SeaWire
WHEREVER YOU ARE

Get a fast, stable and cost-efficient internet connection at the edge of the mobile network coverage at sea.

Model	Units	CAT	Max. data speed	Network	Range	Price ex. VAT
SeaWire Pro	2	6	600 Mbit/s	4G	Up to 35 NM	3.330 EUR

SEAWIRE PRO HIGHLIGHTS

- Extended range, giving a stable and fast internet connection at the edge of the mobile network coverage

- Two auto-rotating, directional antennas, augmented with an omnidirectional antenna that enables continuous internet connection whilst shifting between operator towers

- The two auto-rotating antenna can significantly enchance data rates whilst offering critical connection redundancy

- Integrated antenna and modem that avoids loss in cables

- Integrated WiFi router giving a 300m range

- Integrated 4,400mAh battery giving over 8 hours operation

- Marine Grade, Plug n' play solution

- Web based user interface for configuration and maintenance

PRODUCT DESCRIPTION

Even long-haul vessels spend more than two thirds of the time within reach of cellular network. The SeaWire Pro solution extends the reach of mobile networks and optimizes the internet connection in coastal areas with ranges up to 35 NM from the coast.

The SeaWire Pro solution is a configuration of 2x auto-rotating directional antennas (SeaWire RouDem) and a Below Deck Unit (BDU). When operating, one of the antennas will connect to the best performing operator tower while the other antenna will scan for new operator towers to connect too. While not in scan-mode, both antennas connect simultaneously and doubling the data speed and offering connection redundancy. The product is designed for professional use, however, because it is plug and play it is the perfect solution for the leisure market. The built-in WiFi router allows users to connect directly to the unit's hotspot.

The SeaWire RouDem's are designed for installation above deck on a Ø38mm pole. The BDU is a 19'' rack designed for powering and mounting below deck. The BDU has reserved ports for LAN connection and other communication systems.

The SeaWire Pro can be used as the primary internet connection on vessels covering crucial business data sharing, entertainment, and crew wellbeing.

HOW IT'S BUILD - SEAWIRE ROUDEM

The SeaWire RouDem is a multi-layered hardware design with unique technical and practical functions for optimal use at the limit of the mobile network coverage at sea. The SeaWire RouDem is built in four parts to ensure max performance in a demanding environment:

The mounting bracket with a pre-assembled waterproof cable gland and pinole screws for tightening on a Ø38mm pole.

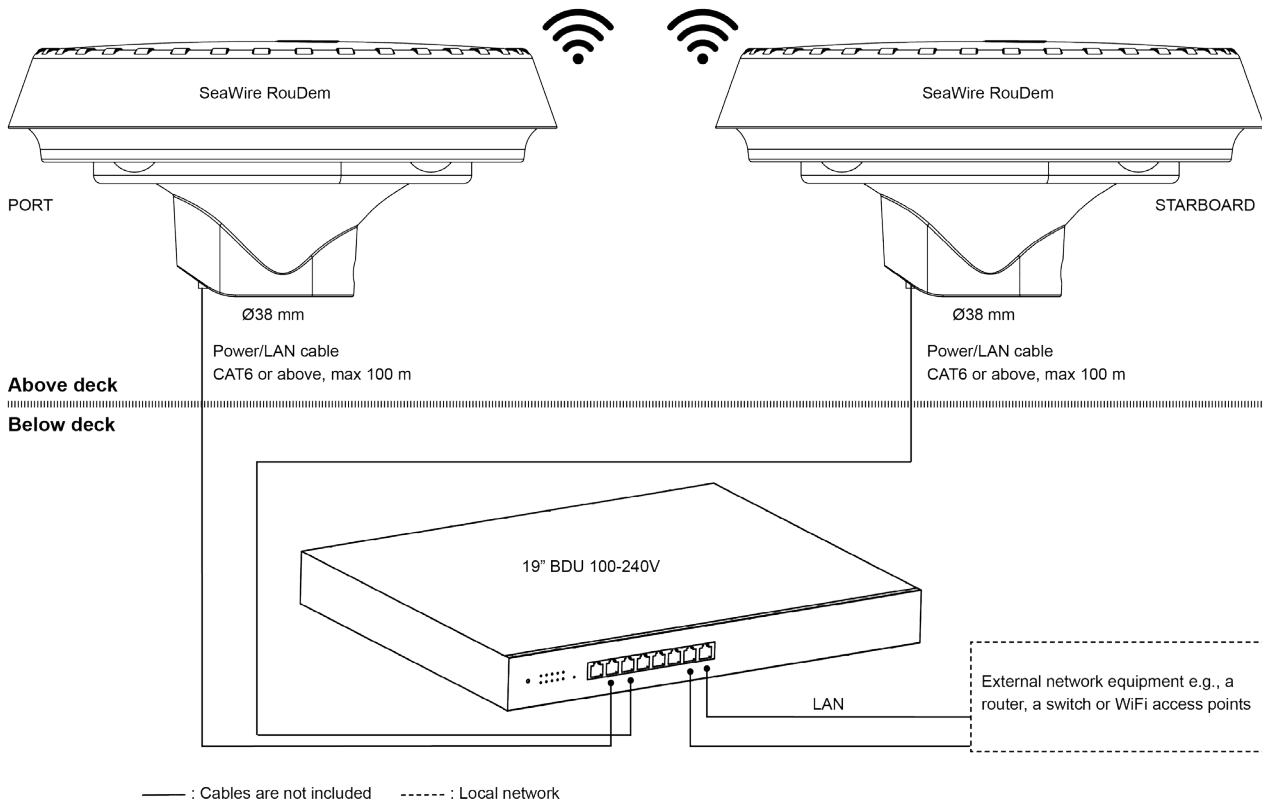The housing bottom with micro-SIM slot and ethernet input.

