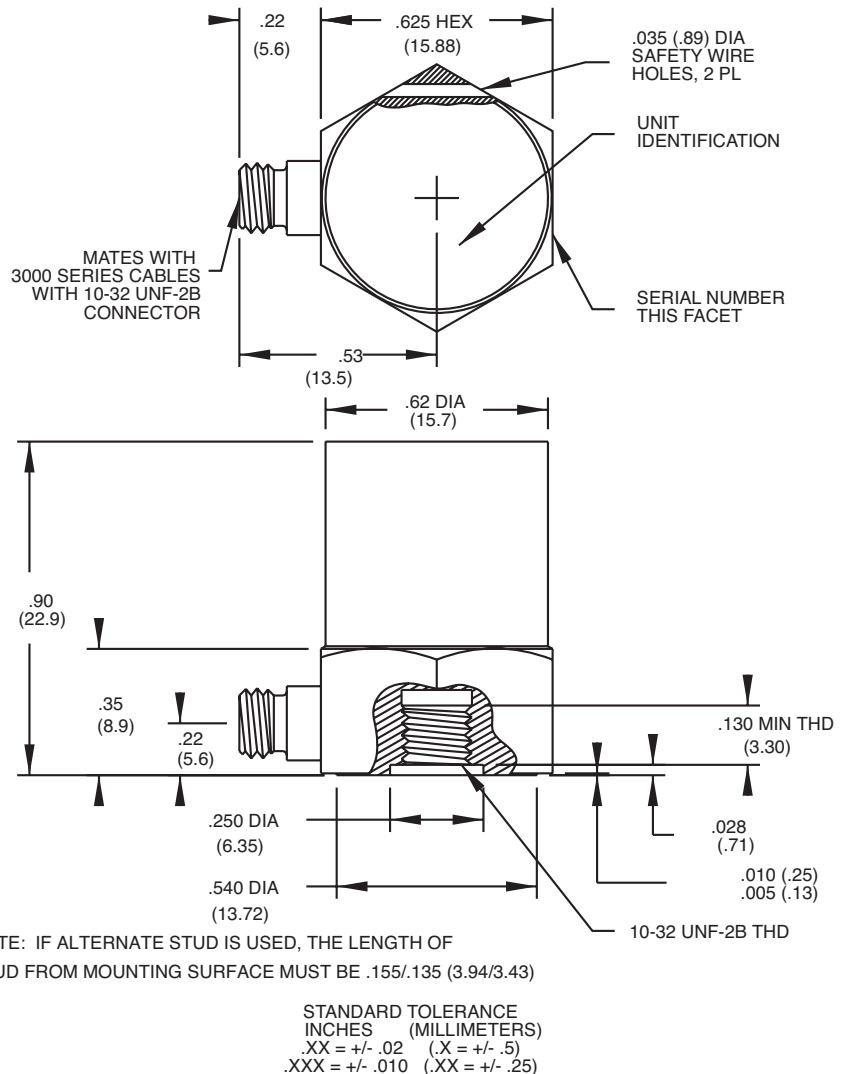
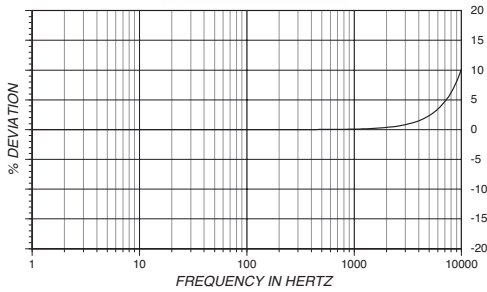


Piezoelectric accelerometer

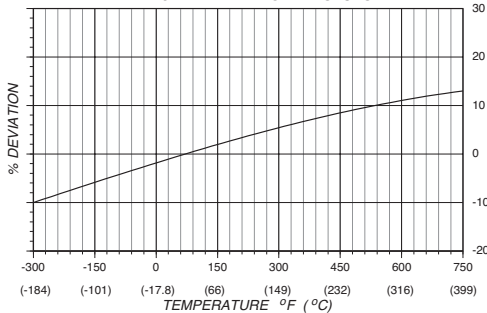
Model 2273A



TYPICAL AMPLITUDE RESPONSE



TYPICAL TEMPERATURE RESPONSE



Key features

- Radiation hardened
- Side mounted receptacle
- Case grounded
- Operates at high temperatures (+399°C)
- Vibration measurements in nuclear, and high temperature environments

