CACHÉ INSTRUMENTATION

TECHNICAL DATA

FLOW | PRESSURE | TEMPERATURE | LEVEL

IMP

Industrial Pressure Transmitter

- Thick film ceramic sensor
- Accuracy: <±0.25% FS BFSL (0.1% optional)
- Pressure ranges from 0.5 to 700 bar
- Gauge, Sealed Gauge or Absolute reference
- Variety of Outputs including mV, Volts and mA

The industrial pressure transmitter, IMP, has a piezo-resisitive ceramic pressure sensor giving it excellent media compatibility. The housing is made from stainless steel with a choice of internal O ring seals to select 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 incorporate 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 pressure transmitter. These include the following :

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

IMP Industrial Pressure Transmitter

Suitable for the following applications:

- Hydraulics
- Pneumatics
- Autoclave & Sterilisation
- Agricultural machinery
- Laboratory testing
- Mechanical engineering
- Environmental engineering
- Automotive testing
- Tank gauging
- Pumps & compressors
- HVAC

CE

IMP Industrial Pressure Transmitter

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IMP
Industrial Pressure Transmitter

Technical Datasheet

Input Pressure Range

Nominal pressure, Gauge	Bar	0.5	1	2	5	10	20	50	100	250	400	600	700
Nominal pressure, Absolute & SG	Bar	0.5	1	2	5	10	20	50	100	250	400	600	700
Compound Range	Bar	-	-1...0[1)]	-1...2[1)]	-1...5	-1...9	-1..19	-1..29	-	-	-	-	-
Permissible Overpressure	Bar	1	2	4	10	20	40	100	200	400	650	880	880
Burst Pressure	Bar	2	4	5	12	25	50	120	250	500	650	880	880

1) <±0.1% / FS (BFSL) accuracy not possible in this range

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
4-wire	Passive mV/V (un-rationalised)	2 – 30V dc
	2mV/V (rationalised)	2 – 30V dc
	10mV/V (amplified)	3 – 12V dc

Performance

Accuracy (Non-linearity & hysteresis)	<±0.25% / FS (BFSL) <±0.1% / FS (BFSL) optional	
Setting Errors (offsets)	2-wire	Zero & Full Scale, <±0.5% / FS
	3-wire	Zero & Full Scale, <±0.5% / FS
	4-wire	see table below
Permissible Load	2-wire	Rmax = [(VS – VS min) / 0.02] Ω
	3-wire	Rmin = 10 k Ω
	4-wire	Rmin = 11 k Ω
Influence Effects	Supply	mV/V & 0.5 to 4.5V – Ratiometric,
		other outputs - <0.005 % FS / 1V
	Load	0.05 % FSO / kΩ

Permissible Temperatures & Thermal Effects

Media temperature	-20°C to +135°C (150°C with integrated cooling element)
Ambient temperature	-20° to +80°C
Storage temperature	-40°C to +125°C
Compensated temperature range	+20°C to +80°C
Thermal Zero Shift (TZS)	<±0.04% / FS / °C (option code 4) <±0.02% / FS / °C (option code 2) <±0.01% / FS / °C (option code 1)
Thermal Span Shift (TSS)	<-0.015% / °C

IMP
Industrial Pressure Transmitter

Technical Datasheet

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) High Grade DUPLEX Stainless Steel UNS31803 (optional)
'O' ring seals	Viton NBR, Nitrile (optional) EPDM (optional) Chemraz (optional)
Diaphragm	Ceramic Al_2O_3 96 %
Media wetted parts	Housing and process connection, 'O' ring seal, diaphragm

Miscellaneous

Current consumption	2-wire, 3-wire & 4-wire	Limits at 25mA, Typ. 6mA, Typ.2 – 5mA
Weight	Approx. 100g	
Installation position	Any	
Operation Life	> 100 x 10^6 cycles	
Insulation Resistance	>500M Ω at 50V dc	

