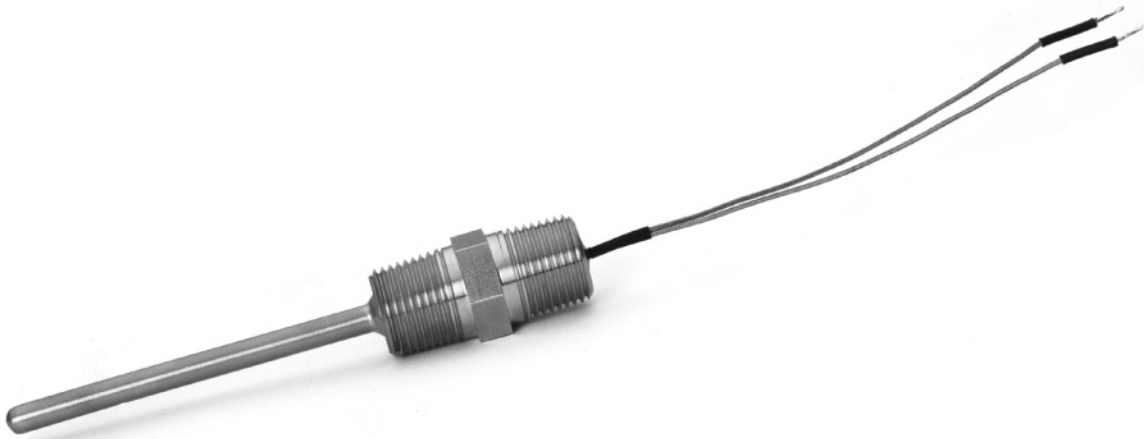


BARTON®

Series 20

Resistance Temperature Detectors (RTD)



Barton® RTD assemblies are designed to provide accurate, stable temperature measurements based on the DIN 43760 platinum, 100 ohm-base resistance element ($0.00385 \Omega/\Omega/^\circ\text{C}$) element. (Other standards, base resistances and materials are available).

Platinum RTDs are considered a most stable temperature sensor between -200°C and 540°C . They show almost no calibration drift with time and their stability, wide temperature range, near linear output and cost effectiveness make them a popular choice for the most demanding applications.

To ensure quick response and accurate readings, the RTD is tip sensitive with active measurement occurring in the first 25 mm (1-in.) of the probe assembly. The inside of the SS sheath is filled with silica and sealed from contaminant's with high temperature epoxy.

As a "simple device" all Series 20 RTDs are intrinsically safe when used with an appropriate intrinsic safety barrier. An optional terminal housing provides the assembly with a CSA Class 1, Division 1, Group C and D; Class II, E, F, G; Class III; Explosion-proof certification. A Groups B, C and D enclosure is optionally available. The assembly is a certified weatherproof Enclosure 4.

As an accessory to the Series 20, Cameron can provide (see table on the reverse side for details) a broad variety of thermowells to isolate the RTD probe assembly from process pressures and forces. When ordered together, a fixed RTD probe is manufactured to a precise length such that it is in constant contact with the inside bottom of the thermowell. This RTD to thermowell contact results in efficient temperature transfer and fast response to process temperature changes. For retrofit applications where the RTD is supplied without a thermowell, spring loaded RTDs are recommended to provide the additional tolerance required to ensure an appropriate RTD to thermowell fit.

RTD Advantages:

- Stability
- Accuracy
- Long life

Ranges (Platinum):

- -200°C to 540°C
- $(-320^\circ\text{F}$ to $1000^\circ\text{F})$

Recommended Practices:

- Use shielded twisted conductors
- Maximum cable lengths of 75 m (225 ft)
- Do not sharply bend leads
- Direct couple 2 wire RTDs

Remote couple 3 wire RTDs

General Specifications

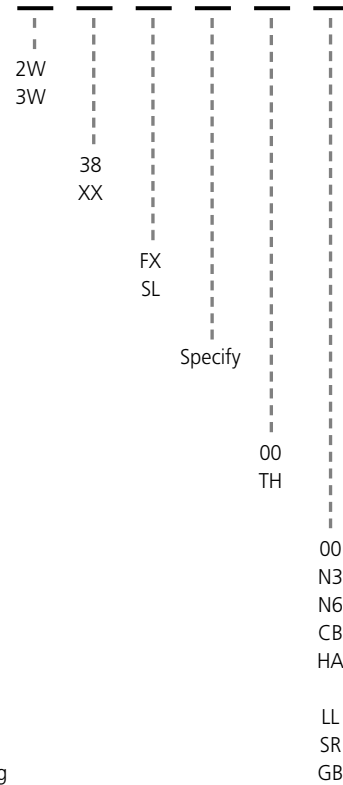
Standard Series 20 RTD Probes

- Element: 100 ohm Platinum
- Probe: 1/4-in. O.D.
- Material: 316 S.S.
- Sealant: High temperature epoxy
- Length: Specified by customer
- Connection: 1/2-in. x 1/2-in. MNPT Spud, Fixed or spring-loaded
- Leads: Standard - 6-in.
- Accuracy: +/- 0.2 Ω at 0°C
+/- 3.0 Ω at 500°C
- Terminal Housing (optional)
 - Hazardous Location
 - 3 terminal duplex strip
 - 3/4-in. NPT conduit connection
 - Epoxy coated Aluminum

Ordering Information – Series 20

RTD SERIES 20

1. Number of Leads
2-Wire
3-Wire
2. Element Type
Platinum-0.00385 $\Omega/\Omega/^\circ\text{C}$ – 100 ohm (Std)
Other (Please Specify)
3. Probe
Fixed
Spring-Loaded
4. Length
Measured from bottom of spud to probe tip
Specify units (inches, mm)
5. Enclosure
None
Standard Terminal Housing
6. Options
None
Union Nipple – 3”
Union Nipple – 6”
Ceramic Terminal Block, over 290°F
Extra High Accuracy RTD
($\pm 0.01^\circ\text{C}$ @ 0°C $\pm 0.38^\circ\text{C}$ @ 500°C)
Long Length RTD Over 12 inches
Other, Submit Drawings and/or Specifications
CSA Group “B” Explosion Proof Terminal Housing



RTD Thermowells

Cameron stocks over 100 thermowells comprising of different bores, process connections, materials of construction, and dimensions. The attached list indicates our most popular models only. Please contact your Cameron representative for other stocked thermowells.

Nominal Pipe Size	“U” Dimension Length	3/4-in. NPT Part Number	1-in. NPT Part Number
3/4 or 1-in.	1-3/8-in.	1315-1910T03	1315-1910T07
2 to 3-in.	2-in.	1315-1752T	1315-1755T
2 to 4-in.	2- 1/2-in.	1315-1758T	1315-1761T
4 to 8-in.	4-1/2-in.	1315-1778T	1315-1781T
10 to 12-in.	7-1/2-in.	1315-1814T	1315-1817T

MEASUREMENT SYSTEMS

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