



SmartBoat[®] Module

Signal K Feature Package

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1 Introduction

Airmar's SmartFlex™ system products support multiple network standards and are highly configurable for a wide range of applications. They share a common set of features including built-in wireless networking support and browser-based configuration and management.

This Feature Package adds support for the Signal K Server, an open-source implementation of the Signal K marine data exchange format. Information about Signal K may be found at:

<https://signalk.org/>

The complete Signal K Server may be found at:

<https://github.com/SignalK/signalk-server#readme>

THE SOFTWARE IS PROVIDED "AS IS" THROUGH AN INSTALLABLE FEATURE PACKAGE FOR AIRMAR SMARTBOAT MODULES, WITHOUT WARRANTY OF ANY KIND.

2 Download Signal K Package

1. Go to <https://www.airmar.com/Software-Apps>.
2. Scroll to the **Signal K Download** section.
3. Complete the Signal K Download form and click **Submit** when complete.

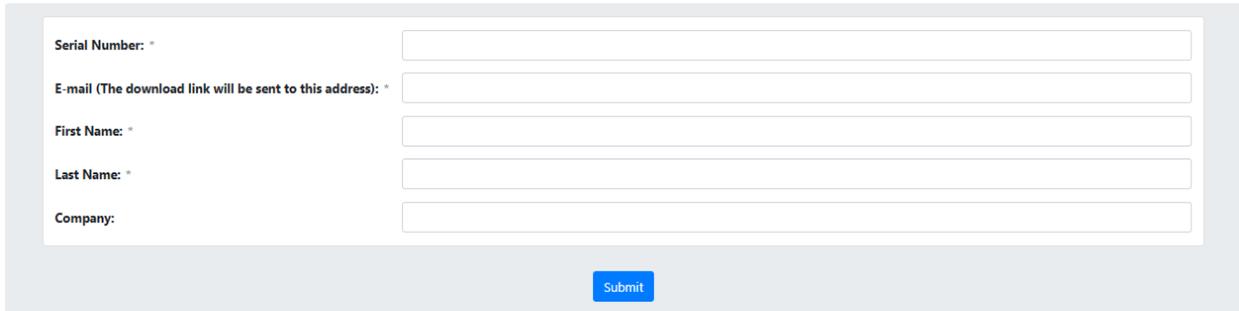
A screenshot of a web form for downloading Signal K firmware. The form is contained within a light gray border. It features five input fields stacked vertically, each with a label to its left. The labels are: "Serial Number: *", "E-mail (The download link will be sent to this address): *", "First Name: *", "Last Name: *", and "Company:". Each input field is a simple white rectangle with a thin gray border. Below the input fields, centered horizontally, is a blue button with the word "Submit" in white text.

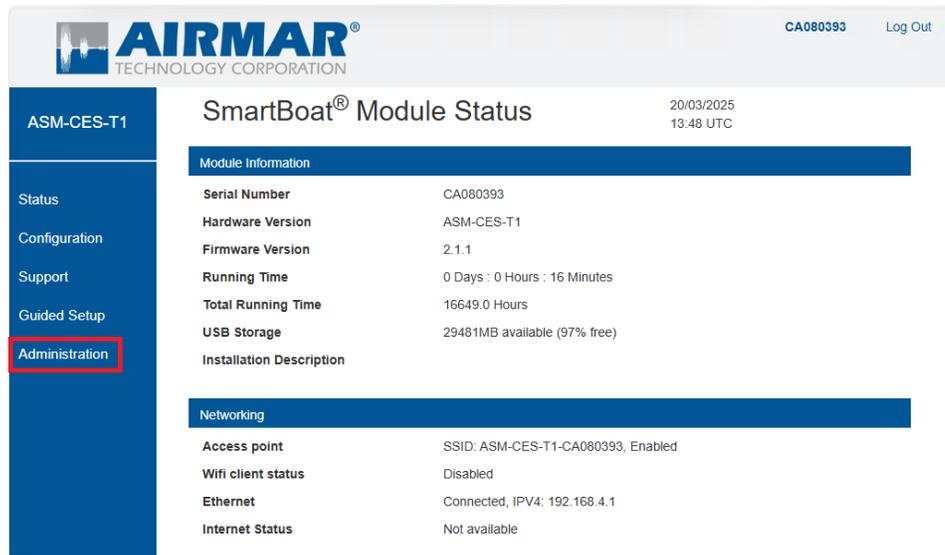
Figure 1: Signal K Server – Download Firmware

4. You will receive an email containing the download package (*.PKG).
5. Proceed to **Installation** after downloading the package.

