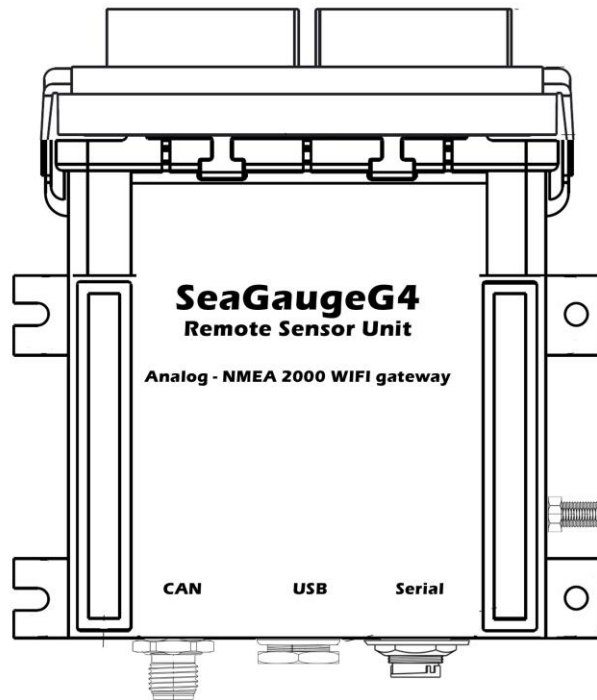


# Application Note

ANSSG325091302 – SeaGauge G4 Enable  
PushSmart



Chetco Digital Instruments, Inc

Revision 091325

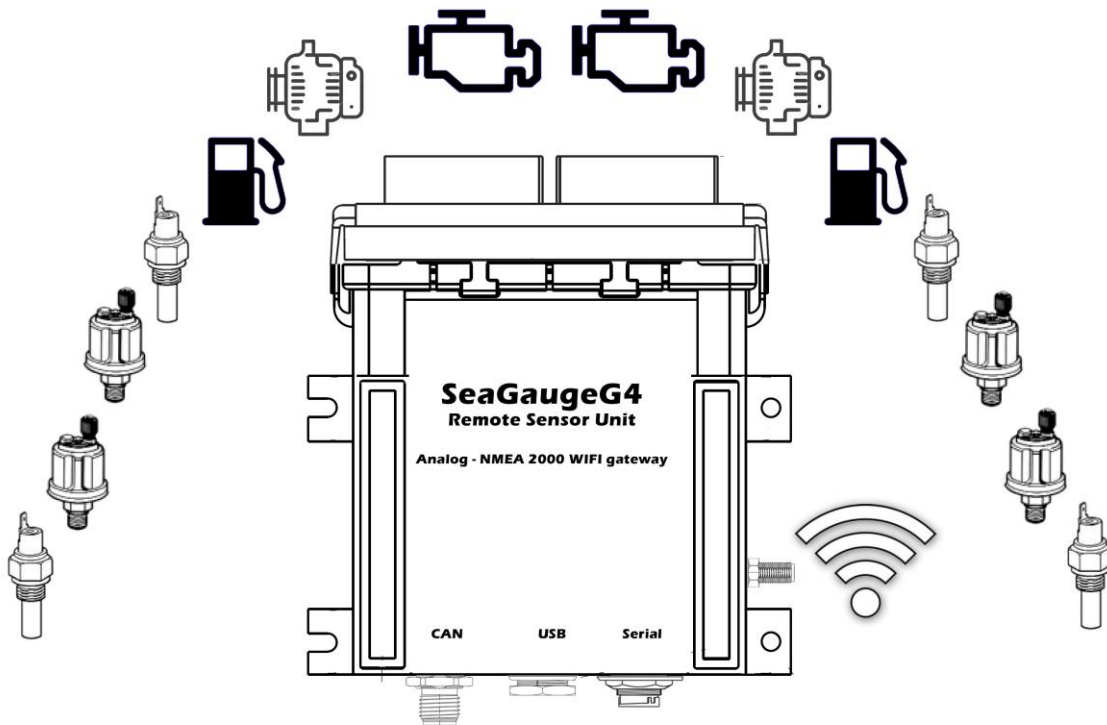
---

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



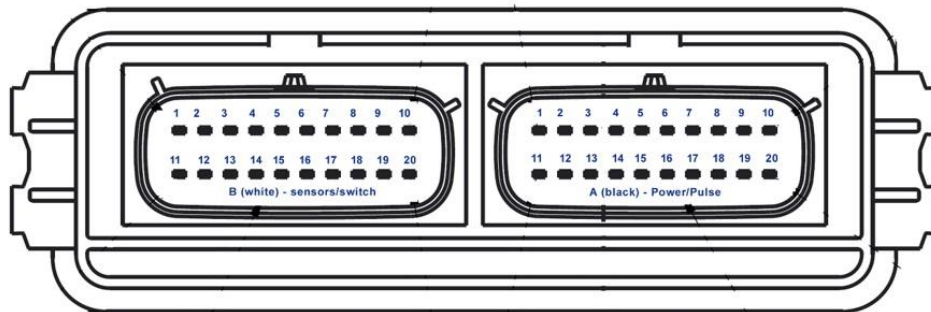
SeaGaugeG4 supports up to 3 pulse sensor inputs via a 20 pin Molex MX150 plug (white).

