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ENDEVCO
AN AMPHENOL COMPANY

PERFORMANCE SPECIFICATION
ACCELEROMETER
2271AM20

Document Number	Rev	Date	Entered by	Description of Change	Change Accountable Engineer	ECO
81237	NR	12/12/25	DAM	Initial Release of Performance Specification Accelerometer 2271AM20	DAM	56335

1.0 DESCRIPTION

The ENDEVCO® Model 2271AM20 is a wide-temperature-range piezoelectric accelerometer designed to measure vibration even in cryogenic-temperature applications. The unit is hermetically sealed for use in extreme environments and to ensure long term stability. The accelerometer offers an unusually flat temperature response into a wide temperature range.

The Model 2271AM20 features ENDEVCO's PIEZITE® Type P-10 crystal element operating in the compression mode which exhibits excellent output sensitivity stability over time. This piezoelectric accelerometer is self-generating and requires no external power for operation. Signal ground is isolated from the outer case of the unit. The 2271AM20 features a 10-32 top connector. A low-noise coaxial cable is required for error-free operation.

The following performance specifications conform to ISA-RP-37.2 (1964) 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.

		Units	
2.0	**DYNAMIC CHARACTERISTICS**		
2.1	CHARGE SENSITIVITY		
2.1.1	Typical	pC/g	11.5
2.1.2	Minimum	pC/g	10.0
2.2	FREQUENCY RESPONSE		See Typical Curve
2.2.1	Resonance Frequency		
2.2.1.1	Typical	kHz	27
2.2.1.2	Minimum	kHz	24
2.2.2	Amplitude Response [1]		
	± 5%	Hz	1 to 4000
	±1 dB (ref.)	Hz	1 to 8000

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		Units	
2.3	TEMPERATURE RESPONSE [4]		See Typical Curve
2.3.1	At -300°F (-184°C) max/min	%	+7/-10
2.3.2	At +500°F (+260°C) max/min	%	+4/-8
2.4	TRANSVERSE SENSITIVITY	%	≤ 3 (≤ 1 on special order)
2.5	AMPLITUDE LINEARITY Per 1000 g, 0 to 10 000 g	%	1
3.0	**ELECTRICAL CHARACTERISTICS**		
3.1	OUTPUT POLARITY		Acceleration directed into base of unit produces positive output.
3.2	RESISTANCE	GΩ	≥ 10
3.2.1	At +500°F (+260°C)	MΩ	≥ 100
3.2.2	Isolation	GΩ	1
3.3	CAPACITANCE	pF	2500
3.4	GROUNDING		Signal return isolated from case.
4.0	**ENVIRONMENTAL CHARACTERISTICS**		
4.1	TEMPERATURE RANGE		-452°F to +500°F (-269°C to +260°C)
4.2	HUMIDITY		Hermetically Sealed
4.3	SINUSOIDAL VIBRATION LIMIT	g pk	1000
4.4	SHOCK LIMIT [2]	g pk	10 000
4.5	BASE STRAIN SENSITIVITY	equiv. g pk/μ strain	0.002
4.6	ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.0003
5.0	**PHYSICAL CHARACTERISTICS**		
5.1	DIMENSIONS [3]		See Outline Drawing
5.2	WEIGHT	gm (oz)	27 (0.95)

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5.3	CASE MATERIAL		Stainless Steel
		Units	
5.4	CONNECTOR		10-32 UNF-2A Thd mates with ENDEVCO 3000 Series cable assembly or equivalent
5.5	MOUNTING TORQUE	lbf-in (N·m)	18 (2)

6.0 ACCESSORIES

6.1	SUPPLIED	
	CABLE ASSEMBLY	3090C-120, 1X [5]
	MOUNTING STUD, 10-32, Hex ID	92981-12, 1X [5]
	HEX KET WRENCH	EHM464, 1X [5]
	OPTIONAL	
	MOUNTING STUD, 10-32 TO 5MM	2981-4
	ADAPTER STUD, 10-32	2981-3

