

Data Logging and analysis device for FGM3D sensors **FGM3D TD**



Features

- 24 Bit Digitalization
- Simultaneous sampling of 3 channels
- Sampling rate up to 6,300 Hz
- Anti-aliasing filter (2nd order low pass Bessel)
- USB 2.0 connection to PC
- Visualization software
- Oscilloscope function
- Fast-Fourier transformation
- Noise density measurement
- Total field analysis
- Integrated power supply for sensor

Applications

- Science
- Geophysics

The FGM3D TD is a data logging and analysis set for the high performance three-axis magnetic field sensor FGM3D. It combines high quality electronics with easy to use software.

This makes it a fundamental measurement set for all scientists and geophysicists in labs, universities or in the field.

The hardware allows for simultaneous sampling of three channels with 24 bit digitization and a sample rate of up to 6,300 values per second (6.3 kHz).

The device also includes an anti-aliasing filter (as low pass filter Bessel 2nd order) having a cut-off frequency of 3.3 kHz.

The connection to the PC is established by an electronically isolated USB 2.0 connection.

Data logging and analysis is carried out by the included software. The software includes for example an oscilloscope function having various setting options. Furthermore a spectrum analyser function is included, allowing for analysis of amplitude, noise density spectrum and the magnetic total field.

In addition, different profiles can be created with the software by using xml-files, thus offering flexible configurations. The adjustable CSV recorder for raw data storage completes the functionality of the software.

Technical Data FGM3D TD

Number of Measuring Channels	3, sampled simultaneously
Input Measuring Range	$\pm 10V$
Sampling	400 ... 6,300 Hz step by step adjustable
Resolution	24 Bit
Input Impedance	8.8 KOhm typ.
Analogue Anti-Aliasing Filter	2 nd order Bessel Low-Pass, $f_{-3dB} = 3300$ Hz
Digital Anti-Aliasing Filter	Pass-band flatness: < 0.01 dB; DC to $0.45 * f_S$ Stop-band rejection: > 100 dB; $0.55 * f_S$ to $127 * f_S$
Supply voltage	12V, max. 1 A
Integrated Sensor Supply	± 15 V, max. 80 mA
Operating Temperature	-20 ... +60 °C
Storage Temperature	-40 ... +85 °C
Humidity	10 ... 90 %, non condensing
Dimensions (WxDxH)	129x85x36 mm
Weight	280 g
IP Code	IP 30
Sensor Connector	15-pin high density D-Sub socket
Power Connector	Power Supply Socket (DC-Jack) 2.1 mm
Ground Connector	Banana Socket
Enclosure Material	Aluminium (extruded) + ABS (front & back)
USB Connector	USB Type-B; USB2.0 Full Speed; galvanic isolation between computer and device