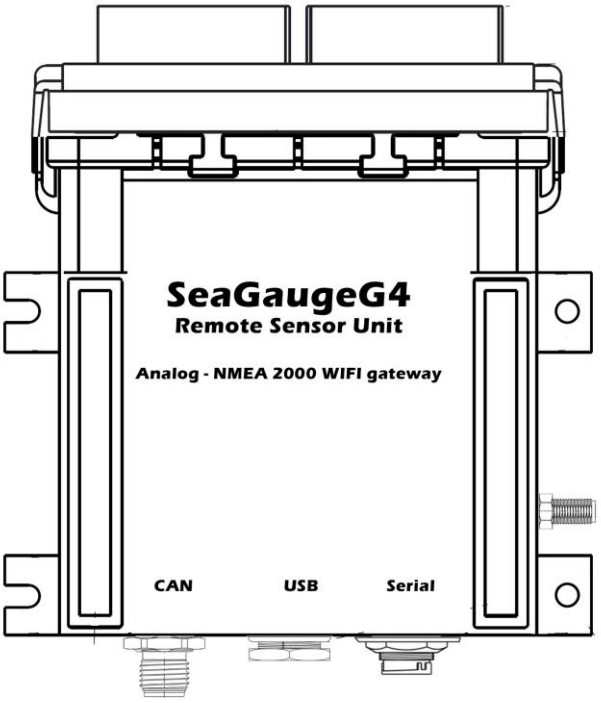
Application Note

ANSS025030301 – NMEAremote iOS Configuration



Chetco Digital Instruments, Inc

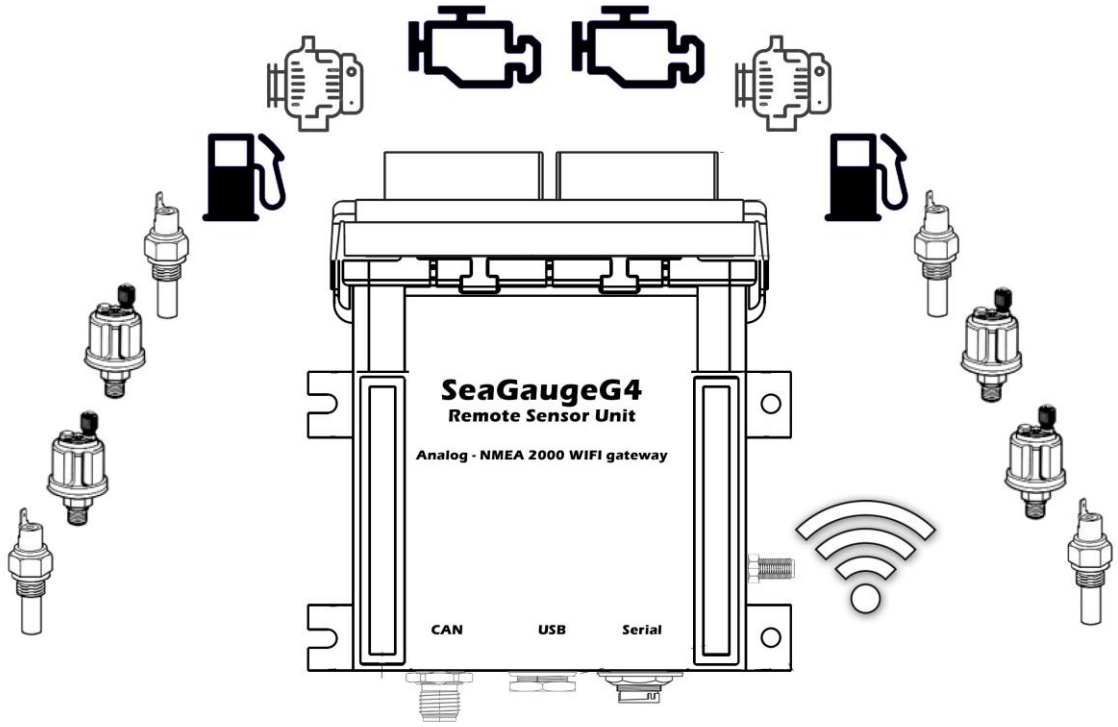
Revision 030325

SeaGaugeG4 supports up to 12 resistive or voltage style analog sensor inputs and 3 pulse style inputs.

SeaGaugeG4 also provides 4 additional indicator/status inputs (18VDC max) and 4 relay driver (12VDC) outputs

Sensors are connected to the dual 20 pin Molex style connectors and analog voltages converted to digital protocol compatible with CAN bus and WIFI interfaces.

SeaGaugeG4 can trigger multiple alarms based on sensor voltages from any of the 12 analog inputs and 3 pulse inputs



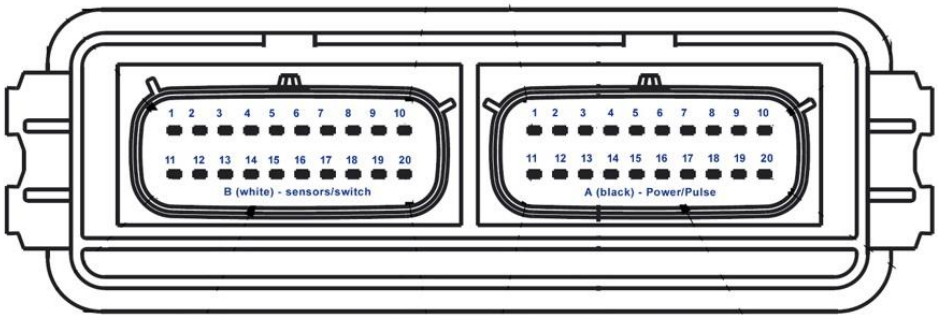
SeaGaugeG4 supports up to 3 pulse sensor inputs via a 20 pin Molex MX150 plug (white).

Molex style crimp pins are provided to attach 18 gauge tinned wire and insert into appropriate locations in supplied plugs.

The 3 pulse inputs (P0-P2) are used to provide Tachometer, Fluid Flow, and other rotational sensor inputs.

Each pulse channel has a runtime accumulator that counts the number of seconds the channel is active up to 16,777,216 seconds

SeaGaugeG4 Header



B1 - NC	B11 - NC	A1 - SW5	A11 – SW4
B2 - NC	B12 - NC	A2 - SW7	A12 – SW6
B3 – SEN10 (SBOOST)	B13 – SEN11 (STRAN)	A3 - NC	A13 - NC
B4 – SEN04 (STEMP)	B14 – SEN05 (SOIL)	A4 – P1 (SRPM)	A14 - GND
B5 – SEN06 (SFUEL)	B15 – SEN07 (SBAT)	A5 – P0 (PRPM)	A15 - GND
B6 – SEN00 (PBAT)	B16 – SEN01 (PFUEL)	A6 – P2	A16 - GND
B7 – SEN02 (PTEMP)	B17 – SEN03 (POIL)	A7 – 5VOUT	A17 – 5VOUT
B8 – SEN08 (PBOOST)	B18 – SEN09 (PTRAN)	A8 - GND	A18 - GND
B9 – INC03	B19 – INC02	A9 – 12VIN	A19 = 12VIN
B10 – INC01	B20 – INC00	A10 - NC	A20 - NC

SeaGaugeG4 and SeaSmartG3 gateways feature an internal HTTP and TCP data server for sending live sensor data to third party applications over local and remote network connections.

NMEAremote is an iOS application developed by zapfware (https://www.zapfware.de) and is available on the Apple AppStore.

NMEAremote will allow custom configuration of a variety of dashboads based on NMEA0183 and NMEA2000 messages served by the gateway TCP/UDP connections.

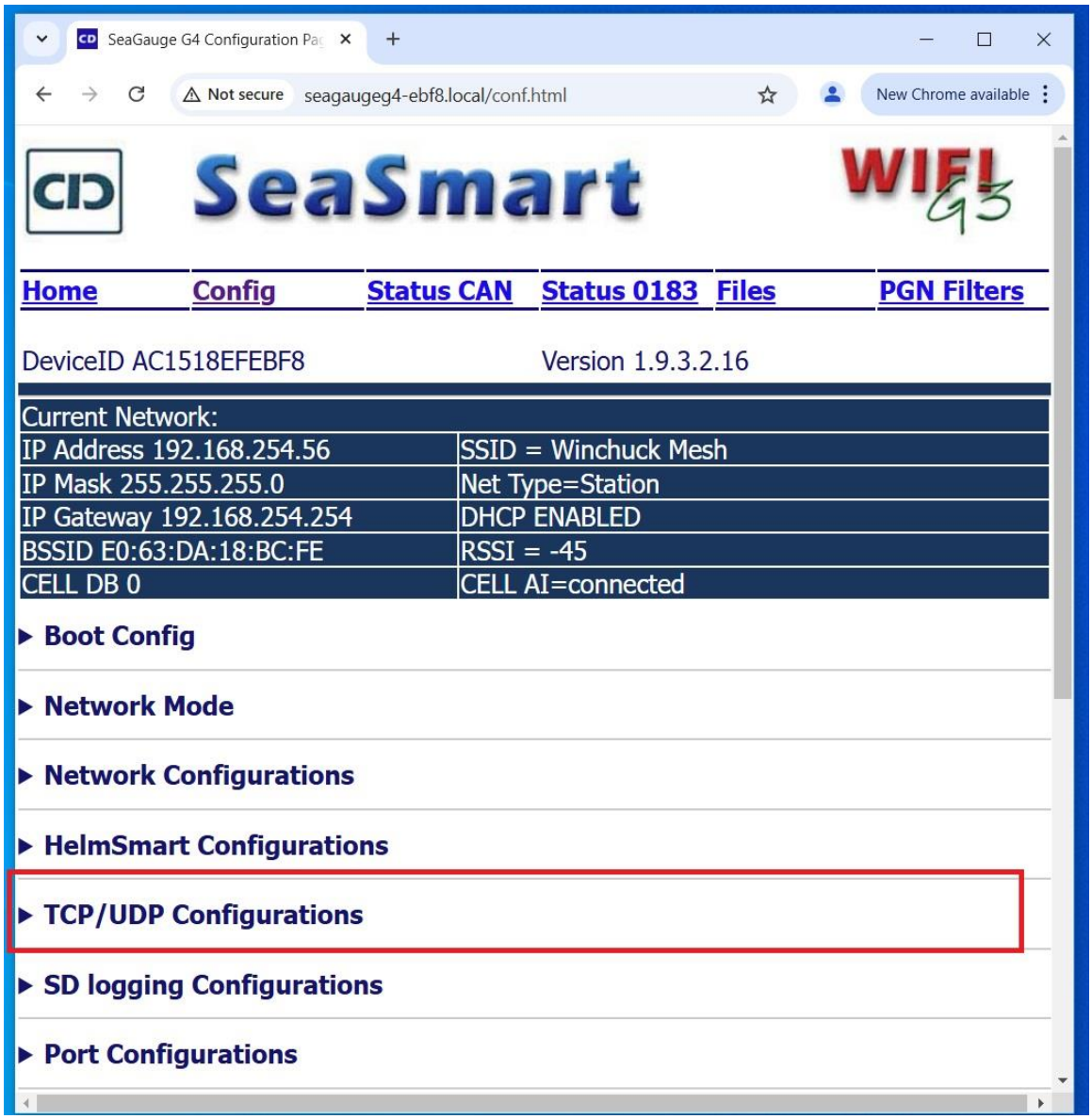
The first step in setting up NMEAremote to receive data from SeaGaugeG4/SeaSmartG3 gateways, is to enable the TCP Port to send data upon remote connection.

