PILOTLINK2 CLASS A AIS WIRELESS INTERFACE

Installation and instruction Manual

1. Introduction

Congratulations on the purchase of your PilotLink2 Class A AIS Wireless Interface. This product replaces our original PilotLink product and features a PilotLink2 web interface that can be displayed and configured using the web browser on your mobile device.

PilotLink2 is designed to be easy to install, so that Pilots can quickly take it from vessel to vessel, just plugging in to the ship's Class A Transponder and powering it from a USB socket or power pack.

Alternatively, Pilotlink2 can be permanently installed and left connected to the Class A transponder and USB power socket.

> ⓘ **Before installing and operating this unit you should 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 to complete the install:

- The PilotLink2 Wireless NMEA Server (supplied).
- A powered USB Type A socket or USB power pack, to provide power to the PilotLink2.
- M3 or M4 screws or other fixings appropriate to the mounting location, if you are permanently installing the unit (not supplied).
- Suitable navigation software running on a PC, iPhone/iPad, Mac or other wireless device.
- A Class A AIS Transponder with an IMO Pilot Plug Socket.

3. Installation

The PilotLink2 is IP54 rated (water resistant) and should only be used/installed in a dry location. Before installing, please consider:

- Routing of the Pilot Plug cable to the Class A transponder.
- A suitable USB power source – USB cannot be extended beyond 5m.
- Maintaining the compass safe distance of 0.5m.
- Best location for Wi-Fi reception i.e. not inside a metal enclosure

Installation Step 1 - Cabling
- Connect the PilotLink2's Pilot Plug cable to the Pilot socket of the Class A transponder
- Route the USB cable to a USB power source, but do not plug in

Installation Step 2 – Mounting the PilotLink2
- Using suitable fixings, attach the PilotLink2 to a flat surface.
- Unit may be installed in any orientation.
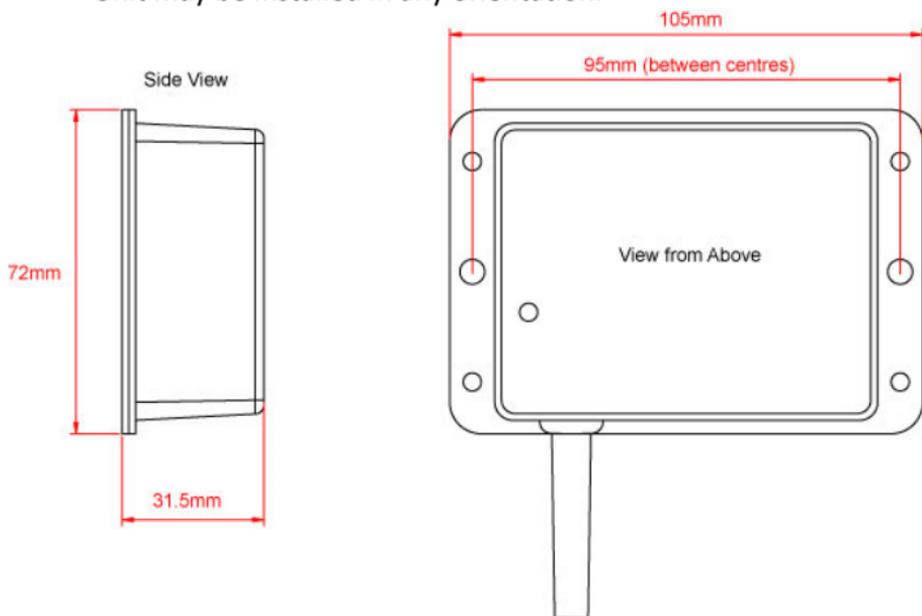
Installation Step 3 – Powering the PilotLink

- Any USB type A socket can be used to power the PilotLink2 which consumes less than 100mA
- Plug the USB cable in to the USB socket and the three LEDs should start to illuminate or flash. The following table shows what each LED indicates;

Condition	Red LED	Yellow LED	Green LED
ON (Solid)	Failed to Connect in STA Mode		HTTP or TCP Connection
Blink	No wireless connections	Data	Wireless Connection
OFF	Wireless Connection	No Data	No Connection

Installation Step 4 – Wireless Interfacing

- By default, the PilotLink2 Server's 802.11 b/g/n wireless adaptor, creates a wireless Access Point (hotspot) on-board your boat. The Name (SSID) of the Access Point will be "**PilotLink2-xxxx**" where xxxx is the unique four digit code of your device.
- To connect to the PilotLink2 you will need to scan for wireless networks, select it and then enter the default WPA2 password, which is "**PASS-xxxx**", where xxxx is the same, unique four digit code as in the PilotLink2's wireless network name (SSID).
- Consult the user manual for your wireless device to understand how to connect to a wireless network.
- The PilotLink2 can transmit wireless NMEA data using two different network modes; either TCP (up to 3 devices) or UDP (multiple device connection).
- There is no need to select which mode you want to use, as PilotLink2 supports both modes at the same time.

