



Lopres[®] LP1000

Low Pressure Transmitter



- Piezoresistive silicon sensor technology for high performance
- Low pressure measurement from 0-50 mbar
- Robust stainless steel construction for durability and reliability
- Low hysteresis and excellent long term stability
- Ideal for low pressure fluid and gas applications
- Adjustable zero and span access



Description

The LP1000 series now extends pressure sensor technology into very low-pressure applications, with operating ranges down to 0-50 mbar whilst still maintaining high performance. The advanced sensor design provides very low hysteresis and excellent long-term stability not normally achievable when measuring very low pressure.

Offering a low cost solution for accurate measurement at low pressures, the LP1000 is designed for use with a wide variety of liquids and gases compatible with 316L stainless steel and nitrile (NBR). It features a robust stainless steel housing offering reliable performance in demanding applications and is available

with a wide selection of process and electrical connections options.

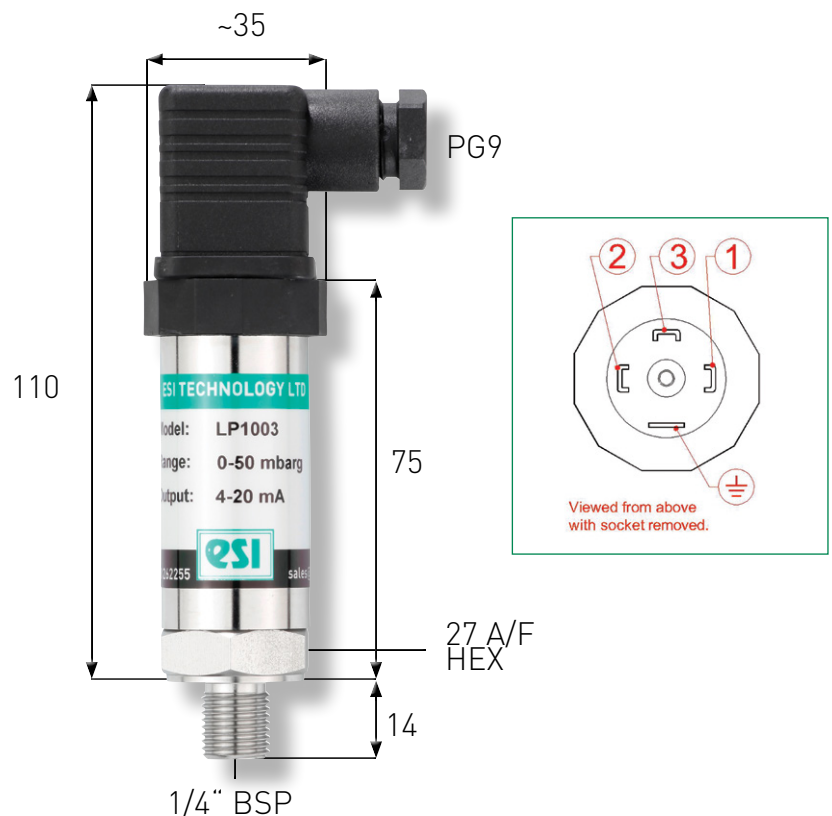
Available in pressure ranges from 0-50 mbar to 0-1,000 mbar and with electrical outputs of 0-100 mV, 0-5 Vdc, 0-10 Vdc and 4-20 mA. Zero and span potentiometers are accessible for fine adjustment of calibration if required.

Applications include laboratory and test, air and gas pressure monitoring, leak detection, low pressure liquid and hydrostatic pressure measurements.

