

# AC961 Series

Low Capacitance, IEC Certified (IECEx), Intrinsically Safe Accelerometer, Top Exit Connector/Cable, 10 mV/g

SECTION 1 - VIBRATION SENSORS  
Low Capacitance Accelerometers



Actual Product Size Shown

IECEx



Requires **Intrinsically Safe Barrier**

## Product Features

### IECEx Approvals

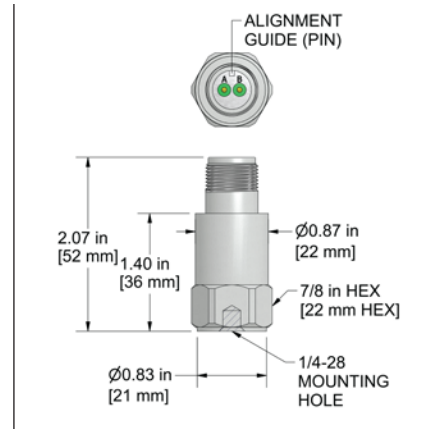
Helps to Detect Bearing Defects and Other High Frequency Faults

- 1,0 - 15000 Hz (60 - 900,000 CPM) Frequency Response
- 10 mV/g Sensitivity  $\pm 10\%$
- Requires Intrinsic Safety Barrier (see page 278)

### AC961-1A

2 Pin Connector

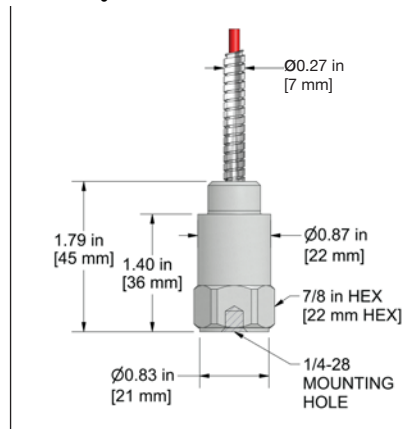
Connector Pin	Polarity
A	(+) Signal / Power
B	(-) Common



### AC961-3C

Armored Integral Cable

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



### AC961-9C

Integral Cable

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



Specifications	Standard	Metric
Part Number	AC961	M/AC961
Sensitivity ( $\pm 10\%$ )	10 mV/g	
Frequency Response ( $\pm 3\text{dB}$ )	60-900,000 CPM	1,0-15000 Hz
Frequency Response ( $\pm 10\%$ )	120-360,000 CPM	2,0-6000 Hz
Dynamic Range	$\pm 500$ g, peak	
<b>Electrical</b>		
Settling Time	<3 Seconds	
Voltage Source	18-28 VDC	
Constant Current Excitation	2-4 mA	
Spectral Noise @ 10 Hz	100 $\mu\text{g}/\sqrt{\text{Hz}}$	
Spectral Noise @ 100 Hz	90 $\mu\text{g}/\sqrt{\text{Hz}}$	
Spectral Noise @ 1000 Hz	85 $\mu\text{g}/\sqrt{\text{Hz}}$	
Output Impedance	<100 ohm	
Bias Output Voltage	10-14 VDC	
Case Isolation	>10 <sup>9</sup> ohm	

Specifications	Standard	Metric
<b>Environmental</b>		
Temperature Range	-40° to 250°F	-40° to 121°C
Maximum Shock Protection	5,000 g, peak	
Electromagnetic Sensitivity	CE	
Sealing	Welded, Hermetic	
<b>Physical</b>		
Sensing Element	PZT Ceramic	
Sensing Structure	Shear Mode	
Weight	3.2 oz	91 grams
Case Material	316L Stainless Steel	
Mounting	1/4-28	
Connector (non-integral)	2 Pin MIL-C-5015	
Resonant Frequency	1,380,000 CPM	23000 Hz
Mounting Torque	2 to 5 ft. lbs.	2.7 to 6.8 Nm
Mounting Hardware	1/4-28 Stud	M6x1 Adapter Stud
Calibration Certificate	CA10	

