

Application Note

ANSS0230228 – SeaSmart STA Mode –
Switch networks

Chetco Digital Instruments, Inc

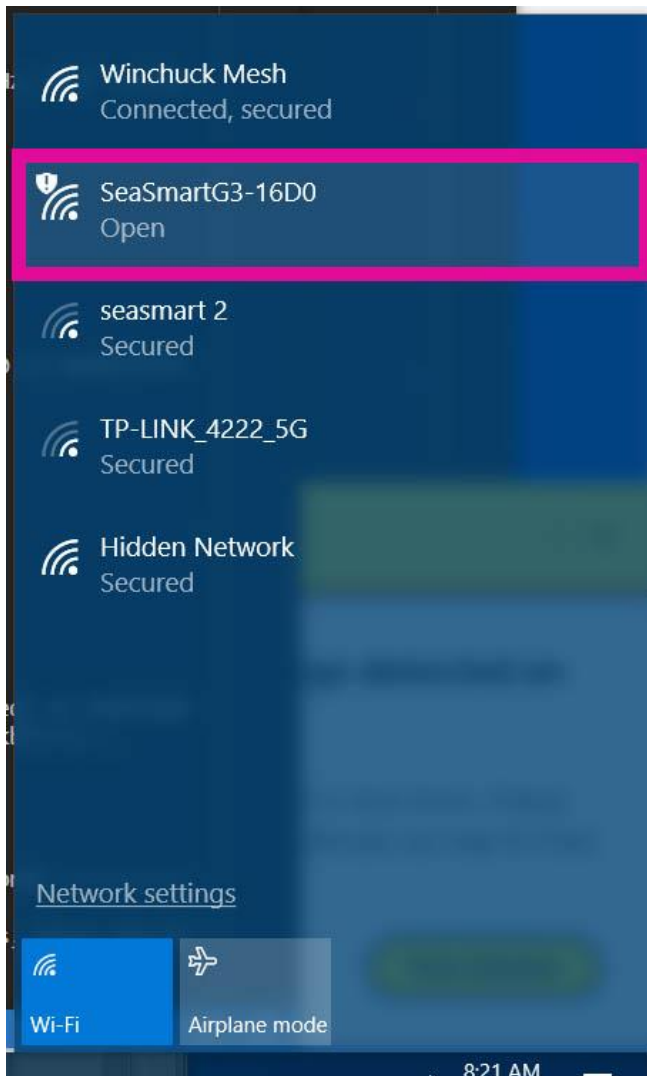
Revision 022823

SeaSmart G3 Web Page can be used to sensor data in wireless STA (station) mode. STA Mode allows SeaSmartG3 Gateway to join a local router based network and share any available internet connections.

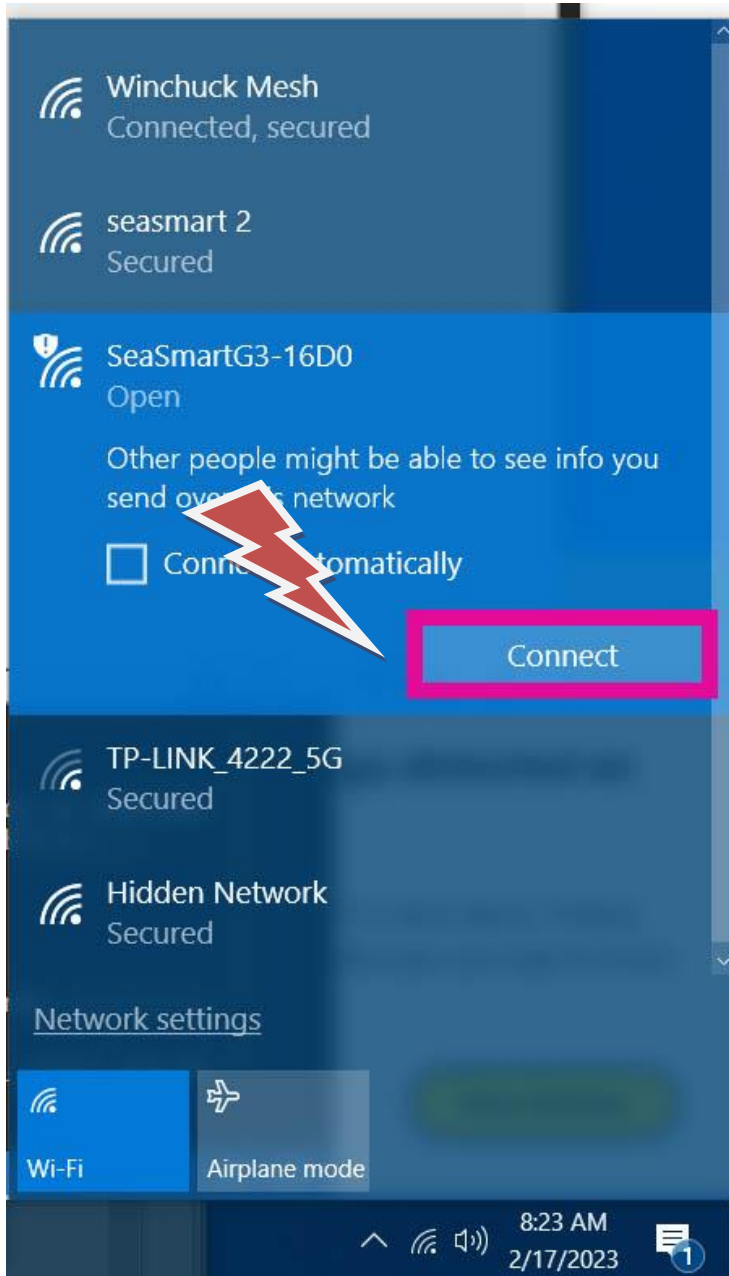
You will need to provide local network credentials including SSID and passwords.

