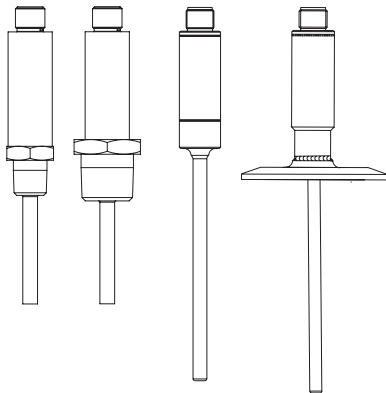


XTP/XTPS Series Temperature Transmitter Probes and RTD1/RTD1-S Series Temperature Sensors Installation Instructions



(XTPS/RTD1-S)

XTP and XTPS Series ProSense Temperature Transmitter Probes

Part Number	Measuring Range*	Process Connection	Length	Output		
XTP-160-N40140F	-40 to 140°F (-40 to 60°C)	None, use compression fitting	160mm	4-20mA		
XTP-260-N40140F			260mm			
XTP-360-N40140F			360mm			
XTP25N-030-N40140F		1/4" male NPT	30mm			
XTP25N-050-N40140F			50mm			
XTP25N-100-N40140F			100mm			
XTP25N-150-N40140F			150mm			
XTP50N-030-N40140F		1/2" male NPT	30mm			
XTP50N-050-N40140F			50mm			
XTP50N-100-N40140F			100mm			
XTP50N-150-N40140F			150mm			
XTP-160-0300F		0 to 300°F (-17.8 to 148.9°C)	None, use compression fitting		160mm	4-20mA
XTP-260-0300F					260mm	
XTP-360-0300F					360mm	
XTP25N-030-0300F			1/4" male NPT		30mm	
XTP25N-050-0300F	50mm					
XTP25N-100-0300F	100mm					
XTP25N-150-0300F	150mm					
XTP50N-030-0300F	1/2" male NPT		30mm			
XTP50N-050-0300F			50mm			
XTP50N-100-0300F			100mm			
XTP50N-150-0300F			150mm			
XTP-160-0100C	0 to 100°C (32 to 212°F)		None, use compression fitting	160mm	4-20mA	
XTP-260-0100C				260mm		
XTP-360-0100C				360mm		
XTP25N-030-0100C			1/4" male NPT	30mm		
XTP25N-050-0100C		50mm				
XTP25N-100-0100C		100mm				
XTP25N-150-0100C		150mm				
XTP50N-030-0100C		1/2" male NPT	30mm			
XTP50N-050-0100C			50mm			
XTP50N-100-0100C			100mm			
XTP50N-150-0100C			150mm			
XTPS15-030-0300F		0 to 300°F (-17.8 to 148.9°C)	1.5" Sanitary Tri-Clamp (3-A)	30mm		4-20mA
XTPS15-050-0300F				50mm		
XTPS15-100-0300F				100mm		
XTPS15-150-0300F				150mm		

RTD1 and RTD1-S Series ProSense Temperature Sensor Probes

Part Number	Measuring Range	Process Connection	Length	Output
RTD1-25N-030-H	-58 to 302 °F (-50 to 150 °C)	1/4" male NPT	30mm	RTD Pt100 Class A 3-wire
RTD1-25N-050-H			50mm	
RTD1-25N-100-H			100mm	
RTD1-25N-150-H			150mm	
RTD1-50N-030-H		1/2" male NPT	30mm	
RTD1-50N-050-H			50mm	
RTD1-50N-100-H			100mm	
RTD1-50N-150-H			150mm	
RTD1-S15-030-H		1.5" Sanitary Tri-Clamp (3-A)	30mm	
RTD1-S15-050-H			50mm	
RTD1-S15-100-H			100mm	
RTD1-S15-150-H			150mm	

Temperature limits

Max. Ambient Temperature	Max. Process Temperature
Up to 77°F (25°C)	302°F (150°C)
Up to 104°F (40°C)	275°F (135°C)
Up to 140°F (60°C)	248°F (120°C)
Up to 185°F (85°C)	212°F (100°C)

