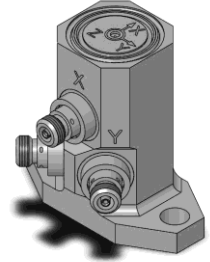


DATA SHEET

Extreme High Temperature Piezoelectric Triaxial Accelerometer (EHTPE)



Model 2278

01 Description

The MEGGITT Model 2278 is a small, lightweight piezoelectric triaxial accelerometer for shock and vibration measurements at temperatures up to 1200°F. It is also capable of operation in nuclear environments. This accelerometer is 1.25 inch tall and weighs 65 grams. It features a side 10-32 receptacle for each axis, and has a flange with two 8-32 holes for mounting. The 2278 features MEGGITT proprietary MC2 sensing element and is designed for use with high temperature coaxial cables such as the flexible 3076A (rated to 1200°F) flexible 3076 (rated to 1000°F) or hardline 3075M6 (rated to 900°F).

02 Key features and benefits

- Triaxial
- High temperature operation +1200°F(+650°C)
- Ground Isolated
- Small and lightweight, 65 grams (2.5 oz)

03 Applications

- Gas Turbine testing
- Nuclear applications

04 Contact

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DATA SHEET

EXTREME HIGH TEMPERATURE PE TRIAXIAL ACCELEROMETER, Model 2278

05 Specifications

The following performance specifications are typical values, referenced at +75°F (+24°C) unless otherwise noted.

Dynamic characteristics

Charge Sensitivity		
Typical	pC/g	4.0
Tolerance	pC/g	±5%
Resonance Typical/Minimum		
Z axis	kHz	20/18
X & Y	KHz	3
Typical Amplitude Response		
(Z axis)		
±5%	Hz	20 to 4000
±10%	Hz	20 to 6000
±3dB	Hz	20 to 9000
(X & Y axes)		
±5%	Hz	20 to 500
±10%	Hz	20 to 800
±3dB	Hz	20 to 1000
Temperature response	%	±15 max over temp range
Transverse sensitivity	%	≤ 5 (X & Y), ≤ 7 (Z)
Amplitude linearity	%	1

Electrical characteristics

Resistance	
Internal [1]	≥10KΩ
Isolation	≥500KΩ
Capacitance	50 pF
Grounding	Signal return isolated from case

Environmental characteristics

Temperature range	-65°F to +1200°F (-55°C to +650°C)
Humidity	Hermetically sealed
Sinusoidal vibration limit	500 g pk
Shock limit	2000 g pk
Radiation	5 x 10 ⁷ rad per IEEE STD 383-1974

Physical characteristics

Dimensions	See Outline details
Weight	0.2.3 oz. (65 gm)
Case Material	Inconel
Connector	10-32 coaxial (3X)
Mounting torque	18 to 20 lbf-in (2 to 2.3 Nm)
Mounting	8-32 bolts (qty 2)

Calibration Supplied

Charge Sensitivity (X, Y Z axes)	pC/g
Frequency response (Z axis)	50 Hz to 4000 Hz
Maximum transverse sensitivity	%
Capacitance	Pf

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EXTREME HIGH TEMPERATURE PE TRIAXIAL ACCELEROMETER, Model 2278

Accessories

SUPPLIED: EH873 Mounting screws 8-32 x 1/2 inch (QTY 2)

OPTIONAL:

Model 3076A-120 Cable assembly (flexible), +1200°F (+650°C)

Model 3076-120 Cable assembly (flexible). +1000°F (+538°C)

Model 3075M6-120 Cable assembly (hardline), +900°F (+482°C)

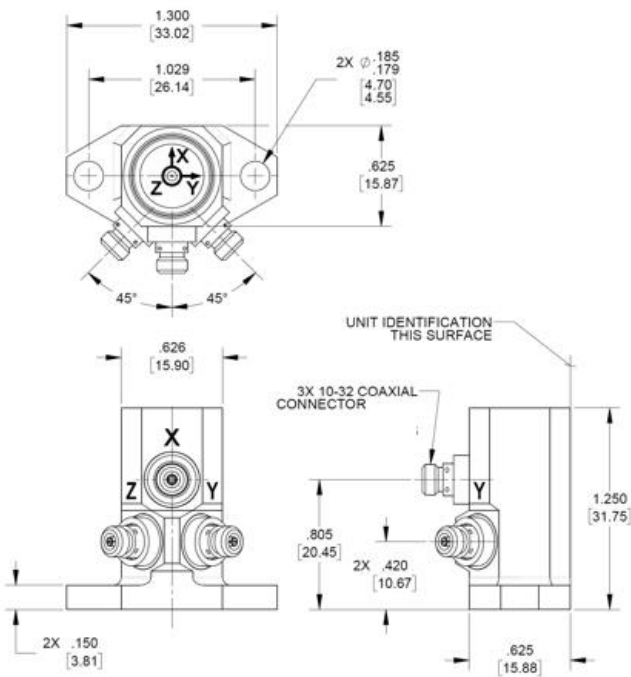
Model 1001-120 Cable assembly (when temperature permits), 550°F (+288°C)

Model 1772-4 Remote charge converter-extended frequency range (X & Y axis)

Model 1772-5 Remote charge converter-extended frequency range (Z axis)

Model 33268 In-line adaptor (connects coaxial cables), +900°F (+482°C)

06 Outline details



Notes:

1. Frequency response is controlled by the resonance characteristics of the transducer. Estimated calibration errors are +1.5% to 900 Hz and 2.5% from 900 Hz to 5000 Hz.
2. Low-end response of the transducer is a function of its associated electronics.



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. 010121