PanelView 5510 Terminals

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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.

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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.

**IMPORTANT** Identifies information that is critical for successful application and understanding of the product.

Labels may also be on or inside the equipment to provide specific precautions.

**SHOCK HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.

**BURN HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).
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This manual describes how to install, configure, operate, and troubleshoot the PanelView™ 5510 terminals. This manual does not provide procedures on how to create applications that run on the terminals, or ladder logic that runs in the controller.

Other tasks that you must do include:

- Configure the Ethernet settings and update the firmware of the terminal.

  **IMPORTANT** You must configure the Ethernet settings and update the firmware before you can download a View Designer project and use the terminal. See Initial Startup on page 39.

- Create a project by using the Studio 5000 View Designer® application.

- Create control logic for the controller by using the Studio 5000 Logix Designer® application.

**Summary of Changes**

This manual contains new and updated information as indicated in the following table.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added catalog numbers for the PanelView 5510 conformal-coated terminals to the front cover.</td>
<td>--</td>
</tr>
<tr>
<td>Added a statement about conformal coating to the bulleted list.</td>
<td>11</td>
</tr>
<tr>
<td>Updated the Catalog Number Explanation table with conformal coating catalog numbers.</td>
<td>16</td>
</tr>
<tr>
<td>Added conformal coating catalog numbers to the Product Selection table.</td>
<td>17</td>
</tr>
<tr>
<td>Added instructions on how to configure the keypad size.</td>
<td>46</td>
</tr>
<tr>
<td>Added instructions for modifying the PanelView 5000 screen color settings by using HMI device tags.</td>
<td>58</td>
</tr>
<tr>
<td>Added instructions on how to load an application from removable media.</td>
<td>67</td>
</tr>
<tr>
<td>Added instructions on how to view and export the alarm history.</td>
<td>82</td>
</tr>
</tbody>
</table>

**Package Contents**

The PanelView 5510 terminals ship with these items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>• Mounting levers for panel installation</td>
</tr>
<tr>
<td></td>
<td>• Removable DC power terminal block</td>
</tr>
<tr>
<td>Documents</td>
<td>• PanelView 5510 Terminals Product Information, publication 2715P-PC001</td>
</tr>
<tr>
<td></td>
<td>• Cutout Templates for PanelView 5510 Terminals, publication 2715P-DS001</td>
</tr>
</tbody>
</table>
Request Corresponding Source for Open Source Packages

The software included in this product contains copyrighted software that is licensed under one or more open source licenses. Copies of those licenses are included with the software. Corresponding Source for open source packages included in this product can be found at the websites identified in the product documentation.

You can also obtain complete Corresponding Source by contacting Rockwell Automation via our Contact form on the Rockwell Automation website: http://www.rockwellautomation.com/global/about-us/contact/contact.page. Please include ‘Open Source’ as part of the request text.

**IMPORTANT** Do not modify the NVS file. The NVS file is used in firmware updates and a modified NVS file can cause the firmware update to fail.

Product Firmware and Release Notes

Product firmware and release notes are available online at the Product Compatibility and Download Center at https://compatibility.rockwellautomation.com/Pages/home.aspx.

1. On the PCDC home page, search for your product.

   ![Compatibility & Downloads](image)

   *Compatibility & Downloads*
   
   The Product Compatibility and Downloads Center (PCDC) can help you find product-related downloads including firmware, release notes, associated software, drivers, tools and utilities.

   *What’s New... Want the latest news about your products? Use the icon below to create custom product notifications.*

   *Support*  
   *Downloads*  
   *What’s New 03/30*

2. On the search results page, find the firmware and release notes for your product.

See the Product Compatibility and Download Center Quick Start Guide, publication PCDC-QS001, for instructions on how to find and download firmware and release notes for the terminal.
### Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PanelView 5510 Terminals Technical Data, publication 2715P-TD001</td>
<td>Provides specifications and certifications for the PanelView 5510 terminal.</td>
</tr>
<tr>
<td>Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1</td>
<td>Provides general guidelines for installing a Rockwell Automation industrial system.</td>
</tr>
<tr>
<td>Guidelines for Handling Lithium Batteries Technical Data, publication AG-5.4</td>
<td>Provides guidelines to store, handle, install, and dispose of lithium batteries.</td>
</tr>
<tr>
<td>Industrial Ethernet Media Brochure, publication 1585-BR001</td>
<td>Provides general guidelines about Ethernet networking and connectivity.</td>
</tr>
<tr>
<td>EtherNet/IP™ Embedded Switch Technology Application Guide, publication ENET-AP005</td>
<td>How to install, configure, and maintain linear and device level ring (DLR) networks that use Rockwell Automation EtherNet/IP devices with embedded switch technology.</td>
</tr>
<tr>
<td>ControlFLASH Firmware Upgrade Kit User Manual, publication 1756-UM105</td>
<td>Describes how to use the ControlFLASH™ software to upgrade device firmware.</td>
</tr>
<tr>
<td>Safety Guidelines for the Application, Installation, and Maintenance of Solid-State Controls, publication SGI-1.1</td>
<td>Provides general guidelines for the application, installation, and maintenance of solid-state equipment.</td>
</tr>
<tr>
<td>Product Certifications website, rnk.auto/certifications</td>
<td>Provides declarations of conformity, certificates, and other certification details.</td>
</tr>
</tbody>
</table>

About the PanelView 5510 Terminals

The PanelView™ 5510 terminals are operator interface devices that monitor and control devices attached to ControlLogix® L7 or L8 controllers, and CompactLogix™ L1, L2, or L3 controllers over an EtherNet/IP™ network. Animated graphic and text displays provide a view into the operating state of a machine or process. Operators interact with the control system by using the touch screen or keypad of the terminal.

The PanelView 5510 terminals include these features and capabilities:

- Tightly integrated control and design environment allows information to be shared between the PanelView 5510 terminal and the Logix platforms.
- The Studio 5000® environment provides one point of access for both View Designer and Logix Designer applications(1).
- Connection up to four ControlLogix L7 or L8 controllers, or CompactLogix L1, L2, or L3 controllers.(2)
- Supports a maximum of 100 user-defined screens.
- Supports a maximum of 4,000 Logix-based alarms (1).
- Ethernet communication that supports Device Level Ring (DLR), linear, or star network topologies.
- High-speed human machine interface (HMI) button control and easily configured navigation menu.
- Conformal coating available for all terminal sizes.

(1) PanelView 5510 firmware can support up to 4,000 Logix-based alarms if you use Studio 5000 View Designer application version 5 and Studio 5000 Logix Designer application version 32 or higher. Earlier versions of the Studio 5000 View Designer or Studio 5000 Logix Designer applications can support up to 1,000 Logix-based alarms. For more information about the Logic-based alarms, see footnote 2.

(2) A combination of up to four of the following Logix controller models: ControlLogix L7 or CompactLogix L1, L2, or L3 controller with revision 31 firmware or later.

NOTE: If the PanelView 5510 terminal supports up to four Logix controllers, then each controller can use a mix (instruction-based and tag-based) of alarms up to 1,000 alarms per controller. If a single Logix controller is supported, then up to 4,000 alarms can be used but only 1,000 of them can be instruction-based.
Hardware Features

The PanelView 5510 terminals are fixed hardware configurations that provide a range of display sizes and operator input options.

![Diagram of PanelView 5510 terminal]

Table 1 - Hardware Features

<table>
<thead>
<tr>
<th>Item</th>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Display/Keypad</td>
<td>TFT color graphic displays with a touch screen and navigation button in a range of display sizes. Some models also have a keypad and function keys providing additional operator input options.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 6.5-in. touch or touch with keypad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 7-in. wide screen with touch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 9-in. wide screen with touch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 10.4-in. touch or touch with keypad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 12.1-in. wide screen with touch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 15-in. touch or touch with keypad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 19-in. touch</td>
</tr>
<tr>
<td>2</td>
<td>Power</td>
<td>18...30V DC (isolated)</td>
</tr>
<tr>
<td>3</td>
<td>Mounting slot</td>
<td>The slots on the top, bottom, and sides of the terminal are used with mounting levers to mount the device to a panel or enclosure. The number of slots varies by terminal size.</td>
</tr>
<tr>
<td>4</td>
<td>Ethernet ports</td>
<td>Two 10/100Base-T, Auto MDI/MDI-X, EtherNet/IP ports for controller communication that supports DLR network topology.</td>
</tr>
<tr>
<td>5</td>
<td>USB host ports</td>
<td>Two USB 2.0 high-speed (type A) host ports.</td>
</tr>
<tr>
<td>6</td>
<td>USB device port</td>
<td>One USB 2.0 high-speed (type B) device port to connect a host computer that is software-feature dependent.</td>
</tr>
<tr>
<td>7</td>
<td>Audio out</td>
<td>IMPORTANT: The audio out feature is not functional. The feature is expected to be available in a future software release.</td>
</tr>
<tr>
<td>8</td>
<td>Status indicators</td>
<td>Light-emitting diode indicators on back of unit provide status and fault conditions.</td>
</tr>
<tr>
<td>9</td>
<td>Secure Digital (SD) card slot</td>
<td>One slot that supports an SD™ or SDHC™ card that is recommended in Table 6 on page 18.</td>
</tr>
</tbody>
</table>

Operator Control

All PanelView 5510 terminals have a color display with a touch screen and navigation key, or a touch screen, navigation key, and keypad for operator control.

- Analog, resistive, touch screens provide accurate, durable touch with excellent reliability for control of industrial applications.
- Keypad models are similar except for the number of function keys to the left (L#) and right (R#) of the display. Larger models have more keys.
The physical keypad on the PanelView 5510 terminal is used during runtime to initiate actions, control navigation, and enter data. The terminal also supports a virtual keyboard and numeric keypad that opens on PanelView 5510 terminal screens during runtime.

The terminal also supports the use of a physical keyboard and mouse when connected to the USB ports.

### Table 2 - PanelView 5510 Terminal Keypad

<table>
<thead>
<tr>
<th>Item</th>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Navigation button</td>
<td>Opens the navigation menu at the bottom of a screen and displays the contents of a project. The menu allows screen navigation and device configuration.</td>
</tr>
</tbody>
</table>
| 2     | Numeric keypad          | Contains numeric, decimal, minus, and these keys:  
|       |                        | • Backspace - deletes the character to the left of the insertion point.  
|       |                        | • Enter - inputs the currently highlighted key or enters a blank line if the insertion point is in the text box of the virtual keyboard.  
|       |                        | • Tab-left, Tab-right - selects the previous or next control or input element.  
|       |                        | • Esc - cancels or dismisses a dialog. |
| 3     | Navigation keys         | Provides navigation control.  
|       |                        | • Arrow keys - selects a key on the virtual keyboard that is above, below, left, or right of the selected key. Arrow keys also move the cursor if the cursor is in a text box.  
|       |                        | • Home/End - moves the insertion point to the beginning or end of a text or numeric entry field.  
|       |                        | • Page up/Page down - goes to the next or previous pages of a list. |
| 4     | Function keys            | Performs specific commands when configured for a screen or any of its graphic elements. For example, L1 can be configured to go to another screen.  
|       | 6.5-in. terminal         | • L1…L6 and R1…R6  
|       | 10.4-in. terminal        | • L1…L8 and R1…R8  
|       | 15-in. terminal          | • L1…L10 and R1…R10 |
### Touch Gestures

The PanelView 5510 terminal supports touch gestures to interact with screen elements during runtime. Standard touch gestures include:

- **Tap** – Briefly touch the target on the HMI screen with your fingertip.
- **Drag** – Move your fingertip over the target on the HMI screen without contact loss.

For a list of actions you can perform by using touch gestures, see the View Designer help.

### Studio 5000 Environment

Use the Studio 5000 environment to create HMI applications for the PanelView 5510 terminal.

The Studio 5000 environment includes these applications:

- **View Designer** – you can create and design a project for a specific PanelView 5510 terminal and download the project to the terminal.

  You can create an application for any PanelView 5510 terminal and reuse that same application across the entire platform.

- **Logix Designer** – you can develop control logic for a CompactLogix or ControlLogix controller and download the logic to the controller.
The table describes how the View Designer and Logix Designer applications work together to create an HMI runtime project.

### Table 3 - Studio 5000 Applications and Tools

<table>
<thead>
<tr>
<th>Item</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>View Designer application</td>
<td>A Studio 5000 application that is used to build HMI projects. Studio 5000 View Designer projects are stored as VPD files that can be downloaded to the PanelView 5510 terminal.</td>
</tr>
<tr>
<td>2</td>
<td>Tag browser</td>
<td>A tool that is used to search for and select tags within a Studio 5000 Logix Designer ACD project file. You can bind the tags to graphic element properties and properties of an HMI screen. The Studio 5000 View Designer application uses the tag browser to read data from an ACD file.</td>
</tr>
<tr>
<td>3</td>
<td>Logix Designer application</td>
<td>A Studio 5000 application that is used to develop control logic for an industrial automation system. Studio 5000 Logix Designer application interfaces with controllers to read and write tag information. Studio 5000 Logix Designer projects are stored as ACD files that can be downloaded to the controller.</td>
</tr>
<tr>
<td>4</td>
<td>ACD file</td>
<td>An Automation Controller Database (ACD) file. An ACD file is a Logix Designer project file that contains the logic or code, including tags and data types, which runs within a controller.</td>
</tr>
<tr>
<td>5</td>
<td>HMI project (VPD file)</td>
<td>A View Project Database (VPD) file. A VPD project is a file that contains the operator interface application, including HMI screens, controller references, and information about the HMI device to run the application.</td>
</tr>
<tr>
<td>6</td>
<td>HMI device</td>
<td>A Human Machine Interface (HMI) device, such as the PanelView 5510 terminal, which runs the HMI project. At runtime, the HMI device communicates directly with the controller.</td>
</tr>
<tr>
<td>7</td>
<td>Runtime</td>
<td>The environment in which the runtime HMI project communicates with the controller. During runtime, the HMI device runs the downloaded project, exchanges data with the controller, animates displayed data, and responds to operator input.</td>
</tr>
<tr>
<td>8</td>
<td>Controller</td>
<td>A logic controller such as a ControlLogix or CompactLogix 5370 controller.</td>
</tr>
</tbody>
</table>
**EtherNet/IP Communication**

The PanelView 5510 terminals contain EtherNet/IP embedded switch technology. These terminals communicate with ControlLogix controllers over an Ethernet connection with DLR or linear network topologies. Star technology is also supported when using switches.

The PanelView 5510 terminals can reside on EtherNet/IP networks that run integrated motion and CIP Sync applications without adverse performance. The terminal is not a consumer or producer of CIP Sync or motion packets.

**Typical Configuration**

Traditional DLR linear, and star network topologies are supported. See these topics for examples:

- Device Level Ring Network Topology on page 37
- Linear Network Topology on page 38
- Star Network Topology on page 39

**Catalog Number Explanation**

This table provides an explanation of the catalog numbers.

