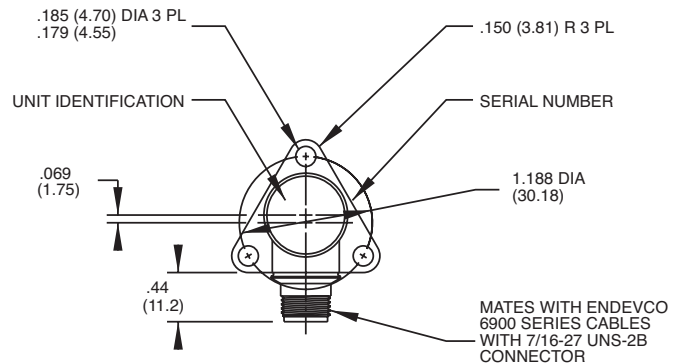
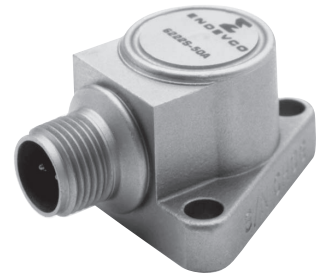
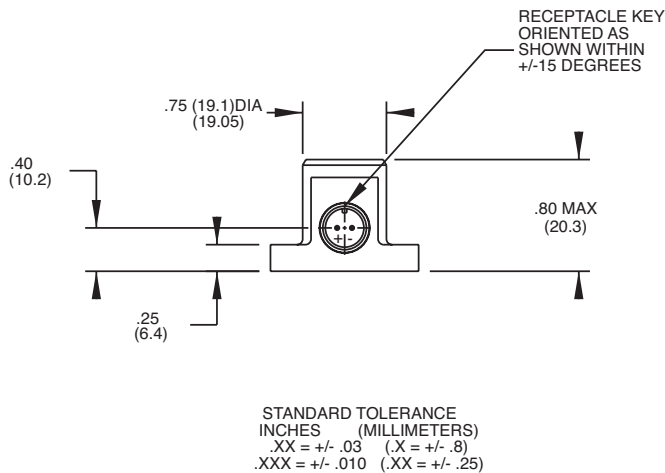


# Piezoelectric accelerometer

## 6222S



### Key features

- High-temperature operation (+260°C)
- Balanced differential output
- Ground-isolated
- Requires no external power
- Gas-turbine testing

### Description

The Endevco® model 6222S series of piezoelectric accelerometers is designed for vibration measurement of gas-turbine engines used in aircraft and industrial applications. The unit features high sensitivity in a low profile package with a ruggedized connector and standard ARINC 3-point mounting. The 6222S is designed for continuous operation to +500°F (260°C) with long Mean Time Between Failure (MTBF). The accelerometer is a self-generating device that requires no external power for operation.

The 6222S features Endevco's Isoshear® construction, which results in an accelerometer with low transient-temperature and base-strain outputs, high mounted resonance, and high operating temperature. The 6222S provides a balanced differential output which is isolated from case ground. The 6222S is available in standard ranges of 20, 50 and 100 pC/g, and is designed to be used with Endevco's 6917 series of shielded cable assemblies

Endevco signal conditioner models 6634C and 2777A are recommended for use with this differential output, high-impedance accelerometer.

## Piezoelectric accelerometer | Model 6222S

The following performance specifications are typical values and taken at +75°F (+24°C), referenced at 100 Hz and conform to ISA-RP-37.2 (1-64) unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

