DIGITAL YACHT

NAVLINK BLUE
NMEA2000 SERVER

Installation and instruction Manual

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Version 1.01

1. Introduction

Congratulations on the purchase of your NAVLink Blue Wireless NMEA 2000 Server. This product uses low energy wireless technology to send NMEA 2000 data to compatible products.

It is recommended that your product is installed by a professional installer, particularly when it comes to interfacing with other equipment.

Before installing and operating this unit, please consult the user manual of the navigation equipment that you are connecting this unit to.

2. Before you start

You will need the following items and tools to complete the installation:

- The NAVLink Blue Server (supplied)
- Spare/suitable connection to the NMEA2000 network
- M3 or M4 screws or other appropriate fixings (not supplied).

To receive/display Wireless data from the NAVLink Blue you will need:

- An iOS device that has the popular NMEARemote instrument App installed.
- A fully working and powered NMEA 2000 network.

3. Installation

The NAVLink Blue is IP54 rated (water resistant) and should be installed below deck in a dry location. When locating the unit you should consider:

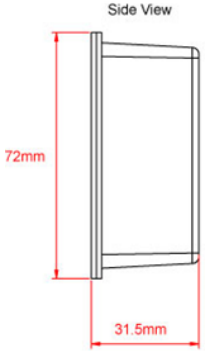
- Routing of the NMEA 2000 cable to the network.
- Sufficient space around the unit for cable connections.
- Maintaining the compass safe distance of 0.5m.
- Best location for Wireless reception i.e. not inside a metal enclosure

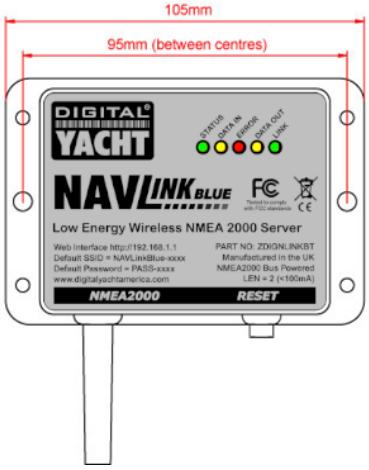
3.1 – Connecting to NMEA 2000 Network

- Connect the NAVLink Blue cable, to a spare connector on the NMEA2000 network.
- NAVLink Blue takes its power (LEN=2) from the NMEA2000 network so no additional connections are necessary.
- If you are creating a new NMEA2000 network, then you may wish to consider Digital Yacht's NMEA2000 Starter Kit, that provides all of the cables, connectors and terminators required for a basic NMEA2000 network.
- If you are connecting NAVLink Blue to a non-standard NMEA2000 network, then a suitable adaptor cable will need to be sourced from the relevant manufacturer;
  - SeaTalkNG (Raymarine P/No A06045)
  - Simnet (Simrad P/No 24006199)

3.2 – Mounting

- Using suitable fixings, attach the NAVLink Blue unit to a flat surface.
- Unit may be installed in any orientation.





3.3 – Powering NAVLink Blue

- Apply power to the NMEA 2000 network and the NAVLink Blue the LEDs should start to illuminate or flash, as per Table 1…

Condition	STATUS LED (Green)	DATA IN LED (Yellow)	ERROR LED (Red)	DATA OUT LED (Yellow)	LINK LED (Green)
ON (Solid)	Wi-Fi Connected		System Error		Wireless Connected
Flashing	Wi-Fi Not Connected	Data Received	Data Error	Data Transmitted	Wireless Not Connected
OFF		No Data From N2K	All OK	No Data To N2K	

Table 1

- By default the NAVLink Blue powers up in Bluetooth mode and should be auto-discoverable by NMEARemote as long as your iOS device has Bluetooth turned ON.
- For most users this is all that you will need to do, but to help with NMEA 2000 networking issues, we have included an integral web interface which features some useful NMEA 2000 Tools. To access this web interface, you will need to enable the Wireless Network Mode as detailed in Section 3.4

3.4 – Enabling Wireless Network and Accessing the Web Interface

- By default, NAVLink Blue operates in Bluetooth mode but if you press and hold the Reset Switch on the bottom edge of the unit for > 4 seconds (until all of the LEDs have illuminated) NAVLink Blue will reboot and create a wireless Access Point (hotspot) on-board your boat. The Name (SSID) of the Access Point will be "**NAVLinkBlue-xxxx**" where xxxx is the unique four digit code of your device.
- To connect to the NAVLink Blue you will need to scan for wireless networks, find and select it in the network list and then when prompted, enter the default WPA2 password, which is "**PASS-xxxx**", where xxxx is the same, unique four digit code that is in the hotspot name.

