

# Having an impact

Endevco's high g accelerometers have long been the industry standard for reliable measurements in extreme environments. Our piezoresistive accelerometers are DC responding with minimal zero shift to avoid integration errors which is critical to the quality of your measurements. In-house MEMS capability enables compact size, high sensitivity and exceptional over-range while ensuring the repeatability and reliability required for mission critical applications. Our newest generation of gas damped accelerometers are the world's most survivable and come in multiple packages including single axis or triaxial configurations; screw, stud and surface mounting options, with our newest products fully SMT compatible.

- > Multiple mounting configurations
- > Minimal zero shift after shock
- > High survivability in overrange environments
- > DC response for long duration transient events
- > Ranges up to 200,000 g
- > Undamped for broad frequency response or damped for exceptional survivability
- > Miniature SMT versions for embedded applications

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## Applications

- > Weapons and rocket testing
- > High-shock data recorders
- > Shock wave monitoring
- > Drop and impact testing
- > Portable electronic device testing
- > Near- and far-field pyroshock testing
- > Fuze/safe and arm
- > Mechanical shock testing



## Piezoresistive high g shock accelerometers

Piezoresistive high g shock accelerometers are available in both damped and undamped models to provide high-reliability shock and vibration measurements in extreme environments. With available measurement ranges from 2,000 to 200,000 g, these accelerometers feature rugged piezoresistive MEMS sensing elements. Our in-house MEMS manufacturing techniques allow us to offer a product with compact size, high sensitivity and exceptional overrange, while ensuring the repeatability and reliability required for mission critical applications. Product variations include single axis or triaxial configurations and screw, stud and surface mounting options, including fully SMT compatible models.

### Undamped piezoresistive accelerometers



Model number	7270A	7270AM4	7270AM6	7270AM7	7274
Description	High resonance Undamped Shock standard	High resonance Undamped Stud mount	Rugged Mechanical filter Stud mount	Extremely rugged Undamped Low noise cable	Triaxial Undamped High resonance
Range g	±2000 / ±6000 / ±20,000 / ±60,000 / ±200,000	±2000 / ±6000 / ±20,000 / ±60,000 / ±200,000	±2000 / ±6000 / ±20,000 / ±60,000	±2000 / ±6000 / ±20,000 / ±60,000 / ±200,000	±2000 / ±6000 / ±20,000 / ±60,000
Sensitivity uV/g	100 / 30 / 10 / 3 / 1	100 / 30 / 10 / 3 / 1	100 / 30 / 10 / 3	100 / 30 / 10 / 3 / 1	50 / 15 / 5 / 1.5
Frequency response kHz +/-5%	0-10 / 0-20 / 0-50 / 0-100 / 0-150	0-10 / 0-20 / 0-50 / 0-100 / 0-150	0-10 / 0-20 / 0-50 / 0-100	0-10 / 0-20 / 0-50 / 0-100 / 0-150	0-18 / 0-36 / 0-70 / 0-140
Shock limit g	10,000 / 18,000 / 60,000 / 180,000 / 200,000	10,000 / 18,000 / 60,000 / 180,000 / 200,000	10,000 / 18,000 / 60,000 / 100,000	10,000 / 18,000 / 60,000 / 180,000 / 200,000	10,000 / 18,000 / 60,000 / 180,000
Operating temperature °C (°F)	-55 to +121 [-67 to +250]	-55 to +66 [-67 to +150]	-34 to +66 [-30 to +150]	-55 to +121 [-67 to +250]	-55 to +66 [-67 to +150]
Dimensions mm[in]	14.22x7.1x2.79 [.56x.28x.11]	7.92 dia. [5/16 hex]	17.15[.675]diax9.8[.386] high excluding stud	14.22x8.9x4.06 [.56x.35x.16]	14.22x7.45x6.22 [.56x.294x.245]
Weight gram	1.5	1.5	8.4	4	2.9
Excitation voltage V	10	10	10	10	5
Mounting method	4-40 screws	1/4-28 UNF-3A stud	1/4-28 integral stud	4-40 screws	4-40 screws

### Damped piezoresistive accelerometers

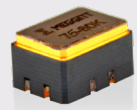
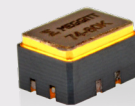
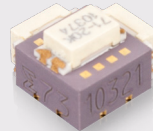
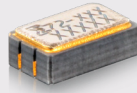


