**750PEx Pressure Modules**

**Instruction Sheet**

**Introduction**

The Fluke 750PEx Series Pressure Modules (the Product) are to be used with Fluke intrinsically safe calibrators such as the 718Ex. The Product measures pressure with an internal microprocessor compensated sensor. It receives power from and sends digital information to the Fluke calibrator.

Gage pressure modules have one pressure fitting and measure pressure with respect to atmospheric pressure. Differential pressure modules have two pressure fittings and measure the difference between the applied pressure on the high fitting versus the low fitting. A differential pressure module functions like a gage module when the low fitting is open. The absolute pressure modules measure pressure with respect to an absolute vacuum. The vacuum pressure modules measure negative pressure.

See the Users Manual for your specific Fluke calibrator for operation instructions. Differential and Gage models are shown in Figure 1.

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**Safety Information**

A Warning identifies conditions and procedures that are dangerous to the user. A Caution identifies conditions and procedures that can cause damage to the product or the equipment under test.

⚠️ **Warning**

To avoid injury due to the release of high-pressure fluid:
- Use only adapters and fittings rated to withstand the appropriate pressure. Ensure that all adapters and fittings are securely connected.
- Never exceed the specified BURST PRESSURE for the Product.
- To avoid a violent release of pressure in a pressurized system, shut off the isolation valve and slowly bleed off the pressure before you attach or remove the pressure module from the pressure line.
- Do not alter the Product and use only as specified, or the protection supplied by the Product can be compromised.

⚠️ **Warning**

To prevent fire, explosion, or personal injury:
- Check entity parameters before making any connections to this device.
- Use only specified replacement parts or Intrinsic Safety can be impaired.
- Precautions are required to ensure that a charge-generating mechanism is unlikely to be present, and/or discharge to earthed metal is improbable. The exposed metal parts are not earthed and have a capacitance of more than 3 pF with respect to an earthed conductor. If a charge-generating mechanism is present, an excessive level of charge could migrate to these metal parts and subsequently discharge to earthed metal.

## Ex-Hazardous Areas

The Product has been designed for use in Ex-Hazardous Areas. These are areas where potentially flammable or explosive vapors may occur. These areas are referred to as hazardous (classified) locations in the United States, as Hazardous Locations in Canada, as Potentially Explosive Atmospheres in Europe and as Explosive Gas Atmospheres by most of the rest of the world. The Product is designed as intrinsically safe. This means that connecting the Product to equipment that is used within intrinsically-safe circuits will not cause an ignition-capable arc as long as the entity parameters are suitably matched.

⚠️ **Warning**

To avoid Product damage, never apply more than 10 lb-ft of torque between the pressure module fittings or between the fittings and the body of the module. Always apply appropriate torque between the pressure module fitting and connecting fittings or adapters.

## Over Pressure Damage Prevention

⚠️ **Caution**

To avoid Product damage:
- Use the Product only with specified media as shown on the Product label to avoid Product damage from corrosion.
- To avoid product damage do not apply pressure in excess of 120 % of the specified upper limit.

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**Table 1. Symbols**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Symbol]</td>
<td>WARNING, RISK OF DANGER.</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Direct Current</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Consult user documentation.</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Conforms to European Union directives.</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Conforms to relevant South Korean EMC Standards.</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Pressure (found on Fluke calibrators)</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Conforms to relevant Australian EMC standards.</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Conforms to the European Explosive Atmospheres (ATEX) directive</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Medium compatibility: 316 Stainless Steel,</td>
</tr>
<tr>
<td>![Symbol]</td>
<td>Medium compatibility: noncorrosive gasses.</td>
</tr>
</tbody>
</table>

This product complies with the WEEE Directive (2002/96/EC) marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as category 9 “Monitoring and Control Instrumentation” product. Do not dispose of this product as unsorted municipal waste.

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**Recommended Measurement Technique**

For best results, before you zero the Product or take measurements, pressurize the Product to full scale and then vent to zero pressure (atmosphere).

**Note**

Low-range pressure modules may be sensitive to gravity. For best results, pressure modules 30 psi and below should be held at the same physical orientation from the time they are zeroed until the measurement is complete.

