Application Note

ANSGG425091001 – SeaGauge G4 Firmware update via SD card
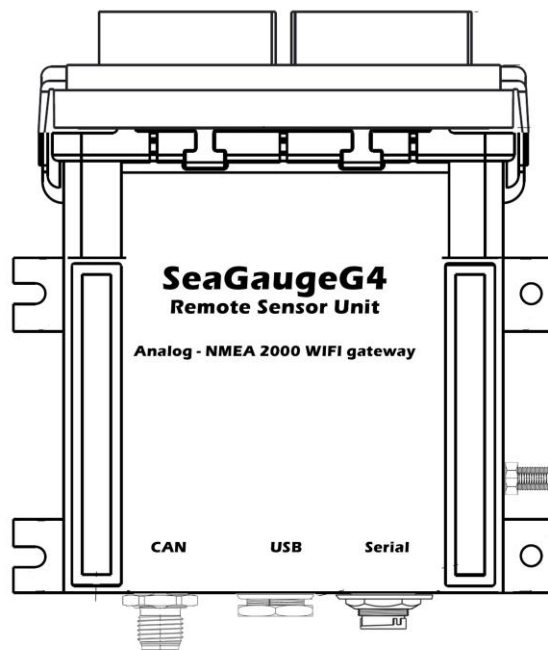
SeaGaugeG4 supports up to 12 resistive or voltage style analog sensor inputs and 3 pulse style inputs.

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

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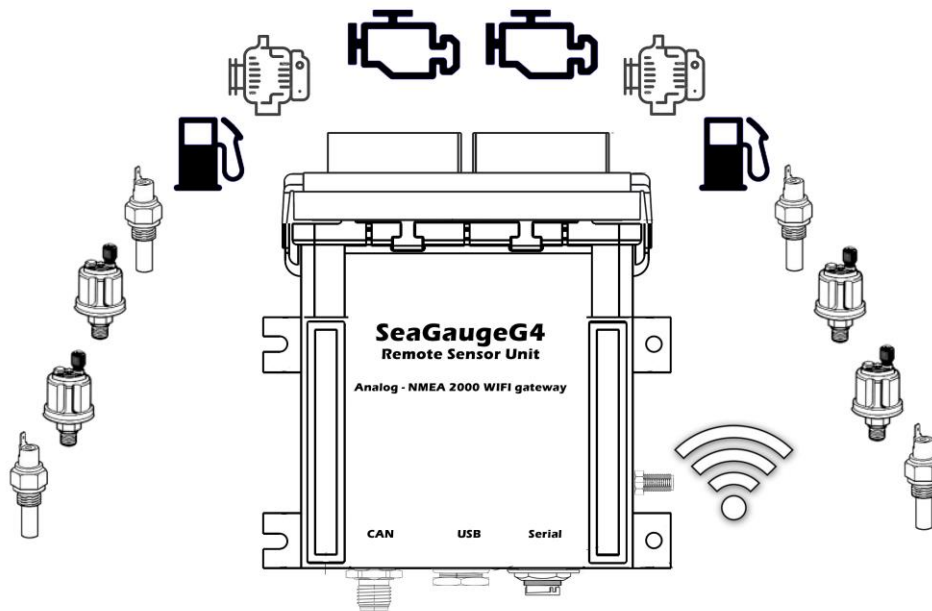
SeaGaugeG4 supports up to 12 analog sensor inputs and 4 indicator inputs via a 20 pin Molex MX150 plug (black) and 3 pulse style inputs via separate 20 pin Molex MX150 plug (white).

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

The 4 indicator inputs (INC00-INC03) are used to provide on/off status for 12VDC circuits. When voltages of 10V to 18VDC are applied, the associated indicator channel will be set. When no voltage is applied, the indicator channel is cleared.

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

SeaGaugeG4 Header
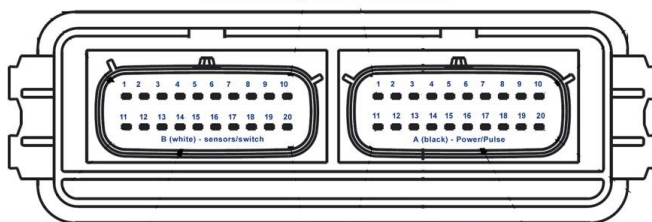
B1 - NC	B11 - NC	A1 - SW5	A11 – SW4
B2 - NC	B12 - NC	A2 - SW7	A12 – SW6
B3 – SEN10 (SBOOST)	B13 – SEN11 (STRAN)	A3 - NC	A13 - NC
B4 – SEN04 (STEMP)	B14 – SEN05 (SOIL)	A4 – P1 (SRPM)	A14 - GND
B5 – SEN06 (SFUEL)	B15 – SEN07 (SBAT)	A5 – P0 (PRPM)	A15 - GND
B6 – SEN00 (PBAT)	B16 – SEN01 (PFUEL)	A6 – P2	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

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SeaGaugeG4 firmware can be updated using several methods including local SD card and over the internet using the HelmSmart-Cloud.com service.

This application note describes how use the internal SD card to update firmware and spiffs by copying files to SD card and rebooting device..

Update files can be copied directly by removing the internal SD card or remotely using the embedded web browser interface
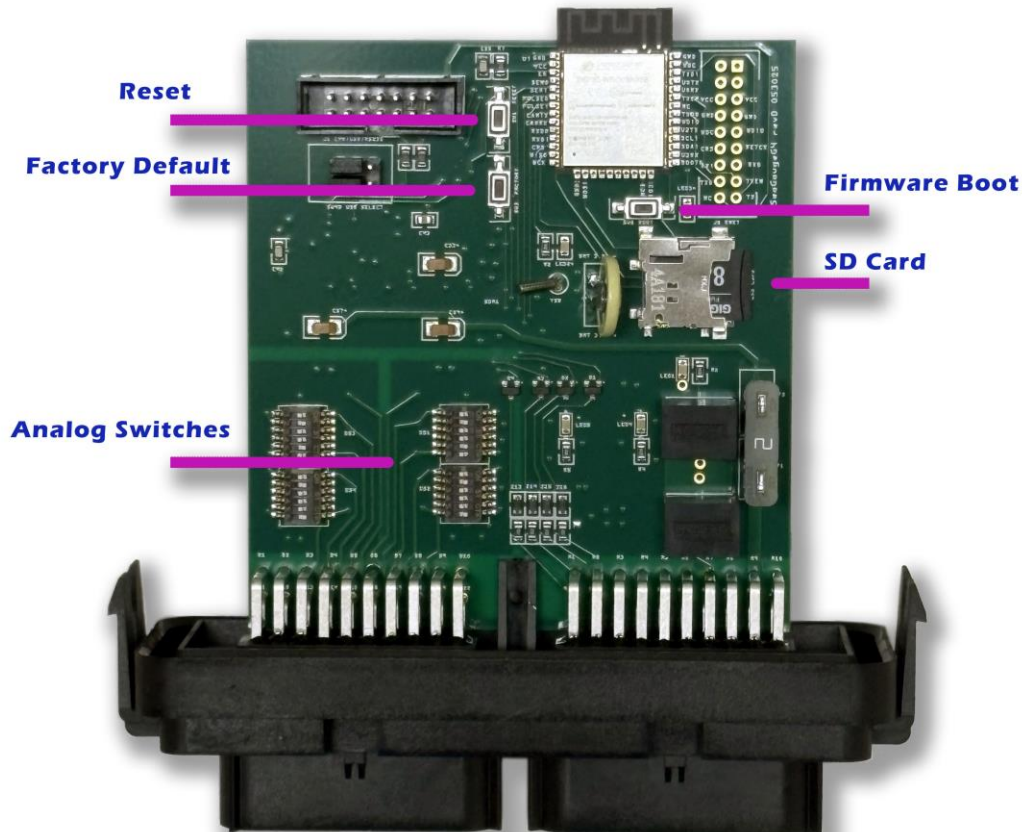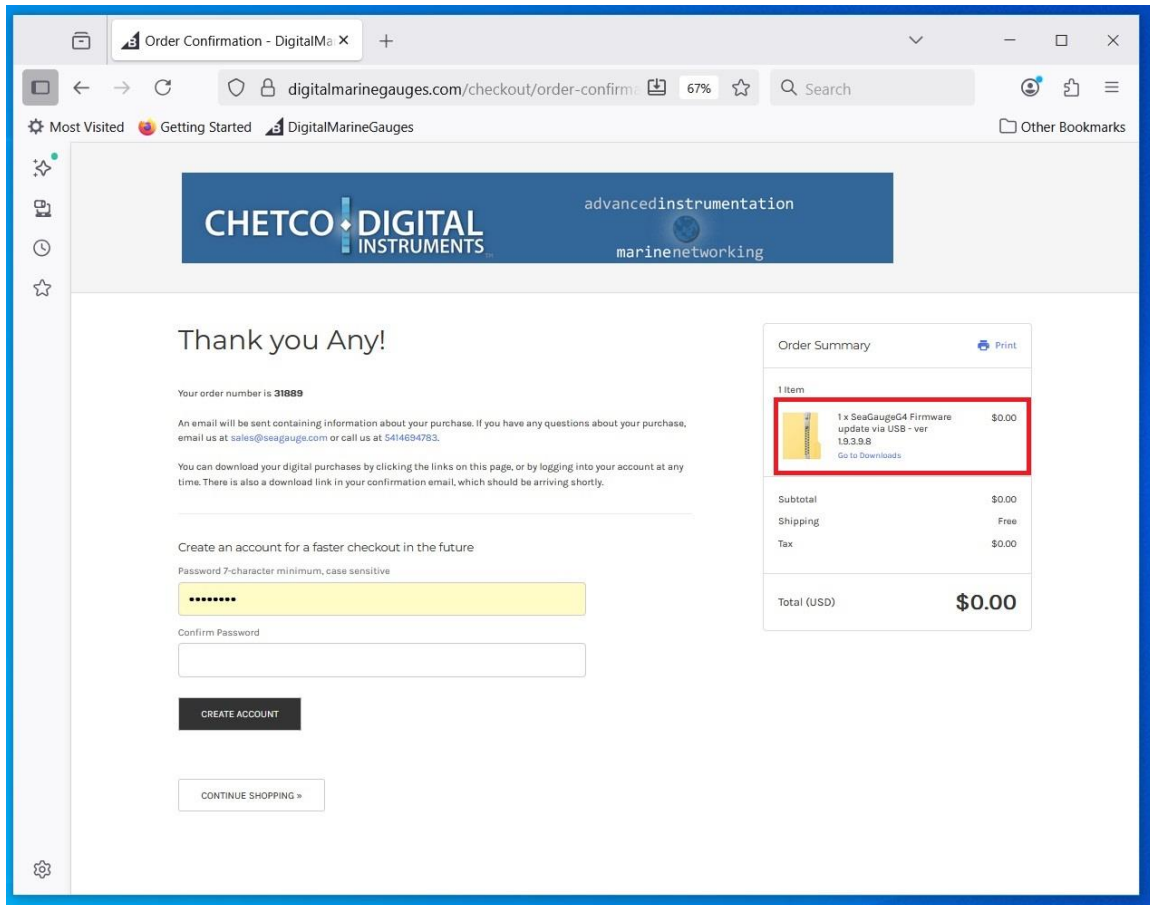
To perform a direct update via SD you will need to download and install the latest firmware package from the www.digitalmarineguages.com website which can found under https://digitalmarinegauges.com/support/firmware-updates/seagauge/