- Any device, connected to NAVLink Blue, can access its web interface by typing http://192.168.1.1 or http://NAVLinkBlue.local into its browser's address bar.
- This will display the Home page shown in Figure 1, from which you can go to the NMEA 2000 Devices and PGNs pages and Settings page.

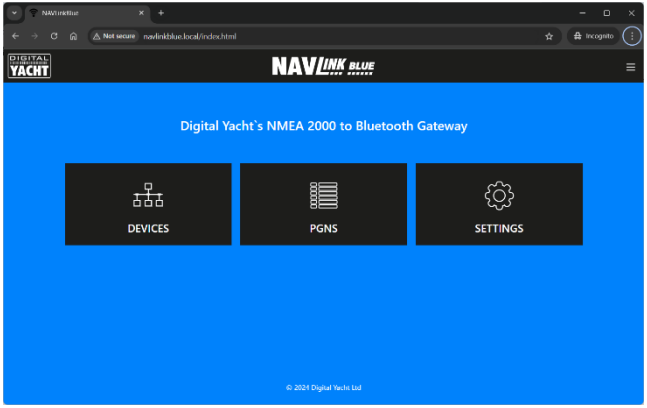


Figure 1

3.5 – NMEA 2000 DEVICES Page

- When first installing an NMEA 2000 network or fault finding data issues, it is very useful to be able to check what Devices are on the NMEA 2000, view what data (PGNs) they are outputting and to check their Product and Configuration information – all of this is possible from the DEVICES page.
- Each Device is listed (see Fig 2) along with its Network Address (0-252), Manufacturer, CAN Name, Device Instance and Class and Function codes. In addition a "Green Heart" icon is shown to display if a device is working correctly and outputting data.
- If you click on the Green Heart icon, a new pop-up window will appear with a list of all the PGNs that the device is transmitting and the approximate update rate in milli-seconds.

- If the device is outputting wrong/bad data or duplicated data, then you can instruct the NAVLink Blue to black list the device by clicking on the switch in the top left corner.

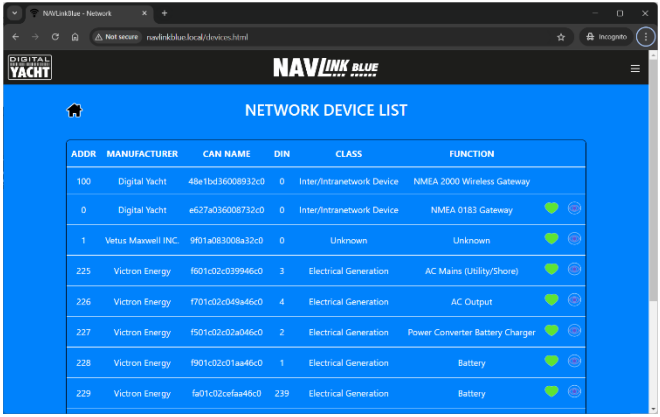


Figure 2

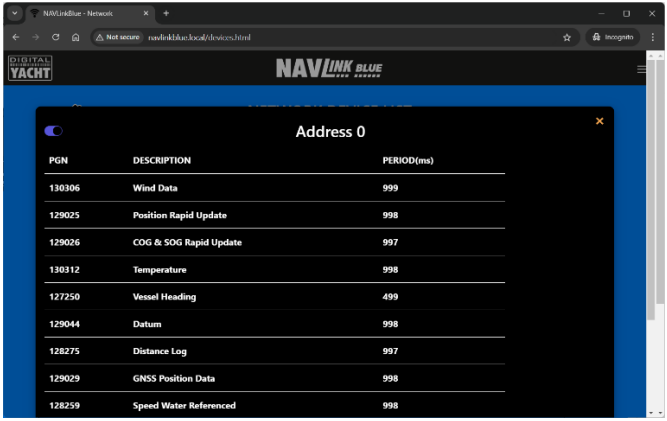


Figure 3

- To query the Product or Configuration Info of an NMEA 2000 Device, click on its “Eye” icon – to the right of the Green Heart icon. A pop-up window will appear showing the Product Info (Fig 4) or if you click the Config Info tab, the Configuration Info (Fig 5)

