

Chapter 10: Configuring NetPower Setpoints & Trip Curve

What is NetPower Setpoints & Trip Curve?

Setpoints are parameters that either describe the condition of a device or control how it operates. Certain setpoints are preset, others are set via dipswitches on the device, and some are downloadable from PowerNet Software. The type of information varies depending on device type.

NetPower Setpoints & Trip Curve is a tool that allows you to:

- ◆ View setpoint data for each device connected to a NetPower DeviceServer.
- ◆ Change setpoint data for a device.
- ◆ View the trip curve for a device.

For more information on trip curves, see the section *Trip Curve Display*.

Running NetPower Setpoints & Trip Curve

For detailed information about starting, logging on to, checking out a license for, logging off of, and exiting an application, see *Chapter 6: Logging On and Off*.

Starting NetPower Setpoints & Trip Curve

To start NetPower Setpoints & Trip Curve, do the following:

1. Choose NetPower Setpoints & Trip Curve from IMPACC PowerNet Suite program group in the Start menu.
2. If you have not previously checked out a license, check out a license for NetPower Setpoints & Trip Curve.

The NetPower Setpoints & Trip Curve main window displays. If you are not currently logged on to a PowerNet Software application, you have view-only security privileges. If you are currently logged on to an application, you are logged on to NetPower Setpoints & Trip Curve with the last user ID and Password you used.

Logging On

To log on to NetPower Setpoints & Trip Curve, do the following:

1. If you have not previously logged on to an application, select Log On “NetPower Setpoints & Trip Curve” from the File menu.
2. Enter your user ID and password into the Log On dialog box.
3. Click OK.

NetPower Setpoints & Trip Curve logs you on and grants you privileges to edit user information if those privileges are assigned to your user ID.

Logging Off

Note

If NetPower Setpoints & Trip Curve does not detect any keyboard input or mouse movement, you will be logged off automatically after a set time interval. For more information, see *Chapter 6: Logging On and Off*.

To log off NetPower Setpoints & Trip Curve, choose Log Off “NetPower Setpoints & Trip Curve” from the File menu.

NetPower Setpoints & Trip Curve logs you off. You now have view-only security privileges.

Exiting NetPower Setpoints & Trip Curve

To exit NetPower Setpoints & Trip Curve, do the following:

1. From the File menu, choose Exit.
A confirm dialog box displays, verifying the request to exit.
2. Click OK.
NetPower Setpoints & Trip Curve exits and returns the license to the NetPower License Manager.

Note

You can also use the Exit and Keep License command, which keeps the license to the NetPower License Manager. For more information about logging on and off, see *Chapter 6: Logging On and Off*.

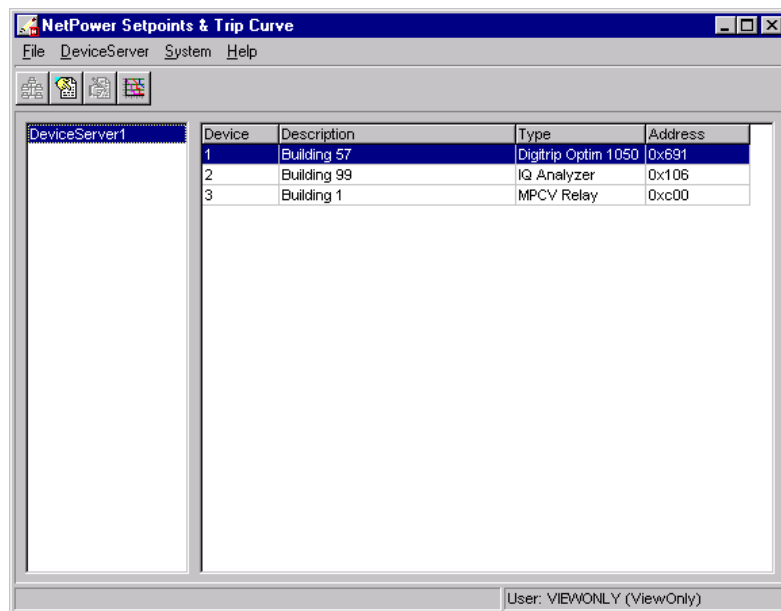
NetPower Setpoints & Trip Curve Main Window

From the main window, you can do the following:

- ◆ View the setpoint data for a device.
- ◆ Change setpoint data for a device.
- ◆ Display the trip curve for a device.
- ◆ Connect to a disconnected NetPower DeviceServer.