The rotating unit that points the directional antenna in the direction of the best operator tower and converts the mobile signal in the most optimal way via the integrated antenna and modem design.
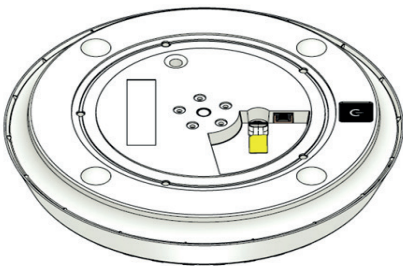
The top part consists of a inner housing and a top, to avoid overheating from the sun and secure resistant for all kinds of weather.

All hardware is embedded in an IPX6 hermetically closed case and all the internal components are industrial graded to withstand operational temperatures -20°C ~ 80°C.

SYSTEM CONFIGURATION

SeaWire RouDem

SeaWire RouDem

PORT

STARBOARD

Ø38 mm

Ø38 mm

Power/LAN cable
CAT6 or above, max 100 m

Power/LAN cable
CAT6 or above, max 100 m

Above deck

Below deck

19" BDU 100-240V

LAN

External network equipment e.g., a
router, a switch or WiFi access points

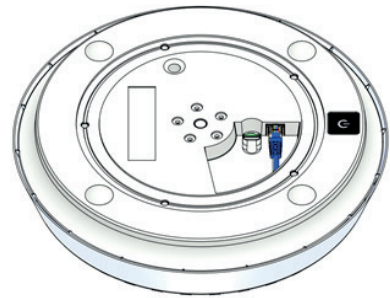——— : Cables are not included   ------ : Local network
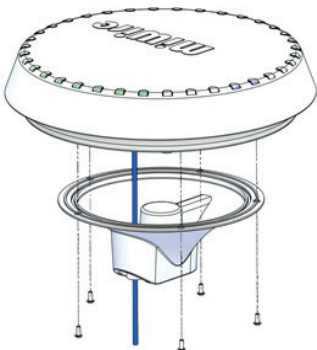
INSTALLATION IN SHORT

1. Insert the micro-SIM in the slot

2. Pass the cable through the cable gland
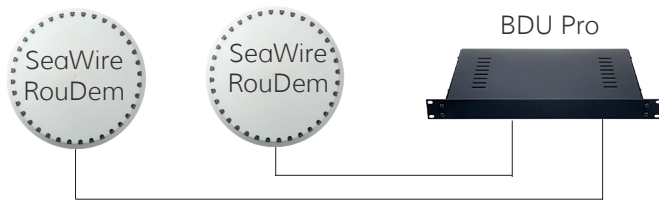
3. Insert the Ethernet cable in the RJ45 port

4. Affix the mounting bracket to the RouDem

5. Tighten the mounting bracket to a Ø38mm pole

6. Connect the ethernet cables from the RouDems to the PoE ports of the BDU
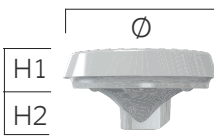
SeaWire
RouDem

SeaWire
RouDem

BDU Pro

Package content

2x SeaWire RouDem CAT6
2x Mounting Bracket
1x 19" BDU including Rack assembly items
1x BDU power cable
10x Screws M6x16mm

2x Keys (1x Unbraco 4, 1 x Torx 10)
1x Privacy Policy
1x User Guide
1x Registration Information

Specifications ADU (Above Deck Unit), SeaWire RouDem CAT6

Dimensions and weight

Diameter: Ø335mm	
Height without bracket (H1): 80mm	
Height with bracket (H2): 160mm	
Weight without bracket: 1,8 kg.	
Weight with bracket: 2,1 kg.	

