



# MULTI-AXIS ICP® ACCELEROMETERS

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# LOW-COST TRIAXIAL ICP<sup>®</sup> ACCELEROMETER

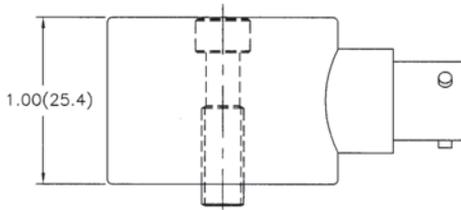
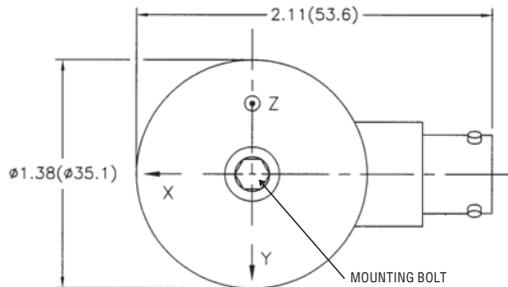
## 604-Series



### ACCELEROMETER WITH MIL CONNECTOR

MODEL (EX)604B31

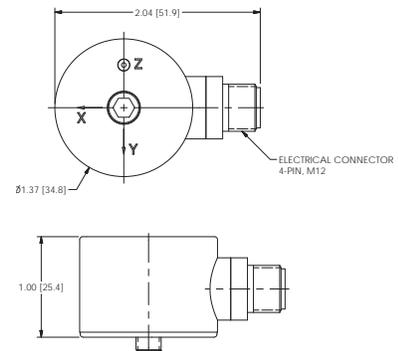
- Most economical triaxial accelerometer in the IMI product line
- Hazardous area approved version available



### SPECIFICATIONS

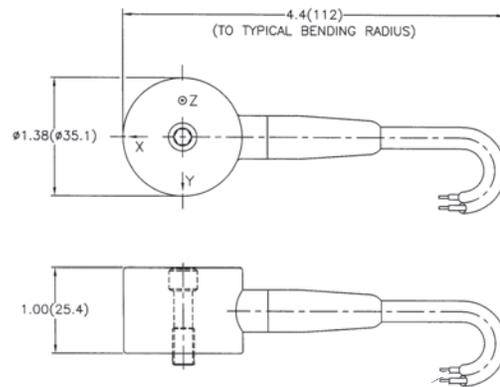
Performance	
Sensitivity ( $\pm 20\%$ )	100 mV/g 10.2 mV/(m/s <sup>2</sup> )
Measurement Range	$\pm 50$ g $\pm 490$ m/s <sup>2</sup>
Frequency Range ( $\pm 3$ dB)	0.5 to 5000 Hz
Resonant Frequency	10 kHz
Broadband Resolution (1 to 10000 Hz)	350 $\mu$ g 3434 $\mu$ m/s <sup>2</sup>
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 5\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s <sup>2</sup> 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	$\leq 2.0$ sec
Discharge Time Constant	$\geq 0.3$ 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 $\mu$ g/Hz
Spectral Noise (100 Hz)	5.0 $\mu$ g/Hz
Spectral Noise (1 kHz)	4.0 $\mu$ g/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 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

