Embedded Web-based Interface Supplemental Manual

SLA5800 & SLAMF Series Digital Mass Flow Controllers & Meters with EtherNet/IP™ and PROFINET™

BROOKS® INSTRUMENT

Beyond Measure

Models Affected

All models configured with Ethernet/IP or PROFINET communications.

Summary

This manual is specific to the built-in web interface on SLA Series Ethernet/IP and PROFINET devices. It is recommended to review the Installation and Operation Manual (IOM) for the SLA Series and the Supplemental Manual for either the Ethernet/IP or PROFINET digital protocol that is being utilized.

The embedded web interface on the SLA Series Ethernet/IP and PROFINET devices is a powerful tool that can be utilized locally using an ethernet cable or remotely via the local area network. It allows reviewing and editing settings such as protocol addressing, alarm and warning thresholds, and more. The device can be controlled through the web interface as well. With the control level login credentials, you can change the active gas page, read the flow signal, give a controller a setpoint or perform a valve override among other features.

You can connect to the SLA device using a standard ethernet cable connected to the ethernet adapter on your computer (or a USB-Ethernet adapter connected to your computer), using a web browser (i.e. Chrome). If encountering connectivity issues with your device, refer to the following related knowledge base articles on the Brooks Instrument website.

Related Knowledge Base Articles:
Changing IP Address using Built-in Web Interface
SLA EthernetIP and PROFINET – Finding the IP Address of a Device when the Value is Unknown

Initiating Communications through the Web Browser

By default, SLA Series EtherNet/IP™ MFC is shipped with DHCP enabled. If no DHCP server is available on the network, the device defaults to the following TCP/IP connections settings:

IP Address:192.168.1.100
NET Mask: 255.255.255.0
Gateway Address: 0.0.0.0
DNS1: 0.0.0.0
DNS2: 0.0.0.0
Domain Name: brooksinstrument.com
Host Name: SLA

To configure the Brooks device using a web browser, connect it to a network or PC that is configured with the same subnet as the device (192.168.1.xxx).

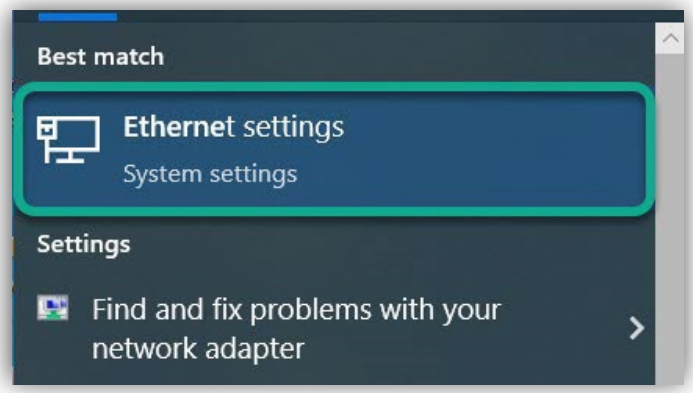
By default, most PC Network adapters are configured for Dynamic Host Configuration Protocol (DHCP). DHCP is a network management protocol that automatically configures IP addresses and communication parameters of network devices and is widely used in corporate or public networks.

In industrial control networks, the network settings of the client devices should always be static, meaning that they are not set dynamically by DHCP.

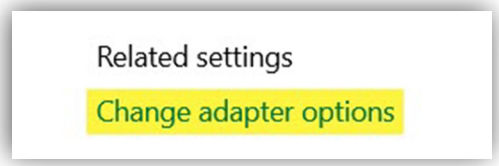
A direct connection to a PC will require a private network between the two devices. In that case, there is no DHCP server assigning addresses on this network, so the PC network card settings will need to be changed manually.

The following steps will detail how to configure the network adapter on a windows PC for static settings so that it can communicate with the SLA and utilize the embedded web interface.

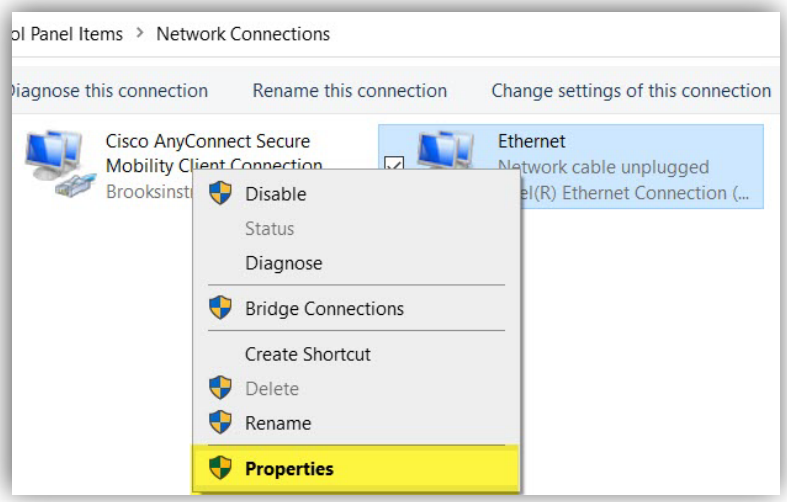
On the PC, tap the Windows Key and begin typing “Ethernet” until you see the “Ethernet settings” result. Click on it to open the settings.



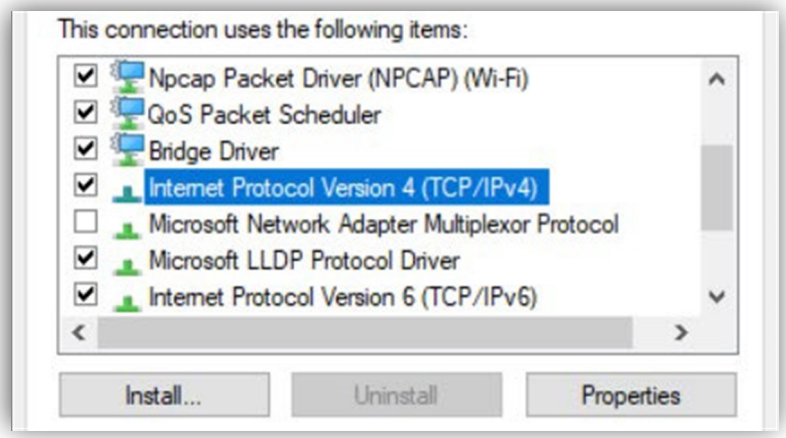
Choose “Change adapter options” in the upper right of the window that loads.



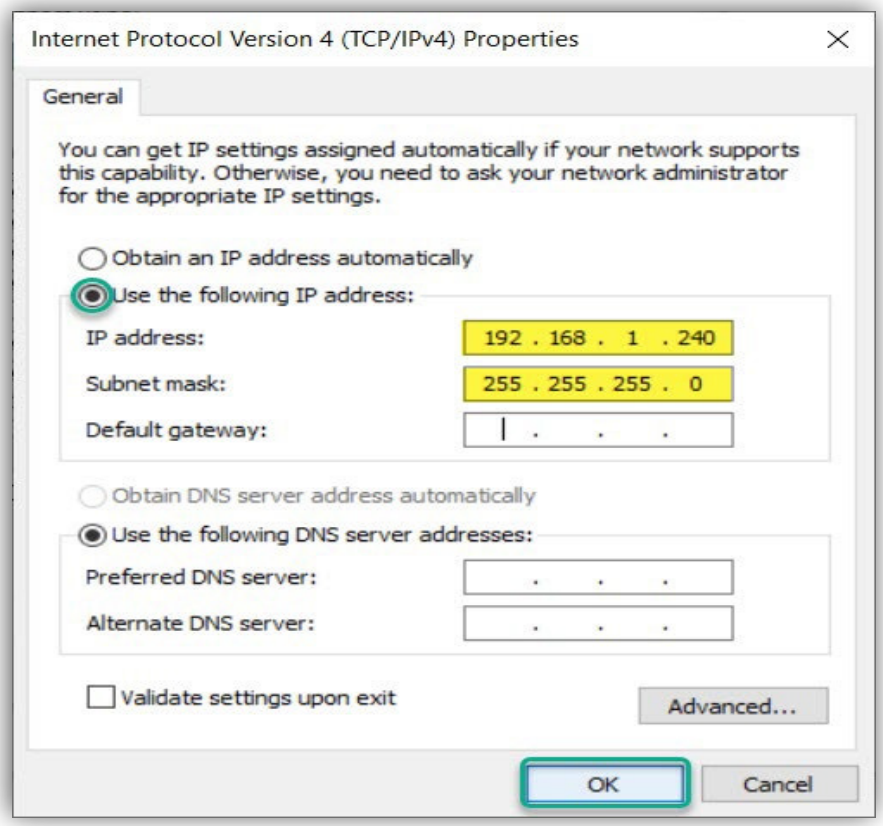
Then, right-click on the adapter you are using and choose “Properties”.



