

# Triaxial Accelerometer with Integral Magnet

Reduce route collection time up to 50% by simultaneously collecting three axis measurements (horizontal, vertical, axial) — plus PeakVue™ measurements — using one button push on the CSI 2140 four-channel analyzer.

To aid in data-collection efficiency, the sensor has a patented integral magnet for use on any curved or flat surfaces without needing special mounting hardware to attach to the machine. And to make handling the sensor simpler, the sensor uses a single cable attachment to the CSI 2140.

## Dynamic Performance

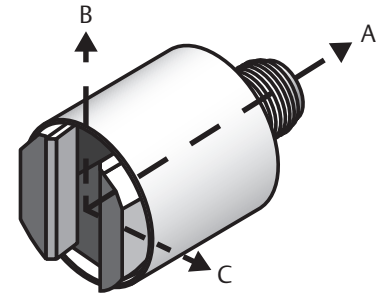
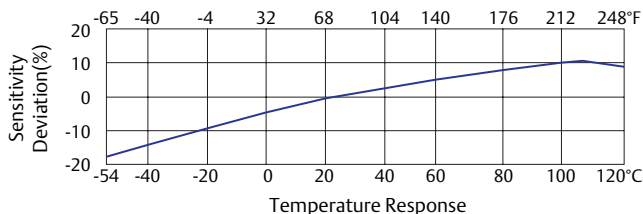
Sensitivity (±10%)	100 mV/g (10.2 mV/m/s <sup>2</sup> ); All 3 Axis
Measurement Range	±50 g (±490 m/s <sup>2</sup> )
Freq. Range: ±3 dB (CH/A axis)	0.5 to 10,000 Hz (30 to 600,000 cpm)
±3 dB (CH/B & CH/C axis)	2.0 to 3,500 Hz (120 to 210,000 cpm)
Mounted Resonant Frequency	23 kHz Nominal
Amplitude Linearity	±1% (0 Based, Least Squares, Straight Line)
Transverse Sensitivity	≤7%

## Environmental

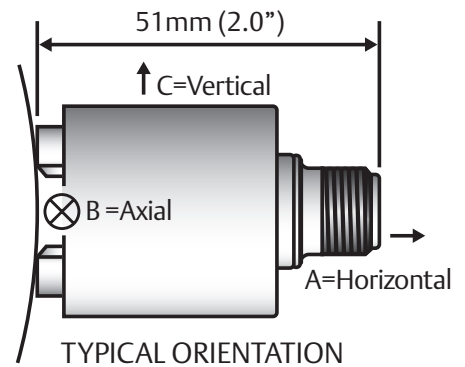
Shock Limit	5,000g pk (49,010 m/s <sup>2</sup> )
Temperature Range	-54 to 121°C (-65 to 250°F)
Temperature Response	See Graph
Sealing / Rating	Welded Hermetic / IP68

## Electrical

Settling Time	≤2.0 sec (Within 1% of Bias)
Discharge Time Constant (Z axis)	≥0.3 sec
Discharge Time Constant (X & Y axis)	≥0.06 sec
Excitation Voltage / Current	18 to 28 VDC / 2.0 to 20 mA
Output Bias	8 to 12 VDC
Output Impedance	<150 ohms
Broadband Resolution (1 to 10 KHz)	500 μg (4,905 μm/s <sup>2</sup> ) Electrical Noise
Case Isolation	>10 <sup>8</sup> ohms



Directions in which each CSI 2140 channel collects data on the sensor.



TYPICAL ORIENTATION



The combination of the four-channel CSI 2140 and the safety-rated integral magnet triaxial accelerometer allows the user to collect data going from bearing to bearing rather than point to point resulting in significantly reduced route data collection times.

# Specifications Sheet

September 2015

# A0643TX-EX

## Mechanical

Weight	175 grams (6.18 oz) Sensor & Magnet
Mounting / Magnet Pull Strength	2 Pole Magnet / 200 N (45 lb) min
Sensor Element / Geometry	Ceramic / Shear
Case Material	Stainless Steel
Connector Type (Top)	5 Pin

## Safety Ratings

ATEX - This sensor has been approved for Hazardous Locations Directive 94/9/EC Ex ic IIC T4, Ex nA IIC T4. For safe use all applicable local electrical laws must be followed.

The supply electrical parameters must not exceed any of the following values:

- X and Y axis  $U_i \leq 28V$ ,  $I_i \leq 180mA$ ,  $P_i \leq 1.26W$ ,  $C_i \leq 21nF$ ,  $L_i \leq 0$
- Z axis  $U_i \leq 28V$ ,  $I_i \leq 180mA$ ,  $P_i \leq 1.26W$ ,  $C_i \leq 63nF$ ,  $L_i \leq 0$

Ambient Operating Temperature Range  $-54^{\circ}C \leq T_a \leq +121^{\circ}C$

CSA(US)	AEx ic IIC T4 AEx nA IIC T4 CI I, DIV 2, GR A,B,C,D
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IECEX	Ex ic IIC T4 Gc Ex nA IIC T4 Gc IECEs LCIE 14.0051X
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## Accessories

Three Point Calibration Supplied      Optional accessories include cable (D25493) and mounting pad (D24826)

## Sensor Channels

A0643TX-EX Triax Accelerometer Axis as marked on sensor	A	B	C
CSI 2140 Input Channel	A	B	C
AMS Machinery Manager Software Channel	1	2	3
Horizontally mounted orientation of the A0643TX-EX with "C" label pointing up	Horizontal	Axial	Vertical

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