UNDERWATER
COMMUNICATION & NAVIGATION
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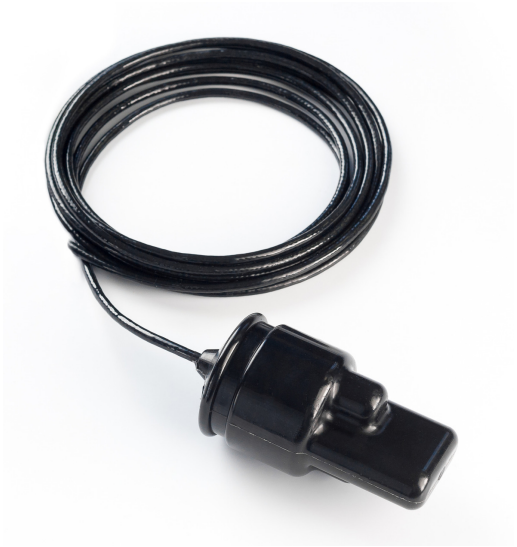
Datasheet

Zima

USBL underwater navigation system
ZimaBASE device



DESCRIPTION:

ZimaBASE is a ultrashort baseline transmitting/direction finding antenna.

The device uses a fixed-length code-division signal to provide direction and distance detection and to send remote control commands to the beacon-responders and receive telemetric data from them.

When using an external GNSS receiver and Compass, the device allows you to determine the absolute coordinates of the responders.

Up to 32 control commands for 23 beacon-responders.

An ideal solution for determining the direction and distance to underwater objects.

The extremely small size, low power consumption and ease of use make the Zima direction finding system an ideal solution for working with autonomous and remote-controlled devices as well as determining the relative position of divers.

KEY FEATURES:

- Minimum weight and dimensions
- Operating range up to 8000 m
- Highly reliable digital hydroacoustic communication resistant to multipath propagation
- Low power consumption 0.3 / 25 W (Rx / Tx)
- Up to 23 beacon-responders
- The patented technology of simultaneous navigation

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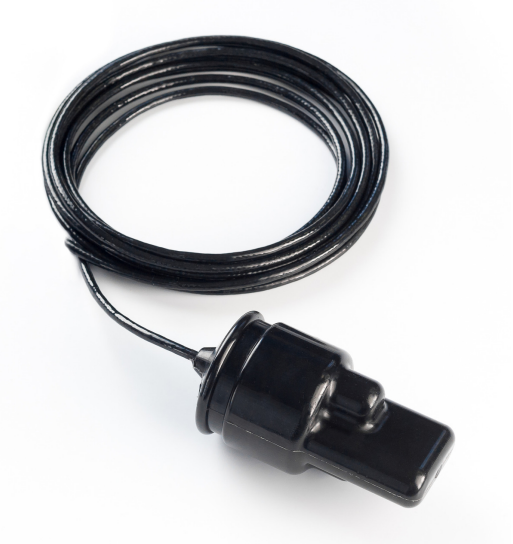

TECHNICAL SPECIFICATION:

DIMENSIONS	Ø64x128 mm
WEIGHT (DRY)	0.44 kg
ACOUSTIC RANGE (ENERGETIC)	8000 m
FREQUENCY BAND	6-18 kHz
DEPTH RATING	40 m
NOMINAL DEPTH ACCURACY	0.1 m
BIT ERROR RATE	10^-6
START-UP TIME	100 ms
SNR [1]	-6 dB
WIRE LENGTH [2]	1.5 m
RELATIVE VELOCITY (RT-TX)	+/- 1.8 m/s
TEMPERATURE RANGE	-5..50 ˚C
BUILT-IN TEMPERATURE SENSOR ACCURACY	0.1 ˚C
POWER CONSUMPTION (RX / TX)	0.3 / 25 W
POWER SUPPLY	4-12 V
INTERFACE [3]	UART 9600 bit/s
PROTOCOL	NMEA 0183 + PZMA
DATA LINE VOLTAGE	0..3 V
CODE DIVISION SCHEME (COMMANDS/SUBSCRIBERS)	32/23
NOMINAL ACCURACY OF DETERMINING THE HORIZONTAL ANGLE [4]	1˚
NOMINAL ACCURACY OF DISTANCE DETERMINATION	0.3 m

1. Value obtained without multipath effect
2. Can be changed by special request
3. Can be changed by special request
4. Obtained under laboratory conditions in a static experiment