Select the most recent version and Add to Cart
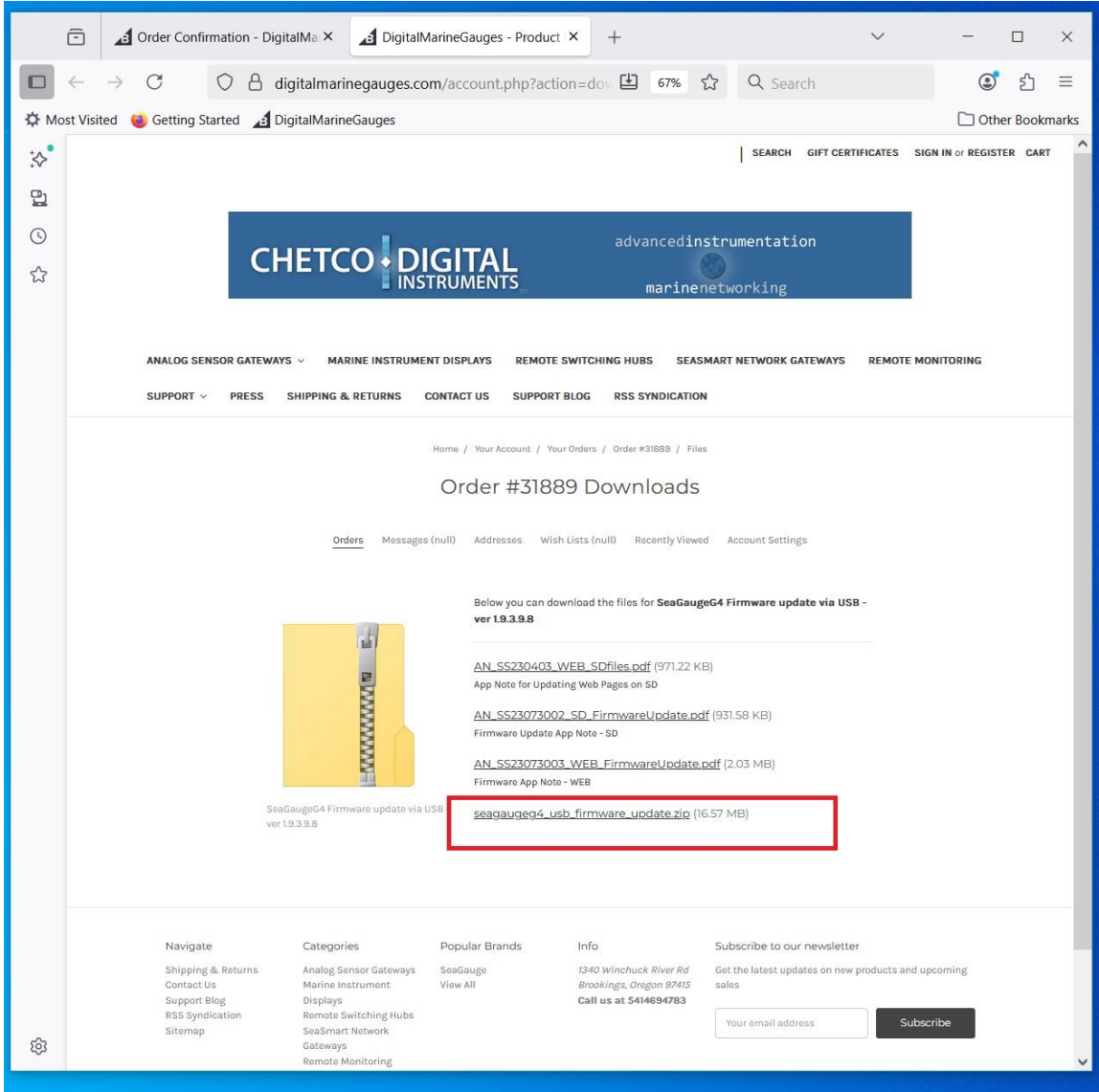
You will receive the download link once you complete checkout.
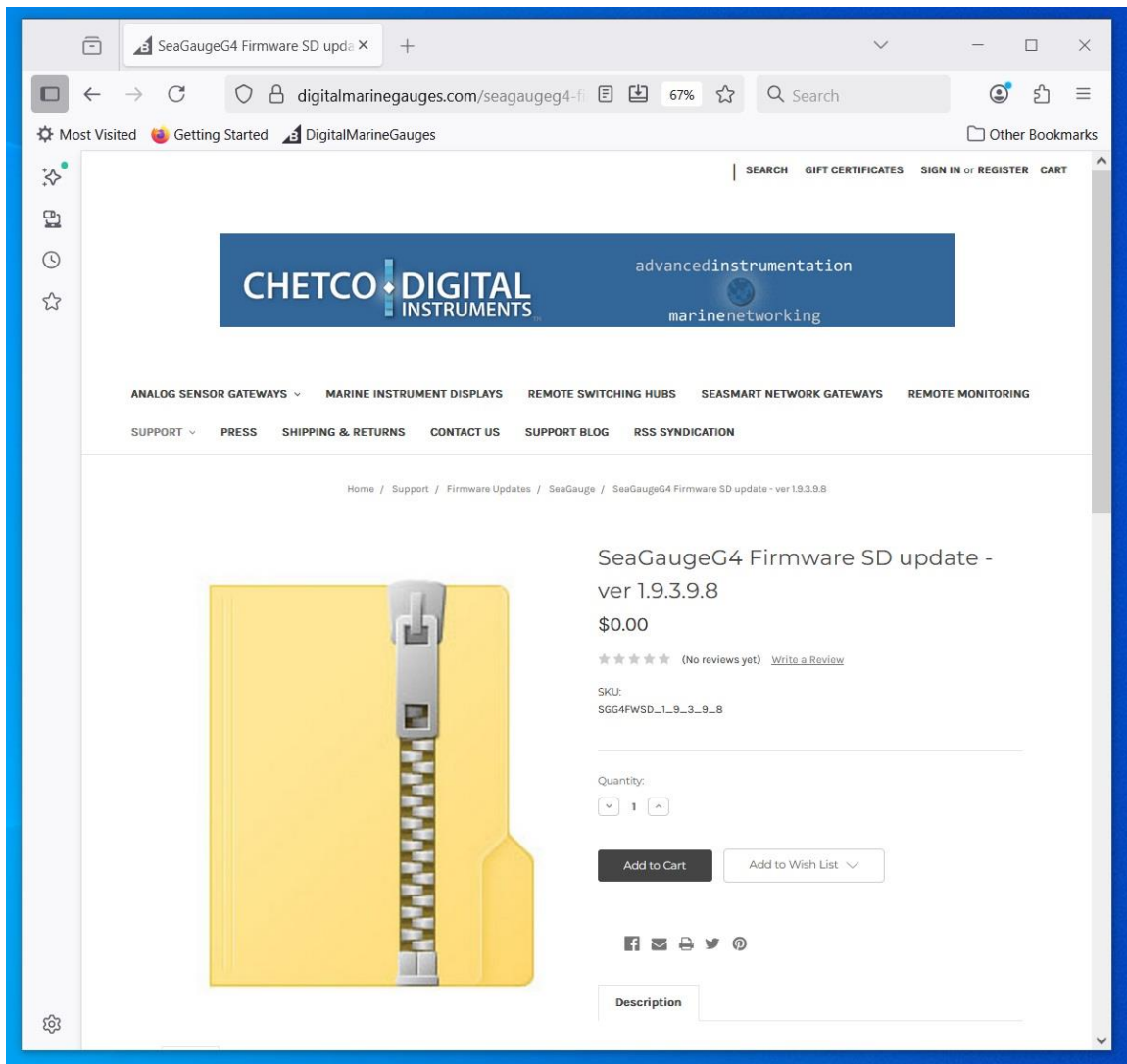
Once you complete the checkout process, you will get a download link in the right side pane
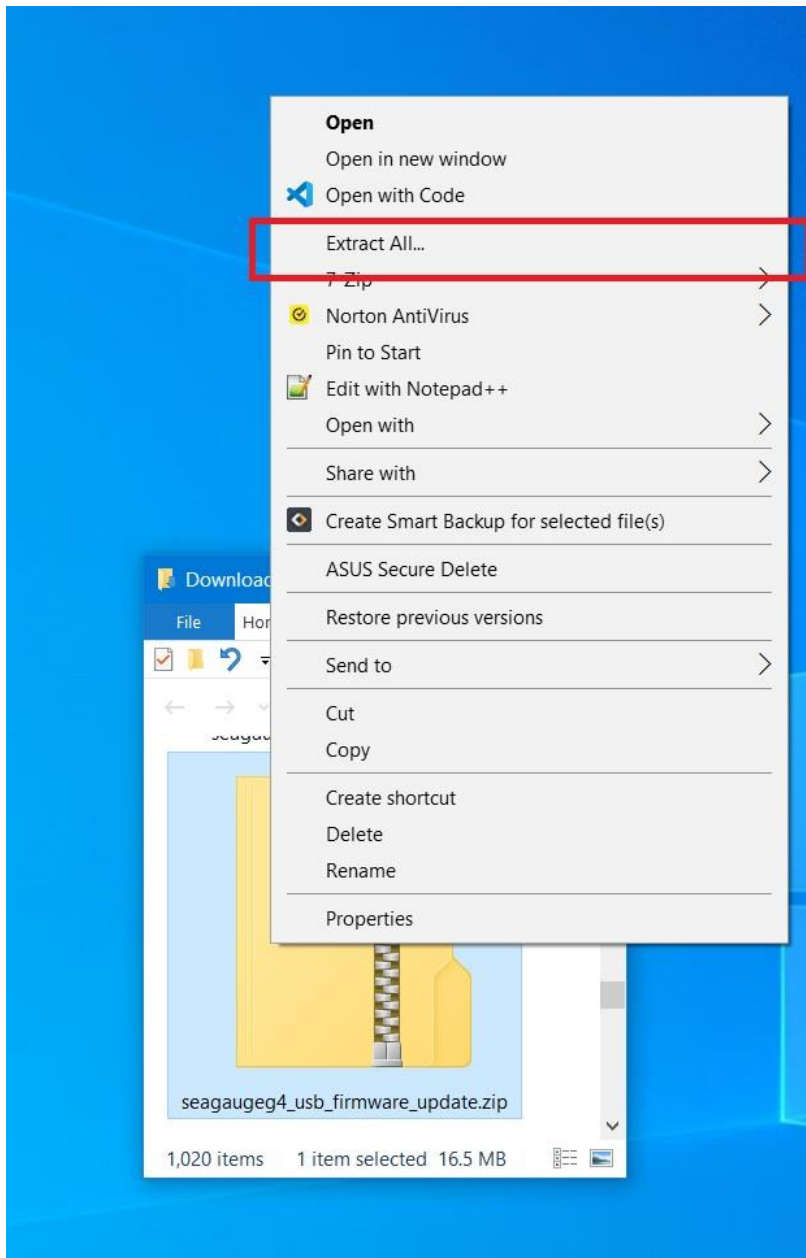
Select the .zip package for download to local PC/Laptop

