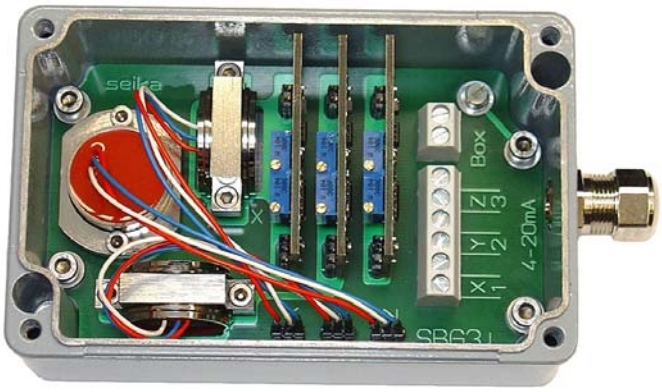
SEIKA SBG3i

NORDIC TRANSDUCER



4-20mA Acceleration
3 axis from 0.5g DC

SBG3i-B1/B2 & B3 Acceleration

Features

- ❑ robust pressure die cast aluminim housing (IP65) with saltwater proof coating
- ❑ twist free 4-point fastening of rigid, 3.2mm thick base PCB
- ❑ three integrated signal conditioners with 4...20mA, 2-wire outputs
- ❑ no separate supply voltage necessary
- ❑ all SEIKA sensors of the B and BDKseries fit the housing and can be installed in different directions of operation
- ❑ output signals calibrated to customer's specifications
- ❑ sensors and signal conditioners electrically isolated from housing
- ❑ both output channels are electrically isolated from and independent of each other
- ❑ EMC certified
- ❑ internal, highly stable sensor supply voltages
- ❑ 10V ... 30V terminal voltage
- ❑ programmable dynamic response
- ❑ high mechanical overload resistance
- ❑ either connection polarity - possibility of 4-wire connection for both measuring loops
- ❑ low pass filter with optional choice of cutoff frequency for suppression of interference frequencies

Description

The **SBG3I** is a pressure die cast aluminium sensor housing (IP65) with two integrated sensors for measuring accelerations and/or inclinations along three axis acceleration and/or two axis inclination.
As well as the sensors, the box contains three independent signal conditioners, each with a 4...20mA, 2-wire output, and three separate, highly stable voltage supply feeding off the corresponding current loop, one for each sensor. Furthermore, each signal conditioner includes an active low pass filter, whose upper cut-off frequency / settling time can be adjusted to suit the measurement task, an output stage with current limitation, a noise voltage filter and a diode bridge for unipolar connection to the current loop. Interference signals caused by unwanted ground currents are eliminated by electrically isolating each sensor and signal conditioner from each other and the housing.
A special electronic temperature compensation system can significantly reduce the temperature sensitivity of the implemented sensors. The compact PG cable gland and compact housing size in combination with the 6 or 4 wire connection enable the use of this high quality measuring system in harsh operating conditions.

Nordic Transducer * Als Odde * DK-9560 Hadsund Denmark * Tel: +45 98581444 * Fax: +45 98581866
Internet: www.ntt.dk * e-Mail: ntt@ntt.dk

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Technical Data

Termination	max.: 6 x 1,5 mm^2
Cable gland	M12x1.5 cable gland, range 6mm...7.5mm
Measuring ranges	In accordance with the actual SEIKA-Sensor
Protection degree	IP65
Mounting	Any direction
Working planes sensor (B1 - B3 Sensor)	3 directions of mounting
Measuring directions (B1 - B3 Sensor)	in X,Y,Z-co-ordinate to the housing
Supply voltage to the box	+10 ... +30 Volt
Minimum loop current	3mA
Maximum loop current	Approx.24mA
Output current loop signal	4...20mA (12mA as zero point)
Adjustable area's via pot.-meters	Signal-zero (12mA), Span
Max. Load impedance	500 Ohm (at 24 Volt loop supply)
Working temperature	-40 ... +85°C

Options: Special measuring ranges, calibration record up to +/-1g, silicon encapsulation, custom wirings and cables.

Type Sensor mounted:	B1	B2	B3
Measuring range	±3g (app.±30m/s^2)	±10g (app.±100m/s^2)	±50g (app.±500m/s^2)
Resolution	<10^{-3}g	<5*10^{-3}g	<2*10^{-2}g
Frequency range	0...160Hz	0...350Hz	0...550Hz
Non-linearity		<0.2% F.S.	
Cross axis sensitivity		<1%	
Sensitivity	App.2.666mA/g	app. 0.800mA /g	app. 0.160mA/g
B1 special range down to	app. 16.000mA/g	(+/-0.5G range as minimum)	
Temperature drift on Sensitivity		<0,05% / °C	
Temperature drift on zero		<0,05mA/°C	
Mechanical overloading in measuring direction		10 000 g (app. 100 000 m/s^2)	
Nominal power supply		U_{bN} = 24 Volt	
Permissible range of power supply		10-30Volt	
Protection degree		IP65 (Optional IP67)	
Working temperature		-40°C to +85°C (optional 125°C)	
Storage temperature		-45°C to +90°C (optional 125°C)	
Weight (Metal housing without cable)		500 Gram	