The list on the left-hand side of the main window lists the NetPower DeviceServers that are available on the network. The list on the right-hand side lists the devices that support setpoints and are connected to the selected NetPower DeviceServer.





At the bottom of the main window, NetPower Setpoints & Trip Curve lists the user ID of the individual logged on.



Menu Options and Toolbar Icons

The following table describes the menu options and their corresponding icons:

Menu Option	Description	Icon
File		
Setup Database Synchronization	Sets up database synchronization.	N/A

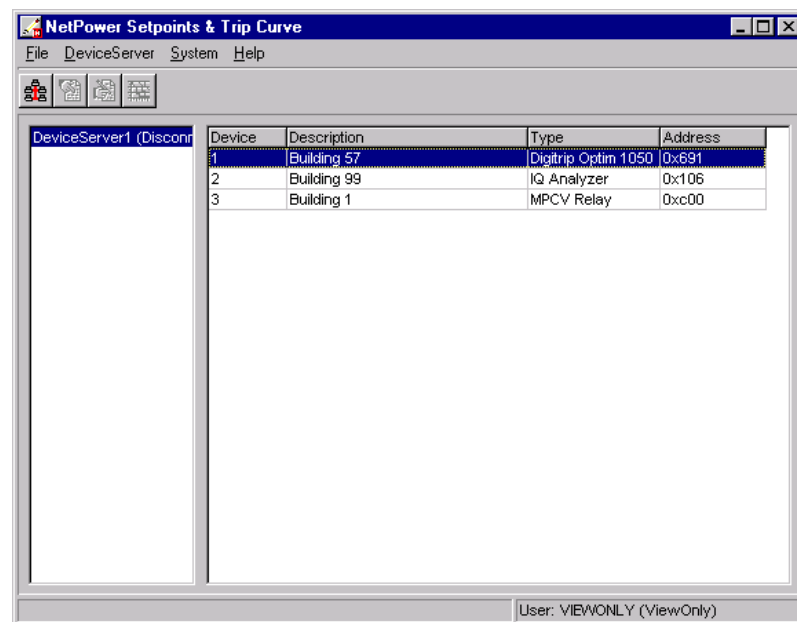
Menu Option	Description	Icon
Setup Auto Logoff	Sets up the automatic logoff time interval.	N/A
Log On “NetPower Setpoints & Trip Curve”	Logs you on to NetPower Setpoints & Trip Curve.	N/A
Log Off “NetPower Setpoints & Trip Curve”	Logs you off of NetPower Setpoints & Trip Curve.	N/A
Exit & Keep License	Exits NetPower Setpoints & Trip Curve and keeps the license.	N/A
Exit	Exits NetPower Setpoints & Trip Curve and returns the license.	N/A
NetPower DeviceServer		
Connect	Connects to a disconnected NetPower DeviceServer.	
System		
Display Setpoints	Displays the setpoints for a device.	
Change Setpoints	Changes the setpoints for a device.	
Trip Curve Display	Displays the trip curves for multiple devices.	
Help		
Contents	Displays the table of contents for online help.	N/A
Keyword Search	Performs a keyword search.	N/A
About	Displays the About NetPower Setpoints & Trip Curve dialog box.	N/A

Connecting to a NetPower DeviceServer

When you run NetPower Setpoints & Trip Curve, the application attempts to connect to every NetPower DeviceServer configured in the Configuration Database. If NetPower Setpoints & Trip Curve cannot connect to a NetPower DeviceServer, or if a connected NetPower DeviceServer becomes disconnected while NetPower Setpoints & Trip Curve is running, that NetPower DeviceServer is listed as disconnected in the NetPower DeviceServer list. When you select the disconnected NetPower DeviceServer, the Connect NetPower DeviceServer menu option and icon become available.

Note

If the selected NetPower DeviceServer is connected, the Connect NetPower DeviceServer menu option and icon are grayed-out.



To connect to a disconnected NetPower DeviceServer, do the following:

1. From the list on the left-hand side of the NetPower Setpoints & Trip Curve main window, select the NetPower DeviceServer to which you want to connect.
2. Click the Connect NetPower DeviceServer icon.

