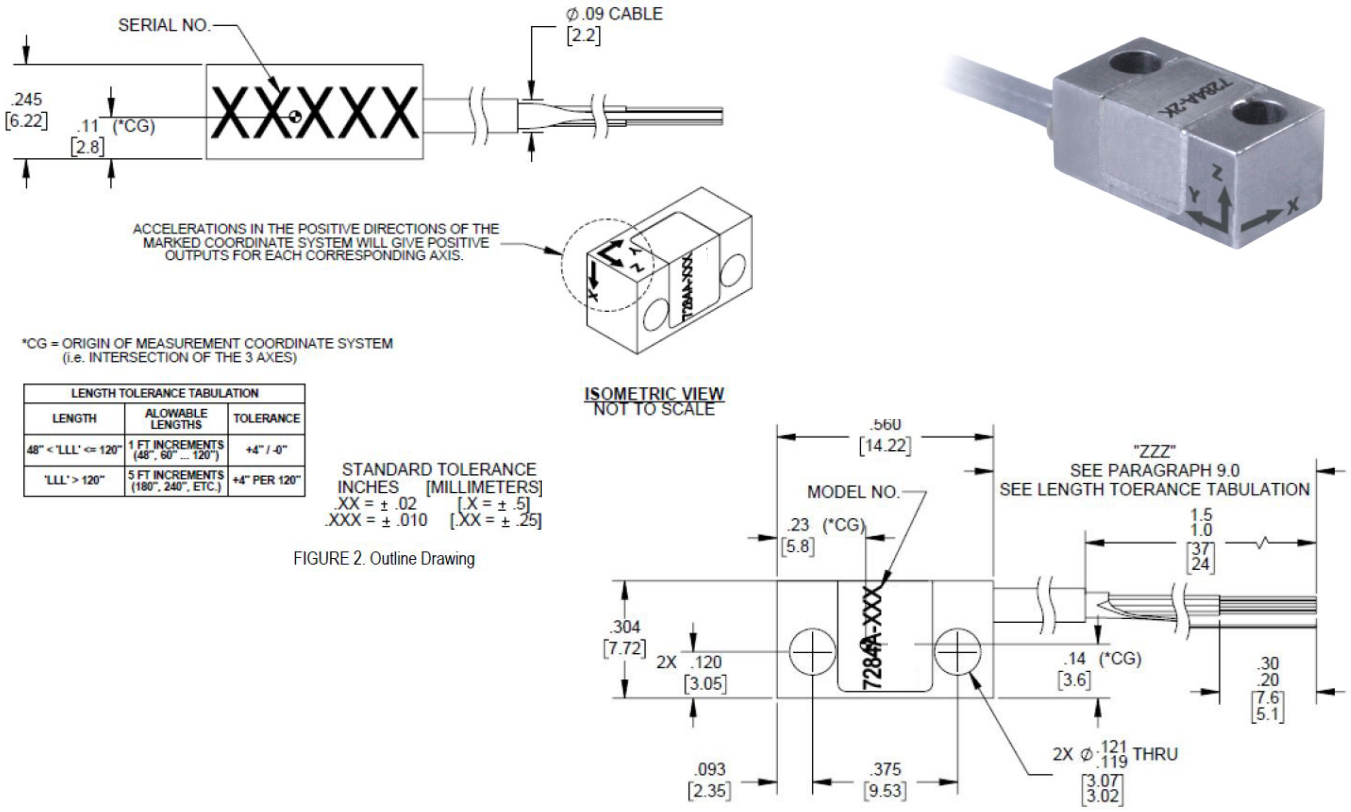
ENDEVCO
AN AMPHENOL COMPANY

Triaxial piezoresistive accelerometer

Model 7284A



LENGTH TOLERANCE TABULATION		
LENGTH	ALOWABLE LENGTHS	TOLERANCE
48" < 'LLL' <= 120"	1 FT INCREMENTS (48", 60" ... 120")	+4" / -0"
'LLL' > 120"	5 FT INCREMENTS (180", 240", ETC.)	+4" PER 120"

STANDARD TOLERANCE
INCHES [MILLIMETERS]
.XX = ± .02 [.X = ± .5]
.XXX = ± .010 [.XX = ± .25]

FIGURE 2. Outline Drawing

Key features

- 2K, 20K and 60K g full scale ranges
- Lightly damped for exceptional survivability
- DC response
- Low power consumption
- Improved cable to minimize shock induced noise

Description

The Endevco® Model 7284A series is a family of rugged, lightly damped, piezoresistive triaxial accelerometers designed for high-acceleration shock measurements in three mutually perpendicular axes. This family uses three sensors that are packaged in a mutually orthogonal arrangement in a bolt-mount package which shares the same footprint and bolt pattern as Endevco's legacy Model 7270A and 7280A product families. The design boasts a robust low noise eight conductor cable that can repeatedly withstand the high-acceleration shock environment.

