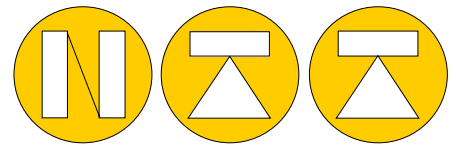
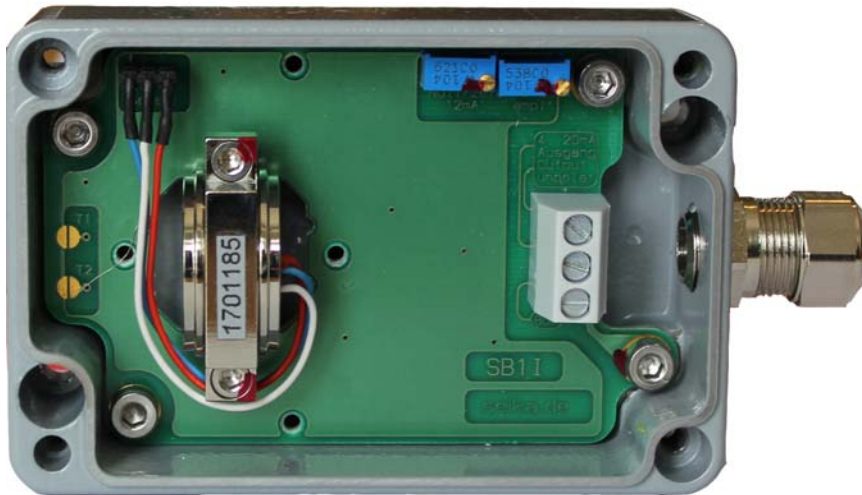


SEIKA SB1i-Inclination



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**4-20mA 2 wire output
DC Inclination**



SB1i HIGH SENSITIVITY Inclination
From +/-1 degree to +/-80 degree

- ◆ robust pressure die cast aluminium housing (IP65) with saltwater proof coating
- ◆ twist free 4-point fastening of rigid, 3.2mm thick base PCB
- ◆ integrated signal conditioner with 4...20mA, 2-wire output
- ◆ temperature drift compensation
- ◆ no separate supply voltage necessary
- ◆ all SEIKA sensors fit the housing and can be installed in different directions of operation
- ◆ output signal calibrated to customer's specifications
- ◆ sensor and signal conditioner electrically isolated from housing
- ◆ EMC certified
- ◆ highly stable sensor supply voltage
- ◆ 10V ... 30V terminal voltage
- ◆ programmable dynamic response
- ◆ loop current limitation
- ◆ high overload resistance
- ◆ either connection polarity
- ◆ low pass filter with optional choice of cut-off frequency for suppression of interference frequencies

Description

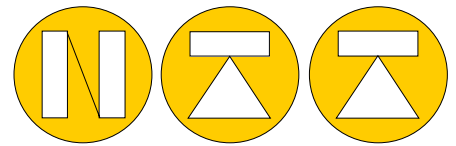
The SB1i is a pressure die cast aluminium sensor housing (IP65) with an integrated sensor for measuring uniaxial acceleration or inclination.

In addition to the sensor, the box contains a signal conditioner with 4...20mA, 2-wire output and a separate, highly stable supply voltage feeding off the current loop. Furthermore, the 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 coupling to the current loop. Interference signals caused by unwanted ground currents are avoided by electrically isolating sensor and signal conditioner from the housing. Unlike the SB2..., the SB1i can accommodate larger inclinometers, such as the NG-series, that have a higher measuring accuracy. A special electronic temperature compensation system can significantly reduce the temperature sensitivity of the implemented sensor.

The compact metal cable gland and small housing size in combination with the 2-wire connection enable the use of this high quality measuring system in harsh operating conditions.

