



**Sensor box containing two NG inclinometers and two signal conditioners with 0...5V outputs and extensive temperature drift compensation**

## Features

- robust pressure die cast aluminium housing (IP65)
- twist free 4-point fastening of rigid, 3.2mm thick base PCB
- integrated signal conditioner with 0...5V signal output
- extensive temperature drift compensation
- 9V ... 30V supply voltage
- output signal calibrated to customers specifications
- sensors and signal conditioners electrically isolated from housing
- EMC certified
- highly stable sensor supply voltage
- 5V reference voltage available
- programmable dynamic response
- high mechanical overload resistance

## Description

The SBG2U is a pressure die cast aluminium housing (IP65) with two integrated sensors of the NG-series for measuring inclinations along two axis.

In addition to the sensors, the box contains two signal conditioners with a 0 ... 5V output signal each and a highly stable supply voltage that can be used externally as a reference. Furthermore, the signal conditioner includes an active low pass filter, whose upper cut-off frequency / settling time can be adjusted to suit the measurement task, and noise voltage filters to guarantee the EMC. Interference signals caused by unwanted ground currents are eliminated by electrically isolating sensor and signal conditioner from the housing.

Unlike the SB2I, the SBG2U can accommodate larger sensors, such as the NG-series, that have a higher measuring accuracy. A special electronic temperature compensation system can significantly reduce the temperature sensitivity of the implemented sensor.

The compact PG cable gland and compact housing size enable the use of this high quality measuring system in harsh operating conditions.

## Application

The SBG2U is suitable for applications in harsh operating conditions requiring the measurement of inclinations along two axis and returning of a 0 ... 5V output signal, where there is enough space so as not to require the use of a smaller SB.. housing. Next to the areas of applications listed for the smaller SB.. casings, the SBG2U is especially suited for precise measurements in the automotive temperature range, where small linearity deviations and temperature errors are paramount.

### Technical Specifications

|                                    |   |
|------------------------------------|---|
| Terminals                          | 6 x 1,5mm <sup>2</sup>                            |
| 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               | wall mount  |
| Supply voltage                     | 9V ... 30V  |
| Operating current                  | approx. 12mA                                      |
| Normalized output voltage range    | 0,5V ... 4.5V                                     |
| Output zero point                  | 2,5Volt   |
| Maximum output voltage range       | 0.05V ... 4.95V                                   |
| Output impedance                   | 100 Ohm   |
| Capacitive output loading capacity | any, taking dynamic requirements into account     |
| Reference output voltage           | (5±0.005) Volt (max.0.5mA)                        |
| Adjustable variables               | zero (2.5V), amplification                        |
| Low pass filter                    | active, 3rd order, minimal ripple                 |
| Operating temperature              | -40°C ... +85°C                                   |

Options: special measuring ranges, calibration protocol, silicon encapsulation, custom wiring

### Dimensions (in mm) and Connections