From the SeaGaugeG4 Home page – select the configuration link.

Expand the TCP/UDP section to configure/enable the port.

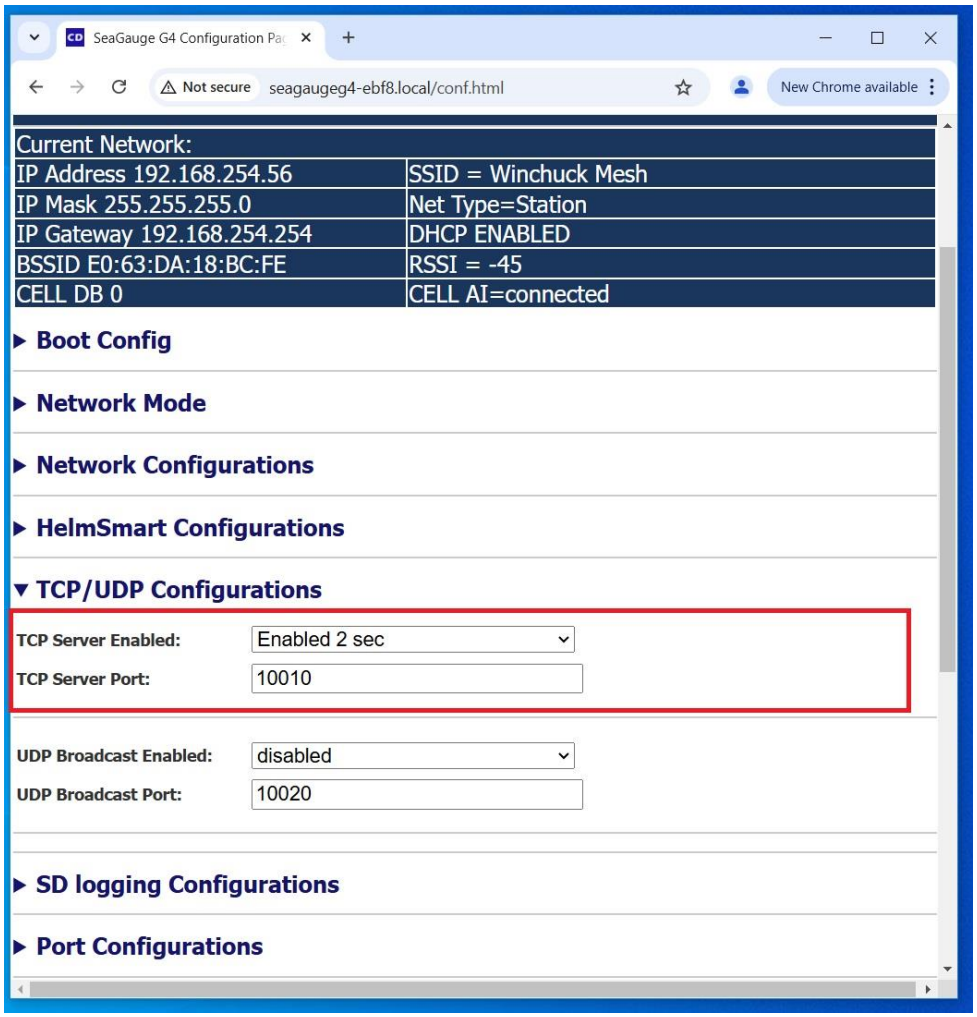
A local internet connection is not required to use local TCP connections with the NMEAremote iOS application.

Note the **DeviceID,** which will be needed later to configure the connections.



Set the TCP Server to **ENABLED** with the desired update interval to transmit NMEA0183/NME2000 messages.

The default **TCP port** number should be fine for most applications but can be changed to match the appropriate application if required.

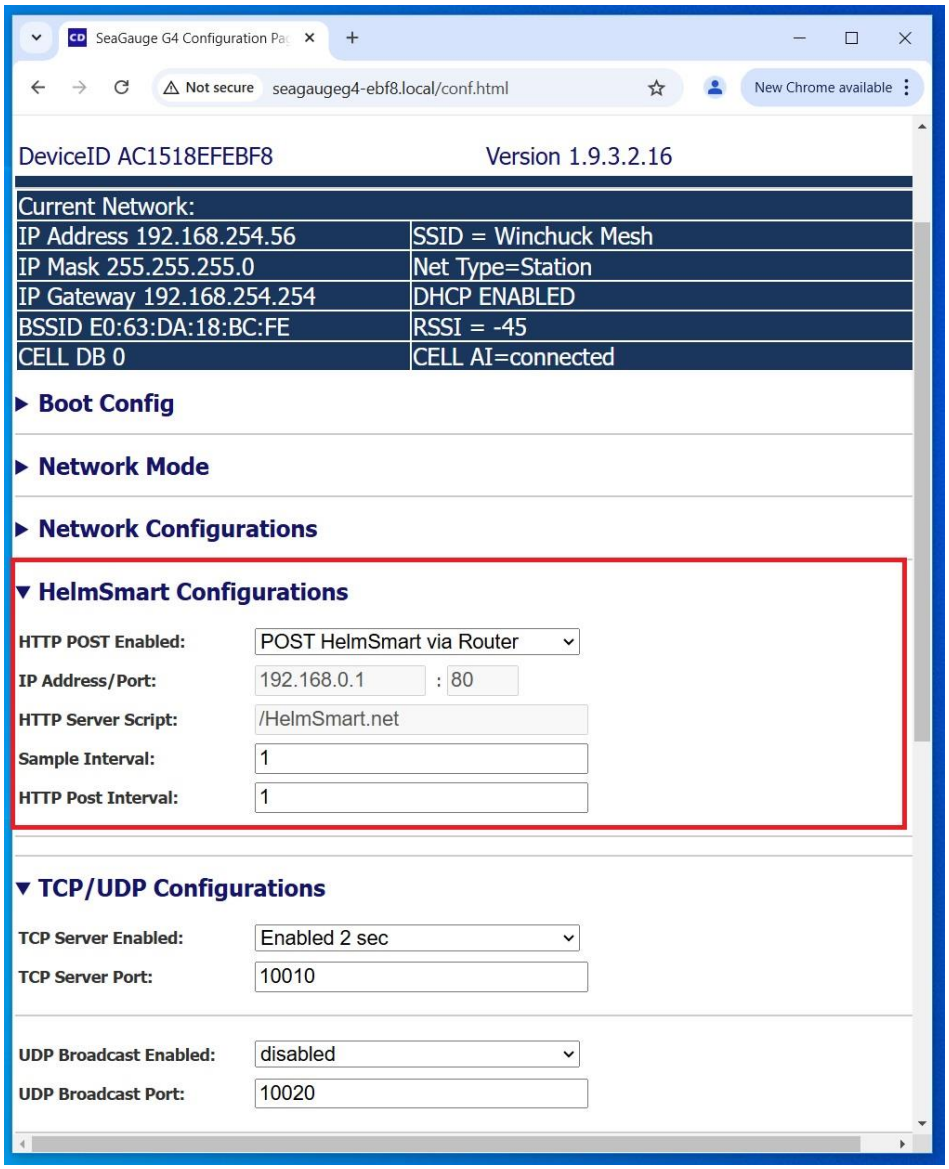


UDP Broadcast mode can be used if connecting to multiple device on the same local network.

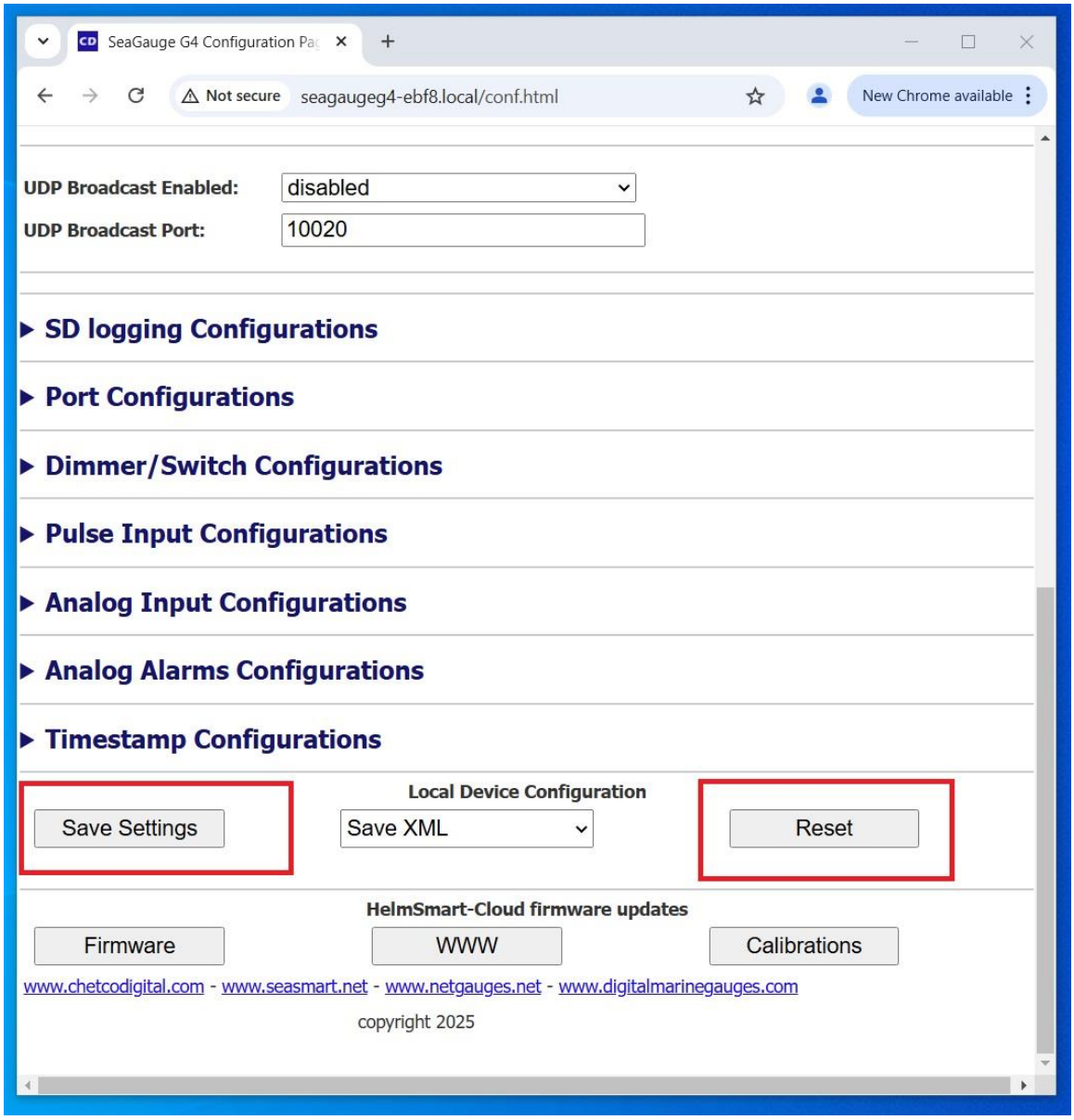
If it is desired to also connect remotely using the WWW.HELMSMART-REMOTE.COM cloud server - enable the **POST HELMSMART** as well.

