

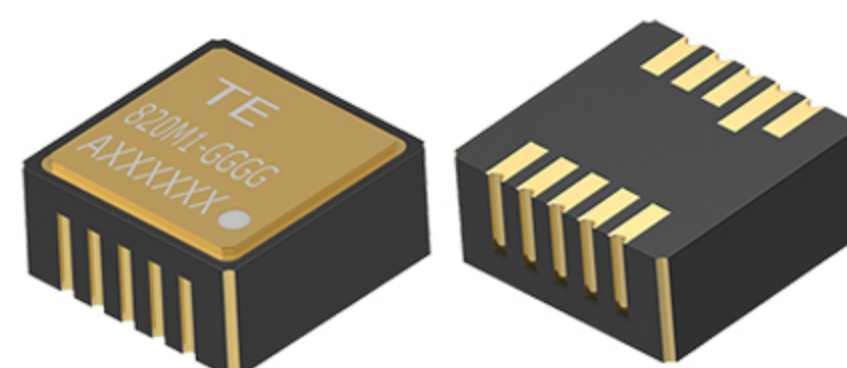
820M1 Single Axis SMT Accelerometers



MEAS | MEAS 820

[View on TE.com >](#)

Piezoelectric circuit board mountable accelerometer with a wide bandwidth up to 10,000Hz



[Sensors > Vibration Sensors > Embedded Accelerometers](#)

The 820M1 piezoelectric $\pm 1.25V$ accelerometer is a low cost, board mountable accelerometer designed for embedded condition monitoring and predictive maintenance applications.



Frequency Response: 2 to 10000 Hz

Accelerometer Type: 3-Wire Voltage

Number of Axes: 1

Embedded Accelerometer Sensor Type: AC Response Embedded Accelerometers

Embedded Accelerometer Mounting Type: Solder

Piezoelectric (PE) accelerometer available in ranges from $\pm 25g$ to $\pm 500g$ and features a flat frequency response up to $>10kHz$.

The model 820M1 accelerometer feature a stable piezo-ceramic crystal in shear mode with low power electronics, sealed in a fully hermetic LCC package. The PE technology incorporated in the 820M1 accelerometer has a proven track record for offering the reliable and long-term stable output required for condition monitoring applications. The accelerometer is designed and qualified for machine health monitoring and has superior resolution, dynamic range and bandwidth to MEMS devices.

Applications

- Condition Monitoring
- Preventive Maintenance Installations
- Embedded Vibration Monitoring
- Impact & Shock Monitoring
- Data Loggers
- Bearing Installations
- Physical Security

Benefits

- Amplified $\pm 1.25V$ signal output
 - 2.8 to 5.5VDC excitation voltage
 - 30kHz resonant frequency
 - Hermetically sealed LLC package for harsh environments
 - Piezo-ceramic shear design
 - -40° to $+125^{\circ}C$ operating range
 - $\pm 25g$ to $\pm 500g$ dynamic ranges
 - Wide bandwidth to 10,000Hz
 - Superior resolution to MEMS devices
 - Circuit board mountable, reflow solderable
 - Low cost, superior value
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White Papers

[Condition Monitoring with Vibration Sensors \(English\)](#)

[Wide Bandwidth Accelerometer for Condition Monitoring \(English\)](#)

Solution Guide

[Embedded Accelerometers for Machine Health Monitoring \(English\)](#)

On-Demand Webinars

[Condition Monitoring: How Sensors Are Enabling Industry 4.0 \(English\)](#)

[Reducing Costly Downtime: Accelerometers Transform Machine Maintenance On-Demand Webinar \(English\)](#)

Features

Product Type Features

Accelerometer Type	3-Wire Voltage
Embedded Accelerometer Sensor Type	AC Response Embedded Accelerometers

Electrical Characteristics

Excitation Voltage (VDC)	2.8 - 5.5
Full Scale Output Voltage (VDC)	±1.25

Signal Characteristics

Frequency Response (Hz)	2 to 10000
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Body Features

Material	Ceramic
Weight (g)	1
Weight (oz)	.04
Number of Axes	1

Mechanical Attachment

Embedded Accelerometer Mounting Type	Solder
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Usage Conditions

Operating Temperature Range (°C)	-40 - 125, -40 - 125
Operating Temperature Range (°F)	-40 - 257, -40 - 257

