

ACCESSORIES FOR SIGNATURE TEMPERATURE TRANSMITTER

- RTD Sensors
- Thermowells
- Extension Assemblies
- Connection Heads

For use in conjunction with Signature Temperature Transmitters, Bristol Babcock offers a selection of RTD Sensors, Thermowells, Extension assemblies and Connection Heads to cover various industrial applications.

The items listed can be ordered with transmitters or separately and in most cases be provided mounted to the transmitter if applicable.

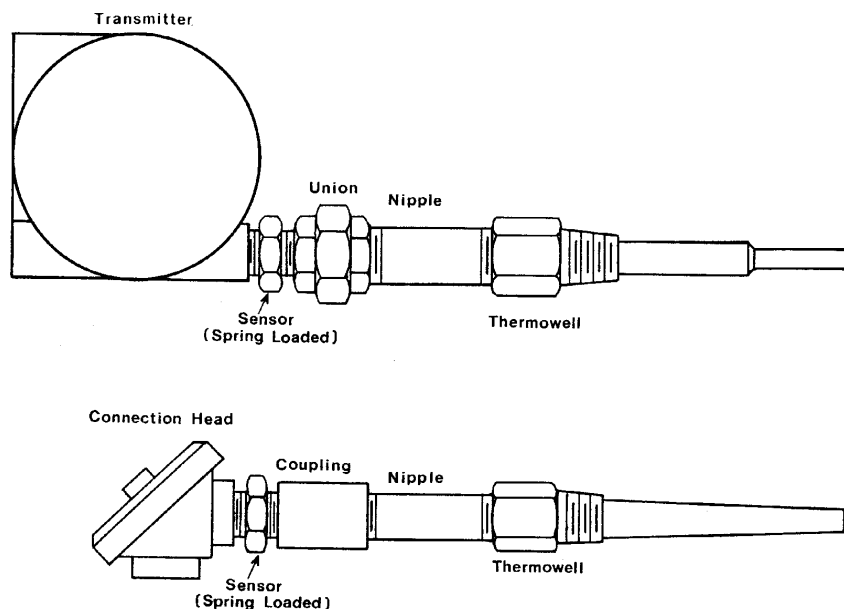
Sensors are available in general purpose (recommended for direct process mounting) and spring loaded (recommended for use with thermowells). All RTD sensors are rated at 0.1% conformance to the DIN43760 temperature vs. resistance curve (0.00385 ohms/ohms/degree C).

Thermowells of stepped and tapered design are available with threaded connections. These configurations are also available in various lengths and process connection sizes.

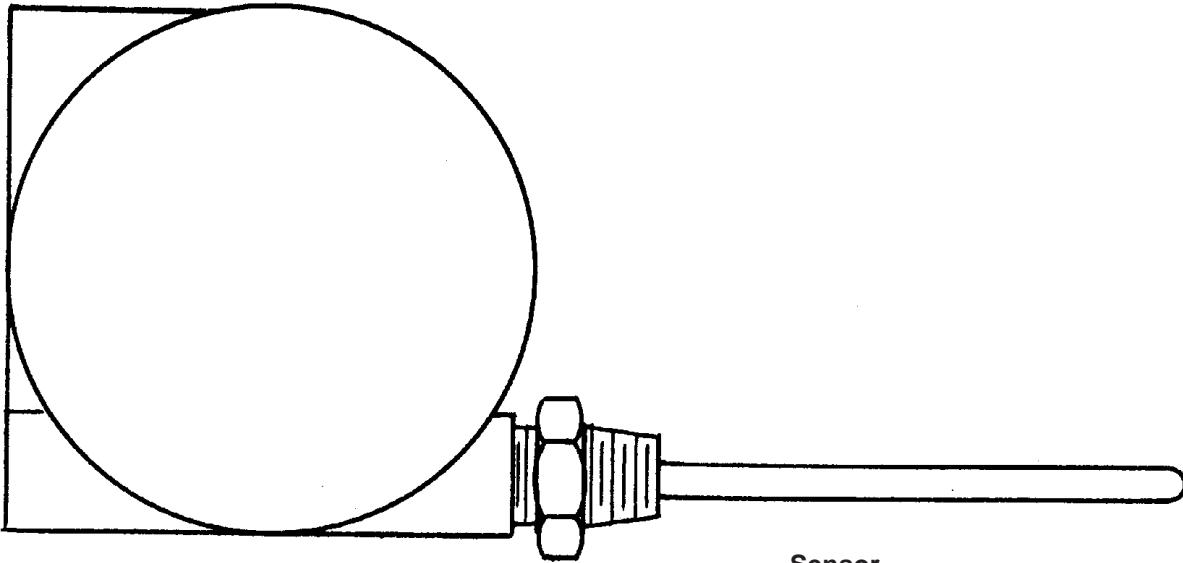
For use where piping insulation and/or high process temperatures are encountered, extension assemblies of the coupling/nipple and union/nipple types are provided. Lengths from 2 to 9 inches are normally available in 304 SS material.