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

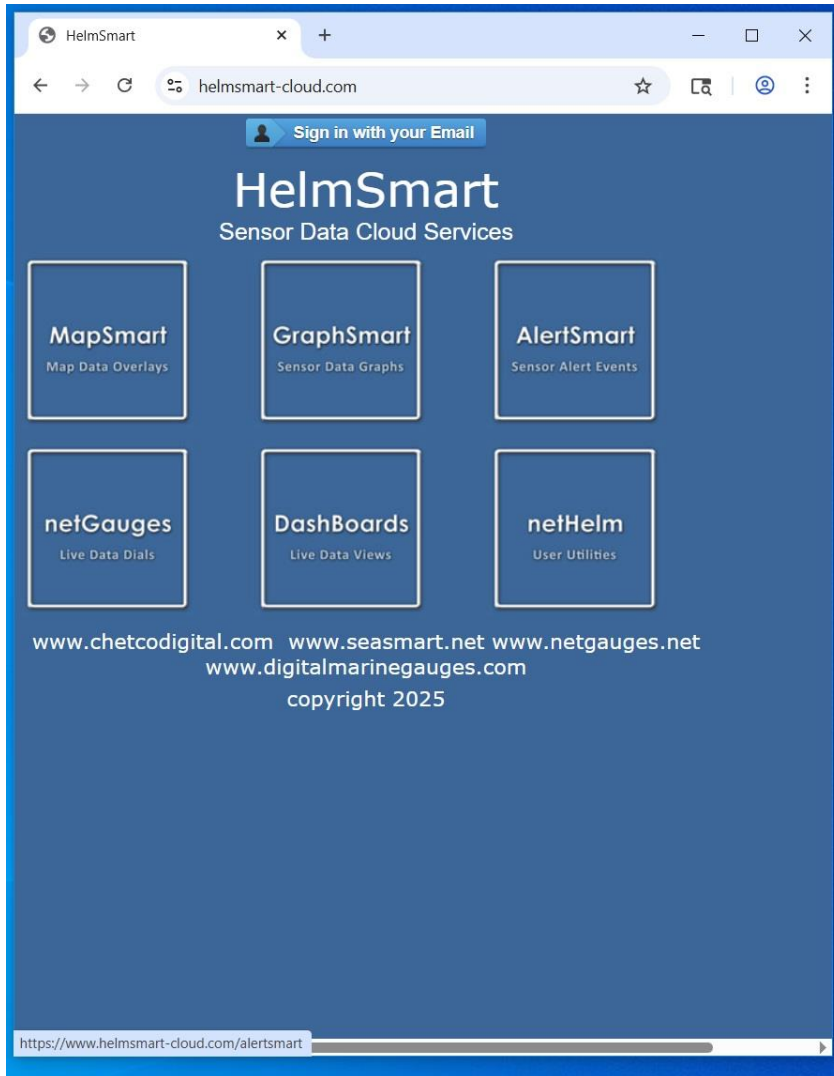
### SeaGaugeG4 Header



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

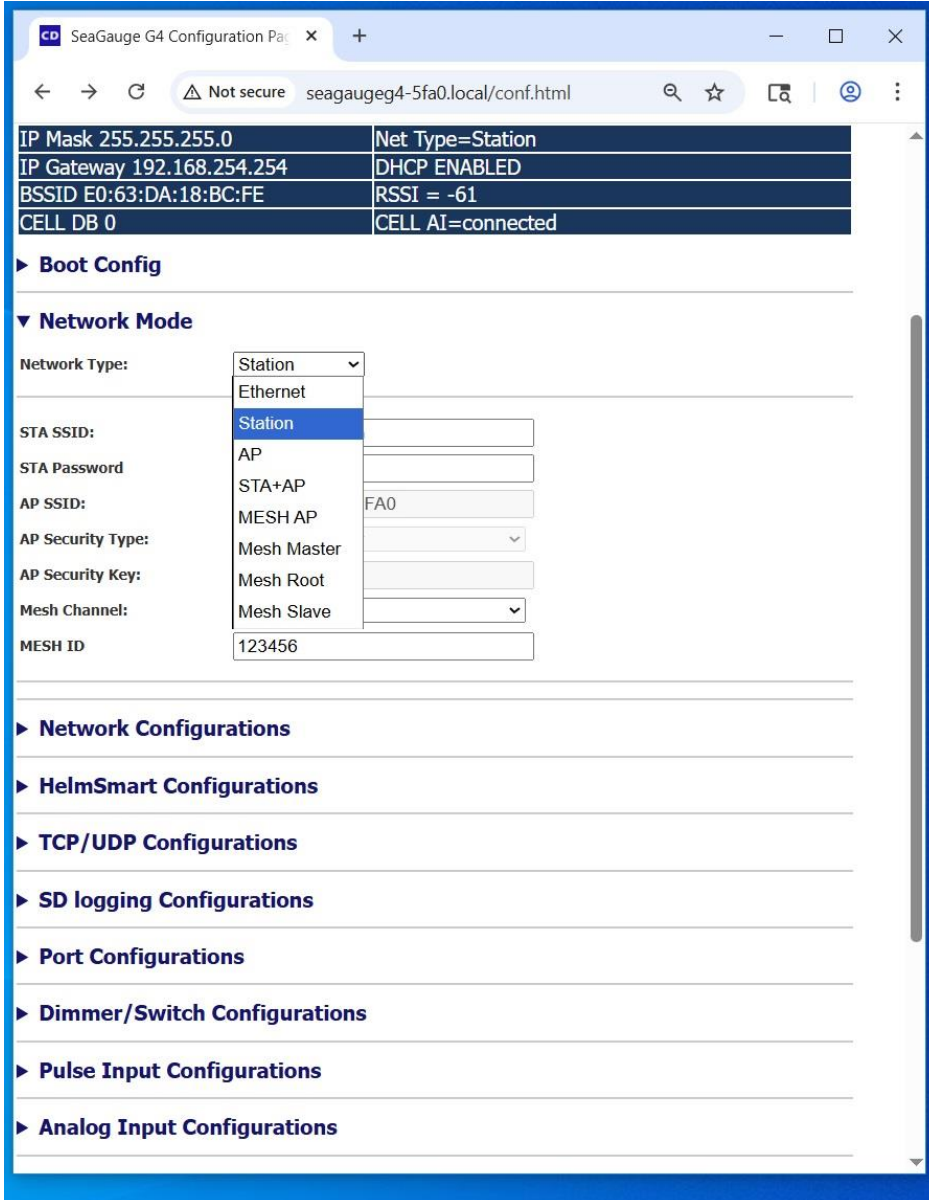
SeaGaugeG4 provides an embedded web client that allows automatic HTTP connections to HelmSmart-Cloud services for upload of live sensor data.

Once posted to the HelmSmart-Cloud service, live and stored data can be retrieved using any standard web browser interface



To connect to cloud services, SeaGaugeG4 must be in **Station** or **Ethernet** mode and joined on a local network with internet connection

\*\*\*\* See App Note [AN\\_SS230228\\_SeaSmartSTAmode.pdf](#) for full details on setting up STATION (router based infrastructure) mode \*\*\*



SeaGauge G4 Configuration Page

Not secure seagaugeg4-5fa0.local/conf.html

IP Mask 255.255.255.0	Net Type=Station
IP Gateway 192.168.254.254	DHCP ENABLED
BSSID E0:63:DA:18:BC:FE	RSSI = -61
CELL DB 0	CELL AI=connected

► **Boot Config**

▼ **Network Mode**

Network Type:

STA SSID:

STA Password:

AP SSID:

AP Security Type:

AP Security Key:

Mesh Channel:

MESH ID:

► **Network Configurations**

► **HelmSmart Configurations**

► **TCP/UDP Configurations**

► **SD logging Configurations**

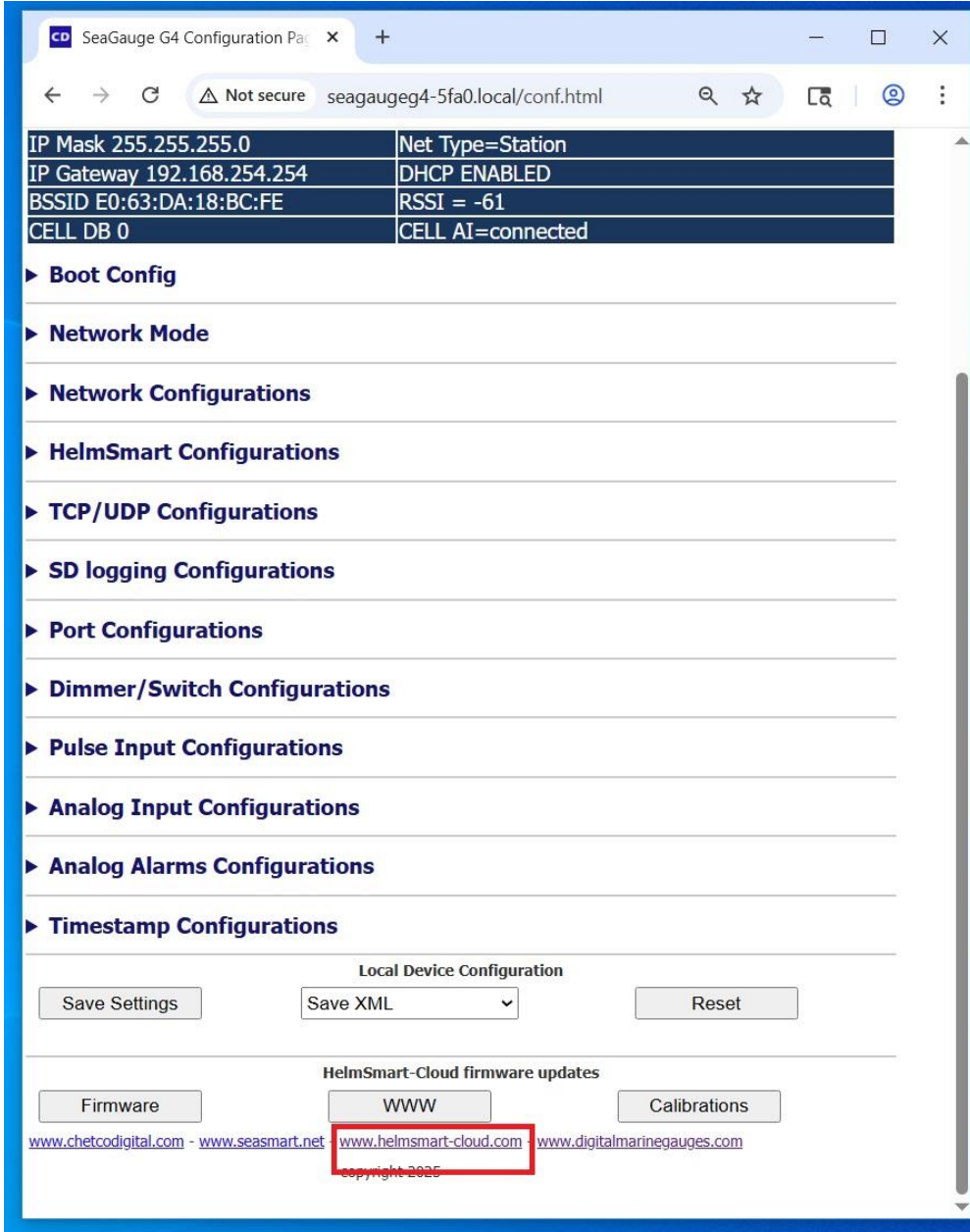
► **Port Configurations**

► **Dimmer/Switch Configurations**

► **Pulse Input Configurations**

► **Analog Input Configurations**

Test for an active internet connection using the links at the bottom of the **HOME** or **CONFIGURATION** pages



SeaGauge G4 Configuration Page

Not secure seagauge4-5fa0.local/conf.html

IP Mask 255.255.255.0	Net Type=Station
IP Gateway 192.168.254.254	DHCP ENABLED
BSSID E0:63:DA:18:BC:FE	RSSI = -61
CELL DB 0	CELL AI=connected