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**Figure 1. Differential and Gage Pressure Modules**

**Figure 2. Applying Torque**
Specifications

Mechanical Specifications
Size (H x W x L) ........... 45 x 94 x 110 mm (1.77 x 3.70 x 4.33 in)  
Weight ..................... 292 g (10.3 oz)  
Physical Interface ........... Serial Connector, Pressure Port(s)

Environmental Specifications
Operating Temperature ... -10 °C to +50 °C (14 °F to 122 °F)  
Storage Temperature ....... -20 °C to +60 °C (-4 °F to 140 °C)  
Operating Humidity ...... Non-condensing (<10 °C < 90 %)  
90 % RH (10 °C to 30 °C) (50 °F to 86 °F)  
75 % RH (30 °C to 40 °C) (86 °F to 104 °F)  
45 % RH (40 °C to 50 °C) (104 °F to 122 °C)  
Operating Altitude ........ 2000 m (6,561 ft)  
Storage Altitude ......... 12 000 m (45 700 ft)  
Ingress Protection .......... IP65 (not included in the third party certification)  

Performance Test
If you need to check that the pressure module meets its accuracy specification, use a dead weight tester or suitable pressure calibrator. The accuracy of the dead weight tester or pressure calibrator should be significantly better than the Product pressure specification. Proceed as follows to verify that a pressure module is operating within specification:
1. Read the pressure value with no externally applied pressure to make sure the 0 °C scale is correct. When reading the pressure, press the ZERO key to remove any zero offset.
2. Connect the pressure module to a dead weight tester.
3. Set the dead weight tester to 20 % of the pressure module’s full scale value.
4. Make sure the reading agrees with the dead weight tester value within the specifications.
5. Set the dead weight tester to 40, 60, 80, and 100 % of full scale and compare the respective readings.

Compliance

Safety ................. IEC 60079-0, IEC 60079-11  
Electromagnetic Compatibility  
International ............. IEC 61326-1: Basic  
Electronic Environment:  
CISPR 11: Group 1, Class A  
Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment item.  
Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conductive and radiated disturbances.
Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

Korea (KCC) .................. Class A Equipment  
(Industrial Broadcasting & Communication Equipment)  
Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.

USA (FCC) ................. 47 CFR 15 subpart B  
This product is considered an exempt device per clause 15.103.

Pressure Module Ranges

<table>
<thead>
<tr>
<th>Pressure Module</th>
<th>Pressure (psi)</th>
<th>Burst Rating</th>
<th>Hi Side Media Compatibility</th>
<th>Lo Side Media Compatibility</th>
<th>Reference Uncertainty (±% of Full Span)</th>
<th>Total Uncertainty 1 year (±% of Full Span)</th>
<th>Total Uncertainty 6 month (±% of Full Span)</th>
</tr>
</thead>
<tbody>
<tr>
<td>750P01Ex</td>
<td>0 to 15 psi</td>
<td>3X</td>
<td>NONCORROSIVE GASES</td>
<td>NONCORROSIVE GASES</td>
<td>±0.1 %</td>
<td>±0.2 %</td>
<td>±0.3 %</td>
</tr>
<tr>
<td>750P04Ex</td>
<td>0 to 31 psi</td>
<td>4X</td>
<td>Stainless Steel SS-316</td>
<td>NONCORROSIVE GASES</td>
<td>±0.035 %</td>
<td>±0.045 %</td>
<td>±0.07 %</td>
</tr>
<tr>
<td>750P06Ex</td>
<td>0 to 30 psi</td>
<td>4X</td>
<td>Stainless Steel SS-316</td>
<td>NONCORROSIVE GASES</td>
<td>±0.035 %</td>
<td>±0.045 %</td>
<td>±0.07 %</td>
</tr>
<tr>
<td>750P09Ex</td>
<td>0 to 100 psi</td>
<td>4X</td>
<td>Stainless Steel SS-316</td>
<td>NONCORROSIVE GASES</td>
<td>±0.035 %</td>
<td>±0.045 %</td>
<td>±0.07 %</td>
</tr>
<tr>
<td>750P09Ex</td>
<td>0 to 150 psi</td>
<td>4X</td>
<td>Stainless Steel SS-316</td>
<td>NONCORROSIVE GASES</td>
<td>±0.035 %</td>
<td>±0.045 %</td>
<td>±0.07 %</td>
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<tr>
<td>750P09Ex</td>
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<td>NONCORROSIVE GASES</td>
<td>±0.035 %</td>
<td>±0.045 %</td>
<td>±0.07 %</td>
</tr>
</tbody>
</table>

1. Total uncertainty, % of full span for temperature range 0 °C to +50 °C, one year interval. Total uncertainty: 1.0 % of full span for temperature range -10 °C to 0 °C, one year interval. No 6 month specification available for range -10 °C to 0 °C.
2. “NONCORROSIVE GASES” indicates dry air or non-corrosive gas as compatible media. “Stainless Steel 316-SS” indicates media compatible with Type 316 Stainless Steel.
3. Specifications of Full Span unless otherwise noted.