

CONTROL PANEL USER'S MANUAL

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WARNING: The Control Concepts, Inc. power controllers use power thyristors to switch voltage to the connected load. Line voltage must be assumed at the output terminals at all times, even when the control signal has been removed and the load voltage appears to be off. It has been mandated by the National Electrical Code and the Occupational Safety and Health Act of 1970 that a physical disconnect be opened ahead of all remotely actuated controls before performing any maintenance work on the controller or its connected load.

PROPRIETARY DATA

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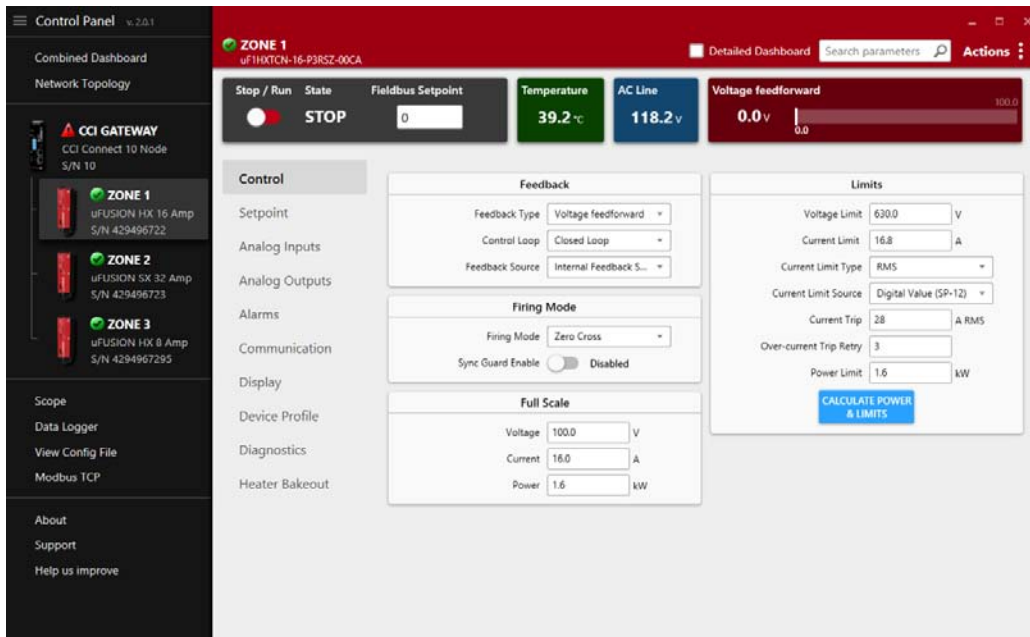
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1. OVERVIEW

The Control Panel Software assists with the installation, parameter setup, operation, and troubleshooting of Control Concepts, Inc. devices.



This version of CCI Control Panel is intended for use with the Control Concepts MicroFUSION, Fusion (firmware version > 3.96.0), and Connect Module products.

This manual does not provide a detailed description of a device’s parameters, configurations, and features. For this information, refer to the device Operating Manual located on the CD shipped with the Control Concepts product or they are available on the Control Concepts, Inc. website (www.cci-power.com).

1.1 Navigation menu

The Control Panel navigation menu is shown in Figure 1.00. The navigation menu displays the devices connected to Control Panel. Click on a device to select it and view more information in the Control Panel window. The navigation menu also provides access to other Control Panel tools, such as the Scope and Data Logger.

Click the icon in the top left corner of the navigation menu to minimize the menu. This can be helpful when using a smaller display. Click the icon in the top left corner of the Window to show the navigation menu again.

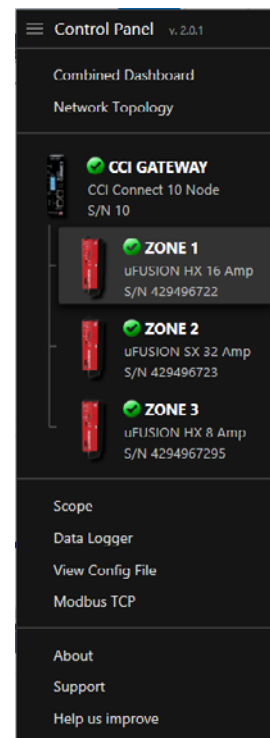


Figure 1.00: Control Panel navigation menu

2. GETTING STARTED

2.1 Installing Control Panel

The installer for the Control Panel software (CCIControlPanelSetup.exe) can be found on the CD packaged with your Control Concepts, Inc. device or on our website at www.ccipower.com.

Installation Procedure

1. Install Control Panel by clicking CCIControlPanelSetup.exe
2. Connect a Control Concepts Inc. device via the USB cable
 - Wait for “New Hardware Ready to Use” to appear in the lower right hand corner of your Microsoft® Windows operating system
3. Supply power to the Control Concepts Inc. device
 - For FUSION and MicroFUSION, apply control power to the controller
 - For the Connect Module, connect the provided Ethernet cable to the CCI Link connector on the Connect Module and the CCI Link connector on a Control Concepts power controller with its control power applied.
4. Run ControlPanel.exe from Program Files or the shortcut on your desktop

Minimum PC requirements

- 1 GHz single-core processor
- 1 GB RAM
- 100MB of available hard disk space
- 1280 x 768 x 60 Hz Compatible Display Adapter
- Microsoft® Windows XP® Service Pack 3 (32 Bit), Vista® (32 bit), Windows 7® (32 & 64 bit), or Windows 8® (32 & 64 bit) Operating Systems
- Microsoft® .NET Framework 4.0 – Client Profile

2.1 Registering Control Panel


When first launching Control Panel, you will be asked to register the software. You can continue to use Control Panel without registering for 10 days after first running the application.

Go to <http://controlpanel.ccipower.com/register> to register Control Panel. Fill out the form at the website as shown in Figure 2.02, and click “Register”. We value your privacy—your information will not be sold or shared with any 3rd party.

Register Control Panel

Go to <http://controlpanel.ccipower.com/register> to register and receive your registration code.

Email

Registration Code
  [Forgot my code](#)

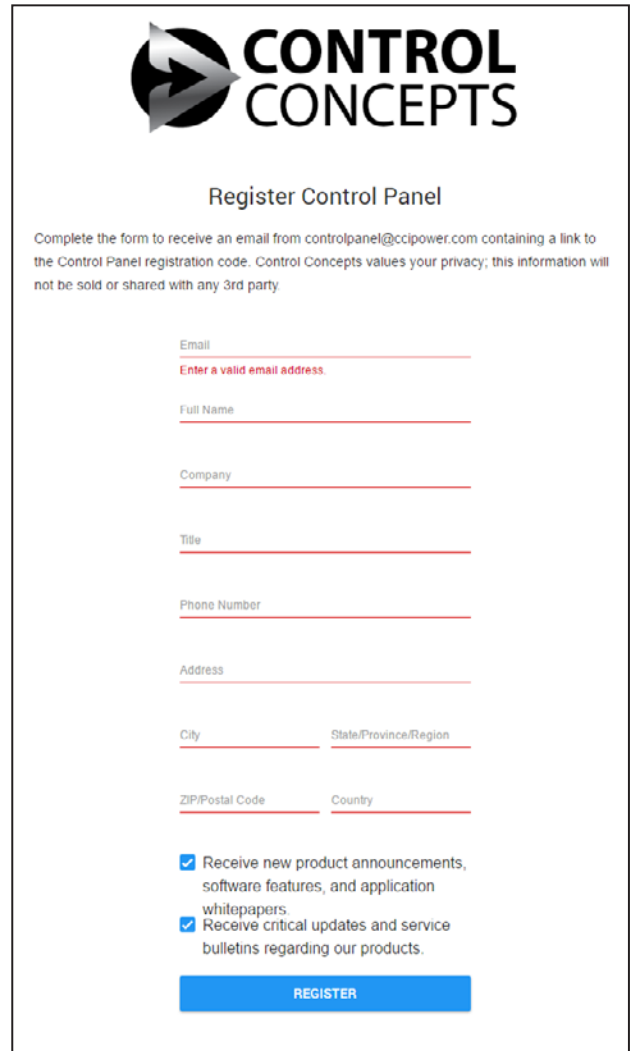
Update Control Concepts with usage data for my devices to help improve our products and to assist with resolving problems. Control Concepts values your privacy; this information will not be sold or shared with any 3rd party.

[TRY FOR 10 MORE DAYS](#)

Figure 2.01. The register dialog appears when launching Control Panel that has not been registered.

An email will be sent to you from controlpanel@ccipower.com containing a link to complete the registration process. The link will take you to the web page shown in Figure 2.03 containing the Control Panel registration code for your email address. This code can be used along with your email address to use Control Panel on multiple computers.

Enter the email address used to register and the registration code into the Control Panel dialog shown in Figure 2.01. When the correct registration code is entered, the red error icon will change to a green check mark. Un-select the check box towards the bottom of the dialog if you would not like Control Panel to send Control Concepts' usage information for Control Panel and the devices that are connected. This information helps us understand how our customers are using our products, and helps us troubleshoot and resolve any issues if they arise. Click "FINISH" to finish registering and close the dialog. The register dialog will no longer appear when starting Control Panel.



**CONTROL
CONCEPTS**

Register Control Panel

Complete the form to receive an email from controlpanel@ccipower.com containing a link to the Control Panel registration code. Control Concepts values your privacy; this information will not be sold or shared with any 3rd party.

Email
Enter a valid email address.

Full Name

Company

Title

Phone Number

Address

City State/Province/Region

ZIP/Postal Code Country

Receive new product announcements, software features, and application whitepapers.
 Receive critical updates and service bulletins regarding our products.

REGISTER

Figure 2.02. Fill out the registration form to register Control Panel



**CONTROL
CONCEPTS**

Registration Confirmed

Thank you, jarntson@ccipower.com, for registering the Control Panel software. Enter the following registration code into Control Panel. This registration code works for the registered email and can be used with Control Panel on multiple computers.

Registration Code
3M9JBYWA

Figure 2.03. Registration is complete. Enter the registration code in Control Panel.

2.3 Controller Quick Setup

Use the “Quick Setup” wizard in Control Panel to quickly configure the basic settings needed for the controller to output. The “Quick Setup” wizard is only available for MicroFUSION power controllers. To access the “Quick Setup” wizard, select the desired device and click the “Quick Setup” item in the Action menu as shown in Figure 2.04. The dialog shown in Figure 2.05 will appear. Select or enter a value for a step and click “NEXT” to move to the next step. The final step is a summary page that lists the parameters and values that will be changed as a result of the wizard. Click “FINISH” to update the device, or “CANCEL” to return to the main Control Panel window.

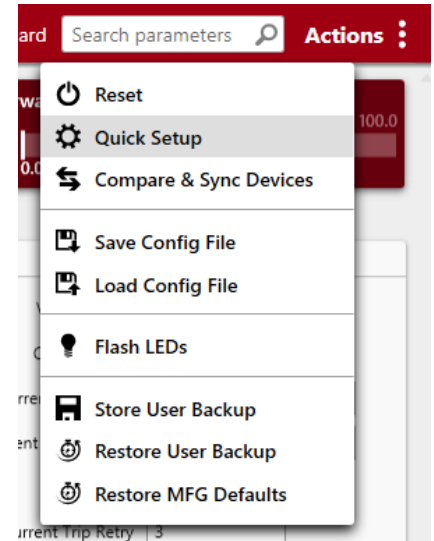


Figure 2.04: Click “QUICK SETUP” to launch a wizard to quickly configure a controller to output.

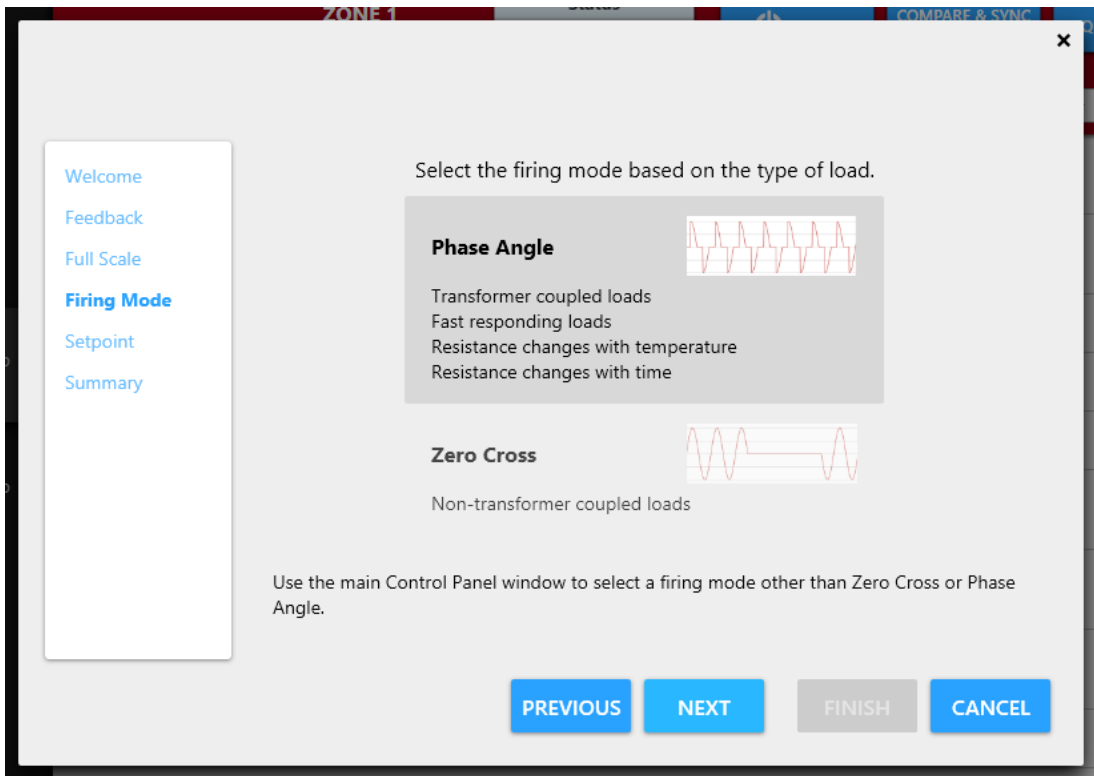


Figure 2.05: The “QUICK SETUP” dialog walks you through the steps to configure the controller output.

3. CONNECTING A DEVICE

Control Panel periodically looks for new Control Concepts, Inc. devices connected to the PC via USB and connects to them automatically. You can also connect to devices with a Modbus TCP communication module using Modbus TCP, or view a configuration file that was previously saved using Control Panel.

You will see the Control Panel landing screen (Figure 3.00) if no connections to a Control Concepts device are found.



Figure 3.00: Control Panel landing screen

3.1 Connect a device with USB

To connect to a device, first apply power to the Control Concepts device:

- For FUSION and MicroFUSION, apply control power to the controller
- For the Connect Module, connect the provided Ethernet cable to the CCI Link connector on the Connect Module and the CCI Link connector on a Control Concepts power controller with its control power applied.

With power applied, connect a USB cable from the USB Connector on the Control Concepts device to the PC. When the device is found, a progress ring with the text “Connecting...” and a description of the device will appear as shown in Figure 3.01. The connection process will complete after a few seconds and an image of the device and additional device information will appear as shown in Figure 3.02 (the contents of Figure 3.02 are described in Section 3.5.1, “Device Image and Description”).

If only one device is connected, the device configuration and monitoring view of Control Panel will automatically appear (the device configuration and monitoring view of Control Panel is described in Section 4.0, “Configuring and Monitoring”).



Figure 3.01: Connecting to a device

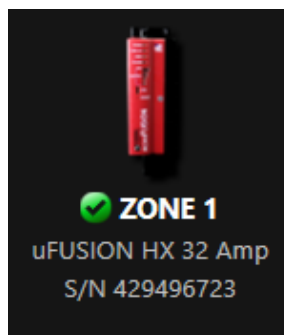


Figure 3.02: Device connection complete

3.2 Connect a device with Modbus TCP

Control Panel can connect to a Control Concepts' Inc. device that has an optional Modbus TCP communications module installed.

To connect to a device, apply power to the Control Concepts device:

- For FUSION and MicroFUSION, apply control power to the controller
- For the Connect Module, connect the provided Ethernet cable to the CCI Link connector on the Connect Module and the CCI Link connector on a Control Concepts power controller with its control power applied.

Control Panel will automatically connect to the device and display the device configuration and monitoring view of Control Panel.

The devices' are shipped with a default IP address of 255.255.255.255. Before you can connect to the device using Modbus TCP, you must connect the device using a USB connection (see section 3.1) to update the IP address to the desired value. Set the IP address in the Control Panel "Communication" category as shown in Figure 3.03. After the desired IP address has been entered into the "IP Address" text box, click the "Refresh IP Address" button and verify the value in "IP Address (Comm. Module)" matches the newly inputted value.

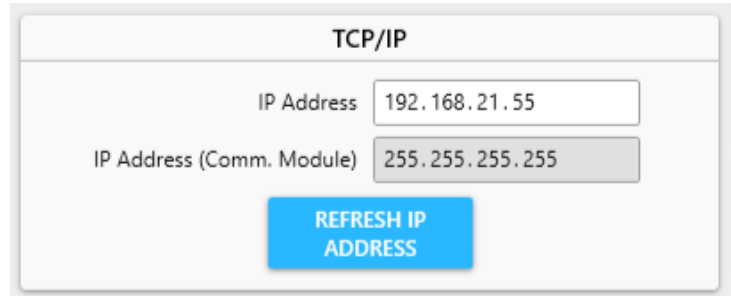


Figure 3.03: First connect the device to Control Panel using USB to set the Modbus TCP IP address.

After setting the device's IP address, connect the device to the desired local area network using an Ethernet cable and the connector on the devices' Modbus TCP module. To connect to the device in Control Panel, click the "Modbus TCP" button on the landing screen as shown in Figure 3.00 or the the "Modbus TCP" button in the Control Panel navigation menu as shown in Figure 3.04.

The dialog in Figure 3.05 will appear showing the Modbus TCP devices found on the local area network. Select one or more devices from the list and click "Connect." A device will display "(unknown tag)" and "(unknown S/N)" if it has not yet been connected to using Modbus TCP on your PC. After a device is connected for the first time, the device's tag name and serial number will be displayed alongside the IP address in the connection dialog.

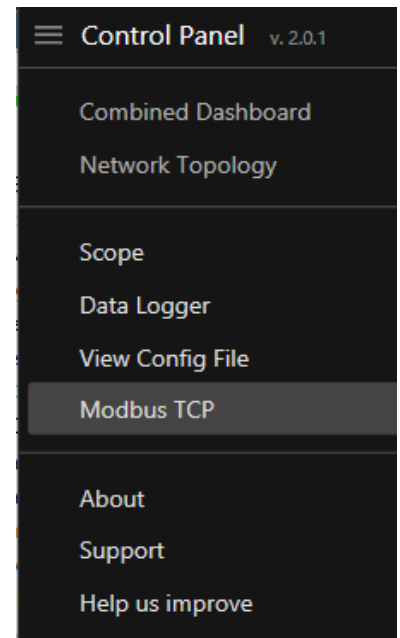


Figure 3.04: Click "Modbus TCP" in the Control Panel navigation menu to connect to a Modbus TCP device.