- ▶ Boot Config
- ▶ Network Mode
- ▶ Network Configurations
- ▶ HelmSmart Configurations
- ▶ TCP/UDP Configurations
- ▶ SD logging Configurations
- ▶ Port Configurations
- ▶ Dimmer/Switch Configurations
- ▶ Pulse Input Configurations
- ▶ Analog Input Configurations
- ▶ Analog Alarms Configurations
- ▶ Timestamp Configurations

Local Device Configuration

Save Settings Save XML Reset

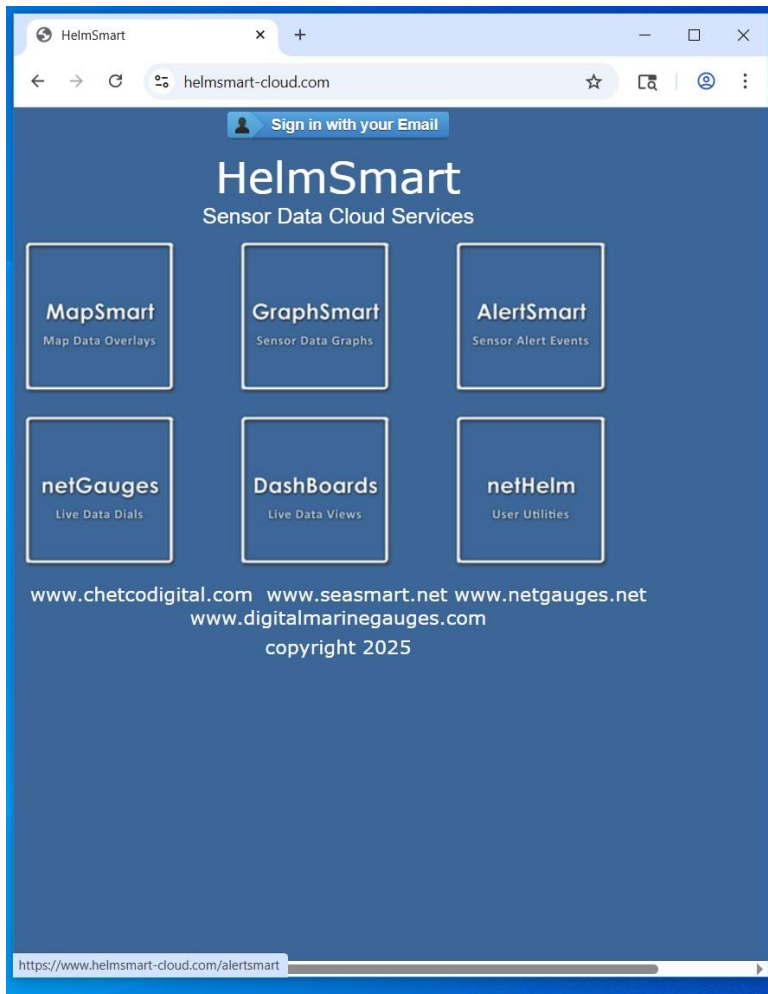
HelmSmart-Cloud firmware updates

Firmware WWW Calibrations

[www.chetcodigital.com](http://www.chetcodigital.com) - [www.seasmart.net](http://www.seasmart.net) - [www.helmsmart-cloud.com](http://www.helmsmart-cloud.com) - [www.digitalmarinegauges.com](http://www.digitalmarinegauges.com)

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If the selected web site loads, continue with configuration





The **HelmSmart** section of the **Configuration** page can be expanded by clicking on the left side arrow





PushSmart Post is enabled by selecting the **Mode** and **HTTP Post** interval.



The screenshot shows the SeaSmart configuration interface in a web browser. The browser address bar shows "seagaugeg4-5fa0.local/conf.html". 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 AC1518EF5FA0 and the version is 1.9.3.9.8. A table displays the current network settings:

Current Network:	
IP Address 192.168.254.40	SSID = Winchuck Mesh
IP Mask 255.255.255.0	Net Type=Station
IP Gateway 192.168.254.254	DHCP ENABLED
BSSID E0:63:DA:18:BC:FE	RSSI = -61
CELL DB 0	CELL AI=connected

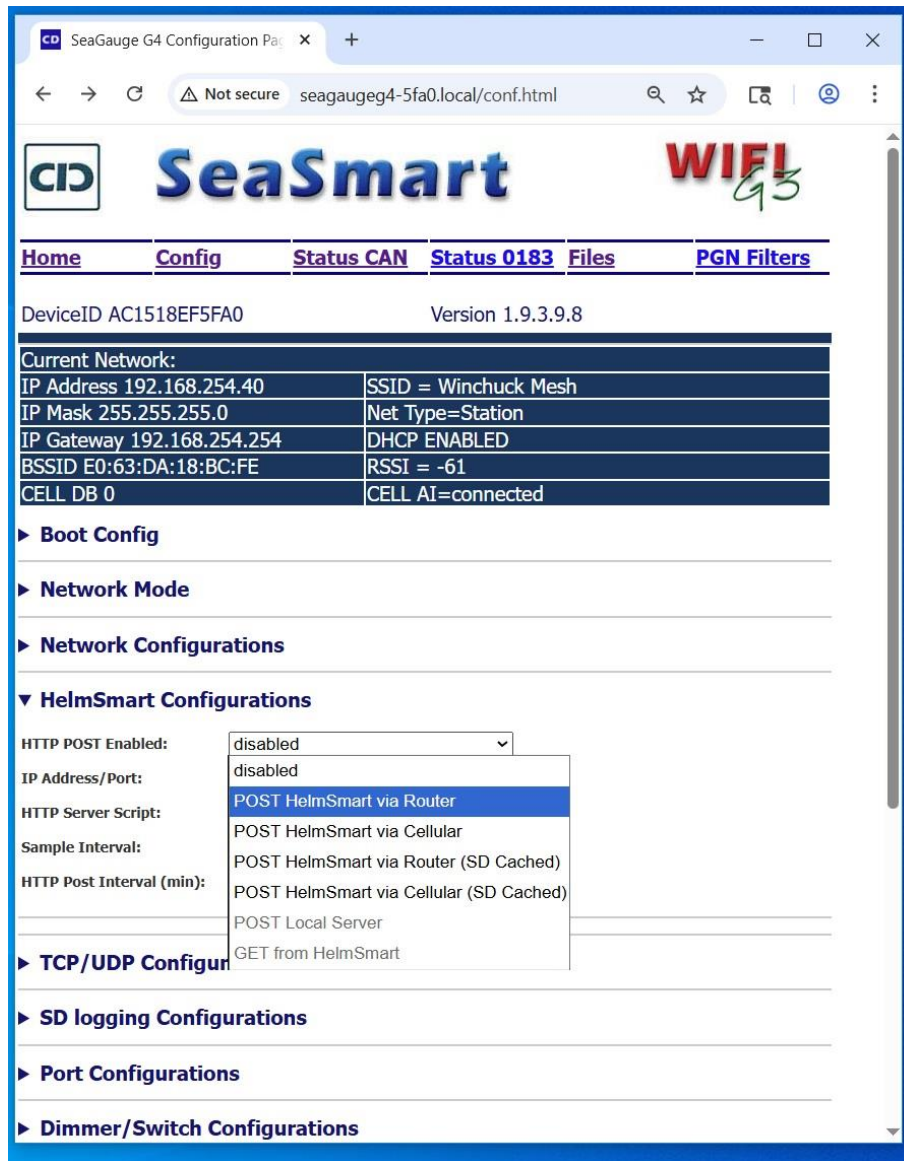
Below the network settings, there are expandable sections for Boot Config, Network Mode, Network Configurations, HelmSmart Configurations, TCP/UDP Configurations, SD logging Configurations, and Port Configurations. The HelmSmart Configurations section is highlighted with a red box and contains the following settings:

- HTTP POST Enabled: disabled (dropdown menu)
- IP Address/Port: 192.168.0.1 : 80
- HTTP Server Script: /HelmSmart.net
- Sample Interval: 2
- HTTP Post Interval (min): 1

Only two modes are available for SeaGageG4 –

- **Post via Router** – Sends data at selected interval without recovery
- **Post via Router (SD Cached)** - Sends data and stores in SD cache for retransmission if POST fails due to loss of network connection. Will resend later when network recovers.

