Technical Data Sheet

Uniaxial resistive Accelerometer

Model 110B/FZ

- **Measurement range 700g**
- **High sensitivity, typical 2,8mV/g**
- **Transverse sensitivity typ. 1,5%**
- **Frequency response 0...2200Hz (5%)**
- **Integrated electronics**
- **Integrated identification module**

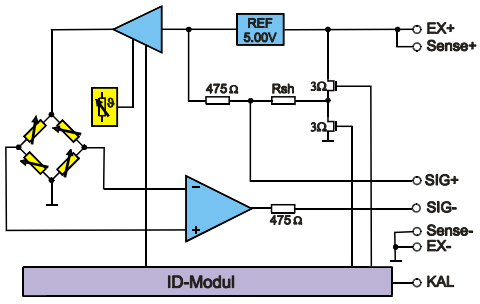
Application

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 a screw at the measuring location, at right angles with the transducer's direction af action. An additional dowel pin secures the mounting position.

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 110B/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 imperial *)	Article Nº.: 320097 (1 Stück)
Fixing screw metric *)	Article Nº.: 320195 (1 Stück)
Mounting plate for sheet metal	Article Nº.: 070A/MPB-110
Pendulum calibration adapter	-
Sine calibration adapter	Article Nº.: 050A/AP-KAL-S-1

For further details please see accessories catalog

**) included in scope of delivery*

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Technical Data Sheet

110B/FZ

Technical Specifications

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

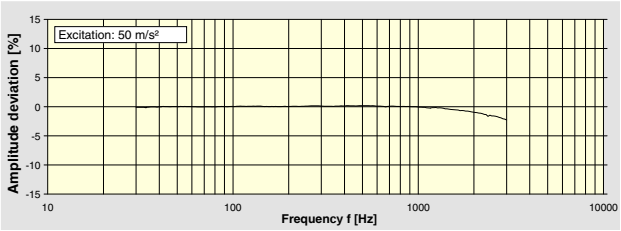
	Units	Value	Remark
Measurement range	±g	700	
Frequency response ±5% limit, DC up to	Hz (min.)	2200	
Sensitivity at 80 Hz(1)	mV/g (typ.)	2,8	
Supply voltage	V DC	9...12	
Sensor current consumption	mA/channel	2,5	10 at module operation
Attenuation(2)		0,7	
Non-linearity 0...200 g(3)	±% (typ.)	0,3	max. 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	metric imperial	M5x22 10-32x7/8	DIN912, 1 unit
Torque moment	Nm	3	
UPS Module		1	Standard
Housing material		Alu Legierung	
Transducer weight	Grams	27	without cable

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)

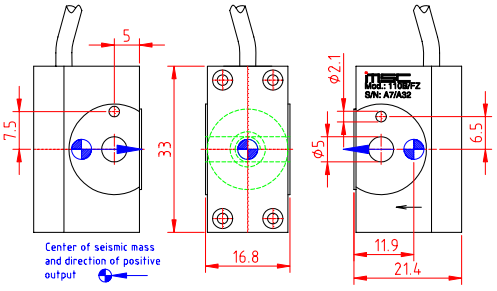
Model/Option Code: Model 110B/FZ-KT-ST-ZT

110B/FZ:	Model declaration 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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