



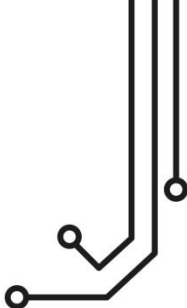
SAIL BOAT



SPORT FISHING



MOTOR BOAT



WLN10 + WLN10HS

WIRELESS NMEA SERVER

Installation and instruction Manual



1. Introduction

Congratulations on the purchase of your WLN10 or WLN10HS Wireless NMEA Server.

The only difference between the WLN10 and WLN10HS is the data speed (NMEA 0183 baud rate) that the unit operates at. For connection to GPS and instrument type equipment the 4800 baud WLN10 unit should be used, while for AIS connection the higher speed 38400 baud WLN10HS should be used.

For simplicity, within this manual, we will refer to both models as WLN10 unless we are describing a unit specific difference in installation or operation.

It is recommended that your product is installed by a professional installer, particularly when it comes to interfacing with other equipment.



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 and tools to complete the installation:

- The WLN10 Receiver (supplied)
- The 3dB Wi-Fi Antenna (supplied)
- A 12V or 24V DC power connection where the unit will be installed
- M3 or M4 screws or other fixings appropriate to the mounting location (not supplied).



To receive/display wireless data from the WLN10 you will need:

- Suitable navigation software running on a PC, iPhone/iPad, Mac or other wireless device.
- A device with an NMEA 0183 data output/input at either 4800baud (WLN10) or 38,400baud (WLN10HS)

3. Installation

Before starting installation select a suitable location for the WLN10 device. 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 cables to the unit.
- Provision of sufficient space above and below the unit for cable connections and Wi-Fi Antenna.
- Routing of NMEA data connections to/from the NMEA 0183 device.
- Maintaining the compass safe distance of 0.5m.
- Best location for Wifi reception i.e. not inside a metal enclosure

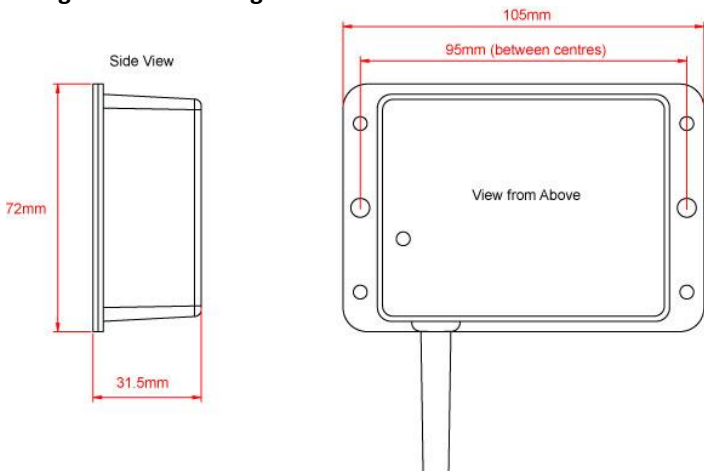
Installation Step 1 - Cabling

- Run 12v or 24v power connections to the WLN10
- Run the NMEA 0183 interfacing cables to the WLN10
- Do not make any connections yet

Installation Step 2 – Mounting the WLN10

- Use suitable fixings (not supplied) to fix the WLN10 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



- Once the unit is secured, connect the 3dB Wi-Fi antenna by gently screwing it in to the threaded SMA connector on the top of the unit. Ensure the connection is fully made but do not over-tighten.

Installation Step 3 – Powering the WLN10

- Provide power connections to the unit. Power is connected to the six core PWR/DATA cable on the Red and Black wires. Red wire is the positive (+) connection, 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 a 1A fuse (not supplied) or suitable circuit breaker. The fuse should be fitted in the positive power connection to the unit if necessary.



- Apply power to the WLN10 and you should see the three LEDs start to illuminate or flash. The following table shows what each LED indicates;



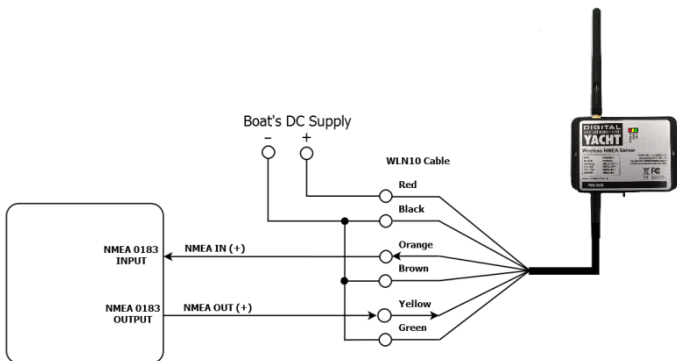
Condition	Red LED	Yellow LED	Green LED
ON (Solid)			TCP/IP Connection
Fast Blink	No wireless connection	Data	
Slow Blink		Data	UDP Connection
OFF	Wireless device connected	No Data	No Power

- Turn off the WLN10 and continue with the NMEA, USB and Wireless installation.

