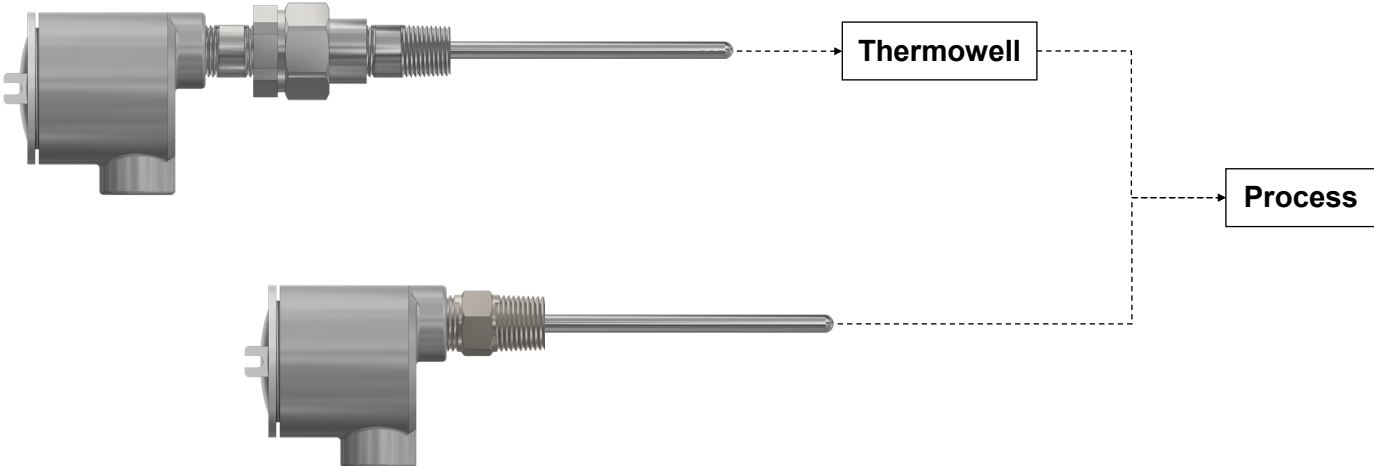


# RT9 RTD Assembly

**Class I, Division 1, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III; T6...T1**  
**Class I, Zone 1, Groups IIC, IIB plus hydrogen, IIB; Zone 20; T6...T1**



## Overview

**Description:**

The RT9 RTD assembly is a resistance temperature detector designed for use in hazardous locations. The RT9 is a customizable product that is model number configured and made to order.

The RT9 consists of a stainless steel RTD sensor, complete with a connection head (enclosure) that may be provided with a terminal block, DIN rail, wire splice connectors, or internal transmitter. Connection extension fittings will spring load the sensor into a thermowell or a fixed fitting can be used without a thermowell.

**Features:**

- Simple design that is used and accepted across multiple process industries.
- RT9 configuration options allow for many different arrangements to be configured for almost any temperature measurement application.

**Application:**

- Hazardous location temperature measurement
- Industrial temperature measurement
- Process control
- Outdoor / indoor use

## Specifications

Accuracy RTD	Tolerance per IEC 60751 (DIN EN 60751)
T-Code	T6...T1
Electrical rating	30 Vdc, 1.0 A max
Ambient temperature	-50°C to +50°C (-58°F to +122°F)
Process temperature	-50°C to +450°C (-58°F to +842°F)
CSA Certificate of Compliance	1526478

*Note: Specifications will depend on model code variants, and the values shown are the full rated model ranges.*



# RT9 RTD Assembly Model Code

RT9 - T1 - T2 - T3 - T4 - T5 - T6 - T7 - T8 - T9

## RT9 RTD assembly with connection head and connection extension fittings

T1	Connection Head	Color	Material	Conduit Connection	Terminal Block	Type Rating
1AAL	Traditional enclosure	Grey	Cast aluminum	1x 1/2" NPT	Bakelite	Type 4
2AAL	Traditional enclosure	Grey	Cast aluminum	1x 3/4" NPT	Bakelite	Type 4
3AAL	Traditional enclosure	Grey	Cast aluminum	2x 3/4" NPT	Bakelite	Type 4
4AAL	Traditional enclosure	Grey	Cast aluminum	2x 1/2" NPT	Bakelite	Type 4
1CCI	Traditional enclosure	Grey	Cast iron	1x 1/2" NPT	Bakelite	Type 4
2CCI	Traditional enclosure	Grey	Cast iron	1x 3/4" NPT	Bakelite	Type 4
3CCI	Traditional enclosure	Grey	Cast iron	2x 3/4" NPT	Bakelite	Type 4
Note	Refer to page 6 for additional options, details and other styles					

