AC972 Series

Nonincendive Intrinsically Safe, CSA North America Class 1,Division 1 and IECEx/ATEX Zone 0,1 Approved Triaxial Accelerometer, Follows Cartesian Phase Coordinate System for Modal/ODS Analysis, Side Exit 4 Pin Mini-MIL Connector, 10 mV/g, ±10%

VIBRATION ANALYSIS HARDWARE

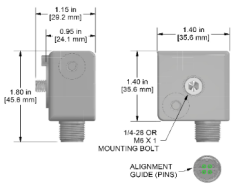
Regulatory Information

CSA 221421	
Ex ia IIC T3/T4 Ga	Sira 15ATEX2152X
Ex ia I Ma	IECEx SIR 15.0060X
AEx ia IIC T3/T4	Ex ia IIC T3/T4 Ga
CLI Groups A, B, C, D	Ex ib IIIC T135°C...T143°C Db
CLII Groups E, F, G; CLIII	Operating Temp Code: T143°C Db
CLI, Zone 0	Ambient Temp Range = -40°C to 121°C
Operating Temp Code: T4	Operating Temp Code: T135°C
Ambient Temp Range = -40 to 80°C	Ambient Temp Range = -40°C to +80°C
Operating Temp Code: T3	Ex ia I Ma
Ambient Temp Range = -40 to 121°C	
Control Drawing INS10012	
Ex ia IIC T3 -40°C < Ta < +121°C	
Ex ia IIC T4 -40°C < Ta < +80°C	Connector Exit Entity Parameters: Ui = 28 Vdc, Ii = 120 mA, Pi = 1W, Ci = 28nF, Li = 0µH
200 ft (61 m) Maximum Allowable Integral Cable Length	
Approved Cabling: CB192*, CB298 (*Approved for Use in T4 Applications Only)	Integral Cable Entity Parameters Ui = 28 Vdc, Ii = 120 mA, Pi = 1W, Ci = 40nF, Li = 40.2µH
Requires Two IS111-1B Intrinsic Safety Barriers	

AC972-1D

4 Pin Connector

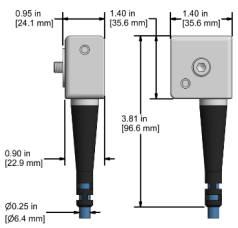
Connector Pin	Polarity
A (Axis Y)	(+) Signal/Power
B (Axis X)	(+) Signal/Power
C (Axis Z)	(+) Signal/Power
D	(-) Common



AC972-2D

CB192 Molded Integral Cable

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

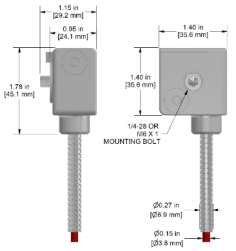


Built To Order

AC972-3D

CB298 Armored Integral Cable

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



Built To Order

Specifications	Standard	Metric
Part Number	AC972	M/AC972
Sensitivity (±10%)	10 mV/g	
Frequency Response (±3dB)	60-600,000 CPM	1,0-10000 Hz
Frequency Response (±10%)	90-420,000 CPM	1,5-7000 Hz
Dynamic Range	± 500 g, peak *Vsource ≥ 22V, 12Vbias	
Transverse Sensitivity	<5%	
Electrical		
Settling Time	<2.5 seconds	
Voltage Source	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	>10^8 ohm	

Specifications	Standard	Metric
Environmental		
Operating Temperature Range	-65 to 250°F	-54 to 121°C
Electromagnetic Sensitivity	CE	
Sealing	Welded, Hermetic	
SIL Rating	SIL 2	
Physical		
Sensing Element	PZT Ceramic	
Sensing Structure	Shear Mode	
Weight	7.1 oz	200 grams
Case Material	316L Stainless Steel	
Mounting Thread	1/4-28	
Connector (Non-Integral)	4 Pin J Connector	
Mounting Torque	1 to 2 ft. lbs.	1,4 to 2,7 Nm
Mounting Hardware Supplied	1/4-28 Captive Bolt	M6x1 Captive Bolt
Calibration Certificate	CA10	

Typical Frequency Response