# Benshaw Connect Help

Contents

# Getting Started

## Installing Benshaw Connect

1. If you have a previous version of Benshaw Connect installed, uninstall it from the programs menu of your computer.
    - Existing work files and reports will not be deleted by the uninstall process.
    - The Benshaw Connect Event Viewer does not need to be uninstalled.
2. Install Benshaw connect by opening the provided “Setup” file.

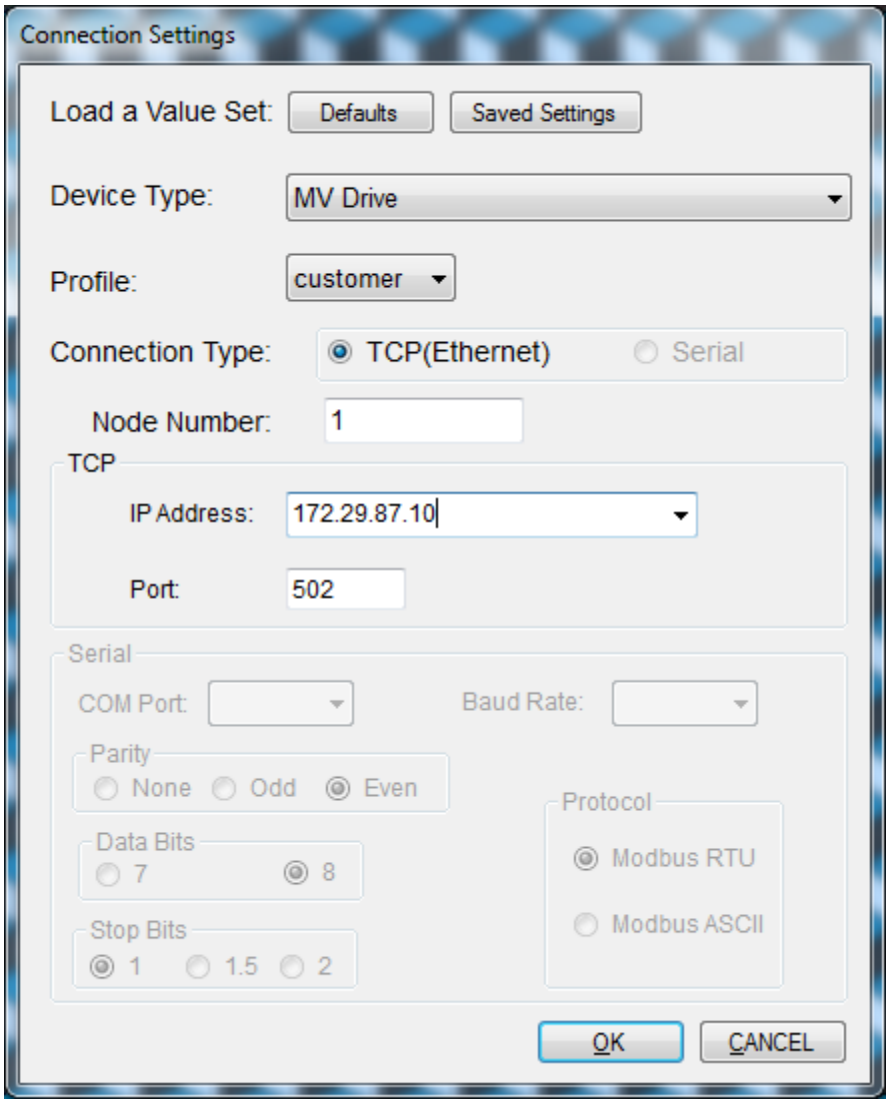
## Launching the Program

1. Choose device and connection type from this screen.
2. Settings are loaded from most recent connection attempt, simply click “connect” to continue.
3. Click “settings” if changes are required.


## View Type

1. For some devices, multiple view types are available.
    - Use “list” view to hide graphical controls and make the parameter and meter list full screen.
    - Use “graphics” view to hide the parameter list and use graphical controls only.

