

uWAVE Underwater acoustic
modem specifications

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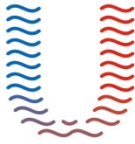
KEY FEATURES

- Extremely small size and weight
- Can be applied in underwater wireless sensor networks
- Reliable data transmission with 78 bit/s
- Operating range up to 1000 m
- Subscribers code division
- Propagation time measurement
- Reliable and noise-immune technology of digital broadband acoustic communication
- Low power consumption (Rx/Tx) 0.33/6 W
- Open configuration protocol
- Built-in depth/temperature sensor

uWAVE is the world smallest¹ underwater acoustic digital modem, which allows to communicate up to 20 subscribers in area 1000 x 1000 meters with both transparent channel and predefined code messages/telemetry transmission.

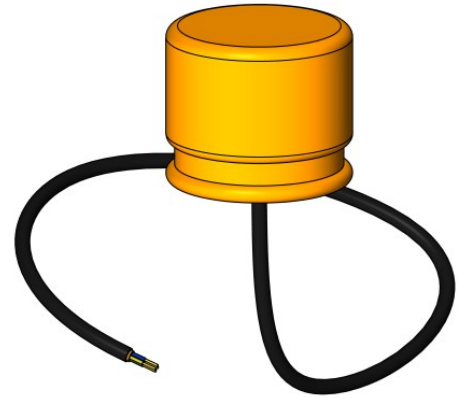
Extremely small size, low power consumption and simplicity of usage make uWAVE an ideal solution for AUV control as well as data transmission, where dimensions and weight are the bottleneck.

¹ According to open sources, October 2018



UNDERWATER
COMMUNICATION & NAVIGATION
LABORATORY

<https://www.unavlab.com>
support@unavlab.com



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TECHNICAL SPECIFICATIONS

DIMENSIONS (Φ x h)	40 x 45 mm
WEIGHT (dry)	0.16 kg
DEPTH RATING	300 m
MAX OPERATING RANGE	1000 m
PAYLOAD DATA RATE	78 bit/s
POWER CONSUMPTION Rx/Tx	0.33/6 W
POWER SUPPLY	12 V
DATA LINES VOLTAGE	0 .. 3.3 V
FREQUENCY BAND	10 .. 30 kHz
BIT ERROR RATE	10^{-6}
SNR²	-2 dB
MAX RELATIVE VELOCITY	+/- 1 m/s
RATED START-UP TIME	100 ms
OPERATING TEMPERATURE RANGE	-5 .. 50 °C
INTERFACE³	UART 9600 bit/s
CONFIGURATION PROTOCOL	NMEA 0183 PUWV
CABLE LENGTH⁴	1 m
SUBSCRIBERS CODE DIVISION	20 code channels
COMMAND MODE	16 predefined messages (9 for user applications)

² This value is obtained without the presence of the multipath effect

³ Port speed can be changed by special request

⁴ Length can be increased by special request