The first step is to connect to the wireless controller in Access Point (AP) mode. AP mode does not require any local network or router and is a direct wireless connection between device and fixture

Go to your devices Wireless control panel and select the SeaSmartG3 access point

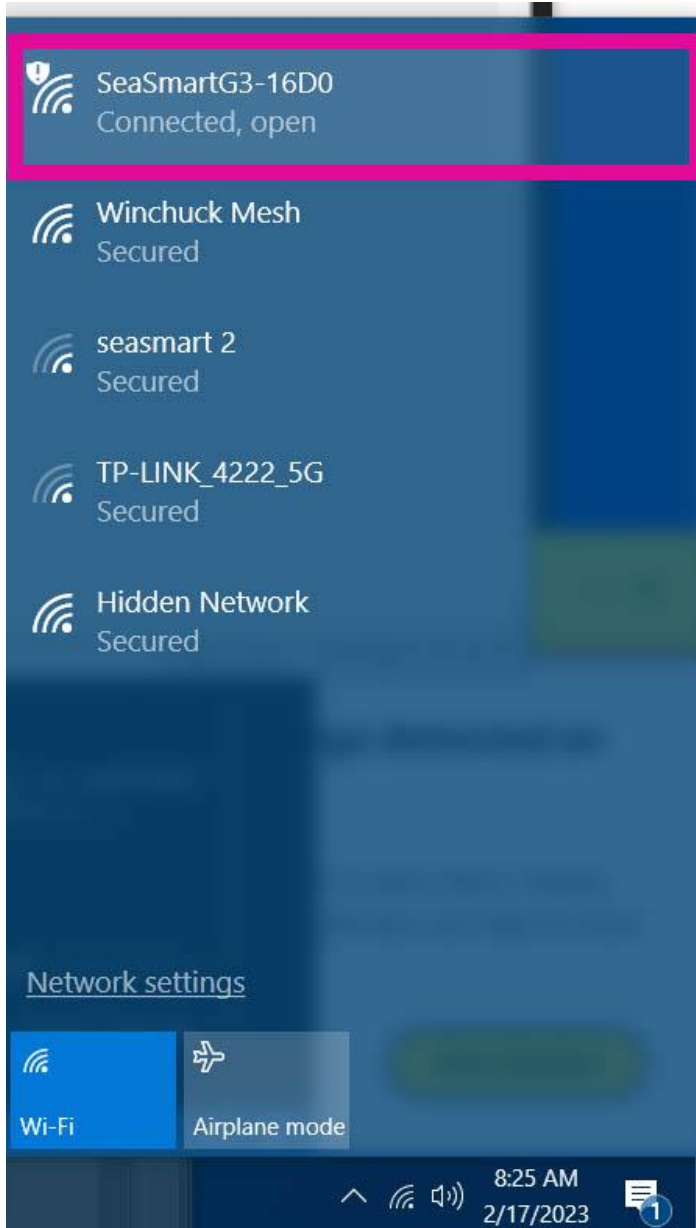


Select CONNECT to link to SeaSmartG3 device

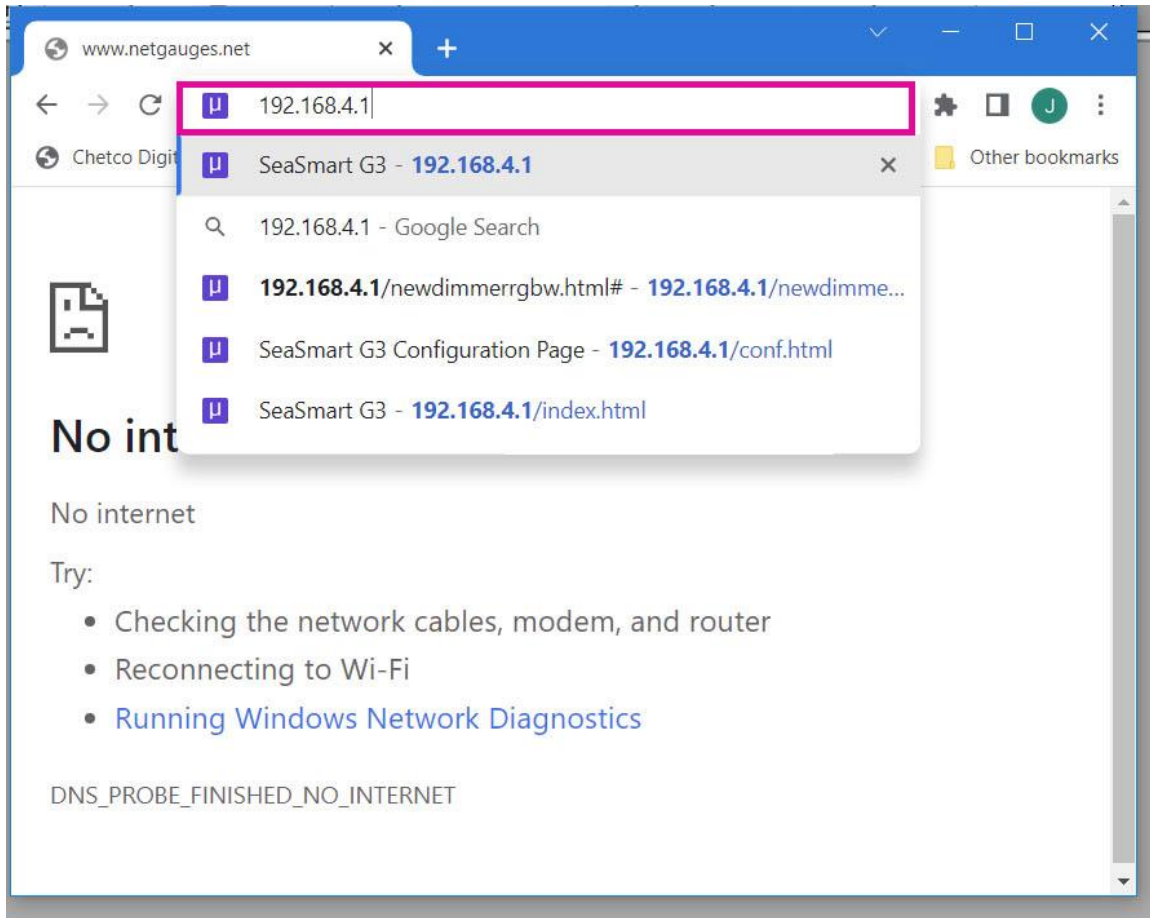