Other

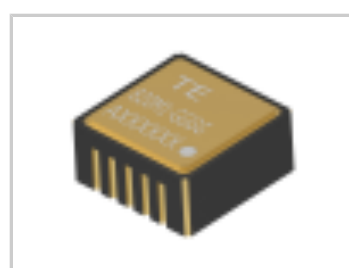
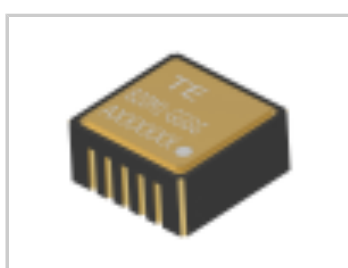
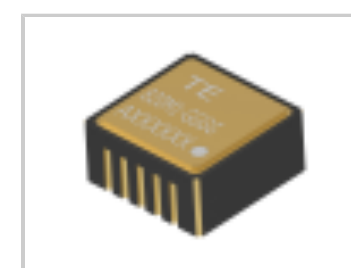
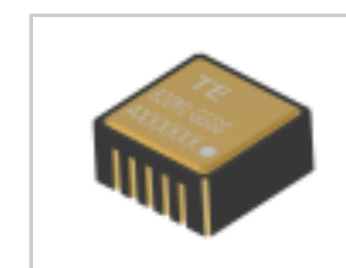
Nonlinearity (%FSO)	±1
Acceleration Range (±) (g)	25, 50, 100, 200, 500, 6000
Overall Acceleration Range (±) (g)	25, 50, 100, 200, 500, 6000
Sensitivity (mV/g)	.21, 2.5, 6.3, 12.5, 25, 50
Sensitivity Range (mV/g)	.21, 2.5, 6.3, 12.5, 25, 50

Reference Number

TE Internal Number	CAT-EAC0021
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SEE PRODUCTS ON NEXT PAGE

Products (1 of 3)

820M1-0025 Single Axis,
25g, T/R820M1-0050 Single Axis,
50g, T/R820M1-0100 Single Axis,
100g, T/R820M1-0500 Single Axis,
500g, T/R

TE Part #	20005836-00	20005837-00	20005838-00	20007179-00
Acceleration Range (\pm)	25 g	50 g	100 g	500 g
Overall Acceleration Range (\pm)	25 g	50 g	100 g	500 g
Sensitivity	50 mV/g	25 mV/g	12.5 mV/g	2.5 mV/g
Sensitivity Range	50 mV/g	25 mV/g	12.5 mV/g	2.5 mV/g
EU RoHS Directive 2011/65 /EU	EU RoHS Compliant	EU RoHS Compliant	EU RoHS Compliant	EU RoHS Compliant
EU ELV Directive 2000/53/EC	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV
Product Families	MEAS	MEAS	MEAS	MEAS
Series	MEAS 810	MEAS 810	MEAS 810	MEAS 820

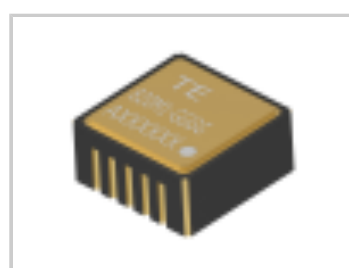
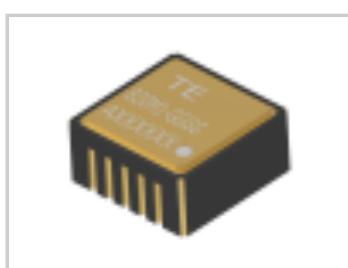
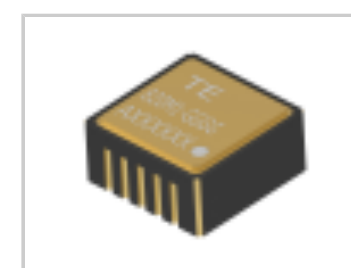
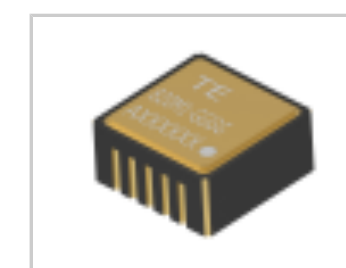
***EU RoHS Directive 2011/65/EU**

These products comply with the substance restrictions of the Restriction on Hazardous Substances Directive 2011/65/EU (RoHS2). The RoHS2 Directive requires that certain electrical and electronic equipment products do not contain mercury, cadmium, hexavalent chromium, PBB, PBDE, lead, DEHP, BBP, DBP and DIBP above defined thresholds. Products indicated as 'Compliant' do not contain any of these substances above the prohibition thresholds. Finished electrical and electronic equipment products will be CE marked as required by the Directive. Components may not be CE marked.