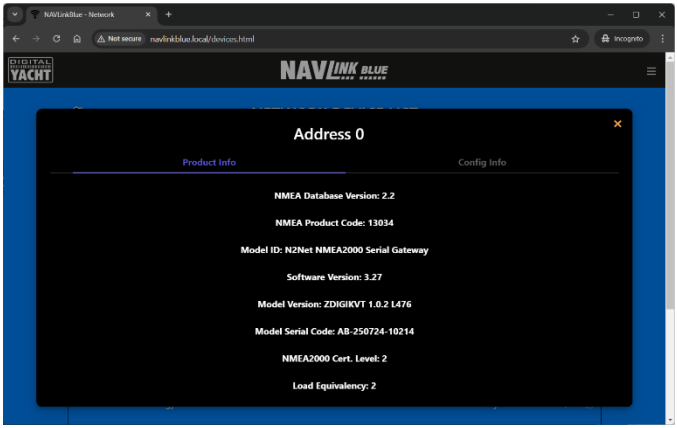


Figure 4

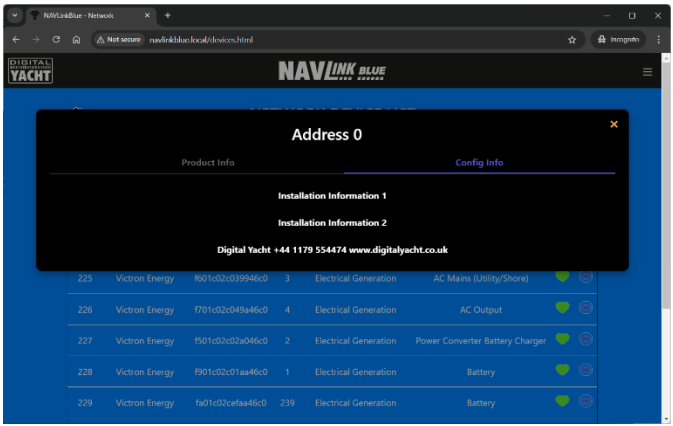


Figure 5

3.6 – NMEA 2000 PGNs Page

- If you wish to dig even deeper in to the NMEA 2000 data on the network, from the web interface Home Page, click on the PGNs page and a list of PGNs being received will be displayed – see Fig 6.

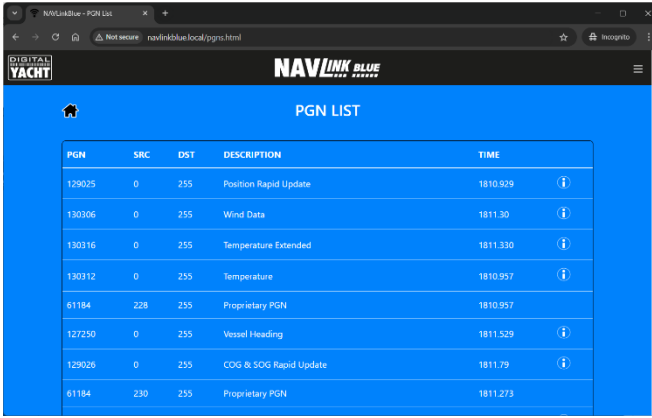


Figure 6

- Each PGN is listed with its PGN Number, Source Address of the Device that sent it, Destination Address of the Device it was sent to (255 = All Devices), the PGN Description and the relative time it was received since power up.
- If you wish to see the PGN's data values, click on the "Info" icon at the end of the PGN line and a new pop-up window will appear as seen in Fig 7.
- This pop-up window shows the values of each of the fields in the PGN and the values will update in real time as the data changes.
- By default the PGNs are listed in time order and the time value shown is the time in seconds, since the NAVLink Blue was turned ON.
- Each of the columns can be sorted in alphanumeric order, just click on the column name at the top of the list and you can sort by PGN number, Source Address, Destination Address of Description.
- A Bluetooth data connection is limited in bandwidth, compared to WiFi or wired Ethernet, and NAVLink Blue can filter particular groups of PGNs, to reduce the amount of data that it transmits – see section 3.7

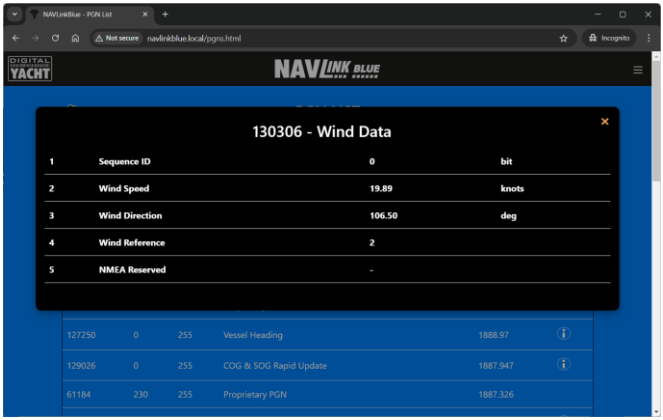


Figure 7

3.7 – SETTINGS Page

- To access the NAVLink Blue settings click on the SETTINGS button on the Home page and the page in Fig 8 will appear. NOTE – If you wish to use Ruuvi Sensors, please refer to the NAVLink Blue Ruuvi user manual.