HTTP POST interval is the time in minutes to send new data to the helmsmart-cloud Service.

You must have an internet connection on the local network to use this feature.

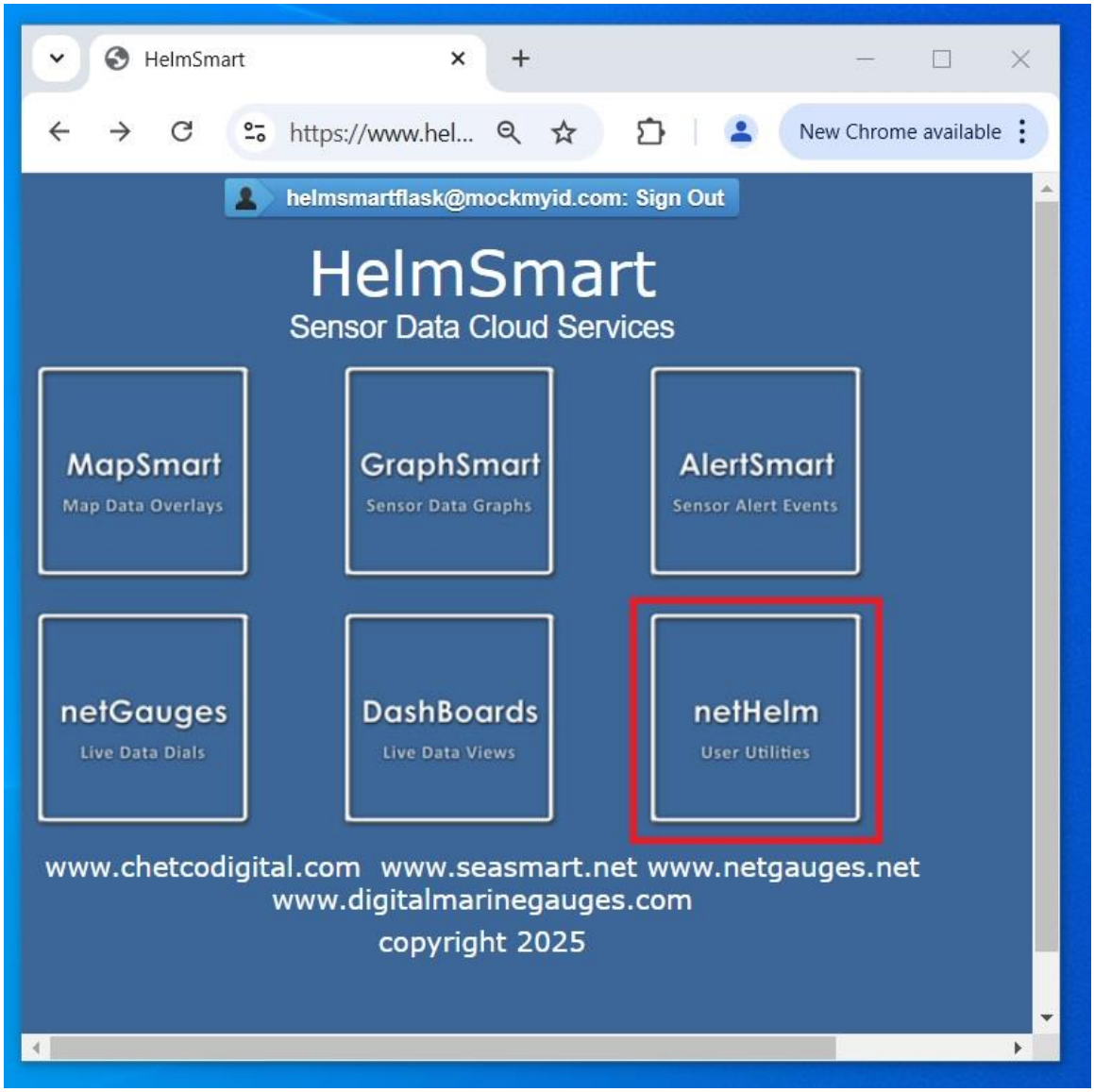


Save your settings and reset the gateway to enable the new services.

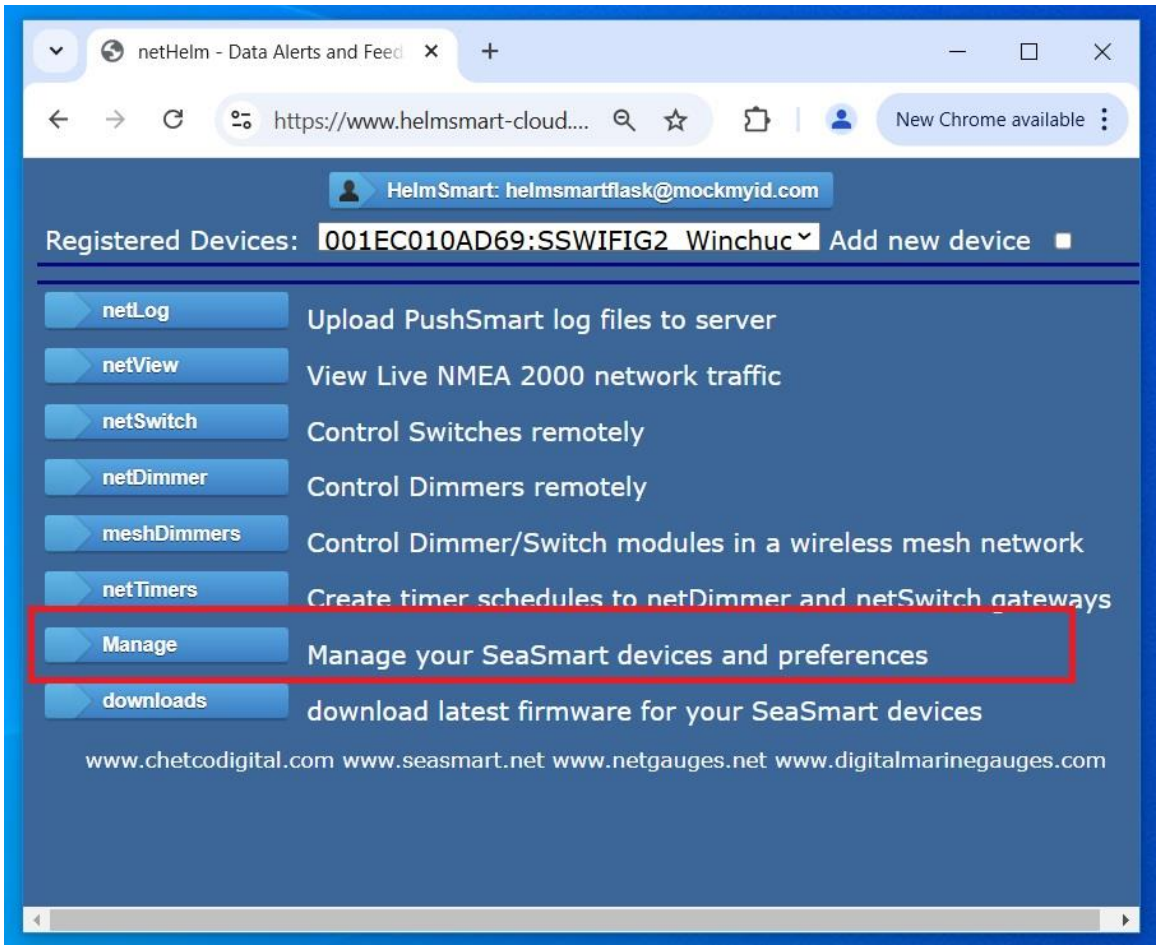


Before you can configure NMEAremote, you will need your **DEVICEKEY** that links your gateway to the HelmSmart Cloud Service

Log into your HelmSmart account at www.helmsmart-cloud.com and go to the **netHelm** link



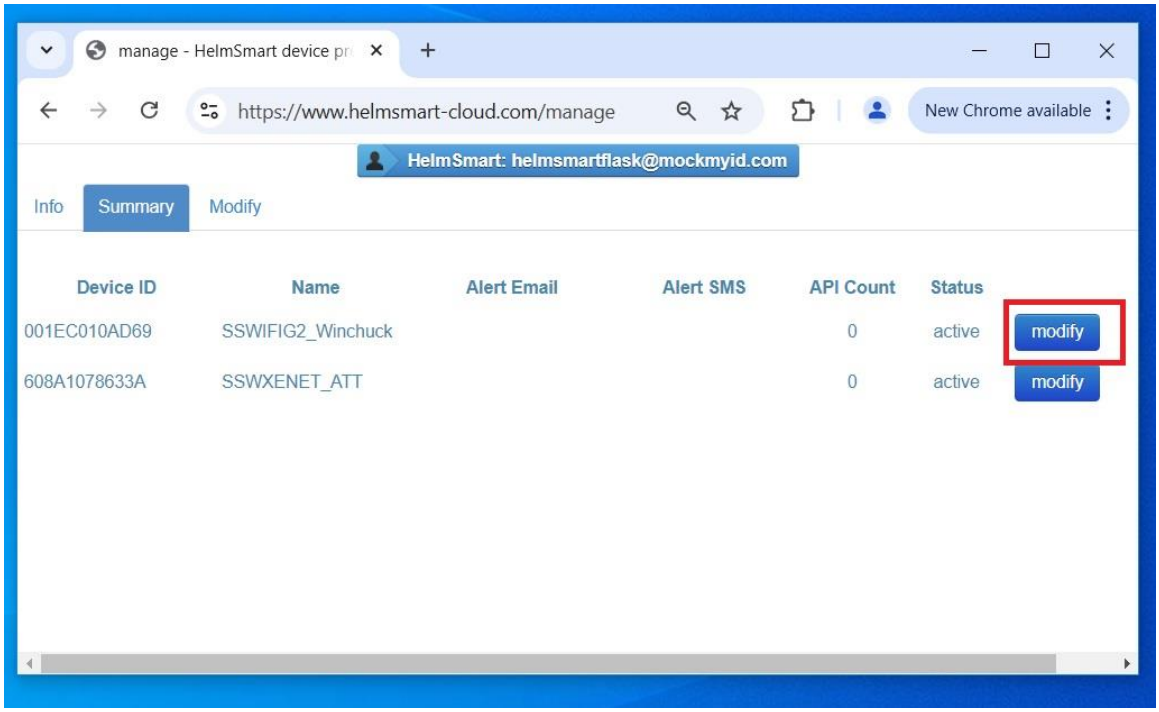
Select the **MANAGE** link to view your account information



