

The SBL1S has two sensors each on its own channel: one channel with a 4...20mA current-loop output & one channel with a 0...5VDC output including two safety relays with set-point regulation of range.



Features

- Highly stable die-cast aluminium housing
- Angle adjustable vibration dampers mounted to support the 3.2mm motherboard
- Built-in current amplifier for 4...20mA current-loop output and 0..5 VDC output
- All N-, NB- or NG-type sensors can be integrated into the SBL1 and mounted in different sensing directions
- The SBL1S unit will be supplied with customer specific measurement ranges
- Sensor and current-loop are galvanically separated from each other and housing
- EMC protections are standard
- Highly stable sensor supply
- Very high mechanical overload
- Low-pass filtering with optional choice of filter suppression frequencies

Channel 1	Channel 2
4...20mA current-loop output	Voltage amplifier with 0..5 VDC signal output
Temperature compensated	Temperature compensated
No need for extra supply power	Highly stable sensor supply
Non-polarity restrictions	Opporating voltage reverse polarity protected
Current-loop with max. limitation	Two separate, individually variable safety relays each with double functions on \pm inclination

Description

The SBL1S sensor box is packaged in a solid die-cast aluminum housing (IP54) with two integrated sensors with a separate highly stable power supply for both sensors, which obtains its power from the 8...30VDC box supply.

Each sensor has its own channel: Channel 1 - One amplifier with a 4...20mA current-loop output proportional with the working range of one of the integrated sensors and Channel 2 - the other sensor provides a 0...5VDC output and controls the safety relays. Both sensors and amplifier are

PO Box 127 • 777 Henderson Blvd • Park Square North Bldg • Bay #7 • Folcroft • PA • 19032 • USA

voice: 610-534-9000

fax: 610-534-4670

email: info@riekerinc.com

web: www.riekerinc.com

galvanically isolated from the housing - further reducing susceptibility to outside noise. A custom low-pass filter and a suppression filter combine to eliminate interference coming into the system.

The two adjustable set-points are linked to the voltage source of the box. There is a double safety-relay function for both plus and minus inclination. Optional adjustment of the switching hysteresis is available on request.

For a very high degree of accuracy, an NG-type sensor can be integrated into the SBL1S box, which considerably reduces temperature drift over the entire temperature range.

The SBL1S - with a double securing ON/OFF safety control system with both current and voltage signal outputs - provides a very stable and strong inclination measuring system for utilization under harsh circumstances.

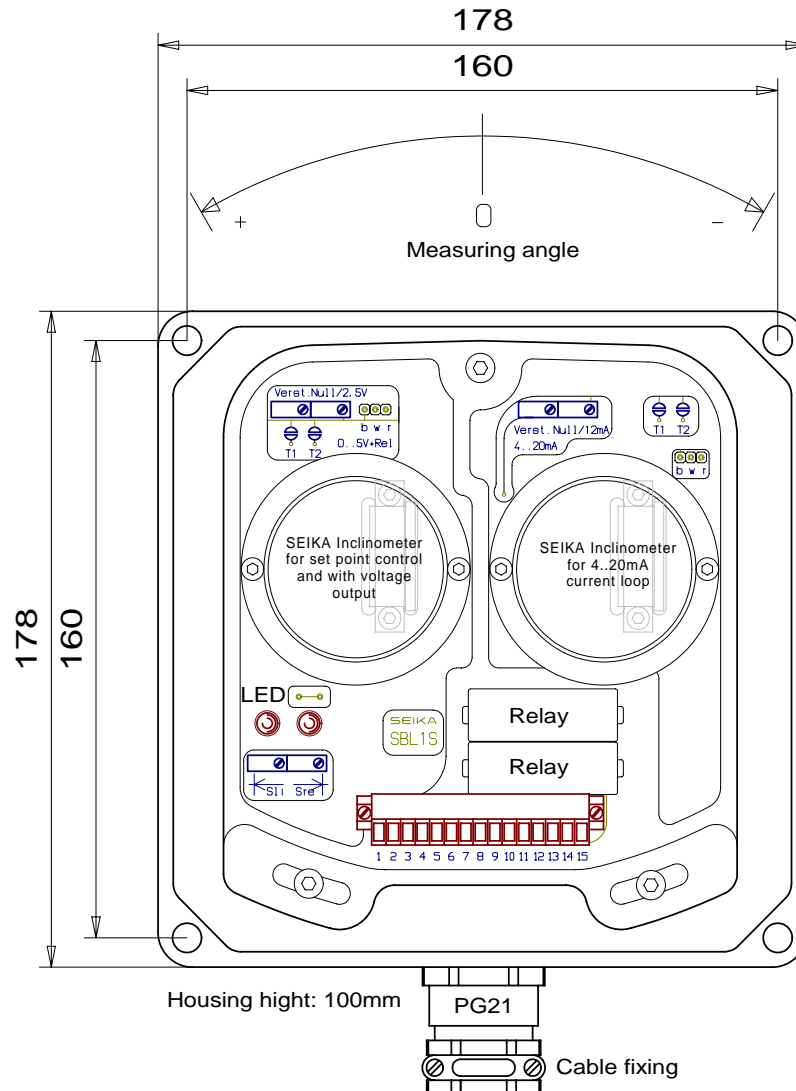
Applications

The SBL1S is recommended for use where inclination measurements require a full-proof safety system, especially where mechanical vibration occurs in such areas as conveyor systems, mining and agricultural equipment, and all types of process machinery.

