



Installation Manual

Zora



Zora

Table of Contents

Table of Contents	1
Introduction	2
Webbrowser	2
Setup at home	2
Minimum data requirements	3
Installation place	3
Power Supply and Fuse	3
Data Connections	4
Overview	4
Power On and Off	4
USB Port	4
Reset	4
User LED	5
Debug Console	5
Rear panel	5
Left side	5
Right side	6
NMEA2000	6
NMEA0183	7
Help & Support	7
email	8
Appointment call or zoom support	8
Tutorial videos	8
NMEA2000 Backbone	9
NMEA0183 Bus	10
NMEA2000 and NMEA0183	11
Specifications	12

Introduction

The computer unit is the brain of Zora. It needs power and data to work. Computers don't like heat. Avoid direct sunlight on Zora and ensure some space for cooling.

Webbrowser

To use Zora, you need a web browser with a recommended minimum screen size of 1024 x 768 pixels. We recommend using Chrome or Safari for the best performance and compatibility. Zora does not work on older iPads or outdated tablets.

The default access URL or web address is `zora.local`

Once you've chosen your boat's name, you can easily access it at

`yourboatsname.local`

. Just keep in mind that some devices might not support this feature. For example, Apple devices work flawlessly, but some Android OS versions might not translate the link correctly.

Setup at home

You can connect Zora to your home ethernet and power it with an 8-36 Volt power supply. Since no data will be available, Zora will search for about one minute before allowing you to interact with it. It will show a preparing and no data available message on display. You will also get a GPS warning "no position available" with voice feedback. At home, you will be able to set up the vessel data and the avatars as explained in those tutorial videos: (click on the orange arrow to open the video)

The following Videos are referring to Wayfinder now called Zora since Version 2



Minimum data requirements

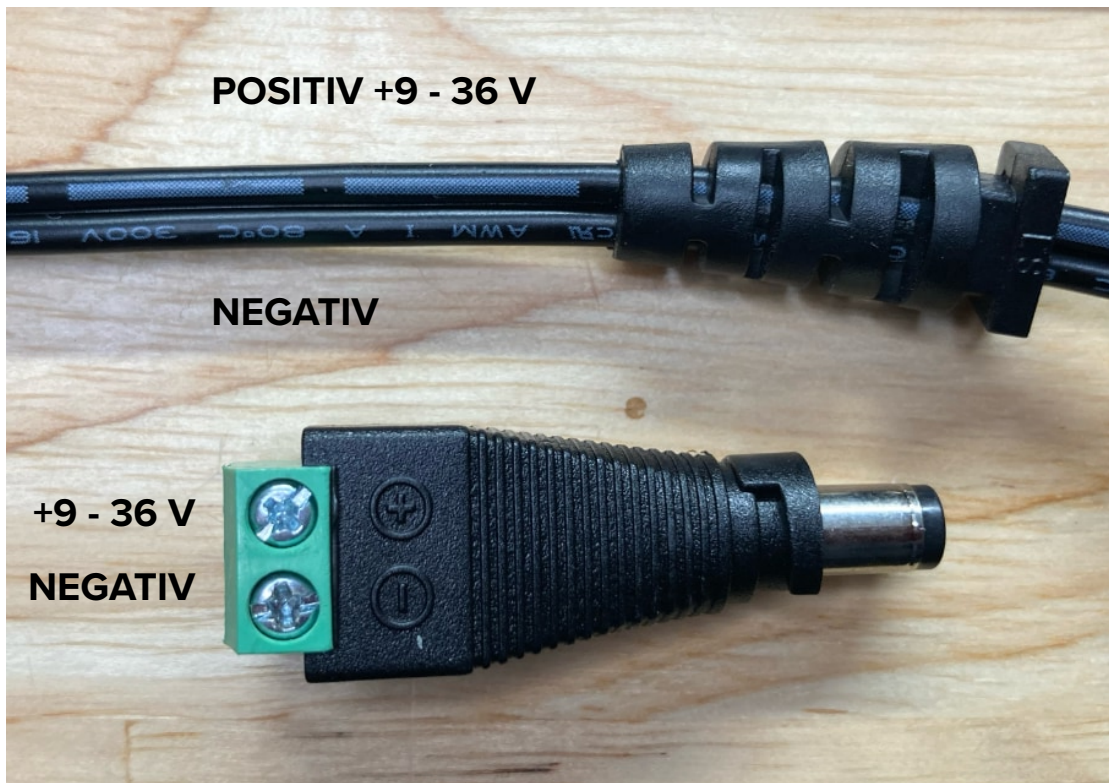
- GPS
- depth and speed through water (DBK, STW)
- Apparent wind angle, apparent wind speed (AWA, AWS)
- Compass on NMEA (if you have an autopilot, you have the compass data)

Installation place

Computers don't like heat. Avoid direct sunlight on Zora and ensure enough space for cooling.