3 Installation

The Signal K Feature Package may be installed from your connected computer or mobile device from the **Administration** page of your SmartBoat module.

1. Click the **Administration** link.

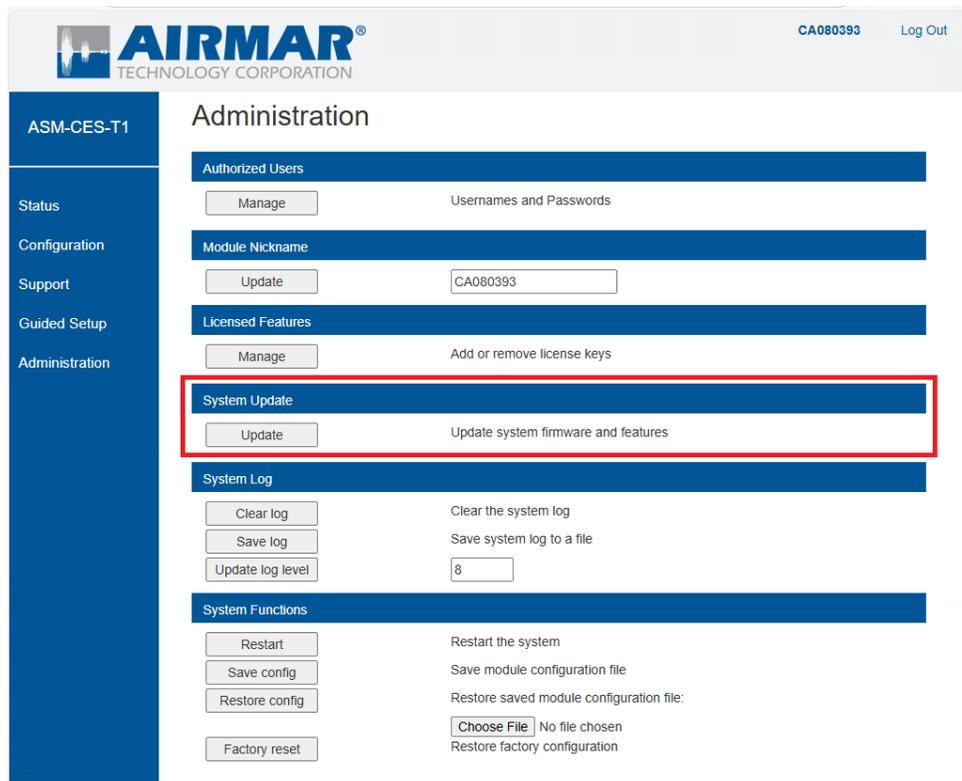


The screenshot shows the AIRMAR Technology Corporation interface for the SmartBoat Module Status. The left sidebar contains navigation links: Status, Configuration, Support, Guided Setup, and Administration (highlighted with a red box). The main content area displays the following information:

SmartBoat® Module Status		20/03/2025 13:48 UTC
Module Information		
Serial Number	CA080393	
Hardware Version	ASM-CES-T1	
Firmware Version	2.1.1	
Running Time	0 Days : 0 Hours : 16 Minutes	
Total Running Time	16649.0 Hours	
USB Storage	29481MB available (97% free)	
Installation Description		
Networking		
Access point	SSID: ASM-CES-T1-CA080393, Enabled	
Wifi client status	Disabled	
Ethernet	Connected, IPV4: 192.168.4.1	
Internet Status	Not available	

