



# PopotoModem

Enabling the underwater IOT revolution™

## Popoto S1000Li

### Product Overview:

The Popoto S1000Li is an advanced underwater acoustic modem delivering superb performance, unique features, and flexible interfacing, making it suitable for nearly any application. Featuring a compact machined aluminum casing capable of withstanding depths of up to 1000 meters, an integrated 77Wh Li battery, and a transmitter with up to 175-180 dB (re 1 $\mu$ Pa @ 1m), the S1000Li is both versatile and robust.

### Features:

- 77Wh Lithium-Ion battery for extended deployments
- Multiple modulation schemes from 80 BPS to 10240 BPS
- Python and MATLAB® APIs for on-board data processing and system automation
- Acoustic ranging (Accurate to <0.3m)
- Baseband and passband waveform playback and recording during modem operation



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<b>Data Transfer</b>	
Data Rates	80 bps with Frequency Hopping FSK 10240, 5120, 2560, 1280, 640 bps with PSK
Storage	32GB internal Expandable with microSD (up to 1.5tb+)
Transmit Power	175-180 dB (re 1 $\mu$ Pa @ 1m)
Range	1-4 km depending on conditions and modulation scheme selected
Frequencies	22-35 KHz selectable
Transducer Type	20-30 KHz Omnidirectional
<b>Power</b>	
Power Draw	GPIO Enabled Sleep: < 10uW Acoustic Wake Up Deep Sleep: < 45 mW Acoustic Wake Up Sleep: 150 mW Active Receive: 1.2 W
<b>Interface</b>	
Data Connections	Ethernet, RS-422, RS-232
External Interface Connections	SPI Bus, I2C Bus, GPIO, Analog
APIs	Python, C++, MATLAB®, JSON, JACK, and MARIA
Processor	Single Core 1.4GHz Arm® Cortex®-A53
Operating System	Debian Linux for user applications
<b>Hardware</b>	
Size	460mm x 49mm x 49mm
Weight	Dry: 1220g In Sea Water: 550g
Depth Rating	1000m
Export Classifications	5A991 Controlled for anti-terrorism only

