

PanelView 800 HMI Terminals

Catalog Numbers 2711R-T4T, 2711R-T7T, 2711R-T10T



Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls (publication [SGI-1.1](#) available from your local Rockwell Automation sales office or online at <http://www.rockwellautomation.com/literature/>) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

Reproduction of the contents of this manual, in whole or in part, without written permission of Rockwell Automation, Inc., is prohibited.

Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

	WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
	ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.
	WARNING: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.
	WARNING: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.

Rockwell Automation, Allen-Bradley, PanelView, PanelView Component, PanelView 800, Connected Components Workstation, and TechConnect are trademarks of Rockwell Automation, Inc.

Trademarks not belonging to Rockwell Automation are property of their respective companies.

Summary of Changes

The information below summarizes the changes to this manual since the last publication.

To help you find new and updated information in this release of the manual, we included change bars as shown to the right of this paragraph.

Changes	Page
Updated information about removal of web browser and PanelView Explorer support from firmware 3.011 onwards.	Throughout this manual
Updated File Manager screen graphic for firmware revision 3.011.	Throughout this manual
Updated Communication screen graphic for firmware revision 3.011.	Throughout this manual
Updated System Information screen graphic for firmware revision 3.011.	Throughout this manual
Added new section on changing daylight savings time and timezone settings from the terminal, and new Advanced screen graphic for firmware revision 3.011.	41
Updated new location for downloading firmware updates.	10
Added section on configuring key repeat settings in Connected Components Workbench.	32
Added section on connectivity with CompactLogix 5370 L1 controllers.	61
Updated description of how to stop an application from the terminal.	68
Added information about importing and removing font files.	97 , 98
Added application validation requirement for CompactLogix 5370 L1 controller.	99
Added new Appendix D - Securing Applications.	107
Added new Appendix E - Protected Mode.	117
Added new Appendix F - Using PanelView 800 Terminals with CompactLogix 5370 L1 Controllers	119

Notes:

Table of Contents

Preface	Who Should Use this Manual	9
	Purpose of this Manual	9
	Additional Resources	9
	Firmware Upgrades.....	10
 Chapter 1		
Overview	Chapter Objectives	11
	About the Terminals	11
	How to Connect Browser.....	14
	PanelView Explorer.....	15
	Peripheral Connection.....	15
	Catalog Number Configuration	16
 Chapter 2		
Configuration Mode	Chapter Objectives	17
	Configuration Interfaces.....	17
	Terminal Settings	20
	Managing Applications and Files	49
	Creating Applications	50
	Transferring Applications.....	50
 Chapter 3		
Install and Replace Components	Chapter Objectives	55
	Micro-SD Memory Card.....	55
	USB Flash Drive	56
	Battery Replacement.....	57
 Chapter 4		
Cable Connections and Communication	Chapter Objectives	59
	Wiring and Safety Guidelines.....	59
	Connecting Devices	60
	MicroLogix Controller Cable Charts	60
	Micro800 Controller Cable Charts	61
	CompactLogix 5370 L1 Controller Cable Charts	61
	Ethernet Connection	62
	Serial Connections	63
	USB Ports	65
 Chapter 5		
Upgrade Firmware	Chapter Objectives	67
	Prepare for Firmware Upgrade.....	67
	Upgrading Firmware Using ControlFLASH.....	69
	Firmware Installation Using Removable Storage Device	74

Troubleshoot the System	Chapter 6	
	Chapter Objectives	79
	View System Information	79
	Alerts	79
	Troubleshooting	88
	Returning to the Out-of-box Condition.....	90
Specifications	Appendix A	
	General Specifications	93
	Environmental.....	94
	Certifications	95
Adding Font Files	Appendix B	
	Available Fonts.....	97
	Import a Font File.....	97
	Remove a Font File	98
PVc DesignStation in Connected Components Workbench	Appendix C	
	About PVc DesignStation.....	99
	Install the Software	100
	Uninstall the Software	104
	Launch Mechanism.....	105
Securing Applications	Appendix D	
	Secure Design Environment.....	107
	Manage User Accounts Settings	107
	Add Users	109
	Assign Design Rights	111
	Create Access Rights.....	111
	Assign Rights to a Screen.....	113
	Security at Runtime	114
Protected Mode	Appendix E	
	Overview	117
Using PanelView 800 Terminals with CompactLogix 5370 L1 Controllers	Appendix F	
	Add a CompactLogix 5370 L1 Controller	120
	Map the Terminal and Controller Tags	121
	Validate the Application	122
	Download the Application	123
	CompactLogix 5370 L1 Controller Addressing	124
	Limitations with CompactLogix 5370 L1 Controller Support.....	126

Index

Notes:

Read this preface to familiarize yourself with the rest of the manual. It provides information concerning:

- Who should use this manual
- The purpose of this manual
- Additional resources
- Firmware upgrades

Who Should Use this Manual

Use this manual if you are responsible for configuring, operating, or troubleshooting the PanelView 800 terminals.

No special knowledge is required to understand this manual or operate the terminal.

Equipment installers must be familiar with standard panel installation techniques.

Purpose of this Manual

This manual provides information for configuring the PanelView 800 terminal. You can configure the terminal on the terminal, through a web browser⁽¹⁾ on a computer connected to the terminal, or through Connected Components Workbench software. This manual also provides information on how to troubleshoot the PanelView 800 terminal.

This manual does not give procedures for creating applications that run on the terminal.

Additional Resources

For additional information on the PanelView 800 terminals, refer to these publications.

Resource	Description
PanelView 800 HMI Terminals Installation Instructions, publication 2711R-IN001	Provides instructions for installing a PanelView 800 terminal.

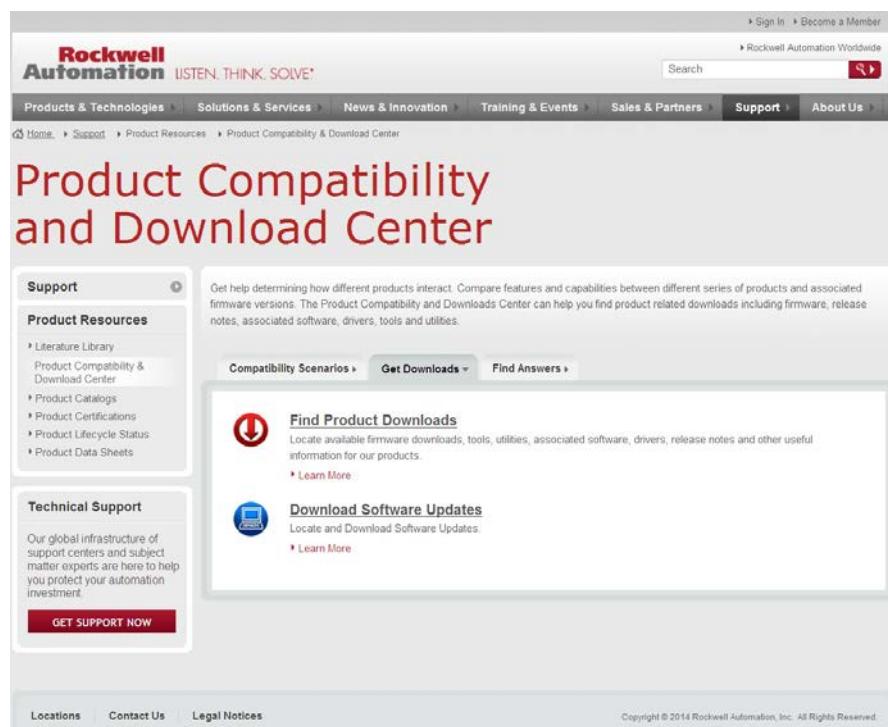
You can view or download publications at <http://literature.rockwellautomation.com>. To order paper copies of technical documentation, contact your local Rockwell Automation distributor or sales representative.

⁽¹⁾ The web browser feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

Firmware Upgrades

To receive firmware upgrades and other downloads for your PanelView 800 terminal:

- contact your local Rockwell Automation distributor or sales representative.
- go to the Rockwell Automation Product Compatibility and Download Center at
<http://www.rockwellautomation.com/rockwellautomation/support/pcdc.page>



IMPORTANT

You must sign in to the Rockwell Automation website before downloading a firmware revision.

Overview

Chapter Objectives

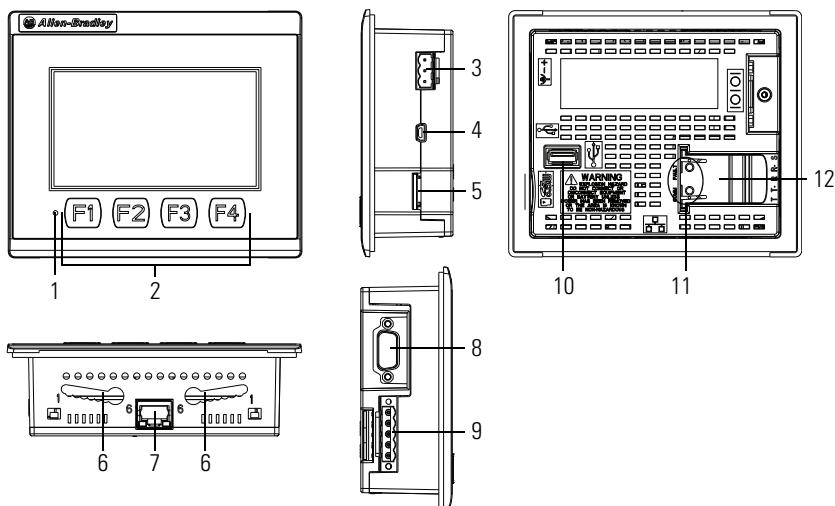
This chapter gives an overview of the PanelView 800 terminals.

- About the terminals
- How to connect browser⁽¹⁾
- PanelView Explorer⁽²⁾
- How to display help
- Peripheral connection
- Catalog number configuration

About the Terminals

PanelView 800 terminals are operator interface devices for monitoring and controlling devices attached to a controller. HMI applications are created using Connected Components Workbench software, then downloaded to the terminal.

PanelView 800 Terminal – 2711R-T4T



⁽¹⁾ The web browser feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

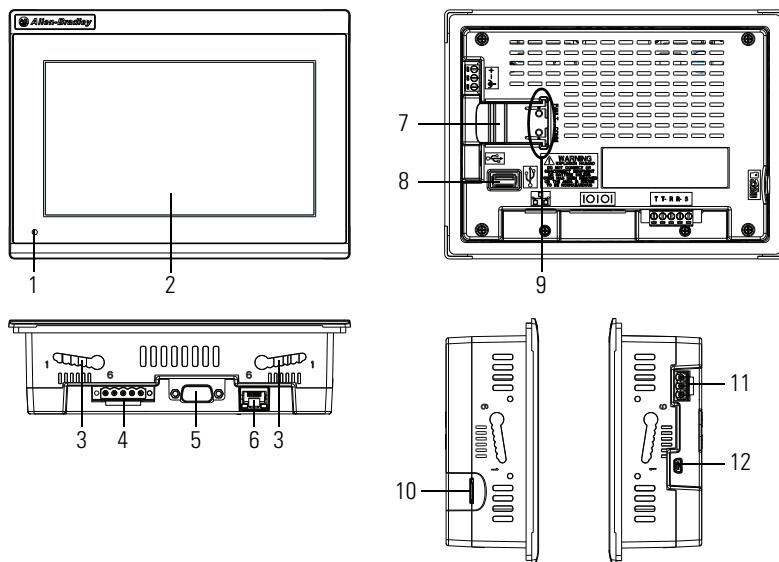
⁽²⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

Item	Description	Item	Description
1	Power status LED ⁽¹⁾	7	10/100 Mbit Ethernet port
2	Touch display, function keys	8	RS-232 port
3	24V DC power input	9	RS-422 and RS-485 port
4	USB device port ⁽²⁾	10	USB host port
5	Micro-SD (Secure Digital) card slot	11	Diagnostic status indicator
6	Mounting slots	12	Replaceable real-time clock battery

⁽¹⁾ The Power Status LED is red when in screen saver or dimmer mode and green when in normal (operational) mode.

⁽²⁾ The USB device port is not intended for Customer use.

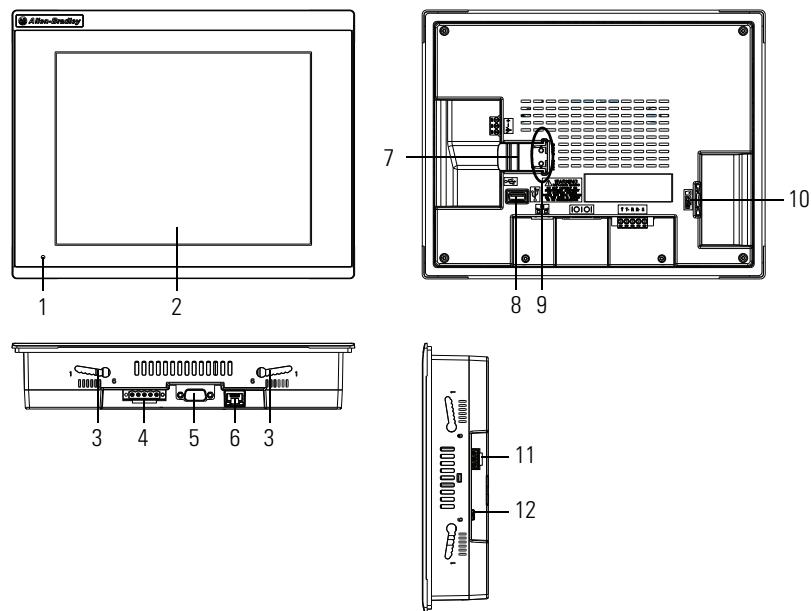
PanelView 800 Terminals – 2711R-T7T



Item	Description	Item	Description
1	Power status LED ⁽¹⁾	7	Replaceable real-time clock battery
2	Touch display	8	USB host port
3	Mounting slots	9	Diagnostic status indicator
4	RS-422 and RS-485 port	10	Micro-SD (Secure Digital) card slot
5	RS-232 port	11	24V DC power input
6	10/100 Mbit Ethernet port	12	USB device port ⁽²⁾

⁽¹⁾ The Power Status LED is red when in screen saver or dimmer mode and green when in normal (operational) mode.

⁽²⁾ The USB device port is not intended for Customer use.

PanelView 800 Terminal – 2711R-T10T

Item	Description	Item	Description
1	Power status LED ⁽¹⁾	7	Replaceable real-time clock battery
2	Touch display	8	USB host port
3	Mounting slots	9	Diagnostic status indicator
4	RS-422 and RS-485 port	10	Micro-SD (Secure Digital) card slot
5	RS-232 port	11	24V DC power input
6	10/100 Mbit Ethernet port	12	USB device port ⁽²⁾

⁽¹⁾ The Power Status LED is red when in screen saver or dimmer mode and green when in normal (operational) mode.

⁽²⁾ The USB device port is not intended for Customer use.

IMPORTANT Analog touch screens are intended for single presses at a time. If the touch screen is pressed in two locations at the same time, the presses are averaged as a single press in-between the two locations.

How to Connect Browser

The terminals can be connected to a browser using an Ethernet network connection. You must enter the IP address of the PanelView 800 terminal into the address field of your browser. You can find the IP address on the terminal configuration screen under Communications.

IMPORTANT

The web browser feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

USB Device Port

The PanelView 800 terminals have a USB device port to support communication with the terminal using TCP/IP.

IMPORTANT

The USB device port is for maintenance only and is not intended for normal run-time operation.

The USB device port is not intended for Customer use.

Ethernet Port

The PanelView 800 terminals have an Ethernet port. The Ethernet port supports both static IP addresses and Dynamic Host Configuration Protocol (DHCP) assigned IP addresses. If using static IP addressing, then you manually set the IP address, the subnet mask, and the default gateway. If using DHCP, then the server automatically assigns an IP address, the subnet mask, the default gateway, and the DNS and WINS server.

IMPORTANT

If a terminal is set for DHCP and is not on a network or is on a network that does not have a DHCP server (or the server is not available), it will automatically assign itself an Automatic Private IP Address (or auto IP address). The auto IP address will be in the range of 169.254.0.0 through 169.254.255.255.

The terminal makes sure the auto IP address is unique from any other auto IP address of other devices on the network. The terminal can now communicate with other devices on the network that have IP addresses in the 169.254.xxx.xxx range (and a subnet mask of 255.255.0.0).

PanelView Explorer

PanelView Explorer is the browser interface for interacting with PanelView 800 terminals. Through this interface you can configure the terminal settings, transfer files, test and run applications. See [Configuration Interfaces on page 17](#) for more information on using PanelView Explorer.

IMPORTANT

The PanelView Explorer feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

Peripheral Connection

PanelView 800 terminals have a USB host port. You can power USB peripherals directly from the PanelView 800 terminal. If the USB peripheral is not powered directly from the PanelView USB port either:

- install the USB peripheral in the same enclosure as the PanelView terminal and make sure it is connected to the same ground system.
- connect to the USB peripheral through a galvanically isolated hub.



WARNING: If you connect or disconnect the communications cable with power applied to this module or any device on the network, an electrical arc can occur. This could cause an explosion in hazardous location installations.

Be sure that power is removed or the area is nonhazardous before proceeding.



WARNING: If you connect or disconnect the USB cable with power applied to this module or any device on the USB network, an electrical arc can occur. This could cause an explosion in hazardous location installations.

Be sure that power is removed or the area is nonhazardous before proceeding.



ATTENTION: Removing the USB flash drive or micro-SD card, from the PanelView 800 terminal, while a firmware upgrade is in process, could corrupt the firmware and make the terminal unusable. Take precautions to prevent the USB flash drive or micro-SD card from being accidentally disconnected. Also, do not power off the terminal while a firmware upgrade is in progress.

USB hubs can produce unexpected behaviors and as a result are not recommended.

Catalog Number Configuration

These are the available PanelView 800 terminals.

Cat. No.	Operator Input	Size	Display Type
2711R-T4T	Touch screen and function keys	4 in.	Color TFT
2711R-T7T	Touch screen	7 in.	Color TFT
2711R-T10T	Touch screen	10 in.	Color TFT

Configuration Mode

Chapter Objectives

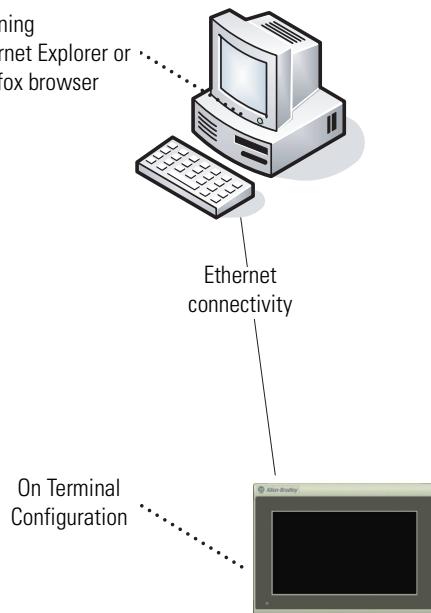
This chapter covers topics that show how to configure your PanelView 800 terminal.

- Configuration interfaces
- Terminal settings
- Managing applications and files
- Creating applications
- Transferring applications
- Transferring user-defined objects

Configuration Interfaces

The terminal can be configured from either the browser interface⁽¹⁾ or the configuration screens on the terminal. The browser interface requires a computer browser connected to the terminal's web service through an Ethernet network connection. The configuration data for a terminal refers to the collection of all of the system interface parameters.

Access to the Terminal's Configuration



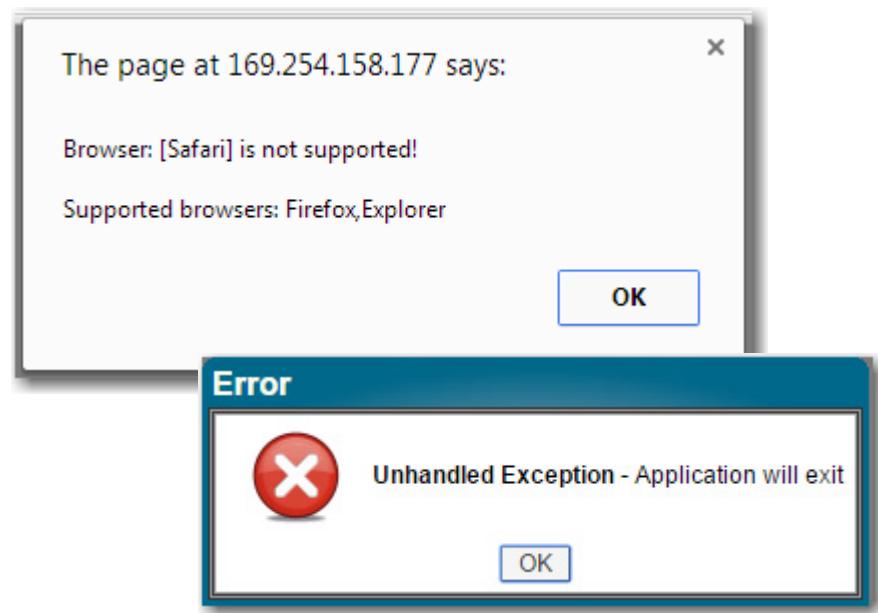
⁽¹⁾ The web browser feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

Configure Using the Browser

PanelView Explorer is the browser interface that lets you access and make changes to the terminal settings. This interface is the web server content hosted by the terminal and it represents a visualization of the terminal's properties and files. The recommended browsers to use are:

- Internet Explorer 7 or 8
- Firefox 3.0

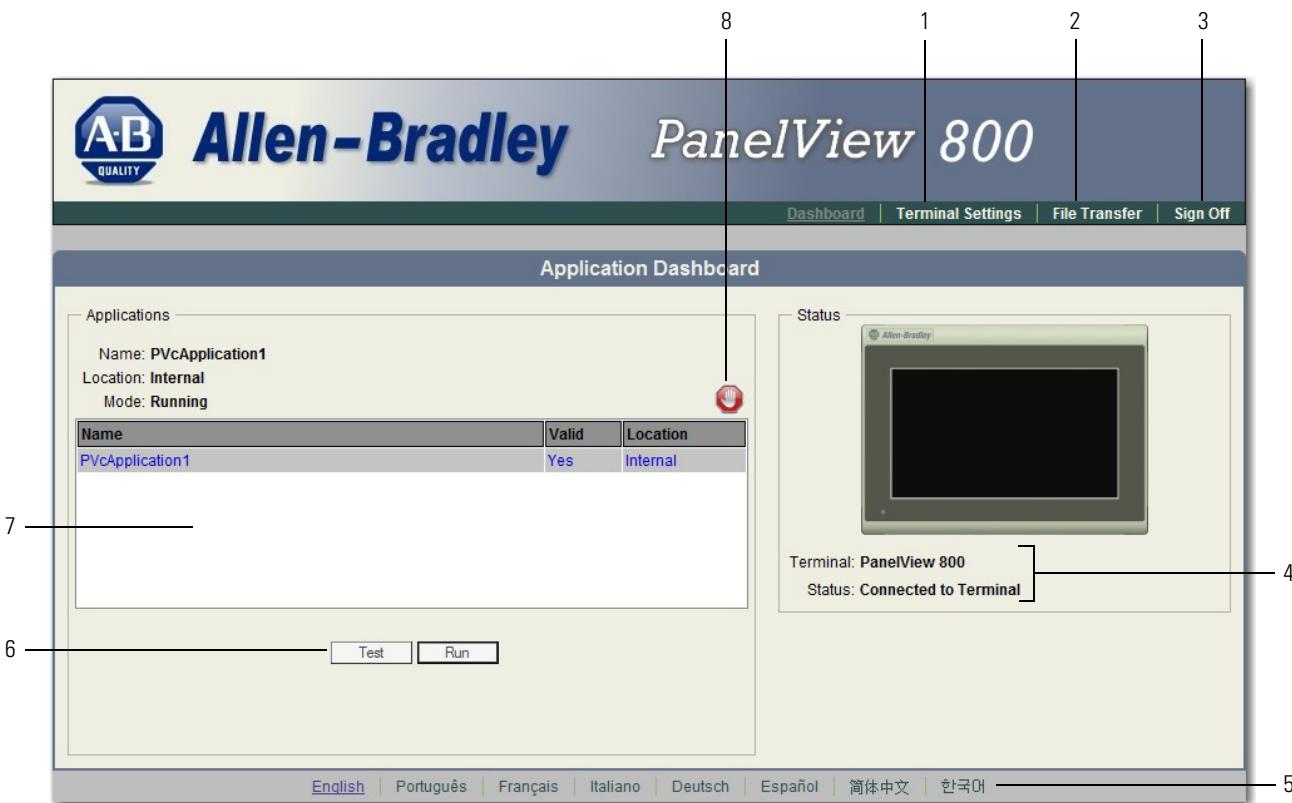
If you use a browser other than a recommended browser, you may encounter messages similar to the following examples.



IMPORTANT

The PanelView Explorer feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

PanelView Explorer Startup Window



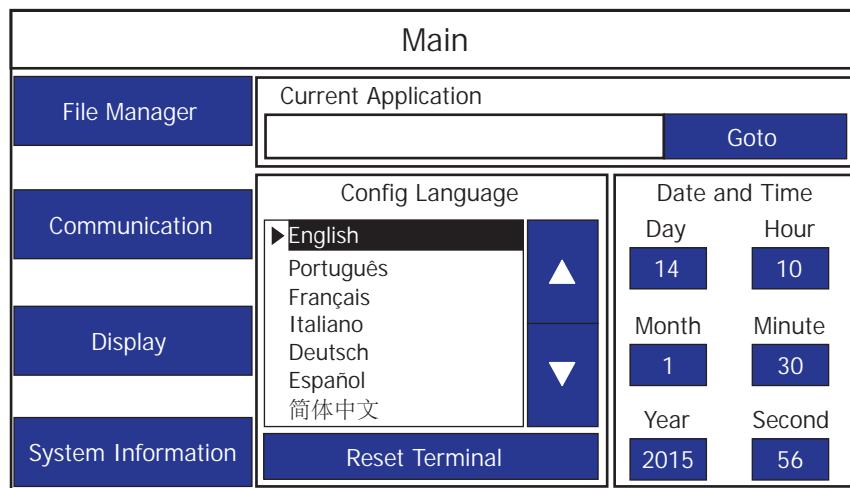
PanelView Explorer Startup Window

Item	Function	Description
1	Terminal Settings	Use this link to view and change terminal display and communication settings, view system information, and enable terminal security while connected to the terminal.
2	File Transfer	Transfers files between the storage media of the terminal and your computer, such as screen saver bitmaps and applications. You can also delete applications from terminal storage and export the alarm history log.
3	Sign off	Logs you off the Startup window, leaving your browser open.
4	Terminal Type and Status	Shows the connection status to your terminal and the type of terminal.
5	Languages	Shows the current and available languages for PanelView Explorer.
6	Test, Run	Use these buttons to test and run the selected application.
7	Available Applications	Shows a list of applications stored on the terminal, USB flash drive, or micro-SD card. The list also shows if the file has been validated for correct operation.
8	Stop	Click the Stop button (the stop sign shown when an app is loaded and in Test/Run mode) to unload the currently loaded application. If you have not saved changes to the application, you are prompted to do so. Once the application is unloaded, the terminal displays the Configuration screen.