# Connection Settings




**Device Type**

- MV Drive, MX2, MX3, and SG Drive are supported.

**Profile**

- Different Parameter and meter lists for some devices.
- Use “test” view to load and display all exposed parameters and meters.

**Node Number**

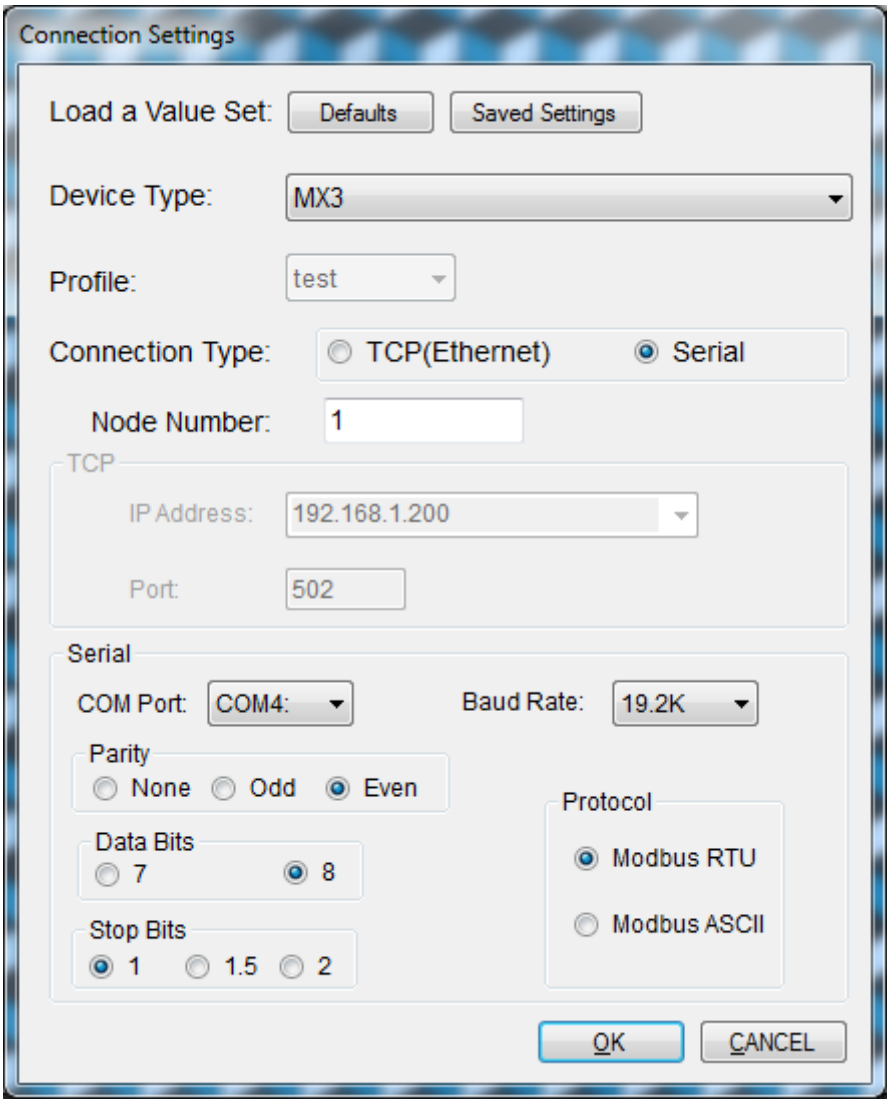
- For TCP connections, the node number can always be set to 1.
- For serial connections, the node number must match the node number for the specific device and network.

**IP Address**

- For TCP connections only
- The default IP address for Medium Voltage Drives is 172.29.87.10 for recent releases and 192.168.1.2 for older versions.
- A full history of previously used IP addresses is available by using the dropdown arrow.

**COM Port**

- For Serial connections only.
- Corresponds to the port on your computer where the serial cable is connected.
    - Open the windows device manager to view active ports.