T2	Connection Extension	Material	CSA Note
TX	Spring loaded fitting 1/2"x1/2" NPT	Stainless Steel	Thermowell required <sup>2</sup> for hazardous rating
TXUN	Spring loaded fitting-union-nipple	Galvanized	
STXUN	Spring loaded fitting-union-nipple	Stainless Steel	Canada only, Thermowell required <sup>2</sup> for hazardous rating
FS	Fixed bushing 1/2"x1/2" NPT	Stainless Steel	CSA process pressure rating ≤ 34.4 MPa @ +20°C (5000 psi @ +68°F)
FX	Fixed hex instrument fitting 1/2" NPT	Stainless Steel	CRN process pressure rating ≤ 25.5 MPa @ +20°C (3700 psi @ +68°F)

T3	Connection Extension "A" length (inches)	Connection Extension (T2) Options	CSA Rating
X	Fixed length for T2 options FS, FX, TX	FS, FX, TX	-50°C to +50°C (-50°F to +122°F), T6
3.5	3" installed length	TXUN, STXUN	-50°C to +230°C (-58°F to +446°F), T3C
4.5	4" installed length	TXUN, STXUN	-50°C to +230°C (-58°F to +446°F), T3C
8.5	8" installed length	TXUN, STXUN	-50°C to +450°C (-58°F to +842°F), T2
"inches"	Installed length is the fitting length minus approximately 1/2 inch for thread engagement.		

T4	Element Type
A	100Ω Pt. 385 Class A (Class A tolerance ≤ +300°C (+572°F), Class B tolerance typically applies >+300°C (+572°F))
B	100Ω Pt. 385 1/10 Class B (1/10 DIN; tolerance typically applies ≤ +300°C (+572°F))
C	100Ω Platinum 392
D	120Ω Nickel 627 0.806Ω/°C
E	10Ω Copper 427 0.039Ω/°C
F	1000Ω Pt. 385 Class A

T5	Number of Elements
S	Single element
D	Dual element

Continued on page 3

# RT9 RTD Assembly Model Code

RT9 - T1 - T2 - T3 - T4 - T5 - T6 - T7 - T8 - T9

Continued from page 2

T6	Lead Wire Configuration
2	2 Wire
<b>3</b>	<b>3 Wire</b>
<b>4</b>	<b>4 Wire</b>

T7	Sensor Probe Construction	
LT	Low temperature (-50 to 260°C) (-58°F to +500°F)	Temperature values are for the RTD temperature sensor probe construction only. The CSA process and ambient temperature assembly ratings are dependant on connection head (T1) and connection extension length (T3).
HT	High temperature (-50 to 482°C) (-58°F to +899°F)	
ET	Extreme temperature (-50 to 850°C) (-58°F to +1562°F)	
VT	Vibration construction (-50 to 482°C) (-58°F to +899°F)	
CT	Cryogenic temperature (-200 to 260°C) (-328°F to +500°F)	

T8	Sensor "L" Length (inches)
"inches"	Specify length in inches

T9	Sensor Sheath Diameter
18	1/8" (0.125")
36	3/16" (0.188")
<b>14</b>	<b>1/4" (0.250")</b>
38	3/8" (0.375")

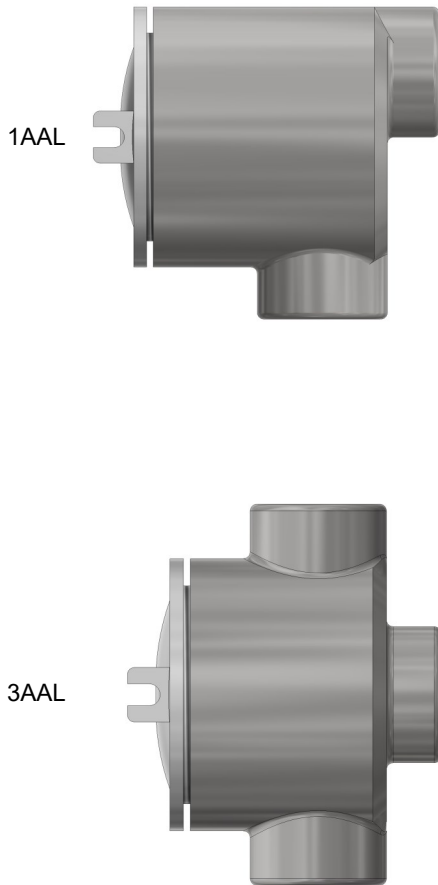
**NOTES:**

1. Part number example: RT9-1AAL-TXUN-3.5-A-S-3-LT-12-14
2. Must be installed into certified thermowell at Aircom or in the field
3. Reference page 4 for outline and page 5 for dimensions
4. Bold text indicates most common part selections