The update package should automatically be stored in the local DOWNLOADS directory depending on the web browser used.
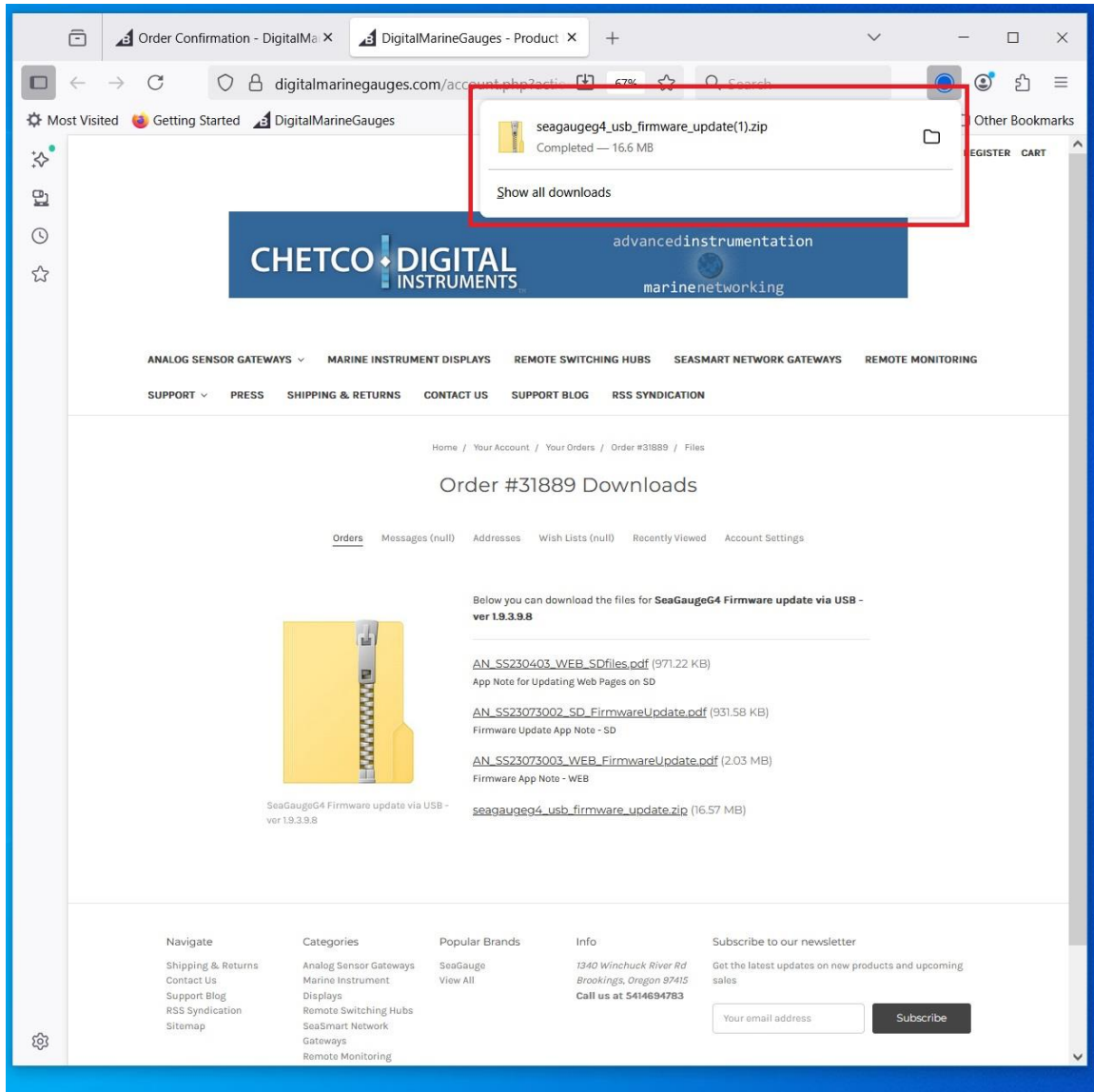
Right-click and extract the .zip contents.

