Precise, Reliable Temperature Sensors for Process Automation

Accurately determining temperature is one of the most important tasks in processing and manufacturing industries. Precision, reliability and interface flexibility are just some of the characteristics that make a great temperature sensor. TURCK’s new TS400 and TS500 temperature sensor series provide all these traits and more, and adhere to the high standards consistent with all TURCK products.

- **Quality** – Internal and external design features uphold an increased level of reliability.
- **User-Friendly** – Easy to program and maintain.
- **Flexible** – Remote or direct mounting.
- **Benefits** – May be applied across all factory and process automation applications.

TS400 and TS500 temperature sensors incorporate design elements that equate to real advantages in your applications. The TS400 and TS500 sensor series are platinum resistance temperature detectors (RTDs), commonly referred to as a Pt-100. Pt-100’s are known to be highly precise, repeatable, and provide extremely short response times.

Pt-100’s contain a platinum wire that is wrapped around a core or patterned as a thin film on a substrate so that it experiences minimal differential expansion or other strains. As the temperature changes, the controller measures the change in the electrical resistance of the platinum wire. Specifically, the hotter the wire becomes, the higher the value of electrical resistance. Pt-100 RTDs have a nominal resistance of 100 ohms at 0°C with an accuracy of 0.4°C at 50°C. The sensor’s operating range varies from -50 to 500°C (-58 to 932°F).
Quality

TS400 and TS500 sensors were designed to handle harsh manufacturing environments.

- High immunity to electromagnetic interference
- Reliable and accurate
- Compact design
- Robust stainless steel housing
- IP 67 environmental protection to increase operational durability

User-Friendly

TS400 and TS500 sensors were designed with the user in mind.

- Simple push-button programming
- Recessed button stores selected values and helps prevent unintentional operational errors
- The entire display can be inverted electronically
- The TS500 version can be rotated 320 degrees
- Does not require regular maintenance calibration
- M12 eurofast® connection promotes easy integration in existing applications

Flexible

TS400 and TS500 use state of the art technology to bring you a sensor that facilitates operational efficiency.

- Remote or direct mountable
- Compact, robust housing
- 4-pin M12 eurofast® connection
- Compatible with 4-wire probes
- Displays output in °C, °F, K and ohms

Benefits

TS400 and TS500 temperature sensors allow you to realize immediate benefits in your application.

- May be implemented in nearly all factory or process automation applications
- Housing design permits sensors to be mounted directly next to each other or in restrictive places
- Large, bright LED display
TURCK
Temperature Sensors

Direct Mounting Sensor

- Stabilizer
- Compression Fitting
- Probe

Remote Mounting Sensor

- Remote Cordset
- Thermowell
- Probe

Accessories

- Stabilizer
  (use with TP-203A .. & TP-206A ..)
- Remote Cordset
  (RK 4.4T-*RS 4.4T)

Probe Options

- TP-104A ..
- TP-306A ..
- TP-203A .. or TP-206A ..

Process Connection Options

- Compression Fitting (CF)
- Thermowell
  THW ... TRI
- Thermowell
  THW ... N
How to Order TS400 and TS500 Sensors and Accessories

1. Determine your desired output and select the TS model that meets your needs.

2. Select the appropriate probe for your application.
   a) Questions? Call 1-800-554-7769.

3. Choose remote or direct mounting.
   a) For direct mounting with TP-203 and TP-206, order the stabilizer (STA-3 or STA-6) for applications with vibration.
   b) For remote mounting, order a mating cordset (RK 4.4T-*RS 4.4T).

4. Select a process connection.
   a) For thermowells, order one length (50 mm) shorter than the length of probe you selected in step 2.
   b) If no thermowell is selected, a compression fitting is needed for mounting the probe.
      (Note: The TP-104A does not require a process connection.)

* Length in meters.