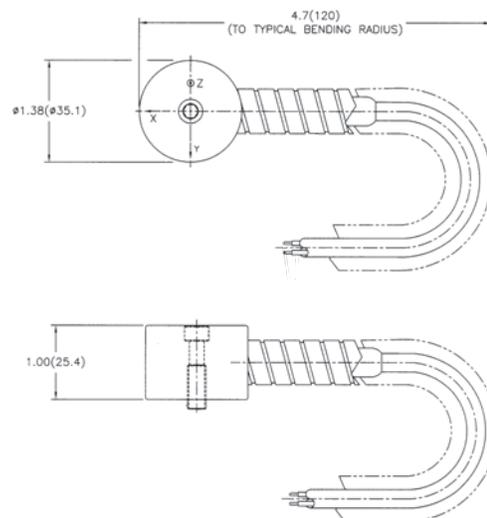
MODEL (EX)604B91



## 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

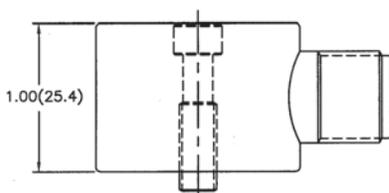
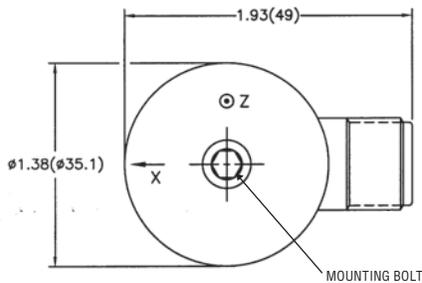
## 605-Series



### 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

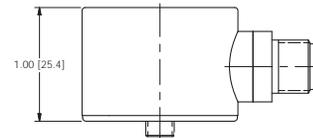
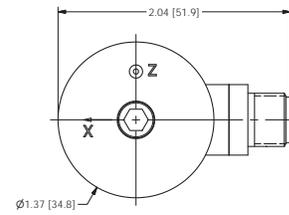
Performance	
Sensitivity ( $\pm 20\%$ )	100 mV/g 10.2 mV/(m/s <sup>2</sup> )
Measurement Range	$\pm 50$ g $\pm 490$ m/s <sup>2</sup>
Frequency Range ( $\pm 3$ dB)	.5 to 5000 Hz
Resonant Frequency	10 kHz
Broadband Resolution (1 to 1000 Hz)	350 $\mu$ g 3434 $\mu$ m/s <sup>2</sup>
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 5\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s <sup>2</sup> pk
Temperature Range	-65 to +250 °F -54 to +121 °C
Enclosure Rating	IP68
Electrical	
Settling Time (within 1% of bias)	$\leq 2.0$ sec
Discharge Time Constant	$\geq 0.3$ 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 $\mu$ g/ $\sqrt$ Hz
Spectral Noise (100 Hz)	5 $\mu$ g/ $\sqrt$ Hz
Spectral Noise (1 kHz)	4 $\mu$ g/ $\sqrt$ 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 O81A68: Mounting bolt, 1/4-28 x .90"	

## ADDITIONAL BASE MODEL CONFIGURATIONS



### ACCELEROMETER WITH M12 CONNECTOR

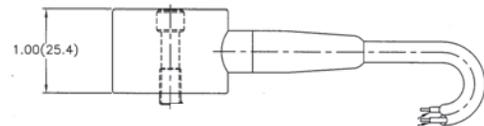
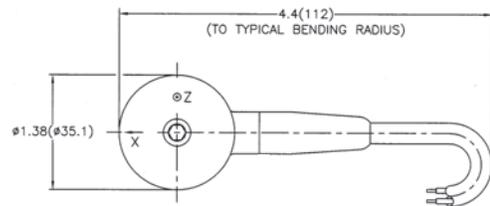
MODEL 605B91



### ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL 605B11

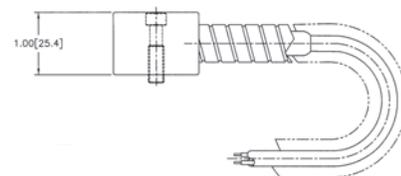
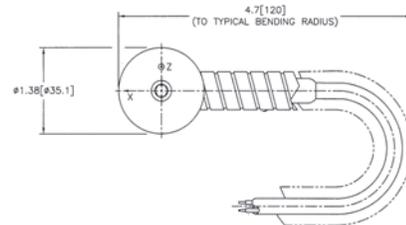
- Configurable cable length and terminating connector