If the NetPower DeviceServer is not available, a dialog box displays, informing you that NetPower Setpoints & Trip Curve could not connect to the NetPower DeviceServer.



3. Click OK.
NetPower Setpoints & Trip Curve remains disconnected from the NetPower DeviceServer and you cannot view any setpoint data or device trip curves.
4. Try to reconnect to the NetPower DeviceServer after a few minutes. If the NetPower DeviceServer is still inaccessible, contact your System Administrator.

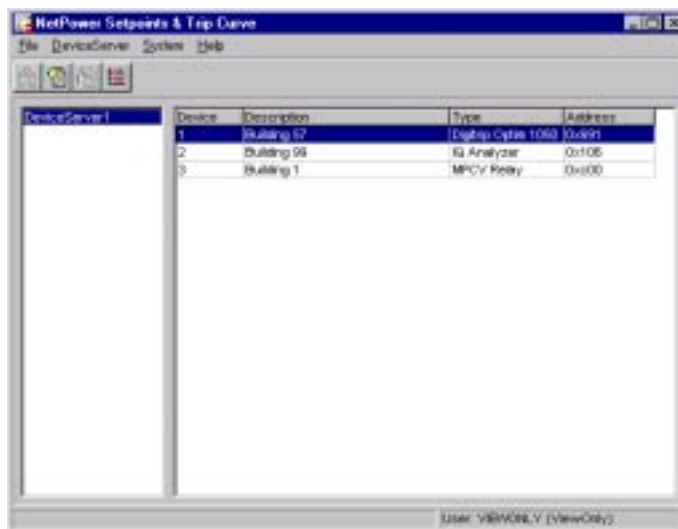
If the NetPower DeviceServer is available, NetPower Setpoints & Trip Curve connects to the NetPower DeviceServer.

Displaying and Printing Setpoints

To display the setpoints of a particular device, do the following:

1. From the list on the left-hand side of the NetPower Setpoints & Trip Curve main window, select the NetPower DeviceServer to which the device you want to view setpoints is connected.

The NetPower Setpoints & Trip Curve main window displays a device list.



2. From the device list, select the device for which you want to view the setpoints.
3. Click the Display icon.

Note

You can also double-click the device.

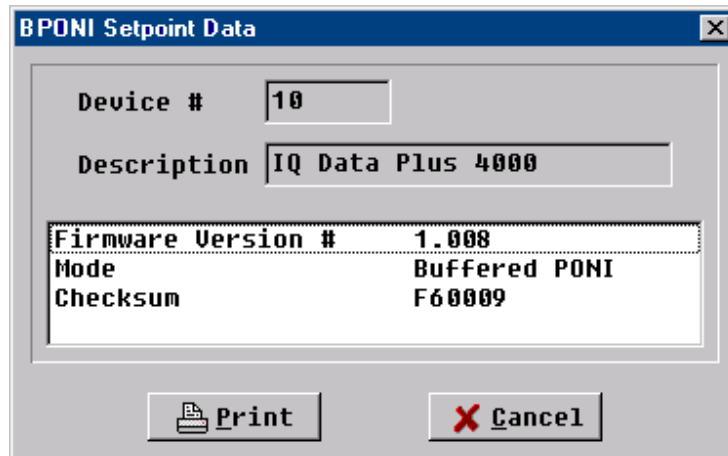
A dialog box containing the setpoints configuration data for the selected device displays.

Setpoint Description	Value	Units
Firmware Version #	1.014	
Communication Version	7	
Frequency	60	Hz
Configuration	3 PH - Neutral	

Note

If you are viewing the setpoint data for a device when NetPower Setpoints & Trip Curve becomes disconnected from the NetPower DeviceServer, you can continue to view that device's setpoints. However, when you close the setpoint data dialog box, that data cannot be accessed until NetPower Setpoints & Trip Curve is reconnected to the NetPower DeviceServer.

4. To print the setpoints, click Print.
NetPower Setpoints & Trip Curve generates a report containing the setpoint information, and sends it to your default printer.
5. If the device you selected has a BPONI interface, click BPONI Setpoints to view the BPONI setpoint data.
The BPONI Setpoint Data dialog box displays.