Configure Using the Terminal

The on-terminal interface lets you make changes to the terminal settings. The menu is displayed on the left side of the terminal screen. Changes can be made whether an application is running or not running.

Terminal Interface Main Menu



Terminal Settings

Terminal settings can be configured either through the PanelView Explorer browser⁽¹⁾ interface or through the on-terminal interface.

⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

Adjusting Settings on the PanelView Explorer Startup Window

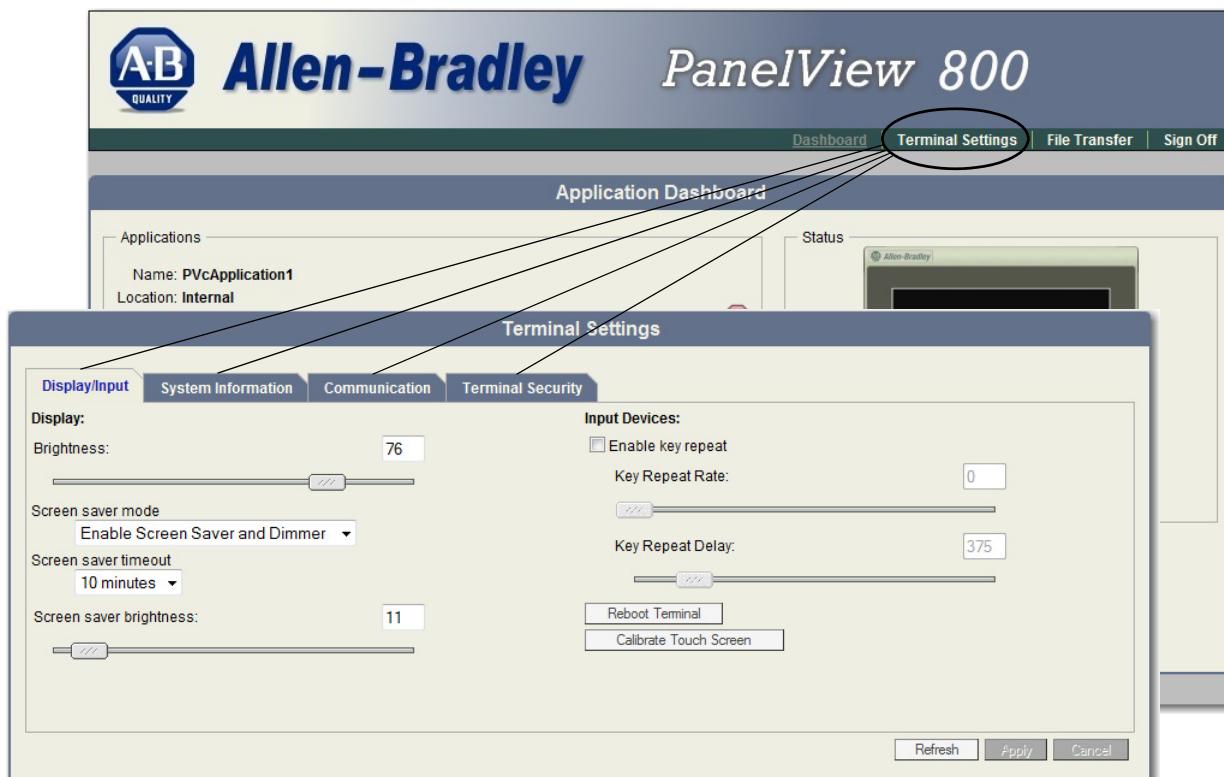
From the PanelView Explorer Startup window, you can view and edit settings for the connected PanelView 800 terminal. The settings take effect immediately.

IMPORTANT

The PanelView Explorer feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

By clicking the Terminal Settings link on the PanelView Explorer Startup window, you can access tabs to:

- change the terminal language.
- adjust the display brightness.
- configure screen saver settings.
- configure key repeat settings.
- calibrate the touch screen, if supported.
- reboot or reset the terminal.
- change the startup application.
- change the current date and time.
- configure terminal security, such as passwords.
- view system information.
- managing applications and files.

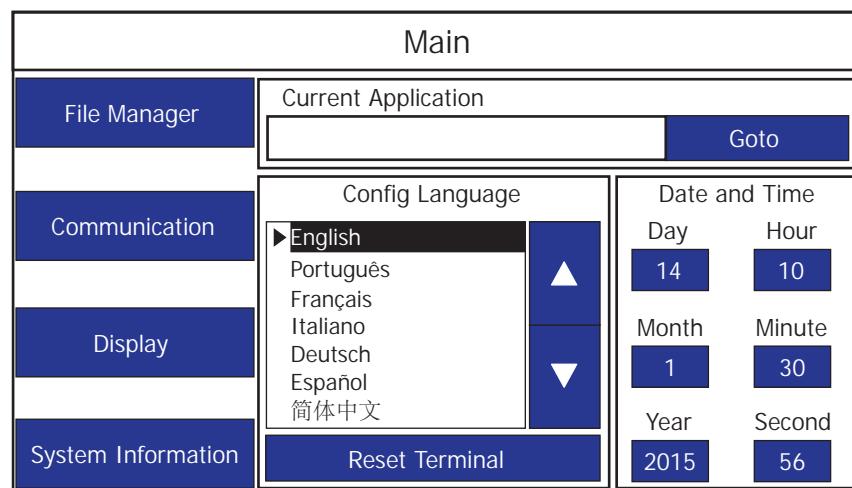


Adjusting Settings on the Terminal

From the terminal, you can view and edit the terminal settings. The settings take effect immediately.

By clicking the menu items on the screen you can:

- change the terminal language.
- adjust the display brightness.
- change the display orientation.
- configure screen saver settings.
- calibrate the touch screen, if supported.
- reboot or reset the terminal.
- change the startup application.
- change the current date and time.
- change Ethernet network settings.
- view system information.



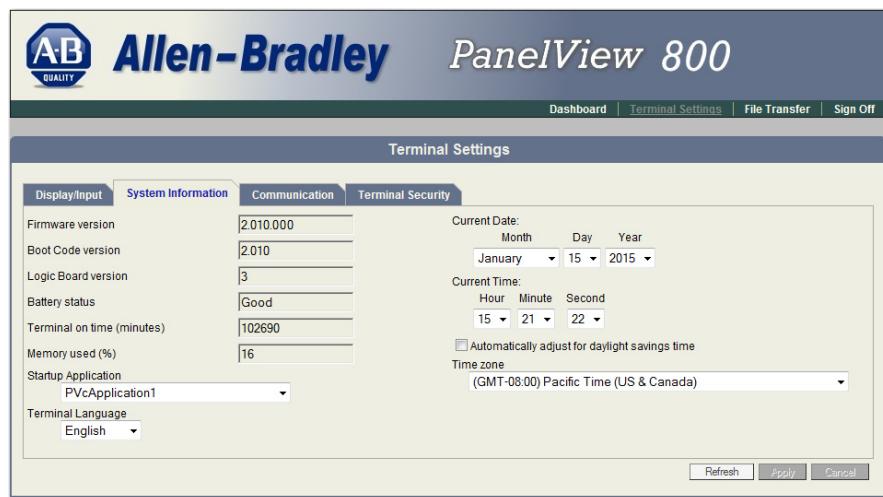
Select a Terminal Language

You can change the terminal display language. The terminal is shipped with the English, Portuguese, French, Italian, German, Spanish, and Chinese fonts installed. Korean is supported but you must first install the Korean font. See [Adding Font Files on page 97](#) for information on how to install the font onto the terminal.

IMPORTANT At runtime, diagnostic messages appear in the same language as the application if the application language is English, Portuguese, French, Italian, German, Spanish, Chinese, or Korean. For all other languages, the diagnostic messages appear in the configuration language set on the terminal.

Follow these steps to change the terminal language using PanelView Explorer.⁽¹⁾

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the System Information tab.
4. Select a language from the Terminal Language pull-down list.

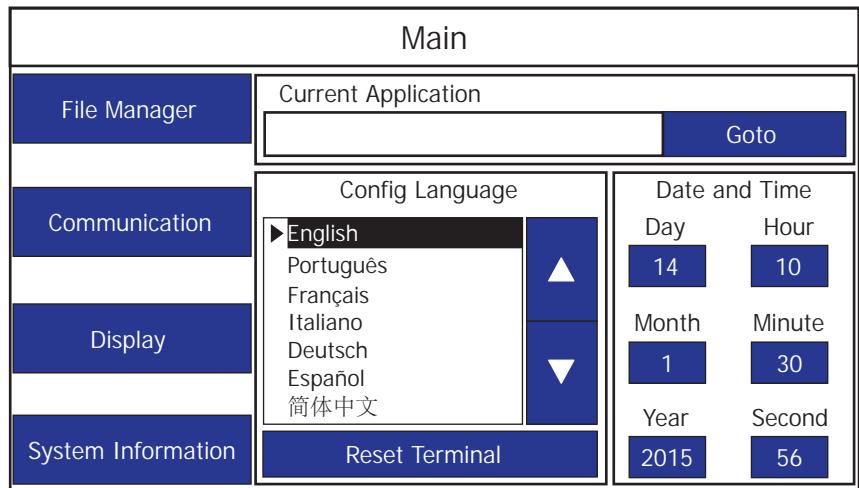


5. Click Apply or click Cancel to restore the current setting.

⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

Follow these steps to change the terminal language from the terminal.

1. Go to the main configuration screen.



2. Use the up and down arrow keys to select the language.
The change takes effect immediately.

Adjust the Display Brightness

You can modify the brightness of the terminal display. You can use the default intensity of 100% for brightness or adjust the intensity for runtime operations.

Follow these steps to change the display brightness using PanelView Explorer.⁽¹⁾

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the Display/Input tab.
4. Drag the slider to adjust the brightness level between 1...100%.

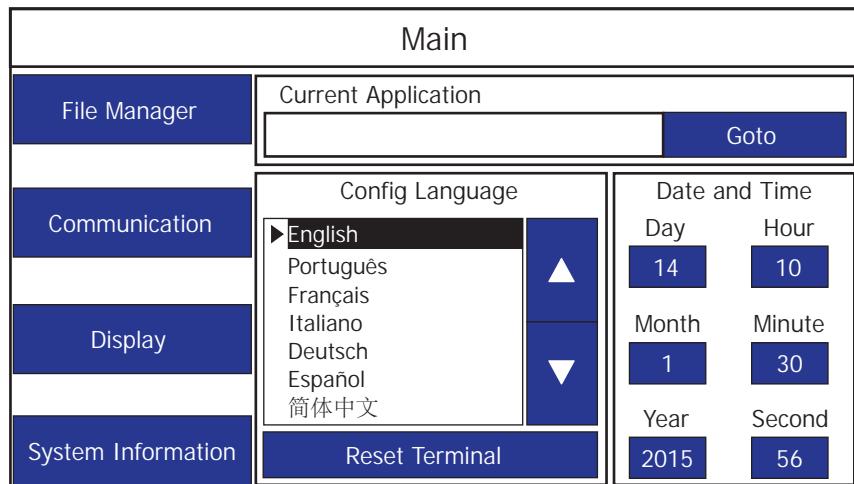
⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

- Click Apply, or click Cancel to restore the current terminal settings.

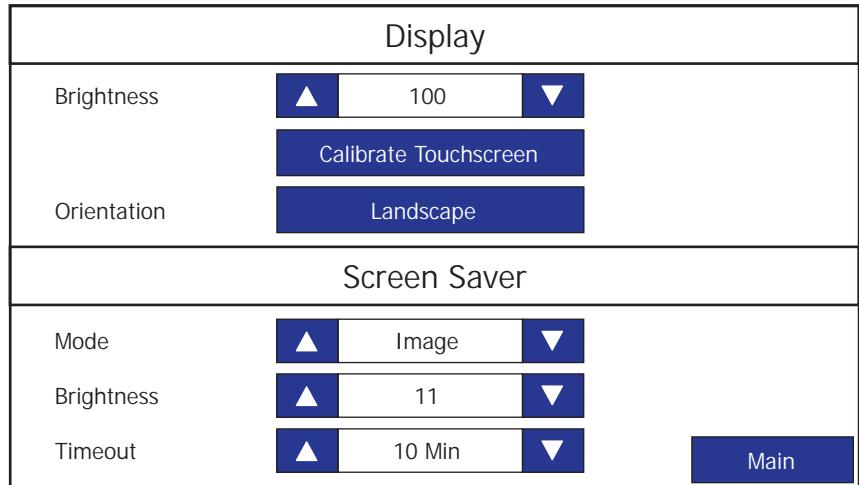


Follow these steps to change the display brightness from the terminal.

- Go to the main configuration screen.



2. Press Display.



3. Use the arrow keys to adjust the brightness up or down.
The change takes effect immediately.

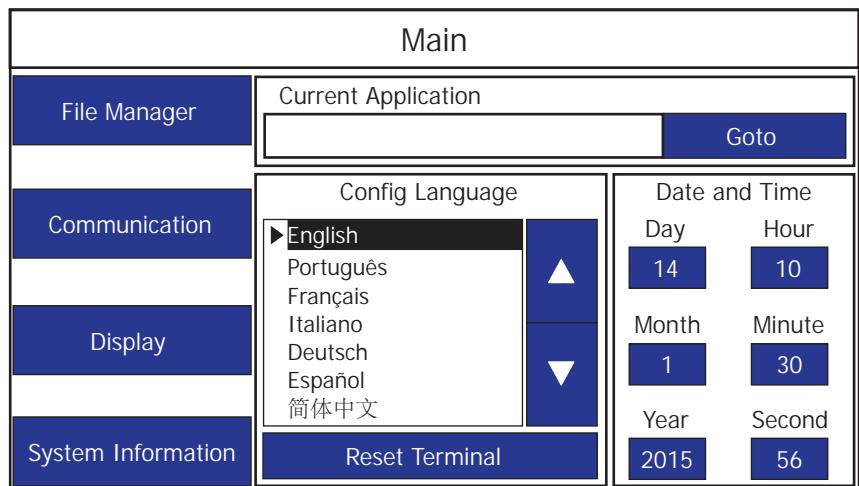
Changing the Display Orientation

You can change the display orientation of the terminal between landscape and portrait mode.

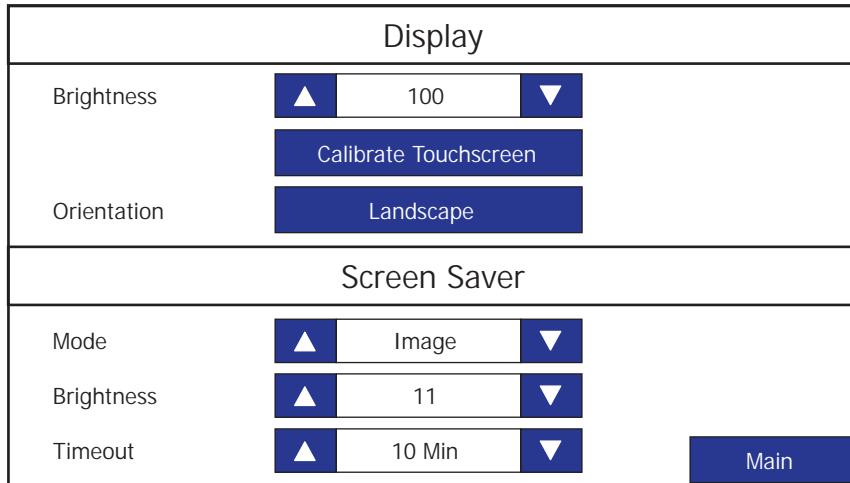
TIP You cannot change the display orientation from PanelView Explorer. If you want to change this setting, you must do so from the terminal configuration screens.

Follow these steps to change the display orientation from the terminal.

1. Go to the main configuration screen.



2. Press Display.



- 3.** Press the blue area next to Orientation to switch between Landscape and Portrait modes.
- 4.** Press Yes to confirm.
- 5.** The terminal will restart and display in the new orientation.

Configure the Screen Saver

You can enable or disable the screen saver on the connected PanelView 800 terminal.

The terminal has four screen saver modes: screen saver, dimmer, screen saver and dimmer, or disable.

- Screen saver – activates after the idle timeout elapses using a default screen saver image. The screen saver deactivates when you press a key.
- Dimmer – dims the display from full brightness to the brightness level you set when the idle timeout elapses. While the display is dimmed, you can still see on-screen activity. When you press a key, the display is restored to full brightness.
- Screen saver and dimmer – activates the screen saver and dims the display when the idle timeout elapses.
- Disable screen saver and dimmer – keeps the display on.

The screen saver timeout is the amount of idle time that must elapse before the screen saver, dimmer, or screen saver and dimmer activates. The idle time can be adjusted between 1...60 minutes.

The brightness intensity of the screen saver or dimmer can be adjusted between 0...100%.

Follow these steps to configure the screen saver using PanelView Explorer.⁽¹⁾

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the Display/Input tab.
4. Select a screen saver mode from the list.



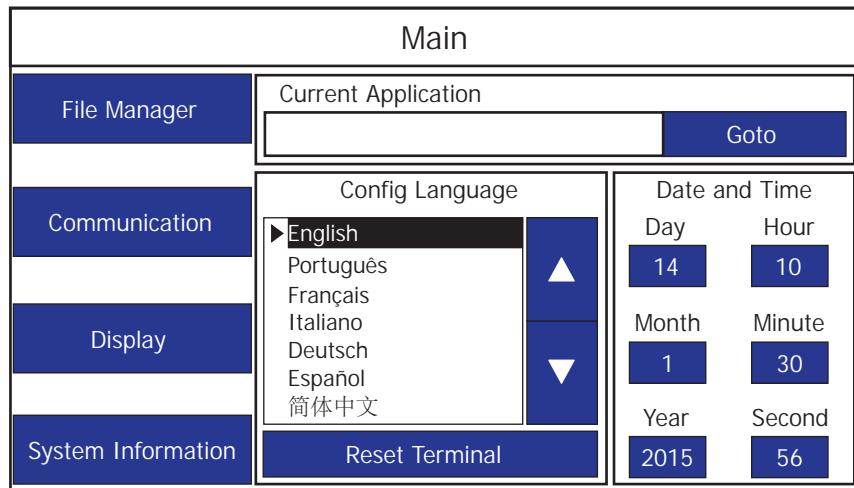
5. Select a time from the pull-down list to adjust the screen saver timeout.
6. Drag the slider to adjust the screen saver brightness.
7. Click Apply, or click Cancel to restore the current screen saver settings.

To disable the screen saver or dimmers, select Disable Screen Saver and Dimmer from the screen saver mode list.

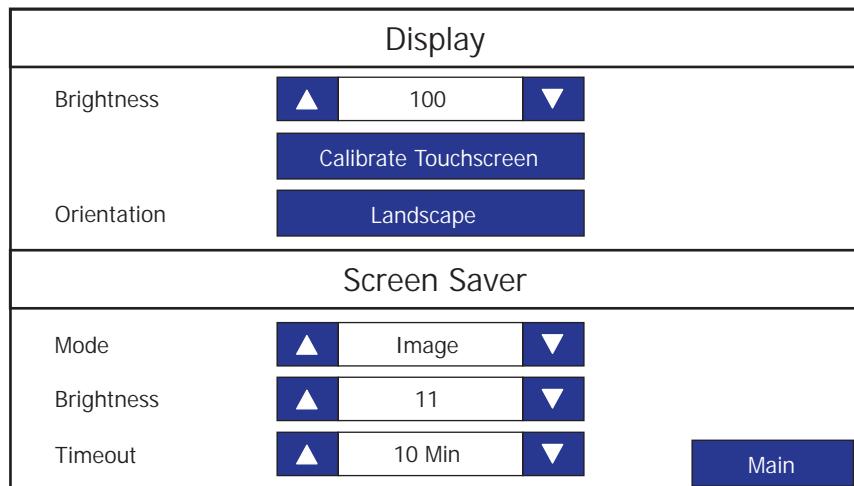
⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

Follow these steps to configure the screen saver from the terminal.

1. Go to the main configuration screen.



2. Press Display.



3. Select the Mode.

Mode = Disable, Image, Dimmer, Image and Dimmer.

4. Select the brightness.

Brightness 0...100, increments of 1.

5. Select the idle timeout.

Choices are 1, 2, 5, 10, 15, 20, 30, or 60 min.

Replace the Screen Saver Image

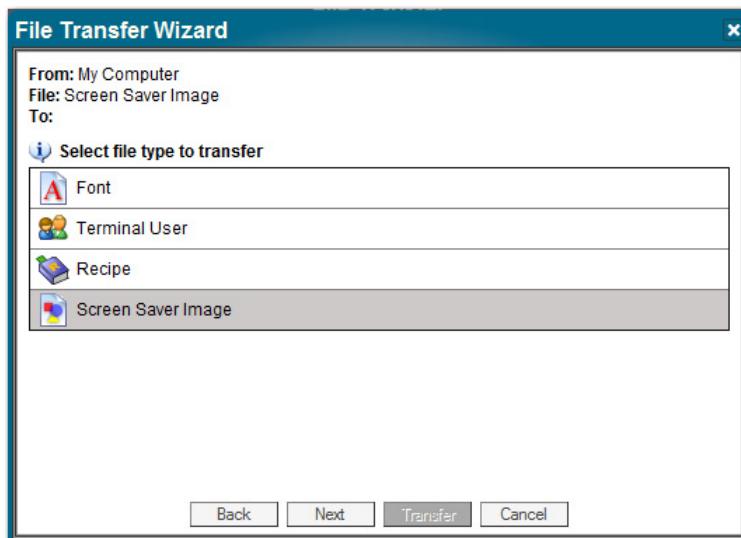
The default screen saver image is a floating Allen-Bradley logo in a bitmap format. The name of the default screen saver is 'Screen Saver' with a .bmp file type. You can replace the default screen saver with your own bitmap image, but the file must have the same name as the default screen saver.

TIP You cannot replace the screen saver image from the on-terminal configuration screens. If you want to change this setting, you must connect to the terminal through a web browser.⁽¹⁾

⁽¹⁾ The web browser feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

Follow these steps to replace the screen saver image using PanelView Explorer.⁽¹⁾

1. Create a small bitmap image no larger than 128 x 128 pixels.
2. Save your bitmap file to your computer, a USB drive or/and micro-SD card. Rename your file as 'Screen Saver' and make sure the file type is .bmp.
3. Click the File Transfer link in the PanelView Explorer Startup window, then click New Transfer.
4. Select either My Computer or USB/micro-SD Storage as file source depending on where you saved your file, then click Next.
5. Select Screen Saver Image as the file type, then click Next.



6. Locate where you saved your bitmap file on your computer or external storage device.

⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

7. Select Internal Storage as file destination, then click Transfer. The bitmap file is successfully transferred to the terminal.

The new screen saver takes affect the next time the screen saver is activated.

TIP Your bitmap file should be small in size. A large bitmap will impact performance of terminal operations.

Configure Key Repeat Settings

You can configure key repeat settings for the terminal keys or attached keyboard of the connected terminal.

TIP You cannot change the key repeat settings from the on-terminal configuration screens. If you want to change this setting, you must connect to the terminal through a web browser.⁽¹⁾

⁽¹⁾ The web browser feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

The repeat rate is the speed at which a character repeats per second when you hold down a key. The repeat delay is the amount of time, in milliseconds, that elapses before a character begins to repeat when you hold down a key.

Follow these steps to change the repeat settings for keys using PanelView Explorer.⁽¹⁾

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the Display/Input tab.

⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

4. Check Enable key repeat to enable repeat settings for keys.



5. Drag the slider under Key Repeat Rate to adjust the speed at which a character repeats when a key is held down.
6. Drag the slider under Key Repeat Delay to set the amount of time that elapses before a character begins to repeat when the key is held down.
7. Click Apply or click Cancel to restore the current settings.

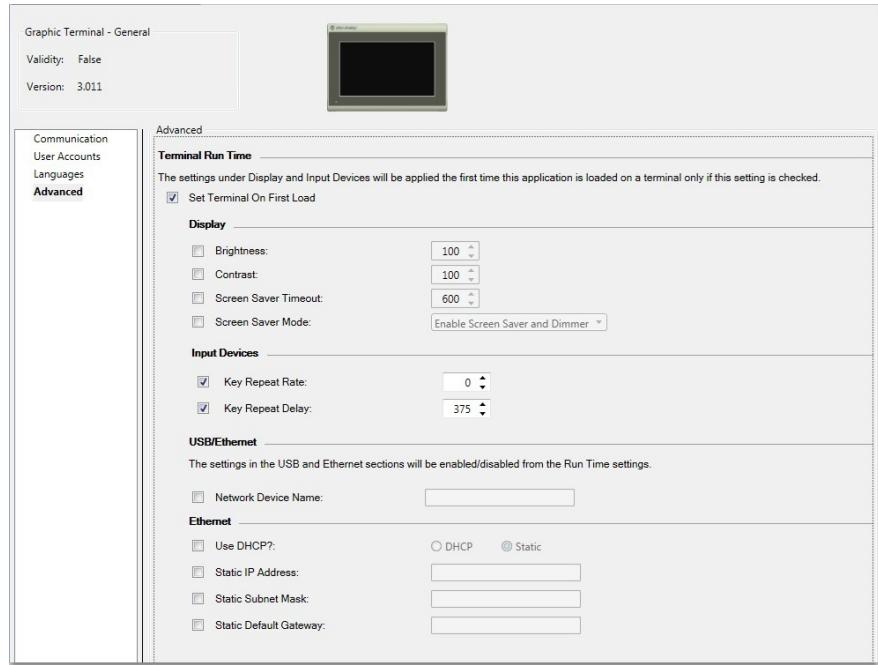
To disable key repeat settings, uncheck Enable key repeat.

From firmware revision 3.011 onwards, the key repeat settings can be configured in Connected Components Workbench software. This feature also requires Connected Components Workbench Release 9 or later software to be installed.

Follow these steps to change the repeat settings for keys using Connected Components Workbench.

1. Goto the Settings tab for your PanelView 800 terminal.
2. Click Advanced in the settings list.

3. Select the Set Terminal On First Load checkbox.



4. Under Input Devices, select the checkbox for the setting you want to configure.
5. Use the up or down arrows to adjust the value, or input the value directly into the text box.
6. Save the project.

Calibrate the Touch Screen

Over time you may notice that the objects and images on the display screen don't seem to fit the display area as well as they once did. This is normal with a touch screen and can be easily fixed.