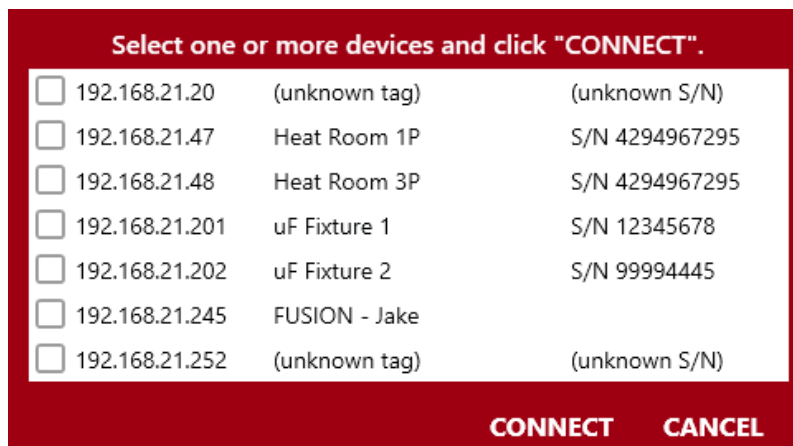


Figure 3.05 Select one or more Modbus TCP devices to connect in Control Panel

Once connected, a device will appear in Control Panel as shown in Figure 3.06. The IP address is displayed below the device’s serial number. To disconnect the device and close the Modbus TCP connection, click the “X” button in the upper right corner of the device icon.

3.2 Connecting multiple devices

The Control Panel software can connect to multiple Control Concepts, Inc. devices at a time using multiple USB cables, Modbus TCP, and/or the Control Concept’s Connect Module.

3.2.1 With USB or Modbus TCP

Control Panel can handle any number of USB and Modbus TCP connections between the PC and Control Concepts’ devices. A separate icon will appear for each connected device, allowing you to manage multiple devices at the same time.

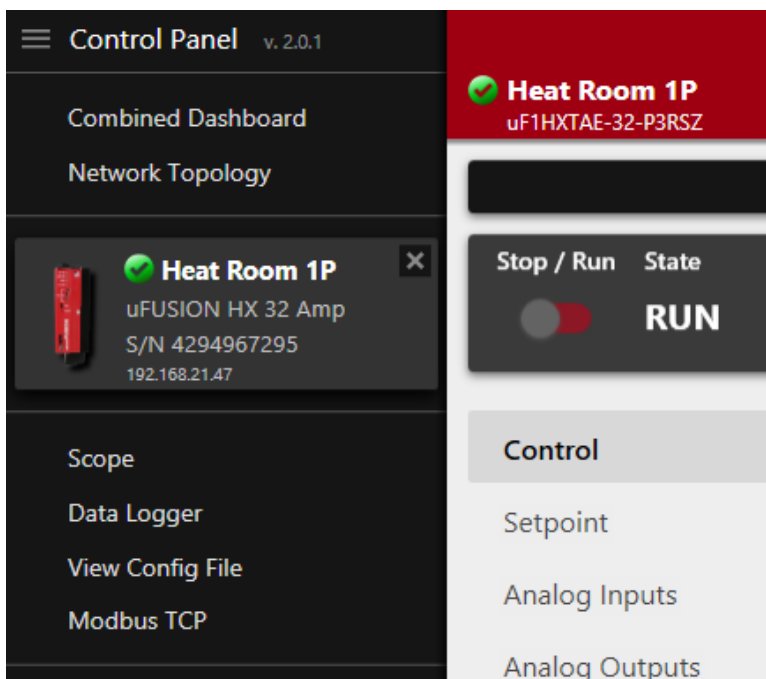


Figure 3.06 A device connected with Modbus TCP in Control Panel.

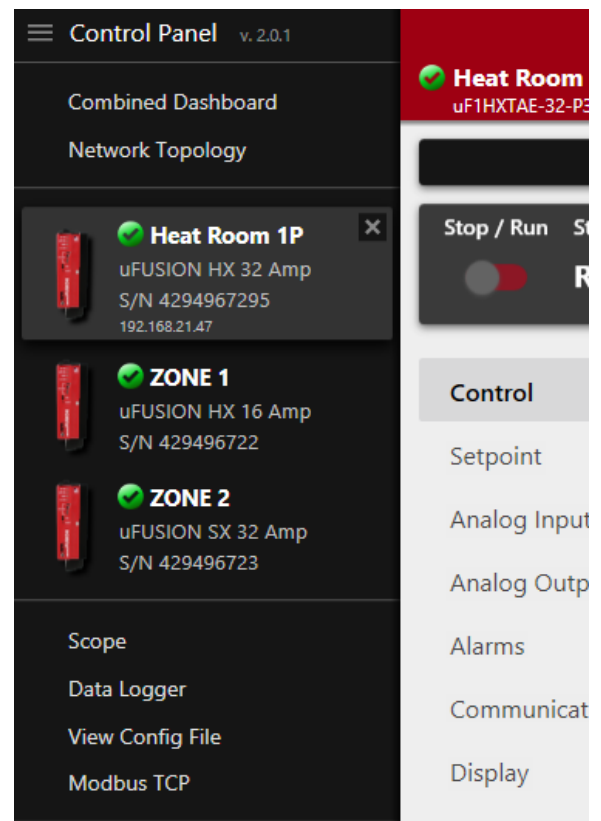


Figure 3.07: Multiple devices connected to Control Panel using both USB and Modbus TCP

3.2.2 With the Connect Module

The Connect Module is a fieldbus gateway module that can link up to 10 Control Concepts' power controllers using CCI Link, a dedicated, real-time, deterministic digital bus.

Once the Connect Module is connected to Control Panel as described in "Connect a device with USB" (Section 3.1), all of the devices on the CCI Link bus will appear in Control Panel as shown in Figure 3.08.

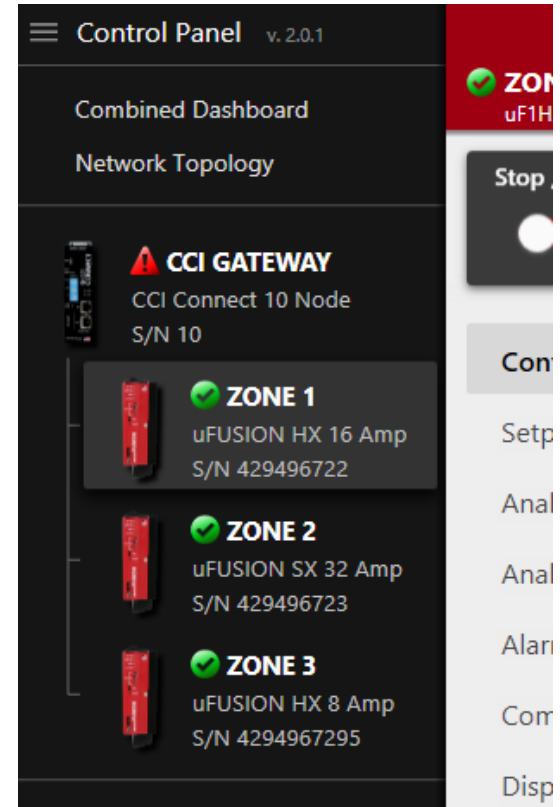


Figure 3.08: Connect Module

3.2.3 Connecting a device with multiple connections simultaneously

Control Panel allows you to connect to the same device, simultaneously, using multiple connection methods (either USB, Modbus TCP, or the Connect Module). This configuration will result in the same device appearing twice in the Control Panel interface.

3.3 Troubleshooting Connection Issues

If Control Panel cannot connect to a device, a short description of the issue will appear. For most issues, click on the description or icon to view a more detailed description and instructions for addressing the issue. Common issues that can occur when connecting to a device are described in this section. If these tips do not help resolve your issue or your issue is not listed, please call our technical support at 1 (800) 765-2799.

3.3.1 Device does not appear

It is possible that the device does not appear at all in Control Panel. There may be a problem with your USB hardware, or another program may have already established a connection with the device, not allowing Control Panel to find the device.

Troubleshooting suggestions:

- Make sure your USB cables and USB hubs are properly connected between the Control Concepts' device and your PC
- Try closing any programs that may have USB connectivity to see if the device appears in Control Panel
- Make sure only one instance of the Control Panel application is running
- The first time a device is connected to the PC, the PC automatically installs the device driver. For new devices that have not been connected to the PC previously, it is sometimes necessary to disconnect and reconnect the USB cable after the driver installed before Control Panel will see the device.

3.3.2 “Check Power” message

“Check Power” appears when Control Panel finds a device using USB, but the device does not respond to any of Control Panel's requests. This is typically caused by the device not having DC power.

Troubleshooting suggestions:

- Apply power to the device as described in “Connect a device with USB”
- Try resetting the device using the “Reset” button on the front of the device
- Try unplugging and re-plugging the USB connection to the device

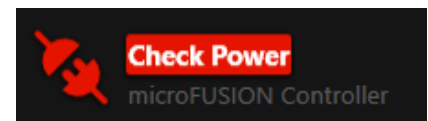


Figure 3.09: Check Power connection issue

3.3.3 Miscellaneous Connection Problem

Control Panel may encounter a problem during the connection process due to software bugs, device incompatibilities, or other issues.

Troubleshooting suggestions:

- Click the “RECONNECT” button to see if the issue disappears
- Update to the latest Control Panel software by downloading the latest version on ccipower.com
- Click “SUBMIT ERROR REPORT” to send an error report to Control Concepts and/or call technical support at 1 (800) 765-2799. Refer to Section 6.1, “Submitting an Error Report,” for more information on submitting an error report in Control Panel.

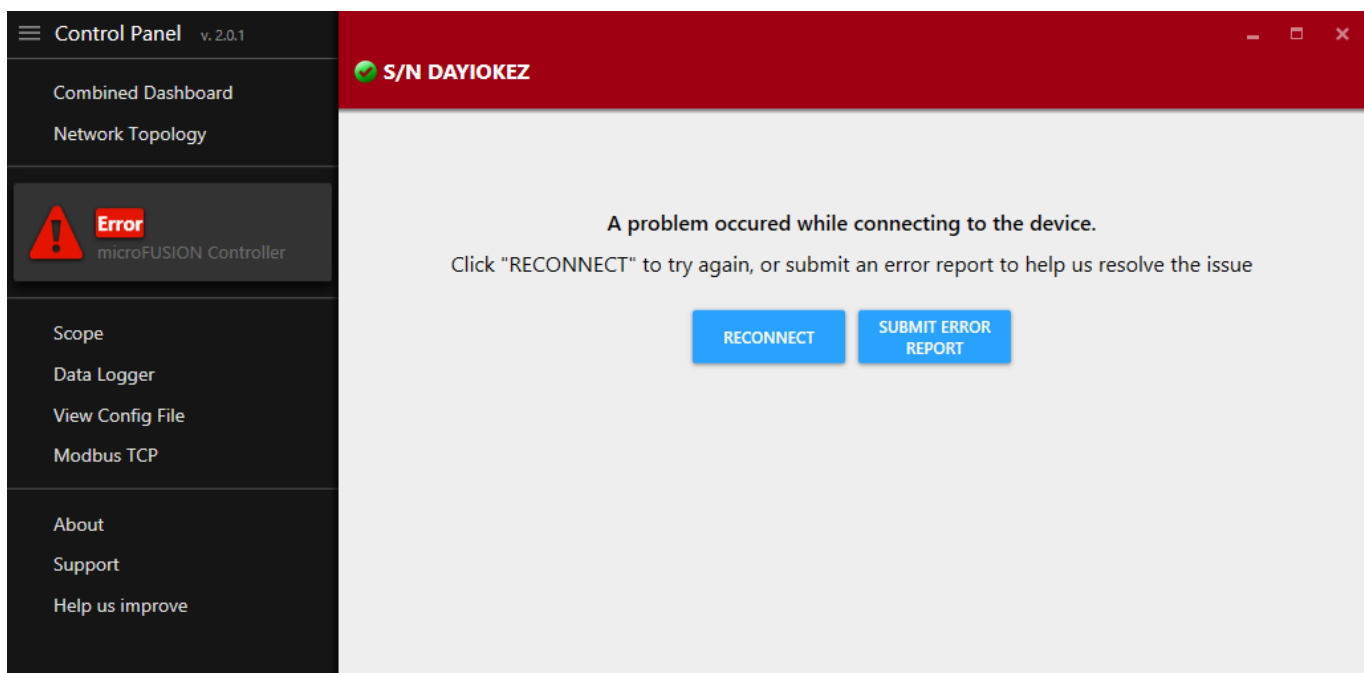


Figure 3.10: Control Panel encounters an error while connecting to device

3.3.4 “No Firmware” message

“No firmware” appears when the device is the boot loader and has no firmware to run.

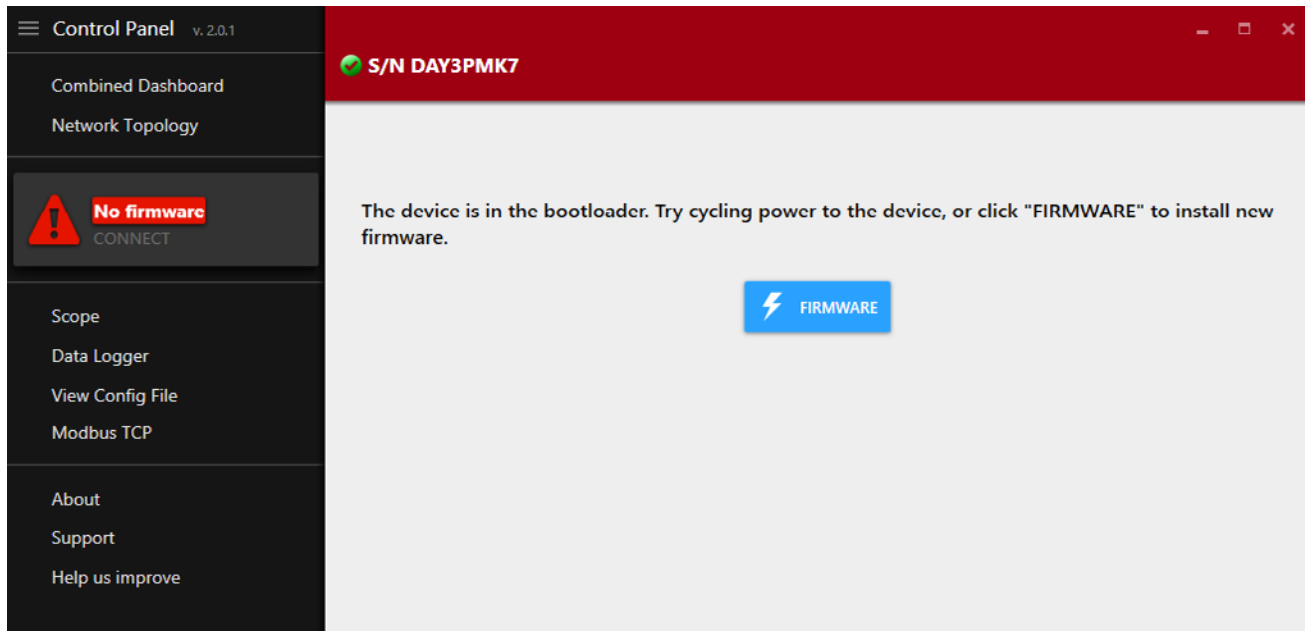


Figure 3.11: No firmware connection issue

Troubleshooting suggestions:

- Try resetting the device using the “Reset” button on the front of the device
- Update the device firmware by clicking on the “No firmware” message or icon and follow the instructions.

3.3.5 “Update Firmware” message

“Update Firmware” appears when a device connected to a Connect Module via the CCI Link bus is running an out-of-date firmware version not supported by the Connect Module.

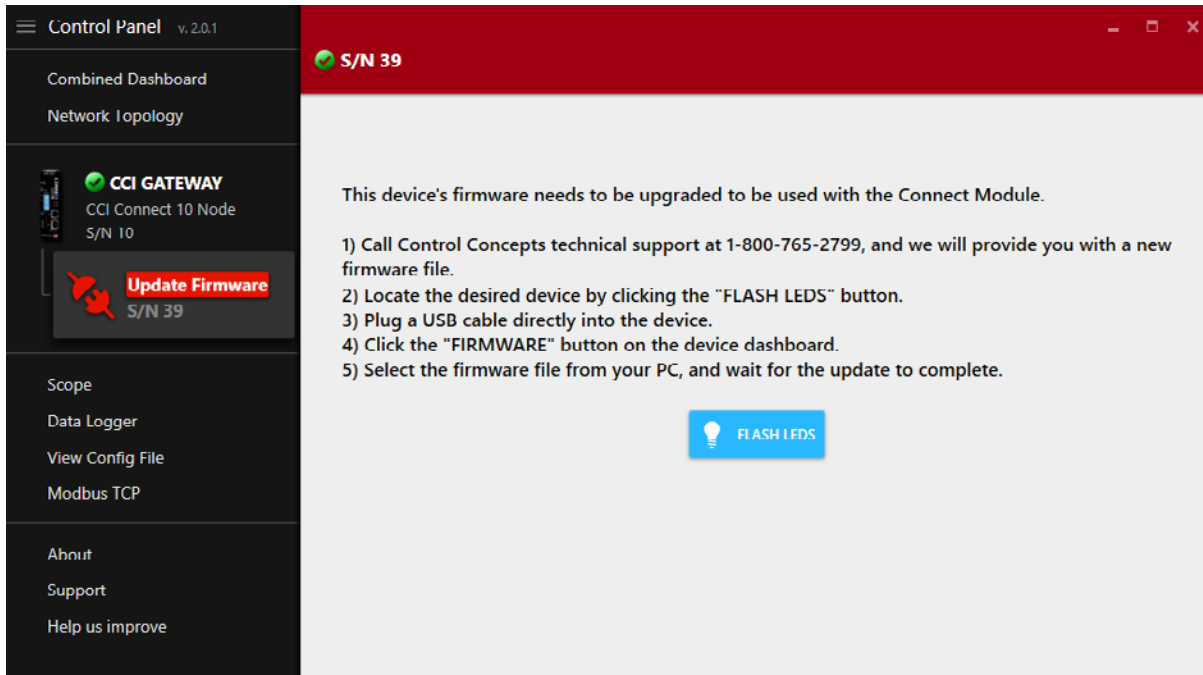


Figure 3.12: Update Firmware connection issue

Troubleshooting suggestions:

- Follow the instructions on the screen to update the firmware of your device.

3.3.6 “Set MAC ID” message

The CCI Link bus requires devices have an address (MAC ID) for communication. When a new system is delivered from Control Concepts, all the power controllers in the system have a default MAC ID of 63. The MAC ID for these controllers all need to be set to a unique value between 1 and 10 to operate on the CCI Link bus, allowing Control Panel to connect to them.

