

# Accelerometer

## Uniaxial, Gas-damped

Type M1201F...

Type M1201F... is a small, compact uniaxial accelerometer designed for vehicle impact and road testing.

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

### Description

Its mechanical overload stops provide high shock protection in rugged applications. Featuring measuring ranges from  $\pm 500 \dots 1\,000\text{ g}$  and a shock limit up to  $5\,000\text{ g}$ . 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, transportation testing.

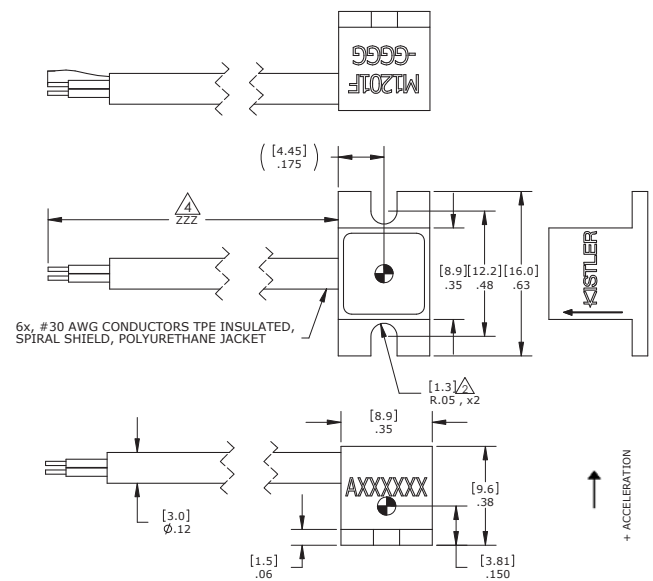


Fig. 1: Dimensions and center of seismic mass

### Technical Data

#### Dynamic

	g	$\pm 500$	$\pm 1\,000$
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	$0 \dots 2\,000$	$0 \dots 3\,000$
Resonant frequency	Hz	$6\,000$	$7\,000$
Amplitude non-linearity	%FSO	$\pm 1$	$\pm 1$
Damping ratio, typ.		0,3	0,1
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 sens. 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	4x#28 AWG conductors PFA insulated braided shield PU jacket	
Mounting	2x#2-56 socket head cap screws torque 4 lb-in	
Weight (without cable)	grams	<2,5

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

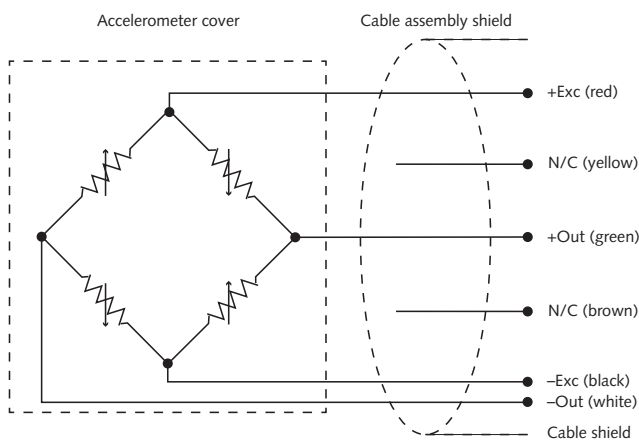


Fig. 2: Schematic diagram

**Ordering Key**

Type M1201F-□-□-□□□

**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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