

Digital Teslameter FM GEO-XB

High Resolution Magnetic Field Measuring Instrument
for measuring the earth's magnetic field
0.1 μT – 100 μT

- DC field measurements
- compensation $\pm 70 \mu\text{T}$ via button
- 0.6 % non-linearity at 50 μT
- measuring range $\pm 100 \mu\text{T}$
- analog output DC to 100 Hz
- 3 ½ digit LCD display with sign
- measuring plummet with integrated probe 150 mm long, 19 mm dia.
- battery operation approx. 40 h
- stand and hanger



Applications

Measuring of changes of the earth's magnetic field.

Measuring the direction and the magnitude of the earth's magnetic field

Compensation of the earth's magnetic field and closed-loop magnetic field control from analog output



Digital Teslameter FM GEO-XB

The FM GEO-XB Teslameter magnetic field measuring instrument was developed for measuring very low magnetic fields. The preferred application is the detection of the earth's magnetic field. Variations of the earth's magnetic field due to geopathogenic zones or disturbances due to metal objects can also be measured very precisely. By properly orienting the measurement probe, that magnetic field's direction and peak magnitude is determined to a high level of precision.

The instrument has a 3½ digit LCD display and measurement range of 100.0 µT (1 G) with a non-linearity error of less than ± 0.6 %. Changes of 0.1 µT (1 mG) will be detected.

An additional special feature of the FM GEO-X is its analog output, which can be used for purposes such as presentation (oscilloscope, plotter), data acquisition (computer) and for the closed-loop control and compensation of external fields through coil systems.

The FM GEO-XB comes with a field compensation of ± 70 µT via front button. With this button a displayed value up to 70 µT can be compensated to zero whereby changes of the original field value are displayed as deviation from 0.0 µT.

The FM GEO-XB is powered by a 9 V battery.

The instrument comes with a probe in a hard case.

Technical Data

FM GEO-XB

Measurement mode	DC absolute – relative via button
Display	3 ½ digit LCD
Range	0 to ± 100 µT
Compensation	± 70 µT, via front button
Resolution	0.1 µT
Non-linearity	Line of field parallel to sensor axis
Hysteresis	± 0.6 % at 50 µT (= 0.3 µT) at 25 °C ± 1 °C
Temperature coefficient	0.1 % of reading
Zero drift	max. 0.1 % /K (10 – 40 °C)
-3 dB frequency range analog output	max. 10 nT /K
Operation temperature	0 to 100 Hz
Storage temperature	10 °C to 40 °C
max. relative humidity	-10 °C to 50 °C
Power	70 % at + 35 °C
Operation time	9 V E-type block battery
	ca. 40 h

Analog output

Factor	100 µT/V
Bandwidth (low pass 3 rd order)	DC - 100 Hz
Rise time	< 5 ms
Connector	BNC
Internal resistance	400 Ohm
Capacitive load	< 500 pF

Probe (plummet)

Length	150 mm
Diameter	19 mm
Magnetic eccentricity	< 2 °
Probe cable length	1.5 m
Sensor	22 mm x 3 mm Ø

Technical data are subject to change without prior notice!