FLUKE ®

750P/750R
Pressure Modules

Instruction Sheet

Introduction

The Fluke 750P/750R Series Pressure Modules (the Product) let you measure pressure with a wide range of Fluke calibrators. These calibrators include but are not limited to the:

- 701 and 702 Documenting Process Calibrator
- 717 Series Pressure Calibrators
- 718 Series Pressure Calibrators
- 719 Portable Pressure Calibrator
- 719Pro Pressure Calibrator
- 721 Pressure Calibrator
- 725 Multifunction Process Calibrator
- 726 Multifunction Process Calibrator
- 741B, 743B, 744 Documenting Process Calibrator
- 753, 754 Documenting Process Calibrator
- 3130 Portable Pneumatic Pressure Calibrator
- 525B Temperature/Pressure Calibrator
- 7526A Precision Process Calibrator
- 5520A and 5522A Multi-Product Calibrator

While the 750P provides basic pressure measurement with various Fluke calibrators, the 750R provides similar functionality with reference-grade accuracy. However on certain calibrators with limited display resolution this may impair the precision of pressure measurement. See Pressure Module Ranges chart for more information.

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.

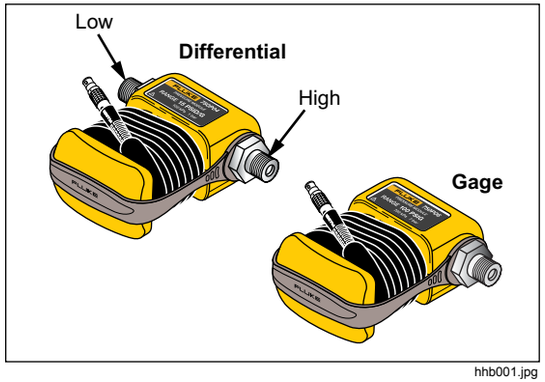

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Figure 1. Differential and Gage Pressure Modules

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.**

Mechanical Damage Prevention

⚠Caution

To avoid Product damage, 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.

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.**

Figure 2 shows correct and incorrect ways to use a wrench to apply torque to the pressure module fitting.

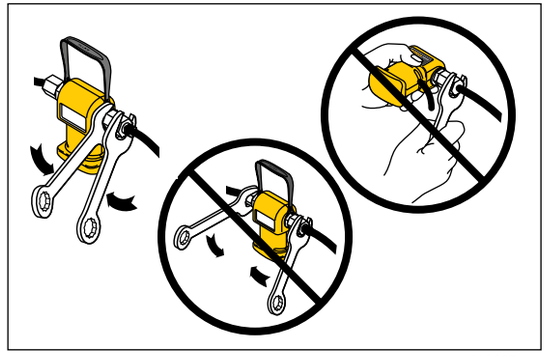

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Figure 2. Applying Torque

Table 1. Symbols

Symbol	Meaning
⚠	Risk of Danger. Important. See Manual.
CE	Conforms to European Union directives.
	Conforms to relevant North American Safety Standards.
	Conforms to relevant South Korean EMC Standards.
	Pressure (found on Fluke calibrators)
	Conforms to relevant Australian EMC requirements.
	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. Go to Fluke's website for recycling information.

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.

Box Contents

The Product package should contain the listed items below. If it does not, contact Fluke immediately. See "Contact Fluke".

- Pressure module
- 1/8 NPT male to 1/4 NPT male adapter
- 1/8 NPT male to 1/4 BSP male adapter
- 1/8 NPT male to M20 male adapter
- O-RING,(-111) CAST URETHANE
- Certificate of calibration
- User documentation packet

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Pressure Calibration Kit

The optional Fluke 700PCK (Pressure Calibration Kit) accessory lets you calibrate the pressure modules at your facility with your precision pressure standards. A pressure calibrator or dead weight tester that is at least 4X more accurate than the pressure module under test is recommended.

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 % of 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.

Specifications

Mechanical Specifications

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

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) (<50 °F) 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	12000 m (45,700 ft)
IP Rating	IP 52

Compliance

Agency Approvals	c SP us
CE	IEC 61010-1 Protection Class II Pollution Degree 2
EMI, RFI, EMC	EN61326-1 Electromagnetic Compatibility Applies to use in Korea only. Class A equipment (Industrial Broadcasting & Communication Equipment)[1] [1] This Product meets requirements for industrial (Class A) electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and is not to be used in homes.

Pressure Module Ranges [3]

