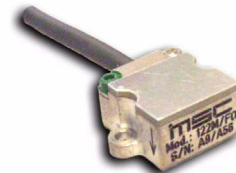


Uniaxial resistive Accelerometer

**Model
122M/CM
122C/CM**

- Measurement range 700 g and 1000 g
- Low transverse sensitivity
- Small non-linearity
- Frequency response 0 - 3000 Hz (5 %)
- High shock resistance
- Repairable cable

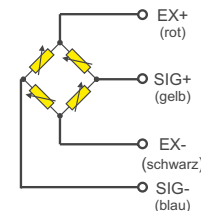


Application

The model series 122 was developed for the universal use at crash test applications, either for In-dummy testing or for operations at light structures inside the car. At the measuring location the transducer is fixed by two screws.

The damped sensor element disables parasitic frequencies as well as the natural frequency of the system itself. The transducer covers a large frequency response up to 3 kHz and a small phase shift below 2° at 1 kHz. The large measurement range and the good non-linearity characteristics as well as the high shock resistance enable its use for many measuring technique applications.

One of the further features of this series is the repairable cable at the transducer.

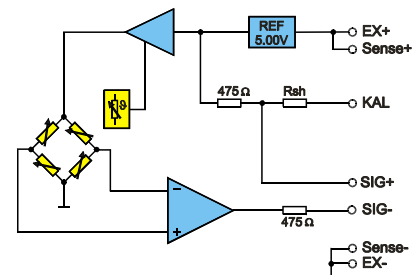


Schematic Diagram „M“-Version

Functional Concept

The model series 122 is based on a silicon sensor element with gas attenuation and integrated overload stops. The model 122M/CM is realized as a passive full bridge circuit, whereas the model 122C/CM additionally is equipped with an external electronic feature. This feature covers an active temperature compensation and a stabilization of the bridge voltage, which tolerates oscillations of the supply voltage 9 to 12 V without affecting the sensitivity of the measuring bridge. The output voltage of the measuring bridge is amplified by a precision amplifier. The model 122C supplies an output voltage of 2 V at 700 g measurement range; the model 122M supplies 200 mV at 1000 g.

Both models are available with ID-Modules. Hereunto you may either choose an MSC UPS-Module (Universal Parametric Memory) or a Dallas Module. These Modules are integrated in an external housing in the wiring or in the connector. The conversion to a digital transducer with an SPI-Interface⁽¹⁾ in connection with the MSC AIM⁽²⁾ is also possible.



Schematic Diagram „C“-Version

Options

Customized cable lengths with or without connectors and connectors with customer-specific pin assignment, MSC Identification Modules (UPS or Dallas type), selected transducers with transverse sensitivity < 1 %, small offset or special specifications.

Accessories

Mounting screw*)	Article No.: 320283 (2 units)
Pendulum Calibration Adapter	Model No.: 056A/AP-KALP-2
Sine Calibration Adapter	Model No.: 050A/AP-KALS-6

For further details please see catalog of accessories

*) included in delivery

⁽¹⁾ SerialPeripheralInterface

⁽²⁾ AnalogInputModule

Technische Daten

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	122M 122C
Frequency response ±5% limit, DC up to	Hz (min.)	3000	
Sensitivity at 80 Hz ⁽¹⁾	mV/g (typ.)	0,2 2,8	122M 122C
Supply voltage	V DC	5 ... 12 9 ... 12	122M 122C
Transducer current consumption	mA/Kanal	2,5	10 at module operation
Attenuation ⁽²⁾		0,7	
Non-linearity 0 to 200g ⁽³⁾	± % (typ.)	0,3	max. 1
Transverse sensitivity ⁽⁴⁾	% (typ.)	1,5	max. 3
Zero Measurand Output	± mV (typ.)	<5 <10	122M 122C
Temperature drift - ZMO	± mV (max.)	2 10	122M 122C
Temperature drift - sensitivity	± % (max.)	20 2,5	122M 122C
Bridge resistance	kOhm (typ.)	4	
Source resistance (SIG+ to SIG-)	kOhm	4 1	122M 122C
Insulation resistance ⁽⁵⁾	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 mounting screws	metric	M2x10	DIN912, 2 units
Torque moment	Nm	0,25	
UPS-Module		optional	
Housing material		Mg alloy	
Transducer weight	Grams	3	without cable or additional housing

(1) Sensitivity at 80 Hz, at 50 m/s² of sine amplitude

(2) The damping factor changes <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) All wires to screen (GND), measured with 10 V (DC)

Model/Option Code: Model 122#/CM-KT-MGT-(KT)-ST-ZT

#: M = standard version, C = version with integrated electronics

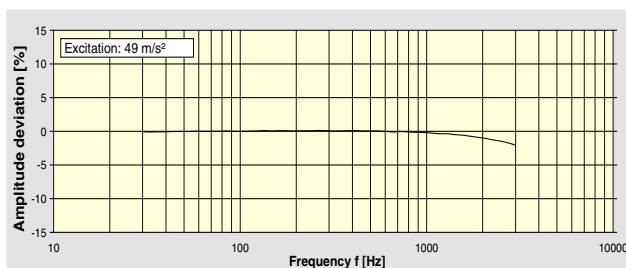
KT: Cable type resp. length in cm

MGT: ID-Module und housing type

ST: Connector type (interface to channel collector or aquisition panel)

ZT: Type of certification (customized calibration, shock/sine calibration etc.)

Typical frequency response



Dimensions in mm and directions of action