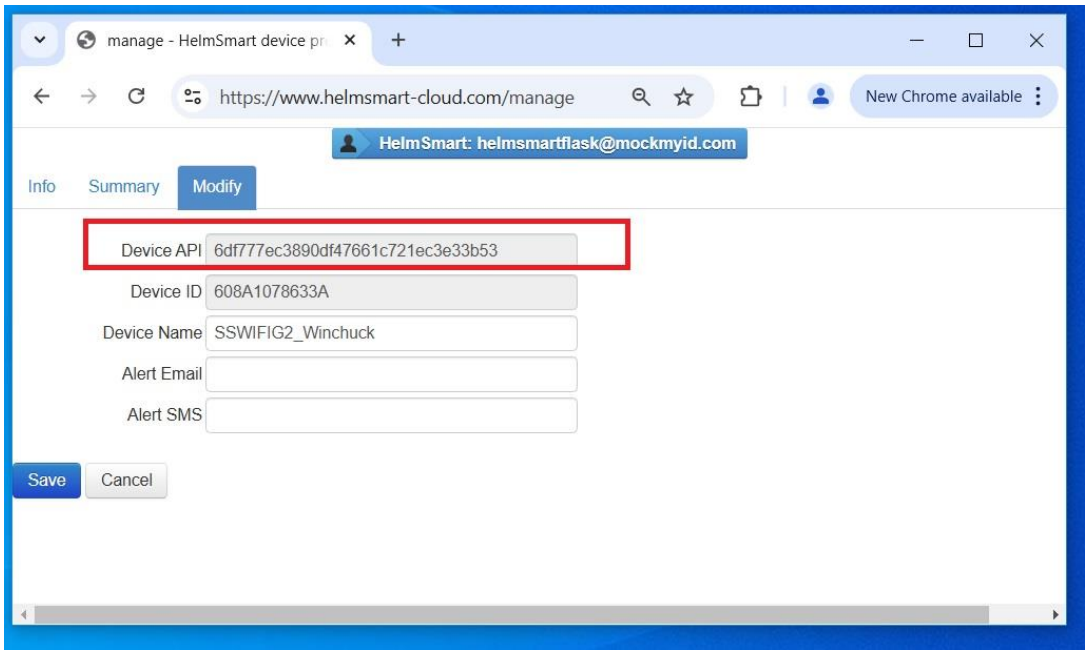
Here you will see a summary of all devices added to your account.

The **API Count** is a metric used to indicate remote device access to the HelmSmart data store. When NMEAremote is configured and connected to the cloud service – this value will indicate the amount of activity used for billing purposes

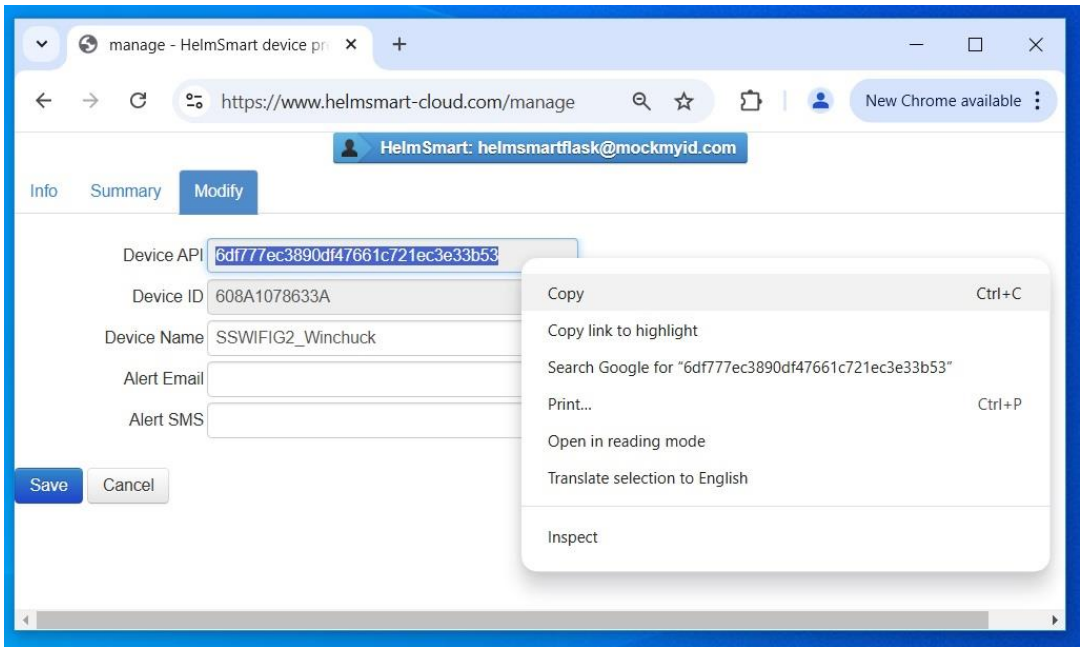
Select the **MODIFY** button to view you **DEVICEKEY**



Record your assigned **DEVICEKEY** which will be required when setting up the NMEAremote connection



You can also select and copy the **DEVICEKEY** directly into the NMEAremote device setup configuration



Tap the NMEAremote badge in the tools area in the upper left to enable the settings popup.

Then tap the **SETTINGS** box.

In the **SETTINGS**, tab tap the NMEA button to configure the data sources.

Then tap the **SOURCES** button to select the type of device to receive data from.

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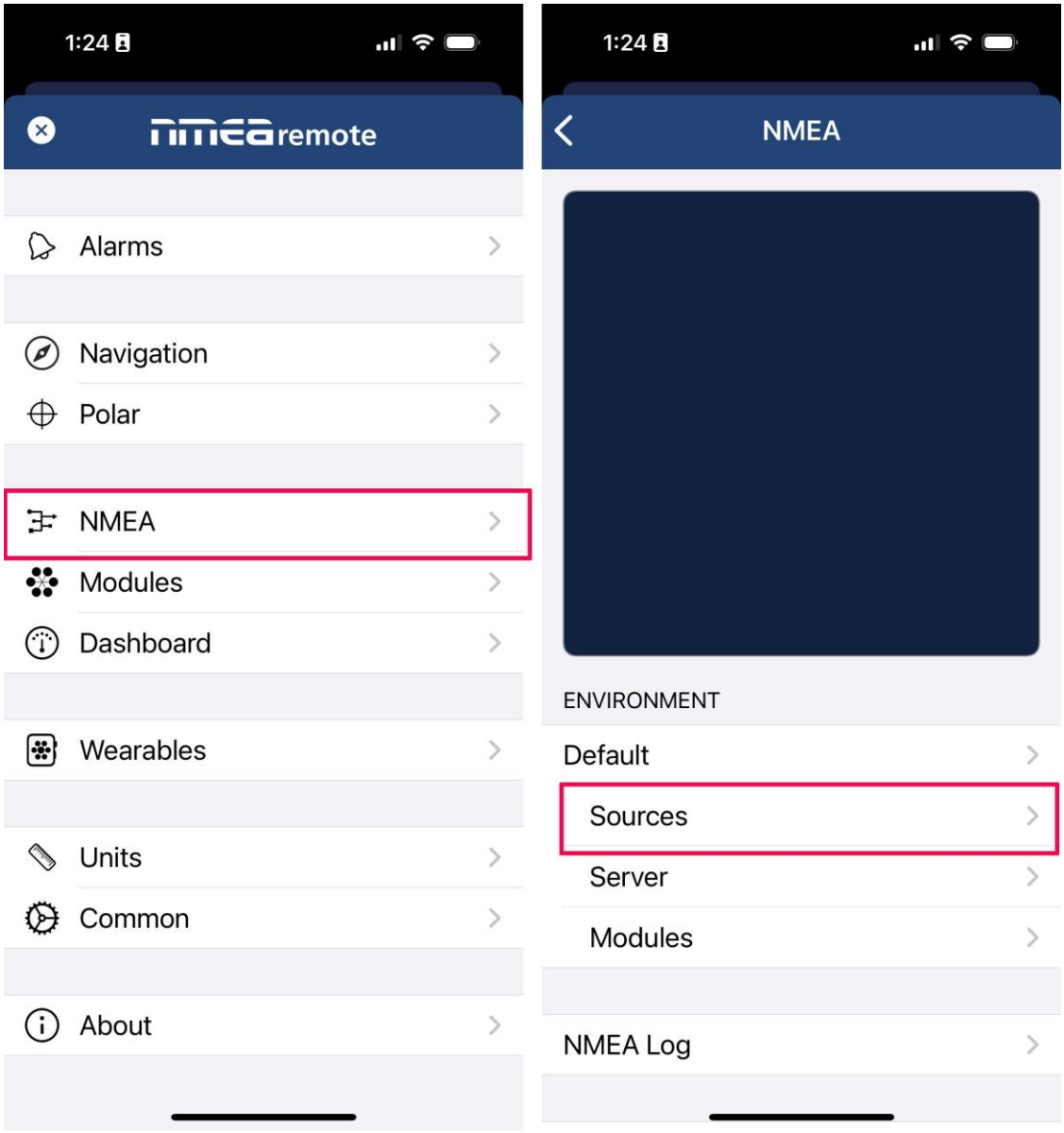
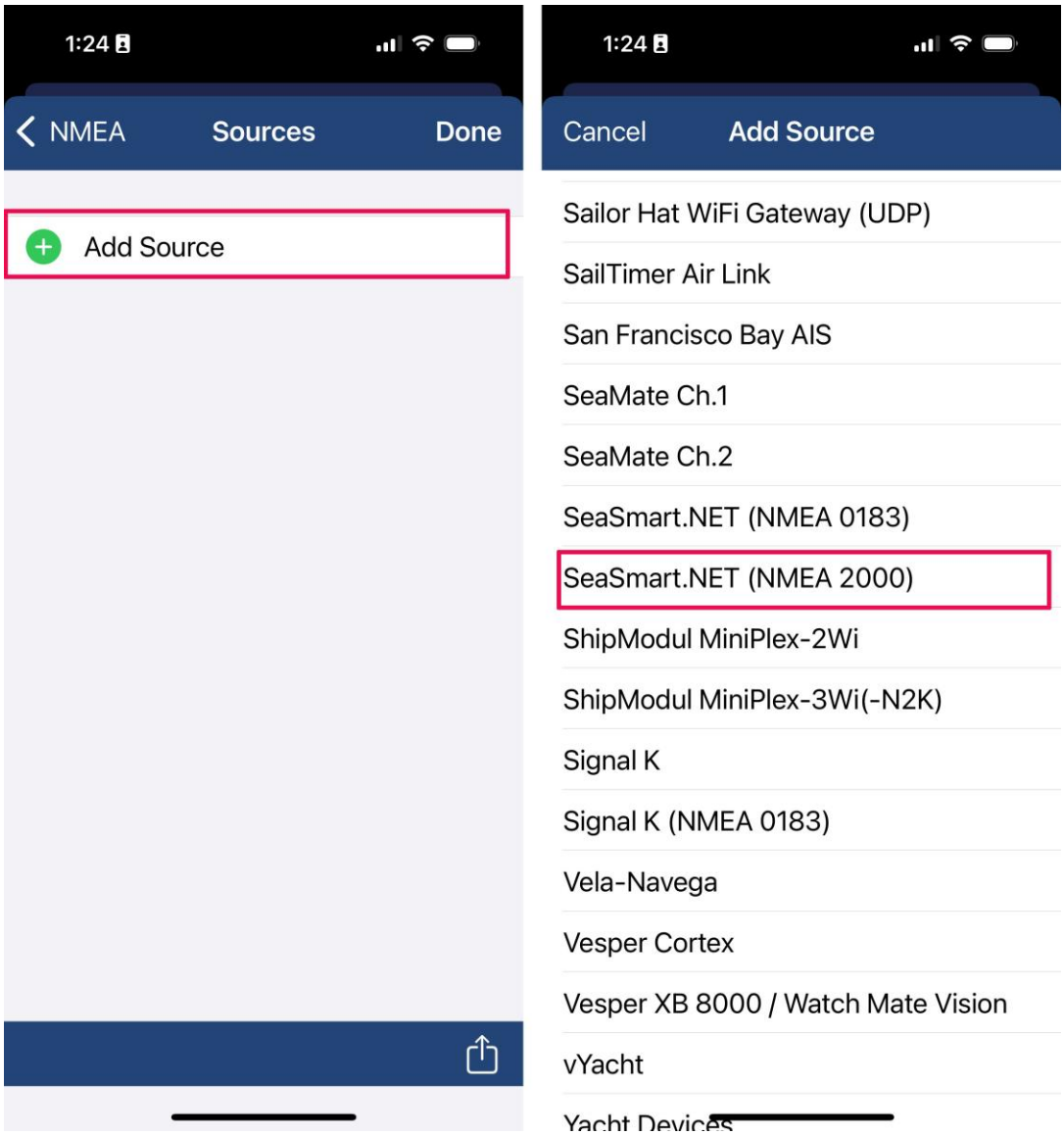
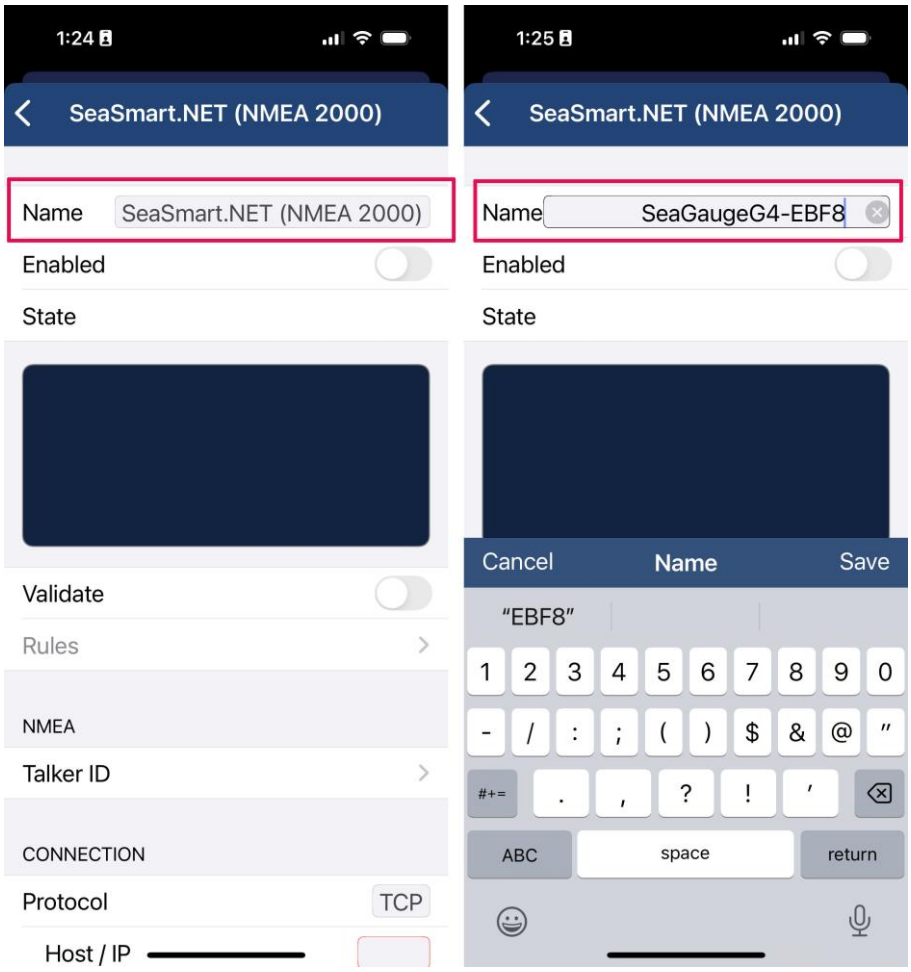


