

MODEL 805M1 ACCELEROMETER

SPECIFICATIONS

- ◆ TO-5 Series Accelerometer
- ◆ 3-Wire Voltage Output
- ◆ Low-Cost, Embedded Applications
- ◆ <0.80mA Power Consumption

The Model 805M1 is a miniature adhesive mount voltage output accelerometer built on a 3-pin TO-5 header. It is available in $\pm 20g$ to $\pm 500g$ dynamic ranges and offers a flat frequency response to 12kHz. The accelerometer features a hermetic construction in a TO-5 header configuration. The model 805M1 incorporates a stable piezo-ceramic crystal with low power electronics in a 100% shielded housing suitable for many embedded OEM applications.

The model 805M1 accelerometer is offered in two configurations; one for adhesive mounting and one for stud mounting. An isolating cover option is also included for the standard model.

FEATURES

- ◆ $\pm 20g$ to $\pm 500g$ Range
- ◆ Wide bandwidth up to 12kHz
- ◆ TO-5 Configuration
- ◆ Hermetically Sealed
- ◆ -40°C to $+100^{\circ}\text{C}$ Operating Range
- ◆ Case Grounded Design
- ◆ 3.0-5.5 Excitation Voltage

APPLICATIONS

- ◆ Machine Monitoring
- ◆ Embedded Preventive Maintenance
- ◆ Low-Cost OEM Installation
- ◆ Permanent Structural Study
- ◆ Embedded Sensing Solution

PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 5Vdc excitation unless otherwise stated. TE Connectivity reserves the right to update and change these specifications without notice.

Parameters

DYNAMIC

| | ±20 | ±50 | ±100 | ±200 | ±500 | Notes |
|----------------------------|-----------|-----------|-----------|-----------|-----------|------------------------|
| Range (g) | ±20 | ±50 | ±100 | ±200 | ±500 | |
| Sensitivity (mV/g) | 100 | 40 | 20 | 10 | 4 | ±10% |
| Frequency Response (Hz) | 1-8000 | 1-8000 | 1-8000 | 1-8000 | 1-8000 | ±1dB |
| Frequency Response (Hz) | 0.4-10000 | 0.4-10000 | 0.4-12000 | 0.4-12000 | 0.4-12000 | ±3dB |
| Natural Frequency (Hz) | 34000 | 34000 | 34000 | 34000 | 34000 | |
| Non-Linearity (%FSO) | ±1 | ±1 | ±1 | ±1 | ±1 | |
| Transverse Sensitivity (%) | 5 | 5 | 5 | 5 | 5 | |
| Shock Limit (g) | 5000 | 5000 | 5000 | 5000 | 5000 | |
| Residual Noise (g RMS) | 0.001 | 0.001 | 0.003 | 0.003 | 0.005 | Broadband 1Hz to 10kHz |

ELECTRICAL

| | | |
|---------------------------------------|-----------------------------------|--------|
| Bias Voltage (Vdc) | Exc Voltage / 2 | |
| Total Supply Current (mA) | <0.80 | |
| Excitation Voltage (Vdc) ¹ | 3.0 to 5.5 | |
| Output Impedance (Ω) | <100 | |
| Insulation Resistance (MΩ) | >100 | @50Vdc |
| Full Scale Output Voltage (V) | ±2 | |
| Grounding | Case grounded to mounting surface | |

ENVIRONMENTAL

| | |
|----------------------------|-------------|
| Temperature Response (%) | ±10 |
| Operating Temperature (°C) | -40 to +100 |
| Storage Temperature (°C) | -54 to +125 |

PHYSICAL

| | |
|-----------------|---|
| Sensing Element | Piezo-Ceramic |
| Case Material | Stainless Steel |
| Weight (grams) | 5.0 |
| Mounting | Adhesive or Circuit Board (M3 Stud Mounting for -01 Option) |

¹ The model 805M1 can be operated with 2.8V excitation but the full-scale range will be limited.