### ACCELEROMETER WITH INTEGRAL ARMORED POLYURETHANE CABLE

MODEL 605B61

- Configurable cable length, armor length and terminating connector



# PRECISION TRIAXIAL ICP® ACCELEROMETER

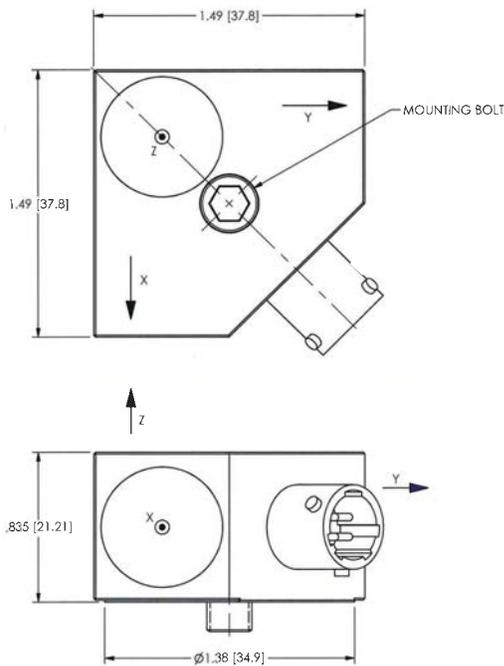
## 629-Series



### ACCELEROMETER WITH MIL CONNECTOR

MODEL 629A31

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



### SPECIFICATIONS

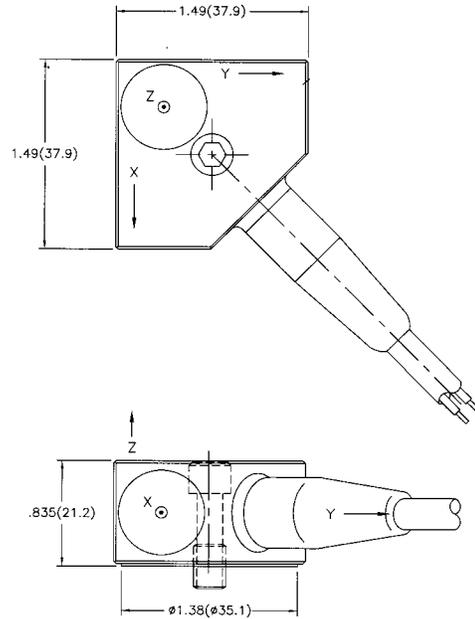
Performance	
Sensitivity (±5 %)	100 mV/g 10.2 mV/(m/s <sup>2</sup> )
Measurement Range	±50 g ±490 m/s <sup>2</sup>
Frequency Range (±5 %)	2.4 to 2000 Hz
Frequency Range (±10 %)	1.7 to 5000 Hz
Frequency Range (±3dB)	0.8 to 8000 Hz
Resonant Frequency	20 kHz
Broadband Resolution (1 to 10000 Hz)	100 µg 981 µm/sec <sup>2</sup>
Non-Linearity	±1 %
Transverse Sensitivity	≤5 %
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s <sup>2</sup> 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 µg/√Hz
Spectral Noise (100 Hz)	2.8 µg/√Hz
Spectral Noise (1 kHz)	1.0 µg/√Hz
Electrical Isolation (Case)	≥10 <sup>8</sup> 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



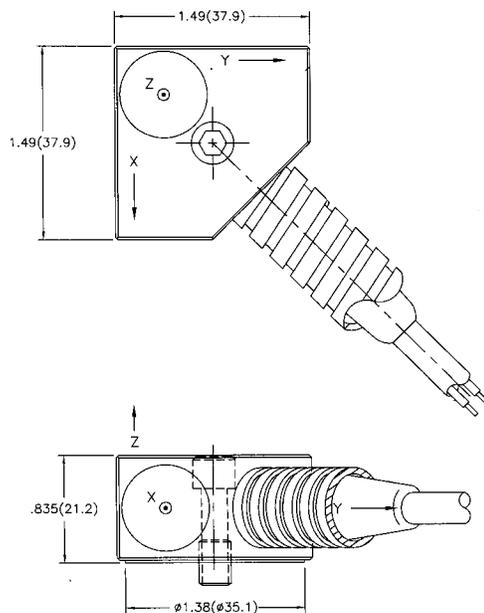
### ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE MODEL 629A11

