**DIGITAL
YACHT**

Installation & Quick Start Guide
AIT250 Class B AIS Transponder

1. Introduction

Congratulations on the purchase of your AIT250 Class B AIS Transponder. It is recommended that your transponder 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:
- Class B AIS Transponder.
- Dedicated VHF antenna and cable - supplied
- Dedicated GPS antenna and cable - supplied
- Access to 12V DC power supply where the unit is to be installed.
- Four M5 screws or other fixings appropriate to the mounting location.
- Transponder power and data cable - supplied

To configure the unit you will need:
- Access to a PC running Microsoft Windows XP$^®$ / Windows 2000$^®$ or Windows Vista$^®$ with a free RS232 serial port.
- proAIS Class B AIS Transponder configuration software.
- An MMSI number for your vessel

Note: *You can obtain an MMSI (Maritime Mobile Service Identity) from the same authority that issues ship radio licences in your area. An MMSI may have already been provided with your existing VHF radio licence. The MMSI number used for the AIS Transponder should be the **same** as that programmed into your VHF DSC radio.*

ⓘ *If you do not have an MMSI number the AIS Transponder will operate in receive only mode.*
Do not enter an invalid MMSI number.

3. Installation

Before starting installation select a suitable location for the AIS Class B Transponder. 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.
- Visibility of the front panel indicators and access to the 'Silent mode' or 'Safety Related Message' button.
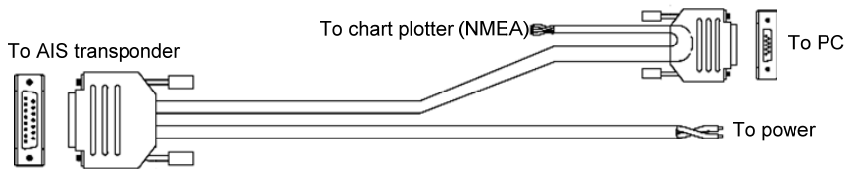
Installation Step 1

- Install VHF and GPS antenna according to the hand book instructions and following guidance and warnings in the main user manual for the AIS Class B Transponder.

- Run VHF and GPS antenna co-axial cables to the AIS Class B Transponder and terminate with the correct connectors:

  - The VHF antenna cable should be terminated in a BNC connector
  - The GPS antenna cable should be terminated in a TNC connector

Installation Step 2

- Provide power connections to the unit. Power is connected to the twin core cable with brown and blue wires. The brown wire is the positive (+) connection. The blue wire is the negative (-) connection.

- Connect the stripped wires to the nearest source of primary 12V DC power. **Ensure that the supply is connected via a circuit breaker or fuse rated at 3A**. Add a fuse in the positive power connection to the unit if necessary.

- The AIS Class B Transponder is designed for a 12V DC system. A converter should be used if the vessel uses a 24V system.

- **Do not connect the 15 Way connector to the AIS transponder at this stage.**

To chart plotter (NMEA)

To AIS transponder

To PC

To power

Installation Step 3

- Secure the AIS Transponder to a flat surface in the selected location. Use four 5mm wood screws or other fixings suited to the material the unit is being fixed to.