**Other Serial Settings**

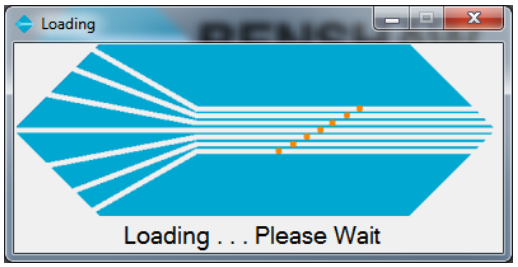
- Default values will match the most current communication specifications for the selected device.
- Older MX3 devices may use no parity instead of even parity.
- SG drives have a variable baud rate. Check I/O 91 on the keypad for the current rate

**Restore Connection Settings**

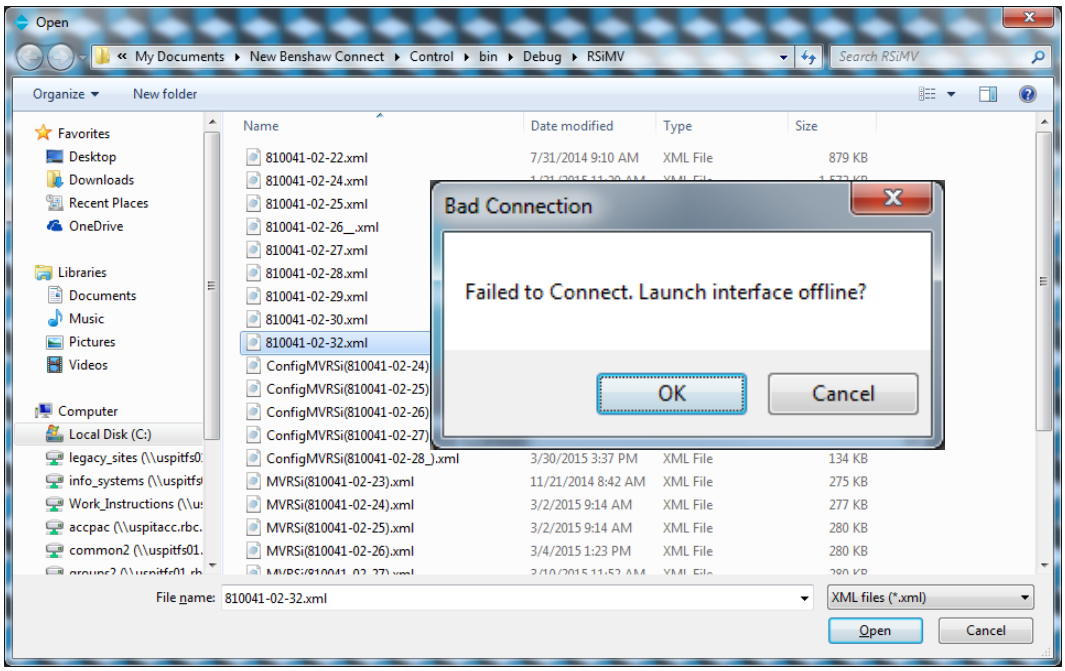
- Clicking the “defaults” button will reset all fields to a default state.
- Click “saved settings” to reload the most recently used values.
    - Different saved settings are saved for each device and for both connection types.

# Connection and Load

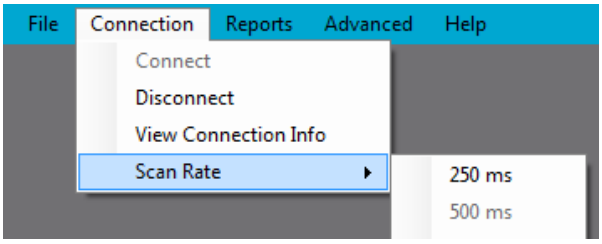
## Device Version




- On a good connection, the version number is read from the device and a matching source file is chosen.
- If the connection fails or an unknown version is present, the user will be prompted to select a file.
- New or updated files can be added to this folder later using *File > XML Profiles.*




## Connection Options

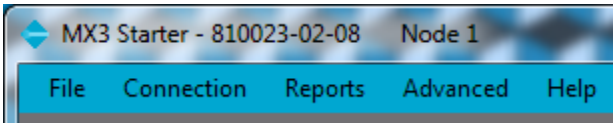



- Use “connect” and “disconnect” to control when values are read from the device.
- Choose a different scan rate to change how often values are updated and manage network traffic.

