

MODEL 201 ACCELEROMETER

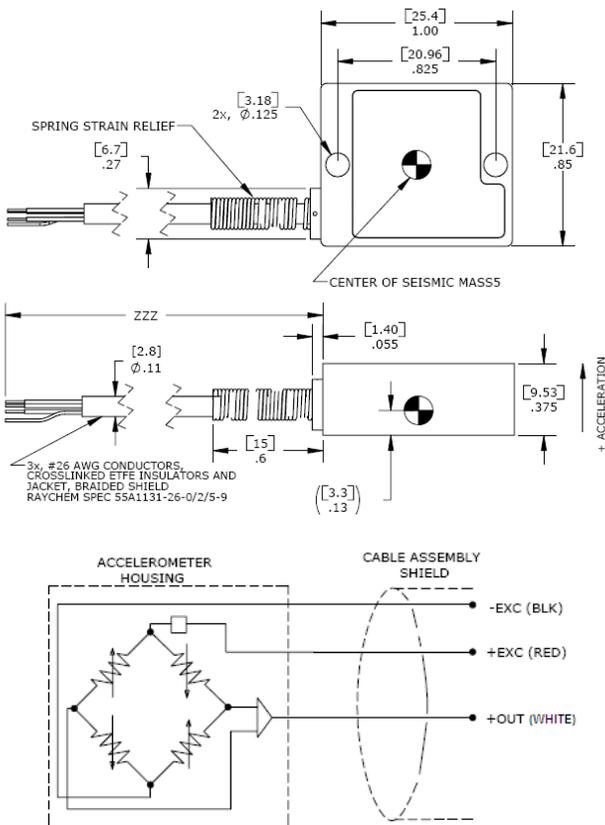


SPECIFICATIONS

- MEMS DC Accelerometer
- Temperature Calibrated
- Robust Cable and Strain Relief
- Amplified Output

The **Model 201** is a rugged, low-profile MEMS accelerometer designed for both static and dynamic applications. The accelerometer is available in ranges from ± 2 to $\pm 100g$ and offers a signal conditioned and amplified output. Featuring gas damped MEMS sensing element and a LP filtering circuit, **the model 201** provides a flat frequency response to 100Hz over an operating temperature range of $-40^{\circ}C$ to $+125^{\circ}C$.

DIMENSIONS



FEATURES

- $\pm 2g$ to $\pm 100g$ Dynamic Range
- Amplified Output
- Low Power Consumption
- Gas Damping
- #26 AWG Rugged Cable
- DC, Low Frequency Response
- 5 to 30Vdc Excitation Voltage

APPLICATIONS

- Transportation Measurements
- Vibration & Shock Monitoring
- Road Vehicle Testing
- Low Frequency Applications
- Motion Analysis

PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters								Notes
DYNAMIC								
Range (g)	±2	±5	±10	±20	±30	±50	±100	
Sensitivity (mV/g)	1000	400	200	100	67	40	20	
-3dB Cutoff Frequency (Hz)	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	
Rolloff Above Cutoff Frequency (dB/dec)	-40	-40	-40	-40	-40	-40	-40	
Natural Frequency (Hz)	700	800	1000	1500	1500	4000	6000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<3	<2 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.6	
Shock Limit (g)	5000	5000	5000	5000	5000	5000	5000	
Residual Noise (µV RMS)	80	50	50	60	50	60	60	Passband
Residual Noise (µg/√Hz RMS)	8	13	25	60	75	150	300	Spectral

ELECTRICAL								
Zero Acceleration Output (V)	2.5 ±0.1							
Excitation Voltage (Vdc)	5 to 30							
Excitation Current (mA)	<5							
Full Scale Output Voltage Swing (Vdc)	0.5 to 4.5							
Output Resistance (Ω)	<100							
Insulation Resistance (MΩ)	>100							
Turn On Time (msec)	<100							
Ground Isolation	Isolated from Mounting Surface							

