

IPSL-M12 SERIES

LOW RANGE INDUSTRIAL PRESSURE SENSOR WITH M12 4-PIN CONNECTOR



The IPSL-M12 is suitable for use in a wide range of applications. The probe uses a piezo-resistive silicon sensor, giving excellent media compatibility within an oil filled 316L stainless steel housing.

The electronics incorporate a microprocessor based amplifier, requiring no adjusting and giving stable electronics, especially in high vibration/shock applications.

Each device is temperature compensated, calibrated and supplied with a traceable serial number and calibration data.

Features

- Piezo-resistive sensor
- Stainless steel body & diaphragm
- Accuracy $\leq \pm 0.25\%$ FS BFSL
- 4-20mA or 0-5Vdc output
- Pressure ranges from 50mbar to 1000mbar
- M12 4-pin connector

Suitable Applications

- HVAC
- Pneumatics
- Rainwater harvesting
- Agricultural machinery
- Laboratory testing
- Mechanical engineering
- Environmental engineering
- Automotive testing
- Tank gauging
- IBC, IBC Tote or pallet tank

Options Available

- Pressure range
- Output type
- Mating cable and plug assemblies are available
- see datasheet M12 Cable Set Series

SPECIFICATIONS

Performance

| | | |
|--|--|---|
| Accuracy (Non-linearity & Hysteresis) | $\leq \pm 0.25\%$ / FS (BFSL) for gauge, $\leq \pm 0.5\%$ for Absolute | |
| Setting Errors (Offsets) | 2-wire | Zero & Full Scale, $\leq \pm 0.5\%$ / FS |
| | 3-wire | Zero & Full Scale, $\leq \pm 0.5\%$ / FS |
| Permissible Load | 2-wire | $R_{max} = [(Supply - 9min)/0.02] \Omega$ |
| | 3-wire | $R_{min} = 10k\Omega$ |
| Influence Effects | Supply | $< 0.005\%$ FS / 1V |
| | Load | 0.05% FSO / k Ω |

Material

| | |
|---------------------------|--|
| Housing | 316L Stainless Steel |
| "O" Ring Seals | Viton |
| Diaphragm | 316L Stainless Steel |
| Media Wetted Parts | Housing & connection, 'O' ring seal, diaphragm |

Miscellaneous

| | |
|---------------------------------|--|
| Current Consumption | 2-wire Limits at 28mA |
| | 3-wire Typical 6mA |
| Weight | Approx 100g |
| Installation Position | Any, small zero shift when tilted through 90° |
| Operation Life | > 100 x 10 ⁶ cycles |
| Insulation Resistance | > 50MOhms at 50Vdc |
| Environmental Protection | IP67 (only when used with a similarly rated connector) |

Electrical Protection

| | |
|--------------------------------------|-----------------------|
| Supply Reverse Polarity | No damage/no function |
| Electromagnetic Compatibility | CE Compliant |

Environmental Conditions

| | |
|----------------------------|-----------------------------|
| Shock | 100g / 11s |
| Vibration | 10g RMS (20 - 2000Hz) |
| Media Temperature | -40°C to +125°C |
| Ambient Temperature | -20°C to +80°C |
| Storage Temperature | -40°C to +125°C |
| Humidity | 5% to 95% RH non-condensing |

Temperature & Thermal Effects

| | |
|--------------------------------------|----------------|
| Compensated Temperature Range | +20°C to +80°C |
| Thermal Zero Shift (TZS) | <±0.04% /FS/°C |
| Thermal Span Shift | <-0.015% /°C |



Pressure Ranges & Passive mV/V Outputs

| Nominal Pressure, Gauge | mbar | 50 | 100 | 250 | 500 | 750 | 1000 |
|----------------------------|------|-------|-------|-------|-------|-------|-------|
| Nominal Pressure, Absolute | mbar | | | | 500 | 750 | 1000 |
| Permissible Overpressure | mbar | 2 bar | 2 bar | 2 bar | 5 bar | 5 bar | 5 bar |

Output Signal & Supply Voltage DIN 43650

| Wire System | Output | Supply Voltage | Connection | Pin No. |
|-------------|----------|----------------|------------|-------------|
| 2-wire | 4 - 20mA | 9 – 32Vdc | +ve Supply | Pin 2 |
| | | | -ve Supply | Pin 2 |
| | | | Ground | Earth Pin |
| 3-wire | 0 - 5Vdc | 9 – 32Vdc | +ve Supply | Pin 1 |
| | | | -ve Supply | Pin 2 |
| | | | +ve Output | Pin 3 |
| | | | Ground | Pin 4 Earth |

| RS Stock No. | Pressure Range | Output |
|--------------|----------------|-------------|
| 1755006 | 0-50mbarG | 4-20mA |
| 1755008 | 0-100mbarG | 4-20mA |
| 1755010 | 0-250mbarG | 4-20mA |
| 1755012 | 0-500mbarG | 4-20mA |
| 1755014 | 0-750mbarG | 4-20mA |
| 1755016 | 0-1000mbarG | 4-20mA |
| 1755007 | 0-50mbarG | 0-5V 3-wire |
| 1755009 | 0-100mbarG | 0-5V 3-wire |
| 1755011 | 0-250mbarG | 0-5V 3-wire |
| 1755013 | 0-500mbarG | 0-5V 3-wire |
| 1755015 | 0-750mbarG | 0-5V 3-wire |
| 1755017 | 0-1000mbarG | 0-5V 3-wire |



DIMENSIONS

All dimensions are in millimeters.