When connected directly to SeaSmartG3 in AP mode you will not have internet access.

To have both internet access and connection to light fixture you will need to set up Station Mode(STA) which uses a local router and internet access point.

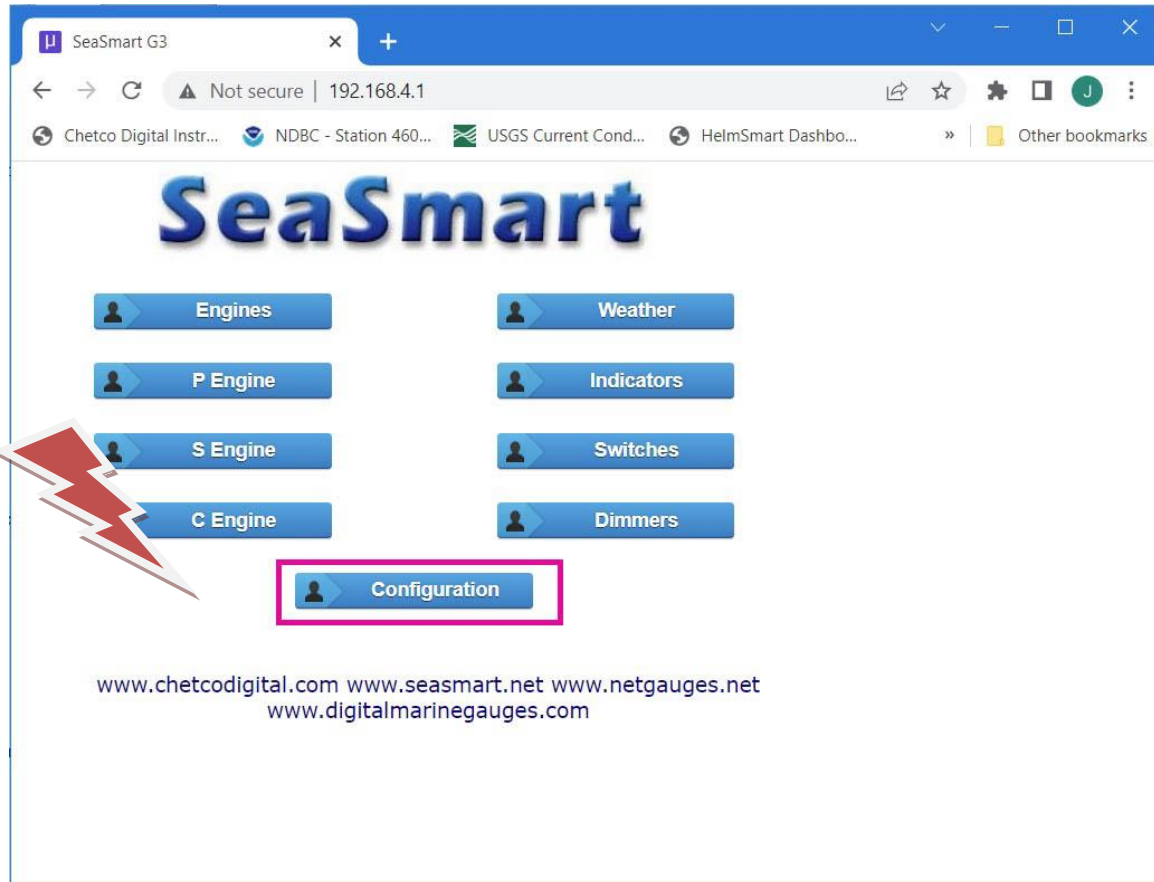


Once connected to device in AP mode, you can start up your local web browser and enter the default device IP address – <http://192.168.4.1>



