



MULTI-AXIS ICP[®] ACCELEROMETERS

 **IMI SENSORS**
A PCB DIVISION

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LOW-COST TRIAXIAL ICP® ACCELEROMETER

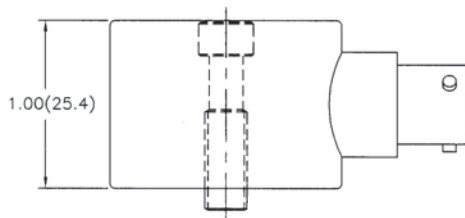
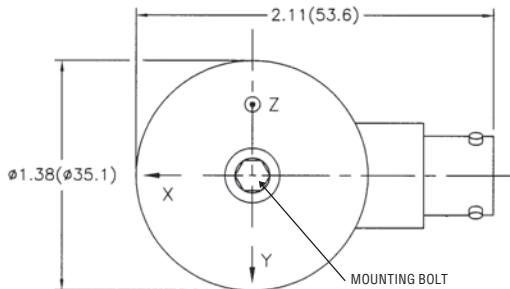
604-Series



ACCELEROMETER WITH MIL CONNECTOR

MODEL (EX)604B31

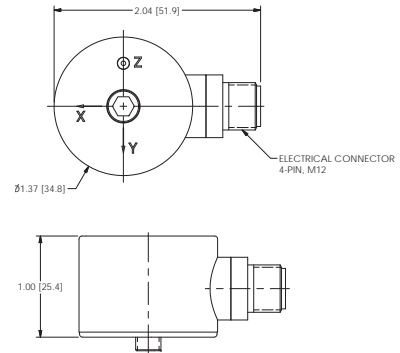
- Most economical triaxial accelerometer in the IMI product line
- Hazardous area approved version available



SPECIFICATIONS

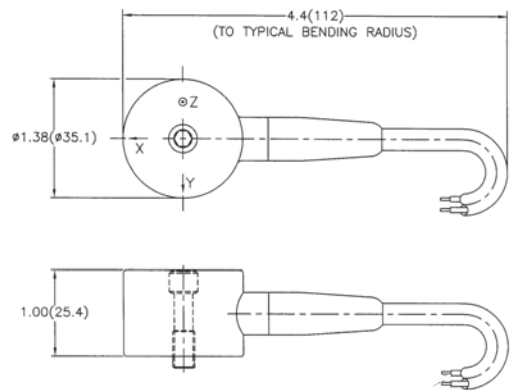
Performance	
Sensitivity ($\pm 20\%$)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	± 50 g ± 490 m/s ²
Frequency Range (± 3 dB)	0.5 to 5000 Hz
Resonant Frequency	10 kHz
Broadband Resolution (1 to 10000 Hz)	350 μ g 3434 μ m/s ²
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 5\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s ² pk
Temperature Range	-65 to +250 °F -54 to +121 °C
Hazardous Area Approval	CSA, ATEX, IECEx (EX only)
Enclosure Rating	IP68
Electrical	
Settling Time	≤ 2.0 sec
Discharge Time Constant	≥ 0.3 sec
Excitation Voltage	18 to 28 VDC
Constant Current Excitation	2 to 20 mA
Output Impedance	<150 Ohm
Output Bias Voltage	8 to 12 VDC
Spectral Noise (10 Hz)	8.0 μ g/Hz
Spectral Noise (100 Hz)	5.0 μ g/Hz
Spectral Noise (1 kHz)	4.0 μ g/Hz
Electrical Isolation (Case)	>10 ⁹ Ohm
Physical	
Sensing Element	Ceramic
Sensing Geometry	Shear
Housing Material	Stainless Steel
Sealing	Welded Hermetic
Mounting	1/4-28 Male
Mounting Torque	2 to 5 ft-lb 2.7 to 6.8 N-m
Electrical Connector	4-Pin Bayonet
Electrical Connector Position	Side
Weight	4.4 oz 124 g
Accessories	
Model 081A68: Mounting bolt, 1/4-28 x .90"	