There will be two folders, the firmware folder and the spiffs folder. Both folders contain the update files to be copied to corresponding folders o the SD card

The SPIFFS files contain content for the embedded web server which is stored in non-volatile memory (NVRAM) for faster performance compared to using the SD card

The files will need to be copied one at a time starting with the firmware.bin file first and the unit rebooted each time to complete loading the updates.
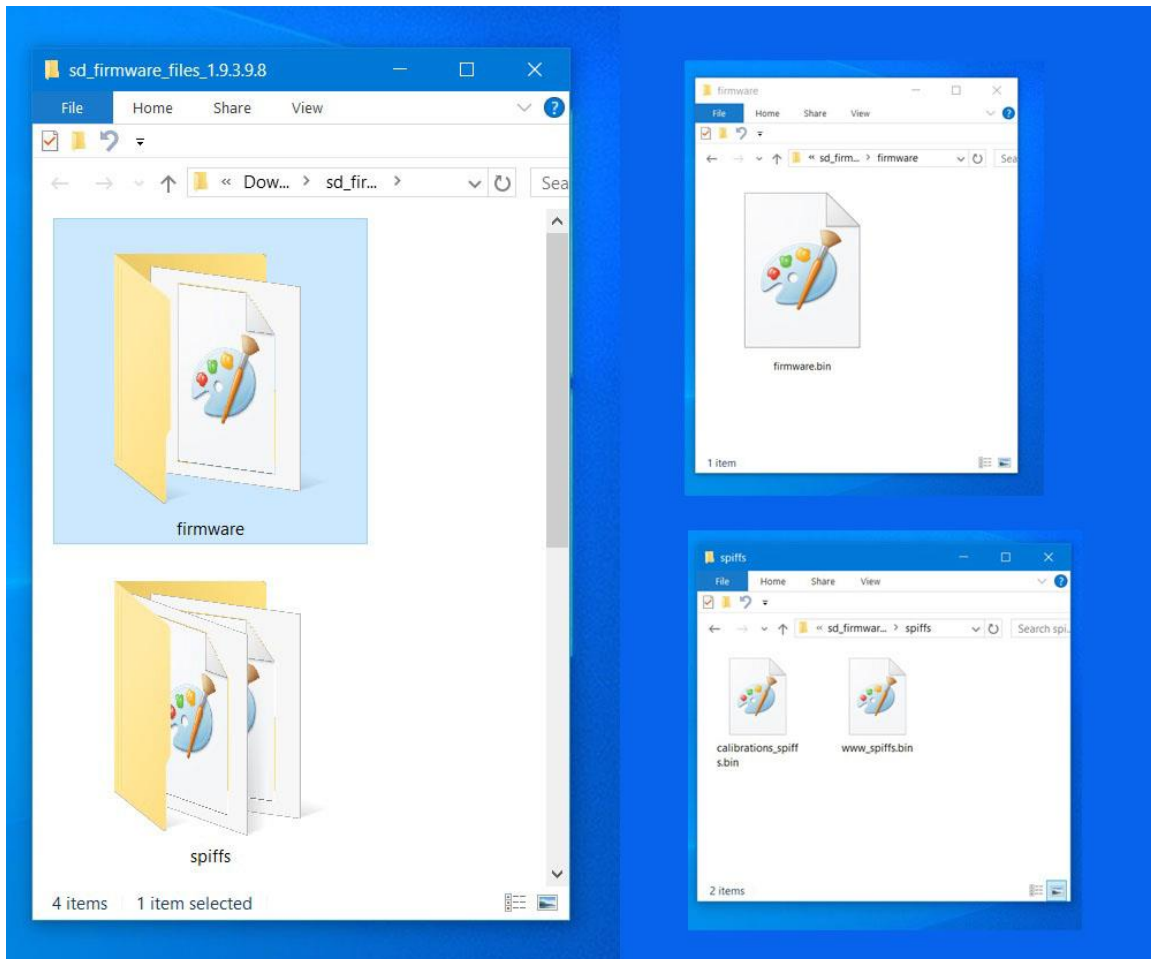
All update files can be copied to the internal SD card by using the embedded Web server over WIFI or Ethernet

Use the Files link on the Configuration page to select the target SD directory and update files.

Perform the updates one file at a time.
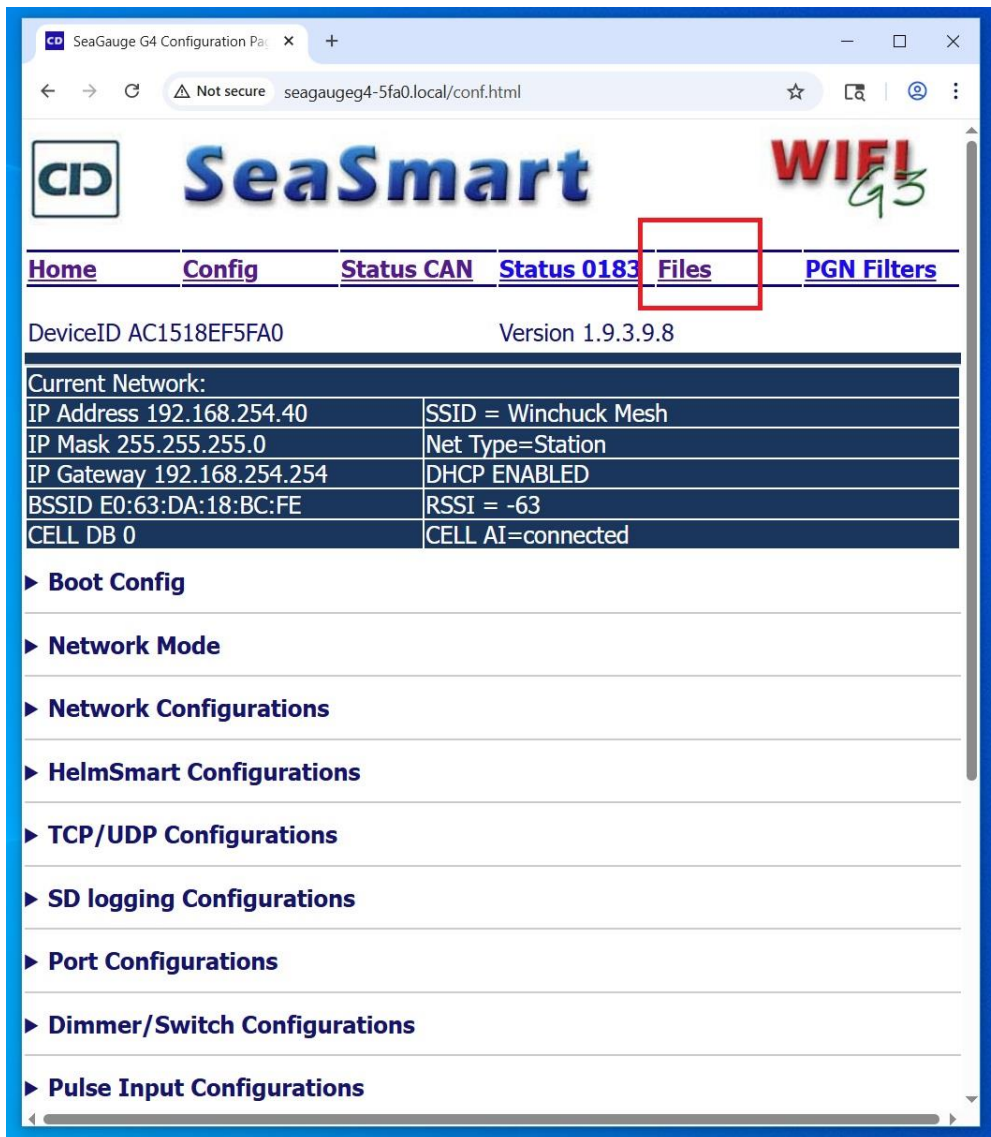
Starting with the firmware.bin file, select the Choose Files button to select the file from the unzipped folder.

