



Protran PR3860

High Temperature
Pressure Transmitter



- High operating temperatures of up to 482 °F (250 °C)
- Easy clean flush membrane to prevent clogging
- Thick film sensor technology for long service life
- Pressure ranges to 5,800 psi (400 bar)
- Good chemical compatibility for a range of applications
- Integral O-ring seal option to ensure flush pressure seal
- ATEX/IECEX option available (includes M1 for mining applications)



Description

The PR3860 high temperature pressure transmitter has been designed to meet the requirements of the majority of industrial pressure measurement applications where a hygienic flush diaphragm connection is required.

Robustly constructed from stainless steel, the PR3860 pressure transmitter permits accurate pressure measurement at elevated temperatures. Output options include 0-5 Vdc, 0-10 Vdc and 4-20 mA. This transmitter is suitable for use at media temperature up to 250 °C. Typical applications include food processing, pharmaceutical and petrochemical. The flush membrane can be easily cleaned for long term reliability and outstanding performance. The PR3860 offers a stable and

accurate output signal of 4-20 mA with options for 0-5 Vdc, 0-10 Vdc and other output signals. Electrical connection is via a detachable DIN connector allowing easy access to zero and span adjustment. Pressure ranges available from 0-10 bar to 0-400 bar.

Optional weldable boss is available to ensure flush-face installation of transmitter to tanks and pipe-work.

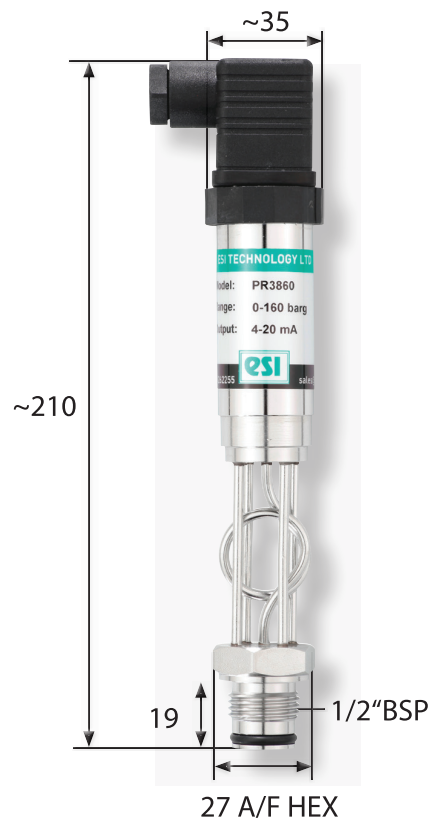
An optional ATEX and IECEx approved version of this product is available for explosion protection for flammable gases (zone 0), dusts (zone 20) and mining areas (group I M1).

Dimensions

(in mm)

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

ELECTRICAL CONNECTION (Vdc)		
Pin No.	4 wire	3 wire
1	-supply	common
2	+supply	+supply
3	+output	+output



Technical Data

Type:	PR3860	PR3861	PR3862
Sensor Technology:	Ceramic Thick Film		
Output Signal:	4 – 20 mA (2 wire)	0 – 5 V (4 wire)	0 – 10 V (4 wire)
Supply Voltage:	13 – 36 VDC	13 – 30 VDC	13 – 30 VDC
Pressure Reference:	Gauge		
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V		
Standard Pressure Ranges (bar):	0 – 10 bar; 0 – 25 bar; 0 – 60 bar; 0 – 100 bar; 0 – 250 bar; 0 – 400 bar (other options available)		
Standard Pressure Ranges (psi):	0-150 psi; 0-300 psi; 0-1,500 psi; 0-3,000 psi; 0-6,000 psi (other options available)		
Overpressure Safety:	1.5x all ranges		
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 1150 Ω); 0 – 5 V: max load $RL > 5 \text{ K}\Omega$; 0 – 10 V: max load $RL > 10 \text{ K}\Omega$		
Accuracy NLHR:	$\leq \pm 0.3 \%$ of span BFSL		
Zero Offset and Span Tolerance:	$\pm 1.0 \%$ FS at room temperature; $\pm 5 \%$ FS (approx.) adjustment with easy access trimming potentiometers on amplified versions only		
Operating Ambient Temperature:	-20 °C to +85 °C (-4 °F to +185 °F)		
Operating Media Temperature:	0 °C to +205 °C (+32 °F to 185°F) with standard o-ring ; 0 °C to +250 °C (+32 °F to +482 °F) with optional o-ring (sensor and electronics thermally insulated from media temperature)		
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 $\pm 0.04 \%$ FS/ °C		
ATEX/IECEx Approval Option (4-20mA 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)	n/a	n/a
ATEX/IECEx Safety Values:	$U_i = 28 \text{ V}$ $I_i = 119 \text{ mA}$ $P_i = 0.65 \text{ W}$ $L_i = 0.1 \mu\text{H}$ $C_i = 62 \text{ nF}$ Temperature Range = -20 °C to +70 °C Max. cable length = 105 m	n/a	n/a
Electromagnetic Compatibility:	Emissions: EN61000-6-4; Immunity: EN61000-6-2; Certification: CE Marked		
Insulation Resistance:	$> 100 \text{ M}\Omega @ 50 \text{ VDC}$		
Wetted Parts:	SAE 316L stainless steel		
Pressure Media:	All fluids compatible with SAE 316L stainless steel		
Pressure Connection:	1/2" BSP male (G1/2) with standard integral viton (FKM) o-ring seal and flush SAE 316L stainless steel diaphragm. O-ring seal is for service temperature up to max. 205 °C. An alternative o-ring material can be provided for service up to 250 °C (charged accessory)		
Electrical Connection:	Mating socket EN175301-803 Form A (ex DIN43650) rated IP65 with PG9 cable entry (other options available)		
Net. Weight (Kg):	0.8 kg		



Order Matrix

Output	Wires	Type	Electrical Connection/Options	Pressure Range	Process Connection	Options
4-20 mA	2	PR3860				
0-5 V	4	PR3861				
0-10 V	4	PR3862				
Electrical Connection/Options						
DIN EN175301 plug and socket			-			
Cable outlet 1m screened			A			
M12 connector			B			
Cable outlet 1m screened IP67 protection			C			
ATEX/ IECEx certified with DIN EN175301 plug and socket			EX			
Pressure Range in bar						
0-10 bar (0-150 psi)				0010		
0-25 bar (0-300 psi)				0025		
0-60 bar (0-870 psi)				0060		
0-100 bar (0-1,500 psi)				0100		
0-250 bar (0-3,000 psi)				0250		
0-400 bar (0-5,800 psi)				0400		
Process Connection						
1/2" BSP flush diaphragm male					BA	
Options						
250°C rated o-ring, fitted						HT
Order Number Example			PR3860-0400BA			

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.



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