ADDITIONAL BASE MODEL CONFIGURATIONS



ACCELEROMETER WITH M12 CONNECTOR

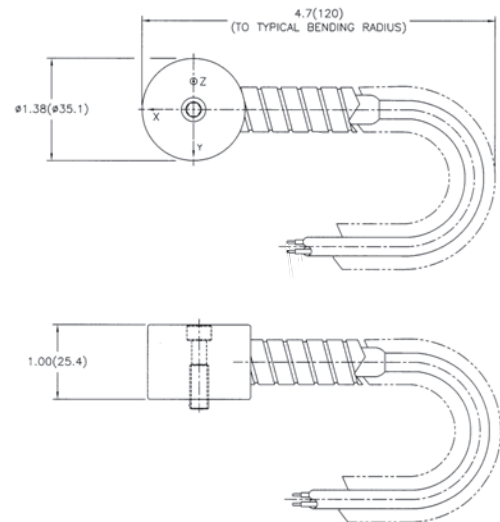
MODEL (EX)604B91



ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL (EX)604B11

- Configurable cable length and terminating connector



ACCELEROMETER WITH INTEGRAL ARMORED POLYURETHANE CABLE

MODEL (EX)604B61

- Configurable cable length, armor length and terminating connector

LOW-COST BIAXIAL ICP® ACCELEROMETER

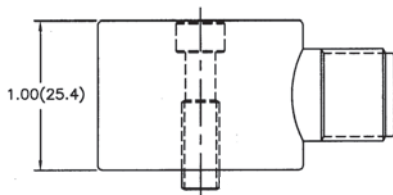
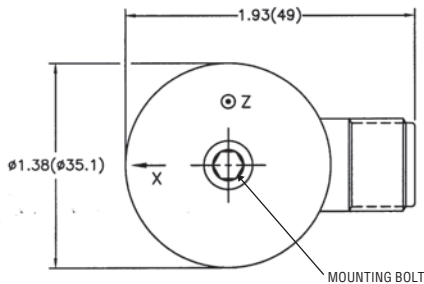
605-Series



ACCELEROMETER WITH MIL CONNECTOR

MODEL 605B01

- Take measurements on two axes simultaneously
- Ideal for route-based predictive maintenance with a two channel data collector



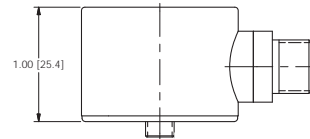
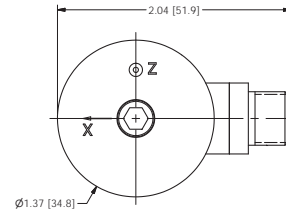
SPECIFICATIONS	
Performance	
Sensitivity ($\pm 20\%$)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	± 50 g ± 490 m/s ²
Frequency Range (± 3 dB)	.5 to 5000 Hz
Resonant Frequency	10 kHz
Broadband Resolution (1 to 1000 Hz)	350 μ g 3434 μ m/s ²
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 5\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s ² pk
Temperature Range	-65 to +250 °F -54 to +121 °C
Enclosure Rating	IP68
Electrical	
Settling Time (within 1% of bias)	≤ 2.0 sec
Discharge Time Constant	≥ 0.3 sec
Excitation Voltage	18 to 28 VDC
Constant Current Excitation	2 to 20 mA
Output Impedance	< 150 Ohm
Output Bias Voltage	8 to 12 VDC
Spectral Noise (10 Hz)	8 μ g/ $\sqrt{\text{Hz}}$
Spectral Noise (100 Hz)	5 μ g/ $\sqrt{\text{Hz}}$
Spectral Noise (1 kHz)	4 μ g/ $\sqrt{\text{Hz}}$
Electrical Isolation (Case)	$> 10^8$ Ohm
Physical	
Sensing Element	Ceramic
Sensing Geometry	Shear
Housing Material	Stainless Steel
Sealing	Welded Hermetic
Mounting	1/4-28 Male
Mounting Torque	2 to 5 ft-lb 2.7 to 6.8 Nm
Electrical Connector	3-Pin MIL-C-5015
Electrical Connection Position	Side
Weight	3.9 oz 111 g
Accessories	
Model 081A68: Mounting bolt, 1/4-28 x .90"	

