

User Guide SeaWire Pro



UserGuide_SeaWirePro_Rev.2.02

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This manual is applicable to the following solution/product:

Description	P/N	Region, Category, Network
SeaWire Pro CAT6	1x1315, 1x1320, 1x1337-2U-2POE/1337-2U-4POE	EMEA, CAT6, LTE-A
SeaWire Pro CAT4G	1x1357, 1x1358, 1x1337-2U-2POE/1337-2U-4POE	Global, CAT4, LTE

Record of revisions

Rev.	Description	Release Date	Initials
2.00	Adjusted to new BDU design	December, 2023	NF
2.01	Cable specifications specified, specifications updated	March, 2024	NF
2.2	Updated system configuration with WAN ports	December, 2024	NF

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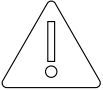
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Introduction

Thank you for purchasing SeaWire Pro. The SeaWire Pro makes it possible to extend the reach of mobile networks in coastal areas with an automatic directional turning antenna. The SeaWire Pro solution is a configuration of 2x automatic turning directional antennas (SeaWire RouDem) and a 19" Control Unit.

Safety information

Read, follow, and keep this instruction.

	WARNING - Product installation To ensure correct performance of this equipment, it is strongly recommended that professionals with expertise, properly trained, and likewise authorized within the industry is completing the installation.
	WARNING – Do not disassemble Do not disassemble or modify this equipment.
	WARNING – Input Power The input voltage range is 100-240 VDC.
	CAUTION – Contains li-ion batteries The product contains li-ion batteries. Must not be opened or be replaced by unauthorized buddies.

CONFORMS TO THE FOLLOWING EUROPEAN DIRECTIVES

RoHS 2 Directive 2011/65/EU

R&TTE Directive 1999/5/EC

Standards to which conformity is declared:

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)

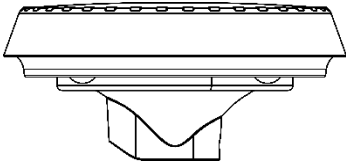
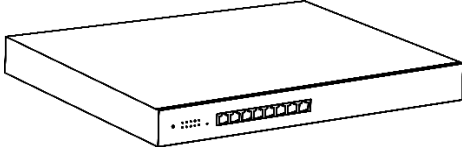
FCC declaration

This equipment has been tested and found to be compliant with the emissions limits for a Class B electronic device in accordance with FCC regulations, section 15.

Required information for the reader

IMPORTANT: Text marked 'Important' provides essential information to the reader and is key information to the user for the equipment to work properly. Damage to the equipment can occur if instructions are not followed.

Package Content

Name	Picture	Quantity
SeaWire RouDem 1x IP 192.168.2.1 1x IP 192.168.3.1		2
Mounting Bracket		2
19" BDU Pro including rack assembly items		1
BDU Power Cable 100-240V		1
Screws M4x16mm		10
Unbraco 4 Key		1
Torx 10 Key		1
Privacy Policy		1
User Guide		1
Registration Information		1

Requirements

- **Data subscription**

To receive data via the SeaWire Pro solution you must have a subscription with a data provider and a SIM card.

- **Cable(s)**

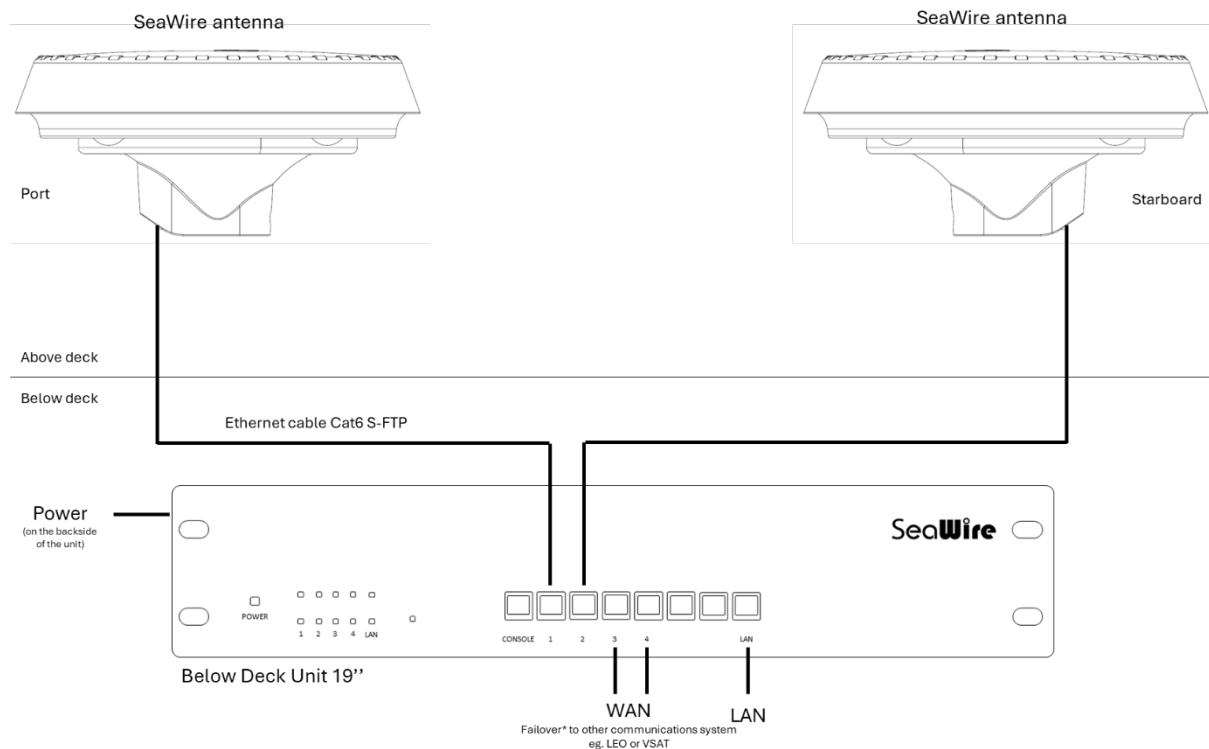
The package content **DOES NOT include cables for cable run installations**. To install SeaWire Pro one must follow these cable specifications when purchasing cables for installation:

