USER
MANUAL

M70 Configuration Tool
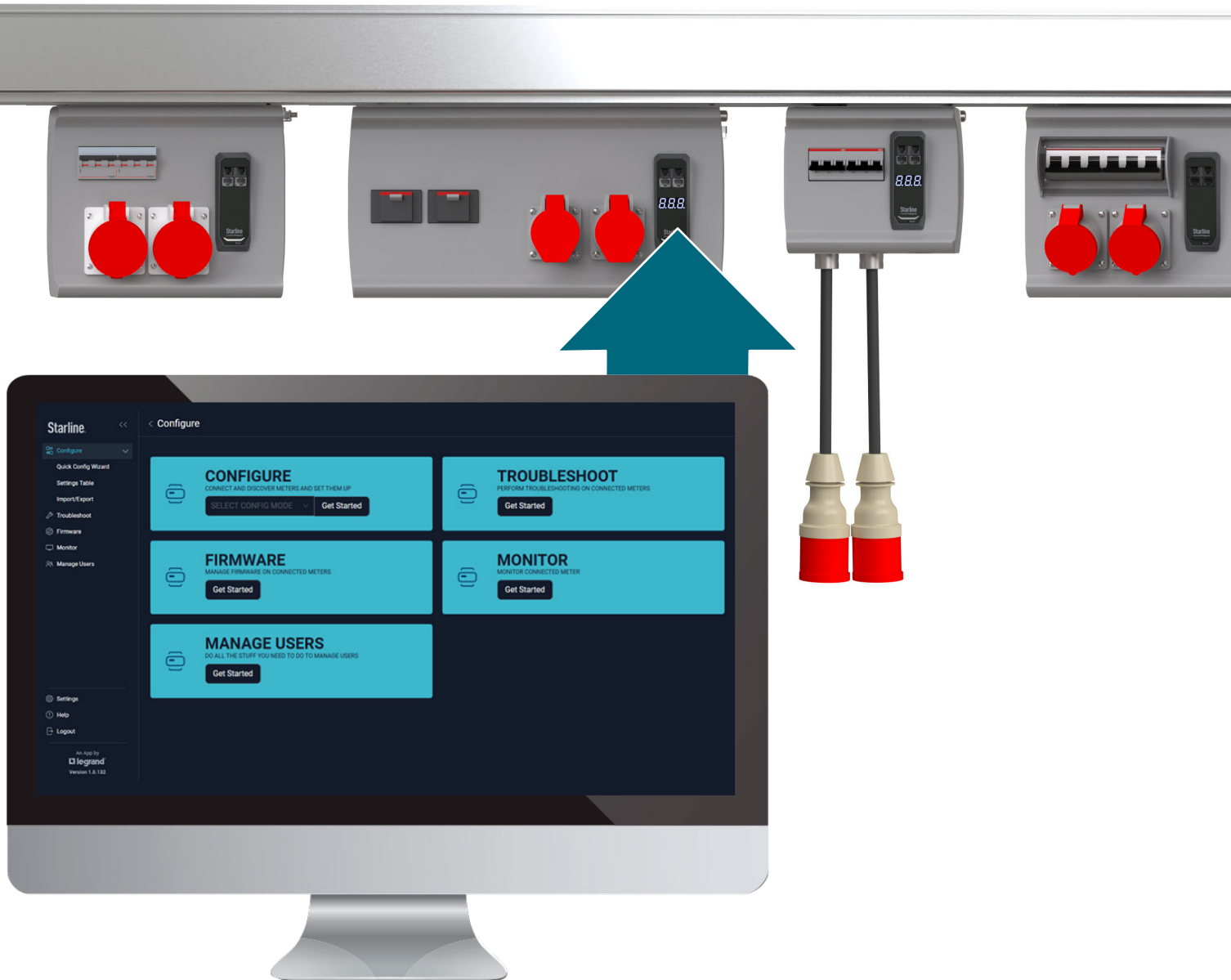

Starline

A brand of legrand

TABLE OF CONTENTS

CHANGELOG

REV	DESCRIPTION	DATE
1.0	Initial Release	March 2025

Product	Starline Meter Configuration Tool
Series	M70
Applications	M70 Critical Power Monitor Plug-in Units (Branch Circuit)

System Requirements & Specifications	Starline Meter Configuration Tool
Platform	Windows, Mac and Linux See System Requirements for details
M70 Firmware	Firmware Version 1.05 or later
Communication	SSH Protocol over Ethernet
M70 Compatibility	M70, V70 Meters AC Meter and IPv4 Only MDNS & DHCP for Auto-Discover

Notes:

- The Starline Meter Configuration Tool connects to every meter on the network. The tool may experience longer load times as the number of meters is increased. The tool is intended for startup, setup, commissioning and maintenance purposes for up to 254 devices.   While the tool can be connected to more devices, it may cause a slowdown in performance.

- Multicast DNS (MDNS) on the meters is enabled by default. It can be disabled if auto-discover is not needed. See M70 User Manual for details.

SYSTEM REQUIREMENTS

Windows Requirements

- Supported Version: Windows 7 or later

- Note: Requires Microsoft Edge WebView2 runtime for rendering web content. WebView2 included by default in Windows 10 (version 1803 and later) and Windows 11. Users on Windows 7 and 8.1 need to install Webview2 manually.

Mac Requirements

- Minimum Supported Version: macOS Catalina (10.15)

Linux Requirements

- Minimum Supported Version: Ubuntu 22.04 or later

- Note: This application requires webkit2gtk-4.1 or newer, which is included in Ubuntu 22.04 and newer releases. Ensure the Linux distribution provides this version to run Tauri applications.

INTRODUCTION

The Starline M70 Configuration Tool is a software tool to help end users, BMS providers, technicians and engineers configure the M70 Critical Power Monitor (CPM). The tool has multiple modes; it can be used to setup a single meter or mass configure M70 CPMs for MODBUS TCP, SNMP or any of the open protocols that the M70 supports. It allows troubleshooting and firmware updates for ease of upgradeability.   Additionally, you can pre-configure a meter when offline and import the settings to an M70 CPM.
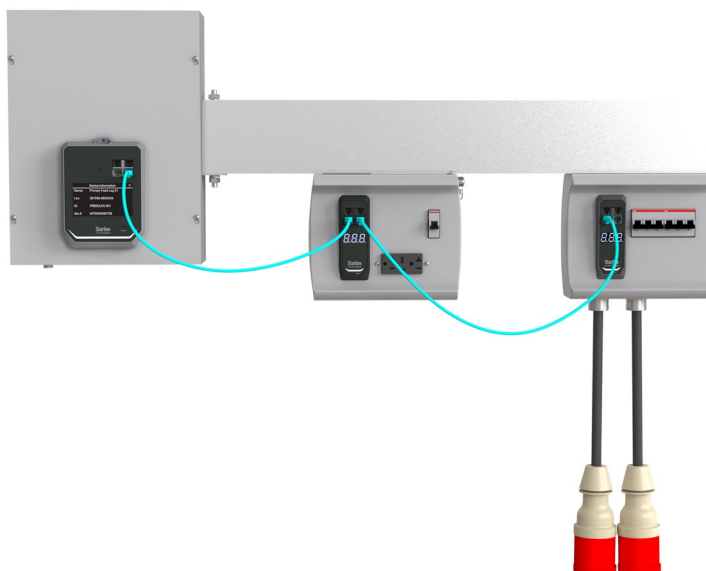
FEATURE GUIDE

The following sections will describe the Starline Meter Configuration Tool modes. Each mode has a unique and specific purpose to help configure the M70 Critical Power Monitor. The modes are as follows:

- Quick Configuration Mode
- Settings Table Mode
- Import/Export Mode
- Troubleshoot Mode
- Firmware Mode
- Monitor Mode

The following sections describe each mode and its operation.

QUICK CONFIGURATION

Quick Configuration Mode is intended to configure a single meter or multiple meters quickly using a configuration wizard. It has two primary options:

1) Configuring meter(s) that are connect via a direct connect to a computer or through a network.
    a. Quick configuration of a single meter
    b. Creating a 'Primary' meter configuration for import into multiple meters
2) Pre-configuring a 'primary' meter file offline for later import when a connected meter is present.

OPTION 1: CONFIGURING CONNECTED METER(S)

While connected and networked to a meter. Select 'Configure' and 'Get Started.'
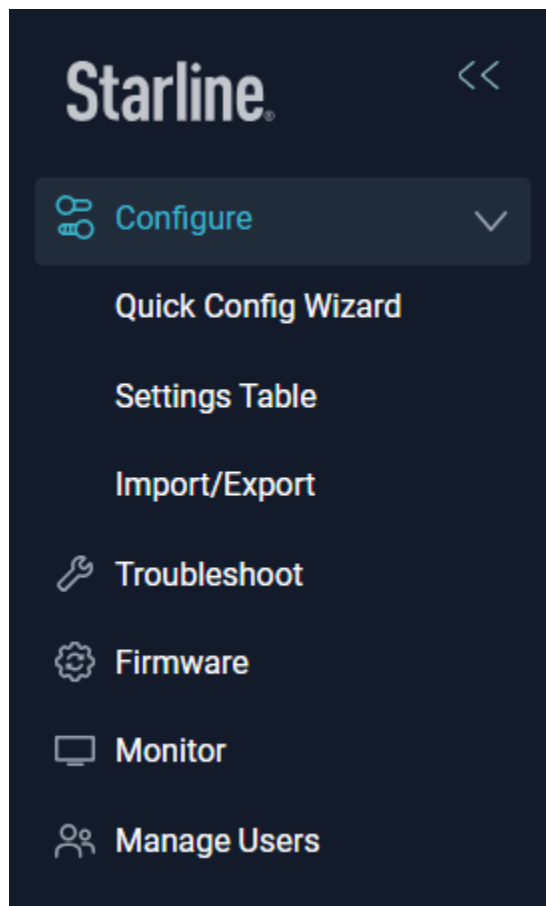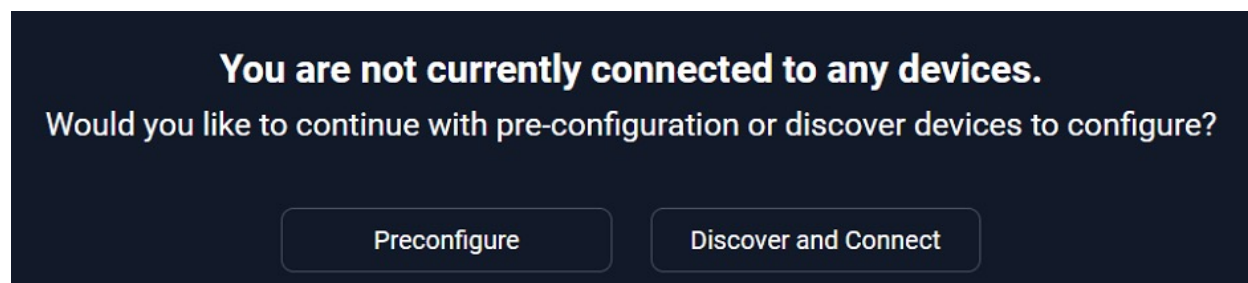

Select Configure
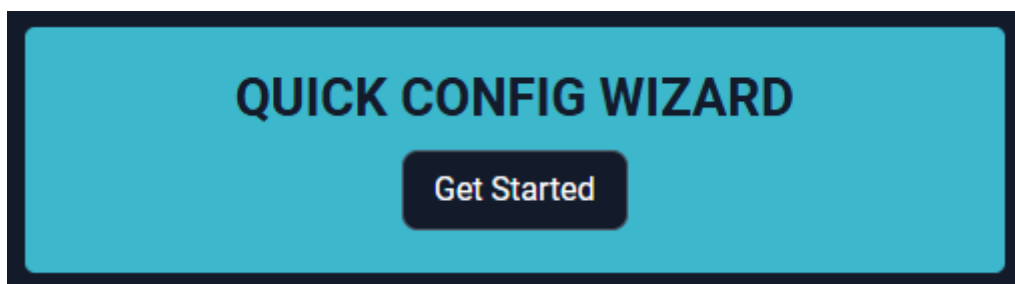
The "Get Started" button in the Quick Config Wizard box

To 'Discover and Connect' to a meter, select the corresponding button.

The "Discover and Connect" button

Discover and Connect Device List

You will need to discover, select and login to the meter(s) to move forward with Quick Configuration. See Meter Login Feature section for details on logging into a meter(s).

Once logged into the meters, you will run through the Quick Configuration Wizard allowing you to select parameters to be programmed into each meter. When connected to a meter, the Wizard will show you what parameter values are currently selected. Some parameters may not apply to specific meters (i.e. wifi parameters for a non-wifi meter); there is no need to adjust non-applicable parameters, simply hit 'Next' to skip to the next step.

Example Quick Configuration Window – Ethernet Setup

Quick Configuration Wizard will ask you to select which protocol to adjust.

Example Quick Configuration Window – Modbus Setup

Once parameters are adjusted, hit 'Apply Settings'.

Once settings are applied, the tool will show you the results. Example below:
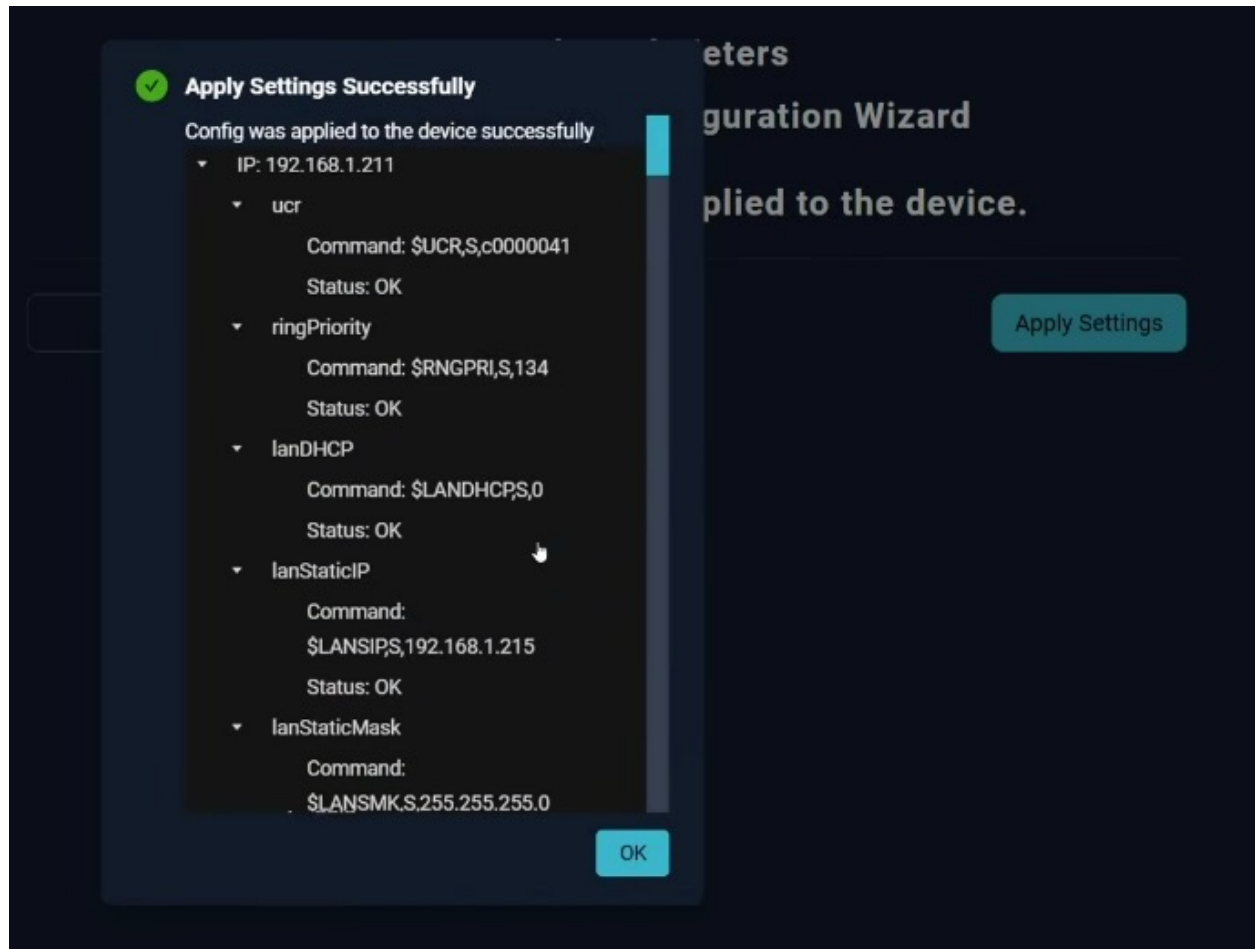

Note: Some parameters may not apply to specific meters (e.g. wifi parameters for a non-wifi meter). There is no need to adjust non-applicable parameters, simply hit 'Next' to skip to the next step. Adjusting any values will prompt the tool to write that value into the meter once settings are applied.

OPTION 2: PRE-CONFIGURE METER OFFLINE WALKTHROUGH WITH IMAGES

This mode allows for pre-configuring a 'primary' meter file offline for later import when a connected meter is present. To enter this mode, select 'Preconfigure' from the menu.
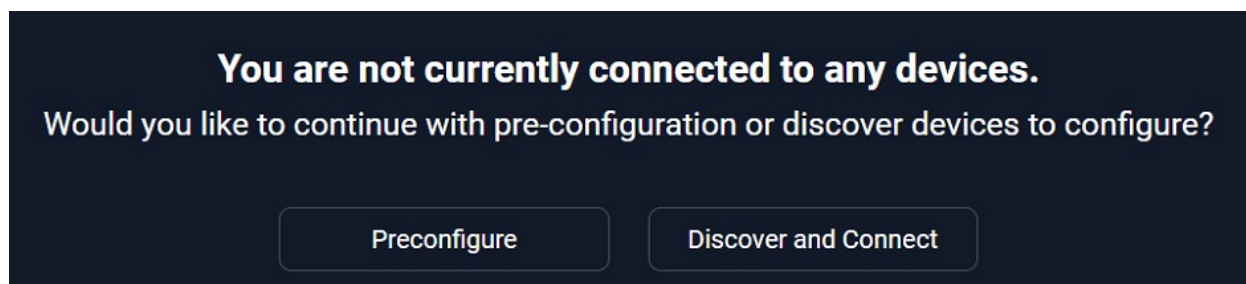
This will run through a Quick Configuration Wizard to adjust any desired parameters. The tool pre-fills values; however, if you do not want to adjust the parameter, you must select the 'Skip' Button. Note, selecting the 'Next' Button in the Wizard will save the values from that window.
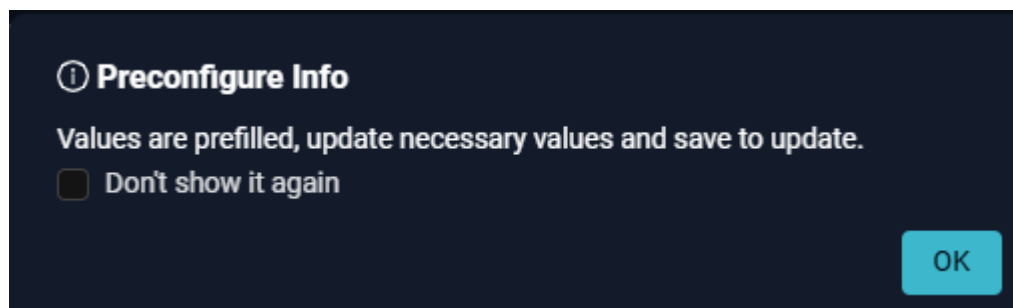
Example of Modbus Setup below; parameters can be updated to desired values as needed. Select 'Skip' for any windows/ parameters not applicable.

Once the file is saved, it will be available for export under the Import/Export Mode.
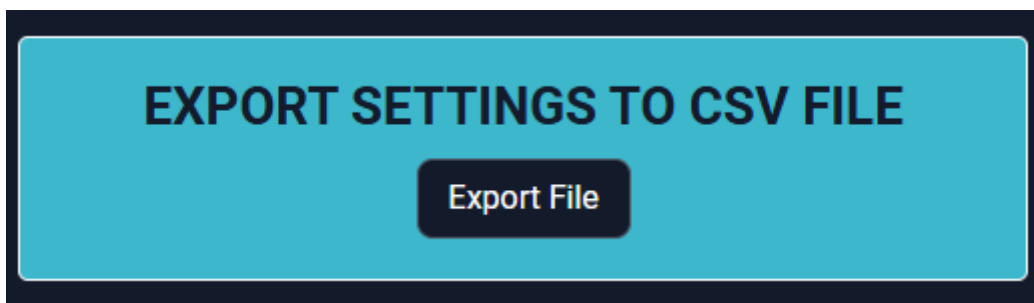
SETTINGS TABLE

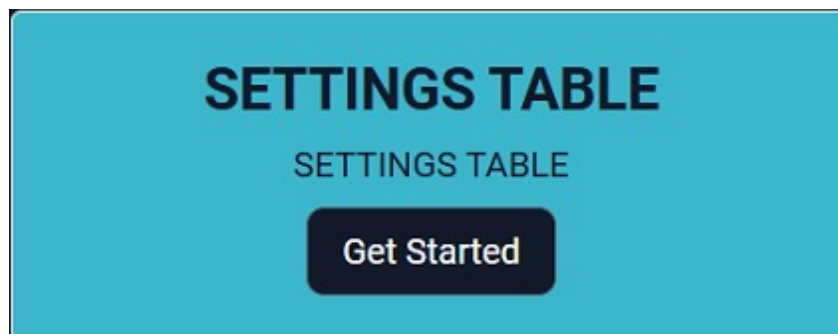Settings Table Mode allows a user to modify and update CPM settings to multiple meters. It is intended to mass update the CPM's configurable parameters using a single mode. The UI table allows you to select different groups of parameters (e.g. MODBUS, SNMP, BACNET, etc.) and configure them accordingly. To initiate Settings Table Mode, click the 'Get Started' button under the corresponding mode.

