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PROTRAN[®] PR3913

Control Valve Pressure Transducer

- Silicon-on-Sapphire sensor technology for outstanding performance
- Submersible to 3,000 meters sea level
- Pressure ranges available to 1,000 bar (15,000 psi)
- High accuracy operation
- Suitable for ROV and deep sea testing equipment
- Comprehensive documentation package certification
- Hyperbaric testing to 3,000 mtrs depth
- Environmental Stress Screening (ESS Testing)
- ATEX/IECEx operation available (includes M1 for mining application)



The advanced sensor design consists of a piezoresistive silicon strain gauge circuit, which is epitaxially grown onto the surface of a sapphire diaphragm to form a single crystalline structure. The sapphire sensor element is then molecularly bonded to a titanium alloy sub-diaphragm.

This enables the sensor to endure higher over-pressures and provides superb corrosion resistance. The sensor exhibits virtually no hysteresis and excellent long-term stability over wide temperature ranges.

Technical Data

Type	PR3913
Sensor Technology:	Silicon-on-Sapphire (SoS)
Output Signal:	4-20 mA (2 wire)
Supply Voltage:	10-36 VDC
Pressure Reference:	Sealed Gauge
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V
Standard Pressure Ranges (bar):	0 – 228 bar; 0 – 379 bar; 0 – 569 bar; 0 – 759 bar; 0 – 1,035 bar (other options available)
Standard Pressure Ranges (psi):	0-3,000 psi; 0-5,000 psi; 0-8,000 psi; 0-15,000 psi (other options available)
Overpressure Safety:	2x all ranges up to 759 bar; 1.5x for 1,035 bar
Load driving Capability:	4-20mA: RL <[UB-10] / 20 Ma (e.g. with supply voltage (UB of 36V, max load (RL) is 1300)
Accuracy NLHR:	< +0.25 % of span BFLS
Zero Offset & Span Tolerance:	+0.25C mA
Operating Ambient Temperature:	-20 °C to +40 °C (-4 °F + 104 °F)
Operating Media Temperature:	-20 °C to +40 °C (-4 °F + 104 °F)
Storage Temperature:	+5 °C to +40 °C (+41 °F to +104 °F) Recommended Best Practice
Temperature Effects:	+0.015 %FS total error band for -20 to +70C. Typical thermal zero and span coefficients +0.005 %FS/C
ATEX/IECEx Approval:	EX II 1 G Ex ia IIC T4 GA (Zone 0), Ex II 1 D Ex ia IIC 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 pH / Ci = 74 nF. Temperature Range = '-20C to '+70C. Max. cable length = 45m
Ingress Protection:	Fully welded housing. Rated IP67 when correctly installed to conduit connection.
Electromagnetic Capability:	Emission: EN61000-6-4; Immunity: EN61000-6-2; Certification: CE Marked
Insulation Resistance:	> 500 M @ 50 VDC
Response Time 10-90%:	1 mS
Wetted Parts:	Inconel 625 with Titanium alloy measurement cell
Pressure Media:	All Gases compatible with Inconel 625 and Titanium alloy
Pressure Connection:	Many specialised pressure connection options available to suit individual requirements. Contact the sales team for more information
Electrical Connection:	Cable outlet or Subsea connector options available
Net. Weight (Kg):	Subject to specification