Push Button Programming

TS400 and TS500 sensors allow optimum control. Programming the TS series is made easy with push button programming. The MODE and SET buttons are finger-operated for scrolling through the various menu options. Values for set-points, output functions, analog ranges and a range of special features, such as switch delays and display direction, can be programmed into the sensor. Programmed values are protected by a recessed button that can lock values to further ensure protection. The temperature is constantly displayed on the 4-digit, 7-segment LED display.
TS400/TS500 Temperature Sensor Part Number Key

Style
TS = Temperature Sensor

Housing
400 = Adjustable, with display, non-rotatable
500 = Adjustable, with display, rotatable

Analog Output
LI = Current analog output
LU = Voltage analog output

Switching Output
2U = 2 x programmable N.O./N.C. mode
U = 1 x programmable N.O./N.C. mode

Connection
H1141 = 4-pin, M12x1, eurofast® connector

With LED Display
8 = 15-30 VDC (switching outputs)
8 = 18-30 VDC (switching and analog outputs)

Operational Voltage
2U = 2 x programmable N.O./N.C. mode
U = 1 x programmable N.O./N.C. mode

Output Logic
PN = PNP/NPN configurable transistor switching output
## Industrial Automation

### Electrical Data
- **Operating Voltage**: 15-30 VDC (switching outputs), 18-30 VDC (switching and analog output)
- **No-Load Current**: ≤50 mA
- **SELV, PELV**: According to EN 50178
- **Short-Circuit Protection**: Yes
- **Reverse Polarity Protection**: Yes
- **Insulation Class**: III

#### Switching Output
- **Switching Frequency**: ≤180 Hz
- **Output Function**: 2 x PNP or NPN, N.C./N.O. programmable
- **Voltage Drop at Ie**: ≤2 V
- **Rated Operational Current**: 0.2 A
- **Switching Point Distance**: 0.2 K

#### Reset Points
- **-49.8° to +500°C (-58° to +932°F)
- **-50° to +499.8°C (-58° to +932°F)

#### Analog Current Output
- **Current Output**: 4-20 mA, 0-20 mA, 20-4 mA, 20-0 mA programmable
- **Response Time**: <100 ms
- **Load**: ≤0.5 kΩ

#### Analog Voltage Output
- **Voltage Output**: 0-10 V, 0-5 V, 1-6 V, 10-0 V, 5-0 V, 6-1 V programmable
- **Response Time**: <100 ms
- **Load**: ≥2 kΩ

#### Temperature Sensor Accuracy
- **Switching Output**: ±0.2 K
- **Repetition Accuracy**: ±0.1 K
- **Analog Output Accuracy (Lin.+Hys.+Rep.)**: ±0.2 K

#### Temperature Sensor Housing
- **Housing Material**: Stainless steel/plastic 1.4404 (AISI 316L)/PC
- **Electrical Connection**: Connector M12x1 (**Eurofast**), 4-pin with integrated high-speed connection technology.

#### Sensor Connection
- **Connector M12x1 (**Eurofast**), 4-pin
- **Coupling Nut Size (with tightening torque)**: SW 30 (max. 35 Nm)

#### Display
- **Temperature Display**: 4-digit 7-segment display can be rotated by 180° and switched off
- **Switch State Display**: 2 x LED yellow
- **Measured Value/Programming**: Switch/release points; hysteresis/window mode; N.O./N.C.; unit of display; peak value memory
- **Display of Temperature Unit**: 4 x LED green (°C, °F, K, Ω)

#### EMC
- **EN 61000-4-2**: ESD 4 kV CD / 8 kV AD
- **EN 61000-4-3**: HF radiated: 15 V/m2
- **EN 61000-4-4**: Burst 2 kV
- **EN 61000-4-5**: Surge 1 kV, 42 Ω
- **EN 61000-4-6**: HF conducted: 10 V

#### Ambient Conditions
- **Medium Temperature**: Directly connected -50° to 150°C (otherwise see temperature probes)
- **Ambient Temperature**: -40° to +80°C (-40° to +176°F)
- **Storage Temperature**: -40° to +80°C (-40° to +176°F)
- **Degree of Protection**: IP 67
- **Vibration Resistance**: 20 g (10-2000 Hz) according to IEC 68-2-6
# TURCK Temperature Sensors

