

Datasheet

RedWave

multiuser underwater navigation RedNAV device



DESCRIPTION:

RedNAV is the only device in the world that provides so called true underwater GPS for divers. It allows divers to determine their own geographic location in submerged state wirelessly.

Operating the RedNAV in many ways similar to the work with GPS/GLONASS, receiver/tracker, but instead of GNSS satellites, it needs four RedBASE sonobuoys deployed that allow an unlimited number of RedNODE/RedNAV devices to function at the same time and at the same place.

Unique functionality and usability make RedNAV ideal for recreational diving, archeological, biological and any other scientific and technical underwater works.

RedNAV device has a wrist mount and an acoustic receiver that can be mounted on the air tank.

Wireless connection to a PC and wireless charger make RedNAV extremely easy to use and maintenance.

KEY FEATURES:

- Completely acoustically passive device
- 3D-position in absolute geographic coordinates (WGS-84)
- Simultaneous positioning for an unlimited number of RedNODE / RedNAV devices
- Small dimensions
- Acoustic range up to 3000 m
- Reliable and noise-immune technology of digital broadband acoustic communication
- Position update rate up to 1 Hz
- Automatic track saving with ability to export to KML and GPX formats
- Possibility to preload the route and save the current position

RedWave

multiuser underwater navigation
RedNODE device



TECHNICAL SPECIFICATION:

DIMENSIONS	Ø64x62 mm+84x118x36 mm
WEIGHT (dry)	0.7 kg
ACOUSTIC RANGE (energetic)	3000 m
FREQUENCY BAND	10-30 kHz
DEPTH RATING	140 m
NOMINAL 2D ACCURACY, 2DRMS¹	0.84 m
NOMINAL DEPTH ACCURACY²	0.1 m
BIT ERROR RATE	10 ⁻⁶
START-UP TIME	1 s
SNR³	-6 dB
WIRE LENGTH	1.2 m
RELATIVE VELOCITY (Rt-Tx)	+/- 1.8 m/s
TEMPERATURE RANGE	-5..50 °C
COORDINATE SYSTEM	WGS-84
NOMINAL TIME TO FIRST POSITION FIX	28 s
NOMINAL POSITION UPDATE RATE	1 Hz
TRACK LENGTH⁴	Up to 2 hrs
ROUTE FUNCTIONS: up to 20 pre-loaded waypoints	+ up to 20 point to save in submerged state
CONNECTION TO PC	Bluetooth
CHARGER	Wireless
BATTERY LIFE	Up to 8 hrs
TIME SYNCHRONIZATION ACCURACY (for GGA sentence)	<50 ms
EXTRA FUNCTIONS	Depth, Temperature
BUILT-IN TEMPERATURE SENSOR ACCURACY	0.1 °C

1. Obtained in real conditions during 60-minute session with buoys and receiver fixed

2. Depends on how relevant current salinity value

3. Value obtained without multipath effect

4. During continuous operation of the device considering position update rate 1hz