



SEN-500 SUBMERSIBLE PRESSURE TRANSDUCER/TRANSMITTER



Manufactured in the USA

Features:

- Silicon on Sapphire Diaphragm
- Fast Response Time <100 microseconds
- Infinite Cycle Life @ rated FSPR
- Stainless Steel or Hastelloy construction
- Shock and Vibration Proof
- No Signal Decay
- No Hysteresis
- EMI/RFI protected
- NEMA 4 and 4X enclosures

Options:

- 4-20 mA ; 0-5 VDC; 0-10 VDC output
- Media Temperature Measurement
- Removable or Molded Cable
- Small Bore Available
- RS232 Interface
- Differential or Absolute Pressure Reference

Applications:

- Subsea Blowout Prevention
- Subsea Trees
- MUX Control Systems
- Drilling Mud Measurements
- Wellhead Measurements
- Towed Arrays

SEN-500 SERIES SUBMERSIBLE PRESSURE TRANSDUCER/TRANSMITTER

State-of-the-art Silicon-on-Sapphire pressure transmitters have a proven track record in the aerospace, flight testing, plastic melt, oil and gas markets. Piezoresistive strain gages are epitaxially grown onto a single-crystal radiation-hardened structure with virtually undetectable hysteresis and non-repeatability. Sapphire is a perfect electrical insulator that does not require a diode isolation junction as on a diffused semiconductor pressure transmitter. Sapphire is chemically inert allowing compatibility with virtually all media.

A Silicon-on-Sapphire pressure transducer or pressure transmitter offers a significant improvement in performance over bonded foil strain gauge and diffused semiconductor technologies at competitive prices. These sensor products are perfect for high volume OEM applications on liquid level, gas pipelines, submersible and any other applications where a precision pressure measurement is required.

A SEN-500 Pressure Transmitter is designed for use in deep-water applications such as MUX control systems, subsea blowout prevention and wellhead measurements. A Silicon-on-Sapphire sensor can provide accuracy to 0.1% FSO with effectively no hysteresis. Long term drift of less than 0.5% FSO and burst pressures greater than 5X the rated line pressure are additional features of these sensors.

Electron beam welded 316 stainless steel construction compliant with MRO-175 for corrosive service and ratings for a depth of 6000 meters (20,000 ft) are standard features.

The SEN-500 is also available with a variety of pressure ports and electrical connections. Custom packaging and high volume OEM applications are available. Compensated temperature ranges above foil strain gage and other technologies are available up to 250°F.

The all welded construction inherently protects from shock and vibration limits equivalent to or exceeding military standard specification Mil-STD 167-2 and exceeding Nav-Sea standards for shipboard shock.

If accuracy, stability and price are important to you, consider Sensonetics 500 Series Silicon-on-Sapphire Pressure Transmitters for your pressure measurement needs.

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PRODUCT SPECIFICATIONS

ACCURACY:	± 0.25% of FSO (BFSL)
REPEATABILITY:	± 0.1% of FSO
OPERATING TEMPERATURE:	-65°F TO +250°F
COMPENSATED TEMPERATURE:	-65°F TO +250°F
THERMAL ZERO SHIFT:	± 0.01% FSO/°F
THERMAL SPAN SHIFT:	± 0.01% FSO/°F
INPUT VOLTAGE:	14-36 VDC for 0-5 VDC output (12 VDC available) 14-36 VDC for 0-10 VDC output (12 VDC available) 14-24 VDC for 4-20 mA output
OUTPUT SIGNAL FOR TRANSDUCER: (final test data is sent with each device)	1-6 mV/V ± 10% (diaphragm and pressure dependant)
OUTPUT SIGNAL FOR TRANSMITTER: (board is attached with flying leads)	4-20 mA 0-5 VDC 0-10 VDC
ENCLOSURE:	NEMA 4 or 4X
INSULATION RESISTANCE:	50 MEGAOHMS @ 100 VDC
DIELECTRIC STRENGTH:	500 VAC at 50-60 Hz, 5 mA max at 1 minute
RFI/EMI IMMUNITY:	Meets Mil-Std-461 at 100 VAC up to 1.0 GHz
DIAPHRAGHM MATERIAL:	Sapphire or SS (17-4PH)
OPERATING PRESSURE RANGES:	30 PSI to 20.000 PSI
OVER PRESSURE:	1.5 times rated pressure
BURST PRESSURE:	2.0 times rated pressure
VIBRATION:	15 g's at 10-2000 Hz
SHOCK:	100 g's for 11 milliseconds, Half-sine

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PART NUMBER BREAKDOWN

5XX-XXX-X-XX-XXX-X

MODEL: _____

5 = SUBMERSIBLE

OUTPUT: _____

0 = 1-6 mV/V FOR TRANSDUCER (10 VDC TYP INPUT)
1 = 0-5 VDC FOR TRANSMITTER (14-36 VDC INPUT)
2 = 4-20 mA VDC FOR TRANSMITTER (14-24 VDC INPUT)
3 = 0-10 VDC FOR TRANSMITTER (14-36 VDC INPUT)

OUTPUT: _____

1 = PRESSURE ONLY
2 = PRESSURE AND TEMPERATURE

PRESSURE RANGE: _____

EXAMPLES – 030 = 30 PSI 5C = 500 PSI
 5M = 5000 PSI 20M = 20000 PSI

REFERENCE PRESSURE: _____

A = ABSOLUTE D = DIFFERENTIAL S = SEALED

PRESSURE FITTINGS: _____

F1 = MS33656-E4
F2 = 1/4" NPTM
F3 = 1/4" NPTF
F4 = 1/8" NPTF
F5 = 3/8" NPTF
F6 = 1/4" TUBE SWAGelok
F7 = 9/16" SNO-TRIK
F8 = 1/8" NPTM
F11 = 1/2" NPTM

ELECTRICAL CONNECTION: _____

C6 = 6 PIN CONNECTOR
C8 = 8 PIN CONNECTOR
CD = CONDUIT 1/2" NPT
CU = 3H SERIES CONNECTOR W/O BREATHER TUBE
CUB = 3H SERIES CONNECTOR WITH BREATHER TUBE
SE = SEACON AWL-2P-BC CONNECTOR
ML = MOLDED TO CASE CABLE CONNECTOR

SPECIAL CONFIGURATIONS: _____

S = SPECIAL OPTIONS SUCH AS ZERO ADJUST PIN OR PRECISION ADJUSTMENTS