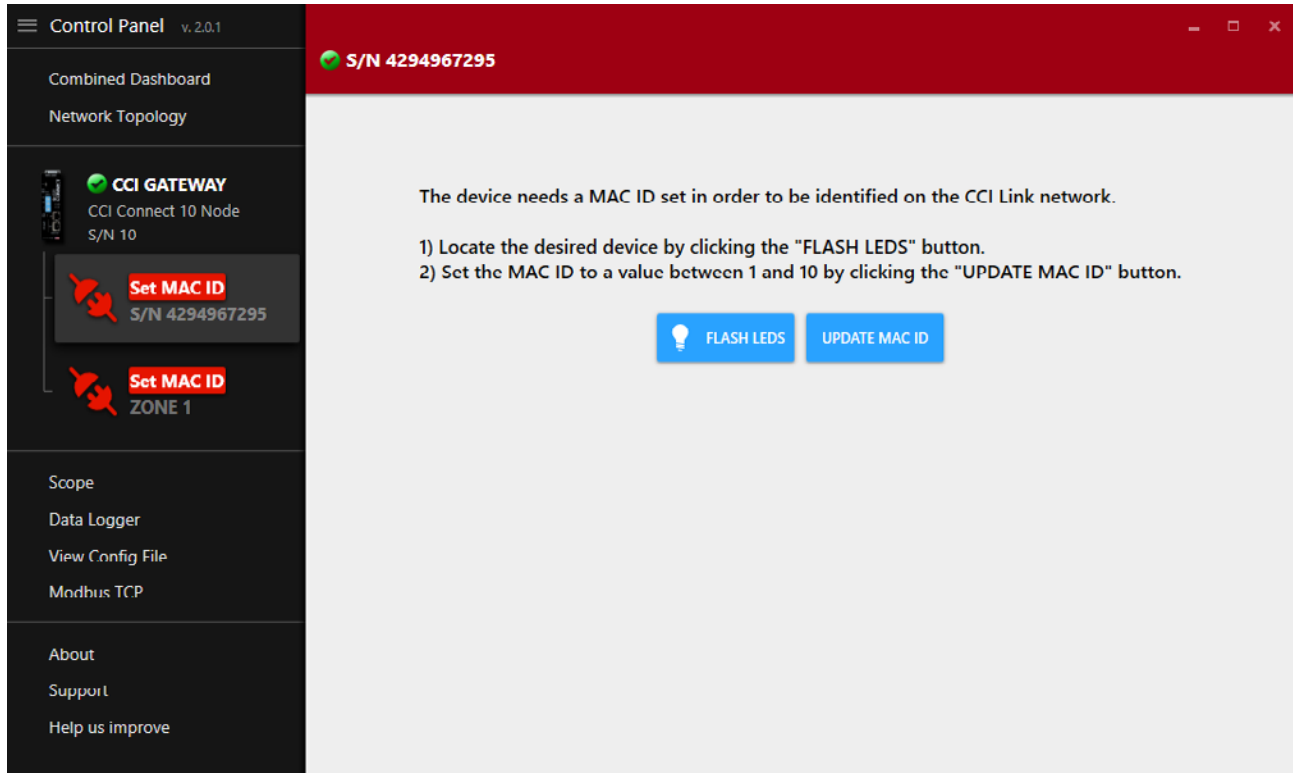


Figure 3.13: Set MAC ID connection issues

Troubleshooting suggestions:

Update the MAC ID by clicking on the “Update MAC ID” message or icon and follow the instructions.

3.4 Disconnecting a Device

To disconnect a device connected by USB, simply unplug the USB cable. “Disconnected” will appear with a USB icon as shown in Figure 3.14. Click the close “X” in the upper right to remove the device from Control Panel. At any time, you can reconnect the device by reconnecting the USB.

To disconnect a device connected via Modbus TCP, click the “X” button in the upper right corner of the device icon. This will close the Modbus TCP connection and remove the device from Control Panel. Use the Modbus TCP connection dialog to reconnect the device.



Figure 3.14: Disconnecting a device

3.5 Viewing the Connected CCI Devices

The devices that are connected to Control Panel appear in the Control Panel navigation menu as shown in figure 3.15.

3.5.1 Device Image and Description

Control Panel displays a product image and basic device information for each device as shown in Figure 3.16.

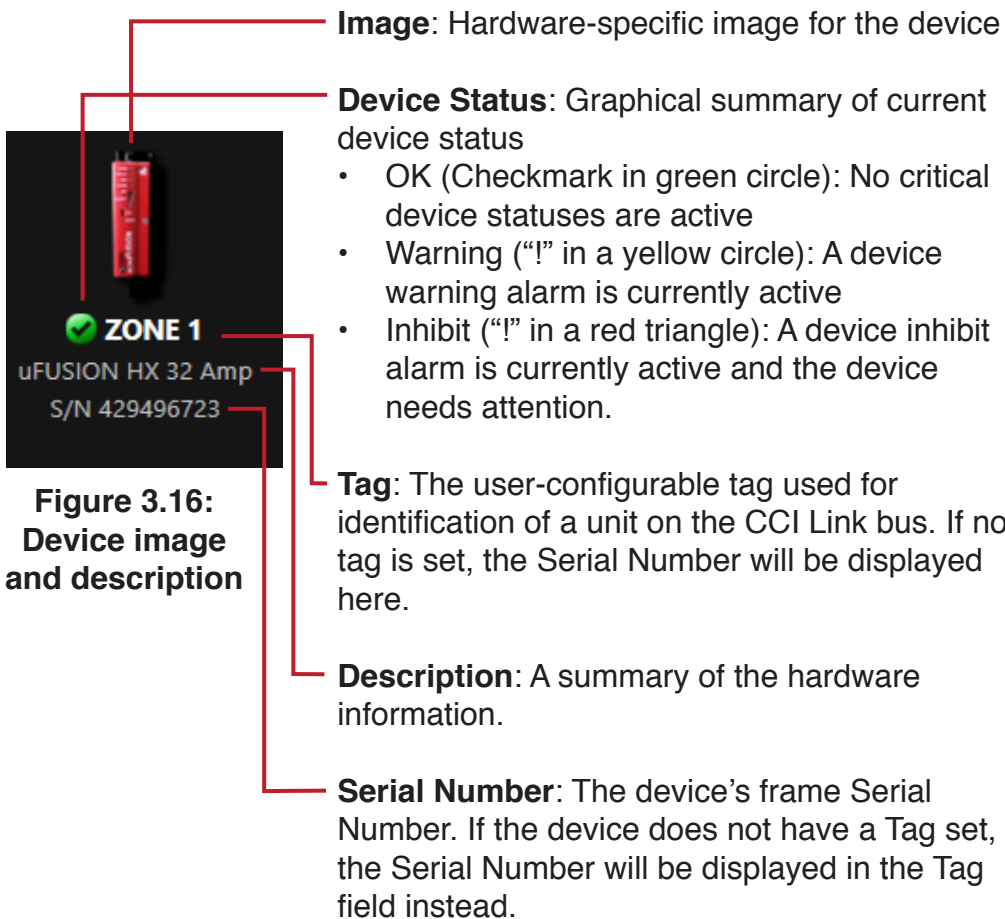


Figure 3.16:
Device image
and description

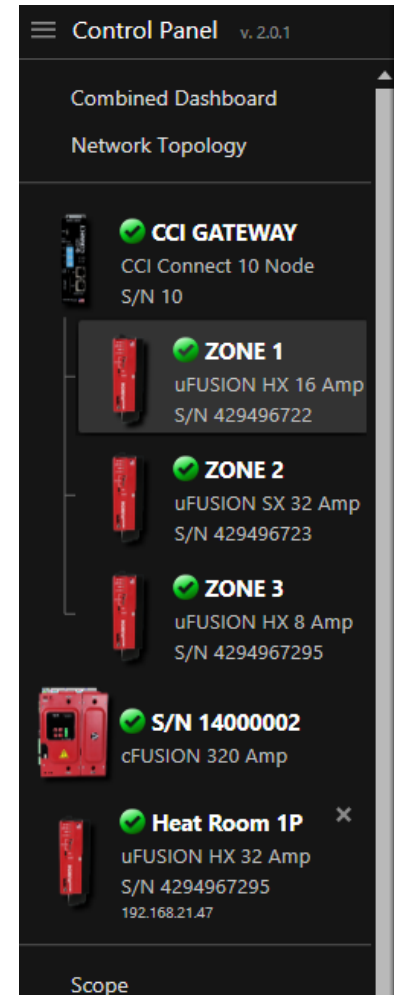


Figure 3.15: Connected
devices appear in
the Control Panel
navigation menu.

3.5.2 Device Preview Mouse Over

For a quick glance of device information, place your mouse over the device image / description and the device preview content will appear as shown in Figure 3.17.

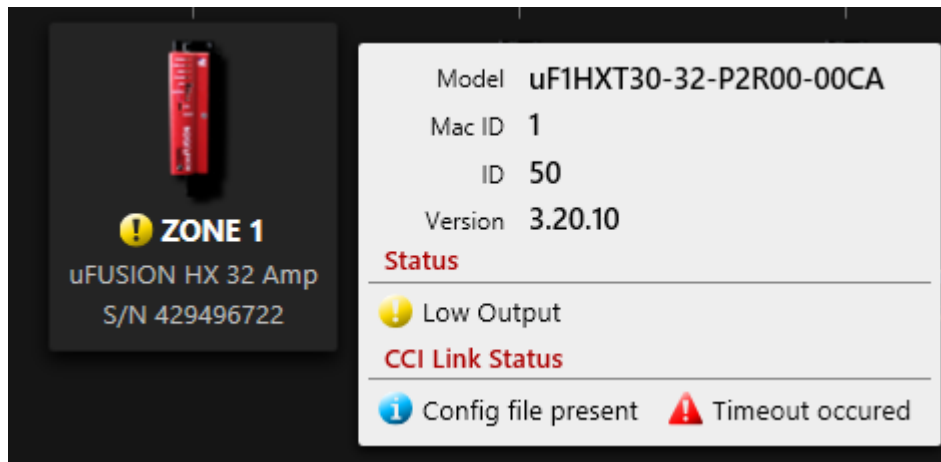


Figure 3.17: Device Preview Mouse Over for a MicroFUSION power controller

Device preview content

- **Model:** The Control Concepts model number describing the device hardware
- **Mac ID:** The CCI Link address used for bus communication
- **ID:** The Control Concepts firmware ID
- **Version:** The software version of the device firmware
- **Status:** Displays any critical device statuses that are active. This section will only appear if one of the critical device statuses are active.
- **CCI Link Status:** Displays any active CCI Link network statuses reported by the Connect Module. This section will only appear if the device is connected to Control Panel via the Connect Module.

3.5.3 Select a device for configuration and monitoring

Click on any connected to device to select it. The device configuration and monitoring view of Control Panel will appear for the selected device.

4. CONFIGURING & MONITORING

When a device is selected, the device configuration and monitoring view will be displayed as shown in Figure 4.00.

The configuration and monitoring view consists of six primary areas:

1. Device identification
2. Detailed dashboard selection
3. Search
4. Action menu
5. Dashboard
6. Device configuration

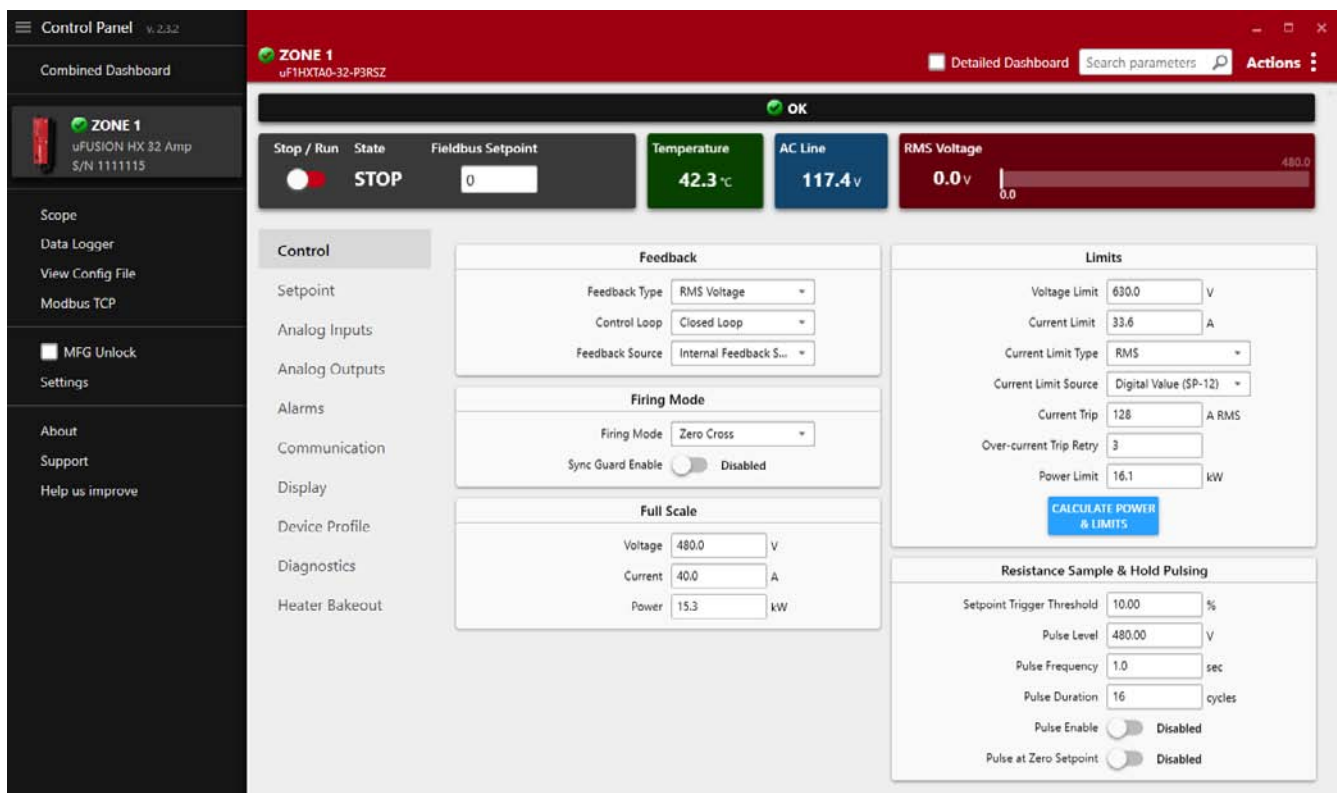


Figure 4.00: Device configuration and monitoring for a selected device

4.1 Device Identification

The device identification area displays the device tag, model string, and overall status for the selected device. If the tag does not have a value, the serial number is displayed instead. If any critical statuses are active for the selected device, the status icon to the left of the device tag will indicate the severity of the status. A green check icon is displayed if there are no active critical statuses. The active statuses can be viewed in more detail in the device dashboard as described in section 4.5.

4.2 Detailed dashboard selection

Check the “Detailed Dashboard” check box to show the detailed version of the device dashboard as described in section 4.5.

4.3 Search

Use the search box to filter device parameters and actions that are displayed in the “Device Parameters and Actions” section of the Control Panel interface. The search does not apply to parameters and actions displayed in the dashboard. The search functionality is explained in more detail in section 4.3.2, “Search.”

4.4 Action Menu

Device functionality such as device reset, firmware update, and save/load configuration files are displayed in the action menu as shown in Figure 4.01. Click on the menu item to execute the desired action. Some actions require a user confirmation before proceeding as shown in Figure 4.02. Click OK to continue and Cancel to return without issuing the command to the device. Some functionality, such as updating firmware, is not accessible when a device is connected over CCI Link using the Connect Module. In these cases, the action does not appear on the dashboard.

For detailed descriptions of common device actions, such as updating firmware, refer to section 5.0, “Common Tasks.”

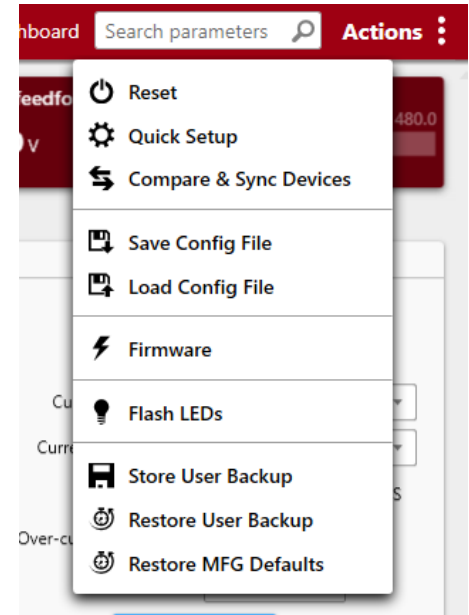


Figure 4.01. Access device functionality such as reset and firmware update in the action menu.

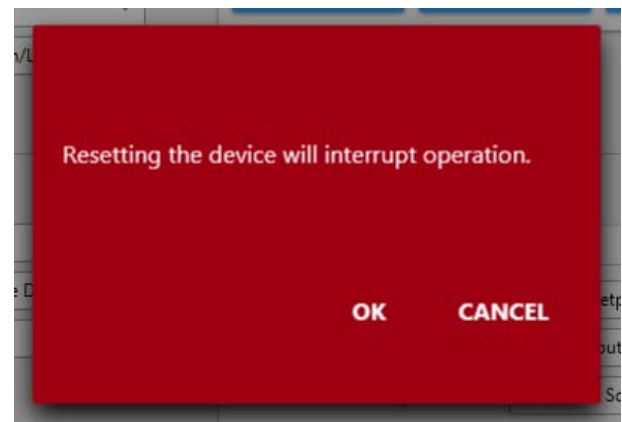


Figure 4.02: Confirmation dialog for Reset

4.5 Device Dashboard

The dashboard contains runtime operating values and statuses for the Control Concepts' power controllers. Control Panel targets an update rate of 250 milliseconds for the parameters and statuses on the dashboard.

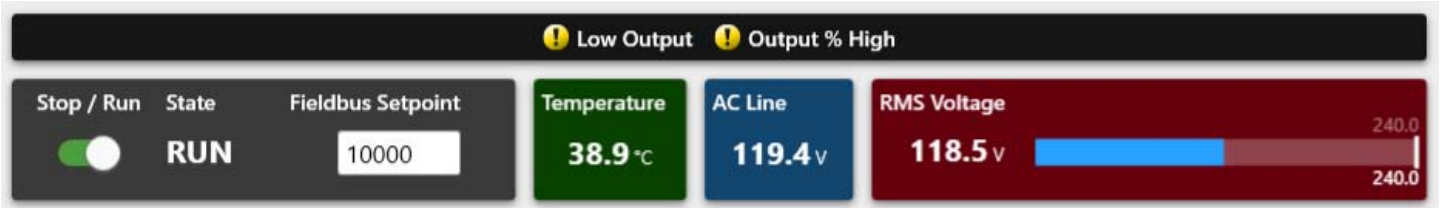


Figure 4.03: Dashboard overview

4.5.1 Detailed and condensed dashboard

The device dashboard has two modes: condensed and detailed. Switch between modes by checking “Detailed Dashboard” as described in section 4.2.

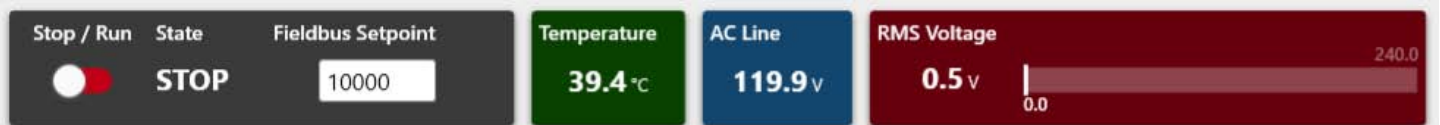


Figure 4.04 Condensed dashboard

The condensed dashboard displays digital run/stop, state, and active setpoint parameters. The condensed dashboard also displays the feedback graph (described in more detail later). If there is enough room based on screen size, the temperature and ac line voltage parameters are also displayed.

