



MULTI-AXIS ICP® ACCELEROMETERS

 **PCB PIEZOTRONICS**
AN AMPHENOL COMPANY

LOW-COST TRIAXIAL ICP® ACCELEROMETER

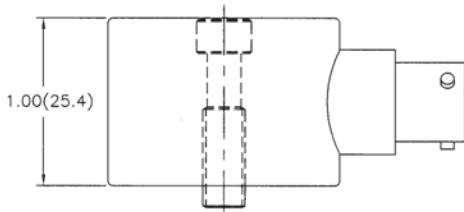
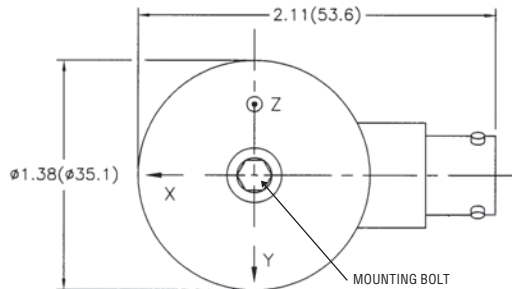
604-Series



ACCELEROMETER WITH MIL CONNECTOR

MODEL (EX)604B31

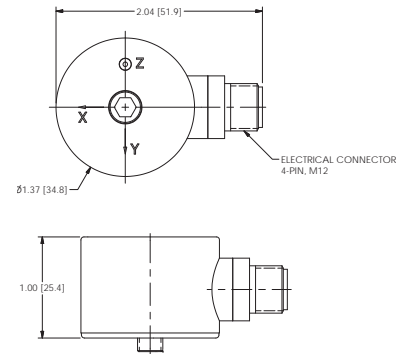
- Most economical triaxial accelerometer in the IMI product line
- Hazardous area approved version available



SPECIFICATIONS

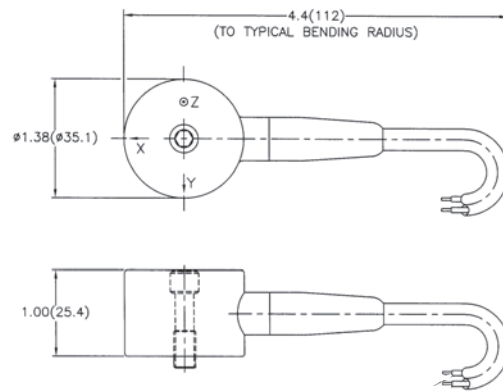
Performance	
Sensitivity (±20%)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	±50 g ±490 m/s ²
Frequency Range (±3 dB)	0.5 to 5000 Hz
Resonant Frequency	10 kHz
Broadband Resolution (1 to 10000 Hz)	350 µg 3434 µm/s ²
Non-Linearity	±1%
Transverse Sensitivity	≤5%
Environmental	
Overload Limit (Shock)	5000 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 µg/√Hz
Spectral Noise (100 Hz)	5.0 µg/√Hz
Spectral Noise (1 kHz)	4.0 µg/√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

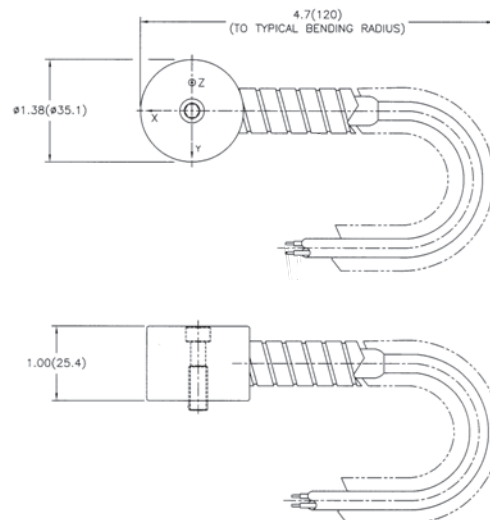
MODEL (EX)604B91



ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL (EX)604B11

- Configurable cable length and terminating connector



ACCELEROMETER WITH INTEGRAL ARMORED POLYURETHANE CABLE

MODEL 604B61

- Configurable cable length, armor length and terminating connector

LOW-COST BIAxIAL ICP® ACCELEROMETER

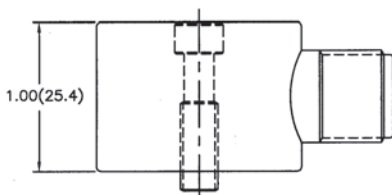
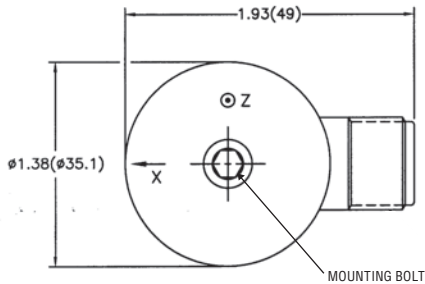
605-Series