## Ordering Information

Standard	AC961-1A (1/4-28 Stud)	AC961-3C - / <input type="text"/> / <input type="text"/> - <input type="text"/> (1/4-28 Stud) (maximum armor length 100 ft.) (cable length in feet) (termination)	AC961-9C - / <input type="text"/> - <input type="text"/> (1/4-28 Stud) (length in feet) (termination)
Metric	M/AC961-1A (M6x1 Adapter Stud)	M/AC961-3C - / <input type="text"/> / <input type="text"/> - <input type="text"/> (M6x1 Adapter Stud) (maximum armor length 30 m) (cable length in meters) (termination)	M/AC961-9C - / <input type="text"/> - <input type="text"/> (M6x1 Adapter Stud) (length in meters) (termination)

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

**Cable Termination Options:** L Z

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# AC963 Series

Low Capacitance, IEC Certified (IECEX), Intrinsically Safe Accelerometer, Top Exit Connector/Cable, 50 mV/g

SECTION 1 - VIBRATION SENSORS  
Low Capacitance Accelerometers



Actual Product Size Shown

IECEX



Requires **Intrinsically Safe Barrier**

## Product Features

### IECEX Approvals

Excellent for Higher g Applications

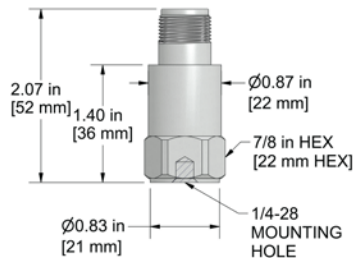
- 50 mV/g Sensitivity  $\pm 10\%$
- 0,8 - 15000 Hz (48 - 900,000 CPM) Frequency Response
- Requires Intrinsic Safety Barrier (see page 278)

### AC963-1A

2 Pin Connector

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

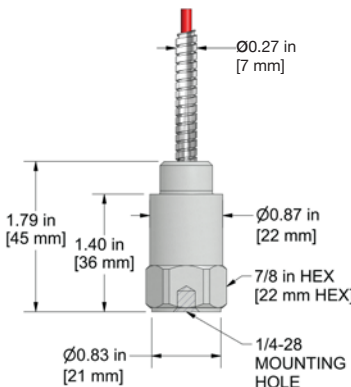
ALIGNMENT GUIDE (PIN)



### AC963-3C

Armored Integral Cable

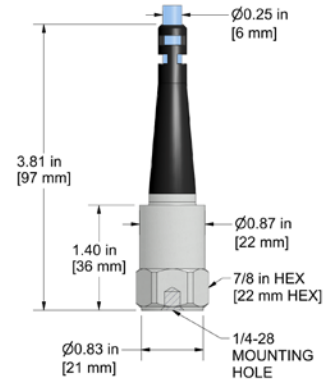
Conductor	Polarity
Red	(+) Signal / Power
Black	(-) Common
Shield	Cable Drain Wire



### AC963-9C

Integral Cable

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



Specifications	Standard	Metric
Part Number	AC963	M/AC963
Sensitivity ( $\pm 10\%$ )	50 mV/g	
Frequency Response ( $\pm 3\text{dB}$ )	48-900,000 CPM	0,8-15000 Hz
Frequency Response ( $\pm 10\%$ )	90-390,000 CPM	1,5-6500 Hz
Dynamic Range	$\pm 100$ g, peak	
<b>Electrical</b>		
Settling Time	<3 Seconds	
Voltage Source	18-28 VDC	
Constant Current Excitation	2-4 mA	
Spectral Noise @ 10 Hz	30 $\mu\text{g}/\sqrt{\text{Hz}}$	
Spectral Noise @ 100 Hz	25 $\mu\text{g}/\sqrt{\text{Hz}}$	
Spectral Noise @ 1000 Hz	25 $\mu\text{g}/\sqrt{\text{Hz}}$	
Output Impedance	<100 ohm	
Bias Output Voltage	10-14 VDC	
Case Isolation	>10 <sup>9</sup> ohm	

Specifications	Standard	Metric
<b>Environmental</b>		
Temperature Range	-40° to 250°F	-40° to 121°C
Maximum Shock Protection	5,000 g, peak	
Electromagnetic Sensitivity	CE	
Sealing	Welded, Hermetic	
<b>Physical</b>		
Sensing Element	PZT Ceramic	
Sensing Structure	Shear Mode	
Weight	3.2 oz	91 grams
Case Material	316L Stainless Steel	
Mounting	1/4-28	
Connector (non-integral)	2 Pin MIL-C-5015	
Resonant Frequency	1,380,000 CPM	23000 Hz
Mounting Torque	2 to 5 ft. lbs.	2,7 to 6,8 Nm
Mounting Hardware	1/4-28 Stud	M6x1 Adapter Stud
Calibration Certificate	CA10	

