

Micron Data Modem

Underwater Acoustic Modem

Compact low power and low data-rate transmission

The Micron Data 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.



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.

Benefits

- Multipath noise rejection
- Compact size

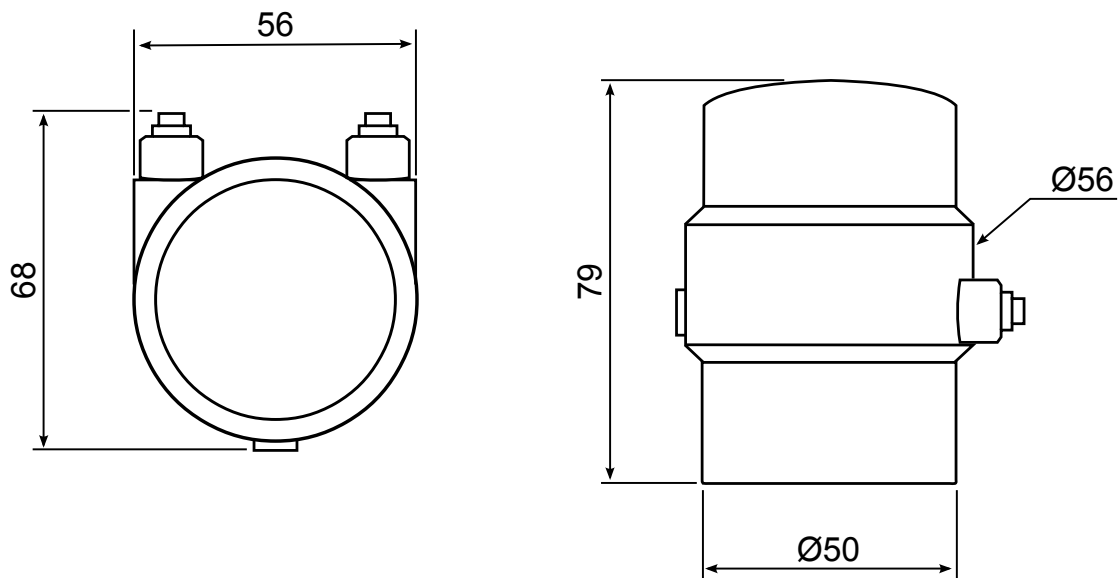
Features

- 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 ⁻¹ (spread spectrum)
Range	500m horizontal, 150m vertical
Transmitter source	169dB re 1μPa at 1m
Doppler tolerance	±5m·s ⁻¹
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 – 24V 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.

Document: 0630-SOM-00002, Issue: 02