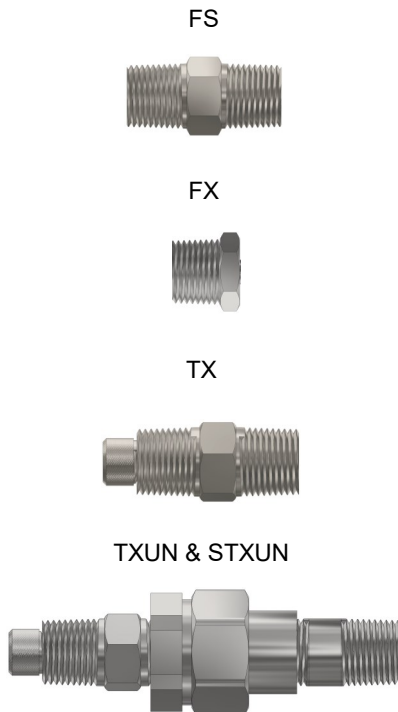
# RT9 RTD Assembly Outline

## Connection Head

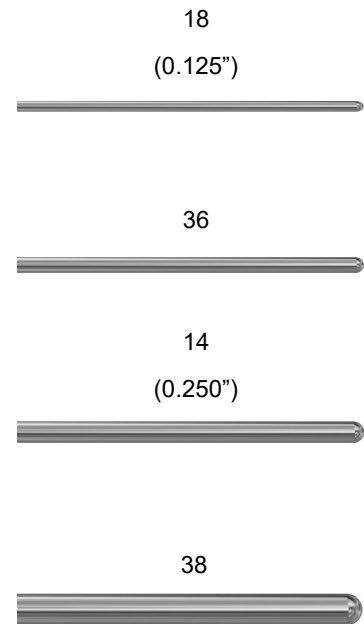


Refer to page 6 for further connection head styles, options, and details

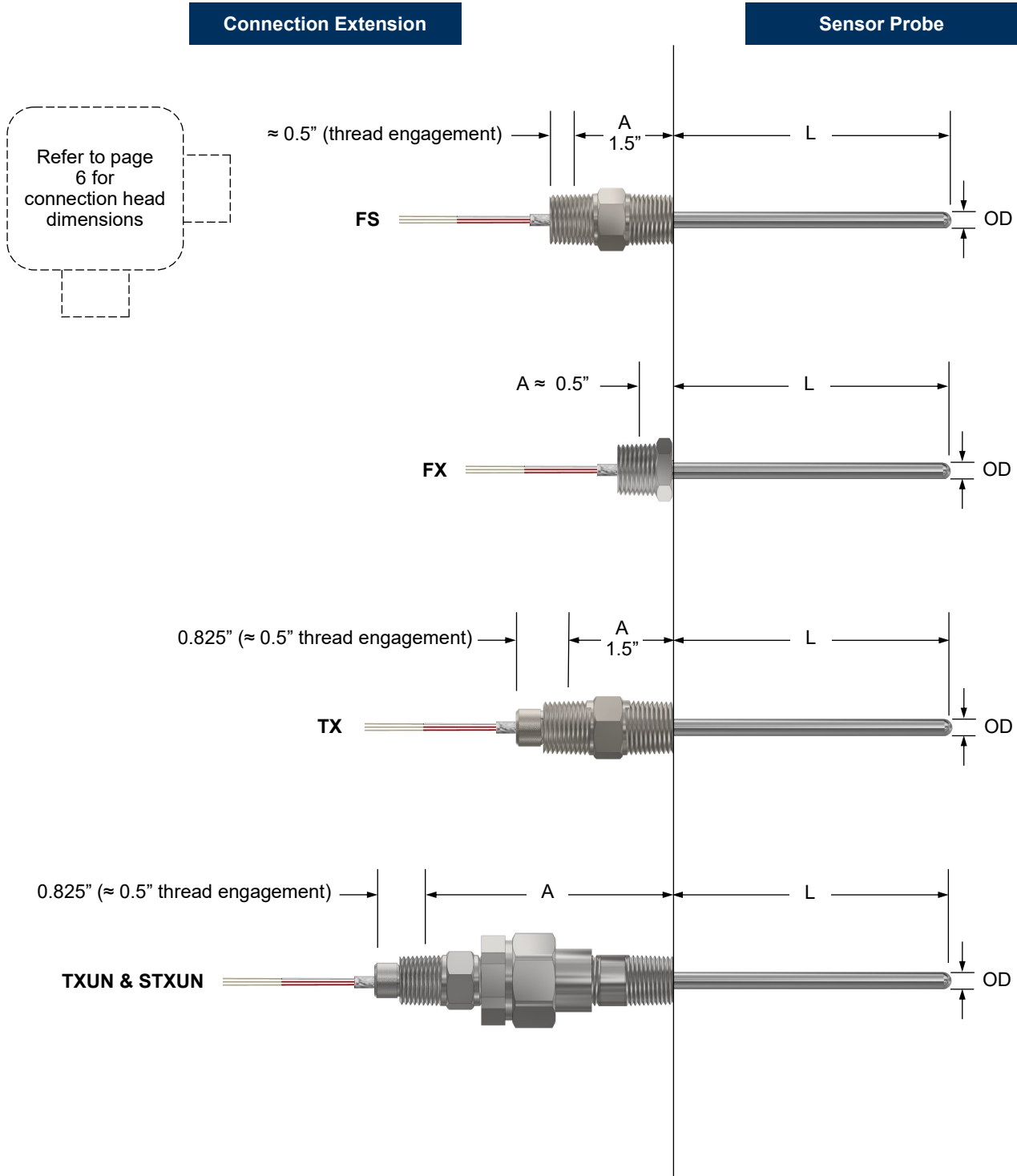
## Connection Extension



## Sensor Probe (OD)



# RT9 RTD Assembly Dimensions



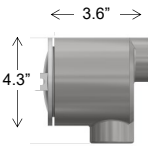
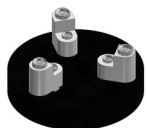

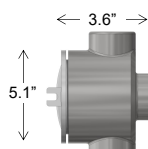
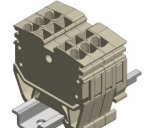

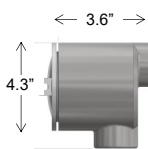
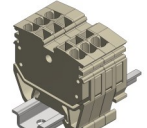

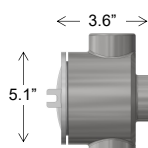
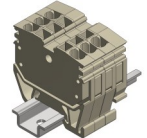
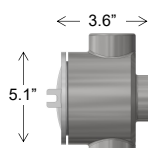
**NOTE:**

1. Assemblies are supplied with 6" to 8" of lead wire



# RT9 RTD Assembly Connection Heads

## Model, Outline, and Dimensions

Outline & Dimensions	Model	Connection (NPT)		Material & Type	Ambient Temperature	Terminal Block Options				
		Instrument	Conduit							
	1AAL	1/2"	1x 1/2"	Cast aluminum Buna O-ring Type 4	-20°C to +120°C	 Bakelite - <u>standard</u> Screw terminals to suit sensor configuration				
	2AAL	3/4"	1x 3/4"			 Ceramic - optional Screw terminals to suit sensor configuration Add suffix "C" to connection head model number.				
