Scanivalve Web Server (SWS) User Manual

Document Information

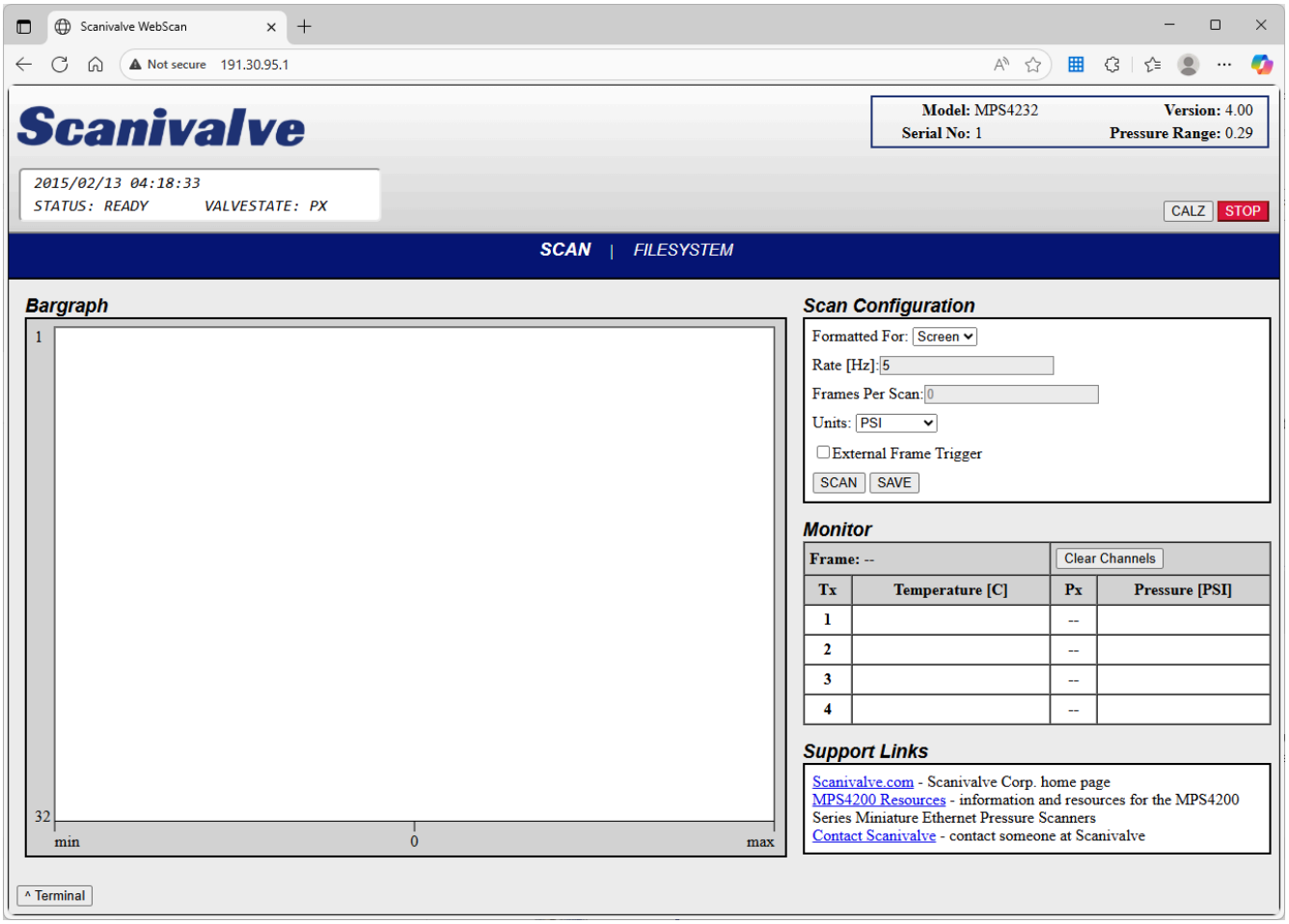
- **Version:** 1.0
- **Revision Date:** February 5th, 2026
- **Prepared by:** Scanivalve Corporation
- **Website:** www.scanivalve.com

Scanivalve Web Server Manual

Table of Contents

1.0 - Scanivalve Web Server

The Scanivalve Web Server is an integrated web server that provides a browser-based interface for configuring, managing, and collecting data from Scanivalve devices. It requires no additional software and works on most modern browsers.



Key Features

- Real-time data display
- Data collection to a file (ASCII or Binary format)
- File management (firmware, coefficients)
- Firmware updates
- Terminal for command-line access

Supported Browsers

- Google Chrome
- Microsoft Edge
- Mozilla Firefox

Supported Devices

- DSA5000
- MPS4216
- MPS4232

- MPS4264 Gen2

> **Note**
>
> The web server interface and available functions may vary slightly depending on the device family or configuration. Some buttons or options are dynamically displayed based on module series or capabilities.

2.0 - Accessing the Web Server

Requirements

- Device must be powered on.
- An Ethernet connection is made directly to the computer or through a network switch.
- Host computer must be on the same subnet as the Scanivalve device.
- Firewall, security, or VPN services are not blocking access.
- Internet access is ***not*** required.