Application

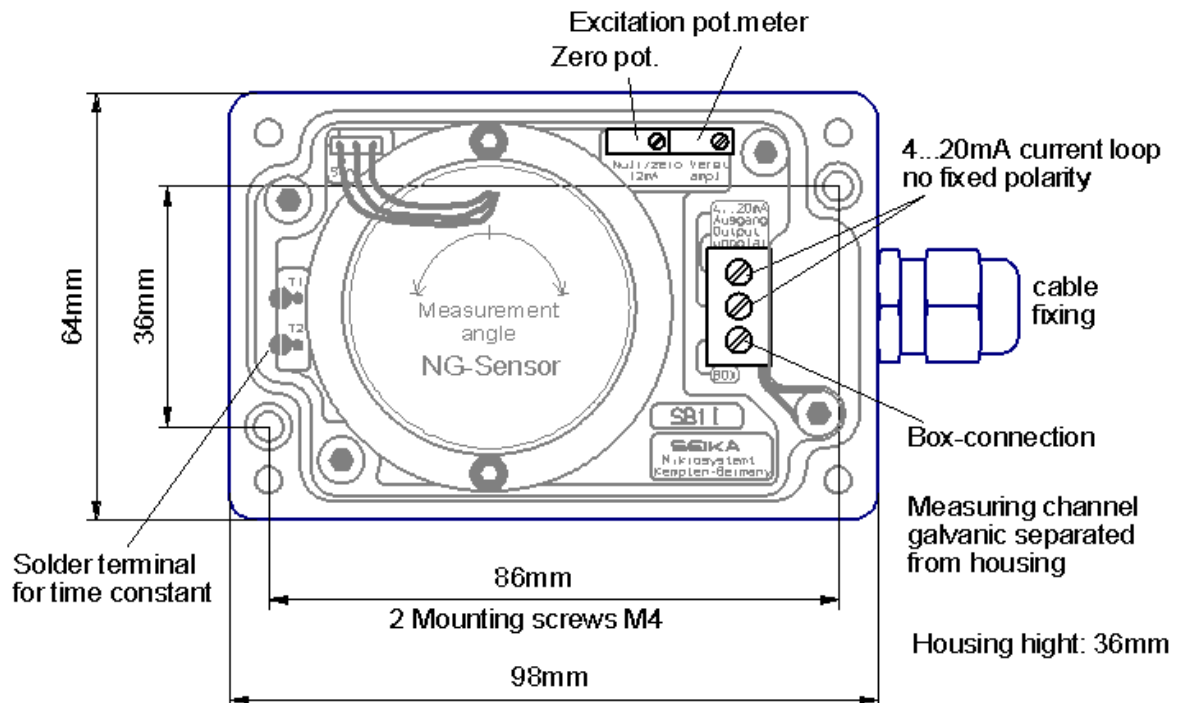
The SB1i is suitable for applications requiring precise inclination or acceleration measurements under harsh circumstances and returning of a 4...20mA output signal. Areas of successful implementation include construction, mining, agricultural machinery, transportation and conveyor systems, ships, operation & automation technology as well as general mechanical engineering