ACCELEROMETER WITH MIL CONNECTOR

MODEL 605B01

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



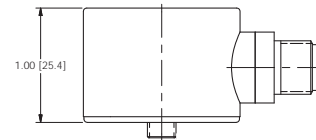
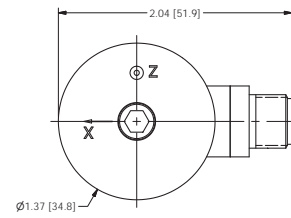
SPECIFICATIONS	
Performance	
Sensitivity ($\pm 20\%$)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	± 50 g ± 490 m/s ²
Frequency Range (± 3 dB)	.5 to 5000 Hz
Resonant Frequency	10 kHz
Broadband Resolution (1 to 1000 Hz)	350 μ g 3434 μ m/s ²
Non-Linearity	$\pm 1\%$
Transverse Sensitivity	$\leq 5\%$
Environmental	
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 Hz
Spectral Noise (100 Hz)	5 μ g/ \sqrt Hz
Spectral Noise (1 kHz)	4 μ 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

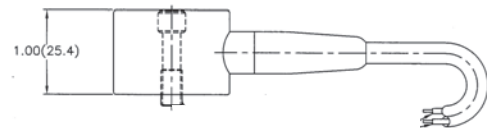
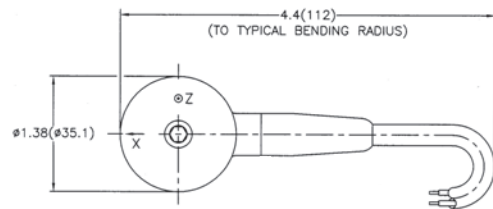
MODEL 605B91



ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL 605B11

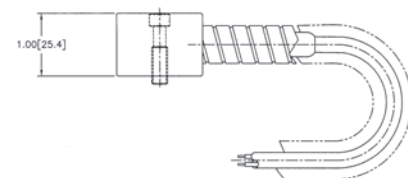
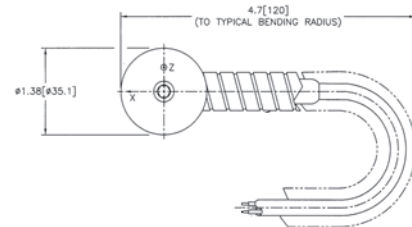
- Configurable cable length and terminating connector