Double-click “Internet Protocol Version 4 (TCP/IPv4)” or select it and click “Properties”.

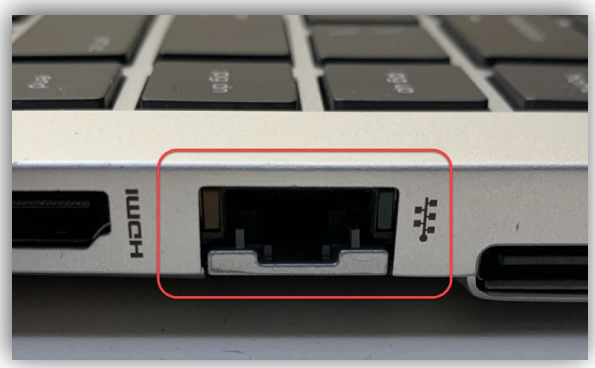


Select “Use the following IP address” and type an IP that is in the same range as the MFC. The subnet mask below auto-populates and is ok for most configurations. Click “OK” on the two properties windows and close the settings windows.



A standard Ethernet patch cable is required to connect the SLA58 to your PC. An M12 to RJ45 cable is necessary for SLAMF models.

To a built-in network adapter:

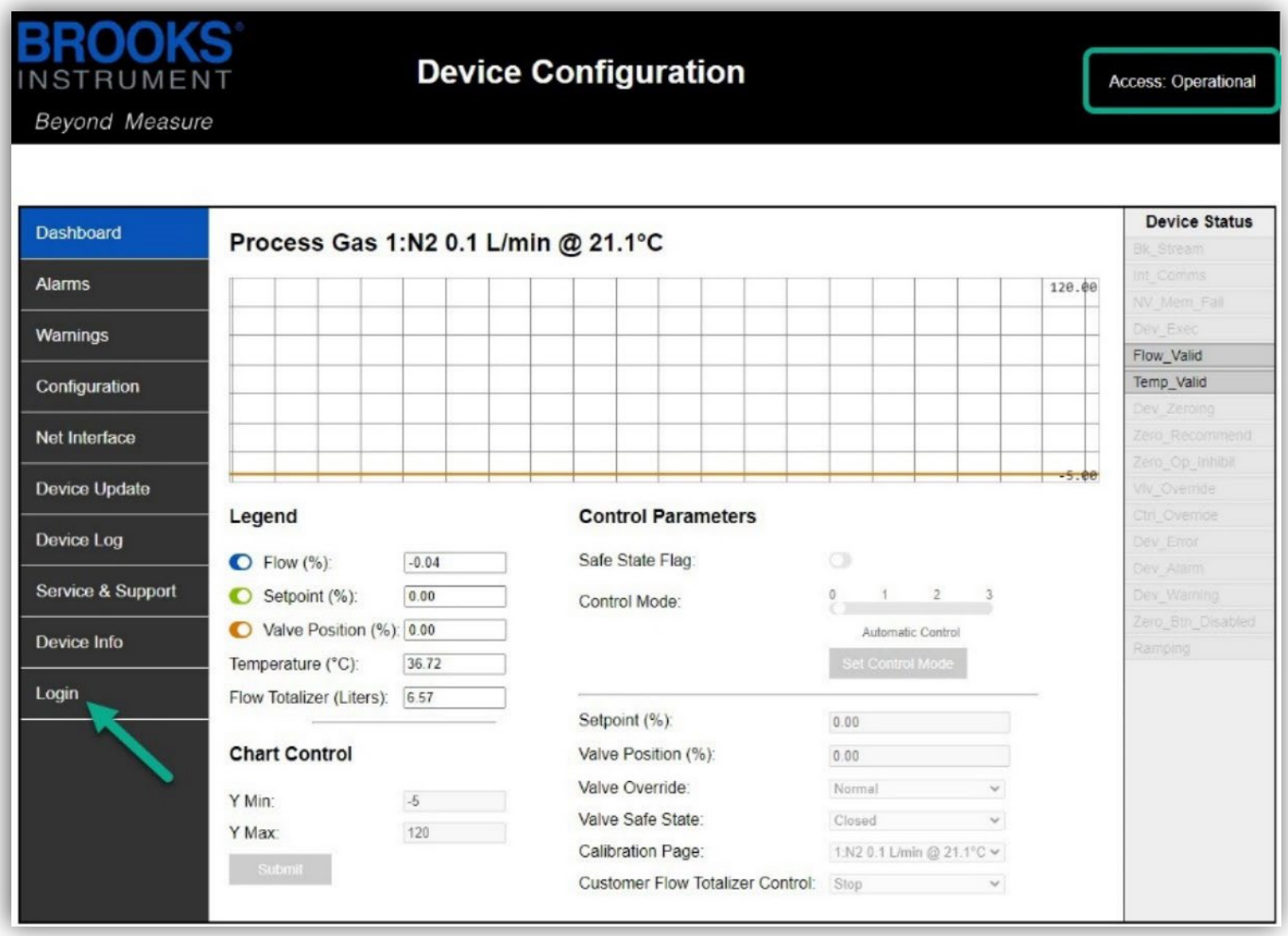


Or a USB network adapter:

Once the PC setting have been changed and the cable is physically connected between the PC adapter and the Brooks Instrument mass flow meter or controller, open a web browser and enter the IP address of the SLA (default 192.168.1.100) as the URL at the top. Hit “Enter” or click “Go” to load the SLA Embedded Web Interface.

Access Levels and Login

The Embedded Web Interface opens showing the dashboard screen with the “Operational” access level as shown in the upper right of the screen. This login level is read-only access.



