

Uniaxial resistive Mini-Acelerometer

**Model
101M/LC**

- **Measurement Range 1000g**
- **Non-linearity < 2 %**
- **Transverse sensitivity < 3 %**
- **Frequency response 0 – 1800Hz (5 %)**
- **Low cost**
- **1,7 grams weight**



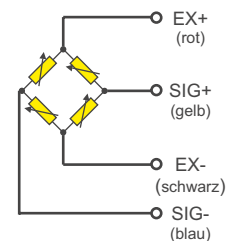
Application

This low cost transducer satisfies the requirements of general measuring technique. Because of its small dimensions and low mass the transducer is universally applicable. The mount of the polyurethane casing is made by sticking it together with the measurement location⁽¹⁾. 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 ±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⁽²⁾ is also available. For further information about digital measuring technique, please contact our sales department.



Schematic Diagram

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 (see figure 1).

It has to be considered, that a direct gluing with the POM housing is not suitable for long-term applications and extreme temperature ranges. The service of the glue can be improved, as the contact surface is pasted before with with one-sided copper- or aluminium tape (see figure 2). This also simplifies the removal of sticking areas after the disassembly.

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.



Figure 1

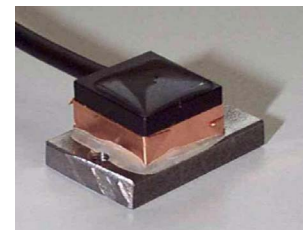


Figure 2

Options

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

Accessories

Tinned copper adhesive tape 15 mm Article-Nº: 350012

Quick adhesion X 60

Article-Nº: 330048

Serial number gravure

Extra charge

For further details please see catalog of accessories

⁽¹⁾ Transducer with screw fixture see Model 121M/LC

⁽²⁾ AnalogInputModule

Technical Specifications

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

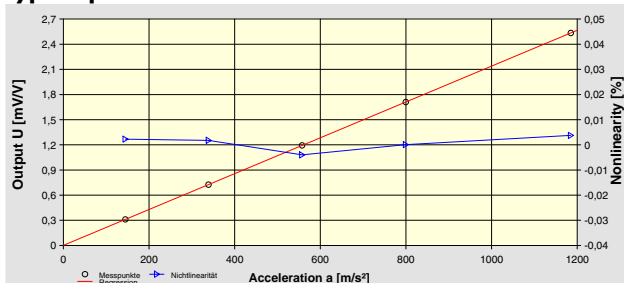
	Units	Value	Remark
Measurement range	±g	1000	
Frequency response ±5 % limit, DC up to	Hz (min.)	1800	
Sensitivity at 80 Hz ⁽¹⁾	mV/g (typ.)	0,2	
Supply voltage	V DC	5 – 12	
Transducer current consumption	mA	2,5	
Attenuation ⁽²⁾		0,7	
Non-linearity up to 200 g ⁽³⁾	±% FS (typ.)	0,8	max. 2
Transverse sensitivity	% (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 ⁽⁴⁾	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		POM/PU	
Transducer weight	Gramm	1,7	

- (1) Responsivity at 80 Hz, at 50m/s² 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)

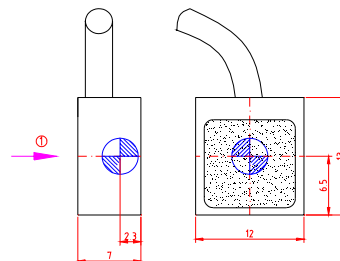
Model/Option Code: Model 101M/LC-KT-MGT-{KT}-ST

- 101M/LC.: Basis Article Name/Low Cost
- KT: Cable type resp. length in cm
- MGT: ID-Module type and housing
- ST: Connector type (Interface to cannel-collector or data acquisition panel)

Typical pendulum calibration



Dimensions and directions of action



Ⓢ Direction of positive output