TR10-2 Industrial RTD Assembly

Spring Loaded (Head Internal)

TR10-2 resistance temperature detectors (RTDs) are industrial assemblies supplied with or without a temperature transmitter. An extensive range of elements, connection heads, insertion lengths and neck lengths can be individually selected for the appropriate application.

RTDs in this series are designed to fit into a variety of thermowell configurations. Spring loading is achieved within the termination head utilizing a self-gripping spring or spring loaded DIN plate.

Replacement sensors can also be configured for this model.

Features:

- The sensor is designed to be mounted into a thermowell.
- The assembly has electrical approvals for explosion proof hazardous locations, ingress protection and general purpose areas.
- Electrical authorities that have registered these approvals include CSA, FM and ATEX. The approvals can be with or without an attached thermowell. Our patented integral flame path fitting is required when supplied without a thermowell.
- The RTD sensor is spring-loaded ensuring a positive contact to the base of a thermowell bore.

Connection Heads

Imperial Grid 1" x 1"

- 2-WIRE
- 3-WIRE
- 4-WIRE, TYPE A
- 4-WIRE, TYPE B

Connection Heads Sample:

- KN4-A
- KN4-P
- 1/4000F
- 1/4000S
- 7/8000W

- T32 TRANSMITTER
- SPRING LOADED PLATE
- 1/4000F TERMINATION HEAD
- NIPPLE-UNION-NIPPLE

- CRASTIN TERMINAL BLOCK
- SELF GRIPPING SPRING
- 7/8000W TERMINATION HEAD
- NIPPLE

- T32 TRANSMITTER
- SPRING LOADED PLATE
- 1/4000F TERMINATION HEAD
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- NIPPLE
### 1 Assembly description
- **Code**: 0 Industrial assembly configured
  - (no termination head)
- **Unit of measure**: I Imperial (inch)
  - M Metric (mm)
- **Spring design**: S Self gripping spring
  - D Spring loaded DIN plate (required for transmitter)
- **Electrical approval**: C CSA Ex-proof Class I Division 1
  - F FM Ex-proof Class I Division 1
  - J EEx-d (ATEX) acc. to directive 94/9/EC

### 2 Unit of measure
- I Imperial (inch)
- M Metric (mm)

### 3 Spring design
- S Self gripping spring
- D Spring loaded DIN plate (required for transmitter)

### 4 Electrical approval
- C CSA Ex-proof Class I Division 1
- F FM Ex-proof Class I Division 1
- J EEx-d (ATEX) acc. to directive 94/9/EC

### 5 Connection head
- 1AF 1/4-inch F (Aluminum) with Flame Path
- 1SF 1/4-inch S (Stainless steel) with Flame Path
- 7AF 7/8-inch W (Aluminum) with Flame Path
- 1AW 1/4-inch F (Aluminum) without Flame Path
- 1SW 1/4-inch S (Stainless steel) without Flame Path
- 7AW 7/8-inch W (Aluminum) without Flame Path
- KAW KN4-A (Aluminum)
- KPW KN4-P (Polypropylene)
- ZZ Without

### 6 Instrument x Conduit entry
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>1/2 NPT x 1/2 NPT</td>
</tr>
<tr>
<td>13</td>
<td>1/2 NPT x 3/4 NPT</td>
</tr>
<tr>
<td>12</td>
<td>1/2 NPT x M20x1.5</td>
</tr>
<tr>
<td>31</td>
<td>3/4 NPT x 1/2 NPT (reduced)</td>
</tr>
<tr>
<td>33</td>
<td>3/4 NPT x 3/4 NPT</td>
</tr>
<tr>
<td>32</td>
<td>3/4 NPT x M20x1.5</td>
</tr>
<tr>
<td>ZZ</td>
<td>Without</td>
</tr>
</tbody>
</table>

### 7 Terminal block / Transmitter
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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Crastin terminal block</td>
</tr>
<tr>
<td>2</td>
<td>Ceramic terminal block</td>
</tr>
<tr>
<td>3</td>
<td>T12, Digital transmitter, universally programmable</td>
</tr>
<tr>
<td>8</td>
<td>T19, Analogue transmitter, configurable measuring ranges (bridges)</td>
</tr>
<tr>
<td>4</td>
<td>T24, Analogue transmitter for Pt100, PC-configurable</td>
</tr>
<tr>
<td>6</td>
<td>T32, Digital transmitter, HART®, universally programmable</td>
</tr>
<tr>
<td>9</td>
<td>T33, Fieldbus transmitter, FOUNDATION Fieldbus, PROFIBUS® PA</td>
</tr>
<tr>
<td>B</td>
<td>T91,10, Analogue transmitter, fixed measuring range</td>
</tr>
<tr>
<td>Y</td>
<td>Without</td>
</tr>
</tbody>
</table>

### 8 Neck extension
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FG</td>
<td>Nipple-Union-Nipple - Galvanized steel</td>
</tr>
<tr>
<td>EG</td>
<td>Nipple - Galvanized steel</td>
</tr>
<tr>
<td>UG</td>
<td>Nipple-Union (protection tube only) - Galvanized steel</td>
</tr>
<tr>
<td>FS</td>
<td>Nipple-Union-Nipple - Stainless steel</td>
</tr>
<tr>
<td>BS</td>
<td>Nipple - Stainless steel</td>
</tr>
<tr>
<td>US</td>
<td>Nipple-Union (protection tube only) - Stainless steel</td>
</tr>
<tr>
<td>BS</td>
<td>Nipple-Union-Oil Seal Bushing - Stainless steel</td>
</tr>
<tr>
<td>ZZ</td>
<td>Without</td>
</tr>
</tbody>
</table>

### 9 N-Dimension (N) - Neck Extension Length
- N-Dimension in units (e.g. 6.0" = 060, 150 mm = 150)
- Use Increments of 1.0" (25 mm)
- ZZ Without

### 10 RTD Sensor
- D Pt100, class B (IEC 60751)
- C Pt100, class A (IEC 60751)
- F Pt100, 1/10 DIN of class B at 0°C
- E Pt10, class A (IEC 60751)
- A Cu10, class B
- B Ni120, class B
- K Pt1000, class B (IEC 60751)
- J Pt1000, class A (IEC 60751)
- I Pt1000, class AA (IEC 60751)

### 11 Wiring configuration
- A Single 2-wire
- B Single 3-wire
- C Single 4-wire
- D Single 4B-wire
- E Dual 2-wire
- F Dual 3-wire
- G Dual 4-wire
- H Dual 4B-wire

### 12 Temperature range
- K -50...+250 °C, thin film
- A -50...+500 °C, thin film
- M -200...+250 °C, wire wound
- T -200...+450 °C, wire wound
- H -200...+600 °C, wire wound
- Q 0...+790 °C, wire wound
- G 0...+190 °C, thin film

### 13 Tip Construction
- C General Purpose (Default)

### 14 Sensor diameter
- 1 1/4 inch / 0.250 inch (6.35 mm)
- D 6.0 mm (0.235 Inch)

### 15 Sheath material
- P Stainless steel 316 / 316 L (1.4401 / 1.4435)
- J Inconel® 600 (2.4816)

### 16 A-Dimension (A) - Sensor Insertion Length
- ***** Please specify (e.g. 84 mm = 00084) (e.g. 9.5 inch = 00950)

### 17 Certificates
- 1 Yes
- Z Without

### Notes:
1 Flame path required for Explosion Proof assemblies not assembled to WIKA thermowell.
2 See Data Sheet CERT.31 for certificate options and details.