- The unit may be installed in any orientation

Fixing location drawing

160mm

Mounting holes in base plate are 5mm diameter

100mm

Front of unit
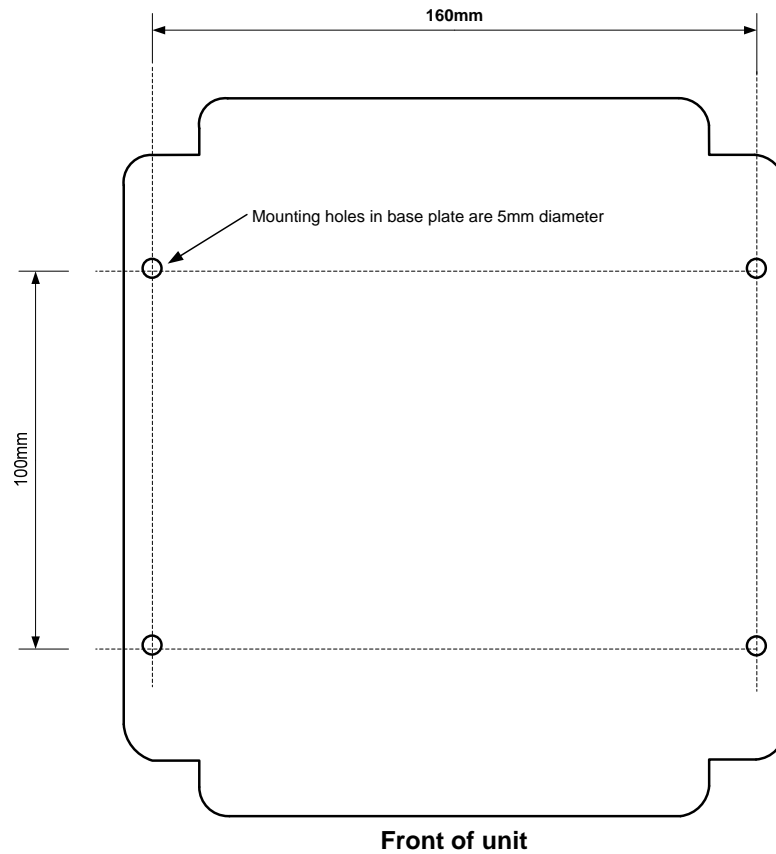
Installation Step 4

- Make antenna and power connections to the unit. Connect the antennas first, followed by the power. The connectors located underneath the top cover of the unit which is removed by loosening 8 recessed screws.

Remove top cover
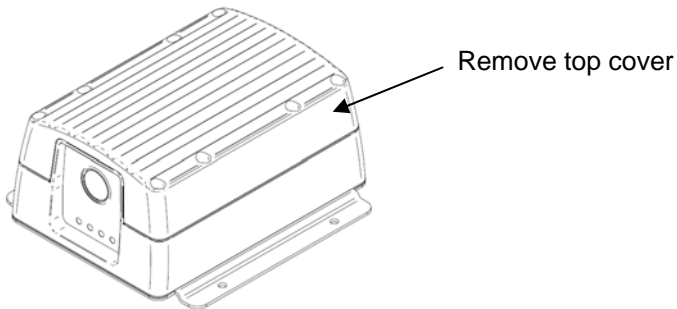
- Make sure that the cables pass through the cable glands provided.

Connector locations

VHF
Antenna

GPS
Antenna

Power and Data
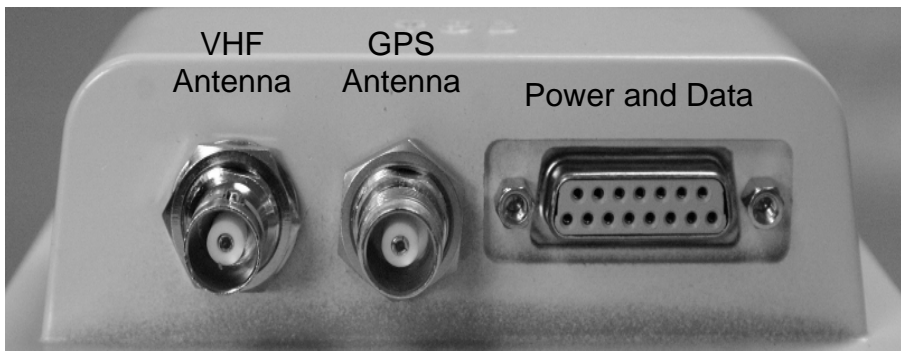
- You should now apply power to the unit & verify that all four LED indicators on the front of the unit flash twice, followed by illumination of the amber and red LED's.

- Installation is now completed

4. Configuration

The AIS transponder must be correctly configured for your vessel before operation. All configuration information must be entered carefully as this information will be transmitted to other AIS equipped vessels and shore stations.

The AIS transponder is configured by connecting to a PC running the 'proAIS' configuration tool supplied.

