

Accelerometer

Uniaxial

Type M0101A...

Type M0101A... is a small piezoresistive accelerometer. It is designed to be compliant with the latest SAE J211/J2570 specifications.

- Measuring range $\pm 1\ 000\ g$
- Excitation 2 ... 10 VDC
- Low transverse sensitivity
- Silicon piezoresistive elements
- Zero offset $\pm 50\ mV$

Description

The sensor's mechanical overload stops provide high shock protection in rugged applications. Featuring measuring range of 1 000 g and a shock limit up to 5 000 g. This sensor is easily mounted in hard to reach places on vehicles under test.

Application

The sensor is designed especially for crash testing, crush zone testing, impact testing, off-road testing and transportation testing.

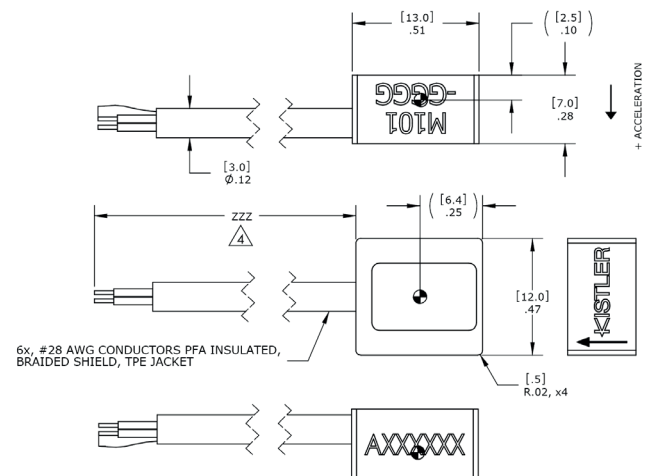


Fig. 1: Dimensions and center of seismic mass

Technical data

Measuring range	g	$\pm 1\ 000$
Sensitivity ¹⁾ (min. / max.)	mV/g	0.12 / 0.30
Frequency response	Hz	0 ... 3 000
		$\pm 5\ %$
	Hz	0 ... 6 000
	%FSO	± 1
Amplitude non-linearity		0.15
Damping ratio		<3
Transverse sensitivity	%	5 000
Shock limit	g	

Electrical

Zero acceleration output	mV	± 50
Excitation	VDC	2 ... 10
Input resistance	Ω	2 400 ... 6 000
Output resistance	Ω	2 400 ... 6 000
Insulation resistance, @ 50 VDC	M Ω	>100
Ground isolation		isolated from mounting surface

Environmental

Thermal zero shift, from 0 ... 50 °C	%FSO/°C	± 0.05
Thermal sens. shift, from 0 ... 50 °C	%/°C	-0.2 ... 0.05
Operating temperature range	°C	-20 ... 85
Storage temperature range	°C	-20 ... 85
Humidity, epoxy sealed		IP65

Physical

Case material	anodized aluminium	
Cable	4x#28 AWG conductors PFA insulated braided shield PU jacket	
Mounting	adhesive	
Weight	grams	<2.35

All values are typical at +24 °C, 100 Hz and 10 VDC excitation unless otherwise stated.

¹⁾ Output is ratiometric to excitation voltage

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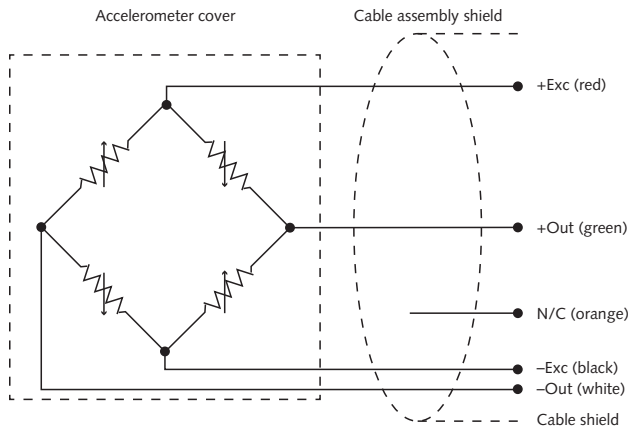


Fig. 2: Schematic diagram

Ordering key

Type M0101A00-□-□-□□□

Measuring range

±1 000 g 1000

Cable length

8 ... 360 inches^{*)} ###

Sensor detail

Nothing	A
UPS	B
Dallas	C
DiMod	D
Shunt	N
Shunt & Dallas	P

Connector

Conn. type, as per TP-600	#
Conn. assignment, as per TP-600	#

Calibration power supply

10 VDC	0
5 VDC	1
2.5 VDC	2
2 VDC	3

^{*)} 1 inch = 25,4 mm