The Web page will load and you will have access to several buttons. The bottom CONFIGURATION button will take you device set up options such as joining a local infrastructure network (STATION MODE).

You will need to provide the local SSID and password for the router based network you wish to join.



A new window with a control bar showing current device status.

Change the Network Type drop-down from AP mode to Station (STA) mode




The screenshot shows the SeaSmart G3 Configuration Page in a web browser. The page has a navigation bar with links: Home, Config, Status CAN, Status 0183, Files, and PGN Filters. Below the navigation bar, the device ID is 0CDC7E8716D0 and the version is 1.1.1.2.19. The current network status is displayed in a table:

Current Network:	
IP Address 192.168.4.1	SSID = Winchuck Mesh
IP Mask 255.255.255.0	Net Type = Access Point
IP Gateway 0.0.0.0	DHCP ENABLED
CELL AI = connected	

Below the table, the Network Type dropdown menu is open, showing options: AP, Ethernet, Station, STA+AP, MODE_MAX, Mesh Master, and Mesh Slave. A red lightning bolt icon is overlaid on the dropdown menu. The STA SSID, STA Password, AP SSID, AP Security Type, AP Security Key, Mesh Channel, and MESH ID fields are visible. The DHCP Client is set to Enabled. The IP Address is 192.168.254.111, Subnet Mask is 255.255.255.0, Default Gateway is 192.168.254.254, Primary DNS is 8.8.8.8, and Secondary DNS is 192.168.254.254.

Enter the SSID and passwords for the local router based network you wish to join.

You should also enable DHCP mode to allow the router to automatically assign network address to the SeaSmartG3 Gateway



SeaSmart G3 Configuration Page

Not secure | 192.168.4.1/conf.html

Chetco Digital Instr... NDBC - Station 460... USGS Current Cond... HelmSmart Dashbo... netGauges » Other bookmarks

SeaSmart **WIFI** **G3**

Home Config Status CAN Status 0183 Files PGN Filters

DeviceID 0CDC7E8716D0 Version 1.1.1.2.19

Current Network:	
IP Address 192.168.4.1	SSID = Winchuck Mesh
IP Mask 255.255.255.0	Net Type = Access Point
IP Gateway 0.0.0.0	DHCP ENABLED
CELL DB 0	CELL AI = connected

Custom Config: Default

Network Type: Station

STA SSID: Chetco Digital

STA Password: seasmart

AP SSID:

AP Security Type: Open

AP Security Key:

Mesh Channel: 0

MESH ID:

DHCP Client: Enabled

IP Address: 192.168.254.111

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.254.254

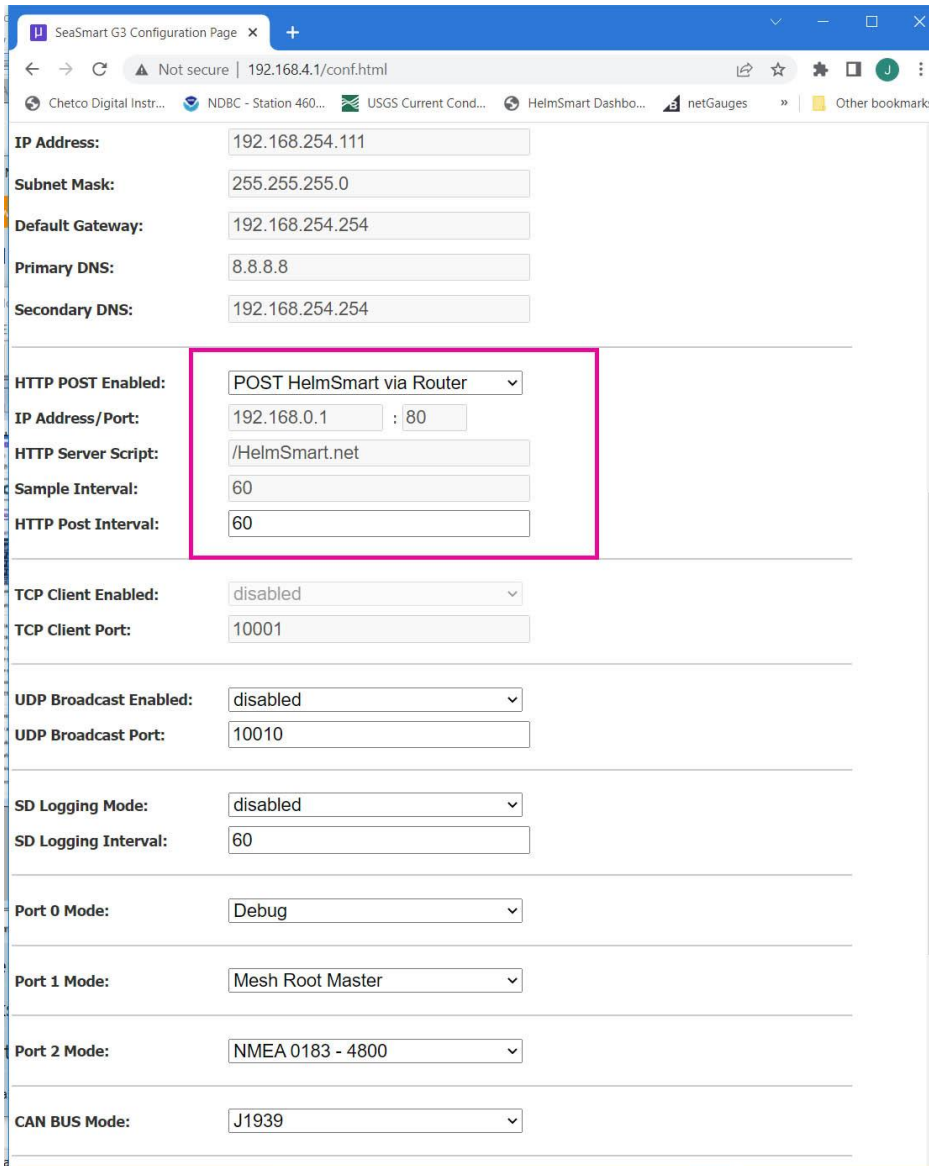
Primary DNS: 8.8.8.8

Secondary DNS: 192.168.254.254

You can also enable upload of sensor data to the HelmSmart Cloud Service by activating HTTP POST via Router.

This will use the local router's internet access to send SeaSmart G3 sensor data directly to the Cloud Service

Keep the default 60 second update rate unless a slower rate is desired.



SeaSmart G3 Configuration Page

Not secure | 192.168.4.1/conf.html

Chetco Digital Instr... NDBC - Station 460... USGS Current Cond... HelmSmart Dashbo... netGauges Other bookmarks

