

Accelerometer

Uniaxial, Piezoresistive

Type M0064C...

Type M0064C... 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 M0064C... 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).

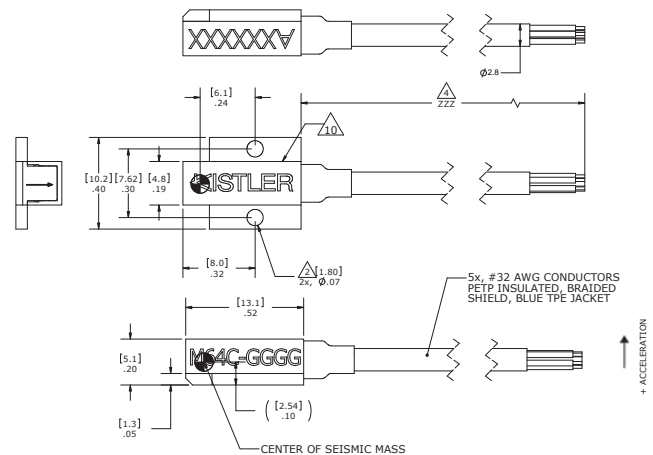


Fig. 1: Dimensions and center of seismic mass

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

M0064C_003-100e-03.19

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		IP66

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

²⁾ <1 % Option

³⁾ <±10 mV Option

⁴⁾ Integral up to a cable length of 360 inches available

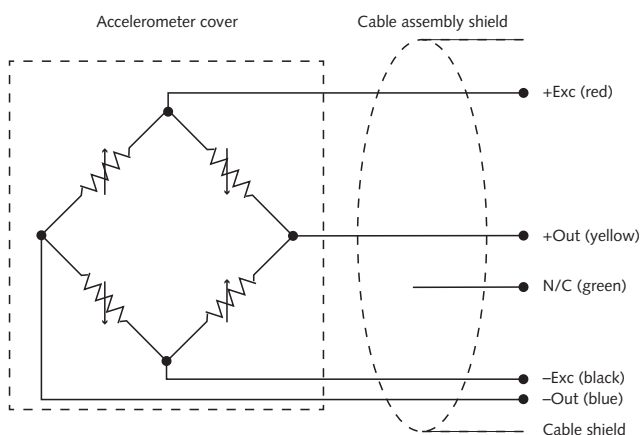


Fig. 2: Schematic diagram

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 M0064C00-□-□-□□□□

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

M0064C_003-100e-03.19

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