Figure 2: Signal K Server – Administration

2. In the **System Update** section, click the **Update** button.



The screenshot shows the AIRMAR Administration page. The left sidebar contains navigation links: Status, Configuration, Support, Guided Setup, and Administration. The main content area displays the following information:

Administration	
Authorized Users	
Manage	Usernames and Passwords
Module Nickname	
Update	CA080393
Licensed Features	
Manage	Add or remove license keys
System Update	
Update	Update system firmware and features
System Log	
Clear log	Clear the system log
Save log	Save system log to a file
Update log level	8
System Functions	
Restart	Restart the system
Save config	Save module configuration file
Restore config	Restore saved module configuration file:
	<input type="button" value="Choose File"/> No file chosen
Factory reset	Restore factory configuration

Figure 3: Signal K Server – Administration

3. The Administration/System Update screen displays. Click the **Choose File** button, navigate to the file and select it.
4. Click **Upload**.

The screenshot displays the AIRMAR Administration / System Update interface. At the top, the AIRMAR logo and 'TECHNOLOGY CORPORATION' are on the left, while 'CA080393' and 'Log Out' are on the right. The main heading is 'Administration / System Update'. Below this is a blue bar with an 'Upload' button. Underneath, the text 'Update system firmware and feature packages:' is followed by a 'Choose File' button and 'No file chosen'. A left sidebar contains navigation links: 'ASM-CES-T1', 'Status', 'Configuration', 'Support', 'Guided Setup', and 'Administration'.

Figure 4: Signal K Server – System Update

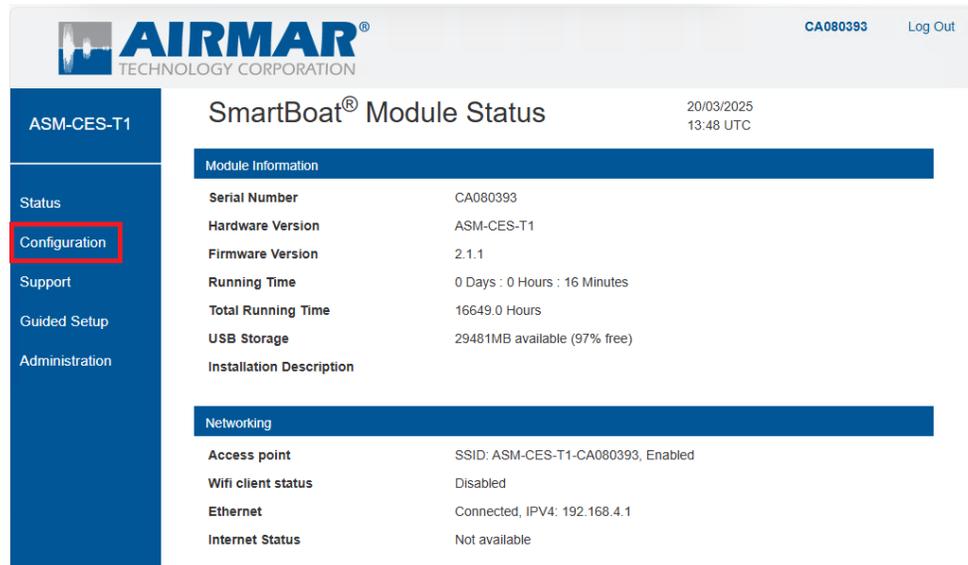
5. After confirming the installation, the SmartBoat module will restart. If connected by Wi-Fi, it may be necessary to reconnect the wireless connection to the SmartBoat module following this step.



Firmware upgrades, including Feature Packages, can be large and may take several minutes to transfer and install. Please be patient during installation.

