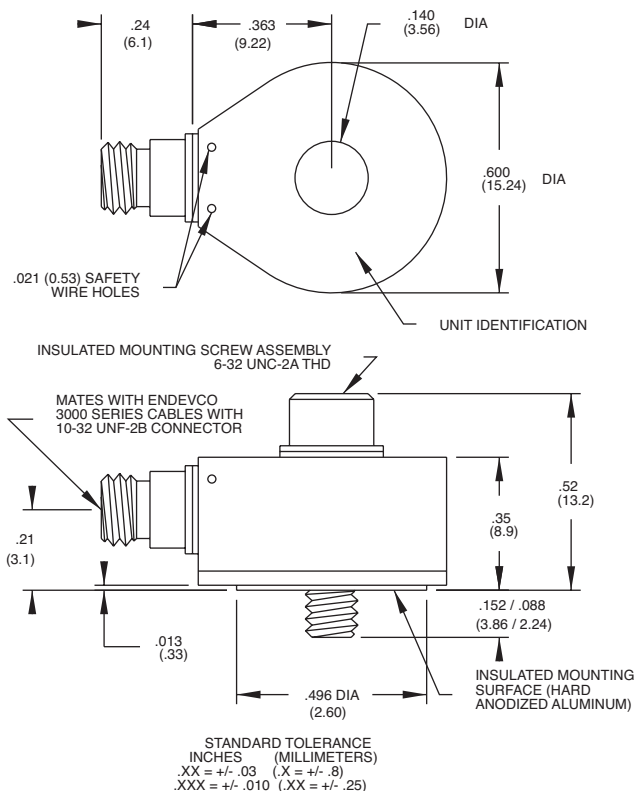
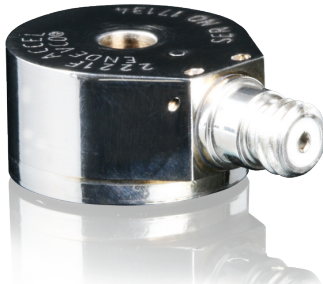




## Model 2221F Piezoelectric accelerometer

### Features

- **NEW!** 2221F-R available as replacement sensor
- High temperature operation (+260°C)
- Hermetically sealed
- 360° cable orientation
- Lightweight
- Aerospace and flight testing

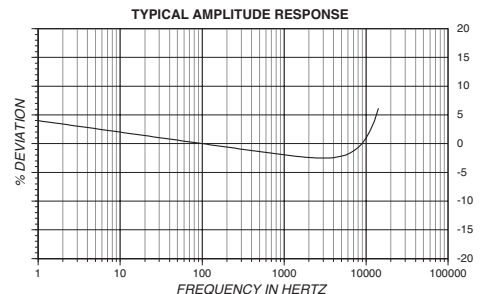
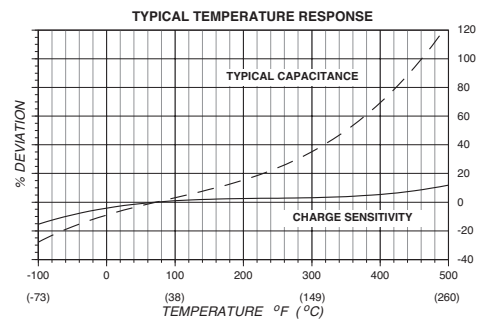


### Description

The Endevco® model 2221F piezoelectric accelerometer is designed specifically for high temperature vibration measurement on small structures and objects. The unit is hermetically sealed and is ideal for use in extreme environmental conditions. Its light weight (11 gm) effectively minimizes mass loading. The accelerometer is a self-generating device that requires no external power source for operation.

The model 2221F features Endevco's Piezite® type P-8 crystal element operating in annular shear mode. This unit exhibits excellent output sensitivity stability over time. Signal ground is connected to the outer case of the unit and, when used with an isolated mounting screw, the accelerometer is electrically isolated from ground. A low-noise coaxial cable is supplied for error-free operation. The transducer has a centrally located thru bolt, allowing for 360° cable orientation. The unit may also be adhesively mounted if the application permits.

Endevco signal conditioner models 133, 2771C, 2775B or OASIS 2000 computer-controlled system are recommended for use with this high impedance accelerometer.



# Model 2221F Piezoelectric accelerometer

**MEGGITT**  
smart engineering for  
extreme environments

## Specifications

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C), 4 mA and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied

### Dynamic characteristics

	Units	
<b>Charge sensitivity</b>		
Typical	pC/g	10.0
Minimum	pC/g	7.5
<b>Frequency response</b>		See typical amplitude response
<b>Resonance frequency</b>	kHz	45
<b>Amplitude response [1]</b>		
±5%	Hz	1 to 10 000
±1 dB	Hz	.1 to 12 000
<b>Temperature response</b>		See typical curve
<b>Transverse sensitivity</b>	%	≤ 3
<b>Amplitude linearity</b>	%	1
Per 400g, 0 to 2000 g		

### Electrical characteristics

<b>Output polarity</b>		Acceleration directed into the base of the unit produces positive output
<b>Resistance</b>	GΩ	≥ 10
<b>Resistance at +350°F (+177°C)</b>	GΩ	≥ 1
<b>Isolation</b>	MΩ	10
<b>Capacitance</b>	pF	900
<b>Grounding</b>		Signal return is connected to case. Case is isolated from mounting surface by insulated screw assembly.

### Environmental characteristics

<b>Temperature range</b>		-67°F to +500°F (-55°C to +260°C)
<b>Humidity</b>		Hermetically sealed
<b>Sinusoidal vibration limit</b>	g pk	1000
<b>Shock limit</b>	g pk	3000
<b>Base strain sensitivity</b>	equiv. g pk/μ strain	0.02
<b>Thermal transient sensitivity</b>	equiv. g pk/°F [1/°C]	0.004 [0.007]

### Physical characteristics

<b>Dimensions</b>		See outline drawing
<b>Weight</b>	gm (oz)	11 [0.39]
<b>Case material</b>		Stainless steel
<b>Connector</b>		Coaxial, 10-32 male thread
<b>Mounting torque</b>	lbf-in (Nm)	8 [1]

### Calibration

<b>Supplied:</b>		
<b>Frequency response</b>	%	20 Hz to 10 000 Hz
	dB	10 kHz to 50 kHz
<b>Charge sensitivity</b>	pC/g	
<b>Maximum transverse sensitivity</b>	%	
<b>Capacitance</b>	pF	

### Accessories

Product	Description	2221F	2221F-R
3090C-120	Cable assembly, 10 ft	Included	Optional
10207	Insulated mounting screw	Included	Included
EHM49	Allen wrench, 7/64 inch	Included	Optional
2987	Adhesive mounting adapter	Included	Optional
2771C	In-line charge converter	Optional	Optional
133	Signal conditioner	Optional	Optional
2775B	Signal conditioner	Optional	Optional
4990A-1	OASIS 2000 computer-controlled system	Optional	Optional

### Notes:

1. Low-end response of the transducer is a function of its associated electronics.
2. Short duration shock pulses, such as those generated by metal-to-metal impacts, may excite transducer resonance and cause linearity errors. Send for TP290 for more details.
3. Maintain high levels of precision and accuracy using Meggitt's factory calibration services. Call Meggitt'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.



Continued product improvement necessitates that Meggitt reserve the right to modify these specifications without notice. Meggitt 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 Meggitt synonymous with reliability.

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