

Installation & Quick Start Guide

iAIS Wireless AIS Receiver and NMEA Server



1. Introduction

Congratulations on the purchase of your iAIS Receiver. It is recommended that your receiver is installed by a professional installer.

 Before operating the unit you should familiarise yourself with the complete user manual supplied with the product.

2. Before you start

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

- The iAIS Receiver
- Dedicated AIS/VHF antenna or existing VHF antenna and splitter
- Access to 12V or 24V DC power supply where the unit is to be installed.
- M3 or M4 screws or other fixings appropriate to the mounting location.

To display the AIS targets and data you will need:

- Suitable PC Navigation software running on a PC with Microsoft Windows XP®/Windows 2000® or Windows Vista®/Windows 7® with a free USB of RS232 serial port.
- A mobile wireless device such as an iPhone, iPad, etc. with our iAIS app installed
- Or a suitable dedicated chart plotter that can read and display AIS data via NMEA0183


3. Installation

Before starting installation select a suitable location for the iAIS Receiver. The unit is water resistant; however it should be installed below deck in a dry location. When locating the unit you should consider:

- Routing of power and antenna cables to the unit.
- Provision of sufficient space behind the unit for cable connections.
- Routing of data connections to PC or chart plotter from the unit.
- Maintaining the compass safe distance of 0.5m.
- Best location for Wifi reception i.e. not inside a metal enclosure

Installation Step 1 - Cabling

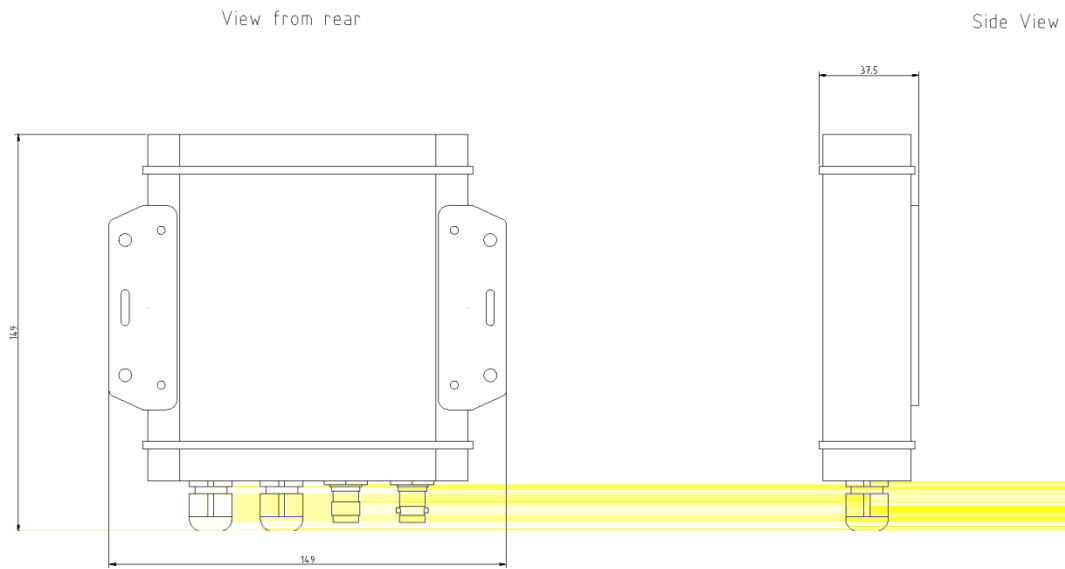
- Run the VHF co-axial cables to the AIS Receiver and terminate with a BNC connector (Bayonet)
- Run the interfacing cables to the AIS Receiver; NMEA0138 or USB
- Do not make any connections yet

 The USB Interface Standard specifies that USB cables should be no longer than 5m without using a special powered USB extender cable – ensure that the total USB cable length from the AIS Receiver to the PC is < 5m.

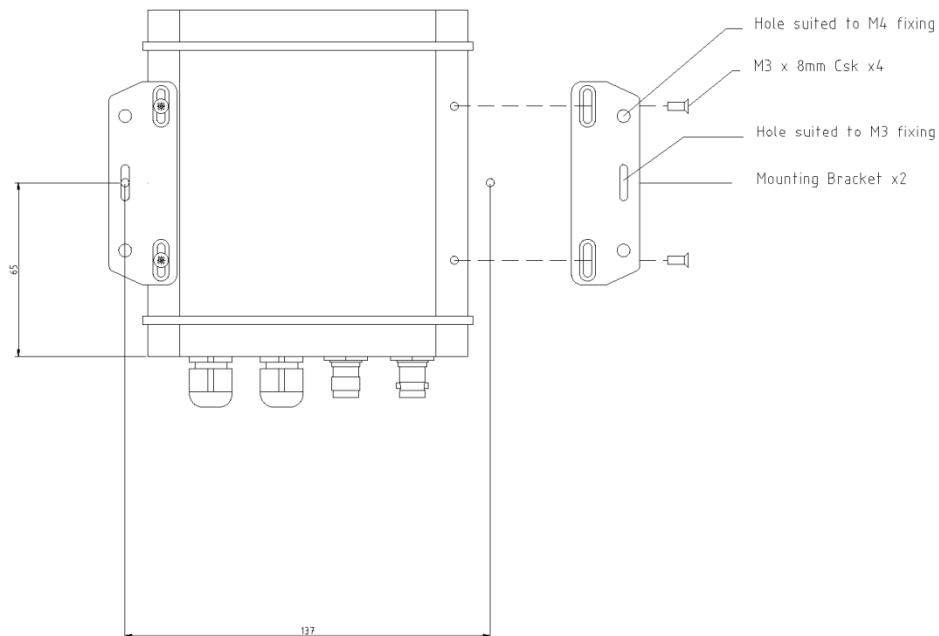
Installation Step 2 – Mounting the iAIS

- Fix the two supplied mounting brackets to the base of the iAIS with the bolts supplied. Use suitable fixings (not supplied) to fix the IAIS to a flat surface – using the dimensions and details shown in the drawing below. Note that the unit may be installed in any orientation.