4 Configuration

1. Click the **Configuration** link.



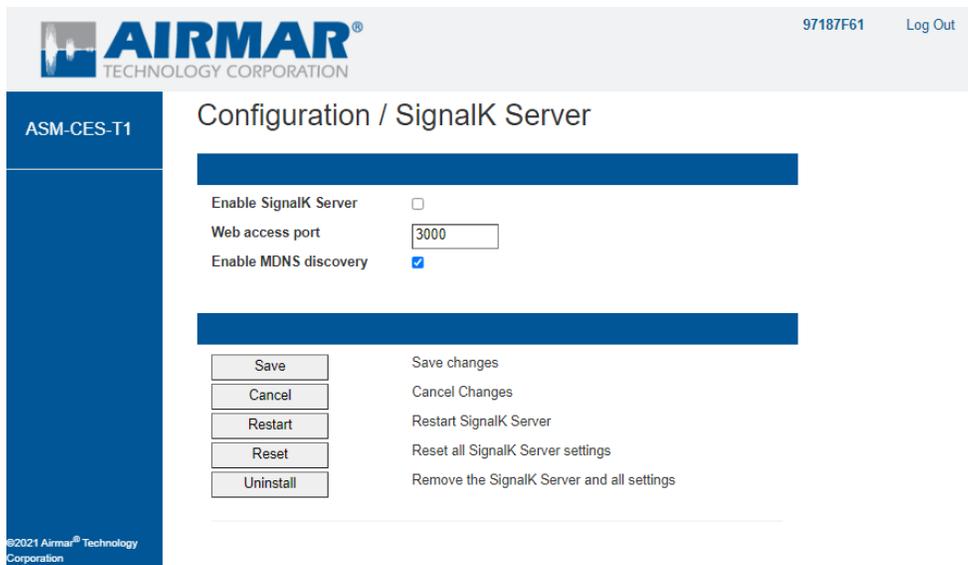
The screenshot shows the AIRMAR Technology Corporation interface for the SmartBoat® Module Status. The left sidebar contains a menu with the following items: ASM-CES-T1, Status, Configuration (highlighted with a red box), Support, Guided Setup, and Administration. The main content area displays the following information:

Module Information	
Serial Number	CA080393
Hardware Version	ASM-CES-T1
Firmware Version	2.1.1
Running Time	0 Days : 0 Hours : 16 Minutes
Total Running Time	16649.0 Hours
USB Storage	29481MB available (97% free)
Installation Description	

Networking	
Access point	SSID: ASM-CES-T1-CA080393, Enabled
Wifi client status	Disabled
Ethernet	Connected, IPV4: 192.168.4.1
Internet Status	Not available

Figure 5: Signal K Server Configuration

2. The **Configuration/Signal K Server** page displays.



The screenshot shows the AIRMAR Technology Corporation interface for the Configuration / SignalK Server. The left sidebar contains the following items: ASM-CES-T1. The main content area displays the following configuration options:

- Enable SignalK Server:
- Web access port:
- Enable MDNS discovery:

Below the configuration options, there are five buttons with their corresponding actions:

Save	Save changes
Cancel	Cancel Changes
Restart	Restart SignalK Server
Reset	Reset all SignalK Server settings
Uninstall	Remove the SignalK Server and all settings

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Figure 6: Signal K Server Configuration

4.1 Configuration Options

There are only three configuration options for the Signal K Server Feature Package:

- **Enable Signal K Server:** This box must be checked to enable operation of the server.
- **Web access port:** This is the TCP/IP port number used to access the Signal K Server. The default is port 3000, but this may be changed to any unused port.
- **Enable MDNS discovery:** Allows the Signal K server to “advertise” its availability on the TCP/IP network.

Any changes to these options take effect when the **Save** button is selected.

4.2 Configuration Actions

The Signal K Server configuration page provides three additional actions:

- **Restart:** Restarts the Signal K Server. The server will automatically restart when configuration changes have been made.
- **Reset:** Completely resets the Signal K Server, removing all settings that were changed using the Signal K Server dashboard.
- **Uninstall:** Removes the Signal K Feature Package from the SmartBoat module.

5 Signal K Server

5.1 Signal K Server Dashboard

When the Signal K Server is enabled and running, it may be accessed through the **Signal K Dashboard** option on the sidebar.