#	IP Address	Mac Address	Product serial number	Device Name	Device Location	Device ID	Catalog #	Initial Login	Status
1	192.168.1.212	58-2f-42-00-76-26	J000531755-0000-0059	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢
2	192.168.1.215	58-2f-42-00-76-25	J000531248-0000-0015	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢
3	192.168.1.210	58-2f-42-00-76-24	J000531846-0000-0038	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢

You will need to discover, select and login to the meter(s) to move forward with Settings Table. See Discover and Meter Login Feature section for details on logging in to a meter(s).

Once logged in to the selected meters, the Settings Table is displayed with these meters (see image above). The table is organized by each group of registers (e.g. MODBUS, SNMP, etc.). The user can click a specific tab to view and edit meter parameters.

MODBUS parameters are shown in the figure below. To edit a parameter in this mode, simply select the cell by left clicking it. If the parameter is writeable, it will allow you to enter an edit mode within the cell allowing for an update to the value. An example of Modbus Address value update is below.

Please note, some password values (Admin Password, BACnet Password, SNMPv3 Passwords) in Settings Table are not displayed in UI, but still are editable. To edit a password, hover a mouse over the input field, click on an edit icon and start typing a new value.

When the password value is typed in, click on a check mark icon to submit a value.

After the changes are applied, the UI for Password field will be cleared out again, but the new value will be applied to the device.

You can make multiple updates to different parameters and meters as needed. Once parameters are updated to desired values, select the Apply Changes button. This will apply the changes to the meter value, but the meter will require a reboot for changes to take effect. The tool will confirm what values were accepted and give an option to reboot after the changes are applied to the meter. See below for reference.

When selecting to reboot the meters after application, the tool will reboot the meters. Note when updating multiple meters, each meter reboot make take up to 30 seconds.
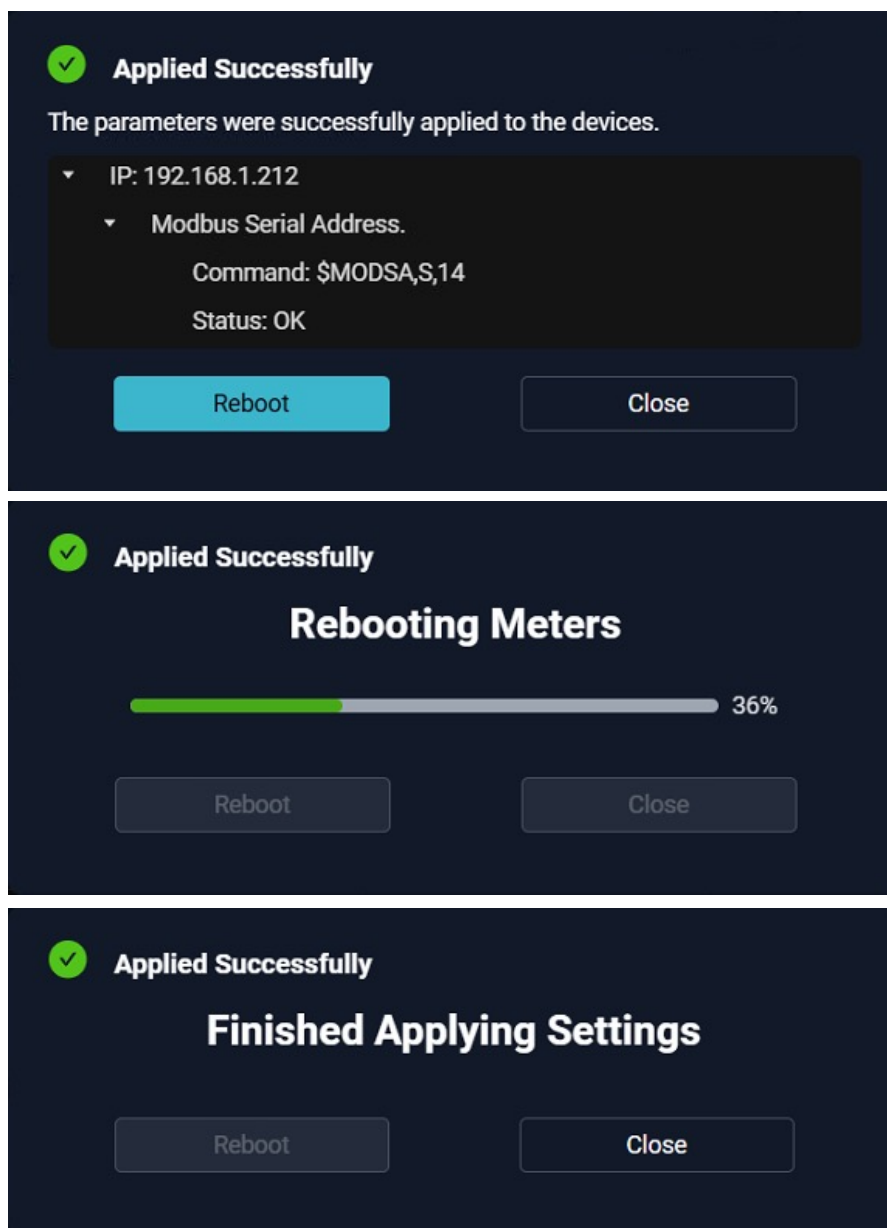
Note: Select registers are not writeable and will display a '!' symbol next to it. Example shown below.
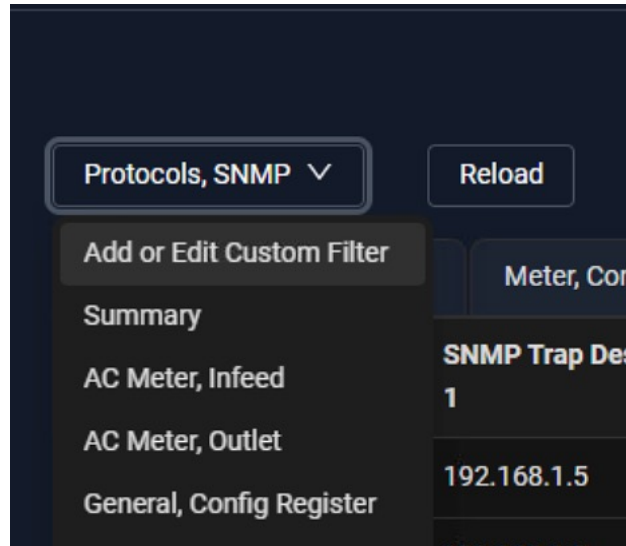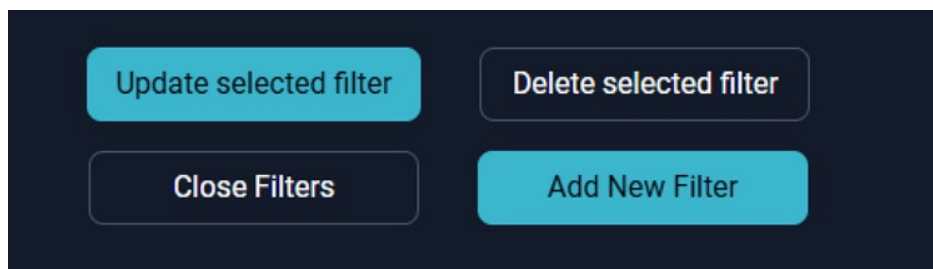
FILTERS

Settings Table has all parameters broken down into filters. Each filter has a defined list of parameters. Customer filters can be added and modified as needed by the application.

If a new filter needs to be created, expand filter drop-down and select 'Add or Edit Custom Filter.'

In All Filters popup select 'Add New Filter.'

Name a filter, select parameters that are to be included and Save Filter.

Close All Filters popup.

The new filter would be added to the end of custom filters list and can be viewed by scrolling the filter tabs till the end.

If any of the filters needs to be updated, expand the filters drop-down, select Add or Edit Cutom Filter. In All Filters popup select a filter, modify the parameters selection, click 'Update Selected Filter.'
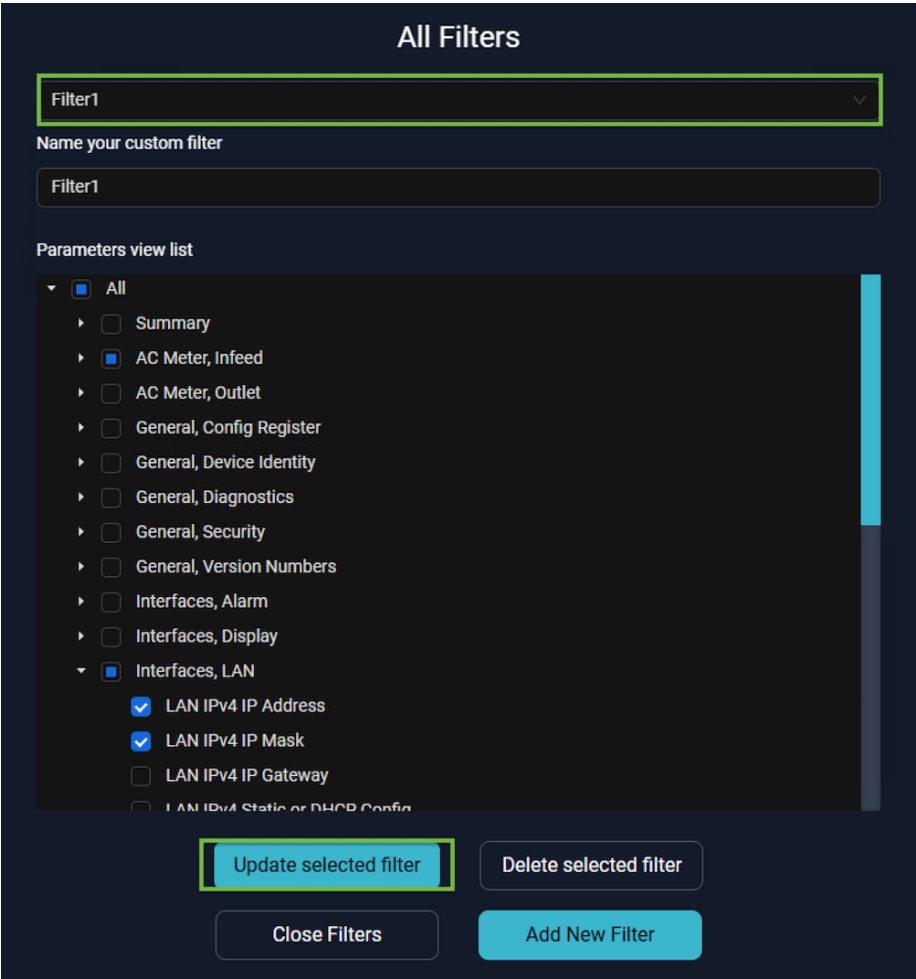
Close filters popup; the selected filter would now be updated.
Please note, Summary Filter is non-editable.

In case any filter needs to be deleted, simply click "x" in the Filters tab and confirm the action.
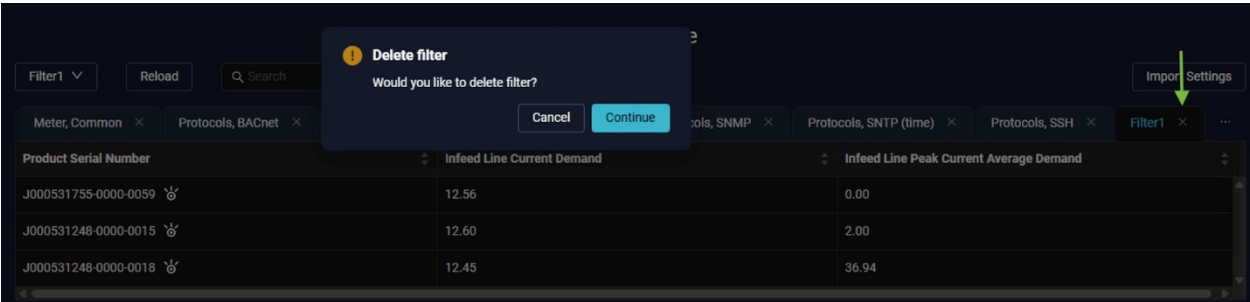
Please note, Summary Filter cannot be deleted.

SEARCH

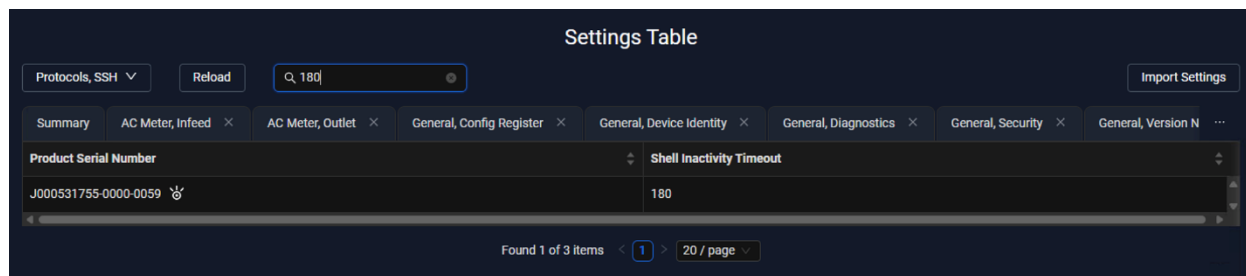Settings Table has an option for searching meters by the specified values. Start typing a search by value in a search field and if any match is found, the records will be filtered to display only the result.

Please note, the search looks for matches only within the tab which is currently opened.

IMPORT/EXPORT MODE

Settings Spreadsheet Mode allows a user to import and export CSV files to help configure the M70 meters. The export feature allows a user to export with three methods:

1. Download a Blank CSV template
2. Export a 'Primary Meter' to a CSV file
3. Export Connected meter Settings to a CSV file

Additionally, the Tool allows a user to import a pre-populated CSV file. This section will describe features associated with the Import/Export Mode.

DOWNLOAD A CSV TEMPLATE

Downloading a blank CSV template allows a user to acquire an M70 Settings Template. The template will contain settings that can be adjusted offline and saved for future import.To initiate this feature, select the 'Download File' button in the corresponding section (pictured below).
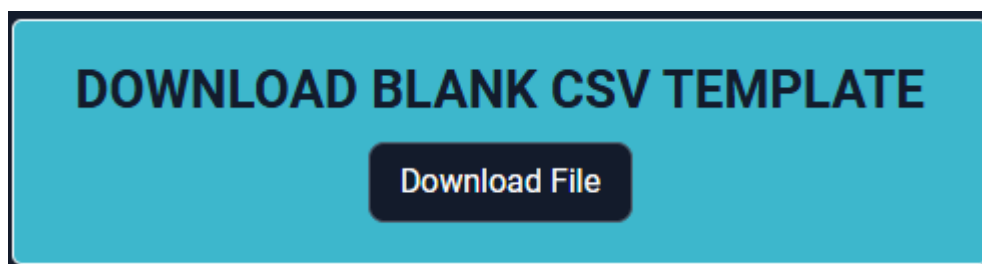
You can then select which parameters to download. Select the desired parameters by clicking on the checkbox and click 'Next.'
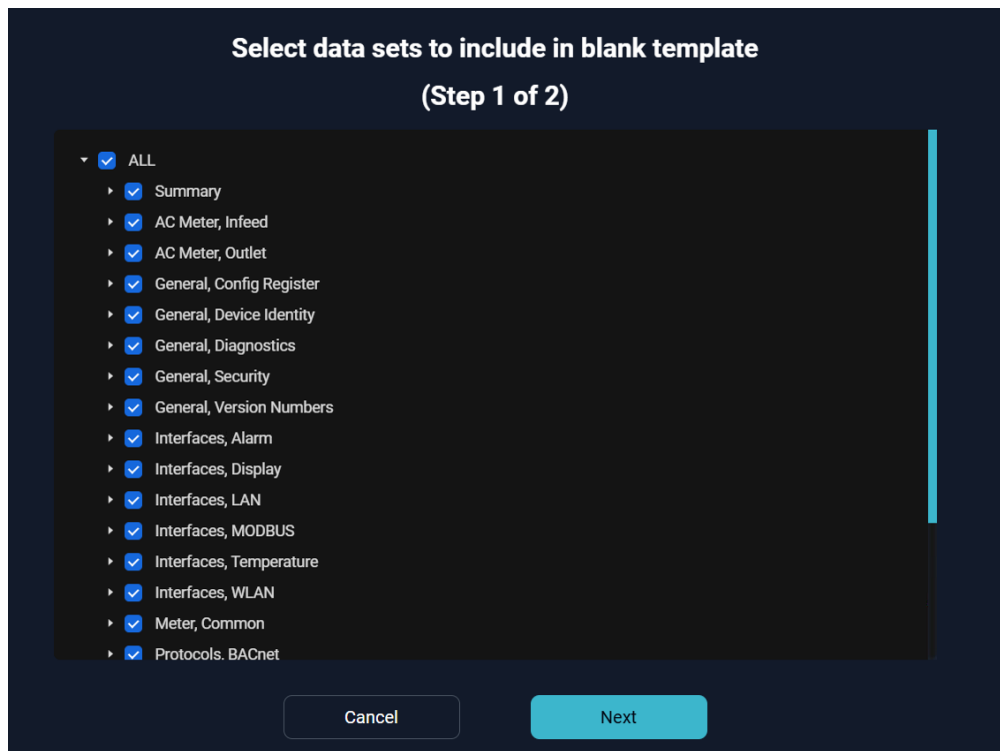
Update the file name to desired value and select 'Export.' This will prompt a series of steps to choose a file path and save the file.
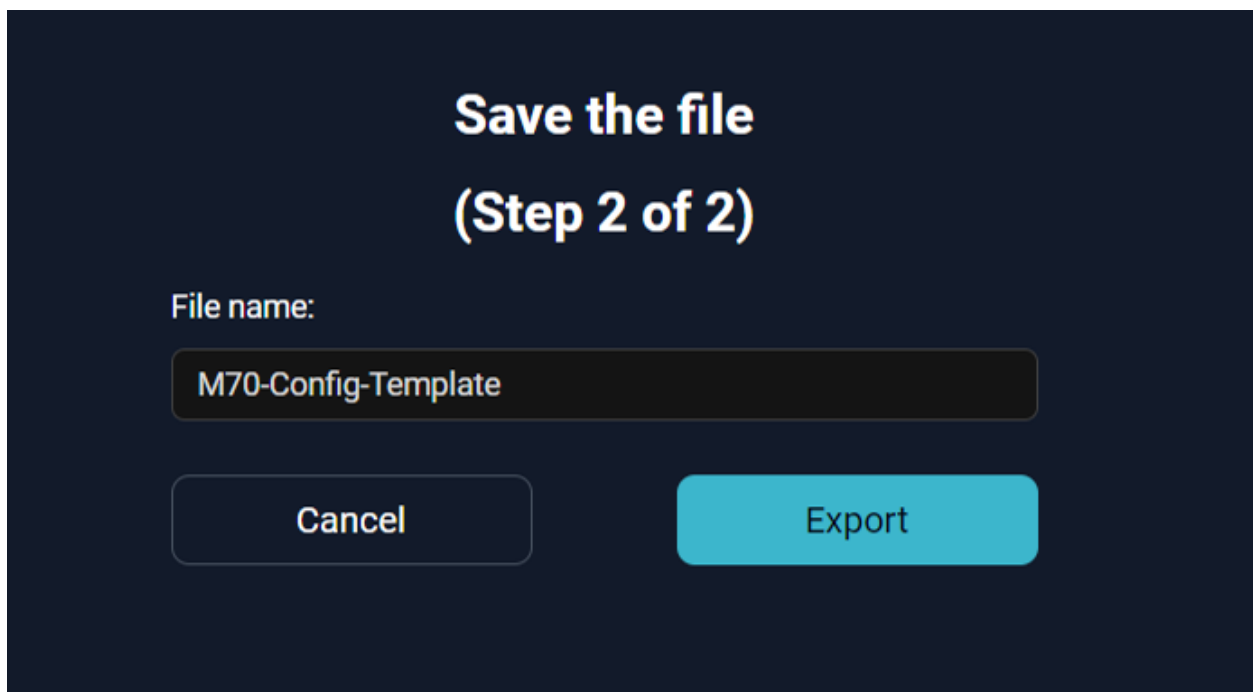
Once file is saved, the values can be adjusted accordingly to pre-configure a meter and prepare it for import.

EXPORT A PRIMARY METER

A primary meter is created from the Quick Config Wizard and this file can be exported to CSV for adjustment or to save for future reference. To use this feature, click on 'Import/Export' Mode.
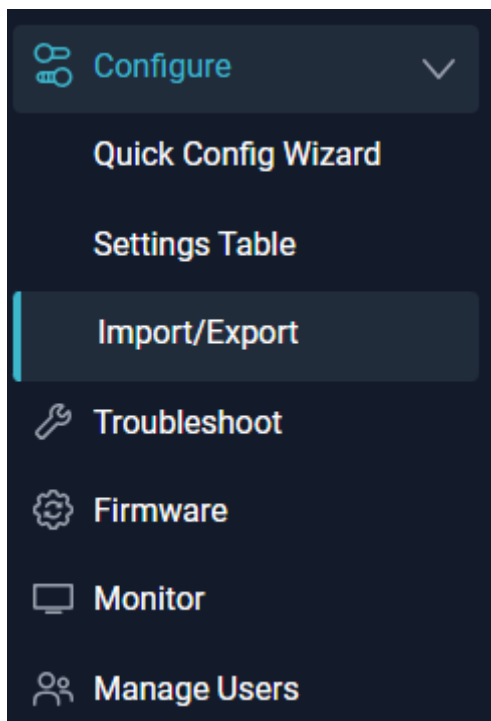
Then select 'Export Settings to CSV File.'