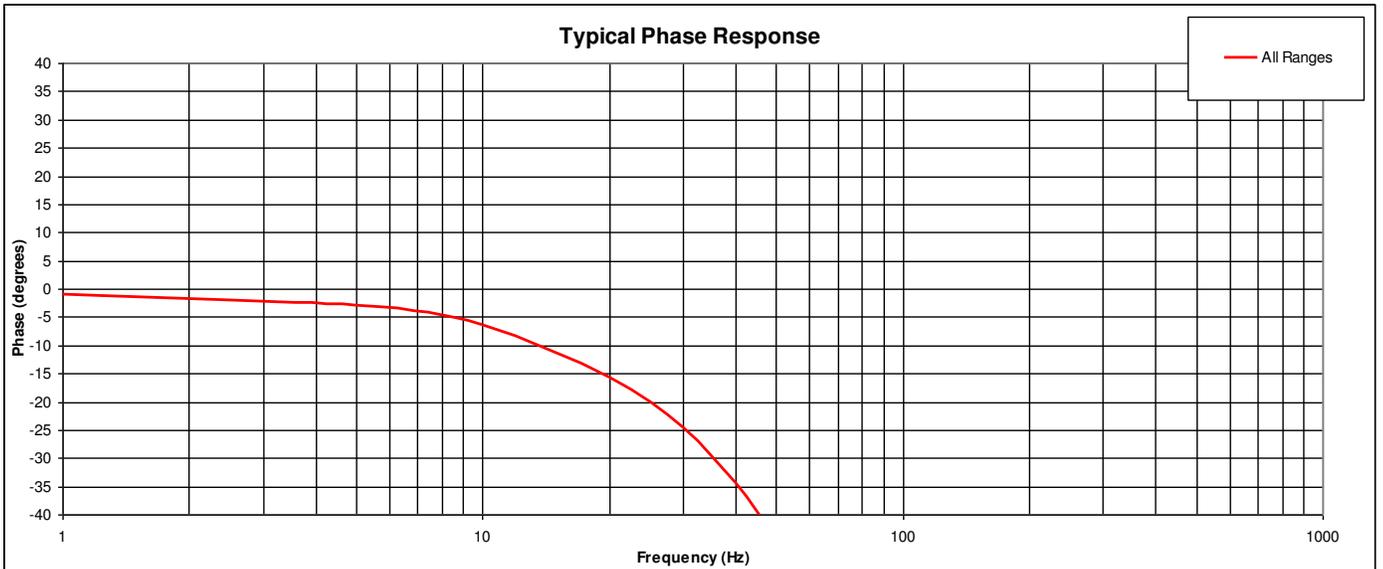
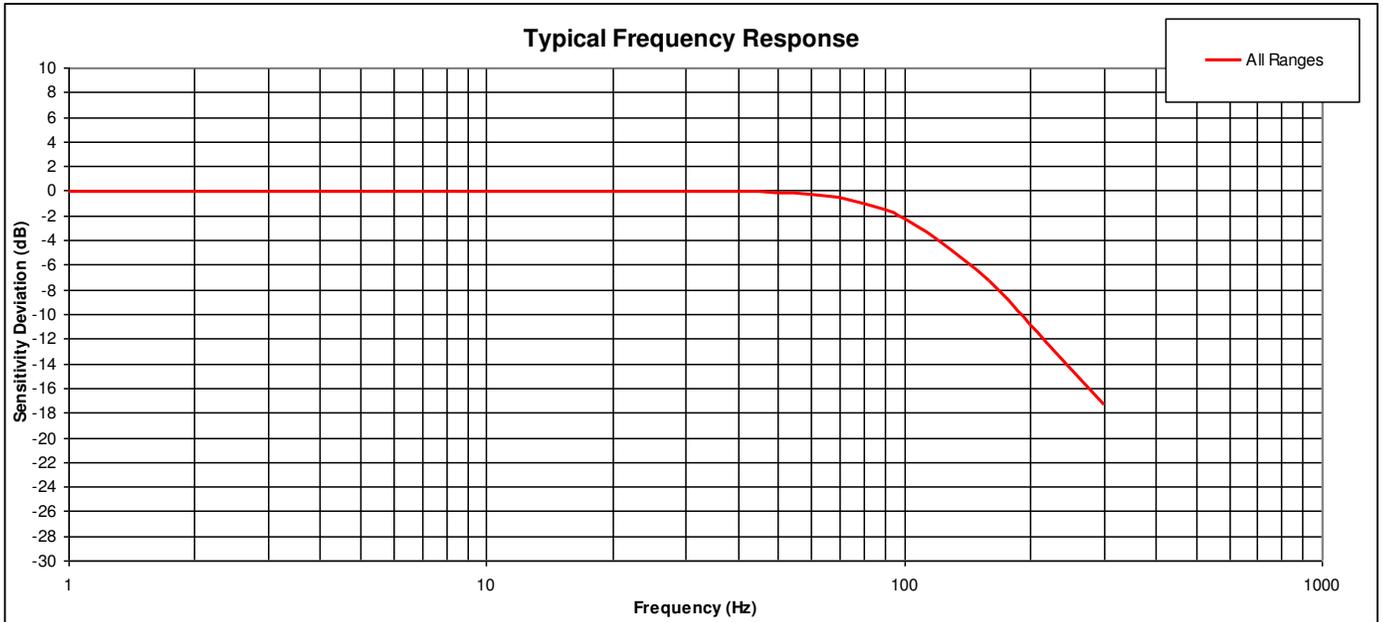
@100Vdc

ENVIRONMENTAL	
Thermal Zero Shift (%FSO/°C)	±0.012
Thermal Sensitivity Shift (%/°C)	±0.020
Operating Temperature (°C)	-40 to 125
Compensated Temperature (°C)	0 to 85
Storage Temperature (°C)	-40 to 125
Humidity	Epoxy Encapsulated, IP65

PHYSICAL	
Case Material	Anodized Aluminum
Cable	ETFE Insulated Leads, Braided Shield, Crosslinked ETFE Jacket
Weight (grams)	10
Mounting	2x #4 or M3 Screws
Mounting Torque	6 lb-in (0.7 N-m)

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to 100Hz
Supplied accessories:	AC-A03654	2x #4-40 (1/2" length) Socket Head Cap Screw and Washer
Optional accessories:	AC-D02669 121	Triaxial Mounting Block Three Channel DC Differential Amplifier

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ORDERING INFORMATION

PART NUMBERING Model Number+Range+Cable Length

201-XX--CCC
| |
| | Cable (060 is 60 inches)
| Range (05 is ±5g, 100 is ±100g)

Example: 201-05-060
Model 201, 5g, 60" (5ft) Cable

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
1000 Lucas Way
Hampton, VA 23666
Sales and Customer Service
Tel: +1-800-745-8008 or
+1-757-766-1500
Fax: +1-757-766-4297
t&m@meas-spec.com

EUROPE

MEAS France SAS
a TE Connectivity Company
26 Rue des Dames
F78340 Les Clayes-sous-Bois
France
Sales and Customer Service
Tel: +33 (0) 1 79 33 00
Fax: +33(0)1 34 81 03 59
t&m@meas-spec.com

ASIA

Measurement Specialties (China), Ltd.,
a TE Connectivity Company
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 518057
China
Sales and Customer Service
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
t&m@meas-spec.com

TE.com/sensorsolutions

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