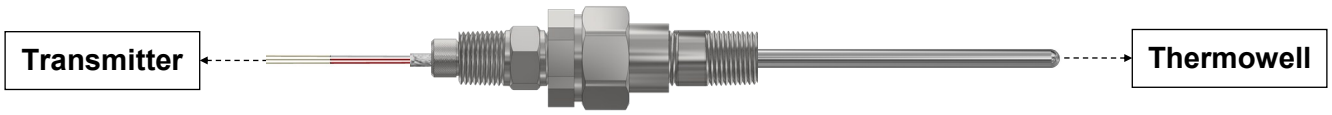
RT14 Direct Mount RTD Assembly

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 RT14 direct mount RTD assembly is a resistance temperature detector designed for use in hazardous locations. The RT14 is a customizable product that is model number configured and made to order.

The RT14 consists of a stainless steel RTD sensor, complete with connection extension fittings that will spring load the sensor into a thermowell or a fixed fitting can be used without a thermowell. The RT14 is designed to be direct mounted to a temperature transmitter.

Features:

- Simple design that is used and accepted across multiple process industries.
- RT14 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.*

C US

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RT14 RTD Assembly Model Code

RT14 - T1 - T2 - T3 - T4 - T5 - T6 - T7 - T8 - T9

RT14	Direct mount RTD assembly with connection extension fittings

T1	Direct Mount Transmitter
X	**Without termination (standard 8" flying leads (W))**
"inches"	Without termination - Specify flying leads length (W) in inches
75G	**Head transmitter with display (PR 7501A3A2A12GY)**
CST	Customer supplied transmitter (Check with Aircom)
Other	Consult Factory

T2	Connection Extension	Material	CSA Note
TX	Spring loaded fitting 1/2"x1/2" NPT	Stainless Steel	Thermowell required[1] for hazardous rating
TXUN	**Spring loaded fitting-union-nipple**	Galvanized	
STXUN	Spring loaded fitting-union-nipple	Stainless Steel	Thermowell required[1] 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 Length (CEL)	Connection Extension CSA Rating
X	**Fixed** extension. FS/TX:1" installed length (A); FX: 0.5" installed length (A)	-50°C to +50°C (-50°F to +122°F), T6
3.5	**3.5" Connection Extension Length (CEL), 3" Installed Length (A)**	-50°C to +230°C (-58°F to +446°F), T3C
4.5	4.5" Connection Extension Length (CEL), 4" Installed length (A)	-50°C to +230°C (-58°F to +446°F), T3C
8.5	8.5" Connection Extension Length (CEL), 8" Installed length (A)	-50°C to +450°C (-58°F to +842°F), T2
"inches"	Specify other Connection Extension Length (CEL). Note[2]: CEL = A + t_p; A = CEL - t_p	Reference above

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 ≤ +150°C (+302°F))
C	100Ω Platinum 392
D	120Ω Nickel 627 0.806Ω/ºC
E	10Ω Copper 427 0.039Ω/ ºC
F	1000Ω Pt. 385 Class A

T5	Number of Elements
S	**Single element**
D	Dual element

Continued on page 3

NOTES:
1. Must be installed into certified thermowell at Aircom or in the field
2. CEL=Connection Extension Length, A=Installed Length, OAL=Fitting Overall Length, t_h=Head thread, t_p=Process thread
3. Bold text indicates most common part selections

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RT14 RTD Assembly Model Code

RT14	-	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 +260ºC) (-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 +482ºC) (-58°F to +899°F)	
ET	Extreme temperature (-50 to +850°C) (-58°F to +1562°F)	
VL	Vibration construction low temp (-50 to +260ºC) (-58°F to +500°F)	
VH	Vibration construction high temp (-50 to +482ºC) (-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: RT14-X-TXUN-3.5-K-14-U-S-316-12.
2. Reference page 4-5 for outline and dimensions.
3. Standard sheath material supply is 316/316L stainless steel.

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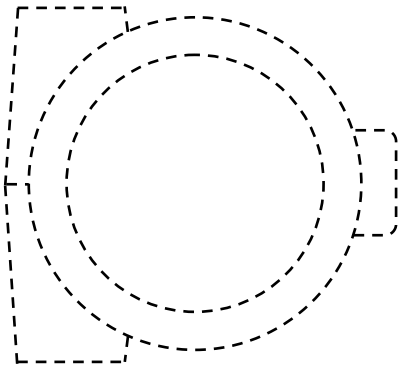
RT14 RTD Assembly Outline

Direct Mount Transmitter

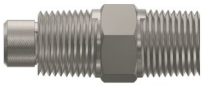


Connection Extension

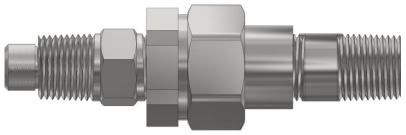
FS

FX

TX



TXUN & STXUN



Sensor Probe (OD)

18
(0.125”)

36
(0.188”)

14
(0.250”)

38
(0.375”)