Network cable type	S/FTP CAT6 or above, UV- and water resistant, double shielded, grounded
Connector 1	RJ45 (male), CAT6 or above FTP
Connector 2	RJ45 (male), CAT6 or above FTP
Length	The length of the cables depends on the location for installation. In the System Configuration section, you will find an overview of the set up. Max. length is 100m

- **Mounting**

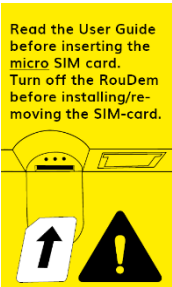
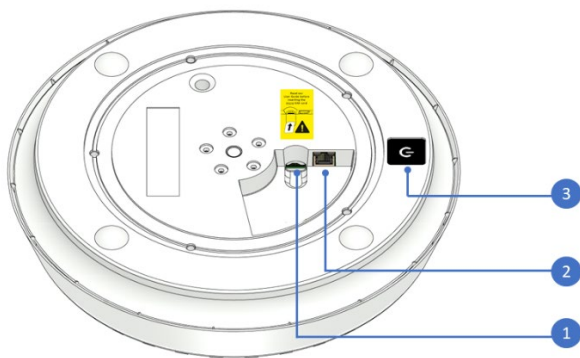
Depending on the vessel mounting accessories can vary. The mounting should take place at the highest spot possible and where possible with a good 360° view with the longest possible distance to other radiocommunication systems. The Mounting Bracket interfaces to a pole of Ø38mm/1.5" (outer diameter). Read more about the mounting in Installation of the SeaWire RouDem section, step 3.

System Configuration



Hardware Overview

PORTS SEAWIRE ROUDEM



IMPORTANT: Read Step 1 in the section 'Installation of the SeaWire RouDem'

1 SIM card slot
The slot is a Micro-SIM slot used for the SIM card from the data provider. The SIM card slot is a click system
2 Ethernet port
RJ45 cable port
3 On/off button
The On/Off button is a push button. Press 1x for on/off. The LED will flash for on and off

PORTS (BDU) BELOW DECK UNIT - FRONT PANEL



IMPORTANT: It is important that all SeaWire RouDems have different IP addresses. The SeaWire RouDem's comes with IP address 192.168.2.1 and 192.168.3.1. If you connect more than two SeaWire RouDems to the BDU please change the IP address to 192.168.4.1 and 192.168.5.1. See how to change the IP address in the section 'MiWire User Interface'.

Console port
RJ45 serial console port for Command Line Interface (CLI) management. Only use when you are advised to
Port 1, 2, 3, 4
RJ45 ports reserved for the antenna(s)
LAN port
The RJ45 port is for LAN connection

PORTS (BDU) BELOW DECK UNIT - BACK PANEL



Note: there are additional ventilation holes in the bottom.

LED's

SEAWIRE ROUDEM



Red: When the device is starting the LED will light red while it is calibrating the compass. The red light will remain on if there are errors for example if there is no data on the SIM card or APN is wrong.

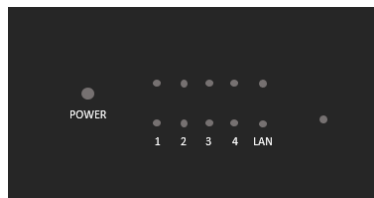


Blue: When the device is connected to the network the LED will light blue while it is turning around to scan for the best operator towers.



