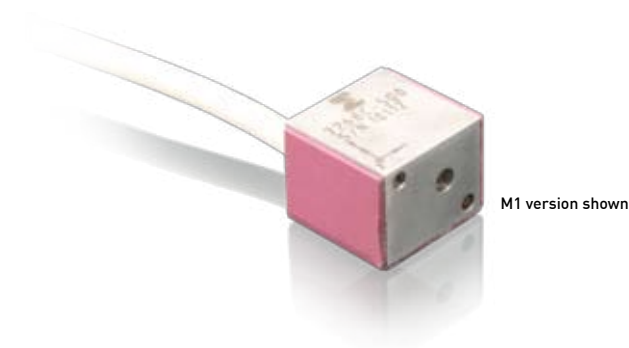


Model 7268C Piezoresistive triaxial accelerometer

Features

- Small size
- DC response
- 12 wire integral cable
- Mechanical overtravel stops
- Built-in bridge completion resistors

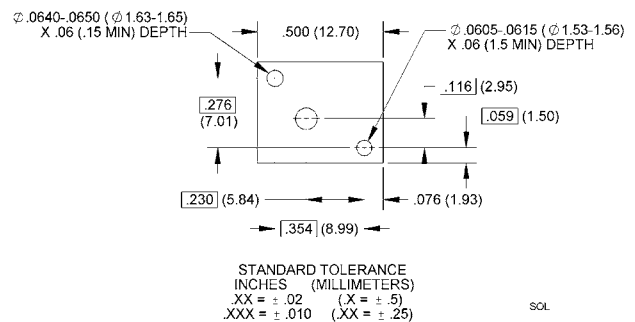
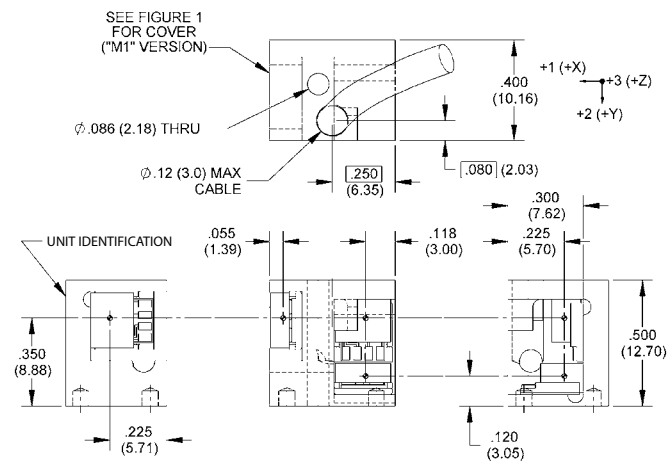


Description

The Endevco model 7268C is a miniature triaxial accelerometer designed for crash testing, flutter testing and other applications that require minimal mass loading and a broad frequency response. This accelerometer meets SAE J211 specifications for instrumentation for impact testing and SAE J2570 specification for anthropomorphic test device transducers. It is available in two acceleration ranges, 500 g and 2000 g full scale. The M1 option provides a cover to protect the accelerometer's interior components.

The 7268C uses three advanced micromachined sensors with integral mechanical stops for ruggedness and years of reliable service. Endevco's proprietary sensor design features both high output and a high resonance frequency. The 7268C has two active arms and two internal precision fixed resistors to provide for shunt calibration for each axis. A single integral cable carries the 12 wires to the sensor modules. Since the 7268C is undamped, negligible phase shift is present over the specified frequency range. With a frequency response extending down to DC (steady state) acceleration, this accelerometer is ideal for measuring short duration shocks.