The nominal work temperature is from 0° to 60° C or 32 - 140 ° F with a humidity between 10% and 90%.

Avoid mounting the Zora too close to a Shortwave Radio, even if the case is metallic, to prevent electromagnetic interference.



Power Supply and Fuse

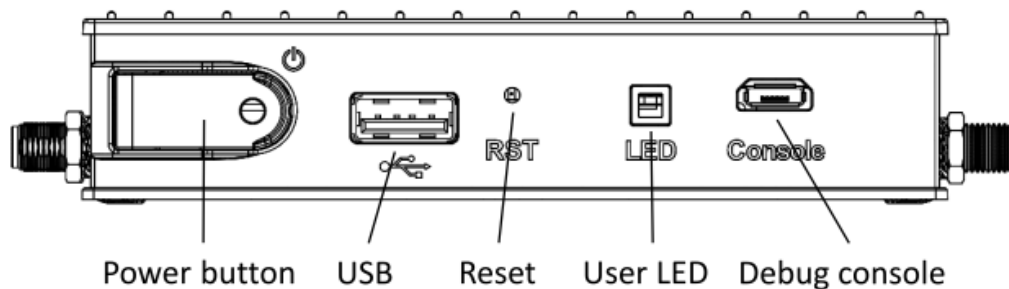
Zora needs a power supply of 8-36 Volt. The Power can be unregulated.

The Fuse should be 1.6A for lower than 12V and 1 Amp for 12V and higher.

Data Connections

There are two Data Connectors, NMEA2000 (CAN Bus) and NMEA0183 (RS422).

They can be used together or exclusively. Zora keeps both Data Connections wholly insulated from the boat through optocouplers.



Overview

Power On and Off

To turn on your device, just hold down the power button until you see the yellow LED light up. When you're ready to turn it off, simply press the power button briefly and wait for the LED to turn off — this might take a few seconds. It's a good idea to avoid unplugging the power supply while Zora is still on to keep everything running smoothly. If the lights don't respond to a quick press, a longer press will force a shutdown, giving you a dependable way to turn it off whenever you need.

USB Port

You can connect a USB loudspeaker to the port on this side to hear alarms, even if no device is plugged into Zora.

Reset

To reset Zora, you can gently insert a paper clip or SIM-eject tool into the reset hole— it's a simple step! Alternatively, turning it off and back on is often the easiest and most effective way to get it working smoothly again.

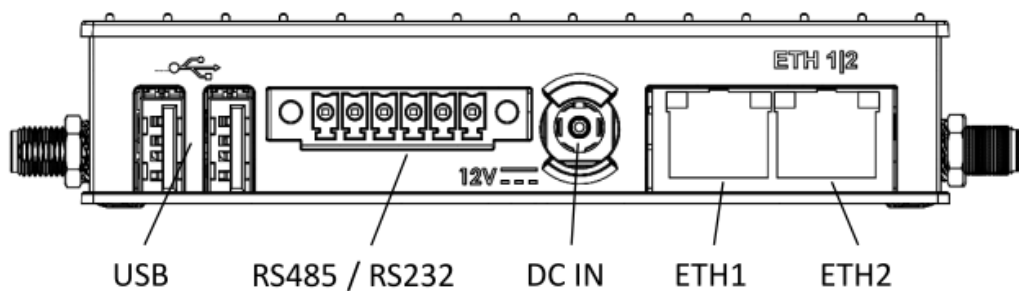
User LED

The user LED is typically turned off to help conserve power, but it's handy for debugging when needed.

Debug Console

Reserved for repairs and servicing.

