

# LP 1000 Series

## Druck Ultra Low Pressure Sensor

The LP 1000 Series wet/wet differential pressure transmitter is ideally suited for use in clean room HVAC monitoring and control. The device offers several improvements over traditional sensors such as user-accessible damping, excellent long-term stability, and wet/wet differential operation where conductive fluids may be exposed to the measurement diaphragm.

The LP 1000 Series offers a dramatic improvement in reliability with improved stability and the ability to tolerate condensing media. The design has been field proven with more than 10 years in applications where high humidity and condensing media are a daily occurrence. The damping adjustment feature allows the user to slow the response time to eliminate nuisance trips of alarms when doors are opened and closed.

The DC version adds the ability to switch the pressure ports to the front of the device, thus permitting calibration to be performed from the front of the panel, eliminating the need for additional personnel behind the panel. Optional adjustable set-point Red and Green Status LEDs are available.



### Features

- Ranges:  $\pm 0.1$  inH<sub>2</sub>O to  $\pm 1$  psi (0.25 to 70 mbar)
- Accuracy to  $\pm 0.25$  % Full Scale (FS)
- Wet/wet differential pressure
- User-accessible damping (10 ms to 2 s)
- LCD display models available
- Red/green status LEDs



# LP 1000 Series Specifications

## Pressure Measurement

### Operating Ranges

0.25, 0.5, 1.0, 1.25, 2.0, 2.5, 5.0, 6.25, 7.5, 10, 12.5, 15, 20, 25, 40, 50, 70 mbar  
(0.1, 0.2, 0.25, 0.5, 0.8, 1, 2, 2.5, 3, 4, 5, 6, 8, 10, 16, 20 inH<sub>2</sub>O and 1 psi)  
unidirectional and bidirectional (other pressure units available, see ordering information).

### Overpressure

- 250 mbar (3.5 psi) for ranges 0.25 to 2.5 mbar (0.1 to 1 inH<sub>2</sub>O)
- 700 mbar (10 psi) for ranges 5 to 15 mbar (2 to 6 inH<sub>2</sub>O)
- 1200 mbar (17 psi) for ranges 20 to 70 mbar (8 inH<sub>2</sub>O to 1 psi)

### Maximum Static (Line) Pressure

2 bar (30 psi) for all ranges

### Electrical Supply Voltage

#### Power Supply (Vs) (at the terminals)

Current output without display	10 to 30 VDC
Current output with display	15 to 30 VDC
Current output with display and LED indicators	20 to 30 VDC
Voltage output	10 to 30 VDC
Voltage output (0 to 10 VDC)	15 to 30 VDC

### Output Signal Option

Unidirectional	Voltage	0 to 2.5 VDC
		0 to 5 VDC
		0 to 10 VDC
		1 to 6 VDC
Bidirectional	Current	4 to 20 mA
	Voltage	2.5 ±2.5 VDC
		5 ±5 VDC
	Current	12 ±8 mA

*Note: Voltage outputs are three wire, current outputs are two wire.*

### Zero Offset Adjustment

±5% FS

### Span Adjustment

±5% FS

### Response Time

User-adjustable 10 ms to 2 s  
(factory default setting 10 ms)

### Load Impedance

Voltage output 5 kW minimum

Current output  $R_L (kW) < (V_{supply} - V_s) 20$

## Performance

### Combined Effects of Non-linearity,

#### Hysteresis and Repeatability

±0.5% FS Best Straight Line (BSL)

±0.25% FS BSL (optional)

### Static Pressure Effects

Effects may be zeroed out at operating line pressure

### Stability

At standard conditions will not change by more than 1% FS averaged over one year

### Supply Sensitivity

<0.05% FS per volt

### Compensated Temperature Range

0 to 50° C (32 to 122° F)

### Temperature Effects

#### Over the range 32 to 122 °F (0 to 50° C)

- |  |                          |
|--|--------------------------|
| • Ranges from 0.1 inH <sub>2</sub> O to 0.5 inH <sub>2</sub> O | ±0.01 inH <sub>2</sub> O |
| • Ranges from 0.8 inH <sub>2</sub> O to 1 inH <sub>2</sub> O   | ±0.02 inH <sub>2</sub> O |
| • Ranges from 2 inH <sub>2</sub> O to 3 inH <sub>2</sub> O     | ±0.05 inH <sub>2</sub> O |
| • Ranges from 4 inH <sub>2</sub> O to 6 inH <sub>2</sub> O     | ±0.10 inH <sub>2</sub> O |
| • Ranges from 8 inH <sub>2</sub> O to 14 inH <sub>2</sub> O    | ±0.20 inH <sub>2</sub> O |
| • Ranges from 16 inH <sub>2</sub> O to 28 inH <sub>2</sub> O   | ±0.40 inH <sub>2</sub> O |

## Environmental

### Protection

Type 3 IP 64

(Except with C2 screw terminals)

### Temperature Range

0 to 50° C (32 to 122° F)

### Humidity

0 to 100% RH, non condensing.

### Mounting Position Effect

No effect on span, possible zero shift correctable by potentiometer adjustment.

*Note: Factory calibrated with diaphragm in the vertical plane.*



# Physical

## Housing

Aluminum

## Wetted Parts

Gases and liquids compatible with aluminum, stainless steel 316L, beryllium copper, brass, Inconel X750, adhesives and plastics.