## Ordering Information

Standard	AC963-1A (1/4-28 Stud)	AC963-3C - / [ ] / [ ] - [ ] (1/4-28 Stud) (maximum armor length 100 ft.) (cable length in feet) (termination)	AC963-9C - / [ ] - [ ] (1/4-28 Stud) (length in feet) (termination)
Metric	M/AC963-1A (M6x1 Adapter Stud)	M/AC963-3C - / [ ] / [ ] - [ ] (M6x1 Adapter Stud) (maximum armor length 30 m) (cable length in meters) (termination)	M/AC963-9C - / [ ] - [ ] (M6x1 Adapter Stud) (length in meters) (termination)



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Important information on  
**Regulatory Approvals and Requirements**  
on Page 87

Cable Termination Options: **L** **Z**



VIBRATION ANALYSIS HARDWARE

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# AC964 Series

Low Capacitance, IEC Certified (IECEx), Intrinsically Safe Accelerometer, Side Exit Connector/Cable, 50 mV/g

SECTION 1 - VIBRATION SENSORS  
Low Capacitance Accelerometers

Requires Intrinsically Safe Barrier

## Product Features

### IECEx Approvals

Excellent for Higher g Applications

- $\pm 100$  g, Peak Dynamic Range
- 50 mV/g Sensitivity  $\pm 10\%$
- Requires Intrinsic Safety Barrier (see page 278)

Actual Product Size Shown



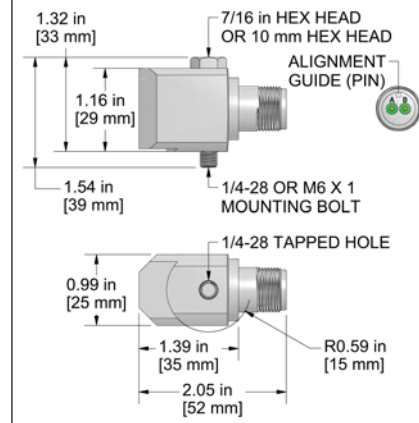
IECEx



### AC964-1A

2 Pin Connector

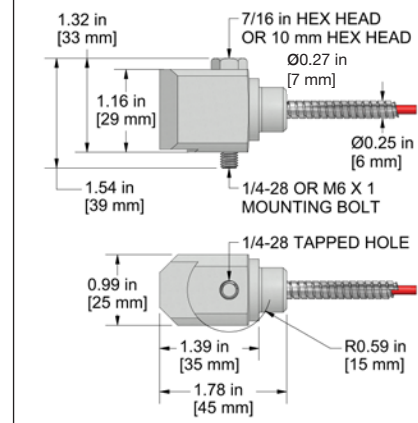
Connector Pin Polarity	
A	(+) Signal / Power
B	(-) Common



### AC964-3C

Armored Integral Cable

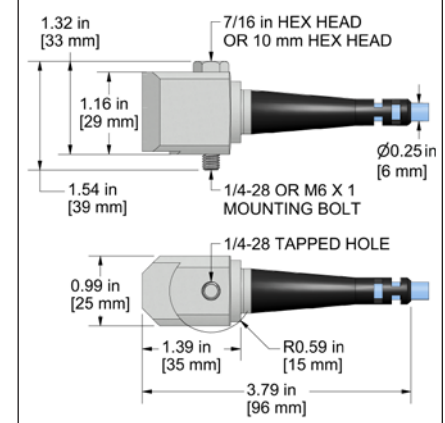
Conductor Polarity	
Red	(+) Signal / Power
Black	(-) Common
Shield	Cable Drain Wire



### AC964-9C

Integral Cable

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



Specifications	Standard	Metric
Part Number	AC964	M/AC964
Sensitivity ( $\pm 10\%$ )		50 mV/g
Frequency Response ( $\pm 3$ dB)	48-516,000 CPM	0,8-8600 Hz
Frequency Response ( $\pm 10\%$ )	90-300,000 CPM	1,5-5000 Hz
Dynamic Range		$\pm 100$ g, peak
<b>Electrical</b>		
Settling Time		<3 Seconds
Voltage Source		18-28 VDC
Constant Current Excitation		2-4 mA
Spectral Noise @ 10 Hz		40 $\mu$ g/√Hz
Spectral Noise @ 100 Hz		25 $\mu$ g/√Hz
Spectral Noise @ 1000 Hz		26 $\mu$ g/√Hz
Output Impedance		<100 ohm
Bias Output Voltage		10-14 VDC
Case Isolation		>10 <sup>9</sup> ohm