Steps to Connect

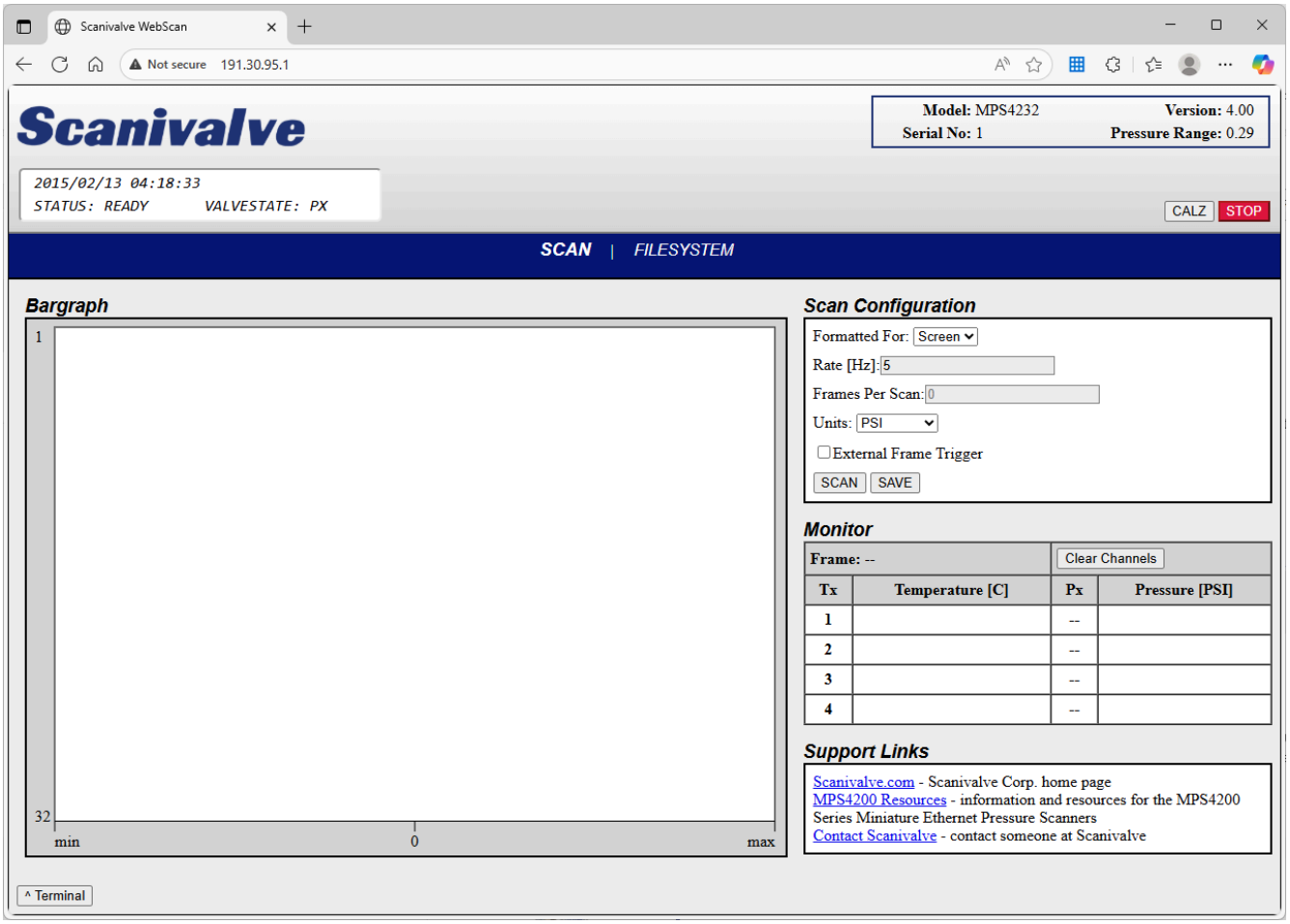
1. Open a supported browser.

   > ### Supported Browsers
   > - Google Chrome
   > - Microsoft Edge
   > - Mozilla Firefox

2. Enter the device IP address in the browser's address bar. For example:
   `191.30.130.100`

> **Tip**
>
> Browsers will often attempt to default to a `https://` connection when entering in a static IP address. The Scanivalve Web Server only supports `http://`. If the page does not load, ensure that the IP address is proceeded with `http://`.

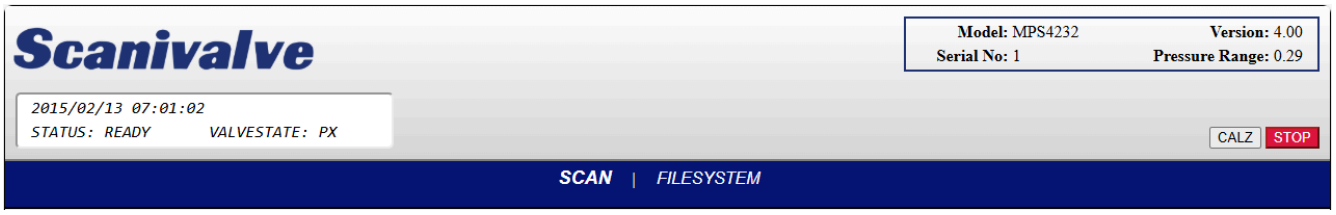
3. Press **Enter** to load the web interface.
   The Main Display will be shown if the connection is successful.



Note: The example photo above shows an MPS4232. Some items may be different depending on the module or configurations

3.0 - Main Display

The **Main Display** is the top section of the web server interface that remains visible across all pages. This display provides information about the scanner, as well as some functionality.



Sections

3.1 - Device Identification

Device details such as model, firmware, and serial number.

3.2 - Device Status

Current operational status and date/time.

3.3 - Universal Control

Buttons for common actions like STOP and Quick Zero Offset Calibrations.

3.4 - Navigation Links

Links to web server pages.

3.1 - Device Identification

The **Device Identification** area is located in the top-right corner of the Main Display.

This area shows:

Model

The model of the device. Only shows the Family and Series values i.e., **DSA5001**, **MPS4232**

Version

The current firmware version in the device.

Serial No

The serial number of the device.

Pressure Range

(if applicable)
The nominal pressure range of the device (shows positive full-scale only) in PSI

3.2 - Device Status

The **Device Status** window is located under the *Scanivalve* logo in the top left. This section is dynamically updated.

The status window shows:

Date/Time

The current date and time of the device, shown in the format: `YYYY/MM/DD HH:mm:ss`

> **Note**
>
> This time is relative to the device, also known as *naive time*, and may or may not be accurate to real time unless PTP is utilized.

Current Status

The current status of the device. This is the same as the response to the `STATUS` command. Typical status may be `READY`, `SCAN`, or `SAVE`.

Valve State

Current state of the internal valve.

> **Note**
>
> MPS4216 and MPS4232 do not have internal valving and are always in `PX` or Measurement Mode

3.3 - Universal Control

The **Universal Control** section in located under the 3.1 - Device Identification table. This area contains buttons that will execute specific functions. Some buttons may or may not be displayed based on the model and configuration.

All Supported Devices

The following buttons are available:

CALZ

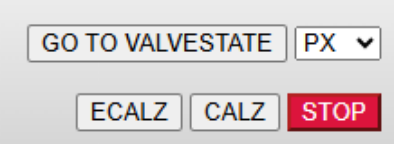
This button will initiate a CALZ (quick-zero offset correction). The status will change to CALZ while the CALZ is being performed.

STOP

This button can be used to stop any function in the device, including scanning and CALZs. The device will return to `READY` status.

MPS4264EPx Gen2 (Electric Valve) Variants

The following buttons become available:



ECALZ

This button will execute an `ECALZ`, which performs the following sequence:

1. Cycles the valve to CAL mode.
   Status will change to `CALZ`.
   When the valve transition is completed, Valvestate will change to `CAL`.
2. Performs a CALZ
3. Returns the valve to PX mode.
   When the valve transition is completed, Valvestate will change to `PX`.
   When completed, status will change to `READY`.

GO TO VALVESTATE

This button and dropdown will allow the valve state to be changed. Select the valve state desired in the dropdown (`PX` or `CAL`) and then click the **GO TO VALVESTATE** button.

The status will update to `EVALVE`.
The valvestate will update to the desired state when completed, and status will return to `READY`.