U.S. Patents: 4,498,229 and 4,605,919



Model 7268C Piezoresistive triaxial accelerometer

Endevco

Specifications

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

	Units	7268C-500	7268C-2000
Range	g	±500	±2000
	km/s ²	±5	±20
Sensitivity (at 100 Hz & 10 g) [1]	mV/g (typ)	0.80	0.20
	mV/km/s ² (typ)	82	20
	mV/g (min)	0.50	0.15
	mV/km/s ² (min)	51	15
Frequency response [2]			
±5% max, ref. 100Hz (Z axis)	Hz		0 to 3000
X & Y axes	Hz		0 to 1500
Mounted resonance frequency	Hz	17 000	26 000
Damping ratio (max)	Critical		0.05
Non-linearity and hysteresis			
(Maximum % of reading, to full range)	%		±1
Zero repeatability (after full scale shock)	equiv. g		±0.2
Transverse sensitivity [3]	% Max		3
Zero measurand output	mV Max		±100
Thermal zero shift			
0 to 150°F, ref. 75°F [-18°C to +66°C, ref. 24°C]	mV		±10 typical (±25 max)
Thermal sensitivity shift (typical)			
0 to 150°F, ref. 75°F [-18°C to +66°C, ref. 24°C]	% / °F (% / °C)		-0.06 (-0.1)
Base strain sensitivity (max)			
(Per ISA 37.2 @ 250 µ strain)	equiv. g		0.1
Mechanical overtravel stops	g	1500 typ, 750 min	5000 typ, 2500 min
Electrical			
Excitation voltage [4]	Vdc		10.0, 12 max w/o damage
Input resistance [5][9]	Ω		450 to 960
Output resistance [5][9]	Ω		450 to 960
Insulation resistance [6] (cable shield to housing)	Ω		100M minimum
Physical			
Base material			Stainless steel
Cover material (M1 version)			LCP (red anodized 6061-T6 aluminum alloy)
Mounting			One M2 screw supplied for alignment of axes, mounting surface should have two alignment pins as shown in IM7268C
Weight			8 gm (cable weighs 14 gm/meter)
Environmental			
Acceleration limits (any direction)			
Static	g	5000	10 000
Sinusoidal vibration	g	1000 below 3 kHz	1000 below 5 kHz
Shock (half-sine shock pulse duration)	g	5000 (300 µ sec) (min)	10 000 (200 µ sec) (min)
Temperature			
Operating		0°F to 150°F [-18°C to +66°C]	
Storage		-65°F to +250°F [-54°C to +121°C]	
Humidity		Unit is epoxy sealed	
Altitude		Unaffected	
Calibration data supplied [7]			
Sensitivity (at 100 Hz and 10 g pk)	mV/g		
Frequency response		20 Hz to 3000 Hz, % deviation reference 100 Hz, dB plot continued from 3000 to 30 000 Hz	
Zero measurand output	mV		
Maximum transverse sensitivity	% of sensitivity		

Model 7268C Piezoresistive triaxial accelerometer

Endevco

Specifications

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

Accessories

EH750 Screw, pan head, M2 x 16mm
EHW200 Flat washer, #2 CRES

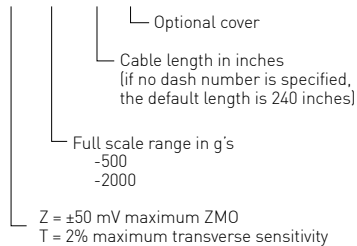
Optional accessories

7268C-XXXM1 Protective cover

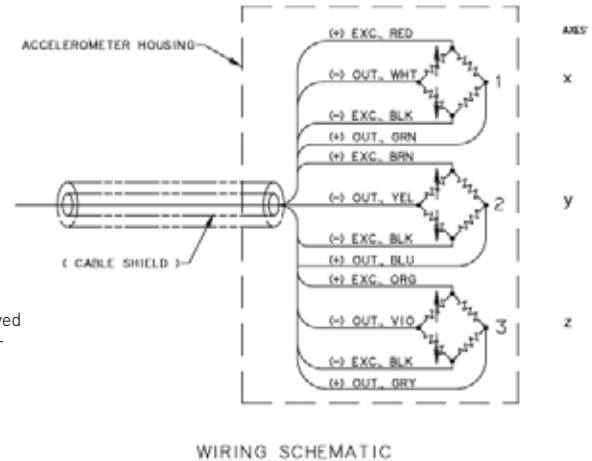
Notes:

- Positive acceleration along 1, 2 and 3 axes (x,y,z) (in the directions engraved on the cover) will cause positive change in output voltage for each sensor
- A linear frequency response plot is supplied from 20 Hz to the specified $\pm 5\%$ maximum deviation frequency.
- Measurements performed at Endevco are made with reference to directions carefully aligned with the substrate using alignment pins specified in the instruction manual
- Lower excitation voltages may be used but should be specified at time of order to obtain best calibration
- Measured at approximately 1 ma. Bridge resistance increases with applied voltage due to heat dissipation in strain gage elements.
- Insulation resistance measured at 50 Vdc.
- 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.
- Model number identification:

7268CXX-XXXX-XXX M1



- Busing the (3) black wires is recommended before making resistance or voltage measurements. An alternative is to use a continuity check to determine which black lead goes to which axis.



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.

© ENDEVCO CORPORATION. ALL RIGHTS RESERVED 30700 RANCHO VIEJO ROAD, SAN JUAN CAPISTRANO, CA92675 USA
(800) 982-6732 • (949) 493-8181 fax (949) 661-7231 • www.endevco.com • Email: applications@endevco.com

021109

MEGGITT
smart engineering for
extreme environments