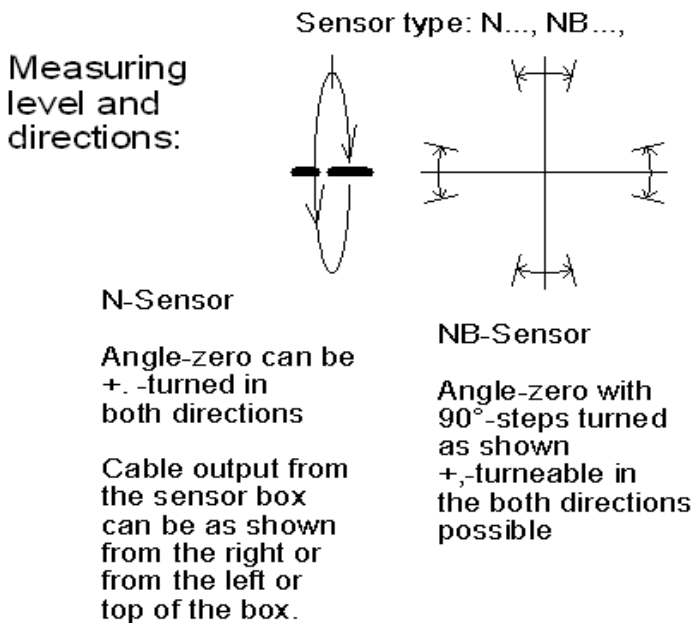
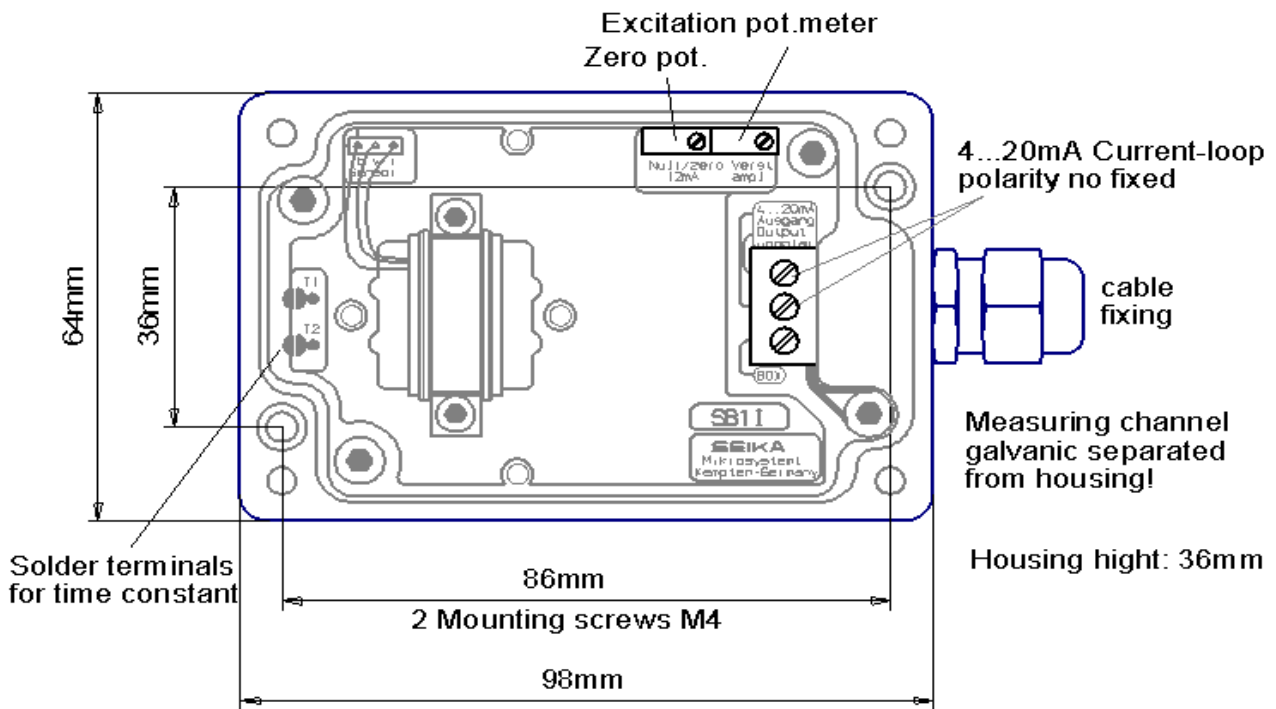
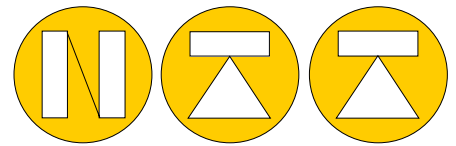
Technical Data

Termination	max.: 3 x 1,5 mm ²
Cable gland	PG M12 Size in metric metal mode/or M12 conne.
Measuring ranges	In accordance with the actual SEIKA-Sensor
Protection degree	IP65
Mounting	Any direction
Working planes sensor (NGx - Sensor)	1 directions of mounting X Wall mount
Measuring directions (N - NB2 or NB3 Sensor)	in X,Y-co-ordinate to the housing
Supply voltage to the box	+10 ... +30 Volt
Minimum loop current	2.5mA to 3.5mA
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 ranges,calibration,silicon filling,custome witinh	

Dimensions & Measuring Directions of SB1i with NGx sensor (Only wall mount !)