> **Note:** `CAL` mode is also `PRG` (Purge) mode.

3.4 - Navigation Links

The **Navigation Links** bar provides links to navigate between the available pages in the webserver.

Available links are:

SCAN

The scan page is used for data collection. See 4.1 - Scan Page.

FILESYSTEM

The filesystem page is used for uploading or deleting files, editing configurations, and firmware updates. See 4.2 - Filesystem Page.

4.0 - Pages

The following pages are available for different uses and control.

4.1 - Scan Page

Used for data collection, configuration, and quick links.

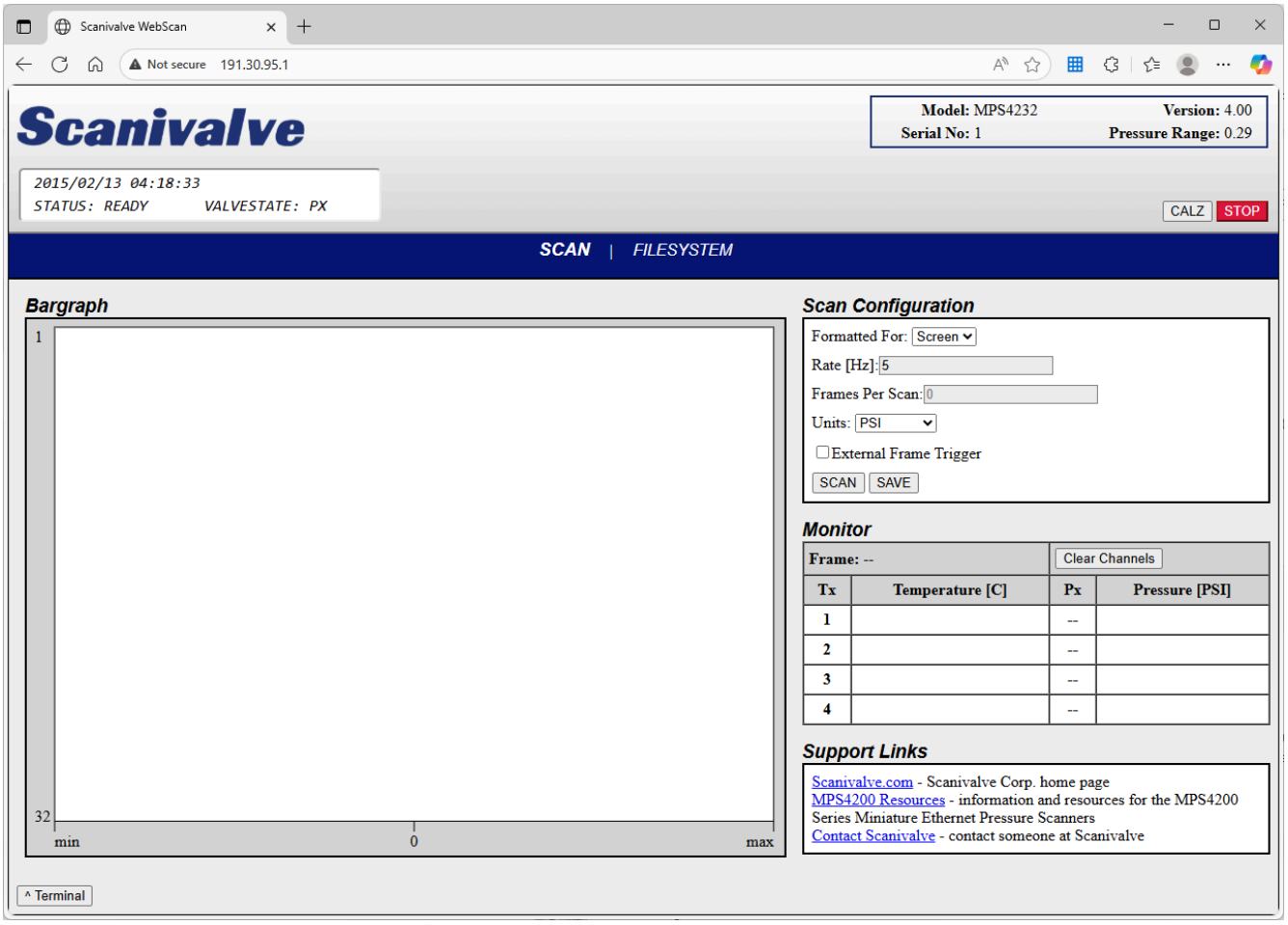
4.2 - Filesystem Page

Used for file management, coefficient uploads, firmware updates, and file editing.

4.1 - Scan Page

The **Scan** page is used for configuring the scan data, displaying scan data to the screen, or collecting scan data to a file.

> **Note**
>
> The following modes will disable the scan page:
>
> - **DSA5000** Emulator Mode
> - **DSA5000** SSEP Mode



Sections

4.1.1 - Bargraph

Displays scan data to the screen.

4.1.2 - Scan Configuration

Scan configuration section.