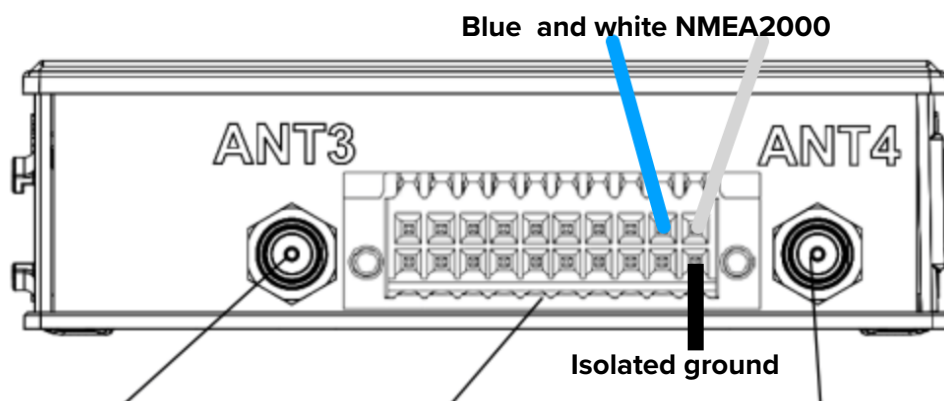
Rear panel



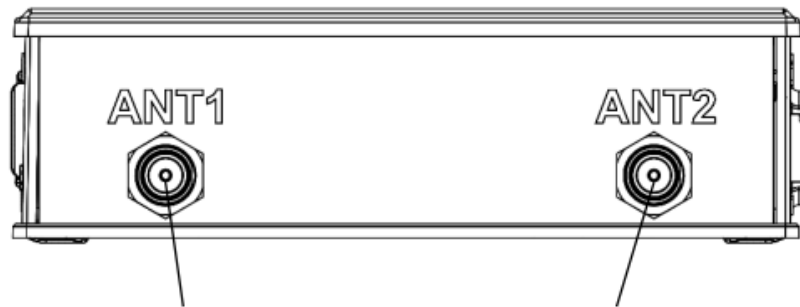
- The USB on the left is for a backup hard disk
- The USB on the right is reserved for the hard disk.
- RS-485 connector for NMEA0183
- DC Input Power supply 8-36V
- Ethernet ETH1 - 1000Mbps port to connect to the router
- Ethernet ETH2 - 100Mbps port not used yet

Left side

- Connector for NMEA 2000



Right side



- WIFI/BT Antennas for iNav4U's own Sensor Network.

NMEA2000

With NMEA 2000, all of your instruments are connected to the so-called backbone bus to share information.

You can find detailed installation information in our guide [here](#).

Instruments tap into the backbone bus via various connectors such as T-connectors and drop cables. This eliminates the need for big bundles of wires strung throughout the boat. It reduces the complexity of the installation, as well as the weight of multiple wires and cables.

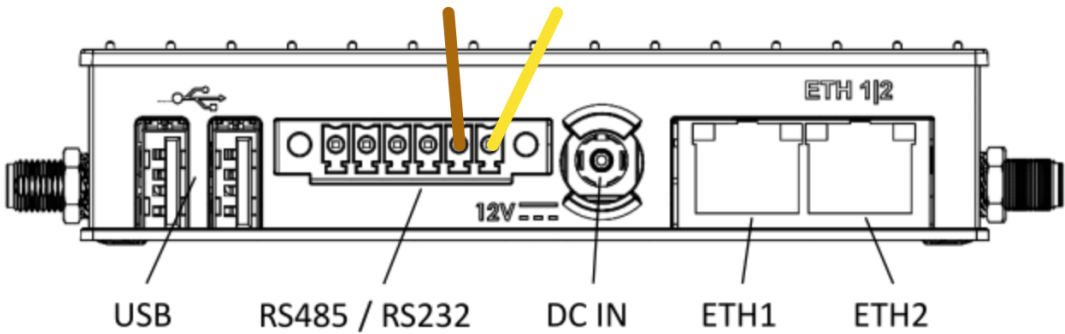
With a backbone cable serving as the data highway, you must connect it to the central unit. Zora will automatically collect the data from your NMEA2000 Bus.