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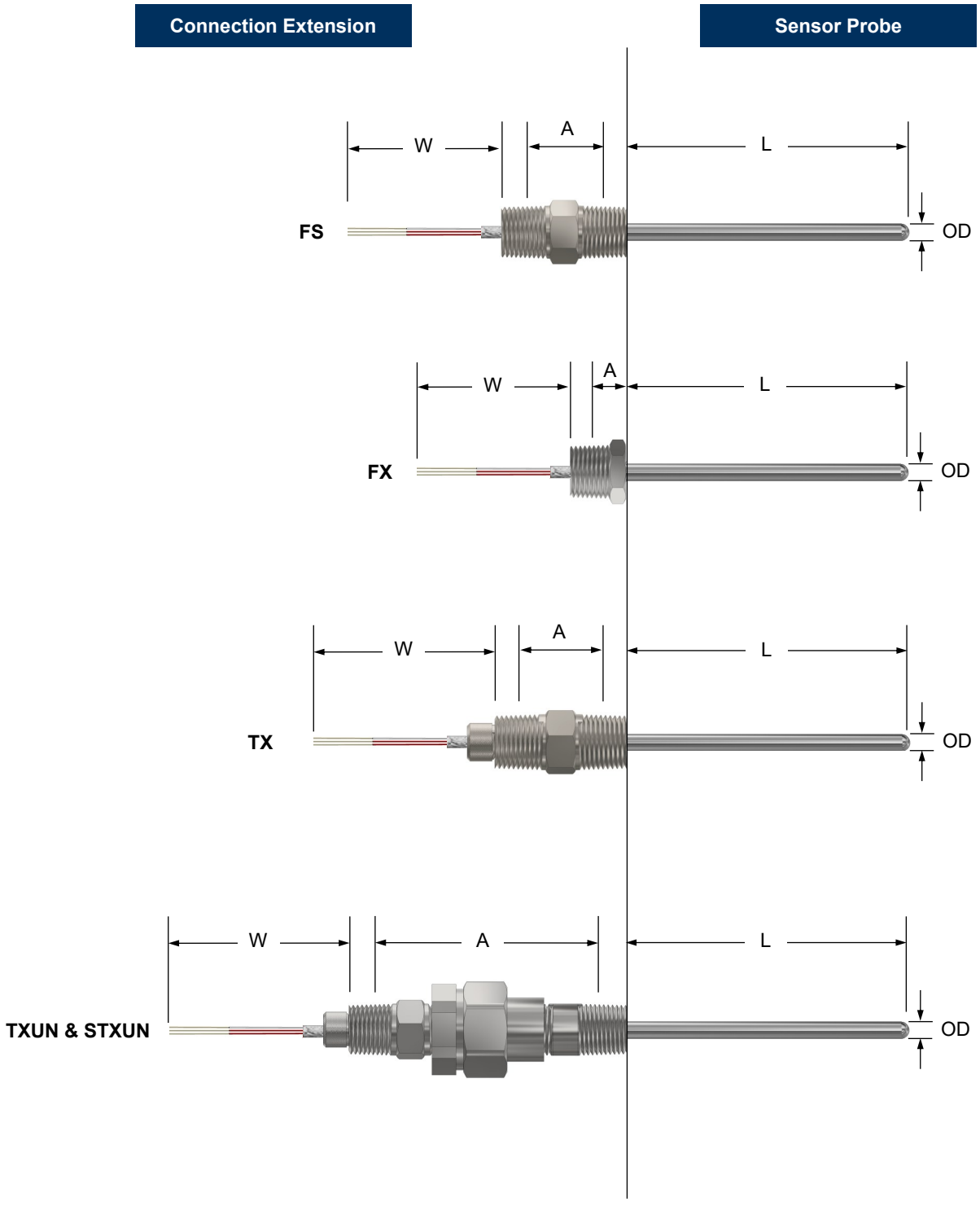
RT14 RTD Assembly Dimensions



NOTES:

1. Assemblies are supplied with a standard 6” to 8” of flying leads (W).
2. Thread engagements are approximately 0.5”.

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RT14 Direct Mount Transmitter Options

Transmitter Options for T1

Image	Code	Model	Specifications
	75G	7501A3A2A12GY PR Order PN RTD, TC, Ohm, and bipolar mV input and analog output High definition local operator interface (LOI) 3 optical buttons Selectable red or white backlight Ex d explosion proof / flame proof HART 7 functionality with HART 5 compatibility	Operating Temperature: -40°C to +85°C (with silicone O-ring) Storage Temperature: -40°C to +85°C Protection Degree: IP54 / IP66 / IP68 / Type 4X Dimensions: Ø 110 mm Dimensions (HxWxD): 109.3 x 145 x 126 mm Weight: 1.3 kg Display Resolution: 96 x 64 pixels Backlight: Selectable ON/OFF, Color: White or Red Supply Voltage: 10 (12 with backlight)…30 VDC (Ex ia) / 10…35 VDC (Other) Isolation Voltage: 1.5 kVAC (test) / 50 VAC (working) Accuracy: Better than 0.05% of selected range Response Time (Programmable): 1…60 s Long-Term Stability: ±0.1% of span per year Programming: HART Approvals: ATEX, IECEx, FM, CSA, INMETRO, SIL Refer to PR Electronics for full details
Image Not Applicable	Other	Consult Aircom for other available options	

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