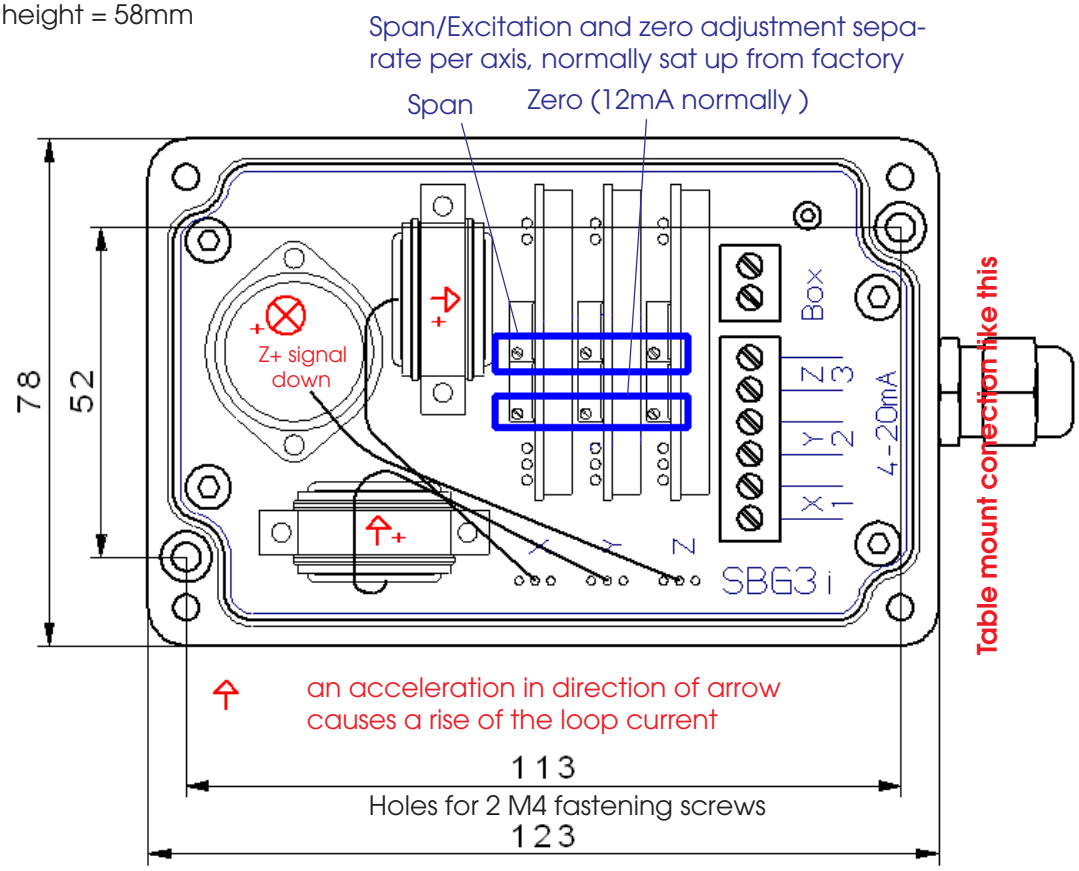
At order a special Low Pass filter can be ordered to fit your application
Please notice: A B1,B2 & B3 work from DC and up, so they will be sensitive to tilt also
A BDK sensor work from approx. 0.5Hz up, and this is not sensitive to tilt !!!

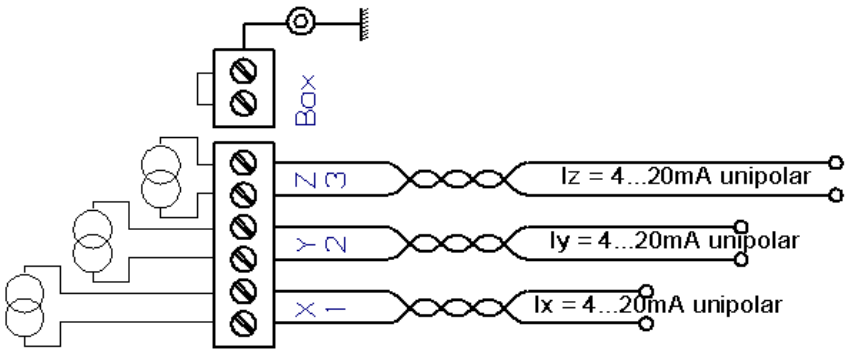
When BDK sensor to be used please look at separate BDK brochure.

SBG3i can also be fitted with a combination of accelerometers and Inclinometers

Dimensions in mm

Box total height = 58mm





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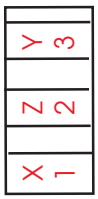

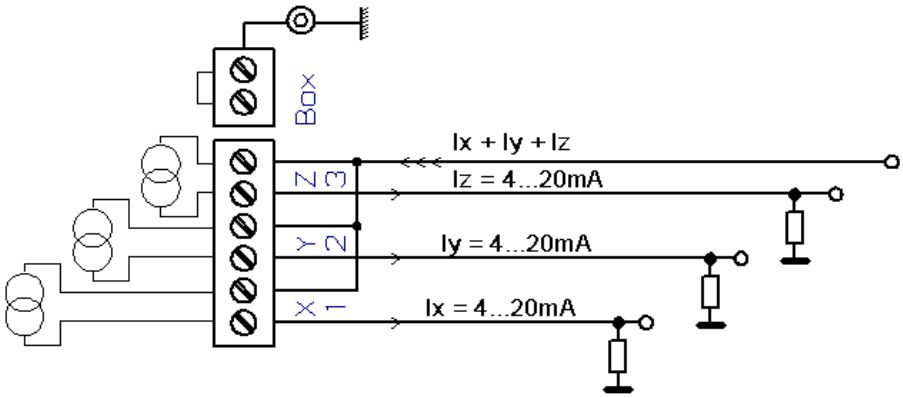

Please notice at wall mount it will look like this.

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