

Model 7286 Piezoresistive accelerometer

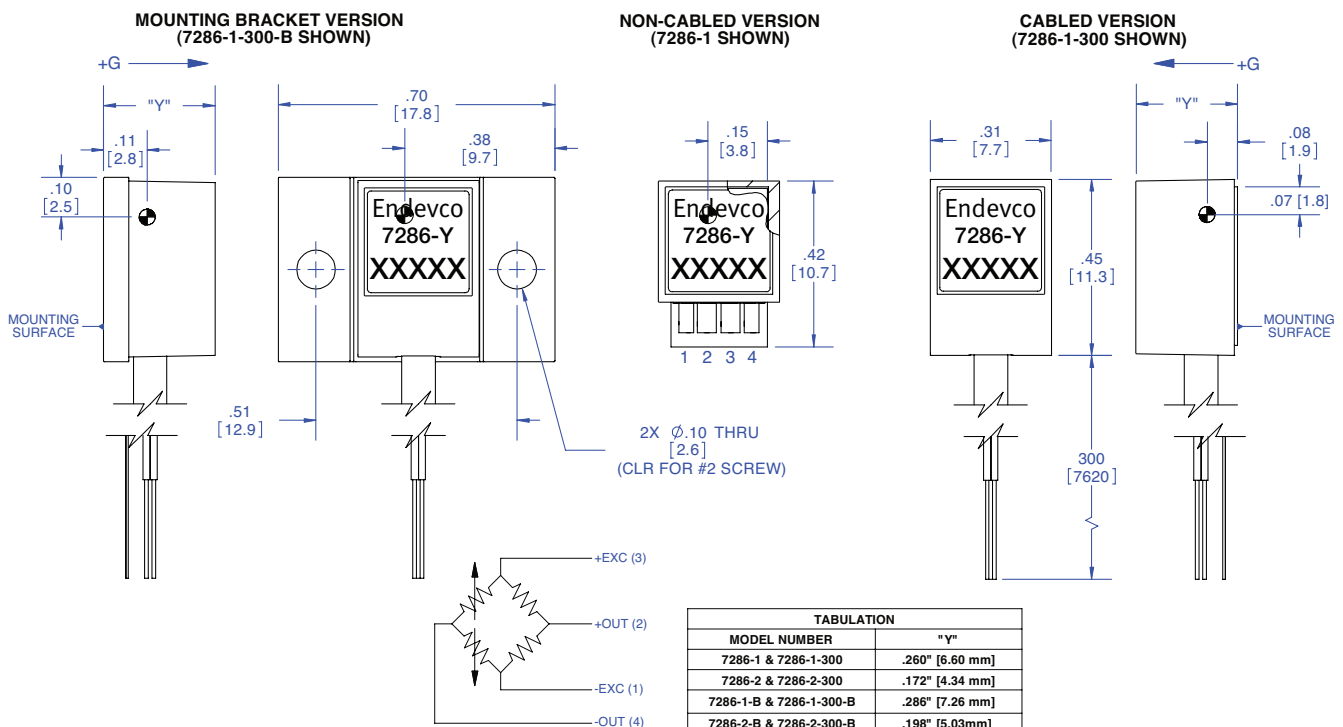
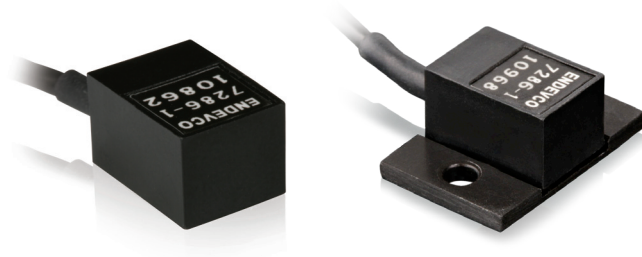
Features

- Small size, rugged
- Crush zone testing
- 2000 g full scale range
- DC response - long duration transients
- 2 Vdc excitation; 10 mV fullscale (max)
- Offered with a cable or solder pads
- Adhesive or bolt mount options

Description

The Endevco® model 7286 is a very low mass piezoresistive accelerometer weighing less than 1 gram. This accelerometer is designed for crash testing in vehicle crush zone applications, where reuse is not expected. It is very economical to acquire and own, reducing the overall cost of instrumentation. This unit has been designed and assembled using decades of experience that Endevco has acquired building sensors for the crash industry. As a result, the reliability of the 7286 ensures that critical data is recorded when needed at very low cost.

The model 7286 utilizes a micro-machined sensor which includes integral mechanical stops. This monolithic sensor offers ruggedness, stability and reliability. The model 7286 has minimum damping, thereby producing no phase shift over the useful frequency range. With a frequency response extending down to dc (steady state acceleration) this accelerometer is ideal for measuring long duration transient shocks. The performance specification is the ideal match for crush zone installations. The input and output of the 7286 are specifically tailored to systems using 2 Vdc excitation. The '-B' option allows the 7286 to be bolt mounted with use of an integral mounting bracket.



Model 7286

Piezoresistive accelerometer



Specifications

	Units	7286
Range	g	±2000
Sensitivity (at 100 Hz & 10g)	mV/g Typ (Min)	0.003 (0.0015)
Frequency response (±5% max, ref. 100 Hz)	Hz	0 to 4000
Mounted resonance frequency	Hz Typ	>20 000
Damping ratio (Typ)		0.005
Non-linearity (% of reading, to full range)	% Max	±1
Transverse sensitivity	% Typ	3%
Zero measurand output	mV	±5
Thermal zero shift from 10 °C to 30 °C	mV Typ	±2
Thermal sensitivity shift (Typ) -18 to 66 °C (REF 24 °C) 0 to 150 °F (REF 75 °F)	%/ °F Typ %/ °C Typ	+0.011 +0.02
Mechanical overtravel stops	g's	5000 g typical
Electrical		
Excitation	2.0 Vdc	
Input resistance (1)	4000 ohms min	
Output resistance (1)	1500 ohms max	
Insulation resistance	100 megohms minimum at 50 Vdc; leads to case, leads to shield, shield to case	
Physical		
Case, material	Plastic	
Bracket, material (if applicable)	Anodized aluminum alloy	
Electrical, connections	Integral cable, four conductor No. 32 AWG polyethylene insulated leads, braided shield, PVC jacket	
Mounting 7286-Y-ZZZ 7286-Y-ZZZ-B [5]	Adhesive mount Screw mount, 2 X #2 self-tapping screws are supplied	
Weight	<1 gram (cable weighs 6 grams/meter) (bracket weighs 0.7 grams)	
Environmental		
Acceleration limits (in any direction)		
Static	10 000 g	
Shock (half-sine pulse duration)	10 000 g, 200 µsec or longer	
Temperature		
Operating	10 °C to 30 °C	
Storage	-18 °C to 66 °C	
Calibration data supplied		
Sensitivity (at 100 Hz and 10 g pk, 2 Vdc)	mV/g	
Range	g	
Zero measurand output	mV @ 2 Vdc	

Notes:

1. Measured at approximately 1 mA.
2. The safety sleeve should be kept on unit when not in use to prevent possible handling damage.
3. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at +1 (866) 363-3826 for recommended intervals, pricing and turn around time for these services as well as for quotations on our standard products.
4. Specify the model number as: 7286-Y-300-B

mounting bracket option (omit if not required)

cable length in inches (omit for solder pads)

case height (see sheet 1)
5. Recommended pilot drill size is #49; based on industry standard data.
Recommended mounting torque is 5 lbf-in (0.57 N-m).



Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of con-stant 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 www.endevco.com Tel: +1 (866) 363-3826