Using SD Cached can take longer to Post each update



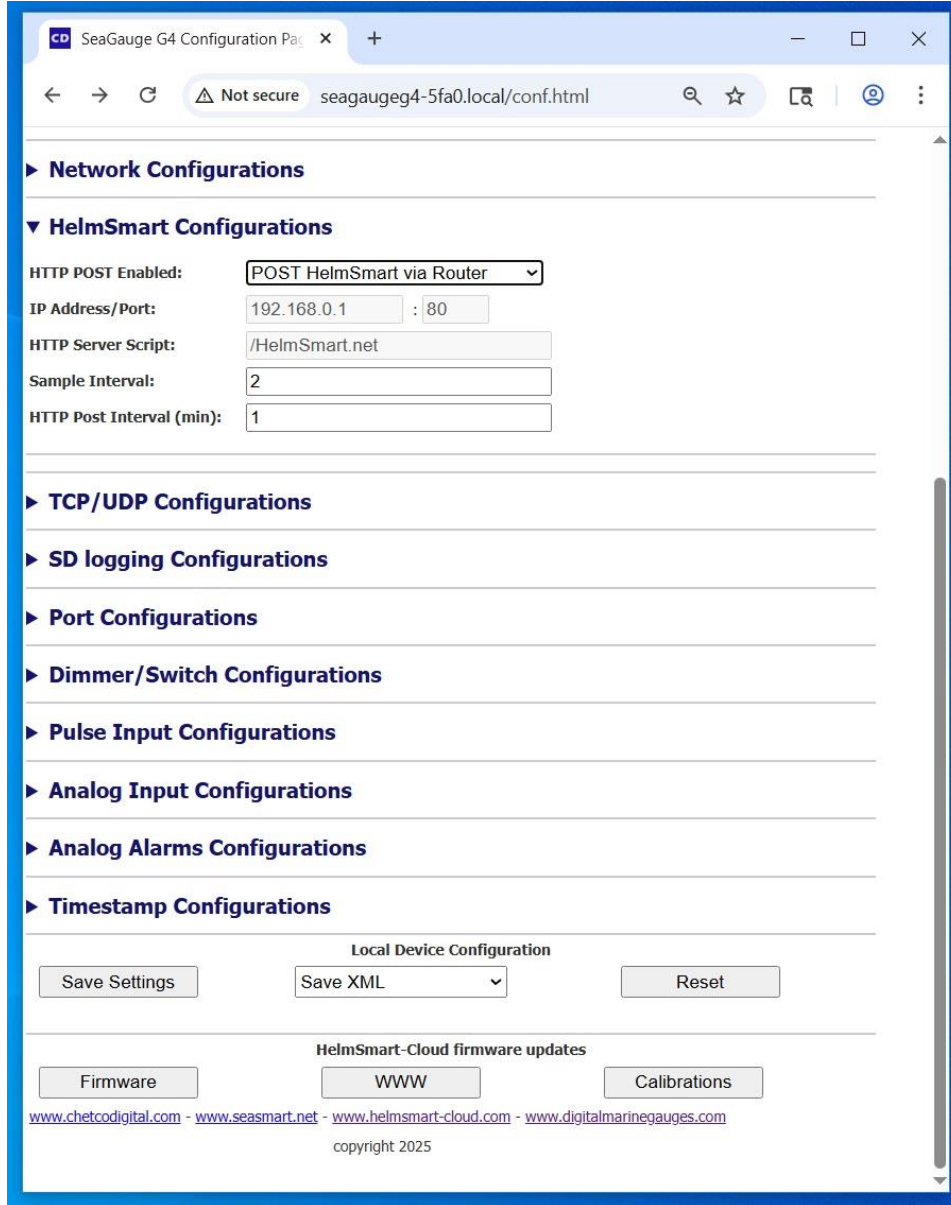
The screenshot shows the SeaGage G4 Configuration Page in a web browser. The page title is "SeaGage G4 Configuration Page" and the URL is "seagageg4-5fa0.local/conf.html". The page features the CID logo, "SeaSmart" text, and a "WIFI 93" indicator. The navigation menu includes "Home", "Config", "Status CAN", "Status 0183", "Files", and "PGN Filters". The main content area displays the following information:

- DeviceID: AC1518EF5FA0
- Version: 1.9.3.9.8
- Current Network:
 

IP Address 192.168.254.40	SSID = Winchuck Mesh
IP Mask 255.255.255.0	Net Type=Station
IP Gateway 192.168.254.254	DHCP ENABLED
BSSID E0:63:DA:18:BC:FE	RSSI = -61
CELL DB 0	CELL AI=connected
- Configuration sections (all collapsed except Helmsmart):
  - Boot Config
  - Network Mode
  - Network Configurations
  - Helmsmart Configurations** (expanded):
 

HTTP POST Enabled:	disabled
IP Address/Port:	disabled
HTTP Server Script:	POST Helmsmart via Router
Sample Interval:	POST Helmsmart via Cellular
HTTP Post Interval (min):	POST Helmsmart via Router (SD Cached)
	POST Helmsmart via Cellular (SD Cached)
	POST Local Server
	GET from Helmsmart
  - TCP/UDP Configurations
  - SD logging Configurations
  - Port Configurations
  - Dimmer/Switch Configurations

Select the desired **POST** mode and **HTTP Post Interval** in minutes



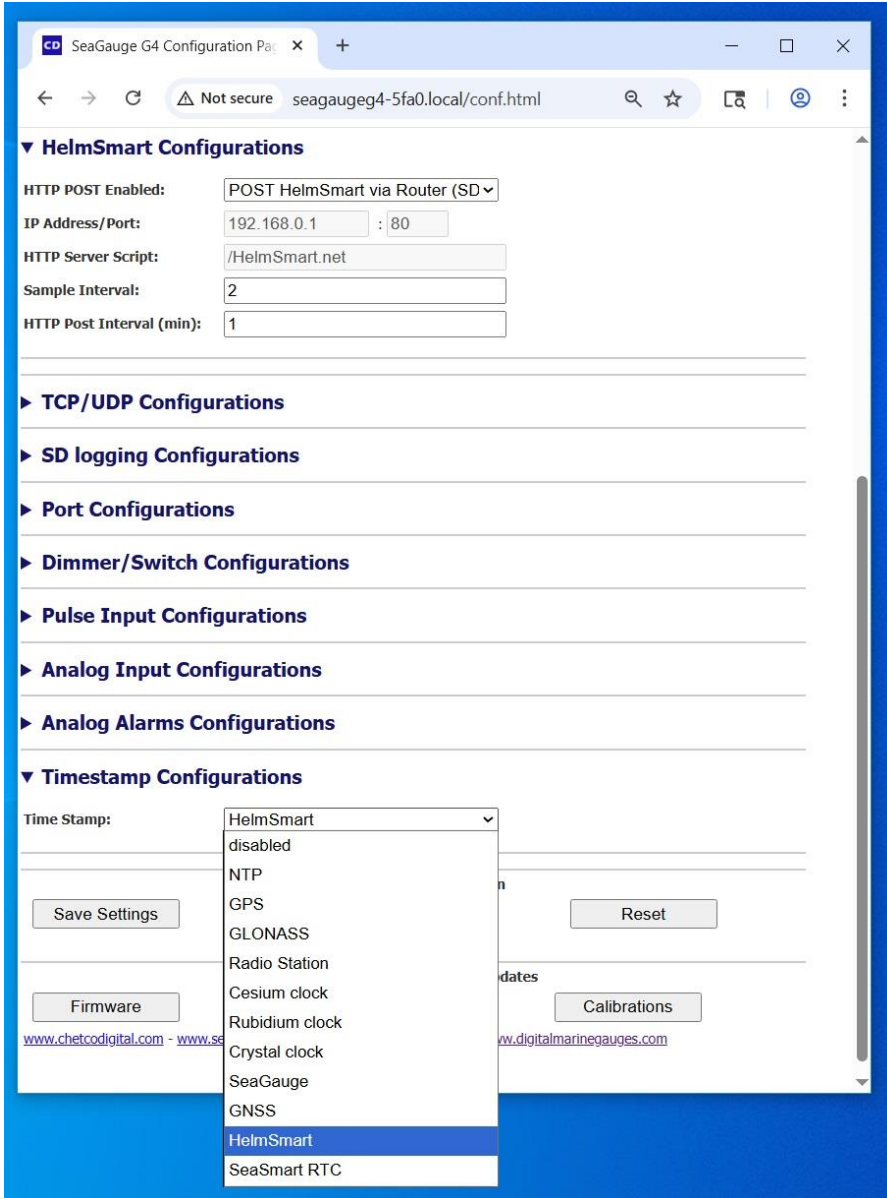
The screenshot shows a web browser window with the title "SeaGauge G4 Configuration Page". The address bar shows "seagauge4-5fa0.local/conf.html". The page content includes a sidebar with expandable sections: Network Configurations, HelmSmart Configurations (expanded), TCP/UDP Configurations, SD logging Configurations, Port Configurations, Dimmer/Switch Configurations, Pulse Input Configurations, Analog Input Configurations, Analog Alarms Configurations, and Timestamp Configurations. The HelmSmart Configurations section contains the following fields:

- HTTP POST Enabled: POST HelmSmart via Router (dropdown)
- IP Address/Port: 192.168.0.1 : 80
- HTTP Server Script: /HelmSmart.net
- Sample Interval: 2
- HTTP Post Interval (min): 1

Below these fields are buttons for "Save Settings", "Save XML" (dropdown), and "Reset". At the bottom, there are links for "Firmware", "WWW", and "Calibrations", and a copyright notice for 2025.

