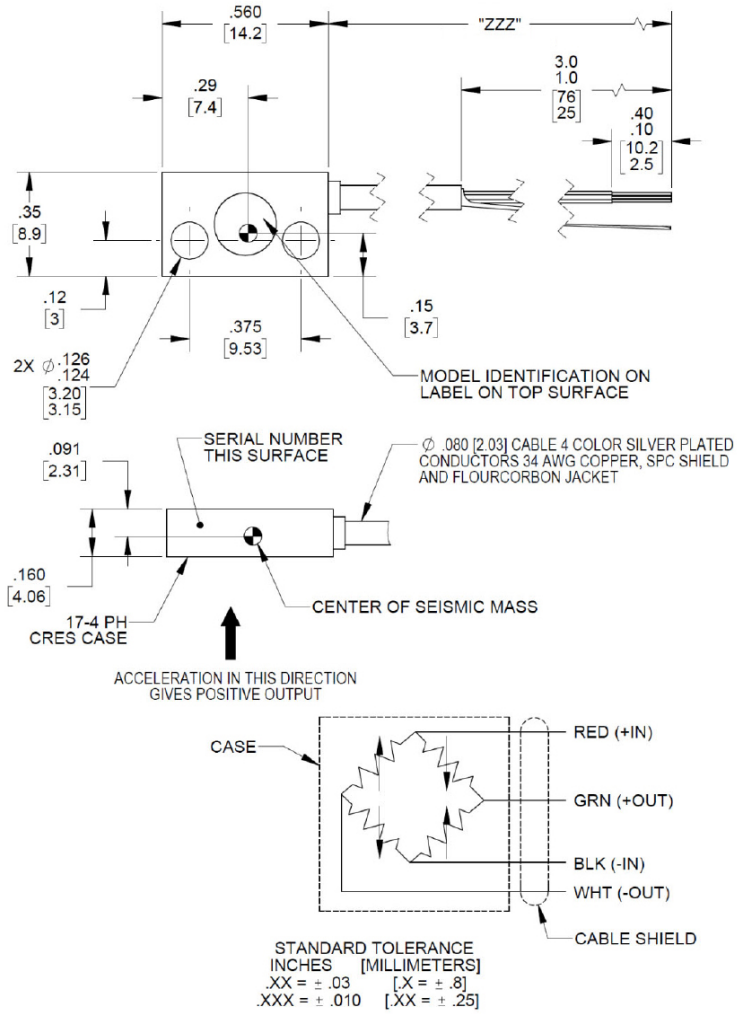
Endevco®

Piezoresistive accelerometer

Model 7280AM7



Key features

- 2k, 20k and 60k g ranges
- Damped for exceptional survivability
- DC response
- Low power consumption
- -55°C to +121°C operating temperature
- Minimal zero shift after shock

Description

Model 7280AM7 is a family of rugged damped piezoresistive accelerometers designed for high amplitude acceleration, vibration and shock applications. The model 7280AM7 features minimal mass loading, broad frequency response, and minimum zero shift during a shock event.

The model 7280AM7 uses a unique micro-machined, piezoresistive sensor with gas damping to attenuate resonant amplitudes, and mechanical stops to reduce breakage under overload conditions. The monolithic sensor incorporates the latest MEMS technology for ruggedness, stability and reliability. The accelerometer features a four-active arm bridge circuit. The M7 modification features a slightly larger package and low-noise cable with protective shrink tubing for superior performance in high-shock environments.

US patent 6,988,412 applies to this unit

60,000 range is subject to International Traffic in Arms Regulations (ITAR), and as such a license is required for shipments outside the U.S. and other restrictions may apply.

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Specifications

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.

Dynamic characteristics	**Units**	**-2K**	**-20K**	**-60K**
Range	g	± 2000	± 20,000	± 60,000
Sensitivity (at 5000g)				
Minimum/Typ/Max at 10Vdc	µV/g	150/300/600	8.0/16.0/24.0	2.5/5.0/7.5
Minimum/Typical/Maximum	µV/V/g	15/30/60	0.8/1.6/2.4	0.25/0.50/0.75
Frequency response				
± 1 dB	kHz	DC to 10 kHz	DC to 10 kHz	DC to 13 kHz
Natural frequency	kHz	25	100	130
Zero measurand output	mV/V	± 20	± 20	± 20
Transverse sensitivity	%	3	3	3
Thermal zero shift (typ)				
	%FSO/°C	0.06	0.06	0.06
	%FSO/°F	0.033	0.033	0.033
Thermal sensitivity shift (typ)				
	%/°C	- 0.2	- 0.2	- 0.2
	%/°F	- 0.11	- 0.11	- 0.11
Electrical characteristics				
Excitation	Vdc	2 to 12 (10 standard)		
Resistance				
input, minimum	Ω	4000 (4,500 for 2k)		
output, maximum	Ω	9000 (8,500 for 2k)		
Isolation resistance		100 MΩ min at 50 VDC between leads (shorted together) and cable shield or case.		
Physical characteristics				
Case material		17-4 CRES		
Weight (excluding cable)		4 grams		
Cable		(4) 34 AWG SPC, shield, FEP jacket cable weight 0.10 oz/ft (2.83 g/ft)		
Mounting		4-40 high strength screws (x2) Recommended mounting torque, 8 ± 2 lbf-in (0.9 N-m)		
Environmental				
Acceleration limits (any direction)				
Shock		4x the rated range (5x for 2k)		
Temperature				
Operating	°C (F°)	- 55 to + 121 (- 67 to + 250)		
Storage	°C (F°)	- 55 to + 121 (- 67 to + 250)		
Humidity		IP67		
Calibration data		Data for sensitivity, ZMO, input and output resistance are supplied on the calibration certificate. For the -2k only, a frequency sweep from 20 Hz to 10 kHz is provided. Unless specified by the customer at time of order, the default calibration will be performed at 10.0 Vdc excitation.		

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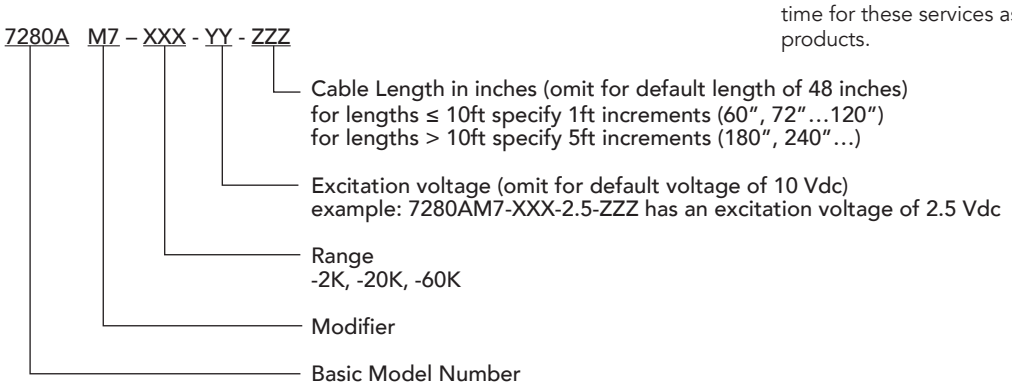
Accessories

Product	Description	7280A
EH853	[2] 4-40 high high strength screws	Included
EHW265	[2] No. 4 washers	Included
7980	Triaxial mounting block	Optional
136	DC amplifier, 3-channel benchtop	Optional
31167	Mounting plate (10-32 stud adaptor)	Optional

Notes

1. Model number definition:



Ordering information

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.