

IMPRESS

SENSORS & SYSTEMS

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Pressure - Temperature - Level - Distance - Control - Indication - Data logging



IMP-LR

Low Range Industrial Pressure Transmitter

- Oil filled Isolated diaphragm, silicon sensor
- Accuracy: $<\pm 0.25\%$ FS BFSL (0.1% optional)
- Pressure ranges from 25mbar to 1000mbar
- Selection of process & electrical connections
- Variety of Outputs including Volts and mA

The low range pressure transmitter, IMP-LR, has a piezo-resistive silicon pressure sensor which is an oil filled isolated diaphragm. The sensor and housing are made from stainless steel with a choice of internal O ring seals to ensure the product is suitable for a wide range of applications. Every device is temperature compensated and calibrated and supplied with a traceable serial number and calibration certificate. The electronics incorporates a microprocessor based amplifier, this means there are no adjusting pots and therefore the electronics are very stable, especially in high vibration / shock applications.

There are many options available on the IMP-LR pressure transmitter. These include the following :

- Pressure range and engineering units
- Pressure reference (G, SG or Abs)
- Output type
- Accuracy Level (Non-linearity & hysteresis)
- Thermal accuracy
- Electrical connection
- Process connection
- Process connection material
- O ring seal material

Suitable for the following applications:

- Pneumatics
- Laboratory testing
- Mechanical engineering
- Environmental engineering
- Automotive testing
- Tank gauging
- HVAC

IMP-LR Low Range Pressure Transmitter

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Low Range Industrial Pressure Transmitter

Input Pressure Range

Nominal pressure, Gauge	mbar	25	40	60	100	160	250	400	600	1000
Permissible Overpressure	mbar	100	100	200	400	400	700	1400	1400	2000

Output Signal & Supply Voltage

Wire system	Output	Supply Voltage
2-wire	4 - 20mA	9 – 32V dc
3-wire	0 – 5V dc	9 – 32V dc
	0 – 10V dc	13 – 32V dc
	1 – 5V dc	9 – 32V dc
	1 – 10V dc	13 – 32V dc
	1 – 6V dc	9 – 32V dc
	0 – 6V dc	9 – 32V dc
	0.5 to 4.5V dc	5V dc

Performance

Accuracy (Non-linearity & hysteresis)	$<\pm 0.25\% / \text{FS (BFSL)}$ $<\pm 0.1\% / \text{FS (BFSL) optional}$	
Setting Errors (offsets)	2-wire 3-wire	Zero & Full Scale, $<\pm 0.5\% / \text{FS}$ Zero & Full Scale, $<\pm 0.5\% / \text{FS}$
Permissible Load	2-wire 3-wire	$R_{\text{max}} = [(V_{\text{S}} - V_{\text{S min}}) / 0.02] \Omega$ $R_{\text{min}} = 10 \text{ k} \Omega$
Influence Effects	Supply Load	0.5 to 4.5V – Ratiometric, other outputs - $<0.005\% \text{ FS} / 1\text{V}$ $0.05\% \text{ FSO} / \text{k}\Omega$

Permissible Temperatures & Thermal Effects

Media temperature	-40°C to +120°C
Ambient temperature	-20° to +80°C
Storage temperature	-40°C to +120°C
Compensated temperature range	+20°C to +80°C
Thermal Zero Shift (TZS)	$<\pm 0.04\% / \text{FS} / ^\circ\text{C}$ (option code 4) $<\pm 0.02\% / \text{FS} / ^\circ\text{C}$ (option code 2)
Thermal Span Shift (TSS)	$<-0.015\% / ^\circ\text{C}$

Low Range Industrial Pressure Transmitter

Electrical Protection

Supply reverse polarity protection	No damage but also no function
Electromagnetic compatibility	CE Compliant

Mechanical Stability

Shock	100 g / 11 ms
Vibration	10 g RMS (20 ... 2000 Hz)

Materials

Housing & process connection	303 Stainless Steel 316L Stainless Steel (optional)
'O' ring seals	Viton NBR, Nitrile (optional) EPDM (optional)
Diaphragm	316L Stainless Steel
Media wetted parts	Housing and process connection, 'O' ring seal, diaphragm

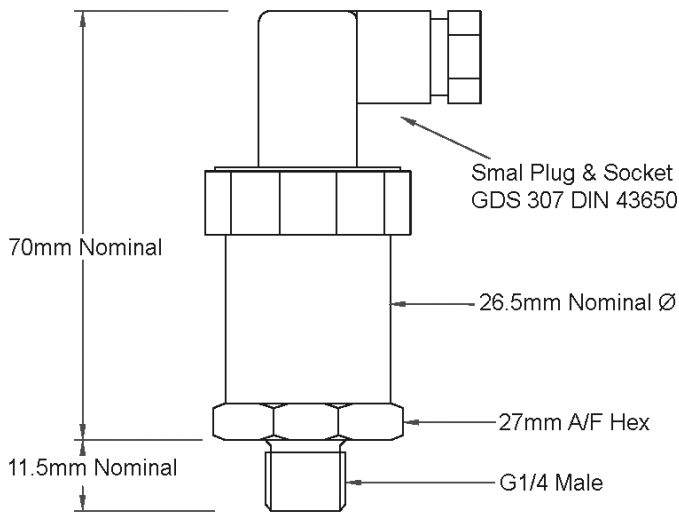
Miscellaneous

Current consumption	2-wire,	Limits at 28mA
	3-wire	Typ. 6mA
Weight	Approx. 100g	
Installation position	Any, <0.1% FS of capsule on Zero shift for 90° tilt in any direction	
Operation Life	> 100 x 10 ⁶ cycles	
Insulation Resistance	>500M Ω at 50V dc	

