

81C2

Piezoresistive Accelerometer Uniaxial, flat form

Features

The **Model 81C2** Accelerometer is a small, compact uniaxial device designed for vehicle impact and road testing. Featuring ranges from $\pm 50g$ to $\pm 6000g$ and high frequency response, this sensor is easily mounted in hard to get places on vehicles under test.

The sensor provides a millivolt output signal and features mechanical overload stops that provide shock protection to loads greater than 10,000g. The electrical signal changes proportional to introduced vibration.



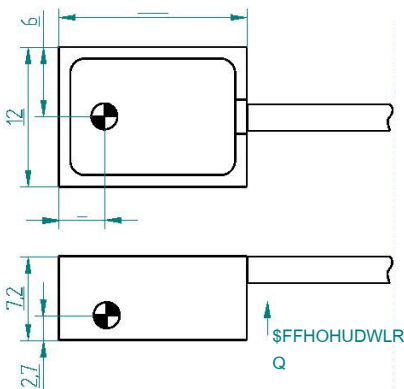
- ☐ Advanced MEMS Sensing Element
- ☐ Wheatstone Bridge
- ☐ Specification SAE J211
- ☐ Ranges $\pm 50g$ to $\pm 6000g$
- ☐ $\pm 25mV$ Zero Measurement Output typ.
- ☐ 2–10 VDC Excitation
- ☐ Gas Damping
- ☐ Mechanical Overload Stops
- ☐ Adhesive Mounting
- ☐ Low Cost

Applications

- ☐ Crash Testing
- ☐ Vibration & Shock Monitoring
- ☐ Impact Testing
- ☐ Road Testing
- ☐ Transportation Testing

Service

- ☐ Sinusoidal Calibration
- ☐ Pendulum Calibration
- ☐ Connector Options
- ☐ Signal Conditioning
- ☐ Repair Options
- ☐ ID-Module Options



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Individual Technical Data

All values are typical at +24°C and 5VDC excitation

81C2				
Range (g)	Sensitivity ¹ (mV/g)	Frequency Response (±5%) (Hz)	Damping Ratio ³	Shock Limit ² (g)
±50	1.0	0 – 600	0.40 – 0.9	10,000
±100	0.5	0 – 800	0.40 – 0.9	10,000
±200	0.4	0 – 1000	0.20 – 0.6	10,000
±500	0.2	0 – 1200	0.20 – 0.6	10,000
±2000	0.08	0 – 2500	0.05 – 0.3	10,000
±6000	0.05	0 – 3000	0.05 – 0.3	10,000

1) Output is ratiometric to excitation voltage, signal conditioning optional

2) 10,000g shock limit in normal axis, 5,000g in transverse axes

3) Damping behavior varies with cable, mounting or gluing

General Technical Data

81C2 Performance		
Supply Voltage	(VDC)	2 to 10
Ranges	(g)	50 to 6000
Non-Linearity typ.	(%)	±1% FSO / ±2% FSO for ±6000 g
Transverse Sensitivity	(%)	<3
Zero Acceleration Output (differential) typ.	(mV)	±25
Input and Output Resistance	(N)	2400 – 6500
Thermal Zero Shift typ.	(%FSO/°C)	-0.09
Thermal Sensitivity Shift typ.	(%/°C)	-0.15
Operating Temperature	(°C)	-20 to 90
Storage Temperature	(°C)	-40 to 100
Weight Housing	(g)	3
Cable	(g/m)	nom. 6,5, 87 Shore A, Polyurethane
Material Housing		Aluminium, hard anodized

Order Information			
81C2-XXX-XXX			
1	2	3	
1 Model			
2 Range			
3 Cable Length and Pinout			

Cable Code	
Supply +	Red
Supply -	Black
Output +	Green
Output -	White