Green: When the device is ready for use the LED will light green. It indicates the direction of the operator tower it is connected to. It is possible to turn off the LED. See how in the section MiWire user interface > SIM > LED Settings

BELOW DECK UNIT (BDU)



Power	
State	Status
White	Ready for use, not connected to cloud
Blue	Ready for use, connected to cloud
Steady Blue with Occasional Flashing	Ready for use, unable to connect to cloud
1, 2, 3, 4, LAN (bottom row)	
State	Status
Off	No Link
Amber/amber flashing	Link established/activity at 10/100 Mbps
Green/green flashing	Link established/activity at 1 Gbps
Unnamed internal LED indication	
Green/green flashing	Link established/link activity at 1 Gbps

Note: 1, 2, 3, 4, LAN (upper row) will not light.

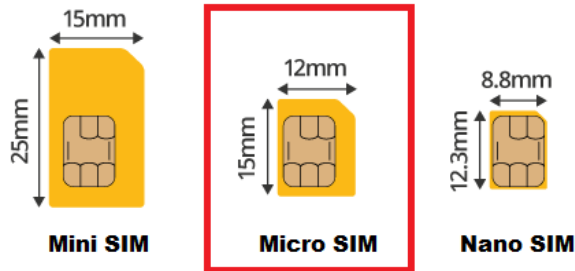
Installation of the SeaWire Pro

The SeaWire Pro solution is a configuration of 2x automatic turning directional antennas (SeaWire RouDem) and a Below Deck Unit (BDU). Repeat step 1-4 for each SeaWire RouDem.

STEP 1 – INSERTING THE MICRO-SIM CARD

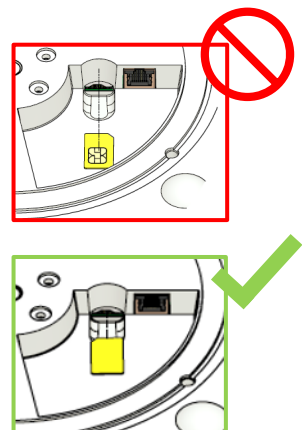
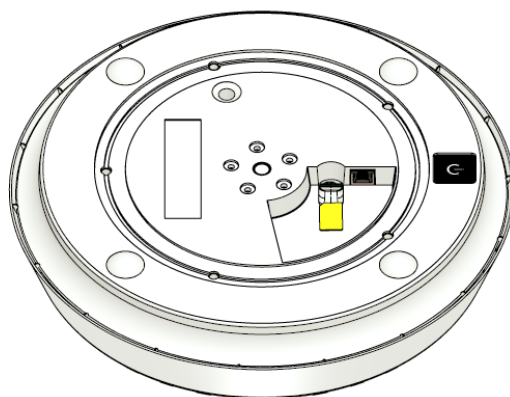
You find the SIM card slot at the bottom of the RouDem.

1. Carefully click out the SIM card in **Micro-SIM** format.



IMPORTANT: press on the top of the SIM card to make sure there is a smooth surface.

2. RouDem's SIM card slot is a click system. It is important that you do not use tweezers, pliers, or other tools to force the SIM card in/out. Use the click system to gently insert/remove the SIM card by using your fingers by clicking it into place and clicking it out. Any resistance other than the smooth pressure of the spring is a warning that something is not correct. When installing/removing the SIM-card the RouDem must be turned off.
 - a. **IMPORTANT:** Insert the SIM card with the angled corner facing the left and the gold area facing down. When it is placed correctly you will hear/sense a 'click'.



3. Check if the device is working with the purchased SIM card. Turn on the RouDem by pressing the on/off button and wait for the LED to light green. It takes a few minutes. If the LED remain red, please read the troubleshoot section.

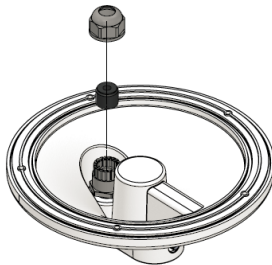
PLEASE NOTE that when removing/inserting a new SIM card it is important to reboot the unit.

STEP 2 – PREPARING MOUNTING BRACKET AND CONNECTING THE ETHERNET CABLE

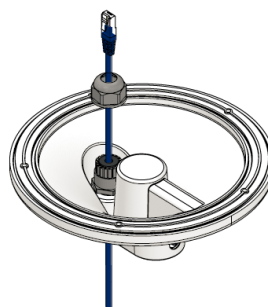
IMPORTANT: It is required to mount the mounting bracket to avoid humidity and dirt entering the RouDem.