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>ID Number</th>
<th>Temperature Range - Remote</th>
<th>Temperature Range - Direct</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS-400-2UPN8X-H1141</td>
<td>M6840007</td>
<td>-50° to 500°C (-58° to 932°F)</td>
<td>-50° to 150°C (-58° to 302°F)</td>
<td>Dual PNP/NPN N.O./N.C.</td>
<td></td>
</tr>
<tr>
<td>TS-400-LUUPN8X-H1141</td>
<td>M6840008</td>
<td>-50° to 500°C (-58° to 932°F)</td>
<td>-50° to 150°C (-58° to 302°F)</td>
<td>1 PNP/NPN N.O./N.C. and Programmable Voltage</td>
<td></td>
</tr>
<tr>
<td>TS-400-LI2UPN8X-H1141</td>
<td>M6840007</td>
<td>-50° to 500°C (-58° to 932°F)</td>
<td>-50° to 150°C (-58° to 302°F)</td>
<td>1 PNP/NPN N.O./N.C. and Programmable Current or 1 PNP/NPN N.O./N.C.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>ID Number</th>
<th>Temperature Range - Remote</th>
<th>Temperature Range - Direct</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS-500-2UPN8X-H1141</td>
<td>M6840018</td>
<td>-50° to 500°C (-58° to 932°F)</td>
<td>-50° to 150°C (-58° to 302°F)</td>
<td>Dual PNP/NPN N.O./N.C.</td>
<td></td>
</tr>
<tr>
<td>TS-500-LUUPN8X-H1141</td>
<td>M6840016</td>
<td>-50° to 500°C (-58° to 932°F)</td>
<td>-50° to 150°C (-58° to 302°F)</td>
<td>1 PNP/NPN N.O./N.C. and Programmable Voltage</td>
<td></td>
</tr>
<tr>
<td>TS-500-LI2UPN8X-H1141</td>
<td>M6840015</td>
<td>-50° to 500°C (-58° to 932°F)</td>
<td>-50° to 150°C (-58° to 302°F)</td>
<td>1 PNP/NPN N.O./N.C. and Programmable Current or 1 PNP/NPN N.O./N.C.</td>
<td></td>
</tr>
</tbody>
</table>

For remote probes use cordset RK 4.4T-*RS 4.4T.

* Length in meters.

See page 17 for additional cordset information.
<table>
<thead>
<tr>
<th>Voltage</th>
<th>Switching Current (mA)</th>
<th>Mating Load</th>
<th>Mating Conduct</th>
<th>Wiring Diagram #</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-30 VDC</td>
<td>≤200</td>
<td>N/A</td>
<td>RK 4.4T-*</td>
<td>1</td>
<td>Diagram 1</td>
</tr>
<tr>
<td>18-30 VDC</td>
<td>≤200</td>
<td>≤500 Ω</td>
<td>RK 4.4T-*</td>
<td>2</td>
<td>Diagram 2</td>
</tr>
<tr>
<td>18-30 VDC</td>
<td>≤200</td>
<td>≤500 Ω</td>
<td>RK 4.4T-*</td>
<td>3</td>
<td>Diagram 3</td>
</tr>
<tr>
<td>15-30 VDC</td>
<td>≤200</td>
<td>N/A</td>
<td>RK 4.4T-*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>18-30 VDC</td>
<td>≤200</td>
<td>≤500 Ω</td>
<td>RK 4.4T-*</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>18-30 VDC</td>
<td>≤200</td>
<td>≤500 Ω</td>
<td>RK 4.4T-*</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

* Length in meters.