- Once your mobile device is wirelessly connected to the PilotLink2, open the navigation application that accepts NMEA data over a TCP or UDP connection and setup the connection.
- Consult the help documentation for your App to see how wireless data connections should be configured.
- By default, the IP address and port that the PilotLink2 transmits data on are;

  IP Address   -   192.168.1.1
  Port   -   2000
- Note that some UDP connections do not ask you to enter the IP address just the port number.

4. Normal Operation

Each time NMEA data is received, the yellow Data LED will flash. In some busy AIS areas, this LED will be constantly flickering and even when there are few vessels around, this LED should flash at least once per second.

By default, PilotLink2 creates its own WPA2 password protected wireless network within a few seconds of powering up and the red Status LED will flash. As soon as a wireless device successfully connects to the PilotLink2's wireless network, the red Status LED will turn OFF and the Green Link LED will start to flash.

Using the PilotLink2 's Web Interface
Any device, wirelessly connected to the PilotLink2 , can access its web interface by typing http://192.168.1.1 or http://pilotlink2.local in to its browser's address bar.

This will take you to the Pilotlink2's homepage as shown in Figure 1.
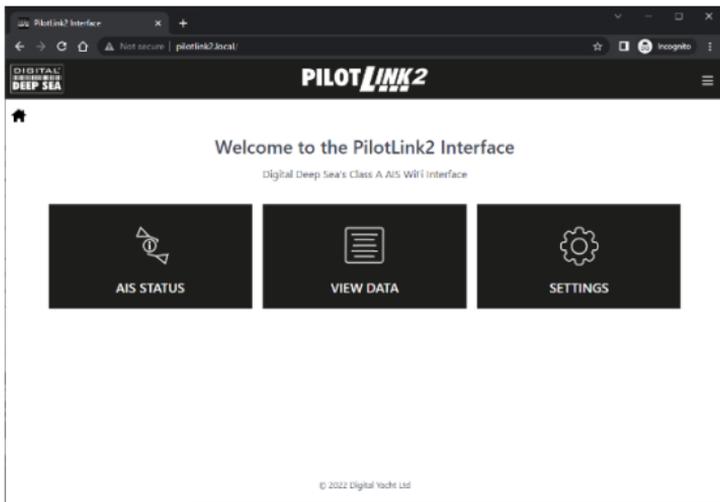
Figure 1

From the home page you can view the Dynamic, Static and Voyage data from the Class A transponder, by clicking the **AIS Status** button. When you first enter this page you will only see the latest Dynamic Data (Fig 2).
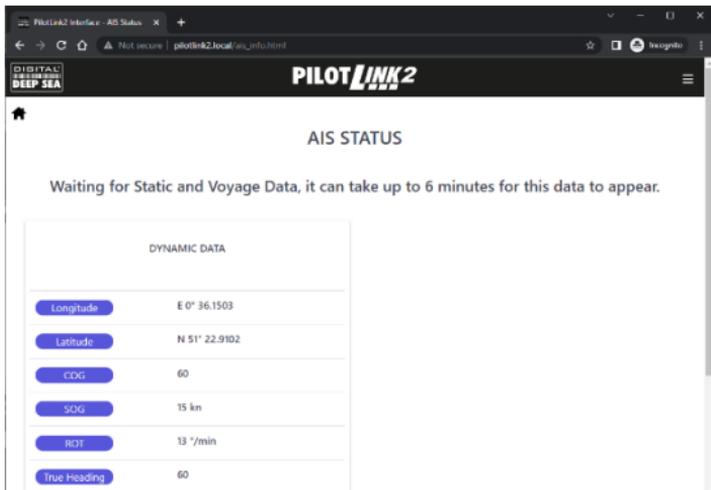
Figure 2

Within 6 minutes the Static and Voyage data will be displayed (Fig 3).

Figure 3

This is the Class A AIS Transponder's "Own Data" that the PilotLink2 is decoding from the NMEA 0183 VDO Sentences that the transponder is outputting on its Pilot Plug socket.