Technical Data	
Connections	Max.: 15 x 1 mm ² (screw connectors)
Cable Diameter	Ø12...Ø21,5mm
Cable fixing	PG21 (Metal with strain relief)
Measuring ranges	In accordance with the actual sensor
Protection degree	IP54
Mounting	Any direction
Sensor measuring plane (N, NB Series)	3 directions of mounting
Sensor measuring plane (NG Series)	Parallel to the base of housing
Operating temperature	-40...+85°C
Channel 1	4...20mA current-loop output
Supply voltage for loop	+8...+30 Volt
Minimum current	Approximately 3mA
Maximum current	Approximately 24mA
Measuring signal loop current	4...20mA (12mA at zero)
Zero/amplifier potentiometer	Signal-zero (12mA), amplifier
Maximum load impedance	500Ω (at 24V current power supply)
Channel 2	0..5 VDC voltage and relay outputs
Supply voltage	+12 or +24 Volt
Supply current	Maximum 5mA
Nominal measuring range	+0.5 to +4.5 Volt
Nominal zero output	+2.5 Volt
Maximum operating range	+0.05 to +4.96 volt
Output load impedance	100Ω
Capacitive signal output load	Any, considering the high-powered ones

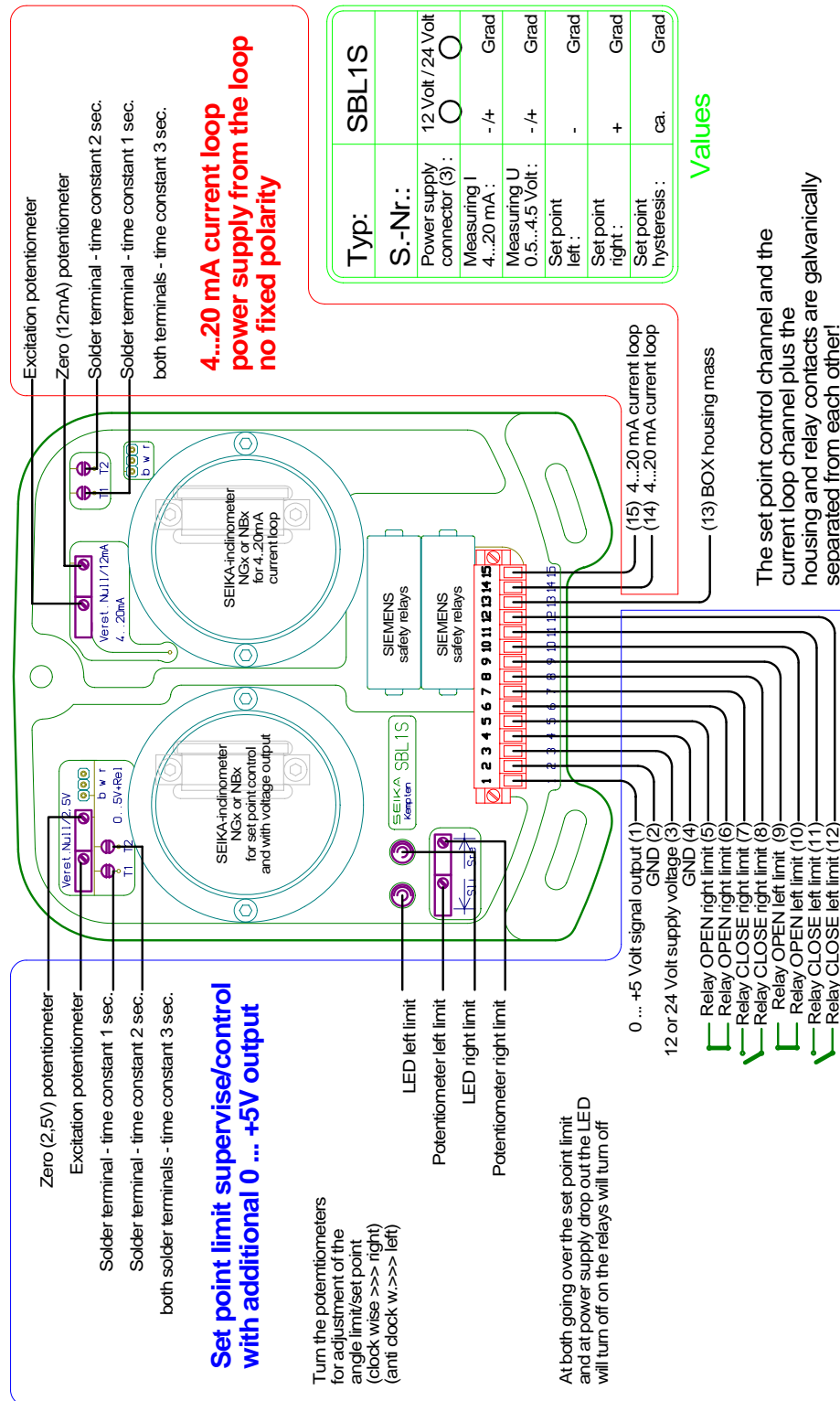
Switching stages	Two SIEMENS safety relays (type SR2A311) - which meet the safety and technical regulations for usage as safeguard relays
Contacts	Each relay furnished with an independent Open and Closing contact
Contact load	250V, 6A
Adjustable potentiometers	Signal zero (2.5V), amplifier, under- and over-trigger threshold
Low-pass filter	Active, 4 th order, minimum ripple
Options	
Special measuring ranges, special hysteresis, test report	

SBL1S Dimensions (in mm)



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SBL1 Wiring Connections and Set-Points



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