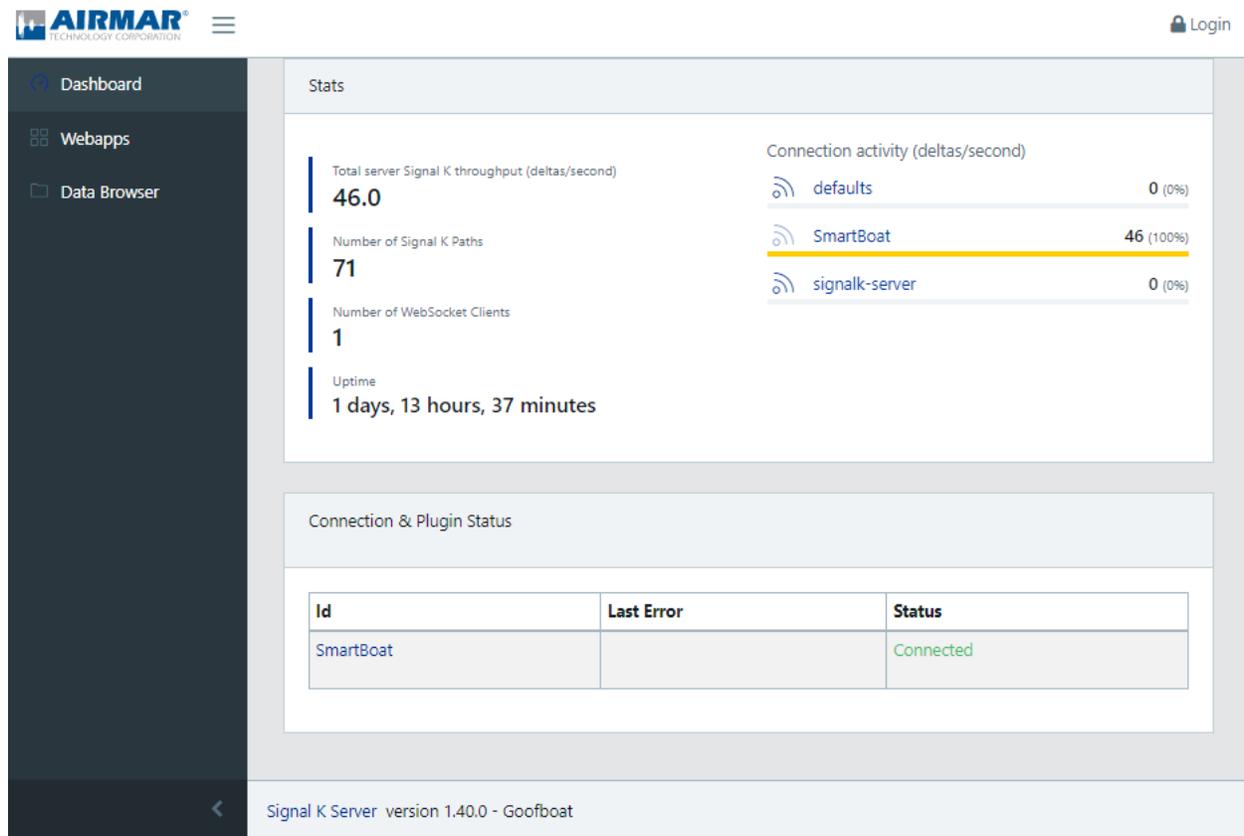


Figure 7: Signal K Server Dashboard

The Signal K Dashboard will open in a new browser window.

5.2 Security and User Management

The Signal K Server manages users and passwords independently of the SmartBoat module. Click the **Login** button in the upper-right corner of the screen to enter user credentials.