Fixing location drawing



AIS Dimensions and mounting information



- Once the unit is secured, connect the AIS/VHF antenna. Ensure the connection is fully made; should feel a slight click as the BNC locks.

Installation Step 3 – Powering the iAIS

- Provide power connections to the unit. Power is connected to the six core PWR/DATA cable on the Red and Black wires. The Red wire is the positive (+) connection. The Black wire is the negative (-) connection.
- Connect the stripped wires to the nearest source of primary 12V or 24V DC power. **Ensure that the supply is connected via the supplied 1A fuse or suitable circuit breaker.** Add the fuse in the positive power connection to the unit if necessary.
- Apply power to the iAIS and you should see the three LEDs start to illuminate or flash.



- The following table shows what each LED indicates;

Condition	Red LED	Yellow LED	Green LED
ON (Solid)			TCP/IP Connection
Fast Blink	Not Associated		No IP Address
Slow Blink	Associated		IP Address OK
OFF			No Power

- Turn off the iAIS and continue with the NMEA, USB and Wireless installation.

Installation Step 4 – Interfacing (NMEA and USB)

- The iAIS receiver can be connected to other AIS compatible equipment via the NMEA0183 connections on the PWR/DATA cable, to a PC via the USB interface (most common connection for PCs) or to a mobile device such as an iPhone or iPad via the wireless connection. Data is transmitted simultaneously on all three connections.
- The iAIS USB interface requires that suitable drivers are installed on the PC it is connected to. These drivers are supplied on the included Software and Drivers CD-Rom and you should insert this CD in to your PC before plugging in the iAIS USB cable to the PC.
- When you plug in the iAIS USB cable for the first time, Windows should detect the new hardware and install the drivers automatically. It will allocate a COM Port number to the adaptor (COM1, COM2, COM3, etc.) and it is this

COM Port number that you have to tell the PC Navigation software, that the AIS is connected on – consult the instruction manual supplied with your PC Software to understand how this is configured.

- A table showing what each of the 6 wires of the PWR/DATA cable does is printed on the iAIS Receiver and repeated below for your convenience;

iAIS Receiver PWR/DATA cable

○ RED	-	Power + (12v)
○ BLACK	-	Power – (0v)
○ ORANGE	-	NMEA Out +
○ BROWN	-	NMEA Out –
○ YELLOW	-	NMEA In +
○ GREEN	-	NMEA In –



- The most common connection to a dedicated chart plotter is to take the NMEA Output (Orange+ and Brown –) from the iAIS Receiver and to connect it to a free NMEA Input on the plotter. You must then tell the chart plotter that AIS data is connected to this port and set the baud rate to 38,400 Baud – the standard speed for AIS data. Consult the instruction manual supplied with your Chart Plotter to understand how this is configured.
- To use the “multiplex” feature of iAIS, where the iAIS reads other NMEA 0183 data (at 4800 baud) and then merges it together with its own AIS data, in to a single high speed NMEA 0183 output (38,400 baud), it is necessary to connect to the NMEA Input of the iAIS. Typically the NMEA 0183 output from a GPS, Instrument System or Flux Gate Compass will be connected to the iAIS NMEA input. As long as the connected data is valid NMEA data (must have a checksum) at 4800 baud, then iAIS will multiplex this data correctly and it will appear on each of the three iAIS outputs; NMEA 0183, USB and Wireless

Installation Step 5 – Wireless Interfacing

- The iAIS receiver has an integrated 802.11b+g wireless adaptor which creates a wireless hotspot on-board your boat. The SSID (name) of the wireless hotspot that iAIS creates will be “DY-iAIS-xxxx” where xxxx is a four digit code unique to your iAIS.
- To connect to iAIS, simply scan for wireless hotspots on your wireless device. The exact procedure will vary from device to device so consult the user manual for your device to understand how to connect to a wireless hotspot.
- The iAIS uses the TCP/IP protocol to transmit serial NMEA data and it is important that the program or application on the wireless device supports data reception via TCP/IP in order to work correctly.
- Once you have wirelessly connected your mobile device to the iAIS, you will need to run the Application on your mobile device that accepts NMEA data over a TPC/IP connection. The TCP/IP address and port that iAIS transmits data on are;

IP Address - 169.254.1.1
Port - 2000

- You should now be able to receive data wirelessly from the iAIS.

Normal Operation

The iAIS consumes around ¼ Amp and can be left on whenever the boat is sailing. All AIS targets within VHF range will automatically be detected and their details output on all three interfaces.

Every time information on an AIS target is received the yellow data LED will flash. In congested waters, it is not unusual for the yellow LED to be constantly flickering.

Should you have a problem connecting wirelessly to iAIS, press and hold the Reset button for 1-2 seconds and try connecting again. In busy marinas where there is significant wireless activity, it may not be possible for a reliable TCP/IP connection to be made to iAIS, but once underway (at sea) a strong and reliable connection will be achieved.

On the supplied CD-Rom, there is a complimentary copy of the Digital Yacht SmarterTrack Lite software. If you have a PC on-board, this program provides a good display of AIS targets around you and may be a useful backup to a dedicated plotter.

If you have an iPhone or iPad, visit the app store and download our complimentary copy of the iAIS app. This simple but powerful app will give you an AIS radar type display of all the AIS target around you. It includes a built-in user guide describing how to setup and use iAIS.