

## IPSL-M12 SERIES

### LOW RANGE INDUSTRIAL PRESSURE SENSOR WITH M12 4-PIN CONNECTOR



#### Options Available

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

#### SPECIFICATIONS

##### Performance

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

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.

Custom versions can be made for particular applications.

#### Features

- Piezo-resistive sensor
- Stainless steel body & diaphragm
- Accuracy <math>\pm 0.25\% FS</math> BFSL
- 4-20mA or 0-5Vdc output
- Pressure ranges from 50mbar to 1000mbar
- M12 4-pin connector
- 1/4" BSP Pressure port connection

#### Suitable Applications

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

## Material

<b>Housing</b>	316L Stainless Steel
<b>"O" Ring Seals</b>	Viton
<b>Diaphragm</b>	316L Stainless Steel
<b>Media Wetted Parts</b>	Housing & connection, 'O' ring seal, diaphragm

## Miscellaneous

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

## Electrical Protection

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

## Environmental Conditions

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

## Temperature & Thermal Effects

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



## Pressure Ranges & Passive mV/V Outputs

<b>Nominal Pressure, Gauge</b>	mbar	50	100	250	500	750	1000
<b>Nominal Pressure, Absolute</b>	mbar				500	750	1000
<b>Permissible Overpressure</b>	mbar	2 bar	2 bar	2 bar	5 bar	5 bar	5 bar

## Output Signal & Supply Voltage DIN 43650

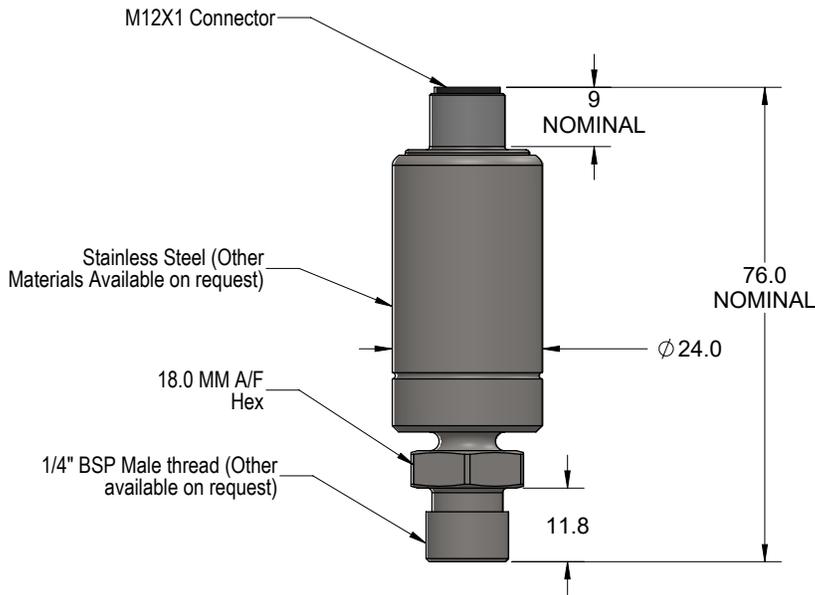
Wire System	Output	Supply Voltage	Connection	Pin No.
2-wire	4 - 20mA	9 – 32Vdc	+ve Supply	Pin 1
			-ve Supply	Pin 2
			Ground	Earth Pin
3-wire	0 - 5Vdc	9 – 32Vdc	+ve Supply	Pin 1
			-ve Supply	Pin 2
			+ve Output	Pin 3
			Ground	Pin 4 Earth

Part No	Pressure Range	Output
IPSL-G0050-5M12	0-50mbarG	4-20mA
IPSL-G0100-5M12	0-100mbarG	4-20mA
IPSL-G0250-5M12	0-250mbarG	4-20mA
IPSL-G0500-5M12	0-500mbarG	4-20mA
IPSL-G0750-5M12	0-750mbarG	4-20mA
IPSL-G1000-5M12	0-1000mbarG	4-20mA
IPSL-G0050-6M12	0-50mbarG	0-5V 3-wire
IPSL-G0100-6M12	0-100mbarG	0-5V 3-wire
IPSL-G0250-6M12	0-250mbarG	0-5V 3-wire
IPSL-G0500-6M12	0-500mbarG	0-5V 3-wire
IPSL-G0750-6M12	0-750mbarG	0-5V 3-wire
IPSL-G1000-6M12	0-1000mbarG	0-5V 3-wire

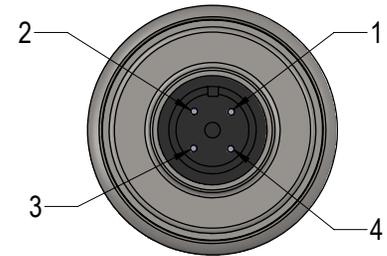


## DIMENSIONS

All dimensions are in millimeters.



**TOP VIEW**  
**(PIN OUT ELECTRICAL CONNECTION)**



Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com) SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

## CONTACT US

+44 (0)1202 897969  
 c3w\_sales@sensata.com  
 Cynergy3 Components Ltd.  
 7 Cobham Road,  
 Ferndown Industrial Estate,  
 Wimborne, Dorset,  
 BH21 7PE, United Kingdom