

Installation & Quick Start Guide

AIS200N2 Tri-Output AIS Receiver



1. Introduction

Congratulations on the purchase of your AIS200N2 AIS 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 AIS200N2 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 Vista®/ Windows 7® with a free USB port.
- Or a suitable dedicated chart plotter that can read and display AIS data via NMEA0183 or NMEA2000


3. Installation

Before starting installation select a suitable location for the AIS 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.

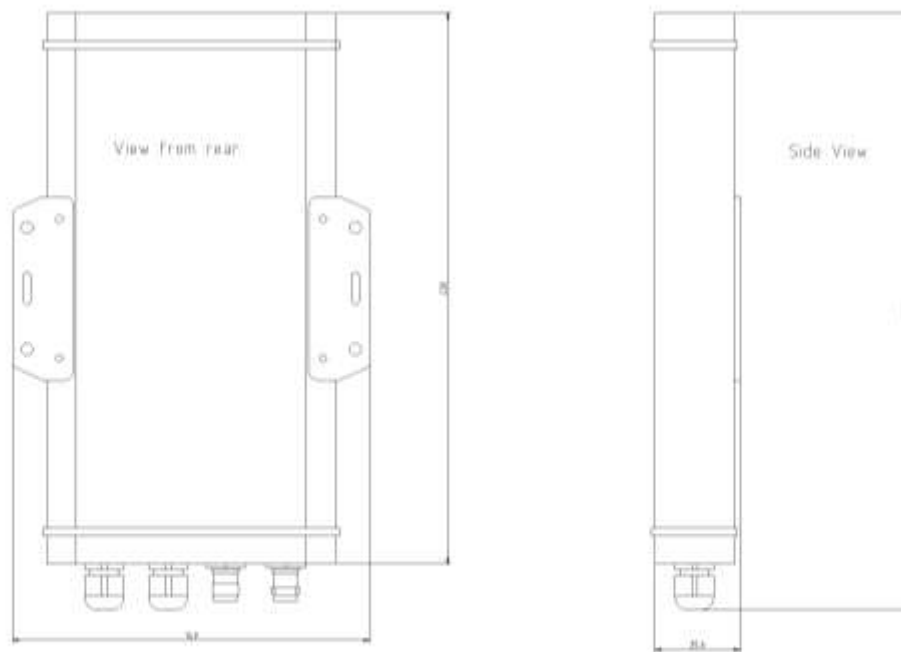
Installation Step 1

- Run the VHF antenna co-axial cable to the AIS Receiver and terminate with a BNC connector (Bayonet)
- Run the interfacing cables to the AIS Receiver; NMEA0183, NMEA2000 or USB
- Do not make any connections yet

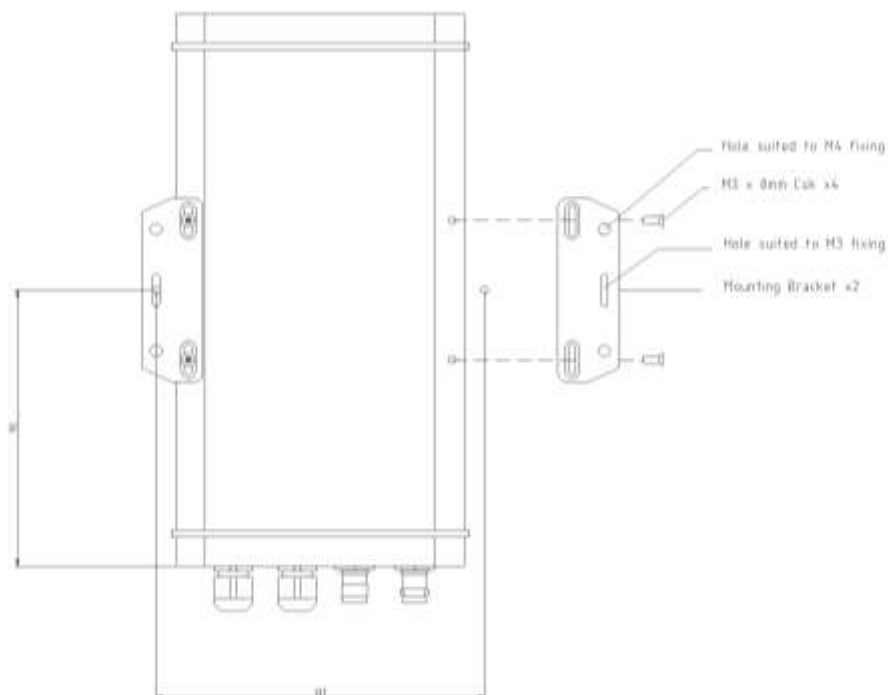
 The USB Interface Standard specifies that USB cables should be no longer than 5m without using a special powered USB extender cable – ensure that the total USB cable length from the AIS Receiver to the PC is < 5m.

