

Outdoor Temperature Transmitter Basic 4-20 mA

Article number: 807002 0012

Our rugged and reliable outdoor temperature transmitter is an ideal choice for outdoor areas that require a compact, shockproof and easy-to-install temperature monitoring solution. Thanks to its fixed Pt1000 RTD sensor, temperature is measured accurately. With its standardized 4-20 mA output, it integrates seamlessly with existing heating systems and control systems. It is characterized by its high measurement accuracy and long-term service life, even under difficult operating conditions. The integrated alarm functions, including sensor break, sensor short-circuit and measuring range monitoring, ensure correct temperature measurement and transmission and provide additional safety. The transmitter can be parameterized quickly and easily using DIP switches.



| 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 |

werkzeugfreie Montage durch innovation Drehdeckelverschluss
tool-free assembly due to innovative rotary lid lock

Messelement: Pt 1000
Measuring element: Pt 1000

Ausgang: 4 - 20 mA
Output: 4 - 20 mA

einfach parametrieren mit DIP-Schaltern
easy to parameterise with 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 | | Circuit diagram 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 | |

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You can find our standard portfolio in our
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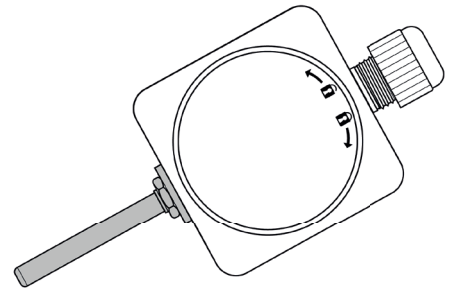
| Sensor monitoring & sensor error | | Measured values outside the measuring range | |
|----------------------------------|-------------------------|---|-----------|
| Sensor failure effects | according to NAMUR NE43 | Sensor Status | 4 - 20 mA |
| Alarms | | Min. measured value | 4 mA |
| Sensor error | 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 |

| 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 | |
|-------------------------|---|
| Dimensions (mm) | 135 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 mm ² , AWG 16 |
| Protection sleeve | |
| Material | Stainless steel 1.4404 316L |
| Diameter (mm) | 6 |
| Mounting length (mm) | 50 |



| Factory configuration | | Factory settings | |
|-----------------------|------------------------------|--|-----|
| Input | Pt1000 fixed | Aussentemperaturtransmitter (RTD Sensoren) Werkseinstellungen: Sensor Pt1000 Skalierung: -20 .. 50 °C | |
| Scaling | -20 °C to +50 °C | Outdoor temperature transmitter (RTD sensors) Factory settings: Sensor Pt1000 Scaling: -20 ... 50 °C | |
| General data | | | |
| Isolation | none | | |
| Supply Voltage (VDC) | 12 to 36, polarity protected | 1 | 2 |
| | | 3 | 4 |
| | | 5 | 6 |
| | | 7 | 8 |
| | | NC | OFF |
| | | ON | ON |
| | | ON | OFF |
| | | ON | ON |
| | | OFF | ON |
| | | ON | OFF |

| Matching accessories | |
|----------------------------|--|
| DIN rail power supply | On request |
| Table power supply | On request |
| Matching Sun Protection | in the Webshop: testo-sensor.shop |
| Matching connection cables | in the Webshop: testo-sensor.shop |

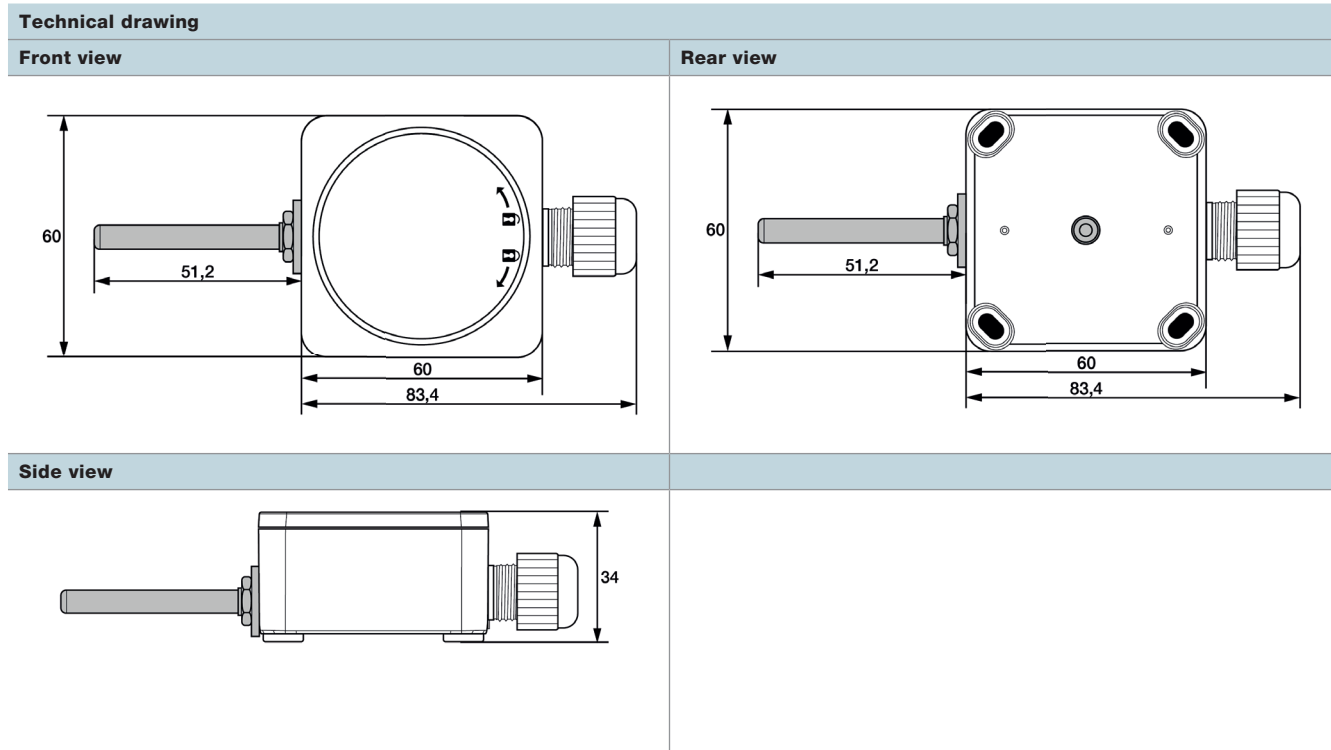
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You can find our standard portfolio in our
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All dimensions in mm