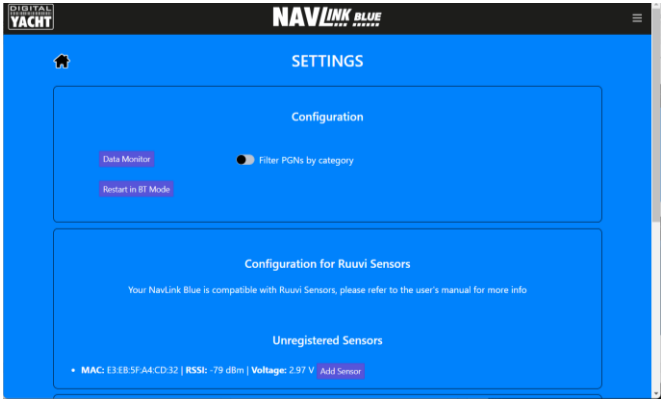


Figure 8

- If you are using NAVLink Blue to send Bluetooth data to an App like NMEA Remote, then the default settings will in most cases be fine. However, there are some configuration settings that may be required for other applications.
- If you have a very large NMEA 2000 network, which has a lot of data on it that is not supported or required by the App you are using, then you can filter out particular categories of PGNs to reduce the amount of data being sent to the App. Click on the “Filter PGNs by category” switch and a series of six categories will appear, each with a switch next to them.

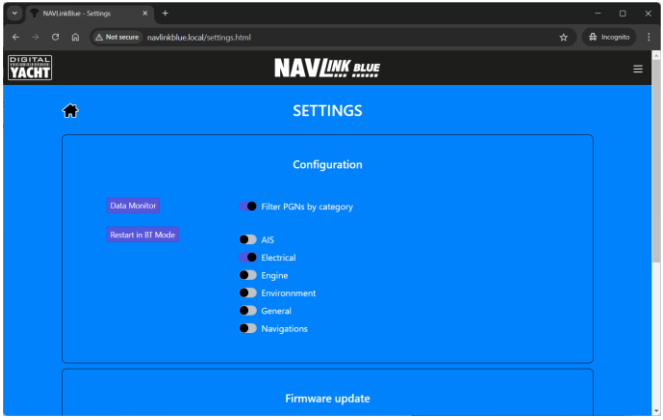


Figure 9

- In the image above, only the Electrical category of PGNs will be transmitted to the App, all other PGNs will be filtered out.
- For diagnostics purposes, it is possible to view and log all of the PGN data on the NMEA 2000 network. Click on the DATA MONITOR button and the window in Fig 10 will appear.
- You will now see all of the RAW NMEA 2000 PGN data scrolling down the page, where each line is one PGN.
- To log this data, scroll to the bottom of the page and click the START LOG button. Wait for a suitable period of time, you really want a good 5-10 minutes of data for a good log file and then click the STOP LOG button.
- To download the log file, click the SAVE LOG button and choose a suitable file location on your mobile device or email to support@digitalyacht.co.uk

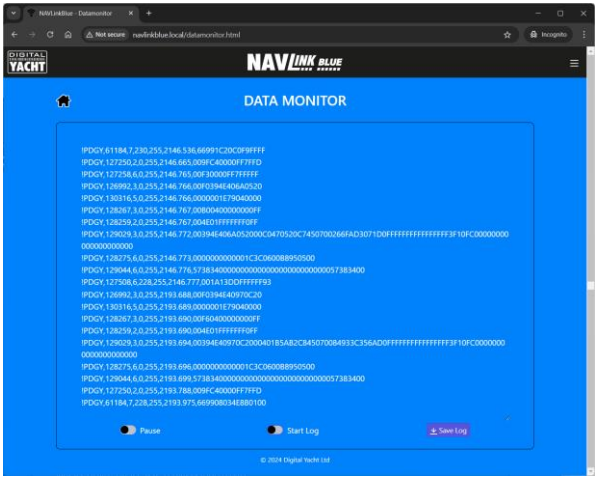


Figure 10

- Also on the Settings page you can check what firmware version the NAVLink Blue has and update the firmware if required.

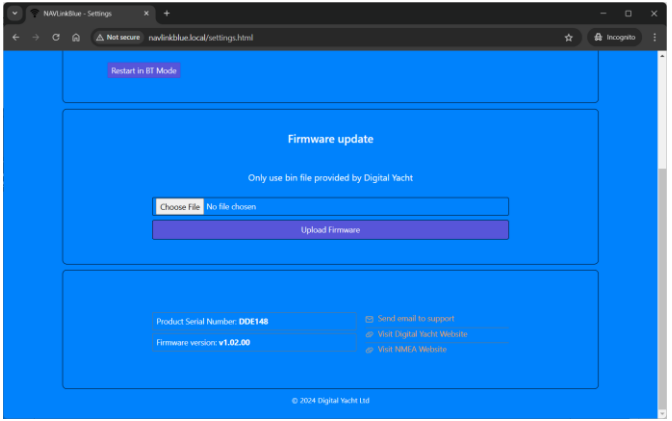


Figure 11