**Simple Mounting**

After the sensor is mounted, the actual processor unit is attached and fixed using a coupling nut. The sensor can still be rotated and aligned in all directions. TS500 shown.
TURCK
Temperature Sensors

Temperature Probes Part Number Key

<table>
<thead>
<tr>
<th>Style</th>
<th>Connection</th>
<th>Insertion Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>TP = Temperature Probe</td>
<td>H1141 = 4-pin, M12x1, eurofast® connector</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Probe Type</th>
<th>Probe Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Probe with process connection</td>
<td>03A = 3 mm outer probe diameter</td>
</tr>
<tr>
<td>2 = Probe for compression fitting or thermowell</td>
<td>04A = 4 mm outer probe diameter</td>
</tr>
<tr>
<td>3 = Cable sensor</td>
<td></td>
</tr>
</tbody>
</table>

Temperature Probes Technical Data

Probe (TP-104A ..)

- Temperature Operating Range: -50° to 120°C (-58° to +248°F)
- Ambient Temperature: -20° to 90°C (-4° to +194°F)
- Measuring Element: Pt100, DIN EN 60751, Class A
- Response Time: \( t_{0.5} = 3 \) s; \( t_{0.9} = 10 \) s in water at 0.2 m/s
- Output Function: 4-wire
- Reverse Polarity Protection: Yes
- Degree of Protection: IP 67
- Housing Material: Plastic/Stainless steel
- Housing Quality: 1.4404 (AISI 316L)
- Sensor Material: Stainless steel
- Sensor Quality: 1.4404 (AISI 316L)
- Pressure Rating (psi): 580.15
- Connection: Connector, M12x1 (eurofast®)
- Mechanical Connection: Tri-Clamp 3/4"
## Temperature Probes Technical Data

### Probe (TP-203 .. / TP-206 ..)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Operating Range</td>
<td>-30° to +500°C (-22° to 932°F) ≤350°C accuracy class A (662°F) ≥350°C accuracy class B (662°F)</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-20° to 90°C (-4° to +194°F)</td>
</tr>
<tr>
<td>Measuring Element</td>
<td>Pt100, DIN EN 60751, Class A</td>
</tr>
<tr>
<td>Response Time</td>
<td>203: t₀.₅ = 1.5 s; t₀.₉ = 6 s</td>
</tr>
<tr>
<td></td>
<td>206: t₀.₅ = 6 s; t₀.₉ = 15 s</td>
</tr>
<tr>
<td>Output Function</td>
<td>4-wire</td>
</tr>
<tr>
<td>Reverse Polarity Protection</td>
<td>Yes</td>
</tr>
<tr>
<td>Degree of Protection</td>
<td>IP 67</td>
</tr>
<tr>
<td>Housing Material</td>
<td>Stainless steel/plastic</td>
</tr>
<tr>
<td>Housing Quality</td>
<td>1.4404 (AISI 316L) mineral insulated</td>
</tr>
<tr>
<td>Sensor Material</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Sensor Quality</td>
<td>1.4404 (AISI 316L)</td>
</tr>
<tr>
<td>Pressure Rating (psi)</td>
<td>1450</td>
</tr>
<tr>
<td>Connection</td>
<td>Connector, M12x1 (\text{eurofast})</td>
</tr>
<tr>
<td>Mechanical Connection</td>
<td>For compression fittings or thermowells</td>
</tr>
</tbody>
</table>

### Probe (TP-306 ..)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Operating Range</td>
<td>-50° to +105°C (-58° to +221°F)</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-20° to 90°C (-4° to +194°F)</td>
</tr>
<tr>
<td>Measuring Element</td>
<td>Pt100, DIN EN 60751, Class A</td>
</tr>
<tr>
<td>Response Time</td>
<td>t₀.₅ = 8 s; t₀.₉ = 20 s in water at 0.2 m/s</td>
</tr>
<tr>
<td>Output Function</td>
<td>4-wire</td>
</tr>
<tr>
<td>Reverse Polarity Protection</td>
<td>Yes</td>
</tr>
<tr>
<td>Degree of Protection</td>
<td>IP 67</td>
</tr>
<tr>
<td>Housing Material</td>
<td>Plastic/Stainless steel</td>
</tr>
<tr>
<td>Housing Quality</td>
<td>TPE (thermoplastic elastomer)</td>
</tr>
<tr>
<td>Sensor Material</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Sensor Quality</td>
<td>1.4404 (AISI 316L)</td>
</tr>
<tr>
<td>Pressure Rating (psi)</td>
<td>217</td>
</tr>
<tr>
<td>Connection</td>
<td>Connector, M12x1 (\text{eurofast})</td>
</tr>
<tr>
<td>Mechanical Connection</td>
<td>For compression fittings</td>
</tr>
</tbody>
</table>
## Temperature Probes