4.1.3 - Monitor

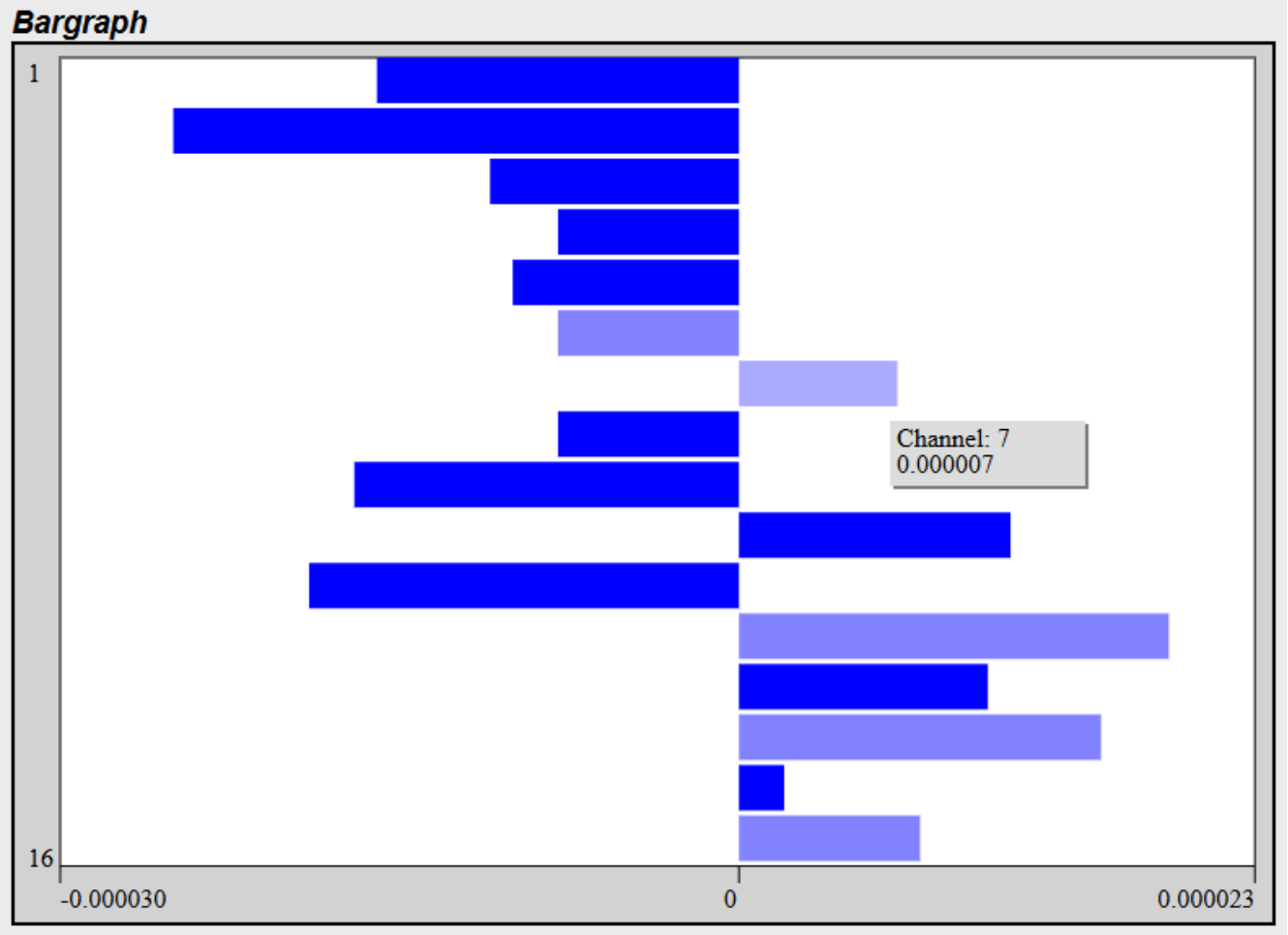
Displays channel data when selected in the bargraph.

4.1.4 - Support Links

Provides links to Scanivalve resources.

4.1.1 - Bargraph

The **Bargraph** area of the Scan page scan display data for each channel in the module when scanning. Data will only be displayed in this area if "Formatted For:" in the Scan Configuration area is set to "Screen".

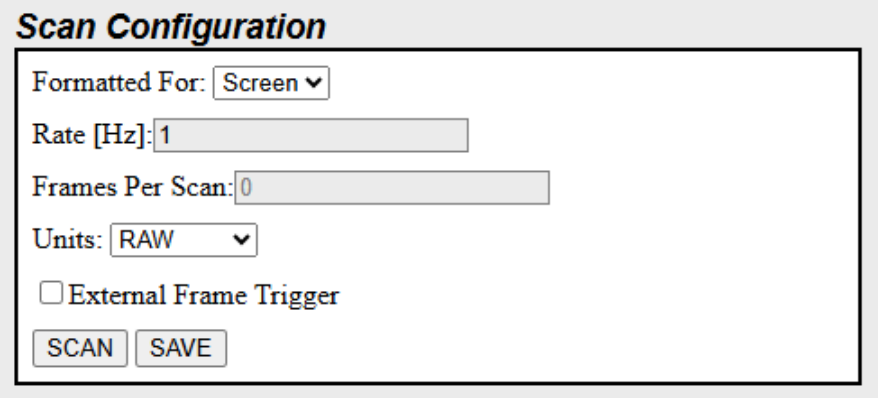


Bargraph Notes:

- The graph will only update at 2Hz, regardless of the set scan rate.
- The X-Axis will auto-scale based on the highest pressure values from the channels.
- The X-Axis will always display a "0.0" point.
- The X-Axis min and max values will always show a value 20% higher than the highest measured value from any channel.
- The X-Axis units are based on the Units setting in the Scan Configuration area.
- The Y-Axis will show the all available channels. Each of the blue bars represents one channel, starting with channel 1 at the top.
- Hovering over any of the blue bars will display the channel number and measured value (based on the Units setting). Clicking on the blue bar will change the color to light blue, and populate the channels data in the 4.1.3 - Monitor section.

4.1.2 - Scan Configuration

The **Scan Configuration** area of the Scan page allows for the data collection configurations to be set when collecting data to the web server. This includes to the screen and to a file.



Formatted For:

This selection will allow the collected data to be displayed in real-time on the screen, or saved to a file. When saved to a file format, the browser may prompt the user to save the data in a location (browser and browser settings dependent). Once a location is selected, the data will auto-download.

There are four selectable options:

Screen

When a scan is initiated, the scan data will be displayed in the 4.1.1 - Bargraph area (and 4.1.3 - Monitor if channels are selected).

.CSV

The scan data will be saved and formatted as comma-separated variable (ASCII readable). ASCII rates are limited - see the device User Manual for rate limitation.

.TXT

The scan data will be saved and formatted in ASCII scrolling format. ASCII rates are limited - see the device User Manual for rate limitation.

.DAT

The scan data will be saved and formatted in binary format. Binary formats vary across the different products. See the User Manual for your device for the binary packet structure. Binary data output is limited to 1000Hz.

> **Note**
>
> ScanTel can be used to convert the binary data into CSV format.

Rate [Hz]

Accepts a number for the scan rate, expressed in Hz (samples per channel per second).

Frames Per Scan

Accepts a number for the number of frames per scan (FPS variable).

- When formatted for real-time screen data collection, the value will always be "0" and cannot be changed.
- When formatted for a data file to be downloaded, "0" cannot be used due to the auto-updating nature of web browsers.

Units

Provides a drop down selection for all available unit conversion options; Engineering Units such as PSI, PA, or RAW ADC values.

External Frame Trigger

This will enable the use of an external frame trigger. You can find more information on Frame Trigger in the devices User Manual.

> **Note**
>
> This setting cannot be used for Scan triggering or Auto-Start due to the nature of these triggering types.

SCAN

The Scan button is used to initiate data collection. The scan will adhere to the configuration settings in this section (Format, Rate, FPS, Units, and External Frame Trigger). The STOP button can be used to stop any scan that has started.

When in SCAN mode, the Status Bar will report `STATUS: SCAN`. All buttons and fields (*except* STOP) will be disabled until the scan is stopped or has completed.

SAVE

The Save button is used to save the current scan configuration to permanent memory.

> **Note:**
>
> When changing the settings in the scan configuration, it does not affect the variables found under LIST S. Web server configuration only applies to the web server unless the settings are saved.

