

ISOTRON® Accelerometer

**ENDEVCO
MODEL
2258AM2
-10
-100**

Model 2258AM2-10 and -100

- Triaxial, One Output Cable
- Light Weight (15 gm)
- Hermetically Sealed Sensors
- Ground Isolated
- Factory Replaceable Subassembly
- Screw or Adhesive Mounting for Modal Measurements, Industrial / Robotic Testing



Actual size

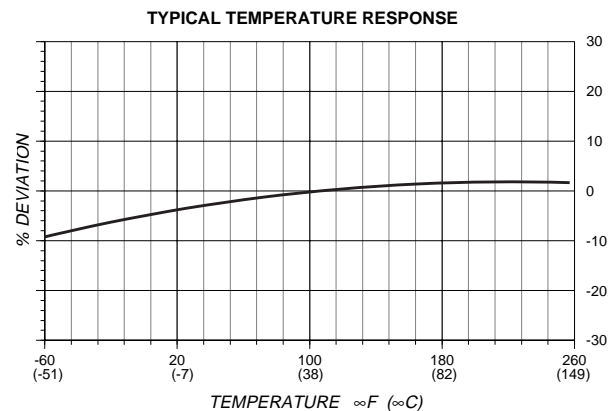
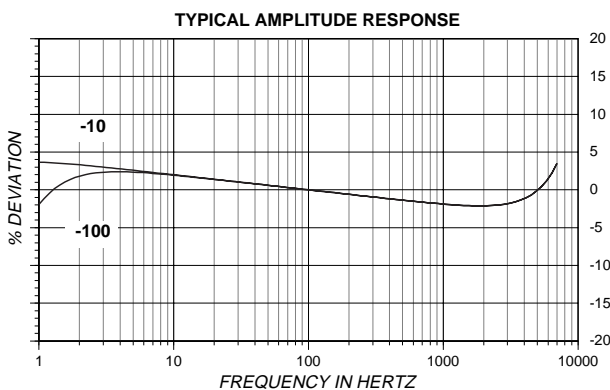
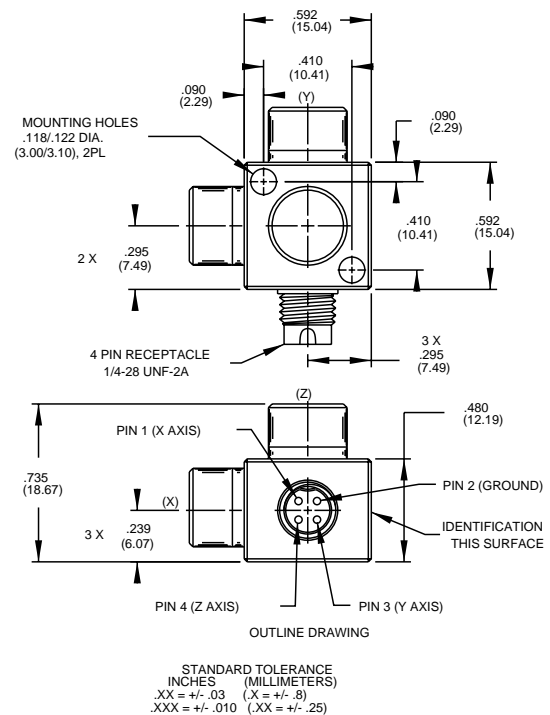


DESCRIPTION

The ENDEVCO® Model 2258AM2 is a small triaxial piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration in three orthogonal axes on small structures. The transducer features a single, detachable 4-conductor cable for quick installation. Each hermetically sealed subassembly is factory replaceable in case of accidental field damage. The unit offers exceptional dynamic range for its size and bandwidth. Its light weight (15 gm) effectively minimizes mass loading effects.

The Model 2258AM2 features ENDEVCO's PIEZITE® Type P-8 crystal elements, operating in annular shear mode, which exhibit excellent output sensitivity stability. This accelerometer incorporates three stand-alone, low noise internal hybrid signal conditioners, each operating in a two-wire system. Its low impedance voltage outputs are connected to the same cables that supply the required constant current power. Signal grounds are isolated from the mounting surface. A model number suffix indicates acceleration sensitivity in mV/g; i.e., 2258AM2-10 features output sensitivity of 10 mV/g.

ENDEVCO Signal Conditioner Models 4416B, 133, 2792B, 2793, 2775A or OASIS 2000 Computer-Controlled System are recommended for use with this accelerometer.