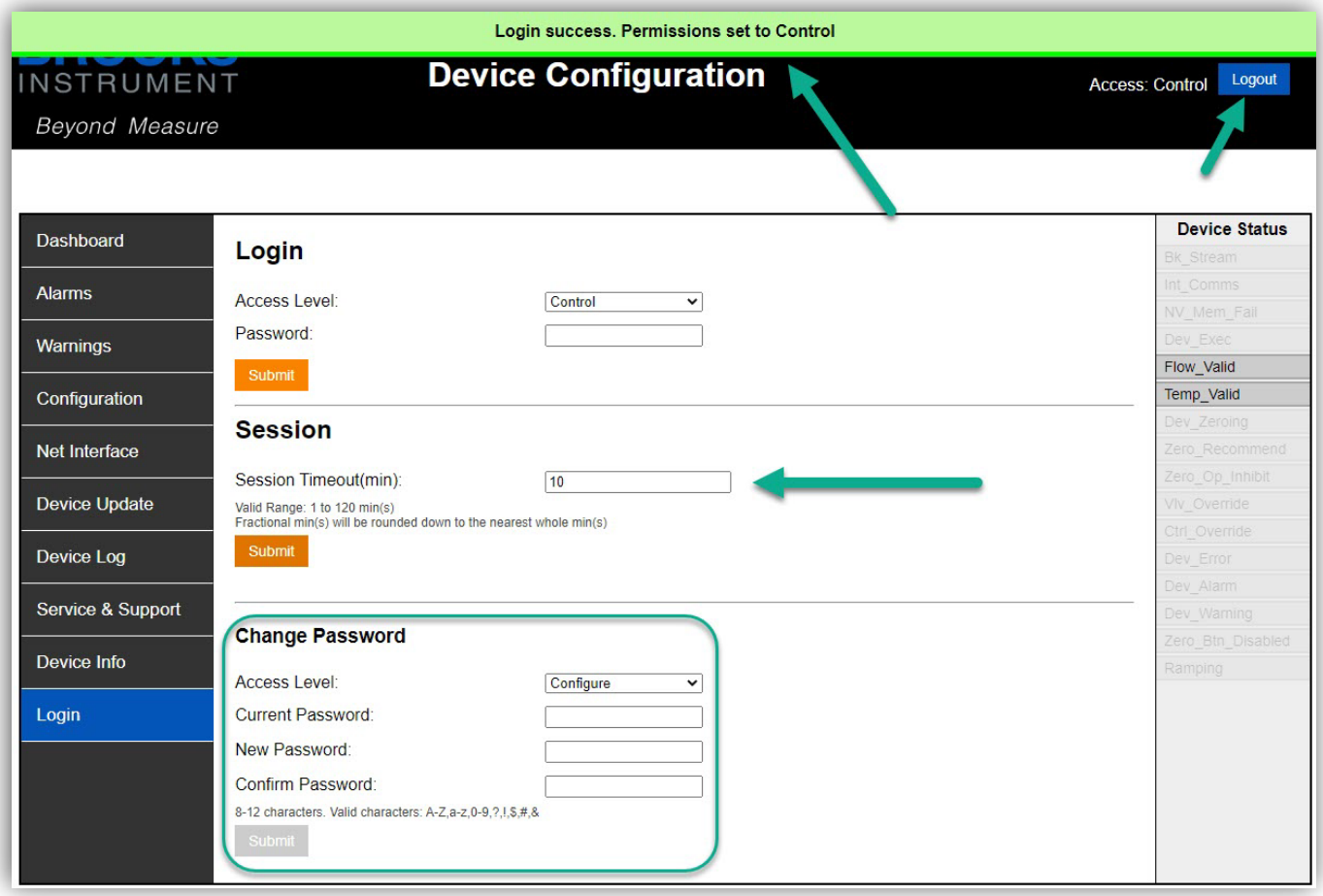
The menu tree is always on the left side of the screen.
The current device status is always on the right side of the screen.

To change the configuration, click the Login tab. On the Login page that loads, select a different access level from the dropdown box.

- Operational is view only.
- Configure allows basic device configuration.
- Control enables all functionality including controlling device flow on an MFC.

The default password for Configure is ‘configure’ and the default password for Control is ‘control’.

Choose the access level and enter the password. Click “Submit” and a success banner will display briefly at the top of the page.



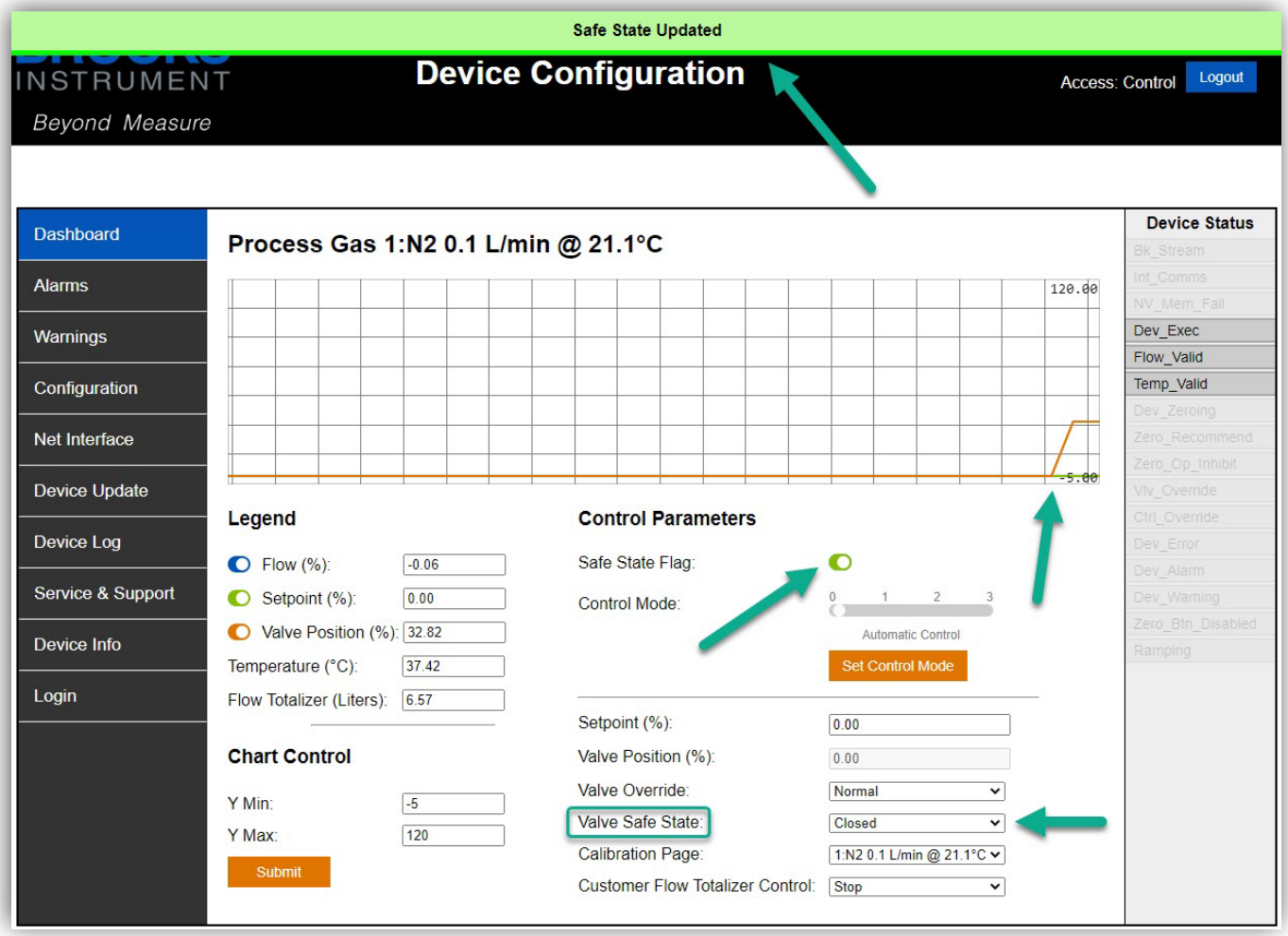
On this same page, it is possible to change the session timeout and change the password, if desired. There is also a “logout” button that appears in the upper right where the current access level is shown.

NOTE: If you change a password, ALWAYS record the changes with identifying information such as serial number and physical location. Without the password, you will not be able to utilize the embedded web interface functionality.

The Dashboard

Navigate back to “Dashboard” on the left menu. If you are logged in as Control access level, you can control the MFC from the Dashboard and see feedback similar to the graph screen in BEST.

Notice the radio button for “Safe State Flag” on the left side of the dashboard.
If it is gray, then the device is in safe state and the valve will be in the configured safe state.
By default, the valve safe state is closed.
To control flow, you must click the radio button to toggle it from gray to green, putting the device into executing mode.



Items such as setpoint, valve override and calibration page can now be changed.

