



# Protran<sup>®</sup> PR3202

Low Pressure Differential Transmitter



- Wide range of low pressure ranges from 0-5 mbar
- Available for gauge reference or bi-directional measurement
- Durable designs for industrial and commercial installations
- ATEX/IECEX option available (includes M1 for mining applications)



Vers. 20/1/Eng



## Description

Our low range air differential pressure transmitter provides an accurate solution for low pressure sensing with ranges available from 0-5 mbar to 0-1,000 mbarDP. Incorporating the latest silicon sensor and electronics technologies, these 4-20 mA transmitters are fully temperature compensated for unrivalled stability at very low pressure.

Housed in an RFI shielded wall mountable box for EMC protection, these transmitters combine precise measurement for control at very low pressures, with the robustness and flexibility for industrial and commercial installations. An optional heavy-duty aluminium die-cast housing is available for the harshest environments.

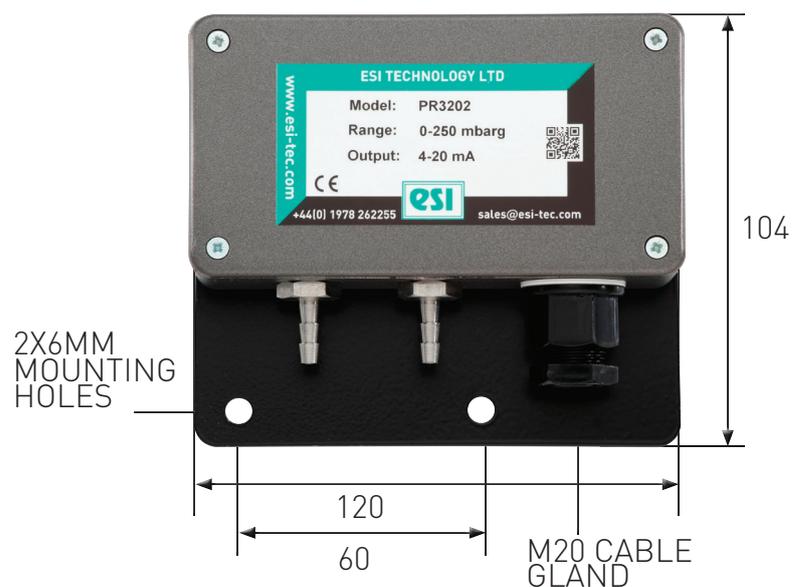
Applications include flow measurement with pitot tubes, orifice plates and mass flow meters, plus static pressure measurement

and control, in combustion chambers and clean rooms, or any application on air or gas requiring reliable ultra-low differential pressure measurement. Access to screw terminal electrical connections and to zero span potentiometers is by removing the front covers, making installation and on-site adjustment. Cable entry is through a compression seal gland, or optional M20 conduit fitting. Standard pressure connections are to push-on hose fittings for 4mm ID hose. Ranges available from 0-5 mbar to 0-1,000 mbar in DP, gauge reference or bi-directional. Ultra-low pressure ranges from 0-25 Pa are also available.

An optional ATEX and IECEx approved version of this product is available for explosion protection for flammable gases (zone 0), dusts (zone 20) and mining areas (group I M1).

## Dimensions (in mm)

ELECTRICAL CONNECTION (mA)	
<b>Pin No.</b>	<b>2 wire</b>
1	+supply
2	4-20mA signal
3	not fitted
⏏	to case



