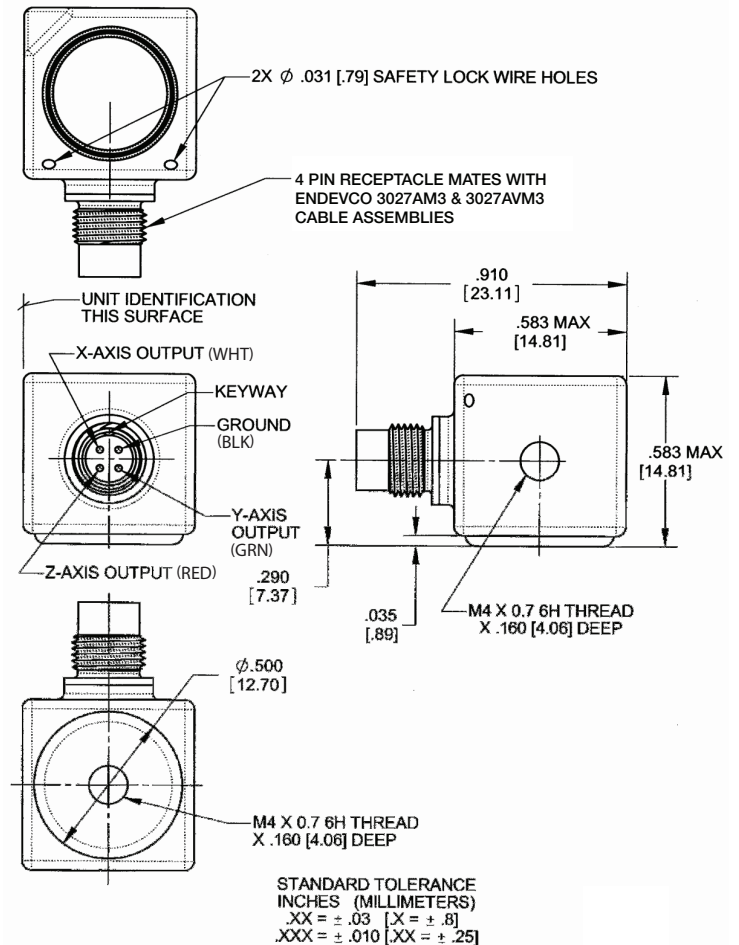
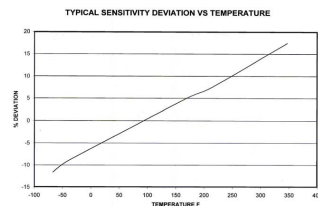
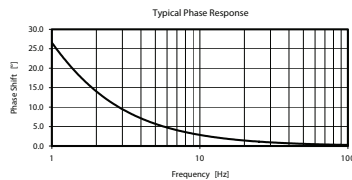
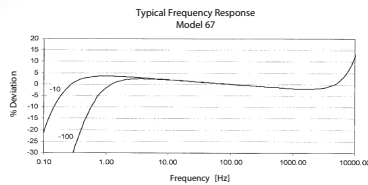


# Isotron<sup>®</sup> accelerometer

## Model 67



### Key features

- 67-10-R and 67-100-R available as replacement sensors
- Triaxial, low-impedance output
- High temperature to 347°F (175°C)
- High output (100 mV/g)
- Ideal for structural analysis, ESS and NVH
- Overload protected for high shock resistance
- Single connector

### Description

Endevco model 67 is a miniature high temperature triaxial accelerometer designed for laboratory, ESS, NVH and other non temperature test environments. The unit features welded titanium construction for low weight and a complete seal against the environment. It provides a high output sensitivity, even up to its maximum operating temperature of 347°F (175°C). With its small size (14.8 mm<sup>3</sup>) and light weight of less than 14 grams, the model 67 effectively minimizes mass loading effects.

Model 67 features Endevco's Piezite type P-8 crystal element operating in the annular shear mode to achieve low base strain sensitivity and excellent output stability over time. This accelerometer incorporates internal hybrid signal conditioners to achieve a low noise floor. Power to model 67, in the form of a constant current, travels through the same pins as the low impedance output signals. Model 67 was designed for either adhesive mounting or screw mounting using a M4 screw. The model number suffix denotes acceleration sensitivity in mV/g; i.e. 67-100 features sensitivity of 100 mV/g.