Model number	7280A	7280AM4	7280AM7	7284
Description	Extremely rugged Lightly damped Low power consumption	Extremely rugged Lightly damped Low power consumption	Extremely rugged Lightly damped Low noise cable	Triaxial Lightly damped Low power consumption
Range g	±2,000 / ±20,000 / ±60,000	±20,000 / ±60,000	±2,000 / ±20,000 / ±60,000	±20,000 / ±60,000
Sensitivity uV/g	300 / 16 / 5	16 / 5	300 / 16 / 5	8 / 2.5
Frequency response kHz +/-5%	0-5 / 0-10 / 0-13	0-10 / 0-13	0-5 / 0-10 / 0-13	0-10 / 0-13
Shock limit g	10,000 / 80,000 / 240,000	80,000 / 240,000	10,000 / 80,000 / 240,000	60,000 / 180,000
Operating temperature °C (°F)	-55 to +121 [-67 to +250]	-55 to +121 [-67 to +250]	-55 to +121 [-67 to +250]	-55 to +121 [-67 to +250]
Dimensions mm[in]	14.22x7.1x3.18 [.56x.28x.125]	7.92 dia. [5/16 hex]	14.2x8.9x4.06 [.56x.35x.16]	14.22x7.45x6.22 [.56x.294x.245]
Weight gram	1.4	2.1	4	3.6
Excitation voltage V	10	10	10	5
Mounting method	4-40 screws	1/4-28 UNF-3A stud	4-40 screws	4-40 screws



60,000 and 200,000 g models are subject to International Traffic in Arms Regulations (ITAR), and as such, an export license is required for shipments outside the U.S.; other restrictions may also apply.

**Surface mount  
piezoresistive  
accelerometers**



Model number	71M	72	73	74	75
Description	Surface mount Undamped Low mass	Lightly damped Rugged ESD protection	Triaxial Undamped Surface mount	Triaxial Lightly damped Surface mount LCC	Triaxial Undamped Surface mount LCC
Range g	$\pm 2000 / \pm 6000 / \pm 20,000 / \pm 60,000$	$\pm 20,000 / \pm 60,000$	$\pm 2000 / \pm 6000 / \pm 20,000 / \pm 60,000$	$\pm 20,000 / \pm 60,000$	$\pm 2000 / \pm 6000 / \pm 20,000 / \pm 60,000$
Sensitivity $\mu\text{V/g}$	100 / 30 / 10 / 3	8 / 2.5	100 / 30 / 10 / 3	8 / 2.5	50 / 15 / 5 / 1.5
Frequency response kHz $\pm 5\%$	0-10 / 0-20 / 0-50 / 0-100	0-10 / 0-13	0-10 / 0-20 / 0-50 / 0-100	0-10 / 0-13	0-18 / 0-36 / 0-70 / 0-140
Shock limit g	10,000 / 18,000 / 60,000 / 120,000	80,000 / 240,000	10,000 / 18,000 / 60,000 / 120,000	60,000 / 180,000	10,000 / 18,000 / 60,000 / 80,000
Operating temperature $^{\circ}\text{C}$ ( $^{\circ}\text{F}$ )	-54 to +66 [-65 to +150]	-54 to +71 [-65 to +160]	-54 to +66 [-65 to +150]	-55 to +121 [-67 to +250]	-55 to +121 [-67 to +250]
Dimensions mm[in]	6.35x3.18x1.78 [.25x.125x.07]	6.35x3.81x2.16 [.25x.15x.085]	8.94x8.94x5.64 [.352x.352x.222]	9.65x7.11x5.59 [.38x.28x.22]	9.65x7.11x5.59 [.38x.28x.22]
Weight gram	0.06	.16	0.92	1.2	1.2
Excitation voltage V	10	5	10	5	5
Mounting method	Adhesive	SMT or adhesive	Adhesive	SMT or adhesive	SMT or adhesive



Please contact Applications Engineering at  
**+1 (866) ENDEVCO** to discuss your unique  
requirements, or visit **[www.endevco.com](http://www.endevco.com)**

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.

## Legacy piezoelectric high-g shock accelerometers



Model number	2225	2225M5A	2255B	7255A
Description	High g shock	Very high g shock	Isotron High g shock Far field	Isotron Near-field shock Built in mech filter Solder terminals
Sensitivity	0.75 pC/g	0.025 pC/g	0.1 / 1 mV/g	0.1 / 1 mV/g
Sinusoidal limit g	10,000	NA	NA	NA
Shock limit g	20,000	100,000	50,000	300,000 / 25,000
Frequency response $\pm 1$ dB Hz	1–10,000	NA	2–20,000 / 0.5–20,000	3–10,000 ( $\pm 3$ dB)
Operating temperature °C (°F)	-55 to +177 (-67 to +350)	-18 to +66 (0 to +150)	-55 to +125 (-67 to +257)	-18 to +66 (0 to +150)
Signal/ground isolation	No	No	Yes	Yes
Hermetic seal	No	No	No	Yes
Weight gram (without cable)	13	13	2	5.0
Dimensions mm [in]	14.2 hex x 13.7 [9/16 hex x 0.54]	14.2 hex x 13.7 [9/16 hex x 0.54]	7.92 hex x 10.2 [5/16 hex x 0.04]	9.52 hex x 15.5 [3/8 hex x 0.61]
Mounting method	Stud	Stud	Stud	Stud
Cable included	3090C-120	3060D-120	3024-120	3024-120



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