

ASL

Autosport Low Cost Pressure Transmitter

- Miniature size with rugged design
- IP66 rated for harsh environments
- Dynamic piezo-resistive Ceramic Sensor
- Accuracy: $<\pm 0.5\%$ FS BFSL
- Pressure ranges from 1 bar to 350 Bar
- Selection of process & electrical connections
- Outputs include mV or Volts

The Autosport low cost pressure transmitter, ASL, has a piezo-resistive ceramic pressure sensor which is chemically inert and has very fast dynamic response. The housing is made from stainless steel with a choice of Internal O ring seals to select to ensure the product is suitable for the applications mentioned below. Every device is temperature compensated, calibrated, 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 is very stable, especially in high vibration / shock applications.

There are many options available on the ASL and include the following :

- Calibrated Pressure range
- Output
- Accuracy (Non-linearity & hysteresis)
- Thermal accuracy
- Electrical connection
- Process connection
- O ring seal material

Suitable for the following applications:

- Fuel pressure
- Oil pressure
- Air Pressure
- Coolant pressure
- Brake line pressure
- Water pressure
- Barometric pressure
- Automotive testing

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Input Pressure Range

Nominal pressure, G, SG or Abs	bar	1	2	5	10	20	50	100	200	400
Permissible Overpressure	bar	2	4	10	20	40	100	200	400	650
Burst Pressure	bar	4	5	12	25	50	120	250	500	650

Output Signal & Supply Voltage

Wire system	Output	Supply Voltage
3-wire	0.5 to 4.5V dc	5V dc or 8 – 16V dc
	0 – 5V dc	8 – 16V dc
	0.5 – 5V dc	8 – 16V dc
	1 – 5V dc	8 – 16V dc
	0.5 – 6V dc	8 – 16V dc
	1 – 6V dc	8 – 16V dc
4-wire	Passive mV/V (un-rationalised)	2 – 30V dc

Performance

Accuracy (Non-linearity & hysteresis)	<±0.5% / FS (BFSL)	
Setting Errors (offsets)	3-wire	Zero & Span, <±1% / FS
	4-wire	see table below
Permissible Load	3-wire	Rmin = 10 k Ω
Output Resistance	4-wire	11k Ω nom.

Permissible Temperatures & Thermal Effects

Media temperature	-20°C to +135°C
Ambient temperature	-20° to +100°C
Storage temperature	-40°C to +135°C
Compensated temperature range	+20°C to +80°C
Thermal Zero Shift (TZS)	<±0.04% / FS / °C (option code 2)
	<±0.02% / FS / °C (option code 1)
Thermal Span Shift (TSS)	<-0.02% / °C

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Electrical Protection

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

Mechanical Stability

Shock	1000 g / 1 ms
Vibration	40 g RMS (20 ... 2500 Hz)

Materials

Housing & process connection	303 Stainless Steel
'O' ring seals	Viton NBR, Nitrile (optional) EPDM (optional) Chemraz (optional)
Diaphragm	Aluminium Oxide Al ₂ O ₃
Media wetted parts	Housing and process connection, 'O' ring seal, diaphragm

Miscellaneous

Current consumption	3-wire & 4-wire	Typ. 6mA, Typ. 2 – 5mA
Weight	Approx. 60g	
Installation position	Any	
Operation Life	> 100 x 10 ⁶ cycles	
Insulation Resistance	>500M Ω at 50V dc	

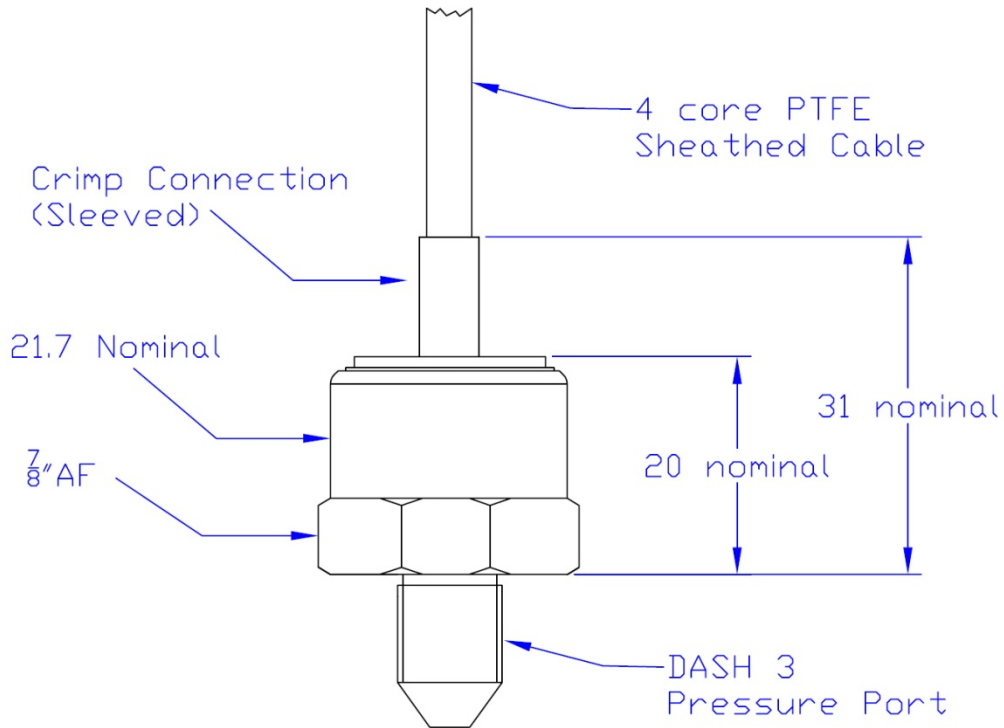
Typical Passive mV/V Outputs

Nominal pressure	Bar	1	2	5	10	20	50	100	200	400
Output	mV	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	2.5...3.9	3.1...4.8
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±0.1	-0.1±0.1	-0.1±0.1	-0.1±0.1

Wiring Designation

		Screened 26 AWG cable (Code A)	
3-wire	+ve Supply	Red	
	-ve Supply	Blue	
	+ve Output	Yellow	
	Not Connected	Screen	
4-wire	+ve Supply	Red	
	-ve Supply	Blue	
	+ve Output	Green	
	-ve Output	Yellow	
	Not Connected	Screen	

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Optional Connections

Electrical Connections

- 4 core PTFE sheathed, Screened 26 AWG cable

Process Connections

- 3/8"-24 UNF cone 74° DASH-3
- 1/8" NPT male
- G 1/4" male
- M10 x 1 male

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