ADDITIONAL BASE MODEL CONFIGURATIONS



ACCELEROMETER WITH M12 CONNECTOR

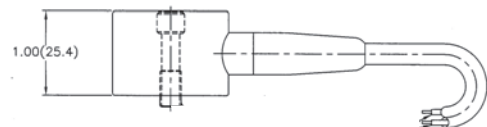
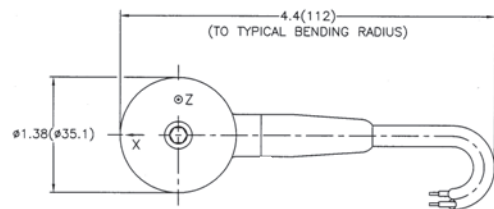
MODEL 605B91



ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL 605B11

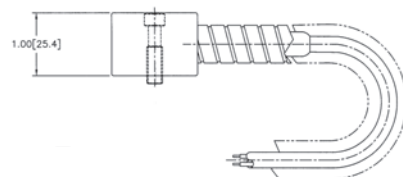
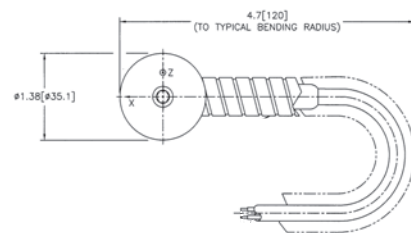
- Configurable cable length and terminating connector



ACCELEROMETER WITH INTEGRAL ARMORED POLYURETHANE CABLE

MODEL 605B61

- Configurable cable length, armor length and terminating connector



PRECISION TRIAXIAL ICP® ACCELEROMETER

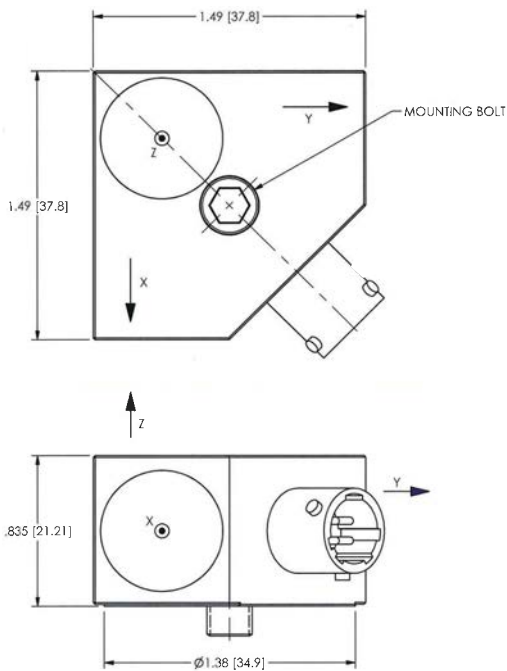
629-Series



ACCELEROMETER WITH MIL CONNECTOR

MODEL 629A31

- Full frequency sweep calibration on all three axes
- Tight sensitivity tolerance for applications requiring highly precise measurements



SPECIFICATIONS	
Performance	
Sensitivity ($\pm 5\%$)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	± 50 g ± 490 m/s ²
Frequency Range ($\pm 5\%$)	2.4 to 2000 Hz
Frequency Range ($\pm 10\%$)	1.7 to 5000 Hz
Frequency Range (± 3 dB)	0.8 to 8000 Hz
Resonant Frequency	20 kHz
Broadband Resolution (1 to 10000 Hz)	100 μ g 981 μ m/sec ²
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 5\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s ² pk
Temperature Range	-65 to +250 °F -54 to +121 °C
Enclosure Rating	IP68
Electrical	
Settling Time	≤ 3.0 sec
Discharge Time Constant	≥ 0.2 sec
Excitation Voltage	18 to 28 VDC
Constant Current Excitation	2 to 20 mA
Output Impedance	<100 Ohm
Output Bias Voltage	8 to 12 VDC
Spectral Noise (10 Hz)	7.0 μ g/ \sqrt Hz
Spectral Noise (100 Hz)	2.8 μ g/ \sqrt Hz
Spectral Noise (1 kHz)	1.0 μ g/ \sqrt Hz
Electrical Isolation (Case)	$\geq 10^9$ Ohm
Physical	
Sensing Element	Ceramic
Sensing Geometry	Shear
Housing Material	Stainless Steel
Sealing	Welded Hermetic
Mounting	1/4-28 Male
Mounting Torque	2 to 5 ft-lb 2.7 to 6.8 Nm
Electrical Connector	4-Pin Bayonet
Electrical Connector Position	Side
Weight	4.9 oz 139 g
Accessories	
Model 081A56: Mounting bolt, 1/4-28 x .75"	

