**Product Data Sheet**
PDS 71-150/rev.A
December 2001



# Insertion/Submersion Conductivity Sensor

- SUITABLE FOR INSERTION/SUBMERSION/ FLOW-THROUGH installation.
- TEMPERATURE COMPENSATION element is provided as integral part of sensor.
- OPERATES IN HIGH PRESSURE SYSTEM to 175 psig at 100°F (38°C).
- SENSOR CONSTANTS OF 0.1, 0.5 and 1.0 are available.

## FEATURES AND APPLICATIONS

The Rosemount Analytical Model 150 Insertion/ Submersion Sensor is available in sensor constants of 0.1, 0.5 or 1.0 for conductivity ranges from 0-10 to 0-10,000 µS when used with Models 54eC, 81C, 1054BC, 1181C, 2081C, and 3081C analyzers/transmitters. For optimal loop performance, connect the Model 150 sensor to instrument Models 54eC or 1054BC.

The Tefzel[1] housing has both rear-facing and forward-facing, 1 inch male pipe threads. The sensor can be threaded into a process line or the side of a tank, or be attached to a length of pipe for submersible installation. The Model 150 is available with a 1 inch CPVC tee (Code 16) for flow-through installation. An integral 10 foot cable is supplied for connection to the analyzer/transmitter or junction box.

This sensor is most appropriately used as a set-point detector in applications with a fairly broad control range. This sensor is a good choice for boiler blowdown and open recirculating cooling water. For applications that require high accuracy over a wide range of conductivity, a sensor from the ENDURANCE™ family (Model 400 series) or the toroidal family (Model 200 series) would be the ideal choice.

## SPECIFICATIONS

**Available Sensor Constants:** 0.1, 0.5 and 1.0

**Process Connection:** 1 inch MNPT both front and rear threads

**Wetted Materials:** Electrodes: 316 stainless steel
Insulators: Tefzel and Viton[1]

**Temperature Compensation:** 0 to 121°C (32 to 250°F)

**Pressure/Temperature Rating:** (see Figure 1)

| Pressure | Temperature |
|---|---|
| 1207 kPa abs (175 psig) | 38°C (100°F) |
| 345 kPa abs (50 psig) | 121°C (250°F) |

**Junction Box:** Code 17: ABS, meets NEMA 4X specifications
210 mm x 127 mm H x 102 mm D
(8-1/4 in. x 5 in. x 4 in.)

**Integral Cable:** 10 ft (250 cm), four conductors (20 ga.) shielded, provided with spade lugs.
For Code 54: 10 ft (250 cm), 5 connectors (22 ga.) 4 drains, shielded, provided with spade lugs.

**Interconnect Cable (J-Box to instrument):** Specify length, 5 conductors (22 ga.), 4 drains, shielded.

**Weight/Shipping Weight:** 0.5 kg/ 0.9 kg (1 lb/2 lb)

[1]Tefzel and Viton are registered trademarks of E.I. du Pont de Nemours and Co.

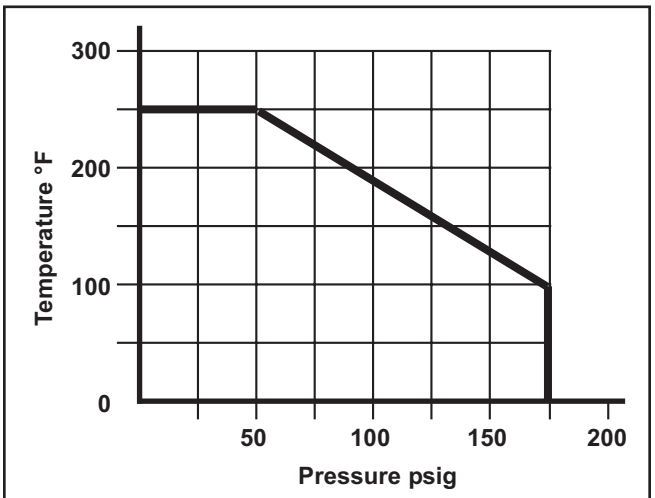


**FIGURE 1. Pressure/Temperature Rating**

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## ORDERING INFORMATION

**Model 150 Insertion/Submersion Conductivity Sensor** is available in sensor constants of 0.1, 0.5 or 1.0, covering conductivity ranges from 0-10 to 0-10,000 µS with selected instruments. The Tefzel housing is supplied with both rear facing and forward facing 1 in. MNPT's. The sensor can be threaded into a process line or the side of a tank or attached to a length of pipe for submersion installations. An integral 10 ft cable is supplied for connection to the analyzer/transmitter or junction box. Interconnect cable between J-Box and analyzer/instrument must be ordered separately (specify length). The Model 150 may be optionally supplied in a 1-1/2 in. CPVC tee with 1 in. process connections for flow-through installation (Code 16).