- Configurable cable length and terminating connector



### ACCELEROMETER WITH INTEGRAL ARMORED POLYURETHANE CABLE MODEL 629A61

- Configurable cable length, armor length and terminating connector



# PRECISION TRIAXIAL ICP® ACCELEROMETER

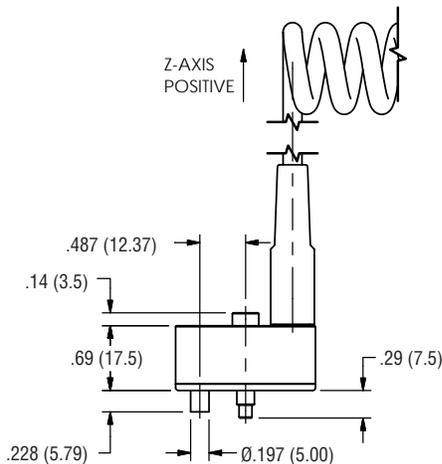
## EX629-Series



### 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 <sup>2</sup> )
Measurement Range	$\pm 50$ g $\pm 490$ m/s <sup>2</sup>
Frequency Range ( $\pm 3$ dB)	2 to 7000 Hz (X & Y) 2 to 10000 Hz (Z)
Resonant Frequency	17 kHz
Broadband Resolution (1 to 10,000 Hz)	560 $\mu$ g 5694 $\mu$ m/s <sup>2</sup>
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 7\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s <sup>2</sup> pk
Temperature Range	-40 to +176 F -40 to +80 C
Hazardous Area Approval	ATEX, CSA
Enclosure Rating	IP68
Electrical	
Discharge Time Constant	$\leq 3.0$ sec
Settling Time	$\geq 0.1$ 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 $\mu$ g $\sqrt$ Hz
Spectral Noise (100 Hz)	10 $\mu$ g $\sqrt$ Hz
Spectral Noise (1 kHz)	6 $\mu$ g $\sqrt$ 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

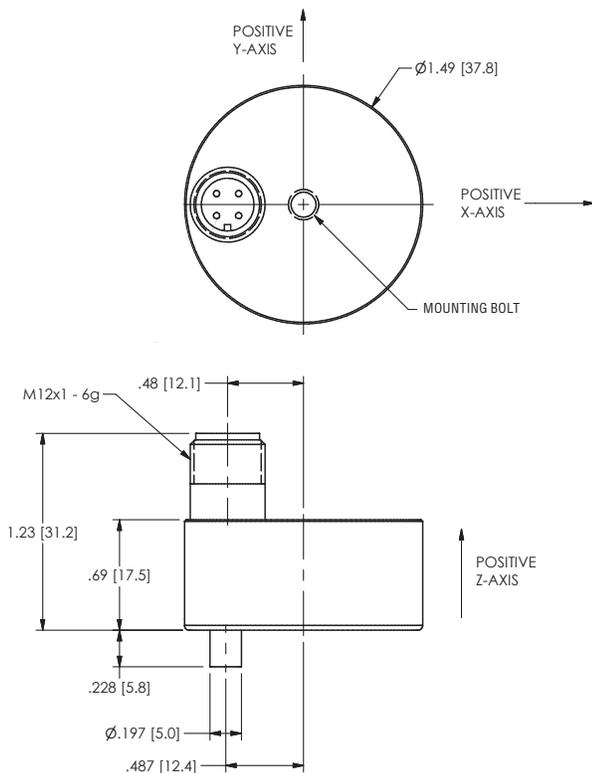
## 630-Series



### 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 <sup>2</sup> )
Measurement Range	$\pm 50$ g $\pm 490$ m/s <sup>2</sup>
Frequency Range- X & Y ( $\pm 3$ dB)	2 to 7000 Hz
Frequency Range- Z ( $\pm 3$ dB)	2 to 10000 Hz
Resonant Frequency	17 kHz
Broadband Resolution (1 to 10,000 Hz)	560 $\mu$ g 5,694 $\mu$ m/s <sup>2</sup>
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 7\%$
Environmental	
Overload Limit (Shock)	5000 g pk 49050 m/s <sup>2</sup> 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	$\leq 3.0$ sec
Discharge Time Constant	$\geq 0.1$ 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 $\mu$ g/Hz
Spectral Noise (100 Hz)	10.0 $\mu$ g/Hz
Spectral Noise (1 kHz)	6.0 $\mu$ 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