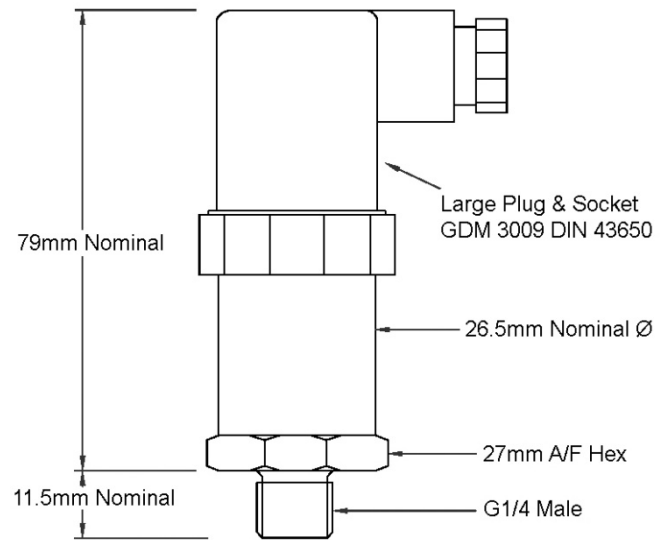
Wiring Designation

		Small Plug & Socket (Code A)	Large Plug & Socket (Code B)	IP66 Cable (Code C)	AMP 6-pin Bayonet (Code D)	IP68 Vented Cable (Code E)	Binder 6-pin connector (Code F)	M12x1, 4-pin connector (Code G)
2-wire	+ve Supply	Pin 1	Pin 1	Red	Pin 1	Red	Pin 1	Pin 1
	-ve Supply	Pin 2	Pin 2	Blue	Pin 2	Blue	Pin 2	Pin 2
	Ground	Earth Pin	Earth Pin	Green	Earth Pin	White	Pin 3	Pin 3
3-wire	+ve Supply	Pin 1	Pin 1	Red	Pin 1	Red	Pin 1	Pin 1
	-ve Supply	Pin 2	Pin 2	Blue	Pin 2	Blue	Pin 2	Pin 2
	+ve Output	Pin 3	Pin 3	Green	Pin 3	White	Pin 3	Pin 3
	Ground	Earth Pin	Earth Pin	Yellow	Earth Pin	Yellow	Pin 4	Pin 4

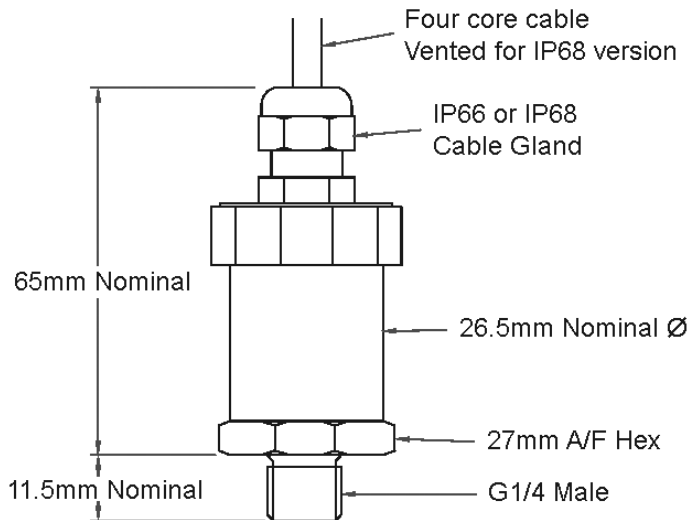
Electrical Connections



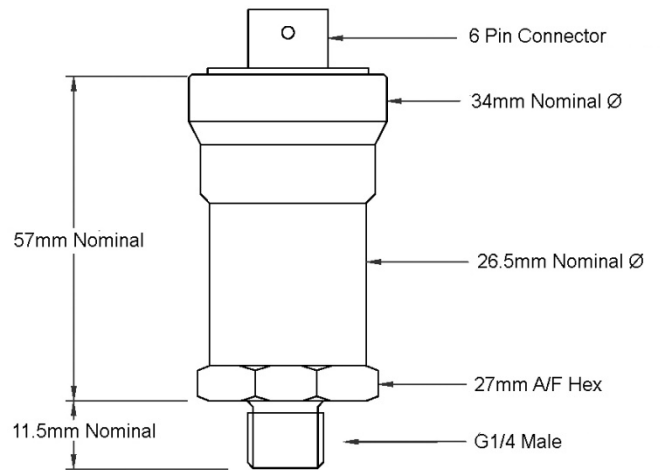
Small Plug & Socket
IP65, GDS 307 DIN 43650 Ø



Large Plug & Socket
IP65, GDM 3009 DIN 43650



Cable Gland Assembly
IP65 gland, screened PVC industrial cable



Amphenol Connector
6 pin, IP67, IP54 on gauge versions

Suggested Accesories



PA 430
in head display and switching device



SPS-24
Din rail power supply



dTrans
Signal conditioner and switching device

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