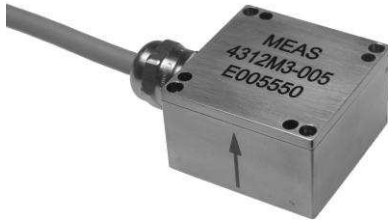
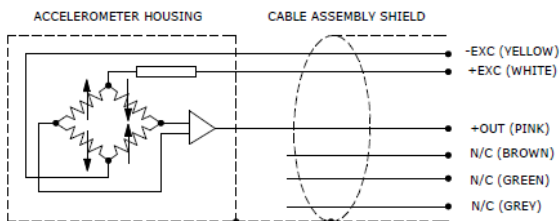
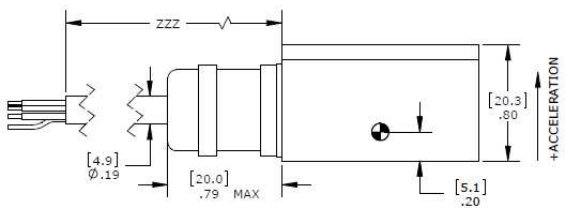
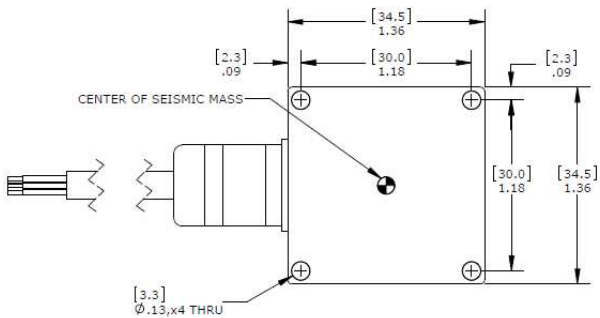


# MODEL 4312M3 ACCELEROMETER



## DIMENSIONS



## SPECIFICATIONS

- 4-20mA Signal Output
- MEMS DC Accelerometer
- IP68 Protection
- Low Noise, High Resolution

The **Model 4312M3** is 4-20mA output MEMS accelerometer offering both static and dynamic response. The accelerometer is packaged in a corrosion resistant stainless steel housing and is offered in  $\pm 2g$  to  $\pm 20g$  range. The **model 4312M3** features an integral cable and is certified to IP68 protection up to 40m depth with an operating temperature range of  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .

## FEATURES

- Stainless Steel Housing
- Corrosion Resistant
- Integral Cable
- $\pm 2g$  to  $\pm 20g$  Dynamic Range
- DC Response
- Temperature Compensation

## APPLICATIONS

- Transportation Measurements
- Structural Monitoring
- Bridge, Tunnel & Dam Monitoring
- Low Frequency Applications
- Submersible Measurements
- Shipboard Installations

## MODEL 4312M3 ACCELEROMETER

### PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 10Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters	4312M3-002	4312M3-005	4312M3-010	4312M3-020	Notes
<b>DYNAMIC</b>					
Model Number	4312M3-002	4312M3-005	4312M3-010	4312M3-020	
Range (g)	±2	±5	±10	±20	
Sensitivity (mA/g)	4.0	1.6	0.8	0.4	±10%
Frequency Response (Hz)	0-200	0-300	0-300	0-300	±5%
-3dB Cutoff Frequency (Hz)	1000	1000	1000	1000	
Rolloff Above Cutoff Frequency (dB/dec)	-40	-40	-40	-40	
Natural Frequency (Hz)	700	800	1000	1500	
Non-Linearity & Hysteresis (%FSO)	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	<3	<3	<3	<3	<2 Typical
Damping Ratio	0.7	0.7	0.7	0.7	
Shock Limit (g)	5000	5000	5000	5000	
Residual Noise (µg RMS)	25	50	100	200	Passband
<b>ELECTRICAL</b>					
Zero Acceleration Output (mA)	12.0 ±0.25				
Excitation Voltage (Vdc)	7 to 24				
Quiescent Current (mA)	<15				
Full Scale Span (mA)	4 to 20				
Output Impedance (Ω)	<100				
Insulation Resistance (MΩ)	>100				@100Vdc
Turn On Time (msec)	<100				
Grounding	Case Grounded, Internally Isolated Circuit				
<b>ENVIRONMENTAL</b>					
Thermal Zero Shift (%FSO/°C)	±0.04				0 to +65°C
Thermal Sensitivity Shift (%/°C)	±0.04				0 to +65°C
Operating Temperature (°C)	-40 to 85				
Compensated Temperature (°C)	0 to 65				
Storage Temperature (°C)	-40 to 85				
Humidity	IP68, 40m Depth				
<b>PHYSICAL</b>					
Case Material	316 Stainless Steel				
Cable	PVC Insulated Leads (6x 0.14 mm <sup>2</sup> ), Braided Shield, PVC Jacket				
Weight (without cable)	<100 grams				
Mounting	4x #4 or M3 Screws				
Mounting Torque	6 lb-in (0.7 N-m)				
<b>Calibration supplied:</b>	CS-LFREQ-0010 NIST Traceable Amplitude Calibration from 1Hz to 100Hz				
<b>Supplied accessories:</b>	4x #4-40 (1 ½" length) Socket Head Cap Screw and Washer				
<b>Optional accessories:</b>	121	3-Channel Precision Low Noise DC Amplifier			
	AC-A05172	Adhesive Mounting Adaptor			

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## MODEL 4312M3 ACCELEROMETER

### ORDERING INFORMATION

PART NUMBERING Model Number+Range+ Cable Length

4312M3-GGG-CCC

|        |        Cable Length (-120 is 120 inches)  
|        |        Range (002 is 2g)

Example: 4312M3-002-120

Model 4312M3, 2g, 120" Cable

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