	on	off	-20 .. +50°C
off	off	on	off	-20 .. +120°C
on	on	off	off	-30 .. +70°C
off	on	off	off	-50 .. +50°C
on	off	off	off	-50 .. +150°C
off	off	off	off	-200 .. +50°C

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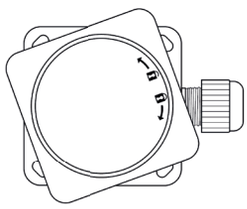
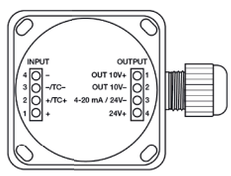
Mounting

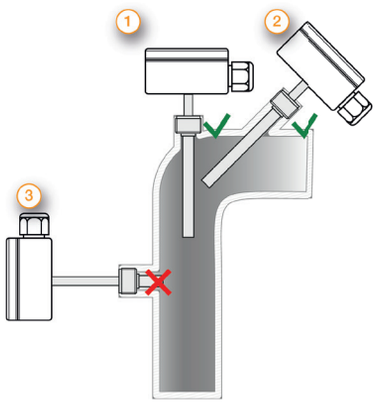


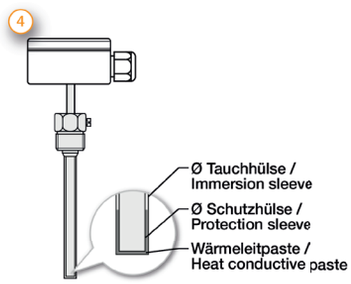


Open the rotary cover.

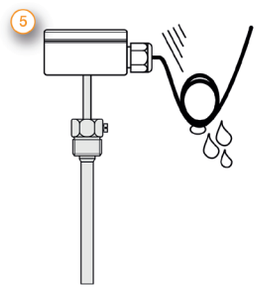
You can parameterize the output via the DIP switches. Important: To prevent measuring errors, the connecting screws for fastening the connecting cable must be tightened.

Mounting by using an immersion sleeve





Tauchhülse und Wärmeleitpaste im Shop seperat bestellbar
Immersion sleeve &heat conductive paste separately available



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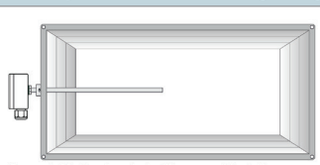
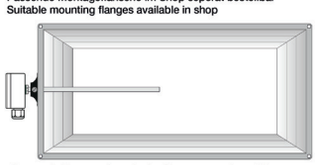
Immersion sleeve &heat conductive paste separately available

Measurement errors can occur due to heat dissipation to the environment. To keep these as small as possible, we recommend immersing the protection sleeve of your temperature probe as deeply as possible in the medium to be measured during installation. The optimum installation depth should be 10-15 times the Ø of the protection sleeve. Please make sure that you have sufficient space so that you can remove the probe again if necessary.
Mounting by using an immersion sleeve (4): Please make sure that the Ø and the length of the immersion sleeve are chosen according to the installation situation, so that the minimum immersion depth can be reached. Since the probe is not inserted directly into the medium, but via the immersion sleeve, the response times are somewhat slower. The probe should be selected in such a way that the protection sleeve touches the bottom of the immersion sleeve and that the air cushion around the protection sleeve is as small as possible. The use of thermal conduction paste can improve the response times.
Please lay the cable with reserve loop (5) and in such a way that no water can penetrate the sensor head. This allows you to extend the probe without disconnecting the electrical connection.

Mounting in the duct by means of mounting flange



Passende Montageflansche im Shop seperat bestellbar
Suitable mounting flanges available in shop



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Mounting by means of mounting flange: Please make sure that the Ø of the mounting flange matches the Ø of the protection sleeve. Suitable flanges can be found at testo-sensor.store.

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