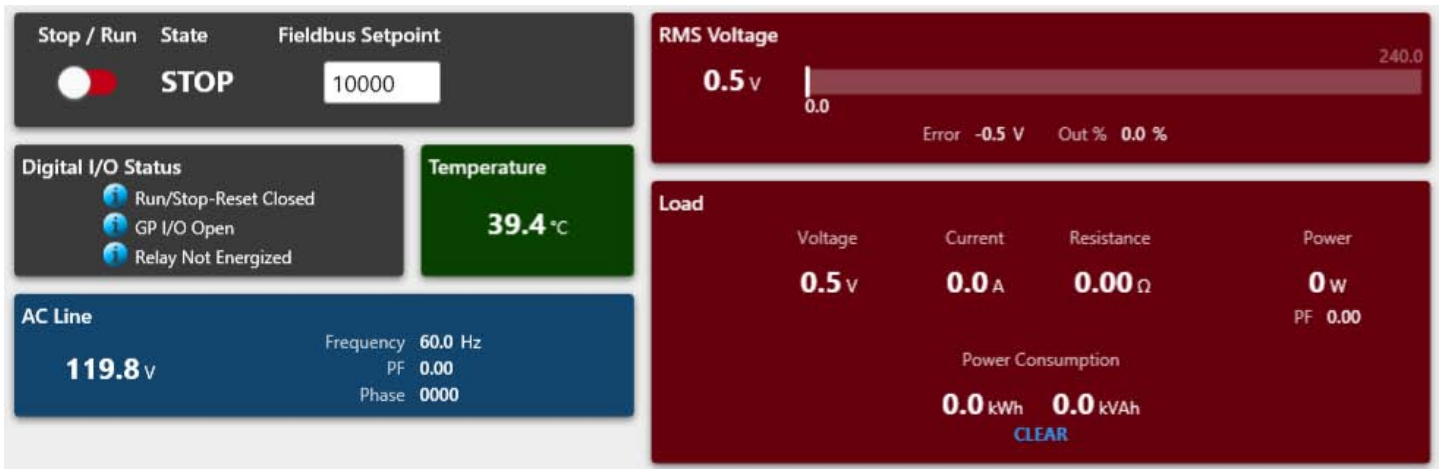


Figure 4.05 Detailed dashboard

In addition to the information contained in the condensed dashboard, the detailed dashboard includes the Digital I/O status, additional feedback monitor parameters, additional AC Line monitor parameters, and load signal monitoring parameters.

4.5.2 Device statuses

Any critical device statuses that are active are displayed at the top of the dashboard as shown in Figure 4.06. If there are no active statuses, a green check mark and the text “OK” will appear. Statuses are displayed for both the condensed and detailed dashboard.



Figure 4.06: Critical device statuses are displayed at the top of the dashboard.

4.5.3 Feedback

The feedback parameters, as shown in Figure 4.07, are displayed in the dashboard for each zone. For a multi-zone controller, the feedback parameters are displayed within the multi-zone table.



Figure 4.07: Controller feedback in the device dashboard.

The current feedback signal, based on the Feedback Type, is displayed on the left and as the blue bar in the graph. The white vertical line is the setpoint reference--the target value the controller is attempting to output too. The far right side of the graph is the appropriate full scale value depending on the type of signal for feedback (Voltage, Current, or Power).

4.5.4 Single-zone dashboard

Figure 4.08: Runtime parameters displayed in the detailed dashboard for a single-zone, single-phase power controller

The single-zone dashboard appears when an individual, single-zone power controller is connected to Control Panel.

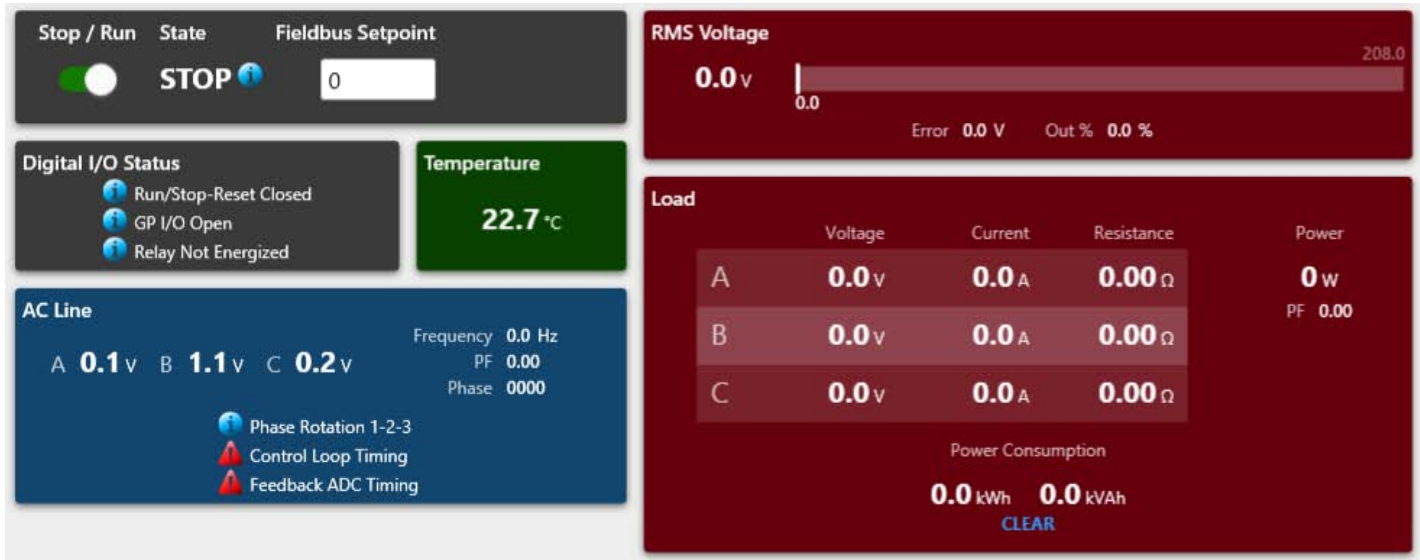


Figure 4.09: Runtime parameters displayed in the detailed dashboard for a single-zone, three-phase power controller

For a three phase device, the single-zone dashboard displays the Load Voltage, Load Current, and Line Voltage for each phase A, B, and C in the “Load” section.

4.5.5 Multizone dashboard

The multizone dashboard displays runtime parameters and statuses for each zone in a table. Any active warning alarms for a zone will appear below the zone row in the table. The temperature and AC line parameters for all of the zones are displayed in separate sections.



Figure 4.10: Condensed multi-zone dashboard for a FUSION controller.



Figure 4.11: Detailed multi-zone dashboard for a FUSION controller.

4.5.6 Combined Device Dashboard

The combined dashboard shows the individual dashboard for each of the devices connected in Control Panel in one view. Use the “Detailed Dashboard” check box to switch between the detailed and condensed dashboard for all of the devices in the combined dashboard. To open the combined dashboard, click the “Combined Dashboard” button in the Control Panel navigation menu as shown in Figure 4.12.

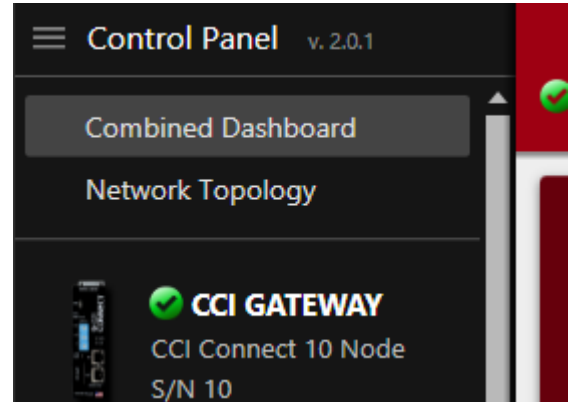


Figure 4.12: Click “Combined Dashboard” in the Control Panel navigation menu to open the combined device dashboard.

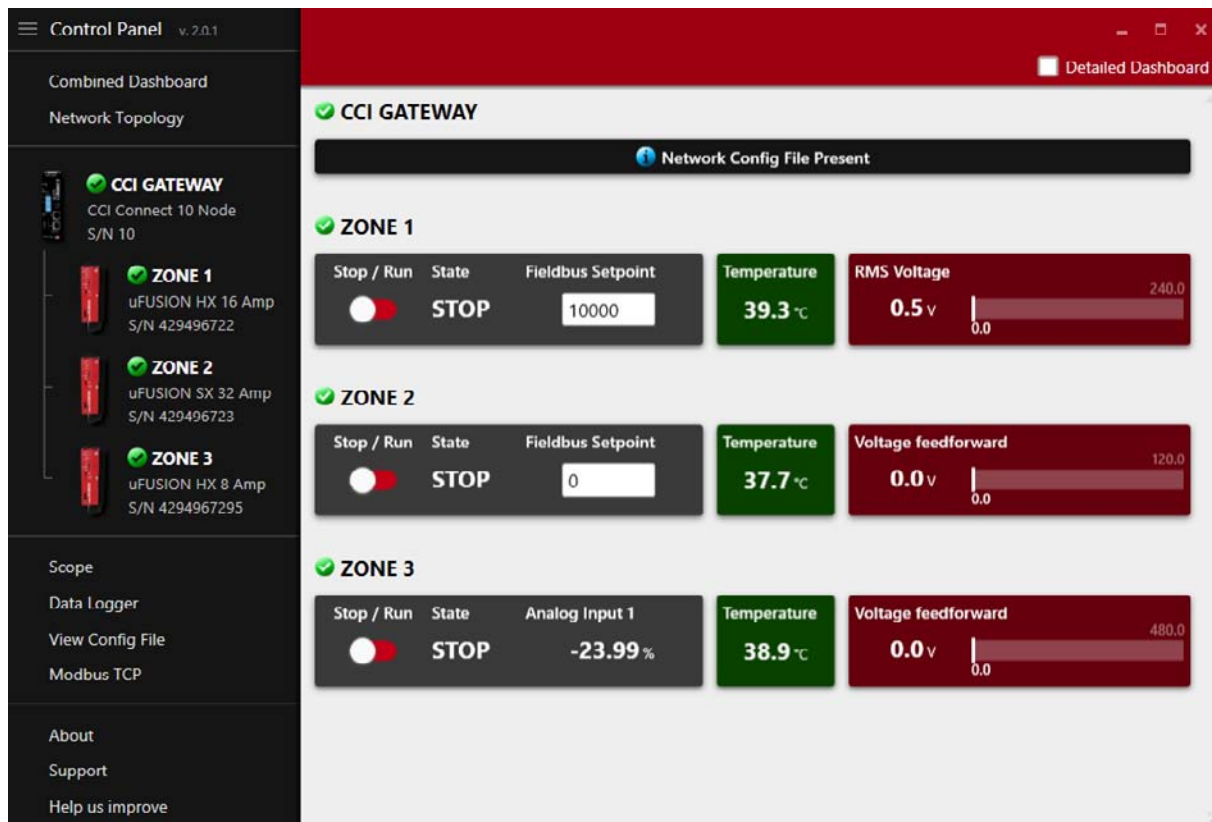


Figure 4.13: The combined dashboard shows the individual dashboard for all of the devices connected in Control Panel in one view.

4.3 Device Parameters and Actions

When a device is selected in Control Panel, adjust and monitor parameter values and issue device commands in the Device Parameters and Actions section. Select the desired category from the list on the left. The current category is highlighted.

The screenshot displays the 'Device Parameters and Actions' section of the Control Panel interface. On the left, a sidebar lists categories: Control (highlighted), Setpoint, Analog Inputs, Analog Outputs, Alarms, Communication, Display, Device Profile, Diagnostics, and Heater Bakeout. The main content area is divided into four sections:

- Feedback:** Feedback Type (RMS Voltage), Control Loop (Closed Loop), Feedback Source (Internal Feedback S...).
- Firing Mode:** Firing Mode (Phase Angle), Ramp Time (0 s), Slew Rate (10).
- Full Scale:** Voltage (240.0 V), Current (16.0 A), Power (7.7 kW).
- Limits:** Voltage Limit (600.0 V), Current Limit (16.8 A), Current Limit Type (RMS), Current Limit Source (Digital Value (SP-12)), Current Trip (28 A RMS), Over-current Trip Retry (0), Power Limit (8.1 kW). A 'CALCULATE POWER & LIMITS' button is located below these fields.

Figure 4.14: Device Parameters and Actions section of the Control Panel interface.

4.3.1 Categories

A category contains a collection of parameters and device actions that relate to each other. The available categories changes based on the type of device that is connected—a Connect Module, MicroFUSION, FUSION single-zone, and FUSION multi-zone device will appear differently. Groups are used within a category to further organize parameters and device commands. Device actions that are not contained within a group are displayed at the bottom of the category.

The following summarizes the content present in the different Control Panel categories. For a detailed description of a device's parameters, configurations, and features, refer to the device Operating Manual available on the Control Concepts, Inc. website (www.cci-power.com).

Common Categories (all devices)

- Communication
 - IP Address and network settings for a Fieldbus option board
 - Network timeout settings (MicroFUSION and FUSION)
 - Network settings (tag, Mac ID, etc.) and statuses for the CCI Link bus
 - Set the Fieldbus parameter mappings for the Fieldbus option board
 - Device statuses related to Fieldbus and network communication
 - Display setup (MicroFUSION and FUSION)
- Device Profile
 - Physical hardware of the device
 - Board S/N, lot number, assembly revision, and additional manufacturing data
 - Firmware information
 - Update device firmware
 - Upgrade device features

- Diagnostics (typically used as directed by Control Concepts technical support)
 - Functionality to test a controller's hardware and software
 - View controller historical data
 - Additional device statuses to aid with troubleshooting

Controller-specific Categories (MicroFUSION and FUSION)

- Setpoint
 - RUN/Stop enable and configuration
 - Setpoint selection for every controller zone
 - Setpoint values
 - Digital I/O status, which impacts the current Setpoint selection and whether digital Run/Stop is enabled
- Control
 - Feedback selection
 - Firing Mode selection
 - Full scale settings
 - Voltage, Current, and Power limits
- Control Monitor
 - Additional control monitor parameters that are not included on the Control Panel dashboard
- Analog Inputs
 - Settings and monitor values for the controller's analog inputs
- Analog Outputs (Retransmits)
 - Settings and monitor values for the controller's analog outputs
- Alarms
 - System and Alarm relay masks for the controller's alarm relays
 - Alarm options and alarm thresholds

Gateway-specific Categories (Connect Module)

- Device (each device on the CCI Link bus has a Device category)
 - Mac ID, Serial Number, and Tag for the device
 - The CCI Link status from the gateway for the device
 - Functionality for updating the Mac ID, Flashing the LEDs, and setting Fieldbus parameter mapping. This functionality is also accessible through the child device in Control Panel.
- Network
 - SD card logging settings
 - Network supervisory function setup

4.3.2 Search

Use the search box to quickly find a parameter, action, or group by parameter name, parameter number, action name, or group name. Categories with a parameter or action that match the search text will be shown in the category list on the left. If a category does not contain a matching element it will not be shown. If no matching parameters, actions, or groups are found, the Device Parameter and Action area of Control Panel will be empty.

Use the “X” button in the search box to clear your search terms and return to the standard “Device Parameter and Action view.” The search terms also remain active when switching between connected devices, which provides a convenient way to view the values of a parameter across multiple devices.

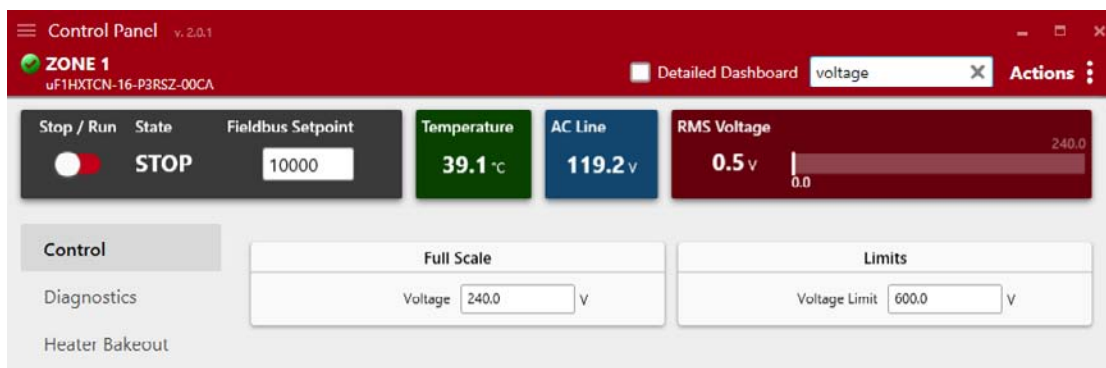


Figure 4.16: Searching for “Voltage” with a MicroFUSION controller

4.3.3 Parameters

Difference between read-only and writeable

Parameters in Control Panel can be read-only and editable. The text box for read-only parameters has a gray background. The text box for writeable parameters has a white background.

Viewing the parameter name from device parameter list

Hover your mouse over a parameter to view the parameter name from the device parameter list.

Device status parameter

The active status bits for a device status appear in a group with a light blue background. A status bit that is not active will not appear. If a status does not have any active status bits, the device status will not be visible in Control Panel. An icon to the left of each status description provides a visual indication of the severity of the status:

- **Okay (Check mark in a green circle):** Indicates that a device function is operating properly
- **Information ('i' in a blue circle):** Neutral data to help with device operation and troubleshooting
- **Warning ('!' in a yellow circle):** The device may be in a state that affects operation, but may also be functioning as desired.
- **Inhibit ('!' in a red triangle):** – The device is in a state that impacts output or operation and needs attention.



Figure 4.17: Writeable parameter

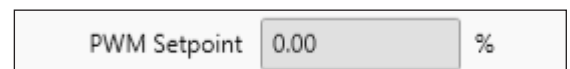


Figure 4.18: Read only parameter

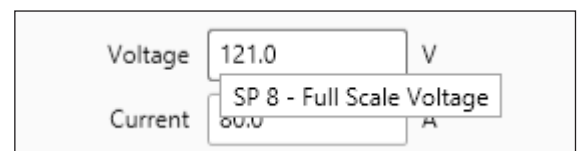


Figure 4.19: Name from the parameter list when hovering over a parameter in Control Panel

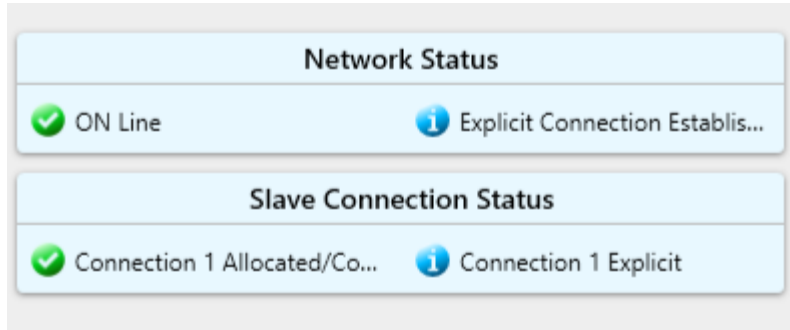


Figure 4.20: Two MicroFUSION status parameters from the “Communication” category

Changing the value of a parameter

To change the value of a textual or numeric parameter, type the desired value in the text box and either hit the “Enter” key or change focus to outside the text box.

To change the value of a selectable or check box parameter, simply change the selection or toggle the check box.

As shown in Figure 4.21, a green check mark will appear to the right of a parameter once a confirmation is received from the device that the update was successful.

If the parameter write is not successful, a message will be displayed in red to the right of the parameter, as shown in Figure 4.22. If a write fails, the parameter will be reset to the original value when the parameter loses focus in Control Panel.

Parameter Value Validation

If you input a value outside the valid range allowed by the device, a message with the valid range will appear to the right of the parameter as shown in Figure 4.23.