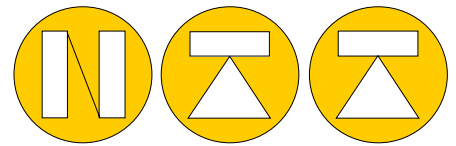
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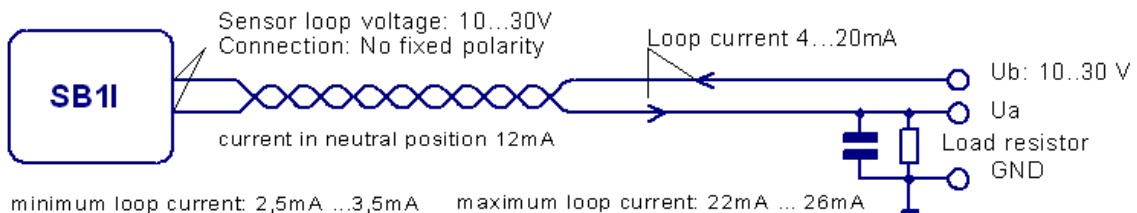
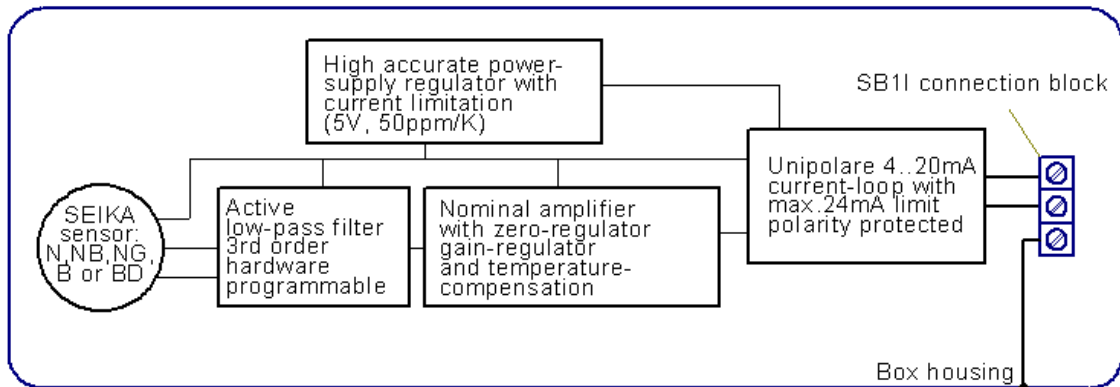
The above diagrams demonstrate the feasibility of measuring most angles of inclination and directions of acceleration with SEIKA cased sensors. The resulting multitude of different possibilities do make choices difficult. We'd be glad to give you advice on putting together the components best suited for your measurement task and are happy to receive your information on what planes and directions the inclinations and/or accelerations are to be measured. A sketch of your situation is often very handy.

SEIKA SB1i-Inclination

Dimensions in mm



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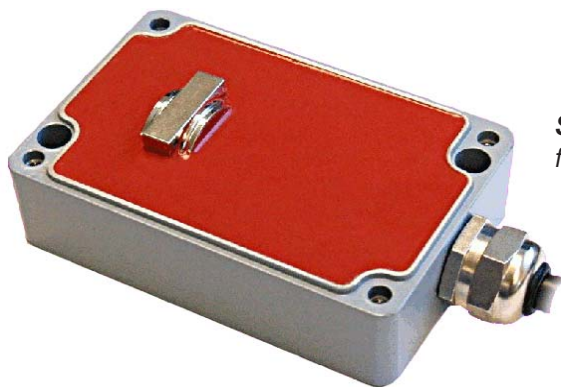
minimum loop current: 2,5mA ... 3,5mA maximum loop current: 22mA ... 26mA

$U_{bmin} = 10V + \text{voltage drop along cable} + \text{voltage drop across load at } 20mA$

$U_{bmin} = 10V + (20mA \cdot R(\text{cable})) + (20mA \cdot R(\text{load}))$

e.g.: (100m transmission wire 2x0,14mm² :)0,6V + (100 Ohm load:)2V + 10V = $U_{bmin} = 12,6V$

e.g.: (2km transmission cable 2x0,5mm² :)3,2V + (500 Ohm load:)10V + 10V = $U_{bmin} = 23,2V$

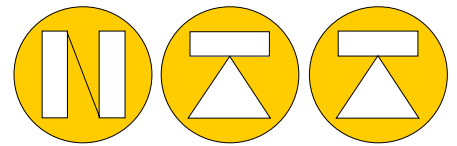


SB1i can also be complete potted inside for IP67 protection

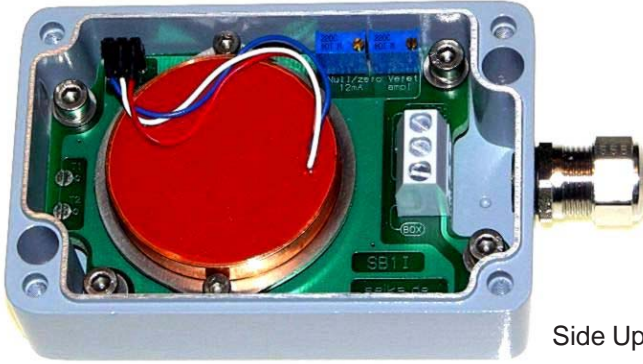


SBBW1 Mounting Bracket (option)