- Follow instructions in the proAIS users guide to install the software on your PC

- Connect the 9 pin data cable from the AIS transponder to you're a free serial port on your PC (a USB to Serial converter may also be used)

- Launch proAIS and select the serial port the AIS transponder is connected to. Click the 'Connect' button.

- Enter the Vessel Name, Call Sign, MMSI*, Dimensions and select the most appropriate Vessel Type.

- Click "Save data to AIS" to configure the AIS transponder with this information.

*Note: *For security reasons the MMSI can only be programmed once. Make sure you enter the correct number and double check when proAIS warns you regarding MMSI programming. The MMSI can only be changed by returning the unit to your dealer.*
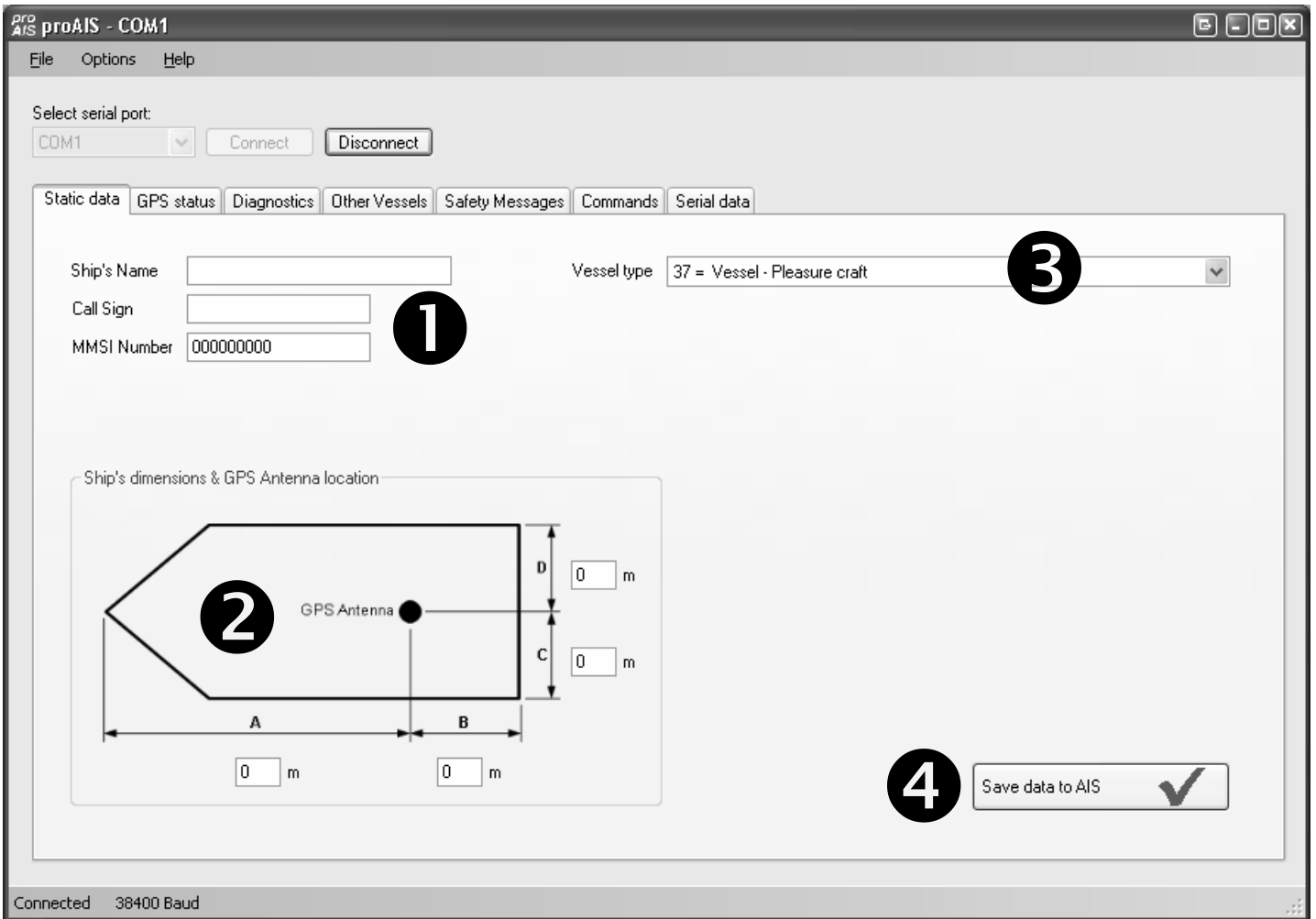
1. Enter Vessel Name, Call Sign and MMSI

