



Protran PR3860

High Temperature
Pressure Transmitter



- High operating temperatures of up to 250 °C
- Easy clean flush membrane to prevent clogging
- Thick film sensor technology for long service life
- Pressure ranges to 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)



Vers. 20/1/Eng



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

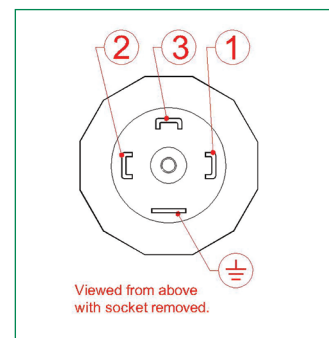
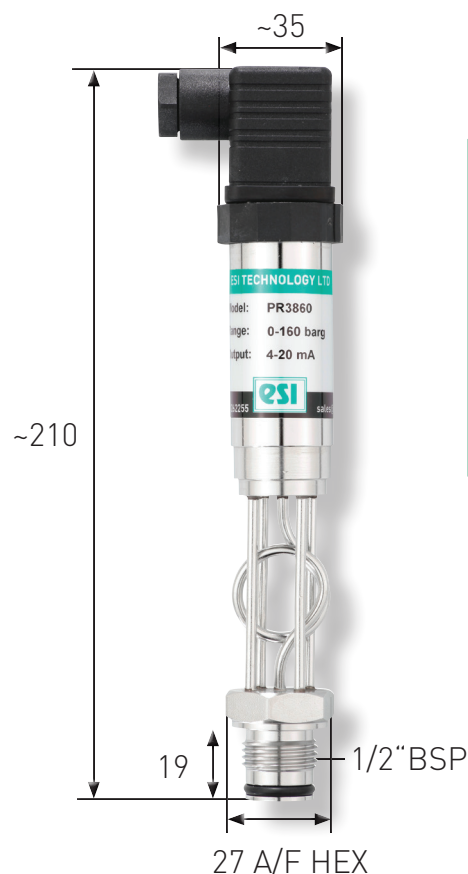
(in mm)

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			0010			
0-25 bar			0025			
0-60 bar			0060			
0-100 bar			0100			
0-250 bar			0250			
0-400 bar			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

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