<table>
<thead>
<tr>
<th>Bulletin</th>
<th>Input Type</th>
<th>Display Size</th>
<th>Display Type</th>
<th>Power</th>
<th>Special Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>2715P-</td>
<td>T = Touch</td>
<td>7 = 6.5-in.(1)</td>
<td>C = Color, standard aspect ratio</td>
<td>D = DC isolated</td>
<td>B = Without brand identity(2)</td>
</tr>
<tr>
<td></td>
<td>B = Keypad with touch</td>
<td>7 = 7-in.(1)</td>
<td>W = Color, wide aspect ratio</td>
<td></td>
<td>K = Conformal coating(3)</td>
</tr>
<tr>
<td></td>
<td>9 = 9-in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 = 10.4-in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 = 12.1-in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 = 15-in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19 = 19-in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) For the display size/display type combination, 7C designates the 6.5-in. standard display model, and 7W designates the 7-in. wide screen display model.

(2) A catalog number with -B at its end (for example, 2715P-T7CD-B) is a terminal without the Allen-Bradley® logo and product identification on the front bezel.

(3) A catalog number with -K at its end (for example, 2715P-T7CD-K) is a terminal with conformal coating.
Product Selection

This table provides product selection information.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Display</th>
<th>Input Power</th>
<th>Ethernet</th>
<th>Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Touch</td>
<td>Key and Touch</td>
<td>Size</td>
<td>Type</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.5-in.</td>
<td>VGA TFT Color</td>
</tr>
<tr>
<td>2715P-T7CD</td>
<td>2715P-B7CD</td>
<td>2715P-B7CD-B</td>
<td>2715P-B7CD-K</td>
<td></td>
</tr>
<tr>
<td>2715P-T7WD</td>
<td>7-in. wide</td>
<td>WVGA TFT Color</td>
<td>5:3</td>
<td>800 x 480</td>
</tr>
<tr>
<td>2715P-T9WD</td>
<td>9-in. wide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2715P-T10CD</td>
<td>2715P-B10CD</td>
<td>2715P-B10CD-B</td>
<td>2715P-B10CD-K</td>
<td></td>
</tr>
<tr>
<td>2715P-T10CD-B</td>
<td>10.4-in.</td>
<td>SVGA TFT Color</td>
<td>4:3</td>
<td>800 x 600</td>
</tr>
<tr>
<td>2715P-T10CD-K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2715P-T12WD</td>
<td>12.1-in. wide</td>
<td>WXGA TFT Color</td>
<td>16:10</td>
<td>1280 x 800</td>
</tr>
<tr>
<td>2715P-T12WD-B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2715P-T12WD-K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2715P-T15CD</td>
<td>2715P-B15CD</td>
<td>2715P-B15CD-B</td>
<td>2715P-B15CD-K</td>
<td></td>
</tr>
<tr>
<td>2715P-T15CD-B</td>
<td>15-in.</td>
<td>XGA TFT Color</td>
<td>4:3</td>
<td>1024 x 768</td>
</tr>
<tr>
<td>2715P-T15CD-K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2715P-T19CD</td>
<td>19-in.</td>
<td>SXGA TFT Color</td>
<td>5:4</td>
<td>1280 x 1024</td>
</tr>
<tr>
<td>2715P-T19CD-B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2715P-T19CD-K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Non-volatile memory that is available to store projects.

Accessories

Table 4 through Table 8 list accessories for the PanelView 5510 terminals.

Table 4 - Protective Overlays

<table>
<thead>
<tr>
<th>Cat. No.(1)</th>
<th>Display Size</th>
<th>Operator Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>2711P-RGT7SP</td>
<td>6.5-in.</td>
<td>Touch</td>
</tr>
<tr>
<td>2711P-RGB7P</td>
<td>7-in. wide</td>
<td></td>
</tr>
<tr>
<td>2711P-RGT7W</td>
<td>9-in. wide</td>
<td></td>
</tr>
<tr>
<td>2711P-RGT9SP</td>
<td>10.4-in.</td>
<td></td>
</tr>
<tr>
<td>2711P-RGT10SP</td>
<td>12.1-in. wide</td>
<td></td>
</tr>
<tr>
<td>2711P-RGT12SP</td>
<td>15-in.</td>
<td></td>
</tr>
<tr>
<td>2711P-RGT19P</td>
<td>19-in.</td>
<td></td>
</tr>
</tbody>
</table>

(1) Three overlays are shipped with each catalog number.

Protective overlays help protect your PanelView terminal touch screen and keys from scratches, dust, fingerprints, and external damage from chemicals or abrasive materials.
Table 5 - Power Supplies and Power Terminal Blocks

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1606-XLP95E</td>
<td>DIN-rail power supply, 24...28V DC output voltage, 95 W</td>
<td>1</td>
</tr>
<tr>
<td>1606-XLP100E</td>
<td>DIN-rail power supply, 24...28V DC output voltage, 100 W</td>
<td>1</td>
</tr>
<tr>
<td>2711P-RSACDIN</td>
<td>DIN-rail power supply, AC-to-DC, 100...250V AC, 50...60 Hz</td>
<td>1</td>
</tr>
<tr>
<td>2711P-RTBDSP</td>
<td>3-pin DC power terminal block (black with white labels for +, -, and GND)</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 6 - Secure Digital (SD) Cards(1)

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1784-SD1</td>
<td>1-GB SD card</td>
<td>1</td>
</tr>
<tr>
<td>1784-SD2</td>
<td>2-GB SD card</td>
<td>1</td>
</tr>
<tr>
<td>1784-SDHC8</td>
<td>8-GB SDHC card</td>
<td>1</td>
</tr>
<tr>
<td>1784-SDHC32</td>
<td>32-GB SDHC card</td>
<td>1</td>
</tr>
<tr>
<td>2711C-RCS</td>
<td>USB to SD adapter for SD card</td>
<td>1</td>
</tr>
</tbody>
</table>

(1) To help reduce the chance of corruption when you use SD Cards or USB drives with the terminal, Rockwell Automation recommends that you use only the above SD card catalog numbers.

SD and SDHC accessory cards in Table 6 have been designed to meet industrial robustness and environmental requirements. Rockwell Automation recommends you use these accessory cards with the terminal to help reduce the chances of corruption. Studio 5000 View Designer software requires the following for SD cards that are inserted into the HMI device:

- 4 GB of free space
- A supported SDHC card type, preferably one listed in Table 6
- An environmental rating for the PanelView 5000 environment
- A supported format of either FAT32 or ext3

Table 7 - Mounting Hardware

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2711P-RMCP(1)</td>
<td>Mounting levers (black)</td>
<td>16</td>
</tr>
</tbody>
</table>

(1) Catalog number 2711P-RMCP mounting levers are used with the PanelView 5510 terminals. Do not use gray mounting levers; they are not compatible with PanelView 5510 terminals.

Table 8 - Battery Replacement

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2711P-RY2032</td>
<td>Lithium coin cell battery, CR2032 equivalent</td>
<td>1</td>
</tr>
</tbody>
</table>

Ethernet Cables

See the Industrial Ethernet Media Brochure, publication 1585-BR001B, for recommended Ethernet cables and media solutions.
Chapter 2

Install the PanelView 5510 Terminal

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>North American Hazardous Locations</td>
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</tr>
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<td>Mounting Considerations</td>
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</tr>
<tr>
<td>Panel Guidelines</td>
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<td>Prepare for Panel Mounting</td>
<td>28</td>
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<td>Mount the Terminal in a Panel</td>
<td>31</td>
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<td>Remove and Replace the DC Power Terminal Block</td>
<td>34</td>
</tr>
<tr>
<td>Connect to DC Power</td>
<td>35</td>
</tr>
<tr>
<td>Connect to a Network</td>
<td>36</td>
</tr>
<tr>
<td>Initial Startup</td>
<td>39</td>
</tr>
</tbody>
</table>

**ATTENTION:** Do not use a PanelView™ 5510 terminal for emergency stops or other controls critical to the safety of personnel or equipment. Use separate hard-wired operator interface devices that do not depend on solid-state electronics.
Installation Precautions

Read and follow these precautions before you install the PanelView 5510 terminal.

Environment and Enclosure Information

**ATTENTION:** This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC 60664-1), at altitudes up to 2000 m (6561 ft) without derating. The terminals are intended for use with programmable logic controllers.

This equipment is considered Group 1, Class A industrial equipment according to IEC CISPR 11. Without appropriate precautions, there can be difficulties with electromagnetic compatibility in residential and other environments due to conducted or radiated disturbances.

**Korean Radio Wave Suitability Registration** - When so marked this equipment is registered for Electromagnetic Conformity Registration as business equipment (A), not home equipment. Sellers or users are required to take caution in this regard.

이 기기는 업무용 (A 급 ) 전자파적합기기로서 판 매자 또 는 사용자는 이 점을 주의하시기 바 라 며 , 가정외의 지역 에서 사용하는 것을 목적으로 합니다 .

This equipment is supplied as open-type equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that can be present, and appropriately designed to help prevent personal injury resulting from accessibility to live parts. The interior of the enclosure must be accessible only by the use of a tool. The terminals meet specified NEMA, UL Type, and IEC ratings only when mounted in a panel or enclosure with the equivalent rating. Subsequent sections of this publication can contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see the following:

- Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1, for additional installation requirements.
- NEMA 250 and IEC 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.
Wiring and Safety Guidelines

**ATTENTION:** 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, here are some other guidelines to follow:

- 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 installations.

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

Outdoor Installation Recommendations

When you use a PanelView 5510 terminal outdoors, follow these recommendations to maximize the field life of the front bezel and display:

- Do not expose terminal to direct sunlight
- Add UV protection and/or shielding
- Manage terminal temperature
- Mount terminal in an acceptable position
- Select a proper enclosure

Ultraviolet (UV) and infrared radiation can reduce the field life of any electronic terminal. While the materials used in the terminal bezels provide long field life, that life can be improved by proper installation and by following the suggested guidelines.

UV radiation from the sun causes all plastics to fade or yellow and become brittle over time. Avoid direct sunlight exposure, use a sacrificial antiglare overlay and/or use a shield to shade the terminal to help protect the front of the terminal from direct exposure to UV radiation and greatly increase its field life. See Table 4 on page 17 for a selection of appropriate protective overlay accessories. When you install a sun shield that closes over the display, the temperature between the sun shield and the display cannot exceed the maximum temperature of the display, which is 55 °C (131 °F). Adequately ventilate all sun shields to help prevent excess heat rise on the terminal display.
Chapter 2  Install the PanelView 5510 Terminal

Use stirring fans or active cooling in high altitude and high ambient temperature locations to keep the internal enclosure temperature below 55 °C (131 °F).

Verify that the ambient temperature at which the product is operating does not fall below its minimum rated 0 °C (32 °F).

Minimize the temperature differential between the inside of the terminal enclosure and the front panel to help reduce the potential for condensation and possible pressure variation between the inside and outside of the terminal.

If possible, avoid placing the terminal on the south (north in the southern hemisphere) or west side of the cabinet, which helps reduce the heat rise due to solar heating during the hottest part of the day.

Mount the terminal vertically to minimize solar heating on the display. Do not mount the terminal in a sloped enclosure if it exposes the terminal to direct sunlight. For more information, see Mounting Considerations on page 25.

To help protect the terminal from water and dust, mount it in a proper enclosure by following the instructions in the PanelView 5510 Terminals Product Information, publication 2715P-PC001. The terminals meet specified NEMA, UL Type, and IEC ratings only when properly mounted in a panel or enclosure with the equivalent rating. Other sections of this publication can contain additional information about specific enclosure type ratings that are required to comply with certain product safety certifications.

ATTENTION: Failure to follow the recommended installation practices for outdoor use can substantially reduce terminal life and void its warranty.
## North American Hazardous Locations

<table>
<thead>
<tr>
<th>The following information applies when operating this equipment in hazardous locations.</th>
<th>Informations sur l’utilisation de cet équipement en environnements dangereux.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ATTENTION:</strong> When marked, these products are suitable for use in “Class I, Division 2, Groups A, B, C, D”; Class I, Zone 2, Group IIC hazardous locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest “T” number) be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.</td>
<td><strong>ATTENTION:</strong> Les produits marqués “CL I, DIV 2, GP A, B, C, D” ne conviennent qu’à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d’identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d’équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l’installation.</td>
</tr>
</tbody>
</table>

### WARNING: EXPLOSION HAZARD
- Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.
- Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.
- Substitution of components impair suitability for Class I, Division 2.
- Peripheral equipment must be suitable for the location in which it is used.
- The battery in this product must be changed only in an area known to be nonhazardous.
- All wiring must be in accordance with Class I, Division 2 wiring methods of Article S01 of the National Electrical Code and/or in accordance with Section 18-1J2 of the Canadian Electrical Code, and in accordance with the authority having jurisdiction.

### AVERTISSEMENT: RISQUE D’EXPLOSION
- Couper le courant ou s’assurer que l’environnement est classé non dangereux avant de débrancher l’équipement.
- Couper le courant ou s’assurer que l’environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l’aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit.
- La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I, Division 2.
- Les équipements périphériques doivent s’adapter à l’environnement dans lequel ils sont utilisés.
- S’assurer que l’environnement est classé non dangereux avant de changer la pile ou le module horloge temps réel de ce produit.
- Tous les systèmes de câblage doivent être de Classe I, Division 2, conformément aux méthodes de câblage indiquées dans les Articles S01 du National Electrical Code (Code Electrique National) et/ou conformément à la Section 18-1J2 du Canadian Electrical Code (Code Electrique Canadien), et en fonction de l’autorité de juridiction.

The terminals have a temperature code of T4 when operating in a 55 °C (131 °F) maximum ambient temperature. Do not install product in environments where atmospheric gases have ignition temperatures less than 135 °C (275 °F).
Chapter 2  Install the PanelView 5510 Terminal

**Required Circuit Port Parameters for USB Peripheral Devices**

This product contains USB host ports that comply with hazardous location environments. Field wiring compliance requirements are provided in compliance with the National Electrical Code, Article 500.

**Figure 2 - PanelView 5510 Control Drawing**

PanelView 5510 terminals provide two, separately powered USB host ports. Table 9 defines the circuit parameters of these USB host ports.

**Table 9 - Circuit Parameters for USB Host Ports**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Parameter Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_{oc}$ (USB)</td>
<td>5.25V DC</td>
<td>Open circuit voltage of each host USB port. The maximum applied voltage rating, $V_{max}$ (peripheral), of each USB peripheral device shall be greater than or equal to $V_{oc}$ (USB).</td>
</tr>
<tr>
<td>$I_{sc}$ (USB)</td>
<td>1.68 A</td>
<td>Maximum output current of each host USB port. The maximum current, $I_{max}$ (peripheral), to which each USB peripheral device can be subjected, shall be greater than or equal to $I_{sc}$ (USB).</td>
</tr>
<tr>
<td>$C_a$ (USB)</td>
<td>10 µF</td>
<td>This value is the maximum total capacitance that can be connected to each USB host port. The total capacitance of each USB peripheral device and its associated cable must not exceed the indicated value. The maximum total capacitance, $C_t$ (peripheral), and cable capacitance of each separate USB peripheral device shall be less that or equal to $C_a$ (USB).</td>
</tr>
<tr>
<td>$L_a$ (USB)</td>
<td>15 µH</td>
<td>This value is the maximum total inductance that can be connected to each USB host port. The total inductance of each USB peripheral device and its associated cable must not exceed the indicated value. The maximum total inductance, $L_t$ (peripheral), and cable inductance of each separate USB peripheral device shall be less than or equal to $L_a$ (USB).</td>
</tr>
</tbody>
</table>

**Application Information**

Per the National Electrical Code, the circuit parameters of associated field-wiring apparatus for use in hazardous locations shall be coordinated with the host product such that their combination remains nonincendive. PanelView 5510 terminals and the USB peripheral devices shall be treated in this manner.