Configuring Device Attributes

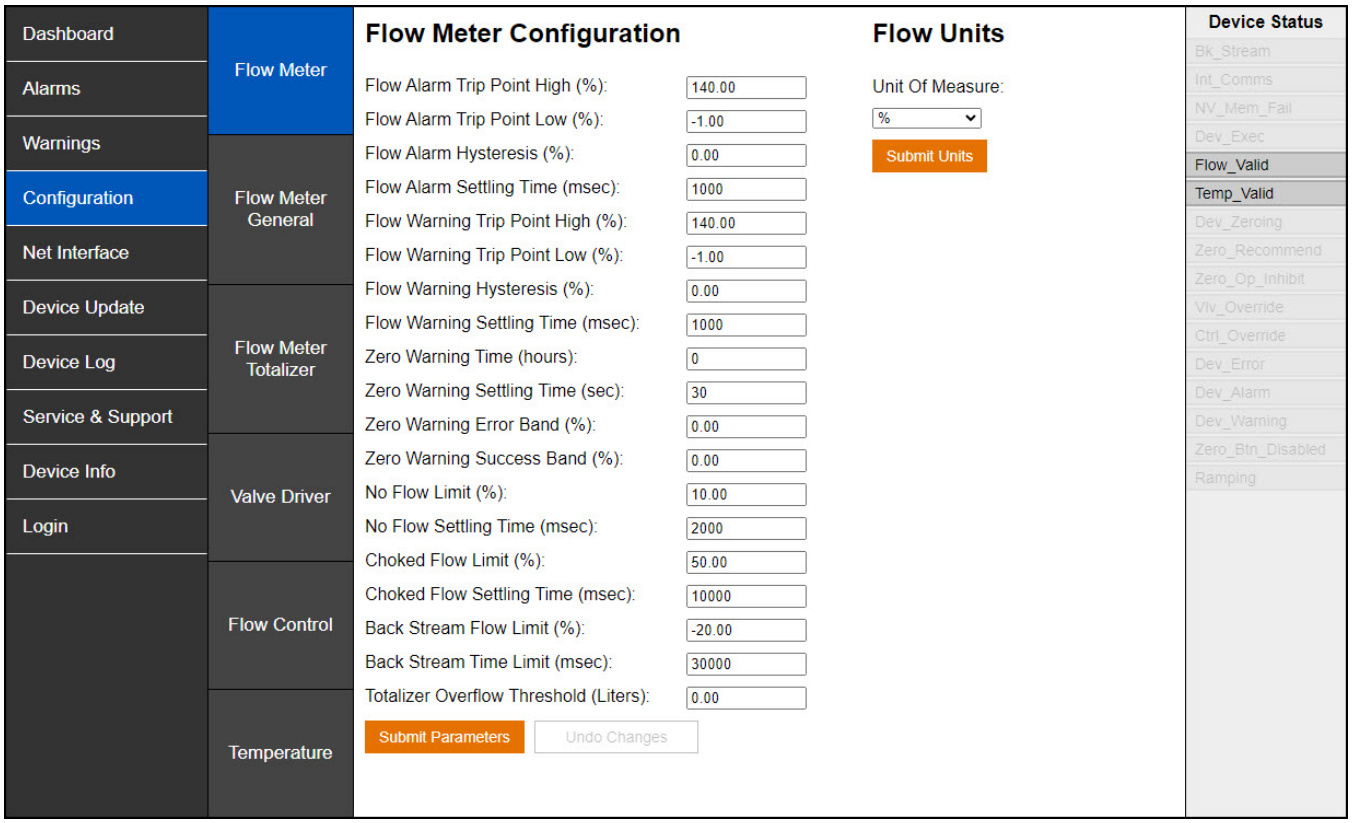
The various device “objects” such as the Flow Meter, Valve Driver, Flow Controller and Temperature Meter objects all have configurations that can be customized.

The embedded web interface is a powerful tool to quickly configure the alarms, warnings, errors, and data units within these objects.

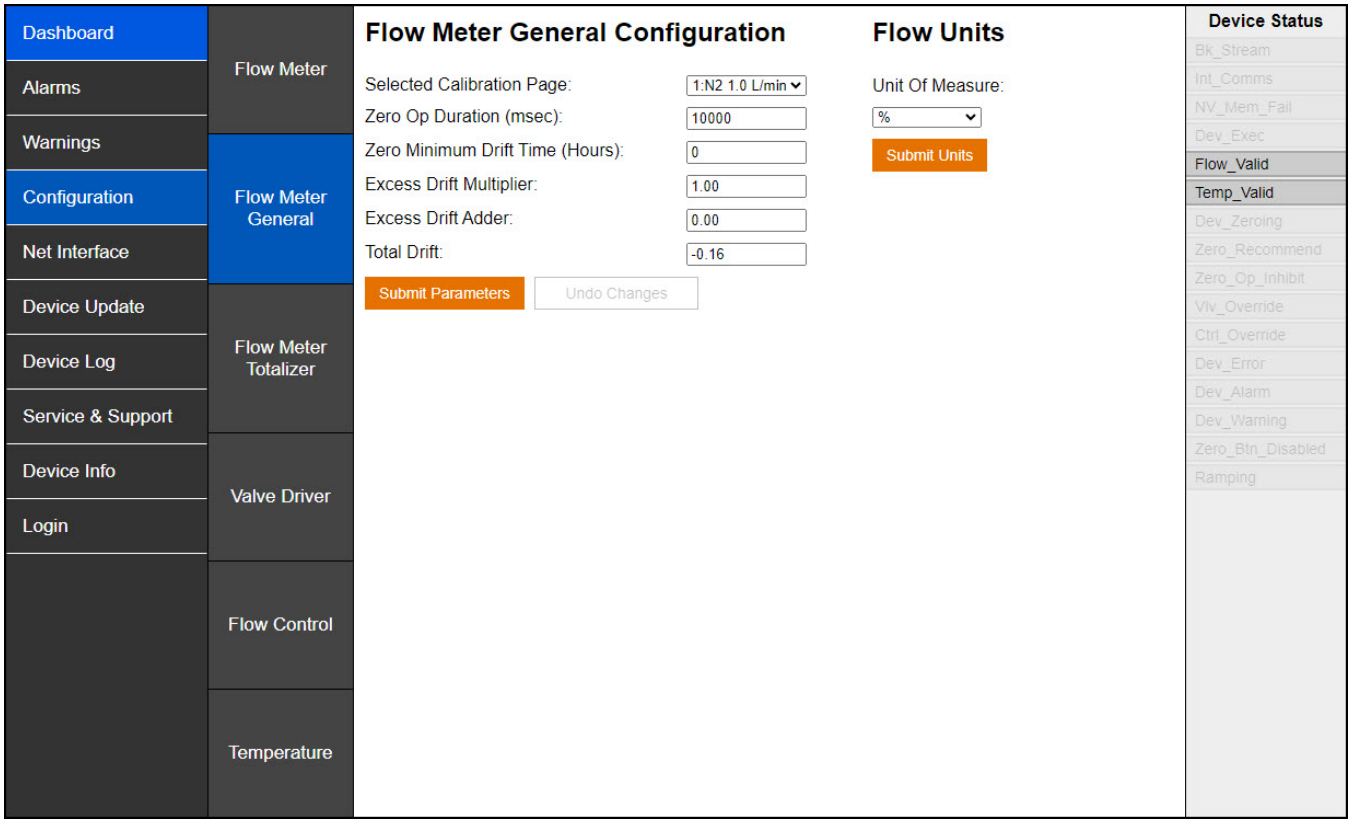
Many alarms, warnings and errors have configurable magnitude, time, and hysteresis thresholds so that you can customize them for your system dynamics.

After selecting the “Configuration” menu, there are submenus for each object.