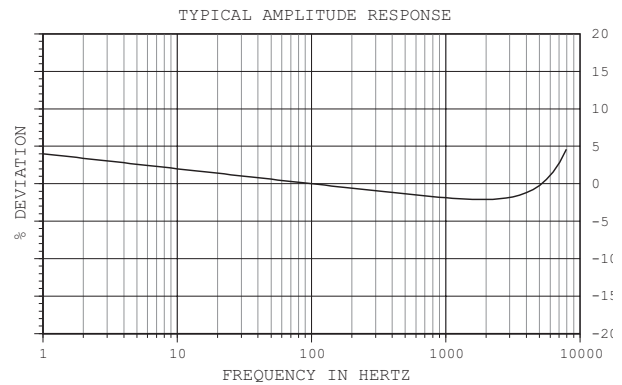
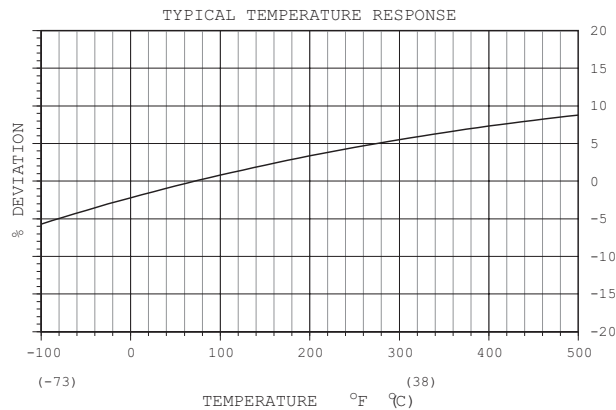
<b>Specifications</b>				
<b>Dynamic characteristics</b>		<b>-20A</b>	<b>-50A</b>	<b>-100A</b>
Charge sensitivity ±5%	pC/g	20	50	100
Frequency response		See typical amplitude response		
Resonance frequency [1]	kHz	45	28	28
Amplitude response [2]				
±5%	Hz	1 to 9,000	1 to 6,000	1 to 6,000
±1dB	Hz	1 to 12,000	1 to 9,000	1 to 9,000
Temperature response		See typical curve		
Transverse sensitivity, max	%		3	
Amplitude linearity	%	1/625 g	1/250 g	1/200 g
Up to vibration limit				
<b>Electrical characteristics</b>				
Resistance (Between pins) [4]	GΩ		≥10	
At +500°F (+260°C)	MΩ		≥50	
Isolation (Pin to case)	GΩ		≥10	
At +500°F (+260°C)	MΩ		≥50	
Capacitance	pF	2,800	2,800	12,200
Either signal pin to case	pF		≤30	
Unbalance between pins	pF		≤2	
Grounding		Signal return isolated from case		
<b>Environmental characteristics</b>				
Temperature range		range -65 to +500°F (-54°C to +260°C)		
Humidity		Hermetically sealed		
Sinusoidal vibration limit	g pk	2,000	1,000	500
Shock limit	g pk	4,000	2,000	1,000
Base strain sensitivity	equiv g pk /μ strain	0.1	0.4	0.2
Thermal transient sensitivity	equiv. g pk /°F (°C)	0.020 (0.036)	0.010 (0.018)	0.005 (0.009)
<b>Physical characteristics</b>				
Dimensions		See outline drawing		
Weight	gm (oz)	91 (3.2)		
Case material		Stainless steel		
Connector [3]		Two pin 7/16-27 UNS receptacle		
Mounting torque				
EH621 cap screws	lbf-in (Nm)		14 (1.6)	
10-32 stud	lbf-in (Nm)		18 (2)	
<b>Calibration data</b>				
Charge sensitivity	pc/g			
Charge frequency response				
6222S-20A	%		50 to 9000 Hz	
6222S-50A/-100A	dB		9000 Hz through resonance	
	%		50 to 6000 Hz	
	dB		6000 Hz through resonance	
Maximum transverse sensitivity	%			
Capacitance	pF			

# Piezoelectric accelerometer | Model 6222S

Accessories		
Product	Description	6222S
EH621	8-32 UNC x 0.5 inch socket head bolt, 3x	Included
6917B-XXX	Low noise, twisted pair cable assembly, ETFE Jacket, 7/16-27 (2 pin socket) to pigtail	Optional
6917D-XXX	Low noise, twisted pair cable assembly, ETFE Jacket, 7/16-27 (2 pin socket) to pigtail, Viton Boot	Optional
6634C-XXX	1-channel, benchtop, PE/Diff PE/IEPE Vibration Amplifier,	Optional
2777A-XX-YY	Diff. Remote Charge Convertor	Optional

## Notes

1. Cover resonance at approximately 23 kHz, case resonance at approximately 35 kHz.
2. Low-end amplitude response is a function of the associated electronics.
3. Prolonged exposure at maximum temperature may decrease the return to room temperature resistance to as low as 500 M $\Omega$ , but will not degrade the overall performance of the unit. All units are processed to initially meet 10 G $\Omega$  at room temperature.
4. 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.



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