

Accelerometer

Uniaxial, Piezoresistive

Type M0064B...

Type M0064B... is based on an advanced piezoresistive MEMS sensing element which offers exceptional dynamic range and stability.

- Measuring ranges $\pm 200 \dots 2\,000\text{ g}$
- Excitation $2 \dots 10\text{ VDC}$
- Low transverse sensitivity
- Piezoresistive MEMS element
- Low noise jacketed cable
- Zero offset $< \pm 25\text{ mV}$

Description

The sensor features a full bridge output configuration with a temperature range from $0 \dots 50\text{ }^\circ\text{C}$. A slight amount of internal gas damping provides outstanding shock survivability and a flat amplitude and phase response up to 7 kHz . Type M0064B... is compliant with SAE J211 standards for anthropomorphic dummy instrumentation.

Application

The sensor is designed especially for safety crash testing (auto, truck, recreational vehicles, shock testing).

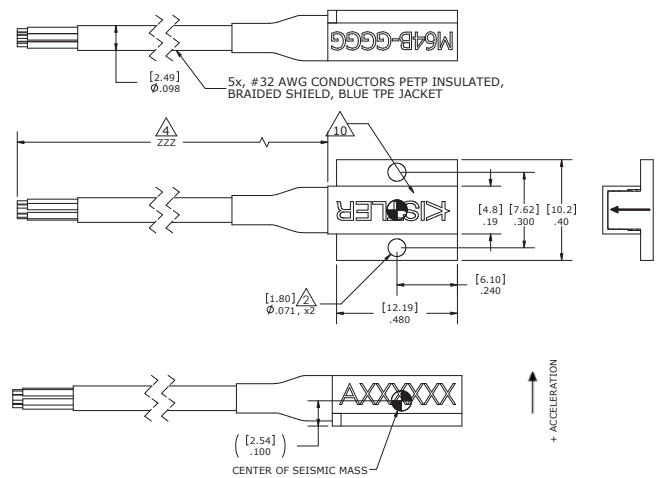


Fig. 1: Dimensions and center of seismic mass

Technical Data

Dynamic

Measuring range	g	± 200	± 500	$\pm 2\,000$
Sensitivity ¹⁾	mV/g	0,80	0,40	0,15
Frequency response				
$\pm 2,0\%$	Hz	0 ... 600	0 ... 800	0 ... 3 000
$\pm 1/2\text{ dB}$	Hz	0 ... 1 400	0 ... 2 000	0 ... 5 000
$\pm 1\text{ dB}$	Hz	0 ... 1 900	0 ... 2 800	0 ... 7 000
Resonant frequency	Hz	8 000	15 000	26 000
Amplitude non-linearity	%FSO	± 1	± 1	± 1
Damping ratio, typ.		0,5	0,3	0,05
Transverse sensitivity ²⁾	%	< 3	< 3	< 3
Shock limit	g	5 000	10 000	10 000

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Technical Data (Continuation)

Electrical

Zero acceleration output ³⁾	mV	<±25
Excitation	VDC	2 ... 10
Input resistance	Ω	2 400 ... 6 000
Output resistance	Ω	2 400 ... 6 000
Insulation resistance, @ 100 VDC	MΩ	>100
Residual noise	μV RMS	<10
Ground isolation		isolated from mounting surface

Environmental

Thermal zero shift, from 0 ... 50 °C	%FSO/°C	±0,04
Thermal sens. shift, from 0 ... 50 °C	%/°C	-0,2 (±0,05)
Operating temperature range	°C	-40 ... 121
Storage temperature range	°C	-40 ... 121
Humidity, epoxy sealed		IP61

Physical

Case material/cover material	anodized aluminium	
Cable ⁴⁾	4x#32 AWG conductors PFA insulated braided shield TPE jacket	
Mounting	2x#0-80x3/16 socket head cap screws torque 3 lb-in	
Weight (without cable)	grams	1

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

- ¹⁾ Output is ratiometric to excitation voltage. Tolerance is -30 ... 50 %
- ²⁾ <1 % Option
- ³⁾ <±10 mV Option
- ⁴⁾ Integral up to a cable length of 360 inches available

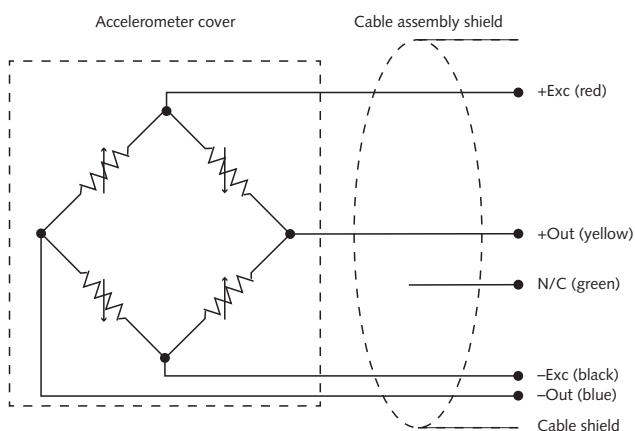


Fig. 2: Schematic diagram

This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

Included Accessories

- Socket head cap screw, 2x#0-80 (3/16" length)
- Washer, 2x#0
- Allen key, 1 unit

Type No.

on request
on request
on request

Optional Accessories

- None

Ordering Key

Type M0064B00-□-□-□□□□

Measuring Range

±200 g	0200
±500 g	0500
±2 000 g	2000

Cable Length

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

Transverse Sensitivity

Standard (<3 %)	S
High precision (<1 %)	T

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

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