

SB1U-NG

**Sensor box with one
Sensor and amplifier
for signal output at :
2.5V +/- 2Volt
Signal output as:
+/-10° - +/-30° - +/-80°**

Special features

- Strong stable aluminium housing (IP65), in sea water coated finish
- Torsion free four fixing points of the 3,2mm motherboard
- Integrated 0...5VDC amplifier for signal output
- Temperature compensation beyond the sensors own compensation data
- No extra power required
- All SEIKA-Sensors can be utilised in this SB1U box
- The output signal of the SB1U is calibrated to custom specs. In connection with the respective sensor required
- Sensor and amplifier are galvanic separated from the housing
- Extensive EMC protected
- High stable sensor supply voltage
- 8 to 30 Volt box supply
- Dynamics parameters is programmable
- Strong mechanical design in housing
- High overload resistance
- No polarity connections mistakes
- Low-pass signal filter with optional max. Frequency filter for suppression of interference frequencies

Description

The **SB1U** sensor box is a pressure-cast aluminium box (IP65) with integrated sensor for single axis Inclination or for Acceleration measurement.

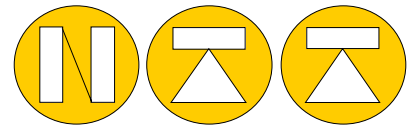
The SB1U contains an amplifier part with 0...5VDC output signal possibility, also as a separate part on the board there is a high-stable power supply for supplying the actual sensor (this can also be taken out as an ref. Voltage!). The amplifier for the Signal output contains also a low-pass filter for upper frequencies limitation. Rise-time constant as a specific value, + an max. Current output limitation, can also be a part of the custom built unit. Supply noise suppression filter and Diode Bridge for guarantee of the Electromagnetic Compatibility are also a standard part in this unit. Sensor and amplifier are galvanic isolated from the housing.

In the **SB1U** box the **NG** type sensor can also be implemented, which means a very high degree of accuracy on the measuring of inclination and an considerably reduced temperature drift over the whole temperature range, this as the highest degree of accuracy of all **SEIKA** products.

A strong metal PG cable gland and the solid and compact housing for the whole Sensor box in connection with the high voltage signal output gives al together a high-quality system for use under many types of difficult working conditions.

Applications

Nordic Transducer * Als Odde * DK-9560 Hadsund Denmark * Tel: +45 98581444 * Fax: +45 98581866
Internet: www.ntt.dk * e-Mail: ntt@ntt.dk 22-01-03



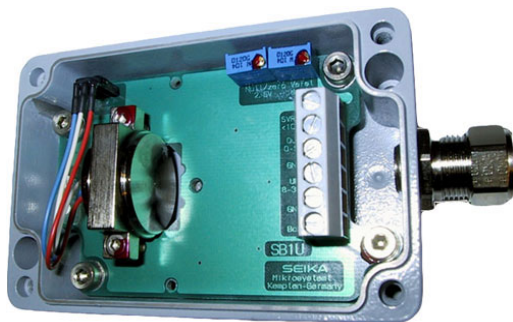
The **SB1U** is used everywhere, where inclination or acceleration measurements are wanted together with a high level DC voltage output. In particular in buildings, mining industry, radar systems, bridges, ships, in agricultural machinery and in all types of process machinery, just name it, and **SB1U** can be for very good use nearly everywhere.

Technical Data

Termination	Max.: 2 x 1,5 mm ²
Cable gland	PG7 (Metal with integrated stress relief)
Measuring ranges	In accordance with the actual SEIKA-Sensor
Protection degree	IP65
Mounting	Any direction
Working planes sensor (N. or NB3 Sensor)	3 directions of mounting
Working planes sensor (NG..Sensor)	Parallel to the base of housing
Measuring directions (B...BD..Sensor)	in X,Y,Z-co-ordinate to the housing
Supply voltage to the box	+8 ... +30 Volt
Operating current	Max. 5mA
Measuring range of the output signal	+0,5 to +4,5 Volt as standard
Maximum range of the output signal	+0,05 to +4,95 Volt
Reference initial voltage	(5+/-0,005) Volt (max.10mA) 20ppm/k
Output impedance	100Ω
Output signal zero	+2,5 Volt
Adjustable area's via pot.-meters	Signal-zero (2,5V), Span +/-2V from factory
Low-pass filter	Active, 5 th order, minimal ripple
Working temperature	-40 ... +85°C
NG sensor temp. Drift span & zero	-40 ... +85°C +/-1.5% F.S. over full range !

Options: Special measuring ranges, test report, Silicone filled housing, custom wiring

SB1U-NB3 sensor



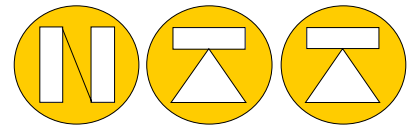
For special jobs where a very fast response time is wanted down to 0.02 sec. the NB3 is the answer.

The fast response can be combined with a customer filtering at order!

