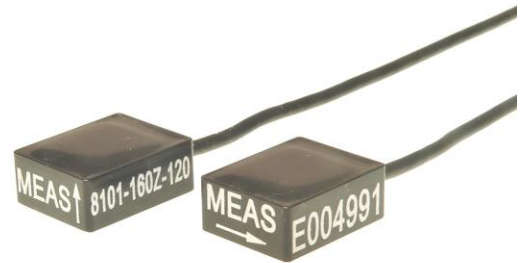


Model 8101 Accelerometer



Piezoelectric Linear Accelerometer
 $\pm 40g$ & $\pm 160g$ Dynamic Ranges
 Wide Bandwidth to 6000Hz
 Great Value, Low Cost



The **Model 8101** is a low cost, plug & play accelerometer designed for general purpose vibration measurements. The accelerometer is available in $\pm 40g$ or $\pm 160g$ range and provides a flat frequency response up to $>6kHz$. Featuring stable piezo-ceramic crystals in shear mode, the accelerometer incorporates full power and signal conditioning and is offered in two measurement direction options (X or Z axis).

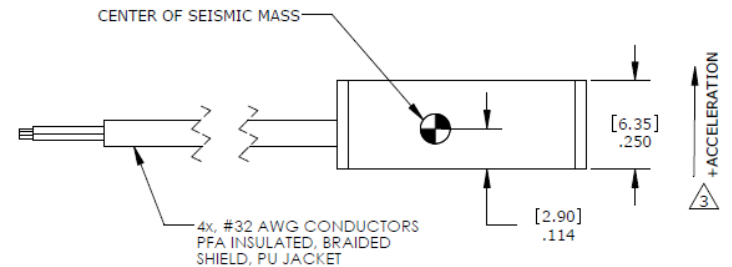
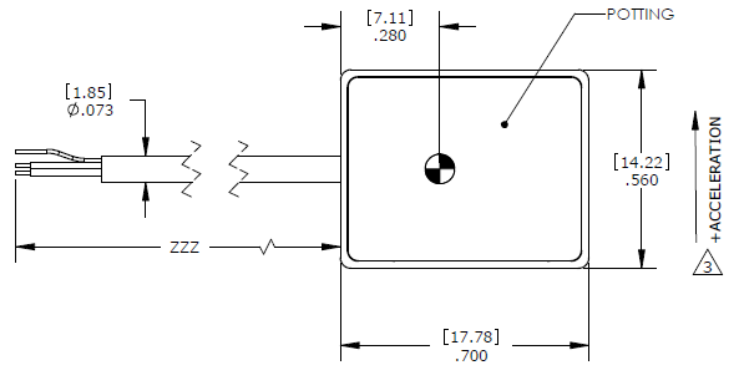
FEATURES

- Two Measurement Directions
- 7 to 36Vdc Excitation Voltage
- Potted Construction
- Piezo-Ceramic Shear Design
- -40° to $+85^{\circ}C$ Operating Range
- Integral Cable for Plug & Play

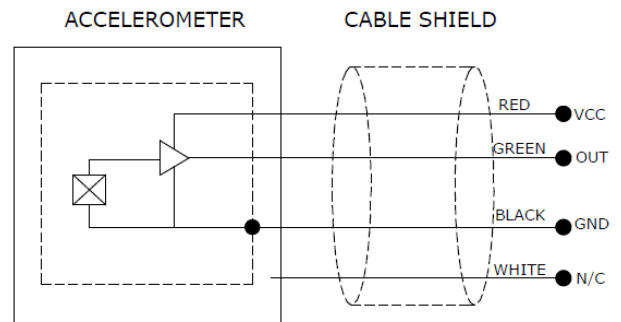
APPLICATIONS

- Asset Monitoring
- Data Loggers
- Impact Monitoring
- Machine Health Monitoring
- System Wake-Up Switch
- Product R&D

dimensions



Direction of measurement must be specified at time of order. See Ordering Info on page 3.



Model 8101 Accelerometer

performance specifications

All values are typical at +24°C, 100Hz and 7Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1003 for Plug & Play AC Accelerometers.

Parameters

DYNAMIC

| | | | Notes |
|-------------------------------|--------|--------|--------------|
| Range (g) | ±40 | ±160 | |
| Sensitivity (mV/g) | 50.0 | 12.5 | ±30% |
| Frequency Response (Hz) | 2-6000 | 2-6000 | ±1dB |
| Resonant Frequency (Hz) | >30000 | >30000 | |
| Non-Linearity (%FSO) | ±2 | ±2 | |
| Transverse Sensitivity (%) | <8 | <8 | |
| Shock Limit (g) | 2000 | 2000 | |
| Residual Noise (g RMS) | 0.008 | 0.008 | 2Hz to 10kHz |
| Spectral Noise, 10Hz (µg√Hz) | 160 | 160 | |
| Spectral Noise, 100Hz (µg√Hz) | 40 | 40 | |
| Spectral Noise, 1kHz (µg√Hz) | 16 | 16 | |

ELECTRICAL

| | | | |
|-------------------------------|--------------------------------|--|---------|
| Bias Voltage (Vdc) | 2.5 | | |
| Full Scale Output Voltage (V) | ±2 | | |
| Total Supply Current (µA) | 800 | | |
| Excitation Voltage (Vdc) | 7 to 36 | | |
| Output Impedance (Ω) | <100 | | |
| Insulation Resistance (MΩ) | >100 | | @100Vdc |
| Shielding | 100% | | |
| Ground Isolation | Isolated from Mounting Surface | | |
| Warm-up Time (msec) | 30 | | |

