

Micron Modem

Underwater Acoustic Modem



The Micron Modem provides robust spread spectrum data transmission from an extremely compact and low cost unit.

Due to its miniature size and low weight, the Micron Modem is suitable for a host of potential sub-sea data transfer applications that were previously impractical or uneconomic with larger, more expensive systems.

The system is able to transmit a maximum data rate of 40 bits per second, making it suitable for a range of through-water, low data rate transfer requirements.

The Micron Modem can also be configured as a transponder or responder, to operate with a Tritech USBL transducer as part of a MicronNav positioning system.

Compact low power and low data-rate transmission

The Micron Modem has been designed to provide a reliable data link for through water communications where there are limitations on space and/or power. Suitable for use as a stand-alone system or part of an AUV control system.

Benefits

- Multipath noise rejection
- Compact size

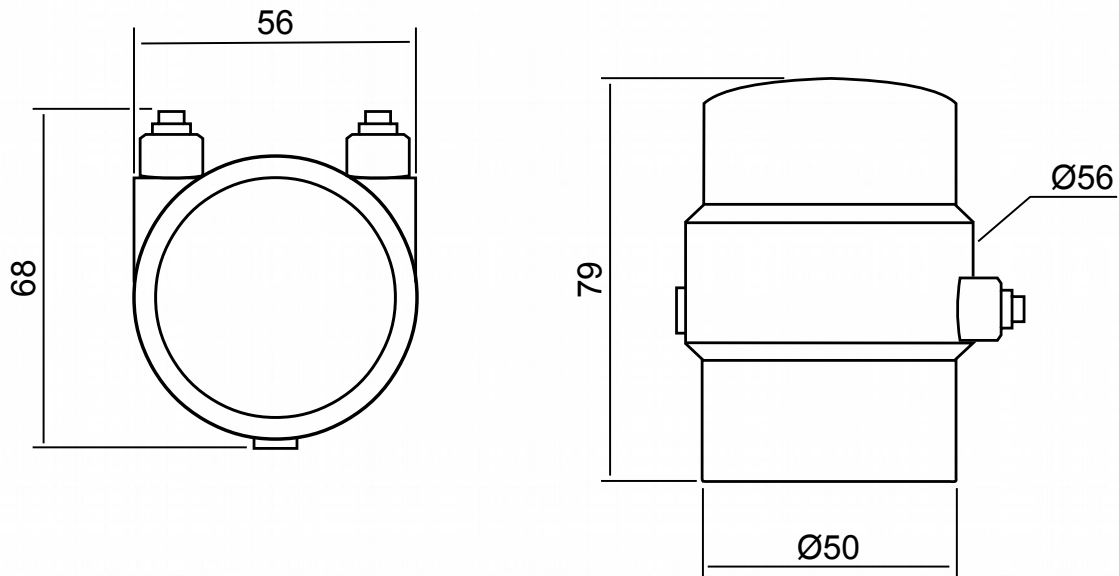
Features

- Low error rate
- Low power consumption
- 500m horizontal range
- 150m vertical range

Applications

- Through water communications
- AUV control and data collection

Specification



Not to scale, dimensions in mm.

| Acoustic | |
|-------------------------------|--|
| Frequency band | 20 - 28kHz |
| Data rate | 40bit/s (spread spectrum) |
| Range | 500m horizontal, 150m vertical |
| Transmitter source | 169dB re 1µPa at 1m |
| Doppler tolerance | ±5m/s |
| Minimum signal to noise ratio | -6dB (in band) |
| Multipath rejection | Maximum delay spread of 10 - 100ms |
| Ranging | Integral range function with 0.1m resolution over full range and ±0.2m accuracy (assuming correct velocity of sound) |

| Electrical and Communication | |
|------------------------------|--|
| Communications protocol | RS232 or RS485 |
| Power supply | 12 – 48V DC |
| Power consumption | 7.92W (330mA at 24V) transmitting 0.72W (30mA at 24V) receiving |

| Physical | |
|-------------------|--------------------------------------|
| Weight in air | 235g |
| Weight in water | 80g |
| Depth rating | 750m |
| Temperature range | -10 to 35°C (-20 to 50°C in storage) |

Specifications subject to change according to a policy of continual development.

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