g ASC 76C1
Piezoresistive Accelerometer

SPECIFICATIONS

- Triaxial
- Wheatstone Bridge
- mV Output
- Aluminium Housing
- Cube Form
- Made in Germany

FEATURES

- Range: 500g, 1000g and 2000g
- Very Small Size
- Light Weight
- DC Response
- ±5000g Shock Resistance
- Gas Damped

OPTIONS

- Customised Cable Length
- Customised Connector
- TEDS Module
- Shunt Resistor
- Equipment Exchange (EQX)

APPLICATIONS

- Automotive Crash Testing
- Shock Testing

PIEZORESISTIVE MEMS TECHNOLOGY

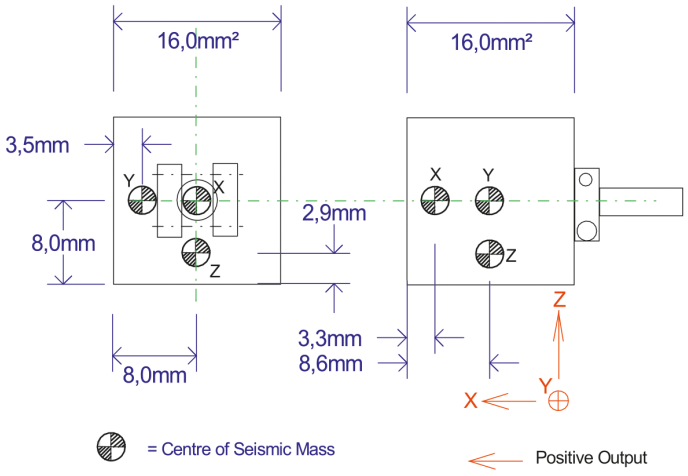
The accelerometer is based on an advanced piezoresistive MEMS technology and can be used in a low frequency response up from 0Hz. The piezoresistive sensor element is made of monolithic resistors. These resistors are attached to carrier-elements and are electrically connected in a Wheatstone bridge. The electrical signal changes proportional to the vibration.

DESCRIPTION

The model ASC 76C1 is a triaxial accelerometer based on piezoresistive technology. Each axis is working independently as a 4-wire system.

The ASC 76C1 is a small and compact accelerometer. The housing is a flat design in hard anodised aluminium. The compact cube form facilitates mounting on different sites. Due to their low mass these sensor models are ideal for testing on light-weight structures. The sensing element in the models has integrated overload stops and therefore the silicon chip is highly shock resistant. The sensors have an excellent non-linearity over a wide frequency response. Electrically they are configured as a full Wheatstone bridge.

The models can be obtained with all common sensor ID modules. A very high flexible cable provides a simple mounting. The ASC 76C1 is equipped as standard with 6 meter of rugged Polyurethane cable.



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TYPICAL SPECIFICATIONS

MODEL NUMBER: ASC 76C1

Type: MEMS Piezoresistive Accelerometer

DYNAMIC

		Range (±g)		
		500	1000	2000
Model		76C1	76C1	76C1
Sensitivity[1]	mV/g	0.4	0.15	0.13
Frequency response: ±5%	Hz		2500	
Resonance frequency	kHz	15	15	26
Amplitude non-linearity	% FSO		±1	
Damping ratio			0.7	
Transverse sensitivity	%		<3	
Shock limit	±g		5000	
Recovery time	s		0.5	

ELECTRICAL

Excitation voltage	V DC	3 to 10	3 to 10	3 to 10
Zero acceleration output	mV		±25	
Insulation resistance	MΩ		>100	
Isolation			Case isolated	

ENVIRONMENTAL

Temperature coefficient of bias (Thermal zero shift)	g/°C	±0.25	±0.5	±1
Temperature coefficient of sensitivity (Thermal sensitivity shirt)	%/°C		-0.2	
Operating temperature range	°C		-20 to +80	
Storage temperature range	°C		-25 to +100	
Humidity / Sealing			Epoxy sealed	

PHYSICAL

Sensing element		Piezoresistive MEMS
Case material		Anodized Aluminium
Mounting		3 mm screws / Adhesive
Weight (without cable)	gram	ASC 76C1: 12 gram
Cable		12 gram/meter; AWG 30, Polyurethane (PUR); Diameter: 3mm

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TYPICAL SPECIFICATIONS

FACTORY CALIBRATION (SUPPLIED WITH THE SENSOR)

	Shaker Calibration (Sinusoidal)		
Range	500g	1000g	2000g
Sensitivity	at 80Hz and 20g		
Frequency Response	40Hz to 2500Hz		
	Pendulum (Shock) Calibration		
Range	500g	1000g	2000g
Sensitivity	5 shocks at 100g		

CALIBRATION DIN ISO 17025 (ORDER SEPARATELY)*

	Shaker Calibration (Sinusoidal)		
Range	500g	1000g	2000g
Sensitivity	at 80Hz and 20g		
Frequency Response	25Hz to 3150Hz		
	Pendulum (Shock) Calibration		
Range	500g	1000g	2000g
Linearity	One shock each at 50g, 100g, 150g, 200g and 250g		

CABLE CODE / PIN CONFIGURATION

	X-Axis	*Y-Axis*	*Z-Axis*
12-wiring-System	*Red/Purple: Supply +*	*Red/Grey: Supply +*	*Red: Supply +*
	Black/Purple: Supply -	*Black/Grey: Supply -*	*Black: Supply -*
	Green/Purple: Signal +	*Green/Grey: Signal +*	*Green: Signal +*
	White/Purple: Signal -	*White/Grey: Signal -*	*White: Signal -*

ORDERING INFORMATION

ASC	76C1	500	6	A
	Model number	Range (Ex. 500 is 500g)	Cable length (meters)	Connector & Pinout
				A: no connector

Example: ASC 76C1-500-6A

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