



Sensorbox containing two sensors and two signal conditioners with 0.5 to 4.5 Volt signal outputs

Features

- robust pressure die cast aluminium housing (IP67) with saltwater-proof coating
- twist-free 4-point fastening of rigid, 3.2mm thick base PCB
- two integrated signal conditioners with 0.5 to 4.5 Volt signal output
- temperature drift compensation
- 9 to 30 Volt supply voltage
- all SEIKA sensors of the B, BDK, N and NB series fit the housing and can be installed in different directions of operation
- output signal calibrated to customer's specifications
- sensors and signal conditioners electrically isolated from housing
- EMC certified
- internal, highly stable sensor supply voltages
- 5V reference voltage available
- programmable dynamic response
- high mechanical overload resistance
- low-pass filter with optional choice of cut-off frequency for suppression of interference frequencies

Description

The SB2U is a pressure die cast aluminium housing (IP67) with two integrated sensors for biaxial inclination and acceleration measurements.

In addition, the sensor box contains two amplifiers, each with a 0.5 to 4.5 Volt signal output and a highly stable supply voltage that can be used externally as a reference. Each amplifier contains an active low-pass filter, whose upper cut-off frequency or settling time constant can be adapted to the measurement task, as well as noise voltage filters to ensure EMC. Sensors and amplifiers are galvanically separated from the housing to eliminate interference from unwanted ground currents. A special electronic temperature compensation can significantly reduce the temperature drift of the sensitivity of the integrated sensors.

The compact metal cable gland and small size of the robust aluminium housing enable this high quality measuring system to be used under harsh operating conditions.

Application

The SB2U is suitable for applications requiring precise inclination or acceleration measurements along two axis under harsh circumstances and returning of a 0.5 to 4.5 Volt output signal each. Areas of successful implementation include construction, mining, agricultural machinery, transportation and conveyor systems, ships, operation and automation technology as well as general mechanical engineering.

Technical Specification

Terminals	6 x 1.5mm ²
Cable fixing	M12 x 1.5 cable gland, clamping range 6mm ... 7.5mm
Measuring range, resolution, etc.	dependent on integrated SEIKA sensors
Degree of protection	IP67
Mounting orientation	any
Measuring planes (N sensor)	3 main housing planes
Measuring directions (B and BDK sensor)	X, Y, Z- coordinates of housing
Supply voltage	9 ... 30 Volt
Operating current	approx. 4mA
Normalized output voltage range	0.5 ... 4.5 Volt
Output zero point	2.5 Volt
Maximum output voltage range	0.05 ... 4.95 Volt
Output resistance	100 Ohm
Capacitive output loading capacity	any, taking dynamic requirements into account
Output reference voltage	5 +/- 0.005 Volt, max. 0.5mA, <20ppm/K
Adjustable variables	zero point (2.5V), amplification
Low pass filter	active, 3rd order, minimal ripple
Operating temperature	-40°C ... +85°C

Options: Special measuring ranges, calibration record, silicon encapsulation, custom wiring

Dimensions and Connections