Choose the desired files to export by selecting the checkbox for the corresponding meter. Once desired meters are selected, click the 'Export Configurations' button and this will prompt a window to choose a file path for the file.
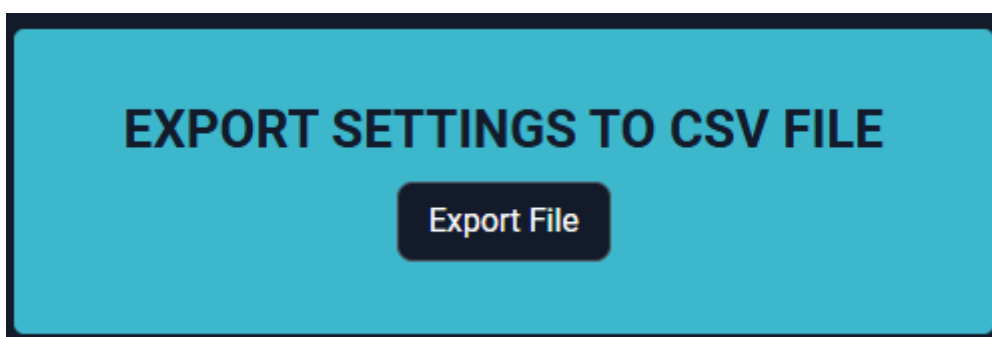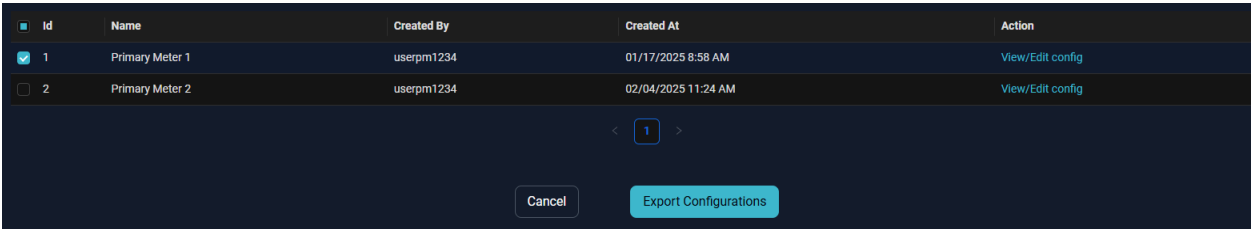

When the action is completed successfully, the below message will appear.
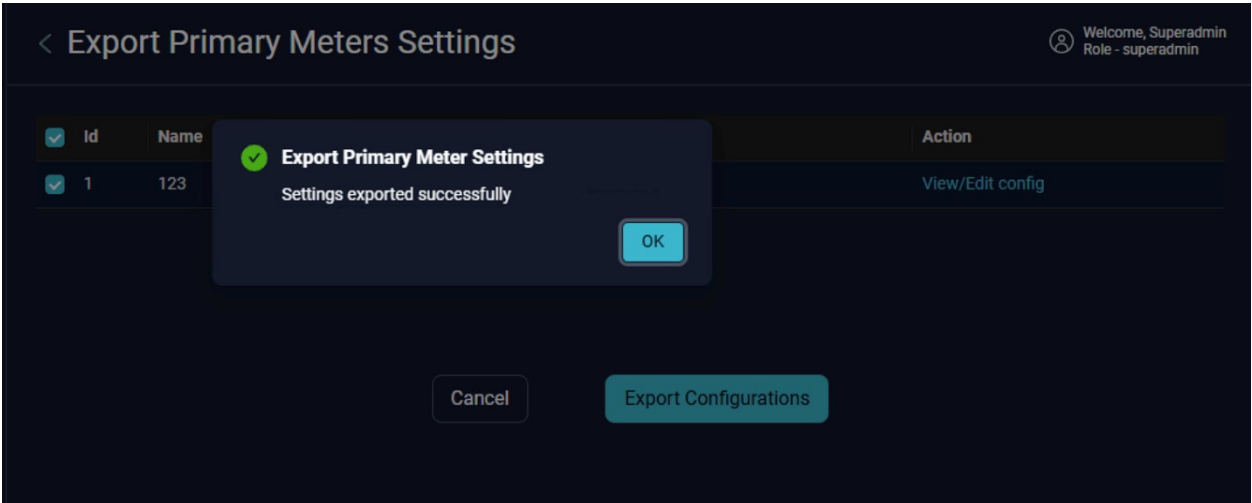
EXPORT CONNECTED METER SETTINGS TO A CSV FILE

The Starline Meter Configuration Tool allows users to export parameters from connected meter(s) to a CSV file. To initiate this feature, click on 'Export Connected Meter Settings to a CSV File' button.
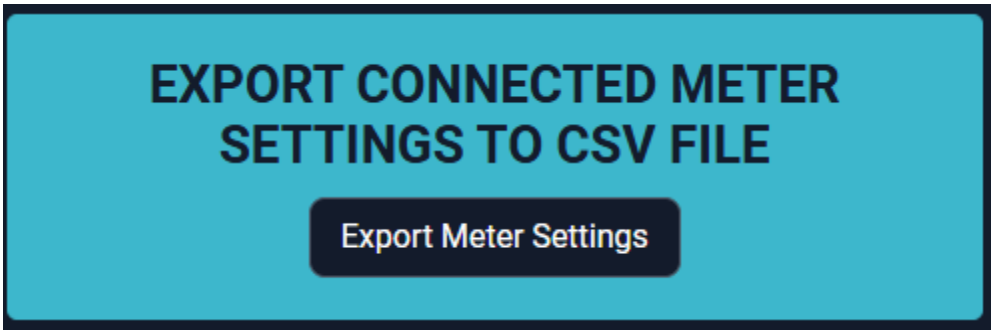
You will need to discover, select and login to the meter(s) to move forward with Settings Table. See Settings Table section on page 13 for details on logging into a meter(s).

Once logged into the selected meters, the corresponding list of meters will be displayed. Simply select the desired meter(s) to be exported, click the 'Export Configurations' button and this will prompt a window to choose a file path for the file.


After clicking on 'Export Configurations,' the tool will prompt you to save the file location for each file.

Once file path is selected, a CSV file will be saved and a user can review and edit as needed.

Note: passwords will not be exported for security purposes. All passwords will be left blank on export.

IMPORT A CSV FILE

The Starline Configuration Tool allows users to import CSV files to update meter parameters.

Please note, a file for import needs to be prepared beforehand. It can contain settings for one or multiple meters. To prepare the file with settings:

    a. Export settings from Connected Meters and update needed fields.
       Please note, if a multi-meter update is needed, create a file that would list many settings lines.

Columns not needed can be deleted.

	column 1	column 2	column 3	column 4	column 5	column 6	column 7	column 8
1	Summary	Summary	Summary	Summary	Summary	Summary	Summary	Summary
2	Product Serial Number	IP Address	Wifi IP Address	Ethernet MAC address	Wi-Fi MAC address	Device Name	Device Location	Catalog Number
3	J000531248-0000-0015	192.168.1.106	192.168.4.122	34:2f:42:00:76:06	00:00:00:00:00:00	M70 192.168.1.106	Mon Lab	UCT5C55S-14-1TIA-1THFN-M73005-BLK
4	J000531248-0000-0018	192.168.1.105	192.168.1.98	34:2f:42:00:76:05	00:00:00:00:00:00	M70 192.168.1.105	Mon Lab	UCT5C55S-14-1TIA-1THFN-M73005-BLK
5	J000531755-0000-0059	192.168.1.104	192.168.9.104	58:2f:42:b1:00:06	00:00:00:00:00:00	M70 192.168.1.104	Mon Lab	UCT5C55S-14-1TIA-1THYFN-M73005-BLK

b. Export primary meter file and update needed fields. Please note, for a multi-meter update, create a file that would list as many settings lines as needed. Extra columns can be deleted.

To initiate Import feature, click on 'Import CSV File' button.
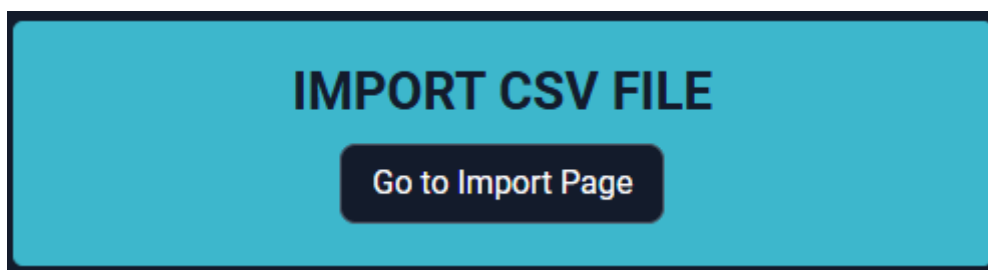
In Import CSV File page click on 'Browse' and select a needed file from PC. Once a file is selected, click 'Start Import' to upload a file. Please note: only one file can be Imported at a time.

After a file is imported, the Device Table will appear. You will need to discover, select and login to the meter(s) to move forward with Settings Table. See Discover and Meter Login Feature section for details on logging in to meter(s).

Select the meter(s) that need to be updated and login to them.

Once logged in, the tool will route to the Select Settings page, where each individual connected meter has to be matched with a respective line of imported settings.

If the IP address of the connected meter matches with an IP address in Settings (either LAN or WLAN, Static or Dynamic), the Tool does a pairing automatically. If the pairing is correct, click 'Next' to go to the next meter.

IMPORT CSV FILE

Select Settings
Selected Meter: 1 of 4

IP Address	Mac Address	Product Serial Number	Device Name	Device Location	Device ID	Catalog #	Initial Login	Status
192.168.1.104	58-2f-42-b1-00-06	J000531755-0000-0059	M70 192.168.1.104	Mon Lab	6 - 192.168.1.104	UCT5C55S-14-1TIA-1THYFN-M73005-BLK	No	🟢

Imported Settings

Summary	AC Meter, Infeed	AC Meter, Outlet	General, Config Register	General, Device Identity	General, Diagnostics	General, Security	General, Version Numbers	Interfaces, Ala ···

	IP Address	Product Serial Number	Wifi IP Address	Ethernet MAC address	Wi-Fi MAC address	Device Name	Device Location	Catalog Number
○		J000531248-0000-0015		34:2f:42:00:76:06	00:00:00:00:00:00	M70 192.168.1.106	Mon Lab	UCT5C55S-14-1TIA-1THFN-M73005-BLK
○	192.168.1.105	J000531248-0000-0018	192.168.1.98	34:2f:42:00:76:05	00:00:00:00:00:00	M70 192.168.1.105	Mon Lab	UCT5C55S-14-1TIA-1THFN-M73005-BLK
◉	192.168.1.104	J000531755-0000-0059	192.168.9.104	58:2f:42:b1:00:06	00:00:00:00:00:00	M70 192.168.1.104	Mon Lab	UCT5C55S-14-1TIA-1THYFN-M73005-BLK

[Cancel] [Skip] [Skip All] [Next]

If there are no matches, the Next button will not not be active.

Select a needed Setting manually to enable Next button.

If any meter needs to be skipped, click 'Skip' and you will proceed to the next meter in the queue if available. If all meters that are further in a queue need to be skipped, click 'Skip All' and you will be taken to the last import step.

When all needed meters are matched with settings, a summary table will appear listing all meters that would undergo the update. Click' 'Apply' to start the meter update.

After the meters are updated, there will be a summary screen with detailed information on each parameter for each meter.

Please note, summary screen can show errors for some parameters. The most common errors include:

a. Command Not Found, Error 09 which means an admin role used to log in the meter does not have rights to modify this parameter.


```
▼     Product Serial Number
            Command:
            Status: $CommandNotFoundG,ERR09
```
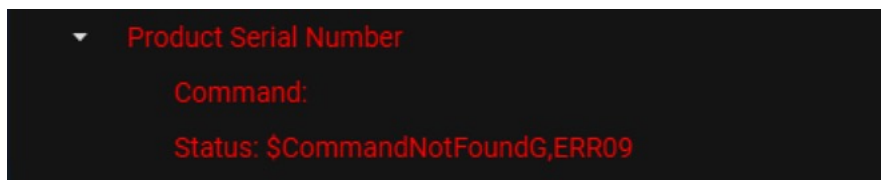
b. Error 01, which would occur when sending an empty value into the editable parameter.


```
▼     outlet_outletID_1
            Command: $OTLID,1,S,
            Status: $OTLID,1,S,ERR01
```

c. Error 14, which means that a wrong data format has been used.


```
▼     infeed_totalCurrentDemand
            Command: $INFCD,S,test
            Status: ERR14
```

After the summary popup is closed, there will be an option to reboot all meters that were updated.

Click 'Reboot' to have all changes applied correctly. A reboot progress bar will appear.

IMPORT CSV FILE

Rebooting Meter

23%

IP Address	Mac Address	Product Serial Number	Device Name	Device Location	Device ID	Catalog #	Status
192.168.1.105	34-2f-42-00-76-05	J000531248-0000-0018	M70 192.168.1.105	Mon Lab	6 - 192.168.1.105	UCT5C55S-14-1TIA-1THFN-M73005-BLK	Retry
192.168.1.106	34-2f-42-00-76-06	J000531248-0000-0015	M70 192.168.1.106	Mon Lab	6 - 192.168.1.106	UCT5C55S-14-1TIA-1THFN-M73005-BLK	Retry
192.168.1.104	58-2f-42-b1-00-06	J000531755-0000-0059	M70 192.168.1.104	Mon Lab	6 - 192.168.1.104	UCT5C55S-14-1TIA-1THYFN-M73005-BLK	Retry

Cancel   Reboot

After a reboot completes, click 'Done.'

TROUBLESHOOT MODE

Troubleshoot mode allows users to troubleshoot M70 meters. It includes:

- Reverting to known configurations
- Access to admin configuration registers
- Download diagnostics and log files
- Reboot meter

To initiate this feature, click the 'Troubleshoot' button from the left menu (pictured below).

If the MDNS feature is enabled on the meter, the Configuration Tool will populate the Device Table with meters that are networked to the tool.

	#	IP Address	Mac Address	Product Serial Number	Device name	Device Location	Device ID	Catalog #	Initial Login	Status
☐	1	192.168.1.210	58-2f-42-00-76-24	J000531846-0000-0038	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢
☐	2	192.168.1.212	58-2f-42-00-76-26	J000531755-0000-0059	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	Yes	🟢
☐	3	192.168.1.211	58-2f-42-00-76-25	J000531248-0000-0015	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	Yes	🟢

You will need to login to the meter(s) to move forward. See Meter Login Feature section for details on logging in to a meter. Once logged in to the selected meters, the corresponding list of meters will be displayed. By selecting a meter from the list, several options will be available for troubleshooting.

	#	IP Address	Mac Address	Product Serial Number	Device name	Device Location	Device ID	Catalog #	Initial Login	Status
◯	1	192.168.1.210	58-2f-42-00-76-24	J000531846-0000-0038	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢
◯	2	192.168.1.212	58-2f-42-00-76-26	J000531755-0000-0059	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢
◉	3	192.168.1.211	58-2f-42-00-76-25	J000531248-0000-0015	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢

From the configuration register, there are three options available:

1)   User configuration register
2)   Restore factory default
3)   Access factory level registers

The following sections will describe each feature's operation.

RESTORE FACTORY DEFAULT

Selecting the 'Restore Factory Default' option will return all parameters back to factory defaults.
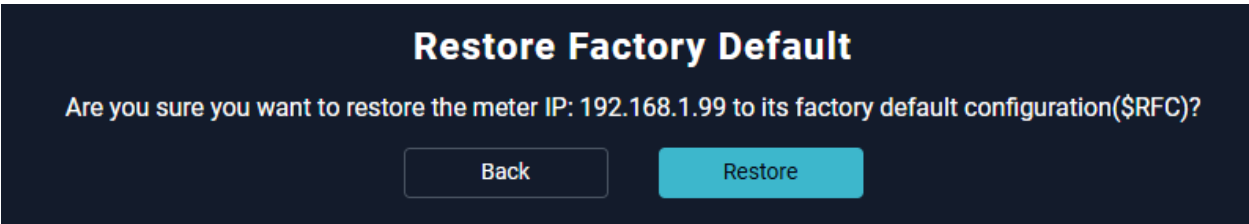
You will get a prompt to confirm whether you want to continue with the factory reset. Once confirmed, the tool will factory reset the selected meter and give you the option to reboot the device.
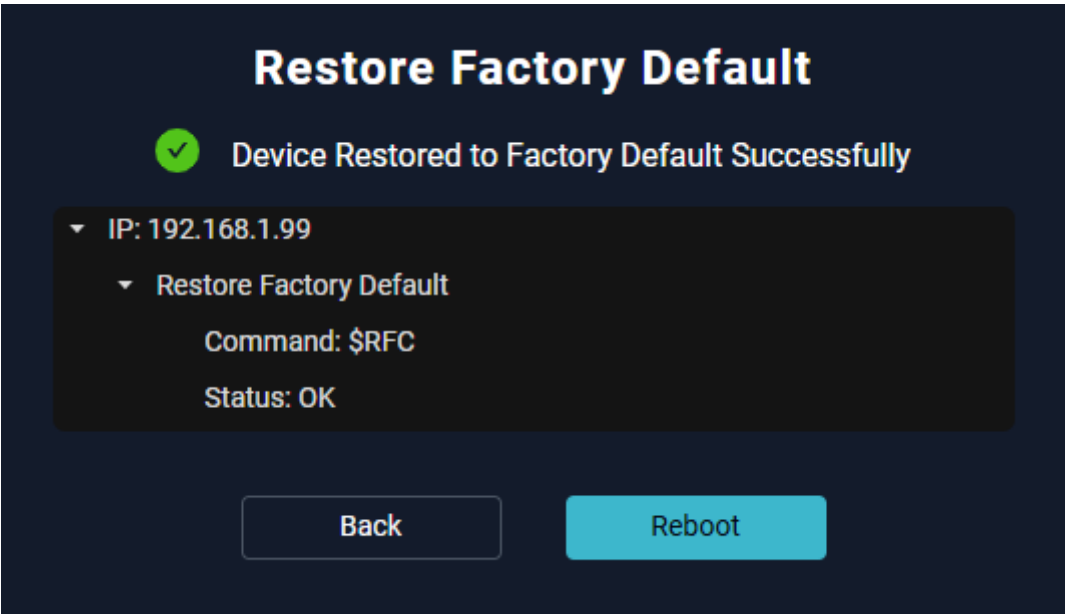
USER CONFIGURATION REGISTER

By selecting the user configuration register (UCR), the user will have all the options from this register. To update one or more parameters, select the desired radio button to enable or disable a feature. For more details on the UCR and the corresponding bits, please review the M70 User Manual.

