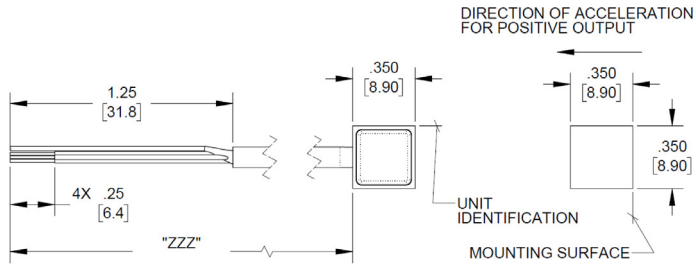
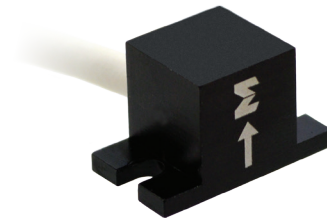
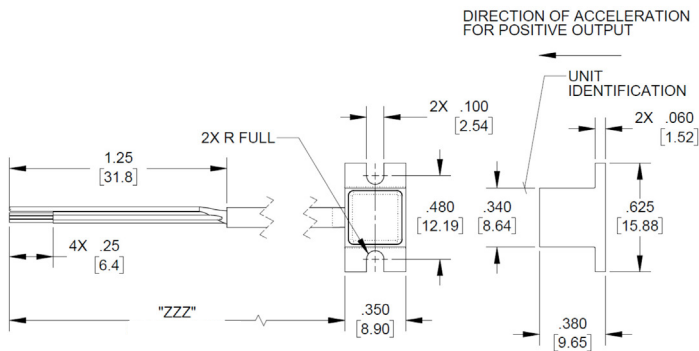


Piezoresistive accelerometer

Model 701AL - 701FL



701AL



701FL

Key features

- High sensitivity, 0.3mV/g
- Multi-mode gas damping
- Flat frequency response
- Rugged housing and cable with 28 AWG conductors
- Survives up to 10,000 g's shock

Description

The Endevco® Model 701AL and 701FL are lower resistance versions to accommodate data acquisition systems with <5000 ohms requirement. These accelerometers are designed for crash testing and similar applications that require minimal mass loading and broad frequency response.

The Model 701AL and 701FL use a unique micro-machined, piezoresistive sensor with gas damping. This monolithic sensor incorporates the latest MEMS technology for ruggedness, stability and reliability. The accelerometer has a four active arm, full bridge circuit. With a frequency response extending down to dc (steady state acceleration), this accelerometer is ideal for measuring long duration transient shocks.

The Model 701AL is designed for adhesive mounting for ultimate flexibility when mounting. The Model 701FL is designed for screw mounting with the provided screws.

U.S. Patent 6,988,412 applies.

Piezoresistive accelerometer | Model 701AL - 701FL

All specifications are referenced at +75°F (+24°C) and 10 Vdc, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

| Specifications | | |
|---|---------|--|
| Dynamic characteristics | Units | -1K |
| Range | g | ± 1,000 |
| Sensitivity (at 100Hz and 10g) | | |
| Minimum/Nominal/Maximum | mV/V/g | .010 / .030 / .060 |
| Frequency response (Referenced to 100 Hz) | | |
| ± 5% maximum | Hz | 0 to 4,000 |
| Non-linearity | % | ±1 |
| Zero measurand output (max) | mV | ±50 |
| Transverse sensitivity | % | 3 |
| Thermal zero shift (typ) | | |
| 0° to 50°C | %FSO/°C | 0.02 |
| 32° to 122°F | %FSO/°F | 0.01 |
| Thermal sensitivity shift (typ) | | |
| 0° to 50°C | %/°C | 0.2 |
| 32° to 122°F | %/°F | 0.1 |
| Electrical characteristics | | |
| Excitation | Vdc | 2.0, 5.0, 10.0 |
| Resistance | | |
| Input | ohms | 3,000 ± 1,500 |
| Output | ohms | 3,000 ± 1,500 |
| Insulation resistance | Mohms | 100 min at 50 Vdc |
| Physical characteristics | | |
| Case material | | Anodized aluminum with stycast fill, black |
| Electrical connections | | Integral 4 conductor, # 28 AWG, Teflon insulated leads shielded with white polyurethane jacket |
| Mounting | | |
| 701AL | | Adhesive |
| 701FL | | #2-56 socket head cap screws |
| | | 3.5 in-lbf (0.40 N.m) recommended/4.0 in-lbf (0.45 N.m) |
| Weight | | |
| 701AL | | 0.05 oz (1.4 gm); cable 0.2 oz/ft (19 gm/m), typical |
| 701FL | | 0.06 oz (1.7 gm); cable 0.2 oz/ft (19 gm/m), typical |
| Environmental characteristics | | |
| Acceleration limits | | |
| Shock (half-sine pulse duration) | | 10,000 g, 80 µsec or longer |
| Temperature | | |
| Operating | | - 40°C to + 100°C (-40°F to + 212°F) |
| Storage | | Room temperature |
| Humidity | | IP67 |
| Calibration data | | |
| Frequency response | | 10 g, 20 to 4,000, ref 100 Hz |
| Sensitivity | | 10 g, 100 Hz at 2, 5 and 10 V |
| ZMO | | At 2, 5 and 10 V |
| Input and output resistance | | |