ENVIRONMENTAL

| | |
|---|-----------------------------|
| Temperature Response (%) | -20/+20 from -40°C to +85°C |
| Operating Temperature (°C) | -40 to +85 |
| Storage Temperature (°C) | -40 to +85 |
| Humidity (Active Element & Electronics) | Hermetically Sealed |
| Humidity (Case) | Epoxy Sealed, IP65 |

PHYSICAL

| | | |
|----------------|--|--------------------|
| Case Material | Anodized Aluminum | |
| Cable | 4x #32 AWG Conductors PFA Insulated, Braided Shield, PU Jacket | |
| Weight (grams) | 3.6 | Cable not included |
| Mounting | Epoxy or Double-sided tape | |

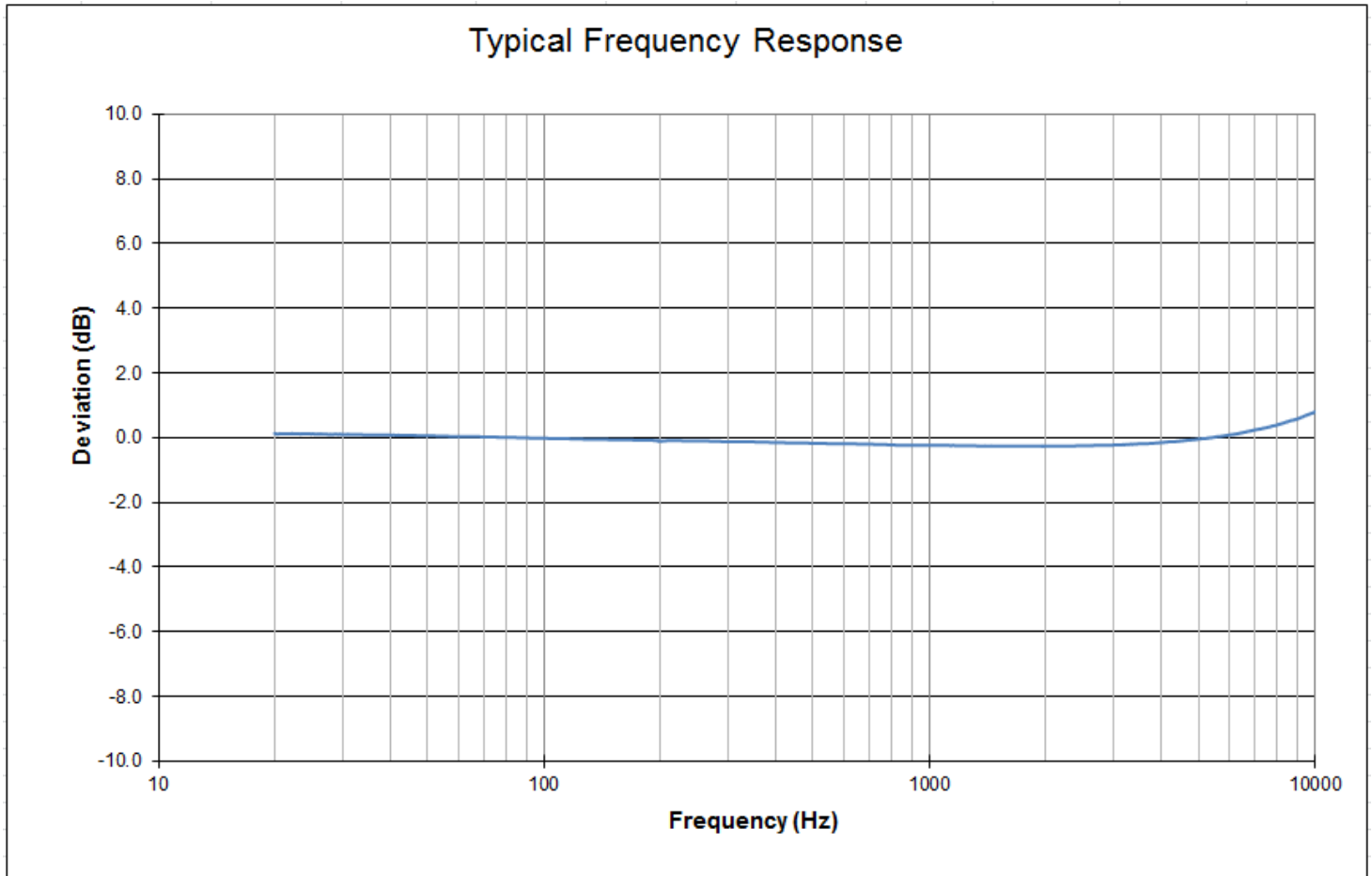
Calibration supplied: CS-SENS-0100 NIST Traceable Amplitude Calibration at 100Hz

Optional accessories: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Response Limit

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

Model 8101 Accelerometer

performance specifications



ordering info

PART NUMBERING Model Number+Measurement Direction+Range+Cable Length

8101-GGGGX-ZZZ

| | | Cable (120 is 120inches)
 | | | Measurement Direction (X is X-axis, Z is Z-axis)
 | | | Range (0040 is 40g)

Example: 8101-0040X-120

Model 8101, X-axis Measurement, 40g, 120inches (10ft) Cable