IP Address: 192.168.254.111

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.254.254

Primary DNS: 8.8.8.8

Secondary DNS: 192.168.254.254

HTTP POST Enabled: POST HelmSmart via Router

IP Address/Port: 192.168.0.1 : 80

HTTP Server Script: /HelmSmart.net

Sample Interval: 60

HTTP Post Interval: 60

TCP Client Enabled: disabled

TCP Client Port: 10001

UDP Broadcast Enabled: disabled

UDP Broadcast Port: 10010

SD Logging Mode: disabled

SD Logging Interval: 60

Port 0 Mode: Debug

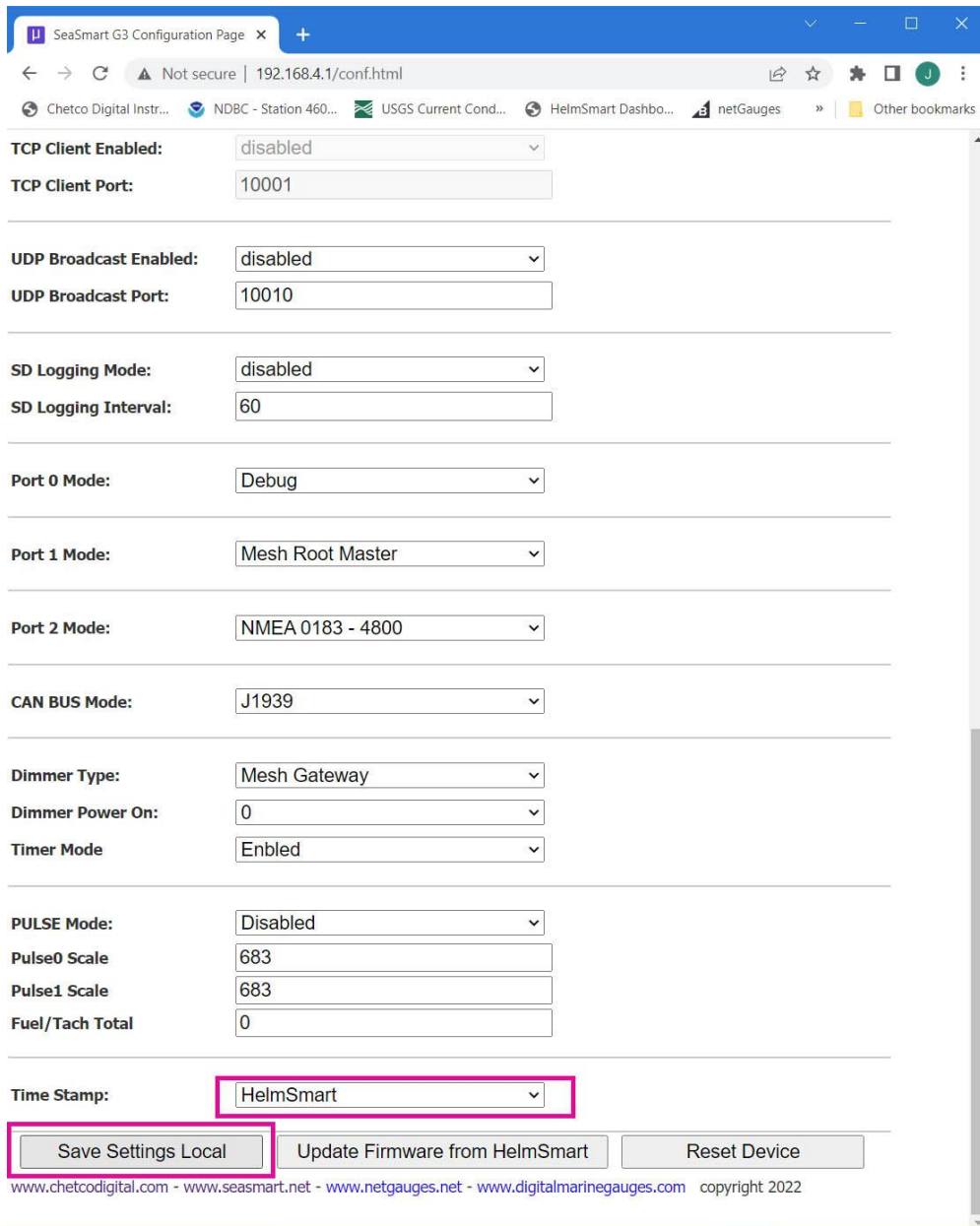
Port 1 Mode: Mesh Root Master

Port 2 Mode: NMEA 0183 - 4800

CAN BUS Mode: J1939

At the bottom of the Config page SAVE the new Config and be prepared to reset the device.

You will also want to be sure to select HelmSmart as the device time source to keep all messages in sync.



The screenshot shows the SeaSmart G3 Configuration Page in a web browser. The page is titled "SeaSmart G3 Configuration Page" and the URL is "192.168.4.1/conf.html". The page contains