4.1.3 - Monitor

The **Monitor** area of the Scan page can display selected channel data. The layout may be different between supported devices, but the monitor serves the same purpose.

MPS Series

Monitor

Frame: 9		Clear Channels	
Tx	**Temperature [C]**	**Px**	**Pressure [PSI]**
1	33.4200	**25**	0.001539
2	33.7200	**26**	0.002016
3	33.2100	**56**	0.006002
4	33.6500	**64**	0.001154

DSA Series

Monitor

Frame: 3		Clear Channels
ChX	**Temperature [C]**	**Pressure [PSI]**
6	27.900000	-0.000014
12	28.760000	0.000014
14	27.410000	0.000014
16	28.110000	-0.000008

> **Note**
>
> When the page is initialized, most fields will be blank or empty.

Table Sections

Frame

Displays the current frame number of the data.

ChX / Tx / Px

These columns indicate a channel number.

- **ChX** can be seen in DSA series devices when a channel is selected in the Bargraph. This channel applies to the pressure and temperature columns.
- **Tx** can be seen in MPS series devices. The first four temperatures are always displayed.
- **Px** can be seen in MPS series devices. This will show the pressure channel number when a channel is selected in the Bargraph.

Temperature (C)

Displays the temperature in degrees Celsius per the channel displayed in the row (Tx or ChX).

Pressure [UNITS]

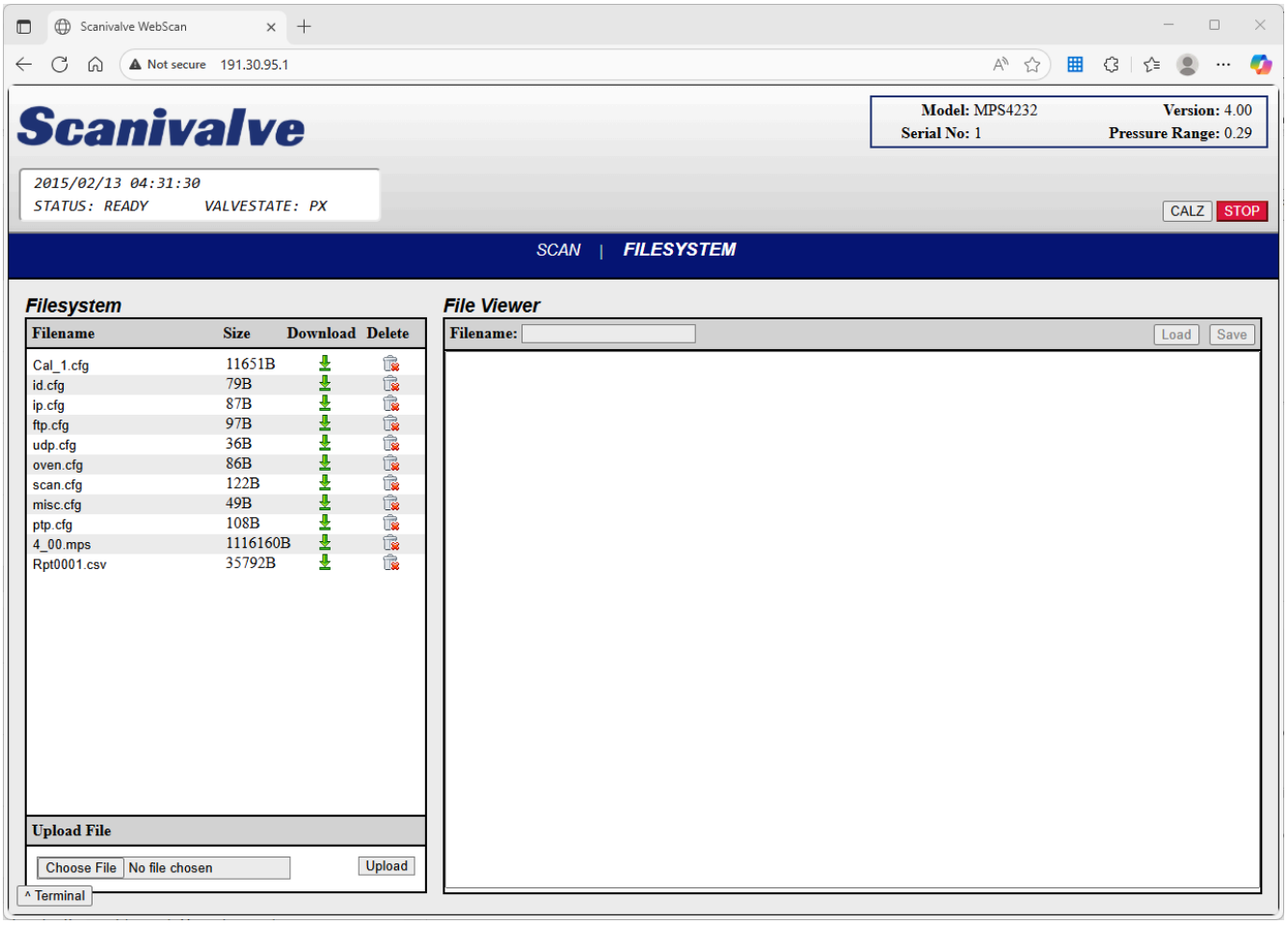
Displays pressure data when a channel is selected in the Bargraph.

4.1.4 - Support Links

The **Support Links** area of the Scan page provides hyperlinks that will direct to different resources on the Scanivalve website. These pages can provide general information, documentation, and a link to a Scanivalve contact form.

4.2 - Filesystem Page

The **Filesystem** page is used to view files stored in the DSA, edit and save configuration files, upload files, and update the devices firmware.