The USB peripheral devices and their associated cabling shall have circuit parameters with the limits given in Table 9 for them to remain nonincendive when used with the PanelView 5510 USB host ports.

If cable capacitance and inductance are not known, use the following values from ANSI/ISA-RP 12.06.01-2003:

- $C_{cable} = 197$ pF/m (60 pF/ft)
- $L_{cable} = 0.7$ µH/m (0.20 µH/ft)

Nonincendive field wiring must be wired and separated in accordance with 501.10(B)(3) of the National Electrical Code (NEC) ANSI/NFPA 70 or other local codes as applicable. This associated nonincendive field wiring apparatus has not been evaluated for use in combination with another associated nonincendive field wiring apparatus.
Mounting Considerations

Consider the following when mounting the terminal:

- Mount the terminal at a height suitable for operators. You can mount the cabinet at a level other than the operator floor.
- Use appropriate light. Do not operate the terminal in direct sunlight.
- Terminals are rated to operate at various mounting positions as shown in Figure 3 (1).

**Figure 3 - Acceptable and Unacceptable Mounting Positions**

**Mounting Clearances**

Plan for adequate space around the terminal, inside the enclosure, for ventilation and cables. Consider the heat from other devices in the enclosure. The ambient temperature around the terminal must be 0...55 °C (32...131 °F) (1).

**Table 10 - Minimum Required Clearances**

<table>
<thead>
<tr>
<th>Terminal Area</th>
<th>Minimum Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>51 mm (2 in.)</td>
</tr>
<tr>
<td>Bottom</td>
<td>102 mm (4 in.)</td>
</tr>
<tr>
<td>Side</td>
<td>25 mm (1 in.)</td>
</tr>
<tr>
<td></td>
<td>102 mm (4 in.) is required to insert and remove an SD™ or SDHC™ card, or cable on one side</td>
</tr>
<tr>
<td>Back</td>
<td>0 mm (0 in.)</td>
</tr>
</tbody>
</table>

(1) For terminals with a 15-in. or 19-in. display, the ambient temperature around the terminal must be 0...50 °C (32...122 °F) when mounted at an angle of less than 45° or greater than 135°.
Panel Guidelines

The terminals are panel-mounted devices that mount in the door or wall of a NEMA, UL Type, or IP rated enclosure:

- Enclosure panels must meet the panel thickness requirements in Table 13 on page 28.
- The material strength and stiffness of the panel must be sufficient to hold the terminal and maintain an appropriate seal against water and dust.
- The panel surface must be flat and free of imperfections to maintain an adequate seal and NEMA, UL Type, or IP ratings.

Panel Cutout Dimensions

Use the template that is shipped with your terminal to mark the cutout dimensions.

Table 11 - PanelView 5510 - Panel Cutout Dimensions

<table>
<thead>
<tr>
<th>Terminal Size</th>
<th>Input Type</th>
<th>Height, mm (in.)</th>
<th>Width, mm (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5-in.</td>
<td>Keypad and touch</td>
<td>142 (5.59)</td>
<td>237 (9.33)</td>
</tr>
<tr>
<td></td>
<td>Touch</td>
<td>142 (5.59)</td>
<td>184 (7.24)</td>
</tr>
<tr>
<td>7-in.</td>
<td>Touch</td>
<td>150 (5.9)</td>
<td>210 (8.25)</td>
</tr>
<tr>
<td>9-in.</td>
<td>Touch</td>
<td>162 (6.38)</td>
<td>252 (9.92)</td>
</tr>
<tr>
<td>10.4-in.</td>
<td>Keypad and touch</td>
<td>224 (8.82)</td>
<td>335 (13.19)</td>
</tr>
<tr>
<td></td>
<td>Touch</td>
<td>224 (8.82)</td>
<td>269 (10.59)</td>
</tr>
<tr>
<td>12.1-in.</td>
<td>Touch</td>
<td>218 (8.58)</td>
<td>312 (12.28)</td>
</tr>
<tr>
<td></td>
<td>Touch</td>
<td>290 (11.42)</td>
<td>353 (13.90)</td>
</tr>
<tr>
<td>19-in.</td>
<td>Touch</td>
<td>383 (15.08)</td>
<td>457 (17.99)</td>
</tr>
</tbody>
</table>
The table provides product dimensions. The 10.4-inch touch and combination keypad with touch terminals are shown for illustrative purposes. All other terminal sizes look similar.

**Figure 4 - PanelView 5510 Terminal Dimensions (the 10.4-in. terminal is Shown)**

**Table 12 - PanelView 5510 Terminal Dimensions**

<table>
<thead>
<tr>
<th>Terminal Size</th>
<th>Input Type</th>
<th>Height (A) mm (in.)</th>
<th>Width (B) mm (in.)</th>
<th>Overall Depth (C) mm (in.)</th>
<th>Mounted Depth (D) mm (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5-in.</td>
<td>Keypad and touch</td>
<td>179 (7.05)</td>
<td>285 (11.22)</td>
<td>69.6 (2.74)</td>
<td>63.6 (2.50)(1)</td>
</tr>
<tr>
<td></td>
<td>Touch</td>
<td>170 (6.69)</td>
<td>212 (8.35)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-in.</td>
<td>Touch</td>
<td>178 (7.0)</td>
<td>236 (9.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-in.</td>
<td>Touch</td>
<td>190 (7.48)</td>
<td>280 (11.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.4-in.</td>
<td>Keypad and touch</td>
<td>252 (9.92)</td>
<td>385 (15.16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Touch</td>
<td>252 (9.92)</td>
<td>297 (11.69)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1-in.</td>
<td>Touch</td>
<td>246 (9.69)</td>
<td>340 (13.39)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-in.</td>
<td>Keypad and touch</td>
<td>329 (12.95)</td>
<td>484 (19.06)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Touch</td>
<td>318 (12.52)</td>
<td>381 (15.00)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-in.</td>
<td>Touch</td>
<td>411 (16.18)</td>
<td>485 (19.09)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) When mounted in a panel, the front of the bezel extends less than 6.36 mm (0.25 in.) from the front of the panel.
Prepare for Panel Mounting

Before mounting your PanelView 5510 terminal in a panel, read this section and the entire installation procedure on page 31.

**IMPORTANT** Catalog number 2711P-RMCP mounting levers (black) are used with PanelView 5510 terminals. Do not use gray mounting levers; they are not compatible with PanelView 5510 terminals.

Mounting levers insert into the slots around the bezel to secure the terminal in the panel. The number of levers varies by terminal size.

![Mounting levers](image)

Each slot has six notches with alignment marks that are locking positions for a lever. The thickness of the panel in which you mount the terminal determines the locking position that is required to maintain a NEMA, UL Type, or IP seal.

**Table 13 - Lever Locking Positions**

<table>
<thead>
<tr>
<th>Mounting Slot</th>
<th>Lever Lock Position</th>
<th>Panel Thickness Range</th>
<th>Typical Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation of Slot Varies</td>
<td>1</td>
<td>1.50…2.01 mm (0.060…0.079 in.)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2.03…2.64 mm (0.080…0.104 in.)</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2.67…3.15 mm (0.105…0.124 in.)</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3.17…3.66 mm (0.125…0.144 in.)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>3.68…4.16 mm (0.145…0.164 in.)</td>
<td>8/9</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>4.19…4.80 mm (0.165…0.188 in.)</td>
<td>7</td>
</tr>
</tbody>
</table>

Always orient a lever vertically before inserting it into a slot. This orientation is the only way to slide the lever knob within the slot for positioning. After sliding the lever to a specific notch, rotate the lever toward the panel to lock it in position. The flat side of the lever must come into contact with the panel.
Initially, you secure the terminal in the panel by sliding each lever to a position that is one or two notches greater than the final lock position. For example, if the final lock position is 3, slide each lever to position 4 or 5.

Follow the locking sequence and lever orientations for each terminal as shown in Figure 5 on page 30.

**TIP** If the lock position is 6, slide lever to large end of slot or insertion hole.

You then adjust each lever to its final lock position in the same sequence as shown in Figure 5 on page 30.

**IMPORTANT** This process equalizes the pressure of the levers against the panel at a gradual rate that reduces the probability of broken clamps.
Figure 5 - Mounting Lever Orientation and Lock Sequence

6.5-in. Touch Only and 7-in. Touch Only - 6 Levers

9-in. and 10.4-in. Touch Only - 8 Levers

15-in. Touch Only - 12 Levers

19-in. Touch Only - 16 Levers

6.5-in. Keypad and Touch - 8 Levers

10.4-in. Keypad and Touch, 12.1-Touch Only - 10 Levers

15-in. Keypad and Touch - 14 Levers

19-in. Touch Only - 16 Levers

IMPORTANT The mounting lever orientations that are shown are required to maintain NEMA, UL Type, and IP seals. If you require a NEMA, UL Type, or IP seal, do not use a mounting lever in another orientation than shown.
Mount the Terminal in a Panel

The PanelView 5510 terminals were designed for single-person installation. No tools are required except for tools to make the panel cutout.

Follows these steps to mount the terminal in a panel.

**ATTENTION:** Disconnect all electrical power from the panel before making the panel cutout.

Make sure that the area around the panel cutout is clear and that the panel is clean of any debris, oil, or other chemicals.

Make sure that metal cuttings do not enter any components that are already installed in the panel and that the edges of the cutout have no burrs or sharp edges.

Failure to follow these warnings can result in personal injury or damage to panel components.

1. Use the cutout dimensions on page 26 to cut an opening in the panel.

2. Verify that the sealing gasket is present on the terminal.

   This gasket forms a compression type seal. Do not use sealing compounds.

3. Insert and stabilize the terminal in the panel cutout.

   a. Insert levers in the top corner slots in the orientation that is shown in Figure 5 on page 30 and rotate the non-flat side of the levers toward panel.

   **TIP**  
   The mounting levers for PanelView 5510 terminals are black (catalog number 2711P-RMCP). Do not use gray mounting levers; they are not compatible with PanelView 5510 terminals.
b. Tilt the terminal toward the panel cutout and guide upward into the cutout. Make sure that the levers stay intact.

**TIP** The levers help prevent the terminal from falling out of the panel.

c. Pull the top of the terminal toward you to verify that the levers are still intact and the terminal is stabilized in the panel.

d. Insert the remaining levers in the slots by using the orientations in Figure 5 on page 30 that are correct for your terminal.

The direction that you rotate the levers varies for each terminal size.

4. Slide and rotate each lever to a notch that is one or two positions greater than the final lock position. Start with the first lever in the sequence.

For example, if the final lock position is 3, slide the lever to notch 4 or 5.

**TIP** To help position the levers and identify the final slot position, use the alignment marks or previous marks you made on the bezel.

a. See Table 13 on page 28 to get the final lock position of the levers.
b. See Figure 5 on page 30 to get the locking sequence.
c. Rotate each lever until its flat side comes in contact with the panel.
5. Adjust each lever to its final lock position shown in the same locking sequence in Figure 5 on page 30.
   a. Unlock lever one in the sequence by rotating it away from the bezel.

   ![Unlock Lever](image)

   b. With the lever positioned vertically to the slot, slide the lever to the final locking position in Table 13 on page 28.
   The outer notch of the lever aligns with the bezel indentation.

   c. Carefully rotate the lever back toward panel.

   **TIP** A broken lever does not damage the product.

   d. Lock the remaining levers to their final position.

6. Inspect all levers and make sure each is in the correct locked position.

   **ATTENTION:** All levers must be in the correct and same locked position to provide an adequate gasket seal between the terminal and the panel. Rockwell Automation assumes no responsibility for water or chemical damage to the terminal or other equipment within the enclosure because of improper installation.

   The notch on the outside of lever shows its locked position. These two views show levers that are locked in position 3.
Remove and Replace the DC Power Terminal Block

The PanelView 5510 terminal has a 3-pin terminal block for DC power connections. You can remove the terminal block for ease of installation, wiring, and maintenance.

**WARNING: Explosion Hazard**

If you connect or disconnect wiring while the power is on, an electric arc can occur, which can cause an explosion in hazardous location installations. Be sure that power is removed and the area is nonhazardous before proceeding.

Failure to remove power can result in electrical shock or damage to the terminal.

Use a 0.6 x 3.5 mm screwdriver for terminal block wiring.

**Table 14 - Wire Specifications for the Power Input Terminal Block**

<table>
<thead>
<tr>
<th>Wire Type</th>
<th>Dual-wire Size(1)</th>
<th>Single-wire Size</th>
<th>Strip Length</th>
<th>Screw Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stranded or solid Cu 90 °C (194 °F)</td>
<td>0.3…1.3 mm² (16…14 AWG)</td>
<td>0.3…2.1 mm² (22...14 AWG)</td>
<td>7 mm (0.28 in.)</td>
<td>0.4…0.5 N•m (3.5…4.4 lb-in)</td>
</tr>
</tbody>
</table>

(1) Two-wire maximum per terminal.

To remove the terminal block, follow these steps.

1. Loosen the two screws that secure the DC terminal block.

2. Gently pull the terminal block away from the connector.

To install the terminal block, follow these steps.

1. Reattach the terminal block to the connector until seated.

**ATTENTION:** Do not use excessive force to press the terminal block into position. The terminal blocks are keyed to fit the DC connector. If the terminal block does not fit into the connector, verify that you have the correct terminal block. See Table 5 on page 18.

2. Tighten the two screws that secure the terminal block to the connector.
Connect to DC Power

Terminals with a 24V DC power supply have these power ratings:

- 24V DC nominal (18...30V DC)
- 50 W maximum (2.1 A at 24V DC)

**ATTENTION:** The power supply is internally protected against reverse polarity. If you connect DC+ or DC- to the earth ground terminal, you can damage the terminal. If you connect AC power, or more than 30V DC, you can also damage the terminal.

Terminals with a DC power input require a safety extra low voltage (SELV) or protective extra low voltage (PELV) 24V DC power supply. Supported power supplies include catalog numbers 1606-XLP95E, 1606-XLP100E, or 2711P-RSACCDIN.

**ATTENTION:** Use a SELV or protected extra low voltage power supply as required by local wiring codes for your installation. The SELV and PELV power sources provide protection so that under normal and single fault conditions, the voltage between conductors and earth ground does not exceed a safe value.

You can power the terminal from the same power source as other equipment by using a DC power bus.

To connect the operator terminal to a DC power source, follow these steps.

