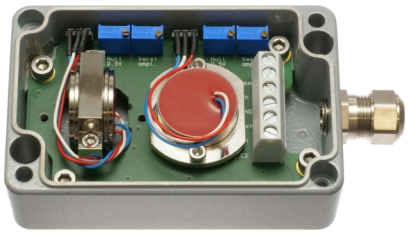

Sensorbox containing two sensors and two signal conditioners with 0.5 ... 4.5 Volt output each

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 ... 4.5 Volt signal output**
- **temperature drift compensation of the sensitivity**
- **9V ... 30V supply voltage**
- **all SEIKA sensors of the B-, BDK-, N- and NB-series can be installed in different directions of operation**
- **the output signals for each sensor are calibrated to customer's specifications in the required directions of operation**
- **sensors and signal conditioners electrically isolated from housing**
- **EMC certified**
- **internal, highly stable sensor supply voltages**
- **5 Volt 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 sensorbox contains two amplifiers, each with a 0.5 ... 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. Electronic temperature compensation largely compensates for the temperature drift of the implemented sensors' sensitivity. Optionally, the temperature drift of both offset and sensitivity can be reduced significantly through individual compensation.

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.

Specifications

Terminals	6 x 1,5 mm^2
Cable gland	M12 x 1.5, metal cable gland with integrated strain relief, clamping range 6mm ... 7.5mm
Measuring range, Resolution, etc.	depending on implemented SEIKA sensors
Degree of protection	IP67
Mounting orientation	any (standard: wall mounting, cable on the right)
Measuring planes (N sensors)	3 main housing planes
Measuring directions (B and BDK sensors)	in X,Y,Z coordinate of housing
Terminal voltage	9V ... 30V
Operating current	approx. 4mA
Normalized output voltage range	0.5V ... 4.5V
Output zero point	2.5 Volt
Maximum output voltage range	0.05V ... 4.95V
Output resistance	100 Ohm
Capacitive output loading capacity	any, taking dynamic requirements into account
Output reference voltage	5±0.0025 Volt (max. 5mA, max. 5ppm/K)
Adjustable variables	zero point (2.5V), amplification
Low pass filter	active, 3rd order, minimal ripple
Operating temperature	-40°C ... +85°C
Weight	approx. 340g

• The box is delivered with an individual calibration record that includes the precise offset and sensitivity values, the static characteristic curves and the linearity deviation curves.

Options:

• special measuring ranges • silicon encapsulation • custom wiring

• individual temperature drift compensation of the offset and the sensitivity

Dimensions (in mm) and connections