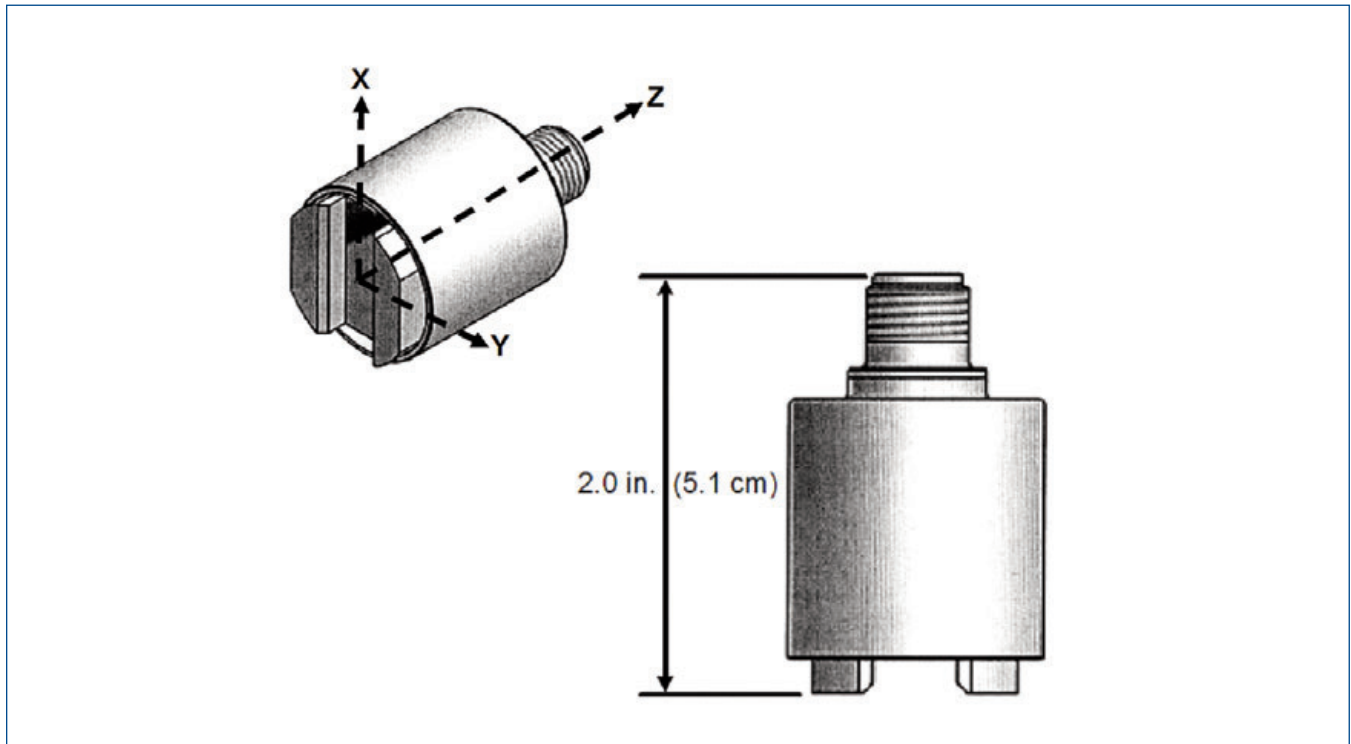


# A0643TX Triaxial Accelerometer with Integral Magnet



*The Triax Accelerometer with integral magnet mounts like a standard sensor but provides extraordinary performance*

- *Faster readings - get in and out of plant location fast without sacrificing data quality*
- *Superior response - new patented design delivers quality data in all three directions*
- *Flexible mounting - use with or without pads*
- *Versatile applications - suitable for detecting virtually all types of fault conditions*
- *Lubrication monitoring - determine whether machines are properly lubricated*

## **Innovative New Design**

The Model A0643TX triaxial accelerometer breaks new ground in sensor technology. This innovative design uses an integral magnetic base to achieve excellent results for virtually all types of vibration monitoring, with - or without - a mounting pad.

## **With Mounting Pads**

When using a mounting pad, for monitoring critical equipment, the sensor response is accurate and repeatable up to 10 KHz in the primary axis and up to 3 KHz in each of the secondary axes.

When used with Emerson's CSI 2130 featuring our PeakVue processing, it is possible to move beyond detection of machinery problems, such as bearing faults, to identify one the primary root causes - improper lubrication.

## **Without Mounting Pads**

For monitoring standard equipment, this unique triaxial accelerometer can be mounted directly on the machine casing and still provide results in the primary axis that rival any standard accelerometer.

## **Speed and Performance**

The Model A0643TX triaxial accelerometer attaches to the CSI 2130 via a single cable with no need for bulky multiplexers or adapters. When configured for optimal performance, the CSI 2130 can obtain a complete set of triaxial data - including a PeakVue measurement - in 7-10 seconds, drastically cutting field data collection time.