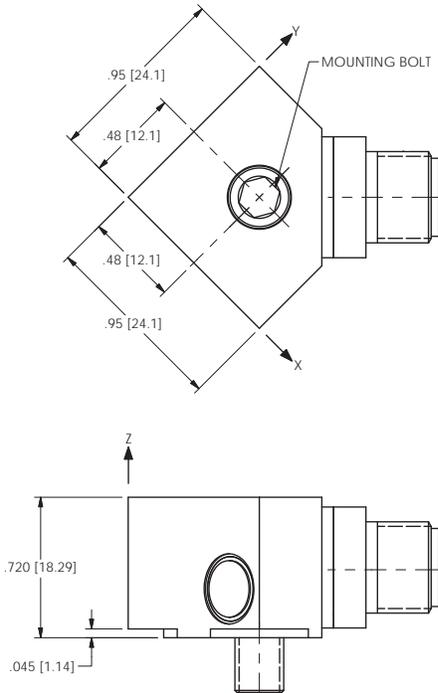
## 639-Series



### 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	
<b>Performance</b>	
Sensitivity ( $\pm 10\%$ )	100 mV/g 10.2 mV/(m/s <sup>2</sup> )
Measurement Range	$\pm 50$ g $\pm 490$ m/s <sup>2</sup>
Frequency Range ( $\pm 5\%$ )	1.5 to 5500 Hz
Frequency Range ( $\pm 3$ dB)	0.5 to 13000 Hz
Resonant Frequency	$\geq 26$ kHz
Broadband Resolution (1 to 10,000 Hz)	300 $\mu$ g 3000 $\mu$ m/s <sup>2</sup>
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 5\%$
<b>Environmental</b>	
Overload Limit (Shock)	5000 g pk 49050 m/s <sup>2</sup> pk
Temperature Range	-65 to +250 °F -54 to +121 °C
Hazardous Area Approval	CSA (EX only)
Enclosure Rating	IP68, IP69K
<b>Electrical</b>	
Discharge Time Constant	$\geq 0.32$ sec
Settling Time	$\leq 2.0$ 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 $\mu$ g/Hz
Spectral Noise (100 Hz)	10.0 $\mu$ g/Hz
Spectral Noise (1 kHz)	3.0 $\mu$ g/Hz
Electrical Isolation (Case)	$> 10^8$ Ohm
<b>Physical</b>	
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
<b>Accessories</b>	
Model 081A119: Mounting bolt, 1/4-28 x .625"	

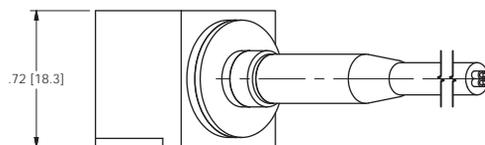
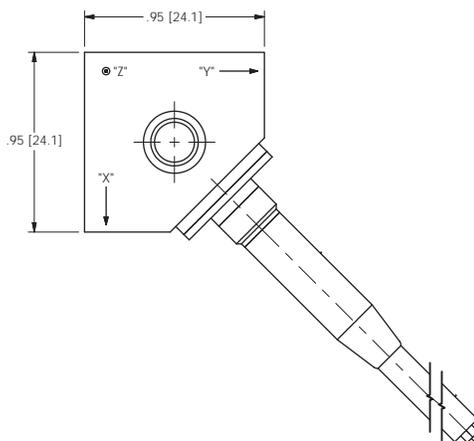
## ADDITIONAL BASE MODEL CONFIGURATIONS