ACCELEROMETER WITH INTEGRAL ARMORED POLYURETHANE CABLE

MODEL 605B61

- Configurable cable length, armor length and terminating connector



PRECISION TRIAXIAL ICP® ACCELEROMETER

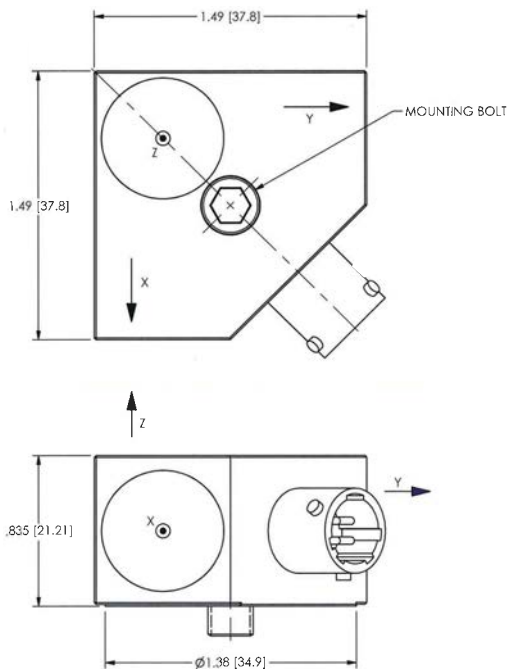
629-Series



ACCELEROMETER WITH MIL CONNECTOR

MODEL 629A31

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



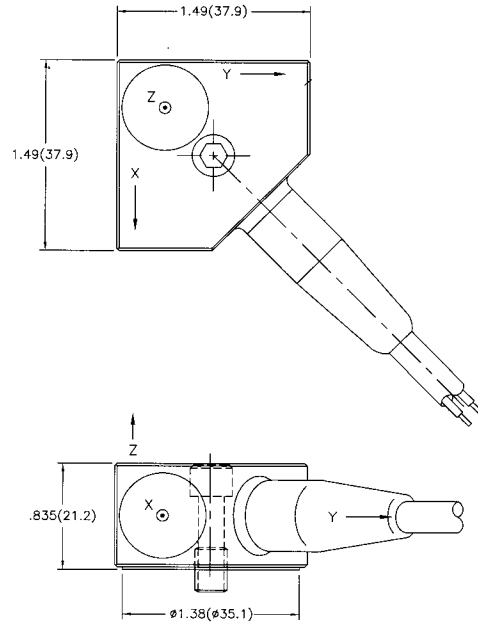
SPECIFICATIONS	
Performance	
Sensitivity ($\pm 5\%$)	100 mV/g 10.2 mV/(m/s ²)
Measurement Range	± 50 g ± 490 m/s ²
Frequency Range ($\pm 5\%$)	2.4 to 2000 Hz
Frequency Range ($\pm 10\%$)	1.7 to 5000 Hz
Frequency Range (± 3 dB)	0.8 to 8000 Hz
Resonant Frequency	20 kHz
Broadband Resolution (1 to 10000 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)	$\geq 10^8$ 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	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



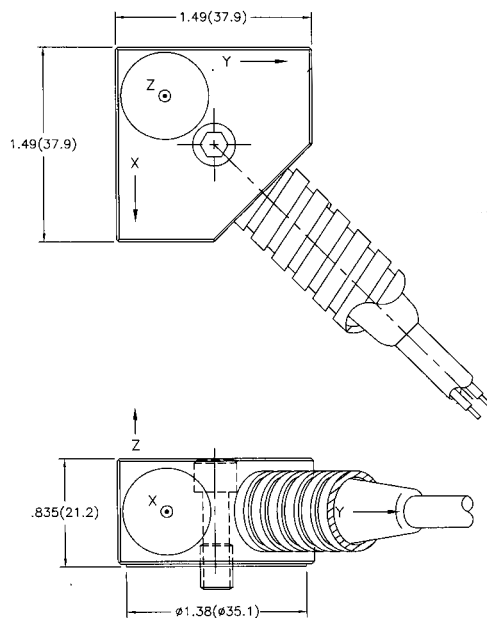
ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE MODEL 629A11

- 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

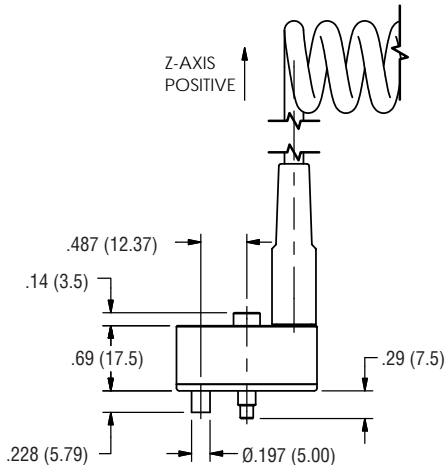
EX629-Series



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 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 \sqrt Hz
Spectral Noise (100 Hz)	10 μ g \sqrt Hz
Spectral Noise (1 kHz)	6 μ 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