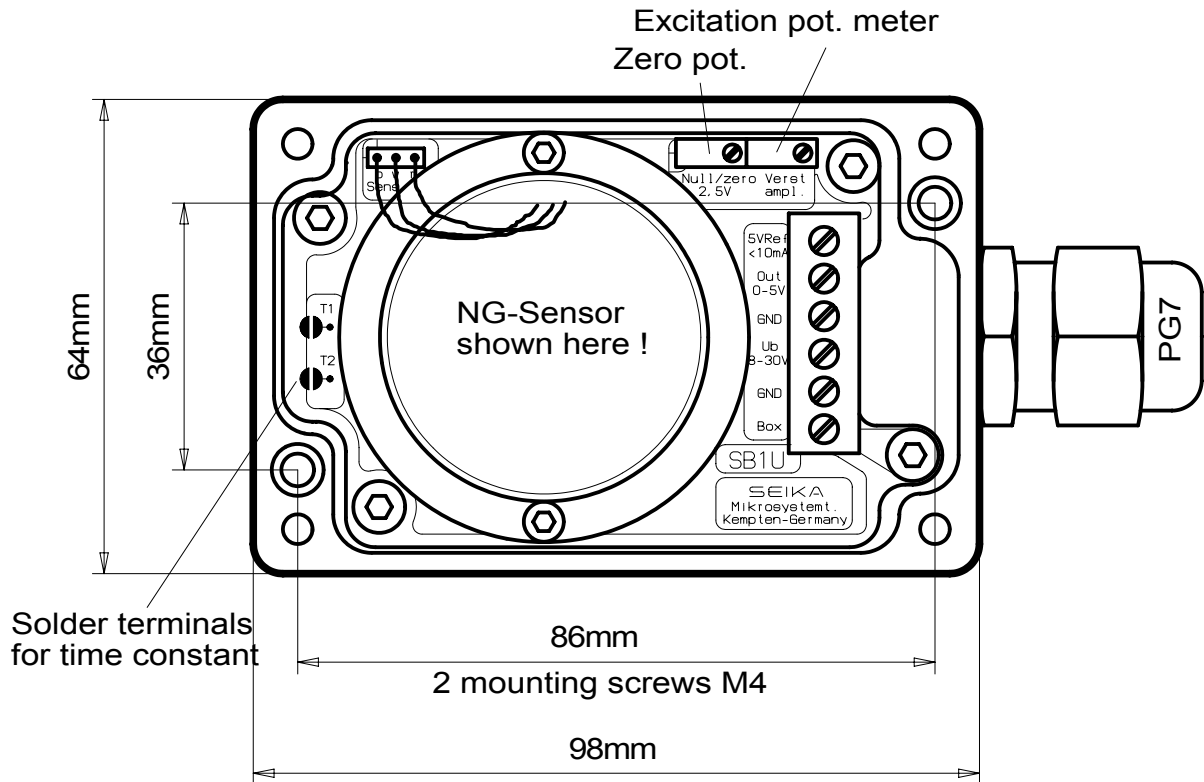
NB3 range is +/-10° with possibility of up to +/- 20° 0.5% non-linearity from 10° to 20°

For more information please look at NB3 data sheet.

NB3 Type sensor Data (when used)	NB3
Measuring range	±10 degrees
Expanded working range usable!	±20 degrees (max. Non-linearity <0.5%)
Noise-signal relationship	<±0,003 degree
Max. Non-linearity	<0,2% from measuring range
Transverse Sensitivity	Practical near zero
Rise-time constant	Approx.. 0,3 sec. (Shorter times as optional min. 0.02 sec.)



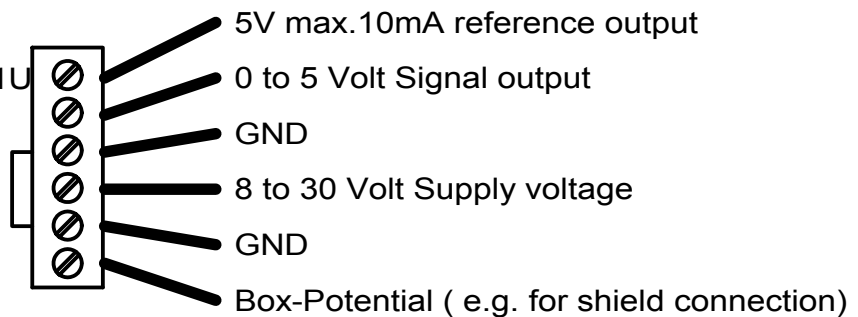
Dimensions and pin assignments



Measuring channels galvanic separated from housing

Hight housing: 36mm

All SEIKA Sensors can be used in the SB1U



Caution! The supply voltage (8 to 30V) must NOT be wrong connected to any output signal.

Pin assignments are the same for NB3 sensor!

NG Type sensor used in SB1U	NG2	NG3	NG4
Measuring range	±10 degrees	±30 degrees	±80 degrees
Typical Noise-signal relationship	<± 0,003degrees	<± 0,008 degrees	<±0,016 degrees
Dimensions	See drawing		
Max. Non-linearity	0,1% F.S.!		
Transverse Sensitivity	1% at 45° tilt		