Add a new data source then select SeaSmart.NET (NMEA200) to receive from the SeaGaugeG4/SeaSmartG3 gateways.

When connecting using TCP port – the gateways will transmit live data using the **PUSHSMART** protocol which NMEAremote will decode into selected gauge panels.



Enter a new label for the data source and save.

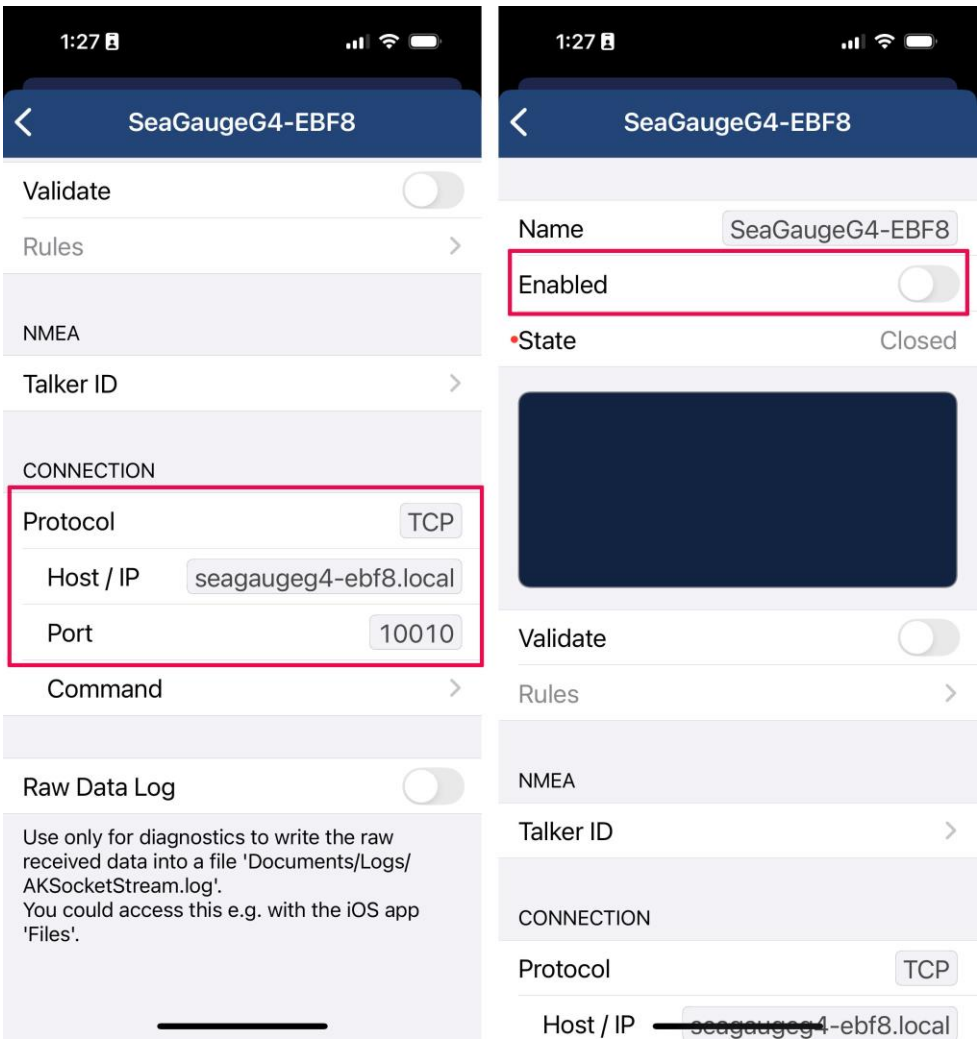


Select **TCP** as protocol and enter the **Host/IP** name from the gateway label. You can also enter the device IP address on the local network if known.

Hint: the device name and IPaddress are shown at the top of the **CONFIG** page when enabling the TCP connection.

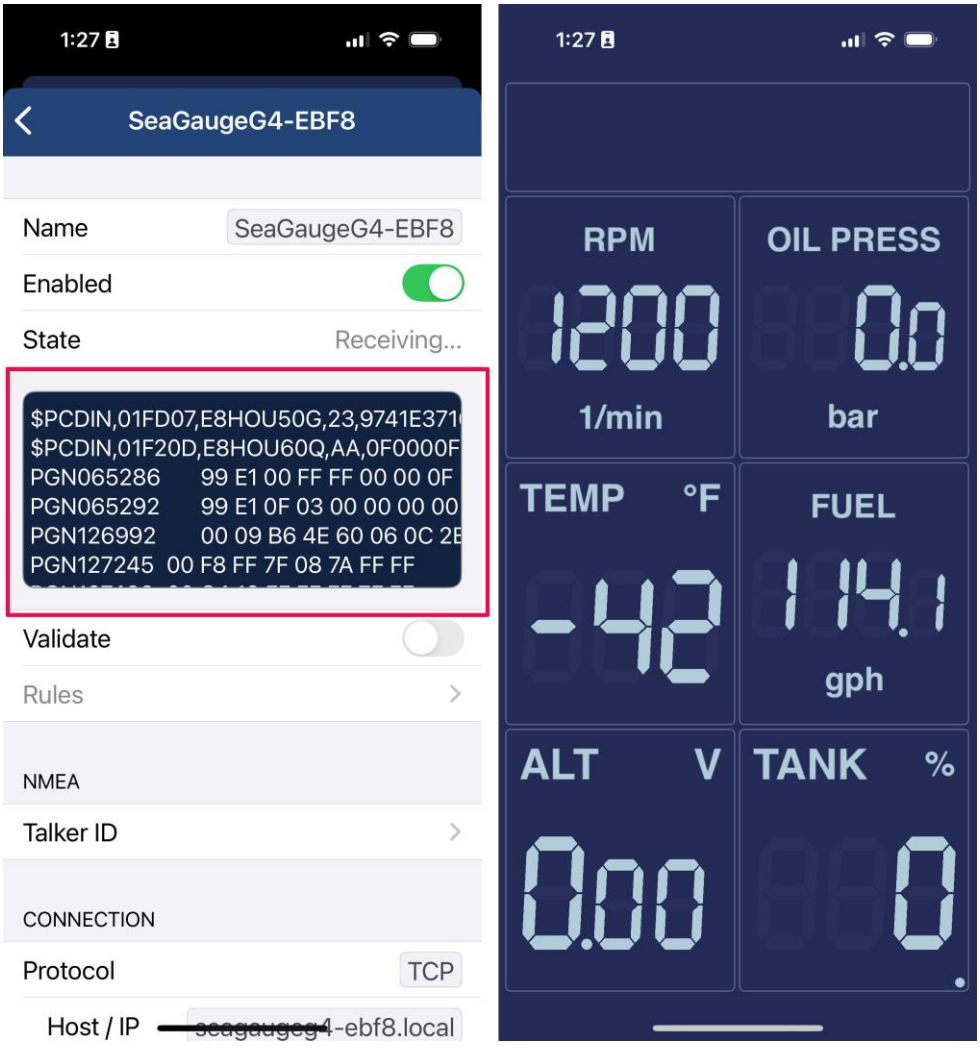
Enter the **TCP PORT** number to match the device configuration.

