S81 RTD Temperature Probes
RTD Temperature probes with mineral insulation, available with optional connectors.

TYPICAL USES
- For chemical and petrochemical plants, refineries, utilities, pulp and paper, etc.
- For a wide range of process: vapors, gases and liquids
- Flexible configurations, heavy duty MgO
- Special designs for intrinsically safe and non-incendive applications
- Available with remote heads and flex armor

DESCRIPTION
These probes may be supplied with either single or dual elements. The probe can be supplied with extension lead wire, process connection connectors. The lead wires can be PVC, silicone, PTFE or fiberglass insulation.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Sheath Stem Diameter:</td>
<td>⅛&quot;, ¼&quot;, ⅜&quot;, 3 mm, 4.5 mm, 6 mm, 8 mm</td>
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</tbody>
</table>
| Stem Length:                         | Minimum: 50 mm/2 in  
                                      | Maximum: 3 m/120 in |
| Sensor Type & Measuring Range:       | RTDs Platinum 385 Curve  
                                      | Pt 100, -200 to 600 °C  
                                      | Pt 1000, -40 to 600 °C |
| Wiring Configuration:                | RTDs (single or dual)  
                                      | 2-wire  
                                      | 3-wire  
                                      | 4-wire |
| Accuracy Class:                      | RTDs (IEC 60751)  
                                      | Class A  
                                      | Class B  
                                      | Class AA |

OPTIONAL APPROVALS

<table>
<thead>
<tr>
<th>Approval Type</th>
<th>Details</th>
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| FM Intrinsically Safe:        | Class I, Division 1, Groups A, B, C, D  
                                      | T4 for -55 °C ≤ Ta ≤ 80 °C  
                                      | T5 for -55 °C ≤ Ta ≤ 55 °C  
                                      | T6 for -55 °C ≤ Ta ≤ 40 °C |
| FM Nonincendive:              | Class I, Division 2, Groups A, B, C, D  
                                      | T4 for -55 °C ≤ Ta ≤ 80 °C  
                                      | T5 for -55 °C ≤ Ta ≤ 55 °C  
                                      | T6 for -55 °C ≤ Ta ≤ 40 °C |
| ATEX or IECEx:                | ATEX or IECEx  
                                      | II 1 G Ex ia IIC T6 Ga -50 °C to 60 °C  
                                      | II 2 G Ex ib IIC T6 Gb -50 °C to 60 °C  
                                      | II 2 G Ex e IIC T6 Gb -55 °C to 60 °C |

KEY BENEFITS
- Flexible designs for critical applications
- Highly accurate and repeatable

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OPTIONAL S81 HEADS

- BUZH-AL Type E
- BUZH-AL Type D
- DIN B Type B
- PR 7501 with display Type P
- Cast Iron Type Y
- SCCA-AL Type N
- SCCI-Stainless Steel Type G
- E&H Display Housing Type H
- Polypropylene Type A

OPTIONAL APPROVALS

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<th>FM Intrinsically Safe</th>
<th>Class I, Division 1, Groups A, B, C, D</th>
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<td>T5 for $-55 , ^\circ C \leq T_a \leq 55 , ^\circ C$</td>
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<td>T6 for $-55 , ^\circ C \leq T_a \leq 40 , ^\circ C$</td>
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<table>
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<th>ATEX or IECEx</th>
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# S81 RTD Temperature Probes

RTD Temperature probes with mineral insulation, available with optional connectors.

## ORDERING CODE Example:

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<th>A</th>
<th>B</th>
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<td>E - Increased Safety</td>
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## Sheath Diameter

- R - 1/8" Ø3.18 mm
- S - 3/16" Ø4.76 mm
- T - 1/4" Ø6.35 mm
- 3 - 3 mm
- 4 - 4.5 mm
- 6 - 6 mm
- 8 - 8 mm

