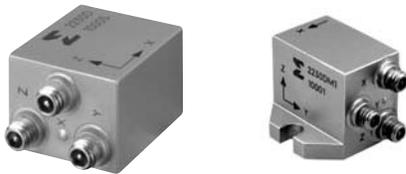


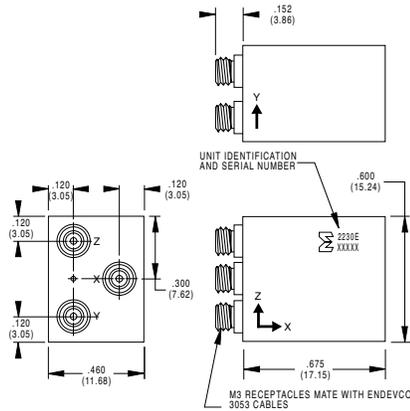
Model 2230E / EM1 Piezoelectric accelerometer

Features

- **NEW!** 2230E-R available as replacement sensor
- Miniature high temperature triaxial (+260°C)
- Light weight (17 gm / 22.5 gm)
- Case grounded
- High temperature, aerospace/industrial/automotive

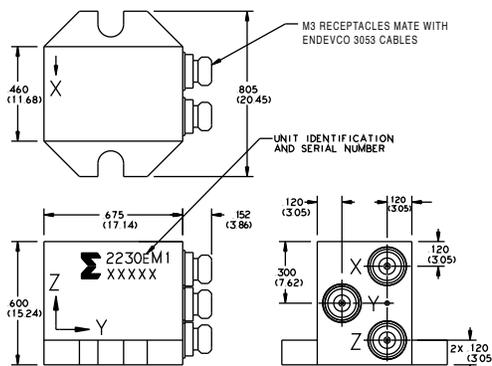


2230E



STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = +/- .03 (X = +/- .8)
.XXX = +/- .010 (XX = +/- .25)

2230EM1



STANDARD TOLERANCES
INCHES (MILLIMETERS)
.XX = +/- .02 (X = +/- .5)
.XXX = +/- .010 (XX = +/- .25)

北京汇润科贸有限公司

电话：+86 010 5601 8989

+86 010 5601 7979

传真：+86 010 5885 7266

邮箱：sales@aq315.com

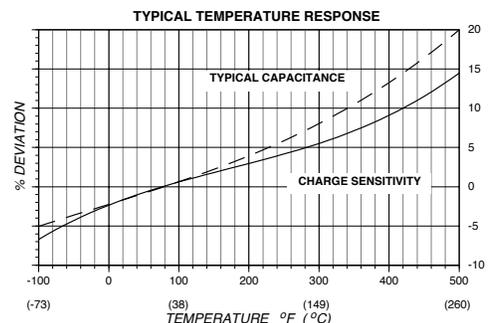
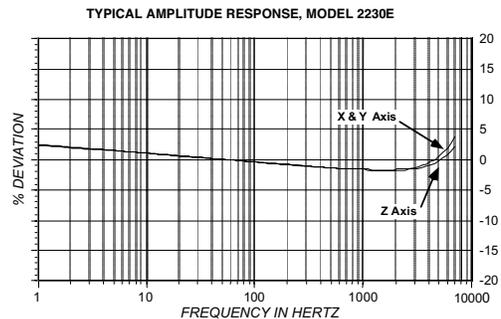
<http://www.aq315.com>

Description

The Endevco® model 2230E/2230EM1 is a miniature triaxial piezoelectric accelerometer designed specifically for vibration measurement in three orthogonal axes on small structures and objects. The transducer features three M3 receptacles for output connection. The 2230E is designed to be mounted with adhesive. The 2230EM1 is mounted with two supplied cap screws. Its light weight effectively minimizes mass-loading effects. The accelerometer is a self-generating device that requires no external power source for operation.

The model 2230E/2230EM1 features Endevco's Piezite® Type P-8 crystal elements, operating in annular shear mode, which exhibit excellent output sensitivity stability over time. Signal ground is connected to case and mounting surface of the unit. Low-noise, flexible coaxial cables are supplied for error-free operation.

Endevco signal conditioner models 133, 2771C, 2775B or OASIS 2000 computer-controlled system are recommended for use with this high impedance accelerometer.



Model 2230E / EM1 Piezoelectric accelerometer

Endevco

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 | 2230E | 2230EM1 |
|---------------------------------------|--------------------|-------------|---|
| Charge sensitivity | | | |
| Typical | pC/g | 3.0 | 3.0 |
| Minimum | pC/g | 2.0 | 2.0 |
| Frequency response | | | |
| Resonance frequency | kHz | 21 | 21 |
| Amplitude response [1] | | | See typical amplitude response |
| ±5% | Hz | 1 to 7000 | 1 to 5000 |
| ±1 dB | Hz | 1 to 10 000 | 1 to 10 000 |
| Temperature response | | | See typical curve |
| Transverse sensitivity | % | ≤5 | ≤5 |
| Amplitude linearity | % | | 1 per 500 g, 0 to 2000g |
| Electrical characteristics | | | |
| Output polarity | | | Acceleration in the direction of axis arrow produces positive output. |
| Resistance | GΩ | ≥10 | ≥10 |
| Resistance at +500°F (+260°C) | MΩ | ≥25 | ≥25 |
| Capacitance | pF | 770 | 770 |
| Grounding | | | Signal return is connected to case. |
| Environmental characteristics | | | |
| Temperature range | | | -67°F to +500°F [-55°C to +260°C] |
| Humidity | | | Hermetically sealed |
| Sinusoidal vibration limit | g pk | 1000 | 1000 |
| Shock limit [2] | g pk | 2000 | 2000 |
| Electromagnetic sensitivity | equiv. g rms/gauss | 0.01 | 0.01 |
| Physical characteristics | | | |
| Dimensions | | | See outline drawing |
| Weight | gm (oz) | 17 (0.6) | 22.5 (0.79) |
| Case material | | | 304L stainless steel |
| Connector | | | M3 x 0.5 6H thread, mates with Endevco 3053 cables |
| Mounting torque | lbf-in (Nm) | NA | 13.5 (1.25) |
| Calibration | | | |
| Supplied: | | | |
| Charge sensitivity | pC/g | | |
| Capacitance | pF | | |
| Maximum transverse sensitivity | % | | |
| Charge frequency response | % | | 20 Hz to 10 000 Hz |

Accessories

| Product | Description | 2230E | 2230E-R | 2230EM1 |
|-----------|---------------------------------------|----------|----------|----------|
| 3053V-120 | Versaflex cable assembly, 10 ft (3x) | Included | Optional | Included |
| EH409 | 4-40 x .375 screws (2x) | N/A | N/A | Included |
| 2771C | In-line charge convertor | Optional | Optional | Optional |
| 133 | Signal conditioner | Optional | Optional | Optional |
| 2775B | Signal conditioner | Optional | Optional | Optional |
| 4990A-1 | OASIS 2000 computer-controlled system | Optional | Optional | Optional |

Notes:

- Low-end response of the transducer is a function of its associated electronics.
- Short duration shock pulses, such as those generated by metal-to-metal impacts, may excite transducer resonance and cause linearity errors. Send for TP290 for more details.
- 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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extreme environments