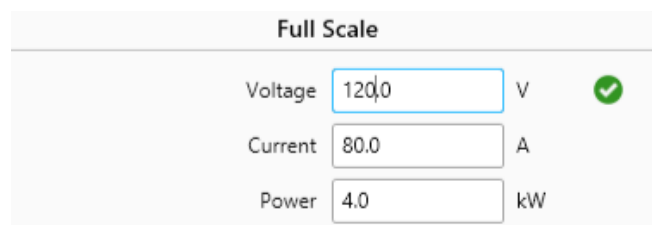


Figure 4.21: Green check mark appears to the right of a parameter after a successful update

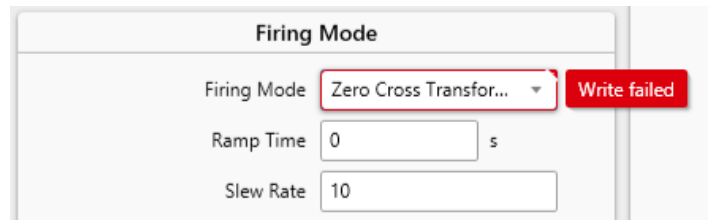


Figure 4.22: Message appears to the right of a parameter when an update fails

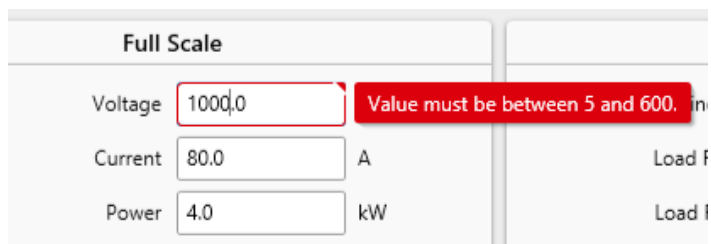


Figure 4.23: Invalid value is entered for a parameter

If an invalid value is present, the parameter will be reset to the original value when the parameter loses focus in Control Panel, and the value will not be written to the device.

Hidden parameters

A parameter will be hidden if it is not currently applicable for the current configuration of the device. For example, the Ramp Time and Slew Rate parameters are only visible in Control Panel when the controller is using “Phase Angle” firing mode.

4.4 Device Actions

Device actions are displayed as light blue buttons. Click on the button to execute the action. An action may be disabled based on the current state of the device. A disabled action has a gray background and cannot be clicked. Actions typically will issue a command to the device, but they can also update parameters or display a different screen in Control Panel. Some actions require a user confirmation before proceeding as shown in Figure 4.18. Click “OK” to continue and “CANCEL” to return without issuing the command to the device.

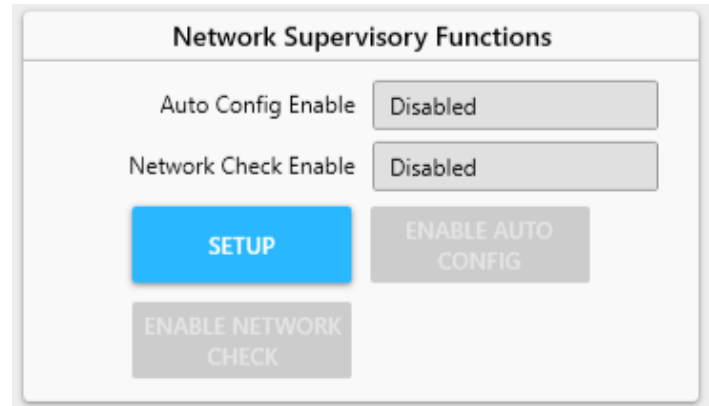


Figure 4.24: The Network Supervisory Functions actions in the “System” category for the Connect Module. “Enable Auto Config” and “Enable Network Check” are disabled because the “SETUP” has not yet been completed..

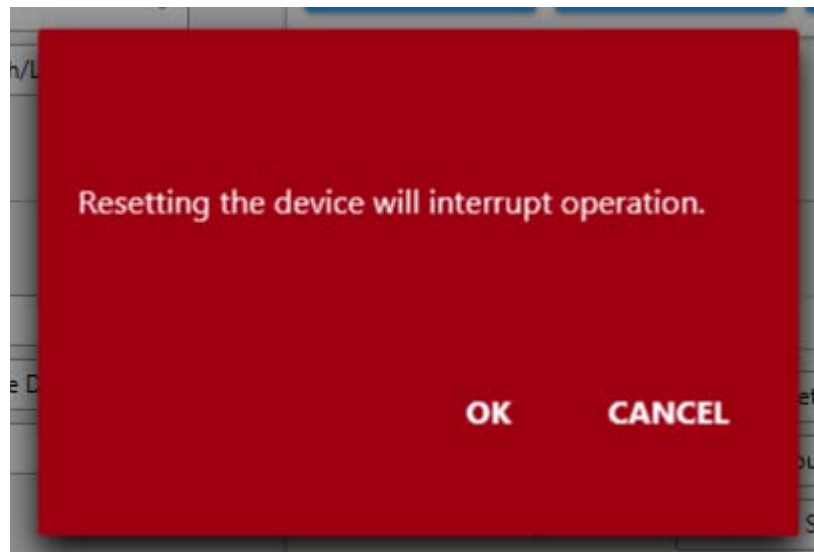


Figure 4.25: Confirmation dialog for Reset

5. COMMON TASKS

5.1 Upgrade firmware

Click the “FIRMWARE” button in the “Firmware” section, as shown in Figure 5.00 in the “Device Profile” category to upgrade firmware. Firmware upgrade is also available in the device action menu. **Do not load firmware unless directed to do so by Control Concepts, Inc. or an authorized representative.** The firmware button is not available for devices connected to Control Panel through the Connect Module on the CCI Link bus—to upgrade firmware you need to connect to the device directly using a USB cable.

Select the desired firmware file using the dialog that appears and click “Open.” A progress bar will appear and the firmware upgrade will begin. A second progress bar will appear underneath the device image in the “Connected devices” section of Control Panel. When the firmware upgrade is complete, the device will automatically reset and reconnect to Control Panel.

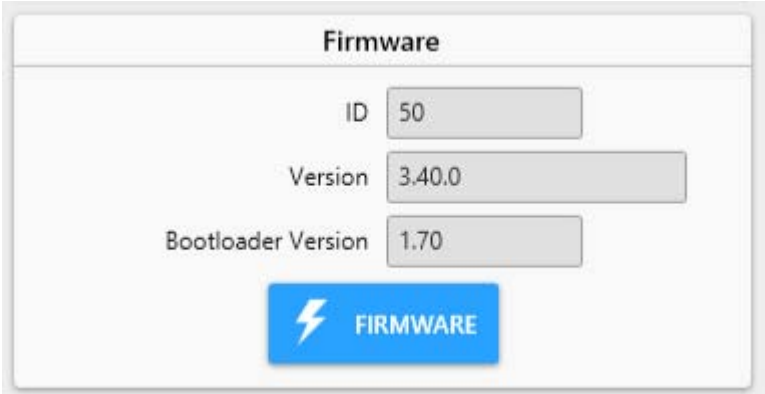


Figure 5.00: Navigate to the “Firmware” section in the “Device Profile” category to update device firmware.

Control Panel can upgrade the firmware of multiple devices at the same time that are connected via USB.

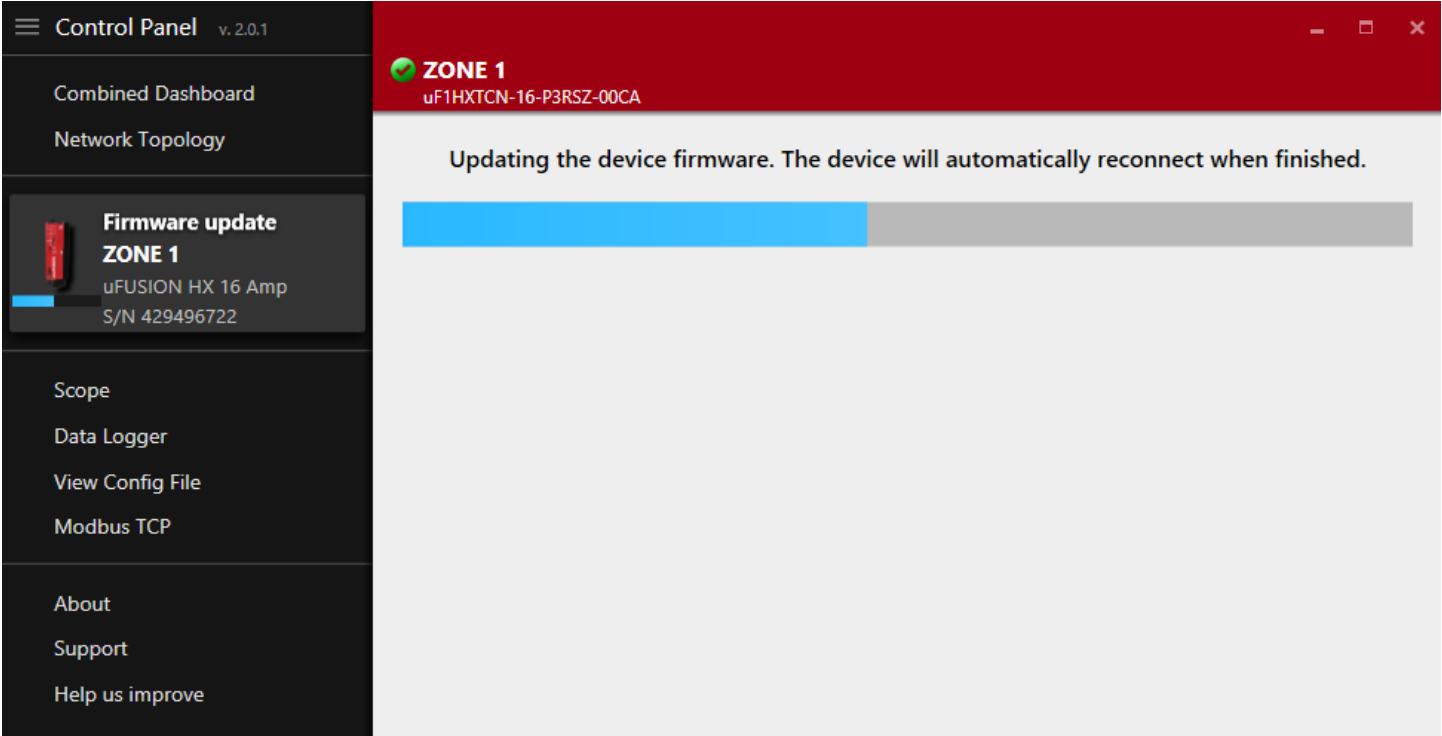


Figure 5.01: Upgrading the firmware of a MicroFUSION power controller

5.2 Save, Load, and View a Device Configuration File

Control Panel can save a configuration file for a MicroFUSION or FUSION power controller containing the values for the controller's setup parameters and calibration data. The configuration file is useful for device setup and troubleshooting:

- Save time by loading the configuration file into other devices that share the same configuration
- Send the configuration file to Control Concepts' support team to assist with troubleshooting
- Revert a device to a previous configuration saved in a configuration file
- Compare a device's previous configuration as saved in a configuration file to the current configuration of a connected device

Even with one master configuration file that is loaded to multiple units, it is recommended to save individual configuration files for each controller for future reference as the calibration information is unique for each controller.

The save and load configuration file functionality is available in the device action menu as shown in Figure 5.02. The Connect Module gateway also contains the "SAVE CONFIG FILE" and "LOAD CONFIG FILE" functions. However, these buttons save and load a Network Configuration File specific to the Connect Module gateway. The Network Configuration File is described in more detailed in the Connect Module operating manual available at the Control Concepts, Inc. website (www.cci-power.com).

5.2.1 Save a configuration file

Click the "SAVE CONFIG FILE" item in the device action menu to save the configuration file to your PC. The configuration file should be saved after all parameters are set to desired values. After clicking the button, a save file dialog will appear. Select the desired location and click the "Save" button to finish saving the configuration file.

The file is saved with the file extension ".ccidevice," and the default file name contains the device frame serial number. You can open the file into a text editor to view the contents and see the devices settings (JSON format).

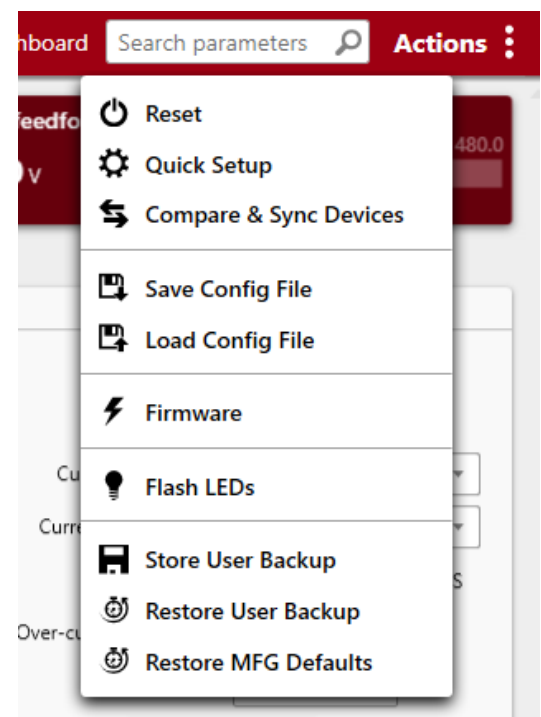


Figure 5.02: The "SAVE CONFIG FILE" and "LOAD CONFIG FILE" functions are located in the device action menu in Control Panel

5.2.2 Load a configuration file

Click the “LOAD CONFIG FILE” item in the device action menu to load a previously saved configuration file to a MicroFUSION or FUSION controller. The “LOAD CONFIG FILE” menu item will be disabled if the controller is in the RUN state. After clicking the button, select the desired configuration file in the dialog that appears and click “Open.”

Control Panel is capable of loading the “.xml” configuration file saved by the legacy Control Panel applications. To load a legacy configuration file, change the file selection from “CCI Device Config” to “Legacy Config File” in the file selection dialog as shown in Figure 5.03.

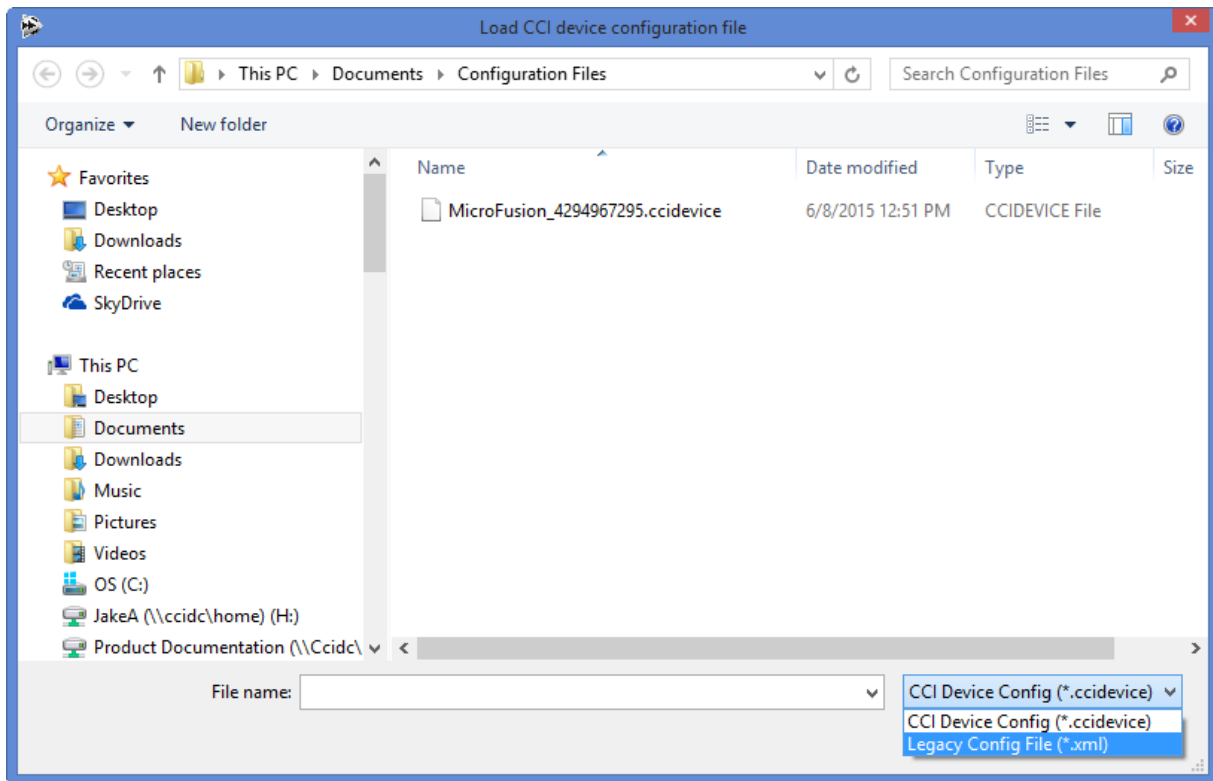


Figure 5.03: Change the file selection to “Legacy Config File” to load a configuration file generated by a legacy Control Panel application.

5.2.3 View a configuration file

Click “View Configuration File” in the Control Panel navigation menu as shown in Figure 5.04 to view a previously saved device configuration file. After clicking the button, select the desired configuration file in the dialog that appears and click “Open.” Control Panel is capable of viewing the “.xml” configuration file saved by the legacy Control Panel applications. To load a legacy configuration file, change the file selection from “CCI Device Config” to “Legacy Config File” in the file selection dialog as shown in Figure 5.03.

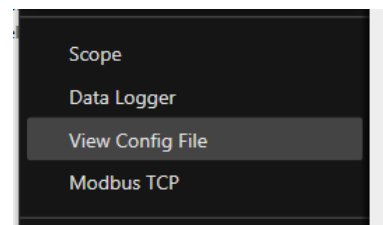


Figure 5.04: Click “View Configuration File” in the Control Panel navigation menu to view a previously saved device configuration file.

A device will appear in the Control Panel window as shown in Figure 5.05 once the file is loaded. A file icon signifies that the device has been created from a configuration file, and the file name appears below the serial number or device description. Click on the device to view its parameters. Multiple configuration files can be viewed in Control Panel by clicking “View Configuration File” in the tools menu and selecting a file multiple times. Once you are done viewing, click the “X” to the top right of the device icon to remove the device from Control Panel.

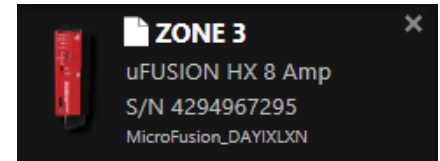


Figure 5.05: Viewing a device configuration file in Control Panel

Review parameters before updating the device

After selecting a configuration file to load, the dialog shown in Figure 5.06 appears summarizing the differences between the connected device (“Current Value”) and the configuration file (“File Value”). A message dialog will appear instead if the configuration file and the connected device are already in-sync. Navigate the parameter differences by expanding and collapsing the category headings. Unselect any parameters that you do not wish to update by clicking the blue checkboxes. Click “Update Device” to proceed with changing parameter values for the connected device to the values displayed in the “File Value” column. Click “Cancel” to exit the screen without updating the device.

Select the parameters to update to the "FILE VALUE" from the configuration file.

