



# Protran<sup>®</sup> PR3110EX

Hazardous Area Pressure Transmitter



- ATEX and IECEx certified
- Designed for operation in zone 0, zone 20 and M1 mining
- Wide choice of low pressure ranges from 0-100 mbar
- Available in Absolute and Gauge reference
- Ideal for low pressure fluid and gas applications
- DNV GL certification available



Vers. 20/1/Eng



## Description

The PR3110EX pressure transmitter is designed to meet the requirements of the majority of hazardous 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.

Electrical connection is via a detachable DIN connector allowing easy access to zero and span adjustment. Standard

pressure connection is 1/2" BSP, but other options are available. Pressure ranges are available from 0- 100 mbar to 0- 900 mbar. Suitable for use with low pressure fluid and gas applications.

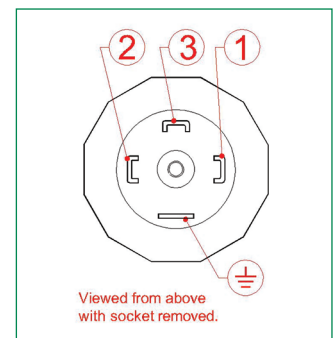
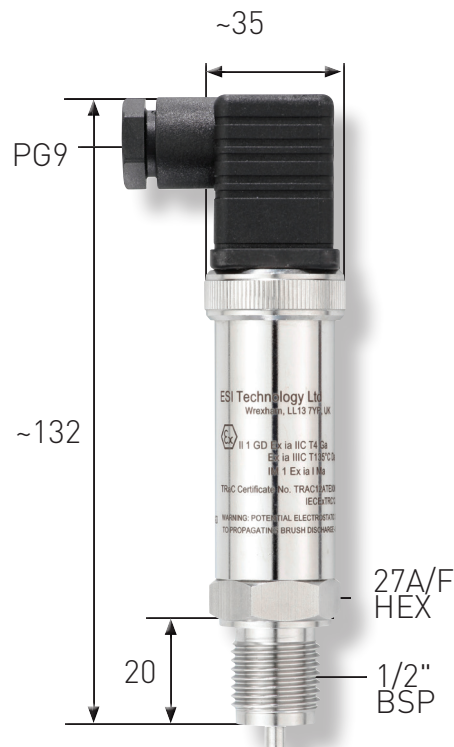
The PR3110EX is intended for installation and operation in zone 0, gas group IIC, temperature class T4 and zone 20 dust and MI mining. ATEX and IECEx approval and protection is by intrinsic safety when used with a safety or isolation barrier.

DNV GL rules for classification of ships, high speed & light craft and DNV GL offshore standards.

## 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

ELECTRICAL CONNECTION (Vdc)		
<b>Pin No.</b>	<b>4 wire</b>	<b>3 wire</b>
1	-supply	common
2	+supply	+supply
3	+output	+output
⏏	-output	to case



## Technical Data

Type	PR3110EX
Sensor Technology:	Isolated Piezoresistive Silicon
Output Signal:	4 – 20 mA (2 wire)
Supply Voltage:	13 – 36 VDC
Pressure Reference:	Gauge or Absolute
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V
Standard Pressure Ranges (bar):	0 – 100 mbar, 0-200 mbar, 0 – 250 mbar; 0 – 300 mbar; 0 – 400 mbar, 0 – 500 mbar, 0 – 600 mbar, 0 – 750 mbar, 0 – 900 mbar (other ranges available; absolute ranges from 0 - 500mbar)
Standard Pressure Ranges (psi):	0-1.5 psi; 0-3 psi; 0-4 psi; 0-7.5 psi; 0-15 psi (other ranges available; absolute ranges from 0 - 7.5 psi)
Overpressure Safety:	6x for 100 mbar range; 3x for ranges 200 mbar to 900 mbar
Load Driving Capability:	4 – 20 mA: $RL < [UB - 13 V] / 20 \text{ mA}$ (e.g. with supply voltage (UB) of 36V, max. load (RL) is 1150Ω)
Accuracy NLHR:	$\leq \pm 0.3 \%$ of span BFSL
Zero Offset and Span Tolerance:	$\pm 0.5\%$ FS at room temperature; $\pm 5 \%$ FS (approx.) adjustment with easy access trimming potentiometers
Operating Ambient Temperature:	-20 °C to +85 °C (-4 °F to +185 °F)
Operating Media Temperature:	-20 °C to +85 °C (-4 °F to +185 °F)
Storage Temperature:	+5 °C to +40 °C (+41 °F to +104°F) Recommended Best Practice
Temperature Effects:	$\pm 2 \%$ FS total error band for -20 °C to +70 °C. Typical thermal zero and span coefficients $\pm 0.03 \%$ FS/°C
ATEX/IECEX Approval (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)
ATEX/IECEX Safety Values:	U <sub>i</sub> = 28 V I <sub>i</sub> = 119 mA P <sub>i</sub> = 0.65 W L <sub>i</sub> = 0.1 μH C <sub>i</sub> = 74 nF Temperature Range = -20 °C to +70 °C Max. cable length = 45 m
DNV GL Approval Class:	Temperature: D; Humidity: B; Vibration: B; EMC: B; Enclosure: C (contact sales for more information)
Electromagnetic Compatibility:	Emissions: EN61000-6-3; Immunity: EN61000-6-2; Certification: CE Marked
Insulation Resistance:	> 100 MΩ @ 50 VDC
Response time 10-90 %:	1 mS
Wetted Parts:	SAE 316 stainless steel and nitrile (NBR) seal
Pressure Media:	All fluids compatible with SAE 316 stainless steel and nitrile (NBR)
Pressure Connection:	1/4" BSP male (G1/4); 1/4" NPT male; 1/4" BSP male (G1/2); 1/2" NPT male (other options available)
Electrical Connection:	Mating socket EN175301-803 Form A (ex DIN43650) rated IP65 with PG9 cable entry (other options available)
Net. Weight (Kg):	0.3 Kg

## Order Matrix

Output	Wires	Type	Electrical Connection/ Options	Pressure Range	Process Connection
4-20 mA, ATEX/ IECEx certified	2	PR3110EX			
<b>Electrical Connection/Options</b>					
DIN EN175301 plug and socket			-		
ATEX/ IECEx certified			EX		
DNV GL Approval			M		
DNV GL Approval plus ATEX/IECEx certified			MEX		
<b>Pressure Range in bar</b>					
0-100 mbar				00.1	
0-200 mbar				00.2	
0-250 mbar				0.25	
0-300 mbar				00.3	
0-400 mbar				00.4	
0-500 mbar				00.5	
0- 500 mbar Absolute				0.5A	
0-600 mbar				00.6	
0-750 mbar				0.75	
0-900 mbar				00.9	
0- 900 bar Absolute				0.9A	
<b>Process Connection</b>					
1/4" BSP male (G1/4)					AB
1/4" NPT male					AM
1/2" BSP male (G1/2)					AC
1/2" NPT male					AN

**Order Number Example** PR3110EX0.9AAC

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.