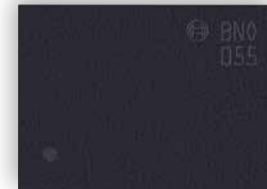


BNO055

Technical Highlight

The BNO055 is a System in Package (SiP) that integrates a triaxial 14-bit accelerometer, a triaxial 16-bit gyroscope with a range of ± 2000 degrees per second, a triaxial geomagnetic sensor, and a 32-bit microcontroller that runs the company's BSX3.0 FusionLib software.



- Quaternion
- Linear Acceleration
- Rotation
- Gravity
- Robust Heading



A Use Case: Kevin's Robot

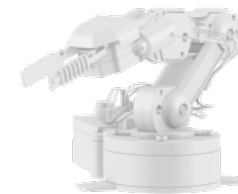
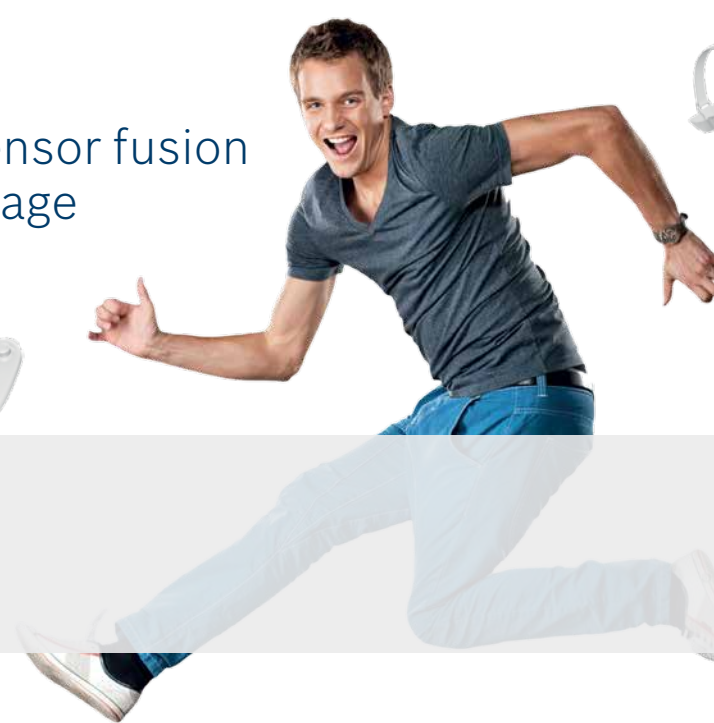
The BNO055 sensor can be used for innovation at all levels; from building a small robot, to the construction of an advanced drone. In fact, Kevin, a fellow Bosch Sensortec engineer created a smart robot called Crusoe with the BNO055. Crusoe detects his surroundings and can avoid obstacles in order to navigate his way through any terrain.

Parameter of the Sensor

The BNO055 has a form factor of $5.2 \times 3.8 \times 1.1\text{mm}^3$, which is significantly smaller than any comparable discrete or system-on-board solution.

BNO055

Sensors and sensor fusion in a single package



Bosch Sensortec



BOSCH
Invented for life

The BNO055

Limitless Possibilities

A milestone in the field of sensor technology: the BNO055. The new innovation from Bosch Sensortec – an absolute orientation sensor with the combination of sensor and sensor fusion all in one single package. The BNO055 is unique due to the infinite possibilities of its applications; from amateur robotics, to the Internet of Things, the BNO055 is accessible and valuable to a variety of users. Use cases are limitless as the BNO055 leads the way in developing a community between professional engineers and makers alike; in order to create whatever comes to mind.

Applications

- ▶ Robotics
- ▶ Drones
- ▶ Industry 4.0
- ▶ IoT
- ▶ Indoor Navigation
- ▶ Augmented Reality



What Makes the Sensor Unique

By integrating both sensors and sensor fusion in a single package, the customer is liberated of the need for multivendor solutions. This sensor makes quick integration into corresponding systems possible; as a result, the customer can focus on product innovation, which allows for faster time to market. The BNO055 is the only intelligent sensor on the market that provides a turn-key solution for the customer to efficiently enable a wide range of applications.



Components

- ▶ Acceleration Sensor
- ▶ Gyroscope
- ▶ Magnetometer
- ▶ 32-bit Microcontroller
- ▶ Sensor Fusion Algorithms
- ▶ Size: 3.8 × 5.2 × 1.1 mm³

Bosch Sensortec GmbH

Headquarters

Gerhard-Kindler-Strasse 9
72770 Reutlingen
Germany
Telephone +49 7121 35 35900
Fax +49 7121 35 35909
contact@bosch-sensortec.com
www.bosch-sensortec.com

Printed in Germany