To be sure SeaGaugeG4 has correct internal current time, select either **NTP** or **HelmSmart** as time source

- **NTP** is a local Network Time Service when connected to internet
- **HelmSmart** is a synchronized time update on each HTTP Post



SeaGauge G4 Configuration Page

Not secure seagauge4-5fa0.local/conf.html

### ▼ HelmSmart Configurations

HTTP POST Enabled: POST HelmSmart via Router (SD)

IP Address/Port: 192.168.0.1 : 80

HTTP Server Script: /HelmSmart.net

Sample Interval: 2

HTTP Post Interval (min): 1

### ▶ TCP/UDP Configurations

### ▶ SD logging Configurations

### ▶ Port Configurations

### ▶ Dimmer/Switch Configurations

### ▶ Pulse Input Configurations

### ▶ Analog Input Configurations

### ▶ Analog Alarms Configurations

### ▼ Timestamp Configurations

Time Stamp: HelmSmart

disabled

NTP

GPS

GLONASS

Radio Station

Cesium clock

Rubidium clock

Crystal clock

SeaGauge

GNSS

**HelmSmart**

SeaSmart RTC

Save Settings

Reset

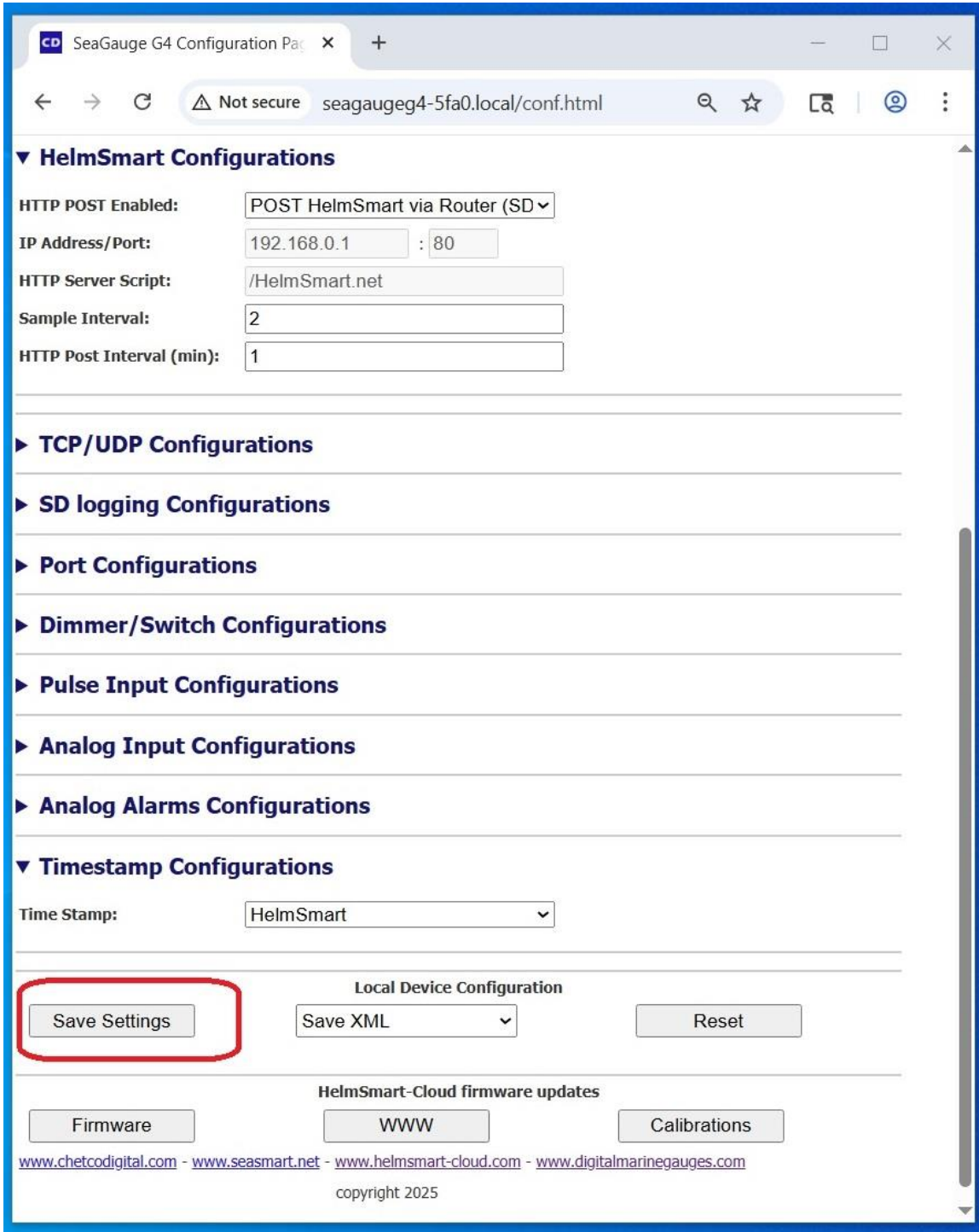
Firmware

Calibrations

[www.chetcodigital.com](http://www.chetcodigital.com) - [www.seasmart.net](http://www.seasmart.net)

[www.digitalmarinegauges.com](http://www.digitalmarinegauges.com)

**Save Settings** to store in NVRAM for next reboot



The screenshot shows the SeaGauge G4 Configuration Page in a web browser. The page is titled "SeaGauge G4 Configuration Page" and the URL is "seagauge4-5fa0.local/conf.html". The page is divided into several sections:

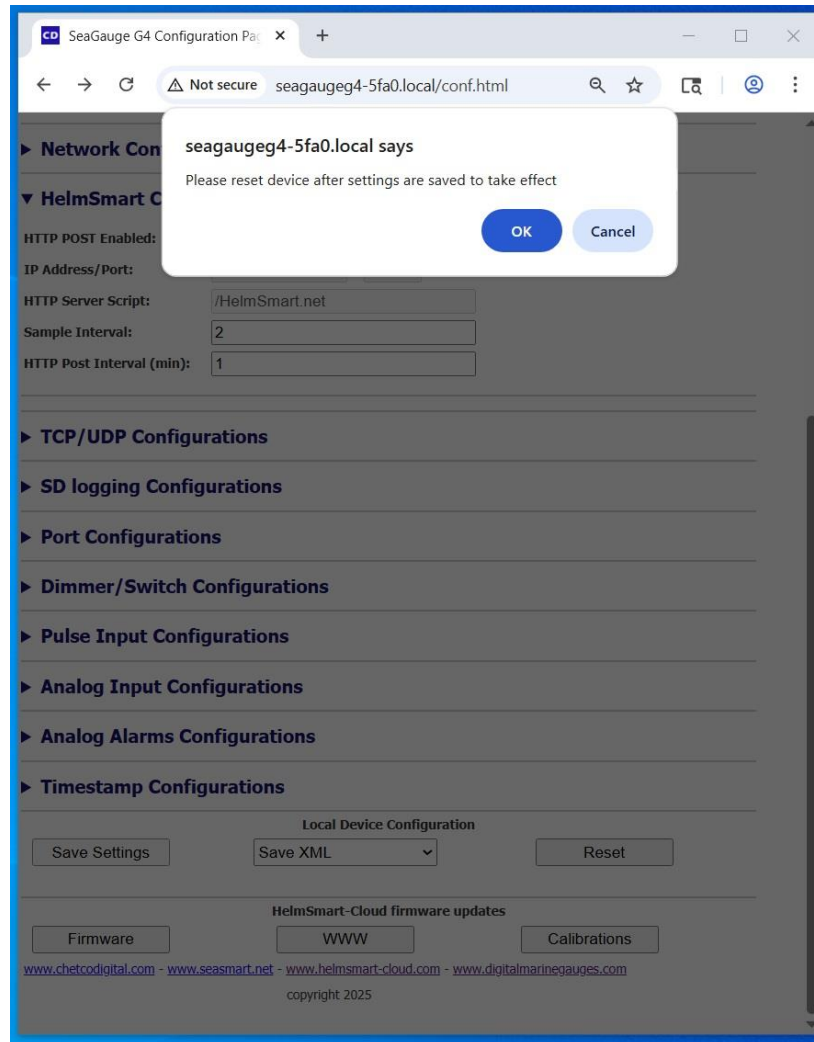
- HelmSmart Configurations**: Includes fields for "HTTP POST Enabled:" (set to "POST HelmSmart via Router (SD)"), "IP Address/Port:" (192.168.0.1 : 80), "HTTP Server Script:" (/HelmSmart.net), "Sample Interval:" (2), and "HTTP Post Interval (min):" (1).
- TCP/UDP Configurations**
- SD logging Configurations**
- Port Configurations**
- Dimmer/Switch Configurations**
- Pulse Input Configurations**
- Analog Input Configurations**
- Analog Alarms Configurations**
- Timestamp Configurations**: Includes a "Time Stamp:" field set to "HelmSmart".