1. Verify that the wiring is not connected to a power source.
2. Strip 7 mm (0.28 in.) of insulation from the ends of the wires.
3. Secure the DC power wires to the marked terminals (+ and −) on the terminal block.
4. Secure the functional earth (FE) ground wire to the GND terminal on the terminal block.
   
   Connect the GND terminal to a low-impedance FE ground.

**ATTENTION:** The FE ground connection to ground is mandatory. This connection is required for noise immunity, reliability, and Electromagnetic Compliance (EMC) with the European Union (EU) EMC Directive for CE marking conformance. This connection is required for safety by Underwriters Laboratory (UL).

5. Apply power to the operator terminal.
Connect to a Network

The two Ethernet ports connect to controllers on an EtherNet/IP™ network by standard Ethernet connections. These network topologies are supported:

- Device Level Ring Network Topology
- Linear Network Topology
- Star Network Topology

Each of these EtherNet/IP network topologies supports applications that use Integrated Motion over an EtherNet/IP network, if necessary.

**IMPORTANT** The terminal has dual-Ethernet ports but one device IP address.

**Ethernet Ports**

The Ethernet ports have two 10/100Base-T connectors for network communication and supports MDI/MDI-X connections and DLR network topology.

The terminal connects to an EtherNet/IP network by using a CAT5, CAT5E, or CAT6 twisted-pair, Ethernet cable with RJ45 connectors.

**IMPORTANT** To help prevent accidental disconnection of the Ethernet cable:

- To minimize vibration at the connector and help reduce the chance that personnel working inside the panel can accidentally disconnect the cable, secure the Ethernet cable to the connector.
- Do not install the Ethernet cable too tightly. To help prevent cable pull when the panel door is opened and closed, leave some slack in the cable.

The maximum cable length between the Ethernet ports and a 10/100Base-T port on an Ethernet switch (without repeaters or fiber) is 100 m (328 ft).

**WARNING:** In hazardous locations, do not connect or disconnect any communication cable with power that is applied to this device or any device on the network. An electric arc can cause an explosion in hazardous location installations. Before you proceed, make sure that the power is off or the area is nonhazardous.
Each Ethernet port has two indicators that provide the activity status.

### Table 15 - Ethernet Connector Pinout

<table>
<thead>
<tr>
<th>Connector</th>
<th>Pin</th>
<th>Pin Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>View of RJ45 Connector</td>
<td>1</td>
<td>TD+</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>TD-</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>RD+</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Unused</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Unused</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>RD-</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Unused</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Unused</td>
</tr>
<tr>
<td>Shield Connection</td>
<td></td>
<td>No direct connection (AC coupled to chassis GND)</td>
</tr>
</tbody>
</table>

### Table 16 - Ethernet Status Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Link Integrity</td>
<td>Green</td>
<td>On when a link is present.</td>
</tr>
<tr>
<td>Activity</td>
<td>Yellow</td>
<td>Blinks when activity is detected on Ethernet link.</td>
</tr>
</tbody>
</table>

**Device Level Ring Network Topology**

A Device Level Ring (DLR) network is a single-fault tolerant ring network that is intended for the interconnection of automation devices. This topology is also implemented at the device level. No additional switches are required.

**TIP**

A DLR network contains supervisor nodes and ring nodes. The PanelView 5510 terminal operates only as a ring node on the network.

When a fault occurs, the fault location is determined and the supervisor reconfigures the network to continue sending data on the network. Once the fault is corrected, the supervisor reconfigures the network to operate as a normal ring (versus a faulted ring).

For more information on DLR network topology, see EtherNet/IP Embedded Switch Technology Application Guide, publication ENET-AP005.
Linear Network Topology

A linear network topology is a collection of devices that are daisy-chained together across an EtherNet/IP network. Devices that can connect to a linear network topology use embedded switch technology to eliminate the need for a separate switch, as required in star network topologies.
Star Network Topology

A star network topology is a traditional EtherNet/IP network that includes multiple devices that are connected to each other via an Ethernet switch.

**Figure 8 - PanelView 5510 Terminal in a Star Topology Network**

![Star Network Topology Diagram]

**Initial Startup**

**IMPORTANT** You must configure the Ethernet settings and update the firmware before you can download a View Designer project and use the terminal. See [Update the Firmware Before You Use the Terminal on page 40](#).

If you attempt to configure the terminal settings without updating the firmware, the Settings menu shows an update firmware message at the bottom of the screen.

---

**Network**
- Configure Ethernet settings and view diagnostics.

**Display**
- Configure screen settings and calibrate touchscreen.

**HMI Device**
- Enable downloads, view diagnostics and reboot.

**Data Logs**
- Export data logs and view data logging status.

**Troubleshooting**
- Import custom profiles and export troubleshooting logs.

**Date and Time**
- Configure the date, time and time zone.

**Controllers**
- View path, mode and other diagnostics.

**Load from Media**
- Load an application to the HMI Device from removable media.

**VNC**
- Configure the VNC server and view the connection status.

⚠️ **Update firmware on HMI device using ControlFLASH**
Chapter 2  Install the PanelView 5510 Terminal

Update the Firmware Before You Use the Terminal

When power is turned on, the terminal goes through its startup sequence. The Welcome screen displays with a Configure the Ethernet Network button.

To configure the Ethernet settings and update the firmware, follow these steps.

1. Boot up the terminal.
   
   The Welcome dialog box displays.

2. Tap Configure the Ethernet Network.
   
   The Internet Protocol (IP) Settings dialog box displays.

3. Configure the IP settings for the terminal.
   
   - To obtain an IP address automatically, see Use DHCP to Assign an IP Address For the Terminal on page 51.
   
   - To configure IP settings manually, see Assign a Static IP Address For the Terminal on page 52.
4. Tap the Ethernet icon.

5. Configure the Ethernet ports for the terminal.
   See Configure the Ethernet Ports on page 54.

   ![Network Configuration](image)

6. Update the firmware by using the ControlFLASH™ software.
   Begin the update at Get the Terminal Firmware on page 94.

You can now download a View Designer application to the terminal. After the application is downloaded, the terminal resets then automatically launches the application.
Notes:
Configure Terminal Settings

Runtime Environment

During runtime, the PanelView™ 5510 terminal runs HMI projects. A project is configured and downloaded to your terminal from the View Designer application. The project launches each time the terminal restarts.

The terminal exchanges data values with the controller, animates the displayed data, and responds when you press keys or touch a screen or element on a screen.

During runtime, you can perform these tasks:

- Navigate screens and their graphic elements
- View and manage alarms
- View and perform operations on a trend chart
- Display error information
- Configure terminal settings and view diagnostic information
Here is an example of a screen in a project that is downloaded to the terminal.

<table>
<thead>
<tr>
<th>Item</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alarm status indicator button</td>
<td>Opens the Alarm Summary screen. A button on the screen turns red and flashes when there are active alarms that are unacknowledged. The button returns to its pictured default state with a gray icon when all alarms return to normal, even if alarms are unacknowledged.</td>
</tr>
<tr>
<td>2</td>
<td>Unacked (unacknowledged) number</td>
<td>Displays the number of unacknowledged alarms in the project, regardless of the inhibit state of the alarms.</td>
</tr>
<tr>
<td>3</td>
<td>Previous button</td>
<td>Opens the previous screen in the navigation history of the terminal.</td>
</tr>
<tr>
<td>4</td>
<td>Next button</td>
<td>Opens the next screen in the navigation history of the terminal. <strong>IMPORTANT:</strong> Using the Next button requires that a previous screen is first displayed.</td>
</tr>
<tr>
<td>5</td>
<td>Navigation button</td>
<td>Displays the navigation menu at the bottom of the screen. Use the Navigation menu to display shortcuts and folder contents.</td>
</tr>
<tr>
<td>6</td>
<td>Log On</td>
<td>Logs you on and off the project. The name of the logged-on user appears in the system banner. <strong>IMPORTANT:</strong> The logged-on user sees only the screens for which the user has access.</td>
</tr>
<tr>
<td>7</td>
<td>Data Log status</td>
<td>Appears only if a data log is configured for the project. Tap the icon to open the Data Log popup for status details.</td>
</tr>
<tr>
<td>8</td>
<td>Network status</td>
<td>Appears only if there is an issue with network communication. Tap the icon to open the Device Configuration Network popup for details about the issue.</td>
</tr>
<tr>
<td>8</td>
<td>Controller status</td>
<td>Appears only if there is an issue with the controller. Tap the icon to open the Controllers popup for details about the issue.</td>
</tr>
<tr>
<td>10</td>
<td>Time and date</td>
<td>Displays the current time and date.</td>
</tr>
<tr>
<td>11</td>
<td>System banner</td>
<td>Appears at the top of each screen in a project.</td>
</tr>
<tr>
<td>12</td>
<td>Project screen</td>
<td>Displays screens, shortcuts, and popups of a project that is created in the View Designer application.</td>
</tr>
<tr>
<td>13</td>
<td>Navigation menu</td>
<td>Displays menu items that you have access to when you are logged in. To display the navigation menu, press the Navigation button below the screen or in the system banner above the screen. You can tab to menu items to open the screens of the project. Tap a menu item to display that project in the screen. The navigation menu also provides access to the Settings menu for the terminal.</td>
</tr>
</tbody>
</table>
Enter Data With Virtual Keyboards

The virtual keyboard or virtual numeric keypad opens during runtime when text or numeric input is required.

- The virtual keyboard opens on the PanelView 5510 terminal screen when you tap a field or element that requires text or numeric input.
- The virtual numeric keypad opens on the PanelView 5510 terminal screen when you tap a field or element that requires only numeric input.

**Figure 9 - Virtual Keyboard**

**Table 17 - Virtual Keyboard Description**

<table>
<thead>
<tr>
<th>Item</th>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Text entry field</td>
<td>Tap the letters, numbers, and character keys to enter text into this field. The text entry field is always active when the keyboard is open.</td>
</tr>
<tr>
<td>2</td>
<td>Clear</td>
<td>Tap this button to remove all characters that are entered in the text entry field.</td>
</tr>
<tr>
<td>3</td>
<td>Backspace</td>
<td>Tap this key to delete one character to the left at a time.</td>
</tr>
<tr>
<td>4</td>
<td>éüç</td>
<td>Tap this key to toggle between Roman characters and alpha-European characters. Numeric keys are not part of the alpha-European keyboard.</td>
</tr>
<tr>
<td>5</td>
<td>Arrow keys</td>
<td>Tap the left arrow key to move the cursor one space to the left. Tap the right arrow key to move the cursor one space to the right.</td>
</tr>
<tr>
<td>6</td>
<td>Cancel</td>
<td>Tap Cancel to cancel the entry.</td>
</tr>
<tr>
<td>7</td>
<td>OK</td>
<td>Tap OK to complete the entry.</td>
</tr>
<tr>
<td>8</td>
<td>Space bar</td>
<td>Tap the space bar to enter a space in the text entry field.</td>
</tr>
</tbody>
</table>
| 9    | #? = ABC | Tap this key to toggle between symbols and alpha-numeric characters:
  - When in symbol mode, the key displays as ABC.
  - When in alpha-numeric mode, the key displays as #?. |
| 10   | Shift | Tap this key to toggle the keyboard between uppercase and lowercase letters. The keyboard returns to lowercase characters after one character has been entered. |
| 11   | Caps lock | Tap this key to toggle the keyboard between uppercase or lowercase letters. The keyboard remains in the selected state until you tap this key again. |
Specify Keypad or Keyboard Size

If you prefer to work with a larger-size keypad or keyboard, PanelView provides a larger size option.

To specify the keypad or keyboard size, following these steps.

1. In View Designer, select Project Properties.
2. In the Project Properties dialog box, select Application in the left panel.
3. In the Keypad and Keyboard Size section, select either Normal or Large.

Figure 11 provides a comparison between the Normal and Large size keypad. The larger size of both the keypad and keyboard gives you easier touch operation, which is useful if you use gloves during equipment operation.

**Figure 11 - Normal versus Large Keypad**
Chapter 3  Configure Terminal Settings

Log On to the Terminal

When you log on to the terminal, the screens that you have security access to appear as items in the navigation menu. For example, if you have been assigned the administrator role, all screens that have administrator access appear in the navigation menu.

**TIP**
- The Guest user is logged on automatically at system startup. Anyone who is not logged on to the system can view or access only those screens assigned the level of security that is given to the Guest user account.
- Screen security and user roles are assigned in Studio 5000 View Designer™ and cannot be modified on the PanelView 5510 terminal.

To log on to the terminal, follow these steps.

1. In the system banner at the top of the screen, tap Log On.
   
The Log On dialog box opens.

2. Tap the User Name field.
   
The virtual keyboard opens.

3. To enter your user name with no spaces, tap the keys.

4. Tap OK.

5. Tap the Password field.
   
The virtual keyboard opens.

6. To enter your password with no spaces, tap the keys.
   
   Passwords are case-sensitive.

7. Tap OK.

8. Tap Log On.
Configure Terminal Settings

Chapter 3

Log On of the Terminal

The Log On dialog box closes and your user name appears on the Log On button on the status banner.

**TIP**
- You can only be logged on as one user at a time.
- If you are already logged on to the terminal, you can log on as another user. Open the Log On dialog box, enter another user name and password, then tap Log On.

**Log Off of the Terminal**

When you log off, the following actions occur:
- The Guest user is logged in by default.
- If the Guest user has access to the current screen, the terminal continues to display the current screen.
- If the Guest user does not have access to the current screen, the Home screen for the project is displayed.

To log off the terminal, follow these steps.

1. In the status banner at the top of the screen, tap the Log On button that is showing your user name.
   The Log On dialog box opens.

2. Tap Log off.
   You are logged off the terminal.

**Settings Menu**

You can access configuration parameters and system-wide information for the terminal from the Navigation menu.

To open the Settings menu, follow these steps.

1. Press the navigation button on an application screen.
2. On the Settings screen, tab to the menu item and press Enter.

![Settings Screen](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Menu Topic</th>
<th>Tasks That You Can Perform</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Network</td>
<td>• Configure a static or dynamic device IP address</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Configure Ethernet Link 1 settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• View network diagnostics</td>
</tr>
<tr>
<td>2</td>
<td>Display</td>
<td>• Adjust the brightness of the display</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Enable or disable the screen saver</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Configure the screen saver settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Calibrate the touch screen</td>
</tr>
<tr>
<td>3</td>
<td>HMI Device</td>
<td>• Enable or disable downloads and firmware updates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Enter an HMI device name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• View the catalog number and current firmware revision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• View terminal diagnostic information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Restart the terminal</td>
</tr>
<tr>
<td>4</td>
<td>Data Logs</td>
<td>• Export data logs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Remove the SD™ or SDHC™ card safely</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• View data logging status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Export alarm history</td>
</tr>
<tr>
<td>5</td>
<td>Troubleshooting</td>
<td>• Select a default or imported profile for troubleshooting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Save the troubleshooting log to a USB drive or SD card for Rockwell Automation technical support</td>
</tr>
<tr>
<td>6</td>
<td>Date and Time</td>
<td>• Set the date and time on the terminal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Set the time zone on the terminal</td>
</tr>
<tr>
<td>7</td>
<td>Controllers</td>
<td>• View general information for the controller</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• View diagnostic information for the controller</td>
</tr>
<tr>
<td>8</td>
<td>Load from Media</td>
<td>• Load an application to the HMI device from removable media</td>
</tr>
<tr>
<td>9</td>
<td>VNC</td>
<td>• Configure the VNC server and view the connection status</td>
</tr>
<tr>
<td>10</td>
<td>Email</td>
<td>• Configure the terminal to send and receive email</td>
</tr>
</tbody>
</table>
Configure the IP Address of the Terminal

You can configure the IP address of the terminal to use the Dynamic Host Configuration Protocol (DHCP), or manually configure a static IP address. A project is downloaded to the terminal from the View Designer application through the IP address of the terminal.