User Configuration Register

Set the meter IP: 192.168.1.99 User Configuration Register($UCR)

|		
Demo Mode	○ Enabled	● Disabled
Factory Access	● Enabled	○ Disabled
Modbus/RTU	○ Enabled	● Disabled
SNMP Units	○ Enabled	● Disabled
Ring Mode	○ Enabled	● Disabled
WiFi	○ Enabled	● Disabled
Web Server	● Enabled	○ Disabled
Modbus Security	● Enabled	○ Disabled
Bacnet	○ Enabled	● Disabled
Bacnet Security	● Enabled	○ Disabled
SNMP v1/v2c	○ Enabled	● Disabled
Modbus/TCP	○ Enabled	● Disabled
SSH	● Enabled	○ Disabled
SNMP v3	○ Enabled	● Disabled
MDNS	● Enabled	○ Disabled
Fahrenheit Mode	○ Fahrenheit	● Celsius
Modbus Floats	● Double	○ Float
IP version	○ IPv6	● IPv4

User Configuration Register

✓ Register Updated Successfully

▼ IP: 192.168.1.99

▶ User Configuration Register

[Back]   [Reboot]

DIAGNOSTIC AND LOG FILES

The Starline Meter Configuration Tool allows the user to download diagnostic and log files per meter. If these files are needed, select the meter you wish to collect the files from and select the desired file. The tool will prompt the user for a file path; once one is selected, hit 'Save.'
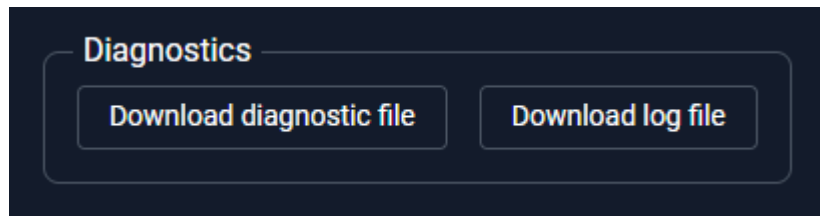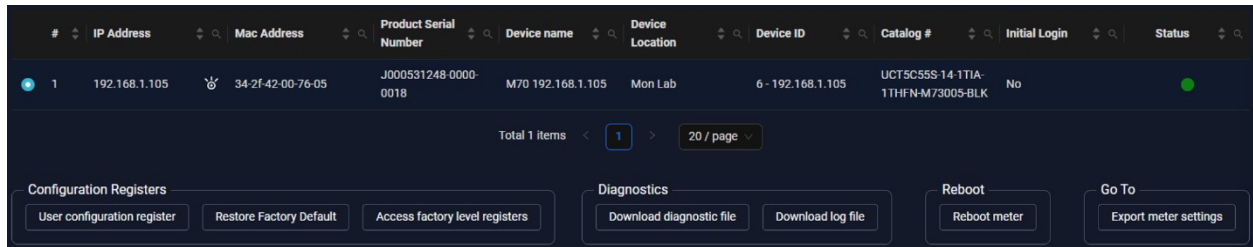
Example of log file
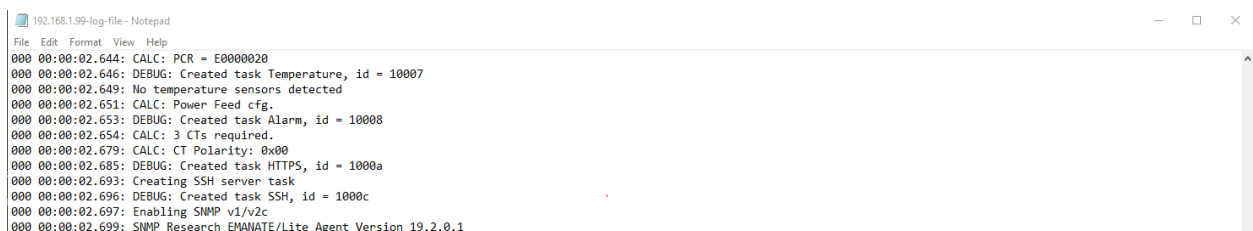
REBOOT METER

In case a meter needs to be rebooted, select the needed meter from the list of logged in meters and click 'Reboot Meter.' The popup with reboot progress bar will appear.
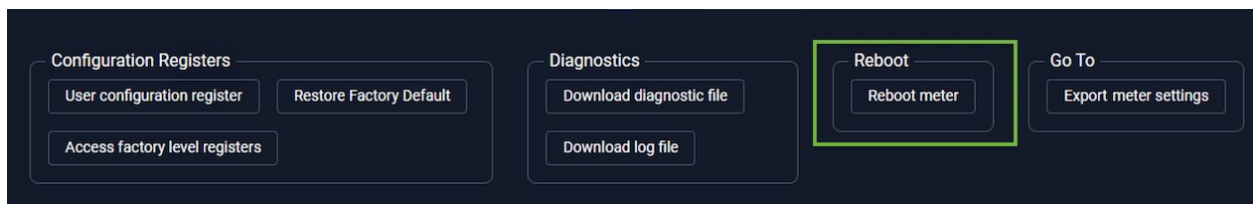
FACTORY LEVEL REGISTERS

Factory level registers can be accessed by Starline representatives. In the event that factory configurations need to be adjusted, contact your local Starline applications engineer or service technician for assistance.
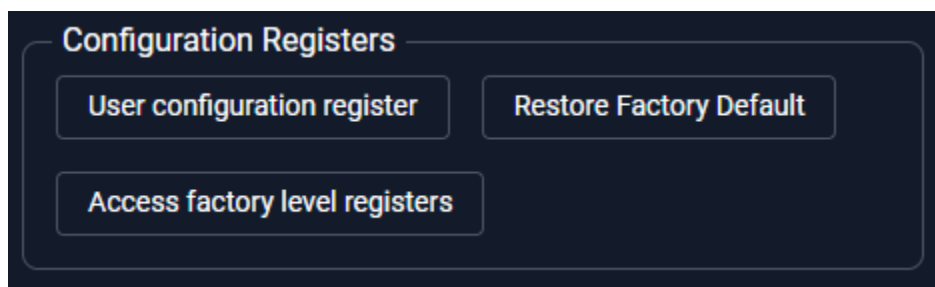
FIRMWARE MODE

Firmware mode allows users to review each meter's firmware and webpage version. More importantly, Firmware Mode allows the user to update firmware, webpages and upload certificates to the Critical Power Monitor.

Please see the Manage Versions Feature section for details on managing versions of firmware, web pages and certificates.

To initiate this feature, click the 'Firmware' button from the left menu (pictured below).

If the MDNS feature is enabled on the meter, the Configuration Tool will populate the Device Table with meters that are networked to the tool.

You will need to login to the meter(s) to move forward. See Meter Login Feature section for details on logging in to a meter. Once logged in to the selected meters, the corresponding list of meters will be displayed. Select desired meter(s) for upgrade and click 'Continue.'

FIRMWARE UPDATE

The Configuration Tool will give the option to select what type of file to upload. In the example on the following page, 'Firmware Upload' is selected. Select the file from the list for upload and select 'Continue'. The tool will show a final review list before updating; once reviewed, click 'Install' and the tool will move forward with updating the meters.

Notes:

▪ Please see the Manage Versions Feature section for details on managing versions of firmware, web pages and certificates.

▪ For firmware updates, each meter can take up to 4.5 minutes to update; the tool will run through each update sequentially.

SELECT TYPE AND FILE TO UPLOAD
Serial: J000531846-0000-0038 IP Address: 192.168.1.210

* Type of upload

(•) Firmware upload   ( ) Embedded Web Page upload   ( ) Certificate upload

* Update file

| 1.05.bin |

[BACK]   [CONTINUE]

INSTALL SELECTED UPDATES

IP Address	Product Serial Number	Firmware Version	Firmware Update	Web Page Version	Web Page Update	Update Status
192.168.1.210	J000531846-0000-0038	1.05-RT1064	1.05.bin	0.12-WEB		Ready to Update
192.168.1.211	J000531248-0000-0015	1.05-RT1064	1.05.bin	0.12-WEB		Ready to Update
192.168.1.212	J000531755-0000-0059	1.05-RT1064	1.05.bin	0.12-WEB		Ready to Update

[BACK]   [INSTALL]

Please note, while the upgrade is in progress, it is not possible to switch to another page.

INSTALLING UPDATES
METERS 1 OF 3 IS INSTALLING

IP Address	Product Serial Number	Firmware Version	Firmware Update	Web Page Version	Web Page Update	Update Status
192.168.1.210	J000531846-0000-0038	1.05-RT1064	1.05.bin	0.12-WEB		Installing
192.168.1.211	J000531248-0000-0015	1.05-RT1064	1.05.bin	0.12-WEB		Installing
192.168.1.212	J000531755-0000-0059	1.05-RT1064	1.05.bin	0.12-WEB		Installing

[CANCEL]   [PAUSE]

INSTALLING UPDATES
METERS 1 OF 3 IS INSTALLING
REBOOTING METER : 192.168.1.210

3%

IP Address	Product Serial Number	Firmware Version	Firmware Update	Web Page Version	Web Page Update	Update Status
192.168.1.210	J000531846-0000-0038	1.05-RT1064	1.05.bin	0.12-WEB		Installing
192.168.1.211	J000531248-0000-0015	1.05-RT1064	1.05.bin	0.12-WEB		Installing
192.168.1.212	J000531755-0000-0059	1.05-RT1064	1.05.bin	0.12-WEB		Installing

CANCEL   PAUSE

Once complete, click 'Done.'

INSTALLING FINISHED

IP Address	Product Serial Number	Firmware Version	Firmware Update	Web Page Version	Web Page Update	Update Status
192.168.1.210	J000531846-0000-0038	1.05-RT1064	1.05.bin	0.12-WEB		Done
192.168.1.211	J000531248-0000-0015	1.05-RT1064	1.05.bin	0.12-WEB		Done
192.168.1.212	J000531755-0000-0059	1.05-RT1064	1.05.bin	0.12-WEB		Done

DONE

The webpage upload will also happen sequentially and take around 30 seconds for each meter.

INSTALL SELECTED UPDATES

IP Address	Product Serial Number	Firmware Version	Firmware Update	Web Page Version	Web Page Update	Update Status
192.168.1.210	J000531846-0000-0038	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Ready to Update
192.168.1.211	J000531248-0000-0015	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Ready to Update
192.168.1.212	J000531755-0000-0059	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Ready to Update

BACK   INSTALL

INSTALLING UPDATES
METERS 1 OF 3 IS INSTALLING

IP Address	Product Serial Number	Firmware Version	Firmware Update	Web Page Version	Web Page Update	Update Status
192.168.1.210	J000531846-0000-0038	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Installing
192.168.1.211	J000531248-0000-0015	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Installing
192.168.1.212	J000531755-0000-0059	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Installing

CANCEL   PAUSE

Once all selected meters are updated, click 'Done.'

INSTALLING FINISHED

IP Address	Product Serial Number	Firmware Version	Firmware Update	Web Page Version	Web Page Update	Update Status
192.168.1.210	J000531846-0000-0038	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Done
192.168.1.211	J000531248-0000-0015	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Done
192.168.1.212	J000531755-0000-0059	1.05-RT1064		0.12-WEB	0.12-WEB.rfs	Done

DONE

Cancel and Pause

Please note, while the devices are undergoing upgrades, the whole page is locked; only 'Cancel' and 'Pause' buttons are active.

INSTALL UPDATES

INSTALLING UPDATES
METERS 1 OF 3 IS INSTALLING

IP Address	Product Serial Number	Firmware Version	Firmware Update	Web Page Version	Web Page Update	Update Status
192.168.1.105	J000531248-0000-0018	1.06-RT1064		0.12-WEB	0.13-WEB.rfs	Installing
192.168.1.106	J000531248-0000-0015	1.06-RT1064		0.12-WEB	0.13-WEB.rfs	Installing
192.168.1.104	J000531755-0000-0059	1.06-RT1064		0.13-WEB	0.13-WEB.rfs	Installing

CANCEL   PAUSE

'Cancel,' when clicked, will stop the upgrade of all devices that are in a queue waiting for an upgrade and will redirect you to the main menu. However, the device which is currently updating will complete the update in the background. This device may be inaccessible in other modes for some time.

The 'Pause' button will put updates of meters that are in a queue on hold. The meter which is updating will complete the update, but the next meter on the list will not start the update until 'Continue' is clicked.
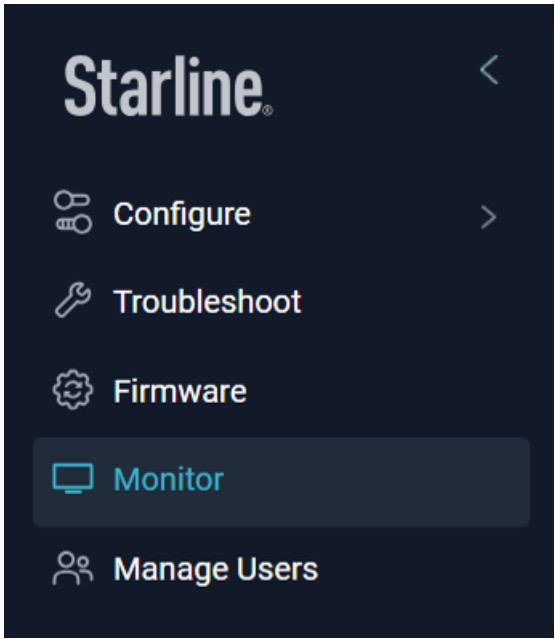

MONITOR MODE

Monitor Mode allows users to review real-time data from the Critical Power Monitor. Whether you are connected to an end feed meter or a plugin meter, it allows you to navigate between outlet points and infeed points. This mode is intended to review and validate data (current, voltage, power) from the CPM.

Note: The Starline Meter Configuration Tool connects to every meter on the network. The tool may experience longer read times as the number of meters is increased. The tool is intended for startup, setup, commissioning and maintenance purposes. The recommended limit is 254 devices. While the tool can configure more devices, this may cause a slowdown in performance.

To initiate this feature, click the 'Monitor' button from the left menu (pictured below).

If the MDNS feature is enabled on the meter, the Configuration Tool will populate the Device Table with meters that are networked to the tool.

	#	IP Address	Mac Address	Product serial number	Device Name	Device Location	Device ID	Catalog #	Initial Login	Status
☑	1	192.168.1.212	58-2f-42-00-76-26	J000531755-0000-0059	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢
☑	2	192.168.1.210	58-2f-42-00-76-24	J000531846-0000-0038	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢
☑	3	192.168.1.211	58-2f-42-00-76-25	J000531248-0000-0015	CPM AC	Location	AC CPM	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	🟢

You will need to login to the meter(s) to move forward. See Meter Login Feature section for details on logging in to a meter. Once logged in to the selected meters, the corresponding list of meters will be displayed.

The default view is voltage, which will display L-N and L-L voltages of the meter(s). It will refresh the value every 5 seconds and can be adjusted by clicking the pull-down menu below (in green).

Product Serial Number		L1-N	L2-N	L3-N	L1-L2	L2-L3	L3-L1	Frequency	Action
J000531248-0000-0018		118.00 V	118.00 V	118.00 V	118.00 V	118.00 V	118.00 V	60.30 HZ	View meter
J000531248-0000-0015		0.00 V	0.00 V	0.00 V	0.00 V	0.00 V	0.00 V	0.00 HZ	View meter
J000531755-0000-0059		0.00 V	0.00 V	0.00 V	0.00 V	0.00 V	0.00 V	0.00 HZ	View meter
J000531689-0000-0097		118.00 V	118.00 V	118.00 V	118.00 V	118.00 V	118.00 V	60.30 HZ	View meter

For end feeds, use the 'Feed' tab to view measurements.   Users can toggle between voltage, current, power and temperature by clicking on the corresponding tabs. Additionally, enabling the 'Show Min and Max' will show/hide the measurements minimum and maximum values recorded by the meter. Note only valid measurements will populate with values; any register that is invalid will populate with '9s'.

Example of Feed Current Readings:

Product Serial Number		L1	L2	L3	Calculated Neutral	Measured Neutral	Action
J000531248-0000-0018		0.00 A	0.00 A	0.00 A	9999.99 A	16.00 A	View meter
J000531248-0000-0015		0.00 A	0.00 A	0.00 A	0.00 A	0.00 A	View meter
J000531755-0000-0059		0.00 A	0.00 A	0.00 A	0.00 A	0.00 A	View meter
J000531689-0000-0097		18.00 A	18.00 A	18.00 A	0.00 A	9999.99 A	View meter

If an outlet monitor is connected to the Configuration Tool, then you can navigate to the Outlets tab to view outlet current, power and energy values as shown below.

Refresh in 4 sec | Refresh Every: 5 sec

Product Serial Number	Outlet ID	Current Demand	Current Demand Peak	Power Factor	Active Power	Apparent Power	Reactive Power	Metered Energy	L1 Current	L2	Action
J000531846-0000-0038		14.83 A	15.83 A	-0.798	407.00 W	509.80 VA	307.00 VAR	8492.145 KWH	16.00 A	999	View meter
	outlet 2	14.83 A	15.83 A	-0.798	407.00 W	509.80 VA	307.00 VAR	8492.145 KWH	9999.99 A	16.0	
	outlet 3	14.83 A	15.83 A	-0.798	407.00 W	509.80 VA	307.00 VAR	8492.145 KWH	9999.99 A	999	
	outlet 4	14.83 A	15.83 A	-0.798	407.00 W	509.80 VA	306.00 VAR	8486.634 KWH	16.00 A	999	
	outlet 5	14.83 A	15.83 A	-0.798	407.00 W	509.80 VA	306.00 VAR	8486.634 KWH	9999.99 A	16.0	
	outlet 6	14.83 A	15.83 A	-0.798	407.00 W	509.80 VA	306.00 VAR	8486.634 KWH	9999.99 A	999	
J000531248-0000-0015		9999.99 A	9999.99 A	9.999	999999.99 W	999999.99 VA	999999.99 VAR	9999999.999 KWH	9999.99 A	999	View meter
	outlet 2	9999.99 A	9999.99 A	9.999	999999.99 W	999999.99 VA	999999.99 VAR	9999999.999 KWH	9999.99 A	999	
	outlet 3	9999.99 A	9999.99 A	9.999	999999.99 W	999999.99	999999.99	9999999.999	9999.99 A	999	

In Monitor Mode, a user can select an individual meter to view its measurements by selecting 'View Meter' for the desired device.   An end feed meter's voltage measurements are shown below.

View 192.168.1.212 J000531755-0000-0059 meter data | Close

Feed | Outlets

Voltage | Current | Power | Temperature

Refresh in 1 sec | Refresh Every: 5 sec

	Value	Min	Max
L1-N	123.00 V	0.00 V	125.00 V
L2-N	123.00 V	0.00 V	125.00 V
L3-N	123.00 V	0.00 V	125.00 V
L1-L2	123.00 V	0.00 V	125.00 V
L2-L3	123.00 V	0.00 V	125.00 V
L3-L1	123.00 V	0.00 V	125.00 V
Frequency	60.80 HZ	0.00 HZ	61.00 HZ

Note: if a measurement is not valid for a specific meter, '9s' will be populated for that value. For example, a meter without the temperature monitoring will appear as below.

MONITOR

Feed | Outlets

Refresh in 5 sec   Refresh Every: 5 sec ⌄ ‖

Product Serial Number	Outlet ID	Current Demand	Current Demand Peak	Power Factor	Active Power	Apparent Power	Reactive Power	Metered Energy	L1 Current	L2	Action
J000531755-0000-0059		9999.99 A	9999.99 A	9.999	999999.99 W	999999.99 VA	999999.99 VAR	9999999.999 KWH	9999.99 A	999	View meter
	outlet 2	9999.99 A	9999.99 A	9.999	999999.99 W	999999.99 VA	999999.99 VAR	9999999.999 KWH	9999.99 A	999	
	outlet 3	9999.99 A	9999.99 A	9.999	999999.99 W	999999.99 VA	999999.99 VAR	9999999.999 KWH	9999.99 A	999	
	outlet 4	9999.99 A	9999.99 A	9.999	999999.99 W	999999.99 VA	999999.99 VAR	9999999.999 KWH	9999.99 A	999	
	outlet 5	9999.99 A	9999.99 A	9.999	999999.99 W	999999.99 VA	999999.99 VAR	9999999.999 KWH	9999.99 A	999	
	outlet 6	9999.99 A	9999.99 A	9.999	999999.99 W	999999.99 VA	999999.99 VAR	9999999.999 KWH	9999.99 A	999	
J000531846-0000-0038		14.57 A	15.83 A	-0.799	406.00 W	508.40 VA	306.00 VAR	8492.254 KWH	16.00 A	999	View meter
	outlet 2	14.57 A	15.83 A	-0.799	406.00 W	508.40 VA	306.00 VAR	8492.254 KWH	9999.99 A	16.0	

In case a specific meter needs to be found, the Search option can be used.

In the Search field start typing a value. Records on the page will be filtered out in case matches are found.

MONITOR

0018 ⊗ 🔍

Feed | Outlets

Voltage | Current | Power | Temperature

Refresh in 3 sec   Refresh Every: 5 sec ⌄ ‖

Product Serial Number		Enclosure Temp	Node 1 Temp	Node 2 Temp	Node 3 Temp	Node 4 Temp	Action
J000531248-0000-0018	🌡	29.06 °C	34.61 °C	28.28 °C	33.35 °C	24.85 °C	View meter

DISCOVER AND METER LOGIN FEATURE

If the MDNS feature is enabled on the meter, the Configuration Tool will populate the Device Table with meters that are networked to it. It will show each connected meter and the parameters displayed in the image below. Alternatively, you can select 'Manual Discovery' to search for a device manually.

Additionally, the Configuration Tool will allow you to login and communicate with the meters. Simply select the meters you want to login to and click the 'Log In to Meters' button.

On the first interaction with a meter in Configuration Tool, you will be asked to fill in the credentials as shown below.

If 'Sign me in automatically next time' is checked, the next login will happen automatically.