various configuration options, each with a dropdown menu or text input field. The "Time Stamp" dropdown is highlighted with a pink box and set to "HelmSmart". Below the "Time Stamp" dropdown, there are three buttons: "Save Settings Local", "Update Firmware from HelmSmart", and "Reset Device". The "Save Settings Local" button is also highlighted with a pink box. At the bottom of the page, there is a footer with the following text: "www.chetcodigital.com - www.seasmart.net - www.netgauges.net - www.digitalmarinegauges.com copyright 2022".

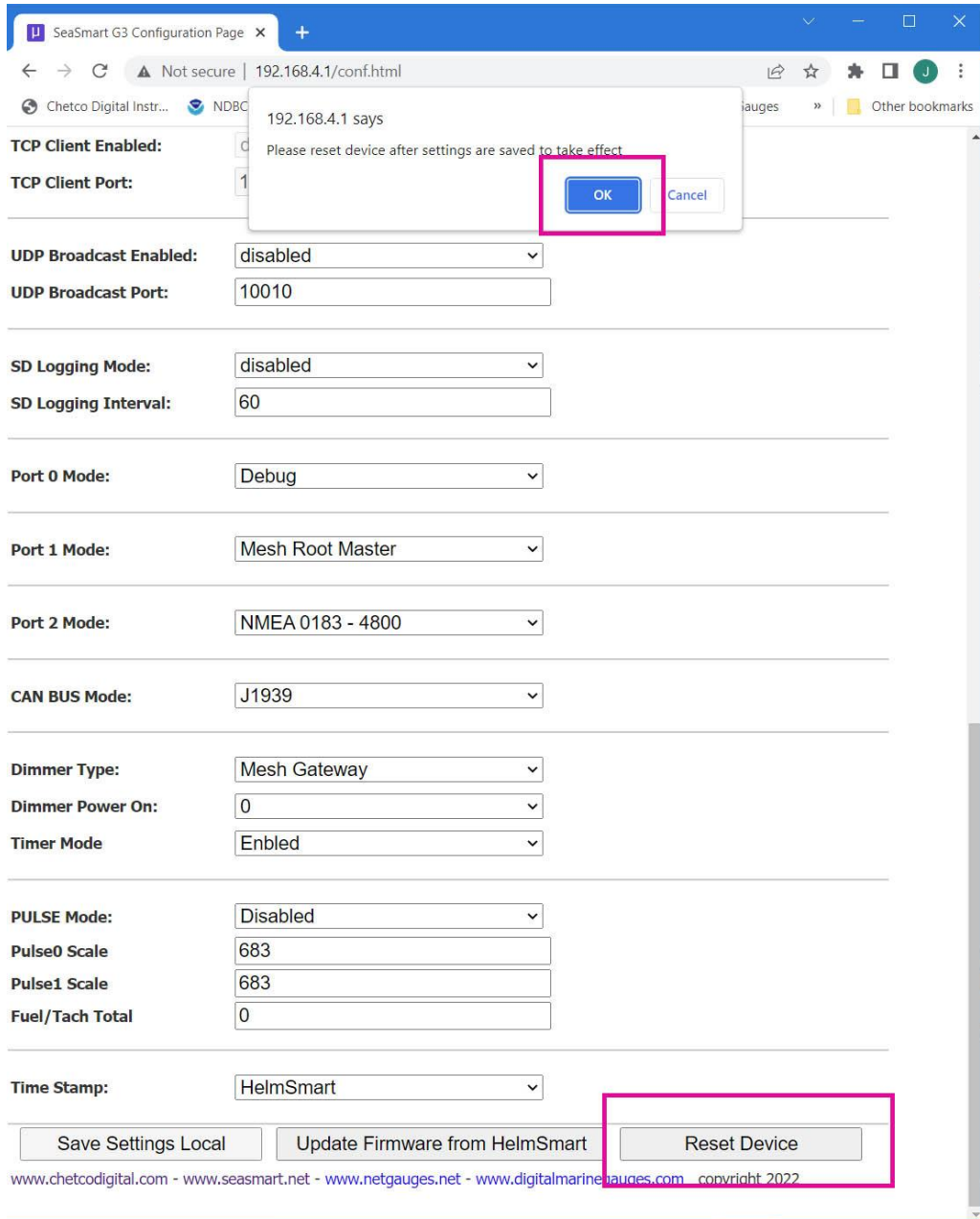
TCP Client Enabled:	disabled
TCP Client Port:	10001
UDP Broadcast Enabled:	disabled
UDP Broadcast Port:	10010
SD Logging Mode:	disabled
SD Logging Interval:	60
Port 0 Mode:	Debug
Port 1 Mode:	Mesh Root Master
Port 2 Mode:	NMEA 0183 - 4800
CAN BUS Mode:	J1939
Dimmer Type:	Mesh Gateway
Dimmer Power On:	0
Timer Mode	Enbled
PULSE Mode:	Disabled
Pulse0 Scale	683
Pulse1 Scale	683
Fuel/Tach Total	0
Time Stamp:	HelmSmart