- ◆ To print the BPONI setpoint data, click Print.
- ◆ To return to the setpoint data dialog box, click Cancel.

Note

If the device does not have a PONI interface, the BPONI Setpoints button is grayed-out. If the device has a PONI that is not a BPONI and you click the BPONI Setpoints button, an error dialog box displays.

6. To close the setpoint data dialog box, click Cancel.

The setpoint data dialog box closes.

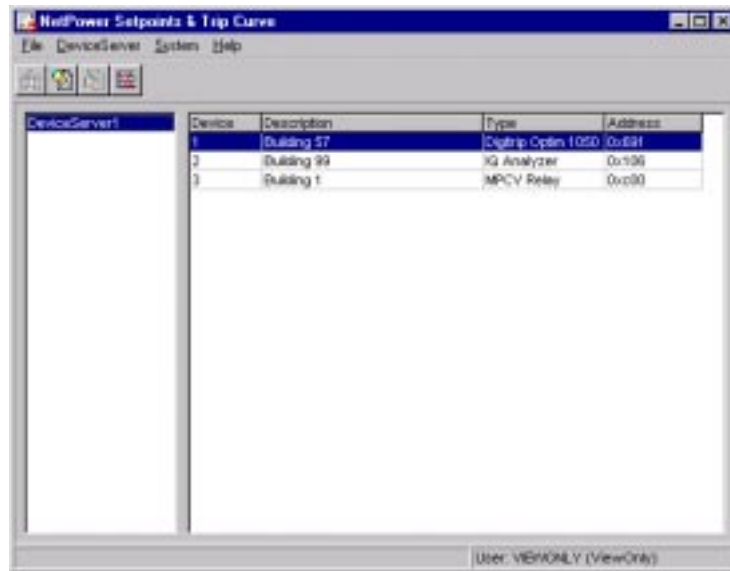
Changing NetPower Setpoints & Trip Curve

If the setpoints for a device are downloadable, you can set them to any values within their allowable range.

To change the setpoints configuration of a particular device, do the following:

1. From the list on the left-hand side of the NetPower Setpoints & Trip Curve main window, select the NetPower DeviceServer to which the device you want to change setpoints is connected.

The NetPower Setpoints & Trip Curve main window displays a device list.



2. From the device list, select the device for which you want change the setpoints.
3. Click the Change icon.

Note

If the device you select does not support downloadable setpoints, or if you do not have the security privileges to perform the command, the Change menu option and toolbar icon are grayed-out.

The setpoints configuration dialog box for the device displays.

MPCV Relay Setpoints

Device Number: 11 Firmware Version: 0.000
Description: MPCV Comm Version: 0

Frequency: 60 Hz Reverse Trip: 0.20 %
Phase Sequence: ABC Time Delay: Time 0.00 sec
CT Ratio: 800:5 Non-Sensitive Trip: Zero
System Voltage: 216 Non-Sensitive Trip: Non-Zero 0 %
Watt/Var: Off Lagging var/PF Sign Convention: -to Load

Anti-Pump: Off Master Line: 1.00 Volts
Pumping Cycles: 3 Cycles Master Line: Curved
Pumping Time: 30 sec Phasing Line (Straight): 0 degrees
Pump Lockout Reset Time: 15 min Phasing Line (Curved): 0 degrees
Left Hand Master Line: 85 degrees

Buttons: Cancel, Aux Config, Download, File Save, File Load

This dialog box is different for each device, and may contain buttons that when clicked, open additional dialog boxes that display additional setpoints.

With some devices, you have the option of saving setpoint configuration data to a file, and then loading the configuration data from that file at a later time.

Note

Using File Load, you can load setpoint configurations that were saved in IMPACC Series III. For information on saving and loading setpoint configuration data, see the section *Saving and Loading Setpoint Configuration Data*.

For information on the setpoints for specific devices, see *Appendix B: Device Objects*.

4. Specify the new setpoint values.

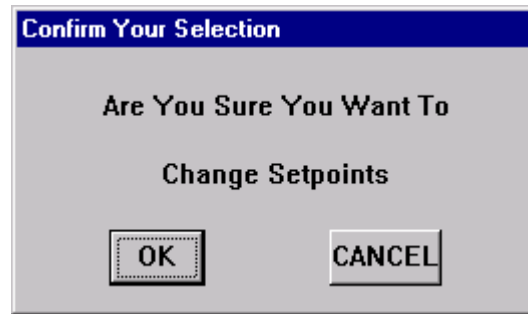
In general, you can specify setpoints by typing the new values into a field, or selecting allowable values from a list (or other standard Windows control).