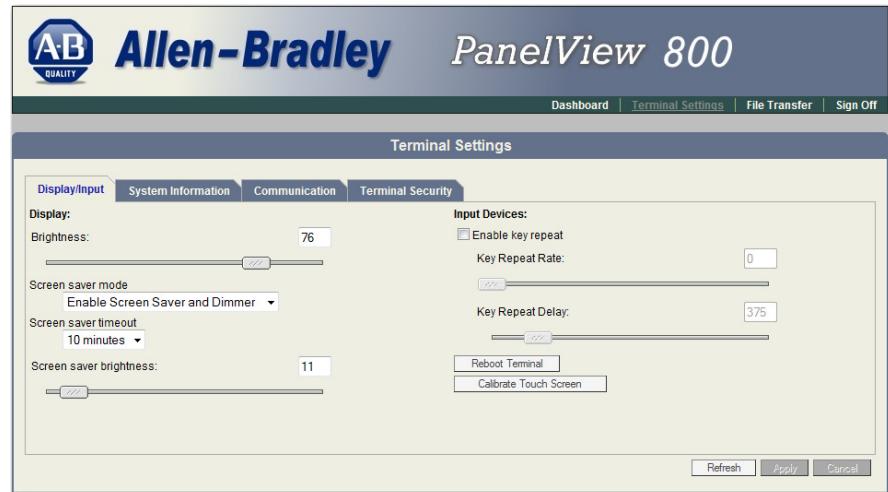
Use a plastic stylus device with a minimum tip radius of 1 mm (0.040 in.) to prevent damage to the touch screen.

Follow these steps to calibrate the touch screen using PanelView Explorer.⁽¹⁾

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the Display/Input tab.

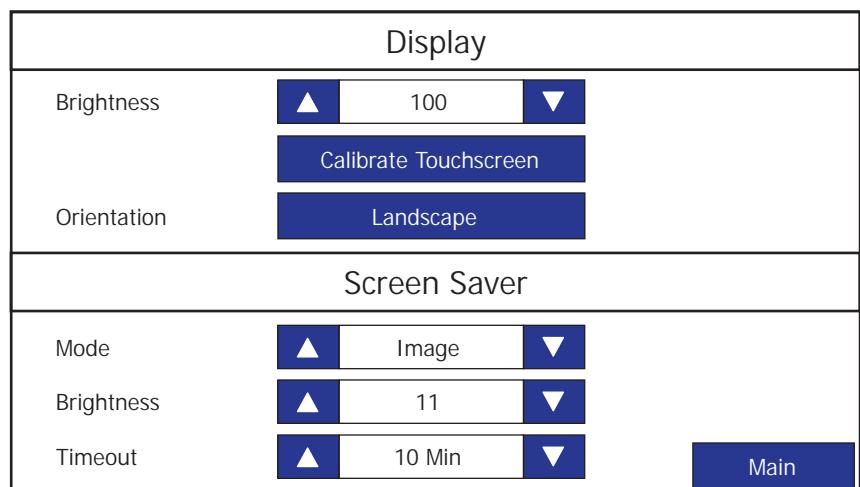
⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

4. Click Calibrate Touch Screen.



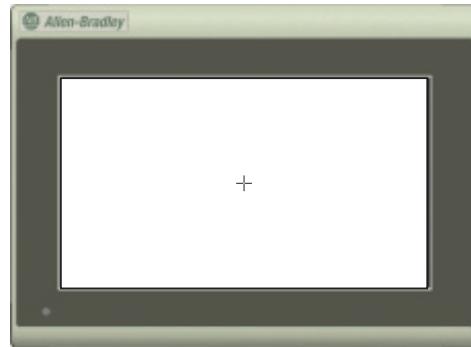
Follow these steps to calibrate the touch screen from the terminal.

1. Go to the main configuration screen.
2. Press Display.
3. Press Calibrate Touchscreen.

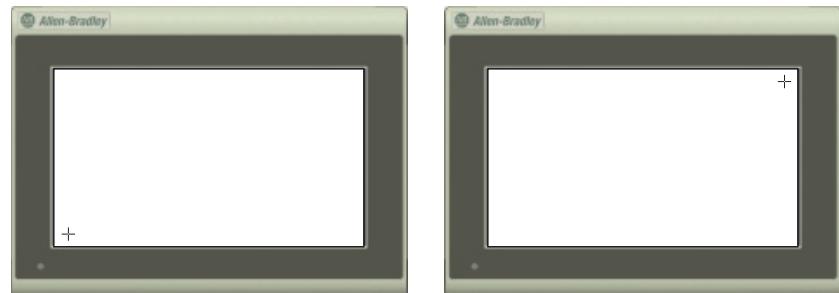


Follow these steps to complete the calibrate touchscreen procedure.

1. With a stylus, tap the center of the target (+) on the terminal screen.



2. Repeat step 1 as the target moves around the screen.



3. Tap OK when the message appears to accept the changes.
If you do not tap the screen within 30 seconds, the calibration data is discarded and the current settings are retained.

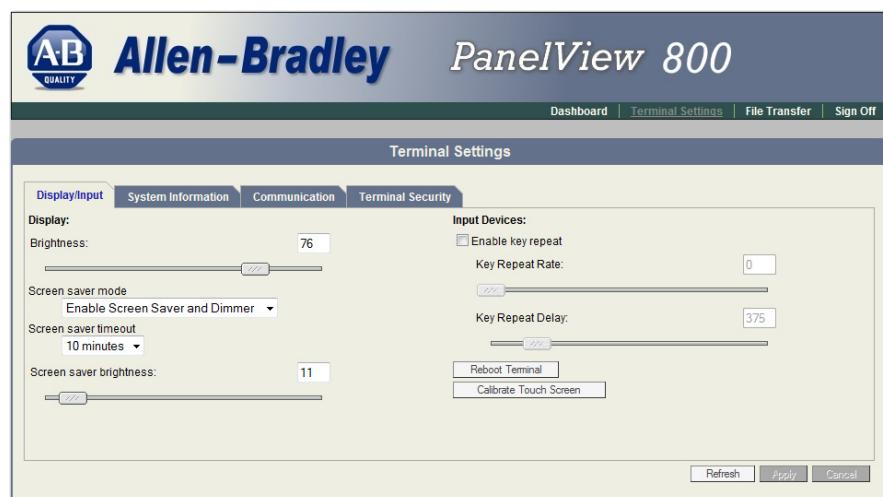


Reboot the Terminal

You can restart the terminal without having to disconnect and reapply power. After a reset, the terminal performs a series of startup tests and then either enters configuration mode or runs the startup application.

Follow these steps to reboot the terminal from PanelView Explorer.⁽¹⁾

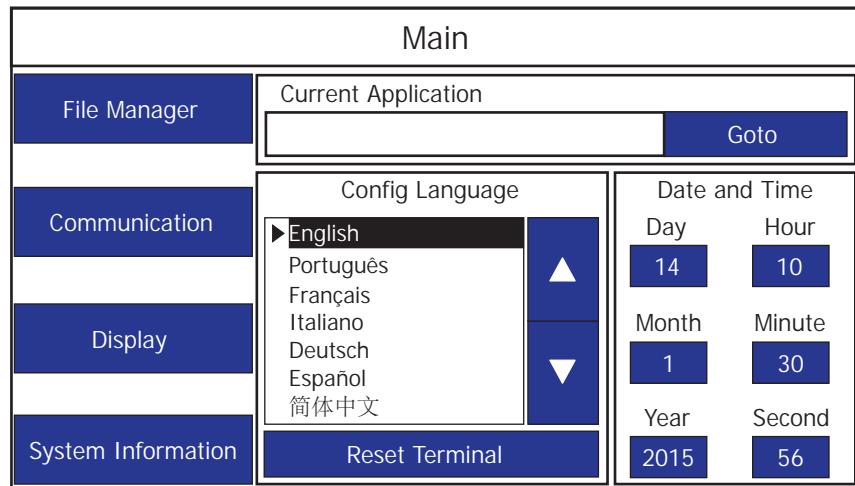
1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the Display/Input tab.
4. Click Reboot Terminal.



⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

Follow these steps to reboot the terminal from the terminal.

1. Go to the main configuration screen.



2. Press Reset Terminal.
3. Press Yes to confirm.

Change the Startup Application

You can select or change the application that runs on the terminal each time the terminal starts up. Only applications in the internal storage of the terminal can be run or set as a Startup Application.

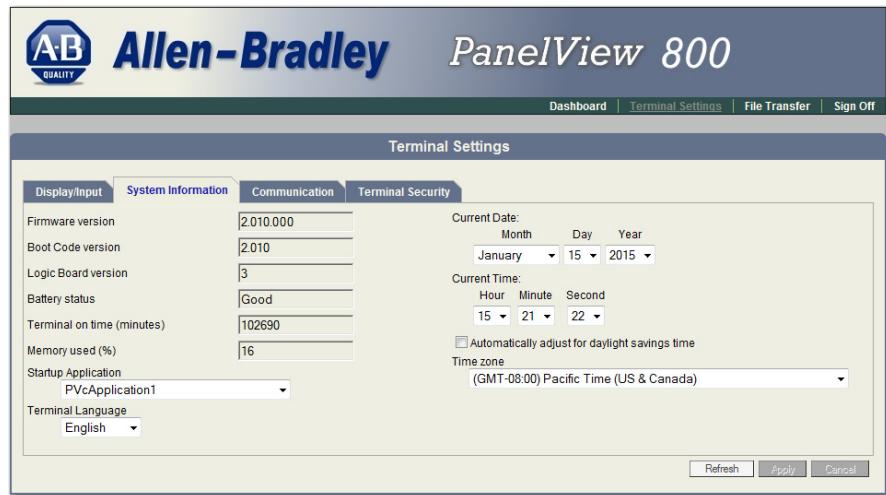
IMPORTANT If the application list is empty, the run, copy, delete, and set as startup functions will not perform any action.

Follow these steps to select or change the startup application using PanelView Explorer.⁽¹⁾

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the System Information tab.

⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

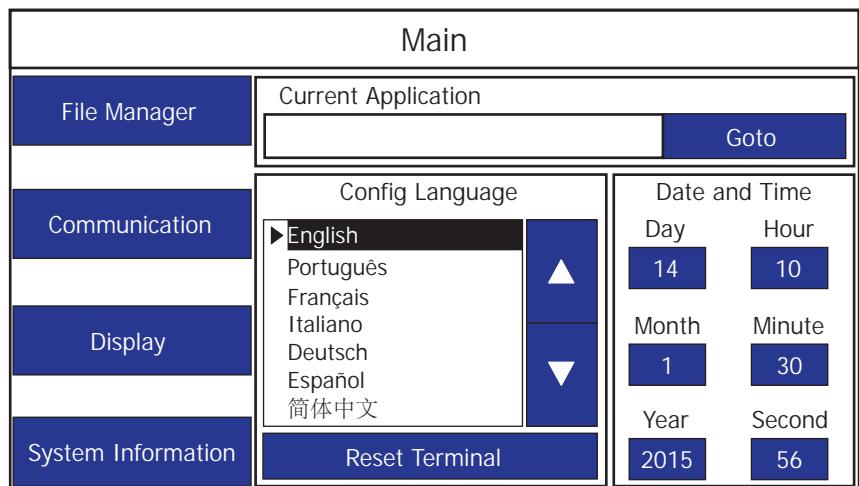
4. Select the name of the startup application from the Startup Application pull-down list.



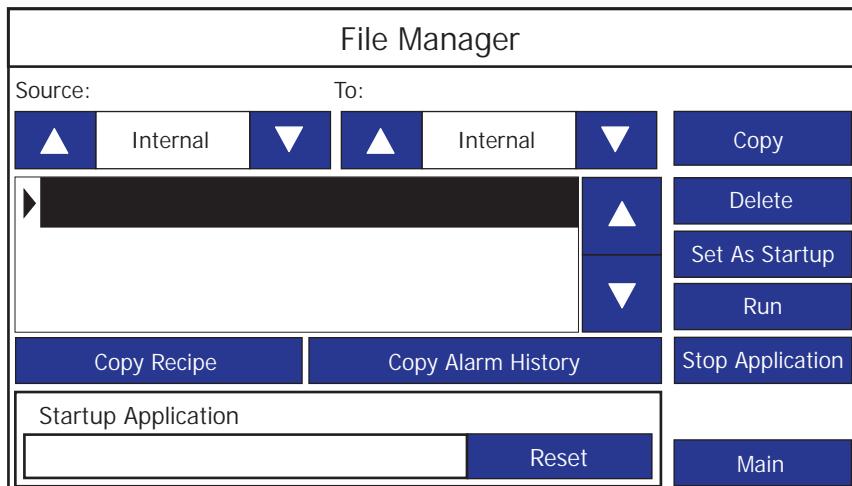
5. Click Apply.

Follow these steps to select or change the startup application from the terminal.

1. Go to the main configuration screen.



2. Press File Manager.



IMPORTANT The Stop Application button is only available in firmware revision 3.011 onwards.

- 3.** Select Internal from the Source list.
- 4.** Select the name of the startup application from the Name list.
- 5.** Click Set As Startup.

Change the Date and Time

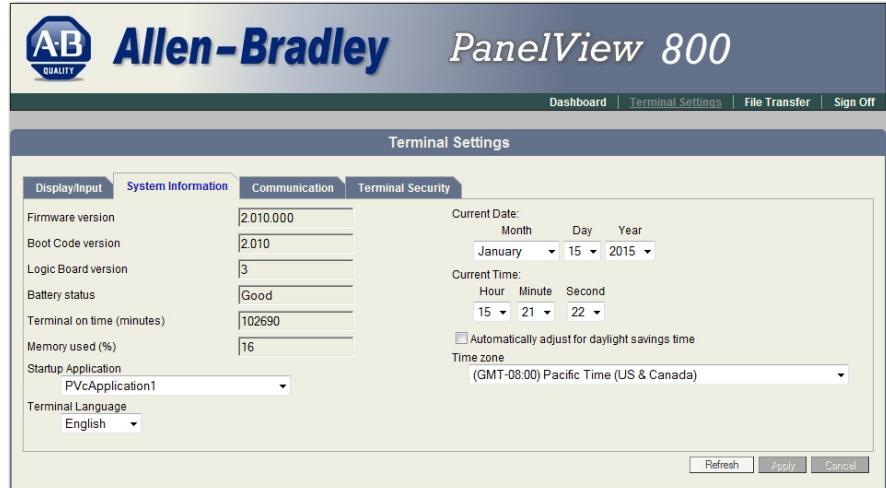
You can adjust the current date and time for terminal operations. The time is set in 24-hour format. If using PanelView Explorer, you can also set the terminal to automatically adjust the time for daylight savings time.

Follow these steps to change the terminal date and time using PanelView Explorer.⁽¹⁾

- 1.** Go to the PanelView Explorer Startup window.
- 2.** Click the Terminal Settings link.
- 3.** Click the System Information tab.
- 4.** Update the Current date fields.
- 5.** Update the Current time fields.

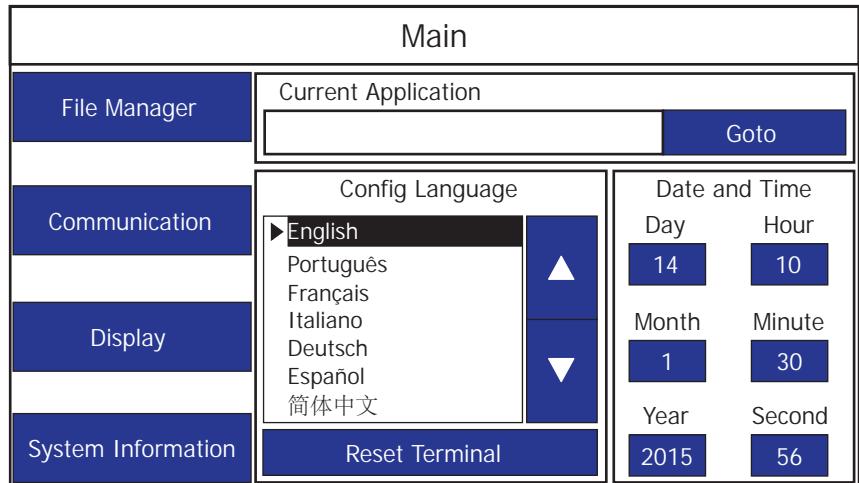
⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

6. Check Automatically adjust for daylight savings time if you want the terminal to adjust for daylight savings time.
7. Click Apply or click Cancel to restore the current terminal settings.



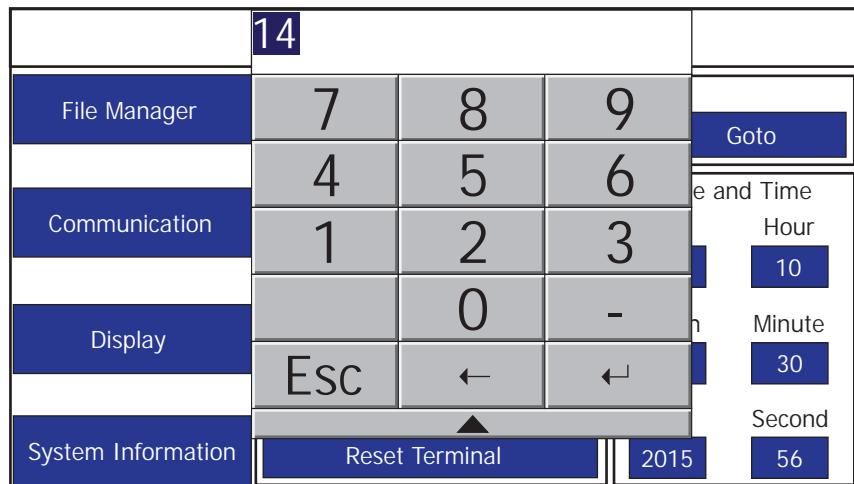
Follow these steps to change the terminal date and time from the terminal.

1. Go to the main configuration screen.



2. Click on the number next to what you want to change under the 'Date and Time' section.
A numeric keypad is displayed.

- Select the numbers you want and press the Enter key.



Follow these steps to change the daylight savings time and timezone from the terminal.

- Press System Information.

System Information	
Firmware Version:	3.011.000
Boot Code Version:	2.020.000
Logic Board Version:	4
Terminal On Time:	102,330
Display On Time:	102,330
Battery Status:	Good
Memory Usage (bytes)	
Internal Used:	1,392,640
Internal Free:	164,741,120
Application Used:	31,600,640
Application Free:	193,994,752
	Advanced
	Main

2. Press Advanced.



3. Use the arrow keys to enable or disable daylight savings time.
4. Use the arrows keys to select the timezone you want, then press Set.

Change Ethernet Settings

You can establish an Ethernet connection between the connected PanelView 800 terminal and computer using the Ethernet port on the terminal.

TIP You cannot change the Ethernet settings from PanelView Explorer. If you want to change this setting, you must do so from the terminal configuration screens.

For the Ethernet port, IP addresses can be set dynamically by the network if Dynamic Host Configuration Protocol (DHCP) is enabled. If DHCP is disabled, the IP addresses must be entered manually.

IMPORTANT If a terminal is set for DHCP and is not on a network or is on a network that does not have a DHCP server (or the server is not available), it will automatically assign itself an Automatic Private IP Address (or auto IP address). The auto IP address will be in the range of 169.254.0.0...169.254.255.255.

The terminal makes sure the auto IP address is unique from any other auto IP address of other devices on the network. The terminal can now communicate with other devices on the network that have IP addresses in the 169.254.xxx.xxx range (and a subnet mask of 255.255.0.0).

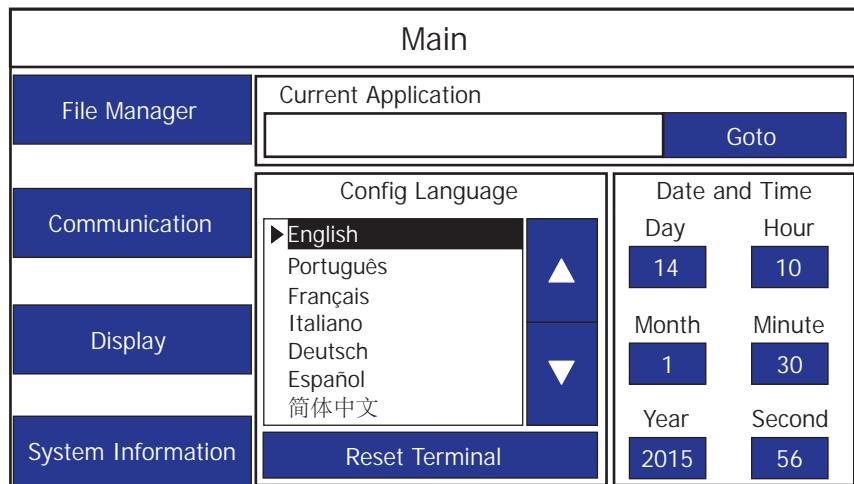
Ethernet Settings

Parameter	Description
MAC ID	Read-only field that defines the MAC ID of the PanelView 800 terminal. Each Ethernet device has a unique MAC ID. The MAC ID is only shown in PanelView Explorer.
Network Device Name	Unique name that identifies the terminal on the network.
IP Address	Unique address that identifies the terminal on the Ethernet network. The format of the IP address is xxx.xxx.xxx.xxx, for example, 10.90.95.30. The range of values for the first set of decimal numbers is 1...255 unless all fields are set to 000. The range of values for the last three sets of decimal numbers is 0...255.
Subnet Mask	Address that must be identical to the server subnet mask. The subnet mask is formatted like the IP address.
Default Gateway	Optional address that is formatted like the IP address.

If DHCP is enabled for the Ethernet port, the current fields show the IP addresses assigned by the network. You can assign IP addresses manually by disabling DHCP and entering addresses in the static fields.

Follow these steps to set a static IP address for the terminal's Ethernet port from the terminal.

1. Go to the main configuration screen.



2. Press Communication.

Communication	
Protocol:	*
Status:	Unavailable
Device Name:	PV800T7T
Node Address:	0
IP Mode:	DHCP
IP Address:	0.0.0.0
Mask:	0.0.0.0
Gateway:	0.0.0.0
MAC Address:	XX:XX:XX:XX:XX
Disable DHCP	
Set Static IP Address	
Main	

IMPORTANT The MAC Address value display is only available in firmware revision 3.011 onwards.

3. Press Disable DHCP.

The IP Mode now displays the text "Static".

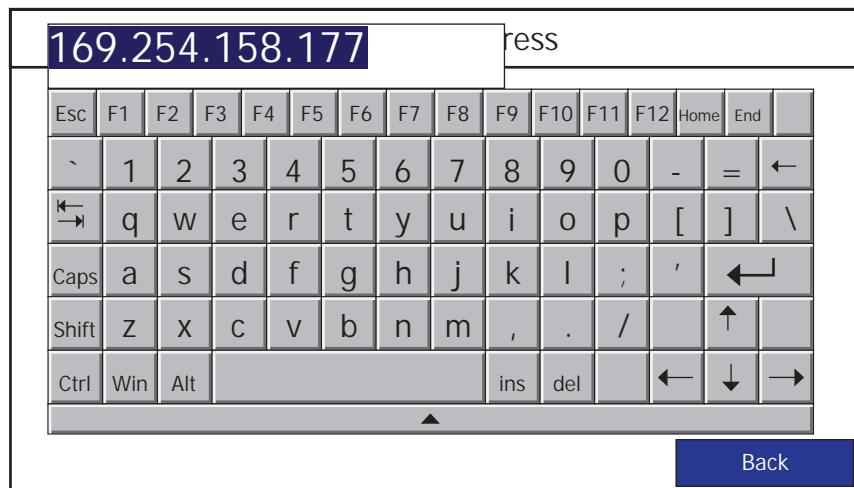
4. Press Set Static IP Address.

The Static IP Address screen appears.

Static IP Address	
IP Address:	0.0.0.0
Mask:	0.0.0.0
Gateway:	0.0.0.0
Back	

5. Press the blue area next to IP Address to enter an IP address in the Static IP address field.

Type in the desired IP address using the on-screen keypad, then press Enter.



6. Repeat step 5 to enter the address for the Subnet Mask and Gateway Address.

Enable Terminal Security

Use terminal security to restrict user access to the PanelView Explorer Startup window. For example, you can require users to enter a user name and password before accessing the PanelView Startup window.

TIP You cannot enable terminal security from the on-terminal configuration screens. If you want to change this setting, you must connect to the terminal through a web browser.⁽¹⁾

⁽¹⁾ The web browser feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

IMPORTANT The PanelView Explorer feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

Initially, the terminal and the PanelView Explorer Startup window are unsecured. To enable security, provide a password. The default user name is Admin. The new password takes effect the next time the terminal is restarted.

As long as security is enabled, any user that tries to access the PanelView Explorer Startup window must first log in with a valid user name and password.

The terminal also secures itself when idle. If terminal input is not received within the idle timeout period, the user is logged out. The user must log in again to access the terminal. The default terminal idle timeout is 30 minutes.

IMPORTANT Store your password in a safe place. If you forget the password, you will not be able to connect to the PanelView Explorer Startup window.

Follow these steps to secure the PanelView Explorer Startup window.

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the Terminal Security tab.
4. Check Terminal Security Enabled.



5. Optionally, enter a new Terminal User Name.
6. Click the Reset Terminal User Password button.
7. In the Reset Password dialog, enter a new password, confirm the password, then click OK.

TIP Terminal user names are limited to 15 characters.



8. Select a new idle timeout from the Terminal Idle Timeout list, if needed, or click Cancel to restore the current idle timeout.

The new password and idle timeout value take effect when the terminal is restarted.

To disable security, uncheck the Terminal Security Enabled checkbox. The next time the terminal is restarted, it will be unsecured.

TIP The terminal user name and password is stored in a file that is separate from the application. You can transfer this file to other terminals without having to manually re-enter the information. Use the File Transfer link on the PanelView Explorer Startup window and transfer the Terminal User file from internal storage to your computer, USB or SD storage.

View System Information

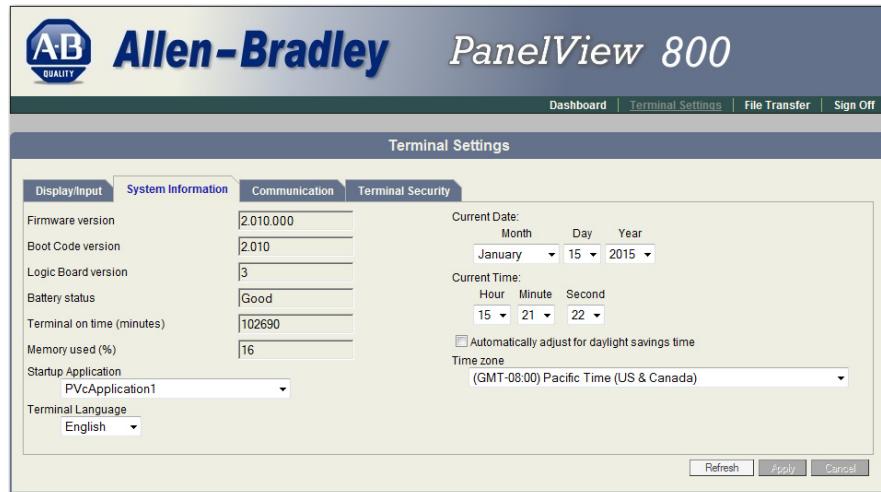
You can view system information about your terminal including information about the firmware, boot code, logic board, battery status (if applicable), terminal on time, and memory used.