Process pressure limits

With or without NPT process connection

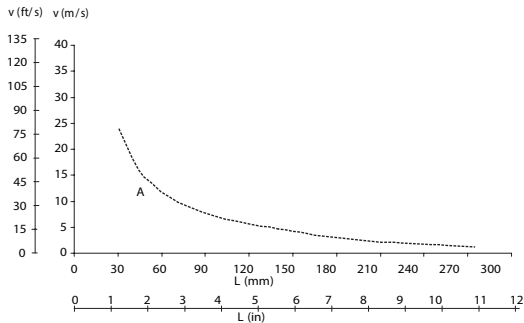
- 1450 psig (100bar) maximum

Note: Working pressure when using compression fitting should not exceed the fittings rated pressure.

With Sanitary Tri-clamp process connection

- 232 psig (16bar) maximum

Maximum flow velocity based on insertion length



L Insertion length, during flow
 v Flow velocity
 A Medium water at $T = 50\text{ }^{\circ}\text{C}$ (122 °F)

Installation

1 Safety Instructions

1.1 Designated use

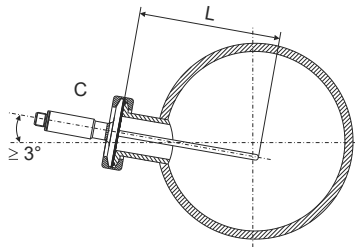
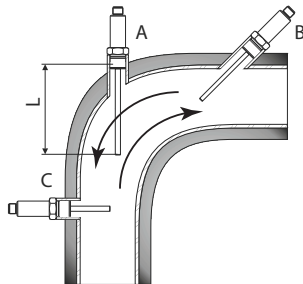
- The device is a compact temperature transmitter probe for the acquisition and conversion of temperature input signals for industrial temperature measurement.

1.2 Installation, commissioning, operation

- The device must only be installed, connected and commissioned by qualified and authorized staff (e.g. electrical technicians) strictly adhering to the instructions contained in this manual, the applicable norms, legal regulations and certificates (depending on the application).
- These authorized staff members must have read and understood this manual and follow the instructions it contains.
- Damaged devices must not be put into operation and they must be labeled as defective.

1.3 Operational safety

- The device is safely built and tested according to state-of-the-art technology and has left the factory in perfect condition in regards to technical safety. The applicable regulations and European standards have been taken into account.
- Please observe the technical data on the nameplate!
- The device must only be powered by a power supply unit with a limited energy electric circuit in accordance with IEC 31010-1: "SELV or Class 2 circuit".
- Due to its design, the device is not repairable. When later disposing of the device, please observe local regulations.



Pipe installation

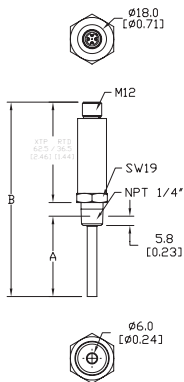
- A: On angle brackets
- B: In smaller pipes, inclined
- C: Perpendicular to the direction of flow (hygienic installation 3° minimum inclination required for inlet to self drain)
- L = Insertion Length

1. For NPT and compression fittings, seal the process connection with Teflon tape before you screw in the device.
2. Ensure that the hygienic process connection and any connection adapters can withstand the maximum process pressure.
3. Install the device before the process application is started.



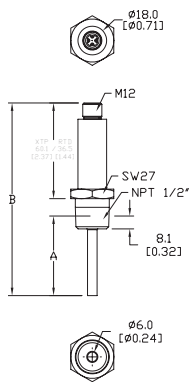
Minimum insertion length
 $L_{min} = 30\text{mm (1.18 in)}$

Dimensions mm [inches]

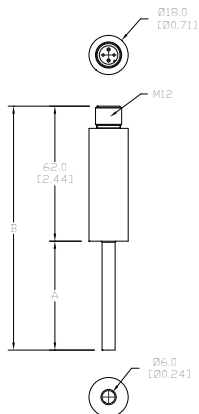


**XTP25/RTD1-25N Series
NPT Units**

Dimensions	
A	B
30mm [1.18 in]	101mm [3.98 in]
50mm [1.97 in]	121mm [4.76 in]
100mm [3.94 in]	171mm [6.73 in]
150mm [5.91 in]	221mm [8.70 in]

