



## Temperature sensors Resistance thermometer

THTE-1AA541506MZ



**Model Name** > **THTE-1AA541506MZ**  
**Part No.** > **6047640**



#### At a glance

- Pt100, accuracy class A (IEC 60751)
- Measuring ranges -50 °C ... +150 °C and -50 °C ... +250 °C
- Sensor probe spring-loaded in thermowell
- Wetted parts: Corrosion-resistant stainless steel 316L/1.4435, Ra 0.8 µm
- Hygienic process connections
- Pt100 (4-wire) or 4 mA ... 20 mA (2-wire)
- Round connector M12 x 1

#### Your benefits

- The sensor can be exchanged without opening the process, providing high equipment availability and minimizing hygienic risks
- Safe hygienic operation: Wetted parts are made from high-grade stainless steel, hygienically-graded surface finish, and a gap- and crevice-free design
- Rugged: Connection housing is easily cleaned and splash water proof
- Quick and safe installation
- Very good long-term stability, accuracy and linearity
- Quick response time
- Optimal solutions for individual requirements due to versatile configurability



#### Features

|                                          |                                                                                 |
|------------------------------------------|---------------------------------------------------------------------------------|
| Measuring range:                         | -50 °C ... 150 °C                                                               |
| Sensor element:                          | Pt100                                                                           |
| Signal output and maximum ohmic load RA: | 4 mA ... 20 mA, 2-wire ( $RA \leq (L + 10 \text{ V}) / 0.023 \text{ A [Ohm]}$ ) |

#### Performance

|                             |                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------|
| Accuracy of sensor element: | Class A according to IEC 60751                                                                          |
| Transmitter accuracy:       | $\leq \pm 0.2 \text{ \% of span}$                                                                       |
| Transmitter linearity:      | $\leq \pm 0.1 \text{ \% of span}$                                                                       |
| Response time:              | Response time $t_{50}: \leq 4.7 \text{ s}$ <sup>1)</sup><br>response time $t_{90}: \leq 12.2 \text{ s}$ |

<sup>1)</sup> Depending on sensor configuration, according to IEC 60751

#### Mechanics/electronics

|                                     |                                                   |
|-------------------------------------|---------------------------------------------------|
| Process connection:                 | Conical coupling (DIN 11851) DN 40 with union nut |
| Insertion length/diameter of probe: | 150 mm/6 mm                                       |
| Housing material:                   | Stainless steel 1.4571 (316Ti)                    |

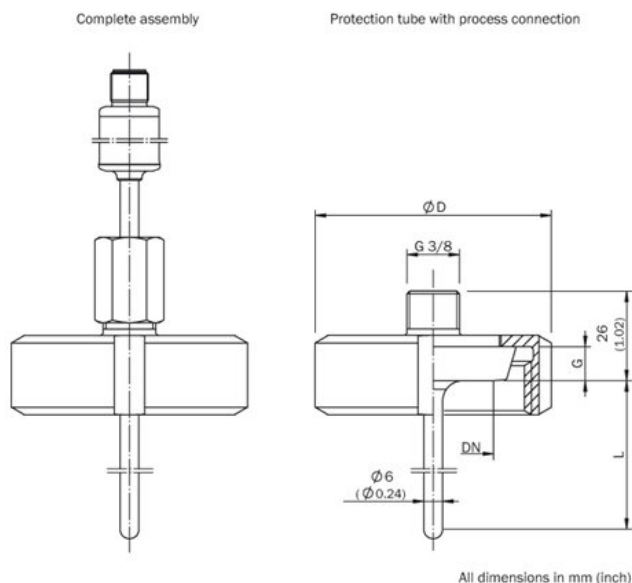
|                                                        |                                                                                                     |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Wetted parts:                                          | stainless steel 1.4435 (316L), $Ra \leq 0.8 \mu m$                                                  |
| Electrical connection/enclosure rating <sup>1)</sup> : | Round connector M12 x 1, 4-pin/IP 68 and IP 69K                                                     |
| Electrical safety:                                     | Dielectric strength: 500 V AC<br>Protection class: III<br>Reverse polarity protection: L+ towards M |
| Supply voltage:                                        | 10 V DC ... 35 V DC                                                                                 |
| Protection class III:                                  | ✓                                                                                                   |
| CE-conformity:                                         | 2004/108/EC, EN 61326-2-3                                                                           |
| Pressure resistance:                                   | Max. 40 bar at room temperature                                                                     |
| Maximum power consumption:                             | Ca. 30 mA                                                                                           |

<sup>1)</sup> Enclosure rating IP per IEC 60529. The enclosure rating classes specified only apply while the pressure transmitter is connected with female connectors that provide the corresponding enclosure rating.

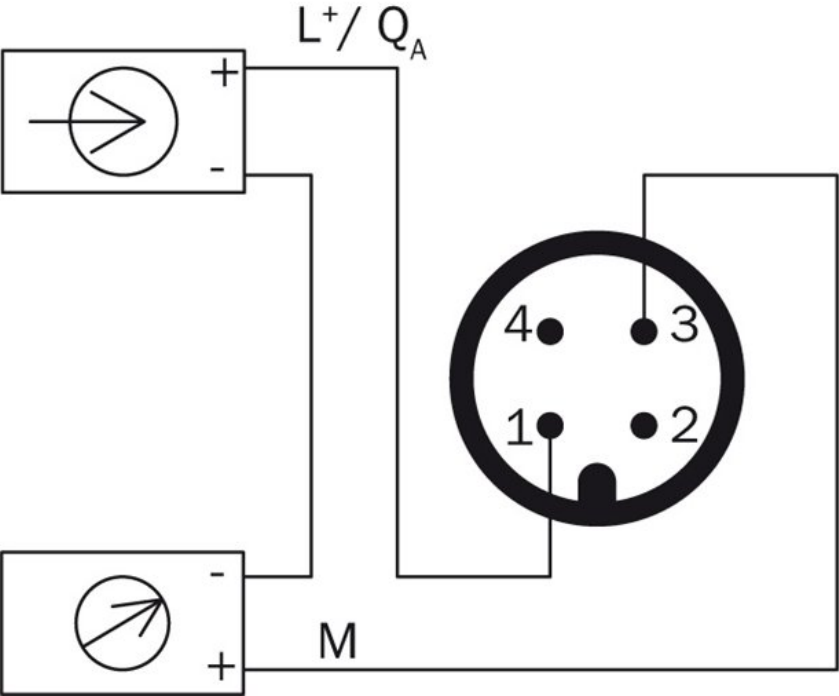
## Ambient data

|                                              |                        |
|----------------------------------------------|------------------------|
| Ambient temperature:                         | -40 °C ... 85 °C       |
| Storage and transport temperature:           | -40 °C ... 85 °C       |
| Vibration resistance according to IEC 60751: | 3 g                    |
| Shock resistance:                            | According to IEC 60751 |
| Relative humidity:                           | $\leq 95 \%$           |

## Dimensional drawing process connection



| Design           |       | Ø D         | G           |
|------------------|-------|-------------|-------------|
| <b>DIN 11851</b> | DN 20 | 54.0 (2.13) | 8.0 (0.31)  |
|                  | DN 25 | 63.0 (2.48) | 10.0 (0.39) |
|                  | DN 32 | 70.0 (2.76) | 10.0 (0.39) |
|                  | DN 40 | 78.0 (3.07) | 10.0 (0.39) |
|                  | DN 50 | 92.0 (3.62) | 11.0 (0.43) |



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