Specifications	Standard	Metric
<b>Environmental</b>		
Temperature Range	-40° to 250°F	-40° to 121°C
Maximum Shock Protection		5,000 g, peak
Electromagnetic Sensitivity		CE
Sealing		Welded, Hermetic
<b>Physical</b>		
Sensing Element		PZT Ceramic
Sensing Structure		Shear Mode
Weight	5.3 oz	151 grams
Case Material		316L Stainless Steel
Mounting		1/4-28
Connector (non-integral)		2 Pin MIL-C-5015
Resonant Frequency	1,260,000 CPM	21000 Hz
Mounting Torque	2 to 5 ft. lbs.	2,7 to 6,8 Nm
Mounting Hardware	1/4-28 Captive Bolt	M6x1 Captive Bolt
Calibration Certificate		CA10

## Ordering Information

Standard	AC964-1A (1/4-28 Captive Bolt)	AC964-3C - / <input type="text"/> / <input type="text"/> - <input type="text"/> (1/4-28 Captive Bolt) (maximum armor length 100 ft.) (cable length in feet) (termination)	AC964-9C - / <input type="text"/> - <input type="text"/> (1/4-28 Captive Bolt) (length in feet) (termination)
Metric	M/AC964-1A (M6x1 Captive Bolt)	M/AC964-3C - / <input type="text"/> / <input type="text"/> - <input type="text"/> (M6x1 Captive Bolt) (maximum armor length 100 ft.) (cable length in feet) (termination)	M/AC964-9C - / <input type="text"/> - <input type="text"/> (M6x1 Captive Bolt) (length in feet) (termination)
		<input type="text"/> M / <input type="text"/> M - <input type="text"/> (maximum armor length 30 m) (cable length in meters) (termination)	<input type="text"/> M - <input type="text"/> (length in meters) (termination)

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Important information on  
**Regulatory Approvals and Requirements**  
on Page 87

Cable Termination Options: **L** **Z**

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# AC965 Series

Low Capacitance, IEC Certified (IECEX), Intrinsically Safe Accelerometer, Top Exit Connector/Cable, 100 mV/g

SECTION 1 - VIBRATION SENSORS  
Low Capacitance Accelerometers



Actual Product Size Shown

IECEX



Requires **Intrinsically Safe Barrier**

## Product Features

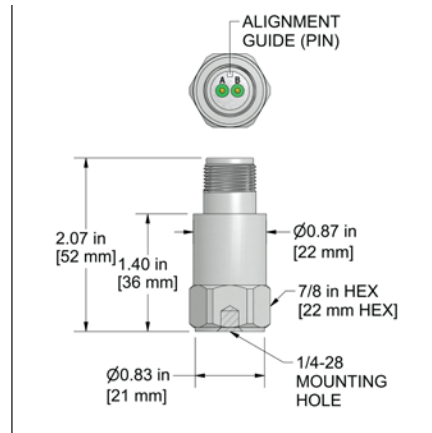
### IECEX Approvals

High Performance in a Low Cost Sensor

- 0.5 - 15000 Hz (30 - 900,000 CPM) Frequency Response
- 100 mV/g Sensitivity ±10%
- Requires Intrinsic Safety Barrier (see page 278)