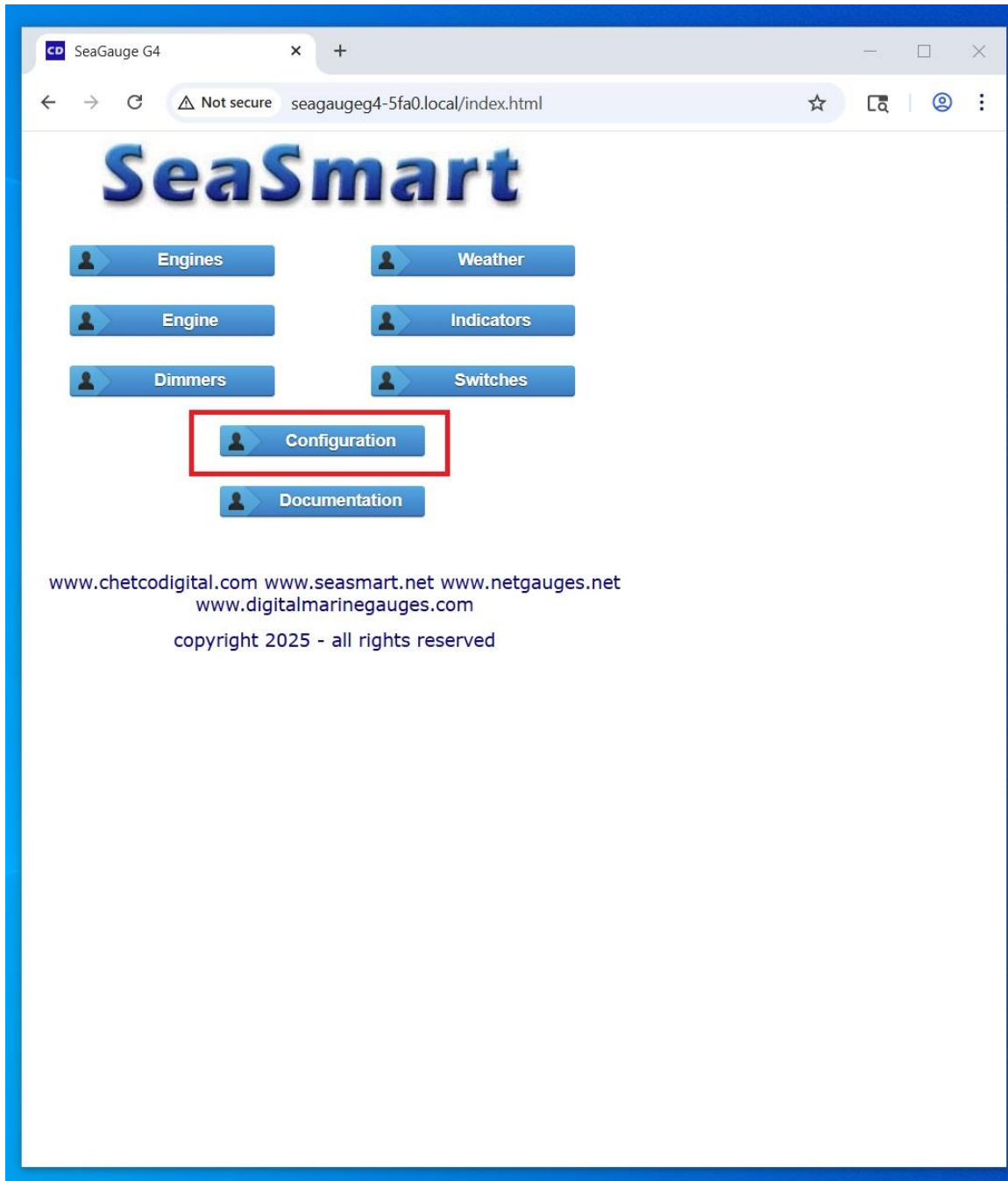Choose the target firmware.bin file and then OPEN to copy to internal SD Card.
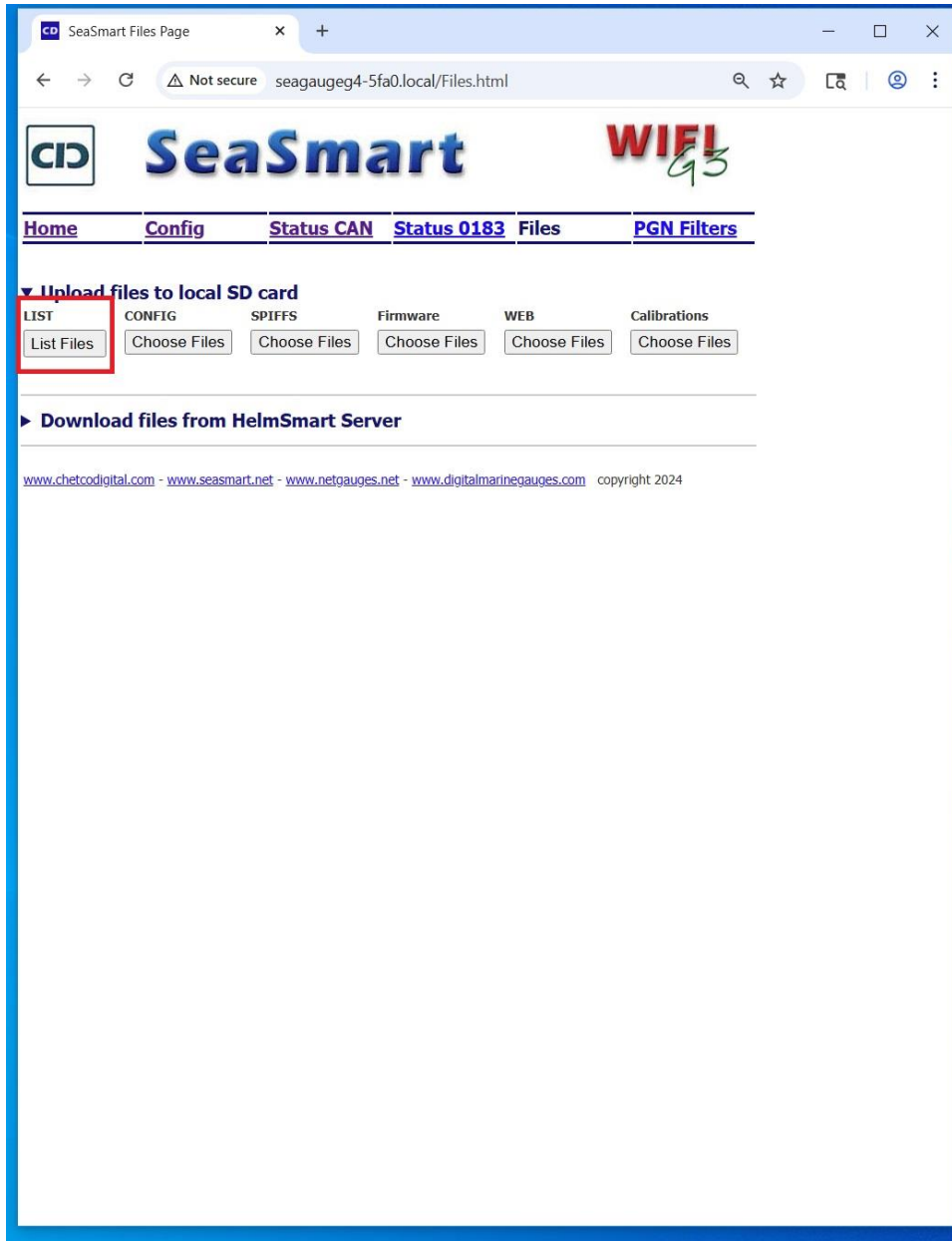
It will take about 30 to6 0 seconds to load the file

Once the download is complete, SeaGaugeG4 will return back to the main start page