<table>
<thead>
<tr>
<th>Housing Style</th>
<th>Part Number</th>
<th>ID Number</th>
<th>Temperature Range</th>
<th>Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt100 Temperature Probe, 3/4&quot; Tri-Clamp, Ø8 mm</td>
<td>TP-104A-TRI3/4-H1141-L035</td>
<td>M9910429</td>
<td>-50° to +120°C (-58° to +248°F)</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>TP-104A-TRI3/4-H1141-L100</td>
<td>M9910430</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Pt100 Temperature Probe, Ø3 mm</td>
<td>TP-203A-CF-H1141-L100</td>
<td>M9910402</td>
<td>-30° to +350°C (-22° to +662°F)</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>TP-203A-CF-H1141-L150</td>
<td>M9910403</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>TP-203A-CF-H1141-L200</td>
<td>M9910482</td>
<td></td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>TP-203A-CF-H1141-L250</td>
<td>M9910404</td>
<td></td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>TP-203A-CF-H1141-L1000</td>
<td>M9910496</td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td>Pt100 Temperature Probe, Ø6 mm</td>
<td>TP-206A-CF-H1141-L100</td>
<td>M9910475</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>TP-206A-CF-H1141-L150</td>
<td>M9910476</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>TP-206A-CF-H1141-L200</td>
<td>M9910477</td>
<td></td>
<td>200</td>
</tr>
</tbody>
</table>

Mating cordset for remote connections: RK 4.4T-*RS 4.4T.

* Length in meters.

For technical data see page 9-10.

See page 17 for additional cordset information.
## Temperature Probes

<table>
<thead>
<tr>
<th>Housing Style</th>
<th>Part Number</th>
<th>ID Number</th>
<th>Temperature Range</th>
<th>Length (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt100 Cable Probe, 4-Pin M12x1 eurofast®, Ø6 mm</td>
<td>TP-306A-CF-H1141-L1000</td>
<td>M9910479</td>
<td>-50° to 105°C (-58° to 221°F)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>TP-306A-CF-H1141-L2000</td>
<td>M9910480</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TP-306A-CF-H1141-L5000</td>
<td>M9910481</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For technical data see page 10.

### Rotatable Display

TS400 and TS500 sensors may also be installed horizontally. The display may be electronically inverted 180 degrees by software incorporated within the sensor.
# TURCK Temperature Sensors

## Thermowell Part Number Key

<table>
<thead>
<tr>
<th>Thermowell</th>
<th>3</th>
<th>G1/8</th>
<th>A4</th>
<th>L013</th>
</tr>
</thead>
</table>

**Probe Diameter**

- 3 = 3 mm probe diameter
- 6 = 6 mm probe diameter

**Process Connection**

- G1/8 = G1/8" male thread
- N1/8 = 1/8" NPT male thread
- G1/4 = G1/4" male thread
- N1/4 = 1/4" NPT male thread
- G1/2 = G1/2" male thread
- N1/2 = 1/2" NPT male thread
- TRI3/4 = 3/4" tri-clamp
- DN25K = DN25 hygienic fitting thread DIN 11851
- UNI25 = Universal weld Ø25 mm

**Insertion Depth**

**Material**

- A4 = Stainless steel AISI316L

---

## Compression Fittings Part Number Key

<table>
<thead>
<tr>
<th>CF</th>
<th>M</th>
<th>3</th>
<th>G1/8</th>
<th>A4</th>
</tr>
</thead>
</table>

