

## Piezoresistive Accelerometer



# ASC 66C2

- ▶ Uniaxial
- ▶ Wheatstone Bridge
- ▶ mV Output
- ▶ Aluminium Housing
- ▶ Made in Germany

### Features

- ▶ Range 6000g
- ▶ Small Size
- ▶ Light Weight
- ▶ DC Response
- ▶  $\pm 10000g$  Shock Resistance
- ▶ Gas Damped

### Options

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

### Applications

- ▶ Automotive Crash Testing
- ▶ Shock Testing

### Piezoresistive MEMS Technology

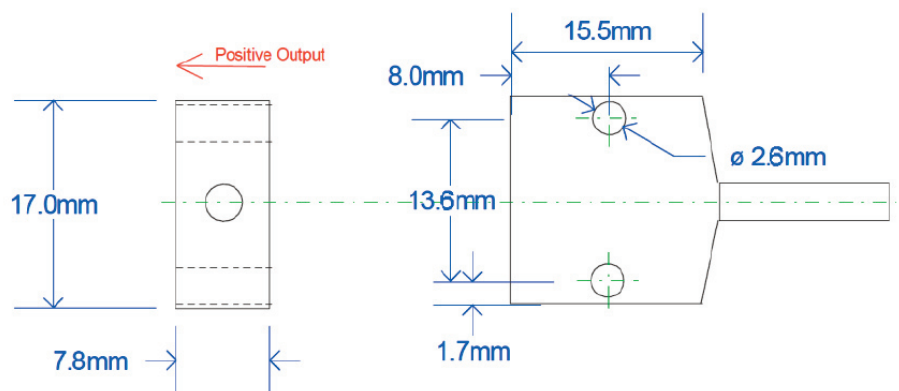
The accelerometer is based on an advanced piezoresistive MEMS technology and can be used in a low frequency response up from 0Hz. The piezoresistive sensor element is made of monolithic resistors. These resistors are attached to carrier-elements and are electrically connected in a Wheatstone bridge.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

### Description

The model ASC 66C2 is a uniaxial accelerometer based on piezoresistive technology. The ASC 66C2 is a small and compact accelerometer. The housing is a flat design made of hard anodised aluminium. Due to low mass, the model is ideal for testing on light-weight structures.

The sensing element has integrated overload stops and therefore the silicon chip is highly shock resistant. The ASC 66C2 has an excellent non-linearity over a wide frequency response and electrically it features a Wheatstone bridge configuration.

The model ASC 66C2 can be obtained with all common sensor ID modules. A very high flexible and rugged cable provides a simple mounting. The model ASC 66C2 is factory calibrated and is equipped with 6 meter cable as a standard.



## Typical Specifications

### MODEL NUMBER ASC 66C2

Type: MEMS Piezoresistive Accelerometer

### DYNAMIC

		Range ( $\pm$ g)
		6000
Sensitivity <sup>1</sup>	mV/g	0.10
Frequency response: $\pm$ 5%	Hz	4000
Resonance frequency	kHz	26
Amplitude non-linearity	% FSO	$\pm$ 2
Damping ratio		0.05 - 0.30
Transverse sensitivity	%	<3
Shock limit	$\pm$ g	10000

<sup>1</sup>Output is rationmetric to excitation voltage

### ELECTRICAL

Excitation voltage	V DC	3 to 10
Zero acceleration output	mV	$\pm$ 25
Insulation resistance	M $\Omega$	>100
Isolation		Case isolated

### ENVIRONMENTAL

Temperature coefficient of bias (Thermal zero shift)	g/ $^{\circ}$ C	$\pm$ 1
Temperature coefficient of sensitivity (Thermal sensitivity shift)	%/ $^{\circ}$ C	-0.15
Operating temperature range	$^{\circ}$ C	-40 to +100
Storage temperature range	$^{\circ}$ C	-55 to +125
Humidity / Sealing		IP 65

### PHYSICAL

Sensing element	Piezoresistive MEMS
Case material	Aluminium
Mounting	3 mm screws / Adhesive
Weight (without cable)	5 gram
Cable	12 gram/meter; AWG 30, Polyurethane (PUR); Diameter: 3mm

**FACTORY CALIBRATION (SUPPLIED WITH THE SENSOR)**

Shaker Calibration (Sinusoidal)	
Range	6000g
Sensitivity	at 80Hz and 20g
Frequency Response	40Hz to 4000Hz
Pendulum (Shock) Calibration	
Range	6000g
Sensitivity	5 shocks at 100g

**CALIBRATION DIN ISO 17025 (ORDER SEPARATELY)\***

Shaker Calibration (Sinusoidal)	
Range	6000g
Sensitivity	at 80Hz and 20g
Frequency Response	25Hz to 4500Hz
Pendulum (Shock) Calibration	
Range	6000g
Linearity	One shock each at 50g, 100g, 150g, 200g

**CABLE CODE / PIN CONFIGURATION**

<i>Red: Supply +</i>	<i>Green: Signal +</i>
<i>Black: Supply -</i>	<i>White: Signal -</i>

**ORDERING INFORMATION**

ASC	66C2	6k	6	A
	Model number	Range (Ex. 6k is 6000g)	Cable length (meters)	Connector & Pinout
				A: no connector

Example: ASC 66C2-6k-6A

**QUALITY**

- 1) ASC is ISO 9001:2015 certified
- 2) The Deutsche Akkreditierungsstelle GmbH (DAkkS) has awarded to our calibration laboratory the DIN EN ISO/IEC 17025:2005 accreditation for calibrations and has confirmed our competence to perform calibrations in the field of mechanical acceleration measurements.

\* accredited by the German accreditation body (Deutsche Akkreditierungsstelle, DAkkS) to DIN EN ISO / IEC 17025; the pictured DAkkS-ILAC logo refers exclusively to the accredited service