If the data is not being received or there are problems with the data, it is possible to display or log the raw NMEA 0183 data being output by the Class A transponder, by clicking on the **View Data** button on the home page. This will display the Data Monitor page, where you should see a stream of data sentences scrolling down the page (Fig 4).
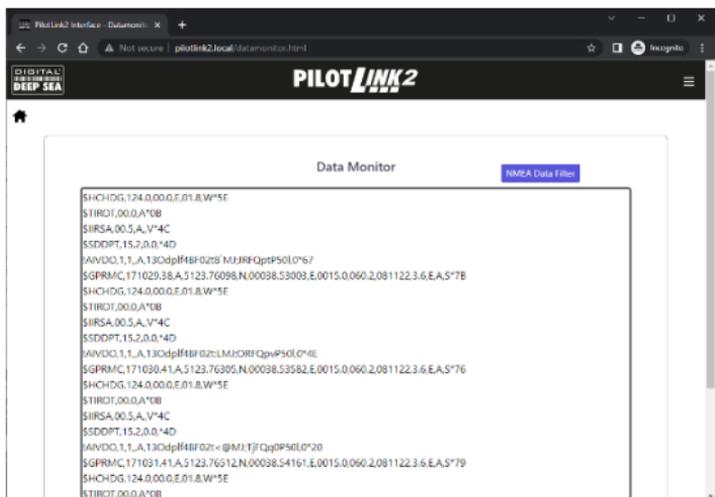
Figure 4

At the bottom of this page are three buttons, **Pause** to freeze the scrolling data, **Start/Stop** logging the data and to **Download** the logged data to your wireless device.

The last **Settings** button on the home page takes you to the settings page (Fig 5).
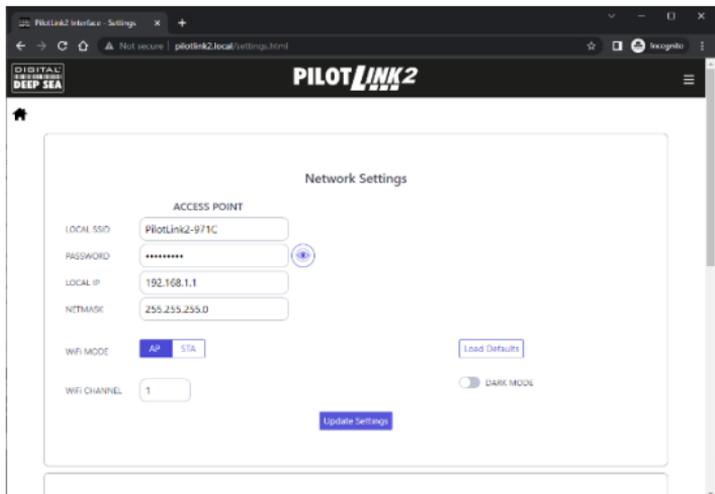
Figure 5

In the top, Network Settings section, you can change the wireless network name and password of the PilotLink2, change the IP address it uses and change the WiFi channel, in case another nearby, wireless network is using the same channel.

By default the PilotLink2 is in Access Point (AP) mode and creates its own wireless network. If you wish to make PilotLink2 join an existing wireless network, set the **WiFi Mode** to Station (STA) mode (Fig 6).
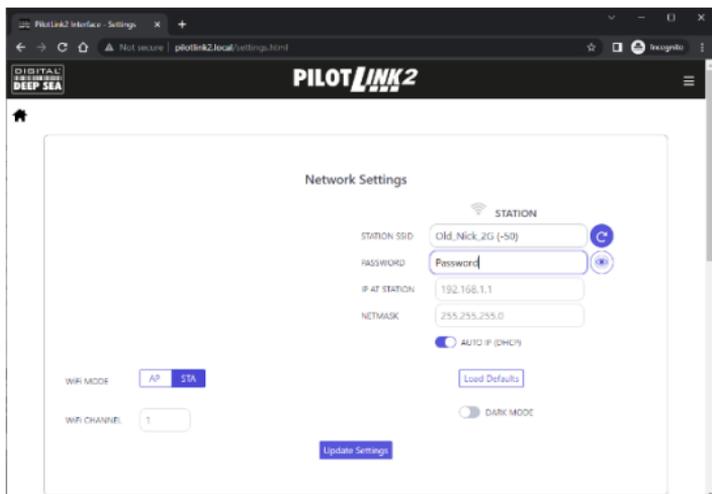
Figure 6

If you click on the **Station SSID** box, you will see a list of all nearby wireless networks. Select the wireless network you want the PilotLink2 to join and enter the network's wireless password in the Password box. As you type a series of ****** characters will display to "hide" the password, but to be sure you have entered it correctly, you can click on the "Eye" icon to display what you have typed.

