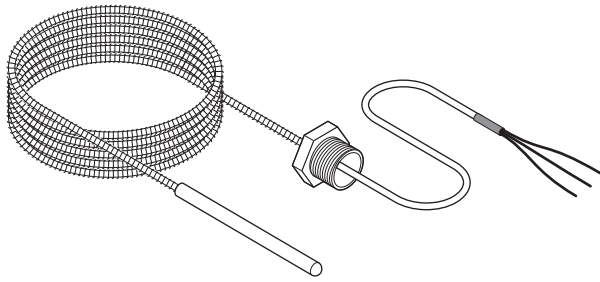




**RAYCHEM**

## RTD50CS

### RTD Temperature Sensor for Temperature Measurement to 400°F (204°C) Installation Instructions



#### APPROVALS

Approvals associated with the control device.

#### SPECIFICATIONS

##### Sensor

Housing	316 stainless steel
Dimensions	3 in (76 mm) length 3/16 in (8 mm) diameter
Sensing area	1 1/2 in (38 mm)
Accuracy	±1°F (0.5°C) at 32°F (0°C)
Range	-76°F to 400°F (-60°C to 204°C)
Resistance	100 ohms at 0°C $\alpha = 0.00385$ ohms/ohm/°C

#### DESCRIPTION

The nVent RAYCHEM RTD50CS is a 50-foot three-wire platinum RTD (resistance temperature detector) used with monitoring and control systems, such as our RAYCHEM C910 or ACCS-30 controllers.

The RTD50CS can be installed directly to the controller using the supplied 1/2-inch conduit fitting or to an RTD junction box where RTD extension wire is used.

#### TOOLS REQUIRED

- 3.5-mm flat-blade screwdriver

#### ADDITIONAL MATERIALS REQUIRED

- AT-180 aluminum tape

#### KIT CONTENTS

Qty	Description
1	RTD temperature sensor

##### Extension Wires

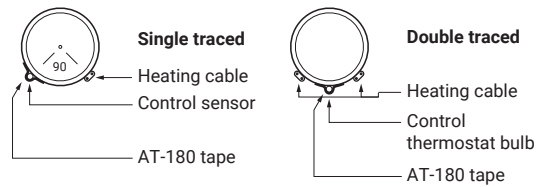
Wire size (each of 3)	20 AWG, stranded tinned copper
Wire insulation rating	300 volts
Length	50 feet (15.2 m) flexible armor, 18 in (457 mm) lead wire
Outer shield	Stainless steel flexible armor
Maximum exposure temperature	400°F (204°C)
Conduit bushing	1/2 in NPT

#### **⚠ 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.

## POSITIONING THE SENSOR



Position the RTD sensor in the lower quadrant of the pipe as shown in the diagram. **Place the RTD sensor at least 3 feet (1 m) from pipe supports, valves, or other heat sinks.** Tape the sensor firmly to the pipe with AT-180 aluminum tape, making sure there is no air space between the sensor and the pipe. **Do not use the same piece of AT-180 tape to overlap the RTD and heat-trace cable.**

## ROUTING THE RTD

### Electrical Wiring Guidelines:

Most electrical codes (such as NEC 725.15) 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.

### RTD Direct Connection to Controller

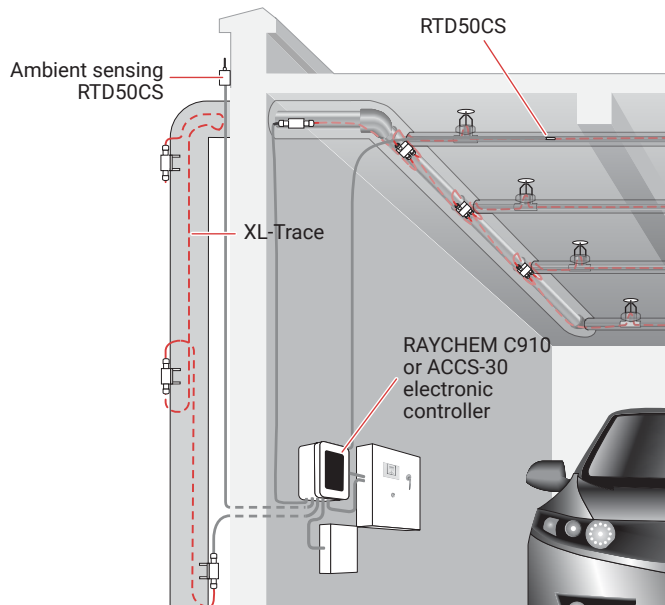
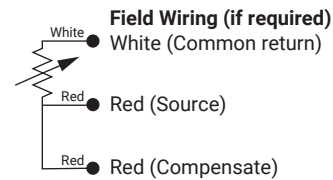
The RTD50CS can be terminated directly at the controller using the supplied 1/2-inch NPT fitting. In this configuration, no additional extension wire is required.

## RTD50CS WIRING

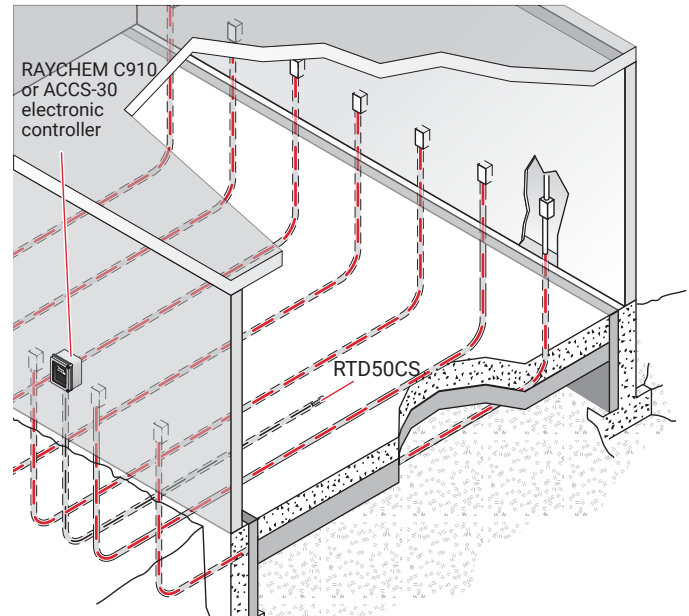
Connect the wires as shown.



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



Typical Fire Sprinkler Freeze Protection System



Typical Freezer Frost Heave Prevention System

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