Full bridge piezo-resistive accelerometer

Description

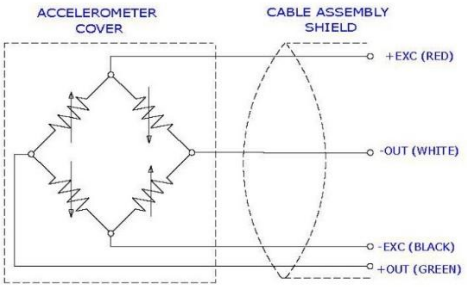
Model H52M accelerometer is based on a latest piezo-resistive MEMS sensing element which offers exceptional dynamic range and stability. This unit features a full bridge output configuration with a compensated emperature range from 0 to +50° C. Model H52M accelerometer has a standard crosstalk accuracy of <±3%. Epoxy pottin$_g$ design support the feature of waterproof 1P67) protection. Advance MEMS structure provides outstanding shock survivability, a flat amplitude and phase response up to 5kHz. Model H52M can be mounted ontested object by different surface for the best testing orientation.

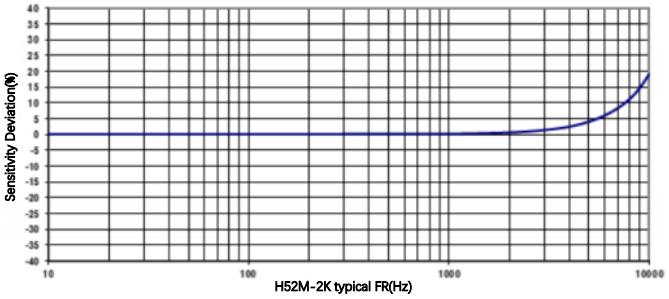
Features

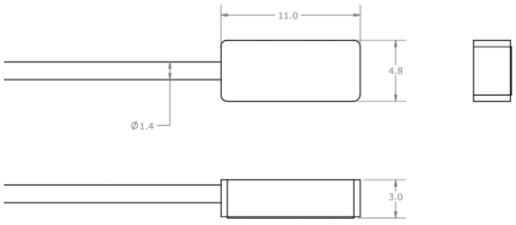
- Water proof housing
- DC response
- 1000 g full scale
- Shock, low & high frequency
- 6K g shock survivability
- 2-10Vdc Excitation
- Light weight

Application

- Auto crash test
- On vehicle shock test
- Crash sled simulation test







H52M Accelerometer

Specification

All values are typical at +24°C (+75°F), 100Hz, and 10Vdc excitation unless otherwise stated.

DASH No.	-01K	-05K	-1K	-2K	Units
Dynamic Range	±100	±500	±1000	±2000	g
Sensitivity	0.9	0.4	0.15	0.15	mV/g
Frequency Response ±2%	0-500	0-1000	0-1500	0-1500	Hz
Frequency Response ±5%	0-1200	0-2000	0-3000	0-3000	Hz
Frequency Response ±1dB	0-1500	0-4000	0-5000	0-5000	Hz
Phase Response ±5°	0-400	0-1000	0-2000	0-2000	Hz
Resonant Frequency	6000	15000	26000	26000	Hz
Damping Ratio	0.5	0.3	0.05	0.05	
Shock Limit	6000	6000	6000	6000	g

PARAMETERS	VALUE	UNITS
Zero Acceleration Output (<±20 by option)	<±40	mV
Transverse Sensitivity	≤3	%
Non-Linearity	≤±1	%Reading
Thermal Zero Shift, 0-50°C (32-122°F)	±0.04 (±0.02)	%FSO/°C (%FSO/°F)
Thermal Sensitivity Shift, 0-50°C (32-122°F)	±0.1 (±0.06)	%/°C (%/°F)
Excitation Voltage	2 to 10	Vdc
Insulation Resistance (@100Vdc)	>100	MΩ
Input Impedance	3000 to 5000	Ω
Output Impedance	2500 to 5000	Ω
Operating Temperature	-40 to +121 (-40 to +250)	°C (°F)
Humidity	Epoxy Sealed	
Weight (Cable Not Included)	0.3	Grams
Mounting Torque	3 (0.3)	lb-in (Nm)

Accessories

Calibration certificate included.

Part Number	Description	Availability
PJ0048	LEMO FGG-1B-307 connector	Optional
PF0095	Quick dry adhesive epoxy-Loctite #401	Optional
IN-01	Bridge piezo-resistive signal amplifier	Optional
IN-3062	8 channels data acquisition system	Optional

H52M Accelerometer

Measurement configuration

Sensor	LEMO connector	Data acquisition	Computer
			

Ordering information

H52M	-	2K	-	8	C1	-	T
Model	-	Range	-	Cable length	Connector	-	Transverse Sensitivity
H52M	-	01K=100g 05K=500g 1K=1000g 2K=2000g	-	6=6 meters 8=8 meters 9=9 meters	C*=Connector options Blank=No Connector	-	T=<1% T2=<2% Blank=<3% Z=<20mv

Connector options

C1	C2	C3	C4	
LEMO FGG-1B-307 Dallas Chip: DS2401	**LEMO FGG-1B-307**	**LEMO FGG-1B-307 Dallas Chip: DS2401**	**LEMO FGG-1B-307**	**Blank**
Pin1=N/C Pin2=Dallas pin2 Pin3=+OUT (Green) Pin4=+EXC (Red) Pin5=-EXC (Black) Pin6=-OUT (White) Pin7=N/C Housing=Dallas pin1=Shield	Pin1=N/C Pin2=N/C Pin3=+OUT (Green) Pin4=+EXC (Red) Pin5=-EXC (Black) Pin6=-OUT (White) Pin7=N/C Housing=Shield	Pin1=N/C Pin2=Dallas pin2 Pin3=+OUT (Green) Pin4=+EXC (Red) Pin5=-EXC (Black) Pin6=-OUT (White) Pin7=Housing=Dallas pin1=Shield	Pin1=-OUT (White) Pin2=-EXC (Black) Pin3=+EXC (Red) Pin4=+OUT (Green) Pin5= N/C Pin6=N/C Pin7= N/C Housing=Shield	No connector