

UWIS CABLE BUOY

When seeking mobility and underwater precision from larger vessels.

Such activities include, among others, diving / ROV operations from naval ships, offshore support vessels, or liveaboard group dives directly from the mother ship.

Mr. Pertti Arvonen, CEO:

"We developed UWIS Cable Buoys as alternative surface units for the UWIS system. They function as part of the system like the floating UWIS Buoy Units but do not need to be separated from the vessel. The Cable Buoy case part, which includes a wireless network connection to the UWIS Tracker software and a precision GNSS device with up to 8 cm positioning accuracy, remains on the deck of the ship, and the underwater acoustic part is lowered below the ship's keel. Three Cable Buoys form a triangle for locating divers and/or ROVs. If desired, the Cable Buoys can be combined with floating buoys."



UWIS Cable Buoys specific features

- Battery life of 20 h (under normal conditions)
- · Cable length to water 7 m
- Can be connected to the vessel's 12 V power supply
- Theoretical GNSS accuracy (two options):
 - HGNSS integrated: +-0.5 m (SBAS), +-8 cm (Atlas)
 - GNSS (standard UWIS module): +-2.5 m (SBAS)
- · Case dimensions: 25 x 43 x 54 cm, 13 kg
- · The case has handles and wheels
- · The case has space for one UWIS Diver Unit
- Joint development allows wireless connection to the vessel's location and tracking systems. This can enable operation even during GNSS jamming.
- Unlimited mobility geographically when tracking on the surface. Underwater navigation max 600 m shift from the starting point.

Related UWIS system features include

- Tracking of 100 divers or ROVs
- Underwater range of 500 m from the vessel (radius)
- Maximum diving depth of 150 m
- Near real-time tracking on the surface
- Positional accuracy in water dependent on GNSS accuracy, distances, and water conditions. At best, absolute accuracy is the same as GNSS accuracy +- 0.2 m.
- Position update frequency 2s/unit or 4s/unit when messages back to divers

Sending of position data and messages to all divers

Automatic alerts

Event log collection for post-processing

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Benefits of UWIS

Commercial and Military diving:

- Efficiency; speeds up operations when operators know their location and can communicate.
- Reproducibility and verifiability; recorded data can be used later and is verified.
- Mobility; the system is wireless, lightweight, and portable.
 Easy to install and dismantle.
- Robust; operates in challenging acoustic conditions such as ports and over water layers.
- Possibility to wirelessly connect to existing systems on the vessel.
- Operation between ROVs and divers.
- Diver safety.

Recreational diving (liveaboard):

- More added value for customers; tracking on board, sharing of dive data afterwards, successful navigation and communication during the dive.
- Diving in challenging conditions such as currents and night diving.
- Group management and navigation underwater.
- Diving safety and automatic alarms.