| MODEL 150 | INSERTION/SUBMERSION CONDUCTIVITY SENSOR |
|---|---|
| **CODE** | **PROBE CONSTANT (Must select one)** |
| 03 | 0.1 |
| 06 | 1.0 |
| 09 | 0.5 |

| CODE | OPTIONS |
|---|---|
| 16 | Supplied in a 1-1/2 inch CPVC tee with 1 inch FNPT process connections |
| 17 | Weatherproof junction box |
| 19 | Stainless steel tag (specify marking) |
| 54 | Pt 100, for use with Models 54eC, 81C, 1054BC, 2081C, & 3081C |

| 150 | 06 | 19 | EXAMPLE |
|---|---|---|---|

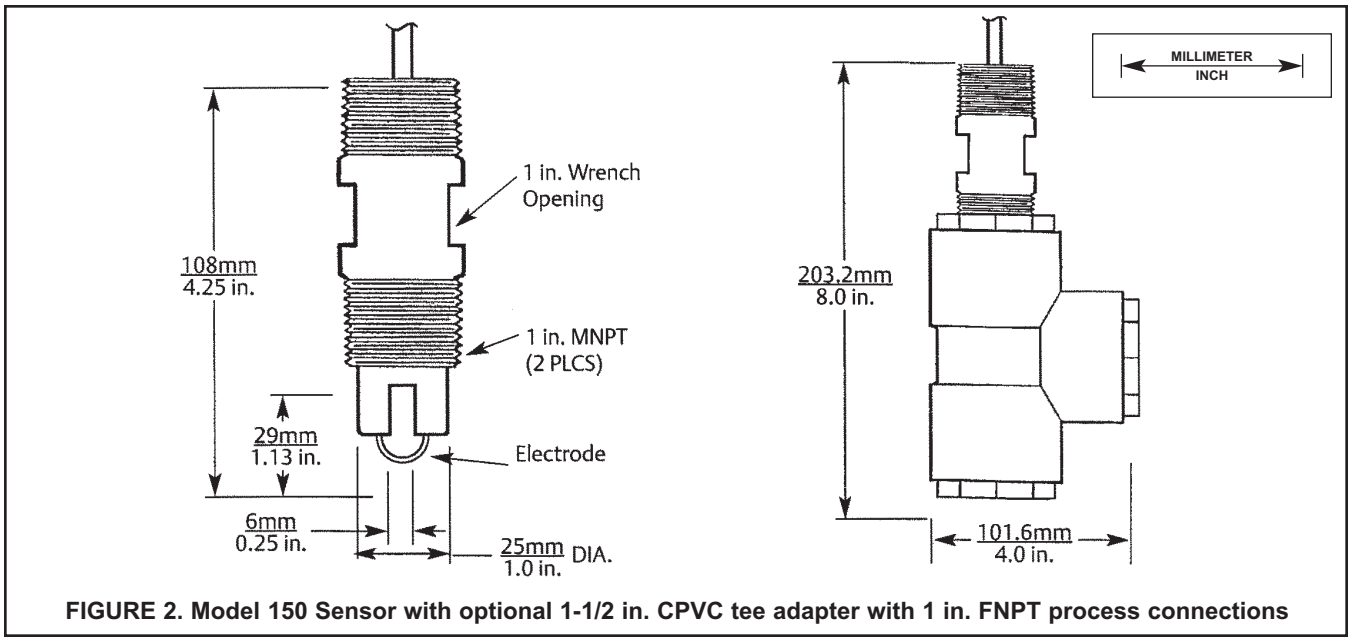


**FIGURE 2. Model 150 Sensor with optional 1-1/2 in. CPVC tee adapter with 1 in. FNPT process connections**

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