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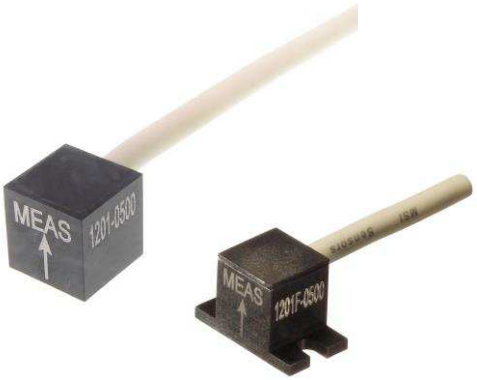
MODEL 1201 & 1201F CRASH TEST ACCELEROMETER



Specifications

- DC Response Crash Test Accelerometer
- Next Generation Piezoresistive MEMS Sensor
- ±50g to ±2000g Ranges
- Designed for Demanding Crush Zone Testing
- Compliant to SAE-J211

Features

- Standard <40mV ZMO
- Linearity <1%
- 10,000g Shock Protection
- 2-10Vdc Excitation
- IP65 Environmentally Sealed
- Optimum Gas Damping
- Low Noise, Durable Cable

Applications

- Crush Zone Testing
- Auto Safety Testing Applications
- Shock and Impact Testing
- Transient Drop Testing
- Helmet Impact Testing

The Model 1201 & 1201F Series Accelerometers are some of the most popular auto safety test accelerometers used in crush zone installations. The accelerometers feature the next evolution of the reliable TE Connectivity piezoresistive MEMS sensor, with optimum amount of internal gas damping for outstanding shock survivability and a flat amplitude response up to frequencies greater than 6000Hz (1000g & 2000g ranges).

The model 1201 & 1201F accelerometers are available in ranges from ±50g to ±2000g and feature a full-bridge configuration with a nominal 4000Ω impedance that offers quick warm-up time and minimal drift, far superior to competitive sensors in market.

The accelerometers are packaged in a rugged housing with a shielded low-noise cable specifically designed for crush zone testing. The model 1201 is design for adhesive mounting while the 1201F has an integral flange for screw mounting with supplied #2-56 socket head cap screws.

The model 1201 & 1201F series accelerometers are fully encapsulated in Stycast for IP65 protection over the full operating temperature range of -20°C to +85°C. TE Connectivity also supplies the calibration data in a user friendly excel format which enables high volume users to quickly upload the calibration information for each sensor installed.

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PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 10Vdc excitation unless otherwise stated. TE Connectivity reserves the right to update and change these specifications without notice.

PARAMETERS

DYNAMIC							NOTES
Range (g)	±50	±100	±200	±500	±1000	±2000	
Sensitivity (mV/g)[1]	1.2-3.0	0.6-1.2	0.6-1.2	0.3-0.6	0.12-0.3	0.12-0.3	@10Vdc Excitation
Frequency Response (Hz)	0-800 0-1200	0-1000 0-1600	0-1400 0-1800	0-2000 0-2700	0-4000 0-6000	0-4000 0-6000	±5% ±1dB
Natural Frequency (Hz)	4000	6000	8000	11000	28000	28000	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	±1	
Damping Ratio	0.5	0.5	0.5	0.3	0.15	0.15	
Shock Limit (g)	5000	5000	5000	10000	10000	10000	

ELECTRICAL		
Zero Acceleration Output (mV)	<±40	Differential
Excitation Voltage (Vdc)	2 to 10	
Input Resistance (Ω)	3500-4500	
Output Resistance (Ω)	3500-4500	
Insulation Resistance (MΩ)	>100	@100Vdc
Residual Noise (µV RMS)	<10	
Ground Isolation	Isolated from mounting surface	
Warm-up Time	<10 seconds	@10Vdc Excitation

ENVIRONMENTAL		
Thermal Zero Shift (%FSO/°C)	±0.04	From 0 to +50°C
Thermal Sensitivity Shift (%/°C)	-0.20 ±0.05	From 0 to +50°C
Operating Temperature (°C)	-20 to +85	
Storage Temperature (°C)	-20 to +85	
Humidity	Epoxy Sealed, IP65	

PHYSICAL		
Case Material	Anodized Aluminum, Black	
Cable	4x #28 AWG Leads, PFA Insulated, Braided Shield, PU Jacket	
Weight (grams)	2.0	Cable not included
Mounting	Adhesive mount for 1201, Screw mount for 1201F,	

[1] Output is ratiometric to excitation voltage

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Limit
Optional accessories:	121	3-Channel Precision Low Noise DC Amplifier

