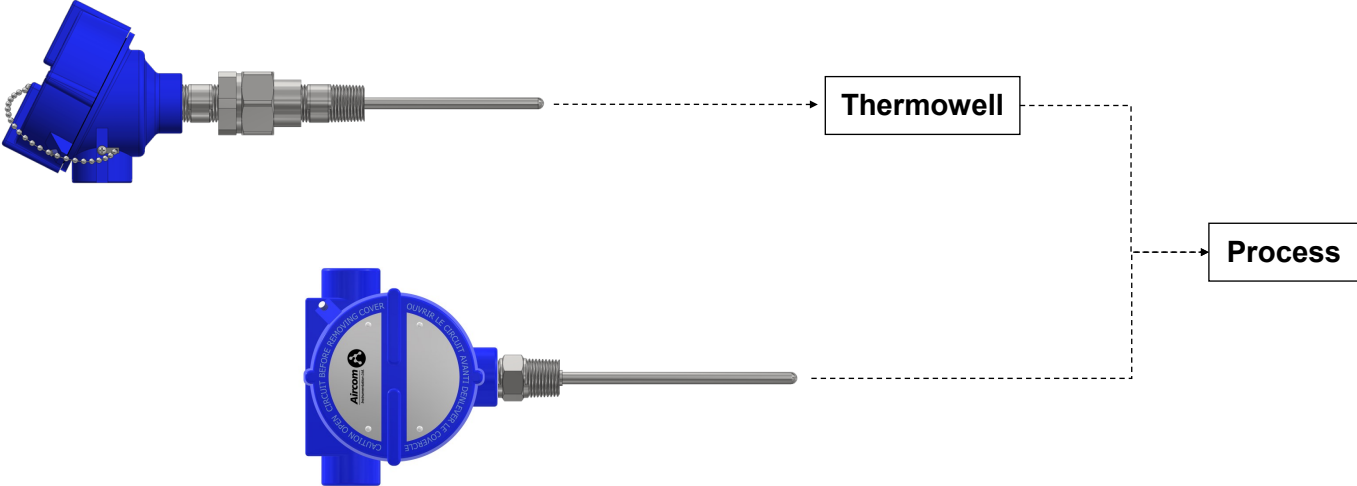


RT7 RTD Assembly

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



Overview

Description:

The RT7 RTD assembly is a resistance temperature detector designed for use in hazardous locations. The RT7 is a customizable product that is model number configured and made to order.

The RT7 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.
- RT7 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.



RT7 RTD Assembly Model Code

RT7 - T1 - T2 - T3 - T4 - T5 - T6 - T7 - T8 - T9

RT7 RTD assembly with connection head and connection extension fittings

T1	Connection Head	Color	Material	Conduit Connection	Terminal Block	Type Rating
2ALT	Standard style	Blue	Aluminum epoxy coated	1x 3/4" NPT	Bakelite	Type 4X
1ALT	Standard style	Blue	Aluminum epoxy coated	1x 1/2" NPT	Bakelite	Type 4X
2ALTC	Standard style	Blue	Aluminum epoxy coated	1x 3/4" NPT	Ceramic	Type 4X
2ALW	Mounting holes	Grey	Aluminum epoxy coated	1x 3/4" NPT	Bakelite	Type 4X
2ALM	Multi connection	Blue	Aluminum epoxy coated	2x 3/4" NPT	Bakelite	Type 4X
2AL	Standard style	Grey	Aluminum	1x 3/4" NPT	Bakelite	Type 4
2SS	Standard style	Steel	Stainless steel	1x 3/4" NPT	Bakelite	Type 4X
Note	Refer to page 6 for additional options, details and other styles					

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

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
0.5	Clearance fit	N, SN	-50°C to +50°C (-50°F to +122°F), T6
1.5	1" installed length	N, SN	-50°C to +200°C (-50°F to +392°F), T4A
3.5	3" installed length	N, NUN, TXUN, SN, SNUN, STXUN	-50°C to +230°C (-58°F to +446°F), T3C
4.5	4" installed length	N, NUN, TXUN, SN, SNUN, STXUN	-50°C to +230°C (-58°F to +446°F), T3C
8.5	8" installed length	SN, SNUN, 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