Sections

4.2.1 - Filesystem

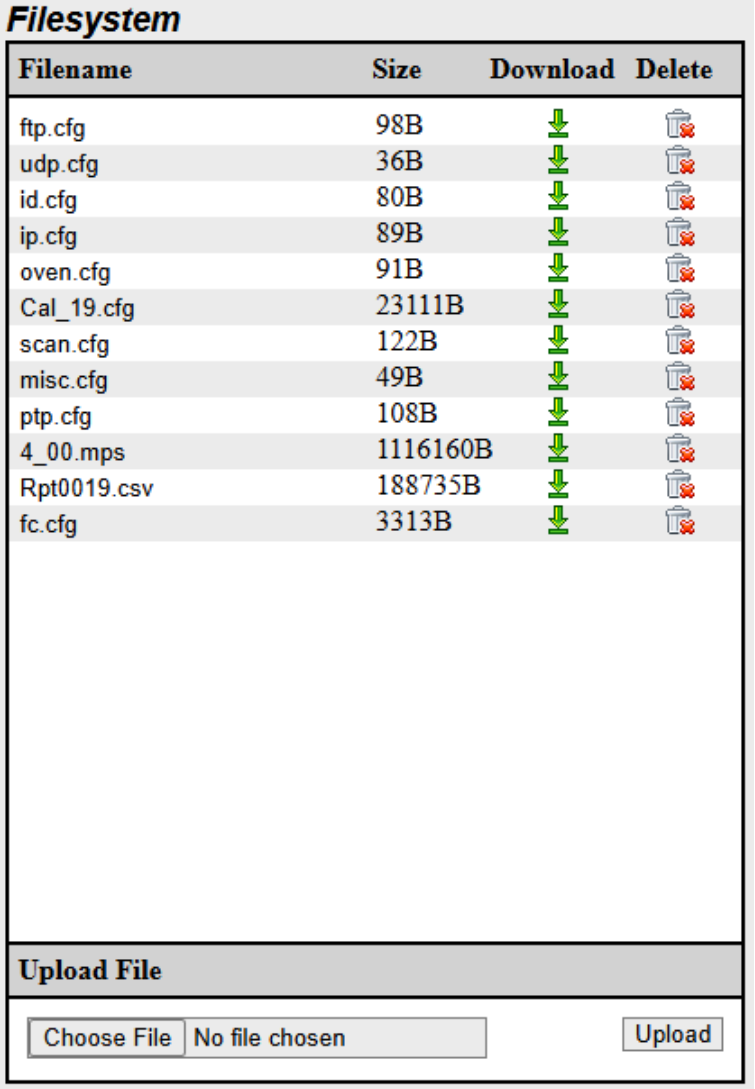
Displays all files currently in the device's memory, along with a file selection and upload section.

4.2.2 - File Viewer

This window allows for files to be opened, viewed, edited, and saved.

4.2.1 - Filesystem

The **Filesystem** displays all files currently in the device's memory, along with a file selection and upload section.



Columns

Filename

This column displays the names of the files (with extension).

Size

The column displays the size of the file in bytes (B).

Download

This column provides a link for each file that will initiate a download of that file.

Delete

This column provides a link that will delete a file.

Available Files

The following file extensions are supported and are the only files that will show in memory:

- **.cfg** - These files are configuration files that store module settings.
- **.csv** - The CSV file is for validation reports generated by the device (MPS series only). Data or similar cannot be stored or archived as a .csv file in the device.
- **.emu** - These are emulator files for emulation mode and settings (DSA series only).
- **.dsa** - These are firmware files for DSA5000 series devices.
- **.mps** - These are firmware files for the MPS4200 series devices.

> **Note**
>
> Not all files may exist in any particular module.

> **Note**
>
> Firmware files (**.dsa** and **.mps**) do not need to be present in the module for the module to operate properly.

> **Warning**
>
> Deleting any **.cfg** files may have adverse effects.

Secondary Functions

Most filenames can be double clicked to activate a function.

Configuration Files

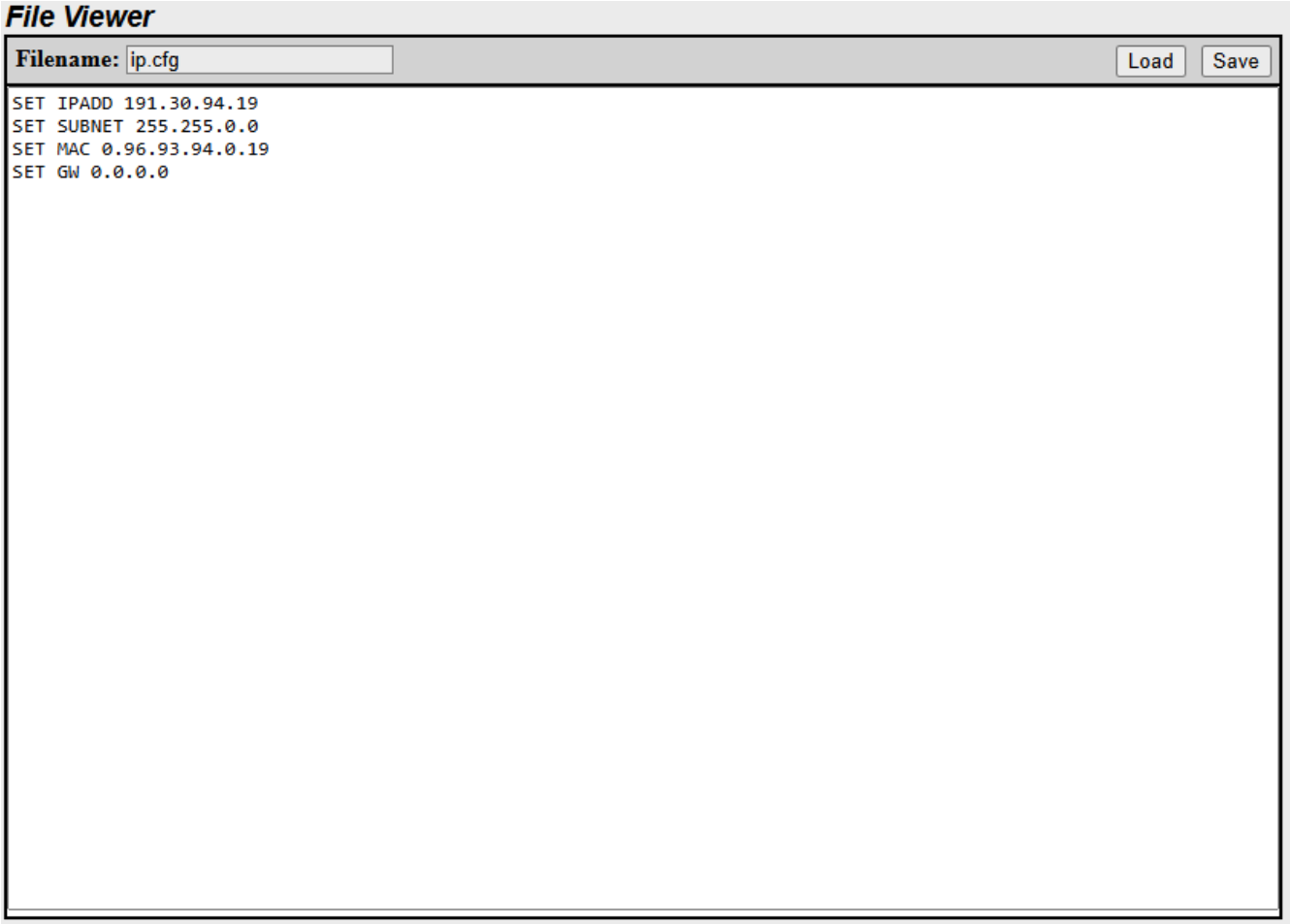
.emu, .cfg
When any configuration file is double clicked, it will open the file in the File Viewer area. The contents of this file will be displayed. This file can be edited, saved, and loaded in the console. Remember that altering these files may have adverse effects.

