

PRESSURE MODULE

PITOT SENSOR



This module is typically used as a Pitot tube sensor. The output voltage changes with the difference in pressure between the two ports, it is insensitive to variations in ambient pressure. An internal amplifier creates a single-ended, amplified output in the 0 to 5 Volt range, so the sensor can be connected directly to most control units and data loggers. The full scale output, zero offset and temperature compensation are digitally programmed at the factory. Generic values are shown here, other values can be set on request.

Electrical

- Supply voltage 8 to 16V
- Supply current <10mA
- Maximum output voltage 5V
- Output (at 25°C) for 70mbar $4.5 \pm 0.1V$
- Output (at 25°C) for 0mbar $0.5 \pm 0.1V$
- Combined thermal zero offset/sensitivity shift (over compensated temperature range) $< \pm 2\%$ typ, $\pm 3\%$ max
- Non Linearity $< \pm 0.3\%$ FSO typ, $< \pm 0.6\%$ FSO max, @ 25°C
- Hysteresis $< \pm 0.1\%$ FSO @ 25°C
- Repeatability $< \pm 0.5\%$ FSO @ 25°C
- Output impedance <50 ohm
- Insulation resistance >100Mohm @ 50Vdc
- Long term ageing $\leq 0.2\%$ FSO @ 20°C per annum

Gain and offset values, measured at 25°C, are printed on a label on the sensor body. A test result sheet is supplied with each sensor.

The sensor only responds to positive differential pressure, ie when the pressure at the port labelled '+' is higher than at '-'. The pressure at the '-' port may be below atmospheric.

Cable and Connection Definition

- 24 AWG un-screened cable
- Cable length is shown on the order details but any length is available on request
- Various automotive and military standard connectors are available
- Connection

Red wire	Supply
Green wire	Pressure Signal
White wire	Ground

Application

- Pitot tube

Mechanical

- Measurement range (differential) 0 to 70mbar
- Rated pressure 70mbar
- Maximum pressure 5 times rated pressure
- Maximum common mode pressure 7000mbar simultaneously on both ports
- Aluminium alloy body, anodised and dyed black
- Weight 50g including cable
- Polyester boss for strain relief to the sensor body

Design and manufacture is in-house, so if our existing designs do not suit your application, we can provide cost effective customised parts to suit even the most demanding application. No engineering charges are made for simple modifications such as customer specific connectors, cable protection and cable lengths. Please contact our technical consultancy service who will be pleased to help.

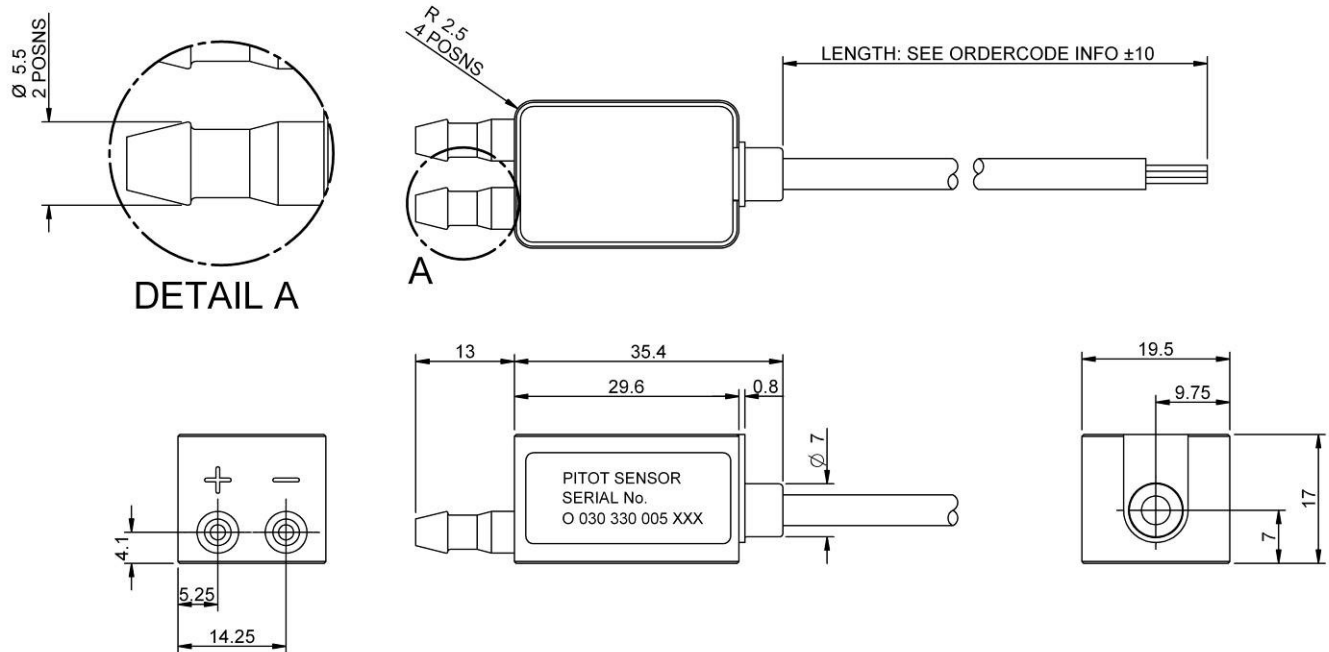
Environmental

- Body resistant to standard motorsport fluids
- Positive pressure port may be exposed to standard motorsport fluids but negative port is only suitable for dry gas
- Maximum humidity 100%
- Operating temperature -40 to +125°C
- Compensated temperature range 0 to +70°C
- Viton jacketed cable
- Vibration 50 to 2500Hz @ 40g 8hrs per axis

6/12/02

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Cable Length 1000mm	Order Code O 030 330 005 008
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McLAREN TECHNOLOGY CENTRE
CHERTSEY ROAD, WOKING
SURREY GU21 4YH, UNITED KINGDOM

T: +44 (0) 1483 261400
F: +44 (0) 1483 261402
W: www.mclarenelectronics.com

USA: McLAREN ELECTRONICS INCORPORATED
T: +1 (704) 660 3181
Email: sales@mclarenelectronics.com

ASIA: TOKYO R&D CO. LTD
T: +81 (0) 46 226 5501
Email: mes@r-d.co.jp