
Installation & Quick Start Guide

ARX100 AIS Receivers



1. Introduction

Congratulations on the purchase of your ARX100 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 ARX100 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.
- 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 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

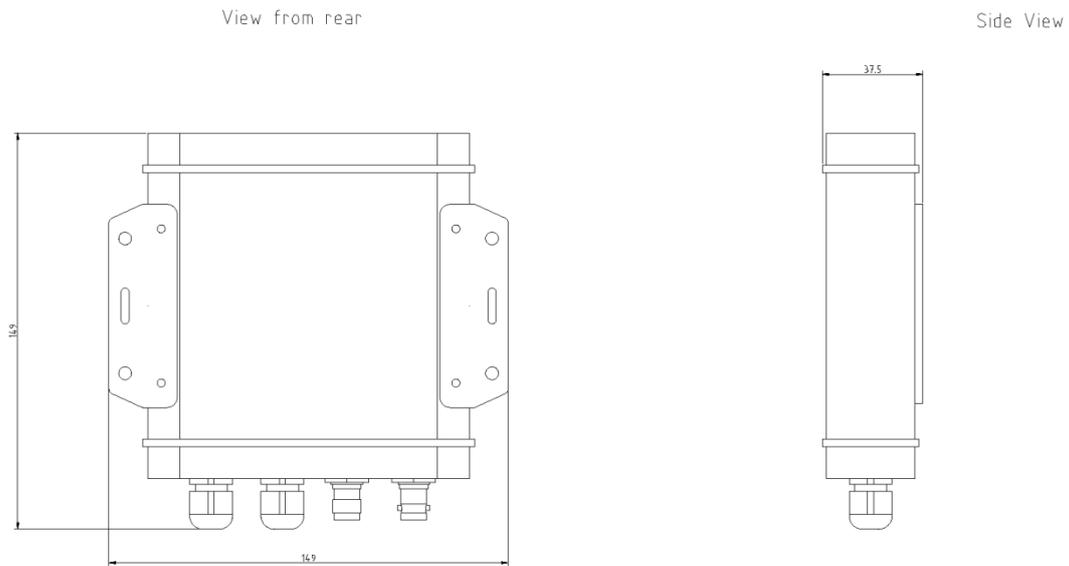
- Run the VHF co-axial cables to the AIS Receiver and terminate with the correct connectors:
 - The VHF antenna cable should be terminated in a BNC connector (Bayonet)
- Run the interfacing cables to the AIS Receiver; NMEA0138 or USB
- Do not make any connections yet

 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.

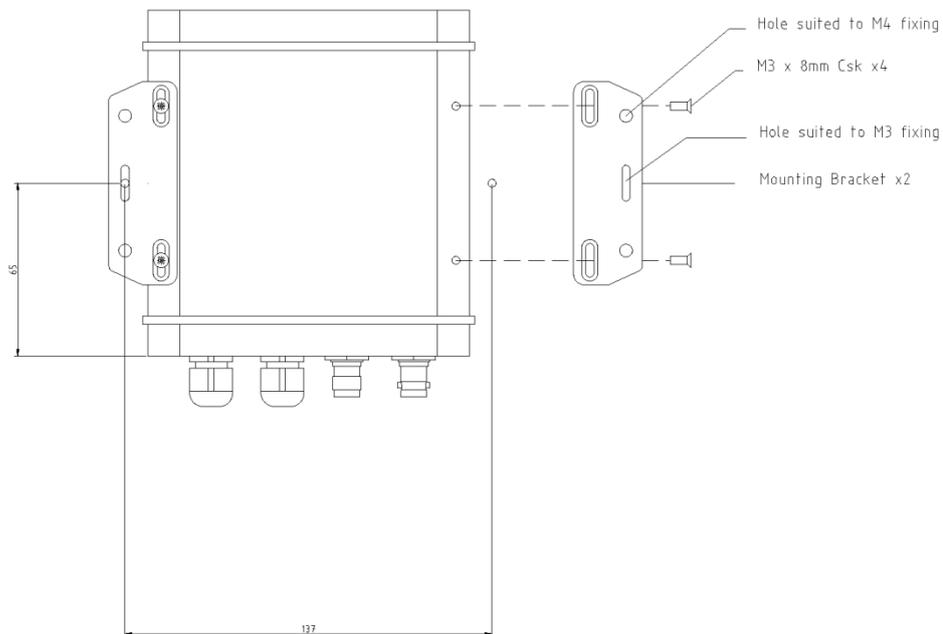
Installation Step 2

- Fix the two supplied mounting brackets to the base of the ARX100 with the bolts supplied. Use suitable fixings (not supplied) to fix the ARX100 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

- 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 ARX100 Receiver can be connected to other AIS compatible equipment via the NMEA0183 connections on the PWR/DATA cable. The ARX100 can also be connected via the USB interface (most common connection for PCs).
- The ARX100 USB interface is designed to use the standard Serial Adaptor drivers that are supplied with Windows and no additional driver should be required. Simply plug the USB connector from the ARX100 in to a spare USB port on the PC.
- When you turn on the ARX100 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 ARX100 Receiver and repeated below for your convenience;

ARX100 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 ARX100 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.
- Apply power to the ARX100 Receiver and verify AIS data is being received on the chart plotter or PC.
- Installation is now completed