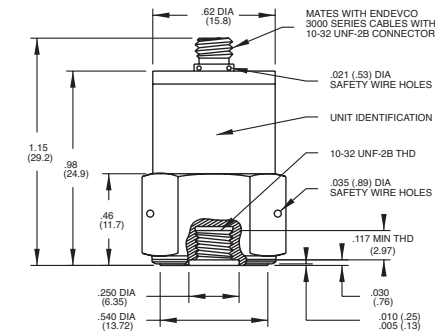


Model 2271A / AM20

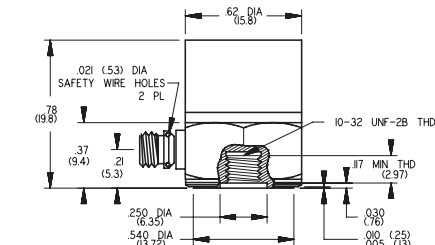
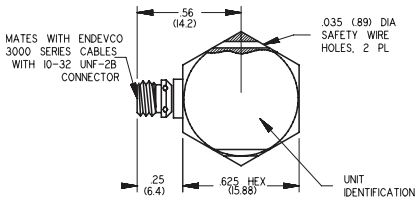


NOTE: IF ALTERNATE STUD IS USED, THE LENGTH OF STUD FROM MOUNTING SURFACE MUST BE .155/.135 (3.94/3.43).

STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = $\pm .03$ (XX = $\pm .8$)
.XXX = $\pm .010$ (XXX = $\pm .25$)



2271AM20



NOTE: IF ALTERNATE STUD IS USED, THE LENGTH OF STUD FROM MOUNTING SURFACE MUST BE .155/.135 (3.94/3.43).



2271A

Key features

- Low temperature operation
- Hermetically sealed
- Ground isolated
- Flat temperature response (-269°C to +260°C)
- Vibration at cryogenic temperatures

Description

The Endevco® model 2271A/AM20 is a wide temperature range piezoelectric accelerometer designed to measure vibration in cryogenic temperature applications. The unit is hermetically sealed and is ideal for use in extreme environmental conditions. This accelerometer offers an unusually flat temperature response into a wide temperature range. The accelerometer is a self generating device that requires no external power source for operation.

Model 2271A/AM20 features Endevco's Piezite® type P-10 crystal element operating in compression mode. This unit exhibits excellent output sensitivity stability over time. Signal ground is isolated from the outer case of the unit. The 2271A features a 10-32 side-connector and the 2271AM20 has a 10-32 top connector. A low-noise coaxial cable is supplied for error-free operation.

Model 2271A / AM20

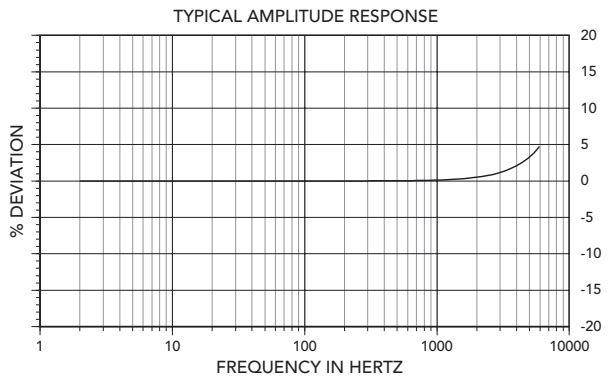
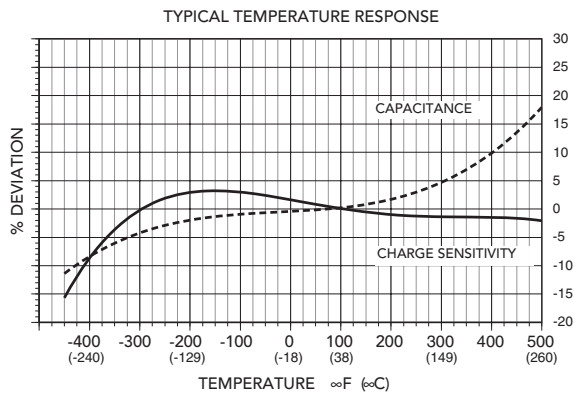
The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C), 4 mA and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied

Specifications		
Dynamic characteristics	Units	Value
Charge sensitivity		
Typical	pC/g	11.5
Minimum	pC/g	10
Frequency response Resonance frequency Amplitude response [1]		See typical amplitude response
±5%	kHz	27
±1 dB (ref)	Hz	
Temperature response [3]	Hz	2 to 4000
Transverse sensitivity		1 to 8000
Amplitude linearity	%	See typical curve
Per 1000g, 0 to 10 000 g	%	≤3
		1
Electrical characteristics		
Output polarity		Acceleration directed into base of unit produces positive output
Resistance	GΩ	≥10
Resistance at +500°F (+260°C)	MΩ	≥100
Isolation	GΩ	1
Capacitance	pF	2000
Grounding		Signal return isolated from case
Physical characteristics		
Dimensions		See outline drawing
Weight	gm (oz)	27 (0.95)
Case material		Stainless steel
Connector		10-32 UNF-2A Thd mates with Endevco 3000 series cable or equivalent
2271A side-connector		
2271AM20 top-connector		
Mounting torque	lbf-in (Nm)	18 (2)
Environmental characteristics		
Temperature range		-452°F to +500°F (-269°C to +260°C)
Humidity		Hermetically sealed
Sinusoidal vibration limit	g pk	1000
Shock limit [2]	g pk	10000
Base strain sensitivity	equiv. g pk/μstrain	0.002
Electromagnetic sensitivity	equiv. g rms/gauss	0.0003
Calibration data		
Supplied:		
Frequency response	%	20 Hz to 6000 Hz
	dB	6 kHz to 40 kHz
Sensitivity	pC/g	
Maximum transverse sensitivity	%	
Capacitance	pF	

Accessories			
Product	Description	2271A/AM20	2271A-R
3090C-120	Cable assembly, 10 ft	Included	Optional
2981 - 12	Mounting stud, 10-32 to 10-32	Included	Optional
EHM464	Hex key wrench	Included	Optional
2981 - 12	Mounting stud 10-32 to m5	Optional	Optional
2771C	In-line charge converter	Optional	Optional
2950	Triaxial mounting block	Optional	Optional
133	Signal conditioner	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. Exposure to rapid temperature change greater than 100°F (38°C) per minute may cause the device to produce spurious high frequency discharges for several minutes.
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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