

Paine 220-11-0010 Series Pressure Transmitter

Digital, Pressure and Temperature, +150 °C, Ranges to 0-30,000 PSIA
(0-2068 BAR)



Digital downhole and subsea pressure and temperature measurements providing continuous, reliable and accurate data in O&G exploration and production. The 220-11-0010 Series supports pressure measurement ranges from 0-5,000 to 0-30,000 PSIA (0-344 to 0-2068 BAR) and temperature measurements from -40 °F to +302 °F (-40 °C to +150 °C).

Long-Term Management and Increased Operational Efficiencies

The combination of accurate digital pressure and temperature measurements with surface data, control systems and user operations enable for better, longer-term management of physical well integrity, reservoirs and over all field operations. The 220-11-0010 Series incorporates proprietary sensor technology with innovative sensor design to minimize additional equipment requirements and helps to lower installation and overall maintenance costs.

Solutions

- Harsh/Extreme Environment Ready.
- Digital Accuracy.
- Longer/Simpler Network Connections.

Potential Applications

- Downhole Tools (MWD, LWD, Wireline and more).
- Offshore Energy Exploration.
- Industrial Control Systems and Automation.
- Artificial Lift and Sub Sea Risers.

Features

- **Total Error Band:** <0.1% of the Full Scale (F.S.) over the calibrated temperature range.
- **Output:** Digital RS-485
- **Operating Temperature:** -40 °F to +302 °F (-40 °C to +150 °C).
- **Pressure Range:** 0-5,000 to 0-30,000 PSIA (345 to 2068 BAR).
- **Operating Media:** Fluids and gases compatible with alloy UNS N07718 solution and aged to a maximum hardness of 40HRC.
- **Pressure Fitting:** AS4395-E04. Mating boss mount must be designed such that this surface does not contact during installation. Threads must end prior to this surface making contact with mating part. Request Paine design standard DS-381, for boss mount design.

Specifications

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

Performance

Total Error Band of Digital Output: <0.1% of the Full Scale (F.S.) over the calibrated temperature range.

Pressure Output in PSI: Fully compensated for temperature, non-linearity, zero offset and full scale output. Other pressure units are available upon request.

Pressure Resolution: 16 Bits minimum (see [Pressure Table](#)).

Temperature Output: °F or °C.

Temperature Measurement: Digital Temperature Sensor 0 °F to +302 °F (0 °C to +150 °C).

Temperature Resolution: 10 Bits minimum. Better than 0.5 °F.

Environmental

Operating Temperature Range: -40 °F to +302 °F (-40 °C to +150 °C).

Calibrated Temperature Range: +75 °F to +302 °F (24 °C to +150 °C).

Operating Media: Fluids and gases compatible with alloy UNS N07718 solution and aged to a maximum hardness of 40HRC.

Pressure Fitting: AS4395-E04. Mating boss mount must be designed such that this surface does not contact during installation. Threads must end prior to this surface making contact with mating part. See Paine design standard DS-381, for boss mount design.

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Mechanical

Pressure Range: Contact factory for additional pressure ranges.

| Pressure Table | | | | |
|----------------------|---------------------------|---------------------------|---------------------------|-----------------------------------|
| Standard Part Number | Pressure Range PSIA (BAR) | Proof Pressure PSIA (BAR) | Burst Pressure PSIA (BAR) | Pressure Resolution (Better Than) |
| 220-11-0010-05K0 | 0-5,000 (0-344) | 7,500 (517) | 10,000 (689) | 0.08 PSI |
| 220-11-0010-15K0 | 0-15,000 (0-1034) | 18,750 (1292) | 22,500 (1551) | 0.24 PSI |
| 220-11-0010-25K0 | 0-25,000 (0-1723) | 30,000 (2068) | 33,000 (2275) | 0.38 PSI |

Electrical

Input Voltage: 5.00 VDC ± 0.25 VDC.

Input Current: 40 mA maximum @ 5.00 VDC.