On successful sign-in, the tool will send a notification that an SSH connection has opened.
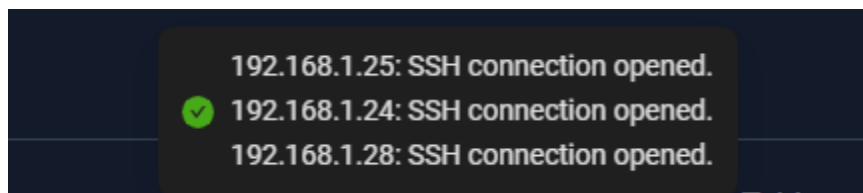
In case Auto Sign-in is not needed, go to Settings and uncheck 'Auto Sign-in.'
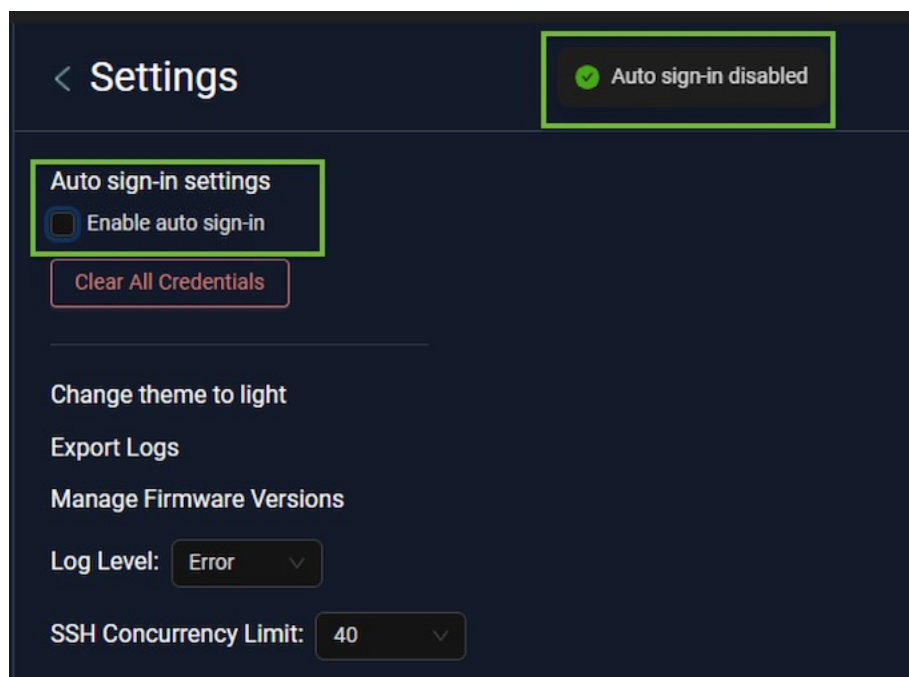
When unchecked, the Login screen will still have credentials prefilled, but the 'Sign In' button would need to be clicked.
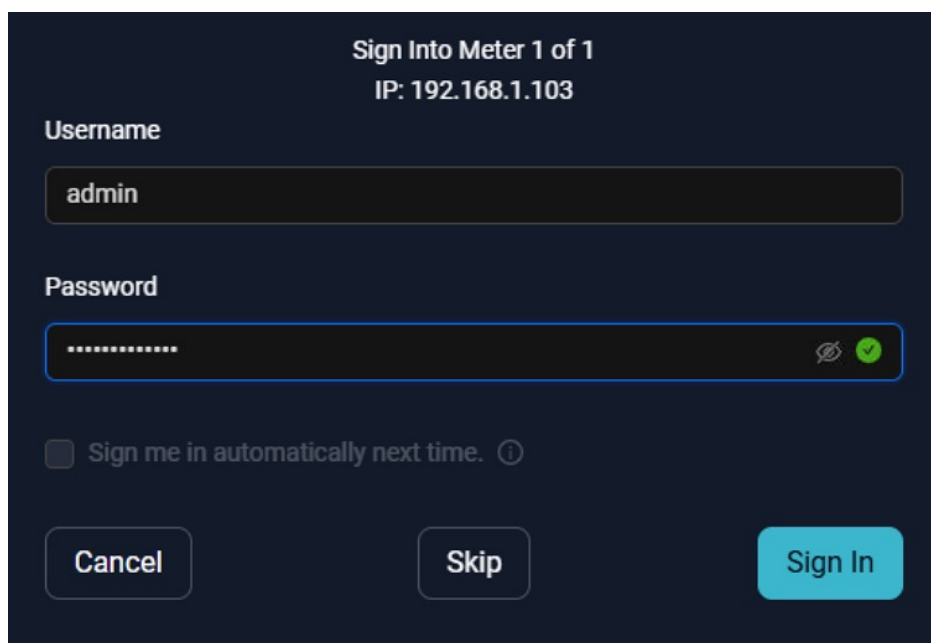
To clear credentials for all meters, you can go to 'Settings' and select 'Clear All Credentials.'
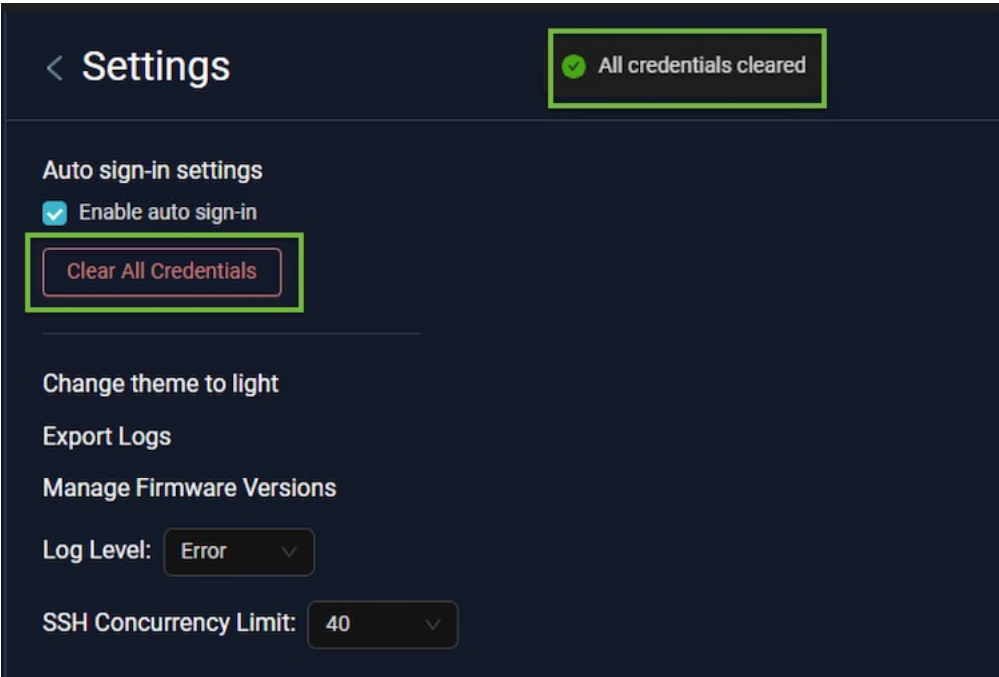
INITIAL LOGIN

When logging in to an unconfigured meter, which has Initial Login set to 'Yes' in Device Table, you will be prompted to change the default credentials.

	#	IP Address	Mac Address	Product Serial Number	Device Name	Device Location	Device ID	Catalog #	Initial Login	Status
☐	5	192.168.1.103	34-2f-42-00-76-03	J000531689-0000-0097	M70 192.168.1.103	Mon Lab	6 - 192.168.1.103	UCT5C55S-14-1TIA-1THFN-M73005-BLK	Yes	●
☐	1	192.168.1.105	34-2f-42-00-76-05	J000531248-0000-0018	M70 192.168.1.105	Mon Lab	6 - 192.168.1.105	UCT5C55S-14-1TIA-1THFN-M73005-BLK	No	●

Device Table

Follow the Password and Username creation rules and click 'Apply and Sign In.'

Unconfigured Meters 1 of 1
Requires Updated Password
IP: 192.168.1.103

Username

Enter your username

New Password

Enter your password

Re-enter Password

Confirm your password

○ Username must be 4 - 16 characters long.
○ Username may contain uppercase letters, lowercase letters, digits or symbols.
○ Username is case sensitive.
○ Password must be 8 - 16 characters long.
○ Password must contain at least one eaqch of: uppercase letter, lowercase letter, digit, and symbol.

☑ Sign me in automatically next time. ⓘ

Cancel   Apply and Sign In

To set the credentials on the device, a meter will automatically perform a reboot. There will be a reboot progress bar in the background and the meter will become inactive while rebooting.
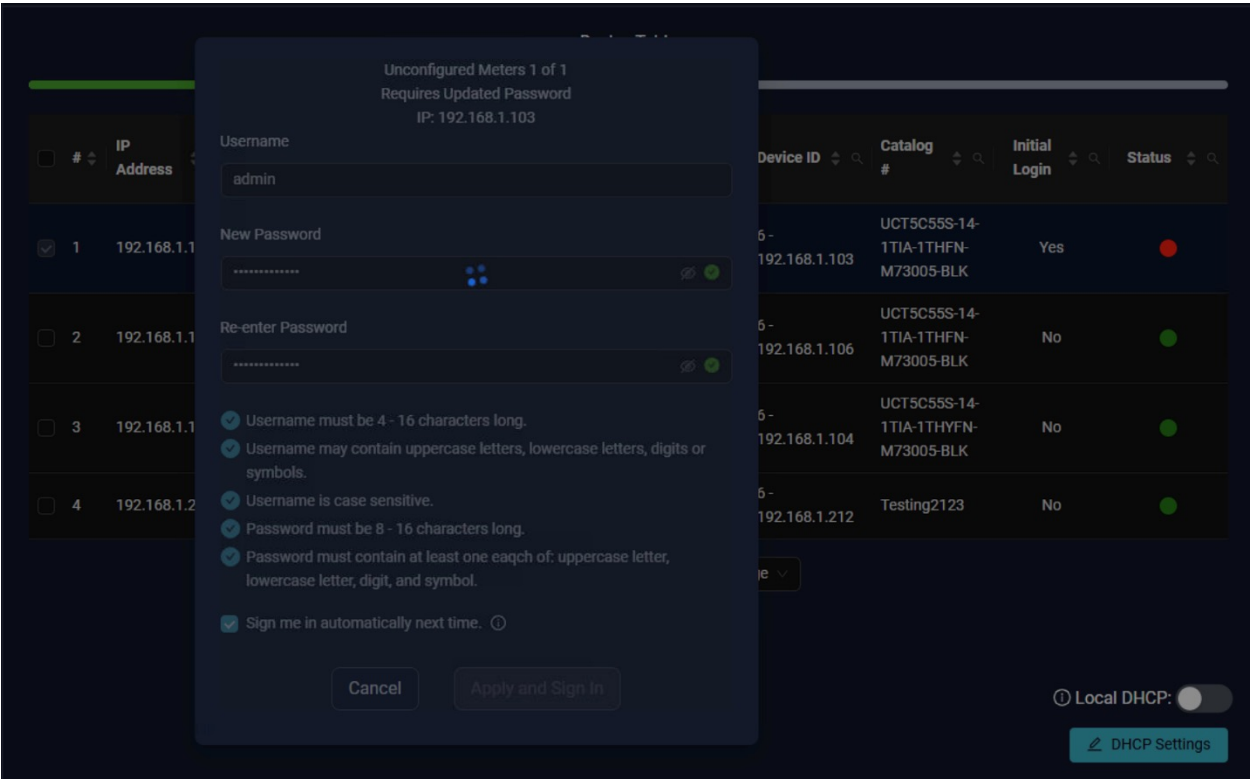
When the reboot is completed, there will be confirmation that credentials were reset.
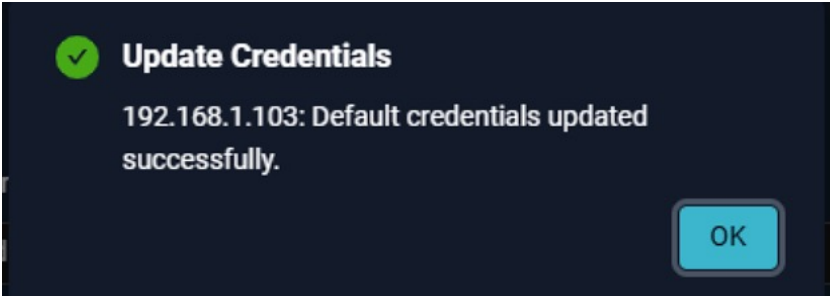
When OK is clicked, you will be logged into the meter in the selected mode. The new credentials will be prefilled on the Sign In screen.

In case the selection contains multiple meters with Initial Login set to 'Yes,' the Credentials Update screen would have an 'Approve and Apply to all unconfigured meters' checkbox. When checked, the same set of credentials would be applied to all unconfigured meters. If unchecked, you will need to setup credentials separately for each meter.

Please note, the reboot after credentials reset for multiple meters happens sequentially.

LOCAL DHCP SERVER

To set up the Local DHCP Server, follow these steps:

1. Assign a Static IP to the Ethernet card.

For that to be done:

      a. follow the path (for Windows OS) Control Panel\Network and Internet\Network and Sharing Center and select 'Change Adapter Settings'
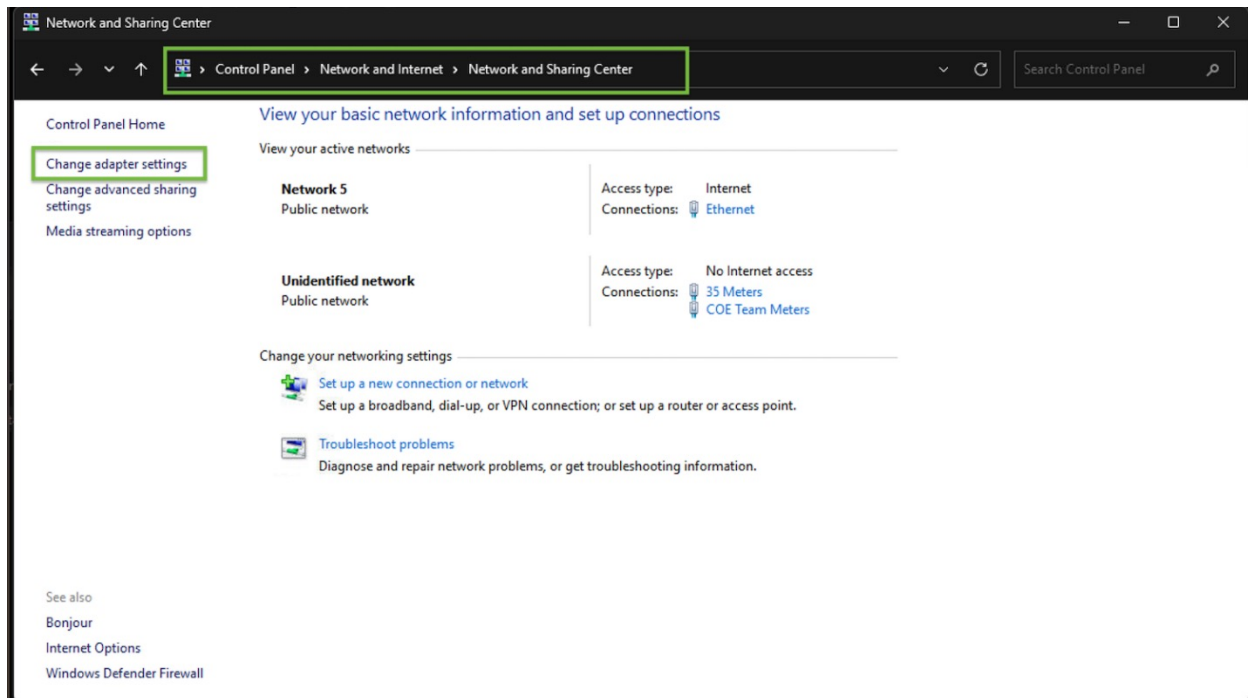
      b. In Network Connections select a network that meters would be attached to.

c. Right Click on the Network and go to Properties. From there, select Internet Protocol Version 4 (TCP/IPv4) and click 'Properties.'
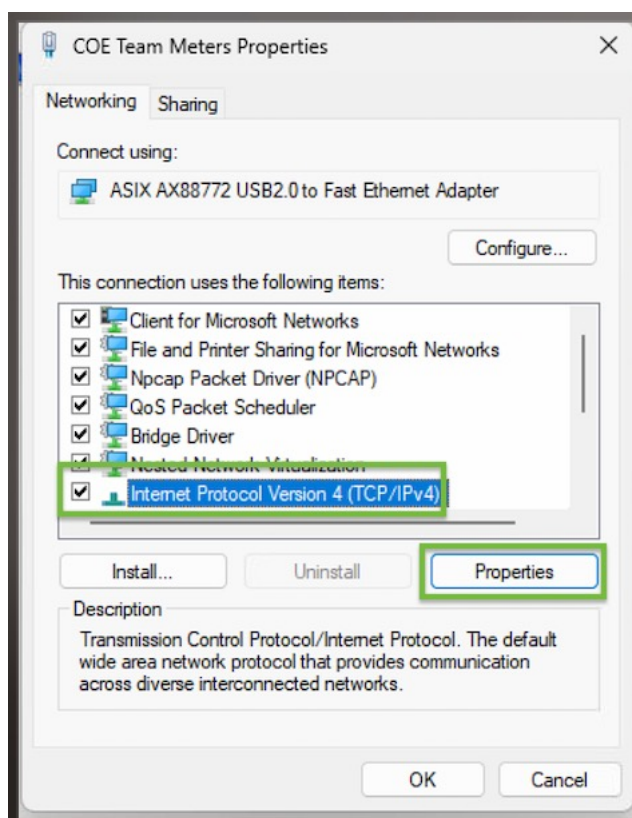
d. In Internet Protocol Version 4 (TCP/IPv4) Properties popup set up a Static IP Address and a Subnet mask.
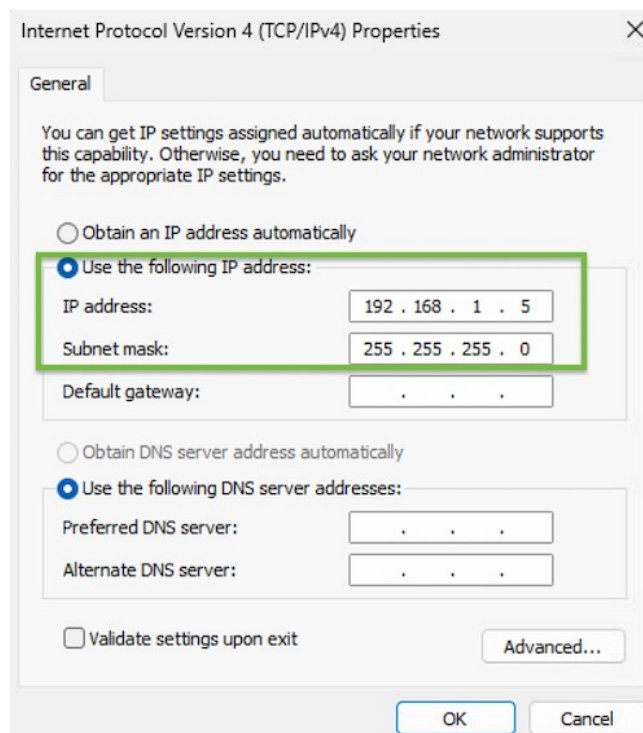
2. Make sure DHCP is not enabled on the network by right clicking on the Network > Status > Details. DHCP Enabled should be 'No.'
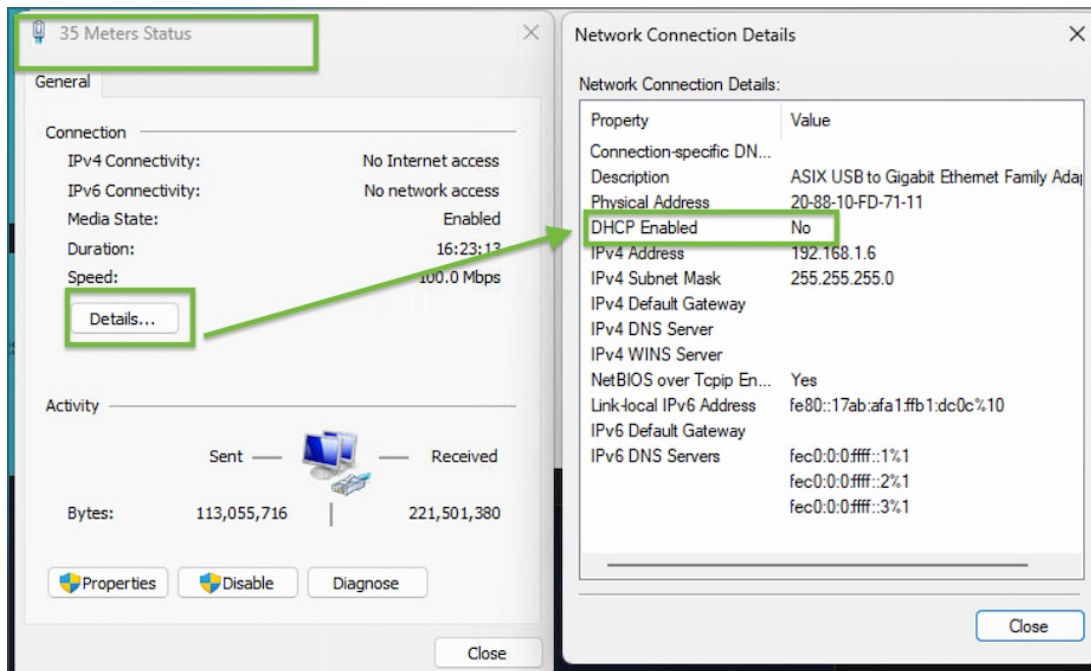
3. Connect the meters to the PC. Please note, it is important to set up a network prior to connecting meters.

4. In the Configuration Tool go to any page that would list meters, e.g. Monitor and click 'DHCP Settings' at the lower right-hand bottom. Please note, when updating the settings, it is better to keep DHCP Server off.
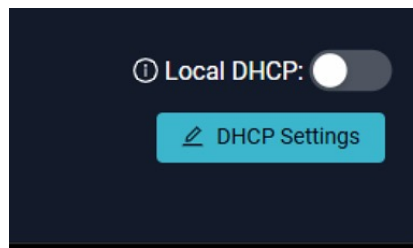
a. In DHCP Settings input a range of IP addresses that would be assigned to the meters. Please make sure that this range is not used anywhere else on the network to avoid conflicts.

b. In the Server field put a Static IP address of the Network set (from 1.d) in Internet Protocol Version 4 Properties.

c. In the Netmask field put the Subnet mask value set (from 1.d) in Internet Protocol Version 4 Properties.

d. Update the Lease Time if needed.

e. Save the Settings.

5. Enable the DCHP Server by turning on the toggle. Upon successful completion of an action, the tool may take few seconds to start the server. There will be a success message on the top of the page, as below.
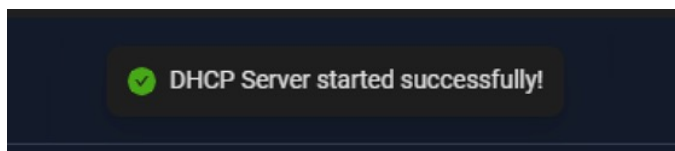
Wait a few seconds, and after the server assigns IP addresses, the meters will show up in the Device Table.

Notes:

- The Local DHCP is active only when the Configuration Tool is opened; once the application is closed, the DHCP Server stops working and meters will lose Dynamic IPs when the lease time expires. On the next launch of the application, the Local DHCP needs to be started again.

- For Linux, the Configuration Tool needs to be run from the Administrator in order to be able to launch the DHCP Server.