Firmware Files

.dsa, .mps
When the firmware file is double clicked, a dialog box will appear to begin a firmware update. YOu can press OK to continue with the firmware update, or CANCEL to cancel. Once firmware has been updated, this file may be deleted from memory. It does not need to remain in memory for operation. Note that the filename is the firmware version string.

4.2.2 - File Viewer

The **File Viewer** section will allow configuration files to be viewed, edited, loaded, and saved in a standard format text editor.



Filename

The Filename field is the name of the file, including the extension, that is open. If the filename is edited and saved, it will generate a new file. The filename must contain the extension, and cannot contain more than 32 characters.

Load

This button is used to load a currently selected file into temporary memory. This is typically used to update scan settings or restore coefficients. This does not save any changes to permanent memory.

Save

This button is used to save a currently selected file into permanent memory. Files can be edited and saved as long as the filename is not altered. This is typically used to edit and save scan settings to be loaded after boot, or to change the network variables.

5.0 - Terminal

At the bottom of any page, the **Terminal** button will be displayed. This button will open a pop-up terminal that allows for commands to be sent to the device. This is similar to programs like ScanTel, Hyperterimnal, or puTTY. Refer the device User Manual for all available commands.

The terminal will remain open until it is minimized, even when changing pages.

> **Note**
>
> - The PROMPT variable does not apply to this terminal. The prompt will always be ">".
> - Scan data cannot be displayed in the terminal.

v Minimize

When the terminal is open, the minimize button will close the terminal back into the button. All information present in the terminal will remain unless it is cleared, or the browser is refreshed.

Clear

Contents in the terminal can be cleared by pressing this button.

6.0 - Procedures

The following procedures are use for maintenance of the device.

6.1 - Firmware Update

Updating the device's firmware.

6.2 - Coefficient Upload

Updating or restoring the device's coefficient file.

6.1 - Firmware Update

The following procedure will detail the steps required to update the device's firmware using the Web Server.

Prerequisites

- The device is powered on and connected to the network.
- Access to the device's web browser via Google Chrome, Firefox, or Microsoft Edge.
- Module must be in the ready state.
- The web browser allows for pop-ups to appear.
- Device Firmware file as provided by Scanivalve:
  - **.dsa** for DSA5000 devices.
  - **.mps** for MPS4200 devices

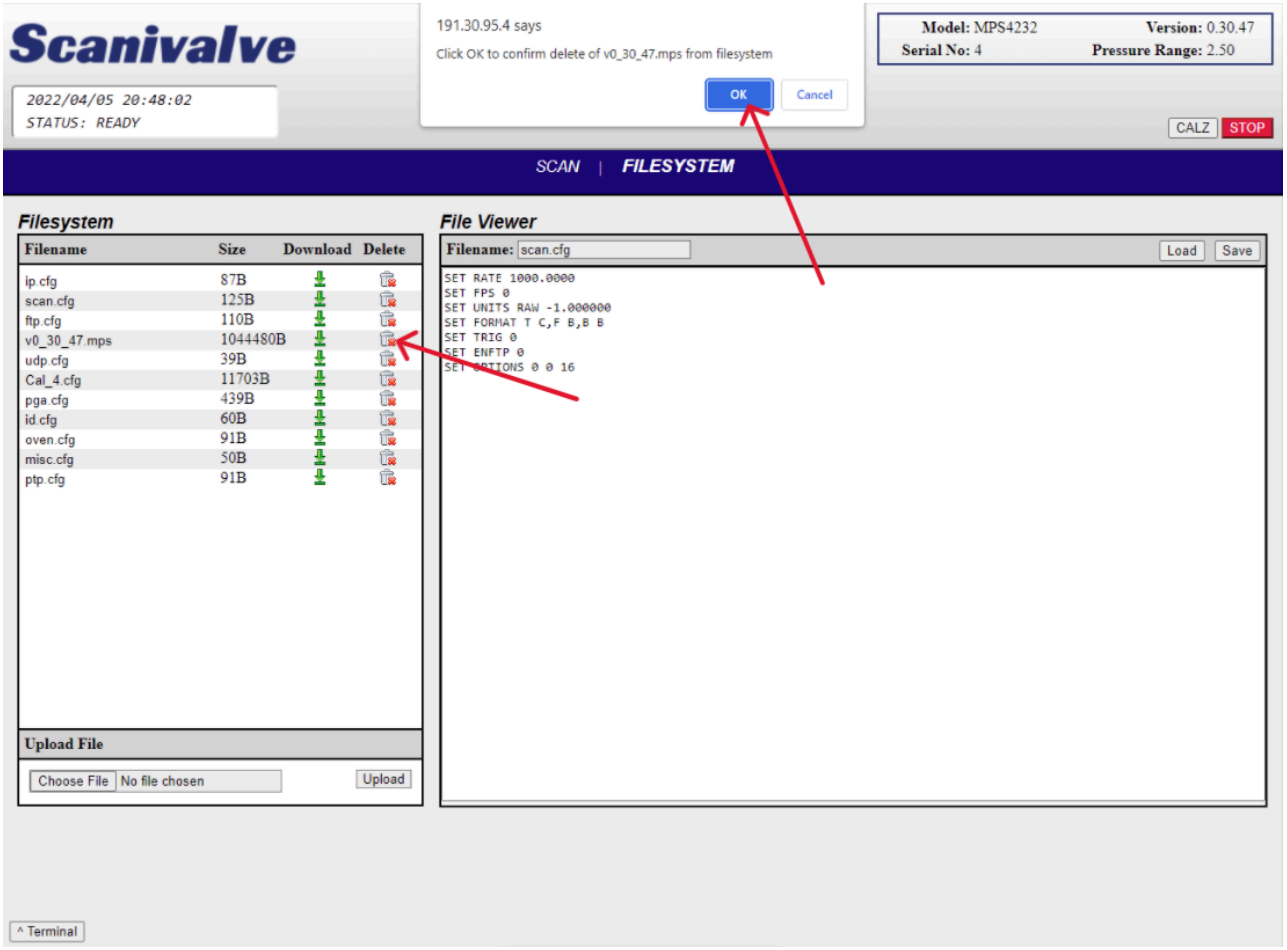
> **Notes**
>
> - Accessing the integrated web server requires HTTP. HTTPS is not supported.
> - While the browser will refresh on its own, some browsers may require a manual refresh to update information properly after a firmware update.
> - The firmware file in the filesystem can be delete at any time. It is not required to be in memory for normal operation.