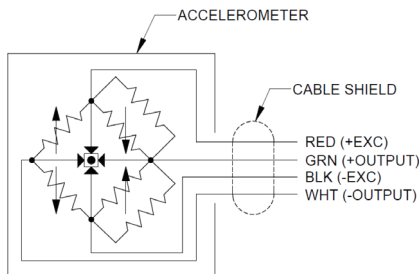
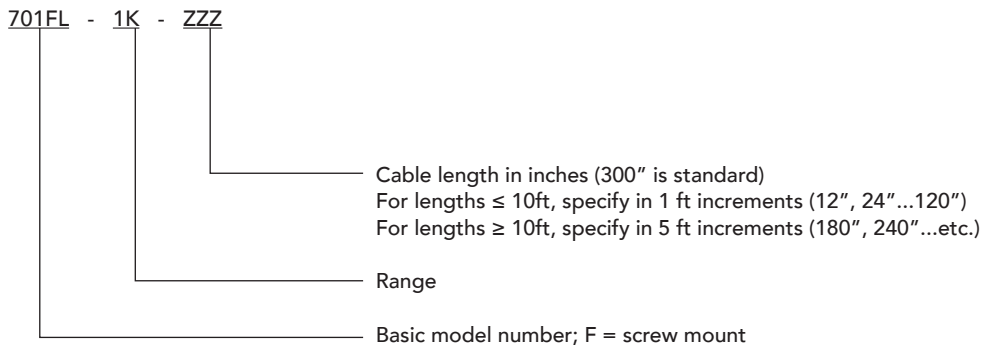
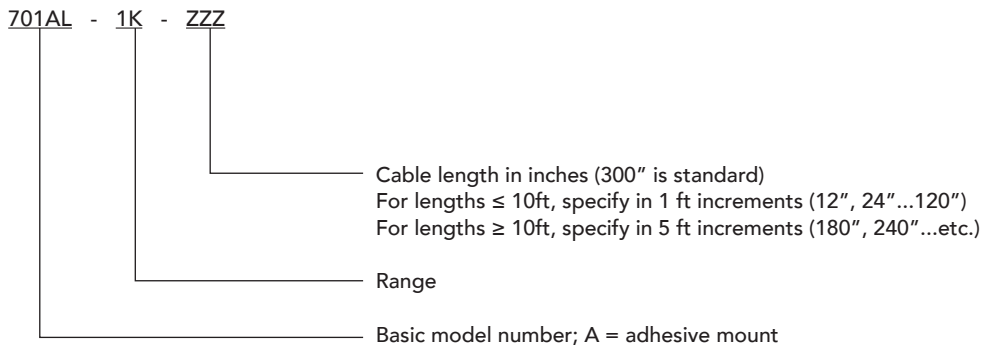
Piezoresistive accelerometer | Model 701AL - 701FL

| Accessories | | |
|-------------|---|---------------------|
| Product | Description | 701AL-701FL |
| EH136 | Screw, socket head, 2-56 x ¼ alloy steel blk oxide (x2) | Included with 701FL |
| EHM178 | Allen wrench, 5/64, (x1) | Included with 701FL |

Notes

1. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco'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.

2. Model number definitions:



SCHEMATIC

STANDARD TOLERANCE
INCHES [MILLIMETERS]
.XX = $\pm .02$ [X = $\pm .5$]
.XXX = $\pm .010$ [XX = $\pm .25$]



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