Save Settings Local Update Firmware from HelmSmart Reset Device

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Confirm the RESET action and select the RESET button at the bottom right.

You can also power reset the Gateway at this point if desired



The screenshot shows the SeaSmart G3 Configuration Page in a web browser. The address bar indicates the URL is 192.168.4.1/conf.html. A modal dialog box is open, displaying the message "192.168.4.1 says Please reset device after settings are saved to take effect." with "OK" and "Cancel" buttons. The "OK" button is highlighted with a pink rectangle. The configuration page includes various settings such as TCP Client Enabled, UDP Broadcast Enabled, SD Logging Mode, Port 0 Mode, Port 1 Mode, Port 2 Mode, CAN BUS Mode, Dimmer Type, Dimmer Power On, Timer Mode, PULSE Mode, Pulse0 Scale, Pulse1 Scale, Fuel/Tach Total, and Time Stamp. The "Reset Device" button at the bottom right is also highlighted with a pink rectangle.

SeaSmart G3 Configuration Page

192.168.4.1 says
Please reset device after settings are saved to take effect

OK Cancel

TCP Client Enabled: ☐

TCP Client Port: 1

UDP Broadcast Enabled: disabled

UDP Broadcast Port: 10010

SD Logging Mode: disabled

SD Logging Interval: 60

Port 0 Mode: Debug

Port 1 Mode: Mesh Root Master

Port 2 Mode: NMEA 0183 - 4800

CAN BUS Mode: J1939

Dimmer Type: Mesh Gateway

Dimmer Power On: 0

Timer Mode: Enabled

PULSE Mode: Disabled

Pulse0 Scale: 683

Pulse1 Scale: 683

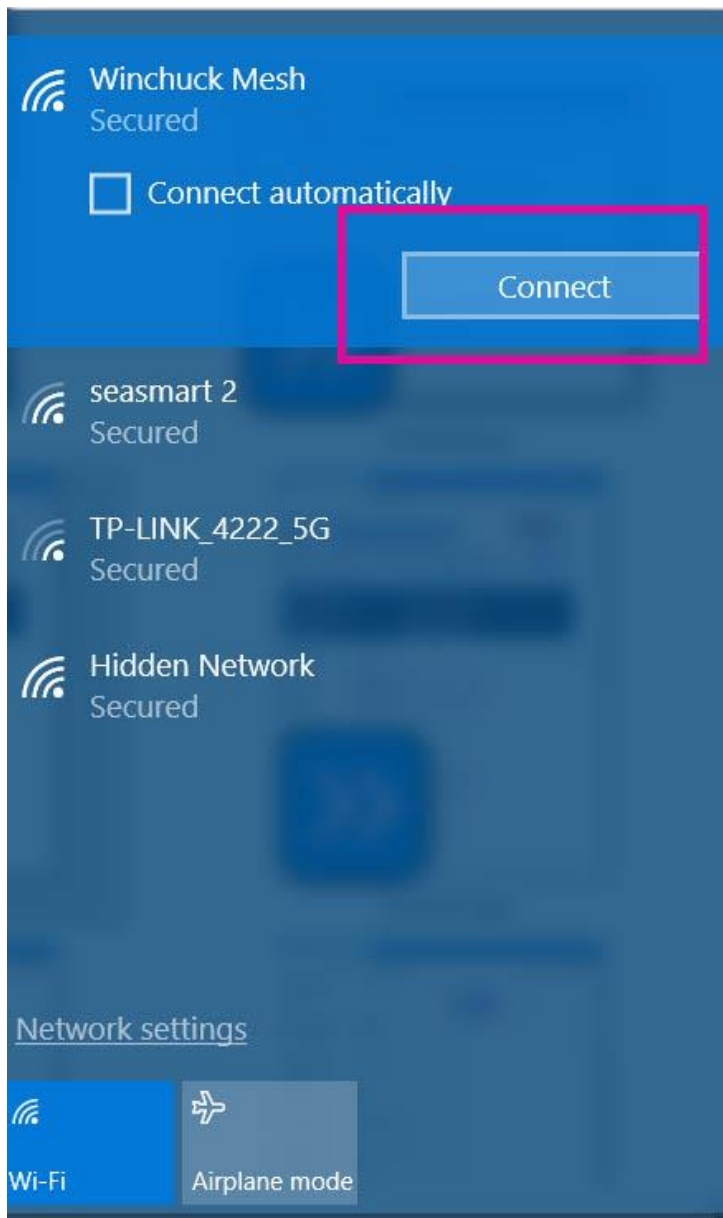
Fuel/Tach Total: 0

Time Stamp: HelmSmart

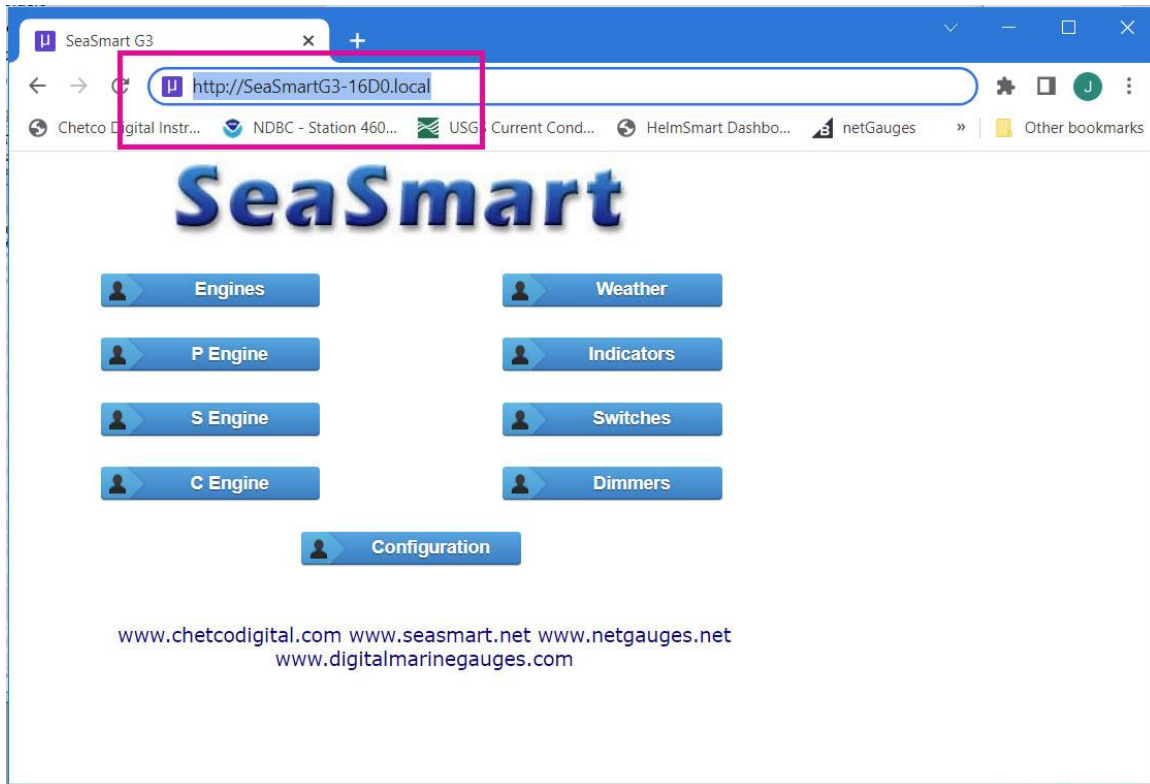
Save Settings Local Update Firmware from HelmSmart Reset Device

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At this point you will lose connection to the SeaSmartG3 AP mode and need to reconnect to the new local router based network



Once you are reconnected to the STATION network you can enter the SeaSmart URL to discover the gateway on the new network.



SeaSmartG3 uses mDNS to register device names with the local router so you do not need to search by address. If your router does not support mDNS, you may need to use the router's interface utilities to determine the actual IP address automatically assigned to the SeaSmartG3 gateway

