



Sensor box containing three SEIKA sensors and three signal conditioners with 4...20mA output

Features

- robust pressure die cast aluminum housing (IP65) with saltwater proof coating
- twist free 4-point fastening of rigid, 3.2mm thick base PCB
- three integrated signal conditioners with 4...20mA, 2-wire outputs
- no separate supply voltage necessary
- all SEIKA sensors of the B-, BD- and N-series fit the housing and can be installed in different directions of operation
- output signals calibrated to customer's specifications
- sensors and signal conditioners electrically isolated from housing
- both output channels are electrically isolated from and independent of each other
- EMC certified
- internal, highly stable sensor supply voltages
- 10V ... 30V terminal voltage
- programmable dynamic response
- high mechanical overload resistance
- either connection polarity - possibility of 4-wire connection for both measuring loops
- low pass filter with optional choice of cut-off frequency for suppression of interference frequencies

Description

The SBG3I is a pressure die cast aluminium sensor housing (IP65) with two integrated sensors for measuring accelerations and/or inclinations along three axis acceleration and/or two axis inclination.

As well as the sensors, the box contains three independent signal conditioners, each with a 4...20mA, 2-wire output, and three separate, highly stable voltage supply feeding off the corresponding current loop, one for each sensor. Furthermore, each signal conditioner includes an active low pass filter, whose upper cut-off frequency / settling time can be adjusted to suit the measurement task, an output stage with current limitation, a noise voltage filter and a diode bridge for unipolar connection to the current loop. Interference signals caused by unwanted ground currents are eliminated by electrically isolating each sensor and signal conditioner from each other and the housing.

A special electronic temperature compensation system can significantly reduce the temperature sensitivity of the implemented sensors. The compact PG cable gland and compact housing size in combination with the 3-wire connection enable the use of this high quality measuring system in harsh operating conditions.

Application

The SBG3I is suitable for applications requiring precise acceleration or inclination measurements along three axis under harsh circumstances and returning of a 4...20mA 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 Specifications

| | |
|-----------------------------------|--|
| 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 the implemented sensor |
| Degree of protection | IP65 |
| Mounting orientation | Any |
| Terminal voltage | 10V ... 30V |
| Minimum loop currents | 2.5mA ... 3.5mA |
| Maximum loop currents | 22mA ... 26mA |
| Output loop current | 4...20mA (12mA for zero position) |
| Adjustable variables | zero point (12mA), amplification |
| Maximum load resistances | 500 Ohm (at 24 Volt supply voltage) |
| 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 (in mm) and Connections

