

# Digital Compass



## Tilt Compensated Digital Compass measures accurate rotation using MEMS sensor technology

**Applying state of the art Micro Electro Mechanical Systems (MEMS) technology. Integrated MEMS devices combine electrical and mechanical components which came available over the passed years what made the basis for this advanced self calibrating compass. Using a 3D earth magnetic field sensor chip and a sensitive G-level linear accelerometers makes the very heart of this digital compass.**

This compass can be set to determining the direction of the unit relative to the Earth's magnetic poles. This compass and additional data is acquired on a set interval and buffered in non volatile data memory to provide historical information. Sampling, storage and data transmission rates can be set using the USB data link.

Hard and soft iron compensation through self learning capabilities for more accurate readings and a higher sensitivity. The internal microprocessor uses an advanced self learning algorithm to process all MEMS sensor data from both magnetic field and accelerometer sensors and compensates any tilt angle of the digital compass unit.

Preset angle and G-level values can be set for advanced usage in specific applications capturing events and movements of the structure where it's mounted on.

It's based on Anisotropic Magneto Resistive (AMR) technology that provides advantages over former magnetic sensor technologies, featuring precision in-axis sensitivity and linearity very low cross-axis sensitivity.

### Possible features:

- 3-Axis Magneto Resistive Sensors
- +/- 90° 3D Tilt compensation
- Wide Magnetic Field Range +/- 6 Oe
- Acceleration sensor range max 8G
- 4Mb Flash buffer memory
- Sensors withstands strong magnetic fields
- Dynamic scaling
- Programmable interrupts for motion detection
- 6D orientation detection
- Embedded self-test
- 1000 g high shock survivability
- Measurement rate up-to 50 Hz
- IP66 casing
- USB communication interface
- Supports SDI12 communication protocol
- General purpose digital I/O