# Basic Use

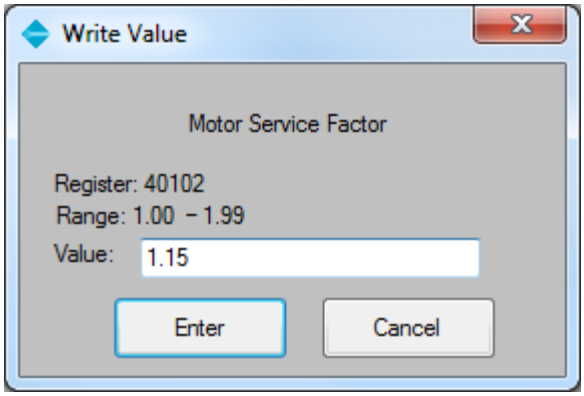
## Identity Information

- To help distinguish between multiple open instances of Benshaw Connect, basic identifying information appears in the title bar.
    - Device type and version.
    - IP address or serial node number.




## Parameters

- Parameters are editable values that affect the behavior of the connected device.
- To edit a parameter value, double click on any parameter in the list view or press the enter key while the desired parameter is highlighted.
    - Type a value within the allowed range and click or press enter.




- Parameters that have been changed to values other than the default will be highlighted in yellow.

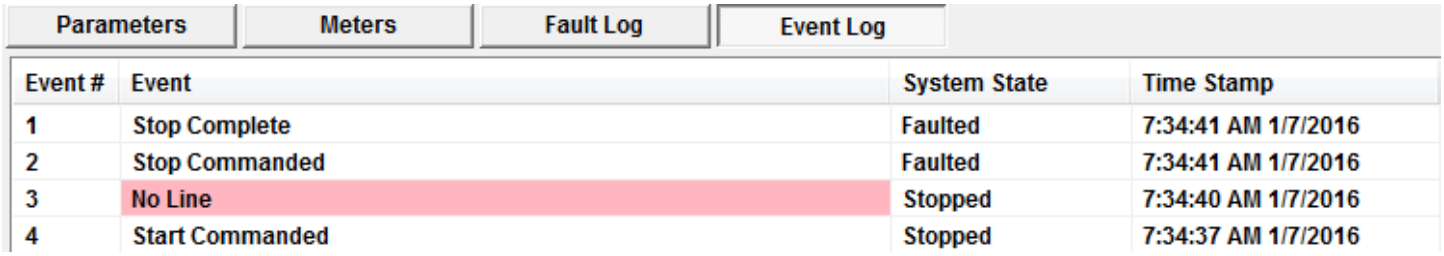
| Group | Description | Value | Default | Register |
|---|---|---|---|---|
| QST 01 | Motor FLA | 10 Arms | 10 Arms | 40101 |
| QST 02 | Motor Service Factor | 1.15 | 1.15 | 40102 |
| QST 03 | Running Overload Enable | 1: On | 1: On | 40104 |
| QST 04 | Running Overload Class | 10 | 10 | 40105 |
| QST 05 | Local Source | 2: Serial | 1: Terminal | 40110 |
| QST 06 | Remote Source | 1: Terminal | 1: Terminal | 40111 |

## Meters

- Meters display important diagnostic information about the connected device.
- Meters have no default values and cannot be written to.

