AIS over WiFi with the DT-06 WiFi module

The auxiliary serial port is pin-compatible with the inexpensive DT-06 WiFi module. With the module, dAISy 2+ can make data available wirelessly to mobile devices like laptops, tablets and smartphones.

What you need

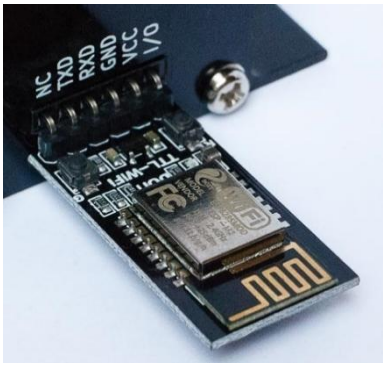
- DT-06 WiFi module, available for US$4 to $10 on Ebay and other online shops.
- An app that accepts AIS from a network connection, like for example OpenCPN or Navionics. In this document, we will use OpenCPN, but configuration of other apps is very similar.

WARNING: We received reports that some DT-06 modules offered on Ebay and AliExpress don't work. Specifically, modules branded DM DIY MORE do not work! We now sell tested and pre-configured WiFi modules: https://shop.wegmatt.com/collections/accessories/products/dt-06-wifi-module

Installing the WiFi module

Remove power from the dAISy AIS receiver before installing the module.

Plug the WiFi module into AUX Serial so that the VCC and GND pins of the WiFi module line up with the respective labels on dAISy. With that, dAISy TXD will be connected to WiFi RXD, and dAISy RXD to WiFi TXD. **Note: The module may be upside down compared to the picture**, that's ok if the pins are connected as described above.



Connect dAISy to power. The LED on the WiFi module should light up.

At any time, the module can be reset to factory default settings by keeping the button labelled **G** pressed until the LED turns off.

Configuring the WiFi module

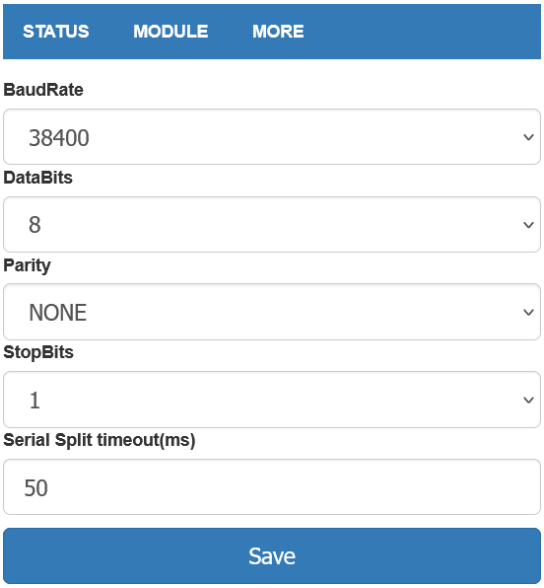
When first powered up, the module will show up as a WiFi access point with the name **Doit_WiFi_x**, where **x** are the last 6 characters of the module's MAC address.

Connect to this access point with a computer or mobile device. Open a browser and in the address bar type **http://192.168.4.1** and press enter. You will see the configuration menu of the WiFi module.

First, configure the communication between the WiFi module and dAISy.

Navigate to **MODULE > Serial**. Set **BaudRate** to **38400**. Leave the remaining fields at their defaults (8, NONE, 1, 50).

Click **Save**.



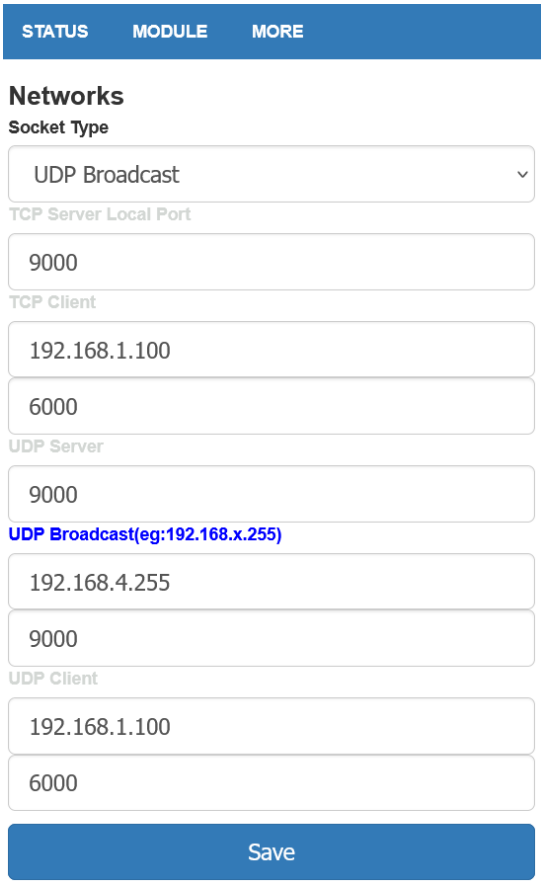
Next, configure protocol, address, and port on which AIS data will be broadcasted.

Navigate to **MODULE > Networks**. In the field **Socket Type** at the top of the page, select **UDP Broadcast** from the drop down.

Further down the page, in the fields below the blue section title **UDP Broadcast**, enter the IP address **192.168.4.255** and the port number **9000**.

Click **Save**.

Write down the IP address and the port number on a piece of paper. You will need them for the configuration of the navigation apps on PCs and mobile devices.



