

Three-Axis Magnetometer FGM3D Series



Features

- Precise three-axial measurement of static and alternating magnetic fields
- Measurement range: $\pm 100 \mu\text{T}$, also available: $\pm 75 \mu\text{T}$, $\pm 125 \mu\text{T}$, $\pm 250 \mu\text{T}$, $\pm 500 \mu\text{T}$, $\pm 1,000 \mu\text{T}$
- Bandwidth up to 4 kHz
- Low internal noise and high stability
- Low supply voltage ($\pm 15 \text{ V}$) enables flexible supply and operation
- Waterproof enclosure (IP65)
- Simple integration into measurement systems

Accessories

- Power supply unit FGM3D SV
- 24 bit data logging and analysis set FGM3D TD

The FGM3D is a compact and high performance three-axis magnetometer. It consists of three Fluxgate sensors and integrated electronics, all protected by a waterproof enclosure (IP65) made of PEEK and POM components. It allows precision measurements of static and alternating magnetic fields in three axes.

The FGM3D has a wide range of applications in the field of science, geophysics, and material inspection. It is also implemented in various medical systems and is being used for civilian, marine and military applications like borehole measurements or long term measurements of the Earth's magnetic field.

The sensor can be powered from any $\pm 15 \text{ V}$ supply. In its basic configuration, the device can be supplied in different measurement ranges. The

standard measuring range is $\pm 100 \mu\text{T}$ with a bandwidth of 2 kHz. Sensors up to $\pm 250 \mu\text{T}$ can have an improved orthogonality of sensors axes and reduced sensor noise level. That will improve the resolution to $< 70 \text{ pT}$. Furthermore, all sensors can be ordered with a bandwidth of 3 kHz or even 4 kHz.

Due to the design and the principles of measuring with Fluxgate sensors, the use of FGM3D assures low offset errors, low internal noise and high stability.

While the measurement of all three field components is done simultaneously, the output of all measurement data is separate for every axis. That enables a processing per axis as well as using the total field for post-processing activities.

(version 1.12)