1. Pass the cable through the cable gland.
 - a. Unscrew the sealing nut and use a small tool such as an Allen key or a pen to get the seal out.
 - b. Pass the cable through the body and the sealing nut, mount the seal on the cable and place the seal back into the claw.
 - c. Screw on the sealing nut and make sure it is tightened very tight.
2. Connect the Ethernet cable to the Ethernet port in the RouDem.
3. Affix the mounting bracket to the RouDem with the five screws using the supplied Torx 10 Key. **IMPORTANT:** it is important that the mounting bracket is secured with all five screws to maintain waterproofness.
4. Tighten the mounting bracket to a pole of Ø38mm/1.5" pole by tightening the two pinole screws with the supplied Unbraco 4 Key. It is not possible to state which torque the pinole screws should be tightened with, as it depends on the material.

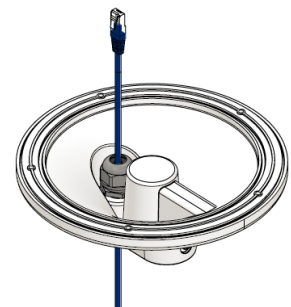
1 a



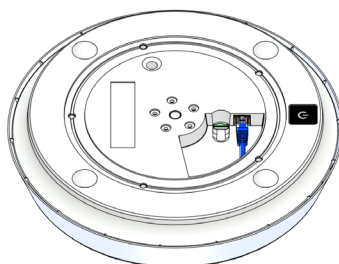
1 b



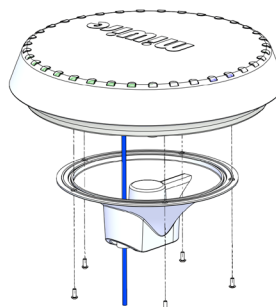
1 c



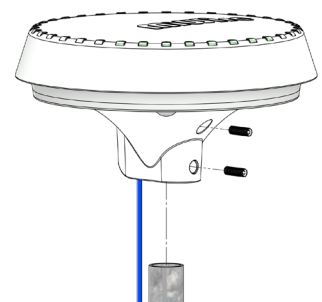
2



3



4



STEP 3 – INSTALLING THE SEAWIRE PRO

Before installing each SeaWire RouDem permanently you should determine the suitability of the location for installing.

! IMPORTANT INSTRUCTION !

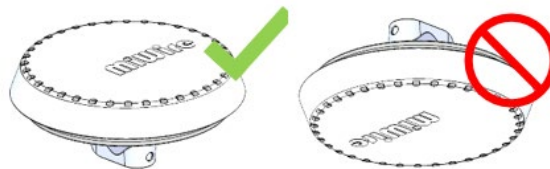
Before permanent installation please check compass interference via the user interface. Read more about how to access the user interface on p. 13 in the user guide.

1. In the browsers' URL line type the IP address (192.168.X.1*) of the RouDem and press enter.
2. Sign in with username 'admin' and password '1234'.
3. Go to the menu tab 'Compass & Map'.
4. Click on 'Calibrate'.
5. The task takes approx. 2 min. The value must be above 80. If the value is below 80, please reconsider placement and repeat the process. Please also read the installation considerations below.
6. Repeat this instruction for each antenna.

*Please see the specific IP address of the RouDem. It is stated on the label if it has not been manually changed.

Installation considerations:

- Install the SeaWire RouDem above deck at the highest spot possible on a pole, a mast, or another appropriate platform with opportunity to accommodate a pole of Ø38mm/1.5".
- Place the RouDem with the best 360° view possible. It is rarely possible to place the RouDem where a completely clear view in all directions is available, but as good as possible to obtain the best performance.
- The RouDem should always be installed in a horizontal position and upright.



- Where possible install the RouDem away from radiocommunications antennas, radiotelephone equipment, radars, satellite, VHF's and GPS antennas to prevent electrical noise and interference.
- Install one RouDem in the port side and the other RouDem in the starboard side on the vessel to make up for blind spots.

STEP 4 – CABLE WIRING

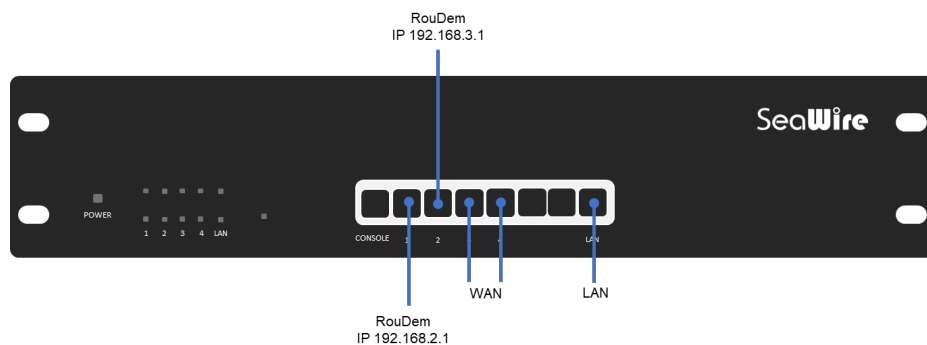
Cable wiring considerations:

- Where possible avoid routing the cables near other electrical equipment and cables.
- If possible, all cable routing must be done in a cable duct.
- Do not apply any load to the connectors.
- Cable specification:

Network cable type	S/FTP CAT6 or above, UV- and water resistant, double shielded, grounded
Connector 1	RJ45 (male), CAT6 or above FTP
Connector 2	RJ45 (male), CAT6 or above FTP
Length	The length of the cables depends on the location for installment. In the System Configuration section, you will find an overview of the set up. Max. length is 100m.

