



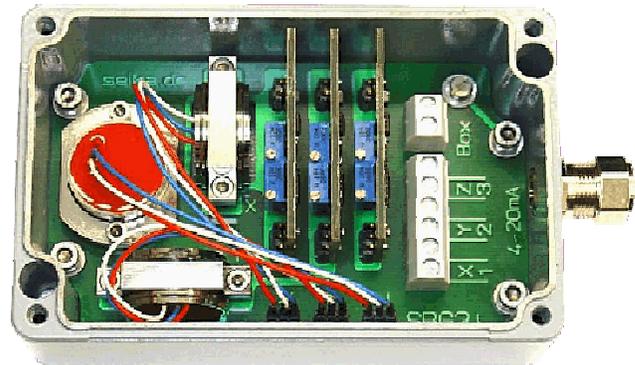
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SBG3i (4-20mA)

Tri-Axis Inclinometer Sensor Package

Page 1 of 2

Rugged, environmentally sealed sensor package with (3) integrated sensors & signal amplifiers for (3) 4...20mA 2-wire outputs.



Features

- *Rugged pressure die-cast Aluminium housing with saltwater resistant coating*
- *IP65 to IP67 Environmental Protection*
- *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 B-, BD- and N- series 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*
- *10...30 Volt 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 cut-off frequency for suppression of interference frequencies*

Description

The SBG3i is a pressure die-cast Aluminum sensor housing (IP65) with up to three integrated sensors for measuring acceleration (along three axis for acceleration) and/or inclination (and/or two axis for tilt).

This package also 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. Each signal conditioner includes an active low pass filter, which the 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 3-wire connection enable the use of this high quality measuring system in harsh operating conditions.

Applications

The SBG3i is suitable for applications requiring precise acceleration or inclination measurements along three axis under harsh circumstances and returning of a 4...20mA output signal each.

Areas of successful implementation include construction, mining, agricultural machinery, transportation and conveyor systems, ships, operation and automation technology as well as general mechanical engineering.

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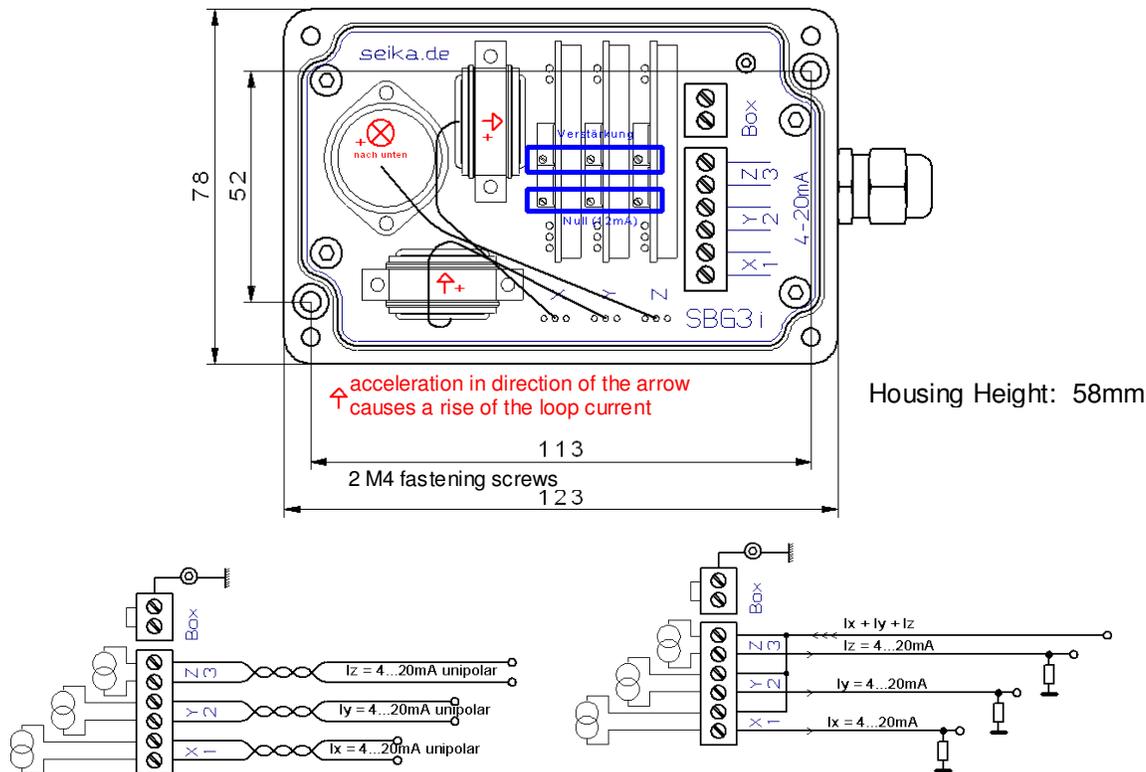
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TECHNICAL DATA	
Termination/Cable Diameter	max.: 6 x 1 mm ² / Ø 5 ... Ø 7 mm
Cable Fixing	M12 x 1.5 cable gland, clamping range 6mm ... 7.5mm
Measuring Ranges	In accordance with selected sensor
Environmental Protection Rating	IP65 (with RTV fill IP67)
Mounting	Any direction
Inclinometer Measuring Plane	N Series: 3 directions of mounting
Accelerometer Measuring Directions	B, BD Series: Place in X, Y, Z co-ordinates to the housing
Supply Voltage	+8 ... +30 VDC non-regulated
Minimum Loop Current	3mA
Maximum Loop Current	Approx.24mA
Output Current Loop Signal	4...20mA (12mA as zero point)
Adjustable Parameters via Potentiometers	Signal-zero (12mA), Span
Max. Load Impedance	500 Ohm (at 24 Volt loop supply)
Operating Temperature	-40 to +85°C (-40° to +185°F)
OPTIONS	
Scaled Angle Measuring Ranges, Calibration Certificate, Silicone RTV Filled Housing (IP67)	

FIGURE 1: Dimensions ([mm]), Mounting Position and Wiring
(Shown with N- or NB-type inclinometer sensor or B- or BDK-type Accelerometer)



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