



HIGH ACCURACY
measurement instruments

PRODUCT DATASHEET

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Paine™ 215-01-120 Series Temperature Sensor

Platinum RTD, Direct Media, High Temperature, +260 °C



The Paine 215-01-120 Series, Direct Media, Temperature Sensor is a critical temperature measurement solution for high pressure fluids in machinery, engines, and process equipment. With rapid response times, this platinum resistance temperature detector (RTD) offers optimal accuracy, repeatability, and stability in temperatures up to 500 °F (250 °C), providing long-lasting resilience. These sensors are well-suited for critical direct flow and in-flow temperature measurements of liquids and gases.

Solutions

- Direct measurement of high pressure fluids
- Harsh/extreme environment ready
- Corrosion resistance probe
- 0.732-in. diameter package
- Fast response time
- Customizable

Potential applications

- Engine in-line fluid, air, or gas temperature sensing
- HVAC or refrigeration compressor monitoring
- Industrial process equipment
- Heavy equipment/off-road vehicle hydraulic
- Well bore fluid temperatures
- Equipment calibration

Features

- **Operating temperature:** -25 to +500 °F (-31 to +260 °C)
- **Temperature coefficient:** Alpha = 0.00385 nominal per °C
- **Platinum resistance temperature detector (RTD):**
Class A, Pt 1 kΩ ± 0.06% at 32 °F (0 °C)
- **Material:** Inconel 718, UNSN07718, solution annealed and aged to Rockwell C40 maximum
- **External pressure rating from hex to tip of RTD:**
30,000 psi (2068 bar) maximum
- **Pressure fitting:** 1/2-20 UNF 2A. Alternate options can be provided.

Specifications

Calibration: Calibration Certificates are supplied with each unit and available on-line.

Performance

Temperature coefficient: Alpha = 0.00385 nominal per °C

Platinum resistance temperature detector (RTD):
Class A, Pt 1 kΩ ± 0.06% at 32 °F (0 °C)

Environmental

Operating temperature range: -25 to +500 °F (-31 to +260 °C)

Mechanical

Material: Alloy 718, UNSN07718, solution annealed and aged to maximum hardness of Rockwell C40 maximum.

External pressure rating from hex to tip of RTD:
30,000 psi (2068 bar) maximum

Pressure fitting: 1/2-20 UNF 2A. Recommended - 107 O-ring/backup ring combination. Alternate options can be provided.

Weight: 5 ounces nominal (0.14 kg)

Installation information: Manifold/direct media in-flow mount

Electrical

Insulation resistance: 5,000 MΩ minimum at 50 VDC at 75 °F (23 °C) all pins to case

