

ROV & DIVER TRACKER

REAL TIME UNDERWATER POSITIONING MADE EASY

The Tracker is a powerful tool aimed at providing accurate position information of underwater assets. Through its personal computer interface, it can be easily configured to work in two basic configurations:

- **ROV TRACKER:** in this configuration the Tracker is connected to either a tethered underwater platform or a diver through the umbilical cable and transmits to a surface based computer real time position information with reference to a chart or relative to the mother ship's position.
- **Diver TRACKER:** in this configuration the Tracker is carried underwater by a diver (or any other non-tethered platform) and it stores into an internal memory all position information and any relevant point of interest marked by the operator. Once emerged, all collected information can be downloaded and displayed in a personal computer.

In both modes of operation the Tracker performs an inertial navigation, initiated by GPS fixes at the surface and continued with a DVL aided dead reckoning. Thus, the Tracker can be used fully independently and without the need of any LBL/USBL system. Such systems, however, can be integrated with the Tracker for providing more accurate long term position information.

The TRACKER displays all position information with reference to the underlying bathymetry. Bottom depth data can also be post processed to provide bathymetry maps associated with the acquired tracks.

Strong built-in re-navigation SW algorithms ensure unparalleled and virtually unlimited accuracy for non-real time mapping of underwater cables, pipes and installation works.



Applications:

- Shallow Water ROV Navigation
- Mapping Missions
- Divers' Navigation
- Military Applications
- Boosting Small ROV Capabilities
- Geo-referencing Data Collection

Key features:

- Two versions: horizontal or vertical mount for installation onboard any platform
- No weight in water and no integration effort required
- Immediate and easy to use Windows based SW interface

Optional features:

- Diver handling kit
- Rechargeable battery pack
- LBL/USBL integration SW modules

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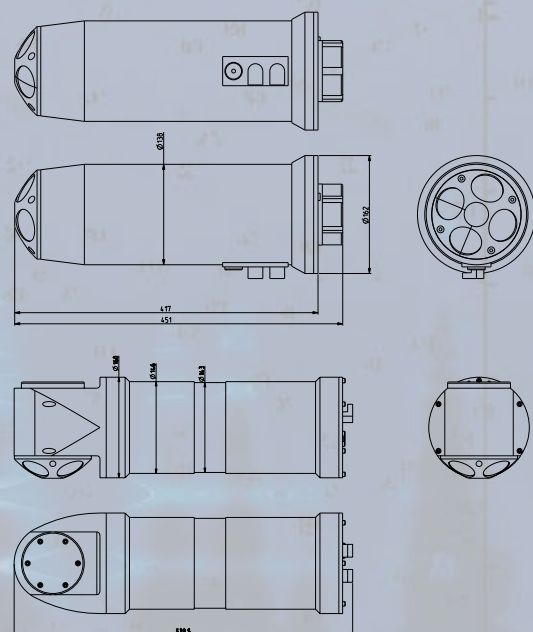
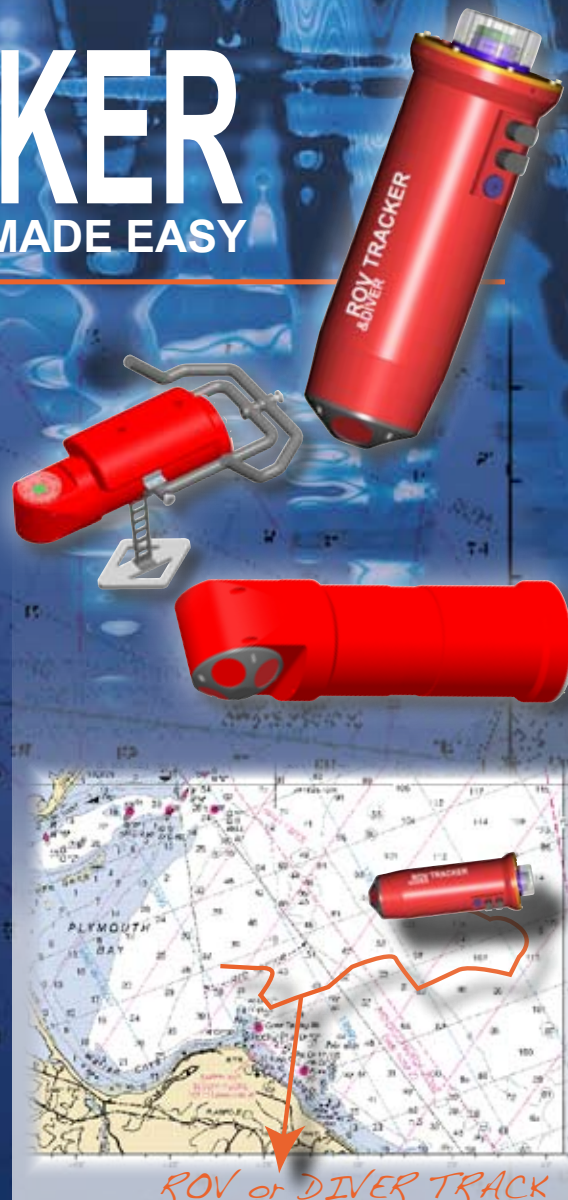
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Performance specifications

Overall performance	
Along track navigation accuracy	$\pm 0.4\%$ of track length @ tilt < 20°
Cross track navigation accuracy	$\pm 0.9\%$ of track length @ tilt < 20°
Max. operating depth	300 meters
Enclosed sensors' performance	
Global Positioning System (GPS)	WAAS Enabled, 12 parallel channels
Acquisition times (reacquisition/warm/cold)	2 / 15 / 45 seconds
Accuracy (WAAS DGPS)	3 meters
Doppler Velocity Log (DVL)	Teledyne RD Instruments' Explorer
Bottom track altitude range	0.25 – 70 meters
Bottom track velocity range & accuracy	± 5 m/sec. & $0.4\% \pm 0.2$ cm/sec.
Water track velocity range & accuracy	± 5 m/sec. & $0.4\% \pm 0.2$ cm/sec.
Heading & attitude sensor	Honeywell HMR3000
Heading accuracy	0.5° @ dip < 50°, tilt < 20°
Pitch and roll range	$\pm 40^\circ$
Pitch & roll accuracy	$\pm 0.4^\circ$ @ tilt < 20°, $\pm 0.6^\circ$ @ tilt > 20°
Depth sensor accuracy	0.75 meters (zero settable)
Temperature accuracy	1 °C
Data processing and storage	
Update of position & bathymetry data	1 – 2 sec. (varying with ops. condition)
Memory storage	Easily removable USB stick
Storage capacity (for non real time ops)	> 1000 hours of operation
Data communication	
Configurable serial interface	RS-232 / RS-485
Removable USB stick for non real time operations	

Installation requirements

Weight and dimensions	
Weight in air / in water	8 Kg. / neutral
Diameter and length (see dwgs)	Max: $\varnothing 160$ mm / 538.5 mm
Installation requirements	
Voltage and power required	12-24 V / ~ 7 W (average)
Battery pack (optional) available	
Easily accessible mounting flange and clamping area for ROV use	
Handling and positive buoyancy kit (optional) for diver operations	



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