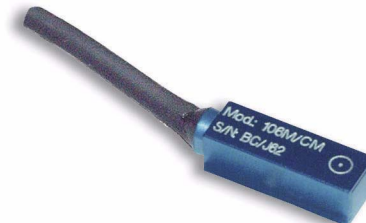


## Uniaxial resistive Mini-Accelerometer

**Model  
106M/CM  
106C/CM**

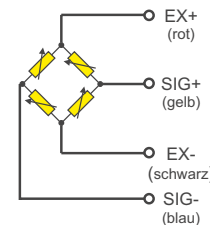
- **Measurement Range 700 g and 1000 g**
- **Low Transverse sensitivity**
- **Miniature transducer - 1 gram weight**
- **Frequency response 0 - 3500 Hz (5%)**



## Application

The two uniaxial accelerometer models 106M/CM and 106C/CM were developed for the universal use at crash test applications, especially for operations at light structures inside the car. The sensor's mount is made by sticking it onto the measurement location.

The sensors scope a large measurement range with good linearity characteristics. Furthermore it has a large frequency bandwidth and absorbs high shock overloads. These characteristics facilitate its handling at various applications and enable its universal use.

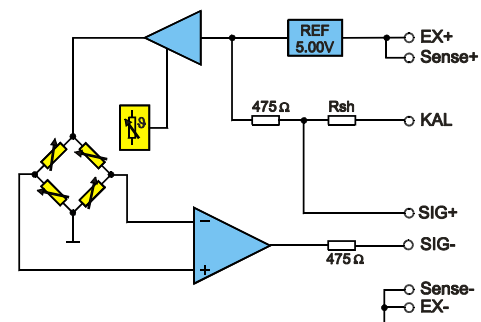


**Schematic Diagram „M“-Version**

## Functional Concept

Die Modellserie 106M/CM is based on a specific silicon sensor element with gas attenuation and integrated overload stop units. The model 106M/CM is a passive full bridge, whereas the model 106C/CM has an additional external electronic feature. This feature includes an active temperature compensation and a stabilization of the bridge voltage, which tolerates fluctuations of the supply voltage at the range of 9 to 12 V without influencing the sensitivity of the bridge. The output voltage of the measurement bridge is amplified by a precision-amplifier. The model 106C supplies an output voltage of 2 V at the range of 700 g. Model 106M is designed for about 200 mV at 1000 g.

Both models are available with ID-Modules. Hereunto you can either use an MSC UPS-Module (Universal Parameter Memory Module) or a Dallas Module. These Modules are integrated in an external housing in the wiring or in the connector. The conversion to a digital sensor with SPI-Interface in connection with MSC AIM (**A**nalog**I**nput**M**odule) is also available.



**Schematic Diagram „C“-Version**

### Options

Customized cable lengths and connectors with specific customer pin assignment; MSC Identification Module (UPS or Dallas version); conversion to digital interface transducer with the MSC **A**nalog**I**nput **M**odule, selected transducers with a transverse sensitivity < 1 %, a small offset or with specific technical characteristics.

### Accessories

Pendulum calibration adapter      Modell-Nr.: 056A/AP-KAL-P-1  
Sine calibration adapter            Modell-Nr.: 050A/AP-KALS-S-3  
For further details please see accessories catalog

## Technical Specifications

All specifications are typical at 25° C and rated at 10 V sensor supply voltage, unless otherwise specified.

	Units	Value	Remark
Measurement range	±g	1000 700	specific for 106M " 106C
Frequency response ±5% limit, DC up to	Hz (min.)	3500	
Sensitivity at 80 Hz <sup>(1)</sup>	mV/g (typ.)	0,2 2,8	specific for 106M " 106C
Supply voltage	V DC	5 ... 12 9 ... 12	specific for 106M " 106C
Sensor current consumption	mA/channel	2,5	10 with module
Attenuation <sup>(2)</sup>		0,7	
Non-linearity 0 ... 200 g <sup>(3)</sup>	±% (typ.)	0,3	max. 1
Transverse sensitivity <sup>(4)</sup>	% (typ.)	1	max. 1,5
Zero Measurand Output <sup>(5)</sup>	±mV (typ.)	10 40	specific for 106M " 106C
Temperature drift - ZMO in the range of 0 ... 70° C	±mV (max.)	2 10	specific for 106M " 106C
Temperature drift - sensitivity in the range of 0 ... 70° C	±% (max.)	7,5 2,5	specific for 106M " 106C
Bridge resistance	kOhm (typ.)	4	
Source resistance (SIG+ to SIG-)	kOhm	4 1	specific for 106M " 106C
Insulation resistance <sup>(6)</sup>	MOhm (min.)	90	
Max. shock resistance (pulse-width > 2 ms)	g (max.)	5000	
Max. sine load (< 2000 Hz)		50	
Warm up period	s (max.)	120	
Working temperature	°C	-20 ... +80	
Storage temperature		-30 ... +90	
Fixing			bond
UPS-Module		1	optionally
Housing material		Aluminium alloy	
Transducer weight	Grams	1	without cable and additional housing
Dimensions L x W x H	mm	16 x 5 x 4,75	

(1) Sensitivity at 80 Hz, at 50 m/s<sup>2</sup> of sine amplitude

(2) The damping factor will vary <10 % in range of temperature -10° C to +80° C, with regard to 25° C

(3) Values calculated with pendulum calibration up to 200 g

(4) Accelerometers with selected transverse sensitivity < 1 % are available with extra charge

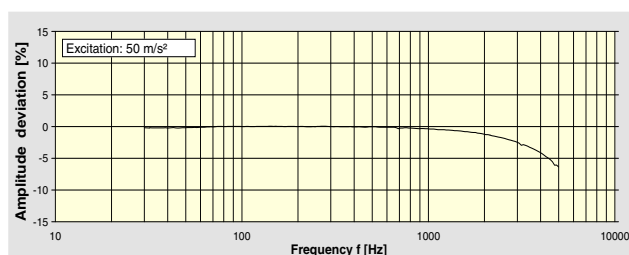
(5) ZMO values are valid, when accelerometer is mounted

(6) All wires to screen (GND), measured with 10 V (DC)

**Model-/Option Code:** Model 106#/CM-KT-MGT-(KT)-ST-ZT

#: M = standard version, C = version with integrated electronics  
 -KT: Cable type resp. cable length in cm  
 -MGT: ID-Module type and housing  
 -ST: Connector type (Interface to channel collector or acquisition panel)  
 ZT: Type of certification (customized calibration, shock/sine calibration etc.)

### Typical frequency response



### Dimensions and directions of action

