

# Accelerometer

## Triaxial, Gas-damped

Type M1203A...

Type M1203A... is a small, compact triaxial device designed for vehicle impact and road testing.

- Measuring range  $\pm 500 \dots 1\,000$  g
- Excitation 2 ... 10 VDC
- Low transverse sensitivity
- Advanced MEMS element
- Gas-damped
- Mechanical overload stops

### Description

The mechanical overload stops of the sensor provide high shock protection in rugged applications. Featuring ranges from  $\pm 500 \dots 1\,000$  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 for crash testing, vehicle testing, impact testing, off-road testing, transportation testing.

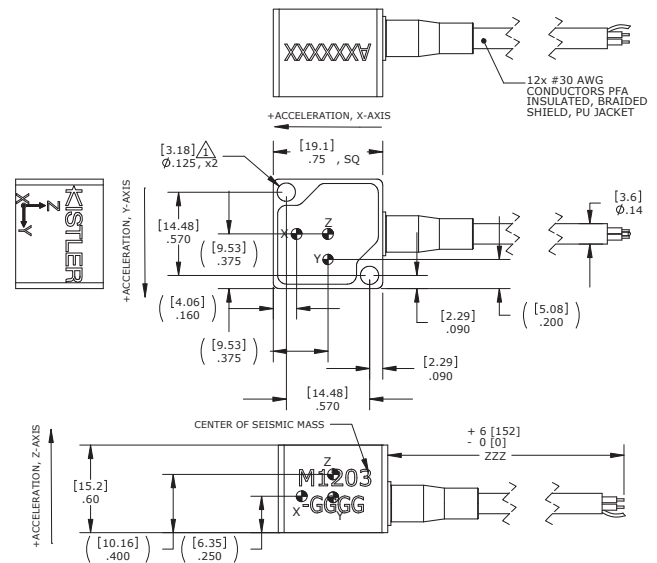


Fig. 1: Dimensions and center of seismic mass

### Technical Data

#### Dynamic

Measuring range	g	$\pm 500$	$\pm 1\,000$
Sensitivity <sup>1)</sup> @ 10 VDC excitation	mV/g	0,40	0,15
Frequency response $\pm 5\%$	Hz	0 ... 1 200	0 ... 1 500
Resonant frequency	Hz	6 000	7 000
Damping ratio, typ.		0,3	0,1
Amplitude non-linearity, of reading	%FSO	$\pm 1$	$\pm 1$
Transverse sensitivity	%	<3	<3
Shock limit	g	5 000	5 000

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## Technical Data (Continuation)

### Electrical

Zero acceleration output	mV	<±40
Excitation	VDC	2 ... 10
Input resistance	Ω	2 400 ... 6 000
Output resistance	Ω	2 400 ... 6 000
Insulation resistance, @ 50 VDC	MΩ	>100
Ground isolation		isolated from mounting surface

### Environmental

Thermal zero shift, from 0 ... 50 °C	%FSO/°C	±0,05
Thermal sensitivity shift, from 0 ... 50 °C	%/°C	±0,2
Operating temperature range	°C	-20 ... 85
Storage temperature range	°C	-20 ... 85
Humidity, epoxy sealed		IP65

### Physical

Case material	anodized aluminium	
Cable	12x#30 AWG conductors PFA insulated braided shield PU jacket	
Mounting	2x#4 or M3 socket head cap screws torque 8 lb-in (1 N·m)	
Weight (without cable)	grams	20

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

<sup>1)</sup> Output is ratiometric to excitation voltage

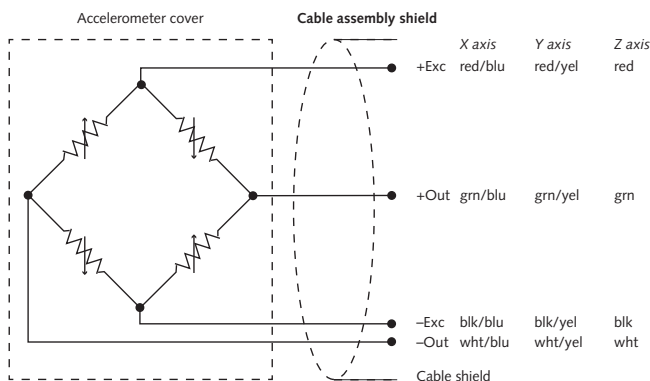


Fig. 2: Schematic diagram

## Ordering Key

Type M1203A00-□-□-□-□-□

### Measuring Range

±500 g	0500
±1 000 g	1000

### Cable Length

8 ... 360 inches <sup>1)</sup>	###
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### 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

<sup>1)</sup> 1 inch = 25,4 mm

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