

Sensor box with one Sensor, one amplifier unit for 0... 5Volt signal output and two Open-Collector control outputs

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 SB1S box
- The output signal of the SB1S 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
- Switching status indicator via two red LED's
- Two separate and individually variable Open-collector switching outputs
- Low-pass signal filter with optional max. Frequency filter for suppression of interference frequencies

Description

The **SB1S** sensor box is a pressure-cast aluminium box (IP65) with integrated sensor for single axis Inclination or for Acceleration measurement.

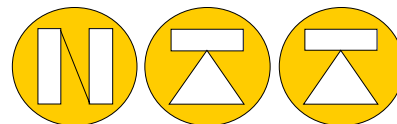
The **SB1S** contains an amplifier part with 0...5VDC signal output possibility, also as a separate part on the board there is a high-stable power supply for supplying the actual sensor (this 5V can also be taken out as an ref. Voltage!). The amplifier for the Signal output contains also a low-pass filter for upper frequencies limitation. Rise-time constant as a specific value, + a 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.

The **SB1S** has also two Open-Collector outputs, The trigger point for thresholds can be individually adjusted by means of two trim-potentiometers, this within the whole working range of the actual sensor. Optional can these also be supplied as 1: Normal open 2: Normal closed.

In the **SB1S** box can the **NG** type sensor 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



The **SB1S** is used everywhere, where inclination or acceleration measurements are wanted together with a high-level 5DC voltage output + the possibility to have 2 switching outputs for controlling and safety purpose. In particular in cranes, buildings, mining industry, radar systems, bridges, ships, in agricultural machinery and in all types of process machinery, just name it, and **SB1S** can be for very good use nearly everywhere.

Technical Data

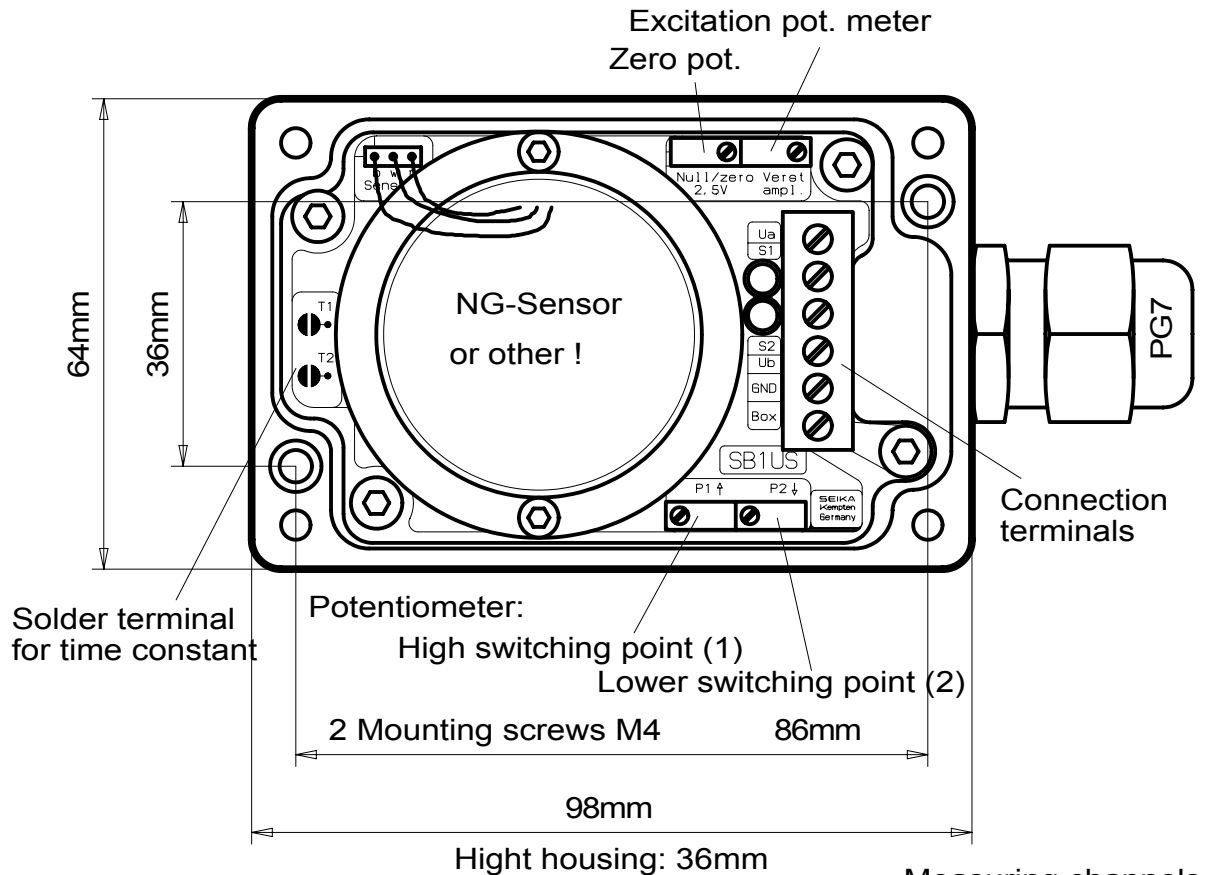
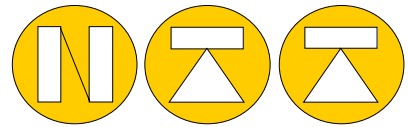
Termination	Max.: 2 x 1,5 mm ²
Cable gland	PG7 (Metal with integrated stress relief)
Measuring ranges	In accordance with the actual SEIKA-Sensor
Protection degree	IP65
Mounting	Any direction
Working planes sensor (NB..Sensor)	3 directions of mounting
Working planes sensor (NG..Sensor)	Parallel to the 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
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
Switching transistors	BCX56
Max. Switching output load	50Volt 0,3A
Output signal zero	+2,5 Volt
Adjustable area's via pot.-meters	Signal-zero (2,5V), Span
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, specific switching hysteresis, function as: LOW to HIGH or HIGH to LOW, custom wiring

