Certifications

CE Conforms to European Standard EN61010-1, EN61326.

Limited Warranty

Each Fluke product is warranted to be free from defects in material and workmanship under normal use and service. The warranty period is one year and begins on the date of shipment. Parts, product repairs and services are warranted for 90 days. This warranty extends only to the original buyer or end user customer of a Fluke authorized reseller, and does not apply to fuses, disposable batteries or to any product which, in Fluke's opinion, has been misused, altered, neglected or damaged by accident or abnormal conditions of operation or handling. Fluke warrants that software will operate substantially in accordance with its functional specifications for 90 days and that it has been properly recorded on nondefective media. Fluke does not warrant that software will be error free or operate without interruption.

Fluke authorized resellers shall extend this warranty on new and unused products to enduser customers only but have no authority to extend a greater or different warranty on behalf of Fluke. Warranty support is available if product is purchased through a Fluke authorized sales outlet or Buyer has paid the applicable international price. Fluke reserves the right to invoice Buyer for importation costs of repair/replacement parts when product purchased in one country is submitted for repair in another country.

Fluke's warranty obligation is limited, at Fluke's option, to refund of the purchase price, free of charge repair, or replacement of a defective product which is returned to a Fluke authorized service center within the warranty period.

To obtain warranty service, contact your nearest Fluke authorized service center or send the product, with a description of the difficulty, postage and insurance prepaid (FOB Destination), to the nearest Fluke authorized service center. Fluke assumes no risk for damage in transit. Following warranty repair, the product will be returned to Buyer, transportation prepaid (FOB Destination). If Fluke determines that the failure was caused by misuse, alteration, accident or abnormal condition of operation or handling, Fluke will provide an estimate of repair costs and obtain authorization before commencing the work.

Following repair, the product will be returned to the Buyer transportation prepaid and the Buyer will be billed for the repair and return transportation charges (FOB Shipping Point).

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Since some countries or states do not allow limitation of the term of an implied warranty, or exclusion or limitation of incidental or consequential damages, the limitations and exclusions of this warranty may not apply to every buyer. If any provision of this Warranty is held invalid or unenforceable by a court of competent jurisdiction, such holding will not affect the validity or enforceability of any other provision.

In Case of Difficulty

For service or calibration, call your nearest authorized Fluke Service Center.

For application or operation assistance or information on Fluke products, call:

USA: 1-888-99-FLUKE (1-888-993-5853)
Canada: 1-800-36-FLUKE (1-800-363-5853)
Europe: +31 402-678-200
Japan: +81-3-3434-0181
Singapore: +65-738-5655
Anywhere in the world: +1-425-446-5500

Or, visit Fluke's Web site at www.fluke.com

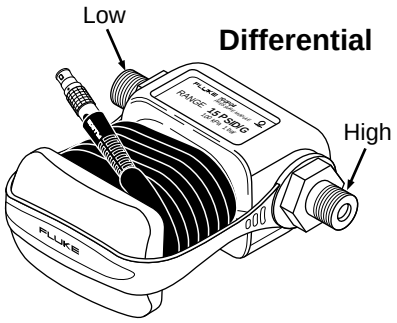
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FLUKE®

700P2X Series Pressure Modules

Instruction Sheet



Introduction

The Fluke 700P2X Series Pressure Modules allow you to measure pressure with the Fluke 700 Series Documenting Process Calibrators. Read this sheet before you use the pressure module. This sheet contains specifications and information about how to avoid damaging the pressure module. See the 700 Series Users Manual for operating instructions.

Note

Fluke-701 or Fluke-702 software V1.3 or higher is required. See specification footnote 1.

The pressure module measures pressure using an internal microprocessor. It receives operating power from and sends digital information to the 700 Series 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.

Box Contents

Pressure module, strap, 1/4 NPT to 1/4 ISO metric adapters, instruction sheet.

Protecting Yourself from Pressure Releases

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.