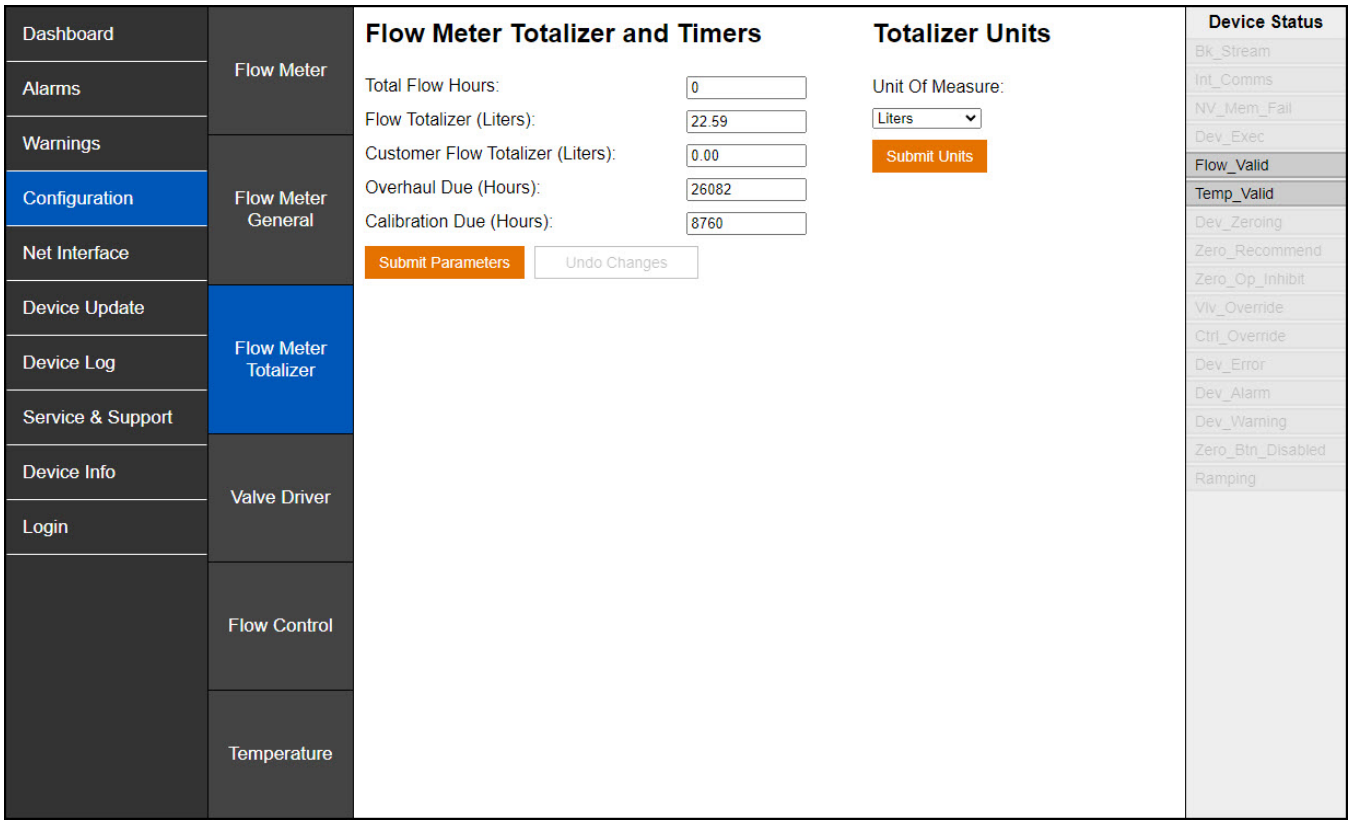
Flow Meter Configuration



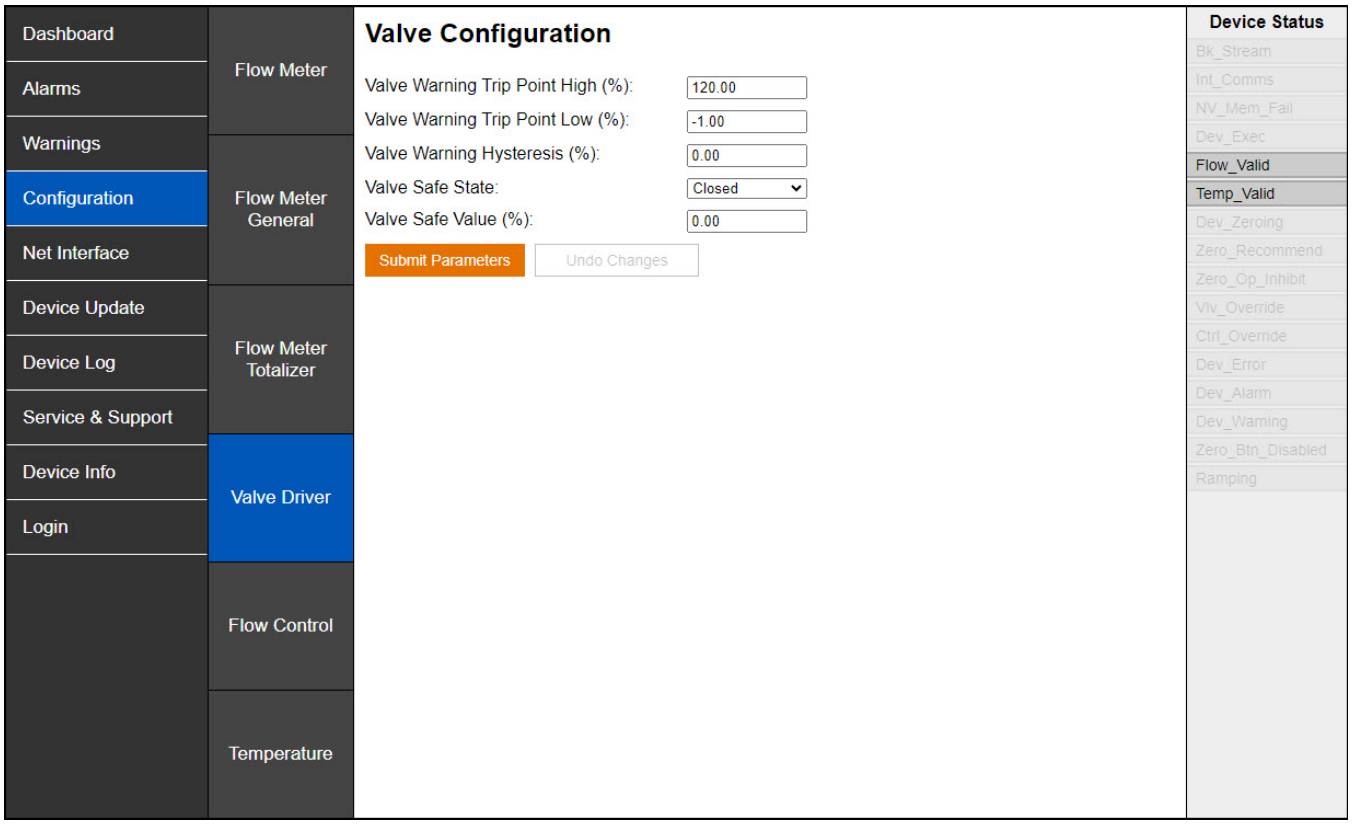
Flow Meter General Configuration



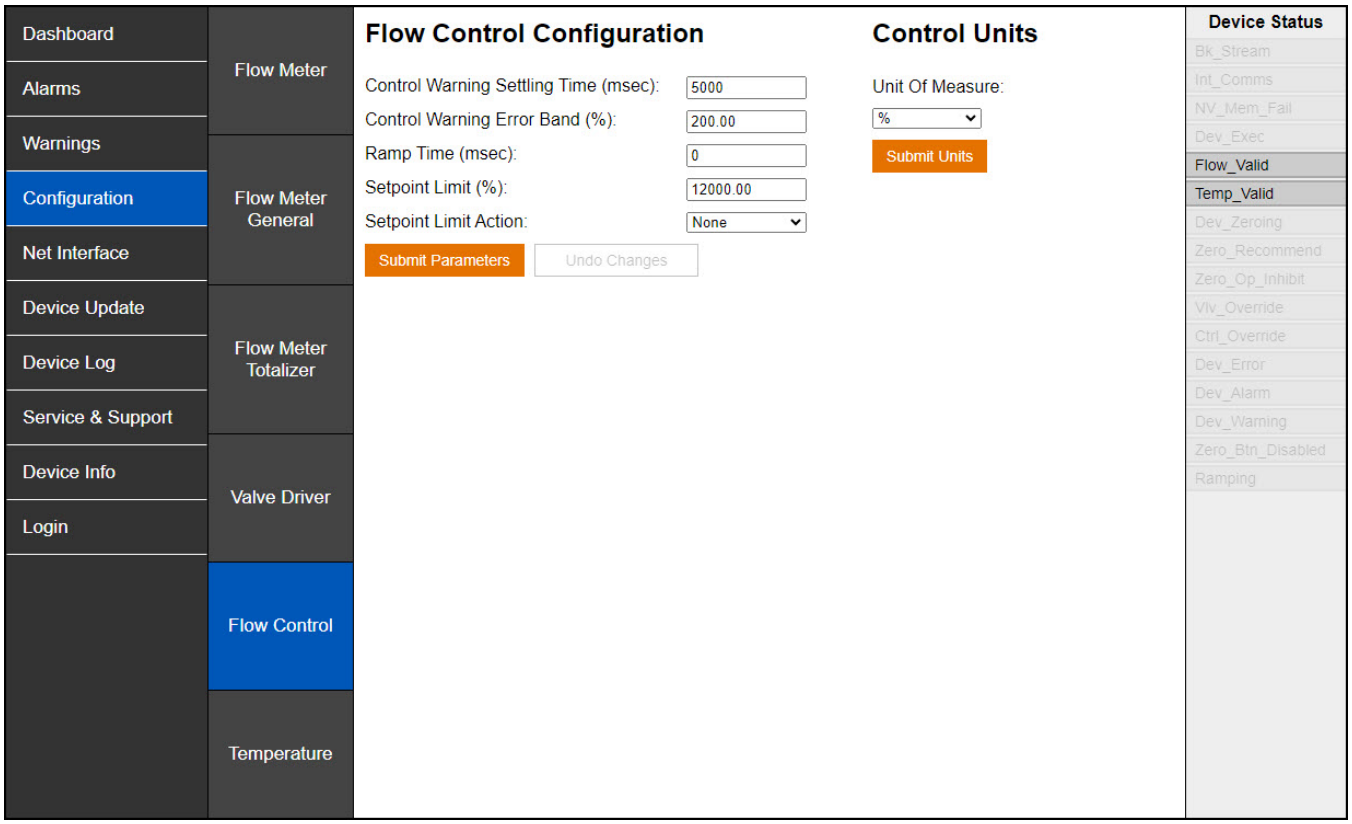
Flow Meter Totalizer Configuration



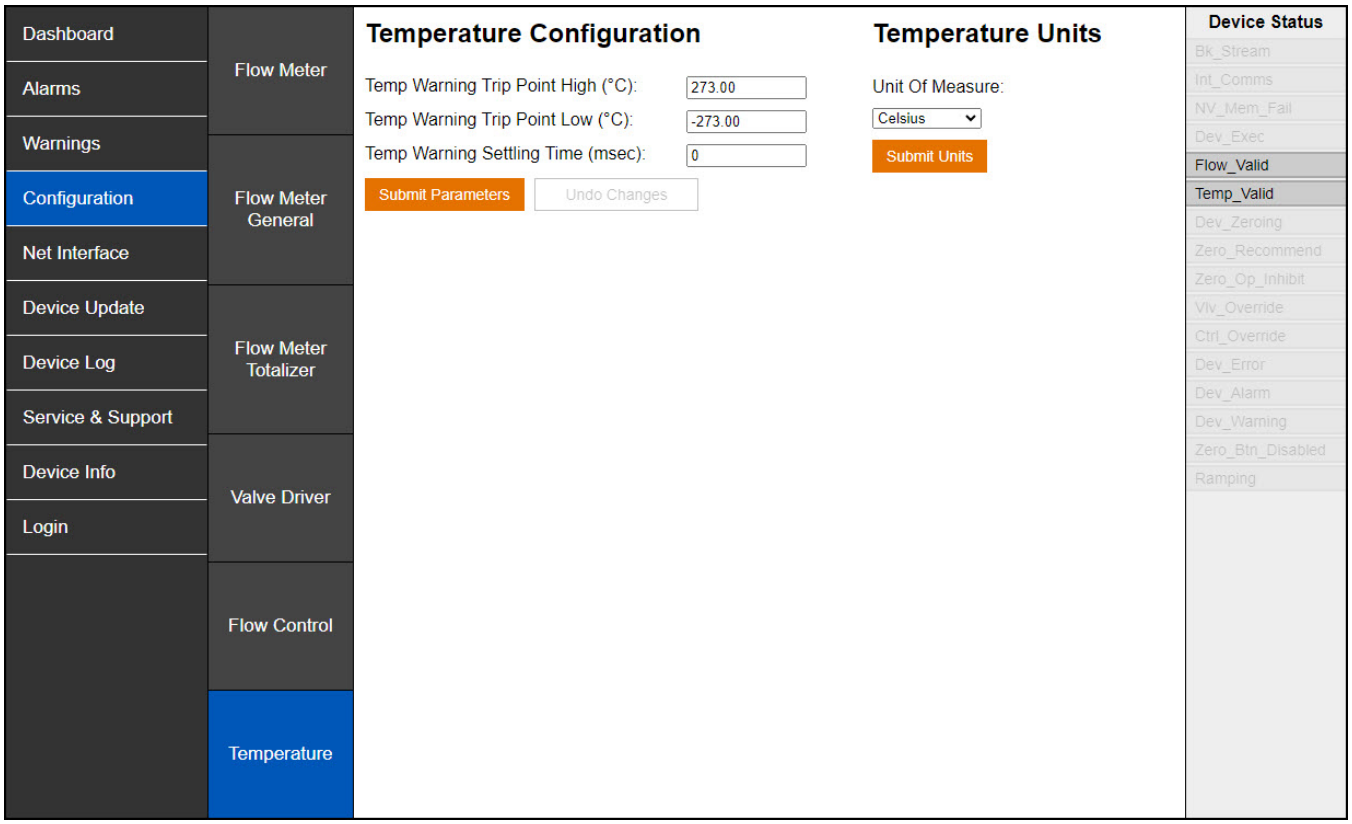
Valve Driver Configuration



Flow Controller Configuration



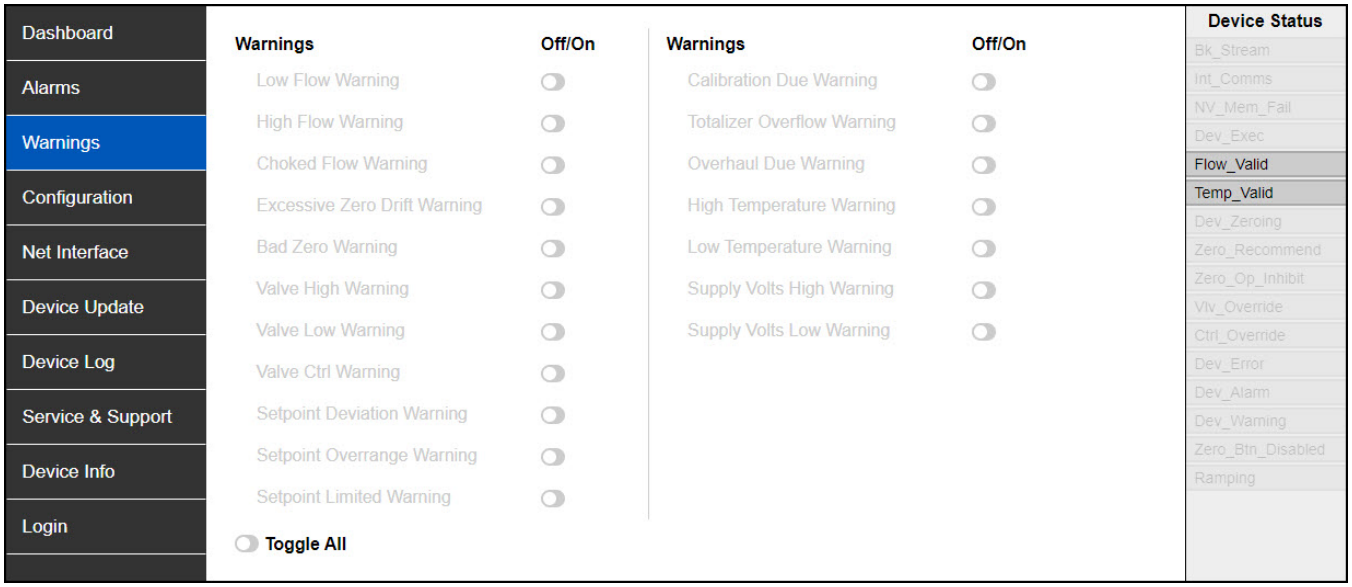
Temperature Meter Configuration

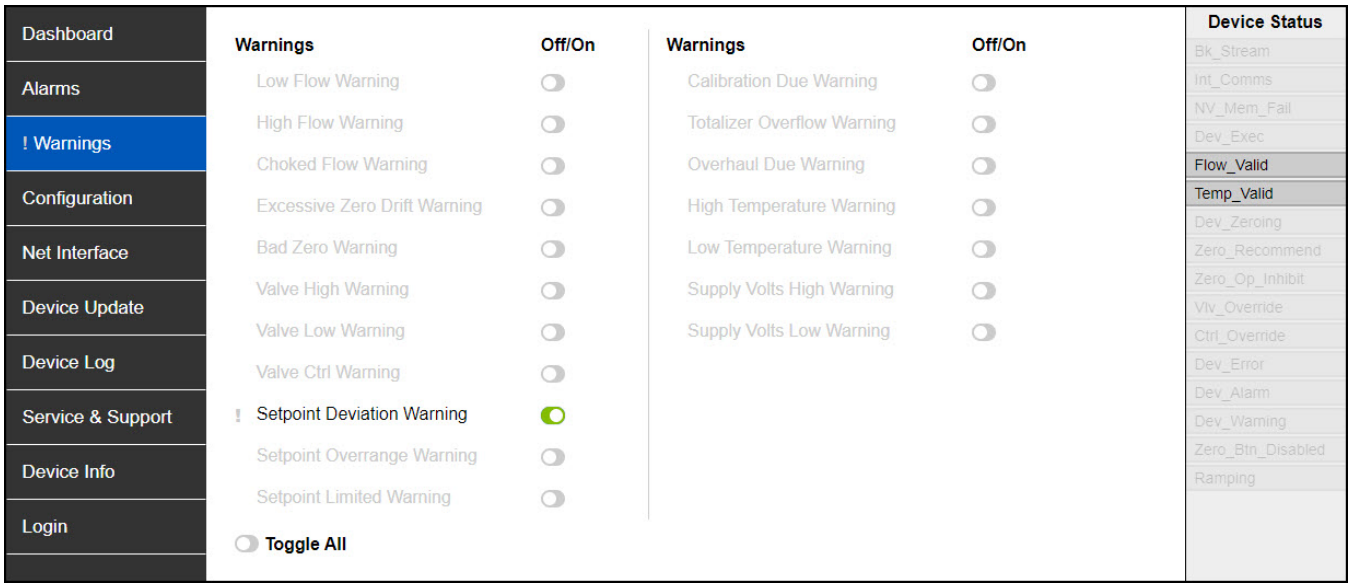


Alarms and Warnings are disabled by default and must be enabled after configuring them. They can be enabled by navigating to the Alarms or Warnings menu items and toggling the radio buttons to green.

Alarms

Warnings


Dashboard
Alarms
Warnings
Configuration
Net Interface
Device Update
Device Log
Service & Support
Device Info
Login
Warnings
Off/On
Low Flow Warning
High Flow Warning
Choked Flow Warning
Excessive Zero Drift Warning
Bad Zero Warning
Valve High Warning
Valve Low Warning
Valve Ctrl Warning
Setpoint Deviation Warning
Setpoint Overrange Warning
Setpoint Limited Warning