We recommend protecting access to the WiFi module by setting a password.

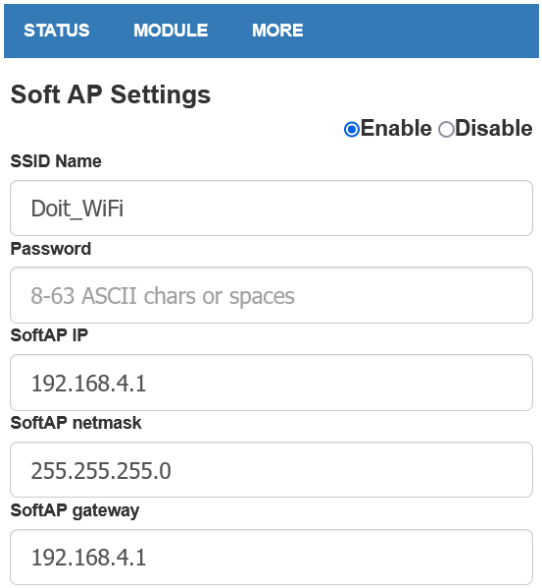
Navigate to **MODULE > WiFi**. In the section **SOFT AP Settings** enter the desired password into the field **Password**. The password must be 8-63 characters.

Optionally, you can change the name of the WiFi module by updating the field **SSID Name**.

Leave the other fields unchanged.

Scroll to the bottom of the page and click **Save**.

If you ever forget the password, you can reset the WiFi module to factory configuration by keeping the button labelled G pressed until the LED turns off.



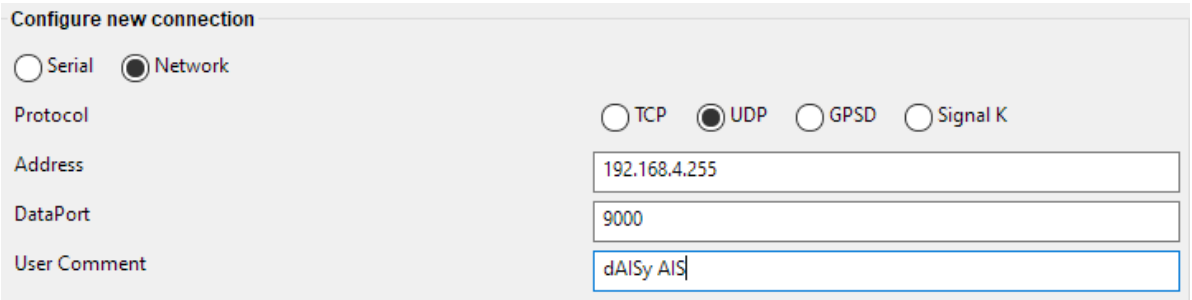
To activate the settings the module needs to be restarted. Navigate to **MORE > Restart**. The settings you've made are now active.

Configure OpenCPN

Applications that process the AIS data must be configured to receive data from the UDP with the IP address and port you noted down. Here we use OpenCPN, but the procedure will be similar with other applications.

Connect your computer or mobile device to the WiFi access point of the dAISy 2+ AIS receiver.

Start OpenCPN. Go to **Options > Connections**. Click **Add Connection** to create a new connection. Select the **Network** radio button, and under **Protocol** select **UDP**. In the field **Address**, enter the IP address you noted down. In the field **DataPort** enter the port you noted down.



Optionally, you can give the connection a name by entering the desired name in the field **User Comment**.

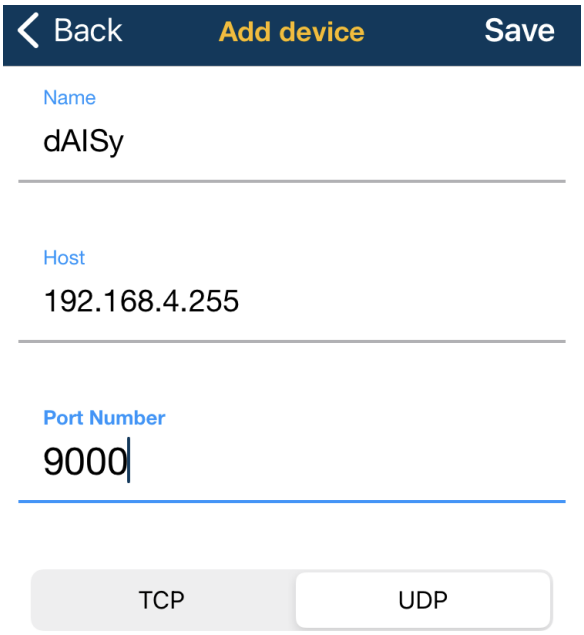
Leave the remaining fields at their defaults. Press **OK** to save and activate the new connection. If there are AIS targets in range, OpenCPN will now start receiving AIS data.

Configure Navionics Boating App

Garmin Boating, also known as Navionics, is a popular app for mobile devices that in its paid version also supports AIS.

Connect your mobile device to the WiFi access point of the dAISy 2+ AIS receiver.

Open the Navionics app. Go to **Menu > Paired Devices**. Press **+** to connect a new device, and press **ADD DEVICE** at the bottom of the screen. Give the device a name, for example dAISy. In the field **Host** enter the IP address you noted down. In the field **Port Number** enter the port you noted down. Press **UDP** to select the correct protocol.



Press **Save** to complete the configuration.

Note that Navionics will report the AIS receiver as **Disconnected** if there is no active AIS traffic.