SEIKA SB1i-Inclination



NORDIC TRANSDUCER



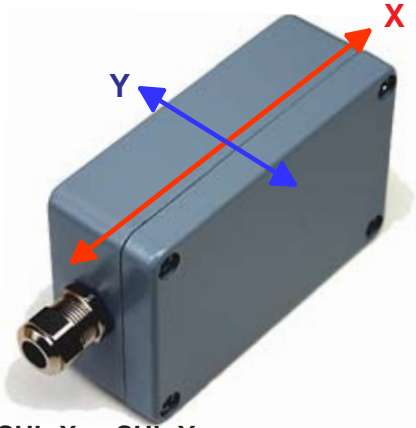
NGx sensor Wall mount

Side Up PG Right = SUR



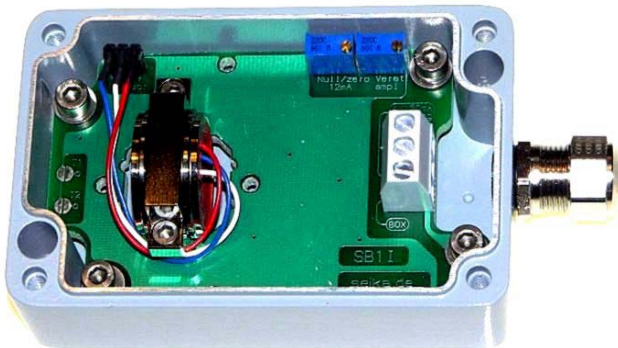
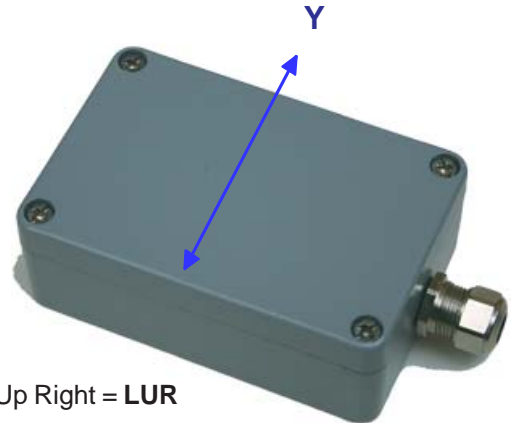
Nx sensor X or Y direction wall mount

Side Up PG Left = SUL-X or SUL-Y



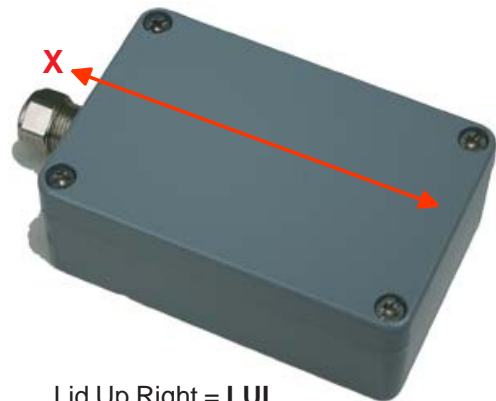
NBx sensor y direction desk mount

Lid Up Right = LUR



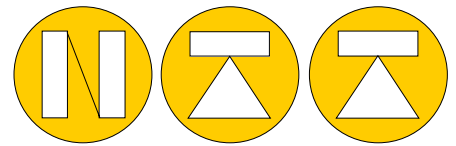
NBx sensor X direction desk mount

Lid Up Right = LUL



All Seika Sensor boxes can be delivered with PG12 cable out at left or right side !
We can also deliver with M12 connectors instead of PG

SEIKA SB1i-Inclination

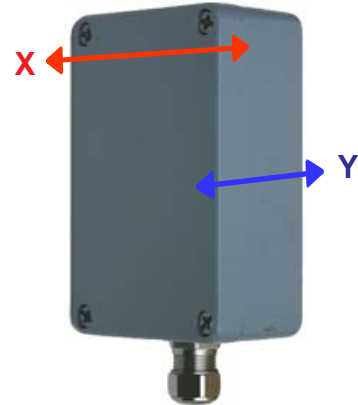


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End Up = EUD-X or EUD-Y



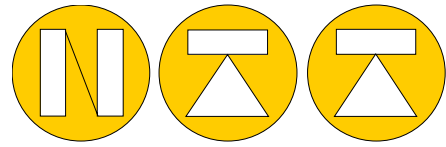
Nx or NBx sensors X or Y direction wall mount PG down

Stainless Steel brackets for mounting in different situations.