## Faults and Events

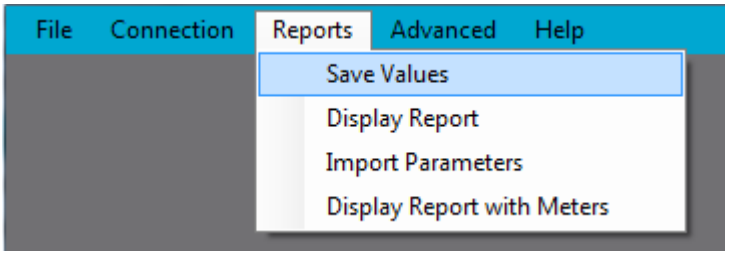
- The Fault and Event tabs display information on recent events.
- These tabs are not present for all devices; a separate “Event Viewer” program is used for medium voltage drive event logs.



# Reports

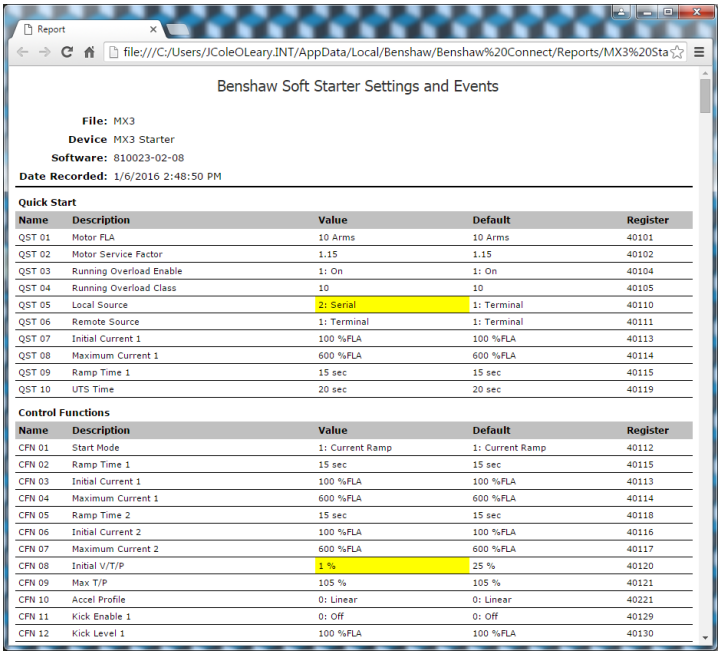
## Save Values

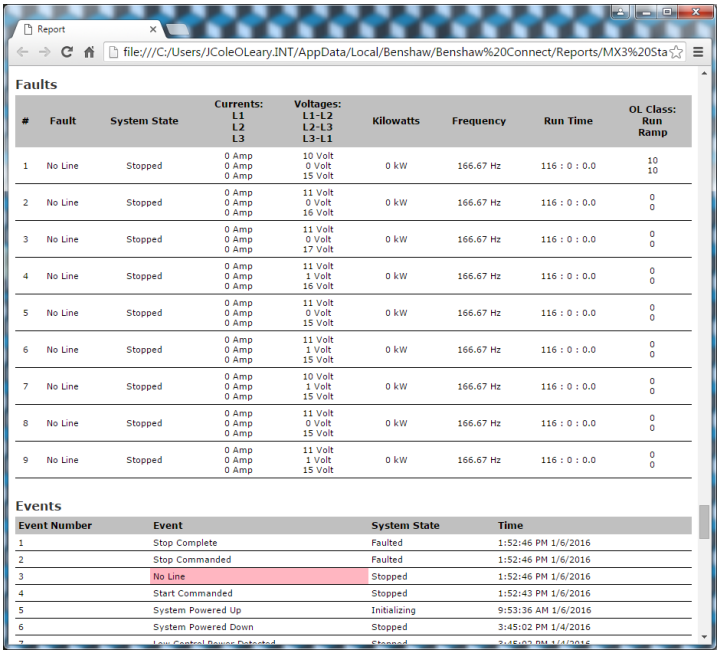
- Clicking *Reports* > *Save Values* will create an xml file of all data available in the list view.
- Select any file name to generate this xml. By default, a different folder is used for each device type.