**TIP** You cannot configure network IP addresses within the View Designer software.

Use DHCP to Assign an IP Address For the Terminal

In a DHCP configuration, the network assigns the IP address, subnet mask, and default gateway address fields.

To configure DHCP for the terminal, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Network.
3. Tap the Obtain IP settings automatically using DHCP radio button.
4. To close the window, tap X.
Assign a Static IP Address For the Terminal

To assign a static IP address for the terminal, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Network.
3. Tap the Manually configure IP settings radio button.

Follow these guidelines to assign the IP Settings Configuration.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP address</td>
<td>The range of values for the first set of numbers is 1…255. The range of values for last three sets of numbers is 0…255</td>
</tr>
<tr>
<td>Subnet mask</td>
<td>The subnet mask address must be identical to server subnet mask.</td>
</tr>
<tr>
<td>Gateway address</td>
<td>Optional address.</td>
</tr>
</tbody>
</table>

4. Tap the IP address field.
   The virtual keyboard opens.
5. To enter the IP address, use the virtual keyboard.
6. Tap OK to close the virtual keyboard.
7. Repeat steps 4…6 for the Subnet mask and the Gateway address fields.
8. To close the window, tap X.
Configure a DNS Address
For the Terminal

The domain name system (DNS) translates Internet domain and host names to IP addresses. DNS automatically converts a name that is typed in a web browser address bar to the IP addresses of web server that host that site. You can configure DNS addresses for common domain or host names.

**TIP**

You cannot configure DNS addresses within the View Designer software.

To configure a DNS address for the terminal, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Network.
3. Tap the Manually configure IP settings radio button.

Follow these guidelines to assign the DNS settings.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary DNS</td>
<td>The range of values for this address is 0…255</td>
</tr>
<tr>
<td>Secondary DNS</td>
<td>The range of values for this address is 0…255</td>
</tr>
<tr>
<td>Tertiary DNS</td>
<td>The range of values for this address is 0…255</td>
</tr>
</tbody>
</table>

4. Tap the Primary DNS field.
   
   The virtual keyboard opens.
5. To enter the DNS address, use the virtual keyboard.
6. Tap OK to close the virtual keyboard.
7. Repeat steps 4…6 for the Secondary DNS and the Tertiary DNS fields.
8. To close the window, tap X.
Configure the Ethernet Ports

You can configure the link speed and duplex mode for each of the Ethernet ports on the terminal. The ports are identified as Ethernet Link 1 and Ethernet Link 2.

To view or change the link settings of the Ethernet ports, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Network.
3. Tap the Ethernet icon.
4. Select the Ethernet options for your network configuration:
   - Tap the Enable Ethernet Link 1 or Enable Ethernet Link 2 check box to add or remove the check mark. The option is enabled when the box is checked.
   - To set the speed and duplex options that are based on the network connection, tap the Auto negotiate check box. The option is enabled when the box is checked.
5. To close the window, tap X.

TIP You cannot configure the Ethernet ports within the View Designer software.

IMPORTANT For DLR configurations, Ethernet Link 1 and Ethernet Link 2 must be enabled.

Network Ports

<table>
<thead>
<tr>
<th>Link 1</th>
<th>Link 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Network Ports" /></td>
<td><img src="image" alt="Network Ports" /></td>
</tr>
</tbody>
</table>
View the Network Diagnostics

From the Network Diagnostics screen, you can view Ethernet Link 1 and Ethernet Link 2 network connection data, network status data, and IP settings configuration data.

To view the Network Diagnostics screen, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Network.
3. Tap the network diagnostic icon.
4. Tap X to close the window.
Use the Data Export Feature

You can export a configured data log or alarm history from the terminal to removable media to view tag values collected on the terminal. The exported ZIP file contains individual CSV files for each data log in the project. You can then open the exported data log file on a personal computer to view the values in the data log.

To export a data log or alarm history to removable media, follow these steps.

1. Insert a USB storage device or SD card into the terminal.

   **IMPORTANT** Verify the following before you insert removable media into the terminal:
   - The format is FAT32 for the USB device or ext3 for the SD card
   - The media has write permissions and sufficient space

2. Press the navigation button on an application screen.


4. In the Export to file box, type a name for the export file.
   Datalog is the default name.

5. Under Destination, select the media type that you inserted.

6. Tap Export.
   A progress bar appears to show export progress, and a data log pop-up displays the date and time of the last exported data log.

7. If a SD card is used, verify the following before you remove the media:
   a. After the data export completes and the progress bar disappears, tap Safely Remove SD Card.
   b. Verify that the Data Logger status changes from Stopped to Remove SD card.
   c. You can safely remove the SD card.

8. To close the window, tap X.
Adjust the Brightness of the Display

You can adjust the brightness level of the terminal display in increments from 1…100%.

**TIP**  
Lower the brightness level to reduce the power that the backlight consumes, and extend the life of the backlight.

These tags can also be set to control backlight brightness level:

::Local:HMI Device Display BacklightIntensity
::Local:HMI Device Display ScreenSaverIntensity

To adjust the brightness of the display, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Display.
3. Tap the Brightness field.

The virtual numeric keypad opens.

4. Enter the value for the brightness in increments from 1…100%.
5. Tap OK.
6. To close the window, tap X.
Modify Screen Color Settings by Using HMI Device Tags

If you need to adjust the color of the PanelView 5000 LCD display, there are three HMI device tags available under the Display category:

- BlueAdjustment
- GreenAdjustment
- RedAdjustment

To use these tags, bind them to Numeric Input elements you put on your custom screen. The default value for each color is 50. To make the color more or less pronounced, enter higher or lower values using your Numeric Inputs.

Configure the Display Screen Saver

The screen saver extends the life of the back light by dimming the brightness level when activity is not sensed for a specified amount of time. When the screen saver is activated, the terminal displays a moving image at a reduced brightness level. When user input is sensed, the screen saver is deactivated and the display brightness returns to its configured level.

TIP

After the screen saver is deactivated, touch or keypad input is ignored for at least 0.5 seconds.

To configure the brightness and screen saver for the display, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Display.
3. To add or remove the check mark next to Turn on Screen Saver, tap the check box. 
   The option is enabled when the box is checked.

4. Tap the Wait field. 
   The virtual numeric keyboard opens.

5. Enter the number of continuous, idle minutes from 1...5999 to wait before activating the screen saver. 
   The default is 10 minutes.

6. Tap OK.

7. Tap the Brightness (%) field. 
   The virtual numeric keyboard opens.

8. Enter the value for the brightness in increments from 1...100%.

9. Tap OK.

10. To close the window, tap X.
Calibrate the Touch Screen

The touch screen is calibrated at the factory. After installation, you can recalibrate the touch screen to compensate for parallax if the screen is viewed at an angle.

The calibration process requires you to touch a series of targets on the screen.

**IMPORTANT** For accuracy and to prevent damage to the touch screen, use a plastic stylus device with a minimum tip radius of 1.3 mm (0.051 in.).

To calibrate the touch screen, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Display.

3. Tap Calibrate Touch.

   A red target appears on the screen.

4. Press and hold the center of the target until the target completes the circle.

   The next target appears.

   **TIP** Touch inside the target areas before the progress indicator completes a circle.

5. Continue to press and hold the centers of all remaining targets as they appear.

   All processed targets are replaced with white targets.
A green circle with a check indicates a successful calibration.

A red circle with an X indicates a failed calibration.

If the calibration fails, the process automatically repeats. Continue the calibration until the calibration is successful.

**TIP** The calibration is retained after a reset or power cycle.
As a security measure, you can disable downloads to the terminal, including application downloads and firmware updates. Disable downloads to prevent the current application from being replaced when an application is downloaded from the View Designer application.

To disable downloads to the terminal, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap HMI Device.
3. Tap the Allow Downloads and Firmware Updates check box to clear the check box.
   - Downloads are not permitted when the check box is cleared.
   - Downloads are permitted when the check box is checked.
4. To close the window, tap X.

While this setting is unchecked, you cannot download another application to the terminal or update the terminal firmware.

Attempts to download an application from the View Designer application results in an error.
Change the HMI Device Name

Each terminal has a unique default HMI device name that identifies it to other devices on the network. You can view or change this name.

To view or change the HMI device name, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap HMI Device.

![HMI Device settings screen]

The HMI device name field shows the current name.

3. Tap the HMI device name field.

   The virtual keyboard opens.

4. To enter or modify the current name, tap the virtual keyboard keys.

   **TIP**
   - You can enter up to 15 characters including letters, numbers, and hyphens.
   - The first character of the terminal name must be an upper or lowercase letter.

5. Tap OK.
6. To close the window, tap X.
View the Firmware Revision

You can view the current firmware revision on the terminal. You need this information for firmware updates, or when you call technical support.

To view the firmware revision, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap HMI Device.

![HMI Device Screen]

View the firmware revision under Product Information.

3. To close the window, tap X.
Display Terminal Diagnostics

To view the diagnostic data for the terminal, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap HMI Device.

3. View the information under Diagnostics.

<table>
<thead>
<tr>
<th>Diagnostic Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU utilization</td>
<td>The processor usage.</td>
</tr>
<tr>
<td>Total power on time</td>
<td>The total time the terminal has been running (powered).</td>
</tr>
</tbody>
</table>
| CPU temperature      | Displays the current temperature of the CPU:  
|                      | • Normal: 25…94 °C (77…201 °F)  
|                      | • High: 100 °C (212 °F) and higher  
|                      | An over-temperature condition of 105…110 °C (221…230 °F) causes a delayed automatic system restart. The restarts continue indefinitely until the system is cool enough to resume normal operation. |
| Last reboot          | Displays the date and time for the most recent reboot of the terminal. |
| Last deploy          | Displays the date and time of the most recent project application download. |
| Memory used (RAM)    | The total RAM memory that is in use. |
| Memory free (RAM)    | The total RAM memory that is remaining. |
| Memory used (Flash)  | The total nonvolatile memory that is in use. |
| Memory free (Flash)  | The total nonvolatile memory that is remaining. |
| Battery state        | • Normal  
|                      | • Low  
|                      | • Depleted |

4. To close the window, tap X.
Enable the VNC Server

You can enable VNC to connect remotely to a PanelView 5510 terminal. Use the Remote Connectivity screen to enable or disable the VNC server.

To enable or disable a VNC connection, follow these steps.

1. Press the navigation button on an application screen.
2. On the Settings screen, tap VNC.

3. Select an access:
   - **Disabled**: Disables the VNC server
   - **Enabled with view-only access**: You can only view content on the HMI device
   - **Enabled with full-control access**: You can view content and interact with the HMI device

   **TIP** A warning displays with full-control access that the full-control connection is unprotected.

4. To close the window, tap X.
Load an Application from Removable Media

You can load a runtime application from removable media to the HMI device. For PanelView terminals with firmware version 6.0 or higher, if you load a runtime application and it requires a different firmware version than the version on the PanelView terminal, the Load from Media procedure updates the firmware.

To load a runtime application from removable media, follow these steps.

1. Insert a USB storage device or SD card with the runtime application into the HMI device.

   **IMPORTANT** Verify the following before you insert removable media into the terminal:
   - The format is FAT32 for the USB device or ext3 for the SD card
   - The media has write permissions and sufficient space

2. Press the navigation button on an application screen.

3. On the Settings screen, tap Load from Media.

4. Select the appropriate source.

5. From the Runtime application files panel, select the runtime application to load.

6. The application appears in the box underneath the Runtime application files panel.

7. Tap Next.

8. Under HMI to controller path, specify the path to use to load the runtime application:
   - **Keep path currently in use on HMI device**: Use the controller path currently used on the HMI device; the current HMI to controller path appears
   - **Load path defined in the runtime application file**: Use the controller path configured in the runtime application on the removable media
Chapter 3  Configure Terminal Settings

Note: To allow Load from Media to install a new revision of firmware on the PanelView 5000, copy the firmware .dmk file to the root directory of the SD card or USB drive. The firmware major revision must match the major revision of View Designer used to create the .vpdr project. Firmware .dmk files are usually a part of the Studio 5000 install located at:

C:\Users\Public\Documents\Rockwell Automation\Firmware Kits.


The HMI device performs a firmware update if needed and then loads and runs the runtime application.

The Home screen of the runtime application opens on the HMI device.

10. To close the window, tap X.

### Reboot the Terminal

To reboot the terminal, follow these steps.

1. Press the navigation button on the terminal.

2. On the Settings screen, tap HMI Device.

3. Tap Reboot.

   You are prompted to confirm the reboot.

4. To reboot the terminal, tap Yes.

   If you tap Yes to reboot the terminal, it restarts and displays the project that is downloaded to the terminal.

   To cancel, tap No, and then tap X to close the window.
**Change the Date and Time**

You can change the date and time that is used for terminal operations. The date and time is displayed on the terminal screen and recorded in log files. You can also change the time zone for the terminal.

To change the date and time that is used for terminal operations, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Date and Time.
3. Change the Date and Time fields as appropriate.
   a. Tap a Date or Time field.
      The virtual keyboard opens.
   b. Enter a value and tap OK.
4. Change the time zone, if desired.
   a. To move up and down the list, press and drag the scroll bar (or press and hold an arrow button).
      Or tab to the list and use the arrows keys on the physical keypad of the terminal.
   b. Tap the time zone for the terminal.
      The time on the terminal is adjusted to match the selected time zone.
5. To close the window, tap X.

**Date and Time Parameters Valid Values**

<table>
<thead>
<tr>
<th>Date and Time Parameters</th>
<th>Valid Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: MM/DD/YYYY (Year, Month, Day)</td>
<td>Year: Up to 2999</td>
</tr>
<tr>
<td>Time: HH:MM:SS (24-hour format)</td>
<td>Hour: 0…23</td>
</tr>
<tr>
<td></td>
<td>Minute: 0…60</td>
</tr>
<tr>
<td></td>
<td>Second: 0…60</td>
</tr>
</tbody>
</table>
View Information for the Configured Controller

You can view general information for the controller that is configured to operate with the terminal.

To view the general information for the controller, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Controllers.