Installation Step 2

- Fix the two supplied mounting brackets to the base of the AIS200N2 with the bolts supplied. Use suitable fixings (not supplied) to fix the AIS200N2 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 bayonet connection is fully made; should feel a slight click as the BNC locks.

Installation Step 3

- 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.

Installation Step 4

- The AIS200N2 Receiver can be connected to other AIS compatible equipment via the NMEA0183 connections on the PWR/DATA cable, via the Male “Micro” NMEA2000 connector or via the USB interface (most common connection for PCs).
- When the USB interface is first plugged in, it will be seen by Windows as a USB to Serial adaptor and the “Found New Hardware Wizard” will be triggered. The drivers are included on the supplied CD-Rom so please ensure this is inserted in the PC before connecting the USB cable. Windows Vista and 7 will automatically find the correct driver on the CD, while Windows XP may need to be directed to the “USB Driver for AIS units” folder on the CD.
- Windows will create a “virtual” COM port for the AIS200N2 and you will need to go to the Windows Device Manager program and look in the “LPT&COM Ports” section to find out what COM port number has been allocated to the AIS200N2. Make a note of this number as you will have to enter this COM port number in the PC Navigation software, so that it knows which port the AIS is connected to – 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 AIS200N2 Receiver and repeated below for your convenience;

AIS200N2 Receiver PWR/DATA cable

- | | | |
|----------|---|----------------|
| ○ RED | - | Power + (12v) |
| ○ BLACK | - | Power – (0v) |
| ○ ORANGE | - | NMEA0183 Out + |
| ○ BROWN | - | NMEA0183 Out – |
| ○ YELLOW | - | NMEA0183 In + |
| ○ GREEN | - | NMEA0183 In – |



- The most common connection to a dedicated chart plotter is to take the NMEA Output (Orange+ and Brown –) from the AIS200N2 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.
- If your plotter has an NMEA2000 interface, then you can connect the AIS200N2 directly to the NMEA2000 network. The AIS200N2 does not take its power from the NMEA 2000 network, so should a problem exist on the NMEA 2000 network, the AIS200N2 will continue to work correctly providing AIS data to the NMEA0183 and USB outputs.
- To use the “multiplex” feature of the AIS200N2, which allows other NMEA0183 data (at 4800 baud) to be merged together with its own AIS data, it is necessary to connect to the NMEA0183 Input of the AIS200N2. Typically the NMEA0183 output from a GPS, Instrument System or Flux Gate Compass will be connected to the AIS200N2 NMEA0183 input. As long as the connected data is valid NMEA data (must have a checksum) at 4800 baud, then the AIS200N2 will multiplex this data together and it will appear on each of the three outputs; NMEA0183, NMEA 2000 and USB.

- This multiplexing facility is very useful if you have a new NMEA 2000 network on the boat but still have some older NMEA 0183 equipment on the boat that you would like connect to the new NMEA 2000 network.
- The following table details the NMEA0183 messages that the AIS200N2 can read and the NMEA2000 PGNs that it converts them to:-

NMEA0183	Description	NMEA2000 PGN(s)
APB	Heading/Track Controller (Autopilot) Sentence "B"	129283 only
DBT	Depth Below Transducer	128267
DPT	Depth	128267
GGA	Global Positioning System Fix Data	126992, 129025, 129029, 129033, 129539
GLL	Geographic Position - Latitude / Longitude	126992, 129025, 129029, 129033
GSA	GNSS DOP and Active Satellites	129029, 129539
GSV	GNSS Satellites in View	129540
HDG	Heading, Deviation and Variation	127250, 127258
HDM	Heading, Magnetic	127250
HDT	Heading, True	127250
MTW	Water Temperature	130310, 130311
MWD	Wind Direction and Speed	130306
MWV	Wind Speed and Angle (Relative & Theoretical)	130306
RMA	Recommended Minimum Specific - Loran-C Data (disabled by default)	127258, 129025, 129026, 129029
RMB	Recommended Minimum Navigation Information (disabled by default)	129283 only
RMC	Recommended Minimum Specific - GNSS Data	126992, 127258, 129025, 129026, 129029, 129033
ROT	Rate Of Turn	127251
VHW	Water Speed and Heading	127250, 128259
VLW	Dual Ground / Water Distance	128275
VTG	Course Over Ground and Ground Speed	128259, 129026
VDM (!)	AIS VHF Data-link Messages: 1, 2, 3, 4, 5, 18, 19 & 24	129038, 129793, 129794, 129039, 129040, 129809, 129810
VDO (!)	AIS VHF Data-link Own-vessel report: 1, 2, 3, 5, 18, 19 & 24	129038, 129794, 129039, 129040, 129809, 129810
VWR	Relative wind direction and speed	130306
XTE	Cross-Track Error, Measured	129283
ZDA	UTC Time and Date (plus local Time Zone offset)	126992, 129029, 129033

- Apply power to the AIS200N2 Receiver and verify AIS data is being received on the chart plotter or PC.
- Installation is now completed