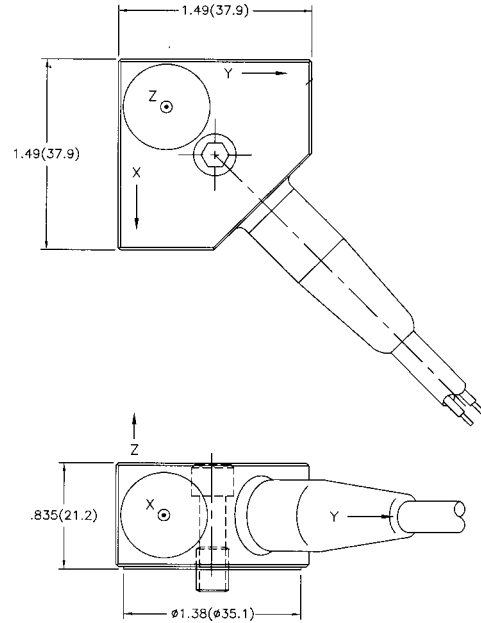
ADDITIONAL BASE MODEL CONFIGURATIONS



ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL 629A11

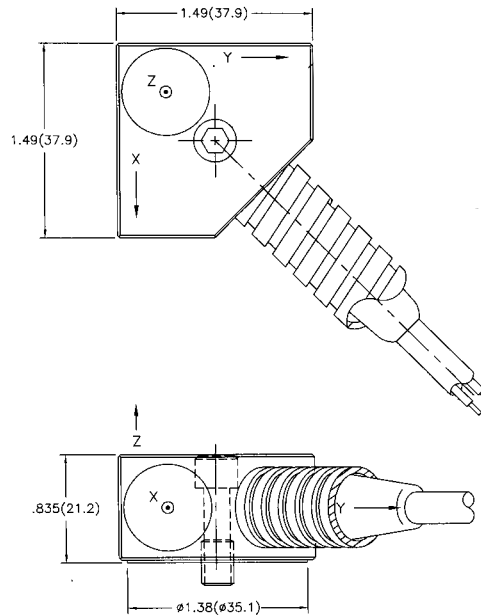
- Configurable cable length and terminating connector



ACCELEROMETER WITH INTEGRAL ARMORED POLYURETHANE CABLE

MODEL 629A61

- Configurable cable length, armor length and terminating connector

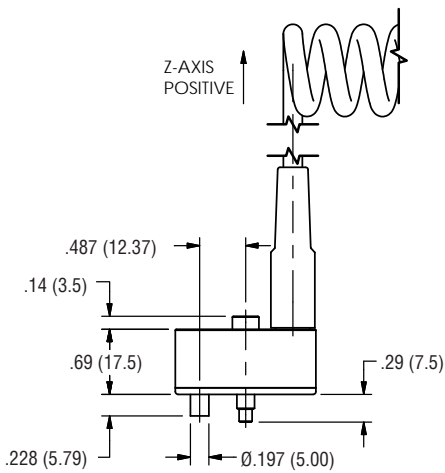




**ACCELEROMETER WITH
INTEGRAL COILED CABLE**

MODEL EX629A11A

- Ideal for route-based measurements with integral coiled cable and locator pin
- Available with configurable terminating connector