**Compression Fitting**

**Compression Ring Material**

- M = AISI316L
- P = PTFE

**Probe Diameter**

- 3 = 3 mm outer diameter
- 6 = 6 mm outer diameter

**Material**

- A4 = Stainless steel AISI316L

**Operational Voltage**

- G1/8 = G1/8" male thread
- N1/8 = 1/8" NPT male thread
- G1/4 = G1/4" male thread
- N1/4 = 1/4" NPT male thread
- N1/2 = 1/2" NPT male thread
<table>
<thead>
<tr>
<th>Housing Style</th>
<th>Part Number</th>
<th>ID Number</th>
<th>Process Connection</th>
<th>Length (mm)</th>
<th>Compatible Probe</th>
<th>Pressure Rating (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermowell, 1/2&quot; Male NPT</td>
<td>THW-3-N1/2-A4-L050</td>
<td>M9910447</td>
<td>1/2&quot; NPT</td>
<td>50</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/2-A4-L100</td>
<td>M9910448</td>
<td>1/2&quot; NPT</td>
<td>100</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/2-A4-L150</td>
<td>M9910449</td>
<td>1/2&quot; NPT</td>
<td>150</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/2-A4-L250</td>
<td>M9910450</td>
<td>1/2&quot; NPT</td>
<td>250</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td>Thermowell, 1/4&quot; Male NPT</td>
<td>THW-3-N1/4-A4-L050</td>
<td>M9910416</td>
<td>1/4&quot; NPT</td>
<td>50</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/4-A4-L100</td>
<td>M9910420</td>
<td>1/4&quot; NPT</td>
<td>100</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/4-A4-L150</td>
<td>M9910424</td>
<td>1/4&quot; NPT</td>
<td>150</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/4-A4-L200</td>
<td>M9910428</td>
<td>1/4&quot; NPT</td>
<td>200</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td>Thermowell, 1/8&quot; Male NPT</td>
<td>THW-3-N1/8-A4-L050</td>
<td>M9910414</td>
<td>1/8&quot; NPT</td>
<td>50</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/8-A4-L100</td>
<td>M9910418</td>
<td>1/8&quot; NPT</td>
<td>100</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/8-A4-L150</td>
<td>M9910422</td>
<td>1/8&quot; NPT</td>
<td>150</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-3-N1/8-A4-L200</td>
<td>M9910426</td>
<td>1/8&quot; NPT</td>
<td>200</td>
<td>3 mm</td>
<td>5800</td>
</tr>
<tr>
<td>Thermowell, 3/4&quot; Tri-Clamp</td>
<td>THW-3-TRI3/A4-A4-L035</td>
<td>M9910433</td>
<td>3/4&quot; Tri-Clamp</td>
<td>35</td>
<td>3 mm</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>THW-3-TRI3/A4-A4-L050</td>
<td>M9910451</td>
<td>3/4&quot; Tri-Clamp</td>
<td>50</td>
<td>3 mm</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>THW-3-TRI3/A4-A4-L100</td>
<td>M9910452</td>
<td>3/4&quot; Tri-Clamp</td>
<td>100</td>
<td>3 mm</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>THW-3-TRI3/A4-A4-L150</td>
<td>M9910453</td>
<td>3/4&quot; Tri-Clamp</td>
<td>150</td>
<td>3 mm</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>THW-3-TRI3/A4-A4-L250</td>
<td>M9910454</td>
<td>3/4&quot; Tri-Clamp</td>
<td>250</td>
<td>3 mm</td>
<td>580</td>
</tr>
<tr>
<td>Thermowell, Universal Weld</td>
<td>THW-3-UNI25-A4-A4-L035</td>
<td>M9910502</td>
<td>Weld</td>
<td>35</td>
<td>3 mm</td>
<td>1450</td>
</tr>
<tr>
<td></td>
<td>THW-3-UNI25-A4-A4-L100</td>
<td>M9910503</td>
<td>Weld</td>
<td>100</td>
<td>3 mm</td>
<td>1450</td>
</tr>
</tbody>
</table>

