



LOPRES® LP1000

Low Pressure Transmitter

- 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



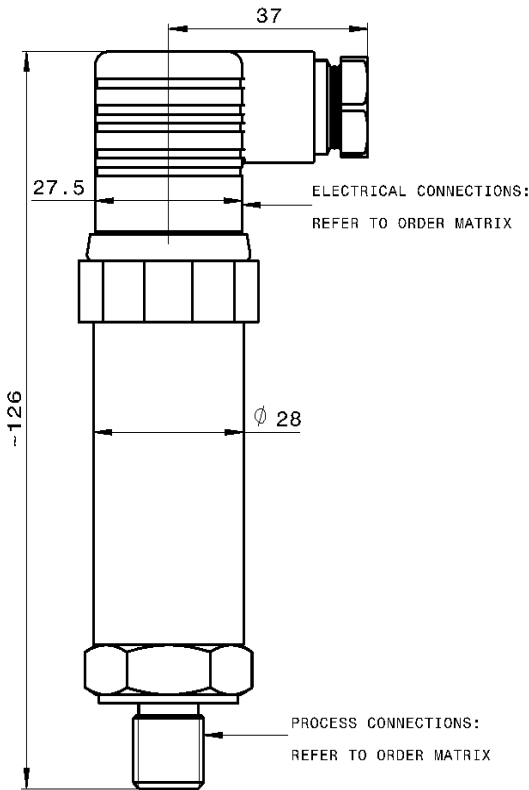
Specifications

The LOPRES 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. 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 (NPR).

Typical applications include:

- Laboratory and test
- Air & gas pressure monitoring
- Leak detection
- Low pressure liquid & hydrostatic pressure measurement

Dimensions (in mm)



Electrical Connections

| Pin No. | DIN Connection | | |
|---------|----------------|---------|---------|
| | mA | VDC | |
| | 2 wire | 3 wire | 4 wire |
| 1 | +supply | common | -supply |
| 2 | 4-20mA | +supply | +supply |
| 3 | N/C | +output | +output |
| ⏏ | to case | to case | -output |

| Pin No. | M12 Connection | | |
|---------|----------------|---------|---------|
| | mA | VDC | |
| | 2 pin | 3 pin | 4 pin |
| 1 | +supply | -supply | -supply |
| 2 | N/C | +supply | +supply |
| 3 | 4-20mA | +output | +output |
| 4 | N/C | N/C | -output |

Technical Data

| Type | LP1000 | LP1001/LP1011 | LP1002/LP1012 | 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 range) | | | |
| Protection of Supply Voltage: | Protected against supply voltage reversal up to 50 V (amplified version) | | | |
| Standard Pressure Ranges (bar): | 0-50 mbar; 0-100 mbar; 0-250 mbar; 0-500 mbar; 0-1000 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 psi; 0-15 psi; 0-15 psi (other ranges available) | | | |
| Overpressure Safety: | 4x ranges for 50 mbar to 250 mbar; 3x for ranges 500 mbar to 1000 mbar | | | |
| Load Driving Capability: | 4-20 mA: $RL < [UB - 13V] / 20 \text{ mA}$ (e.g. with supply voltage (UB) of 36V, max. load (RL) is 1150Ω); 10mV/V: n/a; 0-5V: max. load $RL > 5K\Omega$; 10 V: max. load $RL > 10K\Omega$ | | | |
| Accuracy NLHR: | $\leq \pm 0.5 \%$ of span BFSL | | | |
| Zero Offset and Span Tolerance: | $\pm 0.5 \%$ FS at room temperature (LP1000: $\pm 1\text{mV}$); $\pm 5 \%$ 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) | | | |
| Temperature Effects: | $\pm 3\%$ FS total error band for -20°C to +70°C. Typical thermal zero and span coefficients $\pm 0.05 \%$ FS/°C | | | |
| Storage Temperature: | +5°C to +40°C (+41°F to +104°F) recommended Best Practice | | | |
| Electromagnetic Compatibility: | Emissions: BS EN 61000-6-3: Immunity: BS EN 61000-6-2: Certification: CE/UKCA Marked | | | |
| Insulation Resistance: | $> 100M\Omega @ 50 \text{ vdc}$ | | | |
| 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 (G1/2); 1/2" NPT male (other options available) | | | |
| Electrical Connection: | Mating micro DIN socket EN175301-803 Form A (ex DIN43650) rated IP65 with PG9 cable entry (other options available) | | | |
| Net.wight (Kg): | 0.3Kg | | | |

Order Matrix

| Output | Wires | Type | Electrical Connection/Options | 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 (IP65) | | | - | | |
| Cable outlet 1m screened (IP65) | | | A | | |
| M12 connector (IP67 when mated with equivalent 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.