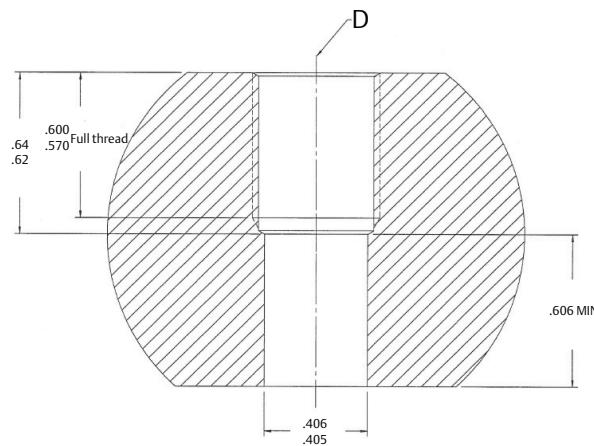
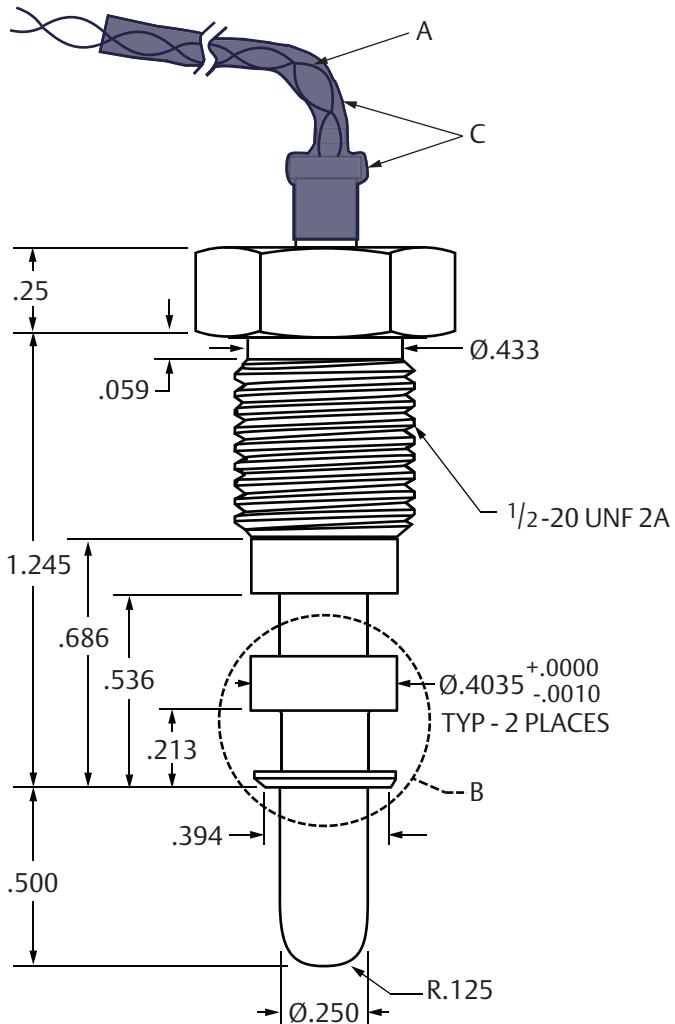
Electrical connections: 12-in., 28 AWG Teflon insulated wire, nickel coated copper per MILW-16878/24 or MIL-W-16878/23

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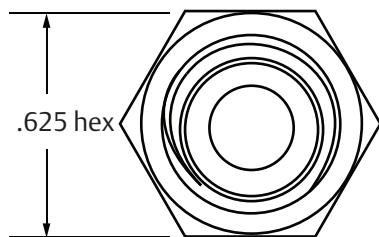
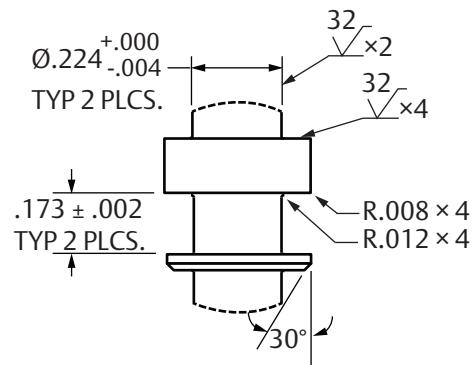
Dimensional Drawings

Figure 1. Paine 215-01-120 Series



Detail B

Scale 2:1



Connections	
Pin	Function
Black	1 kΩ RTD
White	1 kΩ RTD

A. 2 × 28 AWG, 600 VDC, Teflon insulated, nickel-plated copper wires, 12.0 ± 1.0 long

C. High temperature heat shrinkable tubing

D. Drill and tapped for 1/2-20 UNF 2A.

Dimensions are shown in inches.



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Our offering:

	Pressure Measurement		Level Measurement
	Temperature Measurement		Flow Measurement
	Marine Measurement & Analytical		Gas Analysis
	Liquid Analysis		Flame and Gas Detection
	Tank Gauging		Wireless Infrastructure
	Acoustic & Discrete		HIGH ACCURACY measurement instruments

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