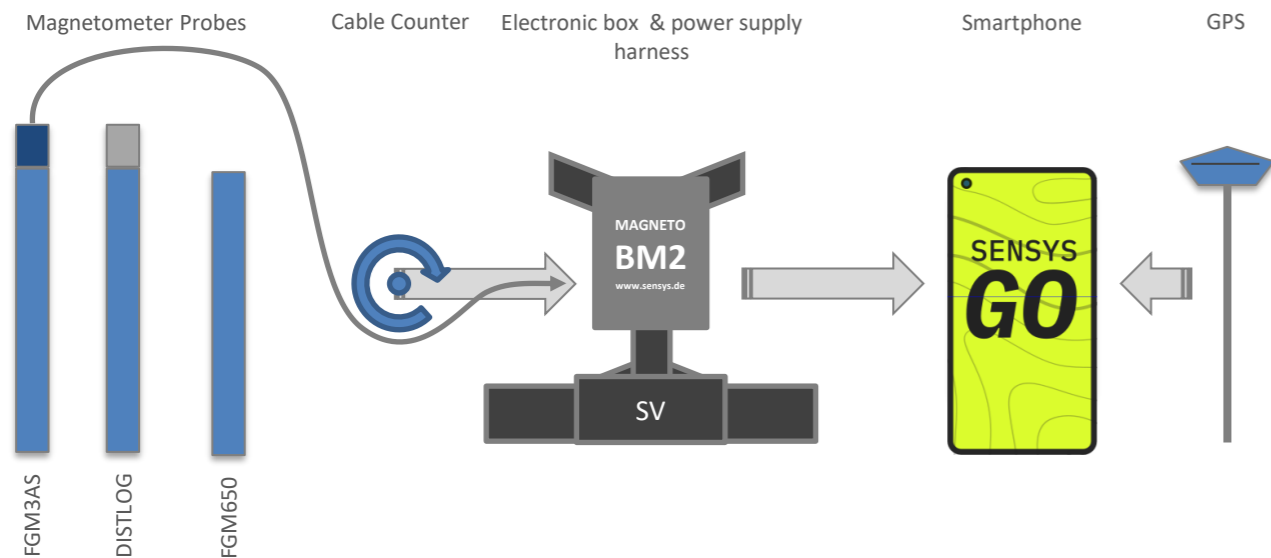


System overview BM2

System components

Probe	FGM3AS and/or DISTLOG and/or FGM650/10
Probe cable	25m (FGM3AS) and/or 15m (DISTLOG bzw. FGM650/10)
Data Recording	BLB + SENSYS GO on rugged Android Smartphone
Power Supply	Battery harness with 2x 12V lead-gel battery and charger
Borehole weight	1x brass weight with M8 thread
Hard case	1220 x 435 x 165mm with handles and wheels
Documentation	Manual, certificate
Software	MAGNETO [®] BL



Universal Borehole System

MAGNETO[®] BM2



Features

- Universal electronic (borehole box) to be used with various SENSYS borehole probes (3axis, DISTLOG, gradiometer)
- Smartphone for project planning, surveying and data export
- 24 Bit digitization
- 200 Hz data acquisition
- Wireless connection between borehole box and smartphone
- To be used with cable lengths from 5 to 150m
- Connection of SENSYS KWE (cable length counter) via integrated extension port

The borehole system MAGNETO[®] BM2 is a precise sensing device with a large measurement range of +/- 250,000 nT for horizontal, angled and vertical borehole surveys, especially in urban and heavily polluted areas (i.e. in front of sheet piling). This is due to the set of two triaxial Fluxgate Magnetometers and an acceleration sensor. With the additional SENSYS KWE (cable length counter), borehole lengths/depths are recorded even more precisely.

The SENSYS GO App serves for planning and surveying.

When being used with the 3-axis sensor probe, this system is the perfect solution for standard and special tasks due to the fact that the measured values from two triaxial sensors and one acceleration sensor are stored separately.

These values can thus be evaluated for each project in MAGNETO either individually or as gradients.

Technical Data MAGNETO[®] BM2

General Technical Data

Power Supply	12 V
Power Consumption	ca. 390 mA (Lead-Gel Battery 12V 7Ah)

Borehole Box BLB

Digitizer / Sampling rate	24 Bit / 200 Hz
Connectors	1x analogue, 1x 3As, 1x Power Supply, 1x Extension Port, 1x Bluetooth

Data Acquisition

Field Computer	SENSYS GO on rugged Android Smartphone		
Functions	Planning / Survey / Data Storage / Data Export		
Magnetometer Probe	FGM3AS¹	DISTLOG¹	FGM650/10¹
Dynamic Range (per sensor and axis)	±250.000 nT	±75.000 nT	±75.000 nT
Measurement Range (per sensor and axis)	±250.000 nT	±10.000 nT	±10.000 nT
Sensor separation	582 mm	650 mm	650 mm
Reference Point ²	114 mm / 696 mm	393 mm / 4 mm ³	393 mm / 4 mm ³
Declination	<14 nT	±5 nT	±5 nT
Resolution	30 pT	<0,2 nT	<0,2 nT
Noise @ 1Hz per axis	<20 pT _{rms} /√Hz	<40 pT _{rms} /√Hz	<40 pT _{rms} /√Hz
Cut-Off Frequency	100 Hz (DC ... 100Hz)	20 Hz (DC...20 Hz)	20 Hz (DC...20 Hz)
Temperature Drift	<0,3 nT/K	<0,3 nT/K	<0,3 nT/K
Time Drift	t.b.d.	t.b.d.	t.b.d.
Relative Error of Measurement ⁴	20nT	1% ⁵	1% ⁵
Stability	<5 nT per axis	<1 nT	<1 nT
Linearity	±8 ppm	<0,1%	<0,1%
Compensation	n.a	n.a.	n.a.
Ingress Protection	IP68	IP68	IP68
Wegerfassung	Internal Acceleration Sensor		None

¹ according to DIN54145-1 ² measured from edge between sensor head and sensor probe
³ radial spacing from sensors symmetrical axis ⁴ after calibration ⁵ of measurement range

Overview of Data and File formats

Measurement scheme