| Pin assignment input and output | | Parametrization | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|-----------------|--|---------------|-------|-------|---------------|----|----|----|---------------|-------|-------|-------|-------|----|----|----|----|------------|-----|----|----|----|-------------|----|-----|----|----|-------------|-----|-----|----|----|-------------|----|----|-----|----|-------------|-----|----|-----|----|-------------|----|-----|-----|----|-------------|-----|-----|-----|----|-------------|----|----|----|-----|---------------|-----|----|----|-----|---------------|----|-----|----|-----|--------------|-----|-----|----|-----|---------------|----|----|-----|-----|--------------|-----|----|-----|-----|--------------|----|-----|-----|-----|---------------|-----|-----|-----|-----|---------------|
| Input | Pt1000 fest verbaut | Output | Output 4-20 mA 24V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pt1000 fixed mounted | | <div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; align-items: center; margin-bottom: 2px;">4 <input type="checkbox"/> 24V+</div> <div style="display: flex; align-items: center; margin-bottom: 2px;">3 <input type="checkbox"/> 4-20mA 24V-</div> <div style="display: flex; align-items: center; margin-bottom: 2px;">2 <input type="checkbox"/></div> <div style="display: flex; align-items: center;">1 <input type="checkbox"/></div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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. | | Einstellen der Skalierung via DIP-Schalter Setting the scaling range via DIP switch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | <table border="1"> <thead> <tr> <th>on</th> <th>on</th> <th>on</th> <th>on</th> <th rowspan="2">Scaling Range</th> </tr> <tr> <th>Bit 5</th> <th>Bit 6</th> <th>Bit 7</th> <th>Bit 8</th> </tr> </thead> <tbody> <tr><td>on</td><td>on</td><td>on</td><td>on</td><td>0 .. +50°C</td></tr> <tr><td>off</td><td>on</td><td>on</td><td>on</td><td>0 .. +100°C</td></tr> <tr><td>on</td><td>off</td><td>on</td><td>on</td><td>0 .. +150°C</td></tr> <tr><td>off</td><td>off</td><td>on</td><td>on</td><td>0 .. +200°C</td></tr> <tr><td>on</td><td>on</td><td>off</td><td>on</td><td>0 .. +250°C</td></tr> <tr><td>off</td><td>on</td><td>off</td><td>on</td><td>0 .. +400°C</td></tr> <tr><td>on</td><td>off</td><td>off</td><td>on</td><td>0 .. +600°C</td></tr> <tr><td>off</td><td>off</td><td>off</td><td>on</td><td>0 .. +800°C</td></tr> <tr><td>on</td><td>on</td><td>on</td><td>off</td><td>0 .. +1.000°C</td></tr> <tr><td>off</td><td>on</td><td>on</td><td>off</td><td>0 .. +1.200°C</td></tr> <tr><td>on</td><td>off</td><td>on</td><td>off</td><td>-20 .. +50°C</td></tr> <tr><td>off</td><td>off</td><td>on</td><td>off</td><td>-20 .. +120°C</td></tr> <tr><td>on</td><td>on</td><td>off</td><td>off</td><td>-30 .. +70°C</td></tr> <tr><td>off</td><td>on</td><td>off</td><td>off</td><td>-50 .. +50°C</td></tr> <tr><td>on</td><td>off</td><td>off</td><td>off</td><td>-50 .. +150°C</td></tr> <tr><td>off</td><td>off</td><td>off</td><td>off</td><td>-200 .. +50°C</td></tr> </tbody> </table> | | | | on | on | on | on | Scaling Range | Bit 5 | Bit 6 | Bit 7 | Bit 8 | 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 |
| | | | on | on | on | on | Scaling Range | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Bit 5 | Bit 6 | Bit 7 | Bit 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Setting the measuring range (0 .. 250 °C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Mounting | |
|----------|---|
| | <p>Thanks to the four slotted holes, the housing can be easily mounted on the wall. The openings for the screws are located outside the protective space for the electronics, so no sealing is required. With the cable compression glands, sealing to the probe or data cable is guaranteed even for different diameters.</p> <p>Mounting material for the installation of the transmitter (screws and dowels) are included with the transmitter as free accessories. A large assortment of temperature probes and connecting cables is also available as an option.</p> <p>Important: To prevent measuring errors, the connecting screws for fastening the connecting cable must be firmly tightened.</p> |
| | <p>Open the rotary cover.</p> |
| | <p>You can parameterize your temperature transmitter and set the scaling via the DIP switches. Please use the information from the parameterization table.</p> |
| | <p>Mount your outdoor probe with sufficient distance to vents, windows or doors and preferably on the north wall, alternatively on west or east wall of the building. Avoid direct sunlight and rain. Use Sun Protection if necessary. Please lay the cables downwards so that rainwater can drip off in a defined way. Please consider the permissible ambient conditions during installation.</p> |