SENSYS®
Magnetometers & Survey Solutions

Universal Borehole System

MAGNETO® BM2

Features

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

The universal borehole system MAGNETO® BM2 can be used with various SENSYS borehole probes e.g. 3axis, DISTLOG and vertical gradiometer. By using the integrated extension port, additional equipment like the SENSYS KWE (cable length counter) can be connected to the system.

The borehole box is connected via Bluetooth to an PDA which serves for planning and surveying.

The borehole box as well as the systems power supply, which consists of a 12V battery, are placed in a special carrying belt.

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.

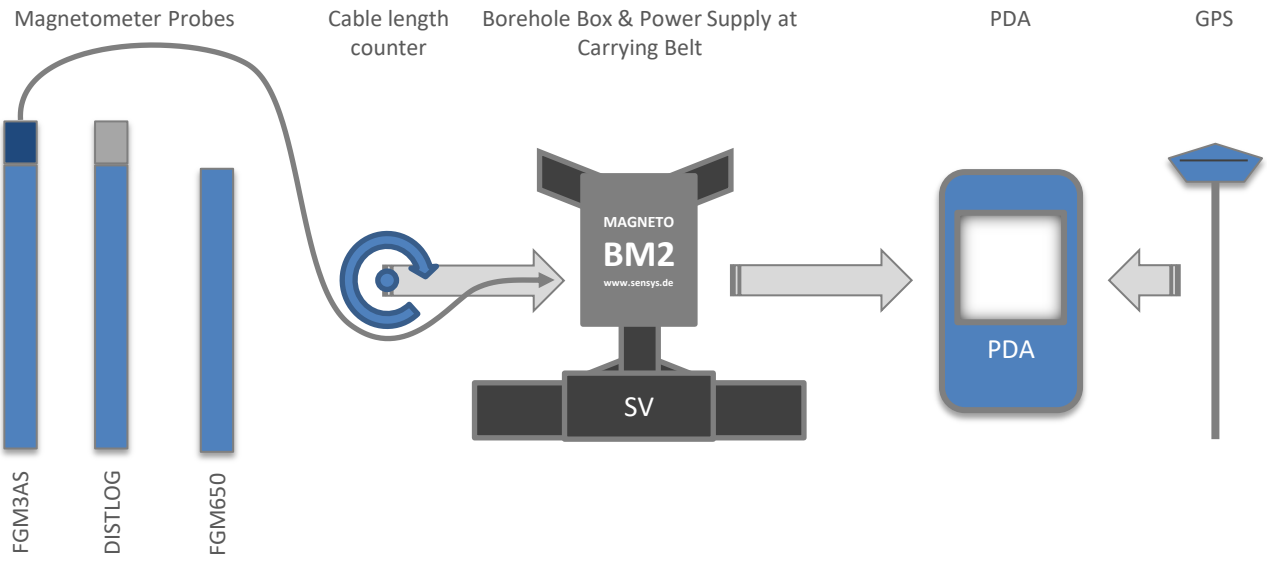
Special systems features such as calibration for noise reduction, measurement range of +/-250µT and data acquisition at 200Hz allow for surveys closed to steel pilings or in urban areas as well as diagonal or horizontal measurements.

+49 33631 59 650
info@sensys.de
www.sensys.de

Technical Data MAGNETO® BM2

General Technical Data			
Power Supply/Current Consumption	12 V / approx. 390 mA (Led Gel Battery 12V 7Ah)		
Weight without/with transport case	t.b.d.		
Borehole Box			
Digitalization / Data Acquisition	24 Bit / 200 Hz		
Connectors	1x analogue, 1x 3axis, 1x power supply, 1x extension port, 1x Bluetooth		
Data Acquisition			
User device	Windows Mobile Rugged Bluetooth PDA		
Functions	Planning / Surveying / Data Storage / Data Export		
Sensor Probe	**FGM3AS[1]**	**DISTLOG[1]**	**FGM650/10[1]**
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 $pT_{rms}/\sqrt{Hz}$	<40 $pT_{rms}/\sqrt{Hz}$	<40 $pT_{rms}/\sqrt{Hz}$
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.
Offset			
Relative error of measuremeent[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.
IP Protection	IP68	IP68	IP68
Borehole Length Measurement	Integrated acceleration sensor		none
Scope of Delivery			
Borehole Probe	FGM3AS and/or DISTLOG and/or FGM650/10		
Borehole Cable	25m (FGM3AS) and/or 15m (DISTLOG and/or FGM650/10)		
Data Acquisition	Borehole Box + PDA (incl. accessories)		
Power Supply	Carrying belt with 2x 12V Lead-Gel Battery and 1x Battery Charger		
Borehole Weight	1x brass weight with M8 thread		
Transport Case	1220 x 435 x 165mm including handles and wheels of casing		
Documentation	Certificate, Manual		
Software	MAGNETO® BL		

[1] as per 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



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