PARAMETER	#	File Value	Current Value
<input type="checkbox"/> System (36 parameters)			
<input checked="" type="checkbox"/> Control Configuration (6 parameters)			
<input checked="" type="checkbox"/> Full Scale (3 parameters)			
<input checked="" type="checkbox"/> Full Scale Voltage	8	110 V	100 V
<input checked="" type="checkbox"/> Full Scale Current	9	42 A	40 A
<input checked="" type="checkbox"/> Full Scale Power	10	19.2 kW	18.2 kW
<input type="checkbox"/> Limits (3 parameters)			
<input type="checkbox"/> Current Trip	14	20 A RMS	18 A RMS
<input type="checkbox"/> Power Limit	15	20.2 kW	20 kW
Current Limit Source	26	(does not exist)	Digital Value (SP-12)
<input type="checkbox"/> Analog Inputs (1 parameters)			
<input type="checkbox"/> Digital Communication / Fieldbus (1 parameters)			

UPDATE DEVICE CANCEL

Figure 5.06: Use this dialog to compare the contents of the configuration file with the connected device. In this case, the “Full Scale” parameters will be updated to the values in the “File Value” column after clicking “Update Device” but the all other parameters will remain the same

Updating the connected device to the values in the configuration file

After clicking “Update Device” in the review dialog, Control Panel will update the connected device. This process may take a few seconds. The dialog shown in Figure 5.07 will appear when the update finishes. If any parameters could not be updated (due to invalid values or hardware incompatibilities), the dialog shown in Figure 5.08 will appear indicating what parameters could not be updated.

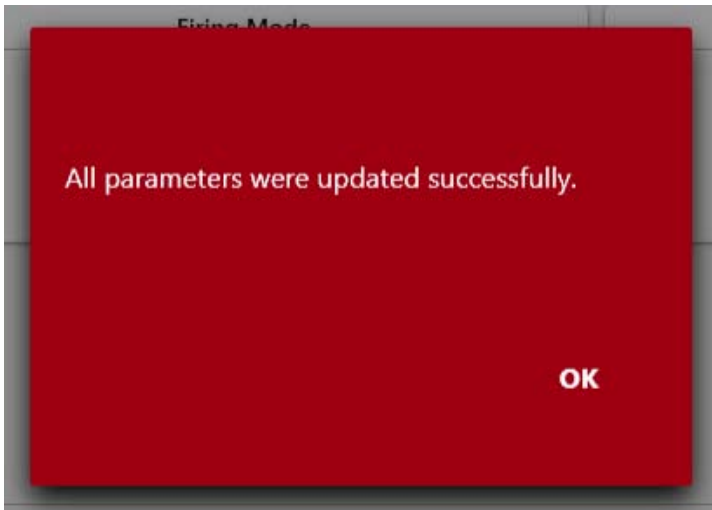


Figure 5.07: Loading the configuration file is complete and all parameters were updated successfully

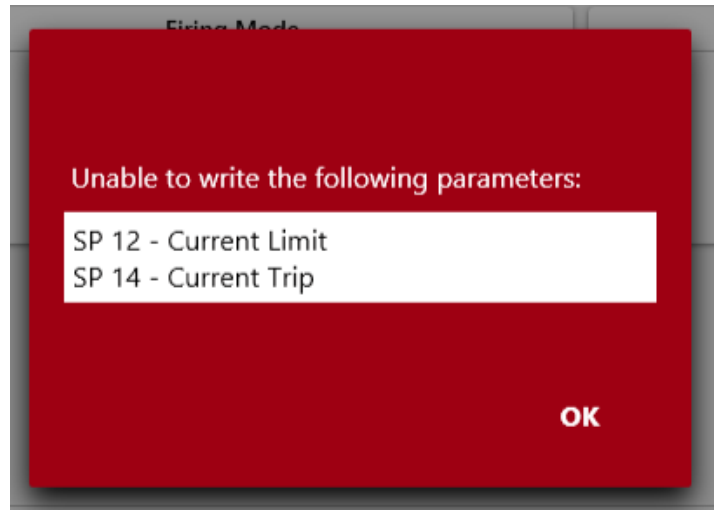


Figure 5.08: Loading the configuration file is complete, but SP 12 and SP 14 could not be updated

5.3 Compare and synchronize parameters between devices

Use Control Panel to compare and synchronize settable parameters between multiple devices (a few parameters such as MAC ID, Tag, and Local Mode Enable are not included). First select the desired source device in Control Panel, and then click the “COMPARE / SYNC” button in the device action menu as shown in Figure 5.09. The selected device’s parameters will be used as the source when copying parameters to other devices. After clicking “COMPARE / SYNC”, Control Panel will appear similar to Figure 5.10.

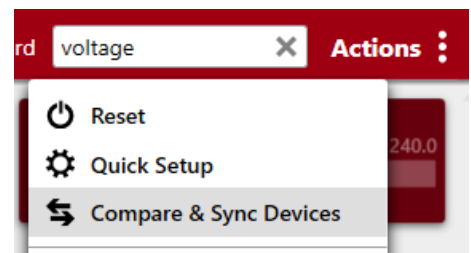


Figure 5.09: Click “COMPARE / SYNC” to open a tool to compare and synchronize parameters between multiple devices.

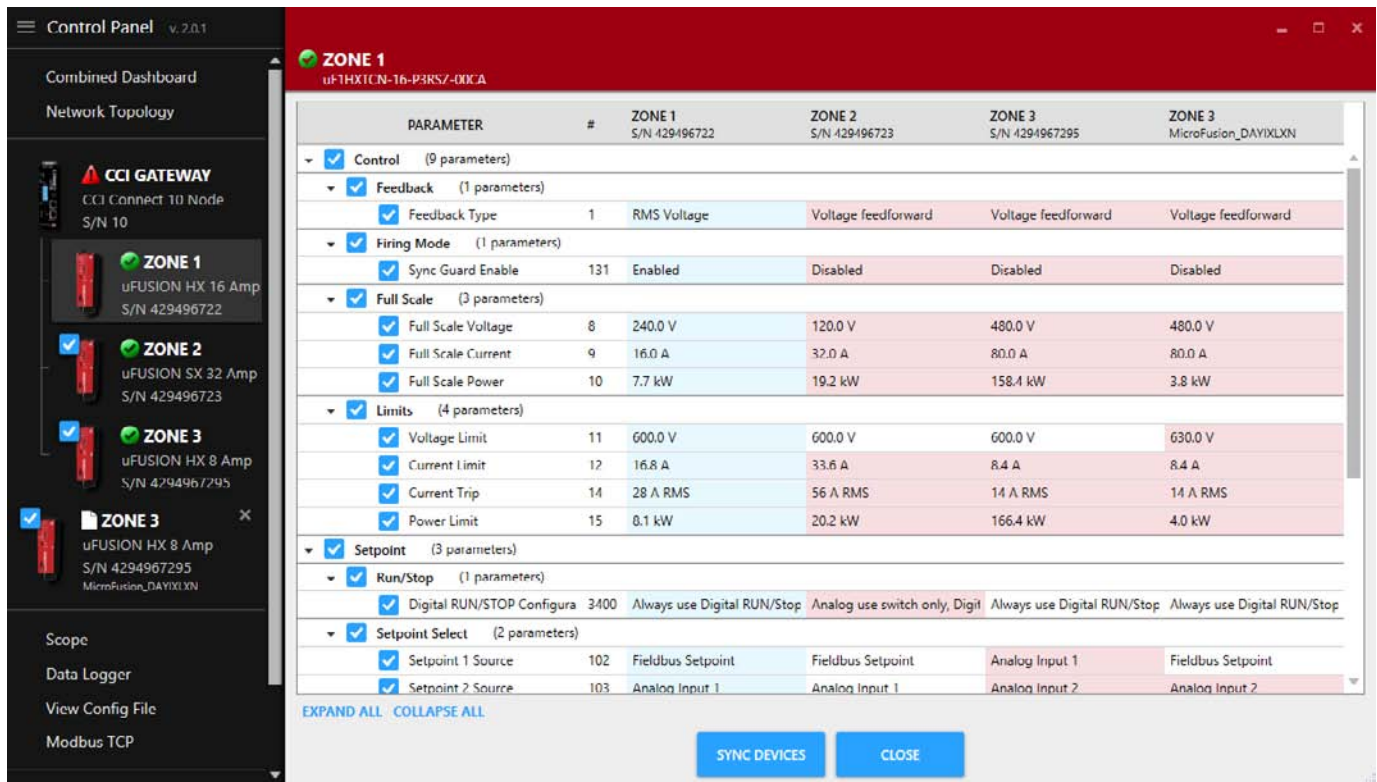


Figure 5.10: Comparing the device parameters of three MicroFUSION controllers. The “Control Configuration” parameters are selected for synchronization.

A check box appears near the device icon if the device can be compared to the source device—only device’s of the same type can be compared. Use the check box to select or unselect the devices being compared. A message will appear if all comparable device parameters are equal. The parameters that differ between one or more devices will appear in the grid. Click on the headings to expand and collapse sections in order to navigate the differing parameters (the “EXPAND ALL” and “COLLAPSE ALL” buttons can also be used.) The values of the source parameter values have a blue background, and parameters that have values that differ from the source value have a red background.

Use the check boxes near the headings and/or parameter names to select the parameters that you wish to copy to the selected devices from the source device. At any time, click “CLOSE” to return to the selected device’s dashboard and parameters. Click “SYNC DEVICES” to update the selected parameters in all of the selected devices. After the updates are complete, the grid will reload to reflect the changes to the device parameters.

Devices can also be compared or synchronized to a device configuration file, or multiple configuration files can be compared to each other. Follow the instructions in Section 5.2.3, “View a configuration file”, to load the contents of a configuration file into the Control Panel window. When using the device comparison and synchronization tool, the configuration files will become selectable just like a connected device. The “COMPARE / SYNC” button is also available in the dashboard for a selected configuration file, and the configuration file can be used as the source device for copying parameter values to other connected devices.

5.4 Upgrade the Features of a Control Concepts Device

A Control Concepts device can be upgraded in-the-field to enable additional functionality. Click the “Upgrade” button in the “Device Profile” category in Control Panel to view the upgradeable features for a connected device. Contact Control Concepts at 1 (800) 765-2799 for an upgrade key. Enter the key in the field, and click the “Upgrade” button to activate the key. After clicking “Upgrade,” the dialog will update to the newly unlocked features. Click “Close” after reviewing.

For a description of the features available for upgrade, refer to the device data sheet or device operating manual available at the Control Concepts, Inc. website (www.cciipower.com).

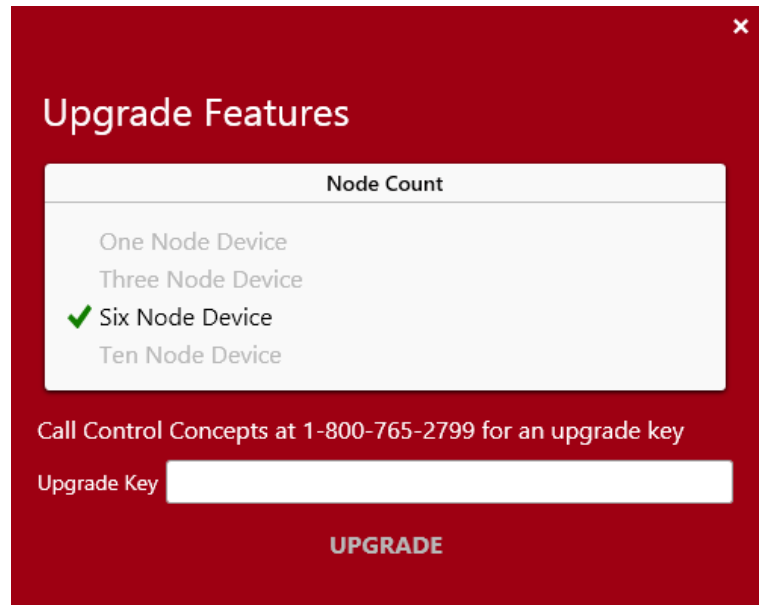


Figure 5.11: Review the current upgradeable features enabled in the connected device (a 6 node Connect Module gateway is shown). Enter an upgrade key to unlock new features.

5.5 Restore MFG Defaults

Click the “RESTORE MFG DEFAULTS” item in the device action menu to restore the device’s setup parameters to the original factory settings. Click “OK” on the confirmation dialog to proceed.

5.6 Save and Restore User Defaults

Click “SAVE USER BACKUP” in the device action menu to store all of the user-settable (SP) parameters to a backup location in the device. If any of the SP values are incorrect or different in the future, the backup location can be used to restore the SP parameters to the backup values. Click “RESTORE USER BACKUP” to restore the SP parameters to the backup values, and click “OK” on the confirmation dialog.

5.7 Custom Display Screen List

The MicroFUSION and FUSION controllers support a remote display that shows controller information. Use Control Panel to customize the contents of the display. Click the “CUSTOM SCREEN LIST” button in the screen list section of the display category as shown in Figure 5.12. The dialog in Figure 5.13 will appear. Click “PROGRAM” when finished to save the changes to the device, or “CANCEL” to return to the main Control Panel window without making changes.

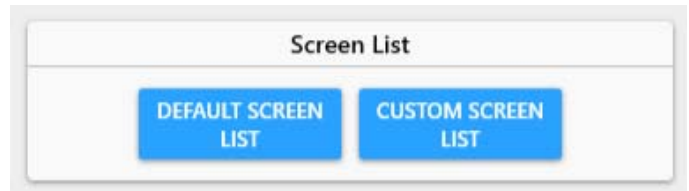


Figure 5.12: Click “CUSTOM SCREEN LIST” to launch the custom screen list dialog.

Drag from “Parameters” to “Display Screens” and click “Program” when finished. To require the lock code when changing a parameter’s value via the display, click the box next to the parameter name in “Display Screens”.

PARAMETERS	Search	DISPLAY SCREENS
NAME		LOCK ALL UNLOCK ALL
Zone Status	344	Screen 9
Error Latch	345	Feedback Type <input type="checkbox"/>
Alarms (combined)	346	Feedback Type
Network Message Error Count (CCI Link)	348	Screen 10
Network Heartbeat Timer	370	Firing Mode <input type="checkbox"/>
Heater Bakeout Time Remaining	371	Firing Mode
BootLoader Version	379	Screen 11
PGA Gain AC Line	380	Custom Display Text Line 2
PGA Gain Load Voltage	381	<input type="text" value="text here"/>
Range Load Voltage	382	Screen 12
PGA Gain Load Current	385	Analog Input 2 Monitor Value
PGA Gain Message Count	389	Title <input type="text" value="A2mp"/> Units <input type="text" value="A"/>
Diagnostic Test Enable	395	Screen 13
Diagnostic Test Select	396	
Custom Display Text Line 1	1880	
Custom Display Text Line 2	1896	

Lock Code **PROGAM** **CANCEL**

Figure 5.13: Use the custom screen list dialog to edit the contents of the MicroFUSION and FUSION remote display.

5.7.1 Setting parameters to a screen

Drag parameters from the “PARAMETERS” list on the left to the “DISPLAY SCREENS” list on the right. Each screen allows two lines of content. A parameter will require either one or two lines. Two parameters requiring one line each can be assigned to the same screen. The number of lines required will be highlighted when dragging a parameter over the screen in the “DISPLAY SCREENS” list. A new screen can be inserted between two existing screens by dragging a parameter in between two screens until the insert symbol appears. An “X” button will appear when hovering over the screen number--click this button to remove the screen from the list.

5.7.2 Custom Display Text Parameter

The “PARAMETERS” list on the left contains two parameters, Custom Display Text Line 1 and Custom Display Text Line 2, that allow custom text to be shown on the remote display. Drag one or both of these parameters to a screen in the “DISPLAY SCREENS” list. A text box will appear in the screen as shown in Figure 5.14 where you can enter the custom text.

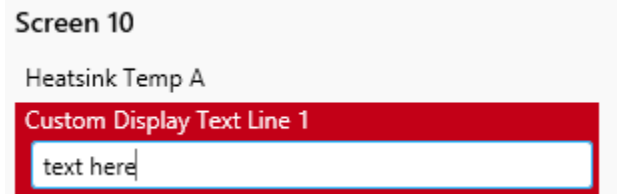


Figure 5.14: Use the “Custom Display Line Text” parameters to display custom text on a remote display screen.

5.7.3 Analog Input Monitor Parameter

You can assign a custom title and units to the Analog Input Monitor Value parameters [SP 208 & 209]. Drag one or both of these parameters to a screen in the “DISPLAY SCREENS” list. Text boxes will appear in the screen as shown in Figure 5.15 where you can enter the custom title and units.



Figure 5.15: Custom title and units are used to display the Analog Input Monitor Value parameters.

5.7.4 Locking parameters

Settable parameters can be locked on the remote display so that they cannot be changed without a pass code. A lock or unlock icon will appear to the right of the parameter name in the “DISPLAY SCREENS” list. Click the icon to toggle between lock and unlock. Use the “LOCK ALL” and “UNLOCK ALL” buttons to lock and unlock all the settable parameters at once. Set the four digit lock code used on the remote display to change a locked parameter in the lower left corner of the dialog.

6. DIAGNOSTICS

6.1 Read and Write to the Device Using MODBUS

Read Register button

Enter the number of the parameter you wish to read into the Register box next to the Read Register button. Selecting this button will read the parameter's value and display it in the Value box.

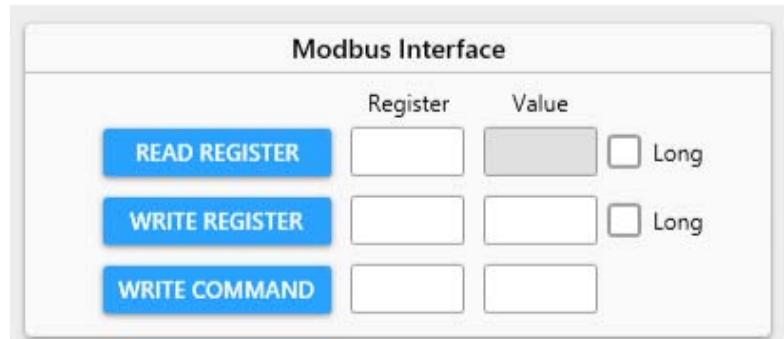
Write Register button

Enter the number of the parameter into the Register box and the value that you wish to write into the Value box next to the Write Register button. Selecting this button will write the value to the parameter.

NOTE: Some values require a high and low word and therefore have a high and low parameter associated with them. Check the Long checkbox to read or write both of these parameters. When Long is checked enter only the parameter number for the high word. The high word parameter is designated in the parameter list by HI (MSW) in the title.

Write Command button

Writes special commands to the controller. Do not use unless under direct support from Control Concepts.



The screenshot shows a window titled "Modbus Interface" with three rows of controls. Each row has a blue button on the left, a "Register" input box, a "Value" input box, and a "Long" checkbox. The first row has a "READ REGISTER" button, an empty Register box, a greyed-out Value box, and an unchecked Long checkbox. The second row has a "WRITE REGISTER" button, an empty Register box, an empty Value box, and an unchecked Long checkbox. The third row has a "WRITE COMMAND" button, an empty Register box, an empty Value box, and no checkbox.

Figure 6.00: Use the Modbus Interface located in the “Diagnostics” category for troubleshooting as directed by Control Concepts’ technical support.

6.2 Scope

The data trace feature in a Control Concepts power controller records the controller's line voltages, load voltages, and load current waveforms for a period of 2 cycles. The scope feature in Control Panel allows the user to change data trace settings and view the data trace signals in a graph. The scope feature is available for a Control Concepts digital power controller that is connected to Control Panel via USB (Scope is not available for a controller connected via the CCI Link network / Connect Module gateway).