## Run Report

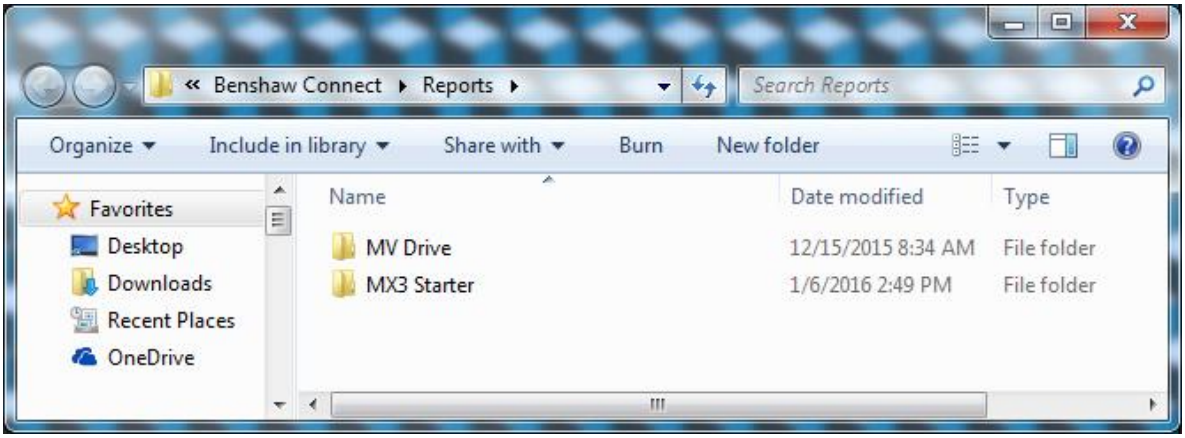
- Select *Reports* > *Display Report* or *Reports* > *Display Report with Meters* to generate a graphical report of previously saved data.
- Select an xml file to generate a report html file with the same name.
- Highlighted parameter and event values will appear in the report with similar formatting to the list view.



## View Report files

- Click *File* > *Saved Reports* to view the reports file folder.
    - The report files can then be copied to another location for use outside of Benshaw Connect.
    - Folders will be present for any device that has been used to generate a report.



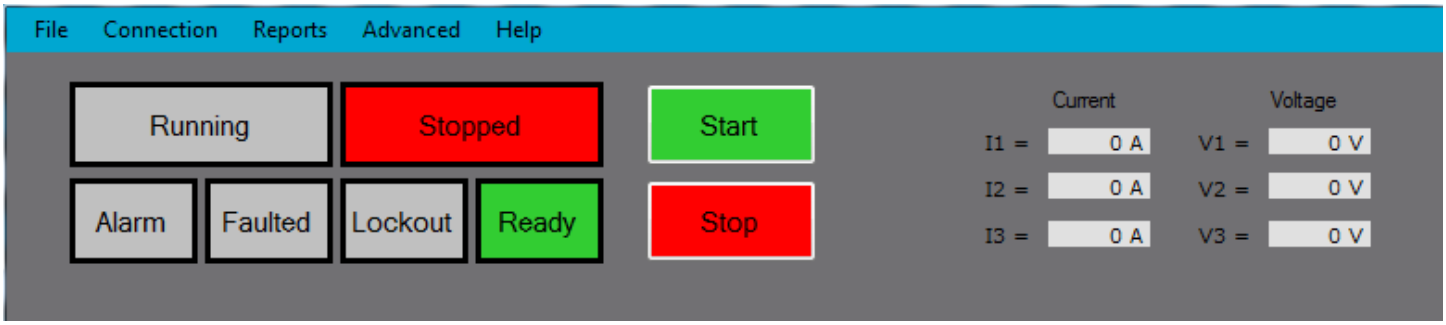

## Import Parameters

- Parameter values stored in the report can be used to write saved values back to the device.
    - Save an xml report of the desired values.
    - To revert to these values later, click *Reports* > *Import Parameters* and select the appropriate xml file from the file explorer.
    - Benshaw connect will write values to every parameter that varies from the saved xml.