## RTD Type

- 1 - Pt 100
- 2 - Ni 120
- 3 - Pt 1000

## Accuracy or Class (IEC 60751)

- A - Class A
- B - Class B
- C - ½ DIN
- D - Class AA - 1/3 DIN

## RTD Element/Range

- A - -50 to 400 °C
- B - -200 to 600 °C
- D - Vibration-proof

## Electrical Circuit

- A - Single 2-wire
- B - Single 3-wire
- C - Single 4-wire
- D - Dual 2-wire
- E - Dual 3-wire
- F - Dual 4-wire

## Sheath Material

- A - AISI 316/1.4404

## Wire Termination

- 7 - Stripped
- 8 - With flat pin
- 9 - With round pin
- F - With plug LEMO type FFA.1S
- P - With socket LEMO type PCA.1S
- D - With plug and socket LEMO on inset

## Connector Strain Relief

- - Non-applicable (no connector)
- 1 - Crimp - Braze adapter (for use with flex armor and no wire options)
- 2 - Grommet - for regular wire option, with no flex armor
- 3 - Bracket - for regular wire option, with no flex armor

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# S81 RTD Temperature Probes

RTD Temperature probes with mineral insulation, available with optional connectors.

## ORDERING CODE

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<th>Remote Head Type</th>
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<th>3</th>
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<th>T</th>
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</table>

- Non-applicable (no remote head)
- G - SCCI Stainless steel
- N - SCCA Aluminum
- B - DIN B Aluminum
- D - BUZ Aluminum
- E - BUZH Aluminum
- P - PR 7501 (N/A with FM approval)
- Y - Cast iron (N/A with FM approval)
- A - Polypropylene (N/A with FM approval)
- H - E&H Housing (N/A with FM approval)

### Length Probe

<table>
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<th>Length Probe</th>
<th>Example: (Continued)</th>
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### Length Cable

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### Flex Armor

- 1 - With flex armor
- 2 - Flex armor with PVC jacket

### Lead Wire

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### Lead Wire Options

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<tbody>
<tr>
<td>M - With protective spring on lead wire</td>
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<td>N - Without protective spring on lead wire</td>
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<tr>
<td>O - Electrically shielded, with protective spring</td>
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<td>P - Electrically shielded, without protective spring</td>
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<td>Q - With stainless steel braided cover, with protective spring</td>
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<td>R - With stainless steel braided cover, without protective spring</td>
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### Process Connection

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<th>T</th>
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<tbody>
<tr>
<td>C1 - Compression fitting ¼ NPT, AISI 316</td>
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<td>B1 - Non-adjustable compression fitting ¼ NPT, brass</td>
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<td>B2 - Adjustable compression fitting with gland TFE ¼” brass</td>
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<td>B3 - Non-adjustable compression fitting ½ NPT, brass</td>
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<td>B4 - Adjustable compression fitting with gland TFE ½” brass</td>
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<td>A1 - Compression fitting G ¼” AISI 316</td>
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### Certifications

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### Calibration Report

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<th>3P</th>
<th>T</th>
<th>LC=900</th>
<th>L=400</th>
</tr>
</thead>
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<td>T - Label in stainless steel with tag</td>
<td></td>
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All specifications are subject to change without notice. All sales subject to standard terms and conditions.

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S81 RTD Temperature Probes
RTD Temperature probes with mineral insulation, available with optional connectors.

**DIMENSIONS** in [ ] are millimeters
For reference only, consult Ashcroft for specific dimensional drawings

**HOW TO ORDER S81 TEMPERATURE PROBES:**

- The ordering code is built by selecting the appropriate configuration for the various sections of the ordering code.
- The insert nominal length L is measured from top of the cable transition piece or center of threads to the tip of the probe.
- The lead wire length LC is measured for the base of the lead wire transition piece to the end of the lead wire jacket.
- The L length and the LC length are added to the end of the ordering code in millimeters.
- To convert inches to millimeters multiply by 25.4.
  \[ \text{mm} = \text{inches} \times 25.4 \]
- Custom configurations are available.

\[ \begin{align*}
\text{d} &= \text{Stem diameter} \\
\text{LC} &= \text{Length lead wire} \\
\text{L} &= \text{Insertion length}
\end{align*} \]

* 50 mm with FM approval