The general information for the controller includes these data.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Name</td>
<td>The name of the controller reference that is configured in the View Designer application. The name does not appear if a controller is not configured for the project.</td>
</tr>
<tr>
<td>Controller Name</td>
<td>The name of the controller that is configured in the Logix Designer application. The name does not appear if a controller is not configured for the project.</td>
</tr>
<tr>
<td>Path</td>
<td>The communication path for the controller. The path does not appear if a controller is not configured for the project.</td>
</tr>
<tr>
<td>Catalog</td>
<td>The Catalog number of the controller. The catalog number does not appear if the controller is disconnected from the network.</td>
</tr>
<tr>
<td>Firmware</td>
<td>The major and minor revision numbers for the firmware in the controller. The firmware revision numbers do not appear if the controller is disconnected from the network.</td>
</tr>
<tr>
<td>Tag information</td>
<td>The synchronization state to process changes from the controller. For example, the state can be Synchronized, Updating, or Detecting changes. Some tag information cannot appear if the controller tag information is not synchronized (UNINITIATED).</td>
</tr>
<tr>
<td>Mode</td>
<td>The operating mode of the controller. For example, the mode can be Run, Program, or Fault. The mode does not appear if the controller is disconnected from the network.</td>
</tr>
</tbody>
</table>
The diagnostic information for the controller includes the following data.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active data items</td>
<td>The number of data items on scan for the controller.</td>
</tr>
<tr>
<td>Failed data items</td>
<td>The number of failed data items on scan for the controller.</td>
</tr>
<tr>
<td>Number optimized blocks</td>
<td>The numeric of optimized data blocks on scan for the controller.</td>
</tr>
<tr>
<td>Controller Responses</td>
<td>The number of responses received from the controller.</td>
</tr>
</tbody>
</table>

The connection information for the controller includes the following data.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIBC (I/O)</td>
<td>The number of Class 1 Common Industrial Protocol (CIP) connections to the controller.</td>
</tr>
<tr>
<td>Alarm</td>
<td>The number of alarm CIP connections to the controller.</td>
</tr>
<tr>
<td>Data</td>
<td>The number of Class 3 CIP connections to the controller.</td>
</tr>
</tbody>
</table>

3. To close the window, tap X.
Notes:
Monitor and Manage Control System Alarms

### Alarm Indicator

The Unacked icon in the system banner displays the number of unacknowledged alarms for the system.

Tap 📣 to open the alarm summary and view the system alarms.
Alarm Help Menu

To view a brief description of the alarm function keys and status counts, follow these steps.

1. Open the Alarm Summary (page 76) or Alarm Manager (page 77) screen.

2. Tap 

   The Help window displays a brief description of the alarm function keys and status counts.

3. Tap X to close the window.

See Table 19 for a detailed description of the alarm function keys and alarm status counts.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Function Key or Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Acknowledge" /></td>
<td>Acknowledge</td>
<td>Indicates that you are aware of the alarm. This button changes the state of the alarm from unacknowledged to acknowledged.</td>
</tr>
<tr>
<td><img src="image" alt="Alarm Manager" /></td>
<td>Alarm Manager</td>
<td>Opens the alarm manager screen. The alarm manager lists all alarms that are configured in the system and their current states. Therefore, the alarm manager shows alarms that are not shown in the alarm summary, and provides additional tasks for alarms.</td>
</tr>
<tr>
<td><img src="image" alt="Back" /></td>
<td>Back</td>
<td>Opens the previously displayed screen. When you open the alarm manager screen from the alarm summary screen, this button reopens the alarm summary screen.</td>
</tr>
<tr>
<td><img src="image" alt="Deselect All" /></td>
<td>Deselect All</td>
<td>Deselects all alarms in the alarm table, including the alarms that are not displayed on the current page of alarms.</td>
</tr>
<tr>
<td><img src="image" alt="Details" /></td>
<td>Details</td>
<td>Hides or shows the details pane, which contains the details of the last selected alarm. The details pane appears on the bottom half of large alarm tables and replaces the list of alarms in medium alarm tables. If no alarm is selected, the details pane is empty.</td>
</tr>
<tr>
<td><img src="image" alt="Disable" /></td>
<td>Disable</td>
<td>Stops the alarm condition from being evaluated. In effect, turns off the selected alarm. You can only disable an entire alarm. You cannot disable an individual alarm condition.</td>
</tr>
</tbody>
</table>
Enable Enables the selected alarms in the alarm manager table, which allows the alarm condition to be evaluated, which turns on the alarm. An enabled alarm enables all conditions for that alarm. You cannot enable an individual alarm condition.

Faulted Provides a count of the alarms in a faulted state.

Help Provides a description of the help buttons and alarm status.

In Alarm, Acked (acknowledged) Provides a count of the alarms in an acknowledged state.

In Alarm, Unacked (unacknowledged) Provides a count of the alarms in an unacknowledged state.

Normal, Unacked Provides a count of the alarms where the input of the alarm has returned to normal, but the alarm has not yet been acknowledged.

Pause Stops updates to the alarm summary table for 10 seconds, or until another operation is performed on the table. While updates to the alarm summary table are paused, alarms in the controller are still evaluated. When the table is no longer paused, any changes to alarm states are reflected in the table and updates resume.

Reset Counts Resets the alarm count in the controller and the alarm count value in the details pane of the alarm manager table to zero. The reset is performed for all conditions of the currently selected alarm.

Reset Latched Sets the selected digital latched state of the alarm to normal if the input of the alarm has returned to normal. A reset of a digital latched alarm acknowledges the alarm, if it is not acknowledged.

Select All Selects all alarms in the alarm table, including the alarms that are not displayed on the current page of alarms.

Select Page Selects all alarms that are displayed on the current page of alarms.

Shelve Helps prevents the notification of new state changes to the selected alarm if the alarm is acknowledged. Updates to the alarm do not appear. The alarm remains shelved until the shelf duration from the controller expires automatically or you unshelve the alarm manually. Updates to the alarm then resume. When you shelve an alarm in the alarm summary table, you shelve only the selected alarm conditions. When you shelve an alarm in the alarm manager table, you shelve all conditions of the alarm. From the condition list in the details pane of the alarm manager table, you can also shelve individual alarm conditions.

Unshelve Unshelves the selected alarm in the alarm manager table, which allows notification of new state changes to alarms. From the condition list in the details pane of the alarm manager table, unshelve individual alarm conditions.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Function Key or Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enable</td>
<td>Enables the selected alarms in the alarm manager table, which allows the alarm condition to be evaluated, which turns on the alarm. An enabled alarm enables all conditions for that alarm. You cannot enable an individual alarm condition.</td>
</tr>
<tr>
<td></td>
<td>Faulted</td>
<td>Provides a count of the alarms in a faulted state.</td>
</tr>
<tr>
<td></td>
<td>Help</td>
<td>Provides a description of the help buttons and alarm status.</td>
</tr>
<tr>
<td></td>
<td>In Alarm, Acked (acknowledged)</td>
<td>Provides a count of the alarms in an acknowledged state.</td>
</tr>
<tr>
<td></td>
<td>In Alarm, Unacked (unacknowledged)</td>
<td>Provides a count of the alarms in an unacknowledged state.</td>
</tr>
<tr>
<td></td>
<td>Normal, Unacked</td>
<td>Provides a count of the alarms where the input of the alarm has returned to normal, but the alarm has not yet been acknowledged.</td>
</tr>
<tr>
<td></td>
<td>Pause</td>
<td>Stops updates to the alarm summary table for 10 seconds, or until another operation is performed on the table. While updates to the alarm summary table are paused, alarms in the controller are still evaluated. When the table is no longer paused, any changes to alarm states are reflected in the table and updates resume.</td>
</tr>
<tr>
<td></td>
<td>Reset Counts</td>
<td>Resets the alarm count in the controller and the alarm count value in the details pane of the alarm manager table to zero. The reset is performed for all conditions of the currently selected alarm.</td>
</tr>
<tr>
<td></td>
<td>Reset Latched</td>
<td>Sets the selected digital latched state of the alarm to normal if the input of the alarm has returned to normal. A reset of a digital latched alarm acknowledges the alarm, if it is not acknowledged.</td>
</tr>
<tr>
<td></td>
<td>Select All</td>
<td>Selects all alarms in the alarm table, including the alarms that are not displayed on the current page of alarms.</td>
</tr>
<tr>
<td></td>
<td>Select Page</td>
<td>Selects all alarms that are displayed on the current page of alarms.</td>
</tr>
<tr>
<td></td>
<td>Shelve</td>
<td>Helps prevents the notification of new state changes to the selected alarm if the alarm is acknowledged. Updates to the alarm do not appear. The alarm remains shelved until the shelf duration from the controller expires automatically or you unshelve the alarm manually. Updates to the alarm then resume. When you shelve an alarm in the alarm summary table, you shelve only the selected alarm conditions. When you shelve an alarm in the alarm manager table, you shelve all conditions of the alarm. From the condition list in the details pane of the alarm manager table, you can also shelve individual alarm conditions.</td>
</tr>
<tr>
<td></td>
<td>Unshelve</td>
<td>Unshelves the selected alarm in the alarm manager table, which allows notification of new state changes to alarms. From the condition list in the details pane of the alarm manager table, unshelve individual alarm conditions.</td>
</tr>
</tbody>
</table>
View the Alarm Summary

The alarm summary lists alarms that are in alarm or out of alarm but still unacknowledged. It displays one alarm condition per row. Use the alarm summary to monitor and interact with alarms.

To view the alarm summary for the control system, follow these steps.

1. Press the navigation button on the terminal.

![Image](image1.png)

2. Tap Alarm Summary, or tap to the menu item and press Enter.

![Image](image2.png)

3. Tap the alarm function keys to view the alarms.

   See Alarm Help Menu on page 74 for a description of the keys.

4. To return to the navigation menu, tap the navigation button on the terminal.

5. To return to the application screens, tap an application icon.
Manage the Alarms

The Alarm Manager lists all alarms that are configured in a system and their current states.

To manage the alarms for the control system, follow these steps.

1. Press the navigation button on the terminal.

2. Tap Alarm Manager, or tab to the menu item and press Enter.

3. Tap the alarm function keys to manage the alarms.

   See Alarm Help Menu on page 74 for a description of the keys.

4. Tap the alarm function keys to manage the alarms.

5. To return to the navigation menu, tap the navigation button on the terminal.

6. To return to the application screens, tap an application icon.
Alarm Detail Pane Descriptions

The details pane shows details for the selected alarm condition of a selected alarm. Condition details display the selected alarm condition in the alarm manager table.

To view the details pane for a selected alarm, follow these steps.

1. Open the Alarm Summary (page 76) or Alarm Manager (page 77) screen.
2. Tap

The details pane displays a list of alarm states and conditions.

<table>
<thead>
<tr>
<th>Alarm Detail</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledge Time</td>
<td>The time the selected alarm was acknowledged.</td>
</tr>
<tr>
<td>Alarm Class</td>
<td>The user-defined class that is assigned to the alarm in the Studio 5000 Logix Designer project.</td>
</tr>
<tr>
<td>Alarm Count</td>
<td>The number of times the alarm condition has entered the In Alarm state.</td>
</tr>
<tr>
<td>Alarm State</td>
<td>The state of the alarm condition:</td>
</tr>
<tr>
<td></td>
<td>- Normal Unacknowledged (Normal, Unacked)</td>
</tr>
<tr>
<td></td>
<td>- In Alarm Acknowledged (In Alarm, Acked)</td>
</tr>
<tr>
<td></td>
<td>- In Alarm Unacknowledged (In Alarm, Unacked)</td>
</tr>
<tr>
<td></td>
<td>- Normal Acknowledged (Acknowledge)</td>
</tr>
<tr>
<td>Condition</td>
<td>- Analog conditions include: HIHI, HI, LO, LOLO, ROC_POS, and ROC_NEG</td>
</tr>
<tr>
<td></td>
<td>- Discrete conditions include: TRIP and TRIP_L</td>
</tr>
<tr>
<td>Current Value</td>
<td>The current tag input value that results in the alarm state.</td>
</tr>
<tr>
<td>Disable Time</td>
<td>The time the selected alarm was disabled.</td>
</tr>
<tr>
<td>Enable Time</td>
<td>The time the selected alarm was enabled.</td>
</tr>
</tbody>
</table>
## Table 20 - Alarm Detail Descriptions (Continued)

<table>
<thead>
<tr>
<th>Alarm Detail</th>
<th>Description</th>
</tr>
</thead>
</table>
| Event Category     | - Digital events are categorized as discrete.  
                     - Analog events are categorized as level. |
| Event Time         | The date and time the alarm event occurred. |
| In Alarm Time       | The time the selected alarm entered the In Alarm state. |
| Inhibit State      | The value that is applied to the alarm condition that inhibits the alarm at some level. These states, indicated by an icon in the alarm table, include:  
                     - Bad Quality  
                     - Disabled  
                     - Suppressed  
                     - Shelved  
                     These states can be combined. When an alarm has multiple inhibit states that are applied, the icon of the highest inhibit state appears in the table. |
| Limit Value Exceeded | The condition limit that is assigned to the alarm in the Studio 5000 Logix Designer project. |
| Max Shelve Duration | The maximum time the alarm can be shelved. |
| Message            | The message that is assigned to the alarm in the Studio 5000 Logix Designer project. |
| Name               | The name of the alarm. This name includes the controller name of the alarm and the tag name. It can also include the name of the program if the tag is defined at the program level. Therefore, the alarm name can be configured in these configurations:  
                     ::ControllerName.TagName  
                     Or  
                     ::ControllerName.ProgramName.TagName  
| Out of Alarm Time   | The time the selected alarm entered the Normal or Inactive state. |
| Priority           | The urgency of the alarm condition:  
                     - Low  
                     - Medium  
                     - High  
                     - Urgent |
| Quality            | The list of reasons why the alarm is of bad quality. This field is blank in the alarm summary because the alarm summary does not show bad quality alarms. |
| Severity           | The numeric value that is mapped to the assigned priority of the alarm condition:  
                     - 1…250 (low)  
                     - 251…500 (medium)  
                     - 501…750 (high)  
                     - 751…1000 (urgent) |
| Shelve Duration     | The default time for which the selected alarm condition is shelved to prevent the notification of new state changes. Shelve duration is assigned to the alarm in the Studio 5000 Logix Designer project. |
| Shelve Time         | The time the selected alarm was shelved. |
| Suppress Time       | The time the selected alarm was suppressed. |
| Tag 1 Value         | The value of the associated tag parameter 1. |
| Tag 2 Value         | The value of the associated tag parameter 2. |
| Tag 3 Value         | The value of the associated tag parameter 3. |
| Tag 4 Value         | The value of the associated tag parameter 4. |
| Unshelve Time       | The time the selected alarm was unshelved. If the alarm is shelved, this time is the time that the alarm is unshelved automatically when the shelve duration expires. |
| Uns suppress Time   | The time the selected alarm was unsuppressed. |
Filter the Alarms

You can filter the alarms to view only the alarms in the selected alarm state.

**TIP** Filters are defined for the alarm summary, alarm manager, and alarm history viewer in View Designer.

To filter the alarms, follow these steps.