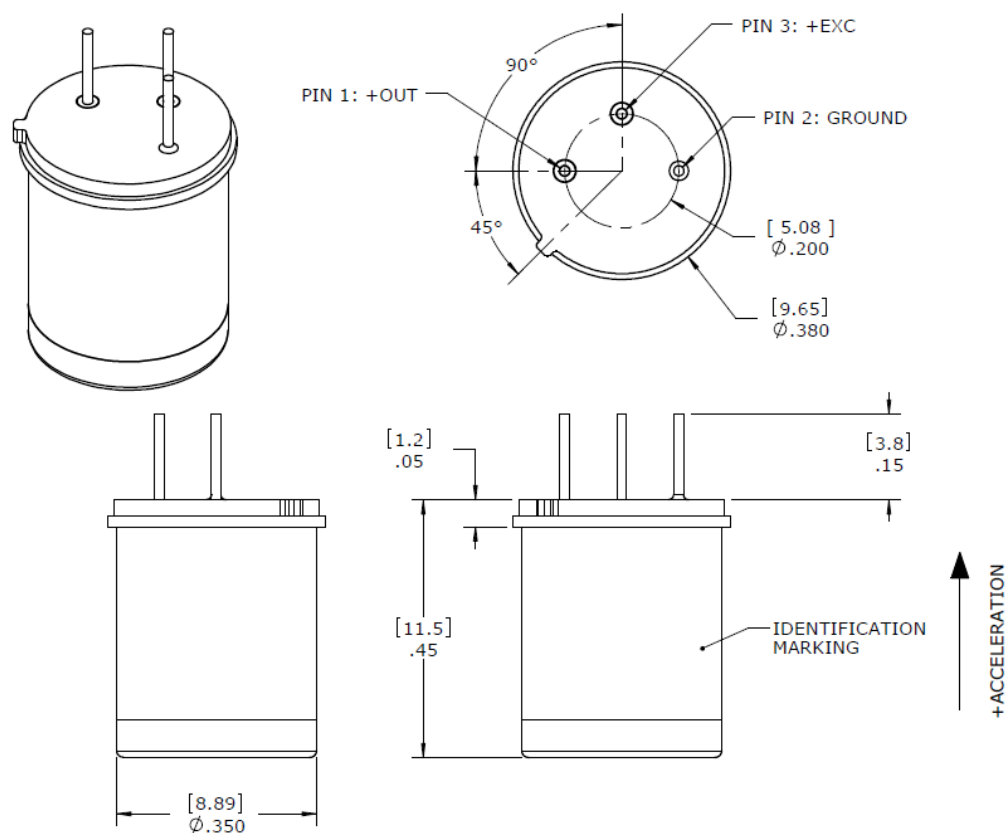
Calibration supplied: CS-SENS-0100 NIST Traceable Amplitude Calibration at 80Hz

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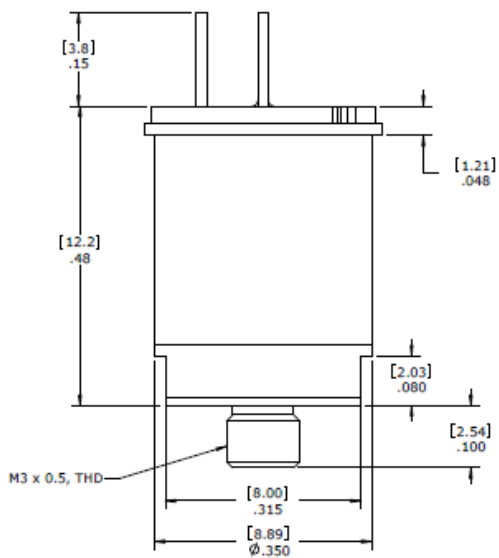
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DIMENSIONS

Standard Model 805M1

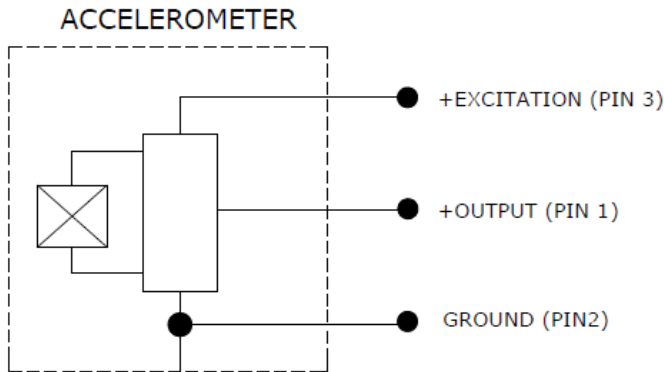


Model 805M1 with M3 Mounting Stud Option



MODEL 805M1 ACCELEROMETER

SCHEMATIC



ORDERING INFORMATION

| | | |
|--|-------------|-----------|
| 805M1 | GGGG | XX |
| Range | | |
| 0020=20g | | |
| 0050=50g | | |
| 0100=100g | | |
| 0200=200g | | |
| 0500=500g | | |
| Options | | |
| 01=M3 x 0.5 Mounting Stud | | |
| 02=Standard 805M1 unit with Isolating Mounting Cover Installed | | |

Examples;
805M1-0020
Model 805M1, 20g range

805M1-0200-01
Model 805M1 with M3 mounting stud, 200g range



Isolating Cover Option

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
Tel: 800-522-6752
customercare.hmpt@te.com

EUROPE

MEAS France SAS
a TE Connectivity Company
Tel: +31 73 624 6999
customercare.lcsb@te.com

ASIA

Measurement Specialties (China), Ltd.,
a TE Connectivity Company
Tel: 0400-820-6015
customercare.shzn@te.com

TE.com/sensorsolutions

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