Select the CONFIGURATION button to reboot the device and complete the update.
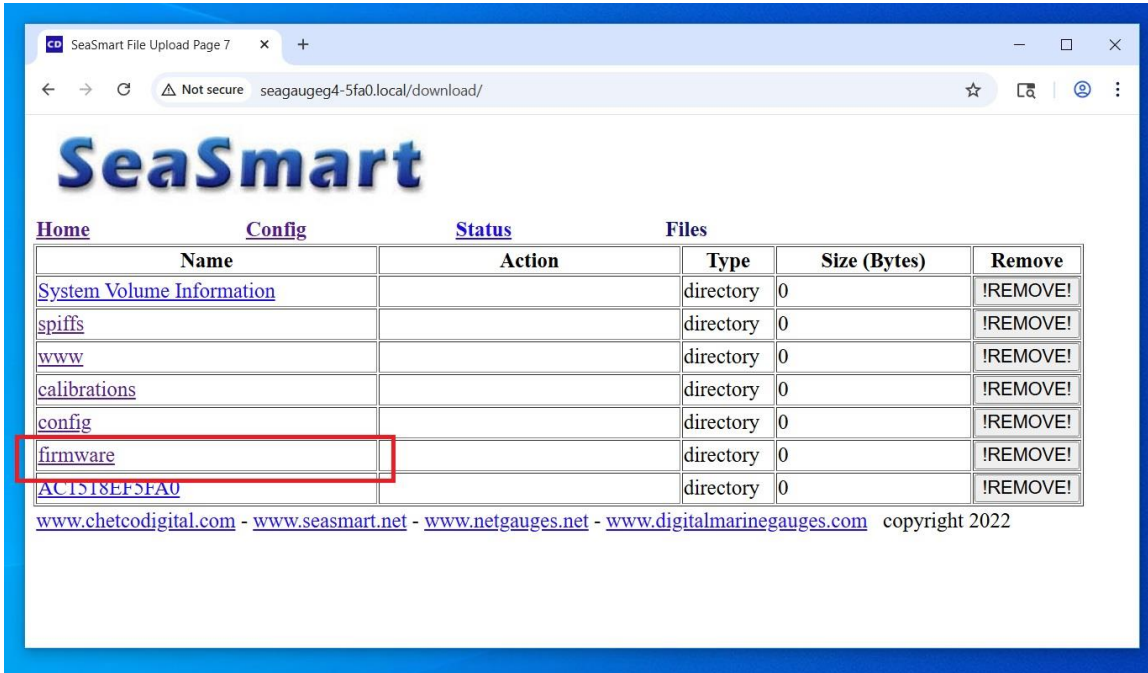
You can also verify the files are copied to the SD card before rebooting the device.

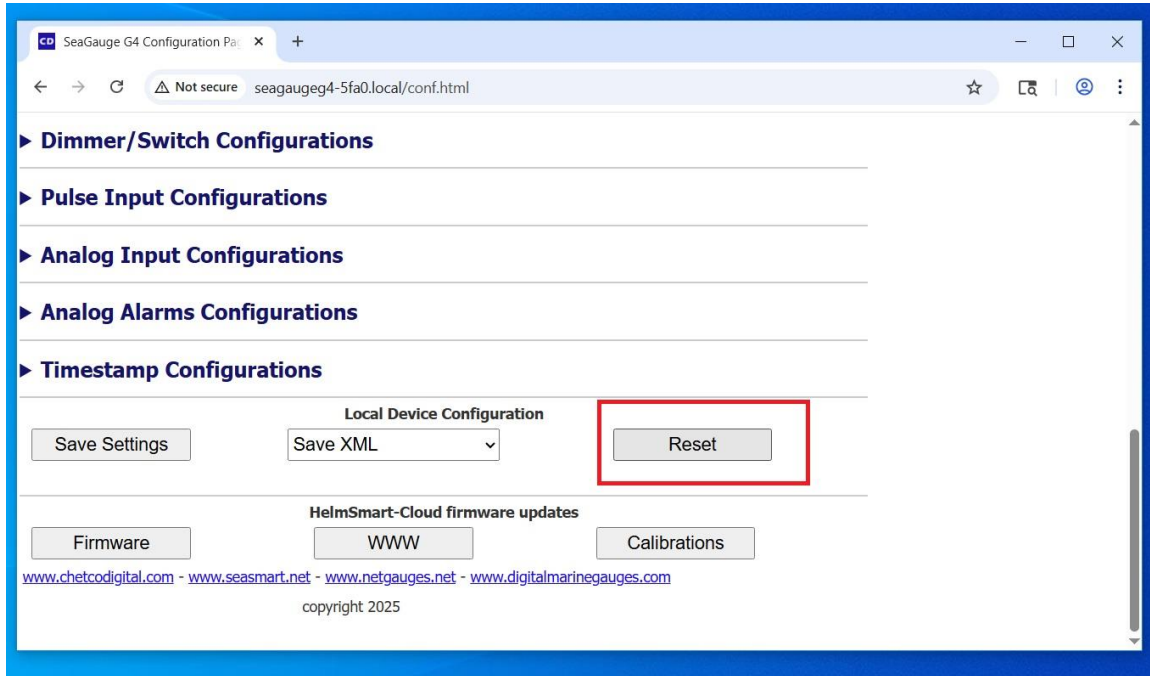Select LIST FILES under the FILES tab.

Then the FIRMWARE directory

Then verify the new firmware file was successfully copied.

After the update is completed, the firmware.bin file will be deleted form the SD card.
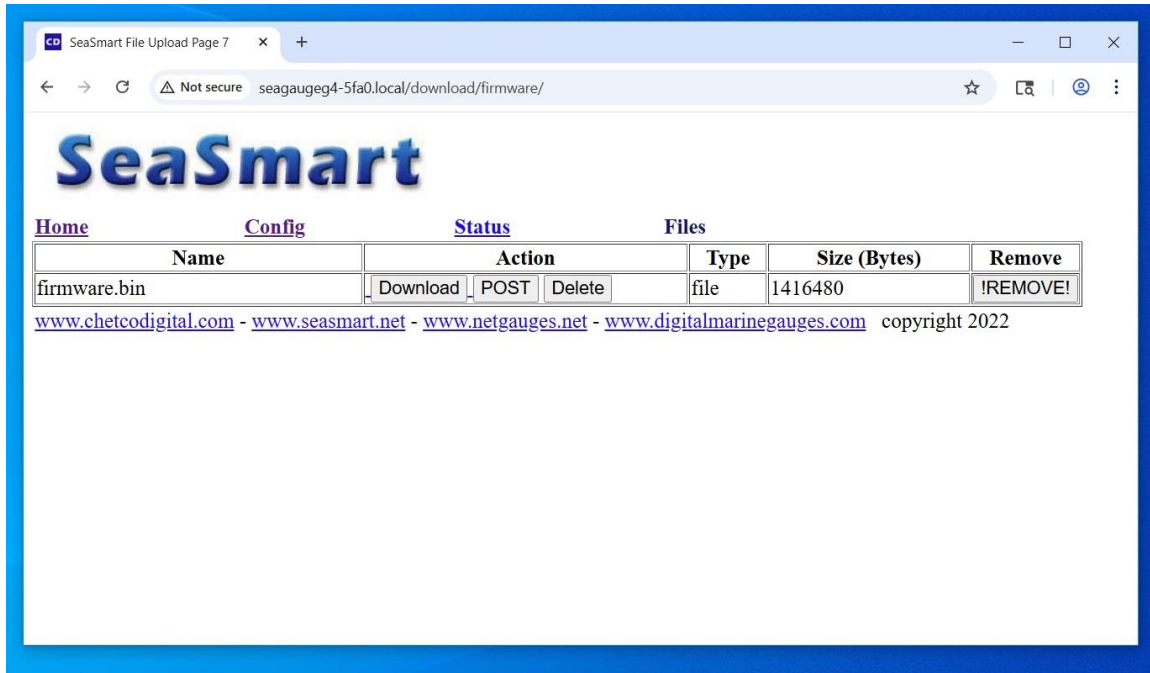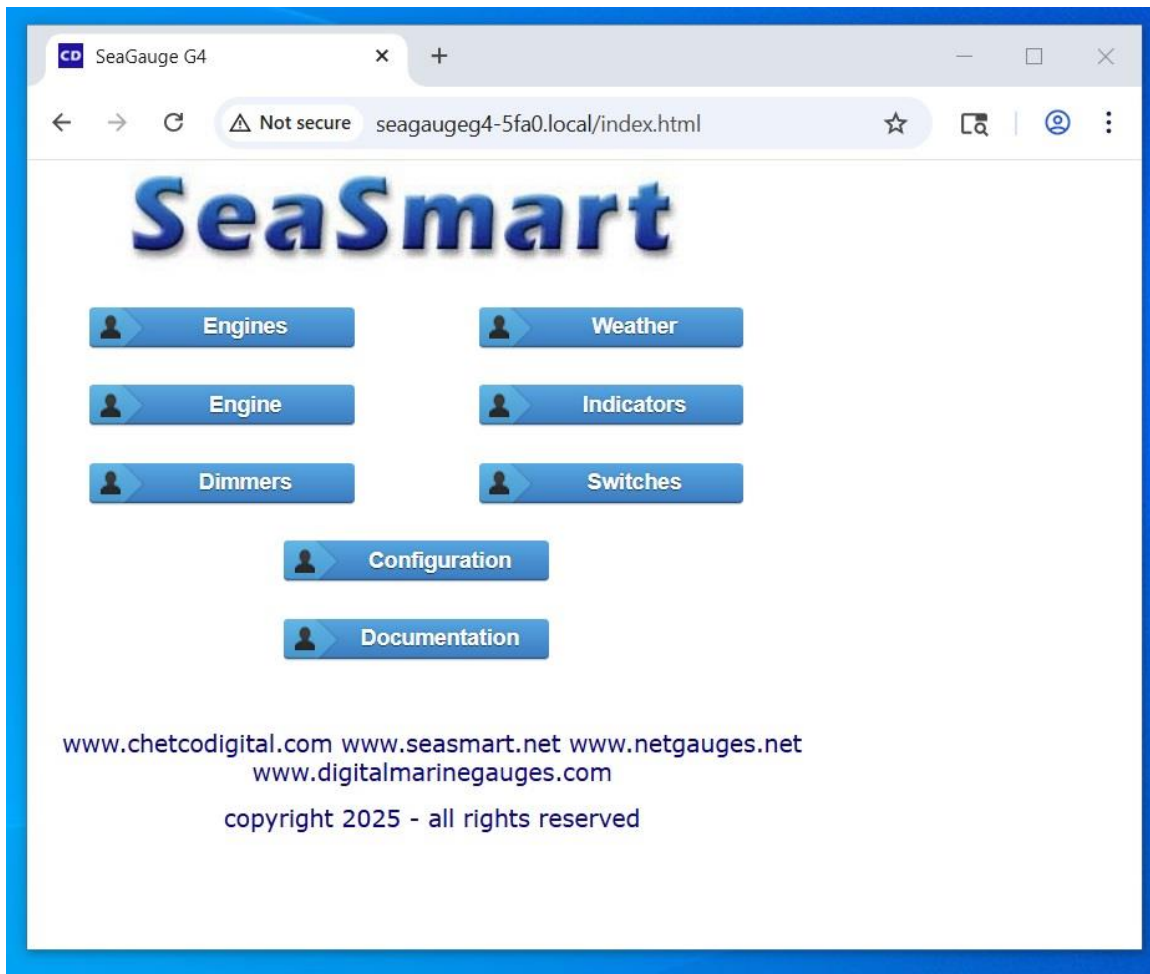
After verification – RESET device