1. Tap the filter pull-down arrow.

2. Tap the up or down arrows on the scroll bar to scroll through the filter choices.

3. Tap the alarm filter that you want to use.
The selected filter displays in the filter pull-down menu.

To change the filter, tap the filter pull-down menu and select another filter. To turn off the filter, tap No Filter.
View the Alarm History

The PanelView 5310 terminal stores up to 40,000 alarms. The Alarm History Viewer lets you view the alarm history at runtime. You can sort columns, filter by alarm attributes and by time, and view a details pane to see more information about a selected alarm record. The viewer supports both tag-based and instruction-based Logix alarms.

To view the alarm history, follow these steps:

1. On an application screen, press .
2. Tap , and press Enter.

The Alarm History Viewer displays the alarm history.

3. To change the way information is presented, you can sort columns by clicking on the column header or select filters by following the instructions in Filter the Alarms on page 80.

Export the Alarm History

You can export the alarm history to an SD card or USB drive. The alarm history is exported as a zipped .CSV file that can be opened and analyzed in Excel.

To export the alarm history, follow these steps:

1. Insert a USB device or an SD card into the PanelView terminal.
2. Navigate to the Settings screen.
3. Click Data Export.
4. In the Data Export dialog box, do the following:
   a. Select Alarm history.
   b. In the File name field, type a name for the file to be exported.
c. Select either USB Device or SD Card.
d. Click Export.

![Data Export dialog box]

The alarm history is saved as a .zip file containing a .csv file. The .csv file can be opened in Excel for further analysis.
Chapter 5

Install and Replace Components

<table>
<thead>
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<th>Topic</th>
<th>Page</th>
</tr>
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<tbody>
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</tr>
<tr>
<td>Voltage Precautions</td>
<td>85</td>
</tr>
<tr>
<td>Electrostatic Discharge Precautions</td>
<td>86</td>
</tr>
<tr>
<td>Connect to USB Ports</td>
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<td>Insert an SD Card</td>
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<td>Replace the Battery</td>
<td>88</td>
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<tr>
<td>Install a Protective Overlay</td>
<td>90</td>
</tr>
</tbody>
</table>

Accessories and Replacement Parts

You can view a list of accessories and replacement parts in Table 4 through Table 8 in Chapter 1.

Review the specifications of a new component before you install it to verify that it is compatible with the terminal. Record the model, serial number, and any other pertinent information of new components for future reference.

**IMPORTANT**

We recommend that you use only Allen-Bradley® approved accessories and replacement parts.

Voltage Precautions

The terminals contain line voltages. Disconnect all power to the terminal before you install or remove components.

**SHOCK HAZARD:** Disconnect all power to the terminal before you remove components.

Failure to disconnect power can result in severe electrical shock to an individual or damage to the terminal.
Electrostatic Discharge Precautions

ATTENTION: Electrostatic discharge (ESD) can damage static-sensitive devices or microcircuitry.

- Disconnect all power before you work on the terminal as detailed in Voltage Precautions on page 85.
- Observe proper packaging and grounding techniques to help prevent damage.

Follow these ESD precautions when you handle this terminal:

- Touch a grounded object to discharge potential static.
- Use an anti-static wriststrap connected to the work surface.
- Use properly grounded tools and equipment.
- Avoid touching pins, leads, or circuitry.
- Always hold components with a printed circuit board (PCB) by its edges and place it with the assembly side down.

Connect to USB Ports

The terminals have two USB 2.0 (type A) host ports and one USB (type B) device port, the latter which currently is not functional. The two USB host connections can be used with an external keyboard, external mouse, and removable USB drives during runtime operations, and are intended for temporary use.

IMPORTANT: See Required Circuit Port Parameters for USB Peripheral Devices on page 24 for information on the USB host ports and USB peripheral devices in hazardous locations.

Table 21 - USB Connector Pinout

<table>
<thead>
<tr>
<th>USB Port</th>
<th>USB Icon</th>
<th>USB Connector</th>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host (type A)</td>
<td>![USB Icon]</td>
<td>![USB Connector]</td>
<td>1</td>
<td>VCC</td>
<td>+5V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>D-</td>
<td>Data -</td>
</tr>
</tbody>
</table>

Device (type B)

IMPORTANT: This port is not functional. The port is expected to be available in a future software release.

|   | ![Warning Icon] |   | 3 | D+   | Data +                   |
|   | ![Warning Icon] |   | 4 | GND  | Ground                   |

Icons identify the USB host connections. The USB host connection supports 0.5A at 5V DC. Connected USB devices must not exceed this power load.
ATTENTION: USB devices that are not powered by the USB port must adhere to the following:

- The USB device must be within the same enclosure as the terminal.
- The USB device must be connected to a ground system common with the terminal or used with a USB hub that provides galvanic isolation.
- The USB device port is not for runtime operation.

Connect only externally powered USB hubs to the terminal that are USB 2.0 compatible. Before you attach devices to a USB hub, make sure that the power adapter is connected and powered on.

USB Cables

Use only high-speed, USB 2.0 certified cables for error-free transmissions.

IMPORTANT The terminals have not been tested with USB 3.0 cables. We recommend only the use of USB 2.0 certified cables.

Insert an SD Card

Only use a SD™ or SDHC™ card to load troubleshooting profiles and to save troubleshooting logs. For a list of cards recommended by Rockwell Automation, see Table 6 on page 18. The SD cards are hot-swappable; they can be inserted and removed while the terminal is powered on and in use.

WARNING: Explosion Hazard

In hazardous location installations, if you remove or insert an SD card while the power is on, an electric arc can occur. An electric arc can cause an explosion in hazardous location installations. If the terminal is installed in a hazardous location, do not remove and insert the SD card unless power has been removed or the area is known to be nonhazardous.

The SD card slot is accessible from the inside or back of the panel when the operator terminal is installed.

To install an SD card in the card slot, follow these steps.

1. Verify that the SD card is locked or unlocked according to your preference.
   - If unlocked, the terminal can write data to or read data from the card.
   - If locked, the terminal can only read data from the card.
2. Insert the SD card firmly into the slot until you hear a click.

When you hear the click, the card has locked into place.

To remove the card, push the card in slightly to unlock the SD card so you can remove it from the slot.

Replace the Battery

The product has a lithium battery that provides back-up power for the real-time clock. The battery can be replaced while the product is mounted in the panel. You need a #1 Phillips screwdriver (#1 Phillips bit) to remove the logic module and access the battery.

ATTENTION: Orient the SD card correctly before you insert it into the slot. If you force the card into the slot, you can damage the card or the terminal.

WARNING: There is a danger of explosion if the lithium battery in this product is incorrectly replaced. Do not replace the battery unless power has been removed and the area is known to be nonhazardous.

Replace the battery only with catalog number 2711P-RY2032 or an equivalent CR2032 coin-cell battery.

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

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.

Perchlorate material – special handling apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

This perchlorate warning only applies to primary Lithium Manganese Dioxide (LiMnO$_2$) cells or batteries, and products containing these cells or batteries, sold or distributed in California, USA.
To replace the battery, follow these steps.

1. Disconnect power from the terminal.
2. Loosen the screws that secure the logic module to the back of the display.

3. Carefully lift the logic module away from the display module and turn over to expose the circuit board.
4. Locate the coin-cell battery on the circuit board.

5. Remove the battery by lifting on the side of the battery.
6. Insert the new battery so the positive (+) polarity faces up.

**SHOCK HAZARD:** This equipment is sensitive to electrostatic discharge (ESD).

Follow ESD prevention guidelines when handling this equipment.
7. Reattach the logic module by aligning the connector on the bottom of the logic module with the connector on the back of the display module.

8. Push down on the logic module and make sure that it is fully seated.

9. Tighten the screws to a torque of 0.68...0.90 N•m (6...8 lb•in).

Install a Protective Overlay

The overlay protects the touch screen and keys from scratches, dust, fingerprints, and external damage from chemicals or abrasive materials. See Table 4 on page 17 for a list of available overlays.

The protective overlay covers the entire surface of the terminal bezel inside the aluminum perimeter. The overlay has a protective liner that is removed by pulling back on a tab. Do not remove the liner until you are ready to install the overlay.

**IMPORTANT** Follow these guidelines when installing the overlay:

- Make sure that your hands are clean and dry.
- Handle the overlay by its edges to prevent fingerprints or lint. If you do get marks or lint on the overlay, remove them before proceeding.
- Do not touch the adhesive ring.

Before installing the overlay, clean the touch screen and keys, if present, by using a lint-free cloth and a mild glass cleaner. Remove all fingerprints, grease, or dust. Marks that are not removed get trapped underneath the overlay. Grease also affects the adhesion of the overlay.
To apply the protective overlay, follow these steps.

1. Pull the tab from one of the short sides and partially peel the liner away from adhesive layer.

Hold the peeled back portion of the protective liner out of the way as you perform the next step.

2. Center the overlay over the bezel and carefully position the adhesive surface on the terminal.
   
   While the protective liner is still covering the rest of the overlay, verify that it is properly centered.

3. Slowly peel off the rest of the liner while using a soft cloth to press the overlay on the screen.
   
   Make sure that the overlay lies flat with no bubbles or warps.

4. With a soft cloth or finger, press around the edges of the overlay to seal it, and remove any air bubbles trapped in the adhesive.

**Clean the Overlay**

Clean the overlay by using a clean, lint-free cloth, and a mild glass cleaner that leaves no streaks. Window or eye glass cleaner is recommended. Avoid cleaners that contain abrasives.

**Remove the Overlay**

Remove the overlay if it is damaged or needs replacement. Lift a corner and slowly pull off the overlay. Use isopropyl alcohol to remove any residual adhesive. Do not reuse the overlay.
Notes:
Update Firmware

Before You Begin

Perform these tasks to prepare for the update:

- Verify that RSLinx® Classic is configured with an Ethernet driver to communicate with the terminal.
- Back up your application files to a computer.
- Verify that downloads to the terminal are allowed. If downloads are disabled, you cannot update the terminal firmware.
  See Disable Downloads to the Terminal on page 62 and make sure that downloads are allowed to the terminal.
- Verify the catalog number of your product and the current firmware revision on the terminal.
  See View the Firmware Revision on page 64 to get the catalog number and current firmware revision.

Firmware Requirements

ControlFLASH™ software is used to update firmware in the PanelView™ 5510 terminal on the network. The update performs these actions:

- Installs updated binary files
- Preserves configuration data, such as Ethernet settings, display brightness, time and date, and touch screen settings
Use Table 22 to determine requirements for the firmware update.

### Table 22 - Firmware Requirements for PanelView 5510 Terminals

<table>
<thead>
<tr>
<th>Software</th>
<th>Firmware Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio 5000® that also includes:</td>
<td></td>
</tr>
<tr>
<td>• RSLinx® Classic software</td>
<td>31.00 or later</td>
</tr>
<tr>
<td>• ControlFLASH software</td>
<td>4.00.00.16 or later</td>
</tr>
<tr>
<td>PanelView 5510 Terminal firmware</td>
<td>14.00.10.12 or later</td>
</tr>
</tbody>
</table>

Know the catalog number of the PanelView 5510 terminal you want to update

Know the RSLinx network path to the targeted PanelView 5510 terminal

---

**Get the Terminal Firmware**


For instructions on how to use the PCDC site, see the Resources panel on the PCDC home page.

**Install the ControlFLASH Software**

ControlFLASH software is required to update firmware on the PanelView 5510 terminal. This software is included in the Studio 5000 installation package.

For details about how to install ControlFLASH software, see the ControlFLASH firmware update Software User Manual, publication 1756-UM105.
**Update the Firmware by Using ControlFLASH Software**

To use the ControlFLASH software to update the firmware in a PanelView 5510 terminal, follow these steps.

1. Click Start>Programs>FLASH Programming Tools>ControlFLASH.

2. Make sure that you know the required information in the Welcome dialog box, then click Next.

3. Select the catalog number of the PanelView 5510 terminal that you want to update and click Next.
4. Browse to and select the device to update on the EtherNet/IP™ network and click OK.

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

6. Read the Danger information in the Summary dialog, then click Finish.
7. Click Yes to confirm that you want to update the target device.

The update starts and can take several minutes to complete.

8. Click OK.

If the update fails, the status area is red and reads Update failure. See the ControlFlash firmware update Kit User Manual, publication 1756-UM105 for troubleshooting information.

9. Close the ControlFLASH software.

**Verify the Firmware Update**  
See View Information for the Configured Controller on page 70 to view the current firmware revision for the terminal.
Notes:
## Troubleshooting

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<tbody>
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<td>Troubleshooting Profiles</td>
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<td>Display Issues</td>
<td>106</td>
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<td>Ethernet Issues</td>
<td>106</td>
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<tr>
<td>Cannot Download Application to Terminal</td>
<td>107</td>
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<tr>
<td>Performance Is Slow</td>
<td>107</td>
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<tr>
<td>Resistance to Chemicals</td>
<td>107</td>
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<tr>
<td>Clean the Display</td>
<td>108</td>
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<tr>
<td>Ship the Terminal</td>
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<td>Restore Factory Defaults</td>
<td>109</td>
</tr>
<tr>
<td>Dispose of the Terminal</td>
<td>110</td>
</tr>
</tbody>
</table>
Status Indicators

The back of the terminal has two indicators to identify system status:

- Status (STS) indicates that the terminal is on and in use. Its light color is green.
- Error (ERR) indicates hardware and firmware faults. Its light color is red.

At startup, the STS and ERR indicators blink on and off, then the STS indicator blinks to signal progress during startup. If the indicators remain off, check the power cable.

After a successful startup, the STS indicator remains on.

Table 23 shows indicator states if the terminal stops during startup.

Table 23 - Fault Indicator States during Terminal during Startup

<table>
<thead>
<tr>
<th>ERR (red) Indicator</th>
<th>STS (green) Indicator</th>
<th>Description</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blinking</td>
<td>On</td>
<td>Recoverable firmware error.</td>
<td>Reload the firmware.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>Recoverable configuration failure</td>
<td>Restore factory defaults. Refer to Restore Factory Defaults on page 109.</td>
</tr>
<tr>
<td>On</td>
<td>On</td>
<td>Fatal hardware error</td>
<td>Replace the terminal.</td>
</tr>
<tr>
<td></td>
<td>Blinking</td>
<td>Fatal display hardware error</td>
<td>Replace the terminal.</td>
</tr>
</tbody>
</table>
View Diagnostic Information for the Configured Controller

You can view diagnostic information for the controller that is configured to operate with the terminal.

To view diagnostic information for the controller, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Controllers.
3. Tap the diagnostics tab.

The diagnostic information for the controller includes these data.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active data items</td>
<td>The number of data items on scan for the controller.</td>
</tr>
<tr>
<td>Number optimized blocks</td>
<td>The numeric of optimized data blocks on scan for the controller.</td>
</tr>
<tr>
<td>Activity</td>
<td>A count that increments each time a communication packet is received from the controller.</td>
</tr>
<tr>
<td>HMIBC (I/O) connections</td>
<td>The number of Class 1 Common Industrial Protocol (CIP) connections to the controller.</td>
</tr>
<tr>
<td>Alarm connections</td>
<td>The number of alarm CIP connections to the controller.</td>
</tr>
<tr>
<td>Data connections</td>
<td>The number of Class 3 CIP connections to the controller.</td>
</tr>
</tbody>
</table>

4. To close the window, tap X.

Troubleshooting Profiles

Rockwell Automation compiles data about your system in a secure, encrypted format. This profile is stored on the terminal and can be used to improve usability and assist with troubleshooting.

