



LUMA 500ER

Long range subsea wireless optical node

The Hydromea LUMA 500ER subsea wireless optical node combines outstanding performance and energy efficiency in a very compact form factor. Optical communication offers superior data rates, low latency and lower power requirements compared to acoustic modems underwater. This makes it the perfect choice for applications such as subsea wireless video transmission, data download from submerged sensors and data loggers, as well as wireless interfacing between ROVs/AUVs and deep sea infrastructure.

The LUMA 500ER has an outstanding communication range on a very low power budget. The maximum range is achieved in dark conditions (night time, or deep sea) and clear water.

The software-configurable serial cable interface can be set to RS232 or RS485, which makes the LUMA 500ER the ideal drop-in replacement for cabled connections in many existing systems.

Features

- Superior range with wide beam
- Low power consumption
- Ultra-compact and low weight, ideal for small ROVs/AUVs
- Four transmission power levels: 2 - 5 W
- Wide supply voltage range
- Tolerates moderate ambient light (twilight)
- Encryption of data link, mesh networking (optional, on request)

Applications

- Wireless access points for deep-sea infrastructure
- Data harvesting with gliders or AUVs
- Bottom to surface data upload (at night)
- Wireless video streaming for mini ROVs



Specifications*

Dimensions	100 x 50 x 30 mm
Weight in air	250 g
Weight in water	50 g
Data rate:	Optical link: 500 Kbit/s Cable interface: 9.6 - 512Kbit/s
Software features	Error detection, FEC, auto-wakeup (upgradeable for additional features)
Range	50 m (100 m in air)
Supply voltage	12 - 36 V
Power consumption:	
- active, receiving	1 W
- transmitting	2 - 5 W (typ.)
Beam pattern	120 deg. cone
Interface:	RS232 / RS485
Depth rating	6000 m
Connector	SubConn MCIL6M or as requested

* Preliminary specifications - may change without notice

- Subsea networks at deep sea sites