To access the scope feature, click the “Scope” button in the Control Panel navigation menu as shown in Figure 6.01

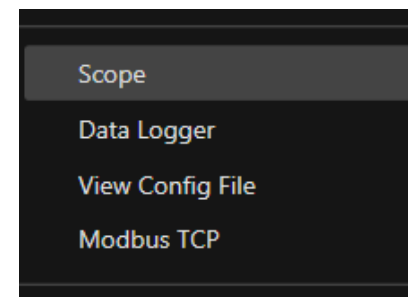


Figure 6.01: Click “Scope” in Control Panel’s navigation menu to access the scope feature

After clicking the “Scope” option, the Control Panel scope window as shown in Figure 5.09 will appear. A device needs to be selected in the main Control Panel window for the scope settings and graph to appear. If there are multiple devices connected to Control Panel, the information in the scope window will update as the selected device changes in the main Control Panel window.

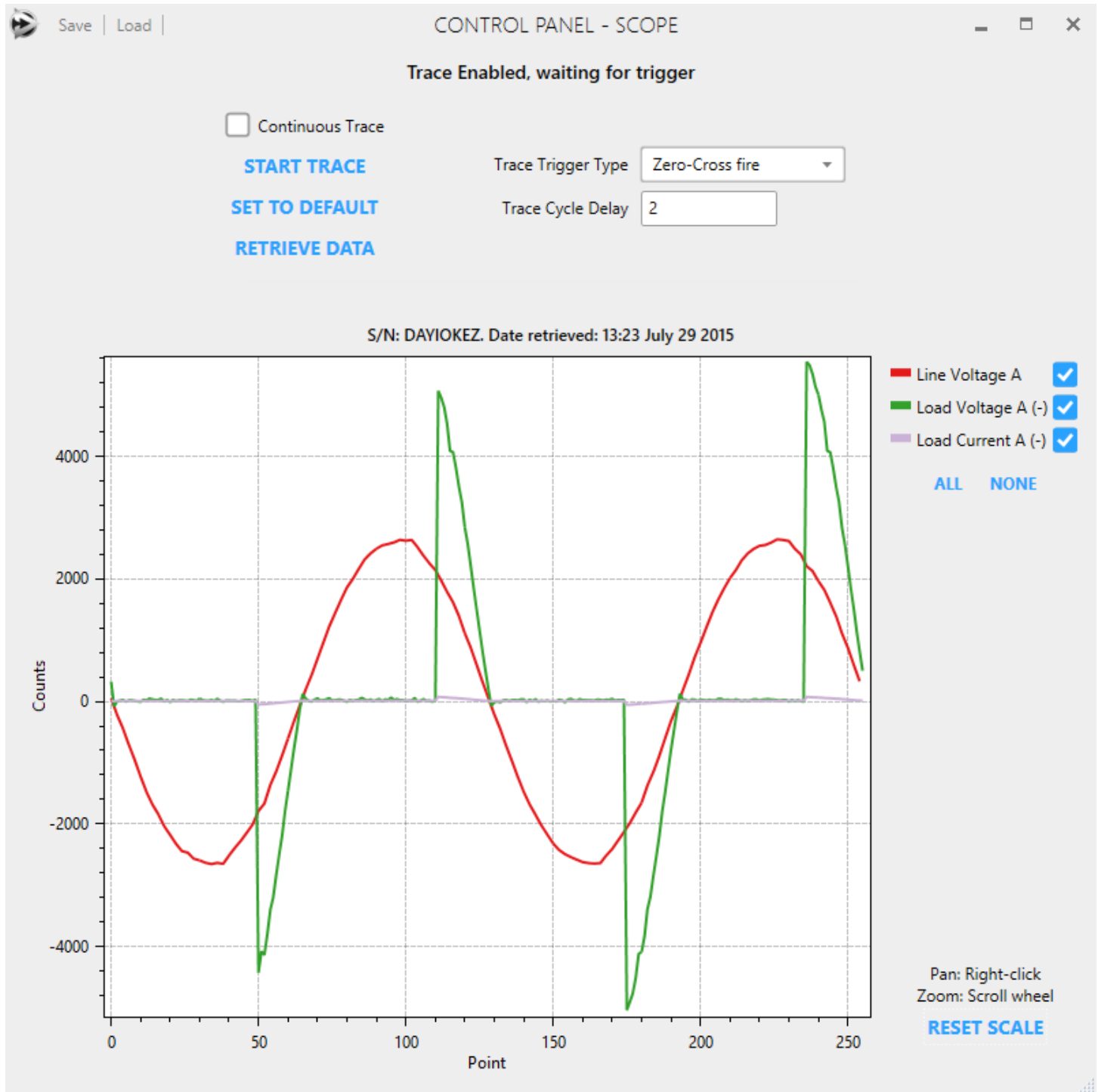


Figure 6.02: Adjust controller data trace / scope settings and view result data with the Control Panel Scope window.

The scope window consists of five main sections:

1. Controller data trace status
2. Data trace commands
3. Data trace parameters
4. Scope graph
5. Save and load data trace

6.2.1 Controller data trace status

The current status of the selected controller's data trace feature is shown at the top of the scope window. The status has three possible values:

Trace Disabled, data available

The controller's trace function is not currently running and not actively collecting data, so trace data is available to be read and displayed. The trace data will automatically be retrieved and displayed on the graph when:

- This status is active when the scope feature is first selected for a device in Control Panel
- A controller's data trace status changes to this value while the Scope window is open

Trace Enabled, waiting for trigger

The controller's trace function is active and actively collecting signal data, and the controller is waiting for the trigger event to occur as specified by the "Trace Trigger Type" parameter. For example, if "Trace Trigger Type" is set to "RUN State" and a trace is started, the trace status will remain at as "Trace Enabled, waiting for trigger" until the controller is put into RUN. After the controller is at RUN, the status will change.

Trigger occurred, collecting data

The trigger occurred as specified by the "Trace Trigger Type" parameter, and the controller is actively collecting the signal data. Once the data collection is complete, the status will change back to "Trace Disabled, data available," and the Control Panel scope graph will update.

6.2.2 Data trace commands

The control panel scope window contains a checkbox and three buttons to manage the data trace functionality:

Continuous Trace

Check the Continuous Trace checkbox to continually read trace data from the controller as it becomes available. Checking this checkbox will first instruct the controller to start a new data trace. Once the trigger occurs and data is available, the data will be retrieved and the controller will be told to start another data trace. These steps will repeat until the Continuous Trace checkbox is unchecked. The value of the "Trace Trigger Type" parameter will impact when and how often the scope graph is updated.

Start Trace

Instructs the controller to start a data trace using the current values for the data trace setting parameters.

Set to Default

Sets the data trace setting parameters to default values and instructs the controller to start a data trace.

Retrieve Data

Instructs the controller to stop collecting data (if data trace is Enabled), retrieves the data, and updates the Control Panel scope graph. If a trigger had previously occurred (the status is “Trace Disabled, data available”), this action will retrieve the signal data processed during the previous trigger event.

6.2.3 Data trace parameters

The controller contains parameters that control how a data trace is performed:

Trace Trigger Zone [SP 1851] (FUSION controllers only)

Selects the zone that the controller monitors for the trigger event to occur. If “All Zones” is selected, the trace data will save when the trigger event occurs for any of the zones.

Trace Trigger Type [SP 1852]

Selects the condition that will cause the data trace to stop and the signal data to save. Insert table from page 44 of uF CP manual. Change “None” to “Auto”

Setting	Description
Auto	Starts on the next AC line, positive half cycle
Run	When controller is in Run state
Zero Cross	Next Zero Cross fire pulse
Zero Cross Positive	Next Zero Cross fire pulse on the positive half cycle
Zero Cross Negative	Next Zero Cross fire pulse on the negative half cycle
Limit	Any limit (Voltage, Current, Power)
Shorted SCR	Shorted SCR event
Over Current Trip	Over Current Trip event

Trace Cycle Delay [SP 1853]

Range: 0 – 100 Cycles (0 = continuous)

After trigger, data is collected until the set number of cycles, then the trace stops and holds data for the last two cycles collected.

For example: If Data Trace Cycles = 10, 10 cycles of data will be collected and the last 2 cycles will be saved for viewing.

6.2.4 Scope Graph

Once a controller's trace data is available ("Trace Disabled, data available" status), Control Panel will automatically retrieve the data and display the scope graph. Use the checkboxes in the graph legend to show or hide signals on the graph. Show or hide all the signals using the "ALL" and "NONE" buttons.

Right-click and drag to change the viewing section of the graph (PANNING). Use the mouse scroll wheel to zoom. Use the scroll wheel directly above the X or Y axis to zoom the graph on that axis only. If your mouse supports a clickable scroll wheel, click and drag with the scroll wheel to select a section of the graph to zoom to. Click the "RESET SCALE" button in the lower right corner of the graph to reset the scaling back to the original fit.

6.2.5 Save and load data trace

Click the "Save" button at the top left corner of the Control Panel scope window to save the current trace data to a .csv file. Input the desired location and file name in the dialog that appears. Import the data trace .csv file to a spreadsheet application for further analysis, or load the data back into the Control Panel scope to view at a later time. The "Save" button will be disabled if a data trace is not currently displayed in the Control Panel scope graph.

Click the "Load" button at the top left corner of the Control Panel scope window to view the data in a trace data .csv file in the Control Panel scope graph. Select the desired .csv file in the dialog that appears, and scope graph will appear showing the data trace from the file. The S/N of the unit and the date/time of the original data trace are displayed above the scope graph.

6.3 Data Logger

Use the data logger to record signals, statuses, and other device information for the devices connected to Control Panel. The data logger feature can be used with any CCI digital device, and multiple devices can be logged simultaneously. To access the data logger feature, click the “Data Logger” button in the Control Panel navigation menu as shown in Figure 6.03.

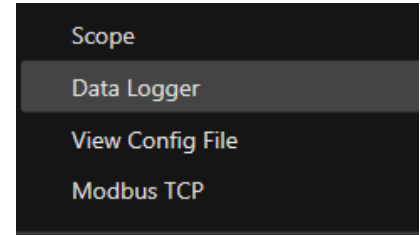
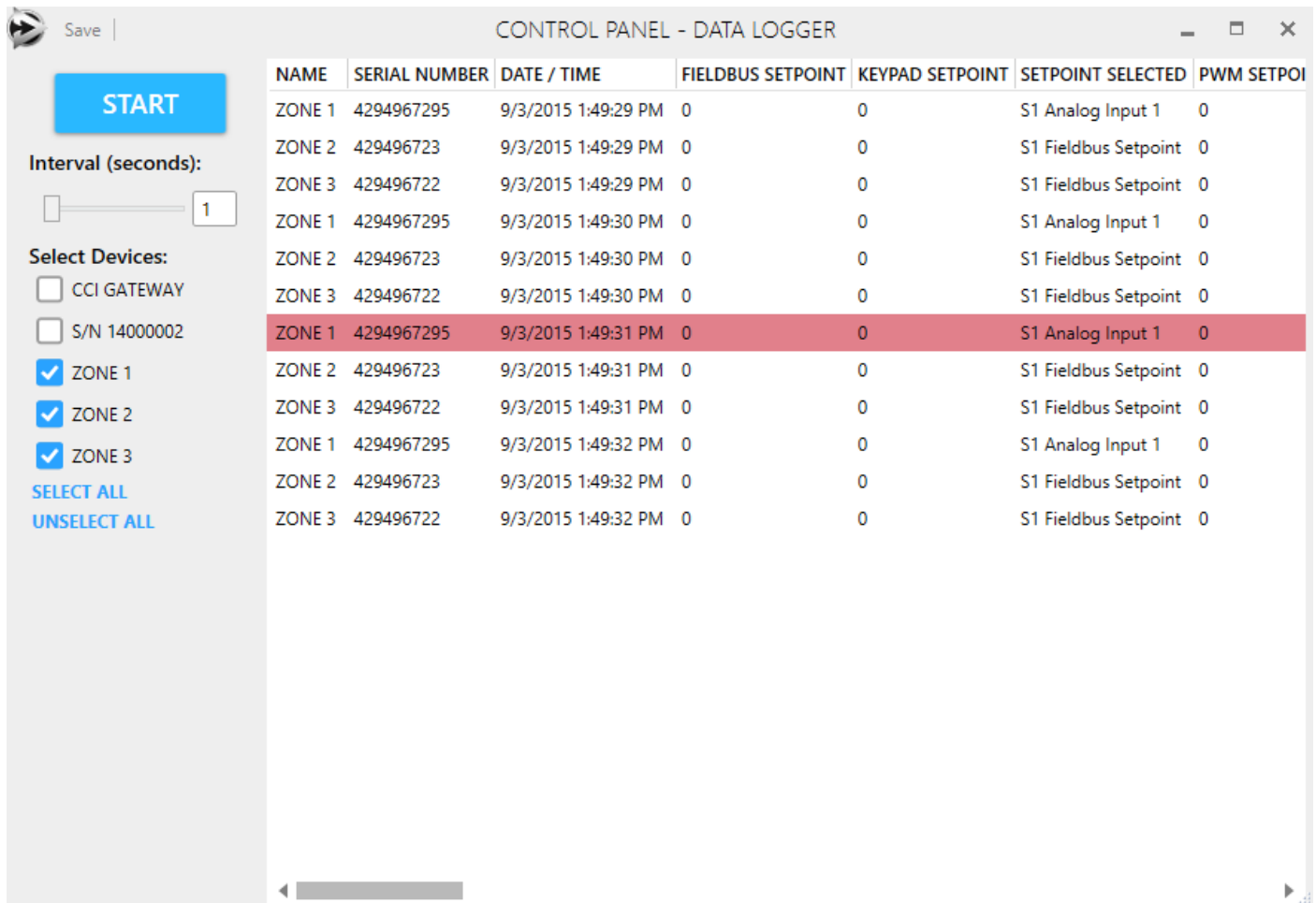


Figure 6.03. Click “Data Logger” in the Control Panel navigation menu to launch the data logger window.

After clicking the “Data Logger” option, the Control Panel data logger window, as shown in Figure 6.04, will appear. Select the devices you wish to log on the left side of the window under the “Select Devices:” label. Adjust the logging interval with the slider under the “Interval (seconds)” label. Click the “START” button to start logging. Parameter values for the selected devices will appear in the grid on the right side of the window. To stop logging, click the “STOP” button. To save the logging results in a CSV file, click the “Save” button on the top left corner of the data logger window, enter a file name (or use the default), and click the “Save” button in the lower right corner of the Save Data dialog. The CSV file can be imported into a spreadsheet program for further analysis.



The screenshot shows the 'CONTROL PANEL - DATA LOGGER' window. On the left, there is a 'START' button, an 'Interval (seconds):' slider set to 1, and a 'Select Devices:' section with checkboxes for 'CCI GATEWAY', 'S/N 14000002', 'ZONE 1', 'ZONE 2', and 'ZONE 3'. Below these are 'SELECT ALL' and 'UNSELECT ALL' buttons. The main area is a table with the following data:

NAME	SERIAL NUMBER	DATE / TIME	FIELDBUS SETPOINT	KEYPAD SETPOINT	SETPOINT SELECTED	PWM SETPOI
ZONE 1	4294967295	9/3/2015 1:49:29 PM	0	0	S1 Analog Input 1	0
ZONE 2	429496723	9/3/2015 1:49:29 PM	0	0	S1 Fieldbus Setpoint	0
ZONE 3	429496722	9/3/2015 1:49:29 PM	0	0	S1 Fieldbus Setpoint	0
ZONE 1	4294967295	9/3/2015 1:49:30 PM	0	0	S1 Analog Input 1	0
ZONE 2	429496723	9/3/2015 1:49:30 PM	0	0	S1 Fieldbus Setpoint	0
ZONE 3	429496722	9/3/2015 1:49:30 PM	0	0	S1 Fieldbus Setpoint	0
ZONE 1	4294967295	9/3/2015 1:49:31 PM	0	0	S1 Analog Input 1	0
ZONE 2	429496723	9/3/2015 1:49:31 PM	0	0	S1 Fieldbus Setpoint	0
ZONE 3	429496722	9/3/2015 1:49:31 PM	0	0	S1 Fieldbus Setpoint	0
ZONE 1	4294967295	9/3/2015 1:49:32 PM	0	0	S1 Analog Input 1	0
ZONE 2	429496723	9/3/2015 1:49:32 PM	0	0	S1 Fieldbus Setpoint	0
ZONE 3	429496722	9/3/2015 1:49:32 PM	0	0	S1 Fieldbus Setpoint	0

Figure 6.04. Use the data logger feature to record signals, statuses, and other device information

6.4 Trap and Fault History

A CCI digital power controller saves event information when alarms, processor errors, or other critical events occur. With a device selected, use the “Trap & Fault History” functionality, as shown in Figure 6.05, in the “Diagnostics” category to view and clear this information. This feature is usually used when requested by Control Concepts technical support.

Trap Count parameter [MP 1948]

The trap count is the number of processor trap events that have been captured by the controller. Contact CCI in the unlikely event that Trap Count is greater than zero.

Retrieve Trap History button

Click this button to retrieve the trap information from the controller when the Trap Count is greater than zero. The dialog shown in Figure 6.06 will appear--click “SAVE TO FILE” to save the information to a text file. This file can then be sent to Control Concepts for further analysis.

Clear Trap button

Clears the trap history--the Trap Count will update to zero.

Fault Count parameter [MP 1708]

The fault count is the number of fault events experienced by the controller. The controller records faults for shorted SCR, heat sink over-temperature, and current trip.

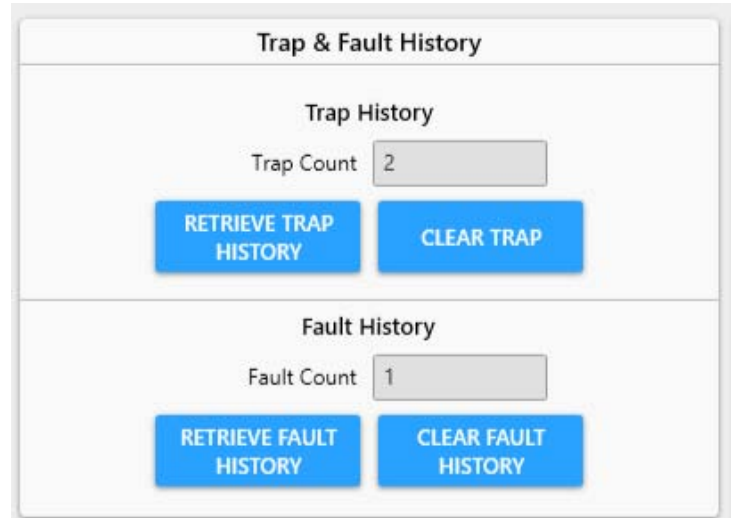


Figure 6.05. Control Panel’s “Trap & Fault History” function allows you to view and clear a power controller’s alarms, processor errors, and other critical events.