Connection heads are also available for remote mounting of sensors from the transmitter as applications warrant. Brass terminals are provided for RTD or thermocouple leads to reduce error.

TYPICAL ARRANGEMENTS

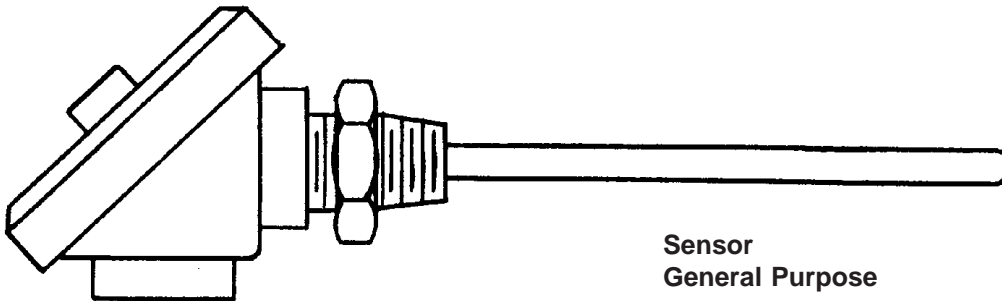


Transmitter



Sensor
General Purpose

Connection Head



Sensor
General Purpose

Performance Specifications

Calibration Type

100 Ohm Platinum (99.9% pure wire wound)

Curve

DIN 43760 = 0.00385 Ohms/Ohms/Degrees C

Conformance

0.1% to curve (See figure 1)

Response Time/Time Constant

6.0 seconds to 63.2% of full scale step change in temperature with sensor in water at a velocity of 3 feet per second (See figure2)

Insulation Resistance

1000 megohms at 500 Vdc between any lead wire and metal sheath

Self Heating

Negligible when used in conjunction with Signature Temperature Transmitter

Physical Specifications

Sensor Types

General Purpose
Normally used for direct process mounting

Spring Loaded
Recommended for use with themowells to improve response time and minimize effects of vibration.

Sheath Material/Temperature Limits

316 Stainless Steel / 482C (900° F)

Sheath Diameter

0.25" (+1 -0.005") 1/4"

Mounting Connections (2)

1/2" male NPT

Pressure Rating (general purpose only)

1500 psi minimum

Lead Wire Configuration

(See figure 3)

Lead Wire Length

4 inches

Probe Length

'L' dimension in Model Number Specification (See figure 4)

Figure 1

Allowable Deviation from Calibration Values				
Temperature		Deviation Degrees		
°C	°F	Ohms	C	F
-100	-148	±0.3	±0.7	±1.26
0	32	±0.1	±0.3	±0.54
100	212	±0.25	±0.6	±1.08
200	392	±0.45	±1.2	±2.16
300	572	±0.65	±1.8	±3.24
400	752	±0.85	±2.4	±4.32
500	932	±1.0	±3.0	±5.40
600	1112	±1.2	±3.6	±6.48
700	1292	±1.35	±4.2	±7.56

