PROTRAN© PR3850

Flush Diaphragm Pressure Transducer

- Easy clean flush membrane to prevent clogging
- Thick film sensor technology for long service life
- Pressure ranges to 400 bar
- Integral O-ring seal to ensure flush pressure seal
- ATEX/IECEx option available, including M1 for mining applications

RoHS 2011/65/EU

Vers. 25/2/Eng

Suco GROUP

CE | UKCA

Protran© PR3850

Flush Diaphragm Pressure Transmitter

Specifications

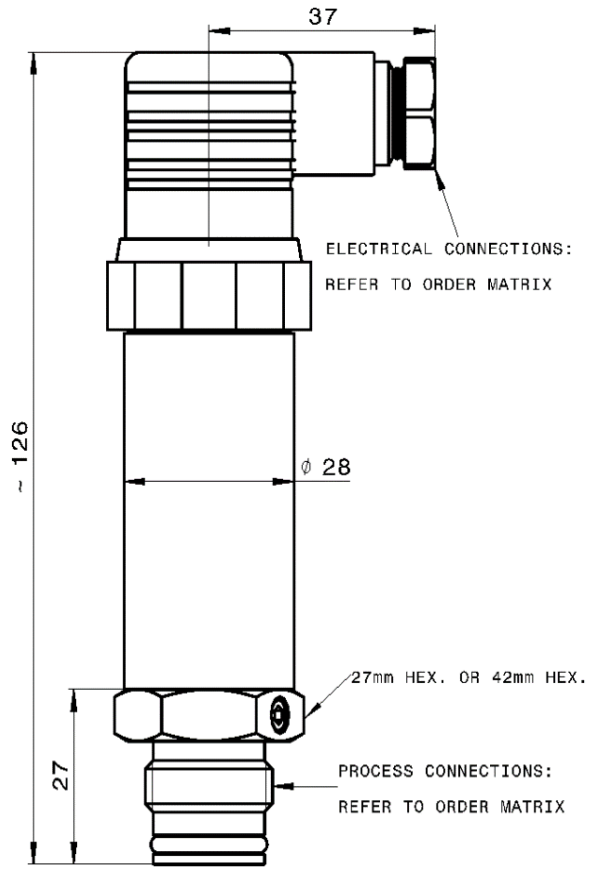
The PROTRAN© PR3850 pressure transmitter has been designed to meet the requirements of the majority of industrial pressure measurement applications where a hygienic flush diaphragm connection is required. Robustly constructed from stainless steel this range of pressure transmitters incorporates the latest strain gauge technology together with a custom IC amplifier offering excellent stability and accuracy over a long service life. This transmitter is particularly suitable for use with high viscosity materials. The flushmembrane can be easily cleaned for long term reliability and outstanding performance.

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 processing
- Pharmaceutical
- Petrochemical
- Waste water
- Slurry handling

Dimensions (in mm)



Electrical Connection

	mA	Vdc
Pin No.	**2 wire**	**4 wire**
1	+supply	-supply
2	4-20mA signal	+supply
3	N/C	-output
4	N/C	+output

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Protran© PR3850 Flush Diaphragm Pressure Transmitter

Technical Data

Type	PR3850	PR3851	PR3852
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	
Pressure Reference:	Gauge		
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V		
Standard Pressure Ranges (bar):	0-100 mbar; 0 – 4 bar; 0 – 10 bar; 0 – 25 bar; 0 – 100 bar; 0 – 250 bar; 0 – 400 bar (other options available)		
Standard Pressure Ranges (psi):	0-20 psi; 0-60 psi; 0-150 psi; 0-350 psi; 0-1500 psi; 0-3600 psi; 0-5800 psi (other options available)		
Overpressure Safety:	1.5x all ranges		
Load driving Capability:	**4-20 mA:** RL < [UB-13V] / 20mA (e.g. with supply voltage (UB) of 36V max. load (RL) is 1150Ω); **2mV/V:** n/a; **0-5V:** max load RL > 5 KΩ: **0-10V:** max load RL > 10KΩ		
Accuracy NLHR:	≤ ±0.3 % of span BFSL		
Zero Offset & Span Tolerance:	±1.0 %FS at room temperature; ±5 %FS (approx.) adjustment with easy access trimming potentionmeters 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:	±2.5 %FS total error band for -20°C to +70°C. Typical thermal zero and span coefficients ±0.04 %FS/°C **Note** Pressure range 0-4 bar: temperature error ±0.25% FS/°C, pressure range 0-10 bar: temperature error ±0.11% 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 M1 Ex ia Ma (group 1 M1)		
ATEX/IECEx Safety Values:	Ui = 28 V / Li = 119mA / Pi = 0.65 W / Li = 0.1 µH / Ci = 62 nF. Temperature Range = '-20C to '+70C. Max. cable length = 105m		
Electromagnetic Campatibility:	Emissions: EN61000-6-3; Immunity: EN61000-6-2; Certification: CE/UKCA Marked		
Insulation Resistance:	> 100 MΩ @ 50 VDC		
Response Time 10-90%	10 mS		
Wetted Parts:	SAE 316 stainles steel		
Pressure Media:	All fluids compatible with SAE 316 stainless steel		
Pressure Connection:	1/2" BSP male (G1/2) with standard integral Viton o-ring seal and flush SAE stainless steel diaphragm or 1" BSP male with semi-flush SAE 316L stainless steel diaphragm (from 100 mbar up to 4 bar only)		
Electrical Connection:	Mating socket EN175301-803 Form A (ex DIN43650) rated IP65 with PG9 cable entry (other options available)		
Net. Weight:	0.3 Kg		

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Order Matrix

Output	Wires	Type	Electrical Connection/ Options	Pressure Range	Process Connection	Other Options
4-20 mA	2	PR3850				
0-5 Vdc	4	PR3851				
0-10 Vdc	4	PR3852				

Electrical Connections/Options	
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

Pressure Range in bar	
0-100 mbar (only available with 1" BSP male with semi-flush membrane)	00.1
0-4 bar	0004
0-10 bar	0010
0-25 bar	0025
0-100 bar	0100
0-250 bar	0250
0-400 bar	0400

Process Connection	
1/2" BSP male with flush membrane	BA
1" BSP male with semi-flush membrane (PR385x only)	BC

Other Options	
ATEX/IECEx certified with M12 connector	-M12

Order Number Example	PR3850EX0400BA

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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