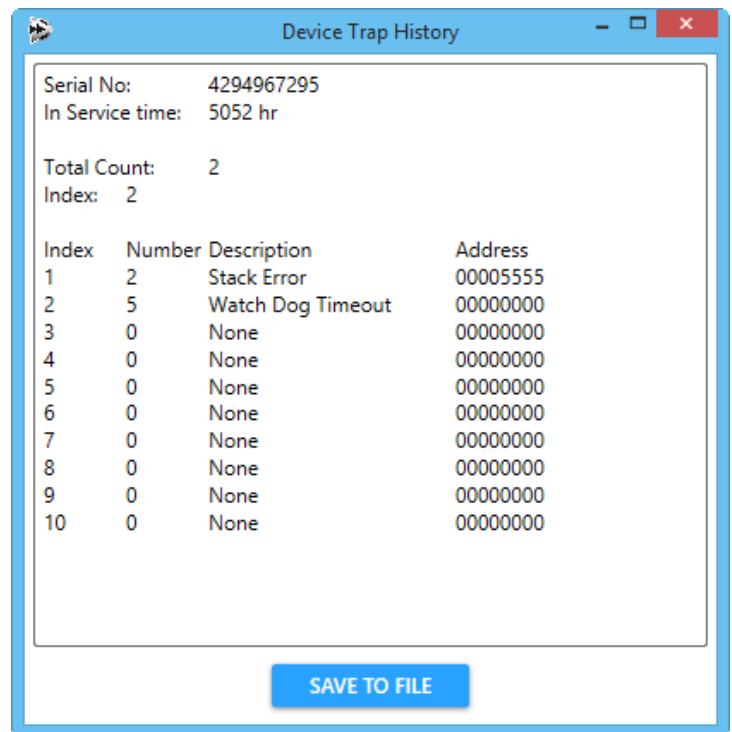


Figure 6.06. View the controller’s trap history in Control Panel.

Retrieve Fault History button

Click this button to retrieve the fault information from the controller when the Fault Count is greater than zero. The dialog shown in Figure 6.07 will appear--click "SAVE TO FILE" to save the information to a text file. This file can then be sent to Control Concepts for further analysis.

Clear Fault History button

Clears the fault history--the Fault Count will update to zero.

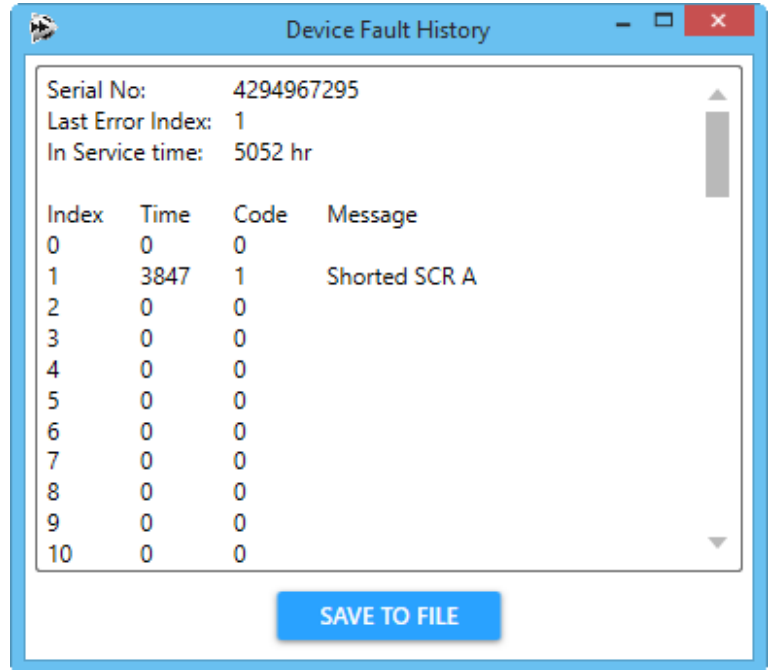


Figure 6.07: View the controller’s fault history in Control Panel.

7. CONTACTING CCI

7.1 Submit an Error Report

If you encounter an error when using Control Panel, an error icon will appear above the device image icon (Figure 7.00), or a popup will appear (Figure 7.01). In both situations, submit an error report by clicking the “SUBMIT ERROR REPORT” button to provide us more information so we can help you resolve the issue.

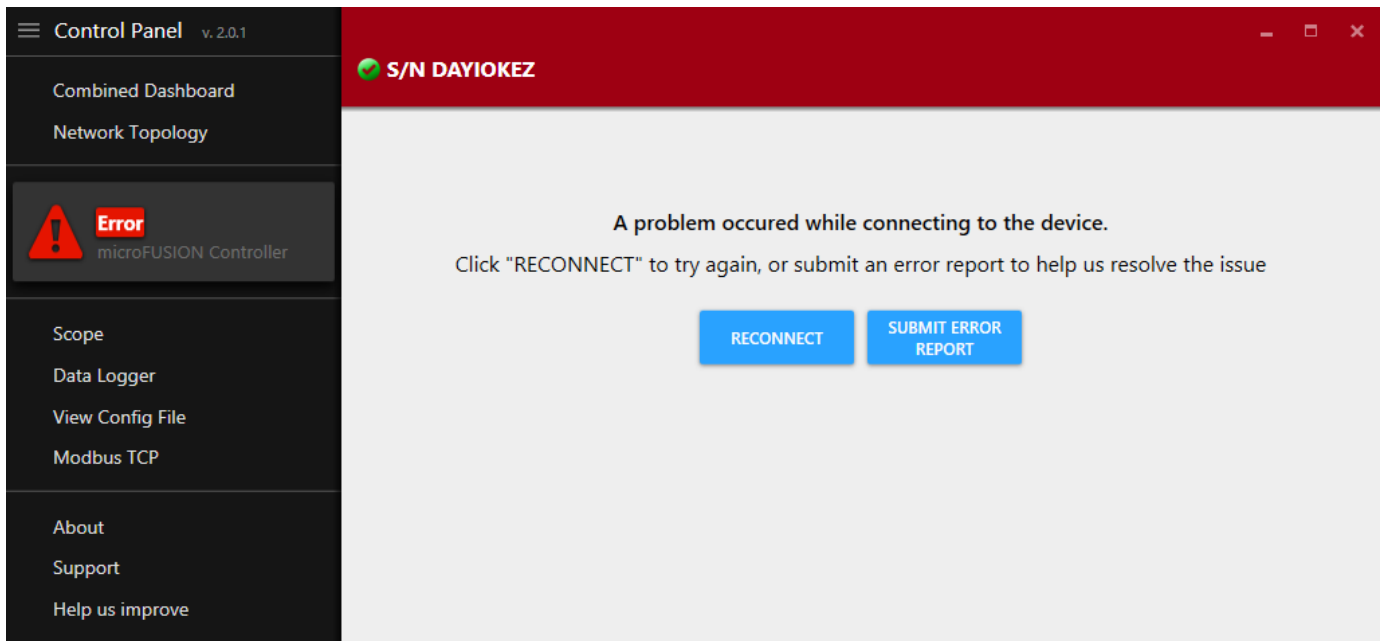


Figure 7.00: Error icon appears beside the device image when a problem occurs

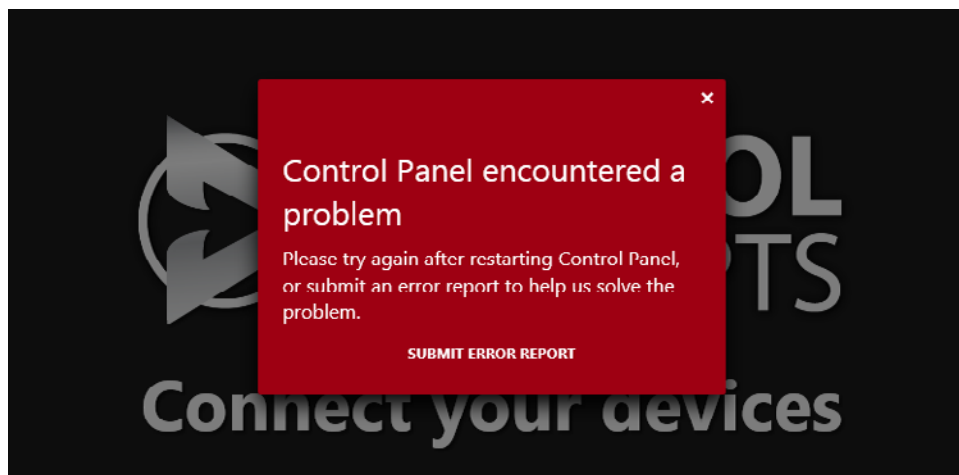


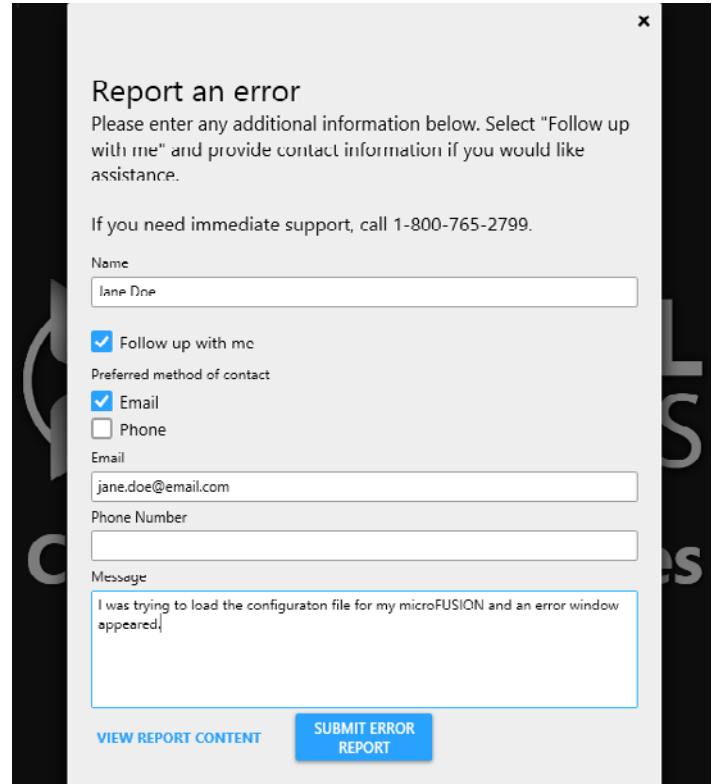
Figure 7.01: Control Panel displays an error in a popup window.

After clicking “SUBMIT ERROR REPORT,” Control Panel will display the “Report an Error” form as shown in Figure 7.02. Please provide your name in the “Name” field and any additional information about how the problem occurred in the “Message” field. If you would like our technical support at Control Concepts to follow up with you, check the “Follow up with me” and “Preferred method of contact” checkboxes, and provide the required contact information.

Click the “VIEW REPORT CONTENT” button to view the contents of the error report. A new window will appear with Control Panel’s error log information.

Once all of the required information has been entered, the “SUBMIT ERROR REPORT” button will enable. Click this button to send the report to Control Concepts.

You must have an internet connection to submit an error report. If you do not, please call our technical support at 1-800-765-2799.



Report an error
Please enter any additional information below. Select "Follow up with me" and provide contact information if you would like assistance.

If you need immediate support, call 1-800-765-2799.

Name
Jane Doe

Follow up with me

Preferred method of contact

Email
 Phone

Email
jane.doe@email.com

Phone Number

Message
I was trying to load the configuraton file for my microFUSION and an error window appeared.

[VIEW REPORT CONTENT](#)

Figure 7.02: Report an error in Control Panel to help us solve the issue and provide you with assistance

7.2 Request technical support

If you have questions about Control Concepts products or the Control Panel application, you can use Control Panel to request support from a technical expert. Click the “Support” button in the Control Panel navigation menu as shown in Figure 7.03.

After clicking “Support,” Control Panel will display the “Request Support” form as shown in Figure 7.04. Please provide your name in the “Name” field and a description of your inquiry in the “Message” field. Specify how you would like to be contacted using the “Preferred method of contact” checkboxes, and provide the required contact information.

Once all of the required information has been entered, the “SEND SUPPORT REQUEST” button will enable. Click this button to send the request to Control Concepts, and one of our technical experts will contact you.

You must have an internet connection to request support using Control Panel. If you do not have an internet connection, please call our technical support at 1-800-765-2799.

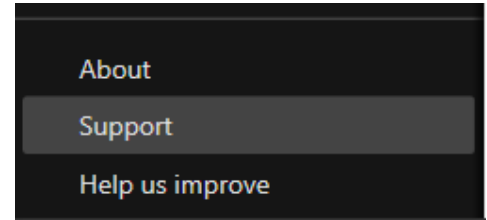


Figure 7.03: Click “Support” in Control Panel’s navigation menu to request support from a Control Concepts technical expert

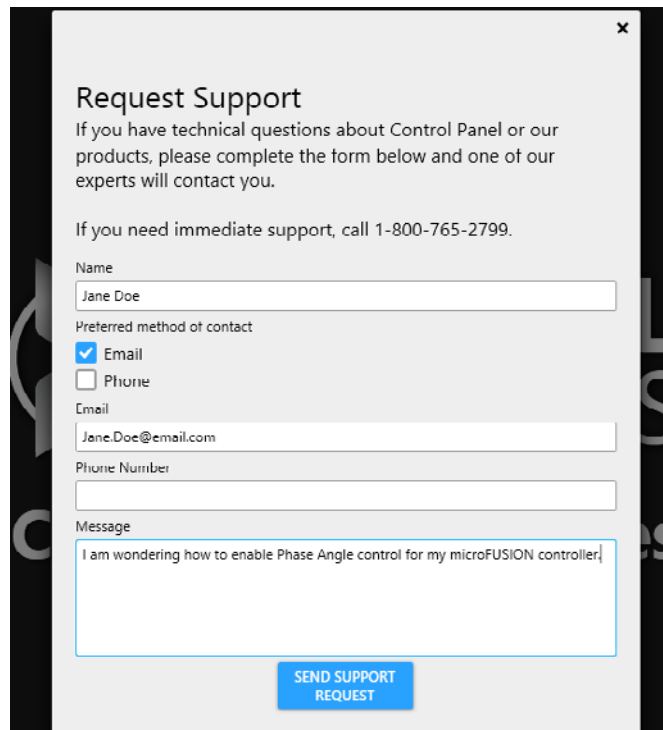
A screenshot of a web form titled 'Request Support'. The form includes a title, a brief instruction, a phone number for immediate support, and several input fields: 'Name' (Jane Doe), 'Preferred method of contact' (Email checked, Phone unchecked), 'Email' (Jane.Doe@email.com), 'Phone Number' (empty), and 'Message' (I am wondering how to enable Phase Angle control for my microFUSION controller). A blue 'SEND SUPPORT REQUEST' button is at the bottom.

Figure 7.04: Click “Support” in the navigation menu to submit feedback

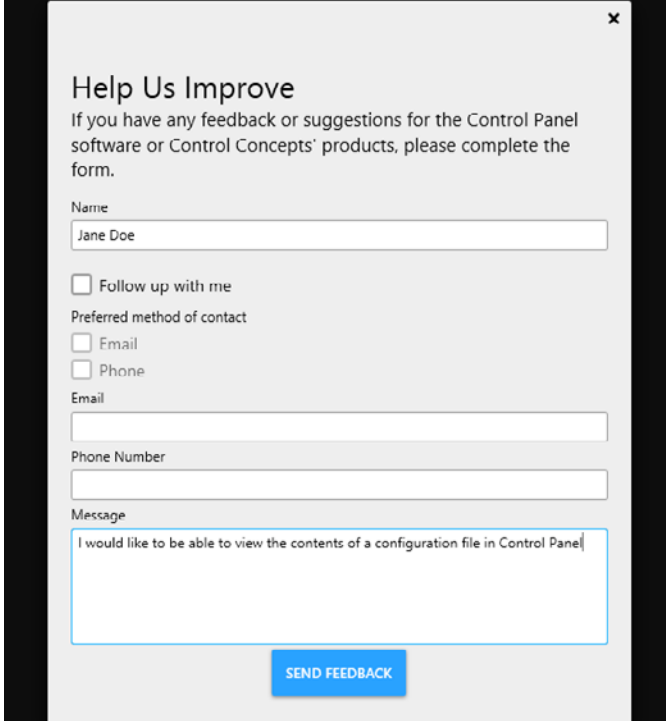
7.3 Send feedback on Control Panel or other CCI products

You can use Control Panel to let us know any suggestions, requests, or general feedback regarding Control Concepts products or the Control Panel application. Click the “Help us improve” menu option in the “Information” button in the Control Panel navigation menu as shown in Figure 7.04.

After clicking “Help us improve,” Control Panel will display the “Help us improve” form as shown in Figure 7.05. Please provide your name in the “Name” field and your feedback in the “Message” field. If you would like someone at Control Concepts to follow up with you, check the “Follow up with me” and “Preferred method of contact” checkboxes, and provide the required contact information.

Once all of the required information has been entered, the “SEND FEEDBACK” button will enable. Click this button to send your message to Control Concepts.

You must have an internet connection to send feedback using Control Panel. If you do not have an internet connection, please let us know your feedback by calling us at 1-800-765-2799.



The screenshot shows a web form titled "Help Us Improve" with a close button (x) in the top right corner. The form contains the following fields and options:

- Name:** A text input field containing "Jane Doe".
- Follow up with me:** A checkbox that is currently unchecked.
- Preferred method of contact:** Two checkboxes, "Email" and "Phone", both of which are unchecked.
- Email:** An empty text input field.
- Phone Number:** An empty text input field.
- Message:** A text area containing the text "I would like to be able to view the contents of a configuration file in Control Panel".
- SEND FEEDBACK:** A blue button located at the bottom right of the form.

Figure 7.05: Let us know your feedback using the Control Panel

8. UPDATING CONTROL PANEL

If your PC has access to the Control Concepts website, Control Panel will check to see if a newer version is available when the application starts. If a new version is available, “Update Available” will appear at the top of the Control Panel navigation menu as shown in Figure 8.00.

Click on “Update Available” to view details about the newer version of the application. The update can be for the Control Panel executable or the Control Concepts device definition database.

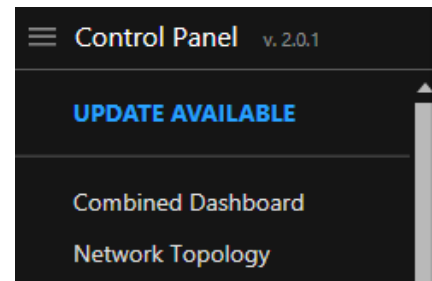


Figure 8.00. “Update Available” appears at the top of the Control Panel navigation menu when a newer version is available.

8.1 Updating the Control Panel Executable

If an update is available for the Control Panel executable, a dialog will appear showing the version of the newer executable as shown in Figure 8.01. Click “Update” to download the installation file. Once the download is complete, Control Panel will start the installer and close. You may see a Windows “User Account Control” dialog asking for permissions to run CCIControlPanelSetup.exe. Complete the installation wizard and restart Control Panel when complete.



Figure 8.01. A new version of the Control Panel executable is available for installation.

8.2 Updating the CCI Device Definition Database

If an update is available for the Control Concepts device definition database, a dialog will appear showing the version of the newer database as shown in Figure 8.02. Click “Update” to download the latest device definition database and update the version currently being used. Administrator rights are not required on the PC. Once the download is complete, any connected devices will refresh using the information in the newer database.

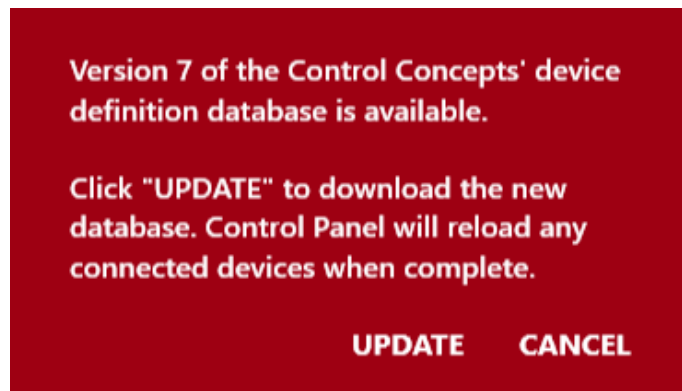


Figure 8.02: A new version of the Control Concepts device definition database is available