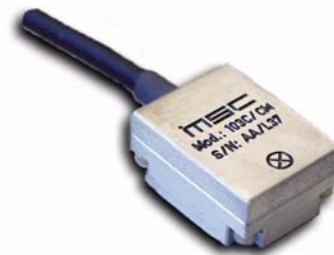


## Uniaxial resistive Accelerometer

**Model  
103C/CM**

- **Measurement range 700g**
- **High sensitivity, typical 2,8mV/g**
- **Transverse sensitivity typ. 1,5%**
- **Frequency response 0...3000Hz (5%)**
- **Integrated electronics**



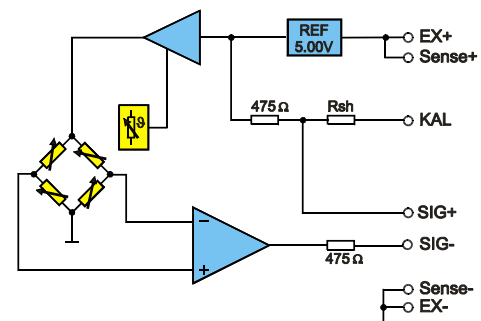
## Application

The uniaxial accelerometer model 103C/CM was developed for the universal use at crash test applications, especially for operations at light vehicle component structures. It is mounted by glueing it onto the measurement location.

The transducer combines a large measurement range with a high sensitivity and good linearity characteristics. The damped device additionally offers a temperature compensation and a stabilization of the bridge voltage. These qualities ease the transducer's handling at different applications and enable its universal apply.

## Functional Concept

The transducer model 103C/CM is based on a specific silicon sensor element with gas attenuation and integrated overload stop units. The sensor offers 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 up to the factor 30. This causes the sensor's high sensitivity.



**Schematic diagram**

### Options

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

### Accessories

Fast glue	Article N <sup>o</sup> .: 330048
Mounting plate for sheet metal	Article N <sup>o</sup> .:
Pendulum calibration adapter	Article N <sup>o</sup> .:
Sine calibration adapter	Article N <sup>o</sup> .:

*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.

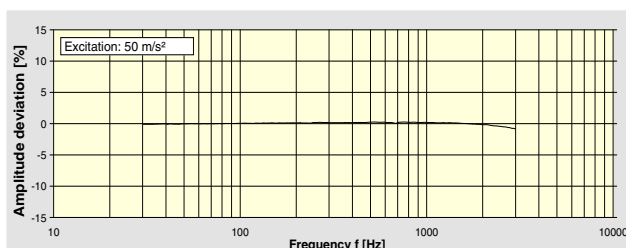
	Units	Value	Remark
Measurement range	±g	700	
Frequency response ±5% limit, DC up to	Hz (min.)	3000	
Sensitivity at 80 Hz <sup>(1)</sup>	mV/g (typ)	2,8	
Supply voltage	V DC	9...12	
Sensor current consumption	mA/channel	2,5	10mA at module operation
Attenuation <sup>(2)</sup>		0,7	
Non-linearity 0...200 g <sup>(3)</sup>	±% (typ.)	0,3	max. 1
Transverse sensitivity <sup>(4)</sup>	% (typ.)	1,5	max. 3
Zero Measurand Output <sup>(5)</sup>	±mV (typ.)	10	max. 50
Temperature drift - ZMO in the range of 0 ... 70° C	±mV (max.)	10	
Temperature drift - sensitivity in the range of 0...70° C	±% (max.)	2,5	
Bridge resistance	kOhm (typ.)	4	
Source resistance (SIG+ to SIG-)	kOhm	1	
Insulation resistance <sup>(6)</sup>	MOhm (min.)	90	
Max. shock resistance (pulse-width > 2 ms)	g (max.)	3000	
Max. sine load (< 2000 Hz)		50	
Warm up period	s (max.)	120	
Working temperature	°C	-20...+80	
Storage temperature		-30...+90	
Transducer fixing		glue version	
Torque moment	Nm		
UPS Module		optionally	
Housing material		Mg alloy	
Transducer weight	Grams	3,3	without cable and additional housing

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 103C/CM-KT-MGT-ST-ZT

- 103C/CM: Model declaration and application  
 -KT: Cable type resp. cable length in cm  
 -MGT: ID-Module type and housing type  
 -ST: Connector type (Interface to channel collector or acquisition panel)  
 -ZT: Certification Type (customized calibration, shock/sine calibration, etc.)

### Typical frequency response



### Dimensions and directions of action

