



## LP 5000 Series

### Low Differential Pressure Sensors

- Ranges from 0.5 mbar to 10 bar
- Accuracy better than 0.25% FS BSL
- Line pressure from vacuum to 40 bar
- Uni-directional or bi-directional operation
- Excellent thermal and long term stability
- Full wet/wet media compatibility



The LP 5000 series accurately measure low differential or relative pressure of gases and liquids from 0.5mbar to 10 bar full scale. With a choice of current or voltage output, they are suitable for uni-directional (e.g. 0 to 20mbar) or bi-directional (e.g. -20 to 20mbar) 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 LP 5000 series are therefore ideally suited to a wide range of precision applications including clean room monitoring, low level measurement, chimney air flow and filter monitoring amongst many others.

# LP 5000 Series



## Low Differential Pressure Sensors

### STANDARD SPECIFICATIONS

#### Pressure Measurement

#### Operating Pressure Ranges

0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500mbar, 1, 2, 5 and 10 bar differential. For other ranges, please refer to manufacturer. Sensors may be calibrated in other pressure units - please specify.

#### Zero & Span Adjustment

Site adjustable potentiometer trim  
Zero: -15 to 100% F.S.  
Span: -20 to 50% F.S.

#### Overpressure

20 x F.S. for ranges up to 20mbar  
8 x F.S. for ranges from 50mbar to 200mbar  
3 x F.S. for ranges 500mbar and above.

#### Line Pressure

Vacuum to 20 bar for ranges up to 20mbar  
Vacuum to 40 bar for ranges 50mbar and above.

#### Pressure Media

Fluids compatible with anodised aluminium, beryllium copper, tin, brazing solder and Loctite Masterjoint 510.

#### Supply Voltage

10 - 30 Vd.c. (LPX)  
15 - 30 Vd.c. (LPM)  
±12 Vd.c. (LPM with 0 ±5 Vd.c. output only).  
See Options for 220V supply voltage.

#### Output Signal

LPX (uni-directional): 4-20mA (2 wire)  
LPX (bi-directional): 12 ±8mA (2 wire)  
LPM (uni-directional): 0 - 10 Vd.c. (3 wire)  
LPM (bi-directional) 0 ±5 Vd.c. (4 wire)

#### Load Impedance

LPX: 0.05 (Vsupply - 10) kΩ maximum  
LPM: 1kΩ minimum.

#### Performance

**Accuracy**  
Combined Non-linearity, Hysteresis and Repeatability: ±0.25% F.S. BSL maximum.

#### Long Term Stability

At standard reference conditions, calibration will not change by more than 0.3%F.S./annum.

#### Temperature Range

Ambient: -40° to 80°C  
Process media: -30° to 80°C  
Storage: -50° to 80°C

#### Temperature Effects

Output deviation over -10° to 50°C (alternatively -20° to 80°C) will not exceed the following values:  
Zero: 0.02% F.S./°C  
Span: 0.02% F.S./°C

#### Mounting Position Effect

No effect on span. Possible zero shift can be corrected via the adjustment potentiometer.

#### Supply Sensitivity

0.01% F.S./Volt maximum

#### Humidity

Up to 100% RH non-condensing.

#### Response Time

Adjustable from 10msec to 2 seconds.

#### Physical

#### Pressure Connections

G<sup>1</sup>/<sub>8</sub> female.

#### Purge Ports

G<sup>1</sup>/<sub>8</sub> female.

#### Purge Screws

316L stainless steel.

#### Electrical Connection

Cage type spring terminal block under cover plate. Maximum wire area 2.5mm<sup>2</sup> via PG7 gland (cable diameter 4 to 7mm).

#### Housing Material

Black anodised aluminium.  
Environmental Protection: IP66.

#### CE Conformity

EMC Emissions: EN50081-1  
EMC Immunity: EN50082-1  
Certification: CE marked.

#### Weight

900 grams nominal.

### OPTIONS

- (A) Panel Mounting Bracket.
- (B) Square Root Extraction. 4-20mA output only.
- (C) 220V, 50Hz Supply - refer to manufacturer.
- (D) Calibration Certificate.

### RELATED PRODUCTS

Druck manufacture a comprehensive range of pressure transducers, transmitters, indicators, controllers, deadweight testers and calibrators. The range of portable calibrators also covers temperature and electrical parameters.

Please refer to manufacturer for further information and data sheets.

### CALIBRATION STANDARDS

Instruments manufactured by Druck Limited are calibrated against precision pressure calibration equipment which is traceable to International Standards.

### ORDERING INFORMATION

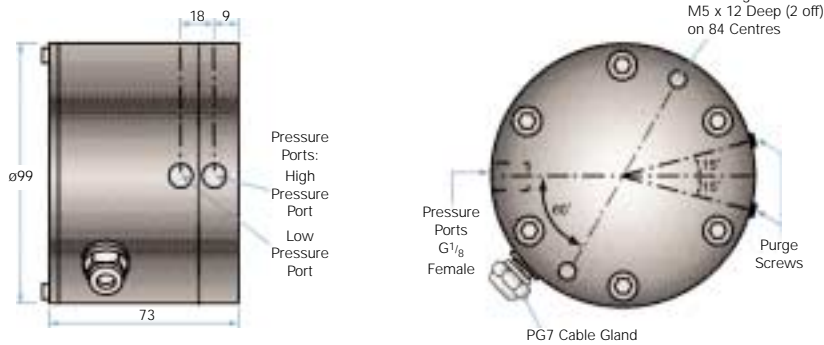
- (1) Select model number:

Code	Model
LPX	Current Output
LPM	Voltage Output
	<b>Code</b>
	5 Base Model
	<b>Code</b> Diaphragm Material
	4 Beryllium copper
	<b>Code</b> Electrical Connection
	8 Cable, gland PG7
	<b>Code</b> Temp.Comp
	0 -10° to 50°C
	1 -20° to 80°C
LPX	5 4 8 0

- (2) State minimum and maximum pressure and corresponding output signal.
- (3) State options (if required).

**Continuing development sometimes necessitates specification changes without notice.**

### INSTALLATION DRAWINGS - Dimensions in mm



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