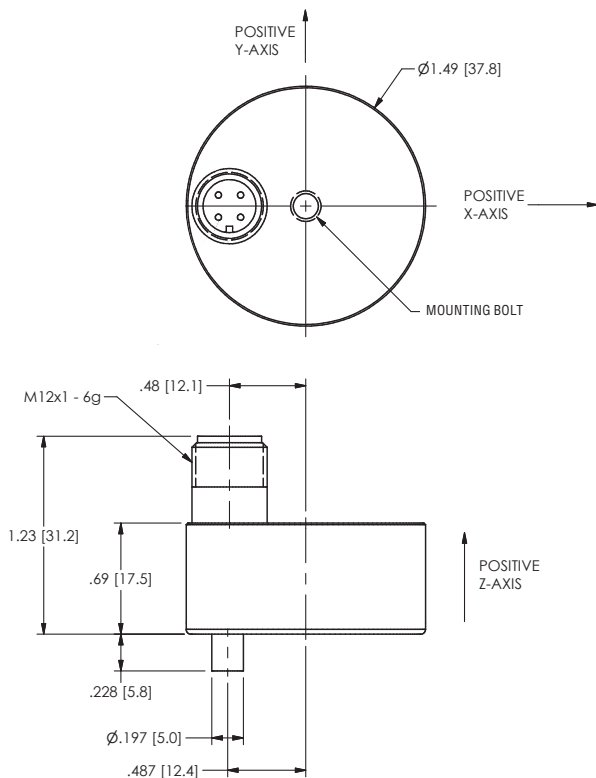
630-Series



ACCELEROMETER WITH M12 CONNECTOR

MODEL 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

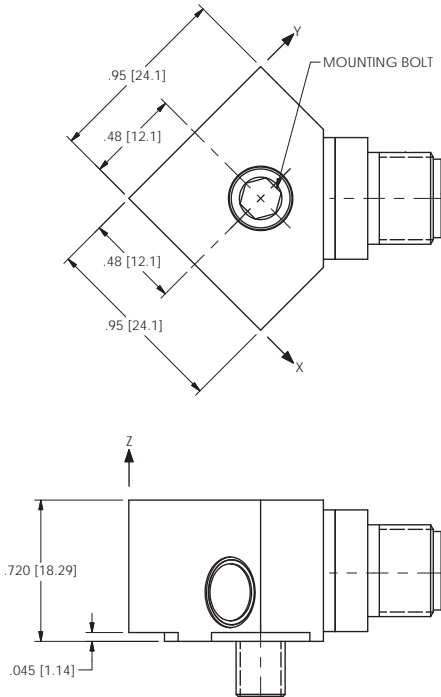
639-Series



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"	

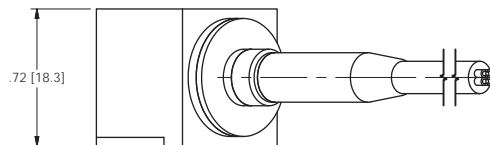
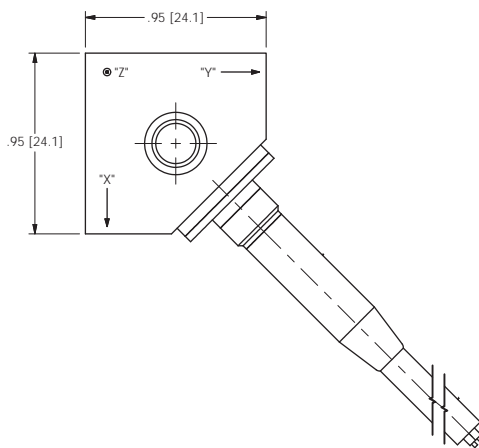
ADDITIONAL BASE MODEL CONFIGURATIONS



ACCELEROMETER WITH INTEGRAL POLYURETHANE CABLE

MODEL 639A11

- Configurable cable length and terminating connector



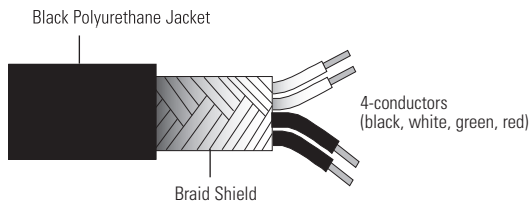
CABLES



4 CONDUCTOR CABLE WITH BLACK POLYURETHANE JACKET

MODEL 059

- Our most popular four conductor cable
- Ideal for use with biaxial or triaxial ICP® accelerometers and TO vibration transmitters
- Smooth jacket for easy pulling through conduit and cable trays



SPECIFICATIONS	
Performance	
Conductor Number	4
Cable Style	Straight
Cable Style	Multi-Conductor Twisted Shielded Bundle
Environmental	
Temperature Range	-58 to +250 °F -50 to +121 °C
Electrical	
Capacitance (Cond-to-Cond@70 F)	36 pF/ft 118 pF/m
Physical	
Cable Diameter	0.25 in 6.35 mm
Jacket Material	Polyurethane
Jacket Color	Black
Conductor Style	Stranded 19 Strands 32 AWG
Conductor Material	Tin Plated Copper
Conductor Diameter	0.04 in 1.02 mm
Insulation Material	FEP
Shield Type	Braid 90% Minimum Coverage
Shield Material	Tin Plated Copper
Drain Wire Material	No drain wire
Bend Radius (Minimum)	2.50 in 63.50 mm
Weight	0.75 oz/ft 69.59 g/m

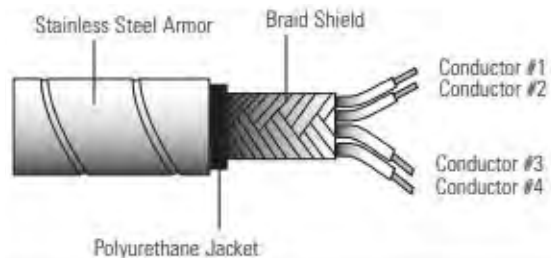
CABLES



4 CONDUCTOR ARMORED CABLE WITH BLACK POLYURETHANE JACKET

MODEL 043

- Armored version of our most popular four-conductor cable
- Ideal for use with biaxial or triaxial ICP® accelerometers and TO vibration transmitters
- Armor protects cable from being cut or crushed