Follow these steps to view system information using PanelView Explorer.⁽¹⁾

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.

⁽¹⁾ The PanelView Explorer feature is not supported on PanelView 800 terminals from firmware revision 3.011 onwards.

3. Click the System Information tab.



Follow these steps to view system information from the terminal.

1. Click System Information from the menu list.

The system information screen displays firmware version, boot code version, logic board version, terminal on time, display on time, and battery status.

System Information	
Firmware Version:	3.011.000
Boot Code Version:	2.020.000
Logic Board Version:	4
Terminal On Time:	102,330
Display On Time:	102,330
Battery Status:	Good
Memory Usage (bytes)	
Internal Used:	1,392,640
Internal Free:	164,741,120
Application Used:	31,600,640
Application Free:	193,994,752
Advanced Main	

Managing Applications and Files

You can manage the applications and files of the terminal from PanelView Explorer or directly from the terminal. The File Transfer link in the PanelView Explorer Startup window and the File Manager screen on the terminal can be used for transferring files to and from terminal storage media. File names and tag names should start with an alpha character. Avoid starting names with numeric or special characters.

You can do the following actions:

- export or import applications, images, the terminal security file, recipes, and fonts.
- import screen saver bitmap files
- export the alarm log from the currently running application.
- delete applications, images, font files, terminal user file and recipes from terminal storage.

IMPORTANT Some actions may not be performed in PanelView Explorer but may be done on the terminal, and vice versa. For example, you cannot transfer applications using PanelView Explorer but you can do so from the terminal.

IMPORTANT The PanelView Explorer feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

A file transfer operation requires you to choose a source location, file type, and destination location.

- Source location – the location of the file you want to transfer. You can transfer a file from Internal Storage of the terminal, USB Storage, micro-SD Storage, or My Computer.
- Source File Type – the type of file you want to transfer. The types of files you can transfer include PanelView 800 applications, screen saver images, fonts, recipes, and the terminal security file.
- Destination location - The location where you want to transfer the selected file. You can transfer a file to Internal Storage of the terminal, USB Storage, micro-SD Storage, or My Computer.

IMPORTANT If transferring a file from or to USB or micro-SD storage, verify that the USB flash drive or micro-SD card is inserted in the terminal before starting the file transfer.

IMPORTANT The USB flash drive or micro-SD card must be formatted in the FAT/FAT32 file system for the terminal to read the contents of the external storage.

Creating Applications

Applications for PanelView 800 terminals can be created using the Connected Components Workbench software, version 8.0 or later. You can create applications without being connected to a terminal but you can only run the application on a physical terminal.

Applications created with Connected Components Workbench can be downloaded to the terminal through the following methods:

- Ethernet (only for firmware revision 2.020 or earlier)
- CIP Ethernet (requires firmware revision 3.011 or later)
- CIP Bridge connection through Compact Logix 5370 L1 controller
- CIP Bridge connection through Micro800 controller

Transferring Applications

Applications created for one PanelView 800 terminal can be used on other PanelView 800 terminals. For example, you might create an application for one terminal and then distribute the application to other terminals for production. An application created for PanelView 800 terminals cannot be used on older PanelView Component terminals.

Transferring an application is a two-step process.

- Export the application from the internal storage of the terminal to a USB flash drive or micro-SD card.
- Import the application from a USB flash drive, or micro-SD card to the internal storage of another terminal.

If the target terminal is a different type and size than the source terminal, some aspects of the application is converted and the remaining properties require updates. If trying to run an application, you are warned that the application was not created for the terminal, but you are given an option to continue or cancel unless the differences make it impossible to run the application (for example, an Ethernet application on a terminal without an Ethernet network connection).

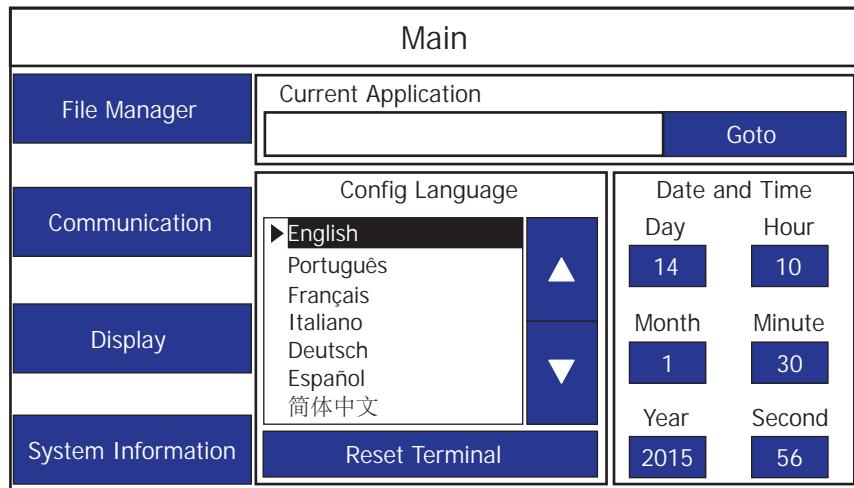
PanelView 800 applications are saved with a .cha file type.

Export an Application

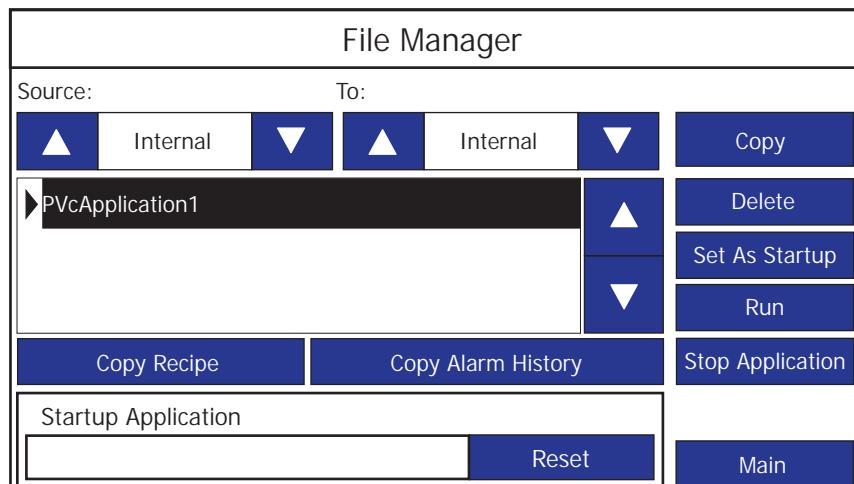
During an export, the application file is transferred from internal storage of the terminal to a USB flash drive, micro-SD card. The application is saved with its default name and .cha file type.

Follow these steps to export an application from the terminal.

1. Go to the main configuration screen.



2. Press File Manager.



IMPORTANT The Stop Application button is only available in firmware revision 3.011 onwards.

3. Select Internal as the Source location of the application.
4. Select the location to copy the application from the To list, either USB or micro-SD.
5. Select the name of the application from the Name list.
6. Press Copy.

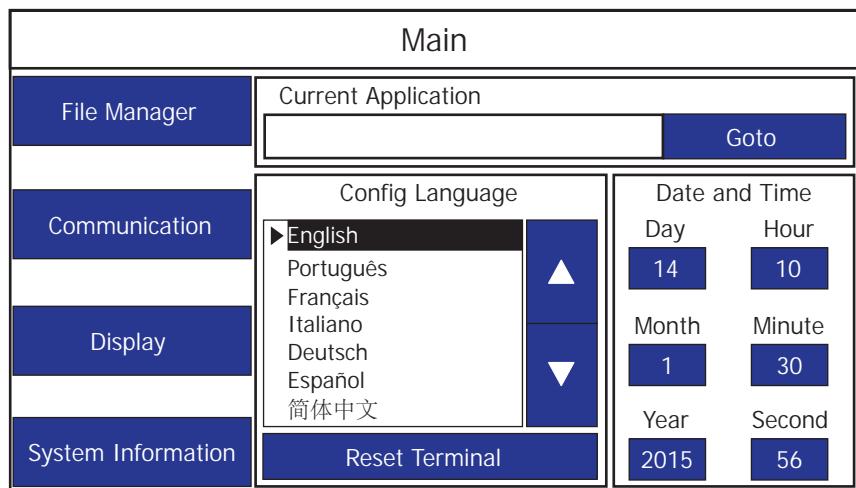
Import an Application

During an import, the .cha application file is transferred from a USB flash drive or micro-SD card to the internal storage of the terminal. The transfer operation communicates with the terminal to import the file.

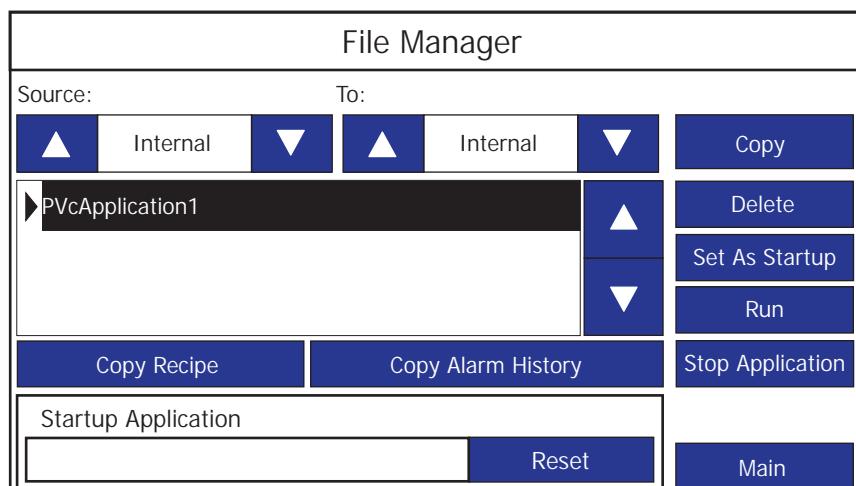
You cannot overwrite an application while the application is running. You must unload the current application before overwriting the application. You can import applications while another is running.

Follow these steps to import an application from the terminal.

1. Go to the main configuration screen.



2. Press File Manager.



IMPORTANT

The Stop Application button is only available in firmware revision 3.011 onwards.

3. Select the source location of the application from the Source list, either USB or micro-SD.
4. Select Internal as the To location to copy the application.
5. Select the name of the application from the Name list.
6. Press Copy.

The application is transferred to the internal storage of the terminal.

If an application with the same name already exists in internal storage, you will be asked if you want to replace the existing application.

If the target terminal is a different type and size than the source terminal, the application will be converted when in Test Run or Run mode. The application may require updates before running properly.

Notes:

Install and Replace Components

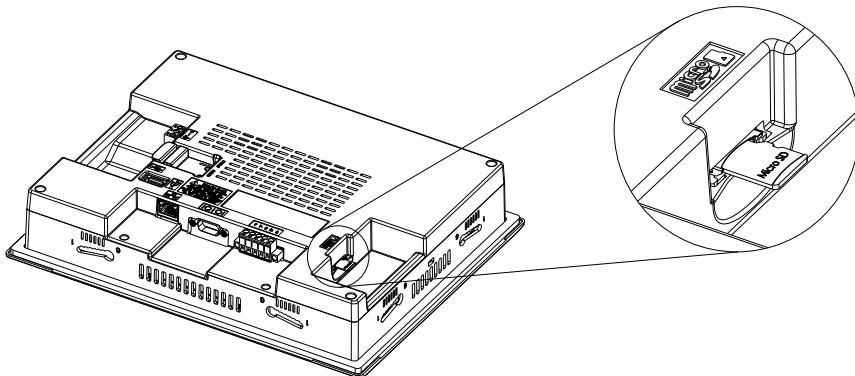
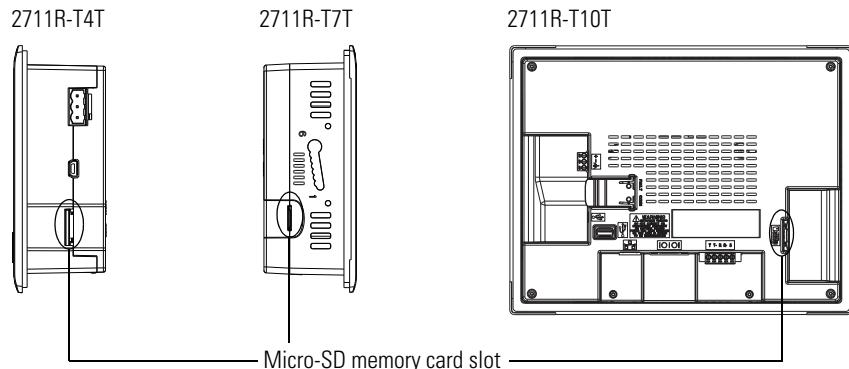
Chapter Objectives

This chapter shows how to install, replace, or upgrade various components of the PanelView 800 terminals.

- Micro-SD memory card
- USB flash drive
- Battery replacement

Micro-SD Memory Card

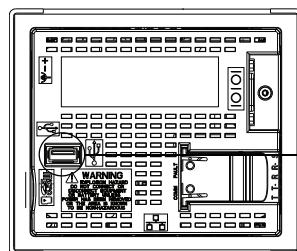
The micro-SD memory card can be inserted in the following locations on the PanelView 800 terminals.



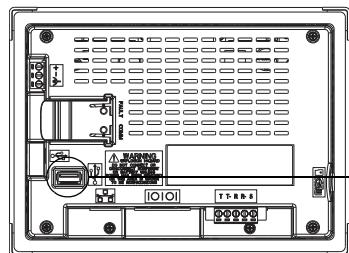
USB Flash Drive

The USB flash drive can be inserted in these locations on the terminals.

2711R-T4T

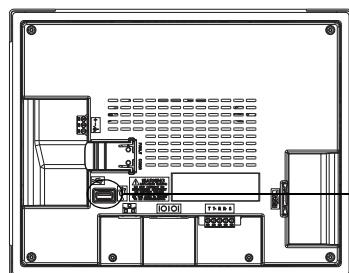


2711R-T7T



USB host port

2711R-T10T



Battery Replacement

The PanelView 800 terminals contain a lithium battery that is intended to be replaced during the life of the product. The battery provides battery backup for the real-time clock. It is not used for application backup or retention.



WARNING: Verify that power has been removed from the terminal prior to replacing the battery. Work in a static free environment and wear a properly grounded electrostatic discharge (ESD) wristband.

Be careful when touching any of the exposed electronic components to prevent damage from ESD.



WARNING: To avoid the danger of explosion, only replace the battery with 2711P-RY2032 or a manufacturer's equivalent such as the Matsushita or Duracell DL2032.

For safety information on the handling of lithium batteries, see the Guidelines for Handling Lithium Batteries, publication [AG-5.4](#).

Do not dispose of battery in a fire or incinerator. Dispose of used batteries in accordance with local regulations.



WARNING: When you connect or disconnect the battery an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that the area is nonhazardous before proceeding.

For Safety information on the handling of lithium batteries, including handling and disposal of leaking batteries, see Guidelines for Handling Lithium Batteries, publication [AG-5.4](#).

Do not dispose of battery in a fire or incinerator. Dispose of used batteries in accordance with local regulations.



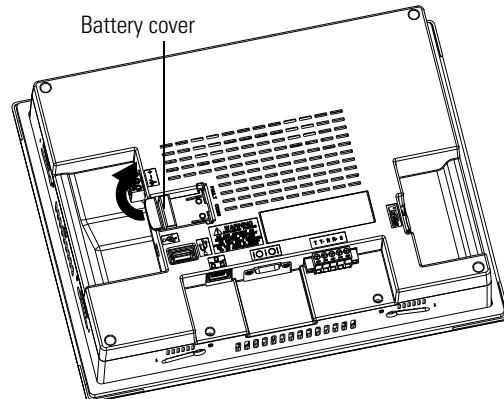
This product contains a lithium battery that may need to be replaced during the life of the product. At the end of its life, the battery contained in this product should be collected separately from any unsorted municipal waste. The collection and recycling of batteries helps protect the environment and contributes to the conservation of natural resources as valuable materials are received.



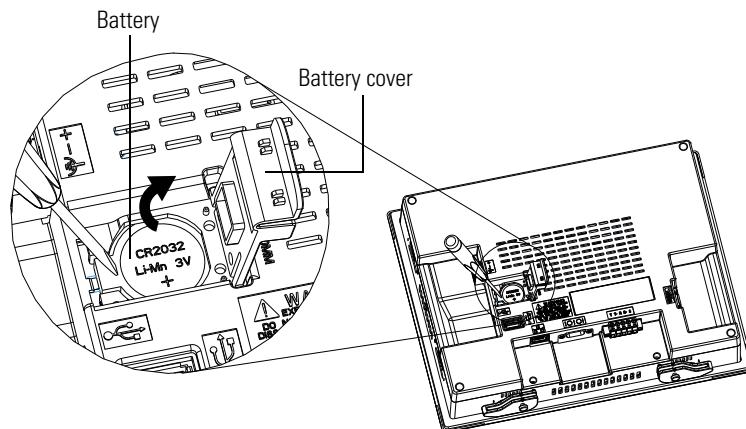
ATTENTION: Battery contains Perchlorate Material – Special handling may apply.
See www.dtsc.ca.gov/hazardouswaste/perchlorate.

This perchlorate warning only applies to primary Lithium Manganese Dioxide (LiMnO₂) cells or batteries, and products containing these cells or batteries, sold or distributed in California, USA.

The battery is on the back of the terminals. No special tools are required to remove the battery cover, but a flat-tip screwdriver may be required to remove the battery.



This equipment is sensitive to electrostatic discharge (ESD).
Follow ESD prevention guidelines when handling this equipment.



This equipment is sensitive to electrostatic discharge (ESD).
Follow ESD prevention guidelines when handling this equipment.

Cable Connections and Communication

Chapter Objectives

This chapter provides network and device connections for the terminals.

- Wiring and safety guidelines
- Connecting devices
- MicroLogix controller cable charts
- Micro800 controller cable charts
- CompactLogix 5370 L1 controller cable charts
- Ethernet connection
- Serial connections
- USB Ports

Wiring and Safety Guidelines

Use publication NFPA 70E Electrical Safety Requirements for Employee Workplaces, IEC 60364 Electrical Installations in Buildings, or other applicable wiring safety requirements for the country of installation when wiring the devices. In addition to the NFPA guidelines:

- connect the device and other similar electronic equipment to its own branch circuit.
- protect the input power by a fuse or circuit breaker rated at no more than 15 A.
- route incoming power to the device by a separate path from the communication lines.
- cross power and communication lines at right angles if they must cross.

Communication lines can be installed in the same conduit as low-level dc I/O lines (less than 10V).

- shield and ground cables appropriately to avoid electromagnetic interference (EMI).

Grounding minimizes noise from EMI and is a safety measure in electrical installation.

For more information on grounding recommendations, refer to the National Electrical Code published by the National Fire Protection Association.

Connecting Devices

Use these cables for connecting devices to PanelView 800 terminals.

Cables for PanelView 800 Terminals

Cat. No.	Description
2711P-CBL-EX04	Ethernet crossover CAT5 cable 4.3 m (14 ft)
1747-CP3	Serial 9-pin D-shell to 9-pin D-shell null modem cable
1761-CBL-PM02	Serial 9-pin D-shell to 8-pin mini DIN cable, 2 m (6.56 ft)
2711C-CBL-AB03	RS-485 5-pin to RJ45 cable
1763-NC01 Series A	8-pin Mini DIN to 6-pin RS-485 terminal block

MicroLogix Controller Cable Charts

The chart provides a summary of terminal connections to controllers and network interface modules.

PanelView 800 Terminal Connections to MicroLogix Controllers

Protocol	PanelView 800 Port	MicroLogix (8-pin Mini DIN) 1000, 1100, 1400, 1200LSP, 1500LSP (Ch 0)	MicroLogix (9-pin D-shell) 1500LRP (Ch 1)	MicroLogix 1100/1400 RS485 (1763-NC01)	MicroLogix 1100/1400 Ethernet
DF1	RS-232	1761-CBL-PM02	1747-CP3	N/A	N/A
DH-485	RS-232	1761-CBL-PM02	1747-CP3	Use AIC+ module (1761-NET-AIC) connect to port 3	N/A
	RS-485 ⁽¹⁾	N/A	N/A	Belden 3106A or #9842 or equivalent	N/A
Modbus	RS-232	1761-CBL-PM02	1747-CP3	Use AIC+ module (1761-NET-AIC) connect to port 3	N/A
Ethernet (MicroLogix/ENI)	Ethernet	N/A	N/A	N/A	CAT 5 Ethernet

⁽¹⁾ RS485 is isolated. It is recommended to only connect one device. Multi-node communication is supported when appropriate hardware, such as 1747-AIC or AIC+ is added to the wiring.

Micro800 Controller Cable Charts

The chart provides a summary of terminal connections to controllers and network interface modules.

PanelView 800 Terminal Connections to Micro800 Controllers

Protocol	PanelView 800 Port	Micro820	Micro830	Micro850
Modbus	RS-232	_(2)	1761-CBL-PM02	1761-CBL-PM02
	RS-485 ⁽¹⁾	_(2)	_(2)	_(2)
	Ethernet	2711P-CBL-EX04 (CAT5 Ethernet)	N/A	2711P-CBL-EX04 (CAT5 Ethernet)
Ethernet (AB CIP)	Ethernet	2711P-CBL-EX04 (CAT5 Ethernet)	N/A	2711P-CBL-EX04 (CAT5 Ethernet)
Serial (AB CIP)	RS-232	_(2)	1761-CBL-PM02	1761-CBL-PM02

⁽¹⁾ RS485 is isolated. It is recommended to only connect one device.

⁽²⁾ Terminal block, wiring required.

CompactLogix 5370 L1 Controller Cable Charts

Support for communication with CompactLogix 5370 L1 controllers has been added from firmware revision 3.011 onwards. This feature also requires Connected Components Workbench Release 9 or later software to be installed.

The chart provides a summary of terminal connections to controllers and network interface modules.

PanelView 800 Terminal Connections to CompactLogix 5370 L1 Controllers

Protocol (CIP)	PanelView 800 Port	CompactLogix 5370 L1
Ethernet (CompactLogix)	2711P-CBL-EX04 (CAT5 Ethernet)	2711P-CBL-EX04 (CAT5 Ethernet)

For more information on adding CompactLogix 5370 L1 controllers to your applications, refer to the PVc DesignStation help in Connected Components Workbench on the following topics.

- Configuring communication settings for L1 controllers.
- Mapping tags from CompactLogix 5370 L1 controllers to PanelView 800 terminals.
- Validating an application that includes a CompactLogix 5370 L1 controller.

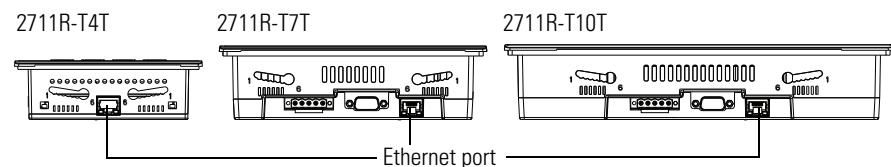
Ethernet Connection

The PanelView 800 terminals have an Ethernet port that supports:

- communication to a controller.
- connection to a computer for accessing the PanelView Explorer Startup window and downloading applications from Connected Components Workbench to the terminal.

Ethernet Connector

The base-configured unit of the terminals has an RJ45, 10/100 Base-T connector for Ethernet network communication.



Ethernet Connector Pinout

Pin	Pin	Pin Name
Looking into RJ45 Connector 1 8	1	TD+
	2	TD-
	3	RD+
	4	NC
	5	NC
	6	RD-
	7	NC
	8	NC
	Shield Connection	Chassis Gnd

Either a standard Ethernet cable or crossover cables such as 2711P-CBL-EX04 can be used when connecting directly to a logic controller or switch.

Cables

The PanelView 800 terminals require category 5 twisted-pair cables. The maximum cable length between the terminal's Ethernet port and a 10/100 Base-T port on an Ethernet hub (without repeaters or fiber) is 100 m (328 ft). In industrial applications, keep the cable length to a minimum.

For additional information, refer to the Ethernet Design Considerations reference manual, publication [ENET-RM002](#).

Security Considerations

IGMP (Internet Group Management Protocol) is used for IPv4 multicast. A multicast is communication between a single sender and multiple receivers on a network. IGMP is used to exchange membership status data between IPv4 routers that support multicasting and members of multicast groups. A router is an intermediary device on a communication network that expedites message delivery by finding the most efficient route for a message packet within a network, or by routing packets from one sub-network to another. A sub-network is a separate part of an organization's network identified through IP addressing.

PanelView 800 terminals provide level 2 (full) support for IPv4 multicasting (IGMP version 2) as described in RFC 1112 and RFC 2236.

SNMP (Simple Network Management Protocol) is used for internal network management and is not supported.

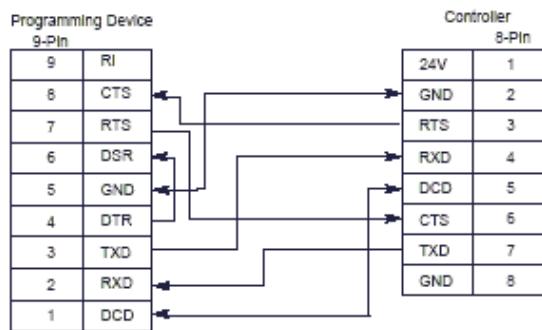
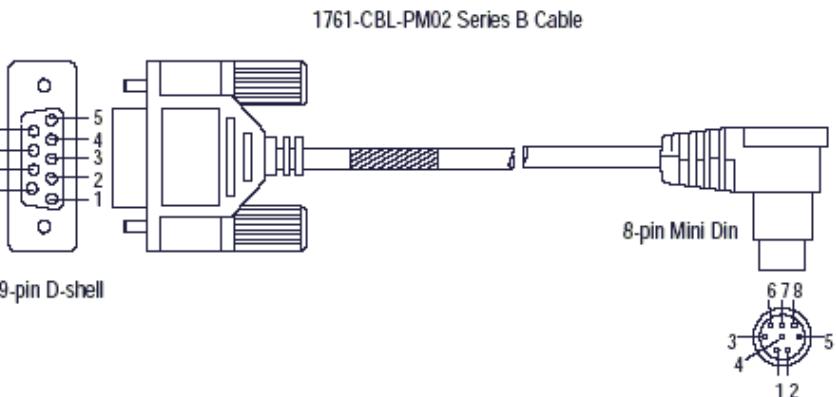
Ports 137 and 138 are normally open to support the NetBIOS protocol used by Windows CE.NET similar to other Microsoft and IBM network operating systems.

