

# TA938 Series

Nonincendive, CSA North America Class I, Division 2, Class II, Division 1, Class III, ATEX/IECEx Zone 2, 22 Approved Dual Output Sensor, Acceleration and Temperature, Side Exit 3 Pin Connector, M8x1.25 Captive Bolt, 100 mV/g, 10 mV/°C, ±10%



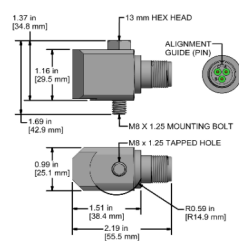
## Regulatory Information

|                                                            |                                                       |
|------------------------------------------------------------|-------------------------------------------------------|
| CSA 221421                                                 | T4, T135°C for ambient                                |
| CSA 25CA80263368X                                          | temperature range of -40°C to +80°C                   |
| CL I, DIV 2, GRP A, B, C and D T3/T4                       | T3 for ambient temperature range of -40°C to +121°C   |
| CL II, DIV 1, GRP E, F and G T135°C                        | *Temperature Class depends on the ambient temperature |
| CL III                                                     | Vmax=28VDC Imax=10mA                                  |
| Ex ec IIC T* Gc                                            | Install per INS10208                                  |
| Ex tc IIIC T135°C Dc                                       | Reference Product Manual MNX10132                     |
| CL I, ZN 2, AEx ec IIC T* Gc                               |                                                       |
| ZN 22, AEx tc IIIB T135°C Dc                               | CSACa 24 ATEX1004X                                    |
| *Temperature Class depends on the ambient temperature      | Ex ec IIC T**C Gc                                     |
| T4, T135°C for ambient temperature range of -40°C to +80°C | Ex tc IIIC T135°C Dc                                  |
| T3 for ambient temperature range of -40°C to +121°C        | T4, T135°C for ambient                                |
| Vmax = 28VDC Imax = 10mA                                   | temperature range of -40°C to +80°C                   |
| Reference Product Manual MNX10128 Install per INS10191     | T3 for ambient temperature range of -40°C to +121°C   |
|                                                            | *Temperature Class depends on the ambient temperature |
| IECEx CSA 24.0015X                                         | Vmax=28VDC Imax=10mA                                  |
| Ex ec IIC T**C Gc                                          | Install per INS10209                                  |
| Ex tc IIIC T135°C Dc                                       | Reference Product Manual MNX10133                     |

Approved Cabling: CB212, CB191\*, CB298 (\*Approved for Use in T4 Applications Only)

### TA938-1A 3 Pin Connector

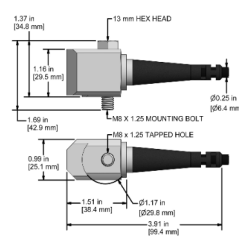
| Connector | Polarity                |
|-----------|-------------------------|
| Pin       |                         |
| A         | (+) Signal/Power        |
| B         | (-) Common              |
| C         | (+) Temperature Voltage |



Stock Product

### TA938-2C CB191 Integral Cable

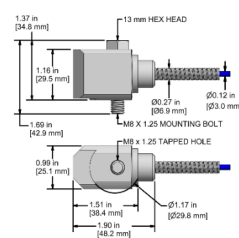
| Conductor | Polarity                |
|-----------|-------------------------|
| Red       | (+) Signal/Power        |
| Black     | (-) Common              |
| White     | (+) Temperature Voltage |
| Shield    | Cable Drain Wire        |



Built To Order

### TA938-3C CB298 Armored Integral Cable

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



Built To Order

| Specifications                | Standard             | Metric        | Specifications              | Standard             | Metric        |
|-------------------------------|----------------------|---------------|-----------------------------|----------------------|---------------|
| Sensitivity (±10%)            | 100 mV/g             |               | <b>Environmental</b>        |                      |               |
| Frequency Response (±3dB)     | 30-600,000 CPM       | 0.5-10000 Hz  | Operating Temperature Range | -40 to 250 °F        | -40 to 121 °C |
| Frequency Response (±10%)     | 120-300,000 CPM      | 2.0-5000 Hz   | Maximum Shock Protection    | 5,000 g, peak        |               |
| Dynamic Range                 | ± 50 g, peak         |               | Sealing                     | Welded, Hermetic     |               |
| Temperature Measurement Range | 36.5 to 212 °F       | 2.5 to 100 °C | <b>Physical</b>             |                      |               |
| Temperature Output            | 10 mV/°C             |               | Sensing Element             | PZT Ceramic          |               |
| Transverse Sensitivity        | ≤5%                  |               | Sensing Structure           | Shear Mode           |               |
| <b>Electrical</b>             |                      |               | Weight                      | 6.3 oz               | 180 grams     |
| Settling Time                 | <2.5 seconds         |               | Case Material               | 316L Stainless Steel |               |
| Voltage Source                | 18-28 VDC            |               | Mounting Thread             | M8x1.25              |               |
| Constant Current Excitation   | 2-10 mA              |               | Connector (Non-Integral)    | 3 Pin MIL-C-5015     |               |
| Spectral Noise @ 10 Hz        | 8 µg/√Hz             |               | Resonant Frequency          | 1,260,000 CPM        | 21000 Hz      |
| Spectral Noise @ 100 Hz       | .82 µg/√Hz           |               | Mounting Torque             | 2 to 5 ft. lbs.      | 2.7 to 6.8 Nm |
| Spectral Noise @ 1000 Hz      | .3 µg/√Hz            |               | Mounting Hardware Supplied  | M8x1.25 Captive Bolt |               |
| Output Impedance              | <100 ohm             |               | Calibration Certificate     | CA10                 |               |
| Bias Output Voltage           | 10-14 VDC            |               |                             |                      |               |
| Case Isolation                | >10 <sup>8</sup> ohm |               |                             |                      |               |

## Typical Frequency Response