Install on a Ø38mm /1,5 in pole in horizontal direction

Environmental Conditions

Temperature	Operational: -20°C ~ 80°C
	Storage: -40°C ~ 85°C
Robustness	0.5m/1.64 ft drop on concrete
Wateproof	IPX6

Modem variant for EMEA, Australia, Brazil Networks

4G-LTE	CAT 6, 2xCA, 2x2 MIMO, VoLTE
4G-LTE Max. Speed (x2)	FDD: Max 300Mbps (DL)/Max 50Mbps (UL)
	TDD: Max 226Mbps (DL)/Max 28Mbps (UL)
3G-WCDMA Max. Speed (x2)	DC-HSDPA: Max 42Mbps (DL)
	HSUPA: Max 5.76Mbps (UL)
4G-LTE Bands	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32
	LTE-TDD: B38/B40/B41
3G-WCDMA Bands	B1/B3/B5/B8
Output Power	Class 3 (23dBm±2dB) for LTE
User interfaces	Power button with LED, Multi color LED (direction of antenna), MiWire user interface in English

Antenna

Directional	3-10 dBi (800-2700 MHz)
Omni directional	3-4.5 dBi (800-2700 MHz)

Interfaces

1 x LAN interface

Connector type	RJ-45
Data Rate	10/100 Mbps
Max. Cable length	100m /328ft (min. Cat5 UTP)

1 x Micro SIM-Card slot

WLAN Access Point

Standard	802.11 b/g/n 2.4GHz, 2x2MIMO, Automatic Channel Selection, AP Hotspot
Frequencies	2400.0-2485.0 MHz
Max. Coverage outdoor	300m / 984ft
Max. Datarate	300Mbps

Battery

Battery type	Lithium ion, rechargable
Operational time	8 hours
Min. number of charges	300

Recharge time	4 hours 30 min
Charge temperature	11°C ~ 45°C

Power

Power type	Powered by BDU
Connector type	RJ-45

Specifications BDU Pro (Below Deck Unit)

Dimensions and weight

	Standard 19" rack
	Height: 44mm
	Length: 423mm
	Depth: 330mm
	Weight: 4.1 kg

Environmental Conditions

Temperature	Operational: 0°C ~ 50°C
Relative humidity	Max. 90%

AC/DC power supply

Input	100-240VAC, 47-63Hz, 50W
Connector type	IEC 60320 C14 Inlet

Interfaces

2 x ADU interface

Connector type	RJ-45
Data Rate	10/100/1000 Mbps

2 x LAN interface

Connector type	RJ-45
Data Rate	10/100/1000 Mbps
Max. Cable length	100m /328ft (min. Cat5 UTP)

Features

Load balancing	Build load balancer between ADU's
Controller	Managing ADU's

Other Features

Port Forwarding	DNAT Redirect and Virtual Server
Routing	Static/Dynamic
Data Logging	Signal strength, bytes sent and recieved, error messages, hardware info messages, speedtests
DHCP	Up to 50 users
Firewall	UNIX based firewall with iptables and rule configuration
Access Control	MAC Black/Whitelist, Password authentication
Cellular Toolkit	Data Usage, Signal Usage, SIM PIN, Network Scan, Network Discovery, status
Configuration & Management	Web, SSH, Seriel connection, SCP
System Operation	MMI, System Information, WiFi, Network, SIM, Compass & Map, Admin with firmware upgrade, Reboot & Get latest software
Diagnostic	Remote diagnostic tools

Certification

Approvals/Certifications	CE, FCC, RoHS
Standards & Regulation EMC	ETSI EN 301 489-17 V3.1.1 (2017-02), ETSI EN 301 489-1 V2.1.1 (2017-02), Draft ETSI EN 301 489-52 V1.1.0 (2016-11)
RF Exposure	EN 62311:2008
Safety	IEC/EN 62368-1:2014
Radio	ETSI EN 300 328 V2.1.1 (2016-11)