2. Enter vessel dimensions and location of GPS antenna to the nearest meter.

3. Select the most appropriate vessel type.

4. Click "Save data to AIS"

5. Read the warning message carefully and proceed only if the MMSI number is correct.

6. Configuration of the AIS Class B Transponder is now complete

Please refer to the proAIS user guide for more detailed usage instruction.

5. Operation

Once installed and configured correct operation of the AIS transponder should be verified as follows:

1. Check that at least one of the LED's on the front of the unit is illuminated. If the red 'Error' LED is illuminated please refer to the troubleshooting section below.

2. Check that the unit has a good GPS lock. If the GPS is locked the Latitude and Longitude will be displayed on the GPS tab in proAIS along with a number of green bars in the signal strength graph.

3. If the unit does not have GPS fix within a few minutes check your GPS antenna has a clear view of the sky, is to

the correct specification and that the GPS antenna cable is connected.

4. Check that the Green 'Power' LED on the front of the unit illuminates. This will not happen until the unit has GPS fix and has transmitted its first position report. Please allow up to 5 minutes for this to occur. **If the Green LED is illuminated you have successfully installed and configured the unit.** The proAIS application can be closed and the PC disconnected from the unit. The unit requires only a power supply to operate.

5. If you are in an area with other AIS equipped vessels you can check the "Other vessels" tab in proAIS to view position reports received from other ships.

    If you contact another vessel to check your transmission please make sure the vessel is equipped to receive Class B messages. If not the vessel may see just your MMSI and position.

6. Troubleshooting

If the green LED is not illuminated after around 5 minutes then please check the following:

1. Is the MMSI number programmed?
Check the diagnostics tab in proAIS. If there is a red cross next to the "Transponder MMSI Valid" item then you have not correctly configured the MMSI.

2. Does the unit have a GPS position fix?
Check the diagnostics tab in proAIS. If there is a red cross next to the "GPS position fix" item then the unit does not have GPS fix. Check your GPS antenna and connections.

3. Is the unit reporting any alarms?
Check the "Active alarms" area in the diagnostics tab of proAIS & refer to the troubleshooting guide at the back of the proAIS user guide.

7. Connecting to other equipment

To get the most from your AIS Class B Transponder it can be connected to a compatible chart plotter, or to a PC running compatible chart plotting software.

Chart plotter connection

The power and data cable provides a NMEA data interface suitable for connection to most chart plotters.
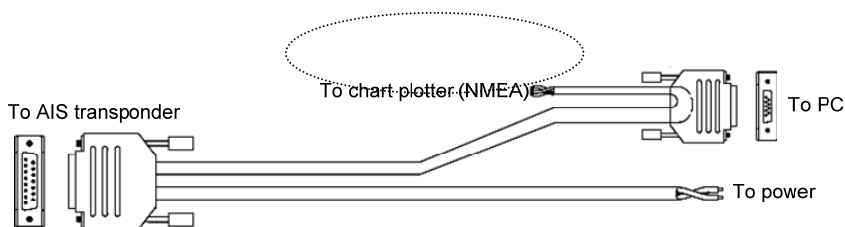
Wire colour	Signal	Connect to
Orange	NMEA TXa (-)	Chart plotter NMEA input +ve
Black	NMEA TXb (+)	Chart plotter NMEA input - ve

You should now configure your chart plotter to accept AIS data at 38400baud and to display AIS targets according to the manufacturers instructions.

PC Connection

Simply Connect the 9 pin data cable from the AIS transponder to you're a free serial port on your PC (a USB to Serial converter may also be used).

Lauch your navigation software and configure for AIS data at 38400baud according to the suppliers instructions.