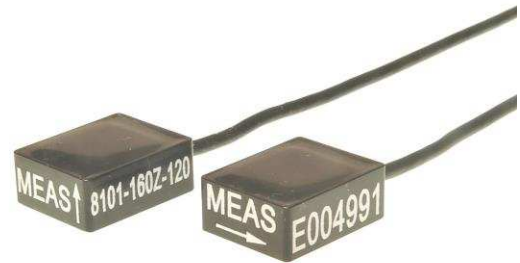


# Model 8101 Accelerometer

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).

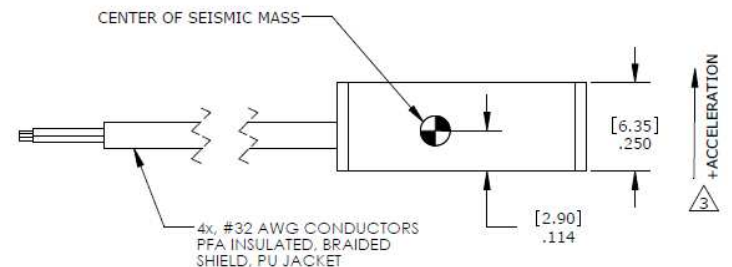
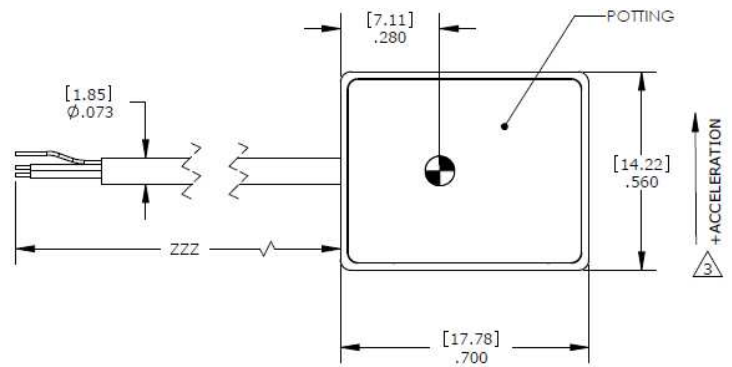
## FEATURES

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

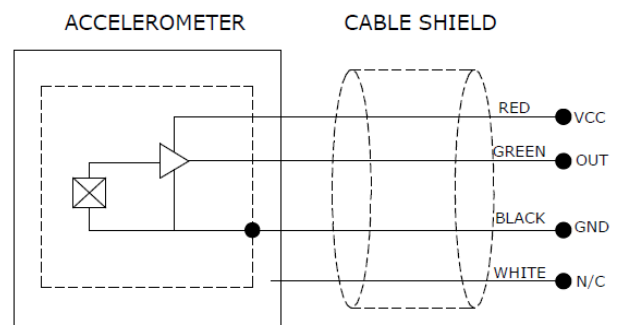
## APPLICATIONS

- 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	

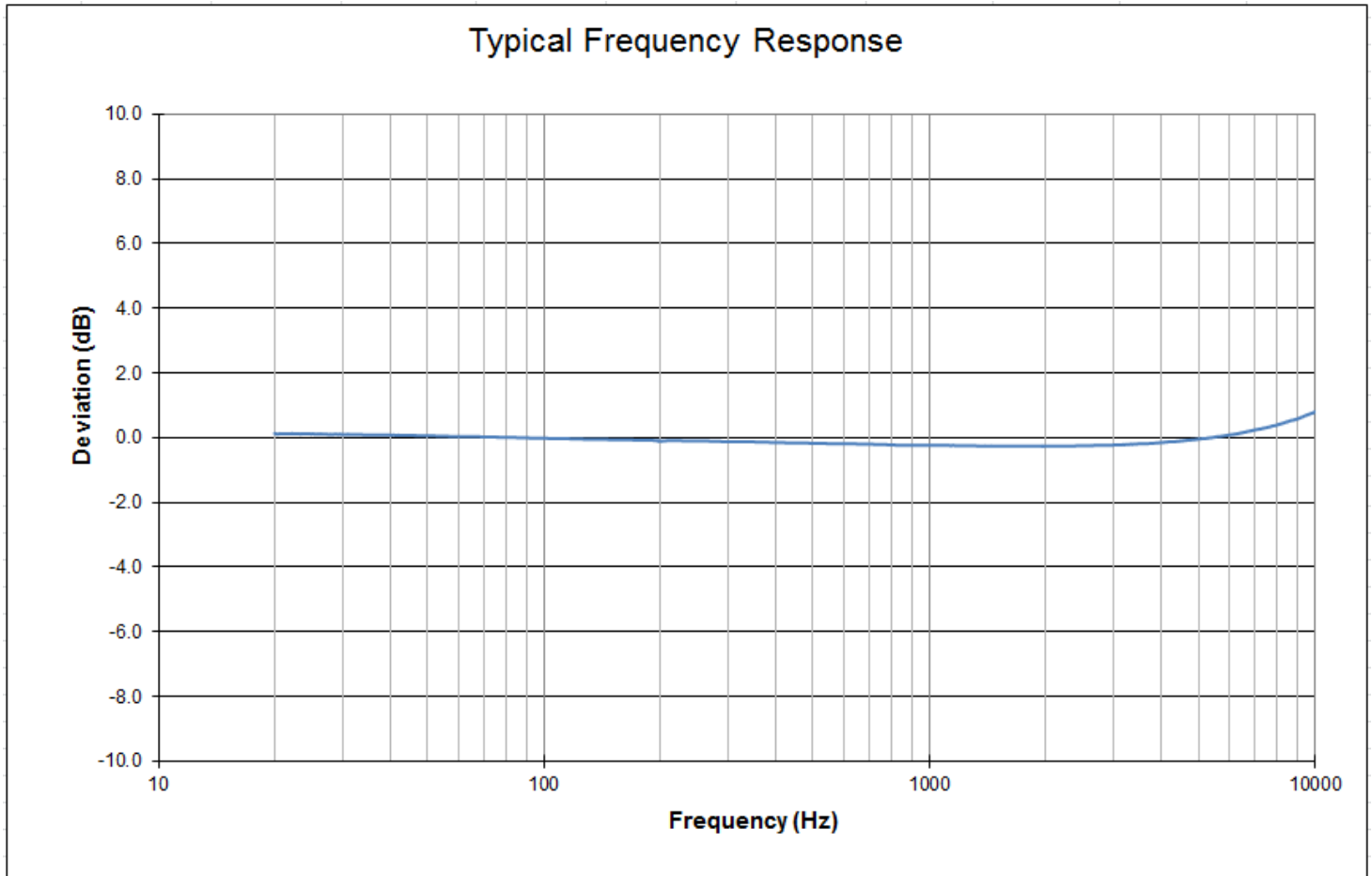
**Calibration supplied:** CS-SENS-0100 NIST Traceable Amplitude Calibration at 100Hz

**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