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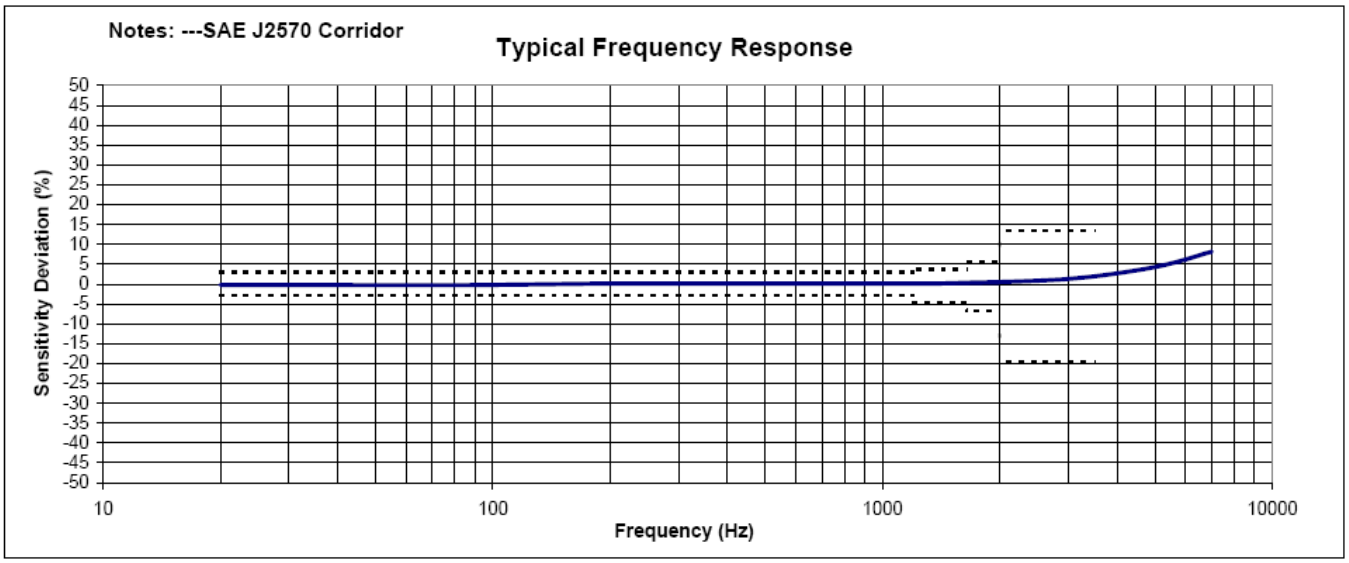
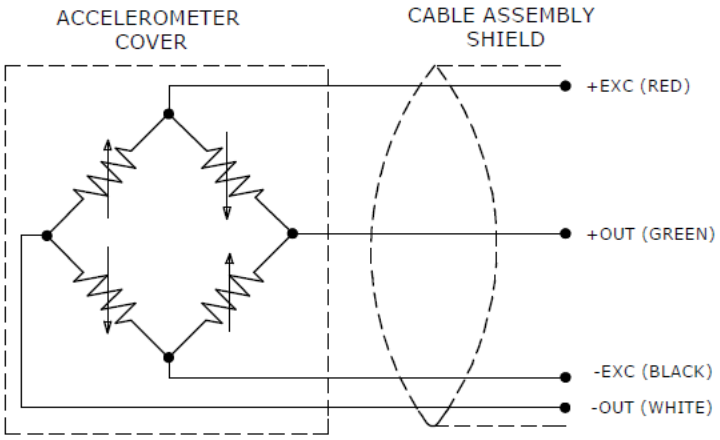
TYPICAL FREQUENCY RESPONSE