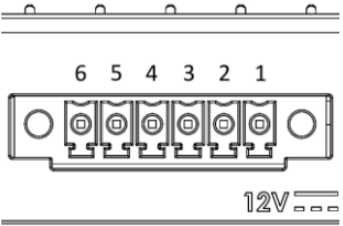
This sharing of data and operation continues beyond navigation electronics. You can also monitor and control all major systems on board. This can include the engines and generators; batteries, charging systems and shore power; fuel flow management; electrical, lighting, pumps and blowers; liquid water level, fuel and waste tanks; and safety and security systems.

NMEA0183

The NMEA 0183 Interface Standard is used worldwide across many industry segments. The standard defines electrical signal requirements, data transmission protocol and time, and specific sentence formats for a 4800-baud serial data bus. Each bus may have only one talker but many listeners. This standard is intended to support one-way serial data transmission from a single talker to one or more listeners.

POS-brown NEG-yellow Isolated Ground on pin 3 or 6



Pin	RS485 mode	RS232 mode	Pin numbering
1	RS485_NEG	RS232_TXD	
2	RS485_POS	RS232_RTS	
3	GND	GND	
4	NC	RS232_CTS	
5	NC	RS232_RXD	
6	GND	GND	

The Zora serial interface is set to RS485 mode:

Help & Support

For any questions or troubles installing your Zora don't hesitate to contact our support.

email

support@inav4u.com

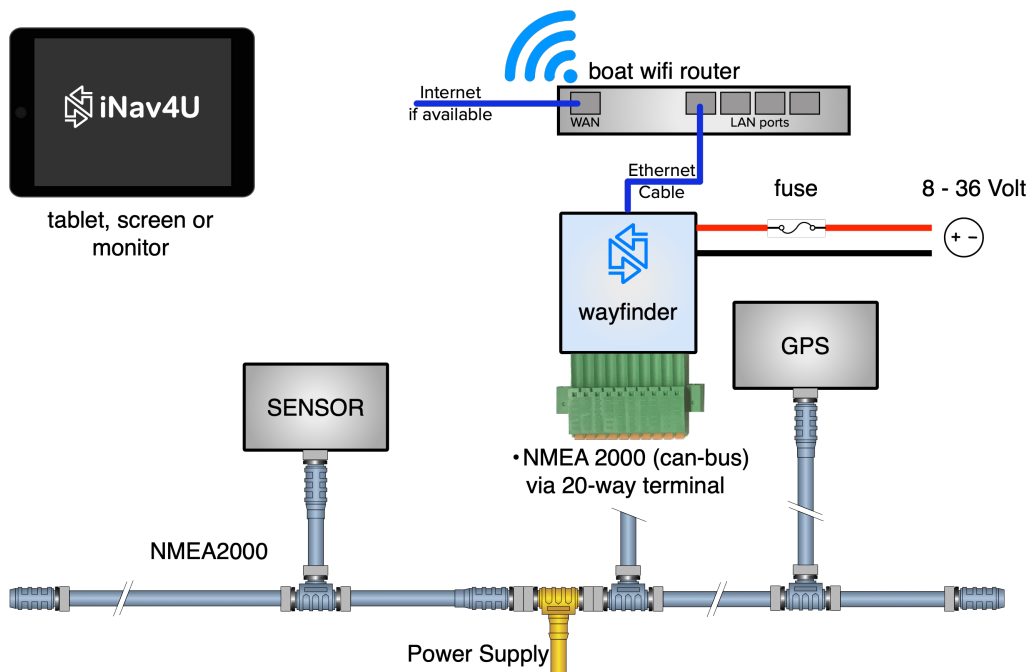
Appointment call or zoom support

via web browser with this link: <https://www.inav4u.com/support>

Tutorial videos

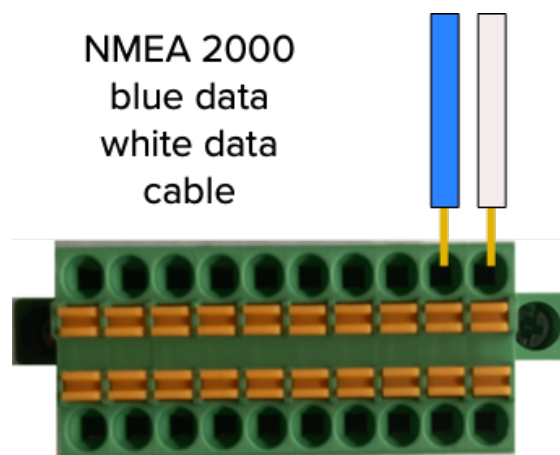
On our website at www.inav4u.com/tutorials

NMEA2000 Backbone



Connecting Zora to external power.