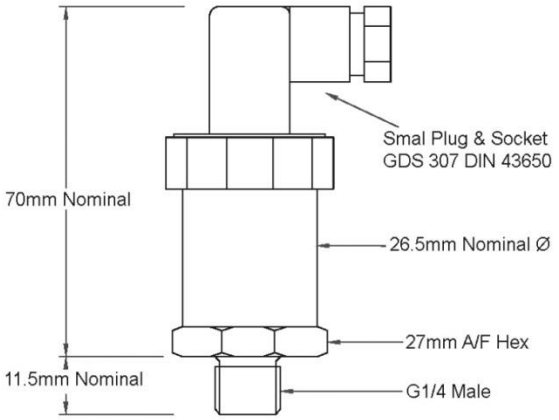
Typical Passive mV/V Outputs

Nominal pressure	Bar	1	2	5	10	20	50	100	250	400	600	700
Output	mV/V	2.0..3.5	2.0..4.0	2.4..4.5	3.6..6.0	2.5..4.0	4.0..6.5	3.1..4.8	3.1..4.8	3.1..4.8	3.7..5.7	4.3..6.7
Zero Setting Error	mV/V	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Span Setting Error	%	30	30	30	30	30	30	30	30	30	30	30

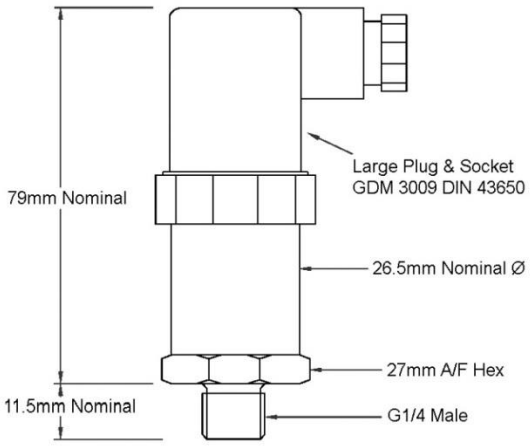
Wiring Designation

		Small Plug & Socket (**Code A**)	Large Plug & Socket (**Code B**)	IP66 Cable (**Code C**)	AMP 6-pin Bayonnet (**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
4-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
	-ve Output	Earth Pin	Earth Pin	Yellow	Pin 4	Yellow	Pin 4	Pin 4

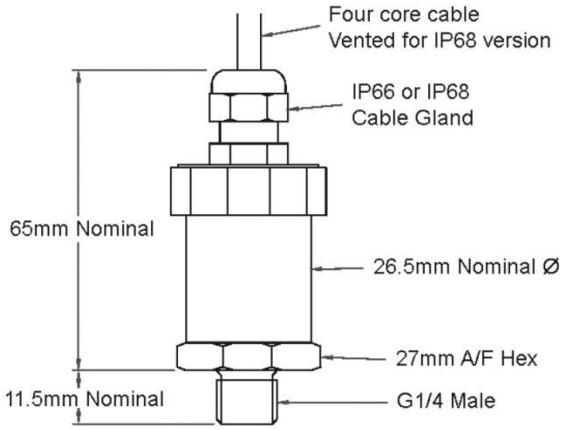
Electrical Connections



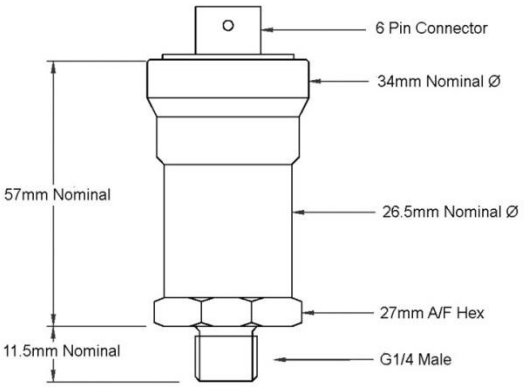
Small Plug & Socket
IP65, GDS 307 DIN 43650 Ø



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