At the bottom of the page, there is a "Local Device Configuration" section with three buttons: "Save Settings" (highlighted with a red box), "Save XML" (with a dropdown arrow), and "Reset". Below this is a "HelmSmart-Cloud firmware updates" section with three buttons: "Firmware", "WWW", and "Calibrations".

At the very bottom, there are links to various websites: [www.chetcodigital.com](http://www.chetcodigital.com), [www.seasmart.net](http://www.seasmart.net), [www.helmsmart-cloud.com](http://www.helmsmart-cloud.com), and [www.digitalmarinegauges.com](http://www.digitalmarinegauges.com). The copyright notice "copyright 2025" is also present.

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You will be prompted to reboot device after settings are saved

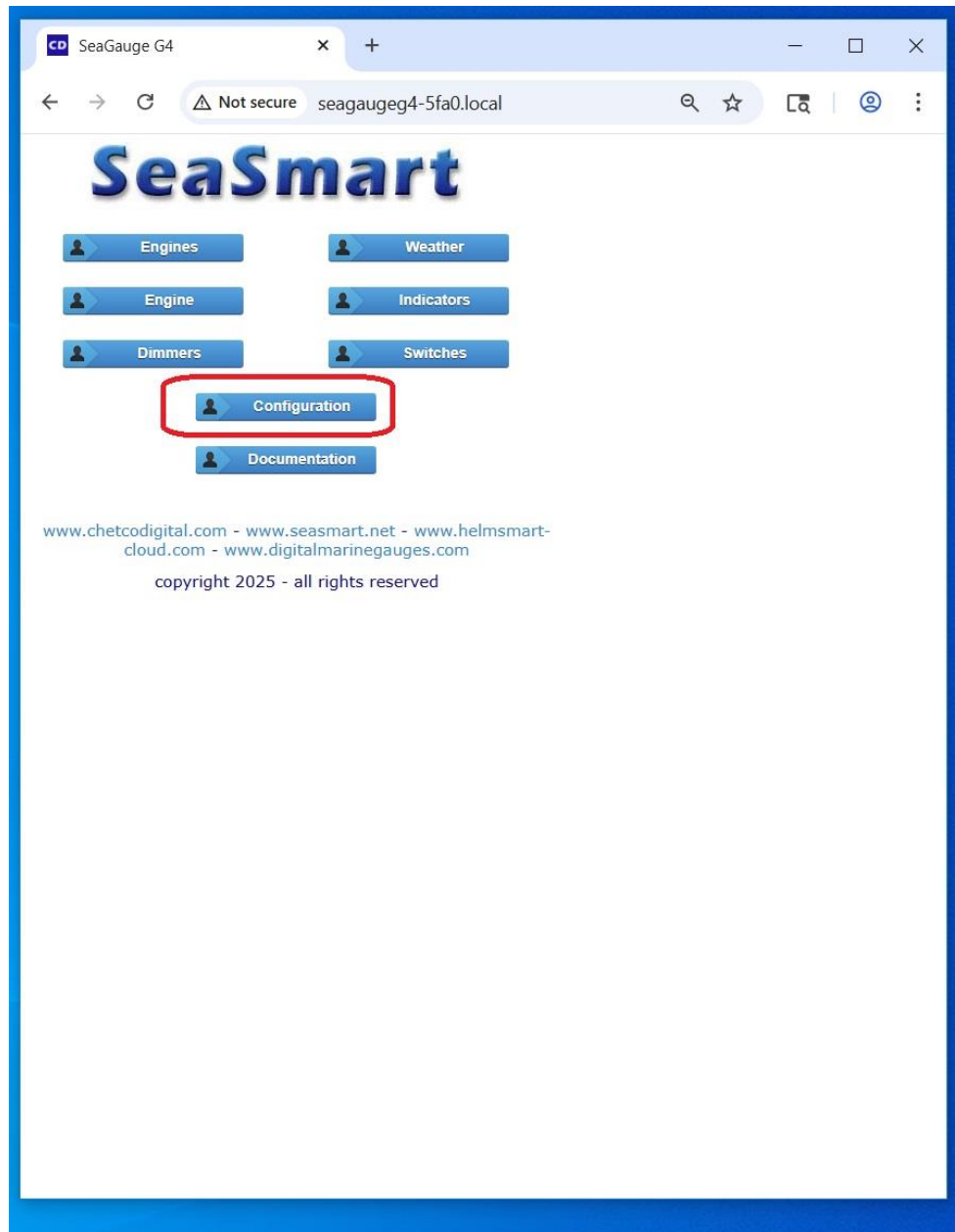




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Device will return back to Home page.

Choose the **Configuration** link to return to config page so you can reboot device





**RESET** to reboot device and start the HPPT Post.



SeaGauge G4 Configuration Page

Not secure seagauge4-5fa0.local/conf.html

IP Mask 255.255.255.0	Net Type=Station
IP Gateway 192.168.254.254	DHCP ENABLED
BSSID E0:63:DA:18:BC:FE	RSSI = -60
CELL DB 0	CELL AI=connected

- ▶ Boot Config
- ▶ Network Mode
- ▶ Network Configurations
- ▶ HelmSmart Configurations
- ▶ TCP/UDP Configurations
- ▶ SD logging Configurations
- ▶ Port Configurations
- ▶ Dimmer/Switch Configurations
- ▶ Pulse Input Configurations
- ▶ Analog Input Configurations
- ▶ Analog Alarms Configurations
- ▶ Timestamp Configurations

Local Device Configuration

Save Settings Save XML **Reset**

HelmSmart-Cloud firmware updates

Firmware WWW Calibrations

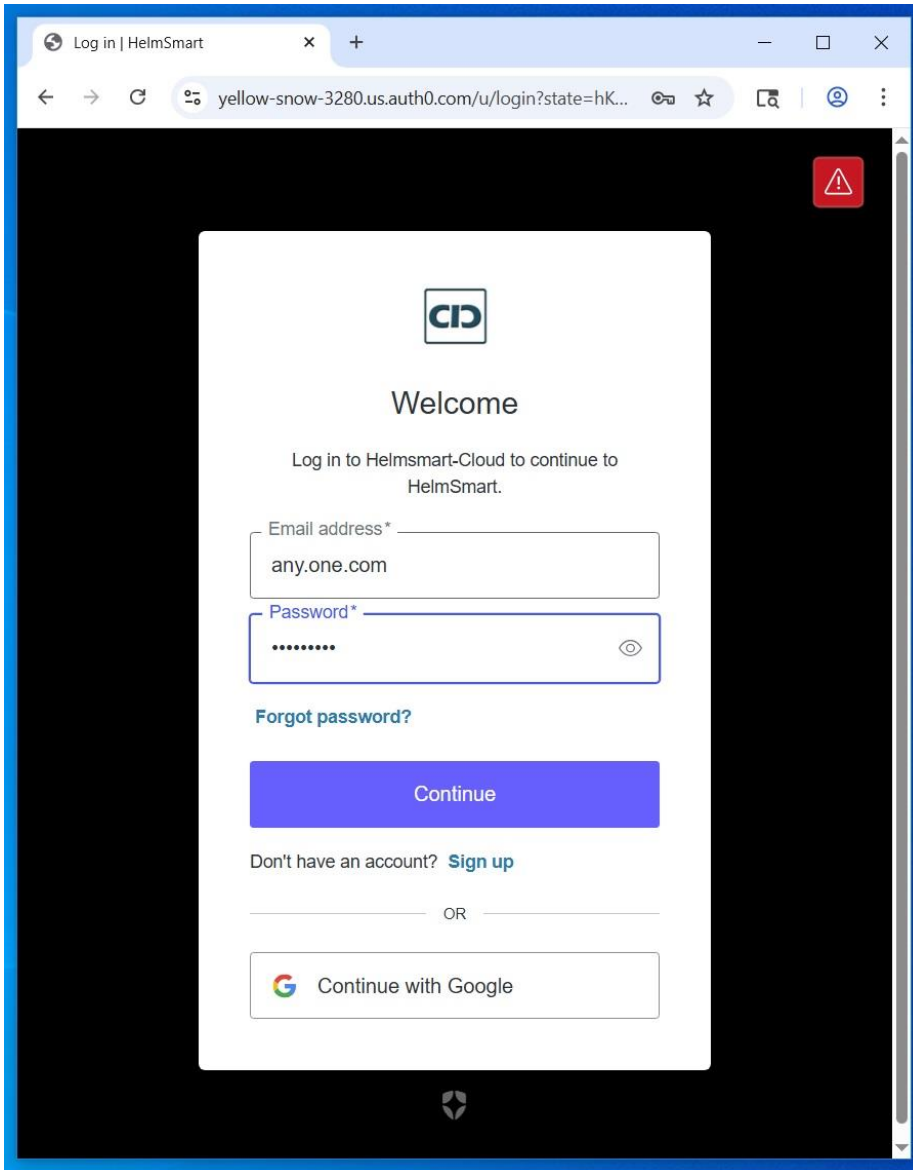
[www.chetcodigital.com](http://www.chetcodigital.com) - [www.seasmart.net](http://www.seasmart.net) - [www.helmsmart-cloud.com](http://www.helmsmart-cloud.com) - [www.digitalmarinegauges.com](http://www.digitalmarinegauges.com)

