

IPSL-M12 SERIES

LOW RANGE INDUSTRIAL PRESSURE SENSOR WITH M12 4-PIN CONNECTOR



CE

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.

