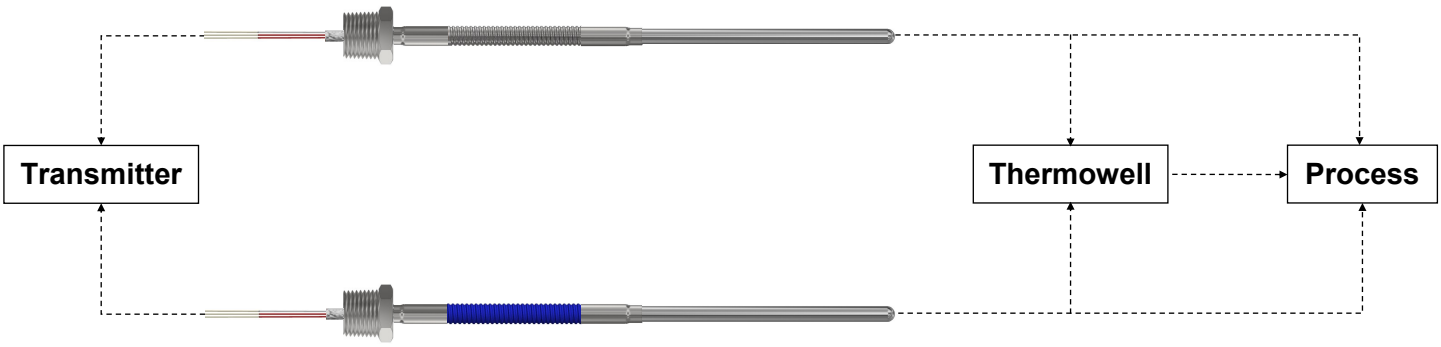
RT15 Direct Mount RTD Assembly

Class I, Division 2, Groups A, B, C, D; Class I, Zone 2, Group IIC (Note 2); T6…T1



Overview

Description:

The RT15 direct mount RTD assembly is an RTD sensor designed for use in hazardous locations. The RT15 is a customizable product that is model number configured and made to order.

The RT15 consists of an RTD sensor probe, complete with a flexible armor that connects to a 1/2” NPT fitting that can be connected to a direct mount temperature transmitter. Connection to a thermowell is optional for the RT15.

Features:

- Simple design that is used and accepted across multiple process industries.
- RT15 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 or indoor use (as per connection head & thermowell ratings)

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:

1. Specifications will depend on model code variants, and the values shown are the full rated model ranges.
2. Class I, Zone 2, Group IIC is US only.

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RT15 RTD Assembly Model Code

RT15 - T1 - T2 - T3 - T4 - T5 - T6 - T7 - T8 - T9 - T10 - T11

RT15	Direct mount RTD assembly with flexible armor

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	Flex-Armor Extension	Lead Wire Ratings
AF	Flex armor over fiberglass lead wire	Fiberglass lead wire +485°C (+905°F)
AT	**Flex armor over Teflon lead wire**	**Teflon lead wire +260°C (+500°F)**
PT	Poly jacketed flex armor over Teflon lead wire	Teflon lead wire +260°C (+500°F) / Poly jacket +90°C (+194°F)
TT	Teflon jacketed flex armor over Teflon lead wire	Teflon lead wire & jacket +260°C (+500°F)

T3	Flex-Armor Extension "A" length (inches)	CSA Process Temperature Rating
"inches"	Specify length in inches	-50°C to +450°C (-58°F to +842°F), when "A" length is ≥ 8" length[3]

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

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

Continued on page 3

NOTES:
1. Bold text indicates most common part selections.
2. The sensor temperature rating is based on the length not directly in contact with the process at its maximum temperature.

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RT15 - T1 - T2 - T3 - T4 - T5 - T6 - T7 - T8 - T9 - T10 - T11

Continued from page 2

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 flex-armor 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**
"LA"N"LB"	Length(s) with bend; LA = above bend (leave blank for standard supply); N = 90° Bend; LB = below bend; *e.g. N12 or 4N8*

T9	Sensor Sheath Diameter
18	1/8" (0.125")[3]
36	3/16" (0.188")[3]
14	**1/4" (0.250")**
38	3/8" (0.375")

T10	Fitting Options[1]
X	**No fitting required**
CF	**Compression Fitting**
SL0	Spring loaded fitting (1/2" NPT Only)
Other	Consult factory

T11	Fitting Size
X	**No fitting required (size not applicable)**
18	1/8" NPT
14	1/4" NPT
12	**1/2" NPT**
34	3/4" NPT
Other	Consult factory

NOTES:
1. If fitting "T10" is selected, ensure the probe length (L) includes the fitting length (minimum 3").
2. Reference page 4-5 for part outline and dimensions.
3. OD Not available for element type E, dual elements, or HT, ET, VH construction.
4. Part number example: RT15-75G-AT-60-A-S-3-LT-N12-14-CF-12.
5. Standard sheath material supply is 316/316L stainless steel.