RT7 RTD Assembly Model Code

RT7 - T1 - T2 - T3 - T4 - T5 - T6 - T7 - T8 - T9

Continued from page 2

T6	Lead Wire Configuration
2	2 Wire
3	3 Wire
4	4 Wire

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), connection extension type and length (T2 & T3), as well as the thermowell or fixed fitting it is connected to.
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")
14	1/4" (0.250")
38	3/8" (0.375")

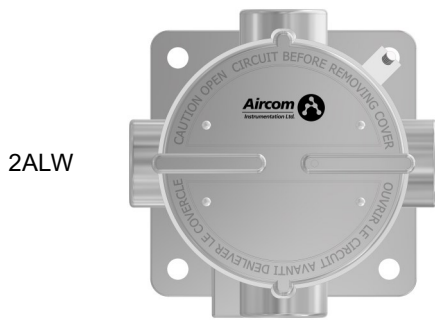
NOTES:

1. Part number example: RT7-2ALT-NUN-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 5-6 for dimensions
4. Bold text indicates most common part selections



RT7 RTD Assembly Outline

Connection Head



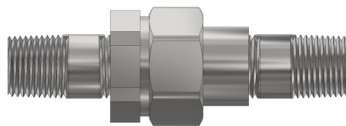
Refer to page 6 for further connection head styles, options, and details

Connection Extension

N & SN



NUN & SNUN



FS



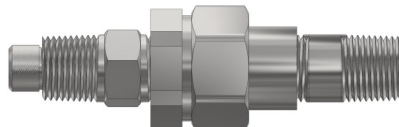
FX



TX



TXUN & STXUN



Sensor Probe (OD)

18
(0.125")



36
(0.188")



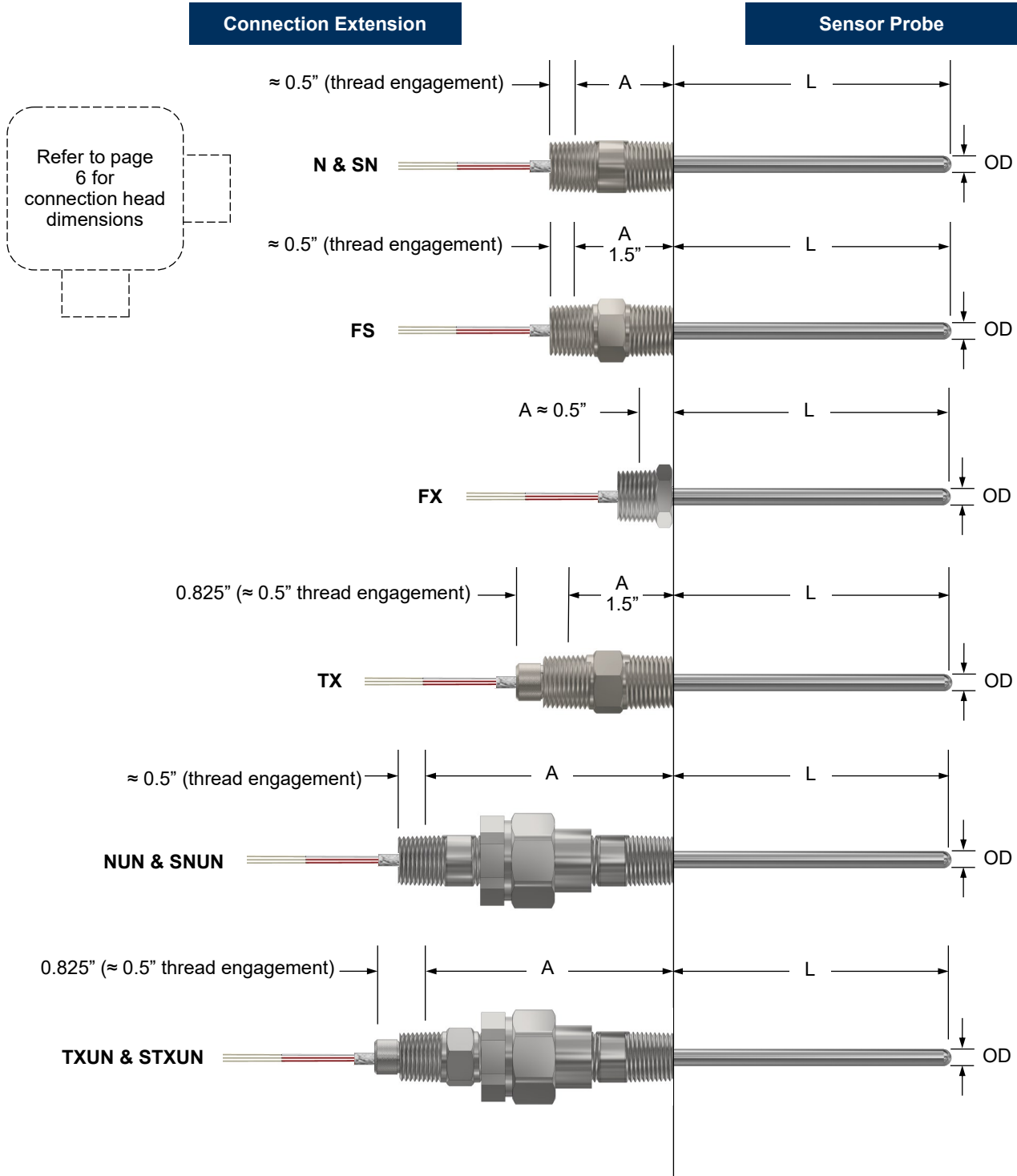
14
(0.250")



