

# A215 Series

DC-Operated, Servo Accelerometers



## Features

- Available in ranges from  $\pm 1g$  to  $\pm 20g$
- High resolution down to 0.0005% FRO Max
- Closed loop force balance system
- Self-Test facility
- DC Input – DC Output
- Manufactured to AS9100 and ISO 9001:2015 standards

## Applications

Flight test monitoring

Data acquisition systems

Accident data collection

Low frequency analysis

Structural health monitoring

Train performance testing

Flight simulators

Roadbed analysis

Braking control in masstransit systems

Wind turbine control

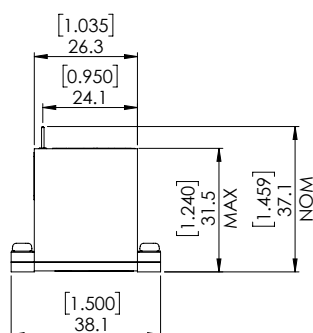
## Benefits

- Small size for easy integration into constrained space
- Low weight 57g
- Wide temperature range  $-55\text{ }^{\circ}\text{C}$  to  $+95\text{ }^{\circ}\text{C}$

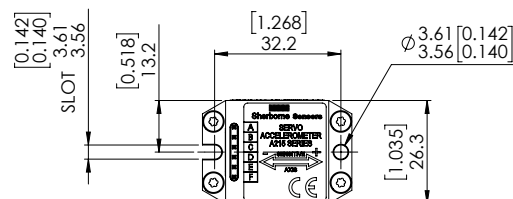
## Electrical Connections

|       |                         |
|-------|-------------------------|
| Pin A | +15V dc excitation      |
| Pin B | 0V dc excitation/output |
| Pin C | -15V dc excitation      |
| Pin D | $\pm 5V$ dc output      |
| Pin E | Not Connected           |
| Pin F | Self Test               |

SIDEVIEW



PLANVIEW



## Specifications

### Specifications by Range @+25°C (+77°F)

|                                    |                                       | ± 1g   | ± 2g   | ± 5g              | ± 10g  | ±20g   |
|------------------------------------|---------------------------------------|--------|--------|-------------------|--------|--------|
| Output Impedance                   | Ω (nom)                               | 5000   | 2500   | 5000              | 2500   | 5000   |
| Output Noise (DC to 10kHz)         | V <sub>rms</sub>                      |        |        | < 0.005           |        |        |
| Non-linearity (seenote2)           | %FRO(max)                             | ± 0.05 | ± 0.05 | ± 0.05            | ± 0.05 | ± 0.10 |
| Hysteresis                         | %FRO(max)                             |        |        | ± 0.02            |        |        |
| Resolution                         | %FRO(max)                             |        |        | ± 0.0005          |        |        |
| Natural Frequency                  | Hz (nom)                              | 90     | 115    | 155               | 190    | 220    |
| Cross-axis Sensitivity (seenote 3) | %FRO(max)                             | ± 0.2  | ± 0.2  | ± 0.2             | ± 0.5  | ± 0.5  |
| Zero Offset (seenote 4)            | %FRO                                  |        |        | < ± 0.1           |        |        |
| Damping Ratio                      |                                       |        |        | 0.6 ± 0.1         |        |        |
| Insulation Resistance              | MΩ @50 Volts dc                       |        |        | ≥ 20              |        |        |
| Thermal Zero Shift                 | %FRO/°C (%FRO/°F)<br>(max)            |        |        | ≤ ± 0.002 (0.004) |        |        |
| Thermal Sensitivity Shift          | %Reading/°C<br>(%Reading/°F)<br>(max) |        |        | ≤ ± 0.02 (0.04)   |        |        |
| Weight                             | Grams (ozs)                           |        |        | 57 (2) A215       |        |        |

### Electrical

|                                    |          |              |
|------------------------------------|----------|--------------|
| Full Range Output (FRO)(seenote 1) | Volts dc | ± 5          |
| Excitation Voltage                 | Volts dc | ± 15 (± 10%) |
| Current Consumption                | mA       | < ± 15       |

### Environmental Characteristics

|                                     |                          |
|-------------------------------------|--------------------------|
| Operating Temperature Range °C (°F) | -55 to +95 (-67 to 203)  |
| Survival Temperature Range °C (°F)  | - 65 to 105 (-85 to 221) |
| Shock                               | 100g, 11ms ½ sine        |

## Notes

1. Full Range Output (FRO) is defined as the full acceleration Excursion from positive to negative, i.e. ±2g = 4g
2. Non-linearity is determined by the method of least squares
3. Cross-axis sensitivity is the output of unit when subjected to full range acceleration in cross-axis
4. Zero offset is specified under static conditions with no vibration inputs

## Model Designation & Ordering Code

A 2 1 5 - 0 0 0 1 -  g  
 ↳ g Range

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