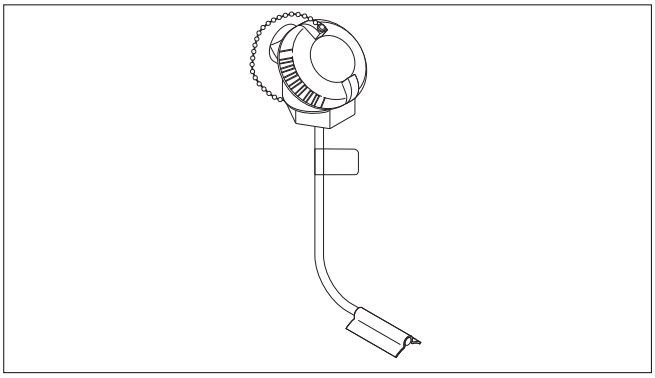
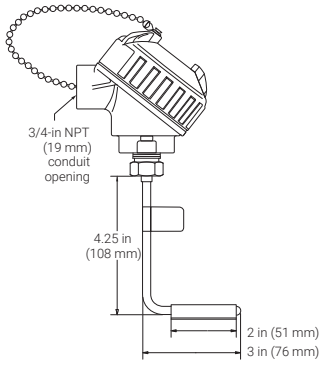
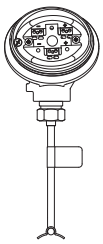
RTD4AL

RTD Temperature Sensor for Temperature Measurement up to 900°F (482°C) Installation Instructions







DESCRIPTION

The nVent RAYCHEM RTD4AL is a three-wire platinum RTD (resistance temperature detector) typically used with monitoring and control systems that require accurate temperature control. The RTD4AL kit can be used with a wide variety of nVent RAYCHEM monitoring and control systems.

These instructions detail the installation of the RTD4AL kits in conjunction with existing nVent RAYCHEM component kits.

TOOLS REQUIRED

- 3.5 mm flat-blade screwdriver

ADDITIONAL MATERIALS REQUIRED

- Pipe straps
- Conduit with 16–22 AWG shielded instrument cable or equivalent armored cable

APPROVALS

The RTD4AL, RTD4AL-SS, and RTD4AL-EP are CSA Certified for use in North America by the manufacturer for use in Division 2 hazardous locations as follows:

C SP US — Class I, Division 2, Groups A, B, C, D
Class II, Division 2, Groups F, G

KIT CONTENTS

Qty	Description
1	RTD Temperature Sensor

SPECIFICATIONS

RTD4AL Sensor housing	Aluminum; Type 4X
RTD4AL-EP Sensor housing	Epoxy Coated Aluminum; Type 4X
RTD4AL-SS Sensor housing	316 Stainless Steel
Sensor sheath	316 Stainless Steel
Range	–100°F to 900°F (–73°C to 482°C) max
Accuracy	±1°F (0.5°C) at 32°F (0°C)
Resistance	100 ohms at 0°C α =0.00385 ohms/ohm/°C
Connection	3/4 in. NPT conduit hub

⚠ WARNING:

This component is an electrical device. It must be installed correctly to ensure proper operation and to prevent shock or fire. Read these important warnings and carefully follow all the installation instructions. Component approvals and performance are based on the use of specified parts only. Do not use substitute parts or vinyl electrical tape to make connections.

WIRING INFORMATION

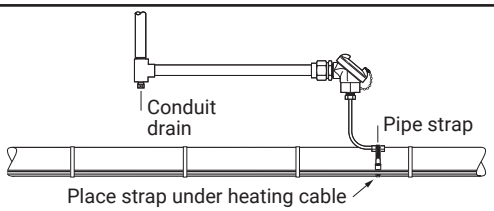
The length of RTD extension wires is determined by the wire gauge used.

To reduce the likelihood that electrical noise will affect temperature measurement, keep RTD extension wires as short as possible.

Use shielded instrument cable such as nVent RAYCHEM MONI-RTD-WIRE (22AWG, PVC insulation, –30°F to 140°F, –20°C to 60°C) or Belden 83553 (22 AWG, FEP insulation, –95°F to 395°F, –70°C to 200°C).

	Maximum RTD extension wire length	
AWG	**Feet**	**(meters)**
16	4500	(1400)
18	2800	(880)
20	1800	(550)
22	1100	(340)

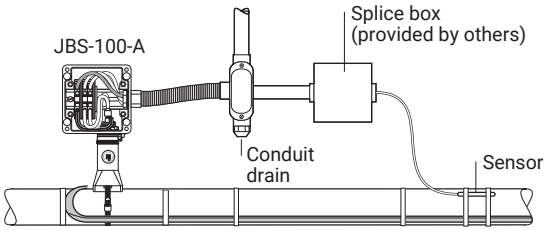
RTD DIRECT CONNECTION



INSTALLATION WITH HEATING CABLE ELECTRICAL WIRING GUIDELINES:

Electrical Wiring Notes:
Most electrical codes (such as NEC Article 725) permit Class 1 circuits to occupy the same cable, enclosure, or raceway without regard to whether the individual circuits are alternating current or direct current, providing all conductors are insulated for the maximum voltage of any conductors in the cable, enclosure or raceway.

Additional Materials Required
- JBS-100-A or other power connection kit
- Pipe straps



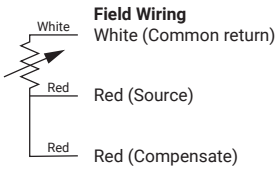
RTD4AL WIRING

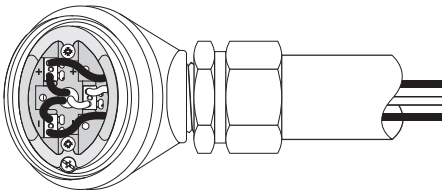
Connect the wires as shown.

1 **Note:** Ground RTD extension wire shield at one end only, preferably at nVent RAYCHEM electronics end.

2 **Note:** RTD housing must be properly grounded using the screw provided.

Electrical schematic of RTD





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