	4AAL	1/2"	2x 1/2"			Cast iron Buna O-ring Type 4	-25°C to +40°C	 Clamp technology - optional DIN mounted clamp technology terminals to suit sensor configuration Add suffix "D" to connection head model number.		
	3AAL	3/4"	2x 3/4"					 Splice technology - optional Wire splicing connectors contained loosely within connection head. Add suffix "S" to connection head model number.		
	1CCI	1/2"	1x 1/2"					Cast iron Buna O-ring Type 4	-25°C to +40°C	 Clamp technology - optional DIN mounted clamp technology terminals to suit sensor configuration Add suffix "D" to connection head model number.
	2CCI	3/4"	1x 3/4"							 Splice technology - optional Wire splicing connectors contained loosely within connection head. Add suffix "S" to connection head model number.
	4CCI	1/2"	2x 1/2"	Cast iron Buna O-ring Type 4	-25°C to +40°C					 Clamp technology - optional DIN mounted clamp technology terminals to suit sensor configuration Add suffix "D" to connection head model number.
	3CCI	3/4"	2x 3/4"							 Splice technology - optional Wire splicing connectors contained loosely within connection head. Add suffix "S" to connection head model number.

### NOTES:

1. Ambient ratings are of the connection head only, temperature assembly ambient rating is typically -50°C to +50°C (-58°F to +122°F)
2. May be supplied with an approved 3/4" x 1/2" NPT reducer bushing
3. Type ratings are for enclosure component of assembly ONLY and not full assembly