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MEGGITT

DATA SHEET

Extreme High Temperature Piezoelectric Accelerometer (EHTPE)

Model 2278-1

01 Description

The MEGGITT Model 2278-1 is a small, lightweight piezoelectric single axis accelerometer for shock and vibration measurements at temperatures up to 1200°F. It is also capable of operation in nuclear environments. This accelerometer is 1.0 inch [25.4] tall and weighs 48 grams. It features a side 10-32 receptacle and has a flange with two 8-32 holes for mounting. The 2278-1 features MEGGITT Proprietary MC2 sensing element and is designed for use with high temperature. Coaxial cables such as the hardline 3075M6 (rated to 900°F) or flexible 3076 (rated to 1000°F) or the 3076A (rated to 1200°F) are designed for use with the 2278-1.

02 Key features and benefits

- High temperature operation +1200°F(+650°C)
- Ground Isolated
- Small and lightweight, 1.7 ounces (48 gm)

03 Applications

- Gas Turbine testing
- Nuclear applications

04 Contact

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EXTREME HIGH TEMPERATURE PE ACCELEROMETER, Model 2278-1

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%
Frequency response [1]		
±5%	Hz	20 to 4000
Resonance Typical/Minimum		
Typical	kHz	20
Minimum	KHz	18
Temperature response	%	±15 max over temperature range
Transverse sensitivity	%	≤ 5
Amplitude linearity [2]	%	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	1.7 oz. (48 gm)
Case Material	Inconel
Connector	10-32 coaxial
Mounting torque	18 to 20 lbf-in (2 to 2.3 Nm)
Mounting	8-32 botls (qty 2)

Calibration Supplied	
Charge Sensitivity	pC/g
Frequency response	50 Hz to 4000 Hz
Maximum transverse sensitivity	%
Capacitance	pF

Accessories

SUPPLIED: EH873 Mounting screws 8-32 x ½ 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 1772-5 Remote charge converter-extended frequency range (Z axis)
Model 33268 In-line adaptor (connects coaxial cables), +900°F (+482°C)

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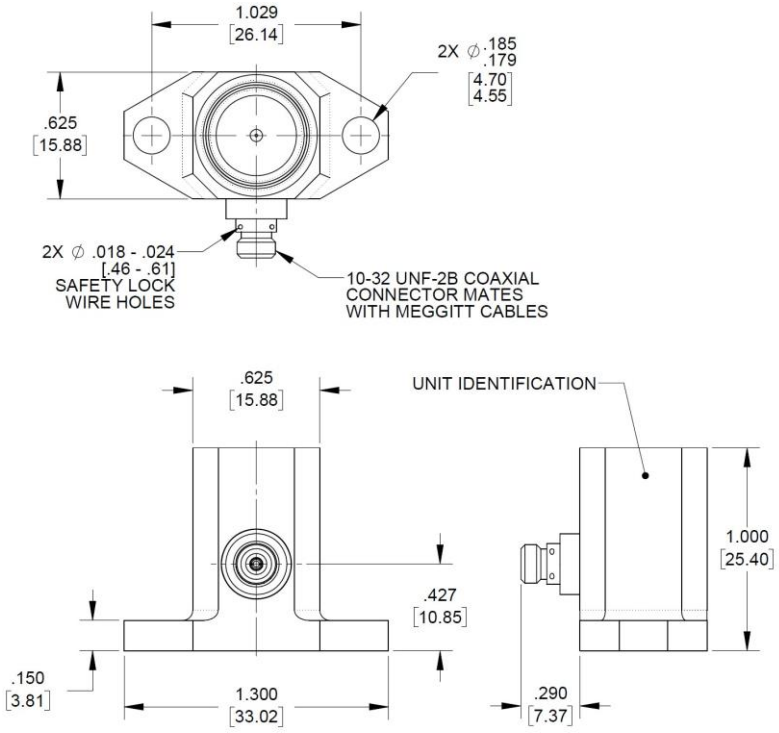
EXTREME HIGH TEMPERATURE PE ACCELEROMETER, Model 2278-1

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.

APPLIES TO CALIFORNIA FACILITY