Serial Connections

The terminals have a multi-purpose serial RS-232 port that supports:

- DH-485 communication through a serial connection.
- DF1 full-duplex communication with controllers using direct connections or modem connections.
- third-party point-to-point communication.

The serial port on the terminal is a 9-pin, male, RS-232 connector. An example with the 1761-CBL-PM02 cable is shown here:



The maximum cable length for serial communication is 15.24 m (50 ft) at 19.2 Kbps

RS-422/RS-485 Port

The RS-422/RS-485 port is an isolated port that supports point-to-point communication.

RS-422/RS-485 Connector Pinout

Pin	Signal
1	T
2	T-
3	R
4	R-
5	S (Shield)

The RS422/485 port has integrated 120 ohm termination between the R and R- signal pair. This value is compatible with RS422 and RS485 electrical specifications. Additional termination on the PanelView 800 terminal end of communication cables is not required.

USB Ports

The terminals have a USB device and USB host port.



ATTENTION: The USB device port is not intended for Customer use.
The USB host port cable is not to exceed 3.0 m (9.84 ft).

USB Host Port

You can power USB peripherals directly from the PanelView 800 terminal. If the USB peripheral is not powered directly from the PanelView USB port either:

- install the USB peripheral in the same enclosure as the PanelView terminal and make sure it is connected to the same ground system.
- connect to the USB peripheral through a galvanically isolated hub.

You can use the USB host port to connect a USB Flash drive to transfer application files, fonts, and images.



WARNING: If you connect or disconnect the communications cable with power applied to this module or any device on the network, an electrical arc can occur. This could cause an explosion in hazardous location installations.
Be sure that power is removed or the area is nonhazardous before proceeding.



WARNING: If you connect or disconnect the USB cable with power applied to this module or any device on the USB network, an electrical arc can occur. This could cause an explosion in hazardous location installations.
Be sure that power is removed or the area is nonhazardous before proceeding.



ATTENTION: Removing the USB flash drive or micro-SD card, from the PanelView 800 terminal, while a firmware upgrade is in process, could corrupt the firmware and make the terminal unusable. Take precautions to prevent the USB flash drive or micro-SD card from being accidentally disconnected. Also, do not power off the terminal while a firmware upgrade is in progress.
USB hubs can produce unexpected behaviors and as a result are not recommended.

Notes:

Upgrade Firmware

Chapter Objectives

This chapter provides topics on how to upgrade firmware in the terminal.

- Prepare for firmware upgrade
- Upgrade firmware using ControlFLASH
- Upgrade firmware using a removable storage device

The firmware upgrade runs an executable script on a removable storage device such as a USB flash drive or a micro-SD card that copies a firmware image into the flash memory of the terminal.

Prepare for Firmware Upgrade

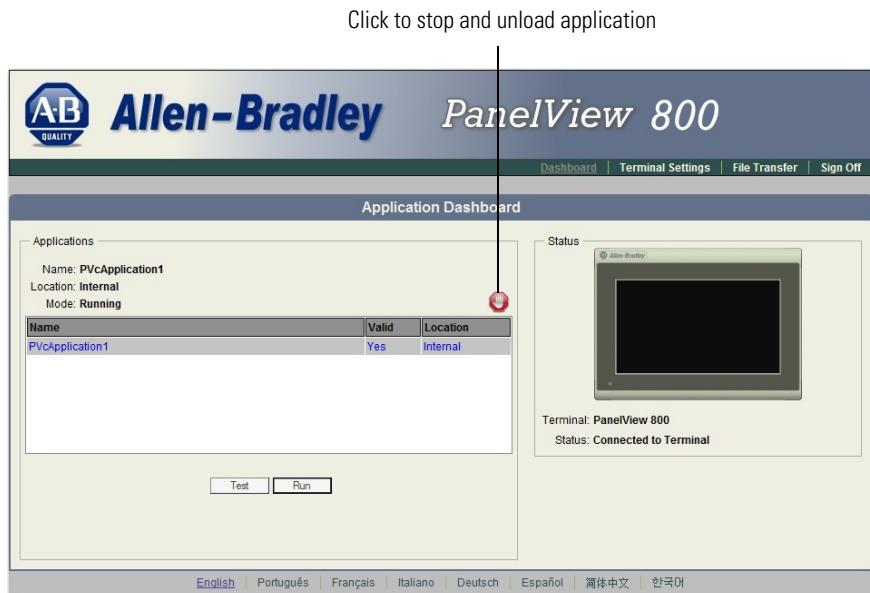
Follow these steps before starting a firmware upgrade.

IMPORTANT The PanelView Explorer feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

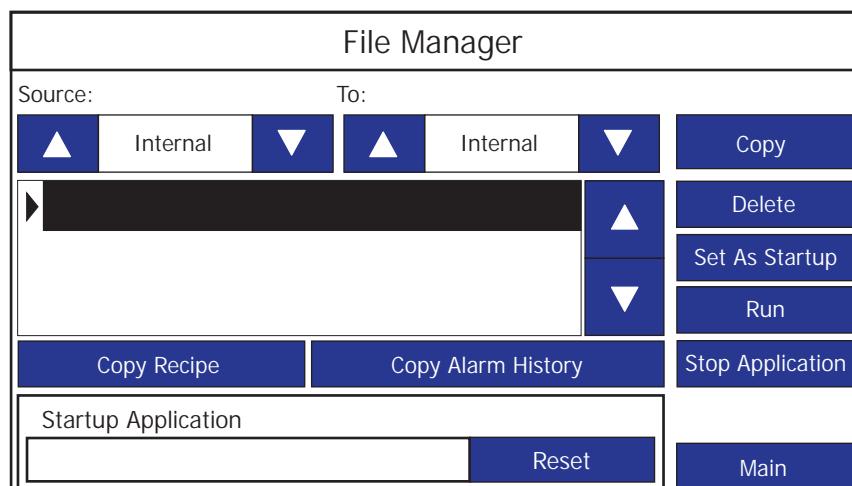
IMPORTANT From firmware revision 3.011 onwards, the terminal must not be in Protected Mode when performing a firmware upgrade. For more information, see [Protected Mode on page 117](#).

1. Backup applications and library objects from the terminal.

2. Click Stop to unload the currently loaded application.
The stop sign is shown when an application is loaded and in Test/Run mode.



To stop an application from the terminal, go to the File Manager configuration screen and press the Stop Application button.



IMPORTANT

The Stop Application button is only available in firmware revision 3.011 onwards.

If you have not saved changes to the application, you are prompted to do so. Once the application is unloaded, the terminal displays the Configuration screen.

3. Close the web browser connected to the terminal.

4. Verify the existing firmware revision of the terminal by looking in the System Information screen, and compare to the firmware revision of the file to make sure you are performing the desired upgrade.

System Information	
Firmware Version:	3.011.000
Boot Code Version:	2.020.000
Logic Board Version:	4
Terminal On Time:	102,330
Display On Time:	102,330
Battery Status:	Good
Memory Usage (bytes)	
Internal Used:	1,392,640
Internal Free:	164,741,120
Application Used:	31,600,640
Application Free:	193,994,752
Advanced Main	

See [View System Information on page 47](#) for instructions on how to view the current firmware version.

Upgrading Firmware Using ControlFLASH

The ControlFLASH software is included with the Connected Components Workbench software and can be installed or updated when you install Connected Components Workbench on your computer.



ATTENTION: Changing the firmware will likely change the behavior of the terminal. Be aware of the firmware versions for the terminal versus the new firmware that is on the computer, and be informed of the expected behavior after the new firmware is installed on the terminal.

Follow these steps to upgrade the firmware using ControlFLASH.

1. Verify that the terminal is connected to your computer through the Ethernet network connection.

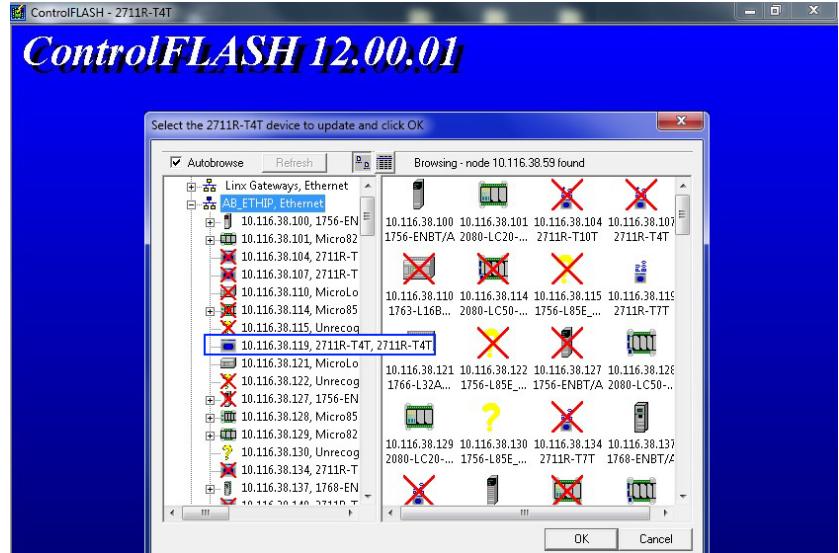
2. Launch ControlFLASH and click Next.



3. Select the catalog number for the terminal that you are updating and click Next.



4. Select the terminal in the connection browser window and click OK.



5. Select the firmware revision to flash and click Next.



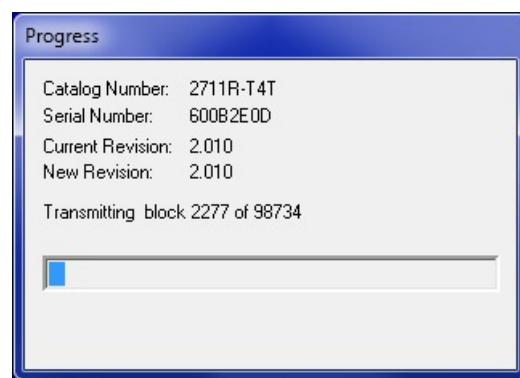
6. Verify your selections and click Finish.



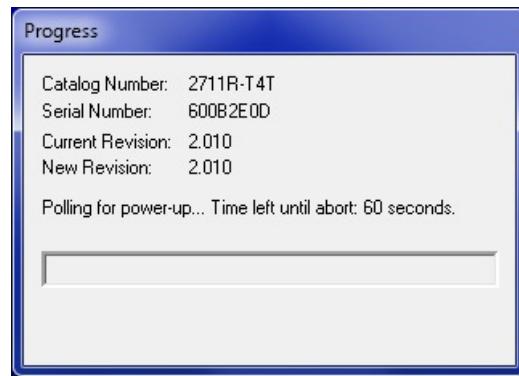
7. Click Yes to start the updating process.



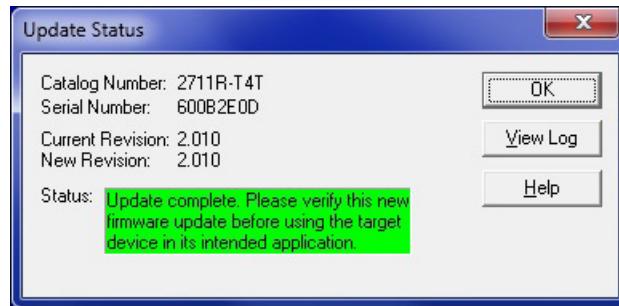
A screen showing the progress appears.



8. When the update process is complete, the terminal will automatically restart.



9. After the terminal has restarted, a screen showing the update status appears. Click OK to continue.



10. Open the system information screen on the terminal to verify that the new firmware version is correct.

System Information	
Firmware Version:	3.011.000
Boot Code Version:	2.020.000
Logic Board Version:	4
Terminal On Time:	102,330
Display On Time:	102,330
Battery Status:	Good
Memory Usage (bytes)	
Internal Used:	1,392,640
Internal Free:	164,741,120
Application Used:	31,600,640
Application Free:	193,994,752

See [View System Information on page 47](#) for instructions on how to view the current firmware version.

Firmware Installation Using Removable Storage Device

The terminal can install firmware from a removable storage device; either a USB flash drive or a micro-SD storage card. The firmware consists of an Autorun executable and firmware image that is downloaded from the PanelView 800 technical support website.

<http://ab.rockwellautomation.com/Graphic-Terminals/2711R-PanelView-800-Graphic-Terminals/>.

The firmware installation starts when the storage device is inserted either while the terminal is running, or when the terminal is powered on. During the firmware installation, you can upgrade or downgrade the firmware. The firmware image consists of the following components:

- Windows CE Operating System
- Application
- Communication
- Asian font (Simsun – Simplified Chinese)

The terminal has a firmware partition that accommodates one user-installable Asian font. A Simsun Chinese font is factory-installed.

TIP

The currently installed Asian font firmware image is visible in the list of Configuration Languages on the Main Screen.



ATTENTION: Removing the USB flash drive or micro-SD card, from the PanelView 800 terminal, while a firmware upgrade is in process, could corrupt the firmware and make the terminal unusable. Take precautions to prevent the USB flash drive or micro-SD card from being accidentally disconnected. Also, do not power off the terminal while a firmware upgrade is in progress, or during the subsequent boot-up process that follows the firmware upgrade.

ATTENTION: USB hubs can produce unexpected behaviors and as a result are not recommended.

TIP

The firmware version consists of a major revision number, a minor revision three-digit number, and a build revision three-digit number, separated by a period (for example, 01.234.567 where 01 is the major, 234 is the minor, and 567 is the build). The build revision number is for internal use only. The firmware version for the terminal is displayed on the System Information screen.

TIP

After upgrading your firmware, you should clear your browser cache.

To clear cache in the Firefox browser, select Tools > Clear Private Data. Verify the Cache checkbox is checked and click the Clear Private data button.

To clear cache in the Internet Explorer browser, select Tools > Internet Options. On the General tab, click the Delete button under Temporary Internet Files to delete all temporary Internet files, including offline content.



ATTENTION: Changing the firmware will likely change the behavior of the terminal. Be aware of the firmware versions for the terminal versus the new firmware that is on the computer, and be informed of the expected behavior after the new firmware is installed on the terminal.

Prepare the Storage Device

Follow these steps to prepare the storage device to transfer firmware files.

1. Insert the storage device into a USB host port or micro- SD card slot on your computer.
2. Open a web browser and access the PanelView 800 technical support website.
3. Locate the new firmware file.
4. Observe the firmware version information that is in the name of the firmware file and confirm that this is the new, desired firmware.
5. Download the firmware file to a folder on your computer, then open the file and unpack the contents of the firmware file to a micro-SD card or USB flash drive root directory.

Install the Firmware from the Storage Device

Follow these steps to transfer firmware files from a storage device.

1. Open the system information screen on the terminal to verify that the new firmware version is correct.

System Information	
Firmware Version:	3.011.000
Boot Code Version:	2.020.000
Logic Board Version:	4
Terminal On Time:	102,330
Display On Time:	102,330
Battery Status:	Good
Memory Usage (bytes)	
Internal Used:	1,392,640
Internal Free:	164,741,120
Application Used:	31,600,640
Application Free:	193,994,752

Advanced

Main

See [View System Information on page 47](#) for instructions on how to view the current firmware version.

2. Insert the storage device into the USB host port or micro-SD card slot on your terminal.
3. When prompted to run the Autorun, press Yes or the F1 key.

The splash screen appears and the progress bar indicates a firmware installation is in process.

IMPORTANT

Do not remove the micro-SD card or USB flash drive until upgrade - OK is displayed.

When the firmware installation is complete and successful, the progress bar stops with the success code OK.

4. The terminal will automatically restart to complete the process.

5. Open the system information screen to see the firmware version that is expected after the installation.

System Information	
Firmware Version:	3.011.000
Boot Code Version:	2.020.000
Logic Board Version:	4
Terminal On Time:	102,330
Display On Time:	102,330
Battery Status:	Good
Memory Usage (bytes)	
Internal Used:	1,392,640
Internal Free:	164,741,120
Application Used:	31,600,640
Application Free:	193,994,752

[Advanced](#)[Main](#)

See [View System Information on page 47](#) for instructions on how to view the current firmware version.

Notes:

Troubleshoot the System

Chapter Objectives

This chapter provides information on how to isolate and correct common operating problems with system components.

- View system information
- Alerts
- Troubleshooting

View System Information

You can view current system information for the connected terminal. You should provide this information when contacting technical support.

- Operating system version
- Firmware version
- Hardware version number
- Status of the battery
- Total power on time
- Memory used in KBytes

Follow these steps to view the system information on your terminal.

1. Go to the PanelView Explorer Startup window.
2. Click the Terminal Settings link.
3. Click the System Information tab.
4. View the information.
5. Click Apply.

Alerts

The terminal displays alerts at times during operation. The alert consists of an ID number and a description. Follow the corrective action to resolve the alert.

PanelView 800 Terminal Alerts

Category	ID	Description	Corrective Action
Communication	2	Data Access Error for Alias /*S:0 Param2*/, Controller /*S:0 Param3*/, Address is /*S:0 Param4*/, Communication Flag is /*S:0 Param1*/ The terminal is having trouble reading the external tag at this controller and address.	Check that the communication network cable is connected. If new ladder logic is downloading to the controller, you could see this message. After the download, communication should run normally. Verify you have good communication to the controller. If a remote device not responding alert was present, then all external tags being actively scanned will generate this alert. Is the address configured in the controller? If so, make sure all addresses of external tags to this controller are configured at the controller. If one address is outside of the range, a block of addresses might show this condition. If the address is configured as write only at the controller, this address cannot be read. Set this external tag as write only and remove panel devices from your application that want to display data from this external tag.
Communication	3	Communication Server Error	Contact technical support providing this data. ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/ Reboot the terminal.
Communication	4	Communication Server Error	Contact technical support providing this data. ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/ Reboot the terminal.
Communication	5	Communication Server Error	Contact technical support providing this data. ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/, P3-/*S:0 Param5*/ Reboot the terminal.
Communication	6	Communication Server Error	Contact technical support providing this data. ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/, P3-/*S:0 Param5*/, P4-/*S:0 Param6*/ Reboot the terminal.
Communication	7	Communication Server Error	Contact technical support providing this data. ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/, P3-/*S:0 Param5*/, P4-/*S:0 Param6*/, P5-/*S:0 Param7*/ Reboot the terminal.

PanelView 800 Terminal Alerts

Category	ID	Description	Corrective Action
Communication	8	Communication Server Error	Contact technical support providing this data. ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/, P1-/*S:0 Param3*/, P2-/*S:0 Param4*/, P3-/*S:0 Param5*/, P4-/*S:0 Param6*/, P5-/*S:0 Param7*/, P6-/*S:0 Param8*/ Reboot the terminal.
Communication	9	Communication Server Error	Contact technical support providing this data. ID1-/*S:0 Param1*/, ID2-/*S:0 Param2*/ Reboot the terminal.
Communication	10	Write Error for Alias /*S:0 Param2*/, Controller /*S:0 Param3*/, Address is /*S:0 Param4*/, Communication Flag is /*S:0 Param1*/ The terminal is having trouble writing the external tag at this controller and address.	Verify you have good communication to the controller. Verify that the communication network cable is connected. If new ladder logic is downloading to the controller, you could see this message. After the download, communication should run normally. If a remote device not responding alert is present, then all external tags being written to will generate this alert. Is the address configured in the controller? If the address is configured as read only at the controller, this address can not be written to. Set this external tag as read and remove panel devices from your application that can write data to this external tag.
Communication	11	Read Error for Alias /*S:0 Param2*/, Controller /*S:0 Param3*/, Address is /*S:0 Param4*/, Communication Flag is /*S:0 Param1*/ The terminal is having trouble reading the external tag at this controller and address.	Verify you have good communication to the controller. Verify that the communication network cable is connected. If new ladder logic is downloading to the controller, you could see this message. After the download, communication should run normally. If a remote device not responding alert was present, then all external tags being read from will generate this alert. Is the address configured in the controller? If the address is configured as write only at the controller, this address can not be read from. Set this external tag as write and remove panel devices from your application that can read data from this external tag.

PanelView 800 Terminal Alerts

Category	ID	Description	Corrective Action
Communication	27	Remote Device /*S:0 Param1*/ is Not Responding	<p>Verify all network connections are correct.</p> <p>Verify that the communication network cable is connected.</p> <p>If new ladder logic is downloading to the controller, you could see this message. After the download, communication should run normally.</p> <p>Verify that the network address of the controller matches the terminal controller address configured in the Communication tab.</p> <p>In the Communication tab, verify that the protocol specifications are correct, such as communication rate, data bits, stop bits. These are all protocol specific.</p>
Communication	28	Invalid Data Address /*S:0 Param1*/	This is not syntactically a valid address.
Communication	30	Bad address in block /*S:0 Param1*/ to /*S:0 Param2*/ on device /*S:0 Param3*/	This can occur when a write only address for a controller has been set for read/write in the external tag of the terminal. Param1 to Param2 specifies the address block having the issue. Somewhere within the range is where the write only address is defined in a PanelView external tag. Set the external tag to write.
Recipe	1001	Recipe upload started.	This message is for informational purposes. No corrective action needed.
Recipe	1002	Recipe save failed. Cause: Recipe in Table has not been modified.	Make sure that the recipe table is modified before the save operation is done.
Recipe	1003	Recipe save had errors.	This message is for informational purposes. No corrective action needed.
Recipe	1004	Recipe save completed successfully.	This message is for informational purposes. No corrective action needed.
Recipe	1005	Recipe download failed. Cause: Operation cancelled.	This message is for informational purposes. No corrective action needed.
Recipe	1006	Recipe download started.	This message is for informational purposes. No corrective action needed.
Recipe	1007	Recipe download completed with errors.	This message is for informational purposes. No corrective action needed.
Recipe	1008	Recipe download completed successfully.	This message is for informational purposes. No corrective action needed.

PanelView 800 Terminal Alerts

Category	ID	Description	Corrective Action
Recipe	1009	Recipe Download failed. Cause: Unable to write to /*S:0 Param1*/.	<p>Check for:</p> <p>Communication errors.</p> <p>Bad data point specification.</p> <p>The ingredient value written is outside the Low EU and High EU limits of the numeric data point assigned. (These are optional OPC defined properties representing data point minimum and maximum values). The ingredient value could not be converted to the type of the data point assigned.</p>
Recipe	1010	Recipe upload completed with errors.	This message is for informational purposes. No corrective action needed.
Recipe	1011	Recipe upload completed successfully.	This message is for informational purposes. No corrective action needed.
Recipe	1012	Recipe restore failed. Cause: Operation cancelled.	This message is for informational purposes. No corrective action needed.
Recipe	1013	The status data point for Recipe /*S:0 Param1*/ operation could not be written to. Data Point= /*S:0 Param2*/	<p>Check for:</p> <p>Communication errors</p> <p>Bad status data point specification</p> <p>The status value written is outside the Low EU and High EU limits of the numeric data point assigned. (These are optional OPC defined properties representing data point minimum and maximum values). The status value could not be converted to the type of the data point assigned</p>
Recipe	1014	Recipe download failed. Cause: The value /*S:0 Param1*/ is less than the minimum value /*S:0 Param2*/ allowed for ingredient /*S:0 Param3*/	Correct the dataset value.
Recipe	1015	Recipe /*S:0 Param1*/ failed. Cause: No Selector on display.	Add a recipe selector device to the screen.
Recipe	1016	Recipe /*S:0 Param1*/ failed. Cause: No DataSet Selector on display.	Add a dataset selector device to the screen.
Recipe	1017	Recipe /*S:0 Param1*/ failed. Cause: NoTable on display.	Add a Recipe Table Panel device to the Screen.
Recipe	1018	Recipe /*S:0 Param1*/ operation was not started because the system is currently busy performing another Recipe operation.	Wait for a recipe operation to complete before starting the next recipe operation.
Recipe	1019	Recipe /*S:0 Param1*/ failed. Cause: No recipe selected in Selector.	Select recipe and try again.
Recipe	1020	Recipe /*S:0 Param1*/ failed. Cause: Data type of data point /*S:0 Param2*/ is incompatible with ingredient type of ingredient /*S:0 Param3*/.	Change the type of the ingredient to match the type of the data point, or select a different data point which matches the type of the ingredient.

PanelView 800 Terminal Alerts

Category	ID	Description	Corrective Action
Recipe	1021	Recipe /*\$:0 Param1*/ failed. Cause: Unable to read from /*\$:0 Param2*/	Check the communication settings, and data point specification.
Recipe	1022	Recipe /*\$:0 Param1*/ failed. Cause: Unable to read from Tag.	Check the communication settings, and data point specification.
Recipe	1023	Recipe download failed. Cause: The value /*\$:0 Param1*/ is greater than the maximum value /*\$:0 Param2*/ allowed for ingredient /*\$:0 Param3*/	Correct the dataset value.
Recipe	1024	Recipe /*\$:0 Param1*/ failed. Cause: Table does not contain a recipe.	Restore the recipe in the table before doing a save operation.
Recipe	1025	Recipe /*\$:0 Param1*/ of recipe /*\$:0 Param2*/ failed. Cause: · Recipe file not accessible.	Try to reload the application to see if the recipe is still there, or restore from a .cha file from your computer or SD card.
Recipe	1026	Recipe Upload Failed.	This message is for informational purposes. No corrective action needed.
Recipe	1027	Recipe operation in progress.	This message is for informational purposes. No corrective action needed.
Alert	2000	Loading.	This message is for informational purposes. No corrective action needed.
Alert	2001	Unloading.	This message is for informational purposes. No corrective action needed.
Alert	2002	Terminal is starting up...	This message is for informational purposes. No corrective action needed.
Alert	2003	Application is currently being edited, user input is disabled.	Put the application into Test or Run mode to enable user input.
Alert	2004	Copying file...	This message is for informational purposes. No corrective action needed.
Alert	2005	Deleting file...	This message is for informational purposes. No corrective action needed.
Alert	2006	Operation failed.	This message is for informational purposes. No corrective action needed.
Alert	2007	Operation succeeded.	This message is for informational purposes. No corrective action needed.
Alert	2008	Cannot run application. Application version incompatible.	Edit, validate, and then save the application with this version and try again.
Alert	2009	Cannot run application. Communication connection not supported.	Terminal does not support the communication connection configured in this application. Edit the application and configure communication for the supported connection type.
Alert	2010	This application is not validated. Are you sure you want to run a non-validated application?	If you do not want to run the invalid application, cancel the operation, then edit and validate the application. Correct all validation errors, save the application, and try again.
Alert	2011	Cannot run a modified application.	Save the application and try again.