STEP 5 – POWERING THE ROUDEMS

1. Install the BDU in a 19" rack cabinet, plug in the power cable and power with 100-240VDC.
2. Connect the ethernet cables from the RouDems to the dedicated ports in the BDU. If not the RouDems are already turned on or turn on automatically as they are powered, turn the RouDems on by pressing the on/off button in the bottom of the RouDem. If you do not have access to the on/off button, please read the restart/reboot part in the troubleshoot section.



3. Optional: connect to local LAN/network equipment via the LAN port in the BDU.

Battery feature:

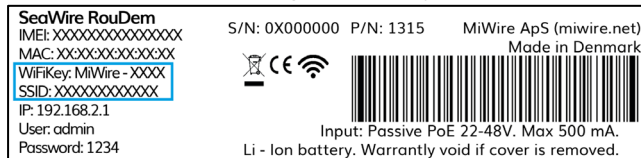
In case of power outage, RouDem is battery powered. Full charging takes 4h 30min after which it can operate for at least 8 hours on battery power. Note: the device will not charge at temperatures below 10°C and above 45°C.

STEP 6 – CONFIGURATION OF INTERNET VIA SEAWIRE ROUDEM

Connect directly via RouDem's WiFi and/or connect with a PC or external network equipment.

WiFi

1. Select WiFi settings on a compatible device e.g., a computer, a smartphone, or tablet. The device will automatically search for available WiFi networks (make sure WiFi is on).
2. Choose the WiFi network with the name containing *MiWire*. The SSID (network name) and WiFi key. Find the information on the unit label, which is found under the RouDem, on the box or on the registration flyer.



PC and External network equipment

1. Connect the BDU to a PC or external network equipment e.g., a router, a switch or WiFi access points by using the LAN port.

STEP 7 – REGISTRATION

This step must be performed by the end-user of the product. When registering the RouDem you can receive the best service and support. Follow the instruction on the registration flyer.

MiWire user interface

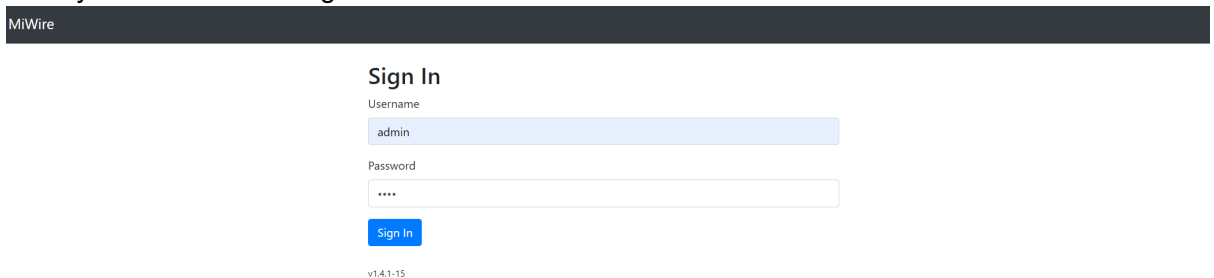
After installation of the SeaWire Pro solution has been performed, the system is fully operational. In this section there will be a description of system settings which are configurable from the Web Server/MiWire user interface.

MiWire user interface presents an overall status of the RouDem and allow the user to configure WiFi and network related settings, get an overview SIM card information and perform device commands. You can only access the user interface if you are connected to a MiWire related network either by WiFi or cable.

1. Open MiWire user interface by entering 192.168.2.1 or 192.168.3.1 in a web browser. There is a web server for each RouDem. The user interface is optimized for Google Chrome.



2. Log in with Username: admin & Password: 1234 (**IMPORTANT:** for optimum security, we recommend changing the password). The system will always be delivered from the factory with this default log in.



3. The menu bar in the top of the page consists of six tabs: *Status*, *WiFi*, *Network*, *SIM*, *Compass & Map* and *Admin*. We do not recommend changing the settings if you are not familiar with the configurations parameters or have been trained or consulted with an expert. In the following each tab will be explained. Settings noted with default and marked with bold are factory settings.

Status

The status page presents an overall status of the RouDem. The lamps in the left side can light red, yellow, and green (see the Troubleshoot section if some of the lamps are red). The right side shows unique information for the specific RouDem.

