

## AIS 89C2

### Piezoresistive Accelerometer Triaxial, Screw Mount



### Features

The model AIS 89C2 Accelerometer is designed for high performance applications. The accelerometer incorporates a gas-damped piezoresistive MEMS sensing element providing outstanding long-term stability. Ranges from  $\pm 50g$  to  $\pm 6000g$  with high frequency response, this sensor also meets the specification SAE J211. The model 89C2 provides a millivolt output signal and features mechanical overload stops that provide shock protection to loads greater than 10,000g.

Signal amplified versions are optional.

A new injection part for cable split into the axes X, Y and Z is integrated for better performance.

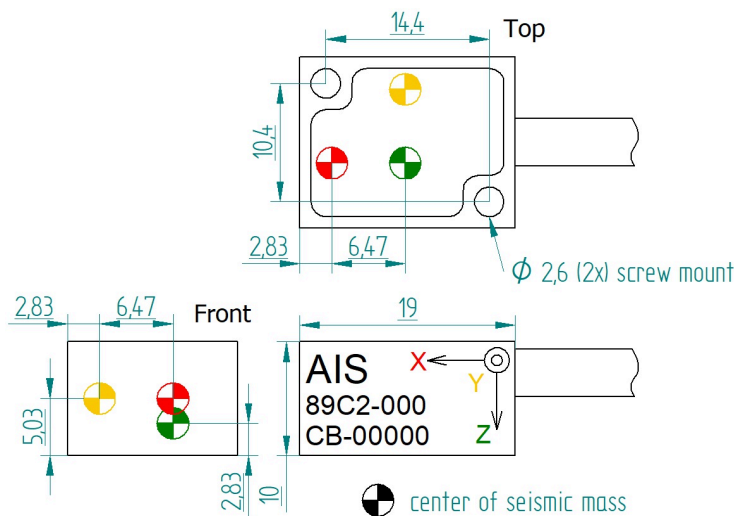
- ☐ Piezoresistive MEMS Technology
- ☐ Wheatstone Bridge
- ☐ Spezifikation SAE J211
- ☐ Ranges  $\pm 50g$  to  $\pm 6000g$
- ☐  $\pm 25mV$  Zero Measurement Output typ
- ☐ 2-10 VDC Excitation
- ☐ Gas Damping
- ☐ Mechanical Overload Stops
- ☐ Screw Mount max. M2.5

### Applications

- ☐ Harsh Environments
- ☐ Vibration & Shock Monitoring
- ☐ Impact Testing
- ☐ Automotive Comfort Testing
- ☐ Machinery Testing

### Service

- ☐ Sinusoidal Calibration
- ☐ Pendulum Calibration
- ☐ Signal Conditioning
- ☐ Connector Options
- ☐ Repair Options
- ☐ ID-Module Options, for all axes
- ☐ Equipment Exchange (EQX)



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### Piezoresistive Accelerometer / Triaxial, screw mount

#### Individual Technical Data All values are typical at +24°C and 10.0 VDC excitation

| AIS 89C2           |                                 |                               |                            |                              |
|--------------------|---------------------------------|-------------------------------|----------------------------|------------------------------|
| Range (g)          | Sensitivity <sup>1</sup> (mV/g) | Frequency Response (±5%) (Hz) | Damping Ratio <sup>3</sup> | Shock Limit <sup>2</sup> (g) |
| ±50                | 2.0                             | 0 - 800                       | 0.40 - 0.9                 | 10,000                       |
| ±100               | 1.0                             | 0 - 1000                      | 0.40 - 0.9                 | 10,000                       |
| ±200               | 0.9                             | 0 - 1400                      | 0.20 - 0.6                 | 10,000                       |
| ±500               | 0.4                             | 0 - 2000                      | 0.20 - 0.6                 | 10,000                       |
| ±2000 <sup>4</sup> | 0.15                            | 0 - 3000                      | 0.05 - 0.3                 | 10,000                       |

1) Output is ratiometric to excitation voltage, signal conditioning optional

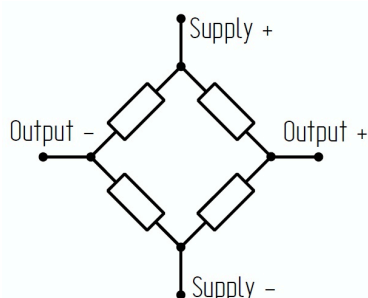
2) 10,000g shock limit in normal axis, 5,000g in transverse axes

3) Damping behavior varies with cable, mounting or gluing

4) Measuring range ±6000g available

#### General Technical Data

| AIS 89C2 Performance                         |           |                                   |
|----------------------------------------------|-----------|-----------------------------------|
| Supply Voltage                               | (VDC)     | 2 to 10                           |
| Ranges                                       | (g)       | 50 to 2000                        |
| Non-Linearity typ.                           | (%)       | ±1% FSO / ±2% FSO for ±6000g      |
| Transverse Sensitivity typ.                  | (%)       | <1                                |
| Zero Acceleration Output (differential) typ. | (mV)      | ±25                               |
| Input and Output Resistance                  | (Ω)       | 2400 - 6500                       |
| Thermal Zero Shift typ.                      | (%FSO/°C) | -0.09                             |
| Thermal Sensitivity Shift typ.               | (%/°C)    | -0.15                             |
| Operating Temperature uncompensated          | (°C)      | -20 to +90                        |
| Storage Temperature                          | (°C)      | -55 to +125                       |
| Weight Housing                               | (g)       | 6,4                               |
| Cable                                        | (g/m)     | nom. 30, 88 Shore A, Polyurethane |
| Material Housing                             |           | Aluminium, hard anodized          |



| Order Information       |   |   |   |
|-------------------------|---|---|---|
| AIS 89C2-XXX-XXX        |   |   |   |
|                         | 1 | 2 | 3 |
| 1 Model                 |   |   |   |
| 2 Range                 |   |   |   |
| 3 Cable length & Pinout |   |   |   |

| Cable Code |         |          |        |
|------------|---------|----------|--------|
|            | X-Axis  | Y-Axis   | Z-Axis |
| Supply +   | Red/O   | Red/BL   | Red    |
| Supply -   | Black/O | Black/BL | Black  |
| Output +   | Green/O | Green/BL | Green  |
| Output -   | White/O | White/BL | White  |

red - X-axis  
yellow - Y-axis  
green - Z-axis

