Technical Data Sheet

Uniaxial resistive Accelerometer

Model 120B/FZ

- **Measurement range 700g**
- **High sensitivity, typical 2,8mV/g**
- **Transverse sensitivity typ. 1,5%**
- **Frequency response 0...2500Hz (5%)**
- **Integrated electronics**
- **Integrated identification module**

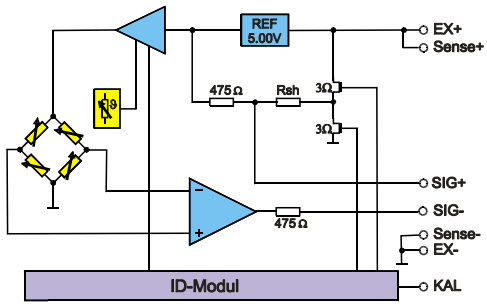
Application

This model series was developed for crash test application requirements. It serves especially the acceleration measurement at vehicles, sleds and at test stands. The device is mounted with two screws, heading in the transducer's direction af action.

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 120B/FZ 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 sensitivty.



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 **A**nalog**I**nput **M**odule, selected transducers with a transverse sensitivity < 1 %, a small offset or with specific technical characteristics.

Accessories

Fixing screw*)	Article Nº.: 320249 (2 Stück)
Mounting plate for sheet metal	Article Nº.: 070A/MPB-120
Drilling pattern	Article Nº.: 075A/BS-120/124
Pendulum calibration adapter	Article Nº. -
Sine calibration adapter	Article Nº.: 050A/AP-KAL-S-2

For further details please see accessories catalog

**) included in scope of delivery*

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Technical Data Sheet

120B/FZ

Technical Specifications

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

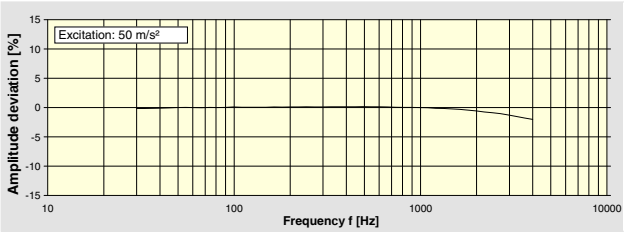
	Einheiten	Wert	Bemerkung
Measurement range	± g	700	
Frequency response ±5% limit, DC up to	Hz (min)	2500	
Sensitivity at 80 Hz(1)	mV/g (typ)	2,8	
Supply voltage	V DC	9...12	
Sensor current consumption	mA/Kanal	2,5	10 bei Modulbetrieb
Attenuation(2)		0,7	
Non-linearity 0...200 g(3)	± % (typ)	0,3	max 1
Transverse sensitivity(4)	% (typ)	1,5	max 3
Zero Measurand Output(5)	± 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(6)	MOhm (min)	90	
Max. shock resistance (pulse-width > 2 ms) Max. sine load (< 2000 Hz)	g (max)	3000 50	
Warm up period	s (max)	120	
Working temperature Storage temperature	°C	-20...+80 -30...+90	
Transducer fixing screws	metrisch	M3x18	DIN912, 2Stück
Torque moment	Nm	1,2	
UPS-Module		1	Standard
Housing material		Al-Legierung	
Transducer weight	Gramm	17	ohne Kabel

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 valid, when accelerometer is mounted
6. All wires to screen (GND), measured with 10 V (DC)

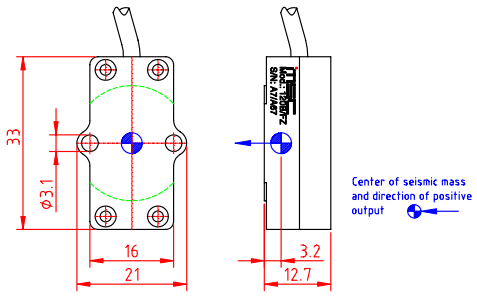
Model/Option Code: Model 120B/FZ-KT-ST-ZT

120B/FZ:	Model declarartion and application
-KT:	Cable type resp. cable length in cm
-ST:	Connector type (Interface to channel collector or aquisition panel)
ZT:	Certification Type (customized calibration, shock/sine calibration, etc.)

Typical frequency response



Dimensions and directions of action



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