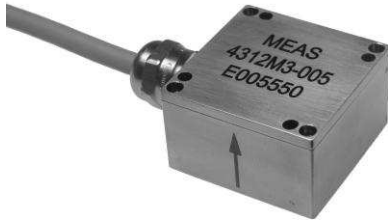
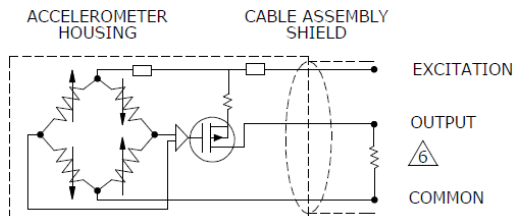
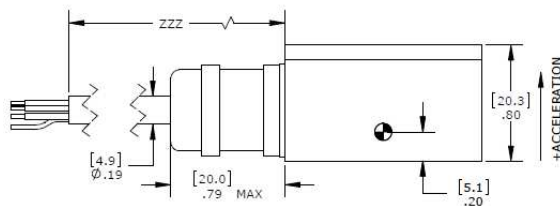
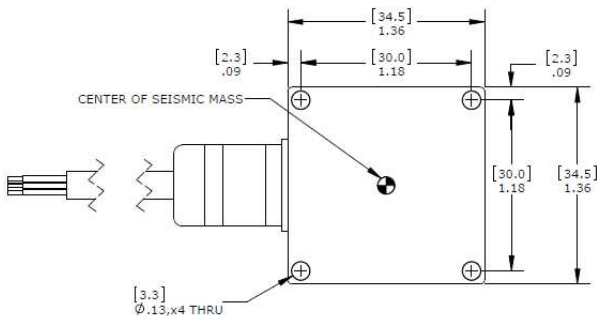



MODEL 4312M3 ACCELEROMETER



DIMENSIONS



WIRE DESIGNATIONS: WHITE = INPUT (EXCITATION)
 PINK = OUTPUT
 YELLOW = COMMON (CIRCUIT GROUND)
 THE OTHER THREE WIRES ARE NOT CONNECTION

 LOAD RESISTOR (USER INSTALLED) < 250 ohms.

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°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					Notes
DYNAMIC					
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
ELECTRICAL					
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				
Insulation Resistance (MΩ)	>100				@100Vdc
Load Resistor (Ω)	<250				User Installed
Turn On Time (msec)	<100				
Grounding	Case Grounded, Internally Isolated Circuit				
ENVIRONMENTAL					
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				
PHYSICAL					
Case Material	316 Stainless Steel				
Cable	PVC Insulated Leads (6x 0.14 mm ²), Braided Shield, PVC Jacket				
Weight (without cable)	<100 grams				
Mounting	4x #4 or M3 Screws				
Mounting Torque	6 lb-in (0.7 N-m)				
Calibration supplied:	CS-LFREQ-0010	NIST Traceable Amplitude Calibration from 1Hz to 100Hz			
Supplied accessories:	4x #4-40 (1 ½" length) Socket Head Cap Screw and Washer				
Optional accessories:	121	3-Channel Precision Low Noise DC Amplifier			
	AC-A05172	Adhesive Mounting Adaptor			

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 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