Model RTT15 Temperature Transmitters

Model RTT15 Description

Foxboro® RTT15 Temperature Transmitters provide highly reliable, stable, and accurate temperature measurements, using either RTD or thermocouple sensors.

This microprocessor-based transmitter is fully user-configurable and is available with a choice of 4-20 mA/HART, Foundation Fieldbus, or Profibus communications.

The compact DIN B size module is available in a variety of weatherproof or explosionproof housings, including remote, pipe-mounted types and integral, sensor-mounted versions. The bare module may also be surface or DIN rail mounted (using optional DIN rail clip). The transmitter is also intrinsically safe.

RTT15 transmitters can be used with a wide variety of sensors, including two-, three-, or four-wire RTDs and Types B, E, J, K, L, N, R, S, T, U, W3, and W4 thermocouples. In thermocouple applications, the transmitter is configurable for an internal, external, or constant cold junction reference.

The 4-20 mA/HART version is configurable for low and high out-of-range and failure current signals, including conformance to NAMUR NE43. Diagnostics include sensor short and open detection for RTDs and sensor open detection for thermocouples.

The 4-20 mA/HART version also supports average and difference measurement, using dual two-wire RTDs or thermocouples.

The Foundation Fieldbus/Profibus version supports average, difference, and redundant measurements, using a choice of dual two-wire RTDs or thermocouples or a combination of a two- or three-wire RTD with a thermocouple.

The RTT15 transmitter is part of the Foxboro family of intelligent temperature transmitters and carries a standard five year warranty. The combination of high functionality, performance, and reliability at a very affordable price results in exceptional value to the user.

Features/Benefits

- Microprocessor-based technology for maximum accuracy, reliability, and longevity
- Two versions available:
  - 4-20 mA with HART
  - FOUNDATION Fieldbus H1 or PROFIBUS PA
- Input/output isolation
- Automatic self-diagnosis and self-calibration
- Support for two-, three-, or four-wire RTDs and a wide variety of thermocouple types
- Integral sensors with high quality and durable construction
- Wide selection of bare sensors and sensor/thermowell packages
- Basic module mounting to surface or DIN rail
- Variety of weatherproof and explosionproof housings for remote and element mounting
Model RTT15 Temperature Transmitters

Specifications

Span and Range Limits — RTD Input

<table>
<thead>
<tr>
<th>TC Type</th>
<th>Span Limits</th>
<th>Range Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>100 and 1420</td>
<td>180 and 2556</td>
</tr>
<tr>
<td>E</td>
<td>50 and 1100</td>
<td>90 and 1980</td>
</tr>
<tr>
<td>J</td>
<td>50 and 1300</td>
<td>90 and 2340</td>
</tr>
<tr>
<td>K</td>
<td>50 and 1552</td>
<td>90 and 2794</td>
</tr>
<tr>
<td>L</td>
<td>50 and 1100</td>
<td>90 and 1980</td>
</tr>
<tr>
<td>N</td>
<td>50 and 1480</td>
<td>90 and 2664</td>
</tr>
<tr>
<td>R</td>
<td>100 and 1810</td>
<td>180 and 3258</td>
</tr>
<tr>
<td>S</td>
<td>100 and 1810</td>
<td>180 and 3258</td>
</tr>
<tr>
<td>T</td>
<td>50 and 600</td>
<td>90 and 1080</td>
</tr>
<tr>
<td>U</td>
<td>50 and 800</td>
<td>90 and 1440</td>
</tr>
<tr>
<td>W3</td>
<td>100 and 2300</td>
<td>180 and 4140</td>
</tr>
<tr>
<td>W5</td>
<td>100 and 2300</td>
<td>180 and 4140</td>
</tr>
</tbody>
</table>

Span and Range Limits — TC Input

<table>
<thead>
<tr>
<th>RTD Type</th>
<th>Span Limits</th>
<th>Range Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platinum, 100Ω</td>
<td>10 and 1050</td>
<td>18 and 1890</td>
</tr>
<tr>
<td>Nickel, 100Ω</td>
<td>10 and 310</td>
<td>18 and 558</td>
</tr>
</tbody>
</table>

Transmitter Accuracy —

General Value

HART
±0.05% of span for all input types.

Fieldbus/ProfiBus
±0.05% of reading for all input types.

Transmitter Accuracy —

Basic Values

Platinum RTD input
±0.1°C (±0.18°F)

TC type E, J, K, L, N, T, and U input
±0.5°C (±0.9°F)

TC type B, R, S, W3, and W5 input
±1.0°C (±1.8°F)

Notes

1 For complete specifications, refer to Product Specification Sheet PSS 2A-1F5A.
2 Transmitter accuracy is the greater of the general or basic values listed. This value does not include specific sensor effects.