

## Capacitive Accelerometer

**BST 54K1** Uniaxial

### FEATURES

- Aluminium Housing, Anodized
- Protections Class IP67
- Option: Stainless Steel Housing
- DC Response (0Hz) to 2500 Hz
- Very Low Noise
- High Voltage Output
- Calibration

### APPLICATION

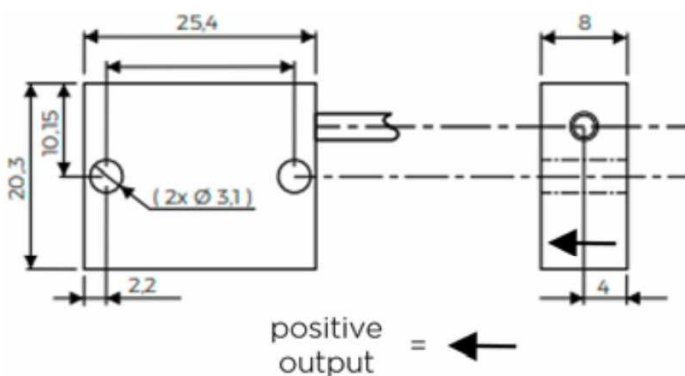
- Test Flight
- Truck and Buses
- Train
- Civil Engineering
- Automotive
- Comfort



### DESCRIPTION

The model BST 54K1 is a 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 6 m 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 in the scope of delivery as a standard.

### 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)<br>+/- 80 mV typ in Differential Mode (2 g and 5 g)<br>2500 mV DC +/- 100 mV in Single Ended Mode |
| Isolation               | sensing element isolated from housing   |

## ENVIRONMENTAL PERFORMANCES

|                       |   |
|-----------------------|---|
| Sensitivity           | 20 mV/g up to 2000 mV/g (Differential Mode) |
| Shock limit           | 4000 g (2 g and 5 g); 10000 g (>10 g)       |
| Operation Temperature | - 50 °C to + 120 °C                         |
| Storage Temperature   | - 55 °C to + 125 °C                         |
| Protection Class      | IP67  |
| Housing Material      | Aluminium anodized, Option: Stainless Steel |
| Mounting              | 2 holes for screws M3                       |
| Dimensions            | 25.1 x 20.3 x 8.0 mm (l x w x h)            |
| Weight Housing        | 20 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 +  
black = Excitation -

green = Signal +  
white = Signal -

## CABLE CODE SINGLE ENDED

half signal

red = Excitation +  
black = Excitation -

green = Signal +

## ORDER INFORMATION

|                   |
|-------------------|
| BST 54K1-050-6Z   |
| 54K1 = Model Name |
| 050 = Range 50 g  |
| 6 = 6 m Cable     |
| Z = no connector  |

## OPTIONAL

|   |
|---|
| Additional Cable Length                     |
| Connector                                   |
| TEDS  |
| Dallas ID                                   |
| Stainless Steel housing                     |
| Sensor housing with connector               |
| Calibration DAkKS DIN EN ISO/IEC 17025:2018 |