Finally - toggle the **ENABLE** button to validate the connection.



Once the connection is established – you should view live **PUSHSMART** protocol in the preview window.

Use the **BACK ARROW** to return to the main dashboard screen to view live data.

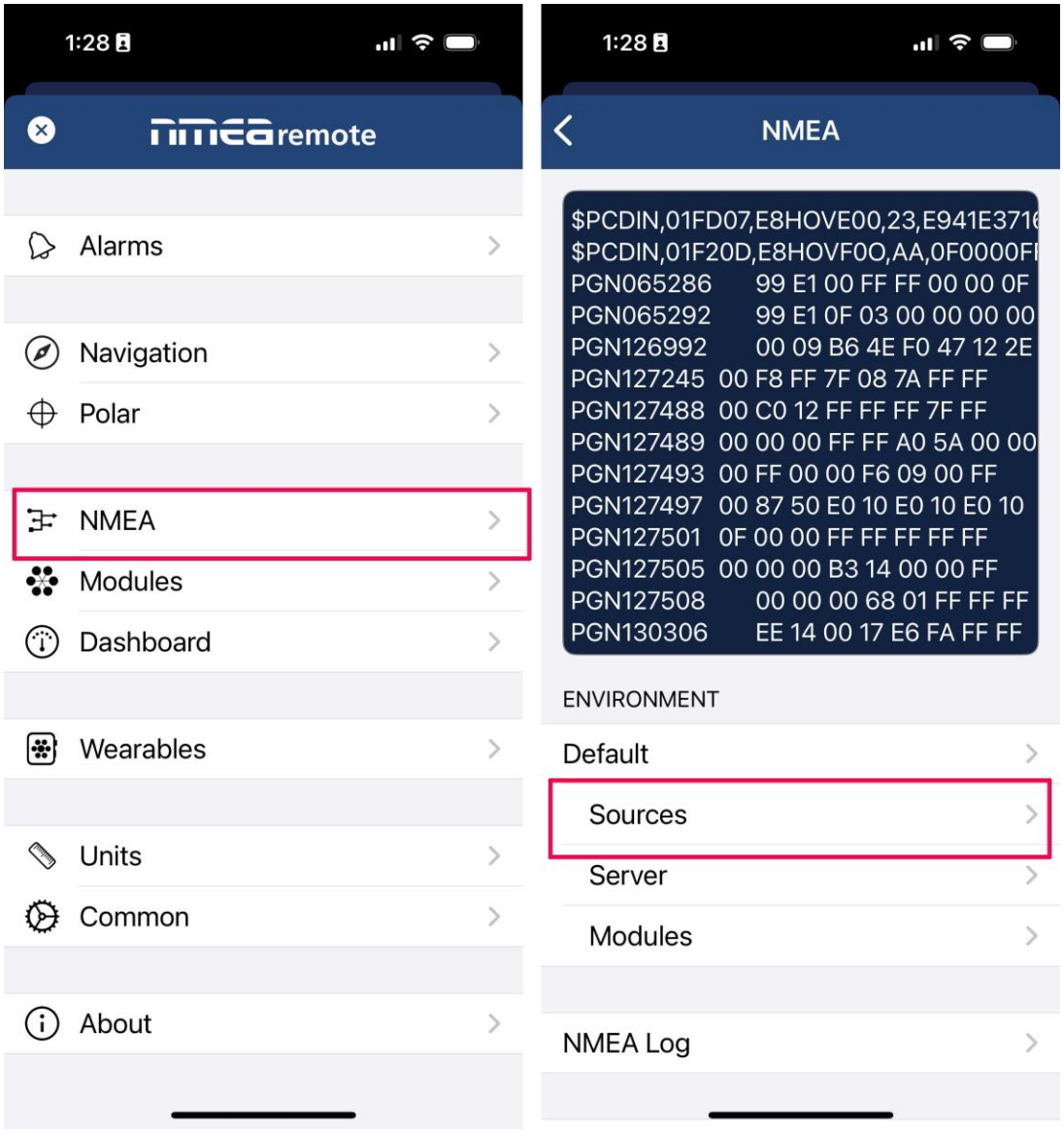


To set up an alternate remote connection using the www.helmsmart-remote.com cloud service – return to the device source settings page to enter a new connection.

Note: You must have a local internet connection to use this service.

Tap **NMEA** then **SOURCES** to set up a new connection.

If you have an existing active connection – you should disable it as this time to avoid conflict.



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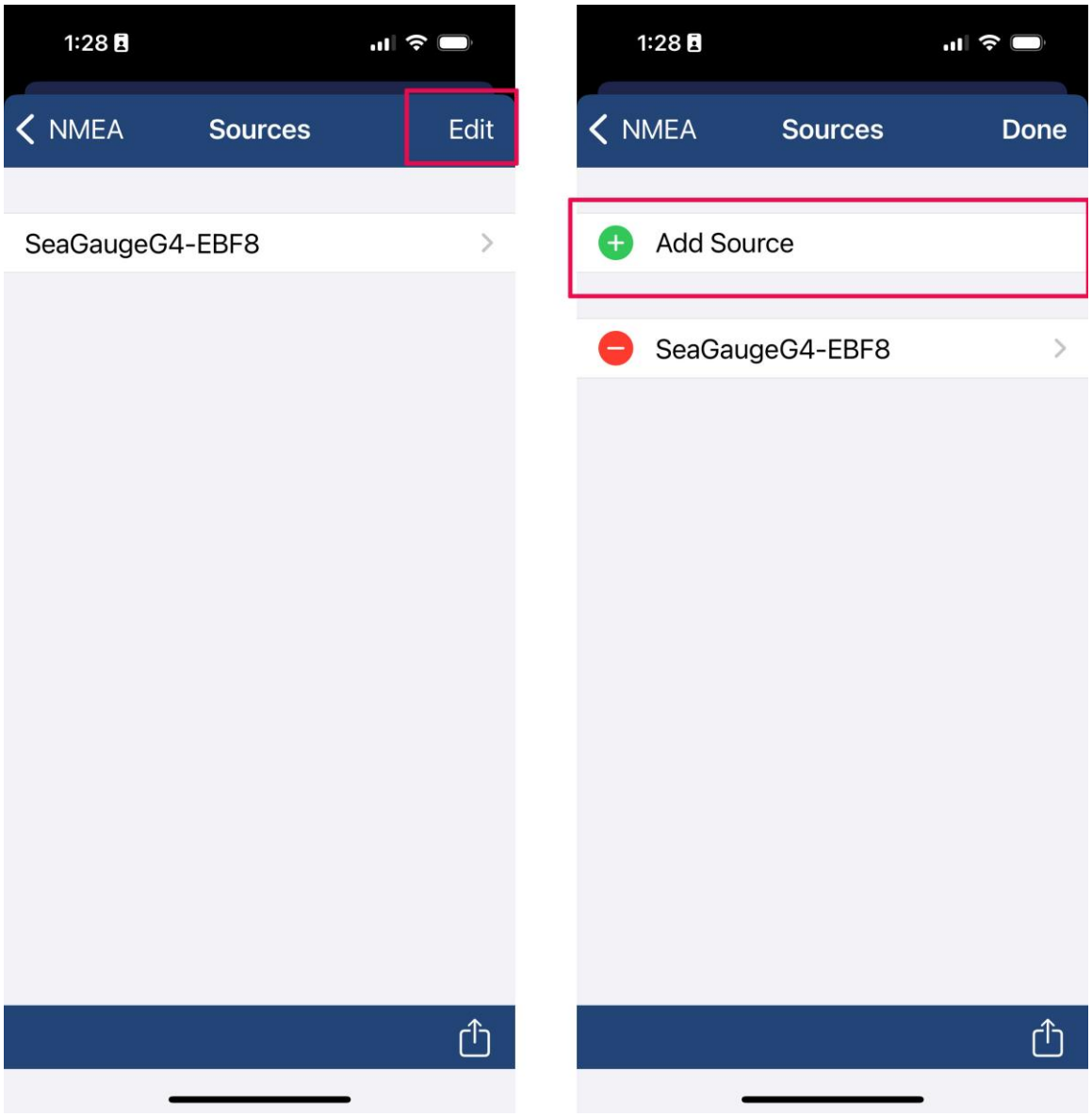
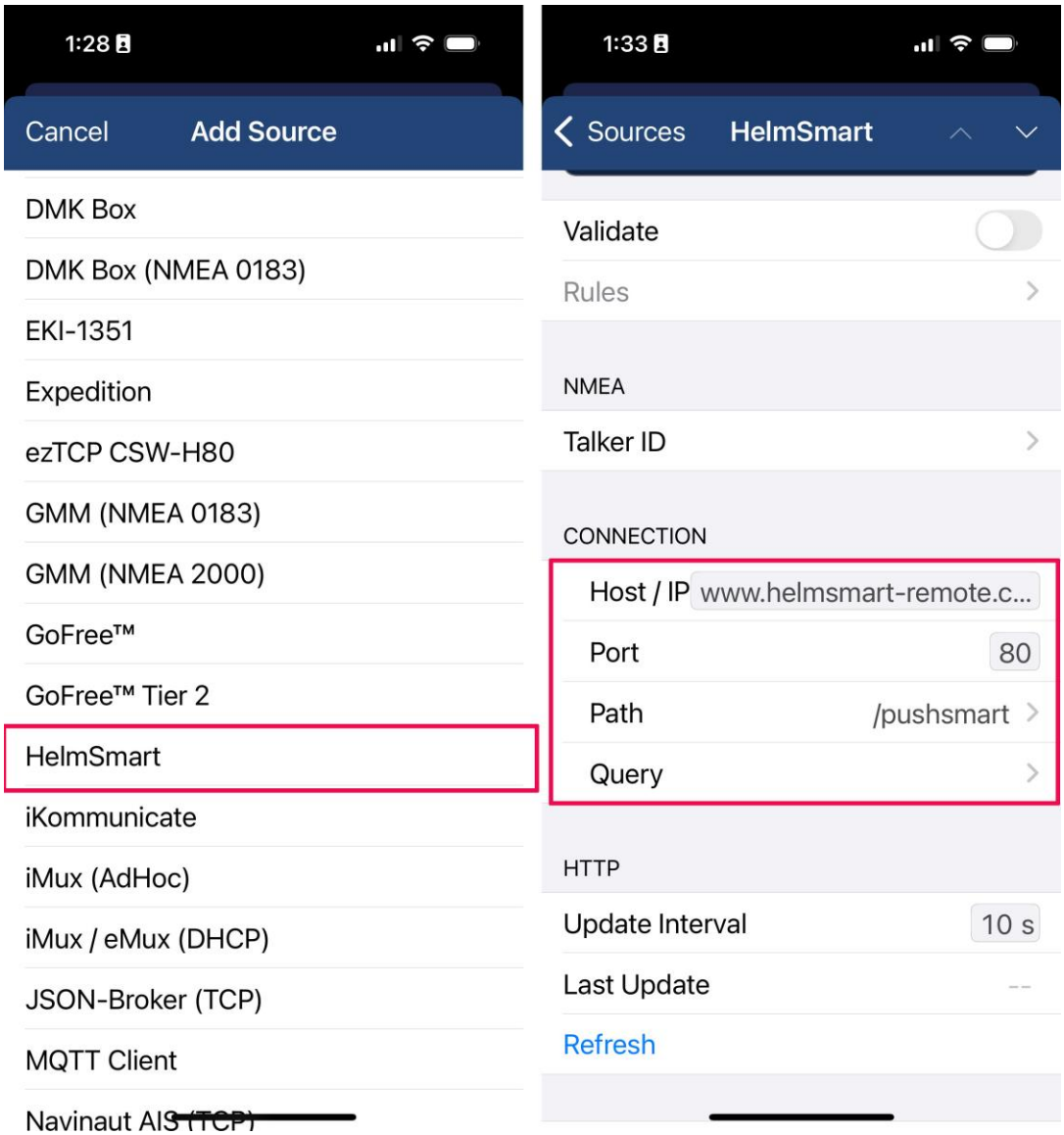
You will see any existing sources – tap **EDIT** to enter a new connection then tap **ADD SOURCE** to create one.