- Local DHCP is intended to be the only DHCP server connected to the network. Having two DHCP servers on the network can lead to IP assignment problems and network instability.
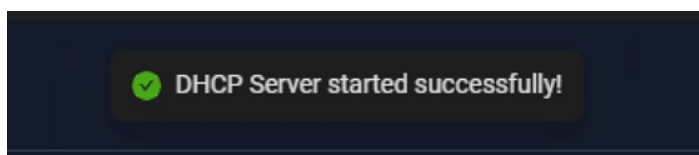
MANAGE VERSIONS FEATURE

In Firmware Mode, you can add and remove firmware versions by selecting 'Manage Versions.'
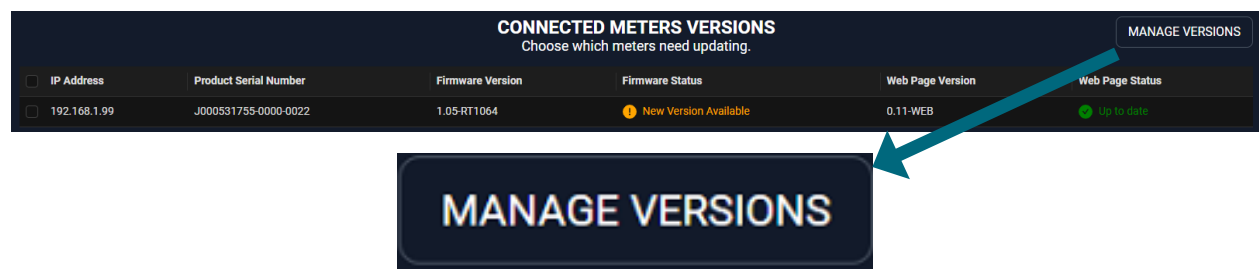
FIRMWARE VERSION

If a Firmware Version needs to be added, click 'Add Firmware Version.' Find firmware on the computer and select.
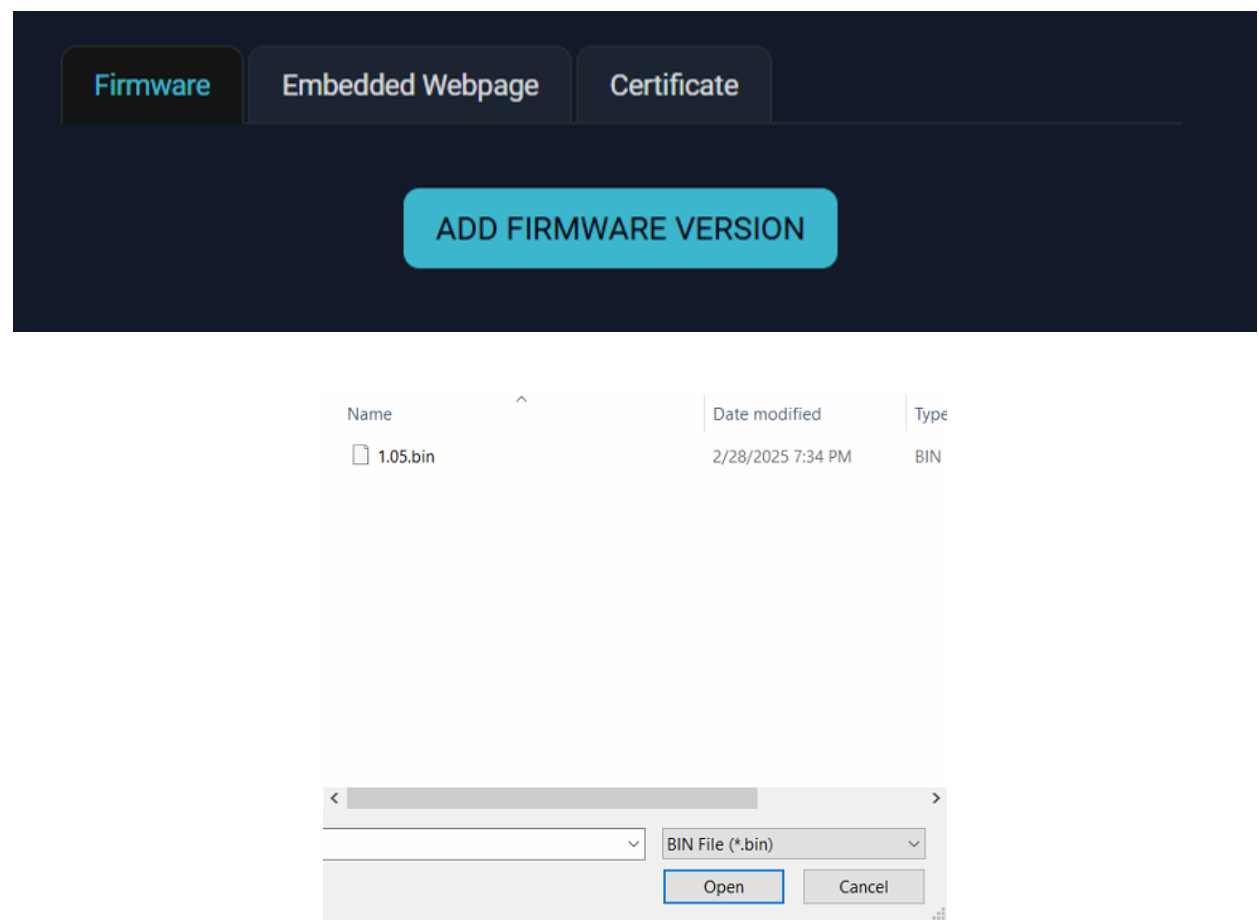
Selected firmware now is displayed on the list. The red arrow below indicates where you can delete firmware from the list, if desired.
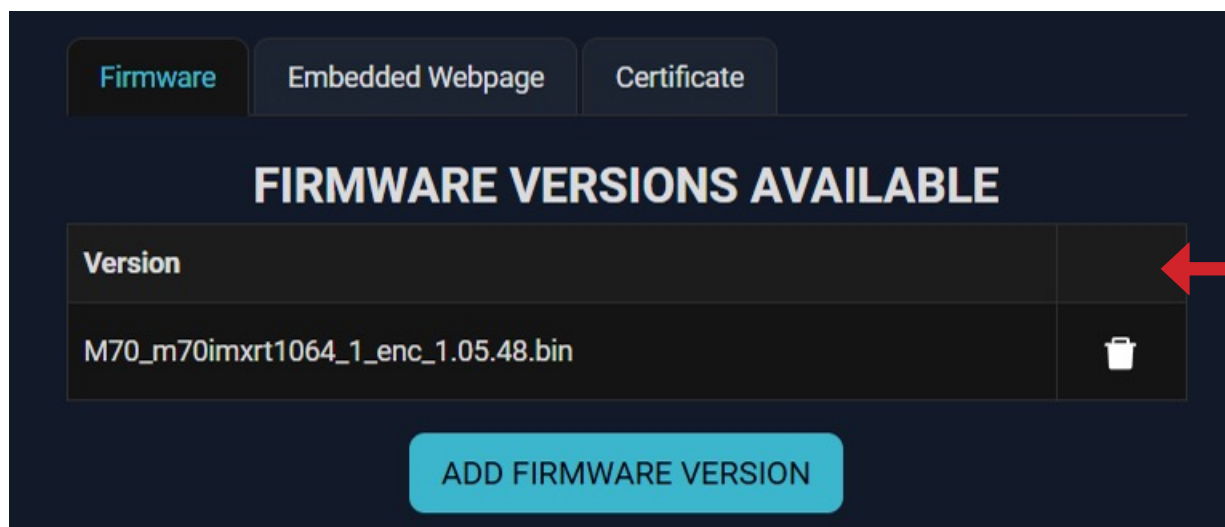
Select back arrow to continue to program firmware.

EMBEDDED WEBPAGE

If an embedded webpage needs to be added, click 'Add Webpage Version.' Find the web page on the computer and select.
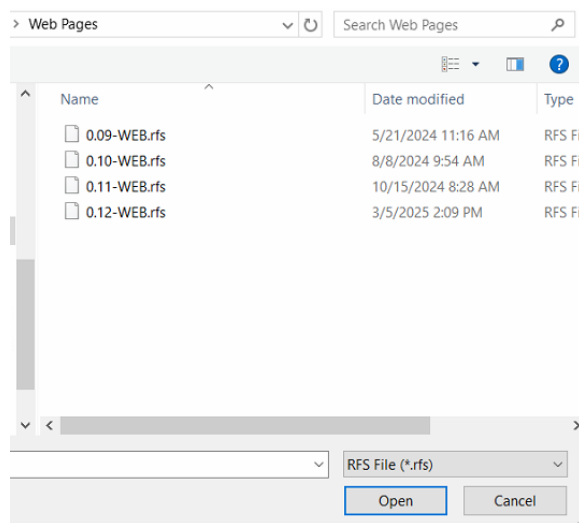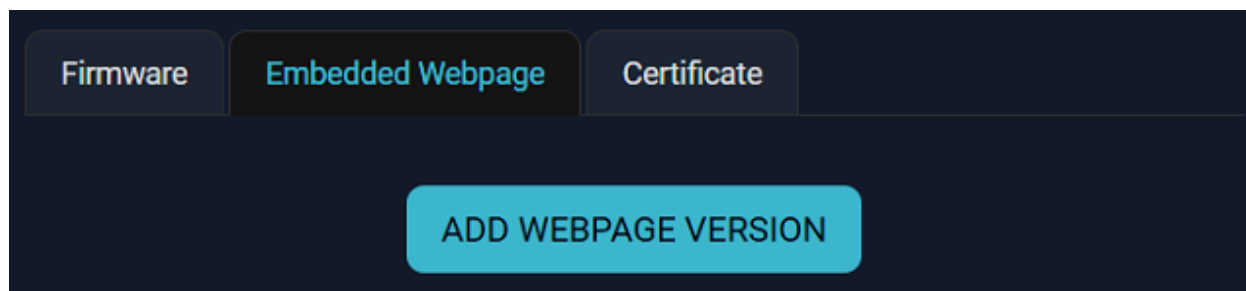
The selected web page version is now displayed on the list. The red arrow below indicates where you can delete web page from the list, if desired.
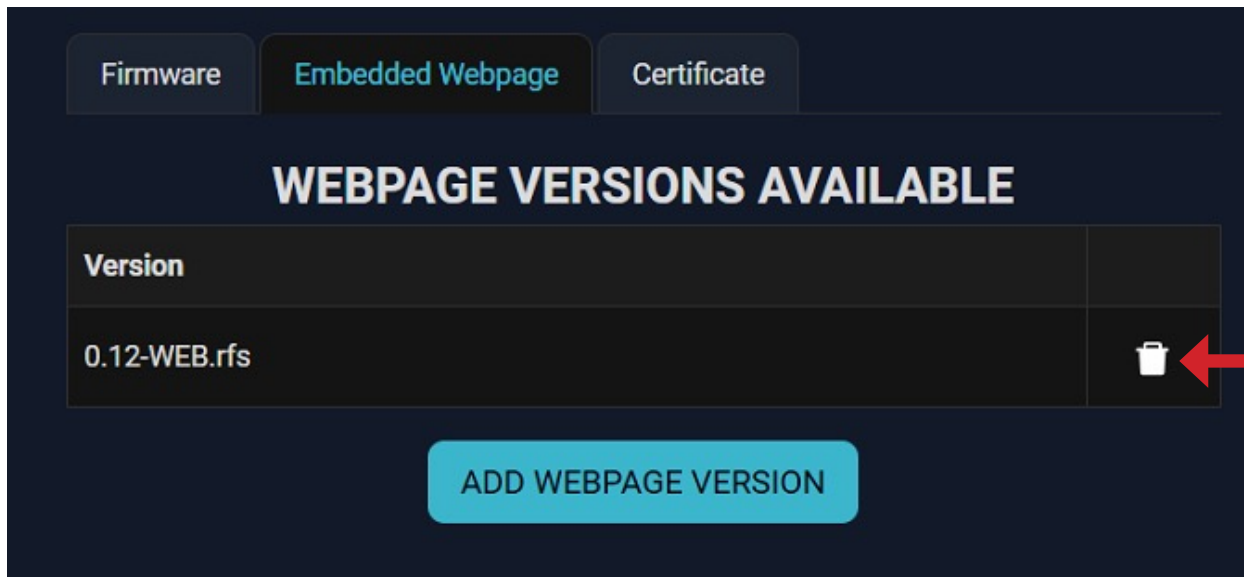
If a certificate needs to be added, click 'Add Certificate.' Find the certificate on the computer and select.
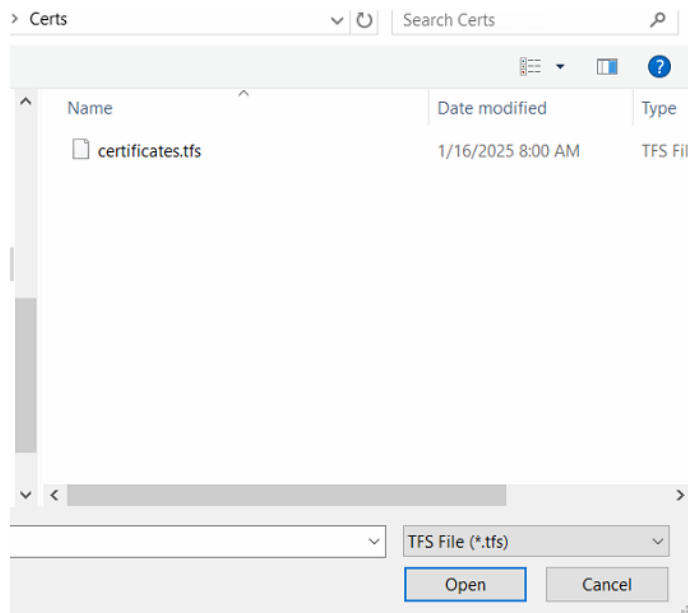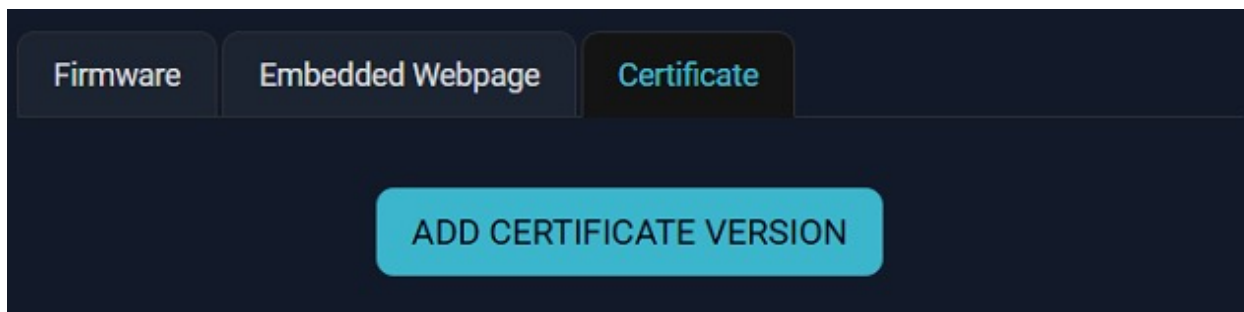
The selected certificate is now displayed. The red arrow below indicates where you can delete the certificate from the list, if desired.
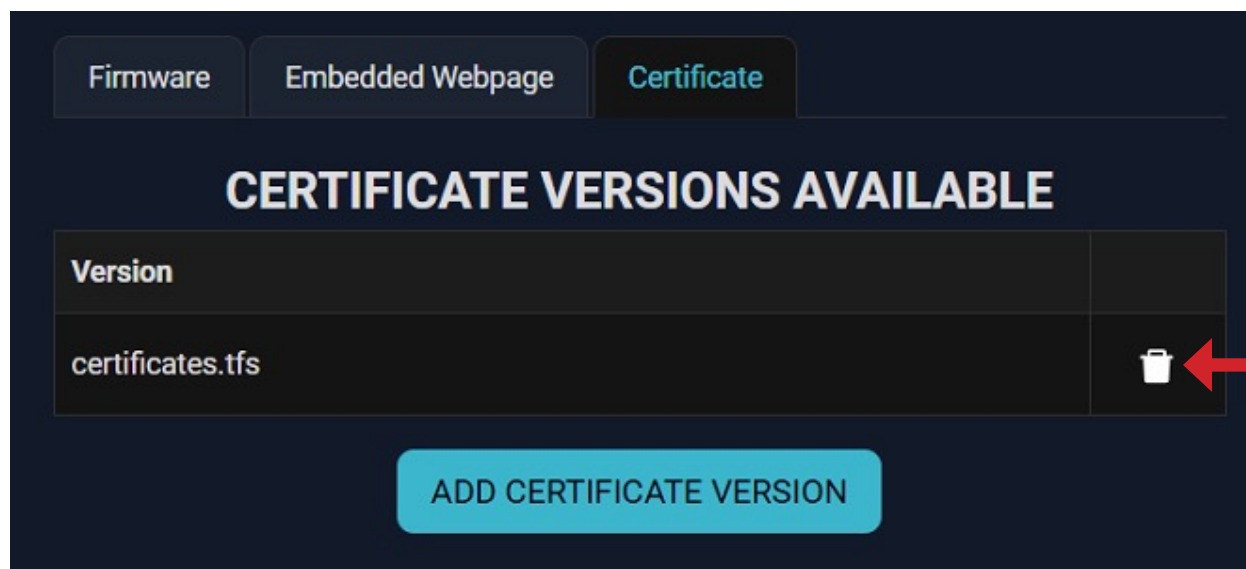
Select the back arrow to continue with meter updates.
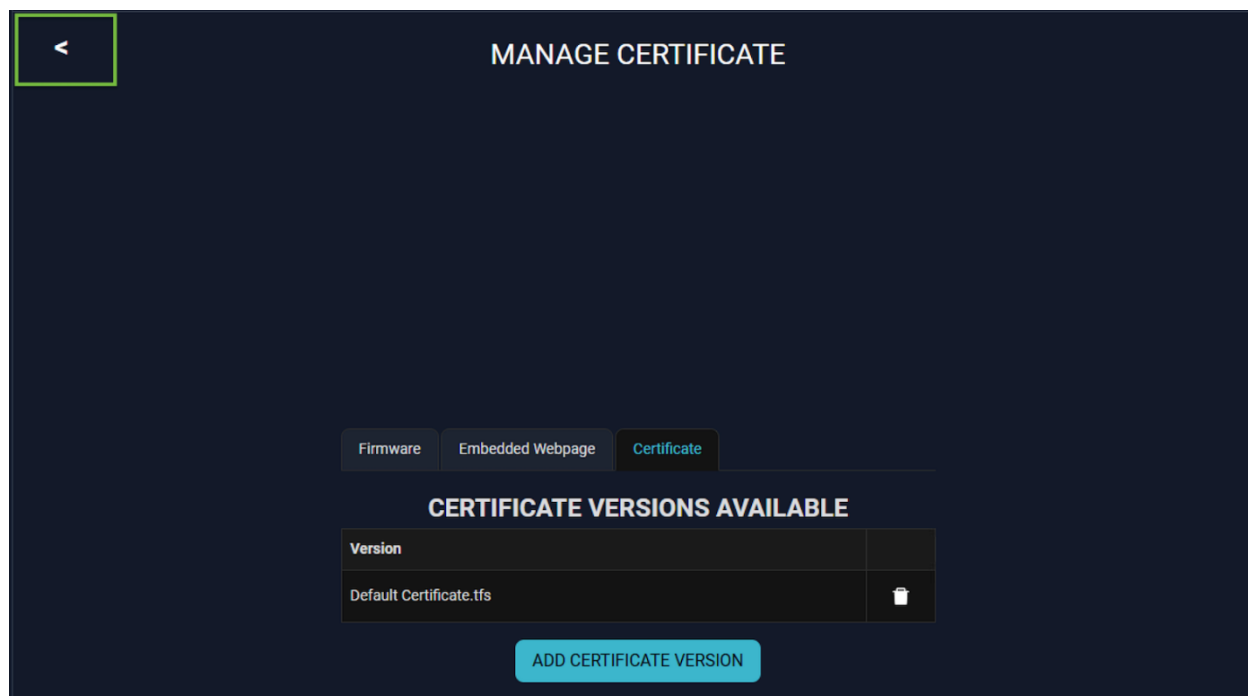
Apart from Firmware Mode, the Versions can be also managed in Settings > Manage Firmware Versions.

