

Paine 420-22-0010 Series Pressure Transmitter

Digital, Ultra Capacitance, +175°C, Pressure and Temperature



The **420-22-0010 Series** is our **high precision digital** transmitter offering output of both pressure and temperature measurements. With full scale accuracy of $\pm 0.02\%$, long term stability of **0.02 % per year** and designed to operate to **20,000 PSIA** (1379 BAR) and **+347°F (+175°C)**.

Utilizing **proprietary high precision, ultra capacitance technology** the **420-22-0010 Series** is designed for harsh long term petroleum and natural gas applications, providing unsurpassed precision, performance and stability over a wide temperature range.

Solutions

- Formation Pressure & Production Logging
- Monitoring Well Integrity
- Production Diagnostics
- Analyze Production Profiles

Potential Applications

- Well Monitoring
- Well Logging
- Artificial Lift
- Production Control Monitoring

Features

- **Accuracy:** 0.02%
- **Long Term Stability:** 0.02% per year.
- **Pressure Range:** 0-20,000 PSIA (1379 BAR).
- **Operating Temperature:** -40°F to +347°F (-40°C to +175°C).
- **Calibrated Temperature:** +75°F to +347°F (23.9°C to +175°C).
- **Digital Output:** UART-TTL
- **Temperature Output:** °F or °C.
- **Temperature Measurement:** -40°F to +347°F (-40°C to +175°C).
- **Temperature Resolution:** 12 Bits Minimum, Better Than 0.09°F (0.05°C)

Specifications

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

Performance

Accuracy: $\pm 0.02\%$ of the Full Scale (F.S.) over the calibrated temperature range. Accuracy is relative to primary standard at time of calibration and includes resolution, hysteresis, non-repeatability and thermal effects.

Long Term Stability: $< 0.02\%$ F.S. per year at $+347^{\circ}\text{F}$ ($+175^{\circ}\text{C}$) and 20,000 psia (1379 bar)

Pressure Output in PSI: Fully compensated for the effects of temperature & non-linearity.

Pressure Resolution: 0.0008%FS RMS and 0.0043%FS Peak to Peak with a 10 second sample rate.

Temperature Output: $^{\circ}\text{F}$ or $^{\circ}\text{C}$.

Temperature Measurement: -40°F to $+347^{\circ}\text{F}$ (-40°C to $+175^{\circ}\text{C}$).

Temperature Resolution: 12 Bits minimum. Better than 0.09°F (0.05°C).

Environmental

Operating Temperature Range: -40°F to $+347^{\circ}\text{F}$ (-40°C to $+175^{\circ}\text{C}$).

Calibrated Temperature Range: $+75^{\circ}\text{F}$ to $+347^{\circ}\text{F}$ ($+23.9^{\circ}\text{C}$ to $+175^{\circ}\text{C}$)

Pressure Media: Fluids and gases compatible with UNS N07718, solution annealed and aged to a maximum hardness of 40 HRC.

Proof Pressure: See Pressure Table.

Burst Pressure: See Pressure Table.

Mechanical

Pressure Range: Contact factory for other pressure ranges.

Pressure Table			
Standard Part Number	Pressure Range PSIA (BAR)	Proof Pressure PSIA (BAR)	Burst Pressure PSIA (BAR)
420-22-0010-20K0	0-20,000 (1379)	25,000 (1723)	30,000 (2068)

Pressure Fitting: HiP HM2.

Installation Information: Thermal coefficient of the mounting expansion should not exceed 8.3×10^{-6} in/in $^{\circ}\text{F}$ for operation above 100°C .

Recommended Installation Torque: 75 in-lb (8.5 Nm).

Mounting: Transmitter body must be mechanically restrained for use in high shock and/or vibration applications.

Electrical

Digital Output: UART-TTL. Refer to document 200.115 for more information.

Input Voltage: 2.8 to 5 VDC, Calibrate valid at 3.0 VDC ± 0.02 VDC.

Input Current: 15 mA maximum at 3.0 VDC.

Insulation Resistance: All pins except pin 5 together simultaneously to case, 100 M Ω minimum at 50 VDC and $75^{\circ}\text{F} \pm 5^{\circ}\text{F}$ (23.9°C to $\pm 2.8^{\circ}\text{C}$).

Over Voltage Protection: Do not exceed 5.25 VDC.

Reverse Polarity: "POWER IN" is protected from the application of reverse polarity.

Electrical Connection: Mates with Glenair P/N: 801-007-16Z16-7SA. Connector sold separately.

Electrostatic Discharge (ESD): This transmitter is susceptible to ESD, per ANSI/ESD STM5.1 Human Body Model (HBM) Class 3A and must be protected.

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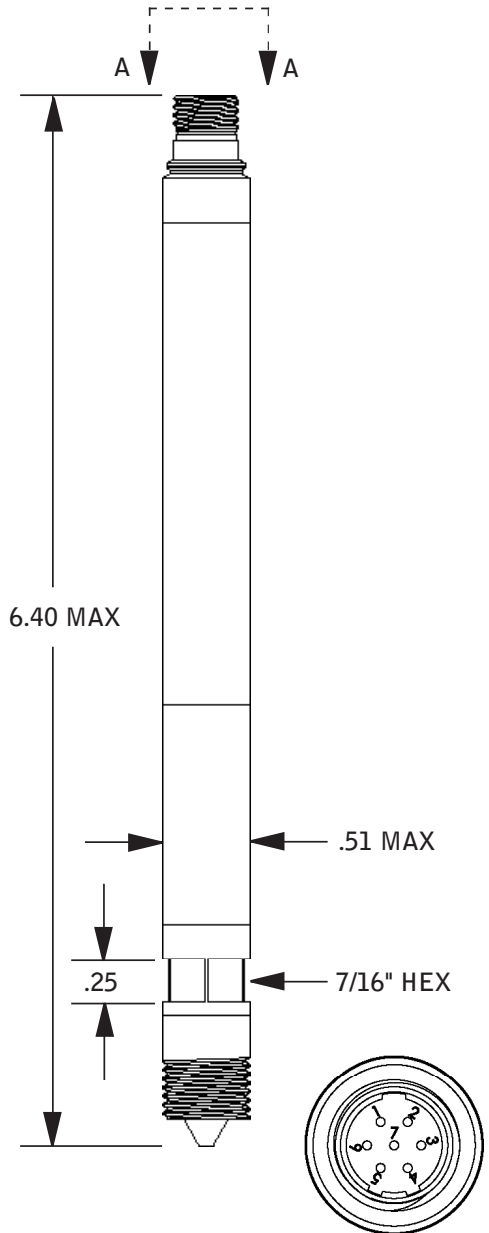
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Connections

PIN	FUNCTION
1	POWER IN
2	UART Rx
3	UART Tx
4	POWER RETURN / COMMUNICATION RETURN
5	CASE GROUND
6	NOT USED
7	NOT USED

View A-A