Voltage should be 8-36V. The Fuse should be 1.6 - 0.5A, depending on the voltage.

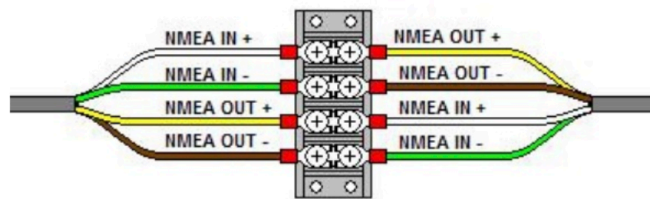
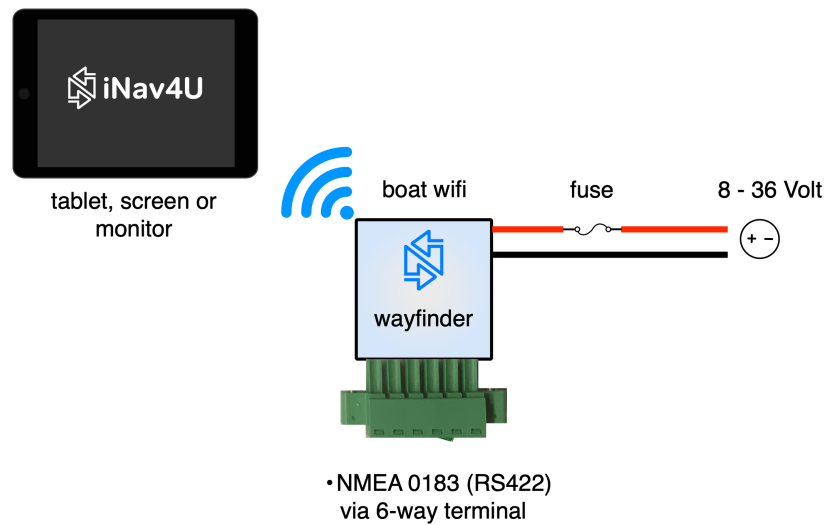


NMEA0183 Bus

Zora can read NMEA 0183 data on a dedicated connection.

Connecting Zora to external power.

Voltage should be 8-36V. The Fuse should be 1.6 - 0.5A, depending on the voltage.



NMEA2000 and NMEA0183

The Basic Module can receive data from both inputs at the same time.

Specifications

CPU Core

CPUNXP i.MX8M Mini, quad-core ARM Cortex-A53, 1.8GHz

Real-Time-Co-Processor

ARM Cortex-M4

Memory and Storage

RAM.....4GB, LPDDR4

Primary Storage.....32GB eMMC flash, soldered on-board

Network

LAN1.....1000Mbps Ethernet port, RJ45 connector

LAN2.....100Mbps Ethernet port, RJ45 connector

WIFI Interface802.11ax WiFi

WIFI ModuleIntel WiFi 6 AX200

Antennas 2x2.4GHz / 5GHz rubber duck antennas

3x USBUSB2.0 ports, type-A connectors

1x SerialRS485 (2-wire) / RS232 port, terminal-block

1x CAN-FDport Isolated, terminal-block connector

Security

Secure boot.....implemented with Mini HAB module

TPM 2.0implemented with Infineon SLB9670

System

RTC.....Real-time clock operated from the onboard coin-cell battery

Supply VoltageUnregulated 8V to 36V

Power Consumption.2W - 7W, depending on system load

Mechanical Specifications

Dimension.....112 x 84 x 25 mm

EnclosureAluminum housing

CoolingPassive cooling, fanless design

Weight450 gram

Compliance

Regulatory.....CE, FCC

EMC.....EN 55032/5, EN-61000-6-2, EN-61000-6-3

Safety.....EN/UL/IEC 62368-1

Reliability

MTTF.....> 200,000 hours

Warranty2 years without a subscription

Operation Temperature

Navigator.....0° to 60° C / 32° to 140° F

Explorer-20° to 60° C / -4° to 140° F

Extreme.....-40° to 80° C / -40° to 176° F

Storage Temperature

.....-40° to 85° C / -40° to 185° F

Humidity

operation.....10% to 90%

Storage05% to 95%