

## 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



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RedNODE device

### TECHNICAL SPECIFICATION:

<b>DIMENSIONS</b>	Ø64x62 mm+84x118x36 mm
<b>WEIGHT (dry)</b>	0.7 kg
<b>ACOUSTIC RANGE (energetic)</b>	3000 m
<b>FREQUENCY BAND</b>	10-30 kHz
<b>DEPTH RATING</b>	70 m
<b>NOMINAL 2D ACCURACY, 2DRMS<sup>1</sup></b>	0.84 m
<b>NOMINAL DEPTH ACCURACY<sup>2</sup></b>	0.1 m
<b>BIT ERROR RATE</b>	10 <sup>-6</sup>
<b>START-UP TIME</b>	1 s
<b>SNR<sup>3</sup></b>	-6 dB
<b>WIRE LENGTH<sup>4</sup></b>	1.2 m
<b>RELATIVE VELOCITY (Rt-Tx)</b>	+/- 1.8 m/s
<b>TEMPERATURE RANGE</b>	-5..50 °C
<b>COORDINATE SYSTEM</b>	WGS-84
<b>NOMINAL TIME TO FIRST POSITION FIX</b>	28 s
<b>NOMINAL POSITION UPDATE RATE</b>	1 Hz
<b>TRACK LENGHT</b>	Up to 2 hrs
<b>ROUTE FUNCTIONS: up to 20 pre-loaded waypoints</b>	+ up to 20 point to save in submerged state
<b>CONNECTION TO PC</b>	Bluetooth
<b>CHARGER</b>	Wireless
<b>BATTERY LIFE</b>	Up to 8 hrs
<b>TIME SYNCHRONIZATION ACCURACY (for GGA sentence)</b>	<50 ms
<b>EXTRA FUNCTIONS</b>	Depth, Temperature

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. Can be changed by special request