The 211-50-070 Series is our rugged High Pressure / High Temperature pressure and temperature sensor specifically designed for +500°F offshore oil, gas and power industries requirements.

The 211-50-070 Series, based on its small size, all welded construction and ability to perform in corrosive environments, is the best solution for new downhole and subsea tool design when temperatures are going to reach +500°F.

Many new exciting industries are now using the 211-50-070 Series because of its rugged construction, accuracy, stability and repeatability.

Solutions!

- High Pressure & High Temperature Measurement.
- Each sensor is provided with coefficients to load into your electronics for temperature and non-linearity compensation.

Potential Applications:

- Oil & Gas Exploration & Production.
- MWD, PWD & LWD tools.
- Wellhead & Pump Station Monitoring.
- Geothermal & Power Generation.
- OEM & End-User Applications.

Features!

- Operating Temperature: +75°F to +500°F (23°C to +260°C).
- Output: mV/V
- Pressure Range: 0-5,000 to 0-30,000 PSIA.
- Total Error Band: ±0.150% of Full Scale.
- External Case Pressure: Up to 20,000 PSI.
- Media Compatibility: Compatible with alloy UNS NO7718 solution annealed and aged to a minimum hardness of 40HRC.
211-50-070 Series Specifications:

Calibration: Calibration Certificates are supplied with each unit and available online. For optimum performance, we recommend annual calibration.

Performance:
- Full Scale (F.S.) Sensitivity: 2.8 mV/V nominal.
- Total Error Band (Non-Linearity, Hysteresis & Thermal Effects): ± 0.150% Full Scale (F.S.).
- Non-Linearity and Hysteresis Combined: ±0.150% of F.S. maximum (BSLM).
- Output at Zero Pressure: 0 ± 2.8 mV/V nominal.
- Platinum Resistance Temperature Detector (RTD): 0°C, 1000 Ω ± 0.06% Ω to IEC 751, Class A, Alpha = 0.0385 nominal.
- Un-Compensated: This sensor is not hardware compensated for temperature effects on signal. Each sensor is provided with coefficients to load into your electronics for temperature and non-linearity compensation.

Environmental:
- Environmental: Error due to combined effect of shock, vibration and acceleration shall be less than 0.01% of F.S per G.
- Operating Temperature Range: +75°F to +500°F (23°C to +260°C).
- Calibrated Temperature Range: +75°F to +500°F (23°C to +260°C).

Mechanical:
- Pressure Range: Lower and higher temperature ranges are available.

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<th>Paine Part Number</th>
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<th>Proof Pressure PSIA</th>
<th>Burst Pressure PSIA</th>
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External Case Pressure: Up to 20,000 PSI.
- Pressure Media: Any compatible with alloy UNS NO7718 solution annealed and aged to a minimum hardness of 40HRC.
- Pressure Fitting: Per MS33656-E3.
- Installation Information: Mount on port using Paine Electronics annealed Inconel® 600 Replaceable Seal. Thermal coefficient of the mounting expansion should not exceed 8.3 x 10^-6 in/in °F for operation above 100°C.
- Recommended Installation Torque: 125 to 150 in-lb (14-17 Nm).

Electrical:
- Excitation: 1 to 20 VDC (10 VDC nominal).
- Input Resistance: 1500 ± 300 Ω.
- Output Resistance: 1500 ± 150 Ω.
- Insulation Resistance: All conductors together to case, 10GΩ minimum at 50 VDC and +77°F.
- Electrical Connections: High temperature solderable connections.

Customized to your specific application! Drawing from thousands of top-level designs, we can customize this sensor to fit your specific needs or application. With your imagination and our design team, anything is possible!

Contact us or your authorized Paine Electronics representative for many more standard and/or custom configurations or options. All specifications are subject to change, modification or improvement without notice. Visit our web site for the latest specifications. All sales are subject to Paine Electronics standard terms and conditions. Paine® is a registered trademark of Paine Electronics, LLC. Copyright © Paine Electronics, LLC. All Rights Reserved. Product, company names, logo’s and trademarks used herein are the property of their respective owners.

Datasheet: 211-50-070-DS_REV-J