PanelView 800 Terminal Alerts

Category	ID	Description	Corrective Action
Alert	2012	Application has been modified. Continue without saving?	Edit the application and save prior to performing this operation, otherwise changes to the application may be lost.
Alert	2013	Currently loaded application has been modified. All changes will be lost by running this application. Continue?	Edit the application and save prior to performing this operation, otherwise changes to the application may be lost.
Alert	2014	Application was designed for a different terminal type and may not appear or operate as intended. Continue?	Edit the application on the terminal type that it is intended for.
Alert	2015	Application will be unloaded and deleted. Continue?	Click Yes to continue with operation.
Alert	2016	Confirm deletion?	Click Yes to delete the file.
Alert	2017	Confirm restart?	Press Yes to restart the terminal.
Alert	2018	File already exists. Overwrite?	If you do not want to overwrite the file, cancel the operation and rename the file before performing this operation.
Alert	2019	Cannot copy over loaded application. Unload application and continue with overwrite?	Click OK to unload and overwrite the application.
Alert	2020	Cannot copy over loaded application.	Unload application and try again.
Alert	2021	Insufficient space to complete file copy.	Remove files to free space from the destination and try again.
Alert	2022	Source and destination cannot be the same.	Verify the source and destination are not the same and retry.
Alert	2023	Application has been left in edit or test mode.	Reconnect the designer or press OK to proceed to the configuration screens.
Alert	2024	File not found.	
Recipe	2025	Copy failed. Only existing recipe files can be updated.	Create the recipe through the designer or rename this recipe to the existing recipe name and try again.
Recipe	2026	Copy failed. Invalid recipe file.	The imported recipe must have the same number of ingredients and data sets as the existing recipe it is replacing.
Alarm	2027	Alarm logs can only be copied from a loaded application.	Load the application into Edit, Test, or Run mode and retry.
Alert	2028	Files can only be copied to a secured application while editing the application.	The application has been secured with design rights. Load the application into Edit mode and retry.
Alert	2029	Files can only be copied from a secured application while editing the application.	The application has been secured with design rights. Load the application into Edit mode and retry.
Alert	2030	Cannot delete a loaded application.	Unload application and try again.
Alert	2031	Files can only be deleted from a secured application while editing the application.	The application has been secured with design rights. Load the application into Edit mode and retry.
Alert	2032	Return to out of box condition?	Press Yes to reboot the terminal and return to the out of box condition.
Alert	2033	Source file does not exist.	Make sure the source file exists and retry.

PanelView 800 Terminal Alerts

Category	ID	Description	Corrective Action
Alert	2034	Destination folder does not exist.	Make sure the destination location exists and retry.
Alert	2035	Insufficient disk space. Please free disk space and try again.	Remove files to free space by pressing the Delete File button on the File Transfer tab.
Alert	2036	This application is not validated. Are you sure you want to run a non-validated application?	Press Yes to continue running the invalid application, or No to proceed to the configuration screens. Then, edit and validate the application. Correct all validation errors, save the application, and try again.
Alert	2038	Cannot change password because password has been marked as unmodifiable.	Edit the application and go to the Security tab. Check the Modifiable? box associated with the username and password.
Alert	2039	Cannot change password because no user is logged onto the terminal.	Log on as one of the users defined in the application and retry.
Alert	2040	Old password does not match the password for the current user.	Enter the current user's password for the Old Password.
Alert	2041	Cannot reset password, this is an unknown user.	Log on as one of the users defined in the application and retry.
Alert	2042	Cannot change password, new and confirm passwords don't match.	Verify the new password matches the confirmed password and retry.
Alert	2043	Access Denied	The username/password is either incorrect or the user does not have the access right for the associated screen.
Alert	2044	Cannot run application while in Safe mode.	Reboot the terminal to exit Safe mode and retry.
Alert	2045	Cannot run applications from external storage.	Copy or save to internal storage and try again.
Alert	2046	Passwords cannot be modified while in test mode.	The change password and reset password devices are only enabled while in Run mode.
Alert	2047	File is read-only. Continue?	Choosing to continue will overwrite the read only file.
Alert	2048	Application has been modified. Continue?	Edit the application and save prior to performing this operation, otherwise changes to the application may be lost.
Alert	2050	The value is not within the minimum and maximum range.	Enter a value within the allowable range. If you do not know the range Edit the application to determine the allowable range for the device.
Alert	2051	Allow Autorun?	Press No to disallow Autorun.
Alert	2052	Application has been modified. Allow Autorun?	Press No to disallow Autorun. Edit the application and save prior to performing this operation, otherwise changes to the application may be lost.
Alert	2053	Screen switching controlled by external source.	Screen navigation devices are disabled if the screen has been changed to via controller.
Alert	2054	Cannot reset the terminal in Safe mode.	Terminal reboot is disabled on the emulator. Select Flash>Save and then select File>Reset>Hard to reboot the emulator.
Alert	2055	Image exceeds maximum resolution of 800x800.	Open file in image editor and reduce the resolution.

PanelView 800 Terminal Alerts

Category	ID	Description	Corrective Action
Alert	2056	Cannot copy recipe to a loaded application.	Please unload application and try again.
Alert	2057	Terminal is running low on application memory (<Available_Virtual_Memory>bytes).	Please reset the terminal or this may lead to fatal error.
Alert	2058	Failed setting property: /*S:0 Param1*/::/*S:0 Param2*/, value = /*S:0 Param3*/	Verify the range of the numeric display that uses the external tag as its write tag is within the range of a tag (validation should provide a warning if the range of the tag is greater than the range of a numeric entry). Make sure that the values of the state based objects that write to an external tag are within the range of the tag. Make sure that the value that written to an external tag matches the tag type (for example, do not write a non-numeric string into a numeric tag).
Alert	2059	Failed setting property /*S:0 Param1*/: /*S:0 Param2*/::/*S:0 Param3*/, value = /*S:0 Param4*/	Verify the range of the numeric display that uses the external tag as its write tag is within the range of a tag (validation should provide a warning if the range of the tag is greater than the range of a numeric entry). Make sure that the values of the state based objects that write to an external tag are within the range of the tag. Make sure that the value that written to an external tag matches the tag type (for example, do not write a non-numeric string into a numeric tag).
Alert	2060	Terminal is running low on RAM (<Available_RAM>bytes).	Please reset the terminal or this may lead to fatal error.
Alert	2061	Out of memory: Terminal cannot continue to run and will be reset.	This is a out of memory critical message. Dismissing this dialog causes the terminal to reset. After the terminal resets, try to edit an application and reduce its size by removing some objects, for example, user controls, screens, tags, or alarms.
Alert	2055 *	Cannot copy recipe to a loaded application.	Please unload application and try again.
Alert	3001	Available memory is too low to run the application.	Please try to release some memory or this may lead to fatal error.
Multilanguage	8193	Language switch ignored. Application was not configured with new language. An attempt was made to switch to a language that is not configured for this application.	Either add the specified language and associated strings or remove the unconfigured language selection.

Troubleshooting

If your terminal does not start up correctly, check for adequate power, observe the splash screen state message and status code, indicator states, or an application that is not running during powerup.

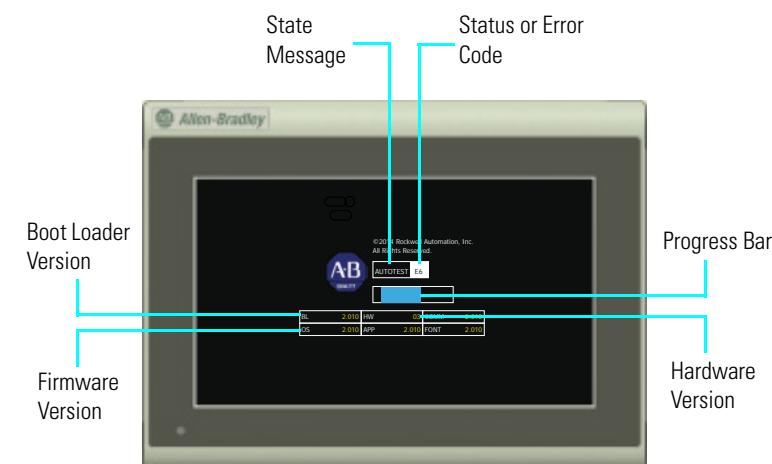
Determine what changed since the last time the terminal ran normally and decide if the change can be reversed.

Check for Adequate Power

A terminal that does not receive adequate power could cause unpredictable behavior. Verify the power requirements in the Specifications table.

Observe Splash Screen

Various actions and status conditions of the terminal are reported on the splash screen, including version information about the hardware and firmware.



These tables describe the state messages and the status or error codes that appear on the splash screen.

Power-on Self-test (POST) Failures

Message	State	Code
POST Failed RAM	Fatal	6C
POST Stuck Key	Fatal	31
POST Stuck Touch	Fatal	3A

Firmware Installation and Loading

Message	State	Code
Load Firmware Image into RAM	Update	1E
Write Firmware Image into Flash	Update	A5
Complete and Successful Firmware Installation	Update	OK
Firmware Image Validation (CRC/Format) Failure	Fatal	1E
Firmware Image Compatibility Failure	Fatal	1F
Firmware Write to Flash error	Fatal	A5
Firmware Read-After-Write Verify	Fatal	D2
Invalid or missing Firmware Image	Fatal	0A

Other Commonly Observed Status Codes

Message	State	Code
Boot Loader connects to PC via USB Device	AutoTest	0A
Boot Loader loads Firmware Image into RAM	AutoTest	E6
Boot Loader jumps to Operating System	AutoTest	FF
Operating System start up	Boot	G0
Operating System Initialize	Init	I1...J0
Application Registration and Initialize	Init	N1...N3
Application Load and Execute	Load	N4...N6

POST errors are fatal and most likely due to failed hardware. A fatal error during firmware installation and loading is most likely recoverable by installing the appropriate firmware.

Interpret the LED Indicators at Startup

The PanelView 800 terminals have indicators to isolate operating problems. They can be seen through the battery cover on the back of the unit.

- Comm indicator for communication
- Fault indicator for hardware faults

At startup, the Fault indicator is off, except for a few brief flashes, and the Comm indicator is on. If the indicators remain off, check the power cable. After a successful startup, both indicators are off and controlled by the application running on the terminal.

The table shows indicator states if the terminal stops during startup.

Fault Indicator States During Startup

Fault (Red) Indicator State	Comm (Green) Indicator State	Description	Recommended Action
Potentially recoverable errors			
Blinking	Off	Last firmware download failed.	Reload the firmware.
Blinking	Blinking	EBC boot loader firmware failed or is missing.	Reload the firmware.
Blinking	On	Windows CE OS firmware failed or is missing.	Reload the firmware.
Nonrecoverable or fatal errors			
On	Off	Fatal hardware error.	Replace the terminal.

Returning to the Out-of-box Condition

You may want to return a terminal to the out-of-box condition to refresh the terminal or to recover from severe application misbehavior. There is a special maintenance action that permits you to perform a complete reset and return to the out-of-box condition for the terminal.

Returning a terminal to an out-of-box condition does not affect the terminal firmware version or the installed font image.

Follow these steps to return your terminal to the out-of-box condition.

1. Connect an external USB keyboard to the terminal and hold the Ctrl and Shift keys simultaneously, while starting up the terminal.

A dialog box appears with the prompt:
Return to Out of Box Condition?

IMPORTANT

Keyboards initialize at different times. If the terminal boots normally to the configuration screen or the selected startup application, the keyboard press was not recognized.

Restart the terminal and wait until the boot screen displays the INIT code N1, then press and hold the Ctrl and Shift keys until the dialog box appears.

2. Press Yes or F1 to return to the out-of-box condition, or press No or F2 to cancel.

If you choose to return to the out-of-box condition, the terminal resets. On the subsequent boot, the file system is formatted and removes the contents including applications, logs, recipes, user-installed fonts, objects, and graphics. Most terminal configuration parameters are returned to their default values.

IMPORTANT

Returning to the out-of-box condition does not change the current firmware on your terminal. If you upgraded the firmware on your terminal, the upgraded firmware version remains unaffected. See [Firmware Installation Using Removable Storage Device on page 74](#) for details on what is included in a firmware upgrade.

IMPORTANT

If you set the terminal security and forgot your password, you can use this procedure to restore your terminal. Remember, it will remove all applications, logs, recipes, user-installed font files, objects, and graphics.

Notes:

Specifications

General Specifications

Attribute	2711R-T4T	2711R-T7T	2711R-T10T
Display type	Color transmissive TFT active matrix LCD, widescreen format		
Display size	4 in.	7 in.	10 in.
Display area	95 x 53.9 mm (3.74 x 2.12 in.)	153.6 x 86.6 mm (6.05 x 3.41 in.)	211.2 x 158.4 mm (8.31 x 6.24 in.)
Resolution (pixels)	480 x 272	800 x 480	800 x 600
Backlight lifespan, min	40,000 hours		
Operator input	Analog touch and function keys	Analog touch	
Memory card	USB port and micro-SD (Secure Digital) card – Industrial grade micro-SD cards recommended. Supports SDSC and Class 6 & Class 10 SDHC micro-SD cards, FAT32/16 formats, up to 32 GB maximum size.		
Programming port	Ethernet port		
Battery lifespan, min	5 years @ 25 °C (77 °F)		
Real-time clock	Yes		
Input voltage range	18...32V DC (24V DC nom)		
Power consumption, max	9 W (0.39 A @ 24V DC)	11 W (0.40 A @ 24V DC)	14 W (0.48 A @ 24V DC)
Weight, approx.	0.333 kg (0.73 lb)	0.651 kg (1.44 lb)	1.64 kg (3.62 lb)
Dimensions (HxDxW), approx.	116 x 138 x 43 mm (4.56 x 5.43 x 1.69 in.)	144 x 197 x 54 mm (5.67 x 7.75 x 2.11 in.)	225 x 287 x 55 mm (8.86 x 11.3 x 2.16 in.)
Wire size	Input Power Terminal Block Stranded or solid, Cu 90 °C (194 °F) Single-Wire Gauge: 0.33...2.08 mm ² (22...14 AWG) Dual-wire Gauge: 0.33...1.31 mm ² (22...16 AWG)		
Wire type	Copper		
Wiring category ⁽¹⁾	3 – on power ports 2 – on communication ports		
Enclosure type ratings	Meets NEMA/UL Type 4X (indoor) 12, 13, and IP65		
North American Temp Code	T4A		

⁽¹⁾ Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

Environmental

Attribute	Value
Temperature, operating	IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock): 0...50 °C (32...122 °F)
Temperature, nonoperating	IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock): -25...70 °C (-13...158 °F)
Temperature, surrounding air, max	50 °C (122 °F)
Heat dissipation 2711R-T4T 2711R-T7T 2711R-T10T	23 BTU/hr 34 BTU/hr 61 BTU/hr
Relative humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5...95% noncondensing
Vibration	IEC 60068-2-6 (Test Fc, Operating): 2 g @ 10...500 Hz
Shock, operating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 15 g
Shock, nonoperating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 30 g
Emissions	IEC 61000-6-4
ESD Immunity	IEC 61000-4-2: 4 kV contact discharges 8 kV air discharges
Radiated RF Immunity	IEC 61000-4-3: 10V/m with 1 kHz sine-wave 80% AM from 80...2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 10V/m with 1 kHz sine-wave 80% AM from 2000...2700 MHz
EFT/B Immunity	IEC 61000-4-4: ±2 kV @ 5 kHz on power ports ±1 kV @ 5 kHz on communication ports
Surge Transient Immunity	IEC 61000-4-5: ±500V line-line(DM) and ±500V line-earth(CM) on DC power ports ±1 kV line-earth(CM) on communication ports
Conducted RF Immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80% AM from 150 kHz...80 MHz

Certifications

Certifications (when product is marked) ⁽¹⁾	Value
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E322657. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E334470.
CE	European Union 2004/108/EC EMC Directive, compliant with: EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions
RCM	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3

⁽¹⁾ See the Product Certification link at <http://ab.com> for Declarations of Conformity, Certificates, and other certification details.

Notes:

Adding Font Files

Available Fonts

These fonts reside on the terminal in the firmware image.

- Arial
- Courier New
- Tahoma
- Asian font (Simsun – Simplified Chinese)

The Arial, Courier, Tahoma, and Simsun fonts cannot be altered. Additional Windows CE licensed fonts can be added to the terminal. Windows CE licensed fonts can be downloaded from the PanelView 800 Tech Support website. No other fonts are licensed for use on the terminal.

Import a Font File

You can import a Microsoft Windows CE font to your terminal. Other font files are not supported.

During the import, the font file is transferred from a USB Flash Drive or micro-SD card to the internal storage of the terminal. The transfer operation communicates with the terminal to transfer the file.

You can use the imported font in any application on the terminal.

TIP

Fonts cannot be exported for copyright reasons.

IMPORTANT

The PanelView Explorer feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

Font files cannot be imported from PanelView Explorer when using firmware revision 3.011 or later.

Follow these steps to add a font to the terminal.

1. Open the PanelView Explorer Startup window.
2. Click File Transfer.
3. Click New Transfer.
4. Select the source location of the Font file, typically My Computer, and click Next.
5. Select Font as the file type and click Next.

6. Click Browse ... to locate and select the Font file, then click Open.
7. Select Internal Storage as the destination for the font file and click Transfer.
8. Observe the informational message for Transferring File.
9. The terminal should be rebooted to load the added font.

Remove a Font File

A font that was added to the terminal and is no longer used can be removed.

IMPORTANT

The PanelView Explorer feature is only supported on PanelView 800 terminals with firmware revision 2.020 or earlier. It is not supported from firmware revision 3.011 onwards.

Font files cannot be imported from PanelView Explorer when using firmware revision 3.011 or later.

Follow these steps to remove a font from the terminal.

1. Open the PanelView Explorer Startup window.
2. Click File Transfer.
3. Click Delete File.
4. Select the source location of the Font file, typically Internal Storage, and click Next.
5. Select Font as the file type and click Next.

Observe the list of all Font files that have been added to the Terminal.

6. Select the Font file that you want to delete and click Delete.
7. Observe the Confirmation message for the selected Font file and click OK.
8. Observe the informational message Deleting File.
9. Observe the deleted font file no longer appears in the list of all Font files.
10. Reboot the terminal to remove the file from the terminal.

TIP

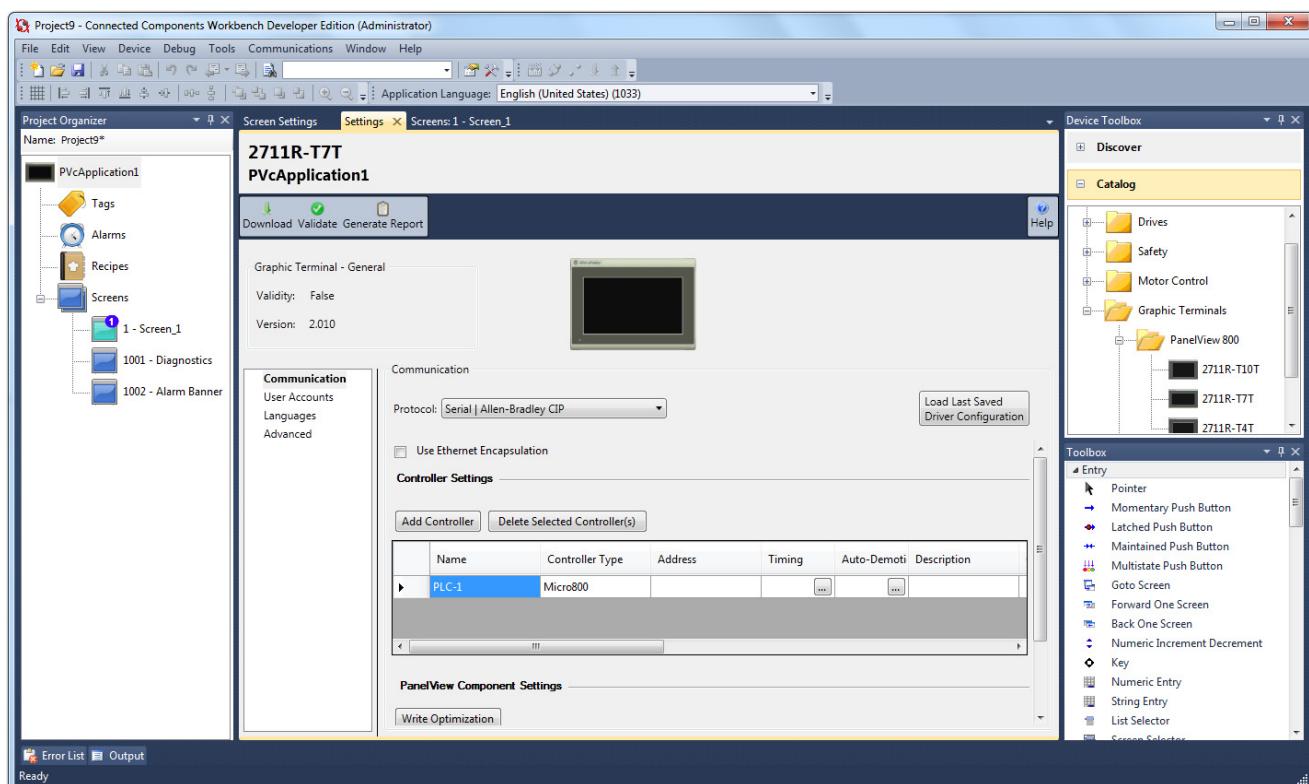
Font files, especially East Asian Fonts, are large and consume significant space on Internal Storage. Remove all unused fonts from the terminal.

PVc DesignStation in Connected Components Workbench

About PVc DesignStation

PVc DesignStation is a component within the Connected Components Workbench software that allows you to create applications for PanelView 800 terminals. You can create applications in Connected Components Workbench without being connected to a terminal but you can only run the application on a physical terminal. Applications created with Connected Components Workbench can be downloaded to the terminal through Ethernet, or transferred using a USB flash drive or micro-SD storage card.

Connected Components Workbench



We strongly recommend that you validate the transferred application using the terminal software before running the application. Non-validated applications, when started on the terminal, display a reminder pop-up message that the application is not validated. Applications designed for the CompactLogix 5370 L1 controller must be validated before running on the terminal.

You can download the latest version of Connected Components Workbench at the URL below.

<http://www.rockwellautomation.com/products-technologies/connected-components/tools/workbench.page>.

Install the Software

To use the Connected Components Workbench software effectively your computer should meet the following hardware requirements:

Minimum System Requirements

Component	Requirement
Processor	Intel Pentium 4 2.8GHz or equivalent
RAM Memory	2 GB
Hard Disk Space	10 GB free
Optical Drive	DVD-ROM
Pointing Device	Any Microsoft Windows-compatible pointing device

Recommended System Requirements

Component	Requirement
Processor	Intel Core i5 2.4GHz or equivalent
RAM Memory	8 GB or more
Hard Disk Space	10 GB free or more
Optical Drive	DVD-ROM
Pointing Device	Any Microsoft Windows-compatible pointing device

PVc DesignStation in Connected Components Workbench is supported on the following operating systems:

- Windows 7 (32-bit or 64-bit)

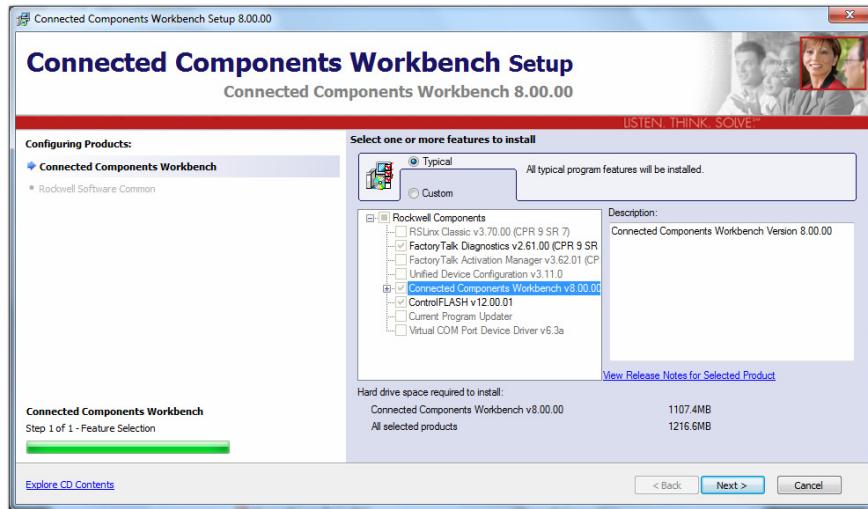
Your computer information can be found by right-clicking My Computer and then selecting Properties.

Follow these steps to install Connected Components Workbench.

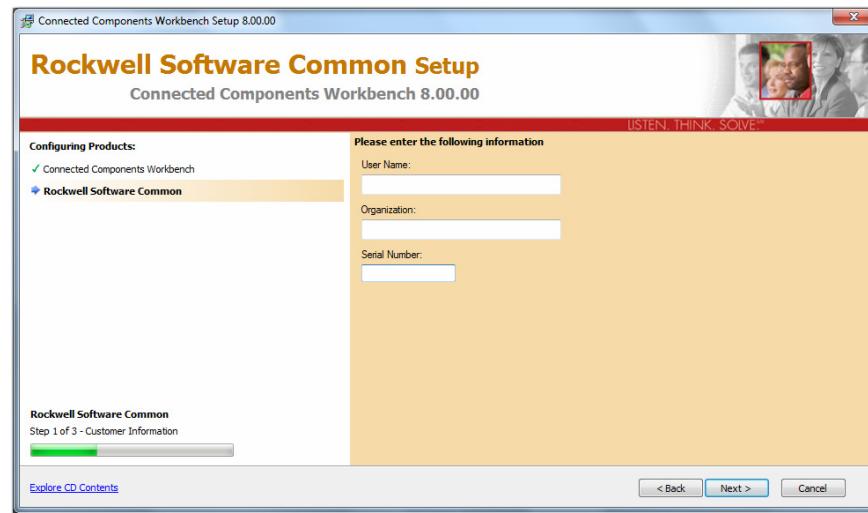
1. Run the executable file.
2. The initial splash screen announces that the installer is running. It identifies the product being installed.