# Graphical Controls

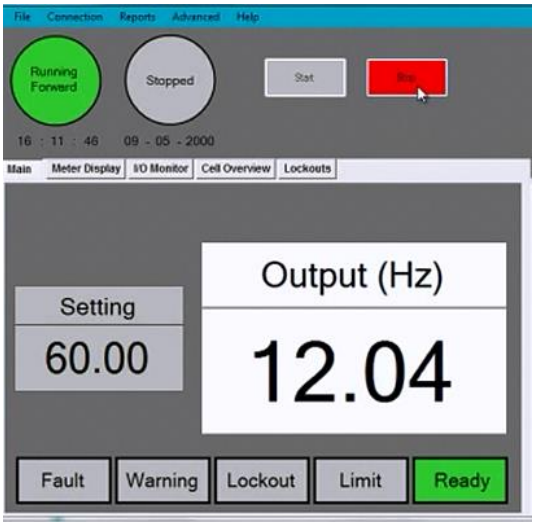
## Main Status and Control

- Running/Stopped and other status is displayed across the top of the interface.
- When the device is configured for network control, start and stop buttons will appear next to the status indicators.




## Medium Voltage Drive HMI View

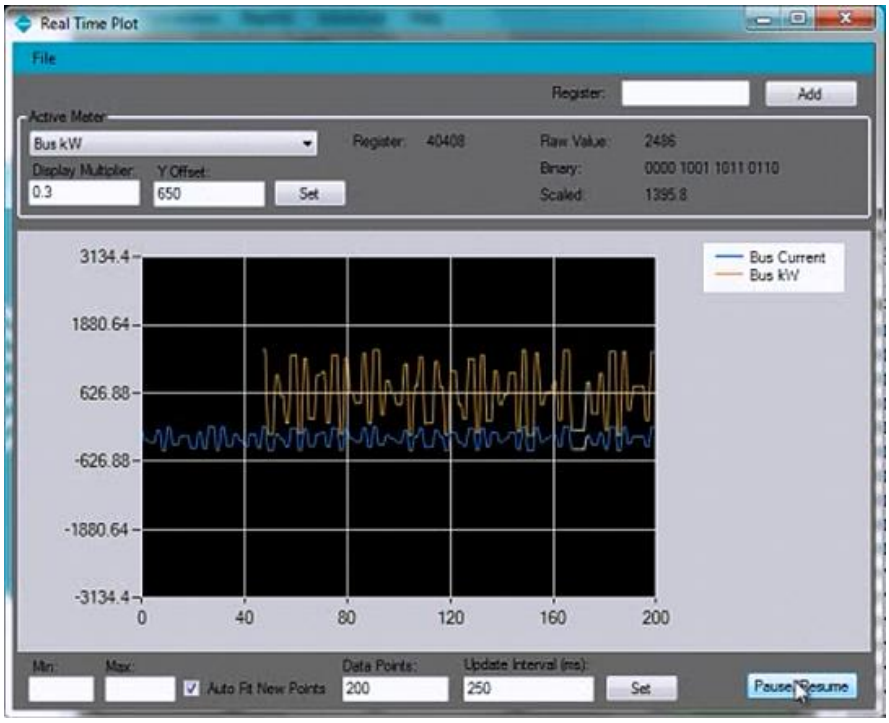
- For MV Drives, the left half of the screen will duplicate data available on the HMI touch screen.
- Speed output, cell status, lockouts, and other information is displayed on different tabs.



# Real Time Plot

## Open a Real Time Plot Window

- Click *Advanced* > *Real Time Plot* to open a new plot window.
- Alternatively, right click any parameter or meter from the list and select “Plot Value” to open a window with that value already added.




## Add Registers

- To add a register to the window, type the address into the top text field and click “Add”
- Existing values from the list view will be added with their associated names.
- This window can also be used to poll addresses not listed in the xml profile. These values will display the address in place of a name.