****EU ELV Directive 2000/53/EC**

These products comply with the substance restrictions of the End of Life Vehicles Directive 2000/53/EC (ELV). The ELV Directive requires that materials and components of vehicles do not contain mercury, cadmium, hexavalent chromium, and lead above defined thresholds. Products indicated as 'Compliant' do not contain any of these substances above the prohibition thresholds.

Products (2 of 3)

820M1-0025 Single Axis,
25g, Tray820M1-0050 Single Axis,
50g, Tray820M1-0100 Single Axis,
100g, Tray820M1-0200 Single Axis,
200g, T/R

TE Part #	20005836-01	20005837-01	20005838-01	20007178-00
Acceleration Range (±)	25 g	50 g	100 g	200 g
Overall Acceleration Range (±)	25 g	50 g	100 g	200 g
Sensitivity	50 mV/g	25 mV/g	12.5 mV/g	6.3 mV/g
Sensitivity Range	50 mV/g	25 mV/g	12.5 mV/g	6.3 mV/g
EU RoHS Directive 2011/65 /EU	Not Yet Reviewed for EU RoHS	Not Yet Reviewed for EU RoHS	Not Yet Reviewed for EU RoHS	EU RoHS Compliant
EU ELV Directive 2000/53/EC	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV
Product Families	MEAS	MEAS	MEAS	MEAS
Series	MEAS 820	MEAS 820	MEAS 820	MEAS 820

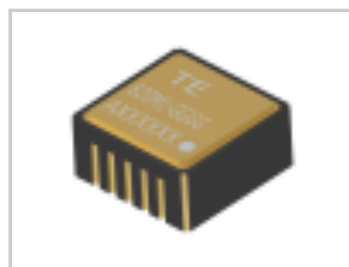
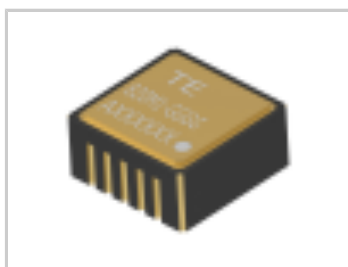
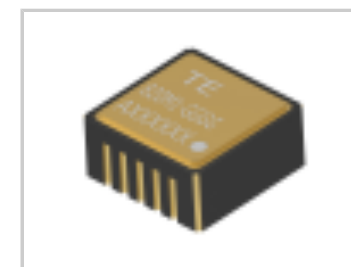
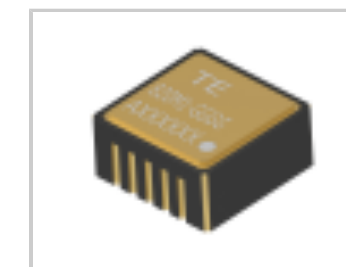
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Products (3 of 3)

820M1-0200 Single Axis,
200g, Tray820M1-0500 Single Axis,
500g, Tray820M1-6000 Single Axis,
6000g, T/R820M1-6000 Single Axis,
6000g, Tray

TE Part #	20007178-01	20007179-01	20007180-00	20007180-01
Acceleration Range (±)	200 g	500 g	6000 g	6000 g
Overall Acceleration Range (±)	200 g	500 g	6000 g	6000 g
Sensitivity	6.3 mV/g	2.5 mV/g	.21 mV/g	.21 mV/g
Sensitivity Range	6.3 mV/g	2.5 mV/g	.21 mV/g	.21 mV/g
EU RoHS Directive 2011/65 /EU	Not Yet Reviewed for EU RoHS	Not Yet Reviewed for EU RoHS	EU RoHS Compliant	Not Yet Reviewed for EU RoHS
EU ELV Directive 2000/53/EC	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV	Not Yet Reviewed for EU ELV
Product Families	MEAS	MEAS	MEAS	MEAS
Series	MEAS 820	MEAS 820	MEAS 820	MEAS 820

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Related Materials

[Customer View Model](#)

[Customer View Model](#)

3D

[Specification Or Standard](#)

[OPERATION MANUAL MODEL 820M1 ACCELEROMETER](#)

English

[Data Sheet](#)

[MODEL 820M1 ACCELEROMETER](#)

English

[Customer View Model](#)

[Customer View Model](#)

English

[Customer View Model](#)

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Also in the Series | [MEAS 820](#)



[Embedded Accelerometers\(9\)](#)