

# IMU Inertial Measurement Unit

**BST IMU-C** Six axes



**CONTACT**

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## FEATURES

- Anodized Aluminium Housing
- DC Response
- Damping 0.7
- Very low power consumption
- Very low Mass
- Calibration

## APPLICATION

- Crash Tests
- Shock Tests



## DESCRIPTION

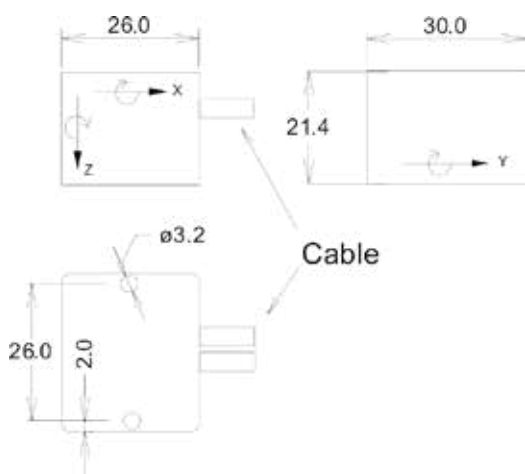
The model BST IMU-C is a multi-canal sensor with three accelerometers based on piezo resistive technology. With a four-active arm Wheatstone-Bridge (4 wire system) configuration and a damping ratio 0.7 and three Gyros which helps to connect the sensor on all data acquisition systems. The light weight and small size of the sensor makes it easy to mount it on difficult places at the car for a crash test or flatter test application. Due to

the anodized aluminium housing the mounting is easy with two screws M3. The sensor has two 6 m very high rugged, shielded and flexible PUR-cable 4-wire per axe.

As an option, we supply the sensor with Lemo-connectors, Dallas ID and a Shunt resistor in the connector if possible.

A calibration for the sensor is standard.

## DIMENSIONS



### SPECIFICATION ACCELEROMETER

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

Range (g)	50	500	1.000	2.000
Sensitivity typ. (mV/g)	40	0.4	0.18	0.16
Frequency response (Hz)	1,000	2,000	3,500	4,000

### SPECIFICATION GYRO

Range (°/S)	900	1,500	2,700
Sensitivity (mV/°/S)	2.2	1.35	0.75
Frequency response (Hz)	50	50	100

### BASIC SPECIFICATION

Supply voltage	5 to 10 VDC
Zero measurement output	+/- 50 mV Accelerometer +/- 100 mV Gyro
Thermal Shift Zero	< +/- 0.04 % FSO (+/- 0 °C to + 50 °C)
Thermal Shift Span	- 0.2 % / °C +/- 0.05 (+/- 0 °C to + 50 °C)
Power Consumption	10 mA / axis Gyro 8 mA / axis Accelerometer
Non-Linearity	<1 % of FSO
Transverse sensitivity	2 % typ (3 % max.)
Damping	gas damping
Shock limit	3,000 g
Isolation	sensing element isolated from housing
Operation Temperature	- 25 °C to + 70 °C
Storage Temperature	- 50 °C to + 120 °C
Protection Class	IP64
Material	Aluminium, anodized
Dimensions	30.0 x 26.0 x 21.3 mm (l x w x h)
Weight Housing	35 grams without cable
Weight Cable	30 grams per meter
Cable	2 x 6 m, 12 wire, shielded PUR, Ø=3.0 mm, AWG 30

### CABLE CODE

<b>x-axis</b> red / violet = Excitation + black / violet = Excitation -	green / violet = Signal + white / violet = Signal -
<b>y-axis</b> red / grey = Excitation + black / grey = Excitation -	green / grey = Signal + white / grey = Signal -
<b>z-axis</b> red = Excitation + black = Excitation -	green = Signal + white = Signal -

### ORDER INFORMATION

BST IMU-C-1000-2700-6Z
IMU-C = model name
1,000 = Range 1,000g Accelerometer
2,700 = Range 2,700 °/S Gyro
6 = 6 m Cable
Z = no connector

### OPTIONAL

Additional Cable Length
Connector
Dallas ID
Shunt Resistor
Calibration DAKS DIN EN ISO/IEC 17025:2018