Type sensor used in SB1S	NG2	NG3	NG4
Measuring range	±10 degrees	±30 degrees	±80 degrees
Typical instrument resolution	<± 0,003degrees	<±0,008 degrees	<± 0,016 degrees
Dimensions	See drawing		
Max. Non-linearity	0,1% from measuring value!		
Transverse Sensitivity	1% at 45° tilt		

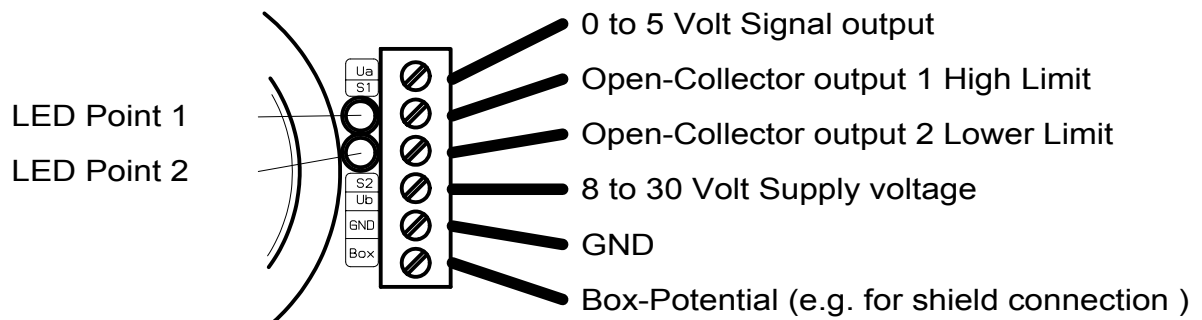
Do also look at NG brochure for more information!

Dimensions and connections



All SEIKA-Sensors can be used in the SB1S.

Measuring channels galvanic separated from housing



The Open-Collector outputs are protected with diodes for spikes on the supply, while switching inductive burdens

CAUTION! Do not short-circuit the operating voltage (8 to 30V) with one of the outputs!

The OC outputs can as option function like: "HIGH = going high when the limit are excited" = Version L (LOAD) or "LOW = going LOW when the limit are excited" = Version N (NUTURAL).

The version L offers the possibility to connect both OC outputs (wired OR) as only one control signal (e.g. honk) to be activated, during passing the one or the other limit.

The N version do give the possibility of higher safety of alarm's since an open-line condition and operating power failure will cause an overriding of the limiting value and then cause an ALARM output