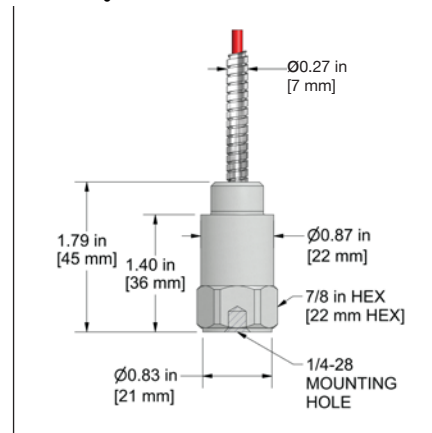
### AC965-1A 2 Pin Connector

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



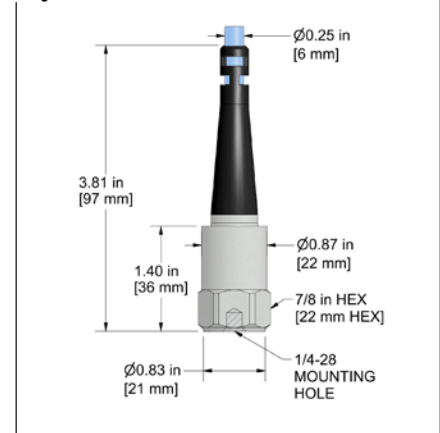
### AC965-3C Armored Integral Cable

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



### AC965-9C Integral Cable

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



Specifications	Standard	Metric
Part Number	AC965	M/AC965
Sensitivity (±10%)	100 mV/g	
Frequency Response (±3dB)	30-900,000 CPM	0.5-15000 Hz
Frequency Response (±10%)	60-600,000 CPM	1.0-10000 Hz
Dynamic Range	± 50 g, peak	
<b>Electrical</b>		
Settling Time	<3 Seconds	
Voltage Source	18-28 VDC	
Constant Current Excitation	2-4 mA	
Spectral Noise @ 10 Hz	30 µg/√Hz	
Spectral Noise @ 100 Hz	19 µg/√Hz	
Spectral Noise @ 1000 Hz	15 µg/√Hz	
Output Impedance	<100 ohm	
Bias Output Voltage	10-14 VDC	
Case Isolation	>10 <sup>9</sup> ohm	

Specifications	Standard	Metric
<b>Environmental</b>		
Temperature Range	-40° to 250°F	-40° to 121°C
Maximum Shock Protection	5,000 g, peak	
Electromagnetic Sensitivity	CE	
Sealing	Welded, Hermetic	
<b>Physical</b>		
Sensing Element	PZT Ceramic	
Sensing Structure	Shear Mode	
Weight	3.2 oz	91 grams
Case Material	316L Stainless Steel	
Mounting	1/4-28	
Connector (non-integral)	2 Pin MIL-C-5015	
Resonant Frequency	1,380,000 CPM	23000 Hz
Mounting Torque	2 to 5 ft. lbs.	2.7 to 6.8 Nm
Mounting Hardware	1/4-28 Stud	M6x1 Adapter Stud
Calibration Certificate	CA10	

## Ordering Information

Standard	AC965-1A (1/4-28 Stud)	AC965-3C - / <input type="text"/> / <input type="text"/> - <input type="text"/> (1/4-28 Stud) (maximum armor length 100 ft.) (cable length in feet) (termination)	AC965-9C - / <input type="text"/> - <input type="text"/> (1/4-28 Stud) (length in feet) (termination)
Metric	M/AC965-1A (M6x1 Adapter Stud)	M/AC965-3C - / <input type="text"/> / <input type="text"/> - <input type="text"/> (M6x1 Adapter Stud) (maximum armor length 30 m) (cable length in meters) (termination)	M/AC965-9C - / <input type="text"/> - <input type="text"/> (M6x1 Adapter Stud) (length in meters) (termination)

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**Cable Termination Options:** L Z



VIBRATION ANALYSIS HARDWARE

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# AC966 Series

Low Capacitance, IEC Certified (IECEx), Intrinsically Safe Accelerometer, Side Exit Connector/Cable, 100 mV/g

SECTION 1 - VIBRATION SENSORS  
Low Capacitance Accelerometers

Requires Intrinsically Safe Barrier

## Product Features

### IECEx Approvals

High Performance in a Low Cost Sensor

- 0,5 - 8600 Hz (30 - 516,000 CPM) Frequency Response
- 100 mV/g Sensitivity  $\pm 10\%$
- Requires Intrinsic Safety Barrier (see page 278)

