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measure. analyze. innovate.

Accelerometer

Type M0064C...

Uniaxial, Piezoresistive

Type M0064C... is based on an advanced piezoresistive MEMS sensing element which offers exceptional dynamic range and stability.

- Measuring ranges ±200 ... 2 000 g
- Excitation 2 ... 10 VDC
- Low transverse sensitivity
- Piezoresistive MEMS element
- Low noise jacketed cable
- Zero offset <±25 mV

Description

The sensor features a full bridge output configuration with a temperature range from 0 ... 50 °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).

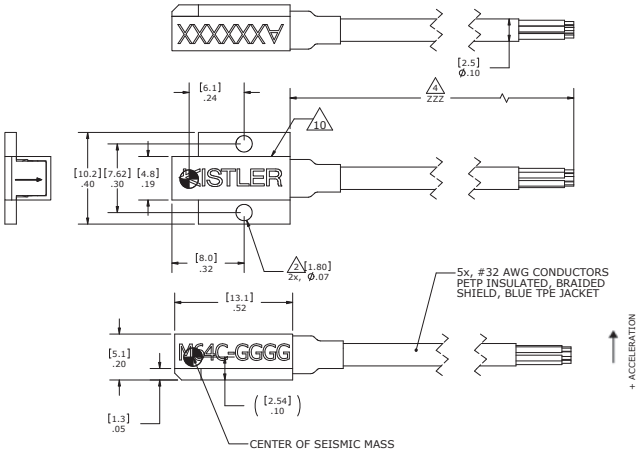

Fig. 1: Dimensions and center of seismic mass

Technical Data

Dynamic

Measuring range	g	±200	±500	±2 000
Sensitivity[1)]	mV/g	0,80	0,40	0,15
Frequency response				
±2,0 %	Hz	0 ... 600	0 ... 800	0 ... 3 000
±½ dB	Hz	0 ... 1 400	0 ... 2 000	0 ... 5 000
±1 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
2) <1 % Option
3) <±10 mV Option
4) Integral up to a cable length of 360 inches available

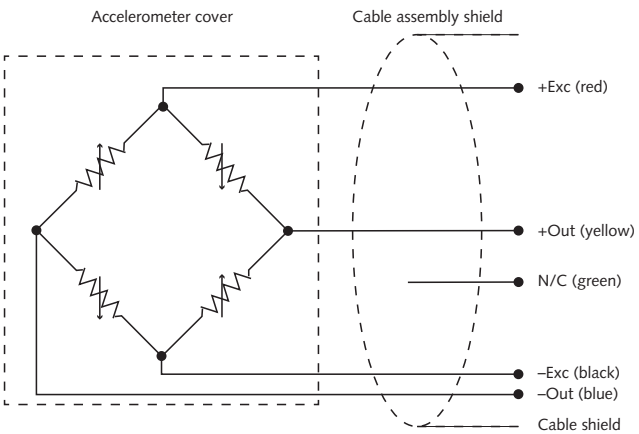

Fig. 2: Schematic diagram

Included Accessories

	Type No.
• Socket head cap screw, 2x#0-80 (3/16" length)	on request
• Washer, 2x#0	on request
• Allen key, 1 unit	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*)	**###**

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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