

Bulletin 2002-91

# Model 2002

## Bonded Strain Gage Oceanographic Pressure Transducer

*Completely Submersible,  
Highly Accurate Pressure Sensor*



### Features:

- Entirely welded 17-4 PH stainless steel pressure media cavity.
- 4-20 mA standard 2 wire output.
- Unaffected by power supply reversal.
- Rigid-edge-supported diaphragm sensing element with four active foil strain gages thermal-epoxy-bonded to controlled stress zones. Ultra-low hysteresis and non-repeatability errors are primary features of design.

### Options:

- Special electrical connections and cables.

### Pressure Ranges:

PSIS	BAR
0-100	0-6.89
0-150	0-10.3
0-200	0-13.8
0-250	0-17.2
0-300	0-20.7
0-400	0-27.6
0-500	0-34.5
0-750	0-51.7
0-1000	0-68.9
0-1500	0-103
0-2000	0-138
0-2500	0-172
0-3000	0-207
0-5000	0-345
0-7500	0-517
0-10,000	0-689

(PSIS has 14.7 PSIA Ref.)

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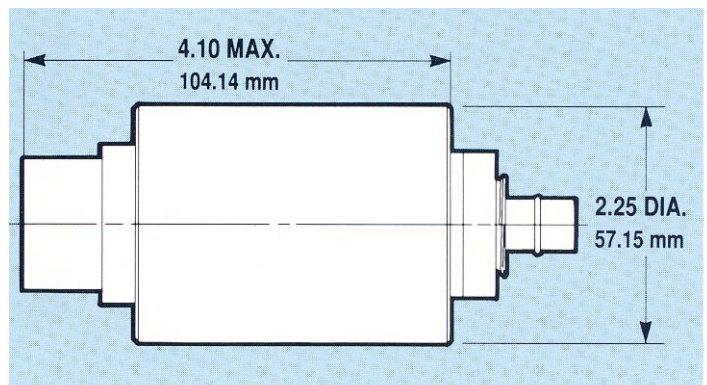
## Bonded Strain Gage Pressure Transducer

### Specifications:

Pressure Ranges	0-100 thru 0-10,000 PSI corresponding to an interval between 225 and 22,400 feet of sea water (68 and 6788 meters).			
Pressure Media	Seawater exposed to 17 -4PH stainless steel. Other media cavity and case materials available upon request.			
Full Scale Output	4-20 mA <sub>d</sub> c corresponding to Zero to FS pressure.			
Span	16.00 ±0.16 mA at 24 Vdc.			
Zero Balance	4.00 ±0.16 mA at 24 Vdc.			
Accuracy	Accuracy at any single temperature including linearity, hysteresis, and repeatability within ±0.20% of span measured by best fit straight line method.			
Resolution	Infinite.			
Natural Frequency	RANGE	FREQUENCY (kHz)	RANGE (PSI)	FREQUENCY (kHz)
	0-100	8	0-1000	39
	0-150	11	0-1500	48
	0-200	13	0-2000	50
	0-250	14	0-2500	62
	0-300	15	0-3000	68
	0-400	20	0-5000	112
	0-500	25	0-7500	136
	0-750	31	0-10,000	194
Proof Pressure	Application of 3 times FS pressure will not cause any change in performance characteristics.			
Burst Pressure	Greater than 4.5 times FS pressure.			
External Case Pressure	15,000 PSI maximum.			
Compensated Temperature Range	-30°F to + 170°F (-34°C to +77°C).			
Operating Temperature Range	-65°F to +200°F (-54°C to +93°C).			
Thermal Sensitivity Shift	Less than ±0.010% FSO per °F over compensated temperature range (±0.018% FSO per °C).			

### Specifications:

Thermal Zero Shift	Less than ±0.010% FSO per °F over compensated temperature range (±0.018% FSO per °C).
Triaxial Mechanical Shock	100 G's applied for 11 milliseconds will not cause any change in performance characteristics.
Excitation	15-40 Vdc unregulated at transmitter with performance unaffected by power supply reversal. Any loop resistance is acceptable provided excitation at transmitter is between 15-40 Vdc. Span and zero sensitivity to excitation at the transmitter is less than 0.05% of span per volt. Calibrated at 24 Vdc.
Insulation Resistance	Greater than 1000 megohms at 50 Vdc between both leads in parallel and case at +70°F (+21°C).
Pressure Fitting	1/2 NPT female. Options available.
Electrical Receptacle	VSG-2BCL bulkhead connector. Unit supplied with VMG-2FS mating connector with 2 ft. neoprene cable and G-FLS-X locking sleeve. Polarity determined by power supply. Longer cable lengths available as an option.
Weight	Approximately 35 ounces (980 g).



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