Avoiding Mechanical Damage

To avoid damaging the pressure module, never apply more than 10 ft.-lbs. 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. Figure 1 shows the correct way and incorrect ways to use a wrench when applying torque to the pressure module fitting.

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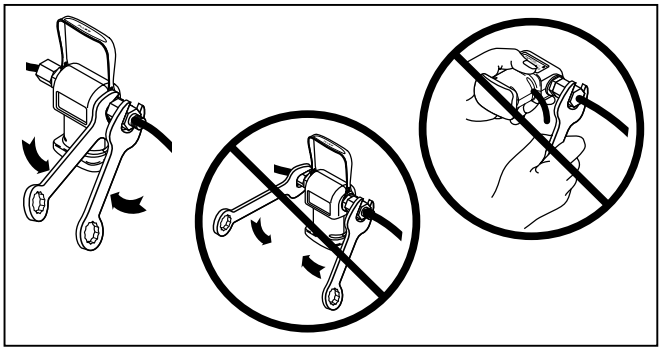


Figure 1.

Avoiding Overpressure Damage

Applying pressure in excess of the BURST PRESSURE specified on the pressure module can destroy the pressure module. Burst pressure is 3X full scale.

Avoiding Corrosion Damage

To avoid damaging the pressure module from corrosion, use it only with specified media as shown below:

- High: any medium that is compatible with type 316 stainless steel.
- Low: dry, noncorrosive gasses only.

Recommended Measurement Technique

For best results, it is recommended that the module be pressurized to full scale and then vented to zero pressure (atmosphere) prior to zeroing and making measurements.

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.

Pressure Calibration Kit

The Fluke-700PCK Pressure Calibration Kit makes it possible to calibrate pressure modules at ambient temperature with a precision pressure calibrator better than the module specification. A 386 or better PC and Windows® 3.1 or later are required. The kit is an optional accessory available from your distributor or Fluke.

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 700P2X Series 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% of scale is correct. When reading the pressure, press the ZERO key to remove any zero offset.

   Note

   The pressure ZERO function is available on Fluke-701 and Fluke-702 calibrators with V1.3 or higher software. Contact your Fluke Service Center for upgrade of earlier calibrators.

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 specification in Table 1.
5. Set the dead weight tester to 40, 60, 80, and 100% of full scale and compare the respective readings.
6. If temperature sensitivity is of concern, repeat steps 1 through 5 at various controlled temperatures.

Table 1. Specifications [1] (% of full span)

Model	Range[2]	Gage or Differential	Isolated or Nonisolated	Reference Uncertainty (23 ° ± 3 °C)	Stability (1 Year)	Temp (0 to 50 °C)	Total Uncertainty[3]
Fluke-700P22	0 to 1.0000 psi 0 to 6.8900 kPa 0 to 6.89 E-2 bar	Differential	Isolated	0.100%	0.020%	0.030%	0.150%
Fluke-700P23	0 to 5.0000 psi 0 to 34.000 kPa 0 to 0.3400 bar	Differential	Isolated	0.025%	0.010%	0.015%	0.050%
Fluke-700P24	0 to 15.000 psi 0 to 100.00 kPa 0 to 1.0000 bar	Differential	Isolated	0.025%	0.010%	0.015%	0.050%

1. Use of pressure zero function is required to achieve these specifications. Contact your Fluke Service Center for upgrade of your Fluke 701 or Fluke 702 V1.0, V1.1, or V1.2 Calibrator.
2. Available pressure units (inHg, kg/cm^2, mmH_20) are determined by the calibrator being used.
3. Accuracy specifications apply for 1 year for 0 to 100% of full span from 0 to 50 °C. Typical uncertainty is 1% of full span from -10 °C to 0 °C.
4. Maximum non-destructive pressure: 3X maximum rated pressure, including common mode pressure.
5. Maximum common mode pressure: 3X maximum rated pressure.
6. Specifications reflect a confidence interval of 95%.