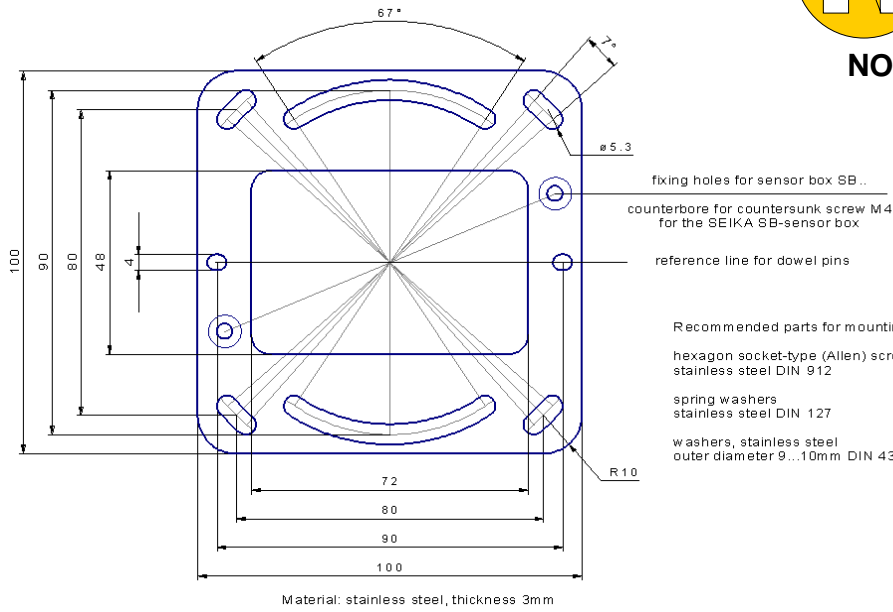


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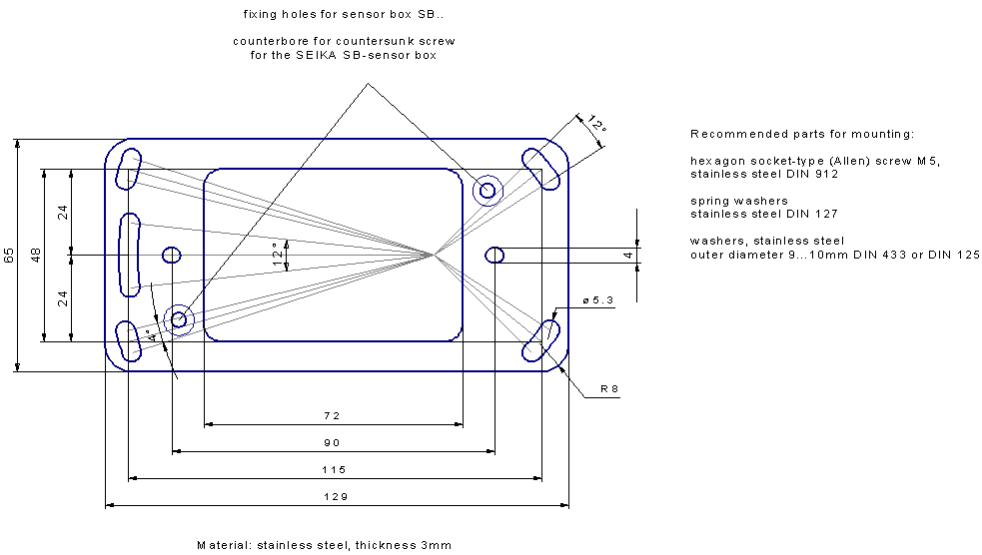
SEIKA SB1i-Inclination



