

# AC916 Series

Nonincendive, Intrinsically Safe Accelerometer, CSA North America Class 1  
Div 1, Class II Div 1, Class III and IECEx/ATEX Zone 0,1,2,21,22 Approved  
Accelerometer, Side Exit 2 Pin Connector, 100 mV/g,  $\pm 10\%$



## Regulatory Information

CSA 221421  
CSA 26CA80263367X  
CLI, DIV 1, GRP A, B, C and D  
CLII, DIV 1, GRP E, F and G; CLIII  
Ex ia IIC T3-T4 Ga  
Ex ib IIIC T135°C...T147°C Db  
CLI, ZN 0, AEx ia IIC T3-T4 Ga  
ZN 21, AEx ib IIIC T135°C...T147°C Db  
T3: Ta = -40°C to +121°C  
T4: Ta = -40°C to +80°C  
T147°C: Ta = -40°C to +121°C  
T135°C: Ta = -40°C to +80°C  
Install per drawing INS10187  
Refer to product manual MNX10127

1600 ft (488 m) Maximum Allowable  
Integral Cable Length  
Approved Cabling: CB102, CB103\*, CB111,  
CB190\*, CB193\*, CB206, CB296 (\*Approved for  
Use in T4 Applications Only)  
Requires one IS111-1B Intrinsic Safety Barrier

IECEx SIR 15.0060X  
Ex ia IIC T3-T4 Ga  
Ex ib IIIC T135°C ... T147°C Db  
Ex ia I Ma  
T3: Ta @ -40°C to +121°C

T4: Ta @ -40°C to +80°C  
Mining Group I: Ta @ -40°C to  
+121°C  
T147°C: Ta @ -40°C to +121°C  
T135°C: Ta @ -40°C to +80°C  
Install per drawing INS10210  
Refer to product manual  
MNX10134

Sira 15ATEX2152X  
Ex ia IIC T3 -T4 Ga  
T3: Ta @ -40°C to +121°C  
T4: Ta @ -40°C to +80°C  
Ex ib IIIC T135°C ... T147°C Db  
T147°C: Ta @ -40°C to +121°C  
T135°C: Ta @ -40°C to +80°C  
Ex ia I Ma  
Ta @ -40°C to +121°C  
Install per drawing INS10211  
Refer to product manual  
MNX10135

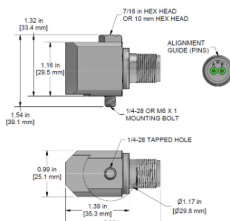
Connector Exit Entity Parameters:  
Ui = 28 Vdc, li = 120 mA, Pi = 1W, Ci  
= 0nF, Li = 0μH

Integral Cable Entity Parameters  
Ui = 28 Vdc, li = 120 mA, Pi = 1W, Ci  
= 80.4nF, Li = 336μH

### AC916-1A

2 Pin Connector

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

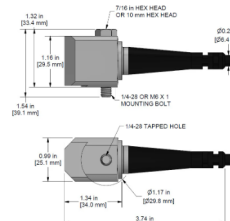


Stock Product

### AC916-2C

CB193 Molded Integral Cable

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

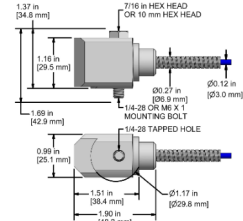


Built To Order

### AC916-3C

CB296 Armored Integral Cable

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



Built To Order

| Specifications                   | Standard             | Metric                   | Specifications              | Standard            | Metric               |
|----------------------------------|----------------------|--------------------------|-----------------------------|---------------------|----------------------|
| Part Number                      | AC916                | M/AC916                  | <b>Environmental</b>        |                     |                      |
| Sensitivity ( $\pm 10\%$ )       |                      | 100 mV/g                 | Operating Temperature Range | -65 to 257 °F       | -54 to 125 °C        |
| Frequency Response ( $\pm 3dB$ ) | 30-600,000 CPM       | 0.5-10,000 Hz            | Maximum Shock Protection    |                     | 5,000 g, peak        |
| Dynamic Range                    |                      | $\pm 80$ g, peak         | Electromagnetic Sensitivity |                     | CE                   |
| Transverse Sensitivity           |                      | $\leq 5\%$               | Sealing                     |                     | Welded, Hermetic     |
| <b>Electrical</b>                |                      |                          | Submersible Depth           | 200 ft.             | 61 m                 |
| Settling Time                    | <3 Seconds           |                          | SIL Rating                  |                     | SIL 2                |
| Voltage Source                   | 18-28 VDC            |                          | <b>Physical</b>             |                     |                      |
| Constant Current Excitation      | 2-10 mA              |                          | Sensing Element             |                     | PZT Ceramic          |
| Spectral Noise @ 10 Hz           |                      | 6.5 $\mu$ g/ $\sqrt{Hz}$ | Sensing Structure           |                     | Shear Mode           |
| Spectral Noise @ 100 Hz          |                      | 2 $\mu$ g/ $\sqrt{Hz}$   | Weight                      | 5.3 oz              | 150 grams            |
| Spectral Noise @ 1000 Hz         |                      | 1.8 $\mu$ g/ $\sqrt{Hz}$ | Case Material               |                     | 316L Stainless Steel |
| Output Impedance                 | <100 ohm             |                          | Mounting Thread             |                     | 1/4-28               |
| Bias Output Voltage              | 10-14 VDC            |                          | Connector (Non-Integral)    |                     | 2 Pin MIL-C-5015     |
| Case Isolation                   | >10 <sup>8</sup> ohm |                          | Resonant Frequency          | 1,320,000 CPM       | 22000 Hz             |
|                                  |                      |                          | Mounting Torque             | 2 to 5 ft. lbs.     | 2.7 to 6.8 Nm        |
|                                  |                      |                          | Mounting Hardware Supplied  | 1/4-28 Captive Bolt | M6x1 Captive Bolt    |
|                                  |                      |                          | Calibration Certificate     |                     | CA10                 |

## Typical Frequency Response