Select the predefined **HELMSMART** source for remote cloud connections.

Once established – NMEAremote will query the http://www.helmsmart-remote.com cloud server for all data originating from the target gateway that has been enabled to POST to the service.

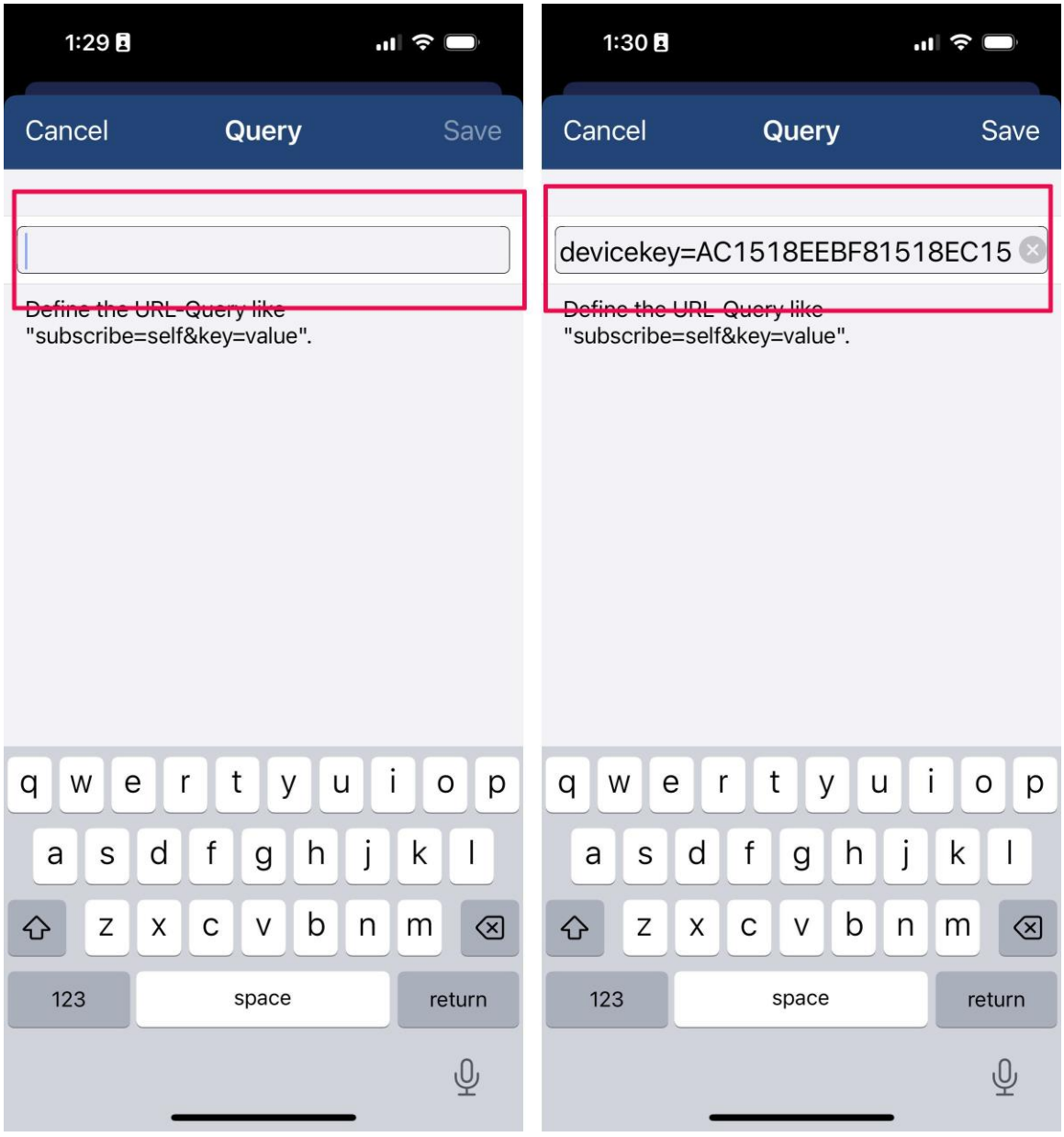
You will need to enter the target devicekey before establishing a connection by tapping the **QUERY** box.



Fill in the gateways **DEVICEKEY** you previously obtained from your HelmSmart account.

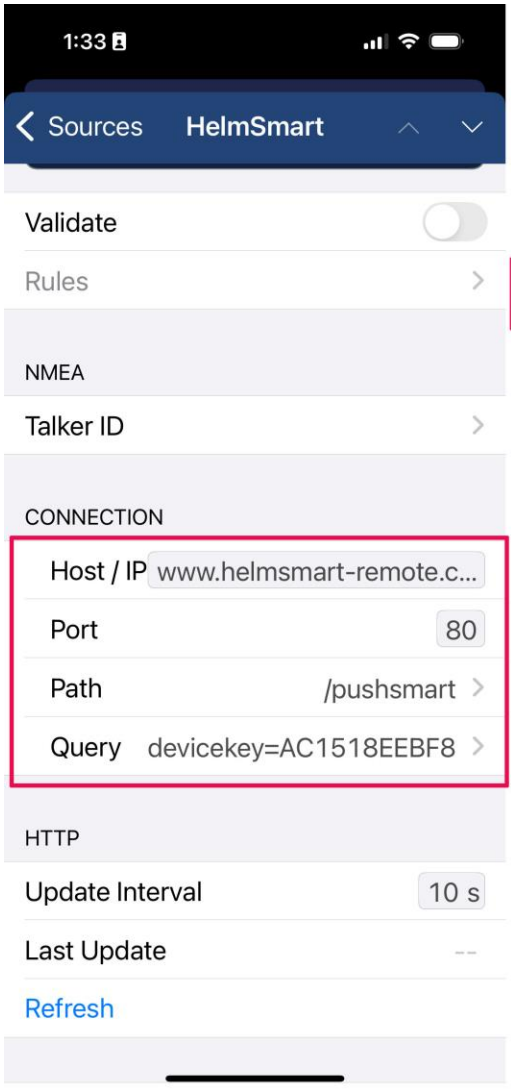
NOTE: the **DEVICEKEY** is not case sensitive.

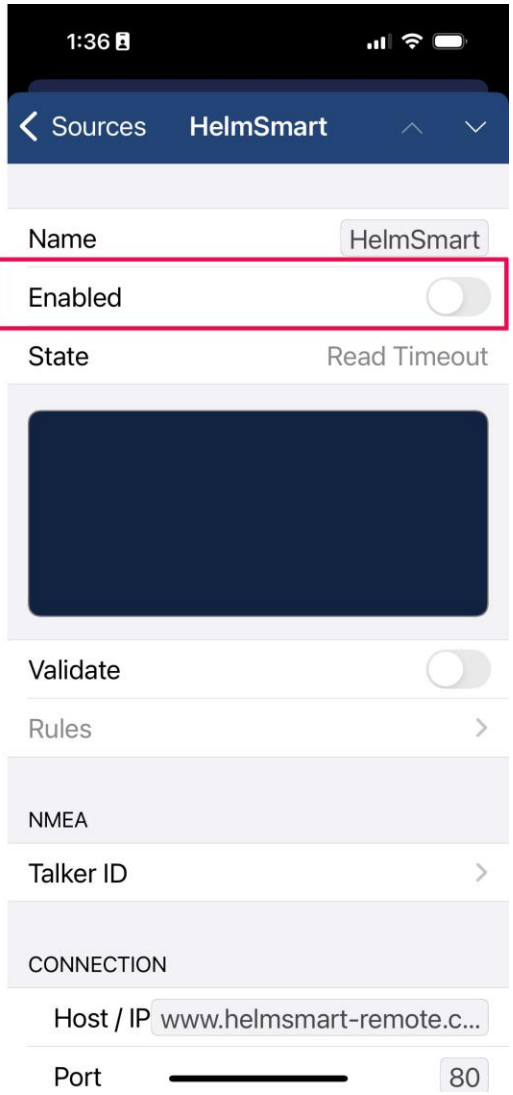
Be sure to enter exactly as shown with no spaces.



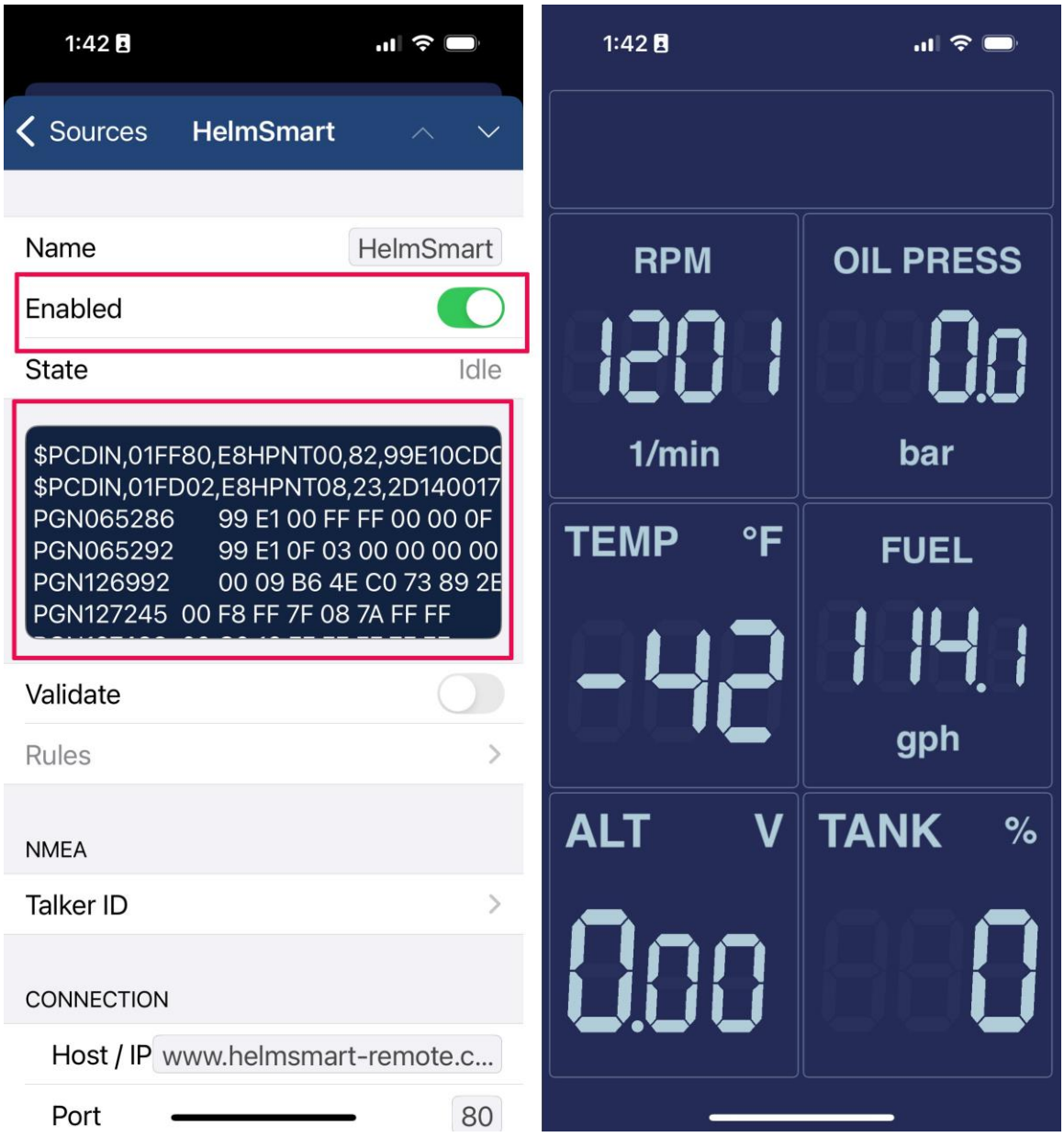
Verify the connection entries are correct as shown.