38
(0.375")



RT7 RTD Assembly Dimensions



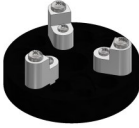
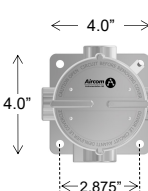
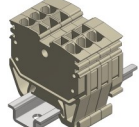
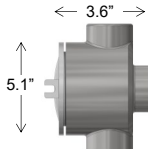
NOTE:

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



RT7 Connection Heads

Model, Outline, and Dimensions

Outline & Dimensions	Model	Connection (NPT)		Material & Type	Ambient Temperature	Terminal Block Options
		Instrument	Conduit			
	1ALT	1/2"	1x 1/2" ²	Cast aluminum epoxy coated Buna O-ring Type 4X	-50°C to +85°C (-58°F to +185°F) (+125°C (+257°F) Canada only)	 Bakelite - <u>standard</u> Screw terminals to suit sensor configuration
	2ALT	1/2"	1x 3/4"			
	3ALT	3/4"	1x 3/4"			
	1SS	1/2"	1x 1/2" ²	316 stainless steel Buna O-ring Type 4X		
	2SS	1/2"	1x 3/4"			
	3SS	3/4"	1x 3/4"			
	1AL	1/2"	1x 1/2" ²	Cast aluminum Buna O-ring Type 4	 Ceramic - optional Screw terminals to suit sensor configuration Add suffix "C" to connection head model number.	
	2AL	1/2"	1x 3/4"			
	3AL	3/4"	1x 3/4"			
	1ALW	1/2" ²	1x 1/2" ²	Cast aluminum epoxy coated Buna O-ring Type 4X	-40°C to +85°C (-40°F to +185°F)	 Clamp technology - optional DIN mounted clamp technology terminals to suit sensor configuration Add suffix "D" to connection head model number.
	2ALW	1/2" ²	1x 3/4"			
	3ALW	3/4"	1x 3/4"			
	4ALW	3/4"	2x 3/4"			
	1ALM	1/2"	2x 1/2"	Cast aluminum epoxy coated Buna O-ring Type 4X		
	2ALM	1/2"	2x 3/4"			
	3ALM	3/4"	2x 3/4"			
	1CAL ³	1/2" ²	1x 1/2" ²	Cast aluminum Buna O-ring Type 4	-20°C to +40°C (-4°F to +104°F)	 Splice technology - optional Wire splicing connectors contained loosely within connection head. Add suffix "S" to connection head model number.
	2CAL ³	3/4"	1x 3/4"			
	4CAL ³	1/2"	2x 1/2"			
	3CAL ³	3/4"	2x 3/4"			

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