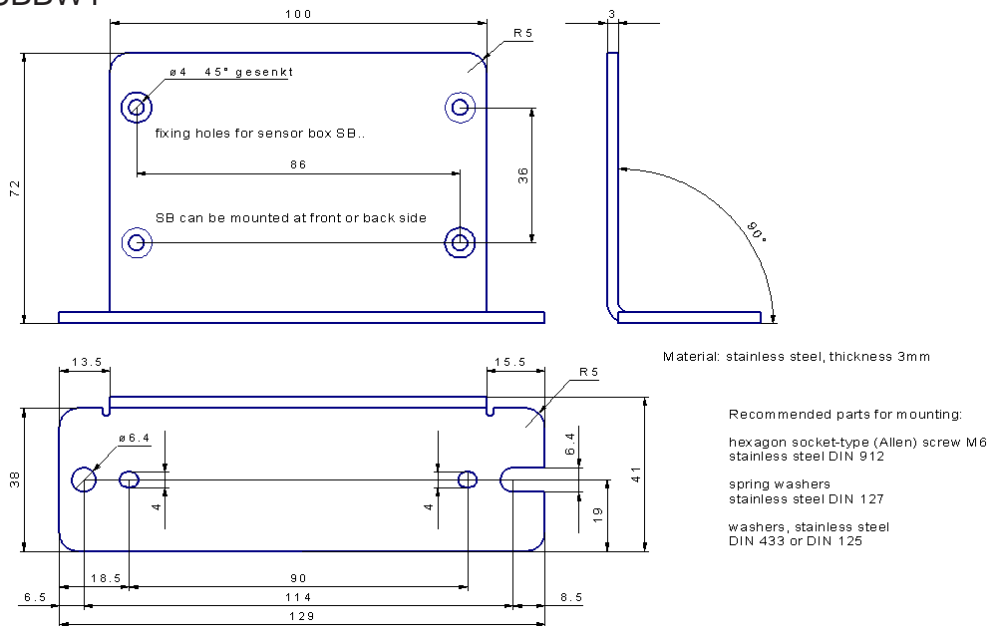
NORDIC TRANSDUCER



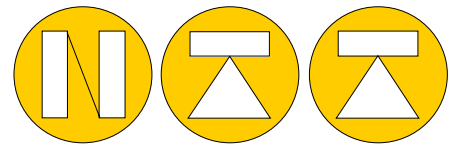
SBBS1



SBBW1



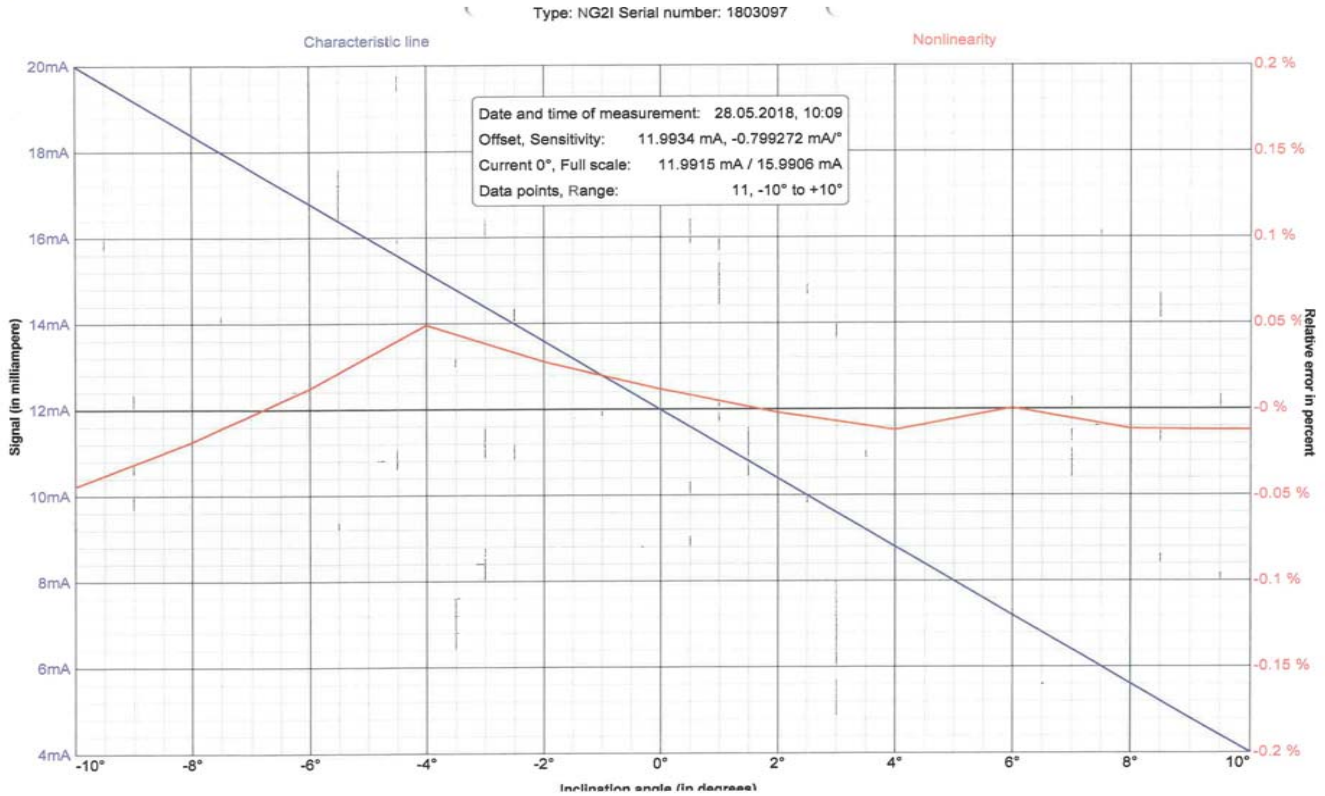
SEIKA SB1i-Inclination



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All sensor boxes will be supplied with a linearity diagram for the working range