IMPORTANT: If there is no WAN IP Address shown it is most likely because the APN settings are incorrect. Go to the Network tab and set the correct APN settings according to the current operator. The information can usually be found by looking up the MCC and MNC at the internet. Read more about setting the APN in the Network tab, 'MyDefinedAPN'.

MiWire
Status
WiFi
Network
SIM
Compass & Map
Admin
Logout

Status 14.10.2021 11:04:12

Overall Status

WiFi

MiWire-8033

Network

TELMORE FDD LTE

SIM

89450130190801353437

GPS

Lat: 55.78235 Long: 12.51369 10 satellites

Battery

Level 100% charged

Pointing

47°: From scan

Serial Number

211003001494

IMEI

868759030598033

Device Name

MiWire-8033

Hardware Version

2.2.2

Modem Version

EG06ELAR04A03M4G

Software Version

1.4.1-15

Temperature

28°C

Uptime

10 min

Local Time

Thu Oct 14 09:04:11 UTC 2021

WAN IP Address

10.132.246.21

Status

Modem Connected

Build Date

2021-09-20 12:21

WiFi

WiFi

WLAN Basic

WiFi Radio

On Off

SSID

MiWire-8033

Encryption

WPA2

Password

Repeat Password

Save

Password length must be between 8 and 63 characters.

Any changes to these settings will cause the WiFi connection to be lost. You will have to sign in again after reconnecting to the WiFi network.

DHCP

Start IP Address

10

Address Limit

100

IP Range

192.168.2.10-110

Save

DHCP Client List

00:E0:4C:68:00:8E

192.168.2.24

There are no blacklisted DHCP clients.

Ethernet

IPv4 Address

192.168.2.1

IPv4 Netmask

255.255.255.0

Save

WLAN Advanced

Channel

auto

Save

WLAN basic

WiFi Radio	Turn WiFi ON (default) /OFF
SSID	Change SSID/WiFi name
Encryption	WPA2 (default) WPA None
Password/repeat password	Change WiFi password

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Ethernet	
IPv4 Address	Change of IP address. 192.168.2.1 (default)
IPv4 Netmask	Change of netmask. 255.255.255.0 (default)
DHCP	
Start IP Address	10 (default)
Address Limit	100 (default)
IP Range	Result of values in Start IP Address and Address Limit
DHCP Client List	List of registered clients. It is possible to block clients from the list
WLAN Advanced	
Channel	Change of WiFi channel. Select Auto (default) or between 1-11.

Network

Mobile Network

Network Operator

Scan Mode

4G-LTE Only ▾

i Changing scanning mode requires a device reboot.

Type and Band

LTE BAND 3

Roaming

On Off

APN List

internet ▾

Network APN

internet

APN Username

Enter APN username

APN Password

Enter APN password

APN Authentication

None ▾

Save

Experimental

Start Scan

i This will scan for the best available signal and speed for the currently selected Scan Mode. Selecting **Network Discovery** will perform a complete scan on all bands.

Please note that scanning with Network Discovery can take up to 3 hours and use up to 1 GB of data, depending on the number of cells in the area.

Force APN

On Off

i This setting should be Off unless otherwise instructed.

Network operator													
Scan mode	Select between: 4G-LTE Only LTW-HS (High Speed) LTE-800 LTE-1800 LTE-2100 LTE-2600 Auto 4G/3G (default) 3G WCDMA Only Network Discovery												
Roaming	Turn Roaming ON (default) /OFF												
APN List	Select between: Internet (default) MyDefinedAPN												
Network APN	If you change the setting in the APN List to MyDefinedAPN you can enter the APN Network												
APN Username	If you change the setting in the APN List to MyDefinedAPN you can enter the APN Username												
APN Password	If you change the setting in the APN List to MyDefinedAPN you can enter the APN Password												
APN Authentication	If you change the setting in the APN List to MyDefinedAPN you can change the APN Authentication to: None PAP CHAP Both												
Force APN	Turn Force APN ON/OFF (default)												
Serving Cell	Showing serving cell information Serving Cell <table> <tr> <td>Cell Identity</td><td>D33846</td></tr> <tr> <td>Tracking Area Code</td><td>854</td></tr> <tr> <td>Physical Cell ID</td><td>309</td></tr> <tr> <td>Cell Signal Strength</td><td>-103</td></tr> <tr> <td>MCC</td><td>238</td></tr> <tr> <td>MNC</td><td>01</td></tr> </table>	Cell Identity	D33846	Tracking Area Code	854	Physical Cell ID	309	Cell Signal Strength	-103	MCC	238	MNC	01
Cell Identity	D33846												
Tracking Area Code	854												
Physical Cell ID	309												
Cell Signal Strength	-103												
MCC	238												
MNC	01												
Data Traffic	Showing data consumption for specific periods Data Traffic (Timestamp is UTC-1) wlan0 2021-10-08 10:55 today rx 43.16 KiB tx 29.13 KiB = 72.29 KiB 15 bit/s all time rx 83.13 KiB tx 48.89 KiB = 132.01 KiB since 2021-03-23 2021-10 rx 43.16 KiB tx 29.13 KiB = 72.29 KiB 0 bit/s 2021-03 rx 39.97 KiB tx 19.75 KiB = 59.73 KiB 0 bit/s rx tx												