SPECIFICATIONS	
Performance	
Sensitivity ($\pm 10\%$)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	± 50 g ± 490 m/s ²
Frequency Range (± 3 dB)	2 to 7000 Hz (X & Y) 2 to 10000 Hz (Z)
Resonant Frequency	17 kHz
Broadband Resolution (1 to 10,000 Hz)	560 μ g 5694 μ m/s ²
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 7\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s ² pk
Temperature Range	-40 to +176 F -40 to +80 C
Hazardous Area Approval	ATEX, CSA
Enclosure Rating	IP68
Electrical	
Discharge Time Constant	≤ 3.0 sec
Settling Time	≥ 0.1 sec
Excitation Voltage	18 to 28 VDC
Constant Current Excitation	2 to 20 mA
Output Impedance	< 350 Ohms
Output Bias Voltage	8 to 12 VDC
Spectral Noise (10 Hz)	40 μ g/√Hz
Spectral Noise (100 Hz)	10 μ g/√Hz
Spectral Noise (1 kHz)	6 μ g/√Hz
Electrical Isolation (Case)	$> 10^8$ Ohm
Physical	
Sensing Element	Ceramic
Sensing Geometry	Shear
Housing Material	Stainless Steel
Sealing	Welded Hermetic
Mounting Thread	10-32 Male
Mounting Torque	2 to 5 ft-lb 2.7 to 6.8 N-m
Electrical Connector	Integral Coiled Cable
Electrical Connector Position	Top
Weight	3.9 oz 110g
Accessories	
Model 081A126: Mounting bolt, 10-32 x .93"	

PRECISION TRIAXIAL ICP® ACCELEROMETER

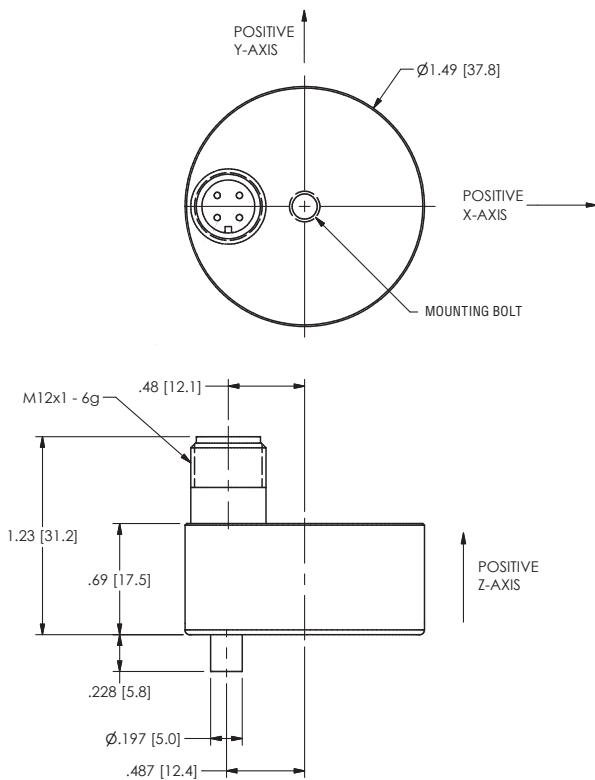
630-Series



ACCELEROMETER WITH M12 CONNECTOR

MODEL (EX)630A91

- Small footprint ideal for installation in tight spaces
- Top exit connector eliminates concerns about cable bend radius



SPECIFICATIONS

Performance

Sensitivity ($\pm 10\%$)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	± 50 g ± 490 m/s ²
Frequency Range- X & Y (± 3 dB)	2 to 7000 Hz
Frequency Range- Z (± 3 dB)	2 to 10000 Hz
Resonant Frequency	17 kHz
Broadband Resolution (1 to 10,000 Hz)	560 μ g 5,694 μ m/s ²
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 7\%$

Environmental

Overload Limit (Shock)	5000 g pk 49050 m/s ² pk
Temperature Range (Unapproved Version)	-65 to +250 °F -54 to +121 °C
Hazardous Area Approval	ATEX, CSA (EX only)
Enclosure Rating	IP68

Electrical

Settling Time	≤ 3.0 sec
Discharge Time Constant	≥ 0.1 sec
Excitation Voltage	18 to 28 VDC
Constant Current Excitation	2 to 20 mA
Output Impedance	<350 Ohm
Output Bias Voltage	8 to 12 VDC
Spectral Noise (10 Hz)	40.0 μ g/Hz
Spectral Noise (100 Hz)	10.0 μ g/Hz
Spectral Noise (1 kHz)	6.0 μ g/Hz
Electrical Isolation (Case)	$>10^8$ Ohm

Physical

Sensing Element	Ceramic
Sensing Geometry	Shear
Housing Material	Stainless Steel
Sealing	Welded Hermetic
Mounting	10-32 Male
Mounting Torque	2 to 5 ft-lb 2.7 to 6.8 N-m
Electrical Connector	4-pin M12
Electrical Connector Position	Top
Weight	4.2 oz 119.7 g

