

# Micron Battery Modem

Battery powered underwater acoustic modem



## Applications

- Through Water data communications
- AUV control and data collection
- Diver tracking (with MicronNav 200 USBL)
- ROV tracking (with MicronNav 200 USBL)
- Lost ROV Locator (with MicronNav 200 USBL)

The Micron Battery Modem provides a reliable data link for through water communications where there are limitations on space and/or power, without the need for an external power source. Suitable for use as a stand-alone data transfer system, part of an AUV control system, or self-powered Transponder/Responder beacon for the MicronNav USBL system.

## Benefits

- Self-powered
- Multipath noise rejection
- Compact size
- Low error rate

## Features

- Integral rechargeable battery pack
- On/off rotary switch
- Transponder address selector rotary switch
- Integral pressure relief valve

The Micron Battery Modem is ideal for subsea data transfer applications where an external power supply may not be readily available. Utilising the internal battery power the Modem will operate in standby mode, where it's always listening, for approximately 30 days and when transmitting with an update rate of 1 transmission every 2 seconds then the Modem will run for approximately 7 days.

When the Modem is connected to an external power source, the internal batteries act as a backup to ensure the Modem continues to operate in the event of loss of external power. The Modem provides robust spread spectrum low data-rate transmission from a compact and low cost unit with communication ranges out to 500m horizontally and 150m vertically.

The Modem can be configured for use as a data Modem, transponder or responder by using the Trittech Genesis software, while the rotary selector on the Modem allows for selection of 1 of 16 transponder IDs.

For diver tracking, the Modem is configured as a Transponder and yet allows for an external switch to be connected which can be used to send an urgent message to the surface.

Key Specification	
Range	500m/ 1641ft horizontal, 150m / 493ft vertical
Doppler tolerance	±5m/s
Battery	NiMH 4.8V 4500mAh (21.6Wh)
Dimensions	56mm x 206mm / 2.21in x 8.11in
Depth rating	750m / 2460ft
Weight in water	450g / 1.0lbs

Acoustic specification	
Frequency band	20 - 28kHz
Data rate	40bits/s or 100bits/s (spread spectrum)
Range	500m horizontal, 150m vertical
Addressing	Transponder ID 1 - 16 set by integral rotary switch
Beamwidth	Omni-directional
Transmitter source	169dB re 1µPa at 1m

Electrical and Communication	
Communications protocol	RS232 or RS485 (internally set)
Data transfer	Simultaneously with USBL positioning Comms buffer: 256 bytes
Power supply	12 - 48V DC
External power consumption	18W charging 3.5W transmitting 0.05W receiving
Battery	NiMH 4.8V 4500mAh (21.6Wh) Full charge time: 3.5h Run time: 700h (receiving), 160h (transmitting 0.5Hz) Integral on/off rotary switch and pressure relief valve

Physical specification	
Diameter	56mm / 2.21in
Height	206mm / 8.11in
Weight in air	885g / 2.0lbs
Weight in water	450g / 1.0lbs
Depth rating	750m / 2460ft
Temperature rating (operating)	-10 to 35°C / 14 to 95°F
Temperature rating (storage)	-20 to 50°C / -4 to 122°F

Mains charger	
AC input	90V to 264V, 47Hz to 63Hz, IEC 320-C14 connector
DC output	12V
Power consumption	18W charging
IP rating	Indoor use only, no protection against water ingress
Temperature rating (operating)	0 to 65°C / -32 to 149°F
Temperature rating (storage)	-20 to 85°C / -4 to 185°F

\*1 Battery Modem operational temperature limited to no less than 10°C during charging or while on external power. Specification subject to change in line with Tritech's policy of continual product development