Note

As a backup, you may want to save the original setpoint values to a file whenever you change the setpoint values.

5. Click Download (or Change, in the IQ 500 dialog box).

The Confirm Your Selection dialog box displays, verifying the request to change the setpoints.



6. If you want NetPower Setpoints & Trip Curve to download the new setpoint data to the device, click OK.

OR

To return to the setpoints configuration dialog box without enabling the changes you made, click Cancel.

Note

The Confirm Your Selection dialog box times-out after 10 seconds, canceling any changes you made.

Saving and Loading Setpoint Configuration Data

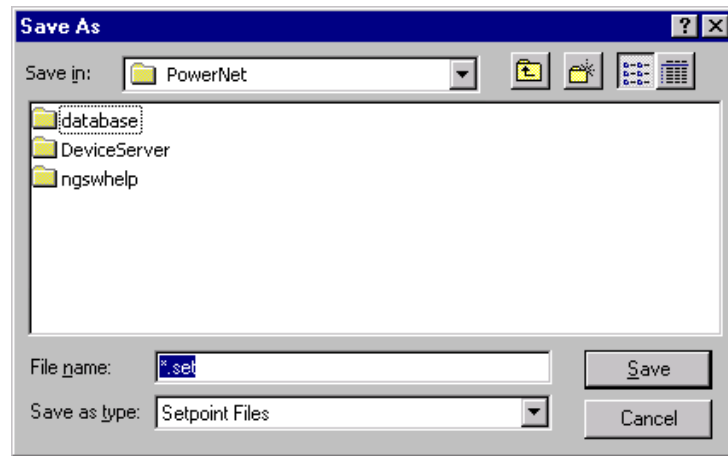
With some devices, you have the option of saving setpoint configuration data to a file, and then loading the configuration data from that file at a later time.

Saving

To save the setpoint configuration data, do the following:

1. In the setpoint configuration dialog box, click File Save.

The Save As dialog box displays.



2. Specify a name and location for the file.
3. Click Save.

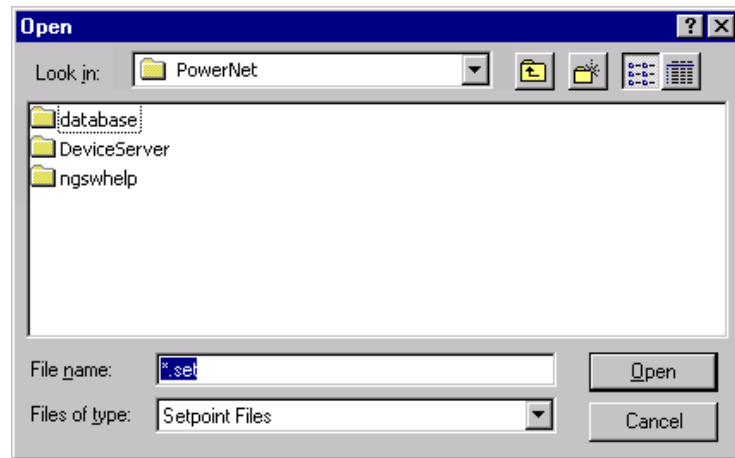
NetPower Setpoints & Trip Curve saves the data to the specified file, and closes the Save As dialog box.

Loading

To load setpoint configuration data, do the following:

1. In the setpoint configuration dialog box, click File Load.

The Open dialog box displays.



2. Specify the name and location of the file.
3. Click Open.

The data from the file loads and the setpoints configuration dialog box updates to display the new setpoints data.

Trip Curve Display

An overcurrent protective device produces an inverse time-current characteristic by integrating a function of current with respect to time. The plot of this characteristic is the trip curve of the device.

Trip Curve Display plots the data that NetPower Setpoints & Trip Curve acquires from the device onto a graph. This graph allows you to more easily view, analyze, and, if possible, modify the device's setpoints. Trip Curve Display can display multiple trip curves concurrently. The ability to present these multiple, independent curves serves as a useful system coordination tool.

