



# Protran<sup>®</sup> PR3202

DIFFERENTIAL PRESSURE TRANSMITTER



## DESCRIPTION

Our low range air differential pressure transmitter provides an accurate solution for low pressure sensing with ranges available from 0-5mbar to 0-1000mbarDP. Incorporating the latest silicon sensor and electronics technologies, these 4-20mA 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 0-5mbar to 0-1000mbar in DP, gauge reference or bi-directional. Ultra low pressure ranges from 0-25 Pa are also available.

An optional ATEX/IECEX certified version of this product is available (in ranges 0-5mbar and above only) approved for explosion protection for flammable gases (zone 0), dusts (zone 20) and mining areas (group I MI).

- PIEZORESISTIVE SENSOR TECHNOLOGY
- DP PRESSURE RANGES 5mbar TO 1000mbar
- ULTRA LOW RANGES ON REQUEST
- 4-20mA TWO WIRE OUTPUT AS STANDARD (0-5Vdc, 0-10Vdc OPTIONAL)
- ACCURACY 0.30% NLHR
- OPTIONAL ATEX APPROVED VERSION (4-20mA ONLY)
- R.F.I. SHIELDED



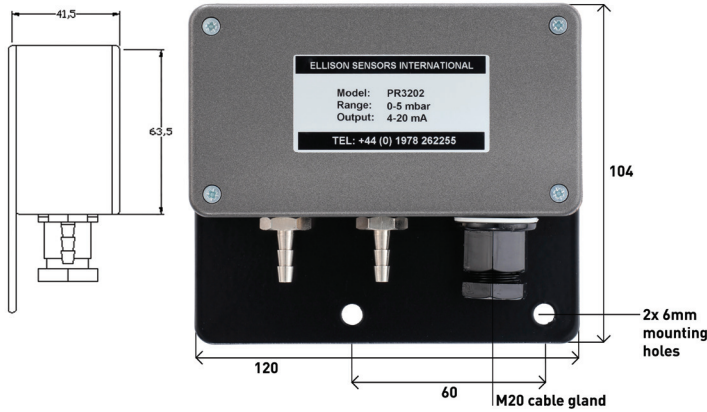
## PRESSURE RANGES

0-5mbar through to 0-1000mbar, see table below for list of all standard pressure ranges.

Range (mbar)	Order Code	Range (mbar)	Order Code
0-5	0005	0-80	0080
0-10	0010	0-100	0100
0-20	0020	0-250	0250
0-30	0030	0-500	0500
0-50	0050	0-1000	1000

\*Ultra low pressure ranges from 25pa available. Please contact the sales team.

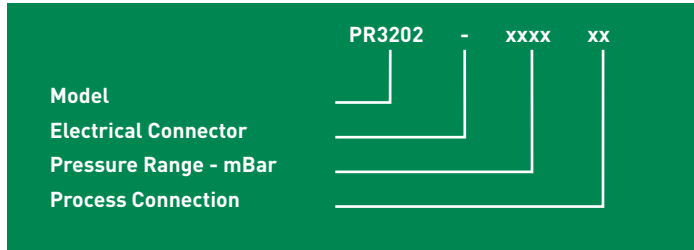
## DIMENSIONS (in mm)



### ELECTRICAL CONNECTION

Pin No.	2 wire
1	+supply
2	4-20mA signal
3	earth/case

## ORDERING INFORMATION



### ELECTRICAL CONNECTION/OPTION

Option	Order Code
PG7 cable gland 4-20mA output	-
PG7 cable gland 4-20mA output Aluminium Housing	A
PG7 cable gland 4-20mA output. ATEX certified	EX

### PROCESS CONNECTION

Option	Order Code
4.8mm Tube Connection (push-on stem)	AW
1/4" BSP male	AB

### EXAMPLE

Option	Order Code
Base Model	PR3202
DIN 43650 plug and socket 4-20mA Output	-
Pressure range 0-10mbar	0010
Pressure connection 4.8mm tube connection	AW

### Correct Part Number

For options not listed contact sales team

### Order Code

-  
A  
EX

### Order Code

AW  
AB

### Order Code

PR3202  
-  
0010  
AW

### PR3202-0010AW

## SPECIFICATION

### PRESSURE REFERENCE

Differential for all ranges.

### OVERPRESSURE

Unidirectional pressure can exceed rated range up to the proof pressure limits shown below with no damage or change in calibration above  $\pm 0.5\%$ FS.  
For ranges 5mbar and 10mbar Proof pressure: 25mbar maximum  
For ranges 20mbar and 100mbar Proof pressure: 200mbar maximum  
For ranges 150mbar and 1000mbar Proof pressure: 1200mbar maximum

### COMMON MODE PRESSURE

For ranges 5mbar and 10mbar: 375mbar maximum equal to both ports  
For ranges 20mbar and 1000mbar: 2 bar maximum equal to both ports

### OUTPUT SIGNAL

4-20 mA (2 wire configuration) as standard. Optional outputs available are:  
0-5 Vdc (3 wire)  
0-10 Vdc (3 wire)

### ZERO OFFSET AND SPAN TOLERANCE

$\pm 0.16$ mA  
 $\pm 5\%$ FS zero adjustment with easy access trimming potentiometers.

### SUPPLY VOLTAGE

Measured across supply terminals on connector.  
13-36Vdc for 4-20mA versions  
13-30Vdc for 0-5Vdc and 0-10Vdc versions

### PROTECTION OF SUPPLY VOLTAGE

Protected against supply voltage reversal up to 50Vdc

### LOAD DRIVING CAPABILITY (4-20mA version only)

Calculate Maximum load  $R_s = (U_b - 13V) / 20mA$   
E.g. with supply voltage load of 36Vdc, maximum load is 1150ohms.

### ACCURACY (NON LINEARITY, HYSTERESIS & REPEATABILITY)

$\pm 0.30\%$  FS. Typical max. Best fit straight line.

### PRESSURE MEDIA

Dry non-corrosive gas only

### OPERATING TEMPERATURE RANGE

Ambient/Media:  $-20^\circ\text{C}$  to  $+70^\circ\text{C}$   
Storage:  $+5^\circ\text{C}$  to  $+40^\circ\text{C}$

### TEMPERATURE EFFECTS

$\pm 2.0\%$ FS total error band for  $0^\circ\text{C}$  to  $+50^\circ\text{C}$   
Typical thermal zero and span coefficients  $\pm 0.04\%$ FS/ $^\circ\text{C}$

### ATEX APPROVAL (4-20mA versions only)

Ex II 1 G Ex ia IIC T4 Ga (zone 0)  
Ex II 1 D Ex ia IIC T135°C Da (zone 20)  
EX I M 1 Ex ia I Ma (group I M1)

### ATEX SAFETY VALUES

$U_i = 28V$   
 $I_i = 119mA$   
 $P_i = 0.65W$   
 $L_i = 0.1$   
 $C_i = 66nF$   
Max. cable length = 85m

### PRESSURE CONNECTION

4mm I.D. hose (others on request)

### ELECTRICAL CONNECTION

Screw terminals for conductor sizes 0.2-2.0mm<sup>2</sup> are located beneath the enclosure lid. Cable entry is through an IP66 cable gland with compression seal for cable sizes 4-8mm. Optional M20 conduit fitting available.

**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 with traceability to international standards.

