

SeaSPY2

Marine Magnetometer



Plug & Play

SeaSPY2 is a reliable high sensitivity magnetometer with unmatched absolute accuracy. It's the only mag that's been integrated inside an AUV. It's also the only longitudinal gradiometer on the market. Side Scan integration is also available, as are horizontal transverse gradiometers.

One Person Operation

12 kgs (27 lbs) for the mag
7 kgs (15 lbs) for a 50 m (164 ft) tow cable

Proven High Sensitivity

Don't just take our word for it. We put our sensors through rigorous independent testing by a world authority belonging to INTERMAGNET - the global network of observatories, monitoring the Earth's magnetic field.

Unmatched Absolute Accuracy

At 0.1 nT SeaSPY2 is orders of magnitude more accurate than any other mag, ensuring that you always get the best possible data. Excellent accuracy characteristics and unmatched repeatability between sensors also improves the quality of gradiometer data.

No Heading Bias

No matter how our sensors are oriented, successive Survey Lines match up perfectly. You'll produce better quality magnetic maps and won't lose what you're looking for in mismatched Survey Lines. Heading bias is an offset in the mag data caused by changing direction with each survey line.

3w Power Requirement

1 car battery = 150 hours of continuous use
2 lantern batteries (26 Ah) = 104 hours of continuous use

Survey in Any Direction, Anywhere in the World

There are no limitations with our omnidirectional Overhauser sensors. They will collect good, accurate data anywhere - they don't have a dead zone. A magnetometer **dead zone** refers to a specific orientation relative to magnetic North at which the sensor is unable to take readings.

Sleek Design

Since you don't have to orient our sensors, SeaSPY2 has a sleek design that resists snags and minimizes impacts. The polyurethane coated tail with molded fins acts as a bumper, while creating a stable towing platform.

Works Instantly on Power-up

SeaSPY2 works instantly on power-up in cold, deep water without requiring warm up. Data collected at -40°C will be identical to data collected at $+60^{\circ}\text{C}$.

Innovation

Maintenance-Free Overhauser Sensors

Our sensors are omnidirectional, maintenance-free, and do not require realignment, or recalibration. Plus they don't contain any consumable parts, or toxic chemicals.

World's First Internal Magnetometer AUV Integration

We've integrated with the Iver3 and the results are incredible. Contact us for more details: info@marinemagnetics.com

Integrate with Side Scans and AUVs

A single tow cable is terminated with everything you need. Modifications to your mag or grad are not required.

Quick Glance Diagnostics

We added an LED to our isolation transceiver to let you know every time the mag takes a reading, if you didn't connected the system properly and if there is a short. In the case of a short, the transceiver also safely shuts down the output power in micro seconds.

If a drop of water gets inside the mag, a leak detector warning sounds providing the operator plenty of time to retrieve it and investigate the cause before the mag is damaged.

System Consists of:

SeaSPY2 Magnetometer

- Overhauser sensor
- Electronics module with Larmour counter
- Leak detector
- Depths ratings: 1000m (1500 psi), 3000m (5000 psi), 6000m (9000 psi)

Options

- Pressure sensor
- Altimeter
- Transponder
- Deck cable
- Tow cable termination kit
- Side Scan & AUV Integrations

Additional Components

- Tow cable
- Isolation transceiver
- Power supply or battery clip cable
- USB or RS232 Cable
- BOB data acquisition & visualization software
- Reusable aluminum shipping case

Specifications

Performance

Operating Zones	Worldwide. SeaSPY2 collects accurate results regardless of how it's pointed in relation to Earth's magnetic field.
Absolute Accuracy	0.1 nT
Sensor Sensitivity	0.01 nT (standard), 0.02 nT (optional)
Counter Sensitivity	0.001 nT
Resolution	0.001 nT
Dead Zone	NONE
Heading bias	NONE
Temperature Drift	NONE
Power Consumption	1 W standby, 3 W maximum, +2 W with altimeter
Range	18,000 nT to 120,000 nT
Gradient Tolerance	Over 10,000 nT/m
Sampling Range	4 Hz - 0.1 Hz
Communications	RS-232, 9600 bps
Power Supply	24 VDC (120-240 VAC compatible) (Acceptable range 9-30 VDC for single SeaSPY, 20-30V for gradiometers)

Magnetometer

Towfish Length	119 cm (47 in)
Towfish Diameter	7.6 cm (3 in)
Towfish Weight in Air	12 kg (27 lbs)
Towfish Weight in Water	4 kg (9 lbs)

Cable:	Tow	Flotation
Conductors	Twisted pair	Twisted pair
Breaking Strength	2,500 kg (5,500 lbs)	2,500 kg (5,500 lbs)
Outer Diameter	1 cm (0.4 in)	1.9 cm (0.74 in)
Weight in Air	125 g/m (8.4 lb/100 ft)	125 g/m (0.084 lbs/ft)
Weight in Water	44 g/m (3 lb/100 ft)	-20 g/m (0.03 lbs/ft)
Cable Termination	Field Replaceable	Field Replaceable