

DATA SHEET

High Temperature Piezoelectric Triaxial Accelerometer (HTPE)

Model 2280



01 Description

The Meggitt Model 2280 is a high temperature triaxial piezoelectric accelerometer for shock and vibration measurements at temperatures up to +900°F (+482°C). This accelerometer is 1.35 inch (35 mm) square and weighs less than 0.6 pounds (270 grams). It features three 10-32 side connectors and is mounted with two 8-32 bolts.

The model 2280 features Meggitt's crystal in the compression mode. The design provides mechanical isolation of the sensing assembly from the mounting surface, minimizing base strain sensitivity. The unit is hermetically sealed and signal ground is isolated from the outer case of the unit. The unit is fully compliant to European Union's Low Voltage directive, 2006/95 EC, EMC directive 2004/108/EC, and bears the CE mark.

Model number definition:
2280 = basic model number
2280-R = replacement sensor, no accessories
2280-US = Made in the USA

02 Key features and benefits

- Triaxial
- High temperature operation 900°F (+482°C)
- Ground Isolated
- Rugged design
- RoHS compliant

03 Applications

- Gas Turbine testing
- Nuclear applications

04 Contact

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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	3.0
Minimum	pC/g	2.4
Frequency response ±5%	Hz	See typical amplitude response 10 to 4000
Resonance (typical)	kHz	25
Minimum	kHz	20
Temperature response	%	±18 max over temperature range
Transverse sensitivity	%	≤ 5
Amplitude linearity	%	1

Electrical characteristics

Resistance at room temperature (typical)	≥1GΩ
At +900°F (+482°C) [1]	≥100KΩ
Capacitance	250 pF
Grounding	Signal return isolated from case

Environmental characteristics

Temperature range	-65°F to +900°F (-54°C to +482°C)
Humidity	Hermetically sealed
Sinusoidal vibration limit	500 g pk
Shock limit	3000 g pk
Base strain sensitivity	0.005pk/μstrain
Transient temperature [2]	0.10 equiv g pk/°F

Physical characteristics

Dimensions	See Outline details
Weight	0.55 lb. (250 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	pC/g
Frequency response through resonance	30 Hz to 4000 Hz, each axis
Maximum transverse sensitivity	%
Capacitance	pF

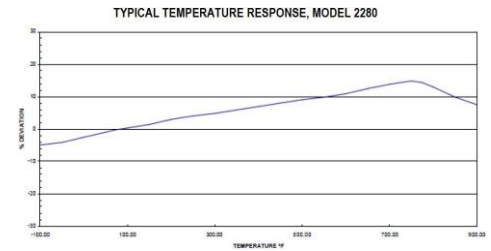
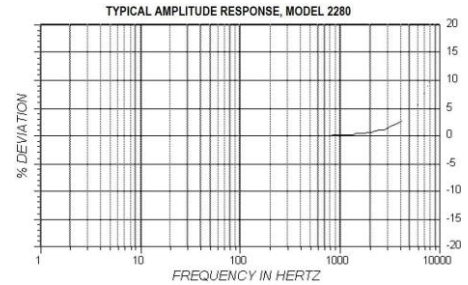
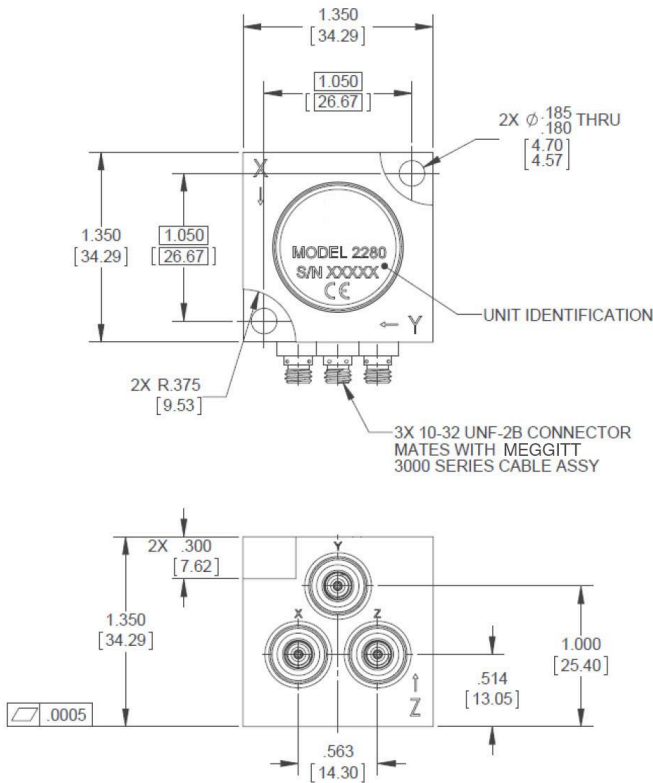
Accessories

SUPPLIED: EH428 Mounting screws 8-32 (QTY 2)/ 3075M6-120/3075M6-120-US Cable assembly, 900°F (+482°C) (QTY 3)
 OPTIONAL: Model 1001-120 Cable assembly, 550°F (+288°C)/EH867 Metric head cap screw, M4 x 7mm X40mm

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06 Outline details



Note: parts made in the USA are marked with 2280-US

Notes:

- [1] Signal conditioner must be able to accept 100 k ohm source resistance
- [2] Measured with a 1 Hz high pass filter.



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, support of stringent Quality Control requirements, and compulsory corrective action procedures. 053024

Note: Due to continuous process improvement, specifications are subject to change without notice. TCO Review #337