SCHEMATIC



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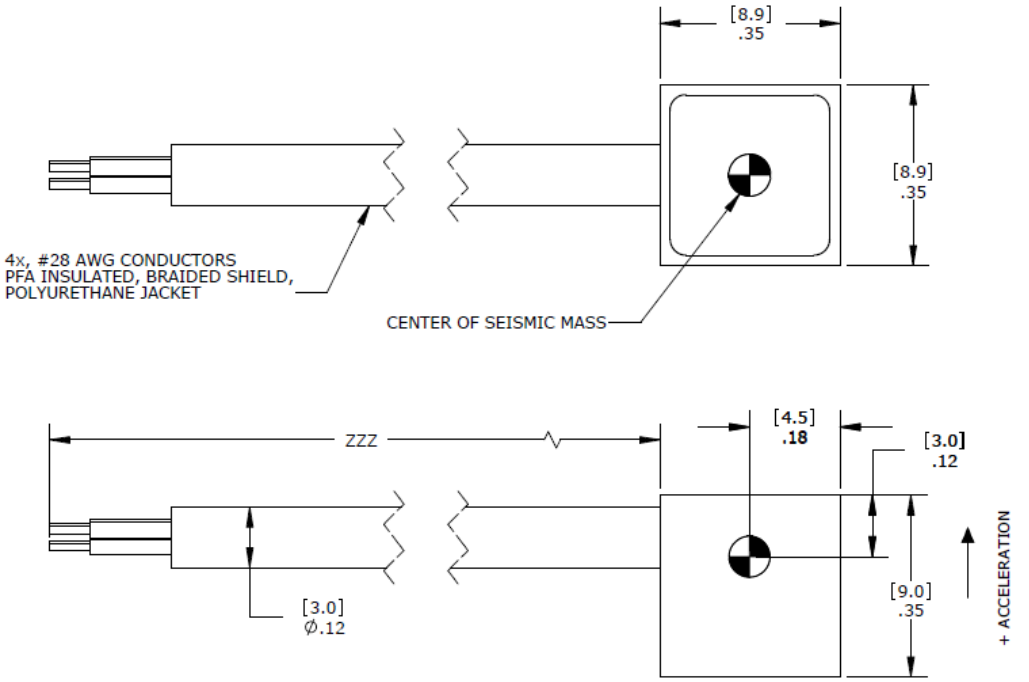
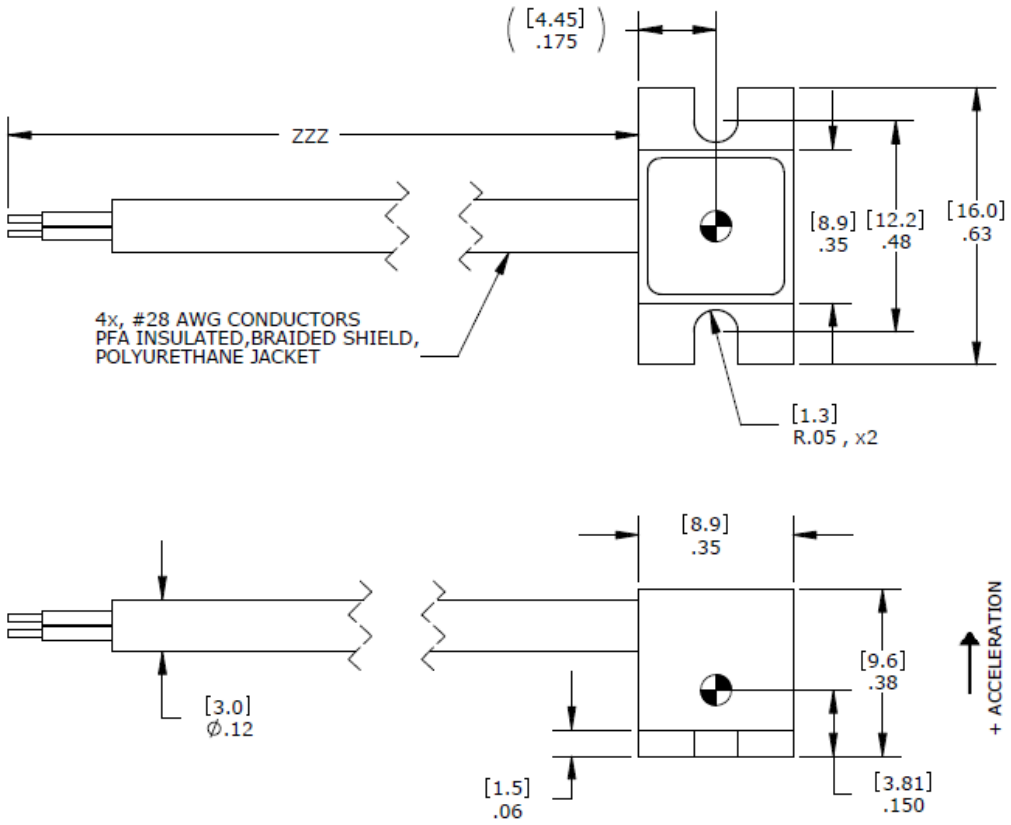
DIMENSIONS, MODEL 1201



DIMENSIONS, MODEL 1201F



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ORDERING INFORMATION

1201 (adhesive mount) 1201F (screw mount)	GGGG	ZZZ	XXX
Range 0050 = 50g 0100 = 100g 0200 = 200g 0500 = 500g 1000 = 1000g 2000 = 2000g			
Cable length 240 = 240 inches, 20 feet 360 = 360 inches, 30 feet 276 = 276 inches, 7 meters			
Excitation Voltage Option Blank = 10Vdc 001 = 5Vdc 002 = 2Vdc			

Example; 1201-1000-360
Model 1201 (adhesive mount), 1000g range, 360inch (30ft) cable length

Example; 1201F-0500-276-001
Model 1201F (screw mount), 500g range, 276inch (7m) cable length, 5V excitation at calibration test

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