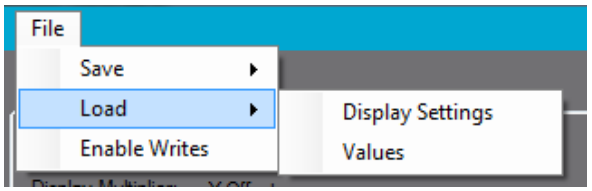
**Display Settings**

- By default, the vertical range of the graph is scaled to fit new values. This range can be adjusted manually using the “Min” and “Max” text fields.
- “Data Points” controls the number of values shown on the screen at a time, and “Update Interval” controls the rate at which new values are added.

**Individual Settings**

- Chosen with the dropdown control, the “Active Meter” area displays the value and settings for one meter at a time.
- The “Multiplier” and “Y Offset” settings can be changed for each meter. When multiple meters are displayed in the same window, these settings allow the trend lines to be vertically aligned or separated.

**Save and Load**

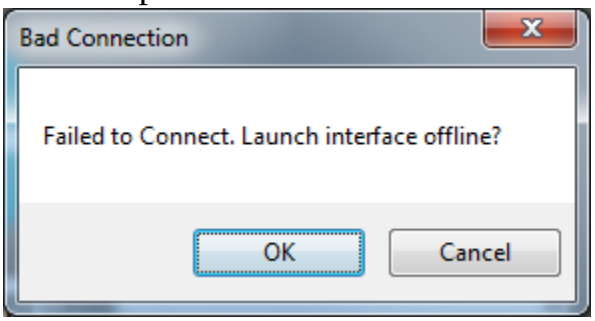



- Like reports, the full plot can be saved at any time.
- The data points can then be loaded for later analysis.
- The load feature can also be used to restore display settings only, where new values will be read from the same meters.

# Trouble Shooting

## Error Connecting

- If the program fails to connect on launch, the device cannot be polled for a correct version file, and the user will have to select one.
    - Click “Cancel” to return to the launch screen and try again, or “OK” to continue in offline mode and choose a file manually.




- Possible Causes:
    - The selected Com Port is unavailable. Verify that your serial device is connected to the Com Port specified in the **Connection Settings.**
    - The Connection Settings are incorrect for the connected device. Click “Settings” to review and change settings before reconnecting.
    - Incorrect IP Address. For TCP connections, the IP address of your PC must be compatible with the device address. Open the windows command prompt and try pinging the device to ensure the correct IP address was Chosen.

## Failed Connection (Red Connection Status)


- In the case of a failed connection, Benshaw Connect will continue attempting to read values and will reconnect automatically if the device becomes available.
- Upon reconnection, the Status bar will change to green and display “Connected.”


- Possible Causes:
    - The device is not powered.
    - The selected IP Address is not correct. Try pinging the device from the windows command prompt.
    - Your computer IP Address is not compatible with the device IP address. The first three sets of numbers must match the device. (172.29.87.X or 192.168.1.X depending on device and version)
    - The serial node number does not match. Check that the node number on the device keypad matches connection settings.

**Failed to Read Some Registers (blank values)**

- Cells can be left blank if the registers are not mapped on the connected device.
    - Verify that the device version matches the source file version.
- The connection may have been lost before all values could be loaded. If the indicator is red, fixing the connection issue should cause the rest of the values to load.

| Group | Description | Value | Register |
|---|---|---|---|
| RTM 22 | Output Frequency | | 40400 |
| RTM 10 | Motor Current | | 40401 |
| RTM 21 | Motor Voltage | | 40402 |
| RTM 02 | DC Bus Voltage | | 40403 |

**Failed to Write a Parameter Value**

- Make sure that the device is connected. (green “Connection Satus”)
- Allow time for the new value to load. Depending on the scan rate and number of registers, the program could take several seconds to refresh and read the new value.

- For SG drives, a limiting parameter might be affecting the range. For example, the drive will not allow frequency parameters to exceed the Maximum frequency at register 437406, even if the listed range is greater.
- Check version compatibility; if an incorrect xml profile was chosen, the actual enforced range may differ from the displayed value.