Note: Material is AISI 316L/1.4404
## Thermowells

<table>
<thead>
<tr>
<th>Housing Style</th>
<th>Part Number</th>
<th>ID Number</th>
<th>Process Connection</th>
<th>Length (mm)</th>
<th>Compatible Probe</th>
<th>Pressure Rating (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermowell, 1/2&quot; Male NPT</td>
<td>THW-6-N1/2-A4-L050</td>
<td>M9910463</td>
<td>1/2&quot; NPT</td>
<td>50</td>
<td>6 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-6-N1/2-A4-L100</td>
<td>M9910464</td>
<td>1/2&quot; NPT</td>
<td>100</td>
<td>6 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-6-N1/2-A4-L150</td>
<td>M9910465</td>
<td>1/2&quot; NPT</td>
<td>150</td>
<td>6 mm</td>
<td>5800</td>
</tr>
<tr>
<td></td>
<td>THW-6-N1/2-A4-L250</td>
<td>M9910466</td>
<td>1/2&quot; NPT</td>
<td>250</td>
<td>6 mm</td>
<td>5800</td>
</tr>
<tr>
<td>Thermowell, 3/4&quot; Tri-Clamp</td>
<td>THW-6-TRI3/4-A4-L050</td>
<td>M9910467</td>
<td>3/4&quot; Tri-Clamp</td>
<td>50</td>
<td>6 mm</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>THW-6-TRI3/4-A4-L100</td>
<td>M9910468</td>
<td>3/4&quot; Tri-Clamp</td>
<td>100</td>
<td>6 mm</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>THW-6-TRI3/4-A4-L150</td>
<td>M9910469</td>
<td>3/4&quot; Tri-Clamp</td>
<td>150</td>
<td>6 mm</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>THW-6-TRI3/4-A4-L250</td>
<td>M9910470</td>
<td>3/4&quot; Tri-Clamp</td>
<td>250</td>
<td>6 mm</td>
<td>580</td>
</tr>
</tbody>
</table>

Note: Material is AISI 316L/1.4404

## Stabilizer Accessories for Direct Mounting

- **Stabilizer for 3 mm Temperature Probe**: STA-3 (M6835024)
  - Diameter: 0.945 [24.0]
  - Height: 1.338 [34.0]
- **Stabilizer for 6 mm Temperature Probe**: STA-6 (M6835023)
  - Diameter: 0.945 [24.0]
  - Height: 1.338 [34.0]

## Accessories

- **Clear Cap**: PTS-COVER (A9350)
  - Diameter: 1.362 [34.6]
  - Length: 1.924 [46.9]
  - O-Ring: 2.018 [51.3]
## Compression Fittings

<table>
<thead>
<tr>
<th>Housing Style</th>
<th>Part Number</th>
<th>ID Number</th>
<th>Compatible Probe Diameter</th>
<th>Compression Fitting</th>
<th>Temperature Range</th>
<th>Pressure Rating (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compression Fitting, 1/4” Male NPT</td>
<td>CF-M-3-N1/4-A4</td>
<td>M9910408</td>
<td>Ø3 mm</td>
<td>Metal</td>
<td>350°C (662°F)</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>CF-P-3-N1/4-A4</td>
<td>M9910412</td>
<td>Ø3 mm</td>
<td>PTFE</td>
<td>100°C (212°F)</td>
<td>87</td>
</tr>
<tr>
<td>Compression Fitting, 1/8” Male NPT</td>
<td>CF-M-3-N1/8-A4</td>
<td>M9910406</td>
<td>Ø3 mm</td>
<td>Metal</td>
<td>350°C (662°F)</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>CF-P-3-N1/8-A4</td>
<td>M9910410</td>
<td>Ø3 mm</td>
<td>PTFE</td>
<td>100°C (212°F)</td>
<td>87</td>
</tr>
<tr>
<td>Compression Fitting, 1/4” Male NPT</td>
<td>CF-M-6-N1/4-A4</td>
<td>M9910484</td>
<td>Ø6 mm</td>
<td>Metal</td>
<td>350°C (662°F)</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>CF-P-6-N1/4-A4</td>
<td>M9910486</td>
<td>Ø6 mm</td>
<td>PTFE</td>
<td>100°C (212°F)</td>
<td>87</td>
</tr>
<tr>
<td>Compression Fitting, 1/2” Male NPT</td>
<td>CF-M-6-N1/2-A4</td>
<td>A0950</td>
<td>Ø6 mm</td>
<td>Metal</td>
<td>350°C (662°F)</td>
<td>580</td>
</tr>
</tbody>
</table>