The flows there would be exactly the same as described above in the Firmware section.
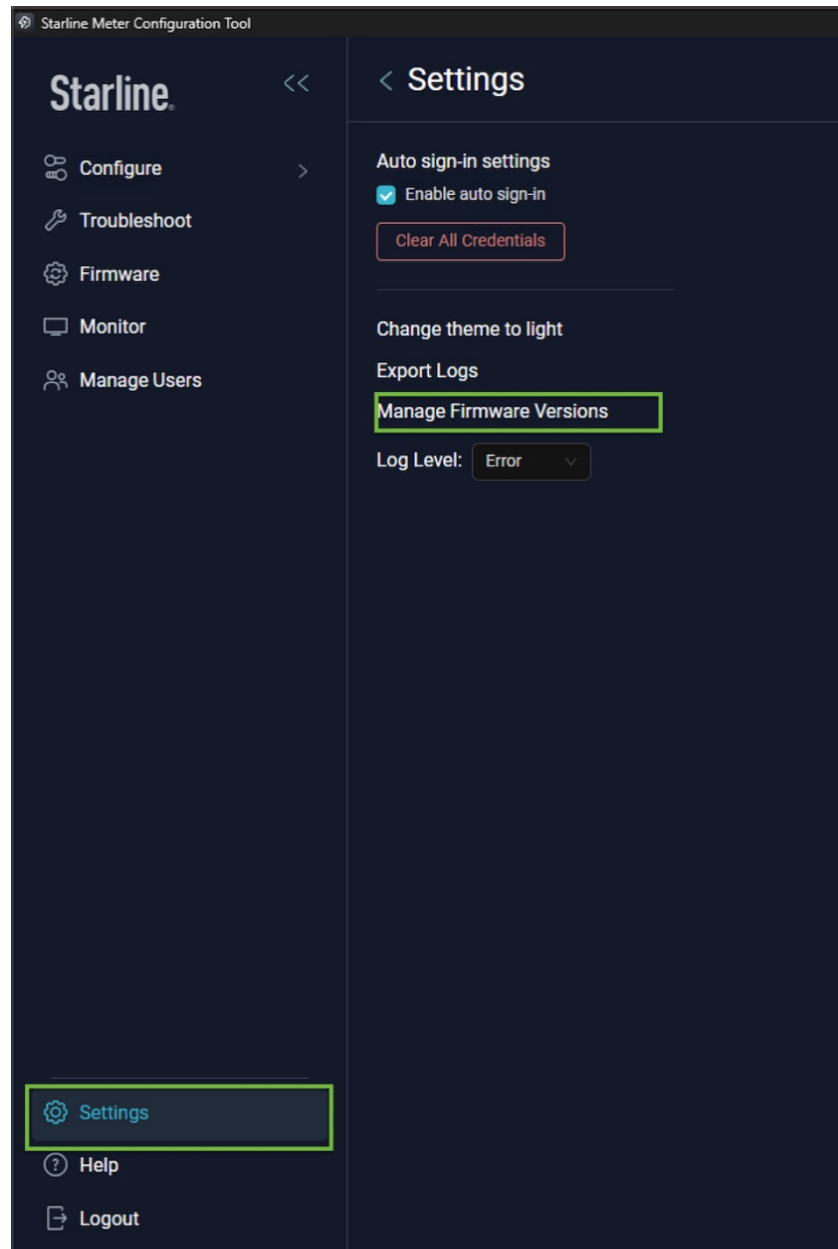
TROUBLESHOOT GUIDE

- If the local DHCP server feature is not working, check to see if VPN is enabled, and if so, try disabling to use the local DHCP server.

QUICK START GUIDE

Reserved for future use.

APPENDIX
INSTALLING M70 CONFIGURATION TOOL

The first step is to download and open the installer. (Note Windows Installer Package shown)
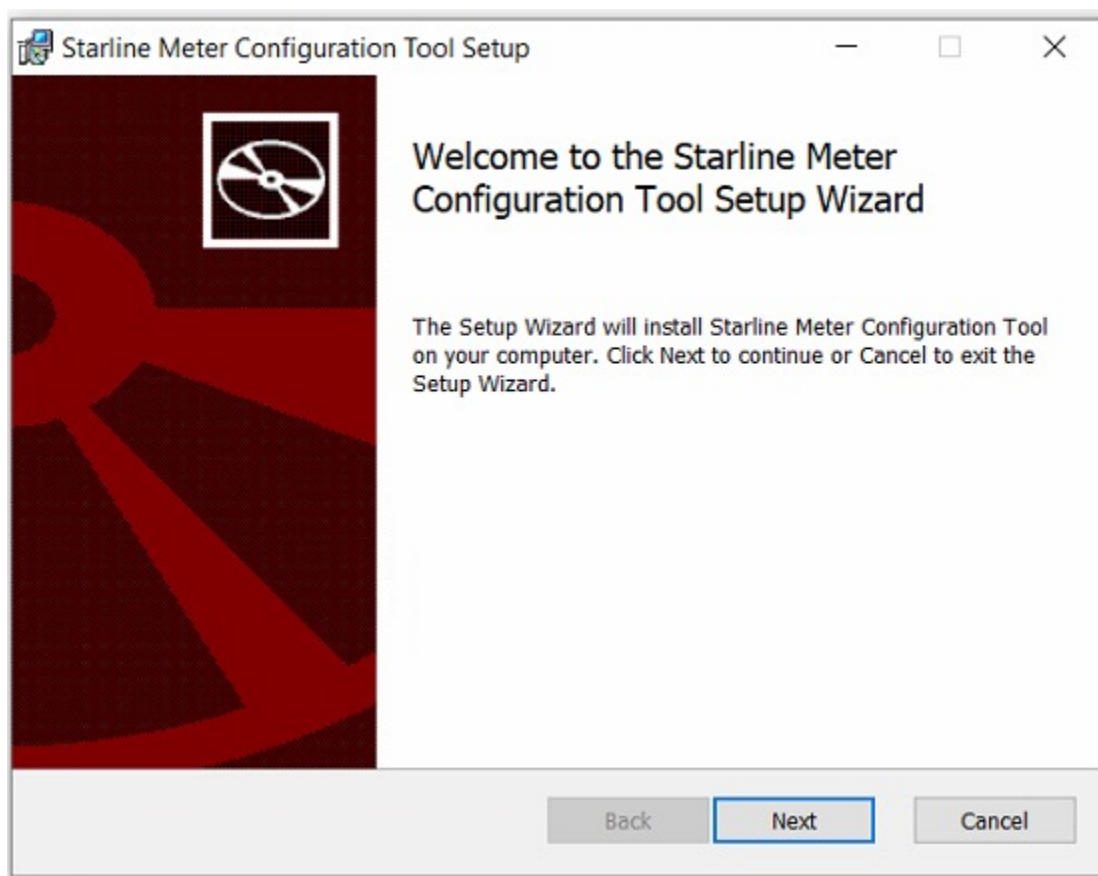
Click 'Next.'
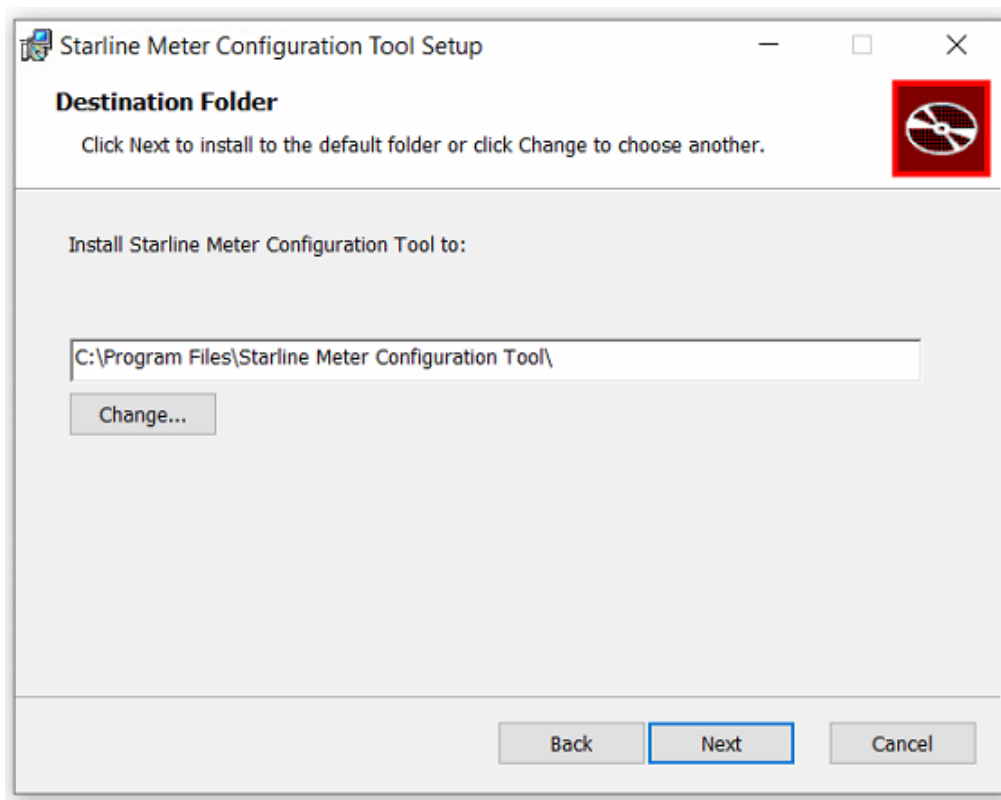
Select the file path for the Starline Meter Configuration Tool.
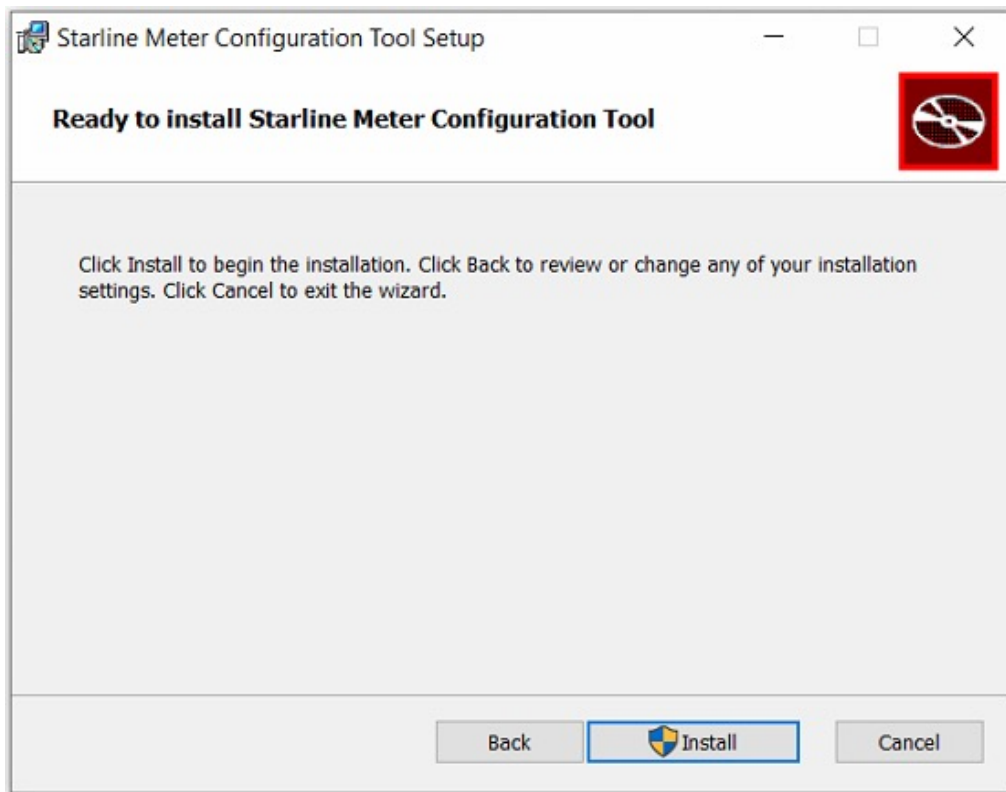
Once the path is selected, click 'Install' to initiate the installation process.
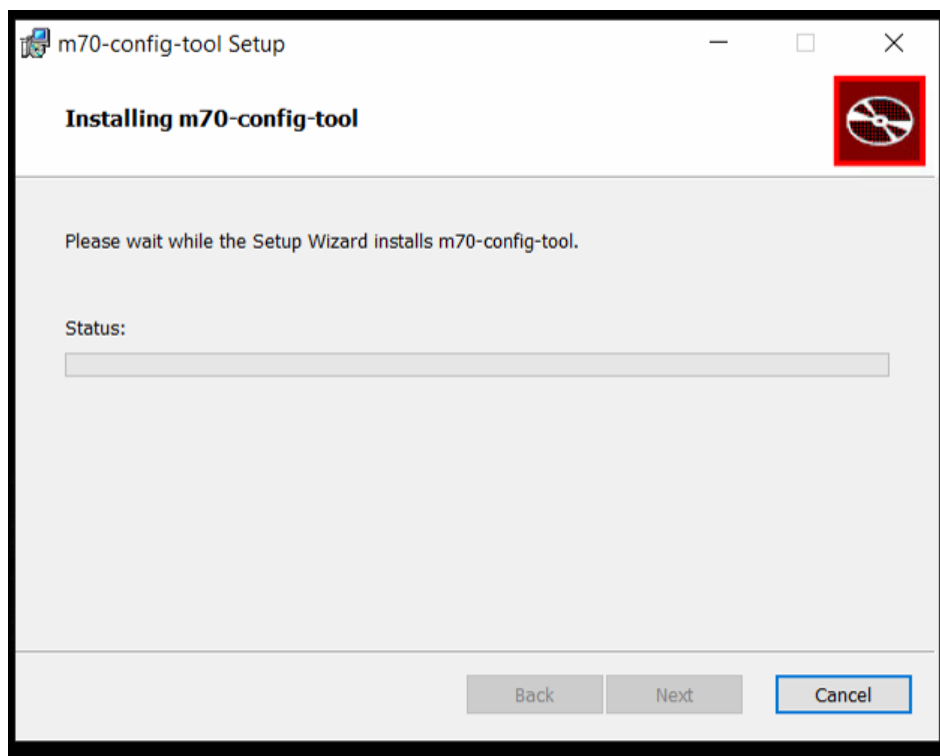
Installation in progress
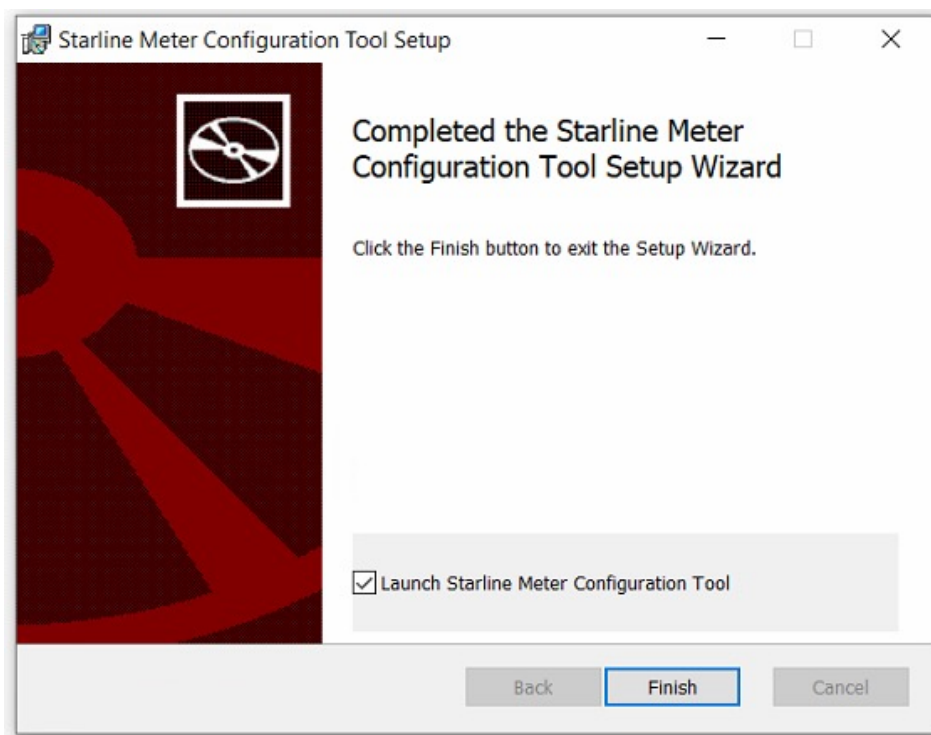
Click 'Finish' to complete installation and start the Configuration Tool.

PERL INSTALLATION

If ActivePerl is not installed on the computer, the M70 Configuration Tool will automatically begin an installer of ActivePerl after this point.
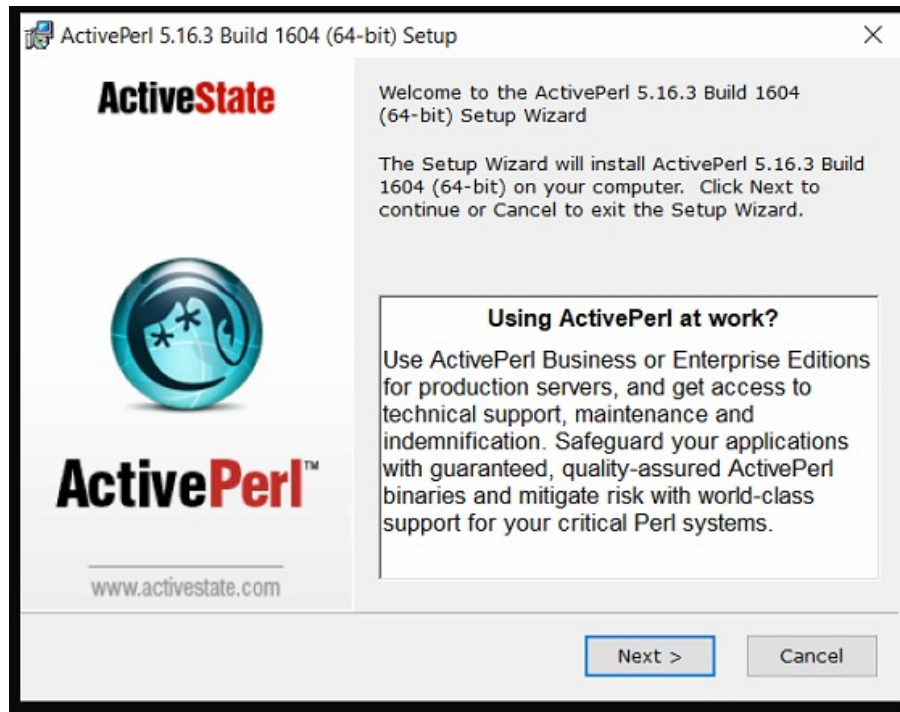
Select 'Next' to continue.
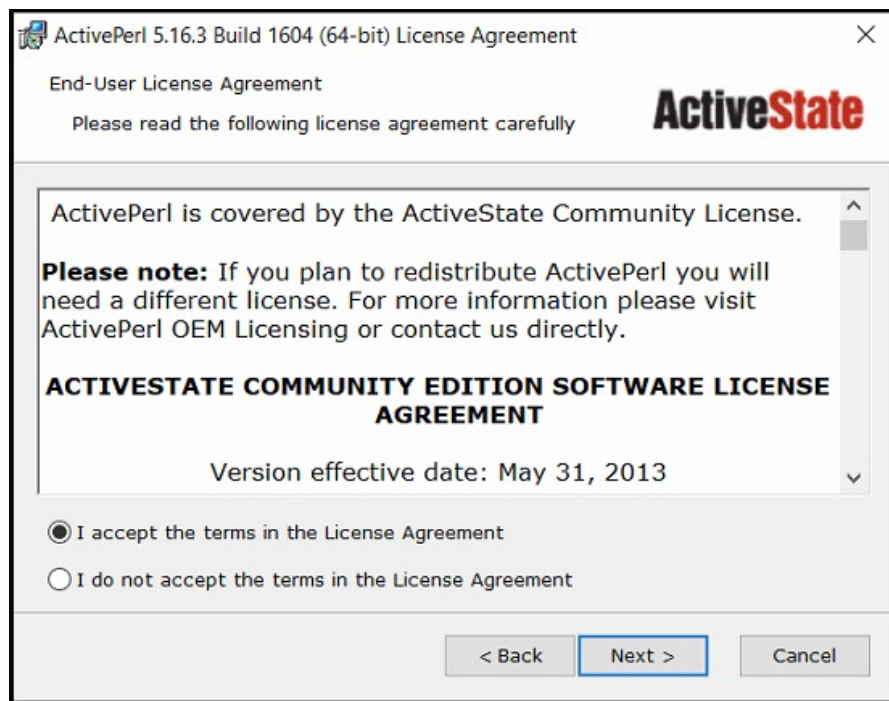
Read and Accept the Terms of the License Agreement.
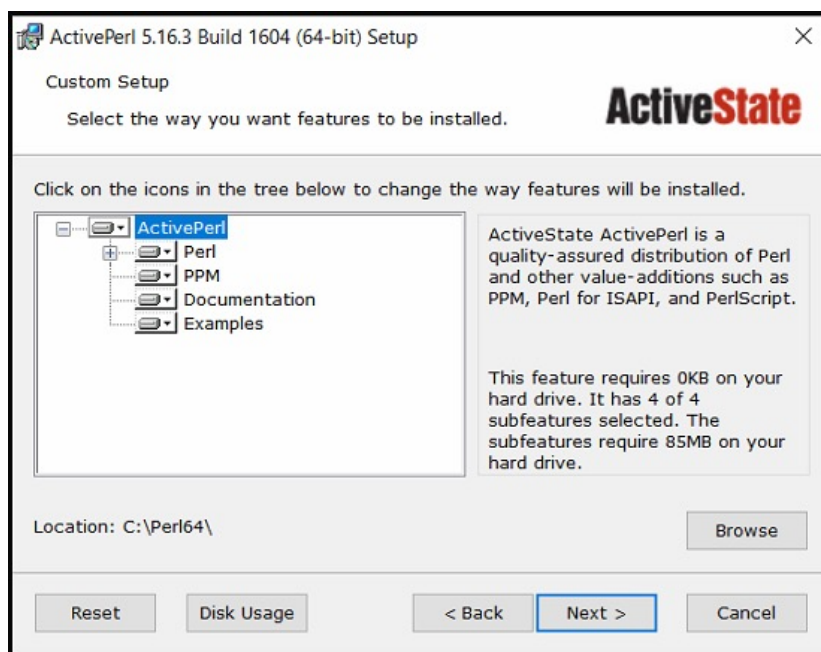
Select 'Browse' to install ActivePerl somewhere other than C:\Perl64. Select 'Next' to continue installation.
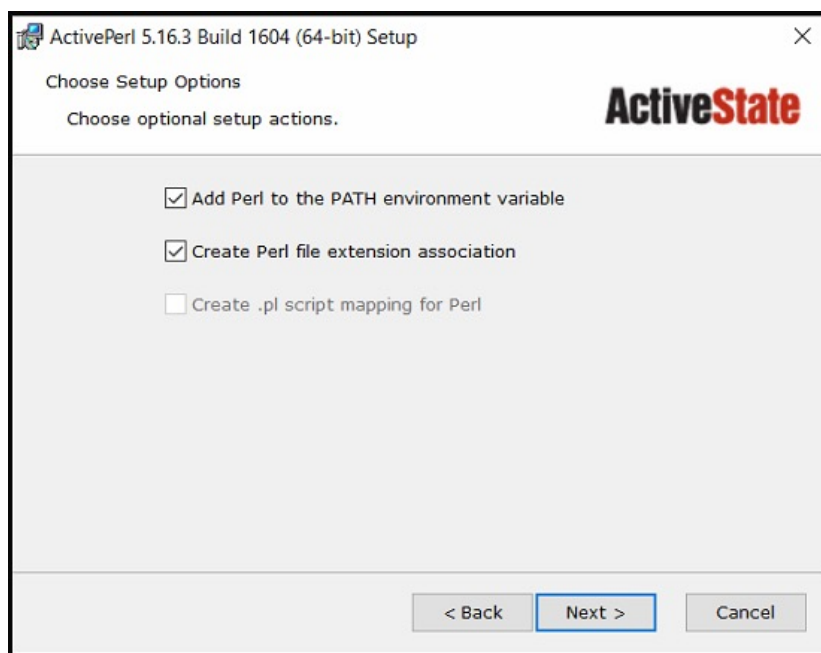
Select' Next' to continue installation.