Actual Product Size Shown



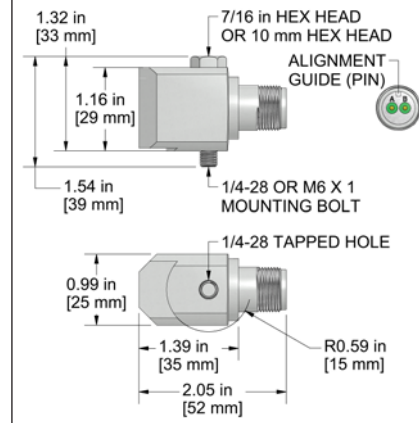
IECEx



### AC966-1A

2 Pin Connector

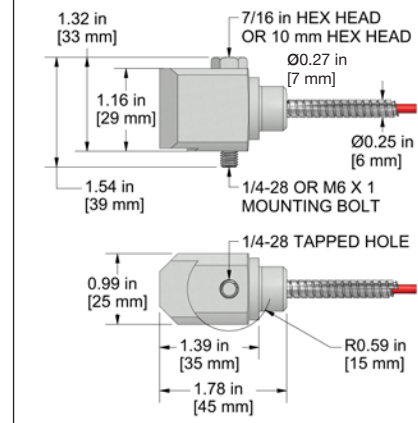
Connector Pin Polarity	
A	(+) Signal / Power
B	(-) Common



### AC966-3C

Armored Integral Cable

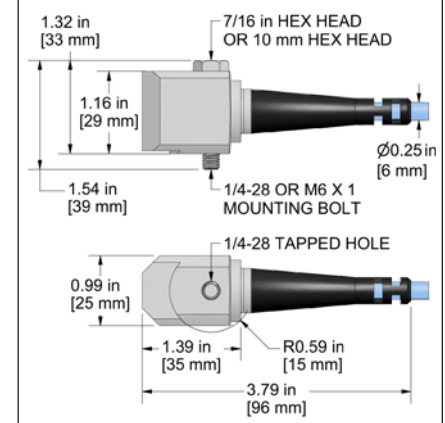
Conductor Polarity	
Red	(+) Signal / Power
Black	(-) Common
Shield	Cable Drain Wire



### AC966-9C

Integral Cable

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



Specifications	Standard	Metric
Part Number	AC966	M/AC966
Sensitivity ( $\pm 10\%$ )	100 mV/g	
Frequency Response ( $\pm 3\text{dB}$ )	30-516,000 CPM	0,5-8600 Hz
Frequency Response ( $\pm 10\%$ )	60-360,000 CPM	1,0-6000 Hz
Dynamic Range	$\pm 50$ g, peak	
<b>Electrical</b>		
Settling Time	<3 Seconds	
Voltage Source	18-28 VDC	
Constant Current Excitation	2-4 mA	
Spectral Noise @ 10 Hz	30 $\mu\text{g}/\sqrt{\text{Hz}}$	
Spectral Noise @ 100 Hz	19 $\mu\text{g}/\sqrt{\text{Hz}}$	
Spectral Noise @ 1000 Hz	15 $\mu\text{g}/\sqrt{\text{Hz}}$	
Output Impedance	<100 ohm	
Bias Output Voltage	10-14 VDC	
Case Isolation	>10 <sup>9</sup> ohm	

Specifications	Standard	Metric
<b>Environmental</b>		
Temperature Range	-40° to 250°F	-40° to 121°C
Maximum Shock Protection	5,000 g, peak	
Electromagnetic Sensitivity	CE	
Sealing	Welded, Hermetic	
<b>Physical</b>		
Sensing Element	PZT Ceramic	
Sensing Structure	Shear Mode	
Weight	5.3 oz	151 grams
Case Material	316L Stainless Steel	
Mounting	1/4-28	
Connector (non-integral)	2 Pin MIL-C-5015	
Resonant Frequency	1,260,000 CPM	21000 Hz
Mounting Torque	2 to 5 ft. lbs.	2,7 to 6,8 Nm
Mounting Hardware	1/4-28 Captive Bolt	M6x1 Captive Bolt
Calibration Certificate	CA10	

## Ordering Information

Standard	AC966-1A (1/4-28 Captive Bolt)	AC966-3C - / <input type="text"/> / <input type="text"/> - <input type="checkbox"/> (1/4-28 Captive Bolt) (maximum armor length 100 ft.) (cable length in feet) (termination)	AC966-9C - / <input type="text"/> - <input type="checkbox"/> (1/4-28 Captive Bolt) (length in feet) (termination)
Metric	M/AC966-1A (M6x1 Captive Bolt)	M/AC966-3C - / <input type="text"/> / <input type="text"/> - <input type="checkbox"/> (M6x1 Captive Bolt) (maximum armor length 30 m) (cable length in meters) (termination)	M/AC966-9C - / <input type="text"/> - <input type="checkbox"/> (M6x1 Captive Bolt) (length in meters) (termination)

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Cable Termination Options: **L** **Z**

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