

Capacitive Accelerometer

BST 53K1 Uniaxial



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FEATURES

- Aluminium Housing, Anodized
- Option: Stainless Steel Housing
- DC Response (0 Hz) to 2500 Hz
- Very Low Noise
- High Voltage Output
- Calibration

APPLICATION

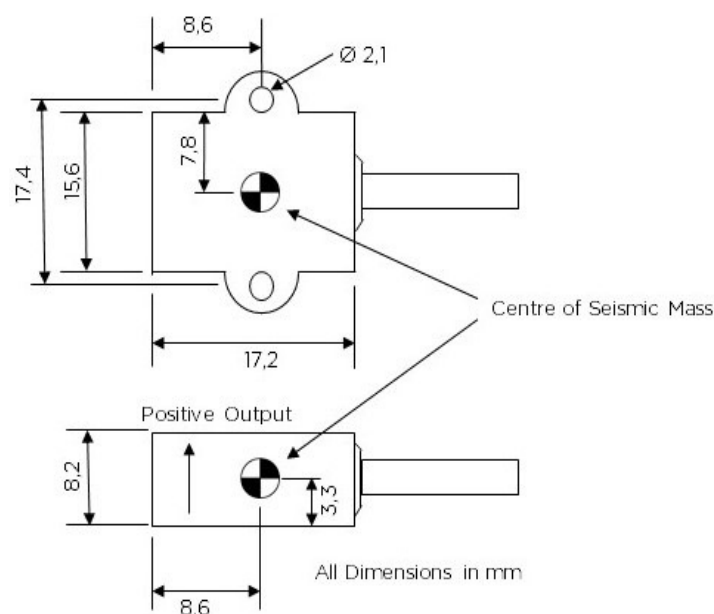
- Test Flight
- Truck and Buses
- Train
- Motion
- Automotive
- Comfort



DESCRIPTION

The model BST 53K1 is a small uniaxial accelerometer based on variable capacitive technology with a very good Signal-to-Noise Ratio. The accelerometers are designed for relatively low amplitudes. It can be easily mounted with two screws. The sensor has 6m very high rugged and flexible cable. This makes it easy to connect the sensor on data acquisition systems. It operates between 5 and 28 VDC unregulated. The housing is available in Aluminium and Stainless Steel. As an option, we supply the sensor with connector, Dallas ID or TEDS module. A calibration for the sensor is obligatory.

DIMENSIONS



SPECIFICATION ACCELEROMETER

All data are typical at 23 °C AND 10 VDC SUPPLY.

Range (g)	2	5	10	25	50	100	200
Frequency (Hz)	0–250	0–300	0–450	0–1,000	0–1,500	0–2,000	0–2,500
Sensitivity (mV/g) (Differential)	2000	800	400	160	80	40	20
Noise (µg/root Hz)	7	12	18	25	50	100	200

Single Ended Mode (3-wire) is half of the Sensitivity from differential Signal.

ELECTRICAL PERFORMANCES

Supply voltage	5 to 28 VDC unregulated
Power Consumption	10 mA max.
Zero measurement output	+/- 50 mV typ in Differential Mode (> 10 g) +/- 80 mV typ in Differential Mode (2 g and 5 g) 2500 mV DC +/- 50 mV in Single Ended Mode
Isolation	sensing element isolated from housing

ENVIRONMENTAL PERFORMANCES

Sensitivity	20 mV/g (200 g) up to 2000 mV/g (2 g) (Differential Mode)
Shock limit	4000 g (2 g and 5 g); 10000 g (>10 g)
Operation Temperature	- 50 °C to + 100 °C (120 °C for short time)
Storage Temperature	- 55 °C to + 125 °C
Protection Class	IP64
Housing Material	Aluminium anodized, Option: Stainless Steel
Mounting	2 Screws M2
Dimensions	24.4 x 17.2 x 8.2 mm (l x w x h)
Weight Housing	7 grams, without cable
Cable	4-wire shielded PUR-Cable, AWG 30
Cable Length	6 m
Cable Material	PUR, black
Cable Weight	12 grams per meter, Ø 3.0 mm

CABLE CODE DIFFERENTIAL

red = Excitation +	green = Signal +
black = Excitation -	white = Signal -

CABLE CODE SINGLE ENDED

red = Excitation +	green = Signal +
black = Excitation -	

ORDER INFORMATION

BST 53K1-050-6Z
53K1 (E) = Model Name, (Stainless Steel)
050 = Range 50 g
6 = 6 m Cable
Z = no connector

OPTIONAL

Stainless Steel housing
Additional Cable Length
Connector
TEDS
Dallas ID
Calibration DAkkS DIN EN ISO/IEC 17025:2018