

## Uniaxial resistive Mini-Accelerometer

**Model  
104M/LC**

- **Measurement Range 1000 g**
- **Non-linearity < 2 %**
- **Transverse sensitivity < 3 %**
- **Frequency response 0 – 1800Hz (5 %)**
- **Low cost**
- **6 grams weight**

## Application

This low cost transducer satisfies the requirements of general measuring technique. Because of its cubic shape and low mass the transducer is universally applicable. The mount of the aluminium casing is made by sticking it together with the measurement location. Generally the transducer is attached to measurement locations, which will be probably destroyed.

## Functional Concept

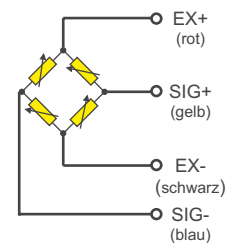
The transducer is based on a silicon sensor element with a damping of  $0,7 \pm 20 \%$ . The natural oscillation of the sensor is disabled by gas attenuation of the chip. The attenuation and the integrated overload stop units cause the robustness of the transducer. It is also available with an external ID-Module. You may choose between an MSC UPS Module with 16 kByte sampling rate or a Dallas Module.

A modification to a digital sensor in connection with the AIM<sup>(1)</sup> is also available. For further information about digital measuring technique, please contact our sales department.

## Mounting Indication

The transducer is mounted by bonding it onto the measurement location. Concerning simple applications and even surfaces, it is also possible to do the mounting with a double-faced adhesive tape. For a better connection please use the glue X60 of HBM or comparable.

To disassemble the transducer the shear-off with a suitable open-end wrench is recommended. To avoid damages at the transducer, the adhesion of the glue layer should be diminished by temperature or solvent before.



**Schematic Diagram**

### Options

Customized cable lengths with or without connectors and connectors with specific customer pin assignment, MSC-Identification Modules (UPS or Dallas version).

### Accessories

Quick Adhesion X60 Article-Nº: 330048  
For further details please see catalog of accessories

1. AnalogInputModule

## Technical Specifications

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

	Units	Value	Remark
Measurement range	±g	1000	
Frequency response ±5 % limit, DC up to	Hz (min.)	1800	
Sensitivity at 80 Hz <sup>(1)</sup>	mV/g (typ.)	0,2	
Supply voltage	V DC	5 – 12	
Transducer current consumption	mA	2,5	
Attenuation <sup>(2)</sup>		0,7	
Non-linearity up to 200 g <sup>(3)</sup>	±% FS (typ.)	0,8	max. 2
Transverse sensitivity	% (typ.)	1,5	max. 3
Zero Measurand Output	±mV (typ.)	10	max 30
Temperature drift - ZMO	±mV (max.)	2	
Temperature drift - sensitivity	±% (max.)	20	
Bridge resistance	kOhm (typ.)	4	
Source resistance (SIG+ to SIG-)	kOhm	4	
Insulation resistance <sup>(4)</sup>	MOhm (min.)	90	
Max. shock load (pulse width > 2ms)	g (max.)	2000	
Max. sine load (< 2000Hz)		50	
Warm-up period	s (max.)	120	
Working temperature	° C	-20 – +70	
Storage temperature		-30 – +70	
Transducer mounting		Adhesion	
Torque moment		-	
UPS-Module		optional	external housing
Casing material		Alu/PU composite	
Transducer weight	Grams	6	

(1) Responsivity at 80 Hz, at 50m/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) All wires to shield (GND), charged with 10 V (DC)

### Model/Option Code: Model 104M/LC-KT-MGT-[KT]-ST

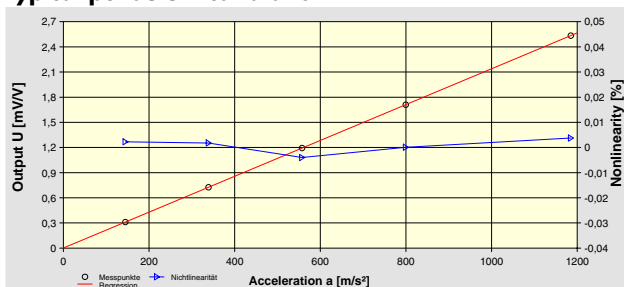
104M/LC-: Basis-Article / Low Cost

KT: Cable type resp. length in cm

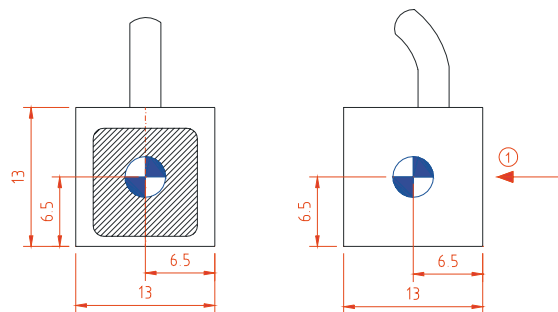
MGT: ID-Module and housing type

ST: Connector type (Interface to cannel-collector or data acquisition panel)

### Typical pendulum calibration



### Dimensions and directions of action



① direction of pos. output