Trip Curve Display can plot each curve based upon its per-unit current setting to a common base. The Bus Voltage value for the device is used to calculate the per-unit to a common base.

Important

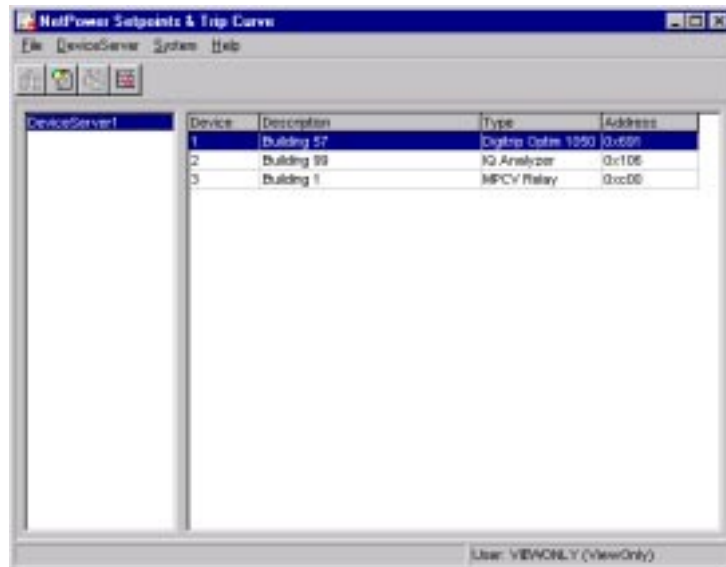
Before you can use the Trip Curve Display, you must enter the Bus Voltage for the device using NetPower Configurator. See *Chapter 9: Configuring the System* for more information.

Displaying the Trip Curve for a Device

To display a trip curve for a device, do the following:

1. From the list on the left-hand side of the NetPower Setpoints & Trip Curve main window, select the NetPower DeviceServer of the device for which you want to display the trip curve.

The NetPower Setpoints & Trip Curve main window displays a device list.

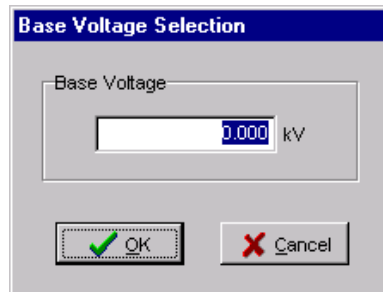


2. From the device list, select the device for which you want to view the trip curve.
3. Click the Trip Curve Display icon.

Note

If the device does not support trip curve display, the Trip Curve Display menu option and icon are grayed-out.

When you display a trip curve for the first time, the Base Voltage Selection dialog box displays.

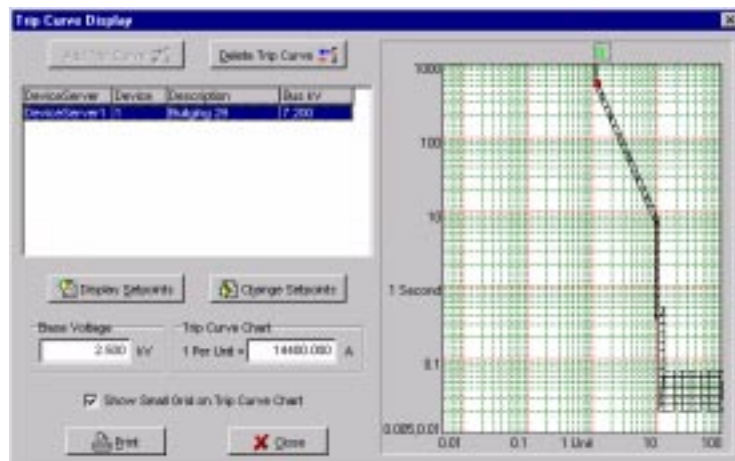


4. Type the base voltage in the Base Voltage field. The base voltage must be greater than zero.
5. Click OK.

Note

If you did not set the Bus voltage for the device, an error dialog box displays, informing you that the Bus voltage must be greater than zero. See *Chapter 9: Configuring the System* for information on setting the Bus voltage.

Trip Curve Display opens.



Trip Curve Display displays the following:

- ◆ In the graph area, a plot of the trip curve.