**Note:** Material is AISI 316L/1.4404

**Mounts in Compact Spaces**

With a housing diameter of 34 mm, multiple temperature sensors can fit in tight spaces.
# TURCK

## Temperature Sensors

### 4-Wire eurofast® Cordsets, Standard Plug Body

- **Straight Male and Female Connectors**
- **NEMA 1, 3, 4, 6P and IEC IP 68 Protection**
- **250 VAC/300 VDC, 4 A**

<table>
<thead>
<tr>
<th>Housing Style</th>
<th>Part Number</th>
<th>Cable</th>
<th>Features</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>RK ..**</td>
<td>RK 4.4T-*</td>
<td>AWM PVC Grey 4x22 AWG 105°C 5.2 mm OD Cable #RF5016-*M</td>
<td>flexlife®</td>
<td>1. BN 2. WH 3. BU 4. BK</td>
</tr>
<tr>
<td>RS ..**</td>
<td>RK 4.4T-* RS 4.4T</td>
<td></td>
<td></td>
<td>1. 4 2. 3 4. 3</td>
</tr>
</tbody>
</table>

* Length in meters. Standard cable lengths are 2, 4, 6, 8 and 10 meters. Consult factory for other lengths.

** Standard coupling nut material is nickel plated brass "RK .."; "RKK .." indicates nylon and "RKV .." indicates 316 stainless steel.

** Extension Example:**

```
RK 4.4T  2  RS 4.4T
```

---

** Female**

---

** Male**

---

This document provided by Barr-Thorp Electric Co., Inc. 800-473-9123 www.barr-thorp.com
There's an Easier Way to Monitor Temperatures at Control Points.

- Direct or remote mounting with optional thermowells
- One sensor displays output in °C, °F, K and ohms
- Exclusive Feature! IP67 stainless steel housing with integrated M12 eurofast® connector
- Exclusive Feature! 320° housing rotation and display inversion
- Transparent harsh-duty cover option

Sense It! Connect It! Bus It!
Access to all TURCK catalogs, press releases, white papers and tutorials

Complete category listing of TURCK products

Search for products by part number, ID number or key word

TURCK’s USA website is your most complete and up-to-date source for product documentation, CAD files and more. Search results produce downloadable documentation or request for quote (RFQ). Additional product information or CAD files are easily requested and promptly filled.

Visit our site for new product releases, approvals, white papers, application support and more.

TURCK USA
TURCK Inc.
3000 Campus Drive
Minneapolis, MN 55441
Phone: (763) 553-7300
Fax: (763) 553-0708
Application Support: 1-800-544-7769

TURCK Mexico
TURCK MEXICO S. DE R.L. DE C.V.
Carr Saltillo-Zacatecas km 4.5 s/n
Parque Industrial “La Angostura”
Saltillo, COAH. C.P. 25070
MEXICO
Phone: +52 (844) 411-6647/46
Fax: +52 (844) 482-6926
Toll Free: 01-800-01-88725 (Mexico only)
E-mail: ventasmexico@turck.com

TURCK Canada
CHARTWELL ELECTRONICS, INC.
140 Duffield Drive
Markham, Ontario
Canada, L6G 1B5
Phone: (905) 513-7100
Fax: (905) 513-7101
Toll Free: 1-877-513-7769

TURCK
World Headquarters
Hans TURCK GmbH & Co. KG
Witzlebenstrasse 7
D-45472 Muelheim der Ruhr
Federal Republic Of Germany
Phone: (+49) 208-49 52-0
Fax: (+49) 208-49 52 264

www.turck.com