ActivePerl 5.16.3 Build 1604 (64-bit) Setup ✕

Ready to Install

The Setup Wizard is ready to begin the Custom installation **Active**State

Click Install to begin the installation. If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

< Back | Install | Cancel

ActivePerl 5.16.3 Build 1604 (64-bit) Setup ✕

Installing ActivePerl 5.16.3 Build 1604 (64-bit) **Active**State

Please wait while the Setup Wizard installs ActivePerl 5.16.3 Build 1604 (64-bit). This may take several minutes.

Status: Copying new files

< Back | Next > | Cancel

Select 'Finish' to complete.
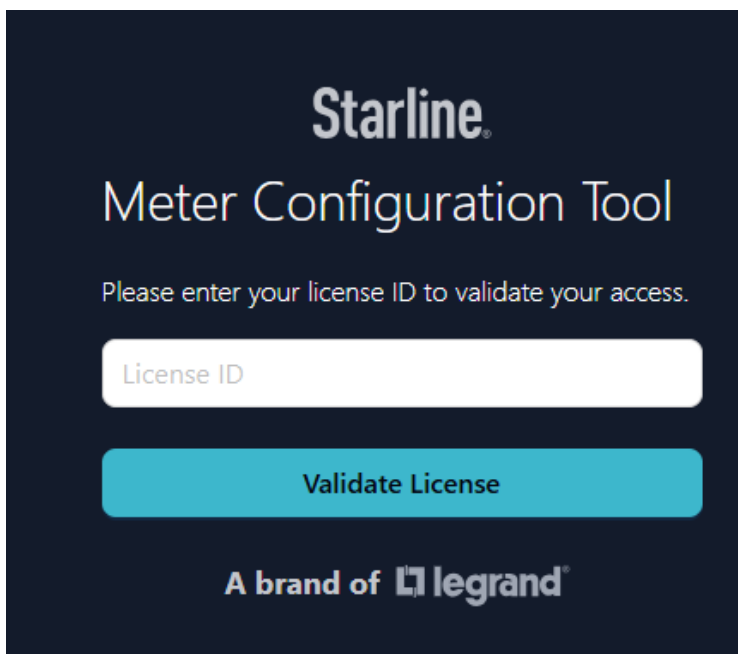
END USER LICENSE AGREEMENT

When opening the application for the first time, there will be an End User License Agreement screen. Please read the Agreement through and click 'Accept.' Once accepted, you will be able to proceed further.
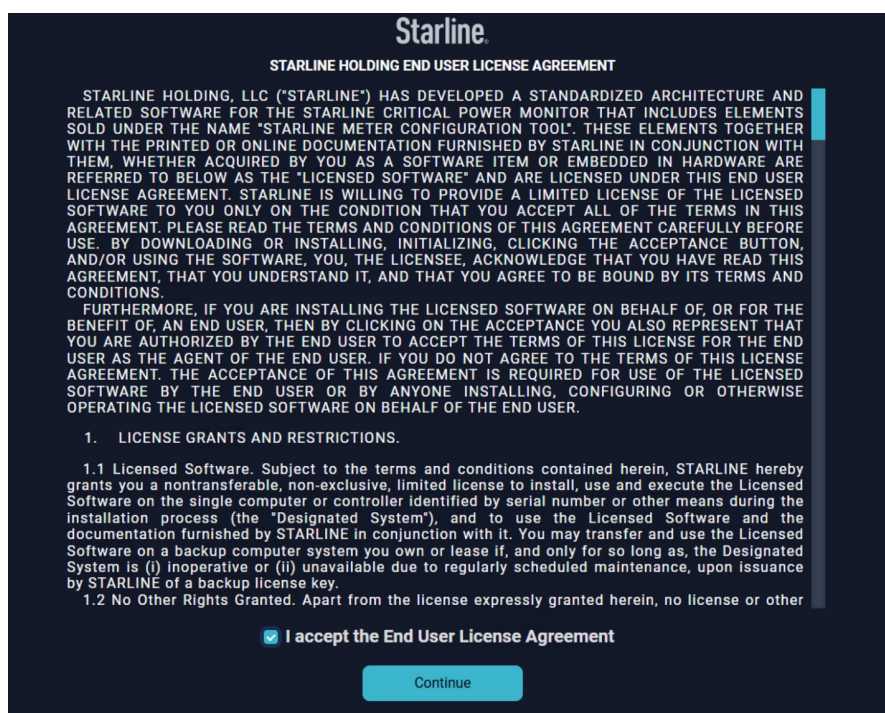
SOFTWARE LICENSE

After installation of the Starline Meter Configuration Tool, a valid license ID needs to be entered if it is the first time using the tool. License IDs are issued by Legrand – Starline after purchase. Contact your local Starline representative for questions and quotes.
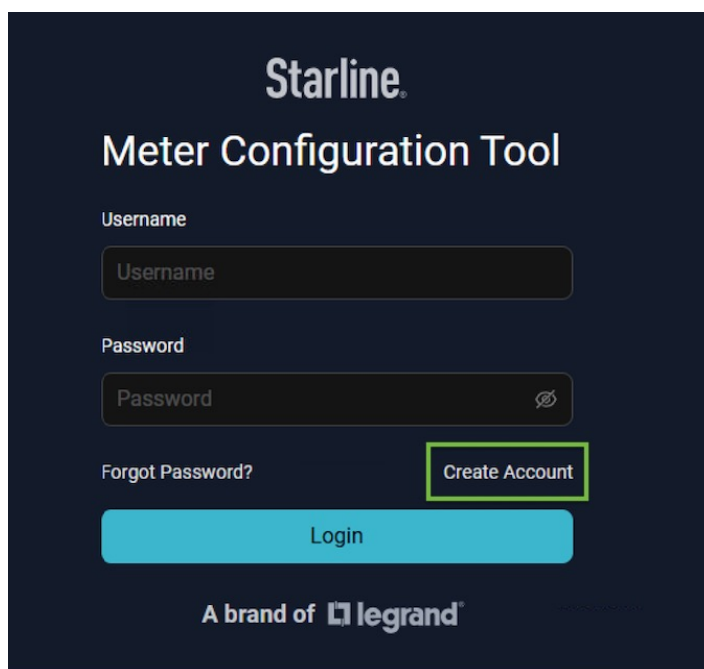
USER CREATION AND ROLE APPROVALS

On the first interaction with Configuration Tool, users must have an account created in order to access the tool. Please make sure you have an Authenticator tool installed, otherwise you will not be able to create a User.

To create a user account, click 'Create Account' on the Login screen.

Follow the hints under Username and Password fields to set up credentials.

Once credentials are set up, select a needed role from the Request Role dropdown. Please note, the very first user is by default assigned a Superadmin role.

For all other users the role can be selected from: Superadmin, Factory, Admin and User.

After a role is selected, click 'Create Account.'

Confirm Registration by either scanning a QR code with your Authenticator application, or enter the values manually.

Enter a one-time code into the Authenticator Code field and click 'Confirm Registration.' There will be a confirmation message that the user account is created.
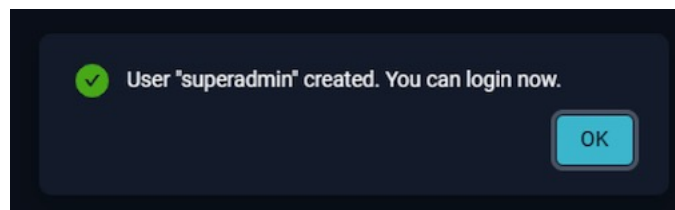
Please note, once the initial Superadmin user is created, all other users will be by default assigned a User role. In case a user requests Superadmin, Factory or Admin permissions, their roles will need to be approved by the initial Superadmin User.

To approve a role, the Superadmin user should open Manage Users and click 'Edit Role' for the user that needs approval.
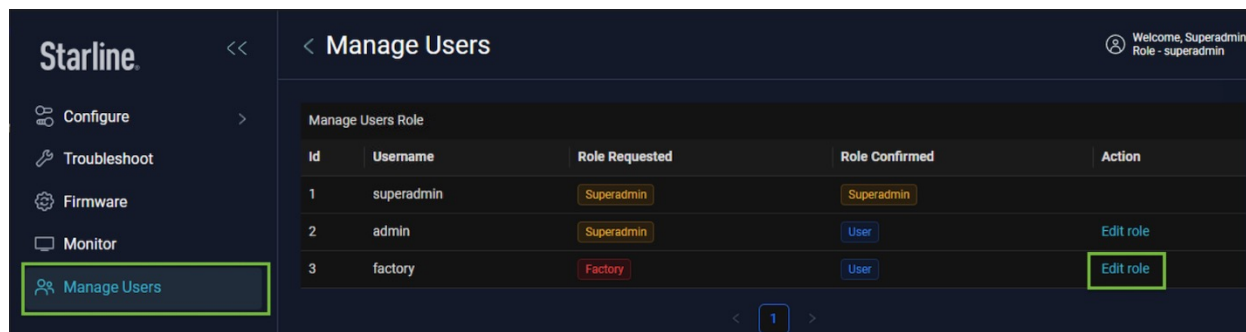
In the Confirmed Role drop-down, select which role to grant to the user and click 'Save.'
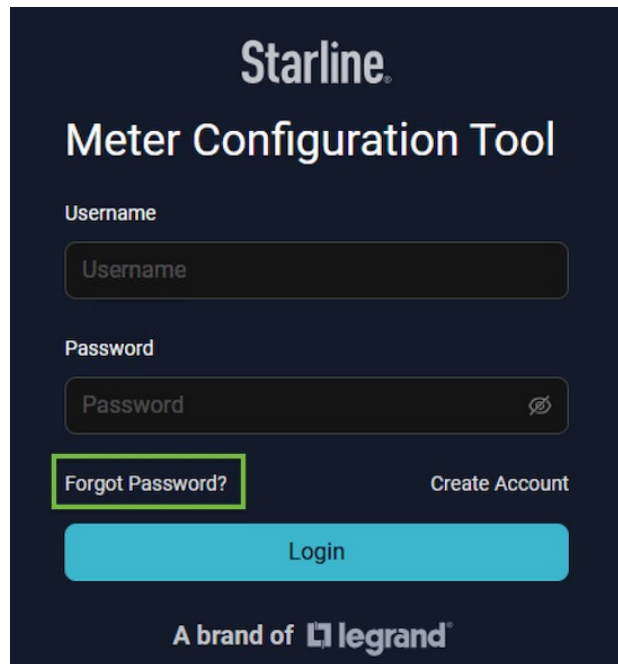
PASSWORD RESET

In case a password is forgotten, click 'Forgot Password?' on the Login screen.
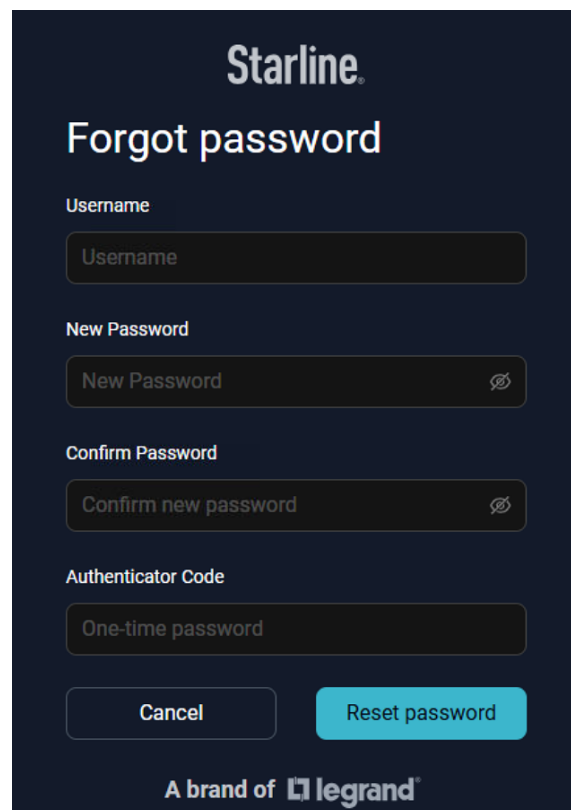
On the Forgot Password page, enter a valid username and a new password. In the Authenticator Code field, enter a valid one-time password from Authenticator tool and click 'Reset password.'

After a successfully completed action, a confirmation will appear, as below.
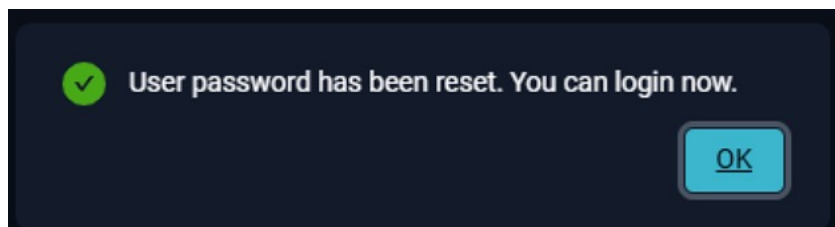
Please note, if for some reason a password needs to be changed again for the same user, the Tool will allow this only once 5 minutes have passed after a previous successful attempt.

Role-Based Access

The Configuration Tool has 4 roles:

- Superadmin – has access to all modes and flows and additionally sees Manage Users option on the left-hand menu
- Admin – has access to all modes and flows
- User – has access to only Monitor mode

Logs

In case of an application-related failure, a 7-day log .zip file can be exported from Settings, by selecting the Export Logs option.
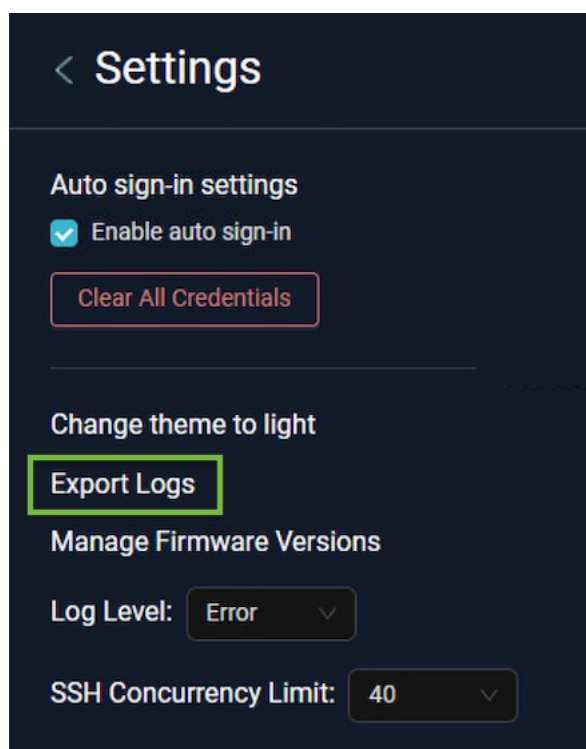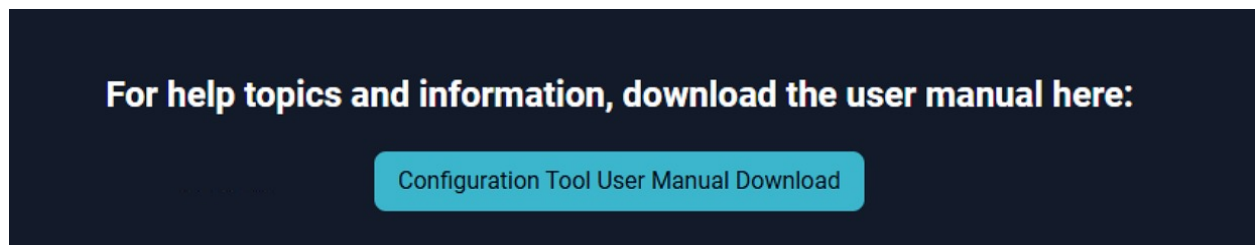
In order for the logs to be more informative, the Log Level can be changed, where 'Error' would log only errors and 'Silly' would log everything.
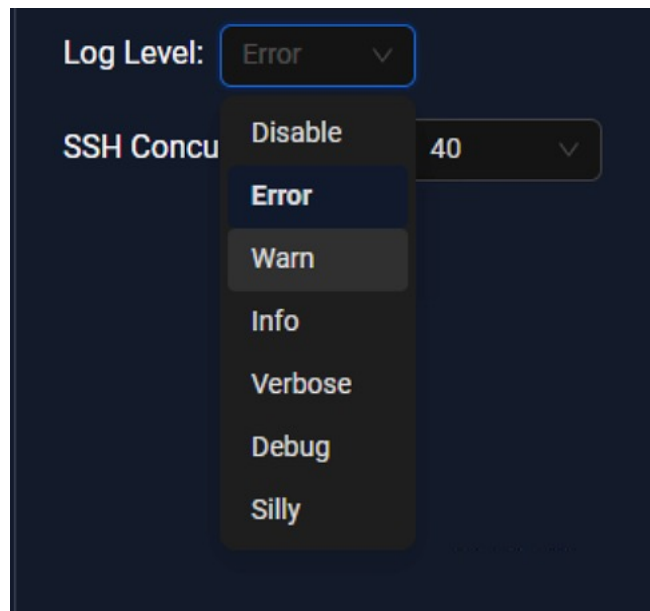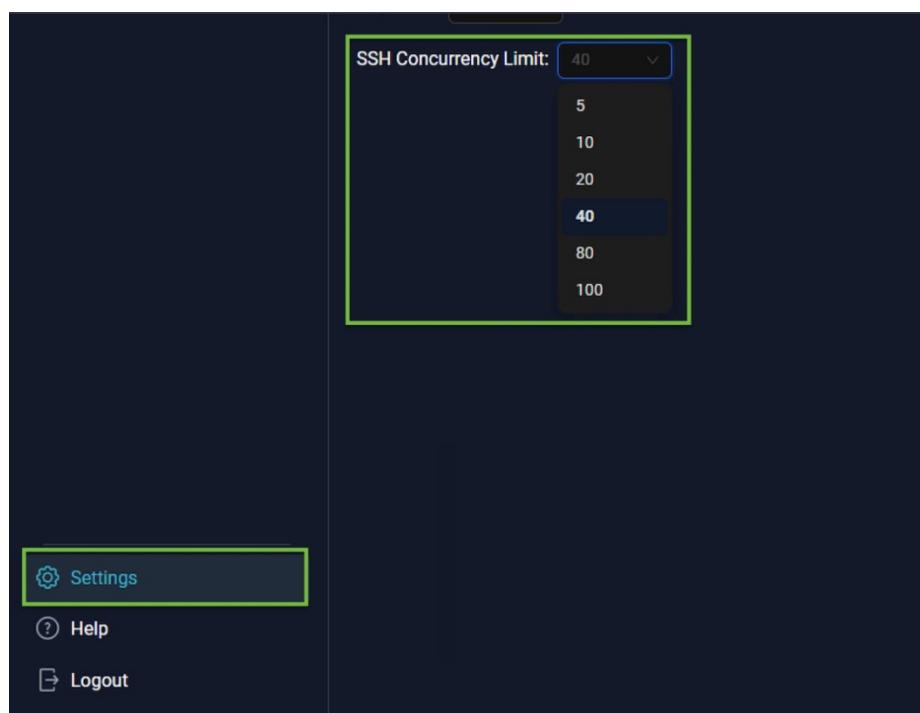

Help section

The Help section contains an external link to User Manuals.

Once clicked, you will be redirected to a page with Starline User Manuals.

SSH CONCURRENCY LIMIT

The SSH Concurrency limit drop-down is located in the Settings menu.

In each mode data from meters is sent or retrieved via SSH connection. For this connection to be fast and effective, the total number of meters used in Settings Table, Export, Import and Monitor modes are divided into batches. Each batch would consist of as many meters as displayed in the SSH Concurrency drop-down.

When working in a particular mode, e.g. Monitor, the tool would split all logged in meters into batches with the selected amount of meters, and would send SSH request to all meters simultaneously in the first batch. When the response is received, the request is sent to the meters in the second batch and so on till all meters send responses.

Given this, the lower the concurrency limit is, the more time would be needed to load the data. The recommendation is to set the limit to 40.

DEFINITIONS

Reserved for future use

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