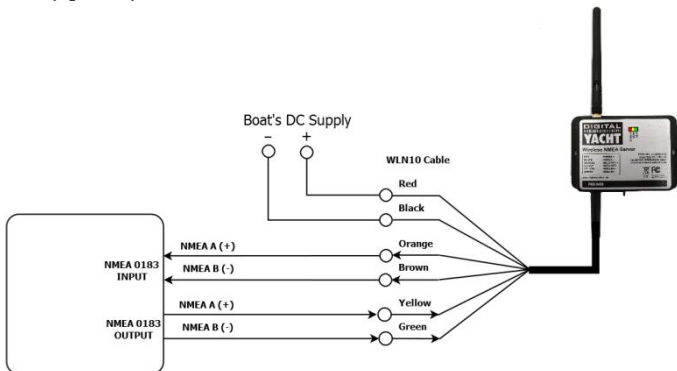
Installation Step 4 – Interfacing (NMEA)

- The WLN10 device allows full bi-directional, wireless NMEA0183 data communication to occur between two suitable devices. In most installations, it is likely that the communication will be in one direction i.e. NMEA 0183 data from an instrument system being wirelessly transmitted to an iPhone/iPad application.

On the next page are diagrams showing how to connect the WLN10 to single or two wire NMEA devices;

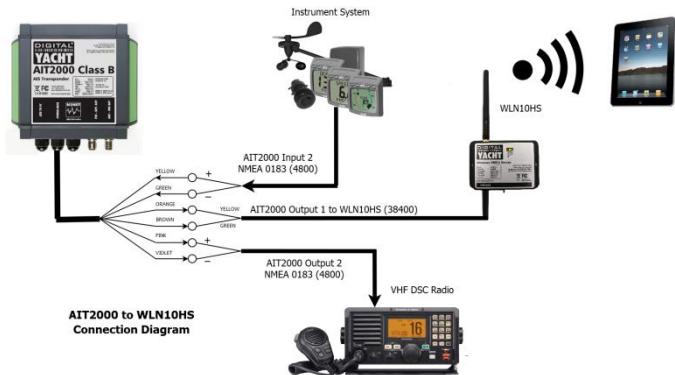


EQUIPMENT WITH SINGLE WIRE
NMEA 0183 CONNECTIONS
(e.g. Garmin)



EQUIPMENT WITH TWO WIRE
NMEA 0183 CONNECTIONS
(e.g. Raymarine, Navico, etc.)

Combining one of our AIT2000 Class B Transponders and a WLN10HS creates a very powerful system, where AIS, GPS and Instrument data can be sent to the wireless device – see diagram on next page.



Installation Step 5 – Wireless Interfacing

- The WLN10 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 WLN10 creates will be “DY-WLN10-xxxx” where xxxx is a four digit code unique to your WLN10.
- To connect to WLN10, 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 WLN10 can transmit wireless NMEA data using two different network modes; either TCP (single device connection) or UDP (multiple device connection). The program or application on the wireless device must support data reception via TCP or UDP in order to work correctly.



If you wish to connect multiple devices to the WLN10, then all devices must use UDP mode. If the first device to connect is set to TCP mode then no other devices will be able to connect



- Once you have wirelessly connected your mobile device to the WLN10, you will need to run the application on your mobile device that accepts NMEA data over a TCP or UDP connection.
- The IP address and port that the WLN10 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.
- You should now be able to receive data wirelessly from the WLN10.

Normal Operation

The WLN10 consumes around 0.1 Amp and can be left on whenever the boat is sailing. Every time NMEA data is received by the WLN10, the yellow data LED will flash. In some systems with lots of NMEA data, it is not unusual for the yellow LED to be constantly flickering.

Should you have a problem connecting wirelessly to WLN10, 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 WLN10, but once underway (at sea) a strong and reliable connection will be achieved.

If you are using the WLN10HS for connection to an AIS and 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 targets around you. It includes a built-in user guide describing how to setup and use it with the WLN10.

By default the WLN10 creates its own wireless network. If you have a wireless network on the boat and would prefer the WLN10 to join that network – please see **Tech Support Note 00046-2012** on our website.