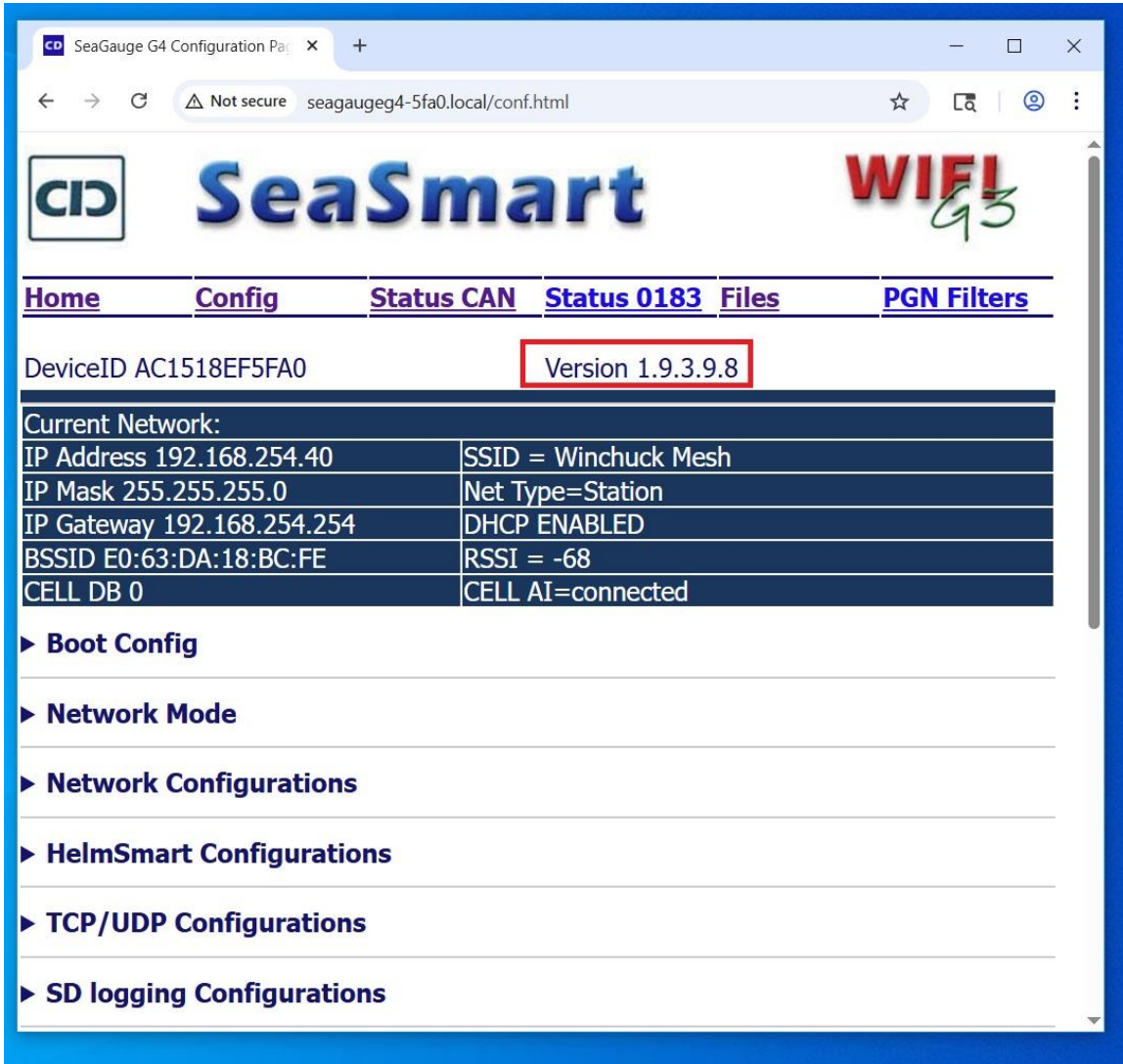When the device resets, it will load the new firmware.bin file.

This can take from 60-120 seconds and you will see the spinning dots while the unit is updating. You will not be able to access the device via WIFI until the update completes and the dots stop spinning