The **UPDATE INTERVAL** can be adjusted to match the gateway's **POST** interval. There is no need to update more often than the POST interval.

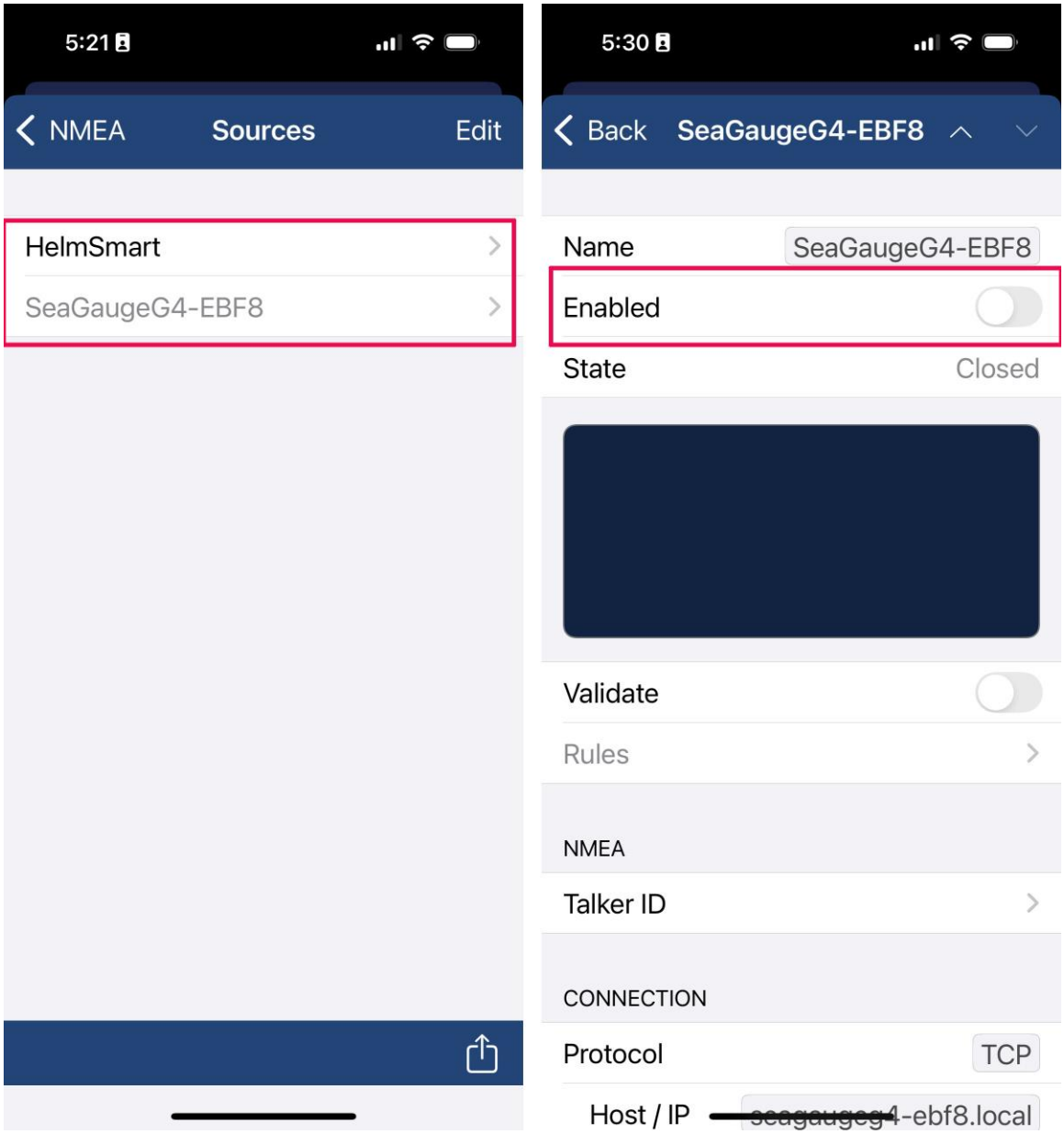




Select **ENABLE** to activate the remote connection and view live data on the dashboard.



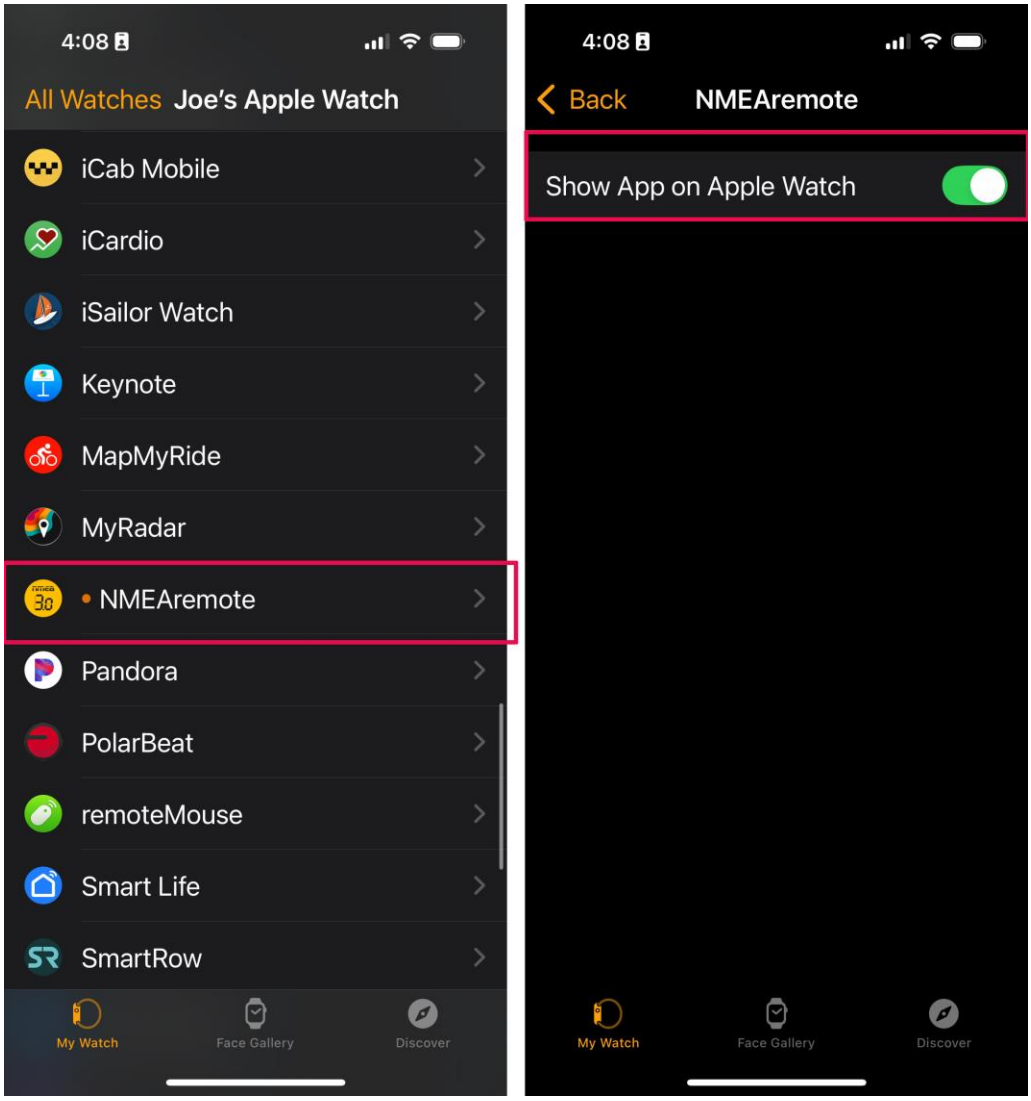
Be sure to disable any existing connections to prevent data conflict as the dashboard will try to render data from all sources at the same time.



NMEAremote supports sending data received on the iOS device to a connected Apple Watch by mirror.

All data viewed on the Apple Watch is sourced by the iOS device via Bluetooth connection.

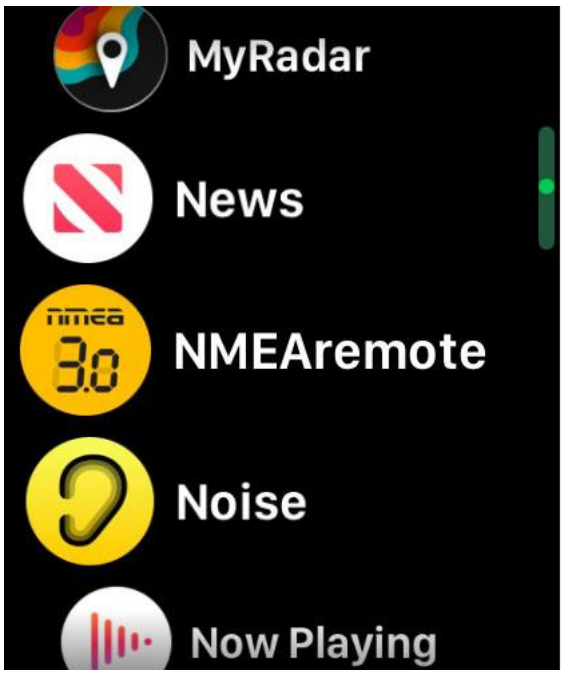
You must first enable NMEAremote on the iOS device to send data to the watch by using the iOS Apple Watch app.



When you use the iOS app to set up the Apple Watch - it will load the watch app and establish the data mirror.

Go to your watch apps and tap on the **NMEAremote** icon to display the loaded dashboards sent by the iOS app.

Note – if the iOS device is powered off or not in Bluetooth range – your watch display will time out and no longer update



Swipe the watch display to scroll through all the loaded dashboards.