ENDEVCO MODEL 2258AM2

**-10
-100**

ISOTRON® Accelerometer

SPECIFICATIONS

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C), 4 mA, 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 | ±500 | ±50 |
| VOLTAGE SENSITIVITY | mV/g | 10 | 100 |
| ±10% | | | |
| FREQUENCY RESPONSE | | See Typical Amplitude Response | |
| RESONANCE FREQUENCY | kHz | 20 | |
| AMPLITUDE RESPONSE | | | |
| ±5% (x,y) | Hz | 1 to 7000 | |
| ±5% (z) | Hz | 1 to 8000 | |
| ±1dB (x,y) | Hz | .5 to 9000 | |
| ±1dB (z) | Hz | .5 to 10 000 | |
| TEMPERATURE RESPONSE | | | |
| TRANSVERSE SENSITIVITY | % | ≤ 5 | |
| AMPLITUDE LINEARITY | % | ≤1 to full scale | |

OUTPUT CHARACTERISTICS

| | | | |
|----------------------------|---|----------------|--------|
| OUTPUT POLARITY | Acceleration applied in the direction of the arrow on the unit produces positive output | | |
| DC OUTPUT BIAS VOLTAGE | Vdc | +11.3 to +12.7 | |
| OUTPUT IMPEDANCE | Ω | ≤ 200 | |
| FULL SCALE OUTPUT VOLTAGE | V | ±5 | |
| RESOLUTION | equiv. g rms | 0.0015 | 0.0003 |
| .5 Hz to 10 kHz, broadband | | | |
| GROUNDING | Signal grounds are isolated from the triaxial housing | | |

POWER REQUIREMENT

| | | | |
|----------------|-----|------------|--|
| SUPPLY VOLTAGE | Vdc | +18 to +24 | |
| SUPPLY CURRENT | mA | +2 to +10 | |
| WARM-UP TIME | sec | < 5 | |

ENVIRONMENTAL CHARACTERISTICS

| | | | |
|-------------------------------|-----------------------------------|------------|--|
| TEMPERATURE RANGE | -67°F to +257°F (-55°C to +125°C) | | |
| HUMIDITY | Hermetically Sealed | | |
| SINUSOIDAL VIBRATION LIMIT | g pk | 1000 | |
| SHOCK LIMIT | g pk | 2000 | |
| BASE STRAIN SENSITIVITY | equiv. g pk/μstrain | 0.0004 | |
| THERMAL TRANSIENT SENSITIVITY | equiv. g pk/°F (°C) | 0.1 (0.18) | |
| ELECTROMAGNETIC SENSITIVITY | equiv. g rms/gauss | 0.0001 | |

PHYSICAL CHARACTERISTICS

| | | | |
|-----------------|--|---------------------|--|
| DIMENSIONS | | | |
| | | See Outline Drawing | |
| WEIGHT | gm (oz) | 15 (0.53) | |
| CASE MATERIAL | Stainless steel case, anodized aluminum housing | | |
| CONNECTOR | Microtech 4-pin, 1/4-28 thd, mates with Endevco 3027A series cable | | |
| MOUNTING TORQUE | lbf-in (Nm) | 8 (1) | |

CALIBRATION

| | | | |
|--------------------------------|------|--|--|
| SUPPLIED: | | | |
| SENSITIVITY | mV/g | | |
| MAXIMUM TRANSVERSE SENSITIVITY | % | | |
| FREQUENCY RESPONSE | % | 20 Hz to 10 kHz | |
| | dB | 10 kHz through resonance (Z Axis only) | |

ACCESSORIES

| | |
|-----------------------|--|
| Model 3027AM3 (10 ft) | TRIAXIAL CABLE ASSEMBLY, 85°C, 3-BNC's |
| P/N EH156 | SCREW ASSY#4-40 X 5/8, TWO EACH |

OPTIONAL ACCESSORIES

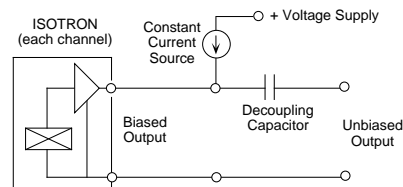
| | |
|---------------------------|---------------------------|
| Model 3027AM4-120 (10 ft) | Extension cable, 125° |
| Model 3027A-120 (10 ft.) | Triaxial cable, Pigtailed |
| P/N 31848 | Adhesive Mounting Adaptor |

NOTES

- Frequency response calibrations of X and Y axes are limited by the mechanical properties of the calibration fixture. Actual frequency responses of X & Y are similar to that of the Z axis.
- Depending on the dynamic and environmental requirements, adhesives such as petro-wax, hot-melt glue, and cyanoacrylate epoxy

(super glue) may be used to mount the accelerometer temporarily to the test structure. An adhesive mounting kit (P/N 31849) is available as an option from Endevco.

- Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.



Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.

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