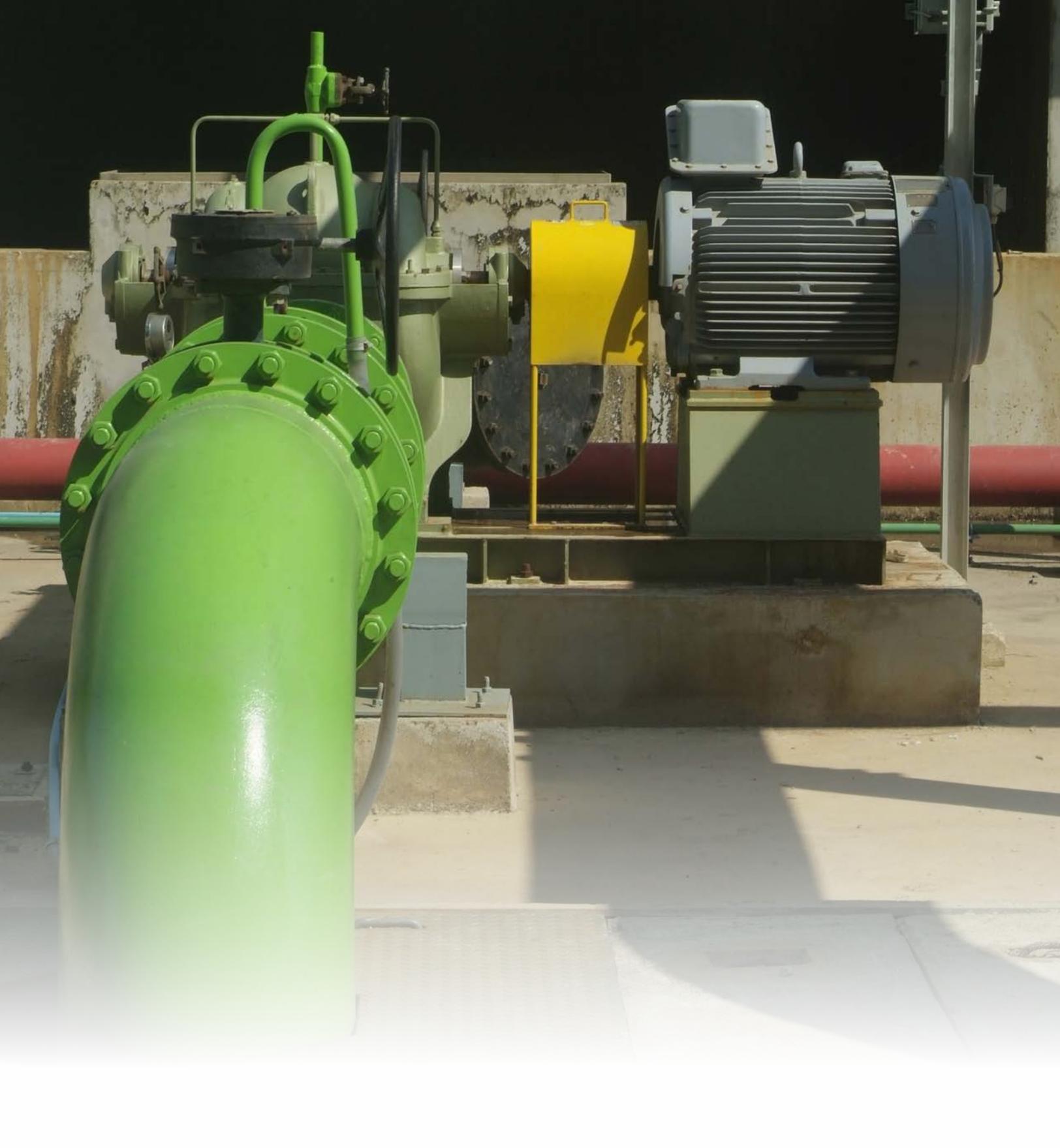


### ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL (EX)639A11

- Configurable cable length and terminating connector





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