## Electrical Connection

- DIN 43650A plug with free mating socket
- Screw terminals outside body
- DIN C plug with free mating socket

## Pressure Connection

10-32 UNF female to 0.125 in (3.175 mm) barbed fitting

## Weight

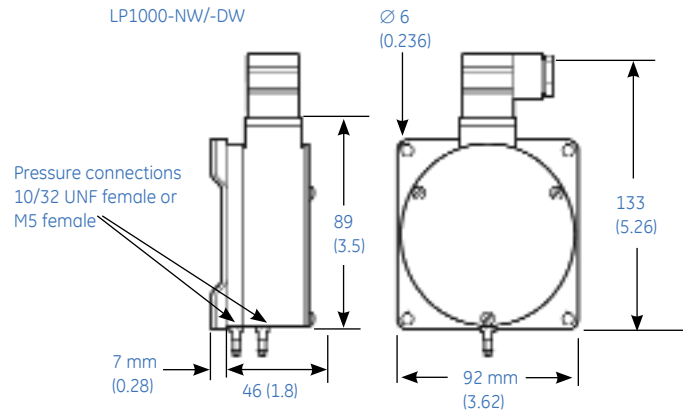
450 to 900 g (1 to 2 lb) approx depending upon configuration

## Certifications

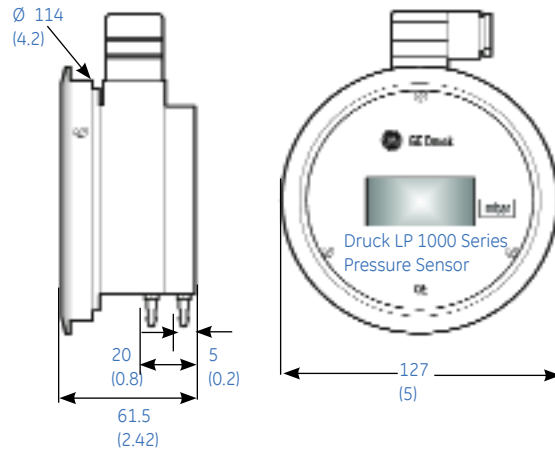
CE marked

## UPS III Loop Calibrator

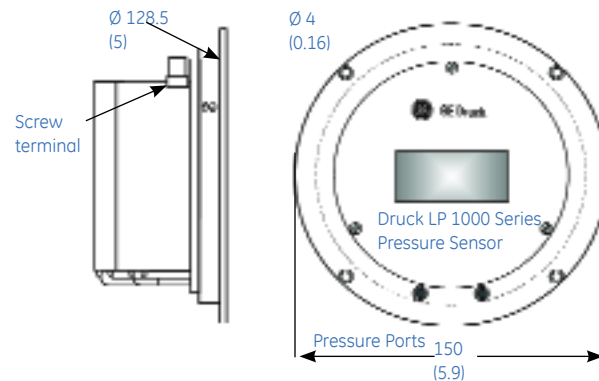
- Measure or source 0 to 24 mA
- Accuracy 0.01% of reading
- Dual mA and % readout, linear or flow
- Step, Span Check, Value Check, Ramp
- 60 VDC measurement and continuity



LP1000-DA/-DS



LP1000-NC/-DC/-DF



Dimension Drawings  
All dimensions in mm (inches)

## Associated Products

### PACE6000

- Modular Pressure Controller/Indicator
- Pressure ranges up to 210 bar (3000 psi/21 MPa) gauge & absolute
- Precision to 0.005% Rdg + 0.005% FS
- Long term stability to 0.01% Rdg per annum



### DPI 620

- Advanced Modular Calibration and HART® Communication System
- Multi-function capabilities: electrical, frequency, temperature and pressure
- ATEX/IEC approved
- Modular re-rangeable and expandable concept
- Individual components can be used as stand-alone instruments



## Ordering Information

### 1) Select Model number

<b>Code</b>	<b>Series identifier</b>								
<b>LP</b>	<b>Code</b>	<b>Output type</b>							
	M	Voltage							
	X	Current							
		<b>Code</b>	<b>Pressure Range</b>						
		10	Ranges from 0.25 to 2.5 mbar						
		15	Ranges from 5 to 15 mbar						
		18	Ranges from 20 to 20 mbar						
		<b>Code</b>	<b>Configuration</b>						
		1	Differential						
		<b>Code</b>	<b>Pressure connection</b>						
		0	10-32 UNF Female to 1/8" Barb						
		2	5 mm Female to 4mm Barb						
		<b>Code</b>	<b>Electrical Connection</b>						
		C1	DIN A						
		C2	Screw Terminal						
		C3	DIN C						
		<b>Code</b>	<b>Status Lights</b>						
		S	Standard						
		L	Green/Red Status LEDs						
		<b>Code</b>	<b>Display/Mounting</b>						
		DA	LCD with Aluminium Bezel						
		DC	LCD Front Panel Mount/in-situ calibration (select C2 Electrical Connection)						
		DF	LCD with Front Panel Mount						
		DS	LCD with Stainless Steel Bezel						
		DW	LCD with Wall Mount Bracket						
		NC	No LCD Front Panel Mount/in-situ calibration (select C2 Electrical Connection)						
		NW	No LCD with Wall Mount Bracket						
		<b>Code</b>	<b>Area Certification</b>						
		1	Safe Area						
		<b>Code</b>	<b>Options</b>						
		A	Improved Accuracy to 0.25%						
		C	3 Point Calibration Certificate						
		D	5 Point Nist Certificate						
		E	Calibration Keys (2 Supplied FOC with DC and NC option)						
		F	Horizontal Calibration						

Ordering format

- 2) State pressure range and units
- 3) State unidirectional or bidirectional



[www.ge-mcs.com](http://www.ge-mcs.com)

920-288F