Toggle All
Warnings
Off/On
Calibration Due Warning
Totalizer Overflow Warning
Overhaul Due Warning
High Temperature Warning
Low Temperature Warning
Supply Volts High Warning
Supply Volts Low Warning
Device Status
Bk_Stream
Int_Comms
NV_Mem_Fail
Dev_Exec
Flow_Valid
Temp_Valid
Dev_Zeroing
Zero_Recommend
Zero_Op_Inhibit
Vlv_Override
Ctrl_Override
Dev_Error
Dev_Alarm
Dev_Warning
Zero_Btn_Disabled
Ramping


Dashboard
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Off/On
Low Flow Warning
High Flow Warning
Choked Flow Warning
Excessive Zero Drift Warning
Bad Zero Warning
Valve High Warning
Valve Low Warning
Valve Ctrl Warning
! Setpoint Deviation Warning
Setpoint Overrange Warning
Setpoint Limited Warning
Toggle All
Warnings
Off/On
Calibration Due Warning
Totalizer Overflow Warning
Overhaul Due Warning
High Temperature Warning
Low Temperature Warning
Supply Volts High Warning
Supply Volts Low Warning
Device Status
Bk_Stream
Int_Comms
NV_Mem_Fail
Dev_Exec
Flow_Valid
Temp_Valid
Dev_Zeroing