SIM

SIM Card

Status

ICCID89450130190801353437

IMSI238013814829520

PIN Attempts3

PUK Attempts10

Enable / Disable PIN Protection

PIN

EnabledDisabled

PIN Code

Save

LED Settings

Brightness

255

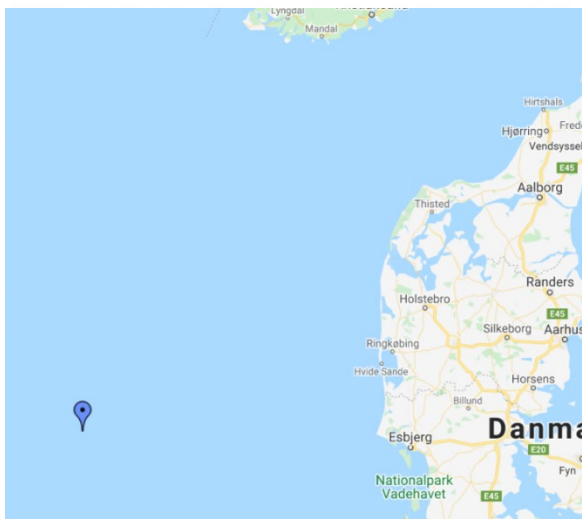
Save

Select a value between 0 (min) and 255 (max) to define the brightness of the external LED

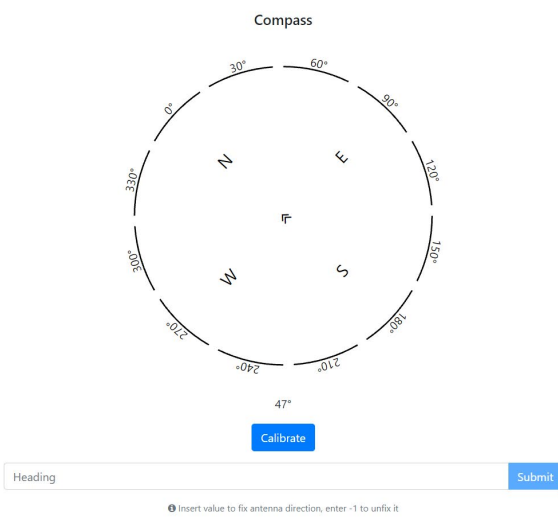
Status	ICCID (Integrated Circuit Card ID) IMSI (International Mobile Subscriber Identity) PIN Attempts PUK Attempts
Enable / Disable PIN Protection	
PIN	Enable or disable PIN. Disabled (default) . For your convenience, we recommend disabling the PIN, as you will otherwise need to enter the PIN every time the device is rebooted or updated.
PIN Code	Enter PIN code in this filed if it is required and press save
Change PIN Code	When enabling PIN code, you get an opportunity to change the PIN code.
LED Settings	
Brightness	Select a value between 0 (off) and 255 (max) to define the brightness of the external LED

Compass & Map

Map and Compass



Compass



Heading

Submit

Select value to fix antenna direction, enter -1 to unfix it

Map	Shows the GPS position of the SeaWire RouDem
Compass	Shows the direction the antenna is pointing. Calibrate the antenna if needed

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Heading	Enter value to fix antenna direction*, enter -1 to unfix it. Depending on the software version the heading will be reset if you reboot the device. *Not recommended for SeaWire.
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Admin

Administrator

Change Password

New Password

Enter new password

Repeat Password

Repeat new password

Change Password

Upgrade System

New Firmware

Browse

Flash Device

You will lose connection to the device once the flashing process starts.

Device Commands

Reboot

You will lose connection to the device if you reboot.

Shutdown

You will lose connection to the device if you shut it down. Power on the device manually when ready to start, by pressing the button under the device, or by removing and re-inserting the cable.

Reset to factory settings

This will reset the RouDem to its factory settings.

Get latest software

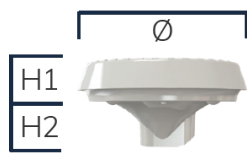
Check for new firmware. If a new firmware version is available then the unit will upgrade and you will lose connection to the device.