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To test the PushSmart POST to the HelmSmart-Cloud service is active, navigate to <http://www.helmsmart-cloud.com> on any web browser

Enter your **HelmSmart** login credentials.



Log in | HelmSmart

yellow-snow-3280.us.auth0.com/u/login?state=hK...



Welcome

Log in to Helmsmart-Cloud to continue to HelmSmart.

Email address\*


Password\*

[Forgot password?](#)

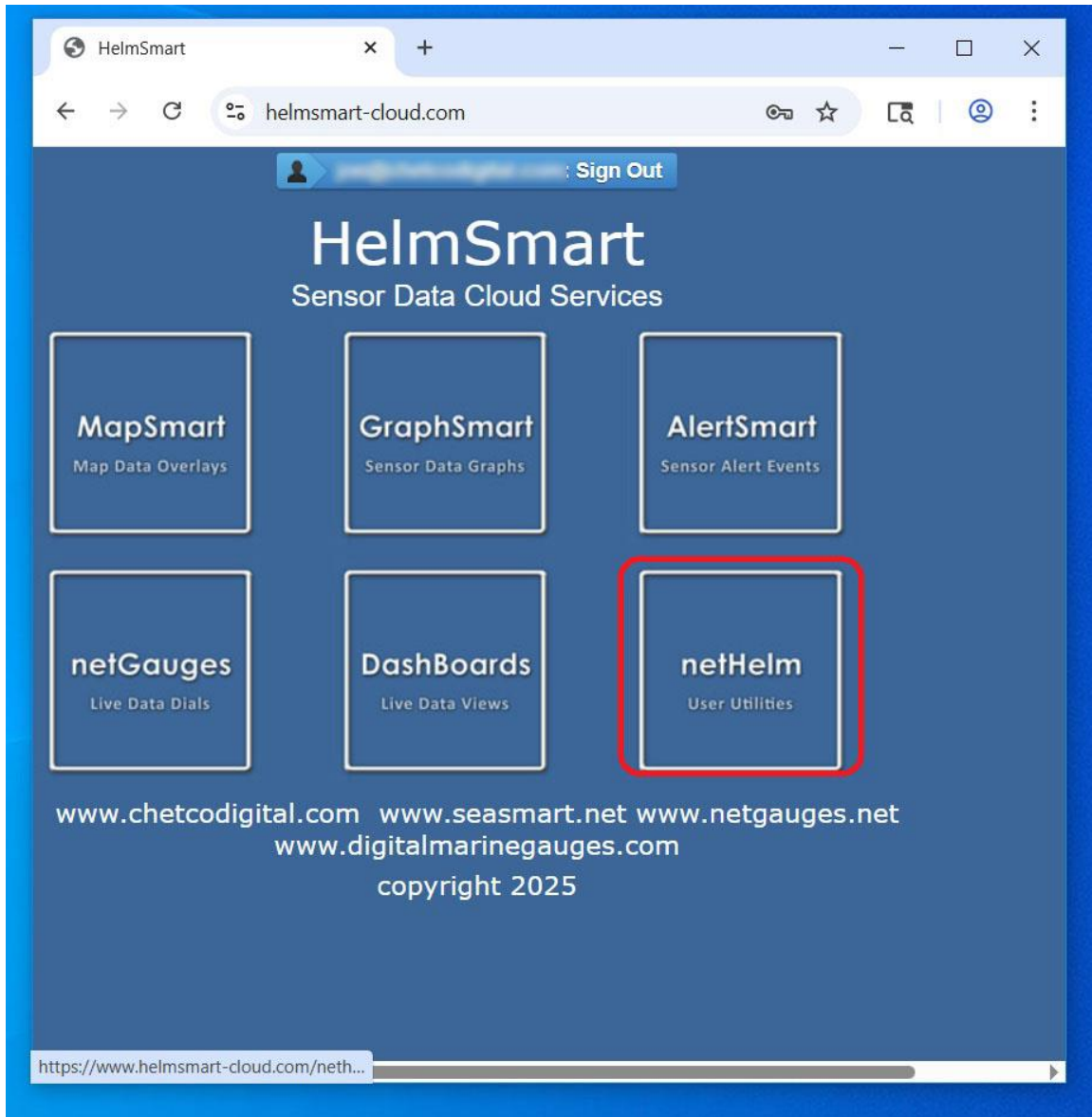
[Continue](#)

Don't have an account? [Sign up](#)

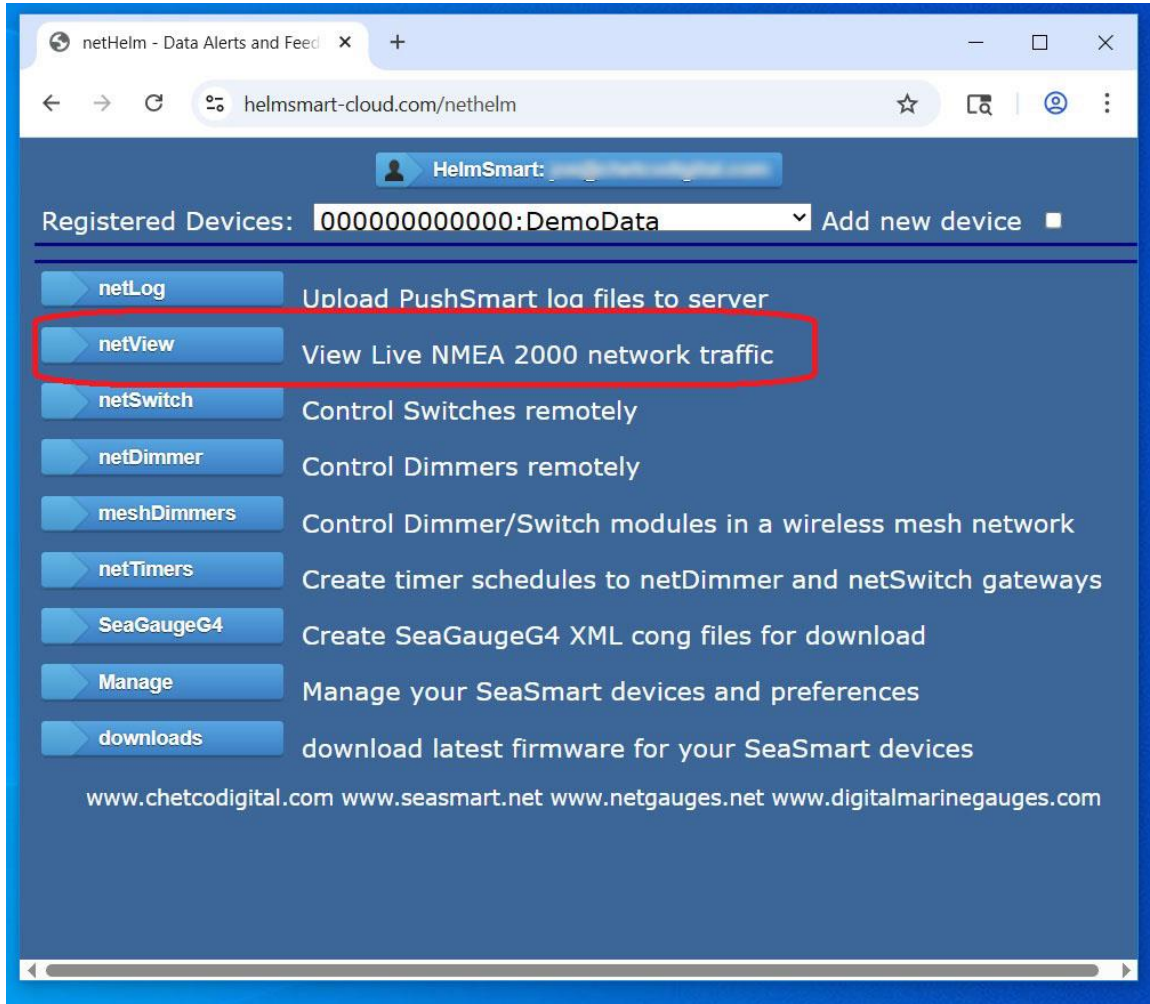
OR

 [Continue with Google](#)