## Technical Data

Type:	PR3202	PR3203	PR3204
Sensor Technology:	Piezoresistive Silicon		
Output Signal:	4-20 mA (2 wire)	0-5 V (3 wire)	0-10 V (3 wire)
Supply Voltage:	10-36 VDC	13 – 30 VDC	13 – 30 VDC
Pressure Reference:	Differential		
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V		
Standard Pressure Ranges (bar):	0-5 mbar; 0-10 mbar; 0-20 mbar; 0-50 mbar; 0-100 mbar; 0-250 mbar; 0-500 mbar; 0-1,000 mbar (other options available)		
Standard Pressure Ranges (psi):	0-2 inH <sub>2</sub> O; 0-4 inH <sub>2</sub> O; 0-8 inH <sub>2</sub> O; 0-10 inH <sub>2</sub> O; 0-12 inH <sub>2</sub> O; 0-20 inH <sub>2</sub> O; 0-1 psi; 0-1.5 psi; 0-3 psi; 0-4 psi; 0-7.5 psi; 0-15 psi (other options available)		
Overpressure Safety:	25 mbar max. for ranges 0-5 mbar to 0-10 mbar; 200 mbar max. for ranges 0-20 mbar to 0-100 mbar; 1,200 mbar max. for ranges 0-150 mbar to 0-1,000 mbar		
Common Mode (Static line pressure):	375 mbar equal to both ports for ranges 0-5 to 0-10 mbar; 2 bar max. equal to both ports for ranges 0-20 mbar to 0-1,000 mbar		
Load Driving Capability:	4-20 mA: $RL < [UB - 13 V] / 20 \text{ mA}$ (e.g. with supply voltage (UB) of 36 V, max. load (RL) is 1150 $\Omega$ )		
Accuracy NLHR:	$\leq \pm 0.3 \%$ of span BFLS		
Zero Offset and Span Tolerance:	$\pm 1.0\%$ FS at room temperature $\pm 5\%$ FS (approx.) adjustment via trimming potentiometers located beneath the enclosure lid		
Operating Ambient Temperature:	-20 °C to +70 °C (-4 °F to +158 °F)		
Operating Media Temperature:	-20 °C to +70 °C (-4 °F to +158 °F)		
Storage Temperature:	+5 °C to +40 °C (+41 °F to +104°F) Recommended Best Practice		
Temperature Effects:	$\pm 2.0\%$ FS total error band for -20 °C to +70 °C. Typical thermal zero and span coefficients $\pm 0.04\%$ FS/ °C		
ATEX/IECEX Approval Option (4-20 mA version only):	Ex II 1 G Ex ia IIC T4 Ga (zone 0) Ex II 1 D Ex ia IIIC T135 °C Da (zone 20) Ex I M 1 Ex ia I Ma (group 1 M1)	N/A	
ATEX/IECEX Safety Values:	$U_i = 28 \text{ V}$ $I_i = 119 \text{ mA}$ $P_i = 0.65 \text{ W}$ $L_i = 0.1 \mu\text{H}$ $C_i = 74 \text{ nF}$ Temperature Range = -20 °C to +70 °C Max. cable length = 45 m	N/A	
Electromagnetic Compatibility:	Emissions: EN61000-6-3; Immunity: EN61000-6-2; Certification: CE Marked		
Insulation Resistance:	> 100 M $\Omega$ @ 50 VDC		
Response time 10-90 %:	1 mS		
Wetted Parts:	Nickel plated brass, silicone tubing, silicon diaphragm, glass filled polyamide		
Pressure Media:	Non-corrosive media such as non-ionic fluids, air and dry gases		
Pressure Connection:	4 mm I.D. hose (other options available)		
Electrical Connection:	Screw terminals for conductor sizes 0.2-2 mm <sup>2</sup> are located beneath the enclosure lid. Cable entry is via IP66 cable gland with compression seal for cable sizes 7-10.5 mm		
Net. Weight (Kg):	0.3 Kg		

## Order Matrix

Output	Wires	Type	Electrical Connection/ Options	Pressure Range	Process Connection
4-20mA	2	PR3202			
0-5 V	3	PR3203			
0-10 V		PR3204			
<b>Electrical Connection/Options</b>					
M20 Cable Gland (PR3202 only)			-		
ATEX/ IECEx certified			EX		
Alluminium Enclosure			AL		
<b>Pressure Range in mbar/ bar</b>					
0-5 mbar				0005	
0-50 mbar				0050	
0-100 mbar				0100	
0-500 mbar				0500	
<b>Process Connection</b>					
4.8mm tube connection (push-on stem)					AW
1/4" BSP male (G1/4)					AB

**Order Number Example** PR3202EX0005AW

For options not listed please contact the sales team

**DISCLAIMER :** ESI Technology Ltd operates a policy of continuous product development. We reserve the right to change specification without prior notice. All products manufactured by ESI Technology Ltd are calibrated using precision calibration equipment, traceable to national measurement standards.