

# esi

## PROTRAN<sup>®</sup> PR3800

Flush Diaphragm Pressure Transducer

- Easy clean flush membrane to prevent clogging
- Thick film sensor technology for long service life
- Pressure ranges to 40 bar
- Range of sanitary grade pressure fittings
- ATEX/IECEx option available (includes M1 for mining applications)



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*Suco*  
GROUP

*Suco* ESI  
North America

## Specifications

The **PR3800 series** offer a range pressure transmitters with integrated or remote barrier seals for applications where direct media contact must be prevented. Robustly constructed from stainless steel, this range of pressure transmitters incorporates the latest strain gauge technology together with a custom IC amplifier offering excellent stability and accuracy over a long service life.

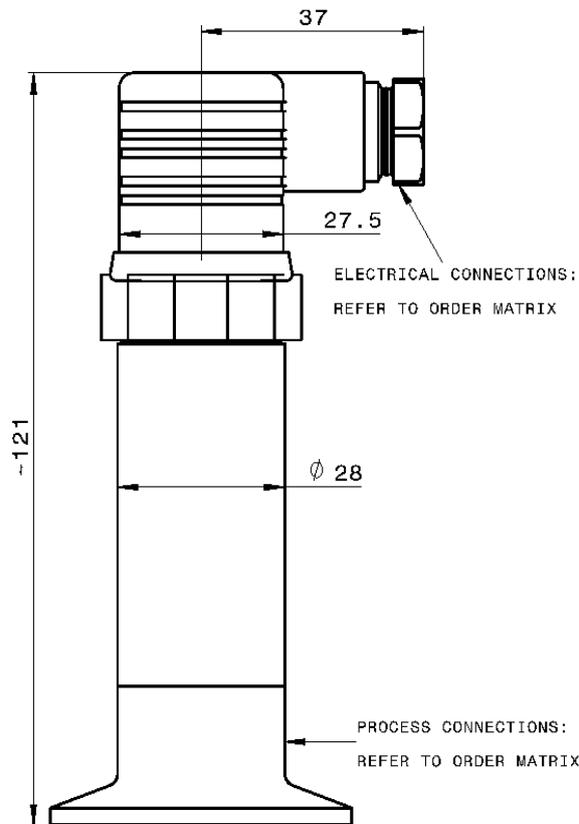
ATEX and IECEx approval and protection by intrinsic safety is optional and intended for installation and operation in zone 0, gas group IIC, temperature class T4 and zone 20 dust and M1 mining.

**Typical applications include:**

- Food processin



## Dimensions (mm)



## Electrical Connection

Pin No.	(mA)	(Vdc)
	2 wire	4 wire
1	+supply	-supply
2	4-20mA signal	+supply
3	N/C	-output
⏚	to case	+output

## Technical Data

Type	PR3800	PR3802	PR3820	PR3821	PR3822
Sensor Technology:	Ceramic Thick Film or Isolated Piezoresistive Silicon				
Output Signal:	4-20 mA (2 wire)	0-10 V (4 wire)	4-20 mA (2 wire)	0-5 V (4 wire)	0-10 V (4 wire)
Supply Voltage:	13-36 VDC	13-30 VDC	13-36 VDC	13-30 VDC	13-30 VDC
Pressure Connection:	Pipe clamp (Tri-clover) 1.5" 316L stainless steel (other options available)		DIN 11851 female 316L stainless steel (other option available)		
Pressure Reference:	Gauge				
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V				
Standard Pressure Ranges (bar):	0-1 bar Vac; 0-200mbar, 0-1 bar; 0-2.5 bar; 0-6 bar; 0-10 bar; 0-16 bar; 0-25 bar; 0-40 bar (other options available)				
Standard Pressure Ranges (psi):	0-30 Hg; 0-1.5 psi; 0-15 psi; 0-30 psi; 0-100psi; 0-200 psi; 0-600 psi (other options available)				
Overpressure Safety:	1.5x for all ranges				
Load driving Capability:	<b>4-20mA:</b> $RL < [UB-13V] / 20 \text{ mA}$ (e.g. with supply voltage (UB of 36V, max load (RL) is 1150Ω)				
Accuracy NLHR:	$\leq \pm 0.3 \%$ of span BFS				
Zero Offset & Span Tolerance:	+1.0 %FS at room temperature +5 %FS (approx.) adjustment with easy access trimming potentiometers on amplified versions only				
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:	$\pm 2.5 \%$ FS total error band for -20°C to +70°C. Typical thermal zero and span coefficients +0.04 %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 (4-20 mA version only):	$U_i = 28 \text{ V} / L_i = 119 \text{ mA} / P_i = 0.65 \text{ W} / L_i = 0.1 \mu\text{H} / C_i = 62 \text{ nF}$ . Temperature Range = -20°C to +70°C. Max. cable length = 105m				
Electromagnetic Compatibility:	Emissions: EN61000-6-3; Immunity: EN61000-6-2; Certification: CE/UKCA Marked				
Insulation Resistance:	$> 100 \text{ M}\Omega @ 50 \text{ VDC}$				
Response Time 10-90%:	Ranges $< 6 \text{ bar}$ 1mS; Ranges $\geq 6 \text{ bar}$ 10mS				
Wetted Parts:	Ranges $< 6 \text{ bar}$ : SAE 316 stainless steel and nitrile (NBR); Ranges $\geq 6 \text{ bar}$ : SAE 316L stainless steel				
Pressure Media:	Ranges $< 6 \text{ bar}$ : all fluids compatible with SAE 316L stainless steel and nitrile (NBR); Ranges $\geq 6 \text{ bar}$ : all fluids compatible with SAE 316L stainless steel				
Electrical Connection:	Mating socket EN175301-803 Form A (ex DIN43650) rated IP65 with PG9 cable entry (other options available)				
Net. Weight:	0.5 Kg				

## Order Matrix

Output	Wires	Type	Electrical Connection/Options	Pressure Range	Process Connection	Other Options				
4-20 mA	2	PR3800								
	2	PR3820								
0-5 Vdc	4	PR3801								
	4	PR3821								
0-10 Vdc	4	PR3802								
	4	PR3822								
<b>Electrical Connections/Options</b>										
DIN EN175301 plug and socket (IP65)							-			
Cable outlet 1m screened (IP65)							A			
M12 connector (IP67 when mated with equivalent connector)							B			
Cable outlet 1m screened IP67			C							
ATEX/IECEX certified with DIN EN175301 plug and socket			EX							
<b>Pressure Range in bar</b>										
0-1 bar vac				V001						
0-200 mbar				00.2						
0-1 bar				0001						
0-2.5 bar				02.5						
0-10 bar				0010						
0-16 bar				0016						
0-25 bar				0025						
0-40 bar				0040						
<b>Process Connection</b>										
Pipe clamp (Tri-clover) 1.5" 316L stainless steel (PR3800 only)					BG					
Pipe clamp (Tri-clover) 2" 316L stainless steel (PR3800 only)					BH					
RUT 38mm female 316L stainless steel (PR3820 only)					BJ					
DIN11851 female 32mm Stainless steel (PR3820 only)					BR					
SMS 40mm female 316 stainless steel (PR3820 only)					BV					
<b>Other Options</b>										
ATEX/IECEX certified with M12 connector						-M12				
<b>Order Number Example</b>			PR3800EX0040BG							

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.