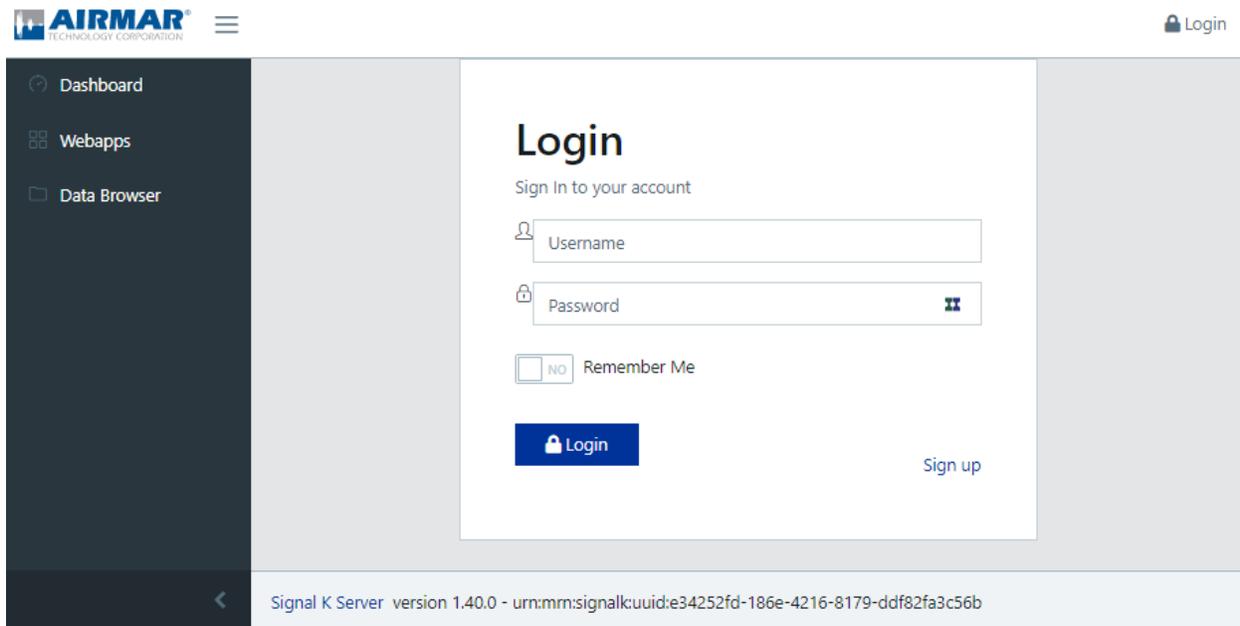


Figure 8: Signal K Server Login

When the Signal K Server is first enabled, there are no users defined. An administrative user must be created to secure the server. Additional users may be added as needed.

If user credentials are lost, the SmartBoat Signal K configuration page may be used to reset the Signal K Server settings.

After an administrative user is created, there are additional security settings available through the dashboard. Please refer to the Signal K Server documentation.



Adding an Administrative user is strongly recommended. The Signal K server is not secured until this step is complete.

5.3 Server Configuration

The Signal K Server is pre-configured to receive NMEA 2000 data from the primary network of the SmartBoat module. There are no additional steps required to access these messages. Please refer to the Signal K Server documentation for other settings.



Some settings available through the Signal K Server dashboard will have no effect. The web access port and SmartBoat data connection settings are managed only through the SmartBoat software.



It is possible to configure the Signal K Server to send messages using paths that conflict with other SmartBoat features or network devices, causing unpredictable behavior. Please use care when configuring the Signal K Server.

5.4 NMEA 2000 Network

The Signal K Server appears on the NMEA 2000 network as a separate device. The **View Network** screen may be used to view this device and any transmitted NMEA 2000 messages.

5.5 NMEA 0183 Network

The NMEA 0183 network interface is not enabled by default in the Signal K Feature Package. The SmartBoat NMEA 0183 gateway is the recommended interface for NMEA 0183 networks. If desired, Signal K NMEA 0183 data sources may be configured over TCP/IP. It may be necessary to disable the SmartBoat NMEA 0183 gateway function or change the SmartBoat NMEA 0183 TCP/UDP server ports to prevent conflicts.

5.6 Signal K Server Plugins and Web Apps

Server plugins and web apps may be accessed through the Signal K Server Dashboard. Access to the Signal K Appstore requires an Internet connection.



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