AC971 Series

Premium Nonincendive Miniature Industrial, Intrinsically Safe, CSA North America Class 1 Div 1, Class II Div 1, Class III and IECEx/ATEX Zone 0,1 Approved Accelerometer, Top Exit 2 Pin Mini-MIL Connector, 100 mV/g, ±5%

VIBRATION ANALYSIS HARDWARE

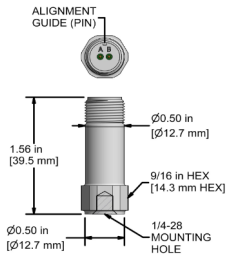
CE

Regulatory Information

CSA 221421	Mining Group I: Ta @-40°C to +121°C
CSA 26CA80263367X	T156°C: Ta @ -40°C to +121°C
CLI, DIV 1, GRP A, B, C and D	T135°C: Ta @ -40°C to +80°C
CLII, DIV 1, GRP E, F and G; CLIII	Install per drawing INS10210
Ex ia IIC T3-T4 Ga	Refer to product manual MNX10134
Ex ib IIIC T135°C...T156°C Db	
CLI, ZN 0, AEx ia IIC T3-T4 Ga	
ZN 21, AEx ib IIIC T135°C...T156°C Db	Sira 15ATEX2152X
T3: Ta = -40°C to +121°C	Ex ia IIC T3 -T4 Ga
T4: Ta = -40°C to +80°C	T3: Ta @ -40°C to +121°C
T156°C: Ta = – 40°C to +121°C	T4: Ta @ -40°C to +80°C
T135°C: Ta = – 40°C to +80°C	Ex ib IIIC T135°C … T156°C Db
Install per drawing INS10187	T156°C: Ta @ -40°C to +121°C
Refer to product manual MNX10127	T135°C: Ta @ -40°C to +80°C
	Ex ia I Ma
200 ft (61 m) Maximum Allowable Integral Cable Length	Ta @-40°C to +121°C
Approved Cabling: CB102, CB103*, CB111, CB190*, CB193*, CB206, CB296 (*Approved for Use in T4 Applications Only)	Install per drawing INS10211
Requires One IS111-1B Intrinsic Safety Barrier Per Sensor	Refer to product manual MNX10135
	Connector Exit Entity Parameters: Ui = 28 Vdc, Ii = 120 mA, Pi = 1W, Ci = 28nF, Li = 0µH
IECEx SIR 15.0060X	Integral Cable Entity Parameters
Ex ia IIC T3-T4 Ga	Ui = 28 Vdc, Ii = 120 mA, Pi = 1W, Ci = 40nF, Li = 40.2µH
Ex ib IIIC T135°C … T156°C Db	
Ex ia I Ma	
T3: Ta @ -40°C to +121°C	
T4: Ta @ -40°C to +80°C	

AC971-1A
2 Pin Connector

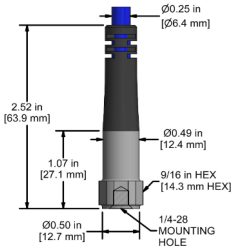
Connector Pin	Polarity
A	(+) Signal/Power
B	(-) Common



Stock Product

AC971-2A
CB193 Molded Integral Cable

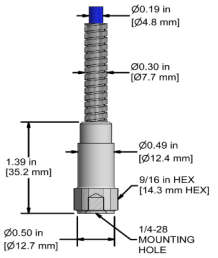
Conductor	Polarity
Red	(+) Signal/Power
Black	(-) Common
Shield	Cable Drain Wire



Built To Order

AC971-3A
CB296 Armored Integral Cable

Conductor	Polarity
Red	(+) Signal/Power
Black	(-) Common
Shield	Cable Drain Wire



Built To Order

Specifications	Standard	Metric
Part Number	AC971	M/ or M8/AC971
Sensitivity (±5%)	100 mV/g	
Frequency Response (±3dB)	36-1,200,000 CPM	0,6-20000 Hz
Frequency Response (±10%)	60-420,000	1,0-7000 Hz
Dynamic Range	± 50 g, peak	
Transverse Sensitivity	≤5%	
Electrical		
Settling Time	< 2.5 Seconds	
Voltage Source	18-28 VDC	
Constant Current Excitation	2-10 mA	
Spectral Noise @ 10 Hz	30 µg/√Hz	
Spectral Noise @ 100 Hz	4 µg/√Hz	
Spectral Noise @ 1000 Hz	2 µg/√Hz	
Output Impedance	<100 ohm	
Bias Output Voltage	10-14 VDC	
Case Isolation	>10^8 ohm	

Specifications	Standard	Metric
Environmental		
Operating Temperature Range	-58 to 250 °F	-50 to 121 °C
Maximum Shock Protection	5,000 g, peak	
Electromagnetic Sensitivity	CE	
Sealing	Welded, Hermetic	
Physical		
Sensing Element	PZT Ceramic	
Sensing Structure	Shear Mode	
Weight	0.7 oz	20 grams
Case Material	316L Stainless Steel	
Mounting Thread	1/4-28 Blind Tapped Hole	
Connector (Non-Integral)	2 Pin mini-MIL	
Resonant Frequency	2,040,000	34000 Hz
Mounting Torque	2 to 5 ft. lbs.	2,7 to 6,8 Nm
Mounting Hardware Supplied	1/4-28 Stud	M6x1 or M8x1.25 Adapter Stud
Calibration Certificate	CA10	

Typical Frequency Response