

# esi

## PROTRAN® PR3110

Industrial Pressure Transmitter

- Wide choice of pressure ranges from 0-100 mbar
- Available in Gauge or Absolute reference
- Barometric ranges available
- Ideal for low pressure fluid and gas applications
- ATEX/IECEx option available, including M1 for mining applications
- DNV certification available



## Specifications

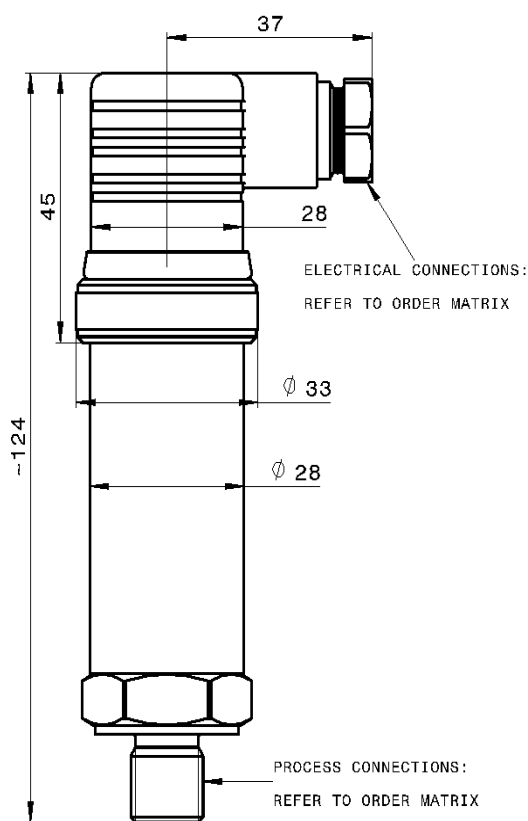
The **PROTRAN PR3110** pressure transmitter is designed to meet the requirements of the majority of applications where accurate pressure measurement is required. Robustly constructed from stainless steel this range of pressure transmitters incorporates the latest silicon strain gauge technology together with a custom IC amplifier offering excellent stability and accuracy over a long service life. Pressure ranges are available from 0- 100 mbar to 0- 100 bar, along with absolute and barometric options.

ATEX and IECEx approval and protection by intrinsic safety is optional and intended for installation and operation in zone 0, gas group IIC, temperature class T4 and zone 20 dust and M1 mining. DNV rules for classification of ships, high speed & light craft and DNV offshore standards.

**Typical applications include:**  
General fluid and gas applications



## Dimensions (in mm)



## Electrical Connections

DIN Connector		M12 Connection			
Pin No.	mA (2 wire)	Pin No.	mA	VDC	
1	+supply	1	+supply	3 pin	-supply
2	4-20mA signal	2	N/C	3 pin	+supply
3	N/C	3	lout	4 pin	+output
⊥	to case	4	N/C	4 pin	-output

## Technical Data

Type	PR3110
Sensor Technology:	Isolated Piezoresistive Silicon
Output Signal:	4-20 mA (2 wire) Optional 0-5 Vdc & 0-10 Vdc non ATEX
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 (mbar)	0-100 mbar, 0-250 mbar, 0-500 mbar, 0-1 bar, 0-2.5 bar, 0-10 bar, 0-25 bar, 0-50 bar, 0-100 bar (other ranges available; absolute ranges from 0 - 500mbar)
Standard Pressure Ranges (psi)	0-2 psi, 0-4 psi, 0-8 psi, 0-14 psi, 0-40 psi, 0-150 psi, 0-370 psi, 0-725 psi, 0-1450 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; 2x for ranges 1 bar to 100 bar.
Load driving Capability:	<b>4 – 20 mA:</b> $RL < [UB - 13 V] / 20 \text{ mA}$ (e.g. with supply voltage (UB) of 36V, max. load (RL) is 1150Ω)
Accuracy NLHR:	$\leq \pm 0.3 \%$ of span BFSL
Zero Offset & 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 + 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:	$\pm 1.5 \%$ FS total error band for -20°C to +70°C. Typical thermal zero and span coefficients +0.015 %FS/°C
ATEX/IECEx Approval (4-20 mA version only):	EX II 1 G Ex ia IICT4 GA (Zone 0) Ex II 1 D Ex ia IIIC T135 C Da (Zone 20) Ex I M1 Ex ia 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
DNV Approval Class:	Temperature: D; Humidity: B; Vibration: B; EMC: B; Enclosure: C (contact sales for more information)
Electromagnetic Compatibility:	Emissions: BS EN61000-6-3; Immunity: BS EN61000-6-2; Certification: CE/UKCA 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; 1/2" 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:	0.3 Kg

## Order Matrix

Output	Wires	Type	Electrical Connection/Options	Pressure Range	Process Connection	Other Options
4-20 mA	2	PR3110				
<b>Electrical Connections/Options</b>						
Din plug and socket (IP65)			-			
Cable outlet 1m screened (IP65)			A			
M12 connector (IP67 when mated with equivalent connector)			B			
Cable outlet 1m screened IP67 protection			C			
ATEX/IECEX certified with DIN EN175301 plug			EX			
DNV Approval			M			
DNV Approval plus ATEX/IECEX certified			EXM			
<b>Pressure Range in mbar</b>						
0-100 mbar				00.1		
0-250 mbar				0.25		
0-500 mbar				00.5		
0-1 bar				0001		
0-2.5 bar				02.5		
0-10 bar				0010		
0-25 bar				0025		
0-50 bar				0050		
0-100 bar				0100		
<b>Barometric Ranges (ATEX/IECEX/DNV GL not available)</b>						
700 to 1100 mbar				01BA		
800 to 1200 mbar				02BA		
800 to 1300 mbar				03BA		
<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	
<b>Other Options</b>						
ATEX/IECEX certified with M12 connector						-M12

Order Number Example

PR3110EX0100AC

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.