Accessories

Model 081A126: Mounting bolt, 10-32 x .93"

PRECISION TRIAXIAL ICP® ACCELEROMETER

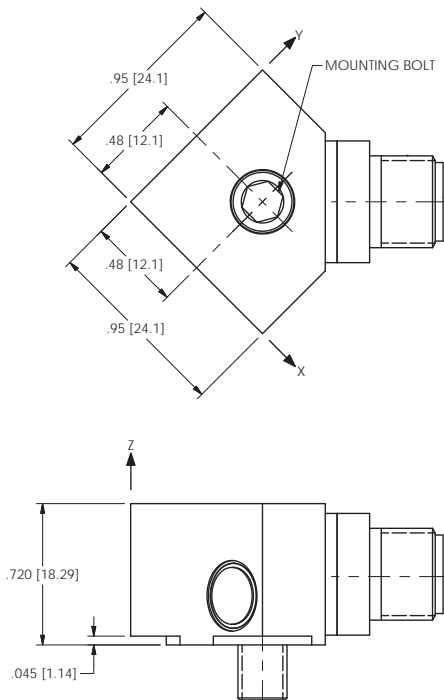
639-Series



ACCELEROMETER WITH M12 CONNECTOR

MODEL (EX)639A91

- Smallest, truly industrial triaxial ICP® accelerometer on the market
- High frequency response on all three axes ideal for gearbox and bearing fault detection



SPECIFICATIONS	
Performance	
Sensitivity ($\pm 10\%$)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	± 50 g ± 490 m/s ²
Frequency Range ($\pm 5\%$)	1.5 to 5500 Hz
Frequency Range (± 3 dB)	0.5 to 13000 Hz
Resonant Frequency	≥ 26 kHz
Broadband Resolution (1 to 10,000 Hz)	300 μ g 3000 μ m/s ²
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 5\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s ² pk
Temperature Range	-65 to +250 °F -54 to +121 °C
Hazardous Area Approval	CSA (EX only)
Enclosure Rating	IP68, IP69K
Electrical	
Discharge Time Constant	≥ 0.32 sec
Settling Time	≤ 2.0 sec
Excitation Voltage	18 to 30 VDC
Constant Current Excitation	2 to 20 mA
Output Impedance	< 150 Ohm
Output Bias Voltage	8 to 12 VDC
Spectral Noise (10 Hz)	20.0 μ g/Hz
Spectral Noise (100 Hz)	10.0 μ g/Hz
Spectral Noise (1 kHz)	3.0 μ g/Hz
Electrical Isolation (Case)	$> 10^8$ Ohm
Physical	
Sensing Element	Ceramic
Sensing Geometry	Shear
Housing Material	Stainless Steel
Sealing	Welded Hermetic
Mounting Thread	1/4-28 Male
Mounting Torque	2 to 5 ft-lb 2.7 to 6.8 N-m
Electrical Connector	4-pin M12
Electrical Connector Position	Side
Weight	3.0 oz 85 g
Accessories	
Model 081A119: Mounting bolt, 1/4-28 x .625"	

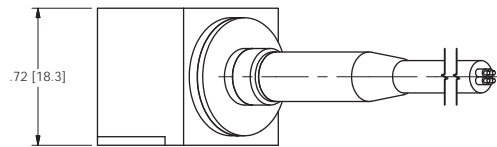
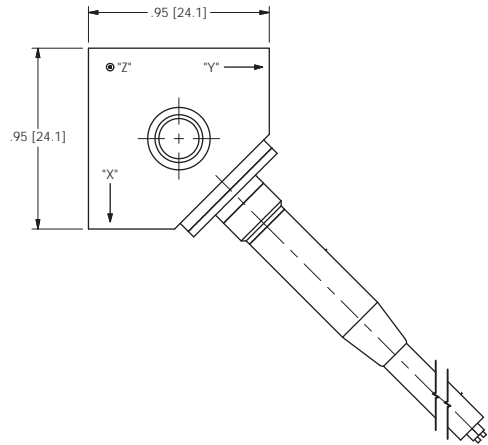
ADDITIONAL BASE MODEL CONFIGURATIONS



ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL (EX)639A11

- Configurable cable length and terminating connector





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IMI-VIB-MultiAxis-1221

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