

Explorer

Mini Marine Magnetometer

Explorer's light weight, compact size and ultra low power consumption make it the ideal tool for shallow water surveys, especially when deployed from a small craft. Explorer's high sensitivity, unmatched accuracy, and the ability to operate around the world without any restrictions make this mini magnetometer a professional tool that will help you find what you're looking for. Best of all Explorer will fit in your boat *and* in your budget.

Features

Compact Size and Light in Weight

Explorer is smaller and lighter than competing technologies. The Explorer towfish weighs 3 kgs (7 lbs) 50m (164ft) of cable weighs 6 kgs (13 lbs)

Maintenance Free Sensors, No Realignment or Consumable Parts

Explorer Overhauser sensors are entirely maintenance free and most importantly, Explorer's specifications do not degrade over time. As a result, the Explorer sensor, unlike optically pumped sensors, never has to be realigned or recalibrated in order to meet the manufacturer's specifications at the time of shipping. In addition, Explorer sensors do not contain any parts that wear out or need to be replaced.

Unmatched Low Power Consumption

Explorer's maximum power consumption is only 2W. A 24V Universal AC power supply is supplied with each system. Explorer can also be powered by a single car battery.

Worldwide Operation With No Restrictions

Explorer is entirely omnidirectional, meaning you never have to orient your sensor, because it is already optimized to work around the World. As a result, regardless of where you are in the World and no matter what the magnetic field strength is, your Explorer sensor will continue to provide a strong signal and accurate data.

Digital Towfish

Explorer is entirely digital. The magnetometer signal is measured inside the towfish where the signal is strongest and most immune to outside noise.

High Sensitivity

Explorer Overhauser sensors deliver high-resolution output with a noise level of 0.02nT/ $\sqrt{\text{Hz}}$; counter sensitivity is 0.001nT. In other words, Explorer is orders of magnitude more sensitive than proton sensors, and is on par with optically pumped sensors.

Side Scan and Deep Tow Platform Integrations

Explorer's small size and light weight also makes it ideal for towing behind side scan sonars and deep tow platforms. All integrations enable the customer to run each system independently as well as together. Deep tow options for this application are 1000m, 3000m and 6000m.

Explorer is Ideal For

- Inshore geophysical surveys
- Archaeology
- Wreck detection
- Magnetic mapping of harbours
- Ferrous target detection in lakes, rivers and estuaries

Highest Absolute Accuracy

Explorer, like Marine Magnetics' SeaSPY marine magnetometer, has the best absolute accuracy of any marine magnetometer available: 0.2nT

No Sensor Warm-Up Time

Explorer Overhauser sensors do not require temperature stabilization. Therefore Explorer will work equally as well in cold water as in warm, tropical water, instantly on power-up.

Ready to Deploy

Explorer is ready to deploy. You do not have to fill the Explorer towfish with a hydrogen rich fluid, or any fluid, and you will never have to orient the Explorer sensor to a certain angle of the earth's magnetic field depending on your location.



The Overhauser Effect

Marine Magnetics is the only marine magnetometer company in the world that can produce stable Overhauser sensors that do not degrade with time. Marine Magnetics' Explorer magnetometer measures the ambient magnetic field using a specialized branch of nuclear Magnetic Resonance technology, applied specifically to hydrogen nuclei.

Options Available for Explorer Include:

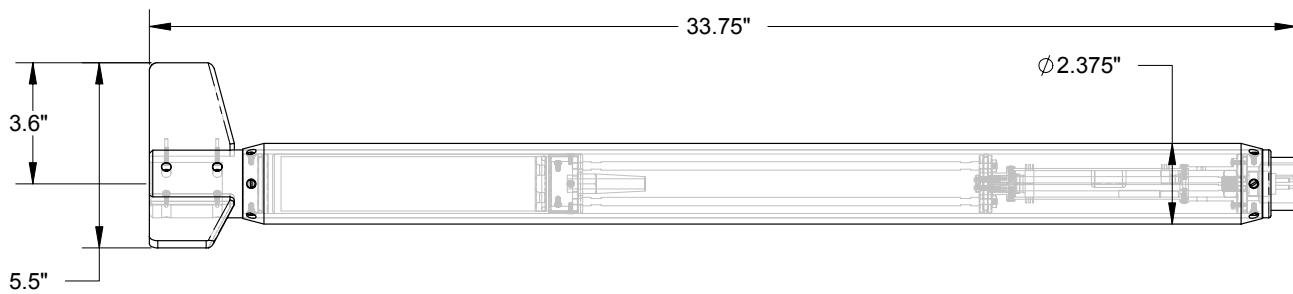
- Pressure sensor
- Side Scan Sonar integration
- Additional tow cable
- Flotation tow cable
- Tow cable weights
- Tow cable termination kit
- Custom reusable shipping case
- Metal tow cable reel – hand winch
- RS-232 Extension cable
- Battery clip cable
- Deep tow options: 1000m, 3000m and 6000m
- SeaLINK analogue output – printer capability

SeaLINK Logging & GPS software for Windows

SeaLINK provides an interactive text interface as well as a real-time plot view of data that is being collected from the magnetometer.

Features include:

- Real-time graphing of magnetic field trace
- The ability to place event markers in the recorded data
- Review of stored data
- Real-time graphical printing to a dot matrix printer
- Audible alarms for signal quality flags
- Optional, display of depth and altimeter trace
- The ability to synchronize the magnetometer clock to GPS time at the click of a button.
- The ability to tag every mag reading with a GPS coordinate
- GPS data can also be stored completely independently from the mag data stream.
- All GPS information can be shown on-screen in real time in latitude/longitude format, or as UTM projection with WGS84 datum.
- The ability to correct the GPS coordinates for towfish layback in real time.



Performance

Operating Zones	NO RESTRICTIONS. <i>Explorer will perform exactly according to spec throughout the entire range.</i>
Absolute Accuracy	0.2nT
Sensor Sensitivity	0.02nT
Counter Sensitivity	0.001nT
Resolution	0.001nT
Dead Zone	NONE
Temperature Drift	NONE
Power Consumption	2 W
Timebase stability	1ppm, -45°C to +60°C
Range	18,000nT to 120,000nT
Gradient Tolerance	Over 10,000nT/m
Sampling Range	4Hz – 0.1Hz
External Trigger	By RS-232
Communications	RS-232, 9600bps
Power Supply	9VDC - 40VDC or 100 - 240VAC
Operating Temperature	-45°C to +60°C
Temperature Sensor	-45°C to +60°C, 0.1 step

Towfish Dimensions

Towfish Length	86 cm (33.75 inches)
Towfish Diameter	6 cm (2.375 inches)
Towfish Weight in Air	3 kgs (7 lbs)
Towfish Weight in Water	1.2 kg (2.6 lbs)

Tow Cable Dimensions

Conductors	Four + shield
Strength Member	Kevlar
Breaking Strength	2,500 kg (5,500 lbs)
Outer Diameter	1 cm (0.4 inches)
Bending Diameter	16.5 cm (6.5 inches)
Weight in Air	122 g/m (82 lb/1000 ft)
Weight in Water	34 g/m (23 lb/1000 ft)
Cable Termination	Field Replaceable