If the wireless network you are joining uses fixed IP addresses, you can also set the PilotLink2 to use a fixed IP address by turning off the **AUTO IP (DHCP)** switch and typing in the IP address and Netmask you need. Unless you are experienced in computer networking, we do not recommend changing these settings.

Once you have made all of the wireless network changes you need, click the **Update Settings** button and a **Settings Changed Successfully** pop-up box will appear saying that the PilotLink2 is going to reboot in 20 seconds.

If you have changed the PilotLink2 to operate in Station (STA) mode and join another network, as it reboots, the red Status LED will flash for a few seconds and then it should turn OFF and the green Link LED should start flashing, to indicate that the PilotLink2 is connected to another network. If however, it cannot join the other network, because it is turned off or you entered the wrong password, the red Status LED will turn ON and stay on.

In this situation, or in any other situation where a setting has been wrongly made and you cannot access the PilotLink2, the only option is factory reset the PilotLink2 by pressing and holding the Reset button for 10 secs or more.

Assuming that the Pilotlink2 has successfully joined the other network, it will now have a different IP address and you will have to access its web interface by going to http://pilotlink2.local

Now in the Settings page you can see the wireless network and password boxes outlined in Green, to indicate that the connection has been successful. The IP address shown is the address that the PilotLink2 has on the new network (Fig 7).
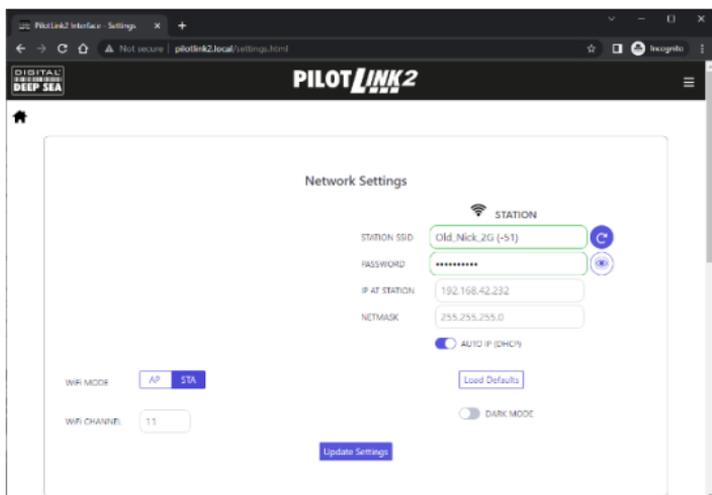
Figure 7

Scroll down the Settings page and you will see the Data Connections section where you can change the TCP and UDP port numbers (not recommended) and also see any active TCP connections (up to 3 allowed) with the IP address of the devices (Fig 8).
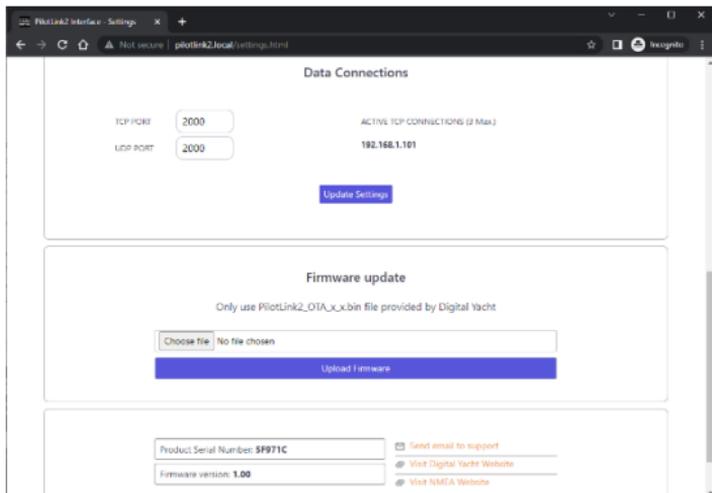
Figure 8

Finally, at the bottom of the Settings page is the Firmware Update section, for updating the unit (if necessary) and also the product serial number and current firmware version.