

M25M Standalone Modem



Subnero's silver edition standalone underwater smart modem is the workhorse communication node to be used in the general commercial deployments. This modem also provides options for customization and extension at many levels, allowing network protocols as well as physical layer algorithms to be implemented and tested easily.

The standalone configuration (SC) is designed with a pressure housing to support different deployment depths and to function on an external power source, which could be a battery for underwater deployments or a power supply when deployed from the water surface. This configuration is optimized for maximum flexibility and reliability in a wide range of deployment scenarios, ensuring seamless and uninterrupted data transmission even in challenging environments.

Specifications

Product	Subnero M25M Standalone (SC) Modem
Country of origin	Singapore
Manufacturer	Subnero Pte Ltd

Key features

- Up to 15 kbps data rate
- More than 4 km communication range
- Deep sleep state with <1 mW power consumption
- Localization & ranging with 0.1 m precision
- Arbitrary waveform transmission and recordings
- Enhanced performance with additional receiving channels

Applications

- AUV command & control, telemetry, payloads
- Diver communication and localization
- Underwater networks
- ADCP data retrieval (SWIS - ADCP Edition) channels

Specifications

Modem	Subnero M25M Series Modem
Data rate	Up to 15 kbps (depending on channel conditions)
Operating range	More than 4 km (depending on channel conditions)
Ranging precision	0.1 m
Doppler resilience	±4 knots or better
Modulation (sw-defined)	PSK-OFDM, FH-BFSK
Forward error correction	LDPC, Convolution code, 1/2 rate code (JANUS)
Bandwidth	12 kHz (20 - 32 kHz)
Software interface	Java, Groovy, Python, C, Javascript, Julia, web UI, JSON/TCP
Waveform player	Transmission and reception, passband and baseband
Hardware interface	Ethernet (10/100 Mbps), RS232, power
Power source	External power: 22-28 V DC (24 V DC recommended)
Onboard storage	32 GB (upgradable to 1 TB)
Operating depth	300m (Aluminum), 2000m (Stainless steel), 4000m, 6000m (Titanium)
Dimensions	SC: ø 127 x 316 mm, OC: ø 100 x 132 mm
Weight (in air / water)	SC: 5.0 / 1.5 kg, OC: 0.8 kg / NA
Operating temperature	SC: 0 to 40 °C, OC: 0 to 70 °C (electronics) 0 to 40 °C (transducer)
Power consumption	< 4 W (receive mode, nominal) < 45 W (transmit mode, avg.) < 1 mW (deep sleep mode)