

# AC972 Series

Intrinsically Safe, Modal/ODS, Triaxial Accelerometer, Connector/Cable, 10 mV/g

**CSA/ATEX/IECEX Approved**

Actual Product Size Shown



## REGULATORY INFORMATION

Ex ia IIC T3/T4 Ga  
 AEx ia IIC T3/T4 Ga  
 CLI Groups A, B, C, D  
 CLII Groups E, F, G; CLIII  
 CLI, Zone 0

Control Drawing INS10012  
 Ui = 28 Vdc li = 112 mA  
 Pi = 1W, Ci = 63.036nF, Li = 0µH  
 CSA 221421

Sira 15ATEX2152X  
 Ex ia IIC T3 Ga  
 IECEX SIR 15.0060X  
 Ex ia IIC T3 Ga

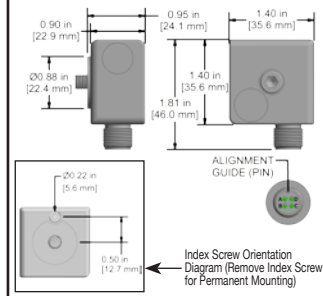
Operating Temperature Code: T4  
 Ambient Temperature Range = -40°C to +80°C  
 Operating Temperature Code: T3  
 Ambient Temperature Range = -40°C to +121°C

Requires **Intrinsically Safe Barrier IS111**

### AC972-1D

4 Pin Connector

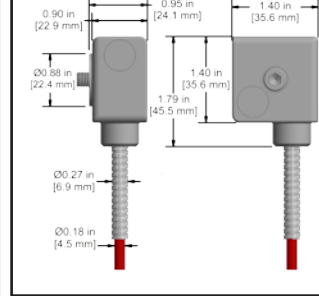
Connector Pin	Polarity
A Axis Y	(+) Signal/Power
B Axis X	(+) Signal/Power
C Axis Z	(+) Signal/Power
D	(-) Common



### AC972-3D

Armored Integral Cable

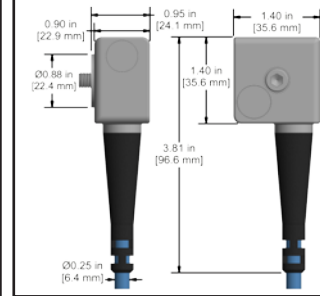
Conductor	Polarity
Red Axis Y	(+) Signal/Power
Green Axis X	(+) Signal/Power
White Axis Z	(+) Signal/Power
Black	(-) Common



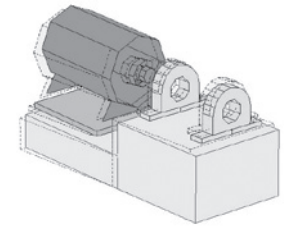
### AC972-9D

Integral Cable

Conductor	Polarity
Red Axis Y	(+) Signal/Power
Green Axis X	(+) Signal/Power
White Axis Z	(+) Signal/Power
Black	(-) Common



*Operating Deflection Shape created from vibration and phase measurements.*



Specifications	Standard	Metric
Part Number	AC972	M/AC972
<b>Vibration</b>		
Sensitivity (±10%)	10 mV/g	
Transverse Sensitivity	<5%	
Frequency Response (±3dB)	60-600,000 CPM	1,0-10000 Hz
Frequency Response (±10%)	90-420,000 CPM	1,5-7000 Hz
Frequency Response (±5%)	180-360,000 CPM	3,0-6000 Hz
Dynamic Range	± 500 g, peak	
<b>Electrical</b>		
Settling Time	<2.5 seconds	
Voltage Source (IEPE)	18-28 VDC	
Constant Current Excitation	2-10 mA	
Spectral Noise @ 10 Hz	27 µg/√Hz	
Spectral Noise @ 100 Hz	6.5 µg/√Hz	
Spectral Noise @ 1000 Hz	2.5 µg/√Hz	
Output Impedance	<100 ohm	
Bias Output Voltage	10-14 VDC	
Case Isolation	>10 <sup>8</sup> ohm	

Specifications	Standard	Metric
<b>Environmental</b>		
Temperature Range	-65 to 250°F	-54 to 121°C
Electromagnetic Sensitivity	CE	
Sealing	Welded, Hermetic; Rated to IP68/IP69	
<b>Physical</b>		
Sensing Element	PZT Ceramic	
Sensing Structure	Shear Mode	
Weight	7.1 oz	200 grams
Case Material	316L Stainless Steel	
Mounting	1/4-28	
Connector (AC972-1D)	4 Pin, J Series Connector	
Armored Cable (AC972-3D)	Armor Jacketed Cable	
Integral Cable (AC972-9D)	Blue TPE Cable	
Mounting Torque	1 to 2 ft. lbs.	1,4 to 2,7 Nm
Mounting Hardware	1/4-28 Captive Bolt	M6x1 Captive Bolt
Indexing Screw	Provided for consistent axis orientation, may be removed in permanent installations	
Calibration Certificate	CA10	

## Ordering Information

Standard	AC972-1D	AC972-3D /	AC972-9D /
	(1/4-28 Captive Bolt)	(1/4-28 Captive Bolt)	(1/4-28 Captive Bolt)
	Stock Product	Build To Order	Build To Order
		(maximum armor length 100 ft.)	(length in feet)
		(cable length in feet)	(termination)
Metric	M/AC972-1D	M/AC972-3D /	M/AC972-9D /
	(M6x1 Captive Bolt)	(M6x1 Captive Bolt)	(M6x1 Captive Bolt)
	Stock Product	Build To Order	Build To Order
		(maximum armor length 30 m)	(length in meters)
		(cable length in meters)	(termination)

**CTC multi-conductor cable**  
 Red = Y axis  
 Green = X axis  
 White = Z axis  
 Black = Common

Cable Terminations: L Z

**Read Before Purchasing**  
 Important information on Regulatory Approvals and Requirements on Page 87

Backed by our Unconditional Lifetime Warranty

www.ctconline.com



SECTION I - VIBRATION SENSORS  
Intrinsically Safe Accelerometers