

Uniaxial Resistive Mini-Accelerometer

**Model
126M/CM
126C/CM**

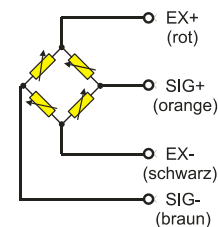
- Measurement range 700 g and 1000 g
- Small transverse sensitivity
- Miniature accelerometer with 1 gram weight
- Frequency bandwidth 0 - 4000 Hz (5 %)
- Mechanically compatible to SA-572-S4



Application

The uniaxial accelerometer Model 126 is developed for the universal use at crash test applications, either for In-dummy testing and for operations at light structures inside the car. Regarding its dimensions, the hole image and the position of its seismic mass, the model is equivalent to accelerometer types according to SA-572-S4.

The sensor scopes 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.

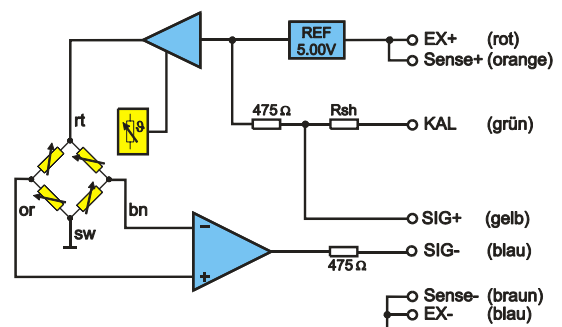


Schematic Diagram „M“-Version

Functional Concept

The model series 126 is based on a specific sensor element, manufactured in silicon technology with a gas attenuation and integrated overload stops. Model 126M is a passive full bridge, whereas Model 126C has an additional 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. Model 126C supplies an output voltage of 2 V at the range of 700 g. Model 126M is designed for 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 (AnalogInputModule) 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); selected transducers with a transverse sensitivity < 1 %, a small offset or with specific technical characteristics.

Accessories

Mounting screws imperial*) Artikel-Nr.: 320176 (2 Stück)
 Pendulum calibration adapter Modell-Nr.: 056A/AP-KAL-P-1
 Sine calibration adapter Modell-Nr.: 050A/AP-KAL-S-3
 *) contained in scope of delivery.

For further details please see accessories catalog

INFO: An adaption to the digital world of MSC's MDDA-System will be realized in connection with the AIM Model 690S (see Technical Data Sheet Model 690S/AIM).

Technical Specification

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

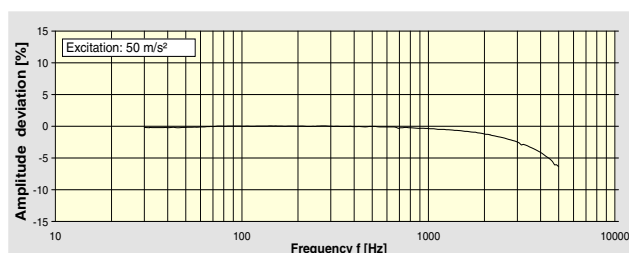
	Units	Value	Remark
Measurement range	±g	1000 700	specific for 126M " " 126C
Frequency response ±5% limit, DC up to	Hz (min)	4000	
Sensitivity at 80 Hz ⁽¹⁾	mV/g (typ.)	0,2 2,8	specific for 126M " " 126C
Supply voltage	V DC	5 ... 12 9 ... 12	specific for 126M " " 126C
Sensor current consumption	mA/channel	2,5	10 with module
Attenuation ⁽²⁾		0,7	
Non-linearity 0 to 200g ⁽³⁾	±% (typ.)	0,3	max. 1
Transverse sensitivity ⁽⁴⁾	% (typ.)	1	max. 1,5
Zero Measurand Output ⁽⁵⁾	±mV (typ.)	10 40	specific for 126M " " 126C
Temperature drift - ZMO in range of 0..70°C	±mV (max.)	3,5 10	specific for 126M " " 126C
Temperature drift - sensitivity in the range of 0 – 70° C	± % (max.)	-19 ±2,5	specific for 126M " " 126C
Bridge resistance	kOhm (typ.)	4	
Source resistance (SIG+ to SIG-)	kOhm	4 1	specific for 126M " " 126C
Insulation resistance ⁽⁶⁾	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 ... +70	
Storage temperature		-20 ... +70	
Transducer mounting screws	imperial	0-80x1/8"	DIN 912, 2 pieces
Torque moment	Nm	0,12	
UPS-Module		1	optionally
Housing material		Aluminium alloy	
Transducer weight	Grams	1	without cable and additional housing

- (1) Sensitivity at 80 Hz, at 50 m/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) Accelerometers with selected transverse sensitivity < 1 % are available with extra charge
 (5) ZMO values are only valid, when accelerometer is mounted
 (6) All wires to screen (GND), measured with 10 V (DC)

Model-/Option Code: Model 126#/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

