

# MODEL AP1AXN ACCELEROMETER

"X" Represents signal polarity. When ordering indicate with "P" or "C". "P" Designates a Positive Output in the upward direction when pin mounted. "C" Designates a Positive Output in the upward direction when cap mounted.

(EXAMPLE: AP1APM FOR PIN MOUNTED, AP1ACM FOR CAP MOUNTED)

## DYNAMIC PERFORMANCE

Voltage Sensitivity [1] ( $\pm 20\%$ )	mV/g [ $\text{mV}/(\text{ms}^{-2})$ ]	1 [.102]
Measurement Range	$\pm$ g pk [ $\pm \text{ms}^{-2}$ pk]	5000 [50000] (+/-5V Output)
Frequency Range [2] ( $\pm 5\%$ )	Hz	1.1 to 4000
( $\pm 10\%$ )	Hz	0.85 to 6000
( $\pm 3\text{dB}$ )	Hz	0.40 to 10000
Mounted Resonant Frequency	Khz	>25
Phase Response (5Hz to 4kHz, 70°F[21°C])	degrees	0, $\pm$ 5
Broad Band Resolution [6]	g pk [ $\text{ms}^{-2}$ pk]	0.003 [0.03]
Amplitude Non-Linearity [3]	%	$\leq 1$
Transverse Sensitivity	%	$\leq 5$

## ENVIRONMENTAL

Shock Limit - All Axes (Maximum) [4]	$\pm$ g pk [ $\pm \text{ms}^{-2}$ pk]	7000 [70000]
Operating Temperature Range *	*F[*C]	-65 to +185 [-54 to +85]
Storage Temperature Range	*F[*C]	-65 to +250 [-54 to +121]
Temperature Coefficient	%/°F [%/°C]	0.10 [0.18]

## ELECTRICAL

Excitation Voltage/Constant Current	VDC/mA	18 to 28 / 2 to 20
Output Impedance	ohms	<100
Output Bias	VDC	8 to 12
Discharge Time Constant	seconds	$\geq 0.4$ Standard
Warm Up Time (10% of output bias)	seconds	2
Spectral Noise [5] (1 Hz)	$\mu\text{g}/\sqrt{\text{Hz}}$ [ $(\mu\text{ms}^{-2})/\sqrt{\text{Hz}}$ ]	120 [1200]
(10 Hz)	$\mu\text{g}/\sqrt{\text{Hz}}$ [ $(\mu\text{ms}^{-2})/\sqrt{\text{Hz}}$ ]	30 [300]
(100 Hz)	$\mu\text{g}/\sqrt{\text{Hz}}$ [ $(\mu\text{ms}^{-2})/\sqrt{\text{Hz}}$ ]	8.0 [80]
(1 Khz)	$\mu\text{g}/\sqrt{\text{Hz}}$ [ $(\mu\text{ms}^{-2})/\sqrt{\text{Hz}}$ ]	3.0 [30]
Ground Isolation	n/a	No

## MECHANICAL

Sensing Element	material/Geometry	PZT/Shear
Housing	material sealing	Stainless Steel Welded Hermetic
Size (diameter x height)	inch [mm]	0.360 x 0.256 [9.14 x 6.50]
Weight [Mass]	oz [gm]	0.07 [1.9]
Electrical Connector	type	TO-5 (Three Pins)
Mounting	type	Adhesive/Solder

### NOTES:

- [1] Consult factory for tighter tolerances
- [2] Adhesive mounted on cap.
- [3] Zero based best straight line method.
- [4] Unpowered.
- [5] Acceleration level equivalent.
- [6] From 1 Hz to 10 kHz.

The use of adhesive is recommended for both cap and pin mounting in order to achieve the specified high frequency response. All specifications are typical and subject to change. Contact factory for latest information.

\*Consult factory for information on high temperature version.  
(757) 426-3678

OCEANA  
SENSOR  
Wireless e-Diagnostics™

1632 Corporate Landing Parkway Virginia Beach,  
Virginia 23454 PH: 757-426-3678