



# **SENSONETICS**

*Sensing today...with tomorrow's technology*

## **SEN-500 ABSOLUTE SUBMERSIBLE OCEANIC TRANSMITTER**

**Operational to 20,000 ft depth**



- Silicon on Sapphire diaphragm
- Fast response time <100 microseconds
- Infinite cycle life @ rated FSPR
- Abrasion-proof diaphragm
- All stainless steel 316 or Hastelloy construction
- Shock and vibration proof design (data available)
- No signal decay
- No hysteresis

### ***OPTIONAL***

- Small bore available
- Media temperature measurement
- Differential or absolute
- Removable or molded cable
- RS232 interface
- Span zero field adjustable

### ***APPLICATIONS***

- Subsea blowout prevention
- Subsea trees
- MUX control systems
- Drilling mud measurement
- Towed arrays
- Wellhead measurements

# SERIES 500 SUBMERSIBLE OCEANIC TRANSMITTER

(OPERATION TO 20,000 FT DEPTH)

State-of-the-art Silicon-on-Sapphire pressure transmitters have a proven track record in the aerospace, flight test, plastics and down-hole 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 diode isolation junctions found on diffused semiconductor pressure transmitters. Sapphire is chemically inert allowing compatibility with virtually all media.

Silicon-on-Sapphire pressure transducers offer a significant improvement in performance over bonded foil strain gage and diffused semiconductor technologies at competitive prices. These transmitters are perfect for high volume OEM applications on hydraulic test stands, engine test stands, injection molding machines, paper machines, sterilizers, liquid level, gas pipelines, submersible and any other applications where highly accurate pressure measurement are required.

Series 500 Pressure Transmitters are specifically designed for use in such deep-water applications such as MUX control systems, subsea blowout preventers and well head measurement.

Silicon-on-sapphire sensors provide accuracy's down to 0.1% FSO with effectively no hysteresis. Long term drift of less than 1% FSO and proof pressures greater than 5X the rated line pressure are additional features of these versatile transducers.

Electron beam welded 316 stainless steel construction compliant with MIRO175-97 for corrosive service, rated for a depth of 6000 meters (20,000 ft) are standard features.

The Series 500 is also available with a variety of pressure ports and electrical connectors. Custom packaging and high volume OEM applications are available. Compensated temperature ranges above those available from foil strain gage and other technologies are also available up to 750 deg F.

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

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

- Silicon-on-Sapphire Technology

- Competitive Pricing

- Outstanding long term stability

- High Temperature Capability

- Electron beam welded construction

- Hermetically Sealed

- Outputs of 4-20 ma, 0-5 VDC, 0-10 VDC and mv

- Optional x-ray weld analysis and depth pressure test certificate available with each transducer

# SEN-500 SERIES SUBMERSIBLE OCEANIC TRANSMITTER

## PRODUCT SPECIFICATIONS

### *PERFORMANCE*

OUTPUT SIGNAL:	4 mA @ Zero Pressure 20 mA @ Full Scale Output
ZERO & SPAN OFFSETS:	± 1.0% FSO @21°C
ACCURACY L & R:	± 0.25% of FSO @ 21°C (BFSL)
LONG-TERM STABILITY:	± 0.25% FSO/Year
COMPENSATED TEMPERATURE:	-30° to +85°C (-22°TO +185°F)
TEMPERATURE EFFECT ON ON ZERO & SPAN:	± 1% FSO over the compensated temperature range

### *OPERATING*

INPUT POWER :	12-35 VDC
INSULATION RESISTANCE:	50 MEGAOHMS @ 100 VDC
DIELECTRIC STRENGTH:	500 VAC. 50-60 HZ, 5 mA MAX, 1 MIN.
REVERSE POLARITY:	Current Limiting
PROOF PRESSURE:	150% of Rated Range
BURST PRESSURE:	200% of Rated Range or 30,000 PSI Max.
OPERATING LIFE:	100 Million Full Scale Cycles

### *ENVIRONMENTAL*

EMI/RFI:	100 Volts/Meter up to 1.0 Ghz
WETTED PARTS:	Silicon on Sapphire
ENCLOSURE:	NEMA 4 & 4X
MAXIMUM OPERATING TEMPERATURE:	-40° to +125°C (-40° to +250°F)
VIBRATION:	15 g's 10-2000 HZ
SHOCK:	100 g's for 11 Milliseconds, Half-sine

**NOTE: 100% TESTED FOR MAXIMUM EXTERNAL PRESSURE AND X-RAY WELD INTEGRITY**

# SEN-500 SERIES SUBMERSIBLE OCEANIC TRANSMITTER

## ORDERING INFORMATION

520-XXX-X-XX-XXX-X

**MODEL:** \_\_\_\_\_

5 = SUBMERSIBLE

**OUTPUT:** \_\_\_\_\_

20 = PRESSURE TRANSDUCER, 4-20 mA

**PRESSURE RANGE:** \_\_\_\_\_

**Example:**

2C = 200 PSI	3M = 3,000 PSI	5M = 5,000 PSI
6M = 6,000 PSI	10M = 10,000 PSI	15M = 15,000 PSI
	20M = 20,000 PSI	30M = 30,000 PSI

**REFERENCE PRESSURE:** \_\_\_\_\_

A = ABSOLUTE                      D = DIFFERENTIAL

**PRESSURE FITTINGS** \_\_\_\_\_

F1 = MS33656-EF FITTINGS (2)

F2 = 1/4" NPTM

F3 = 1/4" NPTF

F4 = 1/8" NPTF

F5 = 3/8" NPTF

F6 = 1/4" - TUBE SWAGELOK (7/16 - 20 UNF)

F7 = 9/16" SNOTRIK HIGH PRESSURE FITTING

F8 = 1/8" NPTM

**ELECTRICAL CONNECTORS:** \_\_\_\_\_

C6 = 6 PIN CONNECTOR

CD = CONDUIT FITTING

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

