SENSYS®
Magnetometers & Survey Solutions

Multi-Channel Survey System for Underwater Applications

MAGNETO® MX3D UW

Applications

- UXO detection
- Cartography
- Pin pointing
- Pipeline detection/tracking
- Archaeological prospection

Features

- Depth rating 300 m (other ratings on request)
- flexible system setup
- 5 x Fluxgate magnetometer FGM3D UW series per DAU
- DAUs cascadable
- 2x RS232 for connecting GPS, altimeter or AHRS
- up to 10,000 Hz sampling rate
- up to 4,000 Hz bandwidth
- 24 Bit ADC resolution
- data output via Ethernet port (10/100 MBit, full duplex)

The MAGNETO® MX3D UW is an excellent low logistics multi-channel system for magnetic measurements of soil structures in marine and offshore applications.

The system is equipped with high-resolution FGM3D UW 3-axis Fluxgate sensors, having a sampling rate of up to 10,000 Hz. The sensor data is digitized with 24 Bit by the cascadable data acquisition unit MX3D UW and allows connecting a multiple of five sensors. It also allows to freely arrange sensors around an ROV for different tasks (scanning, but pin pointing as well).

Having a scalable structure and featuring data output via TCP/IP, the system can be integrated into existing infrastructures such as vessels, ROVs, AUVs or ROTVs due to its default data transfer protocol.

Thus the MX3D UW system can be used with various software solutions such as QINSy, EIVA or Hypack.

Finally, it corresponds not only to the demands of precise data acquisition in underwater applications, but is also highly flexible, compatible and can be easily integrated into existing survey systems.

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Technical Data MX3D UW

Sensors	**FGM3D/100 UW II**
Measurement Range	±100,000 nT (others available upon request)
Noise	<15 $pT_{rms}/\sqrt{Hz}$ @ f = 1 Hz
Bandwidth	2,000 Hz standard, 4,000 Hz upon request
Length	263 mm
Diameter	45 mm
Power Supply	±12….±15 V
Current Consumption	± 26 mA
Cable Length to MX3D UW	0.5 to 100 m
Weight (Air/Water/Salt Water)	444 g/188 g/182 g
Data Acquisition	**MX3D UW DAU**
Number of Sensors	1 to 5 units per digitizer, cascadable
Number AUX Sensors	2 (serial, GPS, altimeter, AHRS, etc.)
Sampling Range	200 Hz to 10,000 Hz (others available upon request)
Resolution (ADC)	24 bit
Input	15x analogue channel, 1x RS232
Output	10/100 mBits/s, full duplex
Start-up current	2.5 A (restricted)
Power Supply	10…32 VDC
Current consumption (at 200 Hz sampling rate)	max. 10 W (including 5 sensors)
Ethernet Cable Length	max. 100 m (min. Cat6), extendible via DSL modem
Bandwidth requirements	approx. 750 kbit/s (5 sensors, 1,000 Hz sampling rate)
Connectors	Sensors: Subconn MCBH8F, Voltage/LAN: DBH13M
Dimensions	Diameter: 98 mm, Length (w/o connector): 324 mm, Volume: 1,694 Liters
Weight (Air/Water/Salt Water)	2,949.4 g /1,250 g/1,210 g

The MX3D UW is an **open system**. Being located on the ROV/ROTV, the MX3D UW electronics transmits the data via TCP/IP to the vessel, thus allowing for a highly flexible integration of the MX3D UW in existing systems.
The FGM3D UW II sensors allow for a horizontal integration in the ROV/ROTV, thus resulting in improved hydrodynamics. Due to its high sampling rate of up to 6 kHz, the amount of available data is extremely high even when driving at high speed.
The MX3D UW offers full flexibility over full range of water depth and customer application. It allows for customization in nearly any extend.

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