

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: ± 0.1 inH₂O to ± 1 psi (0.25 to 70 mbar)
- Accuracy to ± 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 inH₂O 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 inH₂O)
- 700 mbar (10 psi) for ranges 5 to 15 mbar (2 to 6 inH₂O)
- 1200 mbar (17 psi) for ranges 20 to 70 mbar (8 inH₂O 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 inH₂O to 0.5 inH₂O ±0.01 inH₂O
- Ranges from 0.8 inH₂O to 1 inH₂O ±0.02 inH₂O
- Ranges from 2 inH₂O to 3 inH₂O ±0.05 inH₂O
- Ranges from 4 inH₂O to 6 inH₂O ±0.10 inH₂O
- Ranges from 8 inH₂O to 14 inH₂O ±0.20 inH₂O
- Ranges from 16 inH₂O to 28 inH₂O ±0.40 inH₂O

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

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



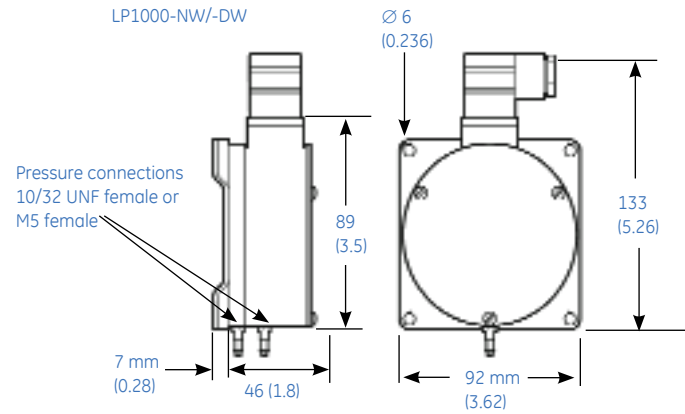
DPI 620

- 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

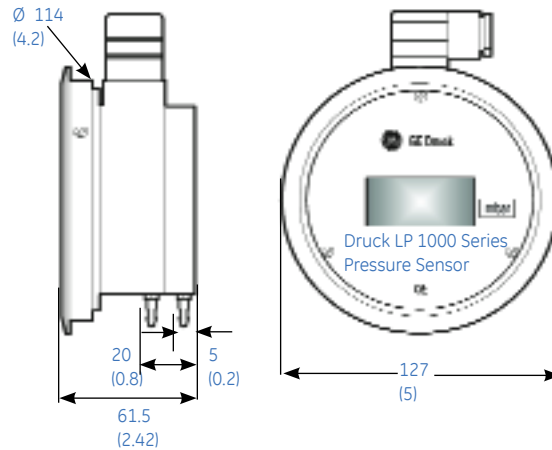


UPS III Loop Calibrator

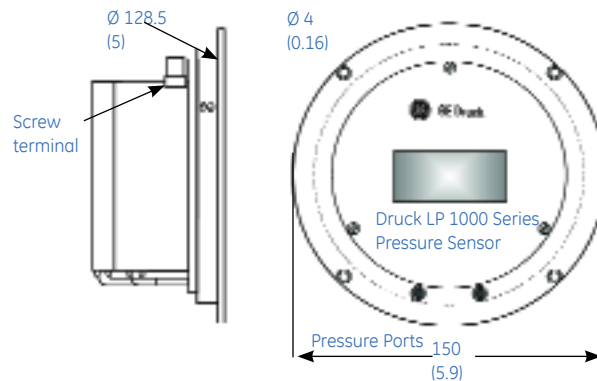
- Measure or source 0 to 24 mA
- Accuracy 0.01% of reading
- Dual mA and % readout, linear or flow
- Step, Span Check, Value Check, Ramp
- 60 VDC measurement and continuity



LP1000-DA/-DS



LP1000-NC/-DC/-DF



Dimension Drawings
All dimensions in mm (inches)

Ordering Information

1) Select Model number

Code	Series identifier										
LP	Series identifier										
	Code	Output type									
	M	Voltage									
	X	Current									
		Code	Pressure Range								
		10	Ranges from 0.25 to 2.5 mbar								
		15	Ranges from 5 to 15 mbar								
		18	Ranges from 20 to 20 mbar								
		Code	Configuration								
		1	Differential								
		Code	Pressure connection								
		0	10-32 UNF Female to 1/8" Barb								
		2	5 mm Female to 4mm Barb								
		Code	Electrical Connection								
		C1	DIN A								
		C2	Screw Terminal								
		C3	DIN C								
		Code	Status Lights								
		S	Standard								
		L	Green/Red Status LEDs								
		Code	Display/Mounting								
		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								
		Code	Area Certification								
		1	Safe Area								
		Code	Options								
		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								
LP	-	-	-	-	-	-	-	-	-	-	Ordering format

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



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