7.0 CALIBRATION

7.1	SUPPLIED		
	Frequency Response	% dB	20 to 6000 Hz 6 kHz to 40 kHz
	Sensitivity	pC/g	
	Maximum Transverse Sensitivity	%	
	Capacitance	pF	

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8.0 **NOTES**

[1] Low-end response of the transducer is a function of its associated electronics.
[2] Shock pulses of short duration may excite transducer resonance. Shock level above the sinusoidal vibration limit may produce temporary zeroshift which will result in erroneous velocity or displacement data after integration.
[3] 2271AM20 features top connector with the same size hex body as 2271A. Total height including connector is 1.15 inches (29.2 mm).
[4] Spurious high frequency discharge may be exhibited by this device for several minutes after exposure to temperature transients of greater than +100°F (+38°C) per minute.
[5] For -R units, the indicated accessories are optional.
6 Model Number Definition:

2271AM20 -R

Indicates replacement unit

Basic Model Number

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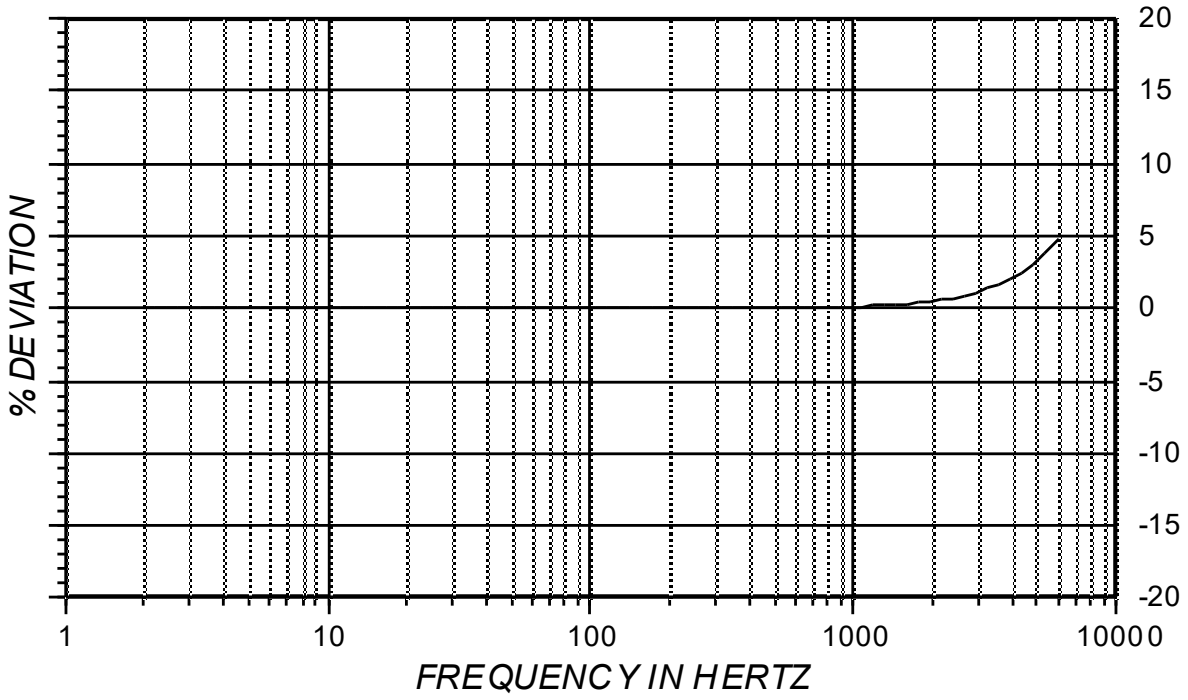
TYPICAL AMPLITUDE RESPONSE



TYPICAL TEMPERATURE RESPONSE