

Delphis is a compact, low-power underwater acoustic communication and ranging device designed for underwater vehicles, divers and subsea instrumentation. Engineered for operation in challenging underwater environments, Delphis enables acoustic data transfer, precision ranging and long baseline positioning (LBL) capabilities within a miniature, self-contained potted unit. Supporting both point-to-point and networked subsea communications, Delphis provides a practical solution for monitoring, tracking and underwater IoT applications.

Using advanced spread spectrum signalling and error correction techniques, Delphis maintains stable communications in complex acoustic environments while supporting reliable ranging performance between deployed assets. Its fully encapsulated design allows rapid deployment into subsea systems where a durable, maintenance-friendly and easy-to-integrate acoustic modem solution is required

## BENEFITS

**Advanced Acoustic Modem Technology** - Delphis combines efficient acoustic modem functionality with integrated ranging capabilities, enabling reliable subsea communications and positioning within a single compact device for underwater vehicles and distributed sensor systems.

**Compact and Self-Contained** - The fully potted Delphis unit provides a robust, ready-to-deploy underwater acoustic modem solution requiring minimal integration effort for rapid deployment into subsea applications.

**Low Power Operation** - Designed for battery-powered and long-duration deployments, Delphis delivers reliable acoustic communications and ranging while maintaining extremely low power consumption.

**Reliable Underwater Communications** - Using robust spread spectrum signalling and error correction techniques, Delphis enables dependable underwater data transfer and ranging performance in challenging acoustic environments.

**Precision Ranging** - Integrated transponder and ranging functionality enables accurate distance measurements between assets, supporting positioning, tracking and navigation applications.

**Scalable Subsea Networks** - Supporting up to 256 uniquely addressable units, Delphis enables the creation of scalable underwater communication networks for monitoring, sensing and subsea asset coordination.

**Ready for Harsh Environments** - Fully potted and depth rated to 350 metres+, Delphis is designed for reliable operation in demanding underwater environments with minimal maintenance requirements.



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## DIMENSIONS

68.70mm x 39.40mm | 83.3g

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## PHYSICAL LAYER

Spread spectrum (orthogonal signalling) with BPSK modulation and error correction code

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## SUPPLY CURRENT @5V

**Listening:** 2.5mA  
**Receiving:** 5mA  
**Transmitting:** max 300mA

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## SUPPLY VOLTAGE

3 – 6.5v dc (5V or 6V supply recommended)

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## ACOUSTIC FREQUENCY

24-32 kHz

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## ACOUSTIC SOURCE LEVEL

~168 dB re 1µPa @ 1m

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## ACOUSTIC DIRECTIVITY

Near omnidirectional (reduction around cable entry of potted unit).

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## ACOUSTIC DATA RATE (RAW)

640 bits/s, unicast and broadcast data messages up to 64 bytes in length.

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## ACOUSTIC THROUGHPUT (MAX)

463 bits/s

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## ADDRESSING

Up to 256 units (addresses 0-255)

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## RANGING INCREMENT

4.7cm (c=1500m/s)

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## RANGING VARIANCE

~10cm

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## MAXIMUM RANGE\*

2 km in sea water  
3.5 km in fresh water

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## RS232 interface

9600 Baud, 8-bit, no parity, 1 stop bit, no flow control

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## DEPTH RATING

Depth rated to 350 metres +

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*\* Specifications subject to typical acoustic propagation and noise conditions.*

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