

GE Sensing

Features

- Ranges ± 0.04 in H₂O to 15 psi (1 bar)
- Accuracy better than 0.1% full scale (FS) best fit straight line (BSL)
- Line pressure from vacuum to 3000 psi (200 bar)
- Uni-directional or bi-directional operation
- Excellent thermal and long-term stability
- Full wet/wet media compatibility

The LPM/LPX 9000 Series accurately measure low differential or relative pressure of gases and liquids from 0.04 inH₂O (0.1 mbar) to 15 psi (1 bar) FS. With a choice of current or voltage output, they are suitable for uni-directional (e.g. 0 to 20 mbar) or bi-directional (e.g. -20 to 20 mbar) pressure measurements.

An innovative eddy current measurement system enables the use of low displacement sensor diaphragms operating well within elasticity limits. In addition, the “dry cell” sensor concept means no internal fluid is used. Combined with a rugged design, this ensures high performance with long term reliability, even when operating over a wide temperature range.

The LPM/LPX 9000 Series are therefore ideally suited to a wide range of high precision applications, including leak detection, test benches and low flow measurement of liquids and gases among many others.

LPM/LPX 9000 Series

Druck Low Differential Pressure Sensors

LPM/LPX 9000 Series is a Druck product. Druck has joined other GE high-technology sensing businesses under a new name—GE Industrial, Sensing.



LPM/LPX 9000 Specifications

Pressure Measurement

Operating Pressure Ranges

- 0.04, 0.08, 0.2 inH₂O (0.1, 0.2, 0.5 mbar)
- 0.4, 0.8 inH₂O (1.2 mbar)
- 8 inH₂O (5, 10 mbar)
- 20 inH₂O (50 mbar)
- 40 inH₂O (100 mbar)
- 80 inH₂O (200 mbar)
- 7.5 psi (500 mbar)
- 15 psi (1 bar)

Overpressure

- 20 inH₂O (50 mbar)
- 1.5 psi (100 mar)
- 7.5 psi (500 mbar)
- 30 psi (2 bar)
- 45 psi (3 bar)
- 60 psi (4 bar)
- 75psi (5 bar)
- 120 psi (8 bar)

Static (Line) Pressure

- Vacuum to 750 psig (50 bar) ranges 0.04 to 4 inH₂O
- Vacuum to 3000 psig (200 bar) ranges 8 inH₂O to 15 psi (1 bar)

Pressure Media

Diaphragm material Inconel X750: fluids/gases compatible with 316L stainless steel, Inconel X750 and silver solder.

Diaphragm material Beryllium copper: fluids/gases compatible with 316L stainless steel, Inconel X750, Beryllium copper, brass, and solder (Pb/Sn).

Relative Humidity

0 to 100% RH (non-condensing)

Transduction Principle

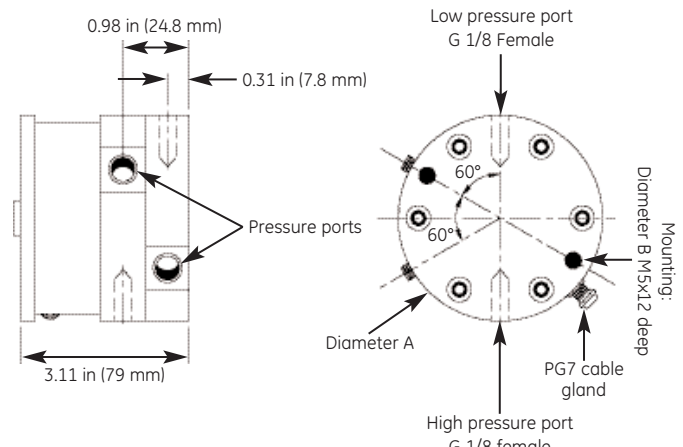
Variable inductance (Eddy current)