SPECIFICATIONS	
Performance	
Conductor Number	4
Cable Style	Straight Armored
Cable Style	Multi-Conductor Twisted Shielded Bundle
Environmental	
Temperature Range	-58 to +250 °F -50 to +121 °C
Electrical	
Capacitance (Cond-to-Cond@70 F)	36 pF/ft 118 pF/m
Physical	
Armor Diameter	0.41 in 10.41 mm
Armor Material	Stainless Steel
Cable Diameter	0.25 in 6.35 mm
Jacket Material	Polyurethane
Jacket Color	Black
Conductor Style	Stranded 19 Strands 32 AWG
Conductor Material	Tin Plated Copper
Conductor Diameter	0.04 in 1.02 mm
Insulation Material	FEP
Shield Type	Braid 90% Minimum Coverage
Shield Material	Tin Plated Copper
Drain Wire Material	No drain wire
Bend Radius (Minimum)	4.10 in 104.14 mm
Weight	1.69 oz/ft 157.15 g/m

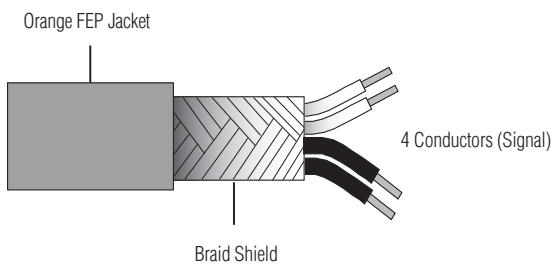
CABLES



4 CONDUCTOR CABLE WITH ORANGE FEP JACKET

MODEL 057

- Ideal for use with triaxial ICP® accelerometers and TO vibration transmitters
- Ideal for use in high temperature or corrosive environments.
- Smooth jacket for easy pulling through conduit and cable trays



SPECIFICATIONS	
Performance	
Conductor Number	4
Cable Style	Straight
Cable Style	Multi-Conductor Twisted Shielded Bundle
Environmental	
Temperature Range	-85 to +392 °F -65 to +200 °C
Electrical	
Capacitance	24 pF/ft 79 pF/m
Physical	
Cable Diameter	0.19 in 4.83 mm
Jacket Material	FEP
Jacket Color	Orange
Conductor Style	Stranded 19 Strands 32 AWG
Conductor Material	Tin Plated Copper
Conductor Diameter	0.03 in 0.76 mm
Insulation Material	FEP
Shield Type	Braid 85% Minimum Coverage
Shield Material	Tin Plated Copper
Drain Wire Material	No drain wire
Bend Radius (Minimum)	1.90 in 48.26 mm
Weight	0.52 oz/ft 48.16 g/m

CONNECTORS



4 SOCKET M12 CONNECTOR WITH COLLAR RING

Use with Single Axis Accelerometers & Transmitters

MODEL PZ

SPECIFICATIONS	
Performance	
Connector Style	M12
Connector Style	Multi-conductor
Connection Type	4 socket
Coupling Method	Threaded
Strain Relief	Molded Boot
Environmental	
Temperature Range	-40 to +221 °F -40 to +105 °C
Physical	
Material	Polyester (Connector) Stainless Steel (Collar Ring)
Weight	0.31 oz 8.80 g



5 SOCKET M12 CONNECTOR WITH COLLAR RING

Use with Triaxial Accelerometers

MODEL QH

SPECIFICATIONS	
Performance	
Connector Style	M12
Connector Style	Multi-conductor
Connection Type	5 socket
Coupling Method	Threaded
Strain Relief	Molded Boot
Environmental	
Temperature Range	-40 to +221 °F -40 to +105 °C
Physical	
Material	Polyester (Connector) Stainless Steel (Collar Ring)
Weight	0.31 oz 8.80 g



4 SOCKET ALUMINUM CONNECTOR

Use with Triaxial Accelerometers

MODEL DR

SPECIFICATIONS	
Performance	
Connector Style	MS3116 MIL-C-26482
Connector Style	Multi-conductor
Connection Type	4 socket
Coupling Method	Bayonet
Strain Relief	Clamp Nut
Environmental	
Temperature Range	-67 to +257 °F -55 to +125 °C
Physical	
Material	Cadmium-Coated Aluminum
Weight	0.60 oz 17.01 g