# Isotron<sup>®</sup> accelerometer

## Model 67

### Specifications

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

| Dynamic characteristics                   | Units                         | -10   | -100             |
|---|-------------------------------|---|------------------|
| Range                                     | g (m/s <sup>2</sup> )         | ±500 (4900)   | ±50 (490)        |
| Voltage sensitivity, typical              | mV/g (mV / m/s <sup>2</sup> ) | 10 (1.0)  | 100 (10.2)       |
| Frequency response                        |                               | See typical amplitude response  |                  |
| Amplitude response                        |                               |   |                  |
| ±5%                                       | Hz                            | 0.2 to 6000   | 0.7 to 6000      |
| ±1dB typical                              | Hz                            | 0.15 to 8000  | 0.5 to 8000      |
| Phase response                            |                               |   |                  |
| < 5°                                      | Hz                            |   | 5-5000           |
| < 10°                                     | Hz                            |   | 2-7000           |
| Resonance frequency                       | Hz                            |   | 35 000           |
| Transverse sensitivity                    | %                             |   | < 5              |
| Temperature response                      |                               | See typical curve   |                  |
| At -67°F (-55°C) max/min                  | %                             |   | 0/-20            |
| At +347°F (+175°C) max/min                | %                             |   | 0/+30            |
| Amplitude linearity                       | %                             |   | ≤ 1              |
| <b>Output characteristics</b>             |                               |   |                  |
| Output polarity                           |                               | Acceleration directed into base produces positive output                  |                  |
| DC output bias voltage                    |                               |   |                  |
| Room temperature, 75°F (23°C)             | Vdc                           |   | +11.0 to +13.5   |
| -67°F to 347°F (-55°C to +175°C)          | Vdc                           |   | +6.0 to +16.0    |
| Output impedance 4-10 mA                  | Ω                             |   | < 100            |
| Full scale output voltage                 | V                             |   | ±5               |
| Residual noise                            |                               |   |                  |
| Broadband                                 |                               |   |                  |
| 1 Hz - 10kHz                              | μg rms                        | 1400  | 450              |
| Spectral                                  |                               |   |                  |
| 1 Hz                                      | μg/√Hz                        | 350   | 100              |
| 10 Hz                                     | μg/√Hz                        | 100   | 30               |
| 100 Hz                                    | μg/√Hz                        | 40  | 14               |
| 1000 Hz                                   | μg/√Hz                        | 15  | 4                |
| Grounding                                 |                               | Signal ground is connected to case and not isolated from mounting surface |                  |
| <b>Power requirement</b>                  |                               |   |                  |
| Supply voltage                            | Vdc                           |   | +24 to +30       |
| Supply current                            | mA                            |   | +2 to +8         |
| Warm-up time (to reach 90% of final bias) | sec                           |   | < 10             |
| <b>Environmental characteristics</b>      |                               |   |                  |
| Temperature range                         |                               | -67°F to 347°F (-55°C to +175°C)  |                  |
| Humidity                                  |                               | Hermetically sealed   |                  |
| Sinusoidal vibration limit                | g pk                          |   | 1000             |
| Shock limit [1]                           | g pk                          |   | 5000             |
| Base strain sensitivity at 250 μstrain    | eq. g/μstrain                 | 0.01  | 0.001            |
| Thermal transient sensitivity             | eq. g/°F                      | 0.07  | 0.007            |
| Electromagnetic noise, at 100 Gauss       | eq. g/Gauss                   | 0.001   | 0.0002           |
| <b>Physical characteristics</b>           |                               |   |                  |
| Dimensions                                |                               | See outline drawing   |                  |
| Weight                                    | oz (gm)                       |   | 0.5 (14)         |
| Case material                             |                               | Titanium  |                  |
| Connector                                 |                               | 4 pin side mounted  |                  |
| Mounting [2]                              |                               | Adhesive or M4 thread   |                  |
| Mounting torque                           | lbf-in (Nm)                   |   | 10 (1.13)        |
| <b>Calibration</b>                        |                               |   |                  |
| Supplied, each axis:                      |                               |   |                  |
| Voltage sensitivity                       | mV/g                          |   |                  |
| Maximum transverse sensitivity            | %                             |   |                  |
| Frequency response (Y and Z axis)         | %                             |   | 20 Hz to 8000 Hz |
| Frequency response (X axis)               | %                             |   | 20 Hz to 6000 Hz |
| Bias                                      | Vdc                           |   |                  |

# Isotron<sup>®</sup> accelerometer

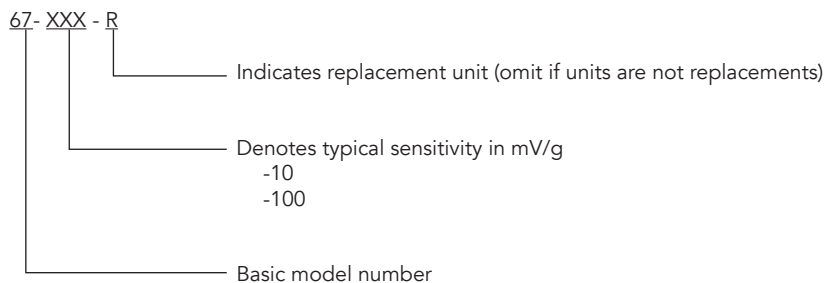
## Model 67

### Accessories

| Product      | Description  | 67-10 / 67-100 | 67-10-R / 67-100-R |
|--------------|--|----------------|--------------------|
| EH783        | Socket Head Cap screw, M4 X 5mm                            | Included       | Included           |
| EHM1641      | Wrench, hex key, metric                                    | Included       | Optional           |
| 3027AVM13-84 | Extension cable, 200°C, mates with 3027AM3, 7 feet         | Included       | Optional           |
| 3027AM3-36   | Triaxial cable, 85°C, 3BNCs at instrumentation end, 3 feet | Included       | Optional           |

### Notes

- Shock pulses of short duration may excite sensor resonance.
- Be careful not to apply abusive forces when removing the accelerometer from structure.
- Model number definition:



### Ordering information

- Maintain high levels of precision and accuracy using Endeveco's factory calibration services. Call Endeveco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.