Speedtest

Speedtest

Change Password	
New Password/Repeat Password	Change password for MiWire user interface.
Upgrade System	Upload new SW directly.
Device commands	
Reboot	You will lose connection to the device during reboot. It takes a few minutes for the device to reboot.
Shutdown	You will lose connection to the device if you shut it down. Power on the device manually, by pressing the button under the device, or by removing and re-inserting the cable in the PoE adapter three times.
Reset to factory settings	This will reset the RouDem to its factory settings.
Get latest software	Check for new firmware. If a new firmware version is available, then the unit will upgrade, and you will lose connection to the device.
Speed test	Run a speed test directly on the antenna

Specifications

SeaWire RouDem CAT6	
Dimensions	Ø335mm x (H1)80mm/(H2)160mm 
Weight	1.8 kg
with mounting bracket	2.1 kg
Networking Interface	10/100 Mbps
Button	On/off
Power Method	Passive POE 22-48V, Max 0.5A
Environmental conditions	
Degree of protection	IPX6
Temperature operational	-20°C ~ 80°C
Temperature storage	-40°C ~ 85°C
Modem	
4G-LTE	CAT 6, 2xCA, 2x2 MIMO, VoLTE
4G-LTE Max. Speed	FDD: Max 300Mbps (DL)/Max 50Mbps (UL) TDD: Max 226Mbps (DL)/Max 28Mbps (UL)
3G-WCDMA Max. Speed	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
Antenna	
Directional	3-10 dBi (800-2700 MHz)
Omnidirectional	3-4.5 dBi (800-2700 MHz)
WiFi Standards	802.11 b/g/n, 2.4GHz
Max. Coverage outdoors	300m/984ft
Max. Datarate	300 Mbps
Interfaces	1 x LAN interface RJ45, 1 x Micro-SIM slot

19" BDU Pro	
Dimensions	H340mm x L803mm x D340mm
Weight	4.1 kg
Power Method	100-240VAC, 47-63Hz, 50W IEC 60320 C14 Inlet
Environmental conditions	
Temperature operational	0°C ~ +50°C
Relative humidity	Max. 90%
Interfaces	2/4 x WAN interface RJ45 1 x LAN interface RJ45 1 x Console (support)
Features	Load balancing, monitoring

FAQ/Troubleshoot

The LED light on the RouDem is Red	• Check whether you must enter the PIN code. Go to MiWire user interface and see if the message on the status page in front of SIM says to enter the pin code. If so, go to the SIM page and enable the PIN code. • Check whether there are problems with the data subscription. Contact your provider if the problem persists.
Troubles accessing the MiWire user interface	• Make sure your computer is connected to the RouDem via a cable (Ethernet) or WiFi. • Make sure your computer is configured to automatically retrieve an IP address and DNS server address. • Restart your browser or try using a different browser. • If possible, try using another device.
Restart/reboot device	• If the RouDem is easily accessible: press the on/off button: Turn it off and wait until the LED in the on/off button stops flashing. Then turn it on again. • If the RouDem is installed so that you cannot reach the on/off button: reboot the RouDem via the MiWire user interface (192.168.2.1 or 192.168.3.1) by pressing Reboot on the Admin page. Connect to the user interface with WiFi or via a cable from the PoE adapter to a PC. If this does not work, then take the RouDem cable out of the PoE adapter and then put it back in again. Repeat twice and then check whether there is still light in the on/off button. The button will flash a couple of times and then turn off. Repeat if necessary. Next, take the RouDem cable out and put it back in the PoE adapter again, after which the device will turn on automatically.
Why does the status lamp on MiWire user interface light red?	Check whether the GPS indicator on the Status page is green. • If not, this is because the RouDem has not located enough satellites and the device must be moved outdoors so that it has a clear line of sight to the sky. Check whether the Mobile Network indicator is green. • If the indicator is yellow, this is because RouDem is not connected to a mobile

	network. This can be resolved by moving the device outdoors and up so that it has a clear line of sight through 360 degrees. • If the indicator is red, this is because there are problems with the data subscription. Contact your provider if the problem persists. Check whether the SIM card indicator is green. • If not, this may be because the SIM card is not seated correctly. Try removing the SIM card and putting it back again. <u>GENTLY!</u>
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Service & Repair

If the product for some reason does not work as described or is broken, contact your dealer or distributor. Your dealer/distributor will have experience and will assist with further technical support and troubleshooting.

Before contacting your dealer/distributor, please identify the product. Find the serial number and IMEI number on the unit label, which is found under the RouDem, on the box or on the registration flyer. Alternatively log on MiWire user interface and read out the serial number or IMEI number.

If the RouDem is offline it is a great help for the support if a TeamViewer session can be established through a PC and another internet connection with a cable from the PC to the BDU.

The product does not require any scheduled maintenance or service. Once a month the product checks for new software. If a new software version is available, then the unit will upgrade. You can also check for new software manually on the MiWire user interface.