Procedures

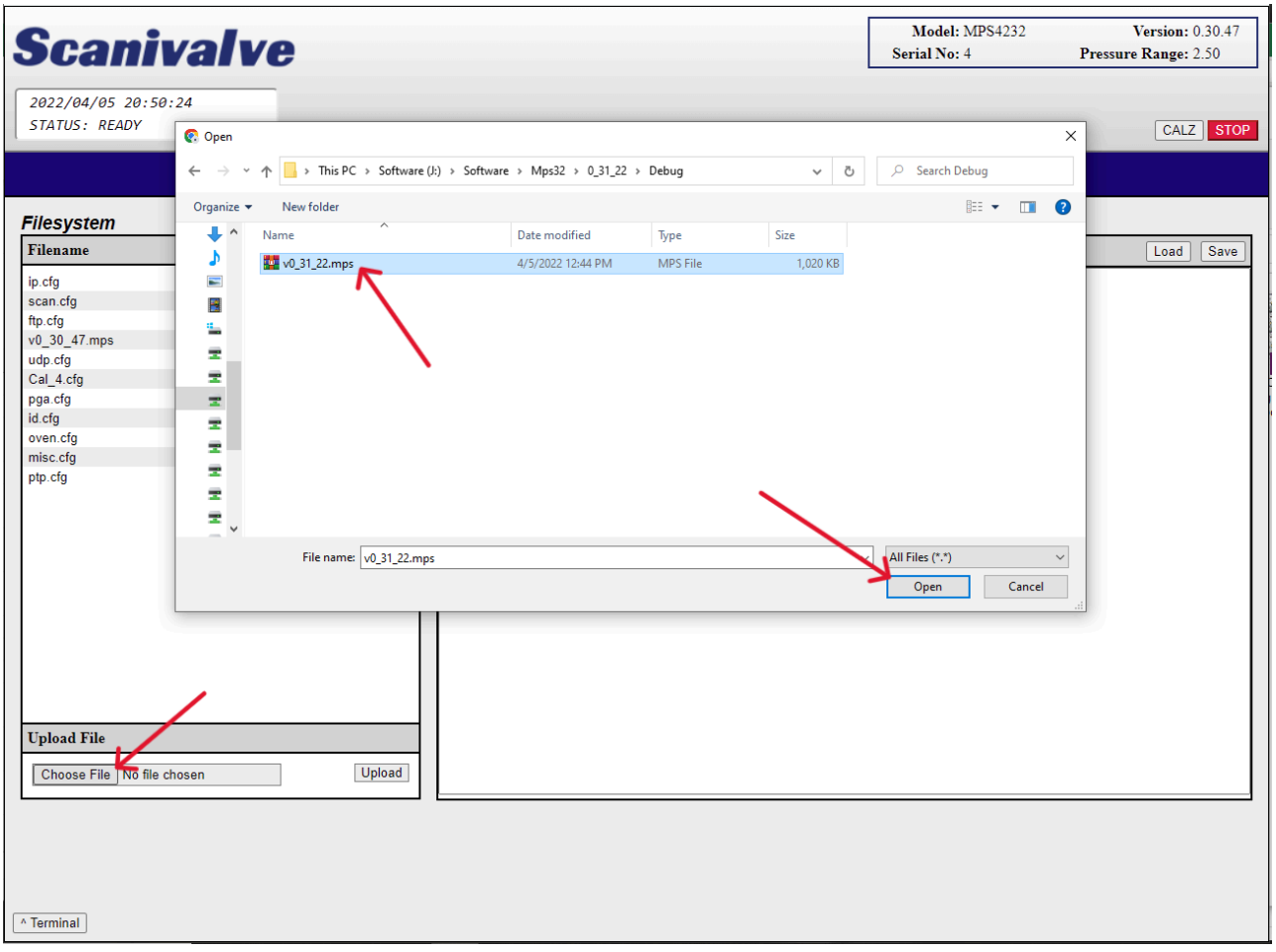
Updating Firmware

1. **Access the devices Native integrated Web Server.**
   Open the browser of choice and enter the device’s IP address.
2. **Navigate to the Filesystem Page using the tab at the top.**
3. **Delete any existing firmware files.**
   Firmware files will be titled: `<version_string>.<model>`
   In example, 2_01.mps or 1_09.dsa
   In an existing firmware file does not exist (typical), skip this step.

   To delete the file, click the 'trash can' icon under the 'Delete' column, for the row the firmware file is in. A pop-up will open to confirm deleting the file.



4. **Under the "Upload File" Section, click Choose File.**
Navigate to the file directory where the new firmware file is located, select the file, and click Open.



5. **Click the "Upload" button.**
   A pop-up window will appear indicating the file is being loaded.
6. **Double-Click the new firmware file under the filesystem**
   A new pop-up will appear asking to confirm the firmware update. Click OK.

A new pop-up window will open while the firmware is being updated. The window will close when the upload is completed and the DSA will automatically soft reboot. The web browser should eventually refresh once the DSA is booted again. If not, please wait a few moments and then click Refresh.

Once the process is complete, the new firmware version will appear in the top right corner of the File System page.

6.2 - Coefficient Upload

The following procedure will detail the steps required to update the device's coefficient file using the Web Server.

Prerequisites

- The device is powered on and connected to the network.
- Access to the device's web browser via Google Chrome, Firefox, or Microsoft Edge.
- Module must be in the ready state.
- The web browser allows for pop-ups to appear.
- Last known, good coefficient file as provided by Scanivalve. The file must be named `Cal_<sn>.cfg`, where `<sn>` is the device's serial number, and the serial number in the filename must match the serial number of the device.

> **Notes**
>
> - Accessing the integrated web server requires HTTP. HTTPS is not supported.
> - While the browser will refresh on its own, some browsers may require a manual refresh to update information properly after a firmware update.
> - The firmware file in the filesystem can be delete at any time. It is not required to be in memory for normal operation.

Procedures

Updating Coefficient Table

1. **Access the devices Native integrated Web Server.**
   Open the browser of choice and enter the device's IP address.
2. **Navigate to the Filesystem Page using the tab at the top.**
3. **Under the "Upload File" Section, click Choose File.**
   Navigate to the file directory where the new coefficient file is located, select the file, and click Open.
4. **Click the "Upload" button.**
   A pop-up window will appear indicating the file is being loaded.
   If there is an existing Cal cfg file in memory with the same name, the upload process will overwrite the existing file.
5. **Apply the new file to RAM using any of the following methods:**
   - Double-click on the new Cal cfg filename, then click the LOAD button under the File Viewer section.
   - Power cycle the device.
   - Execute the command: `REBOOT` using the pop-up Terminal.
   - Execute the command: `LOAD Cal_<sn>.cfg` using the pop-up Terminal.

> **Note**

If the module is not power cycled or rebooted after the coefficient upload, a new CALZ must be performed after the file is loaded in step 5.

Change Log

Version and release notes.

1.00 - Documentation Release (2/5/2026)