Dimensions (in mm)

ELECTRICAL CONNECTION (mA)	
Pin No.	2 wire
1	+supply
2	4-20mA signal
3	not fitted
⊥	to case

ELECTRICAL CONNECTION (Vdc)		
Pin No.	4 wire	3 wire
1	-supply	common
2	+supply	+supply
3	+output	+output
⊥	-output	to case



Technical Data

Type	LP1000	LP10x1	LP10x2	LP1003
Sensor Technology:	Isolated Piezoresistive Silicon			
Output Signal:	10 mV/V typical (4 wire)	0 – 5 V (4 or 3 wire)	0 – 10 V (4 or 3 wire)	4 – 20 mA (2 wire)
Supply Voltage:	10 VDC	13 – 30 VDC	13 – 30 VDC	13 – 36 VDC
Pressure Reference:	Gauge or Absolute (limited ranges)			
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V (amplified versions)			
Standard Pressure Ranges (bar):	0 – 50 mbar; 0 – 100 mbar; 0 – 250 mbar; 0 – 500 mbar; 0 – 1,000 mbar (other ranges available); Absolute ranges from 0-500 mbar			
Standard Pressure Ranges (psi):	0-0.75 psi; 0-1.5 psi; 0-3 psi; 0-4 psi; 0-5 psi; 0-6 psi; 0-7.5 psi; 0-10 psi; 0-15 psi (other ranges available)			
Overpressure Safety:	4x for ranges 50 mbar to 250 mbar; 3x for ranges 500 mbar to 1,000 mbar			
Load Driving Capability:	4 – 20 mA: $RL < [UB - 13 V] / 20 mA \times 10^{-3}$; (e.g. with supply voltage (UB) of 36V, max. load (RL) is 1150 Ω ; 10 mV/V: n/a; 0 – 5 V: max. load $RL > 5 K\Omega$; 0 – 10 V: max. load $RL > 10 K\Omega$)			
Accuracy NLHR:	$\leq \pm 0.5$ % of span BFSL			
Zero Offset and Span Tolerance:	± 0.5 %FS at room temperature (LP1000: ± 1 mV); ± 5 %FS (approx.) adjustment with easy access trimming potentiometers on amplified versions only			
Operating Ambient Temperature:	-20 °C to +85 °C (-4 °F to +185 °F)			
Operating Media Temperature:	-20 °C to +85 °C (-4 °F to +185 °F)			
Storage Temperature:	+5 °C to +40 °C (+41 °F to +104°F) Recommended Best Practice			
Temperature Effects:	± 3.0 %FS total error band for -20 °C to +70 °C. Typical thermal zero and span coefficients ± 0.05 %FS/ °C			
Electromagnetic Compatibility:	Emissions: EN61000-6-3; Immunity: EN61000-6-2; Certification: CE Marked			
Insulation Resistance:	$> 100 M\Omega @ 50 VDC$			
Response time 10-90 %:	1 mS			
Wetted Parts:	SAE 316 stainless steel and Nitrile NBR O-ring			
Pressure Media:	All fluids compatible with SAE 316 stainless steel and Nitrile NBR			
Pressure Connection:	1/4" BSP male (G1/4); 1/4" NPT male; 1/2" BSP male (G1/2); 1/2" NPT male (other options available)			
Electrical Connection:	Mating socket EN175301-803 Form A (ex DIN43650) rated IP65 with PG9 cable entry (other options available)			
Net. Weight (Kg):	0.3 Kg			

Order Matrix

Output	Wires	Type	Electrical Connection	Pressure Range	Process Connection
10 mV/V	4	LP1000			
0-5 V	4	LP1001			
	3	LP1011			
0-10 V	4	LP1002			
	3	LP1012			
4-20 mA	2	LP1003			
Electrical Connection					
DIN EN175301 plug and socket			-		
Cable outlet 1m screened			A		
M12 connector			B		
Cable outlet 1m screened IP67 protection			C		
Pressure Range in bar					
0-50 mbar (Gauge only)				0050	
0-100 mbar (Gauge only)				0100	
0-250 mbar (Gauge only)				0250	
0-500 mbar				0500	
0-500 mbar Absolute				500A	
0-1000 mbar				1000	
0-1000 mbar Absolute				01KA	
Process Connection					
1/4" BSP male (G1/4)					AB
1/2" BSP male (G1/2)					AC
1/4" NPT male					AM
1/2" NPT male					AN
Order Number Example			LP1003-0050AC		
For options not listed please contact the sales team					

DISCLAIMER : ESI Technology Ltd operates a policy of continuous product development. We reserve the right to change specification without prior notice. All products manufactured by ESI Technology Ltd are calibrated using precision calibration equipment, traceable to national measurement standards.