<b>DYNAMIC PERFORMANCE<sup>6</sup></b>	<b>ENGLISH</b>	<b>SI</b>
Sensitivity $\pm 10\%$ (all 3 axis) <sup>1</sup>	100 mV/g	10.2 mV/(m/s <sup>2</sup> )
Measurement Range	$\pm 50g$	$\pm 490$ m/s <sup>2</sup>
Frequency Range $\pm 3$ dB (Z-axis) <sup>2,3</sup>	30 - 600,000 cpm	0.5Hz - 10 kHz
Frequency Range $\pm 3$ dB (X & Y-axis) <sup>2,3</sup>	120 - 600,000 cpm	2Hz - 3.5 kHz
Resonant Frequency <sup>4</sup>	1,500 kcpm	23 kHz
Amplitude Linearity <sup>5</sup>	$\pm 1\%$	$\pm 1\%$
Transverse Sensitivity	$\leq 7\%$	$\leq 7\%$
<b>ENVIRONMENTAL</b>		
Shock Limit - Axial	5,000 g pk	49 050 m/s <sup>2</sup> pk
Temperature Range	-65 to +250 °F	-54 to +121 °C
Temperature Response <sup>4</sup>	See Graph	See Graph
Sealing	Hermetic	IP68
<b>ELECTRICAL</b>		
Settling Time (within 1% of bias)	$\leq 2.0$ sec	$\leq 2.0$ sec
Discharge Time Constant (Z-axis)	$\leq 0.3$ sec	$\leq 0.3$ sec
Discharge Time Constant (X & Y-axis)	$\leq 0.06$ sec	$\leq 0.06$ sec
Excitation Voltage	18 to 28 VDC	18 to 28 VDC
Constant Current	2 to 20 mA	2 to 20 mA
Output Impedance	<150 ohms	<150 ohms
Output Bias	8 to 12 VDC	8 to 12 VDC
Broadband Electrical Noise (1-10 kHz) <sup>4</sup>	500 $\mu g$	4905 $\mu m/s^2$
Spectral Noise: (10 Hz) <sup>4</sup>	30 $\mu g/\sqrt{Hz}$	294.3 ( $\mu m/s^2$ )/ $\sqrt{Hz}$
(100 Hz) <sup>4</sup>	15 $\mu g/\sqrt{Hz}$	147.2 ( $\mu m/s^2$ )/ $\sqrt{Hz}$
(1 Hz) <sup>4</sup>	10 $\mu g/\sqrt{Hz}$	98.1 ( $\mu m/s^2$ )/ $\sqrt{Hz}$
Case Isolation	$>10^8$ ohms	$>10^8$ ohms
<b>MECHANICAL</b>		
Size (diam x height)	1.240 x 2.0 in	31.50 x 50.8 mm
Weight	6.18 oz	175 gm
Mounting Method	2 pole magnet	2 pole magnet
Magnet Pull Strength	45 lbs min.	200 N min.
Sensing Element/Geometry	Ceramic/Shear	Ceramic/Shear
Case Material	Stainless Steel	Stainless Steel
Connector Type/Position	5 pin/Top	5 pin/Top

Notes:

<sup>1</sup> Conversion Factor 1g = 9.81 m/s<sup>2</sup>.

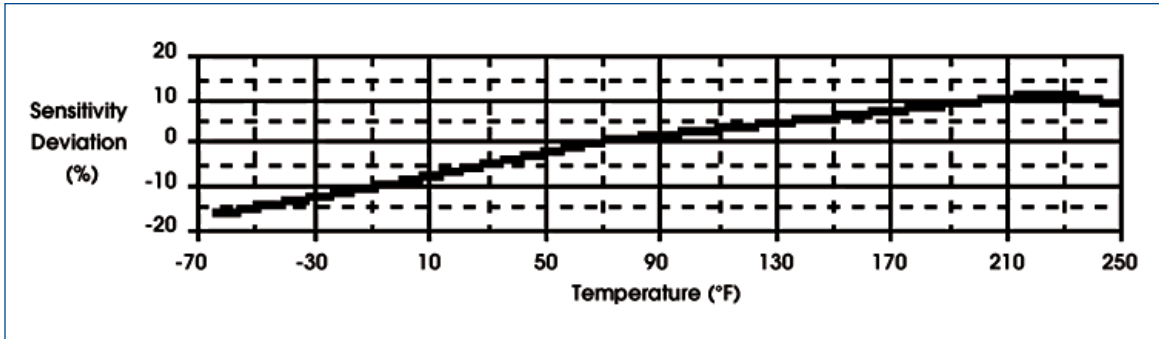
<sup>2</sup> 1 Hz = 60 cpm (cycles per inutes).

<sup>3</sup> The high frequency tolerance is accurate within  $\pm 10\%$  of the specified frequency

<sup>4</sup> Typical each axis.

<sup>5</sup> Zero-based, least-squares,

<sup>6</sup> All specifications are at room temperature unless otherwise specified.



**Order Information**

A0643TX.....Triax Accel for 2130

**Accessory Items**

- D25064.....Cable, 2130 Triax A0643TX
- D24826.....Mounting Pad, Triax A0643TX

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