3. Click Next to continue the installation or Cancel to cancel installation.

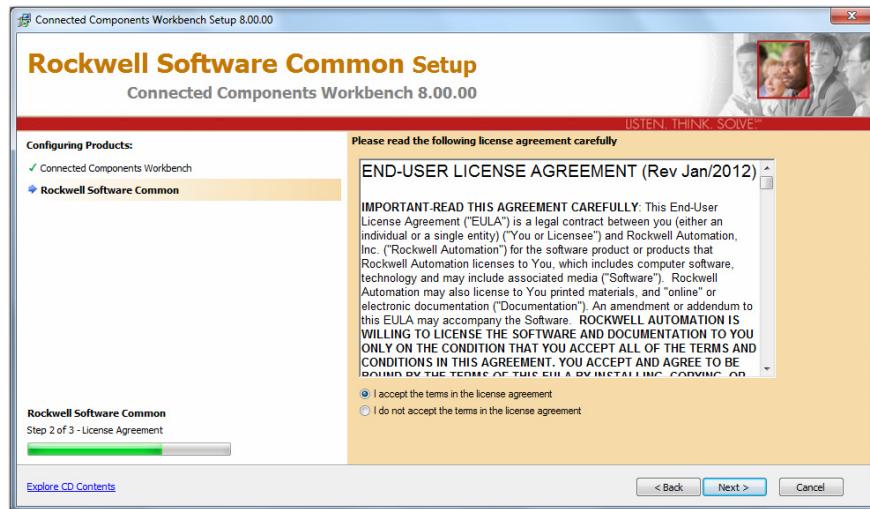


4. Accept the license agreement and click Next to continue with the installation.

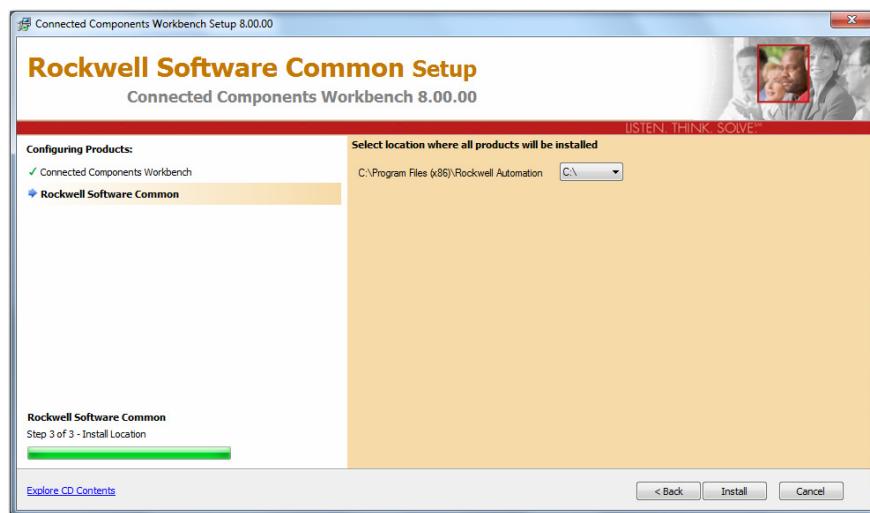


5. Click Install to continue with the installation, Cancel to cancel the installation, or Back to go back to the previous dialog.

The verification screen gives you a chance to cancel the installation process before any permanent changes occur.

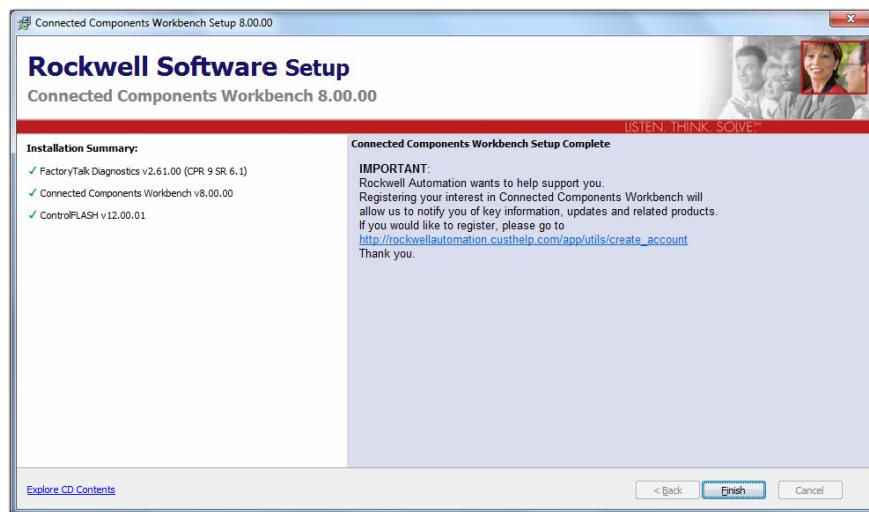
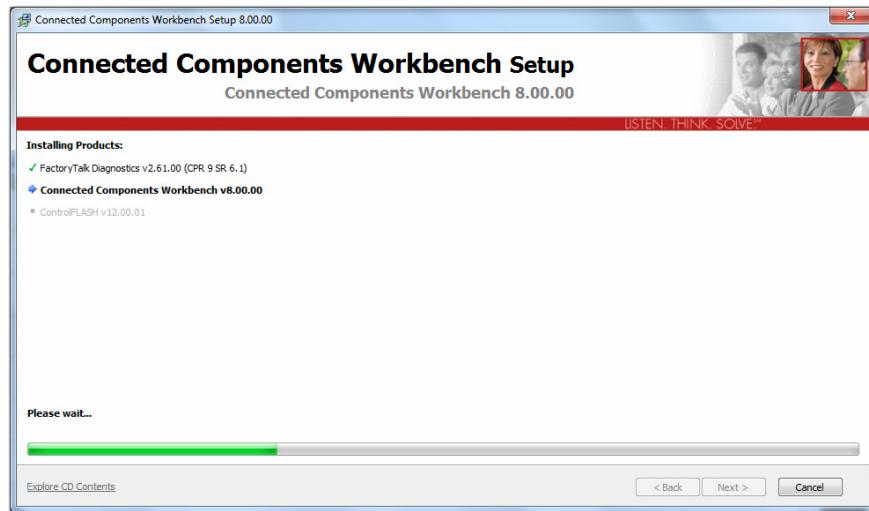


The progress screen gives you a visual indication of the installation progress.



6. Click Finish to complete the installation.

The install complete screen is the final confirmation that the install has completed successfully.

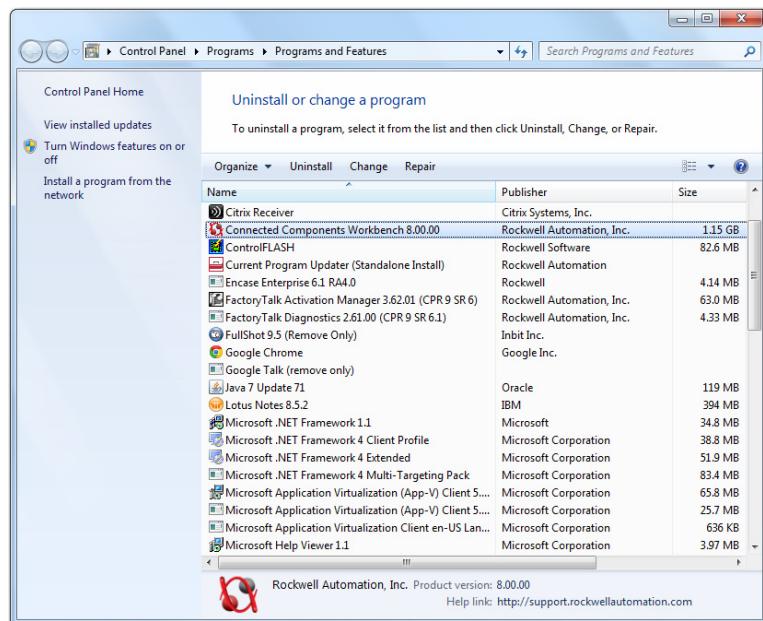


Uninstall the Software

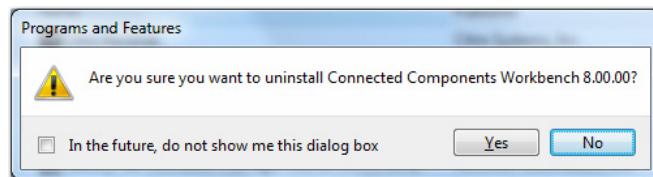
Uninstalling Connected Components Workbench removes all registry settings, files, directories, and Windows Start menu items that were originally installed with this software.

Follow these steps to uninstall Connected Components Workbench.

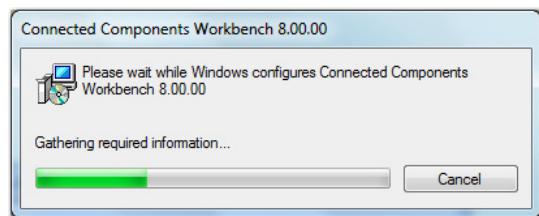
1. Go to the Control Panel under the Windows Start Menu.
2. Select Add or Remove Programs and highlight Connected Components Workbench.



3. Click Remove.
4. Click Yes to confirm that you want to remove the software



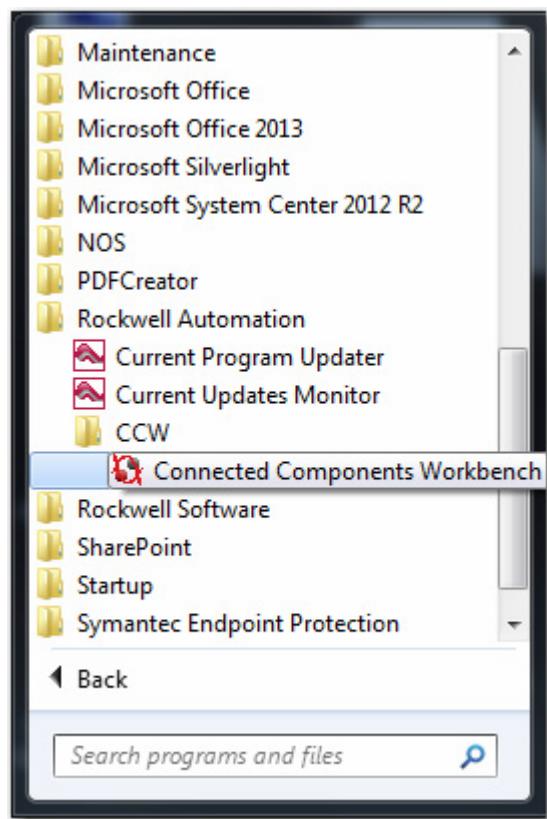
The computer goes through the removal process and shows a progress screen.



Launch Mechanism

Launch Connected Components Workbench from the entry in your Windows Start Menu, or by double-clicking the Connected Components Workbench shortcut on your desktop.

Windows Start Menu



Notes:

Securing Applications

Secure Design Environment

The secure design environment lets you restrict user access to screens in an application and protect the application from unauthorized updates. By default, all users have unrestricted access to the application. This means any user can access and make changes to the application. They can also access any application screens on the terminal at runtime.

Use the secure design environment to:

- Limit users who have access to the system by setting up user accounts and passwords. The default users (All Users*) do not require a password.
- Create access rights for screens in the application.
- Assign these access rights to users on a need basis. Only users with a need to access a screen should hold access rights to the screen.
- Protect the application from updates by restricting user access to design mode. Only users with design rights are allowed to access and update an application. Initially, all users have design rights to an application.
- Create security buttons that are used at runtime by operators to login or logout, change passwords, reset passwords, or disable security.
- Change the idle timeout that automatically logs the user out from a secured screen to the Startup screen after idle timeout period elapses.

IMPORTANT

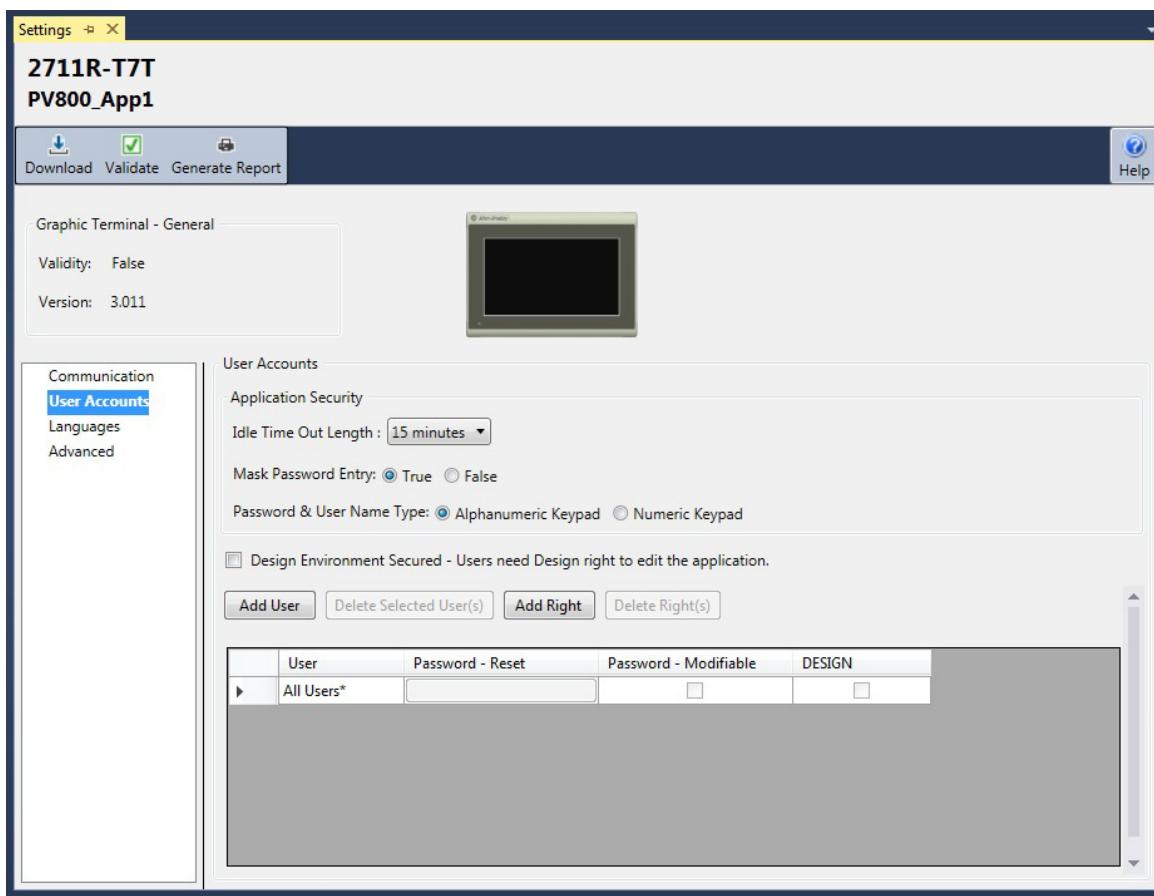
At least one user must have the design right if you want to allow updates to the application. If no user is assigned this right, no one will be able to edit the application. Initially, all users have design rights to an application. This means anyone can edit the application without logging in.

Read the rest of this chapter to learn how to make use of the secure design environment.

Manage User Accounts Settings

Follow these steps to access the User Accounts screen.

1. In the main screen of Connected Components Workbench, click the Settings tab for your PanelView 800 terminal.
2. Click User Accounts in the options list.

User Accounts Screen

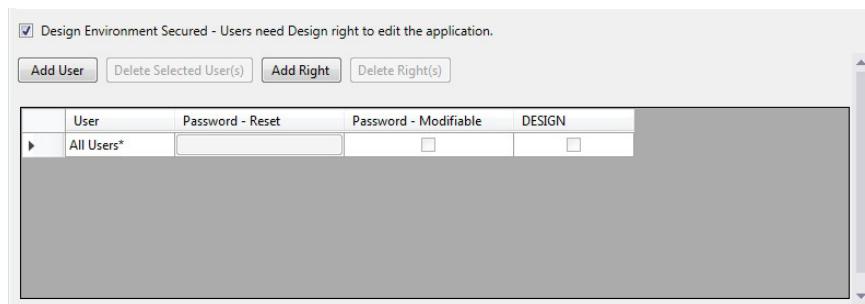
Setting	Description
Idle Time Out Length	<p>Adjust or disable the idle timeout by selecting the value from the drop-down list. If disabled, the application will not transition from a secured screen to the startup screen.</p> <p>The default idle timeout is 15 minutes. If the terminal receives no user input within that 15 minute period, it goes into Idle mode. User input includes key presses, touch-screen presses, external mouse or keyboard input.</p> <p>If the terminal goes into idle mode, the application transitions from a secured screen to the startup screen. The screen does not change if the current screen is unsecured. The current user is logged out and the user must log in again.</p>
Mask Password Entry	Masks a password with a character when it is entered so that it is not visible. To disable this feature, set the option to False. Disabling this feature is not recommended.
Password & User Name Type	<p>By default, user names and passwords are entered using an alphanumeric keypad at runtime. To use a numeric keypad, set the option to Numeric Keypad.</p> <p>Using a numeric keypad requires numeric user names and passwords.</p>
Design Environment Secured	Protects the application by preventing unauthorized access to edit/modify/update an application by users without the proper rights. Create user accounts and assign rights for them to perform these actions. Design rights allow users to update the application, and access rights allow users to view certain screens on the terminal at runtime.

Add Users

You can add up to 16 user accounts to access the application at runtime. Each account has a user name and password. The account can be an individual user or a group of users, such as maintenance or operators, who share the same user name and password.

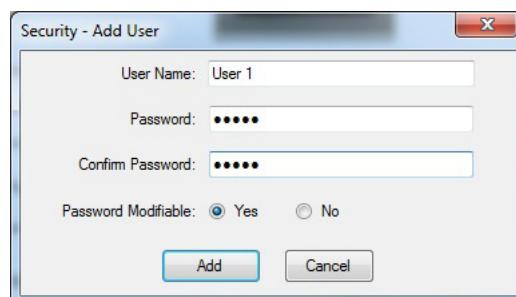
Follow these steps to add user accounts to the application.

1. Select the Design Environment Secured checkbox.



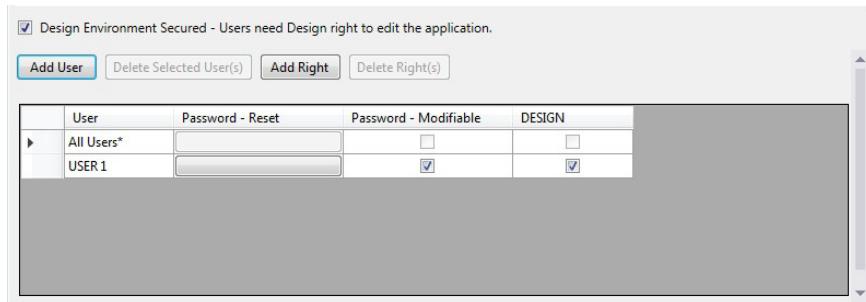
2. Click Add User to create a new account.

The Security - Add User dialog appears.



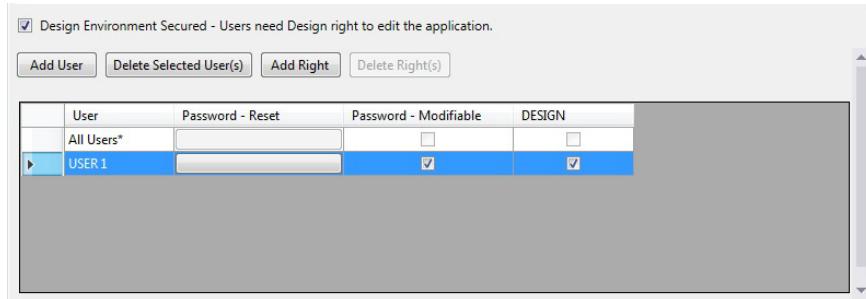
Setting	Description
User Name	Enter a name for the user account. User names can be 16 alphanumeric characters with spaces and must be unique. They are not case sensitive. For example, Operator, operator, and OPERATOR are considered the same user name.
Password	Enter a password for the user account. Passwords can be 16 alphanumeric characters with spaces and are case sensitive. For example, Operator10 and operator 10 are two different passwords. Multiple users can share the same password.
Confirm Password	Repeat the password for the user account to confirm the entry.
Password Modifiable	You can specify whether the password can be modified at runtime with a Reset Password or Change Password button. Anyone can modify the password if the user name and password are known.

3. Enter the fields in the dialog box, then click Add to close the dialog and add the new account to the list.



Managing Users

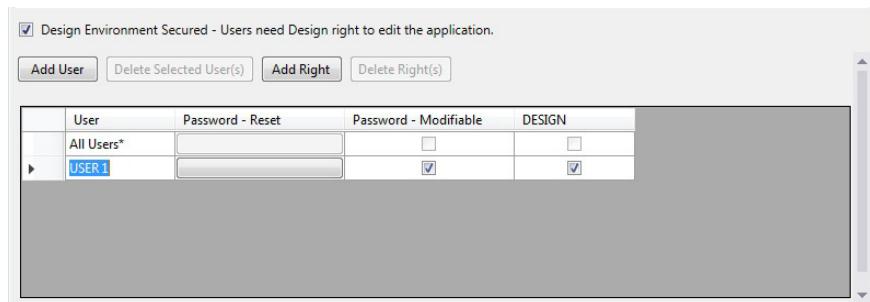
To delete users, click a row to select it and click the Delete Selected User(s) button. To select multiple rows, hold down the CTRL or SHIFT key and click the desired rows. If you delete all users, then you are left with All Users* which gives any user unrestricted access to the application.



To reset a password for any user, click the Password - Reset cell and the Security - Reset Password dialog appears. You can enter a new password without knowing the old password.



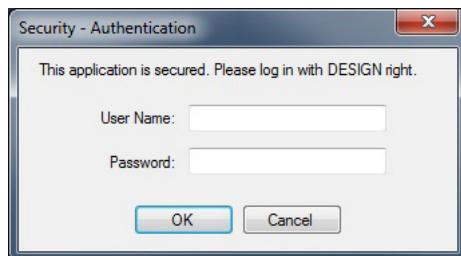
To rename a user, click the User cell to select it, and click again on the user name, then type a new user name.



Assign Design Rights

Design rights allows a user account to edit the application. To assign design rights to a user account, select the checkbox under the DESIGN column for that account.

When design rights are assigned, the next time the application is opened in Connected Components Workbench, a Security - Authentication dialog appears to prompt the user to enter a user name and password.



Create Access Rights

You can create up to 16 rights for an application. Rights are used to determine the application screens that users can access at runtime.

Users can only access screens that have an access right if they have the same right assigned to them.

You can create a right for each screen in the application and assign these rights to users based on the screens you want them to access at runtime, or you can create rights by job function. For example, you can assign maintenance rights to users that need to access the maintenance screens at runtime.

IMPORTANT

It is recommended NOT to assign any rights to the Startup screen.

After creating an access right, you need to assign the right to users by clicking the appropriate checkbox, and assign the right to one or more screens.

Follow these steps to add rights to the application and assign them to users.

1. Click the Add Right button and enter a name for the right.

Design Environment Secured - Users need Design right to edit the application.					
	User	Password - Reset	Password - Modifiable	DESIGN	RIGHT1
	All Users*		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶	USER 1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2. Select the checkbox to assign the right to a user account.

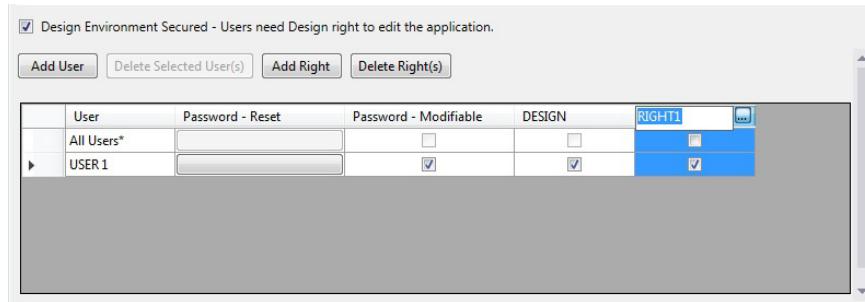
Design Environment Secured - Users need Design right to edit the application.					
	User	Password - Reset	Password - Modifiable	DESIGN	RIGHT1
	All Users*		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶	USER 1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Managing Rights

To delete a right, click the column header to select it and click the Delete Right(s) button. Any assignments of that right to users are also deleted.

Design Environment Secured - Users need Design right to edit the application.					
	User	Password - Reset	Password - Modifiable	DESIGN	RIGHT1
	All Users*		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶	USER 1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

To rename a right, click the column header ellipses button and type a new name.



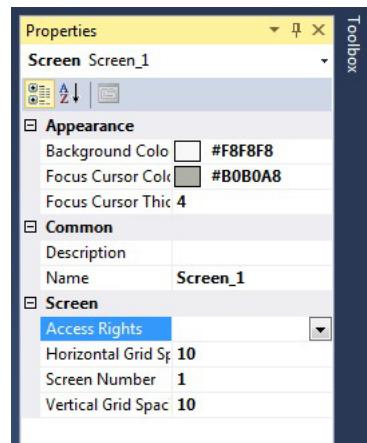
Assign Rights to a Screen

You can secure any screen in an application. To secure a screen, you assign an access right to the screen. Any user or group who holds this access right can access the screen at runtime by entering a user name and password. All other users are denied access to the screen.

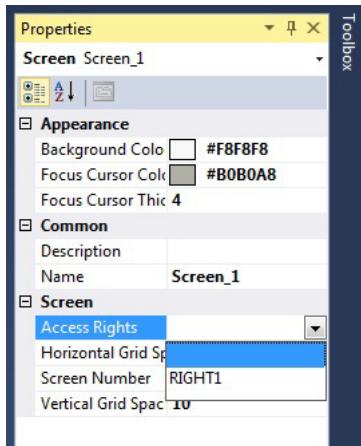
Each screen is limited to one access right.

Follow these steps to assign a right to a screen of your application.

1. In the Properties panel of the screen, locate the Access Rights setting under the Screen category.



2. Click the drop-down arrow and select the right you want to assign from the list.



IMPORTANT You cannot secure a screen unless rights are defined and assigned to users on the User Accounts screen in the Settings tab.

Changing Terminal Settings

To prevent unauthorized changing of terminal settings at runtime, such as network configuration or the startup application, assign an access right to screens that contain the Goto Config button.

Security at Runtime

The user is prompted to enter a user name and password when logging into the terminal, either by using the login button or when accessing a secured screen.

If the login is successful, the user has access to the application. The application writes the access right and user name of the logged in user to the current access right and current user name tags.

If the user name and password are invalid, the operation is aborted and an error message is generated.

When the user presses the logout button, the application clears the current access right tag and current user name tag.

After logging in, the user can move between secured and unsecured screens for which the user account has access rights. The user is not prompted to re-enter the password.

If the user moves to a secured screen that he is not authorized to access, he is prompted to enter a user name and password. If the correct user name and password are entered, the user is granted access. Otherwise, access is denied and a warning message is displayed.

