Earth Magnetometer Model EM2

(AlphaLab, USA)

The Earth Magnetometer Model EM2 measures the Earth magnetic field with a resolution of 1nT (1 gamma). This resolution is about 0.002% of the typical Earth field strength. It is used to locate buried magnetic objects or materials.

Complete with battery & probe rod

Product Description:

The Earth Magnetometer Model EM2 measures small variations from location to location in the Earth magnetic field associated with buried magnetic masses. Unlike metal detectors, a magnetometer signal is not attenuated by rock, dirt, mud or water, so targets can be detected at great depth. (If D is the diameter of a mass of magnetizable material, the EM2 can detect it as deep as 40 times the diameter D, whether the mass is specifically magnetized or not.) It is the lightest weight and lowest cost magnetometer available which can reliably measure differences down to 1 nT from point to point. (Because of random fluctuations in the Earth field due to the ionosphere, 1 nT is about the finest usable resolution.)

Features

- Displays field strength up to 199.999 micro teslas
- A relative zero mode subtracts the background field from all subsequent readings so there is only a 1- 2- or 3- digit number to watch.
- Backlit display can be turned on.
- Lightweight with long battery life (see specifications below).
- This is a vector magnetometer so the direction of the field (as well as strength) can be determined (but see full description; this feature requires a longer time per measurement).

Applications

- Determines both the location and depth of a buried target of magnetic material.
- Measures the presence (and amount) of certain minerals such as black sand (associated with gold deposits)
- Measures inside DC Solenoids (probe is bent into “L” shape to measure this).
- Can in some cases locate voids or caverns in a given stratum if at least a trace of magnetic mineral is normally present.

SPECIFICATIONS: Earth Magnetometer Model EM2 (0 to 43°C)	
Range/Resolution:	199.999μT/ 0.001μT (1 nT)
Accuracy:	+/- 0.5 % of reading +/- 0.001μT
Drift with temperature:	< 1.15 nT/°C
Meter Size:	7.6 x 3.9 x 1.7 inches; 194.7 x 100.6 x 44.3 mm
Weight:	1.16 lbs (525 grams) with stick
Battery:	3 AA alkaline (~ 10 hour life w/ backlight, ~15 hour life without backlight) / "Battery Life " indicator