Note

Click the Show Small Grid on Trip Curve Chart check box to remove the fine grid lines.

- ◆ In the list, the NetPower DeviceServer, device number, device description, and device Bus voltage.
- ◆ In the Base Voltage field, the base voltage.
- ◆ In the Trip Curve Chart field, the per-unit value.

Note

If a NetPower DeviceServer becomes disconnected while you are viewing Trip Curve Display, the NetPower DeviceServer is listed as disconnected in the list on the Trip Curve Display. You cannot add trip curves, display setpoints, view setpoints, or change the base voltage when the NetPower Setpoints & Trip Curve module is disconnected from the NetPower DeviceServer.

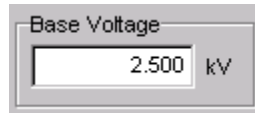
6. To close Trip Curve Display, click Close.

Trip Curve Display closes.

Changing the Base Voltage

To change the base voltage, do the following.

1. On the Trip Curve Display, click the Base Voltage field.

A screenshot of a software interface showing a field labeled "Base Voltage". Inside the field, the text "2.500 kV" is displayed.

2. Delete the old base voltage.
3. Enter the new base voltage.
4. Press [Tab].

Note

If you attempt to set the base voltage to zero, an error dialog box displays, informing you that the base voltage must be greater than zero.

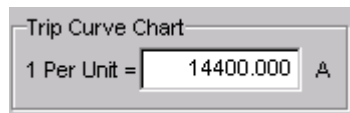
Trip Curve Display re-plots the curve in the graph, using the new base voltage, and saves the base voltage value. Trip Curve Display uses that value to plot future trip curves.

Changing the Per-Unit Value

If the trip curve for a device plots outside of the graph area, you can shift the location of the curve within the graph area by setting a new per-unit base value.

To change the per-unit value, do the following:

1. On the Trip Curve Display, click the Trip Curve Chart field.

A screenshot of a software interface showing a field labeled "Trip Curve Chart". Inside the field, the text "1 Per Unit = 14400.000 A" is displayed.

2. Delete the old per-unit value
3. Enter a new value.
4. Press [Tab].

Trip Curve Display re-plots the curve in the graph area, using the new per-unit value.

Adding a Trip Curve

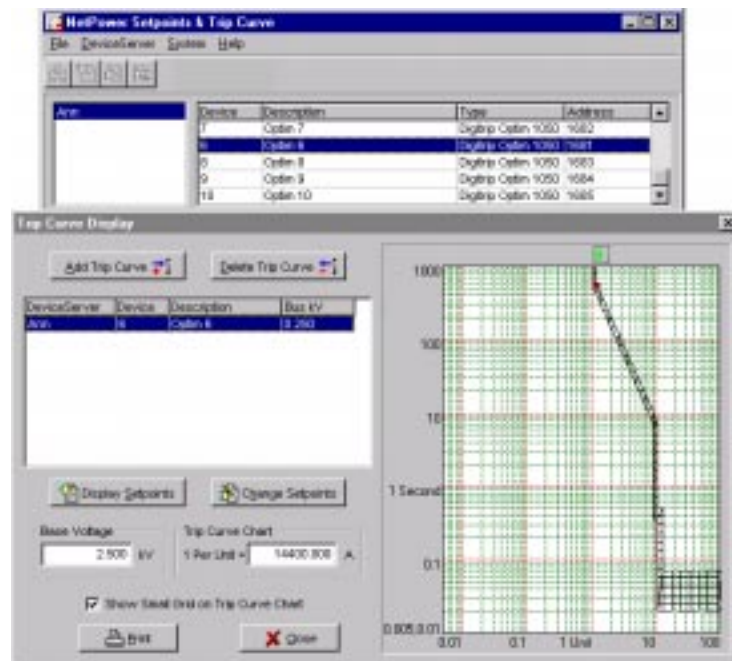
To add another device's trip curve to Trip Curve Display, do the following:

1. If Trip Curve Display covers the Device Setpoints main window, move Trip Curve Display by clicking on the title bar and dragging Trip Curve Display to a new location on the screen.

