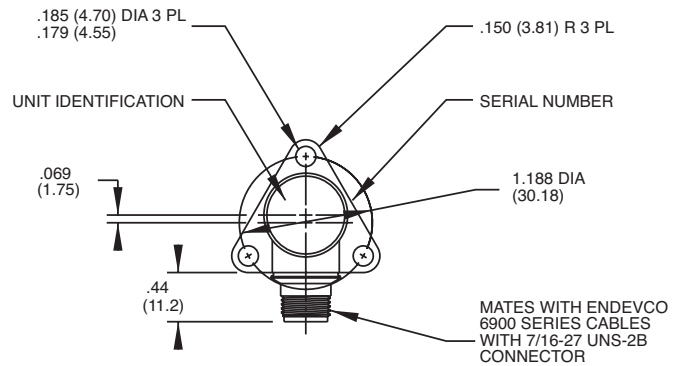
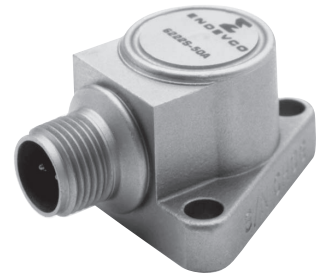
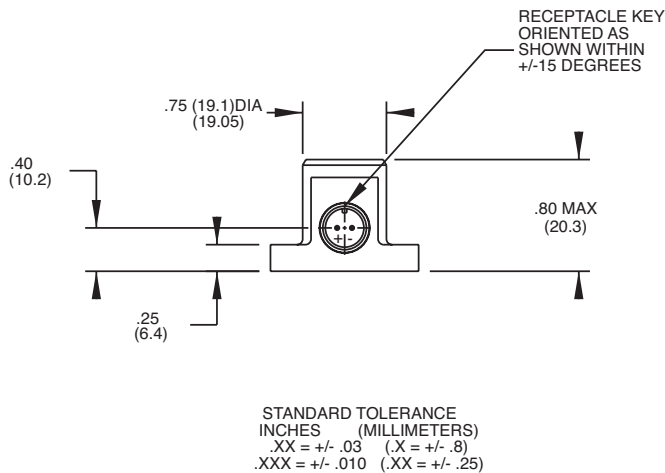


# Piezoelectric accelerometer

## 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.

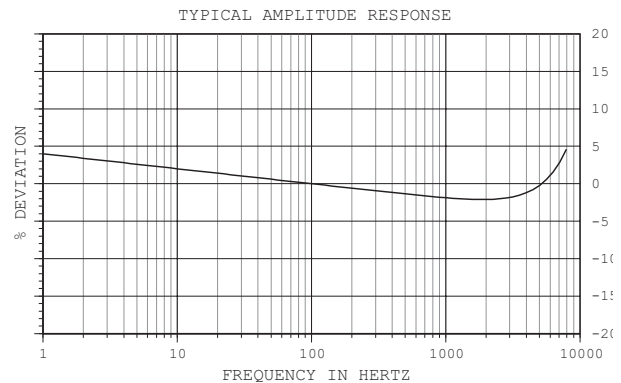
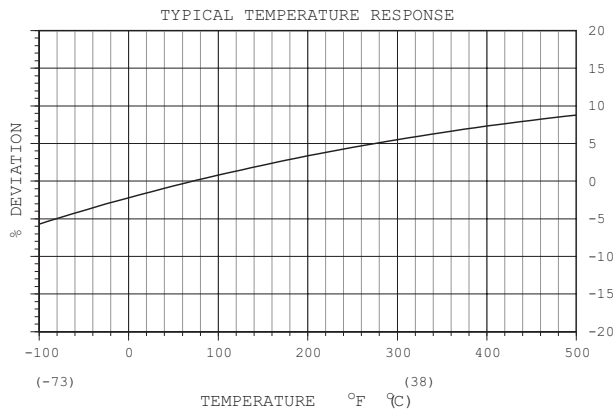
<b>Specifications</b>		<b>-20A</b>	<b>-50A</b>	<b>-100A</b>
<b>Dynamic characteristics</b>				
Charge sensitivity ±5%	pC/g	20	50	100
Frequency response		See typical amplitude response		
Resonance frequency [1]	kHz	45	28	28
Amplitude response [2]				
±5%	Hz	1 to 9,000	1 to 6,000	1 to 6,000
±1dB	Hz	1 to 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	
	dB		9000 Hz through resonance	
6222S-50A/-100A	%		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, Teflon Jacket, 7/16-27 (2 pin socket) to pigtail	Optional
6917D-XXX	Low noise, twisted pair cable assembly, Teflon 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 MΩ , but will not degrade the overall performance of the unit. All units are processed to initially meet 10 GΩ 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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