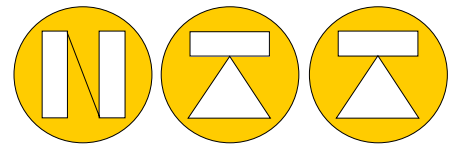


The SB1i-Bx sensor boxes can be supplied with accurate test data as shown here up to +/-10°



XB1i

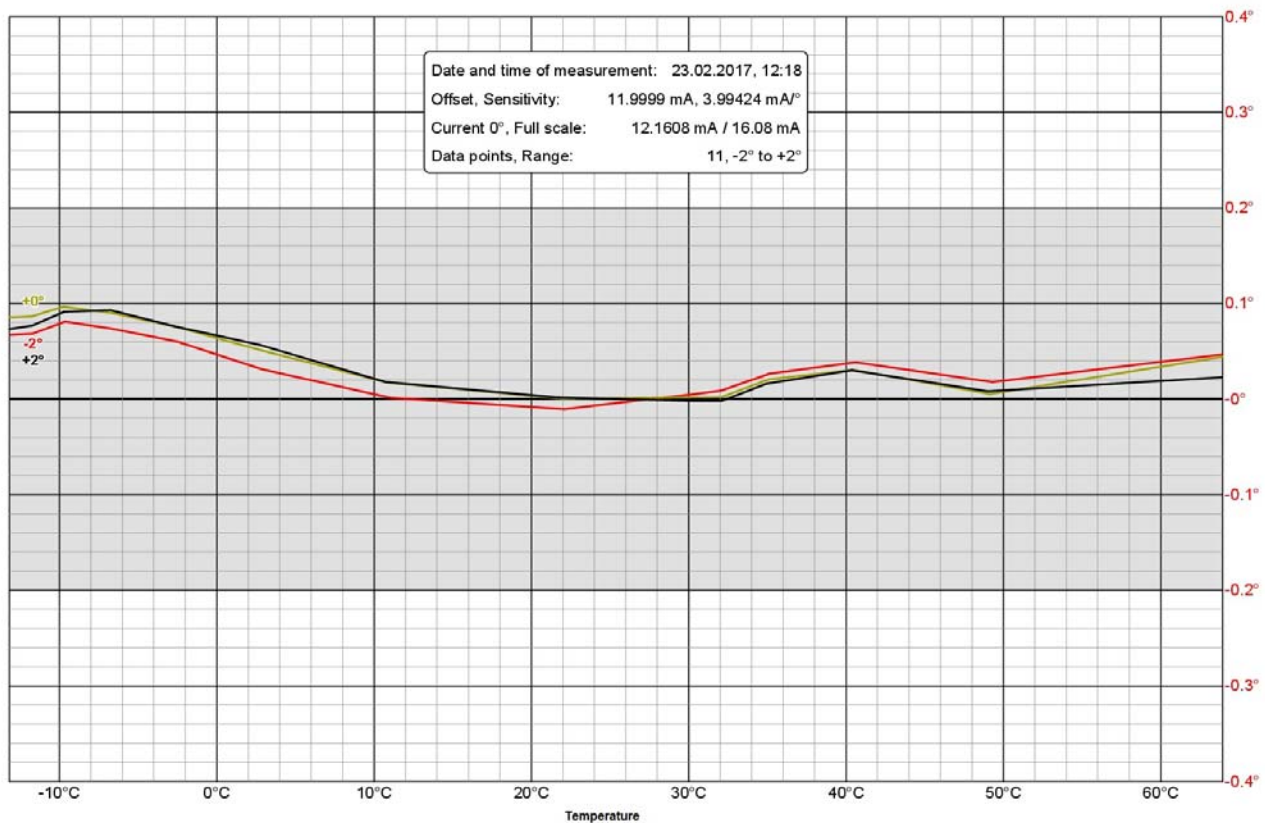
As option a special XB1 very strong stainless steel housing can also be supplied for the SB1i for down to 100 meter water



TZ Option.

As option we can make a handmade a Laser trimmed temperatur compensation on a specific range so a high stability can be used for years usage.

Type: SB1i NG2 Serial number:



Option ATEK Ex can be supplied also, only via SB2i box.