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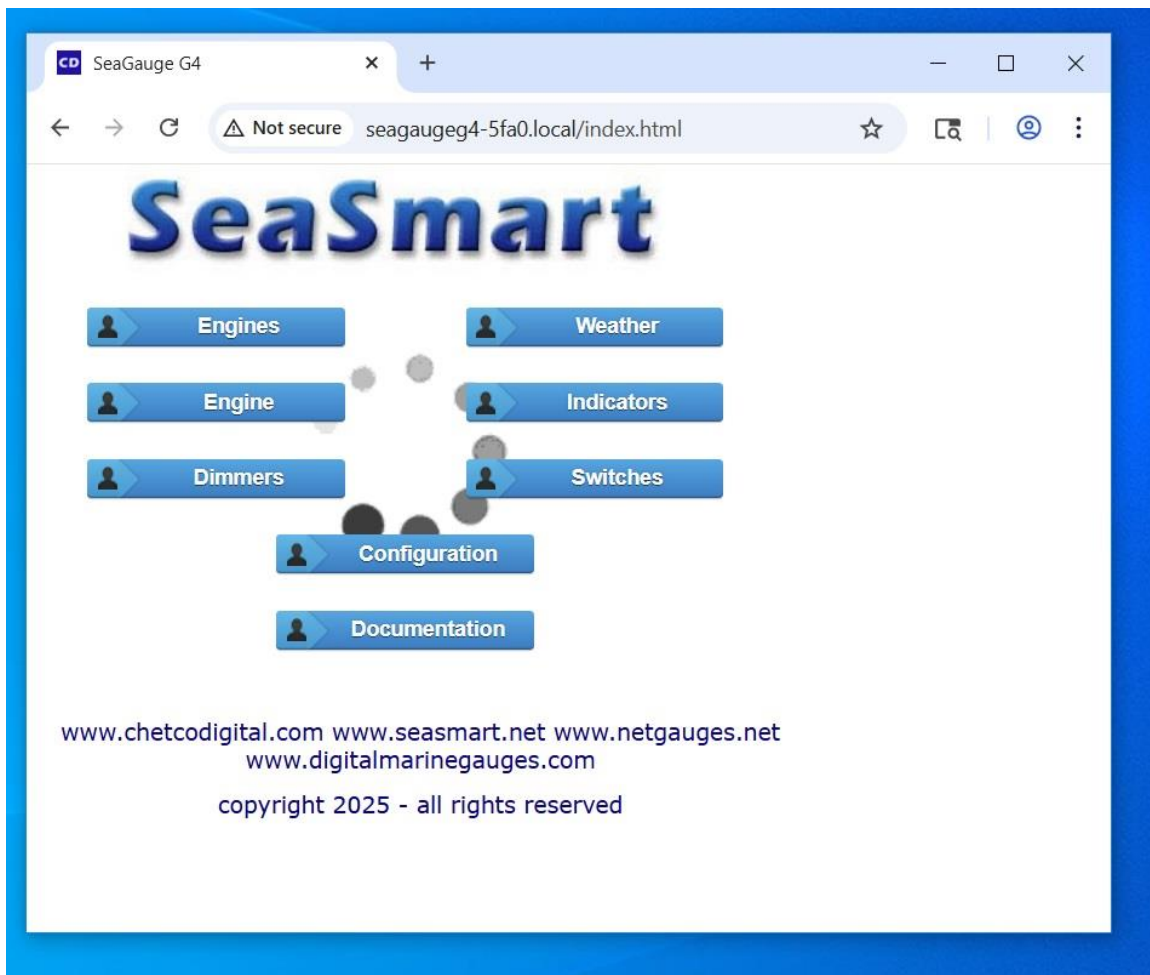
Finally – when the dots stop spinning – you can check the update is complete by checking the version on the configuration page
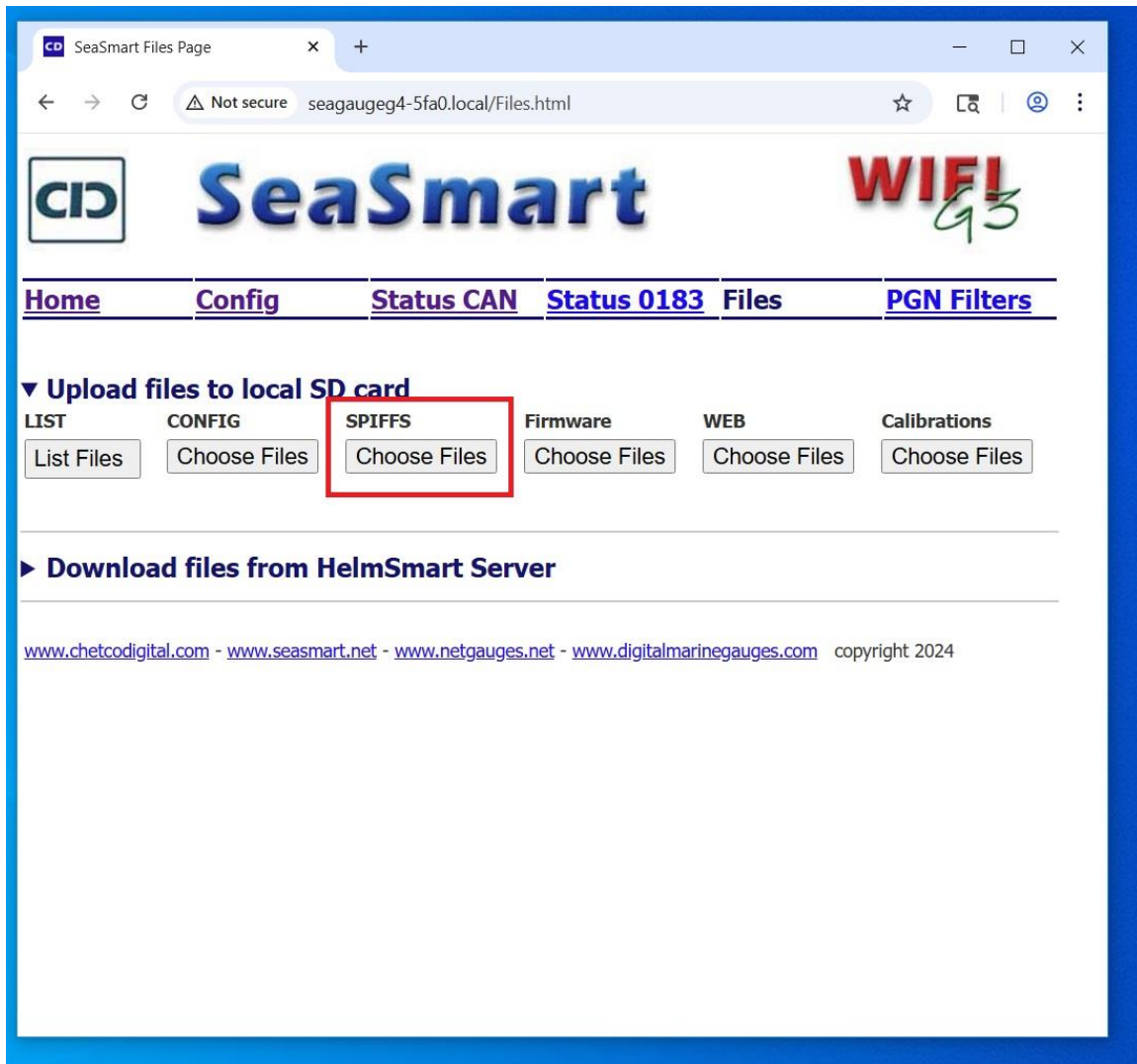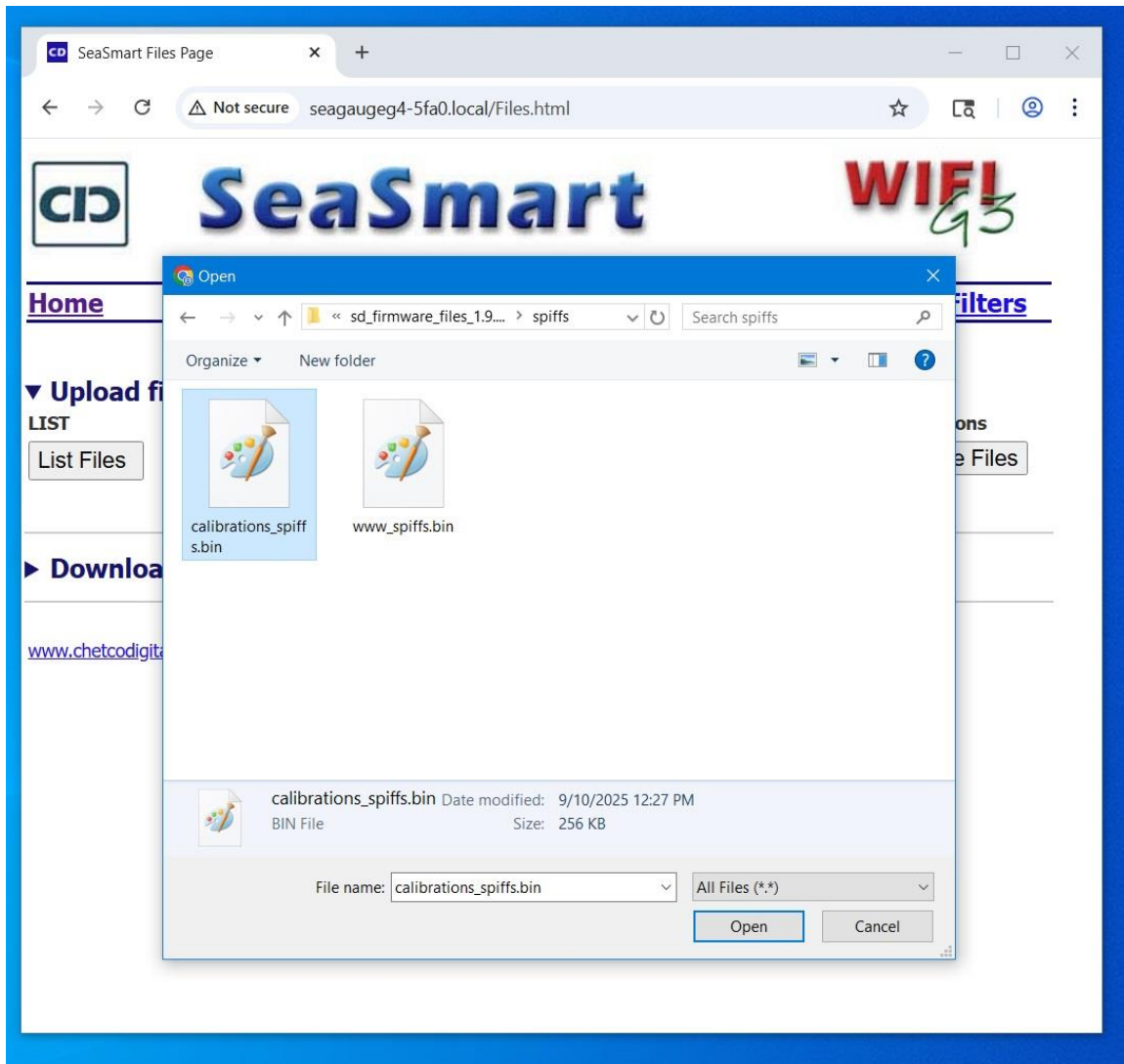
Verify the new version matches the update.

The updates for the two SPIFFS is performed in the same manner.

Copy the selected files one at a time and reboot after each one

Be sure to RESET after each update.