750 Model Number	Parameter/Range	Burst Rating [6]	Hi Side Media Compatibility [2]	Lo Side Media Compatibility [2]	Reference Uncertainty (23 +/- 3degC) [4]	Total Uncertainty 1 year (15-35 degC)	Total Uncertainty 1 year (0-50 degC) [1]	Total Uncertainty 6 month (15-35 degC)	Total Uncertainty 6 month (0-50 degC) [1]
750P00	0 to 1 Inch H2O (0 to 2.5 mBar)	30X	NONCORROSIVE GASSES	NONCORROSIVE GASSES	±0.15 %	±0.3 %	±0.35 %	±0.25 %	±0.30 %
750P01	0 to 10 Inch H2O (0 to 25 mBar)	3X	NONCORROSIVE GASSES	NONCORROSIVE GASSES	±0.1 %	±0.2 %	±0.3 %	±0.15 %	±0.25 %
750P02	0 to 1 psi (0 to 70 mBar)	3X	NONCORROSIVE GASSES	NONCORROSIVE GASSES	±0.050 %	±0.1 %	±0.15 %	±0.075 %	±0.125 %
750P22	0 to 1 psi (0 to 70 mBar)	3X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.050 %	±0.1 %	±0.15 %	±0.075 %	±0.125 %
750P03	0 to 5 psi (0 to 350 mBar)	3X	NONCORROSIVE GASSES	NONCORROSIVE GASSES	±0.02 %	±0.04 %	±0.05 %	±0.035 %	±0.04 %
750P23	0 to 5 psi (0 to 350 mBar)	4X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.02 %	±0.04 %	±0.05 %	±0.035 %	±0.04 %
750P04	0 to 15 psi (0 to 1 Bar)	3X	NONCORROSIVE GASSES	NONCORROSIVE GASSES	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P24	0 to 15 psi (0 to 1 Bar)	4X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P05	0 to 30 psi (0 to 2 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P06	0 to 100 psi (0 to 7 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P27	0 to 300 psi (0 to 20 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P07	0 to 500 psi (0 to 35 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P08	0 to 1000 psi (0 to 70 Bar)	3X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P09	0 to 1500 psi (0 to 100 Bar)	3X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P2000	0 to 2000 psi (0 to 140 Bar)	3X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P29	0 to 3000 psi (0 to 200 Bar)	3X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P30	0 to 5000 psi (0 to 340 Bar)	3X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750P31	0 to 10000 psi (0 to 700 Bar)	2X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750PA3	0 to 5 psia (0 to 350 mBar)	4X	Stainless Steel SS-316	N/A	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PA4	0 to 15 psia (0 to 1 Bar)	4X	Stainless Steel SS-316	N/A	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PA5	0 to 30 psia (0 to 2 Bar)	4X	Stainless Steel SS-316	N/A	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PA6	0 to 100 psia (0 to 7 Bar)	4X	Stainless Steel SS-316	N/A	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PA27	0 to 300 psia (0 to 20 Bar)	4X	Stainless Steel SS-316	N/A	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PA7	0 to 500 psia (0 to 35 Bar)	4X	Stainless Steel SS-316	N/A	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PA8	0 to 1000 psia (0 to 70 Bar)	3X	Stainless Steel SS-316	N/A	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PA9	0 to 1500 psia (0 to 100 Bar)	3X	Stainless Steel SS-316	N/A	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PV3	-5 psi (-350 mBar)	4X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PV4	-15 psi (-1 Bar)	4X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PD2	-1 to 1 psi (-70 to 70 mBar)	4X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.05 %	±0.1 %	±0.15 %	±0.075 %	±0.125 %
750PD3	-5 to 5 psi (-350 to 350 mBar)	4X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.03 %	±0.06 %	±0.07 %	±0.05 %	±0.06 %
750PD10	-10 to 10 psi (-700 to 700 mBar)	4X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.025 %	±0.05 %	±0.07 %	±0.04 %	±0.06 %
750PD4	-15 to 15 psi (-1 to 1 Bar)	4X	Stainless Steel SS-316	NONCORROSIVE GASSES	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750PD5	-15 to 30 psi (-1 to 2 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750PD50	-15 to 50 psi (-1 to 3.5 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750PD6	-15 to 100 psi (-1 to 7 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750PD7	-15 to 200 psi (-1 to 14 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750PD27	-15 to 300 psi (-1 to 20 Bar)	4X	Stainless Steel SS-316	N/A	±0.0175 %	±0.035 %	±0.045 %	±0.03 %	±0.04 %
750R04[5]	0 to 15 psi (0 to 1 Bar)	3X	NONCORROSIVE GASSES	NONCORROSIVE GASSES	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750R06[5]	0 to 100 psi (0 to 7 Bar)	4X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750R27	0 to 300 psi (0 to 20 Bar)	4X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750R07	0 to 500 psi (0 to 35 Bar)	4X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750R08[5]	0 to 1000 psi (0 to 70 Bar)	3X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750R29	0 to 3000 psi (0 to 200 Bar)	3X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750R30	0 to 5000 psi (0 to 340 Bar)	3X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750R31[5]	0 to 10000 psi (0 to 700 Bar)	2X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750RD5	-15 to 30 psi (-1 to 2 Bar)	4X	NONCORROSIVE GASSES	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750RD6[5]	-12 to 100 psi (-1 to 7 Bar)	4X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS
750RD27	-12 to 300 psi (-0.8 to 20 Bar)	4X	Stainless Steel SS-316	N/A	±0.01 % of FS	±0.02 % of FS	±0.04 % of FS	±0.015 % of FS	±0.035 % of FS

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 GASSES" 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.
4. Reference Uncertainty is the specification for as left data for 24 hours.
5. When reference class modules are used with fixed resolution products (717, 718, 719 series, 725 and 726) calibrators add +/- 1 count to the overall accuracy specification.
6. Burst rating specification refers to the multiplier times full scale of the module for the rated burst pressure.