

MARINE MAGNETICS

SeaSPY

TOWED MAGNETOMETER



GENERAL DESCRIPTION

RUGGED

Smart connector

The SeaSPY connector is a custom brass underwater connector that supports a tonne of towing force. A PVC nose cone protects it from side impacts, while maintaining a streamlined tow body.

Sleek Design

SeaSPY's sleek design resists snags. The inexpensive and field replaceable tailfins are the only protruding element and they are designed to snap off should they ever get snagged on rocky outcroppings.

Reliability

The SeaSPY towfish is made of 1/4" super strong fiberglass coated with a 'bumper' layer of polyurethane for extra shock absorption. Should even a drop of water penetrate the towfish, a leak detector warning appears on your screen to inform you. In the event of a breach, the SeaSPY's electronics module is encased in a polycarbonate housing with 'O' ring seals for another layer of security. The sensor itself is suspended on shockmounts to ensure the quality of your data isn't influenced even if you drag SeaSPY along the sea floor.

A quick glance self diagnostic LED system on the isolation transceiver can save hours of frustration. If all connections are hooked up properly, a status LED will glow green. If there's a problem with one of the connections, it will glow yellow. If there's a short somewhere, it will glow red and the transceiver will safely shut down the output power in microseconds. A blue LED flashes with every mag reading.

Better Data

Worldwide Operation with No Restrictions

SeaSPY will collect accurate data no matter where you are or in which direction you are surveying.

Highest Absolute Accuracy

SeaSPY Overhauser sensors have the highest absolute accuracy of any magnetometer: 0.1nT. The repeatability between SeaSPY sensors is also unmatched at better than 0.01nT.

The benefits to the user are four-fold

1. Targets will not be missed because they fall between mismatched survey lines.
2. Reduces post-processing. Competing technologies require the user to collect tie lines in order to level the data set (match-up inaccurate survey lines).
3. There will be no variation introduced in the data by slight course changes during a survey line.
4. A magnetic map of an area will look the same, regardless of direction in which the survey lines were conducted.

Stable Time

The clock used in the SeaSPY electronics module is accurate to 1ppm throughout the entire temperature range, (as opposed to 100ppm found in competing magnetometer systems) so it will be accurately time stamped to sync with diurnal correction (base station) information.

Maintenance Free Sensors

SeaSPY sensors don't degrade with time, so you'll get the same quality data after 10 years of use as you did the first time you used it. In addition SeaSPY sensors contain no consumable parts, so you won't have to replace anything, like the expensive lamps that wear out in optically pumped mags.

Overhauser Effect

SeaSPY is a pulsed Overhauser magnetometer that measures the ambient magnetic field using a specialized branch of nuclear Magnetic Resonance technology, applied specifically to hydrogen nuclei.

Ease of Use

Ultra Low Power Consumption

A SeaSPY system only requires 1W standby and 3W maximum. As a result, SeaSPY can run for days directly from a 12V or 24V vehicle battery.

No temperature effect on accuracy

SeaSPY works equally well in cold, deep waters as tropical waters, starting instantly on power-up without requiring warm up. And data collected at -40°C will be identical to data recorded at +60°C.

Integrate with side scans and other platforms

An easy all in one solution to integrate SeaSPY with side scans. A single 10m tow cable is terminated with everything you need. No modifications to your magnetometer or gradiometer are required. Simply swap out your tow cable for the integration cable and you are ready to go.

Best of all, your accessories, including power supply, are still compatible. The integration maintains the basic system integrity of each product, ensuring they can both run independently as well as together.



Making
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SeaSPY Towfish includes

- Depth rating 1000m (1500psi), 3000m (5000psi), 6000m, (9000psi) customer specified.
- Overhauser Sensor
- Electronics module containing all of the driving electronics and Larmour counter
- Leak detector to let you know if even a drop of water penetrates the towfish
- 4 lead weights to increase the weight of the towfish and to prevent it from rotating. To adjust the weight you can remove or add additional weights in the field.
- SeaLINK data acquisition and GPS logging software for Windows.

Tow Cable

The cable is made up of one twisted pair of conductors, a Vectran strength member, water block and yellow polyurethane jacket. Length determined by customer.

Isolation Transceiver

Dimensions: 11 x 6 x 3 cm
Weight: 130 g

RS-232 cable

Battery Clip Cable or Power Supply

The power supply accepts any AC line power, from 100-240VAC and 50/60 Hz to provide conditioned and clean 24V DC power. Weight 165g

Options

- Pressure Sensor
- Altimeter
- Transponder
- SideScan integration
- Depth options: 3000m, 6000m
- Extension cables
- Change the weight of the towfish with additional weights
- Deck cable
- Termination kit
- Winches

SPECIFICATIONS

Operating Zones	NO RESTRICTIONS SeaSPY will perform exactly according to spec throughout the entire range.
Absolute Accuracy	0.1nT
Sensor Sensitivity	0.01nT
Counter Sensitivity	0.001nT
Resolution	0.001nT
Dead Zone	NONE
Heading Error	NONE
Temperature Drift	NONE
Power Consumption	1W standby, 3W max
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	15VDC-35VDC or 100-240VAC
Operating Temperature	-45°C to +60°C
Temperature Sensor	-45°C to +60°C, 0.1 step

Towfish

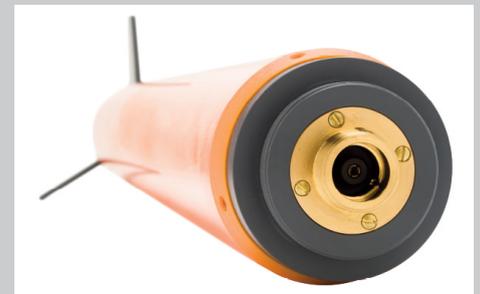
Towfish Length	124 cm
Towfish Diameter	12.7 cm
Towfish Weight in Air	16 kg
Towfish Weight in Water	2 kg

Tow Cable

Conductors	Twisted pair
Strength Member	Vectran
Breaking Strength	2,500 kg
Outer Diameter	1 cm
Bending Diameter	16.5 cm
Weight in Air	125 g/m
Weight in Water	44 g/m
Outer Jacket	Yellow Polyurethane
Cable Termination	Field Replaceable

Floating Cable

Conductors	Twisted pair
Strength Member	Vectran
Max Working Load	2,500 kg
Outer Diameter	1.9 cm
Bending Diameter	25 cm
Weight in Air	272 g/m
Weight in Water	-20 g/m
Outer Jacket	Orange Polyurethane
Cable Termination	Field Replaceable



Marketed By



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