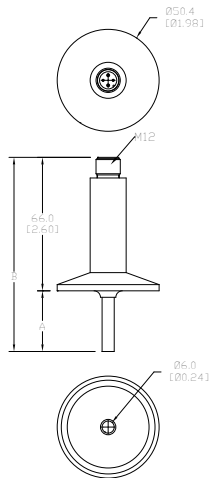


**XTP50/RTD1-50N Series
NPT Units**



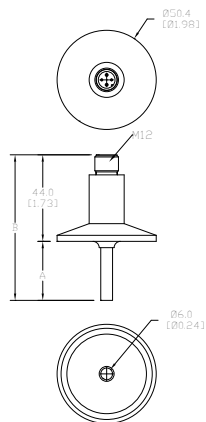
**XTP Series
Compression Units**

Dimensions	
A	B
160mm [6.30 in]	222mm [8.74 in]
260mm [10.24 in]	322mm [12.67 in]
360mm [14.17 in]	422mm [16.61 in]



**XTPS Series
3-A Sanitary Units**

Dimensions	
A	B
30mm [1.18 in]	96mm [3.78 in]
50mm [1.97 in]	116mm [4.57 in]
100mm [3.94 in]	166mm [6.54 in]
150mm [5.91 in]	216mm [8.50 in]



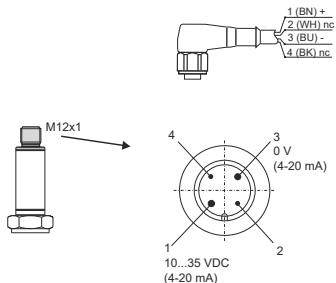
**RTD1-S15 Series
3-A Sanitary Units**

Dimensions	
A	B
30mm [1.18 in]	74mm [2.91 in]
50mm [1.97 in]	94mm [3.70 in]
100mm [3.94 in]	144mm [5.67 in]
150mm [5.91 in]	194mm [7.64 in]

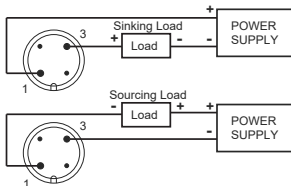
Wiring

Hygienic applications: Electrical connection cables must comply with 3-A sanitary standard, must be smooth, corrosion resistant and cleanable.

XTP and XTPS Wiring (4-20 mA)

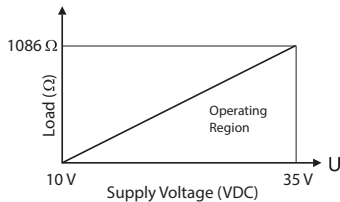


Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.



XTP product insert Rev. 2

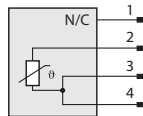
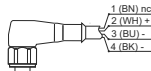
Load Impedance



$$RL_{max} = (V_{powersupply} - 10V) / 0.023 \text{ A (current output)}$$

$$\text{e.g. } (24V - 10V) / 0.023A = 608\Omega$$

RTD1 Wiring (3-wire Pt100 RTD)



To prevent damage to the device do not overtighten the M12 plug

Programming (XTP and XTPS units only)

Transmitter probes are factory configured and ready for use out of the box. If changes are desired, transmitter probes can be re-configured using the XT-SOFT programming software, available as a free download at www.automationdirect.com, an XT-USB configuration cable and an XT-M12 adapter (purchased separately).

	Settable Parameters	Factory Settings
Standard Settings	Measuring unit	°C/°F
	Measuring range (start and end values)	-50 to 150°C (-58 to 302°F) maximum range
Expanded Settings	Fault condition reaction	≤ 3.6 mA or ≥ 21.0 mA
	Output	4-20 mA or 20-4 mA
	Filter	0...8s
	Offset	-9.9 to +9.9°C (-17.8 to 17.8°F)
	Measurement point identification/TAG	8 alpha-numeric digits
Service Functions	Password (Release Code)	4 numeric digits
	Output simulation drives output to a fixed value	on/off
		Part number dependent
		Part number dependent
		≥ 21mA
		4-20 mA
		0s
		0.0
		Test
		0000
		off

XT-SOFT PC Configuration Software