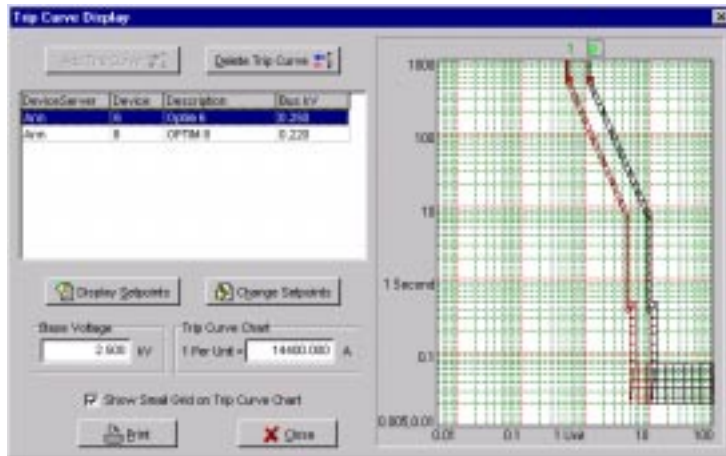
Note

Trip Curve Display always displays over the NetPower Setpoints & Trip Curve main window, even when Trip Curve Display window is inactive. If you have trouble fitting both windows on your screen, you can re-size the NetPower Setpoints & Trip Curve main window. You perform most of the commands in the menus on the NetPower Setpoints & Trip Curve main window while Trip Curve Display is open.

2. From the device list on the NetPower Setpoints & Trip Curve main window, select the device for which you want to add a trip curve.



3. On the Trip Curve Display, click Add Trip Curve.
Trip Curve Display adds the plot of the new trip curve to the graph area, and lists the device in the list.



4. To add additional trip curves, repeat steps 2 and 3.

Note

You cannot add a trip curve for the same device more than once.

Deleting a Trip Curve

To delete a trip curve from Trip Curve Display, do the following:

1. From the list on Trip Curve Display, select the device for which you want to delete the trip curve.
2. Click Delete Trip Curve.

Trip Curve Display removes the device's trip curve from the graph area and removes the device from the list.

Displaying Setpoints from the Trip Curve Display

To display the setpoints for a device from Trip Curve Display, do the following.

1. From the list on Trip Curve Display, select the device for which you want to display setpoints.
2. Click Display Setpoints.

The setpoints data dialog box for that device displays, covering the Trip Curve Display.

3. Click Cancel to return to the Trip Curve Display.

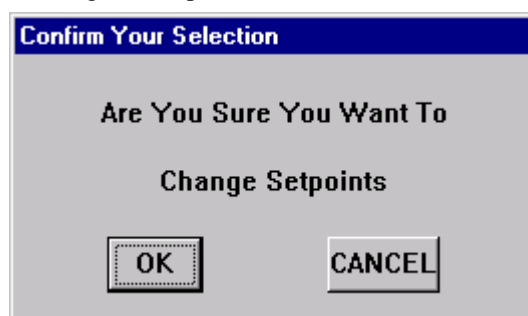
The setpoints data dialog box closes.

Changing Setpoints from a Trip Curve Display

To change the setpoints for a device from Trip Curve Display, do the following:

1. From the list on Trip Curve Display, select the device for which you want to change the setpoints.
2. Click Change Setpoints.
The setpoints configuration dialog box for that device displays, covering the Trip Curve Display.
3. Specify the new setpoint values.
4. Click Download (or Change in the IQ 500 dialog box).

A Confirm Your Selection dialog box displays, verifying the request to change the setpoints.



5. If you want NetPower Setpoints & Trip Curve to download the new setpoint data to the device, click OK.

OR

To return to the setpoints configuration window without enabling the changes you made, click Cancel.

Note

The Confirm Your Selection dialog box times-out after 10 seconds, canceling any changes you made.

If you changed the setpoints, Trip Curve Display redraws the trip curve.

Printing a Trip Curve Display

To print the trip curves that are displayed in the graph area of the Trip Curve Display, click Print.

NetPower Setpoints & Trip Curve prints the curves and device information on your default printer.

Trip Curve Display Example

In the following example, two Digitrip Optim 1050 devices are configured for trip curve display. Both devices have a rating of 5000 amps. Device #8 has a Bus voltage of .22 kV and Device #9 has a Bus voltage of .76 kV. The base voltage is defined as .87 kV. The per-unit ratio is 3000 amps.