Output	Supply	Wires
LPX unidirectional 4 to 20 mA	10 to 30 VDC	2
LPX bidirectional 12 ±8 mA	10 to 30 VDC	2
LPM unidirectional 0 to 5 V	10 to 30 VDC	3
0 to 10 V	16 to 30 VDC	3
LPM bidirectional 2.5 V ±2.5V	10 to 30 V	3
5 V ±5V	16 to 30 V	3
0 V ±5V	±8 to ±15 VDC	4

Electrical output and supply

Supply Sensitivity

±0.01 % FS/Volt maximum



Ranges psi (bar)	Diameter A in (mm)	Diameter B in (mm)
Up to 4 inH ₂ O (10 mbar)	3.7 in (94 mm)	3.3 in (83.8 mm)
8 inH ₂ O (20 mbar)	3.3 in (83.8 mm)	2.8 in (72.8 mm)

LPM/LPX 9000 Series installation drawing

Insulation Resistance

100 MΩ at 50 VDC

Long Term Stability

<0.1%FS/year at reference conditions

Load Impedance

- LPX: 0.05 (Vsupply 10) kΩ maximum
- LPM: 5 kΩ minimum

Resolution

Infinite

Combined Non-Linearity, Hysteresis and Repeatability

±0.1% FS BSL all ranges

Asymmetry (Bi-directional Operation Only)

<1% FS

Static Pressure

- Zero: <0.5% FS/750 psi (50 bar)
- Span: <0.35% reading/750 psi (50 bar)

Static pressure errors are repeatable and reversible; they can be eliminated using the potentiometers at operating pressure.

Mounting Position Effect

Position zero offset that can be corrected with zero potentiometer, no span effect.

LPM/LPX 9000 Specifications

Zero Offset Adjustment

±15% FS

Span Setting Adjustment

±20% FS

Operating Temperature Range

-40°F to 250°F (-40°C to 121°C)

Compensated Temperature Range

-4°F to 176°F (-20°C to 80°C)

Temperature Effects

- Zero: ±0.005% FS/°F
- Span: ±0.005% reading/°F

Response Time

Set at 10 ms; may be factory set 10 ms to 2 seconds

Vibration Effect

<0.05% FS/g 20 Hz to 500 Hz

Dead Volume

- 7 ±0.1 cc ranges 0.04 to 4 inH₂O (0.1 mbar to 10 mbar)
- 6 ±0.1 cc ranges 8 inH₂O (20 mbar) and up

Weight

- 4.3 lb (1.95 kg) for ranges 0.04 to 4 inH₂O (0.1 mbar to 10 mbar)
- 3.4 lb (1.54 kg) for ranges 8 inH₂O (20 mbar) and up

Sensor Body

316L stainless steel

Measuring Diaphragm

Inconel X750 or beryllium copper

CE marking

CE marked for electromagnetic compatibility and pressure equipment directive.

Environmental Sealing

Type 4X/IP66

Electrical Connection

Cable gland with screw terminal block accessible under housing cover

Pressure Connection

1/8 in NPT female via adapter or G 1/8 BSP female

Options

(A) Mounting Bracket

Associated Products

Signal Conditioning/Digital Readouts

Refer to DPI 260 and DPI 280

Calibration Instruments

- Refer to DPI 515LP, 7250LP, DPI 615LP and DPI 615
- Druck/Pressurements

Ordering Information

- (1) Select model number
- (2) State pressure range
- (3) State output required
- (4) State options (if required)

Record selected option in blank indicated at bottom of form.

Code	Model
LPX	Current output
LPM	Voltage output
	Code Model
	9 Base model
	Code Diaphragm Material
	3 Inconel X750*
	4 Beryllium copper**
	Code Electrical Connection
	3 Plug/socket
	8 Cable gland, PG7
	Code Temperature Compensation
	1 -4°F to 176°F (-20°C to 80°C)
LPX	9 - 4 - 8 - 1
	Typical model number

* Available pressure ranges from 0.4 inH₂O to 15 psi

** Available pressure ranges from 0.04 to 0.8 inH₂O

Note: Each unit is supplied with calibration certificate and user manual.