If you contact technical support, a representative can ask you to export the troubleshooting log to a USB drive, or SD™ or SDHC™ card. You can also import a troubleshooting profile from a USB drive or SD card to capture additional data.

TIP If removable media is needed, then the USB device or SD card must be FAT32 formatted, have write permissions, and sufficient space.
Import a Troubleshooting Profile

The troubleshooting window indicates whether a default or imported troubleshooting profile is being used in the terminal. If an imported file is in use, a green check mark and the name of the imported file appears next to the Import Profile button.

To import a troubleshooting profile from a USB drive or SD card, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Troubleshooting.
3. Insert a USB drive or SD card that contains the troubleshooting profile into the appropriate slot on the terminal.
4. Tap Import Profile.
5. Tap to select the target USB device or SD card that contains the profile.
6. Tap Save.
7. To close the window, tap OK.
The name of the imported file is displayed. A green check next to the file name means that the import is complete.

8. Tap OK.

The file is stored on the terminal and captures data in an encrypted format for use by Rockwell Automation technical support.

**Export a Troubleshooting Log**

To export the troubleshooting log to a USB device or SD card, follow these steps.

1. Press the navigation button on the terminal.
2. On the Settings screen, tap Troubleshooting.
3. Insert a USB drive or SD card into the appropriate slot on the terminal.
4. Tap Export.
5. Tap Save Troubleshooting Profile.

**ATTENTION:** Do not remove the USB drive or SD card before the import operation is complete. Otherwise, the USB drive or SD card can become corrupt.
6. Insert a USB drive or SD card into a slot on the terminal.

7. Tap Export.

   The troubleshooting log is exported and the date a time of the last export is displayed next to the Export button.

   **ATTENTION:** Do not remove the USB drive or SD card before the import operation is complete. Otherwise, the USB drive or SD card can become corrupt.

8. To close the window, tap X.

   Your technical support contact at Rockwell Automation can provide you with information on where to send the profile.
Terminal Does Not Start Up

If the terminal does not start up normally, check the table for possible causes.

Table 24 - Terminal Does Not Start Up Properly

<table>
<thead>
<tr>
<th>Check For</th>
<th>What to Do</th>
<th>See</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient power</td>
<td>Make sure that device is receiving adequate power:</td>
<td>page 35</td>
</tr>
<tr>
<td></td>
<td>• Check the DC power requirements.</td>
<td></td>
</tr>
<tr>
<td>Improper power wiring</td>
<td>Verify that the power wiring is correct:</td>
<td>page 34</td>
</tr>
<tr>
<td></td>
<td>• Check the wiring specifications.</td>
<td>page 35</td>
</tr>
<tr>
<td></td>
<td>• Check the DC power wiring.</td>
<td></td>
</tr>
<tr>
<td>Status indicators</td>
<td>Check the status indicators during startup.</td>
<td>page 100</td>
</tr>
<tr>
<td>Stalled progress</td>
<td>If a terminal stalls at the progress indicator and does not load an</td>
<td>page 109</td>
</tr>
<tr>
<td>indicator</td>
<td>application or configuration screens, restore the factory defaults.</td>
<td></td>
</tr>
<tr>
<td>Stuck keys</td>
<td>Check for stuck keys on terminals with a keypad and function keys. A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>stuck key helps prevent the terminal from starting up properly.</td>
<td></td>
</tr>
<tr>
<td>Does an object touch</td>
<td>Verify that nothing is pressed against the display or that you are not</td>
<td></td>
</tr>
<tr>
<td>the display</td>
<td>touching the display during startup.</td>
<td></td>
</tr>
</tbody>
</table>

Terminal Restarts Intermittently

If the terminal restarts intermittently, check the table for possible causes.

Table 25 - Terminal Restarts Intermittently

<table>
<thead>
<tr>
<th>Check For</th>
<th>What to Do</th>
<th>See</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improper power wiring</td>
<td>Verify that the power wiring is correct:</td>
<td>page 34</td>
</tr>
<tr>
<td></td>
<td>• Check the wiring specifications.</td>
<td>page 35</td>
</tr>
<tr>
<td></td>
<td>• Check the DC power wiring.</td>
<td></td>
</tr>
<tr>
<td>Over-temperature conditions</td>
<td>Make sure that the processor is not exceeding temperatures for normal</td>
<td>page 65</td>
</tr>
<tr>
<td></td>
<td>terminal operations:</td>
<td>page 25</td>
</tr>
<tr>
<td></td>
<td>• Check the processor temperature.</td>
<td>page 65</td>
</tr>
<tr>
<td></td>
<td>• Check for adequate clearances around the terminal in the panel.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Check for proper operating temperature.</td>
<td></td>
</tr>
</tbody>
</table>

Touch Screen Issues

If the touch screen does not operate or respond correctly to touches with a finger or stylus, check the table for possible causes.

Table 26 - Touch Screen Not Responding

<table>
<thead>
<tr>
<th>Check For</th>
<th>What to Do</th>
<th>See</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improper</td>
<td>Check for activation points offset from touch points. Calibrate the</td>
<td>page 60</td>
</tr>
<tr>
<td>calibration</td>
<td>touch screen.</td>
<td></td>
</tr>
<tr>
<td>Non-functional</td>
<td>Check the touch screen for damage, such as cuts or excessive wear. If</td>
<td></td>
</tr>
<tr>
<td>touch screen</td>
<td>there is damage, replace the terminal.</td>
<td></td>
</tr>
<tr>
<td>Multiple input</td>
<td>Application screens contain graphic input elements that are configured in</td>
<td></td>
</tr>
<tr>
<td>elements touched</td>
<td>the View Designer application. When touched, these elements perform</td>
<td></td>
</tr>
<tr>
<td></td>
<td>operations in a predictable manner. For example, an input element is</td>
<td></td>
</tr>
<tr>
<td></td>
<td>configured to navigate to a specific screen in the application or start</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a motor when touched. Multiple operations cannot be conducted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>simultaneously. Doing so results in an unintended operation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Do not touch multiple input element at one time.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Do not rest a hand or multiple fingers on the display.</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 7  Troubleshooting

Display Issues

The display is unreadable or dims unexpectedly.

ATTENTION: If the display darkens, or if the backlight is not functioning properly, the screen can be difficult to read and use of this touch screen could result in a potentially hazardous outcome. **Do not use the touch screen under these circumstances.** The design of the system must take into account the possibility of the touch screen losing functionality and unable to be used to maintain or change control of the system. The touch screen shall not be the single point of control of critical functions and is not intended to replace an E-stop.

The design of the system must take into account the possibility of the touch screen losing functionality and unable to be used to maintain or change control of the system. The touch screen shall not be the single point of control of critical functions and is not intended to replace an E-stop.

Design of the system should follow all applicable code and good engineering practice. Factors to consider include:

- The possibility of an unreadable display
- The possibility of an inoperable touch screen
- Unexpected communication errors or delays
- Operator error in the control of the system
- Proper use of E-stops and other safety practices

The user shall provide means to achieve a safe state during anomalies and make sure the system has adequate redundancy for critical functions.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

**Table 27 - Dim Display**

<table>
<thead>
<tr>
<th>Check for</th>
<th>See</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low display brightness setting</td>
<td>Adjust the Brightness of the Display on page 57.</td>
</tr>
<tr>
<td>Low brightness level of screen saver</td>
<td>Configure the Display Screen Saver on page 58.</td>
</tr>
</tbody>
</table>

**TIP**

Extend the life of the backlight by reducing the display brightness, by using the screen saver with reduced brightness, or operating at lower temperatures.

Ethernet Issues

**Table 28** provides tips on how to isolate Ethernet anomalies.

**Table 28 - Ethernet Connection Issues**

<table>
<thead>
<tr>
<th>Check for</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status of invalid Ethernet connection</td>
<td>- Green indicator is on when a link is established.</td>
</tr>
<tr>
<td></td>
<td>- Yellow indicator blinks when activity is detected.</td>
</tr>
<tr>
<td></td>
<td>- Verify network connections.</td>
</tr>
</tbody>
</table>
Troubleshooting
Chapter 7

Cannot Download Application to Terminal

You are unable to download an application to the terminal.

Table 29 - Unable to Download Project to Terminal

<table>
<thead>
<tr>
<th>Check for</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application downloads are disabled in Settings screens</td>
<td>Verify that downloads are enabled. See Disable Downloads to the Terminal on page 62.</td>
</tr>
</tbody>
</table>
| Download of project to correct HMI device | Check the following in the View Designer application:  
  • The project that is downloaded to the correct HMI device  
  • IP address of HMI device is correct |
| Ethernet connection               | Make sure that an Ethernet cable is connected between the computer and terminal.  
  Verify that the Ethernet port is configured properly. See Configure the Ethernet Ports on page 54. |

Performance Is Slow

If the response time of the application is slow, for example screen changes or text display changes, check for the following conditions:

- Application screens that contain too many elements
- A controller that is programmed for feedback can cause delays
- Slow network performance or noise can result in retries

Resistance to Chemicals

The outer surfaces of the terminal including the bezel, touch screen overlay, and panel gasket are tested for chemical resistance. Some of the chemicals can cause discoloration, but they do not interfere with the operation of the terminal.

TIP For more information on chemical resistance of the product, go to http://www.rockwellautomation.com/knowledgebase and search the Knowledgebase for keywords ‘Chemical Resistance PanelView™ Plus’.

IMPORTANT Do not operate the terminal in direct sunlight. Direct exposure to ultraviolet light can discolor the touch screen.
Clean the Display

A protective overlay can help extend the life of the terminal and make it easier to clean the display. Table 4 on page 17 provides catalog numbers for overlays.

ATTENTION: Do not use abrasive cleaners or solvents, they can damage the display. Do not scrub or use brushes.

Do not apply cleaning solution directly on the terminal screen, the solution can drip or seep onto the gasket. Apply cleaning solution to a clean sponge or soft cloth, and gently wipe the screen to remove the dirt and grime.

To clean the display, follow these steps.

1. Disconnect power from the terminal at the power source.

ATTENTION: Cleaning a display while power is applied can result in unintended activation of screen items.

2. To clean the display and help prevent scratches, use a clean sponge or soft cloth with mild soap or detergent.

3. Dry the display with a chamois or moist cellulose sponge to avoid water spots.

Remove Paint and Grease

To remove paint or grease from the bezel that is properly mounted in a NEMA, UL Type, or IP rated enclosure, follow these steps.

1. Rub lightly with isopropyl alcohol (70% concentration).

2. To remove residue, use a mild soap or detergent solution.

3. Rinse with clean water.

Equipment Wash Downs

ATTENTION: Do not use a high-pressure washer for cleaning the front bezel of the terminal. A high-pressure washer can damage the terminal.

Do not use a high-pressure washer for cleaning vented enclosures. Water can enter the enclosure and damage the terminal and other equipment.

Ship the Terminal

If you ship the enclosure with the terminal installed, make sure that the terminal is properly secured and guarded against damage from impact, sharp objects, or abrasive materials.

ATTENTION: Rockwell Automation is not responsible for damage to a product that is shipped or transported while installed in a panel or enclosure.
Troubleshooting

Chapter 7

Restore Factory Defaults

Restore a terminal to its default settings to refresh the terminal or to recover from an invalid application configuration. The restore process does not affect the firmware revision on the terminal.

**ATTENTION:** The process that restores factory defaults also removes some data.
- Upload the application with the View Designer application.
- Record the terminal settings so you can update them after the restore.

**TIP**
If a terminal stalls at the progress indicator after a restart and does not load the application or configuration screens, you can restore the factory defaults.

The restore procedure performs the following actions:
- Removes the user application
- Restores the terminal settings to their default state

**Table 30 - Factory-default Terminal Settings**

<table>
<thead>
<tr>
<th>Terminal Setting</th>
<th>Factory Default Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backlight intensity: 1…100%</td>
<td>100%</td>
</tr>
<tr>
<td>Screen saver</td>
<td></td>
</tr>
<tr>
<td>Enabled or disabled</td>
<td>Disabled</td>
</tr>
<tr>
<td>Timeout</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Dimmer: 1…100%</td>
<td>10%</td>
</tr>
<tr>
<td>Touch screen calibration</td>
<td>Factory calibrated</td>
</tr>
<tr>
<td>Ethernet</td>
<td></td>
</tr>
<tr>
<td>DHCP-enabled or static IP address</td>
<td>DHCP-enabled</td>
</tr>
<tr>
<td>Speed: 10 Mbps, 100 Mbps, Auto sense</td>
<td>Auto sense link speed</td>
</tr>
<tr>
<td>Duplex: Half, full, auto sense</td>
<td>Auto sense duplex mode</td>
</tr>
</tbody>
</table>
To restore the terminal to its default state, follow these steps.

1. Cycle power to the terminal.
   The Allen-Bradley® logo displays during startup.

2. Wait a few seconds, and then touch the Allen-Bradley logo when the
copyright line becomes brighter.

   **TIP**
   Wait a few seconds before you touch the logo. If you touch the logo
too soon during startup, this error text is displayed under the
copyright line.

   **ERROR! FEHLER! ERREUR! ERRORE!**
   If this error text is displayed, cycle power to the terminal and wait a
few seconds longer before you touch the logo.

   The normal startup is suspended so the restore procedure can initiate.
   You are asked if you want to restore the terminal to its defaults.

3. To continue tap Yes, or tap Cancel to resume a normal startup.
   You are asked to confirm the removal of all user files such as applications.

4. To continue tap Yes, or tap Cancel to resume a normal startup.
   Progress messages appear on the screen during the restore operation.
   When the restore is complete, the terminal performs a normal startup.

5. From the Settings menu, update the terminal network settings.

6. Download an application to the terminal by using the View Designer
   application.

7. From the Settings menu, update any remaining terminal settings as
   appropriate.

For details on how to modify device configuration settings, see Disable Downloads to
the Terminal on page 62.

---

### Dispose of the Terminal

At the end of its life, collect the terminal separately from any unsorted municipal
waste.

These terminals contain heavy metals that can contaminate the earth. Therefore,
check with local health and sanitation agencies for ways to dispose this
equipment safely.
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Rockwell Automation Support

Use the following resources to access support information.

|----------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Local Technical Support Phone Numbers | Locate the phone number for your country. | https://rockwellautomation.custhelp.com/app/phone
| Direct Dial Codes | Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer. | https://rockwellautomation.custhelp.com/app/phone
| Product Compatibility and Download Center (PCDC) | Get help determining how products interact, check features and capabilities, and find associated firmware. | https://compatibility.rockwellautomation.com/Pages/home.aspx

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete the How Are We Doing? form at https://literature.rockwellautomation.com/idc/groups/literature/documents/du/ra-du002_en-e.pdf.


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