



Protran[®] PR3110

LOW PRESSURE TRANSMITTER



- PIEZORESISTIVE SENSOR TECHNOLOGY
- PRESSURE RANGES FROM 0-100mbar TO 0-900mbar
- 4-20mA TWO WIRE OUTPUT AS STANDARD (0-5Vdc, 0-10Vdc OPTIONAL)
- ACCURACY 0.30% NLHR
- OPTIONAL ATEX APPROVED VERSION (4-20mA ONLY)
- ALL STAINLESS STEEL HOUSING
- AVAILABLE IN GAUGE AND ABSOLUTE REFERENCE

DESCRIPTION

The PR3110 series pressure transmitters have been designed to meet the requirements of the majority of industrial applications where accurate low pressure measurement is required.

Robustly constructed from stainless steel this range of pressure transmitters incorporates the latest silicon strain gauge technology together with a custom IC amplifier offering excellent stability and accuracy over a long service life.

Typical applications for this series of standard transmitters includes, mechanical and civil engineering installations, process plant, production test facilities, water resources, power generation and any application on fluid or gas requiring a stable repeatable and accurate output signal of 4-20mA. Outputs options include 0-20mA, 0-5Vdc and 0-10Vdc. Electrical connection is via a detachable DIN connector allowing easy access to zero and span adjustment. Standard pressure connection is 1/2" BSP. Optional 1/4" BSP, 1/4" BSPT, 1/2" BSPT, 1/4" NPT, 1/2" NPT are also available on request. Pressure ranges available from 0-100mbar to 0-900mbar.

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



PRESSURE RANGES

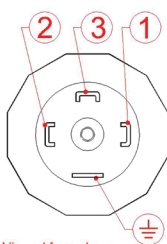
0-100mbar through to 900mbar, see table below for list of all standard pressure ranges.

Range (mbar)	Order Code	Range (mbar)	Order Code	Abs Range (mbar)	Order Code
0-100	00.1	0-500	00.5	0-500	0.5A
0-200	00.2	0-600	00.6	0-600	0.6A
0-250	0.25	0-750	0.75	0-750	.75A
0-300	00.3	0-900	00.9	0-900	0.9A
0-400	00.4				

DIMENSIONS (in mm)



ELECTRICAL CONNECTION (mA)	
Pin No.	2 wire
1	+supply
2	4-20mA signal
3	not fitted
⊥	to case



Viewed from above with socket removed.

ELECTRICAL CONNECTION (Vdc)	
Pin No.	4 wire 3 wire
1	-supply Common
2	+supply +supply
3	+output +output
⊥	-output to case

ORDERING INFORMATION

Model	PR3110	-	XXXX	XX
Electrical Connector/Option				
Pressure Range - Bar				
Process Connection				

OUTPUT

4-20mA
0-100mV
0-5Vdc
0-10Vdc

Model No.

PR3110
PR3111
PR3112
PR3113

ELECTRICAL CONNECTION/OPTION

DIN 43650 plug and socket
Cable outlet 1 metre screened 4-20mA Output

Order Code

-
A

PROCESS CONNECTION

1/4" BSP male thread
1/2" BSP male thread
1/4" NPT male thread

Order Code

AB
AC
AM

EXAMPLE

Base Model
DIN 43650 plug and socket 4-20mA Output
Pressure range 0-250mbar
Pressure connection 1/2" BSP male

Order Code

PR3110
-
0.25
AC

Correct Part Number

For options not listed contact sales team

Order Code

PR3110-0.25AC

SPECIFICATION

PRESSURE REFERENCE

Gauge or absolute

OVERPRESSURE

Pressure can exceed rated range by the multiple shown below with no damage or change in calibration above $\pm 0.5\%$ FS.
6x for 100mbar
3x for ranges 200mbar to 900mbar

OUTPUT SIGNAL

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

ZERO OFFSET AND SPAN TOLERANCE

± 0.08 mA
 $\pm 0.5\%$ FS adjustment with easy access trimming potentiometers on amplified version only.

SUPPLY VOLTAGE

Measured across supply terminals on connector plug
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

All fluids compatible with 316L stainless steel and Nitrile.

OPERATING TEMPERATURE RANGE

Ambient/Media: -20°C to $+85^\circ\text{C}$
Storage: $+5^\circ\text{C}$ to $+40^\circ\text{C}$

TEMPERATURE EFFECTS

$\pm 2\%$ FS total error band for -20°C to $+70^\circ\text{C}$
Typical thermal zero and span coefficients $\pm 0.03\%$ FS/ $^\circ\text{C}$

ATEX APPROVAL (4-20mA version only)

Ex II 1 G Ex ia IIC T4 Ga (zone 0)
Ex II 1 D Ex ia IIIC T135 $^\circ\text{C}$ Da (zone 20)
EX I M 1 Ex ia I Ma (group I M1)

ATEX SAFETY VALUES

$U_i = 28V$
 $I_i = 119mA$
 $P_i = 0.65W$
 $L_i = 0.1$
 $C_i = 62nF$
Temperature range = -20°C to $+70^\circ\text{C}$
Max. cable length = 105m

ELECTROMAGNETIC CAPABILITY

Emissions: EN61000-6-4
Immunity: EN61000-6-2

PRESSURE CONNECTION

1/2" BSP male (others on request)

ELECTRICAL CONNECTION

Mating socket with screw terminal connections to DIN 43650, rated IP65.
Flying lead with optional cable length version 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.