Description

The Meggitt model 2273A is a precision piezoelectric accelerometer for use in industrial or laboratory applications involving high temperature or nuclear environments. It is capable of operation in the presence of Gamma and Neutron radiation. The 2273A incorporates a side mounted 10-32 receptacle and hex base construction with a 10-32 or M5 center stud mount. The accelerometer is a self-generating device that requires no external power source for operation.

The 2273A features Meggitt's crystal to provide flat temperature response over the range of -300°F to +750°F (-184°C to 399°C). In addition, the construction provides mechanical isolation of bending motion from the mounting base. These features, together with an all-welded hermetically sealed enclosure, assure accurate and reliable data at high temperatures.

Signal conditioner models 133, 2721B, 2775A, 6634C, 68203 or equivalent are recommended for use with this accelerometer. The 2771A remote charge converter is also compatible for applications using this high impedance accelerometer.

Piezoelectric accelerometer

Model 2273A

Specifications

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

DYNAMIC CHARACTERISTICS		Units
CHARGE SENSITIVITY		
TYPICAL	pC/g	3.0
MINIMUM	pC/g	2.5
FREQUENCY RESPONSE		
RESONANCE FREQUENCY	kHz	30
AMPLITUDE RESPONSE [1]		
±2%	Hz	20 to 2000
±5%	Hz	1 to 6000
±1dB	Hz	1 to 10 000
TEMPERATURE RESPONSE		
See Typical Curve		
TRANSVERSE SENSITIVITY	%	≤ 3 (≤ 1 available on special order)
AMPLITUDE LINEARITY [2]	%	1

Per 500 g, 0 to 10 000 g

ELECTRICAL CHARACTERISTICS

OUTPUT POLARITY	Acceleration directed into base of unit produces positive output	
RESISTANCE Room temperature (typical)	GΩ	1
At +750°F (+399°C)	MΩ	≥ 10
CAPACITANCE	pF	110
GROUNDING	Signal return connected to case	

ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE	-300°F to +750°F (-184°C to +399°C)	
HUMIDITY	Hermetically sealed	
SINUSOIDAL VIBRATION LIMIT	g pk	1000
SHOCK LIMIT	g pk	10 000
BASE STRAIN SENSITIVITY	equiv. g pk/μ strain	0.004
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.0003
RADIATION		
INTEGRATED GAMMA FLUX	rad	Up to 6.2 x 10 ¹⁰
INTEGRATED NEUTRON FLUX	N/cm ²	Up to 3.7 x 10 ¹⁸

PHYSICAL CHARACTERISTICS

DIMENSIONS		
WEIGHT	gm (oz)	25 (0.88)
CASE MATERIAL	Stainless Steel	
CONNECTOR	10-32 UNF-2A Thd mates with Endevco 3075M6 Cable Assembly or equivalent	
MOUNTING TORQUE	lbf-in (Nm)	18 (2)

CALIBRATION

SUPPLIED:		
FREQUENCY RESPONSE	%	20 to 6000 Hz
	dB	6000 Hz thru resonance
MAXIMUM TRANSVERSE SENSITIVITY	%	
MOUNTED RESONANCE FREQUENCY	kHz	
CAPACITANCE	pF	

Piezoelectric accelerometer

Model 2273A

Accessories

Product	Description	2273A
Meggitt 3075M6-120 (10 ft)	Cable assembly, high temp	Included
Meggitt 50001	Mounting stud, 10-32 to 10-32 HEX ID	Included
Meggitt EHM464	HEX keywrench	Included
3090C-120 (10 ft)	Cable assembly, for under +500°F	Optional
Meggitt 50003	Mounting stud, 10-32 to m5	Optional
2985	Insulated mounting stud	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.