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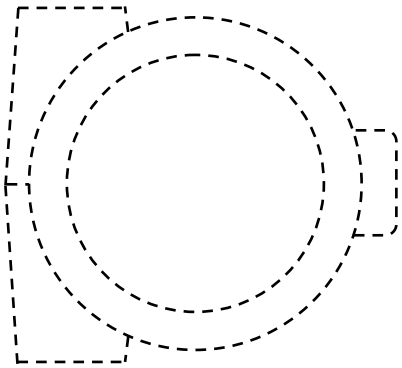
RT15 RTD Assembly Outline

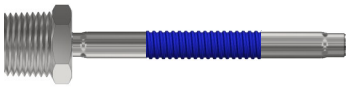
Direct Mount Transmitter



Flex-Armor Extension

AF - AT - TT

PT



Sensor Probe (OD)

18
(0.125”)

36
(0.188”)

14
(0.250”)

38
(0.375”)

C US

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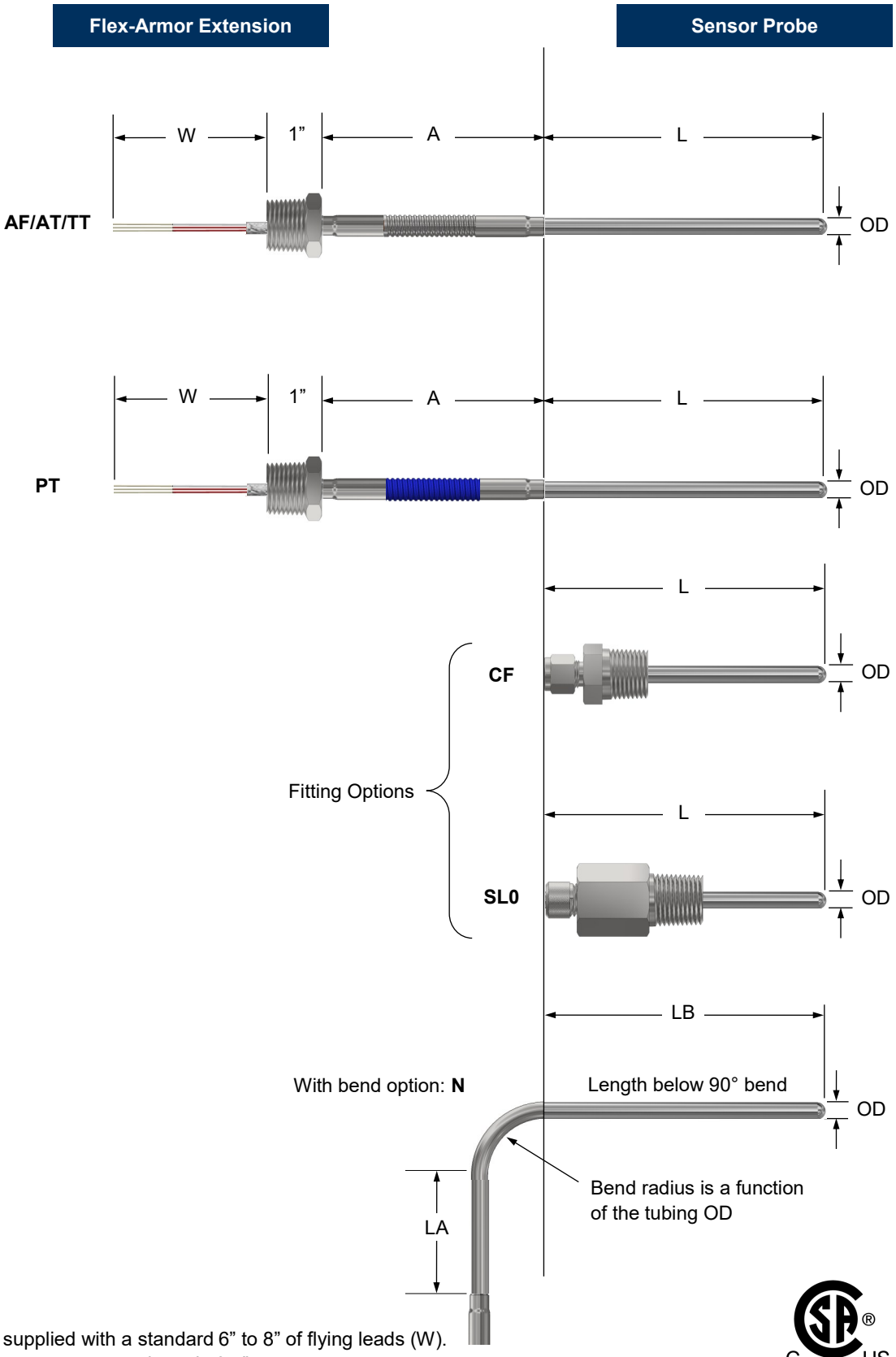
RT15 RTD Assembly Dimensions



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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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 NA	Other	Consult Aircom for other available options	

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