Idle Mode Timeout

If the application does not receive user input within the specified idle timeout, the terminal goes into Idle mode. User input includes key presses, touch-screen presses, external mouse or keyboard input.

If the active screen is unsecured, the screen remains active.

If the active screen is a secured screen:

- the current user is logged off.
- the current access right tag is cleared.
- the application changes to the startup screen.

Resetting the Terminal

After a terminal is reset, the application:

- displays the startup screen whether the last displayed screen was secured or unsecured.
- enables security if it was previously disabled.
- retains changed passwords.
- The current user tag and current user rights tag is cleared when the terminal resets.

Starting the Terminal in Safe Mode

If the terminal is started in safe mode, security is disabled. When the terminal is restarted, security is enabled for the application.

Notes:

Protected Mode

Overview

Protected mode is a feature that enhances the security of a PanelView 800 terminal, and is available from firmware revision 3.011 onwards.

Protected mode restricts certain operations from being performed on the terminal while it is running. This reduces the risk that the terminal may be accessed by unauthorized persons, and disrupt the normal operations of the terminal and other associated devices or processes.

When the terminal is in Protected mode, the following operations are blocked:

- ControlFLASH – Users cannot update the firmware of the terminal.
- Remote configuration change – Users cannot change the network configuration of the terminal remotely.
- Remote reset – Users cannot reset the terminal remotely.

Protected mode is automatically disabled when an application is unloaded successfully. When Protected mode is disabled, the operations listed above can be then performed as normal.

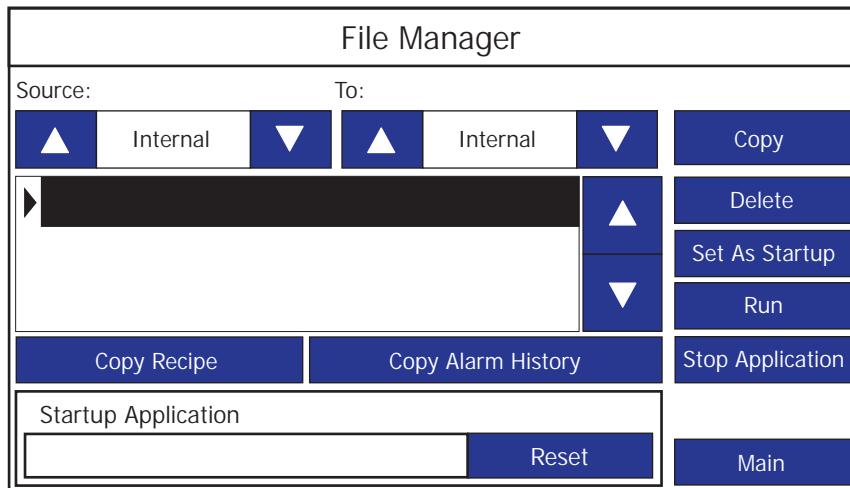
IMPORTANT When a ControlFLASH operation is in progress, issuing a reset command will not reset the terminal until after the firmware update has completed.

The terminal automatically enters and exits Protected mode when certain operations are performed, users do not need to configure any settings.

Terminal Operations and Protected Mode State

Operation	Terminal in Protected Mode
During the boot-up process.	Yes
After the boot-up process and the terminal displays a terminal configuration screen.	No
After the boot-up process and the terminal loads a startup application.	Yes
An application is loaded.	Yes
An application is unloaded successfully and the terminal displays a terminal configuration screen.	No

To exit Protected mode, the running application has to be stopped and unloaded successfully. To unload an application, go to the File Manager configuration screen on the terminal and press the Stop Application button.

**IMPORTANT**

The Stop Application button is only available in firmware revision 3.011 onwards.

Using PanelView 800 Terminals with CompactLogix 5370 L1 Controllers

This chapter provides an example of how to use a CompactLogix 5370 L1 controller in your PanelView 800 application. It includes information on how to address the different data types between PanelView 800 terminals and CompactLogix 5370 L1 controllers. Examples of how to map them to tags are also provided.

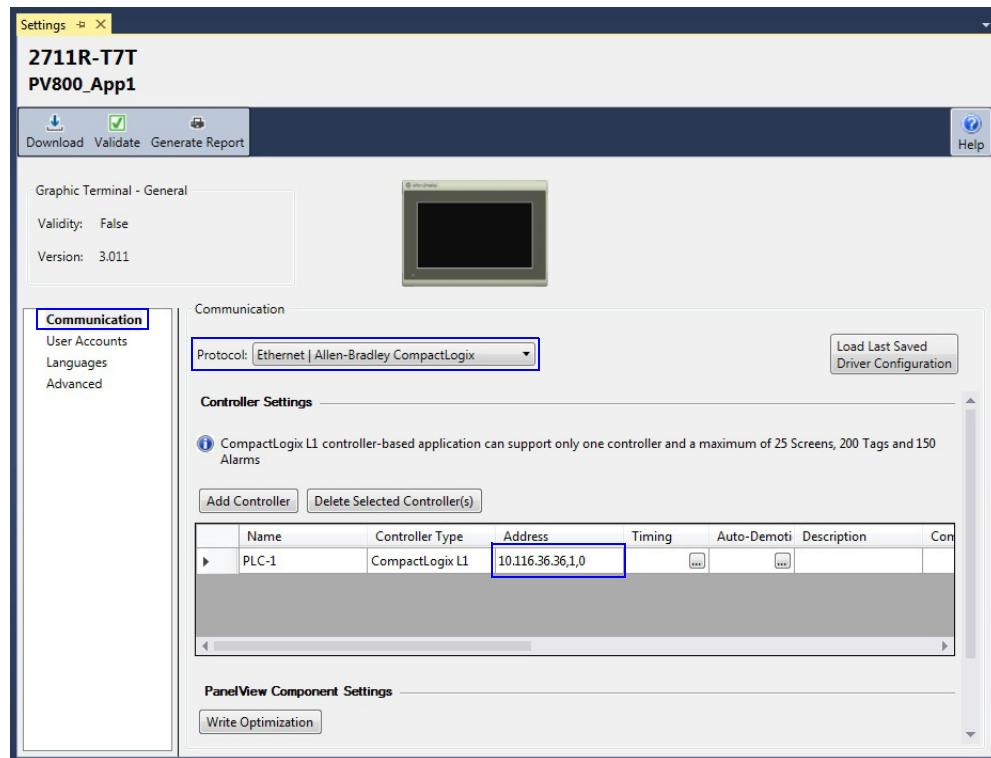
To use a CompactLogix 5370 L1 controller in your PanelView 800 application, there are four simple steps to do as follows:

- 1.** Add the CompactLogix 5370 L1 controller to the application.
- 2.** Map the PanelView 800 terminal tags with the CompactLogix 5370 L1 controller tags.
- 3.** Validate the application in PVc DesignStation in Connected Components Workbench software.
- 4.** Download the application to a PanelView 800 terminal.

Add a CompactLogix 5370 L1 Controller

To add a CompactLogix 5370 L1 controller to your application, do the following:

1. Click on the Settings tab for your PanelView 800 terminal in Connected Components Workbench.



2. Click the Communication item in the menu list.
3. Click on the Protocol drop-down list and select "Ethernet | Allen-Bradley CompactLogix".
4. Under Controller Settings, enter the IP address of the controller into the Address field.

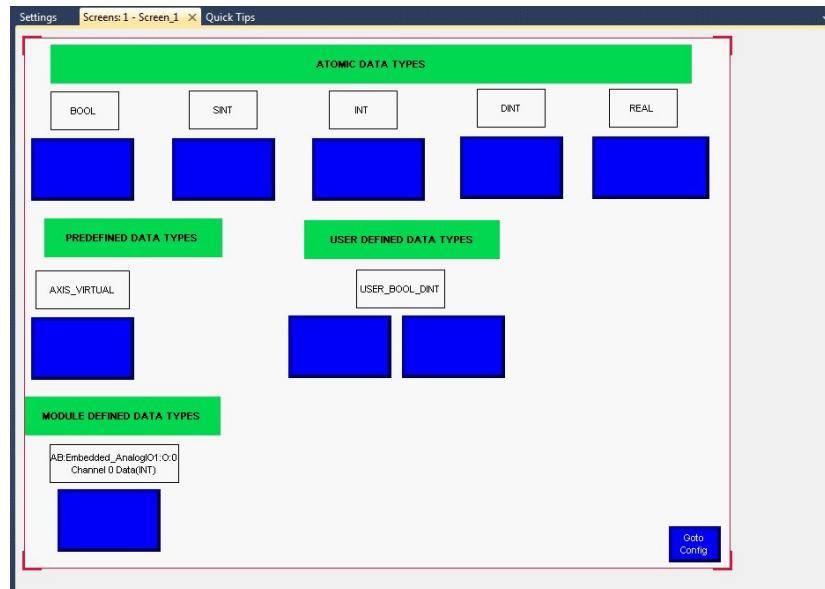
IMPORTANT

When you enter the IP address for a CompactLogix 5370 L1 controller, you must append path information "1,0" to the end.

For example, if the IP address of the controller is 192.168.0.1, you should enter 192.168.0.1,1,0 into the Address field.

Map the Terminal and Controller Tags

Here is an example of the terminal screen which we will use to map the PanelView 800 terminal tags to the CompactLogix 5370 L1 controller tags.



Here is an example of the tags used in the terminal screen shown above.

Tag Name	Data Type	Address	Controller	Description	Data Entry - Min	Data Entry - Max	Access	Update Rate
Module_Test.Ch0Data	16 bit integer	Module_Test.Ch0Data	PLC-1		-32768	32767	Read/Write	500
TAG_BOOL	Boolean	TAG_BOOL	PLC-1				Read/Write	500
TAG_DINT	Unsigned 32 bit integer	TAG_DINT	PLC-1		0	4294967295	Read/Write	500
TAG_INT	16 bit integer	TAG_INT	PLC-1		-32768	32767	Read/Write	500
TAG_REAL	Real	TAG_REAL	PLC-1		-9999999	9999999	Read/Write	500
TAG_SINT	8 bit integer	TAG_SINT	PLC-1		-128	127	Read/Write	500
UserDefined_BOOL	Boolean	UserDefined_BOOL	PLC-1				Read/Write	500
UserDefined_DINT	32 bit integer	UserDefined_DINT	PLC-1		-2147483648	2147483647	Read/Write	500
Virtual_Axis.Actual_Position	Real	Virtual_Axis.Actual_Position	PLC-1		-9999999	9999999	Read/Write	500

PanelView 800
HMI Tags

Controller Tag Address
(Keep the same Tag Name and Addressing format
as used in CompactLogix 5370 L1 controllers.)

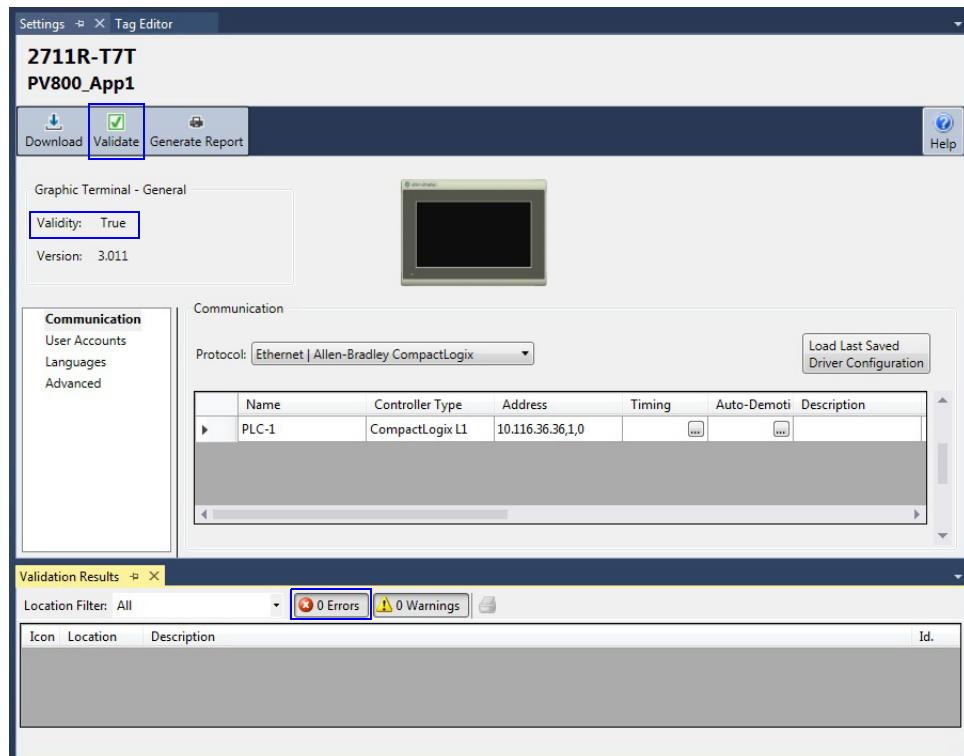
To add tags, do the following:

1. Double-click Tags in the Project Organizer to open the Tag Editor tab.
2. Click the Add button to create a new tag entry.
3. Modify the values of the tag to match the values shown in the example above.
4. Repeat step 1 to step 3 for the rest of the tags shown in the example above.

For more information on how to address a CompactLogix 5370 L1 controller tag in PanelView 800, see [Addressing Formats from PanelView 800 to CompactLogix 5370 L1 on page 124](#).

Validate the Application

Before you can download the application to the terminal, you must validate it.



To validate the application, do the following:

1. Click the Validate icon on the Settings tab of the terminal.
2. Make sure that there are no validation errors in the application.
If the validation passes, the Validity will be set to True.
If the validation fails, you will not be able to run the application on the terminal

IMPORTANT

PanelView 800 applications that are configured to communicate with a CompactLogix 5370 L1 controller must meet the following restrictions:

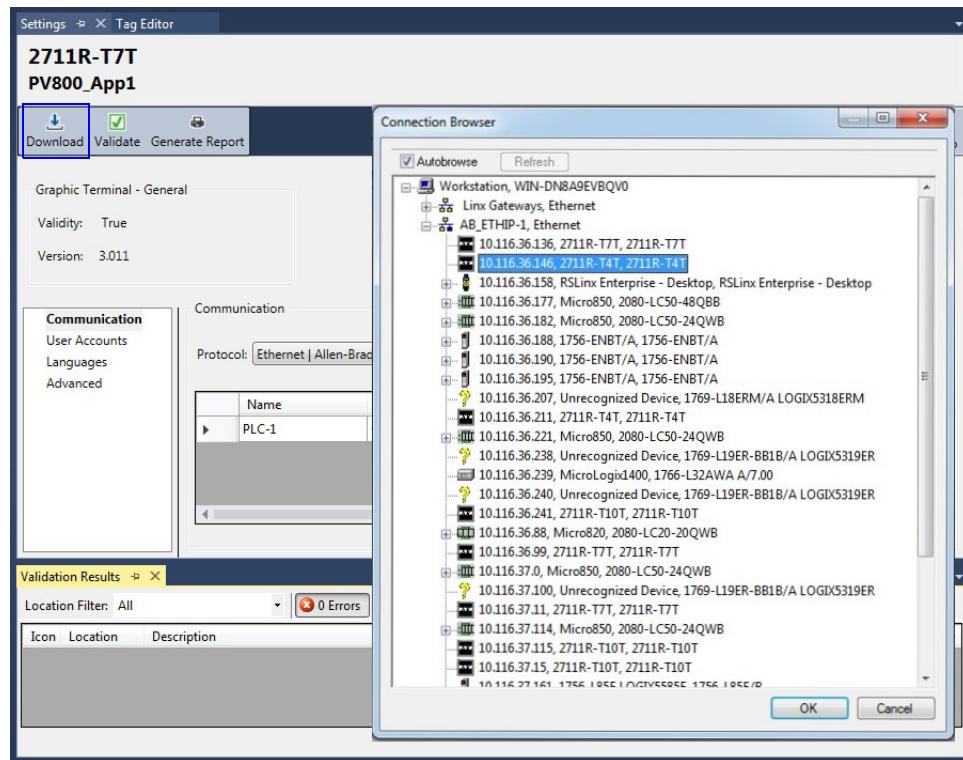
- Maximum number of CompactLogix 5370 L1 controllers: 1
- Maximum number of Screens: 25
- Maximum number of External Tags: 200
- Maximum number of Alarms: 150

If any one of the above restrictions are not met, the validation will always fail. You will not be able to download and run the application on a PanelView 800 terminal.

Download the Application

To download the application to the terminal, do the following:

1. Click the Download icon in the Settings tab of the terminal
The Connection Browser dialog box appears.



2. Select the terminal that you want to download the application to, then click OK.

CompactLogix 5370 L1 Controller Addressing

The atomic data types supported in CompactLogix 5370 L1 controllers by PanelView 800 terminals are shown in the table below.

Supported Data Types

CompactLogix 5370 L1 Data Types	PanelView 800 Data Types
SINT	8-bit integer
INT	16-bit integer
DINT	32-bit integer
REAL	Real (Range: -9999999...9999999)
BOOL	Boolean
STRING	STRING
—	8-bit unsigned integer
—	16-bit unsigned integer
—	32-bit unsigned integer

Although some of the predefined types are structures, they are ultimately based on these atomic data types. Thus, all non-structure (atomic) members of a structure are accessible.

For example, a TIMER cannot be assigned as a PanelView 800 tag but an atomic member of the TIMER can be assigned to the tag (for example, TIMER.EN, TIMER.ACC, and so forth).

If a structure member is a structure itself, both structures would have to be expanded to access an atomic member of the substructure. This is more common with user-defined and module-defined types and is not found in any of the predefined types.

In summary, predefined, module-defined and user-defined data types of L1 can be accessed from PanelView 800 from their respective members, which are based on the above atomic data types

The LINT data type is not supported in CompactLogix 5370 L1 controllers.

Addressing Formats from PanelView 800 to CompactLogix 5370 L1

When mapping a PanelView 800 terminal tag to a CompactLogix 5370 L1 controller tag, make sure you copy the exact name and format of the controller tag into the address field of the terminal tag in the Tag Editor.

Element Level Addressing

PanelView 800 Data Type	CompactLogix 5370 L1 Data Type	Controller Tag Address (Global) Example	Controller Tag Address (Local, MainProgram) Example
Boolean	BOOL	Tag1	Program: MainProgram.Tag1
32-bit integer	DINT	Tag2	Program: MainProgram.Tag2
16-bit integer	INT	Tag3	Program: MainProgram.Tag3
8-bit integer	SINT	Tag4	Program: MainProgram.Tag4
Real	REAL	Tag5	Program: MainProgram.Tag5
String	STRING	*(1)	*(2)

(1) Tag6.Data/N – N is the length of String.

(2) Program: MainProgram.Tag6.Data/N

Note the following:

- Tag address of Tag6.Len can be read/written for the length of String.
- Tag address of Tag6.Data[characterNo] is to read/write individual character of string by ASCII. For example, Tag6.Data[1] refers to the element 1.

Accessing a Member of a Structure (predefined, module-defined, user-defined data types)

PanelView 800 Data Type	CompactLogix 5370 L1 Data Type	Controller Tag Address (Global) Example	Controller Tag Address (Local, MainProgram) Example
Boolean	BOOL	STRUCTURE.Tag1	Program:MainProgram.STRUCTURE.Tag1
32-bit integer	DINT	STRUCTURE.Tag2	Program:MainProgram.STRUCTURE.Tag2
16-bit integer	INT	STRUCTURE.Tag3	Program:MainProgram.STRUCTURE.Tag3
8-bit integer	SINT	STRUCTURE.Tag4	Program:MainProgram.STRUCTURE.Tag4
Real	REAL	STRUCTURE.Tag5	Program:MainProgram.STRUCTURE.Tag5
String	STRING	*(1)	*(2)

(1) STRUCTURE.Tag6.Data/N – N is the length of String.

(2) Program:MainProgram.STRUCTURE.Tag6.Data/N

Boolean Addressing

PanelView 800 Data Type	CompactLogix 5370 L1 Data Type	Controller Tag Address (Global) Example	Controller Tag Address (Local, MainProgram) Example
Boolean	DINT	Tag2.bitNo	Program:MainProgram.Tag2.bitNo
Boolean	INT	Tag3.bitNo	Program:MainProgram.Tag3.bitNo
Boolean	SINT	Tag4.bitNo	Program:MainProgram.Tag4.bitNo

bitNo can be any value – 0...31 for DINT, 0...15 for INT and 0...7 for SINT data type tags in CompactLogix 5370 L1 controller.

Array Addressing of an Element

PanelView 800 Data Type	CompactLogix 5370 L1 Data Type	Controller Tag Address (Global) Example	Controller Tag Address (Local, MainProgram) Example	Array Dimensions
Boolean	BOOL	Tag1[x]	Program:MainProgram.Tag1[x]	1
32-bit integer	DINT	Tag2[x,y,z]	Program:MainProgram.Tag2[x,y,z]	1,2,3
16-bit integer	INT	Tag3[x,y,z]	Program:MainProgram.Tag3[x,y,z]	1,2,3
8-bit integer	SINT	Tag4[x,y,z]	Program:MainProgram.Tag4[x,y,z]	1,2,3
Real	REAL	Tag5[x,y,z]	Program:MainProgram.Tag5[x,y,z]	1,2,3
String	STRING	*(1)	*(2)	1,2,3

(1) Tag6[x,y,z].Data/N – N is the length of String.

(2) Program:MainProgram.Tag6[x,y,z].Data/N

Boolean Access from an Array Element

PanelView 800 Data Type	CompactLogix 5370 L1 Data Type	Controller Tag Address (Global) Example	Controller Tag Address (Local, MainProgram) Example
Boolean	DINT	Tag2[x,y,z].bitNo	Program:MainProgram.Tag2[x,y,z].bitNo
Boolean	INT	Tag3[x,y,z].bitNo	Program:MainProgram.Tag3[x,y,z].bitNo
Boolean	SINT	Tag4[x,y,z].bitNo	Program:MainProgram.Tag4[x,y,z].bitNo

bitNo can be any value – 0...31 for DINT, 0...15 for INT, and 0...7 for SINT data type tags in CompactLogix 5370 L1 controller.

Limitations with CompactLogix 5370 L1 Controller Support

There are some limitations when using a CompactLogix 5370 L1 controller in your PanelView 800 application, as described below:

- PanelView 800 terminals use Connected Components Workbench software for configuration and screen design, while CompactLogix 5370 L1 controllers use Studio 5000 software. PanelView 800 terminals do not support the online Tag browsing feature with CompactLogix 5370 L1 controllers.
- Programming and configuration of CompactLogix 5370 L1 controllers are not supported in Connected Components Workbench software.
- Only a single CompactLogix 5370 L1 controller is supported.
- PV800 applications can only have a maximum of 25 screens, 200 tags and 150 alarms.
- CompactLogix 5370 L1 controller is supported only in PanelView 800 terminals with firmware revision 3.011 or later, and also requires Connected Components Workbench Release 9 or later software.

A

About PanelView Component**DesignStation** 99**about the terminals** 11**access rights** 107

assigning 113

creating 111

adding fonts 97**additional resources** 9**alerts** 79**applications**

export 50

import 52

stop application button 118

transfer 50

unloading 118

applications and files 49**available fonts** 97**B****battery replacement** 57**brightness**

on terminal 25, 26

PanelView Explorer window 24

C**cables**

charts 60, 61

connections 59

Ethernet 62

calibrate touch screen 33

PanelView Explorer window 33

terminal 34

catalog number configuration 16**change startup application** 37

PanelView Explorer window 37

terminal 38

CompactLogix 5370 L1 controller

addressing data types 124

cable charts 61

limitations 126

mapping tags 121

validation restrictions 122

configuration interfaces 17

PanelView Explorer startup window 19

terminal interface main menu 20

configuration mode 17**connect a browser** 14

Ethernet 14

connect devices

60

Connected Components Workbench

installation requirements 100

launch mechanism 105

uninstallation 104

Connected Components Workbench

installation 100

D**date and time** 39

PanelView Explorer window 39

terminal 40

E**enable terminal security** 45**Ethernet** 14

cables 62

change settings 42

connector 62

security considerations 63

settings 43

export application 51**export applications** 50**F****firmware**

install from storage device 76

prepare for upgrade 67

prepare storage device 75

upgrade 10, 67

using removable storage device 74

fonts

adding 97

available 97

import 97

remove 98

H**how to**

connect a browser 14

I**IGMP Protocol** 63**import applications** 52**import font** 97**install**

battery 57

SD memory card 55

USB flash drive 56
install and replace components 55

intended audience 9

Internet Group Management Protocol (IGMP) 63

IP address of terminal 14

Ethernet port 14, 42
 USB port 42

K

key repeat setting 31

L

Launching Connected Components Workbench 105

M

managing

applications 49
 files 49

Micro800 cable charts 61

MicroLogix cable charts 60

O

out of box condition 90

overview 11

P

PanelView explorer window 19

brightness 24
 calibrate touch screen 33
 change startup application 37
 date and time 39
 key repeat setting 31
 reboot terminal 36
 screen saver 28
 system information 47
 terminal security 46

peripheral connection 15

protected mode

states 117

PVc DesignStation in Connected Components Workbench 99, 107, 117, 119

R

reboot terminal 36, 37

PanelView explorer window 36

remove fonts 98

replace screen saver image 30

S

screen saver 27

PanelView explorer window 28
 replace image 30
 terminal 29

SD memory card 55

secure design environment 107

access rights 111
 design rights 111
 features 107

security

idle mode 115
 protected mode 117
 restting the terminal 115
 runtime 114
 safe mode 115

serial connections 63

RS422 and RS485 64

Simple Network Management Protocol (SNMP) 63

SNMP Protocol 63

specifications 93

certifications 95
 environmental 94
 general 93

system information 47, 79

PanelView explorer window 47

terminal 48

T

terminal

brightness 25
 calibrate touch screen 34
 change startup application 38
 date and time 40
 Ethernet settings 43
 export application 51
 language 23
 orientation 26
 reboot terminal 37
 screen saver 29
 security 45
 security PanelView explorer window 46
 system information 48

terminal interface main menu 20

terminal settings 20

calibrate touch screen 33

change startup application 37
date and time 39
enable terminal security 45
Ethernet 42
key repeat 31
on PanelView explorer startup window 21
on terminal 22
reboot terminal 36
screen saver 27
system information 47
terminal language 23

transfer
applications 50

troubleshooting 79, 88
alerts 79
check for power 88

status indicators 89

U

Uninstall Connected Components

Workbench 104

USB

flash drive 56
host port 65
ports 14

user accounts

managing 107
screen 108

W

wiring and safety guidelines 59

Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support> you can find technical and application notes, sample code, and links to software service packs. You can also visit our Support Center at <https://rockwellautomation.custhelp.com/> for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates.

In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/services/online-phone>.

Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/rockwellautomation/support/overview.page , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to help ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

Rockwell Otomasyon Ticaret A.Ş., Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleerlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846