Zero_Recommend
Zero_Op_Inhibit
Vlv_Override
Ctrl_Override
Dev_Error
Dev_Alarm
Dev_Warning
Zero_Btn_Disabled
Ramping

Changing Device Network Settings

To configure the network parameters of the device, click the Net Interface tab.

For Ethernet/IP devices, you will need to change:

- IP address – most configurations should use a static IP. DHCP option is available.
- Subnet mask
- Default gateway
- Device name
- You might also configure DNS servers and a domain name.

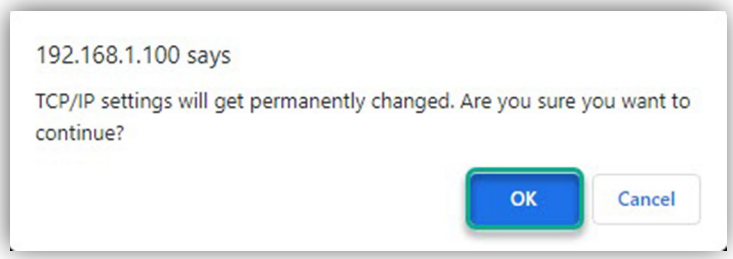
For PROFINET devices, you will need to change:

- The device name.
- Choose a unique name that conforms to the PROFINET International (PI) naming rules.
- You should also configure a static IP address and a subnet mask. This will allow the use of the embedded web interface for each unique device.
- Siemens recommends that you do not use an IP address in the 192.168.x.241 to 192.168.x.250 range for client devices because programming devices can be automatically assigned addresses in this range if necessary.