The Model 7284A utilizes the same sensing element as the Model 72 & 7280A. Each axis uses a unique micro-machined, piezoresistive sensor with light gas damping to attenuate resonant amplitudes, and mechanical stops to reduce breakage under over load conditions. All three axes have the same range. Selectable ranges per axis are available by special request. Calibration at 5V is standard for this model.

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All specifications are referenced at +75˚F (+24˚C) and 5 Vdc, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

Specifications

Dynamic characteristics	Units	2K	20K	60K
Linear range	g	2,000	20,000	60,000
Sensitivity min/typ	µV/g	75/150	4/8	1.25/2.5
Frequency Response ±1dB (typ)	kHz	0-10	0-10	0-20
Natural frequency (typ)	kHz	30	100	130
Shock limit	g	10,000	60,000	180,000
Zero measureand output (max)	mV/V	±20	±20	±20
Transverse sensitivity	%	5	5	5
Thermal zero shift	% FSO/°C	0.06	0.06	0.06
0°F to +150°F (-18°C to +66°C)				
Thermal sensitivity shift	%/°C	-0.2	-0.2	0.2
Electrical characteristics				
Excitation	Vdc	5 to 12 (5 standard)		
Resistance	Vdc			
Input		2,200 ± 700		
Output	Ω	6,500 ±2,000		
Isolation resistance	Ω	100 MΩ min at 50 VDC between cable leads and cable shield or case		
Physical characteristics				
Case, material		17-4 PH CRES		
Weight (excluding cable)		3.6 grams (0.13 ounces)		
Cable weight		10.2 grams/meter [0.11 ounces/foot]		
Cable		(8) 34 AWG SPC alloy conductors, with SPC braided shield and FEP jacket		
Mounting		4-40 high strength screws (x2)		
Recommended mounting torque		8 ± 2 lbf-in (0.9 N-m)		
Environmental characteristics				
Temperature				
Operating	°C (F°)	- 55 to + 121 (- 67 to + 250)		
Storage	°C (F°)	- 55 to + 121 (- 67 to + 250)		
Calibration data				
		Data for sensitivity, ZMO, input and output resistance are supplied on the calibration certificate. Sensitivity calibration is performed at 5,000g for the -20K and -60K ranges and 1,000g for the -2K range. Prior to final calibration, each accelerometer is given a shock in each of the three axes equal to its rated range. Unless specified by the customer at time of order, the default calibration will be performed at 5 Vdc excitation.		

Accessories		
Options	**Description**	**7284A**
EH815	[2] 4-40 high strength screws	Included
EHW265	[2] No. 4 washers	Included

Options	
Options	**Description**
M2	With LY to connect with PCB 482C27 and 483C28
-Z	Noise monitor with fixed resistors

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 definition:

7284A - XXX - E - ZZZ

- ZZZ: Cable length in inches (i.e. 7284A-60K-E-120 has a length of 120 inches)
  If no dash number is specified the default is 48 inches
  for lengths ≤ 10 ft specify in 1 foot increments (60", 72", 84" … 120")
  for lengths > 10 ft specify in 5 foot increments (180", 240", 300", etc.)
- E: Excitation voltage option (omit dash number for default voltage of 5VDC)
- XXX: Range
  -2K = 2,000 g
  -20K = 2,0000 g
  -60K = 6,0000 g
- 7284A: Basic Model Number

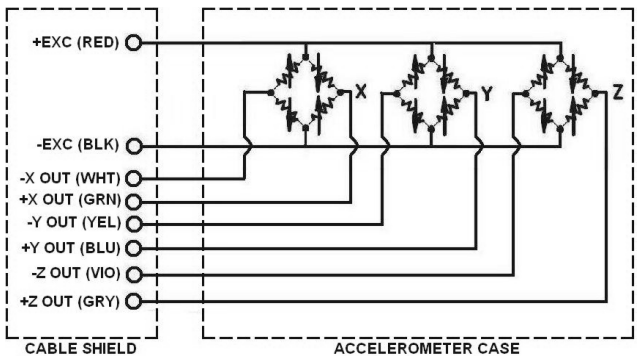

FIGURE 1. Schematic

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