

IPS-M12 SERIES

INDUSTRIAL PRESSURE SENSOR - CERAMIC - WITH M12 4-PIN CONNECTOR



The IPS-M12 series is suitable for use in a wide range of industrial applications. The probe uses a piezo-resistive ceramic sensor, giving excellent media compatibility within a stainless steel housing.

The electronics incorporate a microprocessor based amplifier, requiring no adjusting and giving stable electronics, especially industrial applications.

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

Mating cable and plug assemblies are available - see data sheet M12 Cable Set Series.

*Calibration data is supplied as a sticker affixed to the product packaging - do not discard.

Features

- Piezo-resistive thick film ceramic sensor
- Stainless steel body
- Accuracy $\leq \pm 0.25\%$ FS BFSL
- 0-5V or 4-20mA output
- Pressure ranges from -1 to 400 bar
- M12 4-pin connector

SPECIFICATIONS

Performance

Accuracy (Non-linearity & Hysteresis)	$\leq \pm 0.25\%$ / FS (BFSL)	
Setting Errors (Offsets)	2-wire	Zero & Full Scale, $\leq \pm 0.5\%$ / FS
	3-wire	Zero & Full Scale, $\leq \pm 0.5\%$ / FS

Material

Housing	316L Stainless Steel
"O" Ring Seals	Viton
Diaphragm	Ceramic Al ₂ O ₃ 96%
Media Wetted Parts	Housing & connection, "O" ring seal, diaphragm
Weight	Approx 100g
Installation Position	Any
Operation Life	$> 100 \times 10^6$ cycles
Insulation Resistance	$> 50\text{M}\Omega$ at 50Vdc
Environmental Protection	IP67 (when used with a similarly rated connector)

Electrical Protection

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

Environmental Conditions

Shock	100g / 11ms
Vibration	10g RMS (20 - 2000Hz)
Media Temperature	-40°C to +135°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 (TSS)	<-0.015% /°C

PRESSURE RANGES

Pressure Ranges & Passive mV/V Outputs

Nominal Pressure, Gauge	bar	1	2	5	10	20	50	100	250	400
Compound Range	bar	-0.5 to 0	-0.5 to 2	-1 to 5	-1 to 9	-1 to 19	-1 to 24			
Permissible Overpressure	bar	2	4	10	15	35	100	150	350	500
Burst Pressure	bar	3	6	12	20	50	120	200	500	650

Output Signal & Supply Voltage

Wire System	Output	Supply Voltage	Connection Pin Nos		
2-wire	4 - 20mA	9 – 32V dc	+ve Supply Pin 1	-ve Supply Pin 2	Ground Earth Pin
3-wire	0 - 5V dc	9 – 32V dc	+ve Supply Pin 1	-ve Supply Pin 2	
			Output Pin 3	Earth Pin 4	

RS Stock No.	Pressure Range	Output
1754983	0 - 1 Bar G	4 - 20mA
1754984	0 - 1 Bar G	0 - 5V
1755001	0 - 6 Bar G	4 - 20mA
1755002	0 - 6 Bar G	0 - 5V
1755003	-1 to +9 Bar G	4 - 20mA
1755005	-1 to +9 Bar G	0 - 5V
1754985	0 - 10 Bar G	4 - 20mA
1754986	0 - 10 Bar G	0 - 5V
1754990	0 - 16 bar G	4-20mA
1754991	0 - 16 bar G	0-5V

RS Stock No.	Pressure Range	Output
1754981	-1 to +24 Bar G	4 - 20mA
1754982	-1 to +24 Bar G	0 - 5V
1754992	0 - 25 Bar G	4 - 20mA
1754993	0 - 25 Bar G	0 - 5V
1754997	0 - 40 Bar G	4 - 20mA
1754998	0 - 40 Bar G	0 - 5V
1754987	0 - 100 Bar SG*	4 - 20mA
1754989	0 - 100 Bar SG*	0 - 5V
1754995	0 - 250 Bar SG*	4 - 20mA
1754996	0 - 250 Bar SG*	0 - 5V
1754999	0 - 400 Bar SG*	4 - 20mA
1755000	0 - 400 Bar SG*	0 - 5V

*sealed gauge only



DIMENSIONS

All dimensions are in millimeters.

