



The SB1S is rugged & environmentally sealed with one integrated sensor, one signal amplifier for 0...5 Volt signal output, and two open-collector outputs.

Features

- Specially designed housing for extra stable sensor platform
- Strong aluminum housing (IP65) with a sea water coated finish
- Integrated 0...5V amplifier for signal output
- Temperature compensation beyond the sensors own compensation data
- Compatible with all Rieker sensors
- The output signal of the SB1S can be calibrated to customer's requirements
- Switching status indicated by 2 LEDs
- Sensor and amplifier are galvanically separated from the housing
- Extensive EMC protection
- Highly stable sensor supply voltage
- Dynamic parameters are programmable
- 8...30V box supply
- 2 separate and individually variable open-collector switching outputs
- Low-pass signal filter with optional setting of maximum frequency for suppression of interference frequencies

Description

The SB1S sensor box is packaged in a solid and compact pressure-cast aluminum housing with an integrated sensor for single axis inclination or acceleration measurements.

Within the box are 2 sections: An amplifier with a 0...5VDC output signal; and a separate highly stable power supply for the sensor, which can also be used as an external reference Voltage! The amplifier contains a low-pass filter for upper frequency limitation, with noise suppression filtering and a diode bridge that guarantees the electromagnetic compatibility. Both sensor and amplifier are galvanically isolated from the housing - further reducing susceptibility to outside noise. Specific response time constants and maximum current output limitations are additional options.

The SB1S also has 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. Optionally, these can also be supplied as 1: Normally open 2: Normally closed.

For a very high degree of accuracy, an NG-type sensor can be integrated into the SB1S box, which considerably reduces temperature drift over the entire temperature range. The strong metal PG cable fixing combined with high voltage signal output make the SB1S a high-quality system for use under many types of harsh working conditions.

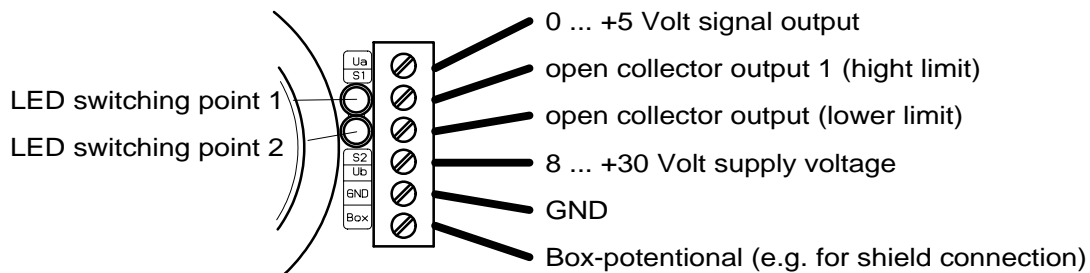
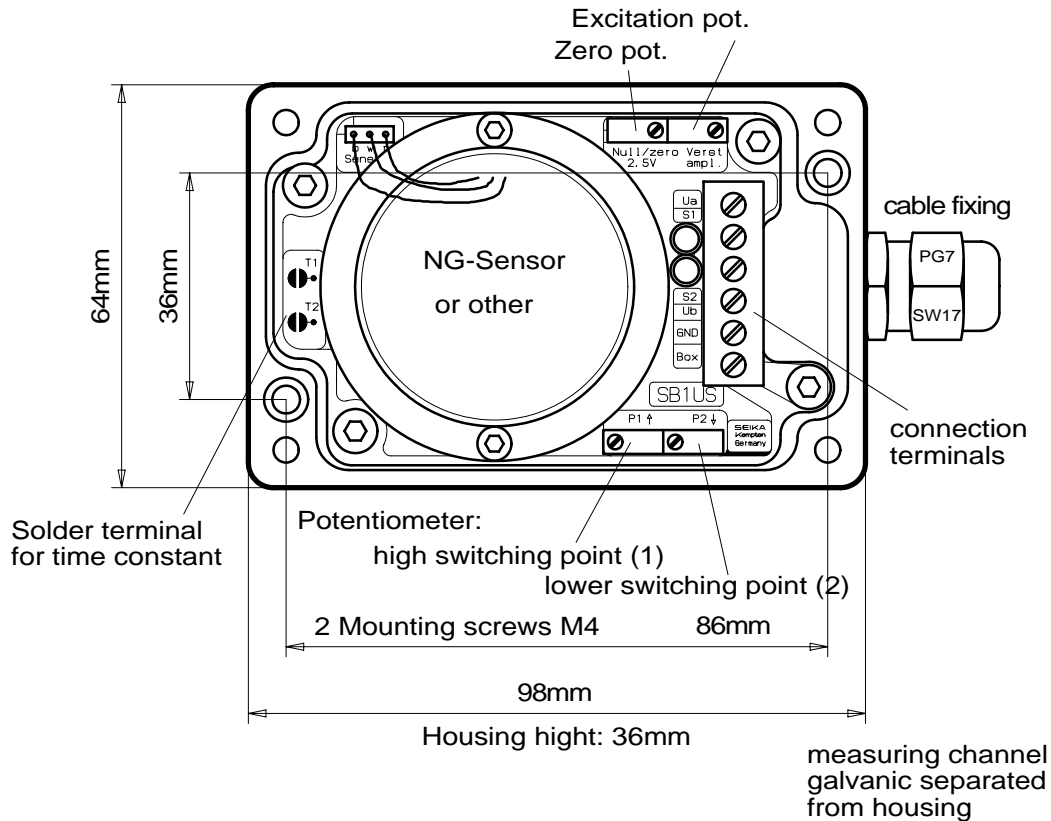


The SB1S is recommended where accurate inclination or acceleration measurements with a high level 5VDC voltage output are combined with the need for switching outputs - primarily for valve control and safety purposes. It has been used in building construction, mining, radar systems, bridges, ships, agricultural equipment, and all types of process machinery.

Technical Data	
Termination/Cable diameter	max.: Max.: 6 x 1 mm ² / Ø 5 ... Ø7 mm
Cable fixing	PG7 (Metal with integrated stress relief)
Measuring ranges	In accordance with the actual sensor
Protection degree	IP65
Mounting	Any direction
Sensor measuring plane (N Series)	3 directions of mounting
Sensor measuring plane (NG Series)	Parallel to the base of housing
Accelerometer measuring directions (B or BD Series)	Place in X, Y, Z coordinates 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/°C
Output impedance	100Ω
Switching transistors	BCX56
Max. switching output load	50 Volt 0.3A
Output signal zero	+2.5 Volt
Adjustable parameters via potentiometers	Signal-zero (2.5V), Span
Low-pass filter	Active, 5 th order, minimal ripple
Operating temperature	-40 ... +85°C
Options	
Special measuring ranges, test report, silicone filled housing, specific switching hysteresis, function as: LOW to HIGH or HIGH to LOW, custom wiring	
The SB1S Sensor Box is extremely versatile, allowing various configurations with other Rieker sensors. If you have an application that requires alternative specifications, one of our engineers will be happy to discuss how to customize the box for your inclination or acceleration needs.	

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SB1S Dimensions (in mm) - Shown with NG-type Inclinometer Sensor



The open collector outputs are protected with diodes for spikes witching inductive loads

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

The OC outputs can optionally function as:

OC is connected to GND when the limit is exceeded - this is Version C

or OC is nonconnected to GND when the limit is exceeded - this is Version N

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

The version N gives the possibility of greater alarm safety since an open-line condition and operating power failure will cause an overriding of the limiting value and then cause an alarm output.