Figure 2

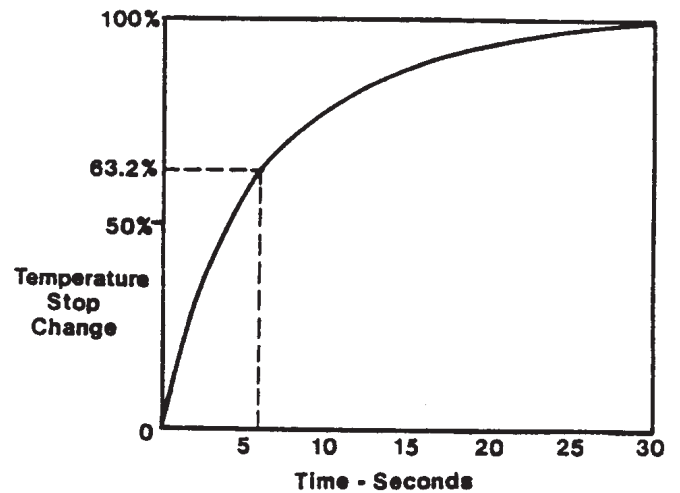
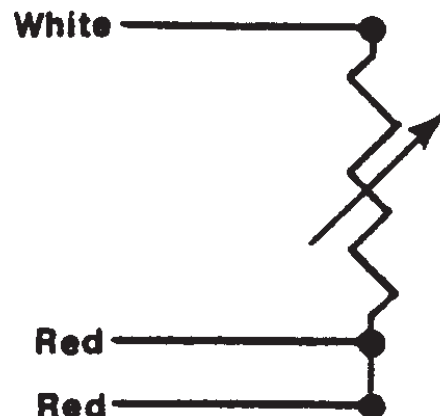


Figure 3



Signature Thermowells

Specifications

Standard thermowells are provided for use with Signature Temperature Transmitters and sensors. The selections available are based on industry accepted models in use to cover a wide variation of applications. Care should be made to select the thermowell that best fits the application. Considerations must be made for corrosion and erosion resistance, velocity of fluids and vibration.

Types Available

Threaded

Stepped - For general use

Tapered - For heavy duty applications and for high fluid velocity service.

Process Connections

Threaded

Stepped 1/2", 3/4", 1" NPT

Tapered 3/4", 1" NPT

Sensor Connection

All thermowells accept 1/2" NPT sensors

Bore Size

All thermowells have .260 ± .002 bore

Insertion Length (U)

See Part Number Specification

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**Signature
Extension Assemblies**

Specifications

Extension assemblies are available in union or coupling configurations to provide lagging of the thermowell/sensor sufficient distance away from the transmitter to prevent excessive heat from reaching the electronics. They are also used where insulation blankets prevent close couplin of the transmitter to the sensor/thermowell assembly. (See figure 1) Table is given in figure 2 to act as a guide for determining the Extension Assembly (X) based on the process temperature.

Assembly Type

- Coupling/Nipple
- Union/Nipple

Materials Available

- 316 Stainless Steel

Process Connection

- 1/2" NPT

Assembly Length (X)

- See table in Part Model Specification

**Signature
Connection Heads**

Specifications

Connection Heads are available to provide a termination point for sensors when the transmitter is mounted remotely from the sensor and/or thermowell assembly. A wide range of environmental conditions can be covered using the various materials available. A retaining chain is provided to prevent loss of the cover during service. A four terminal connecting block of ceramic construction is provided for connection of RTD and thermocouple sensors. The head is designed to withstand 400° F.

Head Type

- Cast Iron
- Cast Aluminium
- Cast Aluminium/Epoxy Coated

Input Type

- Terminals to accept
RTD

Process Connection

- 2 places for sensor and conduit
- 1/2" NPT female

Cover

- Gasketed to provide NEMA 4 rating

Terminal Block

- Ceramic w/brass terminals