Select the **netHelm** Link



Select the **netView** link to view live updates



[illegible]

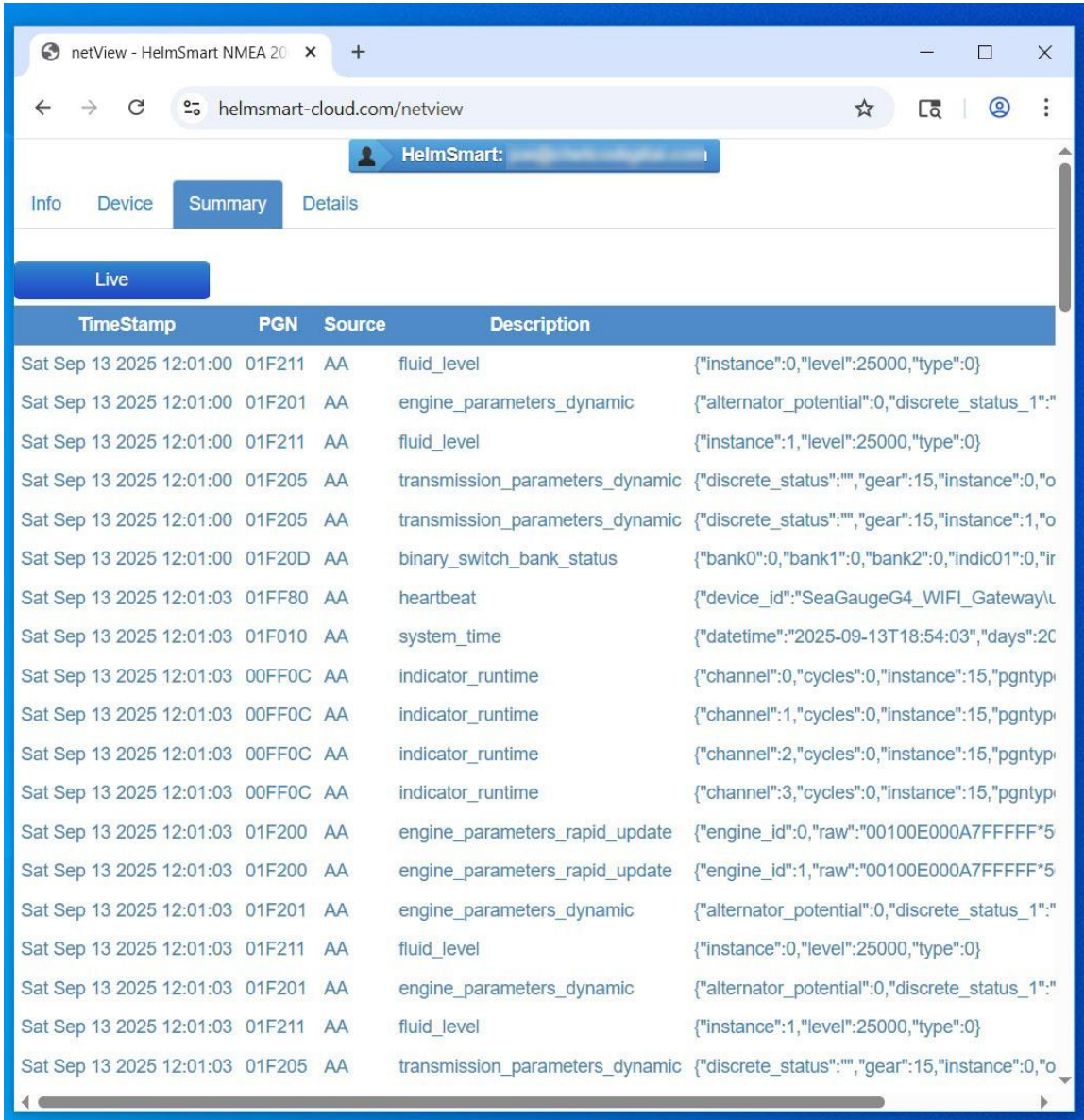
Select **SUMMARY** to view current status

The screenshot shows a web browser window with two tabs: "netView - HelmSmart NMEA 2000" and "SeaGauge G4 Configuration Page". The address bar shows "helmsmart-cloud.com/netview". The page has a blue header with a "HelmSmart:" user profile. Below the header is a navigation bar with four tabs: "Info", "Device", "Summary", and "Details". The "Summary" tab is selected and highlighted with a red rectangle. The main content area displays four configuration items, each with a label and a value in a dropdown menu:

- Device Type: AC1518EF5FA0:SeaGaugeG4
- Device Key: AC1518EF5FA0
- LogType: JSON Data
- Time zone: (LOCAL) Local Time



If the PushSmart HTTP is working correctly - you will see live data with current time.



The screenshot shows a web browser window titled "netView - HelmSmart NMEA 2000". The address bar displays "helmsmart-cloud.com/netview". The user is logged in as "HelmSmart: [username]". The interface has tabs for "Info", "Device", "Summary", and "Details", with "Summary" selected. A "Live" button is visible. Below is a table of data points.

TimeStamp	PGN	Source	Description
Sat Sep 13 2025 12:01:00	01F211	AA	fluid_level {"instance":0,"level":25000,"type":0}
Sat Sep 13 2025 12:01:00	01F201	AA	engine_parameters_dynamic {"alternator_potential":0,"discrete_status_1":0}
Sat Sep 13 2025 12:01:00	01F211	AA	fluid_level {"instance":1,"level":25000,"type":0}
Sat Sep 13 2025 12:01:00	01F205	AA	transmission_parameters_dynamic {"discrete_status":"","gear":15,"instance":0,"o
Sat Sep 13 2025 12:01:00	01F205	AA	transmission_parameters_dynamic {"discrete_status":"","gear":15,"instance":1,"o
Sat Sep 13 2025 12:01:00	01F20D	AA	binary_switch_bank_status {"bank0":0,"bank1":0,"bank2":0,"indic01":0,"ir
Sat Sep 13 2025 12:01:03	01FF80	AA	heartbeat {"device_id":"SeaGaugeG4_WIFI_Gateway\
Sat Sep 13 2025 12:01:03	01F010	AA	system_time {"datetime":"2025-09-13T18:54:03","days":20
Sat Sep 13 2025 12:01:03	00FF0C	AA	indicator_runtime {"channel":0,"cycles":0,"instance":15,"pgntyp
Sat Sep 13 2025 12:01:03	00FF0C	AA	indicator_runtime {"channel":1,"cycles":0,"instance":15,"pgntyp
Sat Sep 13 2025 12:01:03	00FF0C	AA	indicator_runtime {"channel":2,"cycles":0,"instance":15,"pgntyp
Sat Sep 13 2025 12:01:03	00FF0C	AA	indicator_runtime {"channel":3,"cycles":0,"instance":15,"pgntyp
Sat Sep 13 2025 12:01:03	01F200	AA	engine_parameters_rapid_update {"engine_id":0,"raw":"00100E000A7FFFFFFF*5
Sat Sep 13 2025 12:01:03	01F200	AA	engine_parameters_rapid_update {"engine_id":1,"raw":"00100E000A7FFFFFFF*5
Sat Sep 13 2025 12:01:03	01F201	AA	engine_parameters_dynamic {"alternator_potential":0,"discrete_status_1":0}
Sat Sep 13 2025 12:01:03	01F211	AA	fluid_level {"instance":0,"level":25000,"type":0}
Sat Sep 13 2025 12:01:03	01F201	AA	engine_parameters_dynamic {"alternator_potential":0,"discrete_status_1":0}
Sat Sep 13 2025 12:01:03	01F211	AA	fluid_level {"instance":1,"level":25000,"type":0}
Sat Sep 13 2025 12:01:03	01F205	AA	transmission_parameters_dynamic {"discrete_status":"","gear":15,"instance":0,"o