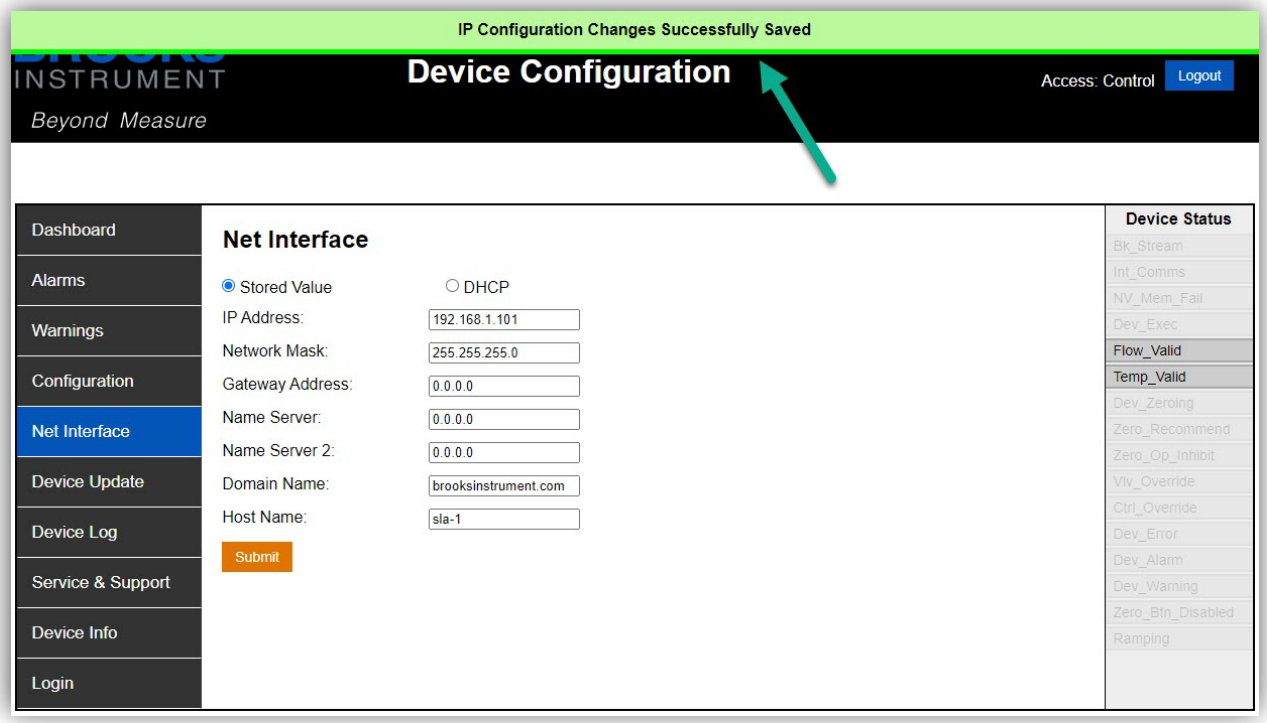
By default, DHCP is selected. To manually configure the network settings, select the ‘Stored Value’ radio button.

The network configuration fields will become active. Click ‘Submit’ after setting the network configuration.

A pop-up confirmation window will appear. Click “OK”



A success banner will be displayed briefly at the top of the page.



NOTE: Once the settings have been changed, the new TCP/IP address will need to be reentered in the URL field of the browser to reconnect with the device and confirm the network settings.

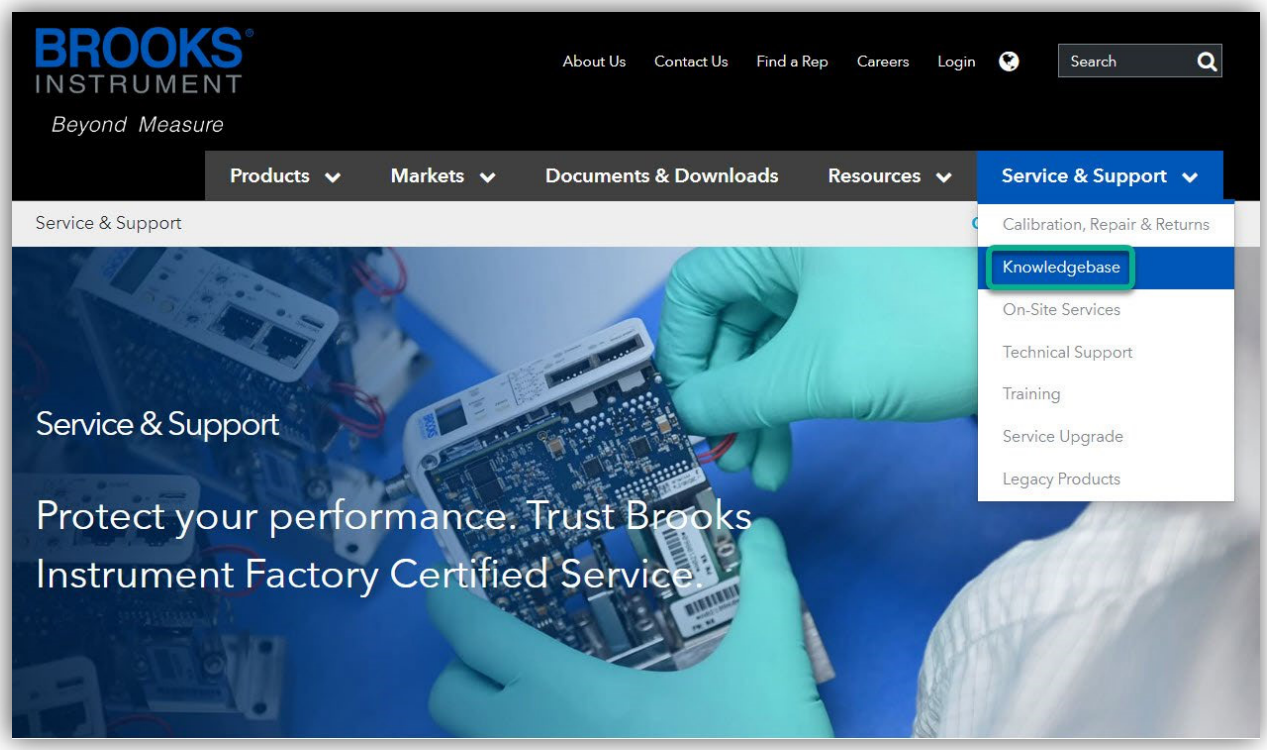
NOTE: We recommend labeling the device with the new communication settings and recording the changes with identifying information such as serial number and physical location. It will be very difficult to recover this information without the diagnostic cable and BEST Software.

We created a knowledgebase article describing some alternative methods to find the IP address of a device that is unknown which may be helpful in this scenario. The article can be found on our website here:
SLA EthernetIP and PROFINET – Finding the IP Address of a Device when the Value is Unknown

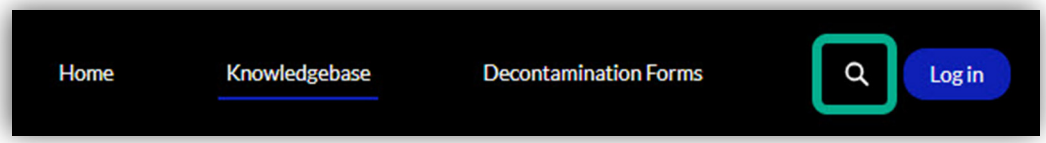
Getting Help

We recommend starting with the Installation and Operation Manual (IOM) and the Supplemental manual for the digital communication protocol, if applicable. These documents are searchable so CTRL+F can be used in the PDF viewer to search for specific terms within the document.

After reading the manuals, we recommend utilizing the Knowledgebase section of our website. Navigate to “Service & Support” and select “Knowledgebase”.



On the Knowledgebase landing page, you can browse the articles or click the magnifying glass in the upper right corner to search.



Search by product name such as “SLA” or “GT1600”, digital protocol such as “Ethernet/IP” or “PROFINET”, or by specific article numbers.

After you have reviewed the relevant content for your product, if you still need any technical support please contact Brooks Instrument Technical Services at 215-362-3798 or via email at Brooks.TechSupport@BrooksInstrument.com

LIMITED WARRANTY

Visit www.BrooksInstrument.com for the terms and conditions of our limited warranty.

BROOKS SERVICE AND SUPPORT

Brooks is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration and is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards.

Visit www.BrooksInstrument.com to locate the service location nearest to you.

START-UP SERVICE AND IN-SITU CALIBRATION

Brooks Instrument can provide start-up service prior to operation when required.
For some process applications, where ISO-9001 Quality Certification is important, it is mandatory to verify and/or (re)calibrate the products periodically. In many cases this service can be provided under in-situ conditions, and the results will be traceable to the relevant international quality standards.

SEMINARS AND TRAINING

Brooks Instrument can provide seminars and dedicated training to engineers, end users and maintenance persons.

Please contact your nearest sales representative for more details.

Due to Brooks Instrument's commitment to continuous improvement of our products, all specifications are subject to change without notice.

IOM-SLA-ENIP-PNET/2024-07

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