Insulation Resistance: All pins together to case. 100M Ω minimum at 50 VDC, 75 ±10 °F.

Overvoltage Protection: Not protected from damage by the application of overvoltage. Do not exceed 5.5 VDC.

Reverse Polarity: “Power In” is protected from the application of reverse polarity.

Digital Output: RS-485.

Electrical Connections: 6 pin bayonet connector per MS3476W10-6S. Mates with Paine part number 247-99-101-01 connector sold separately.

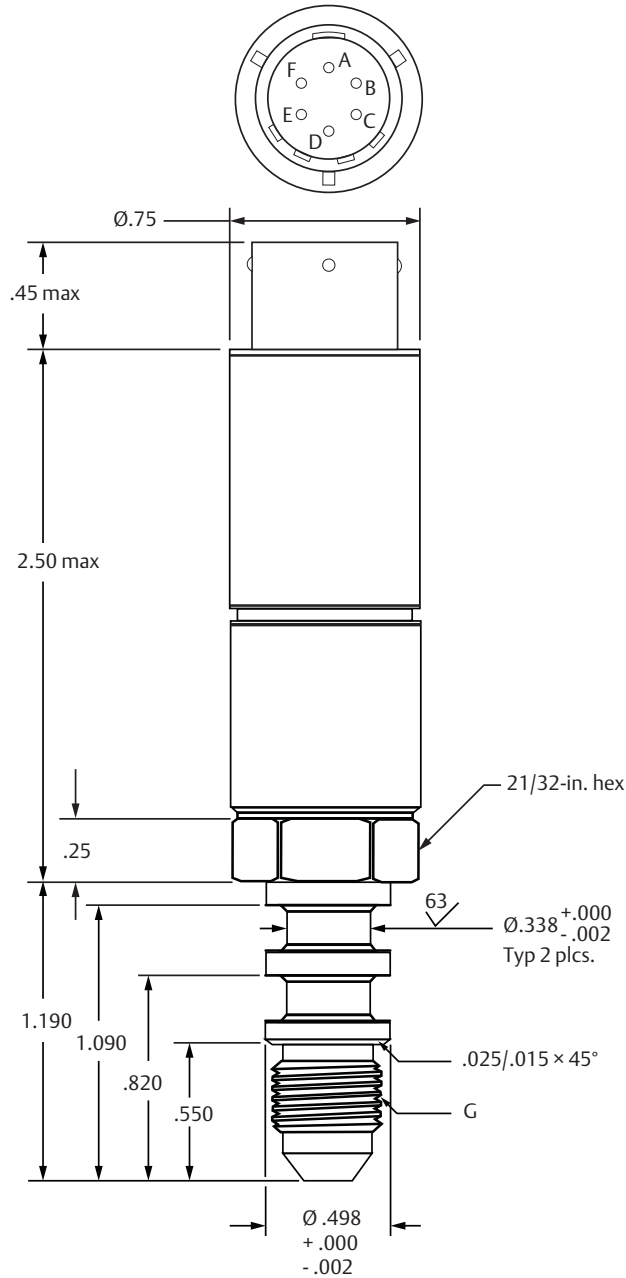
Sleep Pin Functionality: Transducer is fully functional when sleep pin is held to logic low (0.00 VDC). When sleep pin is held to logic high (5.00 VDC) the transducer will be in standby mode. If the Sleep pin is not connected, transducer will default to standby mode.

User Guide and Programming: (Document 320-10-005) provided with each unit.

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

Dimensional Drawings

Figure 1. 220-11-0010 Series



| Connections | |
|-------------|----------------------------|
| PIN | Function |
| A | Power in |
| B | RS-485 "B" ⁽¹⁾ |
| C | -RS-485 "A" ⁽¹⁾ |
| D | Power return |
| E | Comm return |
| F | Sleep |

1. Per TIA-485A


G. Fitting end per AS4395-E04
 Dimensions are inches.


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