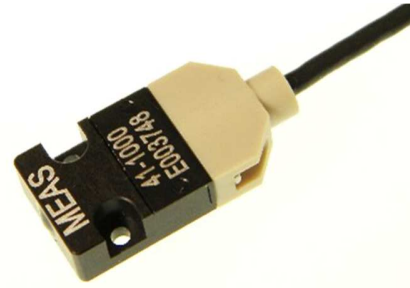


Model 41 Accelerometer



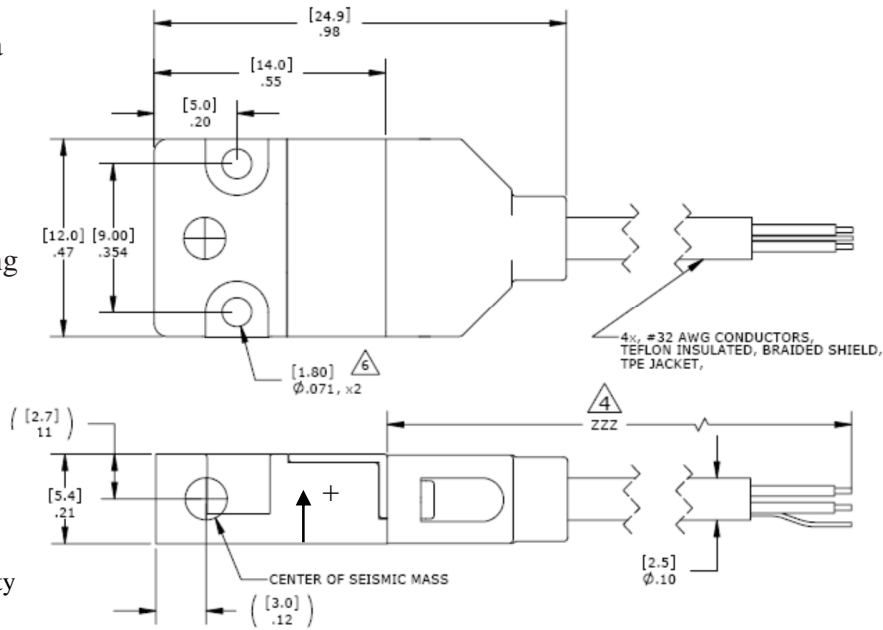
DC Response
 Internal Damping
 Solder Cable Interface Board
 For On-Vehicle Crash Testing



The Model 41 Accelerometer is based on advanced silicon piezoresistive sensing elements which offer exceptional stability and an order of magnitude higher in output sensitivity compared to its competition. This unit features a full bridge output configuration with an operating range from -20 to +80° C. Internal fluid damping provides outstanding shock survivability and a flat amplitude/phase response up to 3kHz. Its high output sensitivity and user replaceable cable interface make it an ideal accelerometer for on-vehicle automotive crash testing.

A Model 41L version is also available featuring transverse sensing direction.

dimensions

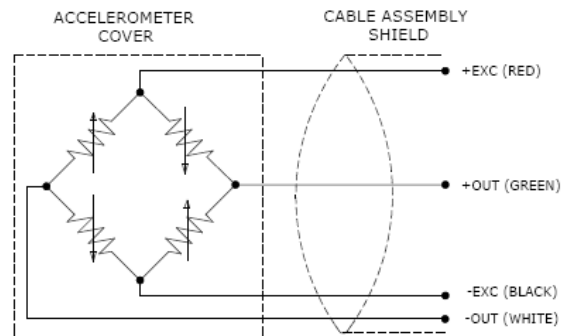


FEATURES

- Silicon Piezoresistive Elements
- ± 250 to ±2,000 g Ranges
- Field Replaceable cable interface
- 2-10 Vdc Excitation for Maximum Flexibility
- -20 to +80 °C Temperature Range
- Critically Damped Sensor
- Low Transverse Sensitivity
- <± 5 mV Zero Offset

APPLICATIONS

- Safety Crash Testing
- Auto
- Truck
- Recreational Vehicles
- Shock Testing



Model 41 Accelerometer

performance specifications

All values are typical at $\pm 24^{\circ}\text{C}$, 100 Hz and 5 Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1004 for Plug & Play DC Accelerometers.

Parameters	-0250	-0500	-1000	-2000	Notes
DYNAMIC					
Range(g)	± 250	± 500	± 1000	± 2000	
Sensitivity ($\mu\text{V/g}$)	300	150	75	37.5	@ 5Vdc excitation
Frequency Response (Hz)	TBD	TBD	0 - 2000	0 - 2000	$\pm 1\text{dB}$
	TBD	TBD	4000	4000	-3 dB typical
Natural Frequency (Hz)	>2500	>4500	>6000	>10000	
Non-Linearity (% FS)	± 1	± 1	± 1	± 1	
Damping Ratio	~ 0.7	~ 0.7	~ 0.7	~ 0.7	
Transverse Sensitivity (%)	< 3	< 3	< 3	< 3	
Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$)	± 0.05	± 0.05	± 0.05	± 0.05	From -10 to $+50^{\circ}\text{C}$
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$)	± 0.1	± 0.1	± 0.1	± 0.1	From -10 to $+50^{\circ}\text{C}$
ELECTRICAL					
Zero Acceleration Output (mV)	$< \pm 5$	$< \pm 5$	$< \pm 5$	$< \pm 5$	
Excitation (Vdc)	2 to 10	2 to 10	2 to 10	2 to 10	
Input Resistance (Ω)	2000	2000	2000	2000	
Output Resistance (Ω)	1000	1000	1000	1000	
Insulation Resistance ($M\Omega$)	> 100	> 100	> 100	> 100	@ 50Vdc
Ground Isolation	Isolated from mounting surface.				
ENVIRONMENTAL					
Shock Limit (g)	10000				
Operating Temperature ($^{\circ}\text{C}$)	-20 to +80				
PHYSICAL					
Case Material / Cover Material	Anodized Aluminum				
Cable (Integral 30 Foot Cable)	4 x 32 AWG Conductors, Teflon Insulated, Braided Shield, PU Jacket				
Weight (grams)	3				
Mounting	2x 0-80 x 3/16 socket head cap screws				
					Cable Not Included Torque 3 lb-in
OPTION					
Model 41L-GGGG-CCC	With transverse sensing direction (parallel to mounting surface)				

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ordering info

PART NUMBERING Model Number+Range +Cable Length
 41-GGGG-CCC
 1 1
 1 1
 1 1 _____ Cable (360 is 360 inches)
 1 _____ Range (0100 is 100 g)

Example: 41-1000-360
 Model 41, 1000g, 360" (30ft) Cable