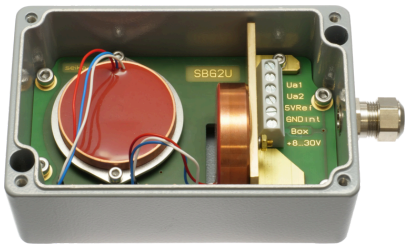


Sensorbox containing two NG inclinometers and two signal conditioners with 0.5 ... 4.5 Volt outputs and compensation of the temperature drift of the sensitivity (former denotation: SB2G)

Features

- **robust pressure die cast aluminim housing (IP67)**
- **twist free 4-point fastening of rigid, 3.2mm thick base PCB**
- **two integrated signal conditioners with 0.5 ... 4.5 Volt signal output**
- **extensive temperature drift compensation of the sensitivity**
- **9V ... 30V supply voltage**
- **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**
- **highly stable sensor supply voltage**
- **5V reference voltage available**
- **programmable dynamic response**
- **integrated reverse polarity protection**
- **high mechanical overload resistance**

Description

The SBG2U is a pressure die cast alumimium housing (IP67) 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 0.5 ... 4.5 Volt 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 SB2U, the SBG2U can accommodate larger sensors, such as the NG-series, that have a higher measuring accuracy. 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 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 0.5 ... 4.5 Volt 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 SB2G is especially suited for precise measurements in the automotive temperature range, where small linearity deviations and temperature errors are paramount.

Specifications

Terminals	6 x 1.5mm^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 the implemented sensors
Degree of protection	IP67
Mounting orientation	wall mounted (standard: cable on the right)
Supply voltage	9V ... 30V
Operating current	approx. 12 mA
Normalized output voltage range	0.5V ... 4.5V
Output zero point	2.5 Volt
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±0.0025 Volt (max. 5mA, max. 5ppm/K)
Adjustable variables	zero (2.5V), amplification
Low pass filter	active, 3rd order, minimal ripple
Operating temperature	-40...+85°C
Weight	approx. 740g

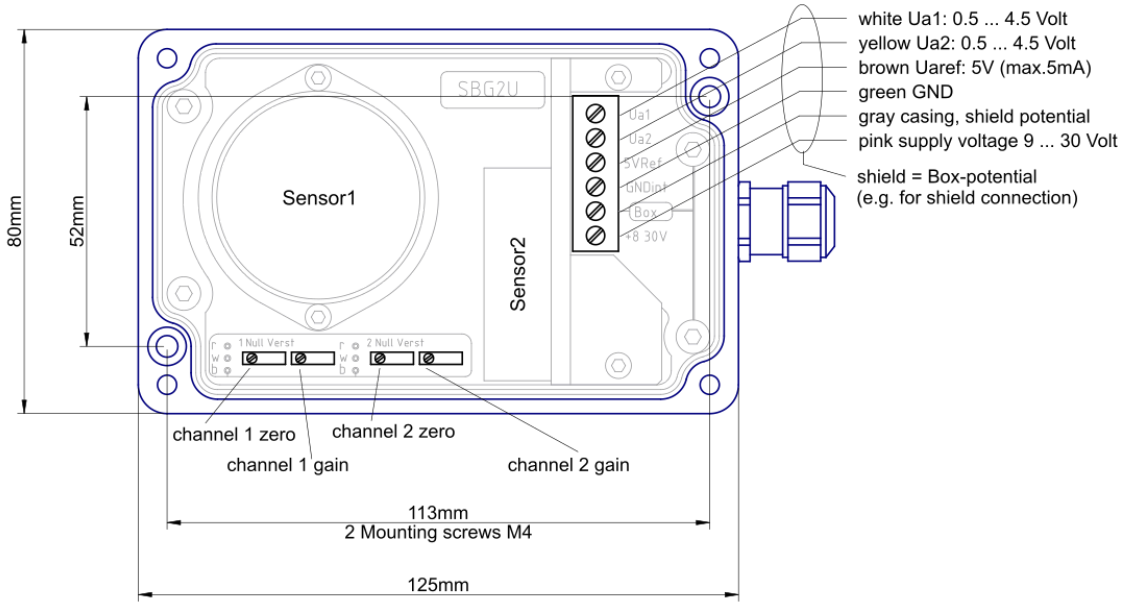
• The box is delivered with an individual calibration record that includes the precise offset and sensitivity values, the static characteristic curves and the linearity deviation curves.

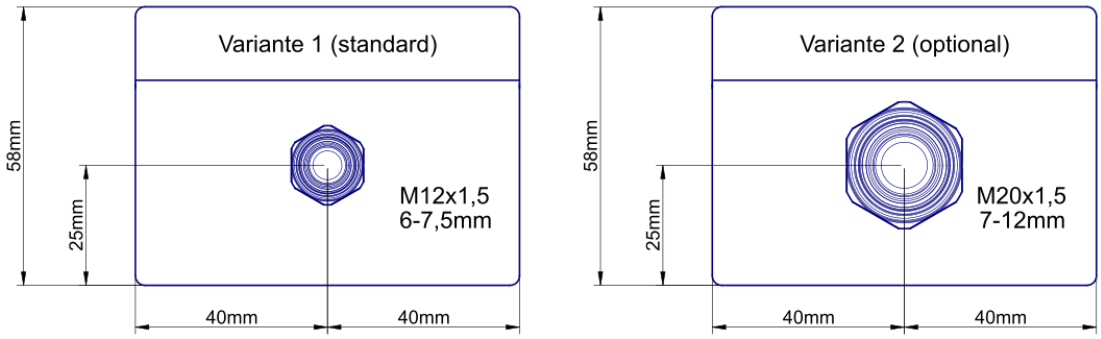
Options:

• special measuring ranges • silicon encapsulation • custom wiring

• individual temperature drift compensation of the offset and the sensitivity

Dimensions (in mm) and Connections





Attention! Do not short circuit the supply voltage with one of the outputs.