User Manual

Original Instructions

Allen-Bradley

PanelView Plus Terminals

Catalog Number 2711P (400, 600, 700, 1000, 1250, 1500 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.

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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 preface provides information on these topics.

- Intended audience
- Parts list
- Additional resources
- Software and firmware upgrades

Summary of Changes

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

Topic	Pages
Updated the power supply catalog number.	18, 26, 50, and 51

Intended Audience

Use this manual if you are responsible for installing, operating, or troubleshooting the PanelView Plus or PanelView Plus CE terminals.

No special knowledge is required to understand this manual or operate the terminal. However, you must understand the functions and operations of FactoryTalk View Machine Edition (ME) applications that will run on the terminal. Consult the application designer for this information.

Equipment installers must be familiar with standard panel installation techniques.

Parts List

The PanelView Plus terminals are shipped with these items.

- Power terminal block
- FactoryTalk View ME runtime software, preloaded
- Mounting levers for 400 and 600 terminals, quantity eight
- Mounting clips for 700 to 1500 terminals, quantity four to eight
- Installation instructions
- Panel cutout template

Additional items are shipped with the PanelView Plus CE terminals.

- Windows CE .NET operating system preloaded with Terminal Services and Internet Explorer
- PanelView Plus CE Accessory CD with utilities and software development kit for C++
- Microsoft Windows CE license agreement

Additional Resources

For additional information, refer to these publications, that you can download from http://literature.rockwellautomation.com.

Resource	Description
DeviceNet Communications for PanelView Plus Terminals User Manual, publication 2711P-UM004	Provides procedures for creating a DeviceNet application to run on a PanelView Plus terminal.
ControlNet Communications for PanelView Plus Terminals User Manual, publication 2711P-UM003	Provides procedures for creating a ControlNet application to run on a PanelView Plus terminal.
Modbus Applications for PanelView Plus Terminals User Manual, publication 2711P-UM002	Provides procedures for creating a Modbus application to run on a PanelView Plus terminal.
Wiring and Grounding Guidelines for PanelView Plus Devices Technical Data, publication 2711P-TD001	Provides grounding and wiring guidelines for PanelView Plus terminals.
Software Development Kit for PanelView Plus CE Terminals User Manual, publication 2711P-UM005	Provides information for programmers to develop CE applications for PanelView Plus CE terminals.

You may also want to refer to:

- online help for FactoryTalk View Studio or RSLinx software.
- documentation for your controller.

Software and Firmware Upgrades

To receive software updates (software serial number required) and firmware upgrades for your terminal:

- call your local Rockwell Automation sales office or distributor.
- access the Product Compatibility and Download Center at http://www.rockwellautomation.com/rockwellautomation/support/pcdc.page.

Overview

Chapter Objectives

This chapter gives an overview of the PanelView Plus terminals.

- Software support
- PanelView Plus 400 and 600 features
- PanelView Plus 700 to 1500 features
- Catalog number configuration
- Product components

Software Support

Each PanelView Plus and PanelView Plus CE terminal is preloaded with FactoryTalk View Machine Edition runtime and terminal configuration software that does not require activation. Machine Edition applications for the terminals are created using FactoryTalk View Studio software.

Users, other than equipment operators, can view a running Machine Edition application in read-only mode within a Web browser using ViewPoint software. This software is an add-on capability provided with FactoryTalk View Studio.

IMPORTANT ViewPoint software requires terminals with a Series E or later logic module and a minimum of 128 MB RAM. You can also order an internal CompactFlash card with FactoryTalk View software, catalog number 2711P-RW*x* , to support any series logic module, catalog number 2711P-RP*xx*.

The open Windows CE.NET environment of the PanelView Plus CE terminals provides:

- familiar Windows desktop and user interface.
- terminal server-client support to configured servers
- Internet Explorer web browser.
- software development kit to support custom C++ applications for Windows CE.NET operating system.
- third-party device support for Windows CE.NET operating system.
- Windows CE.NET operating system provides these programs:
  - File viewers for MS Office: Excel, Word, PowerPoint
  - PDF file viewer
  - WordPad text editor
  - WebServer application
  - FTP server
  - Support for the .NET compact framework

Some of the above software applications are included on the PanelView Plus CE Accessory CD.

PanelView Plus 400 and 600 Terminals

The PanelView Plus 400 and 600 terminals offer:

- base-configured units.
- communication modules.
- power supply, AC or DC.
- grayscale and color displays.



The PanelView Plus 400 and 600 terminals are HMI devices that provide these features:

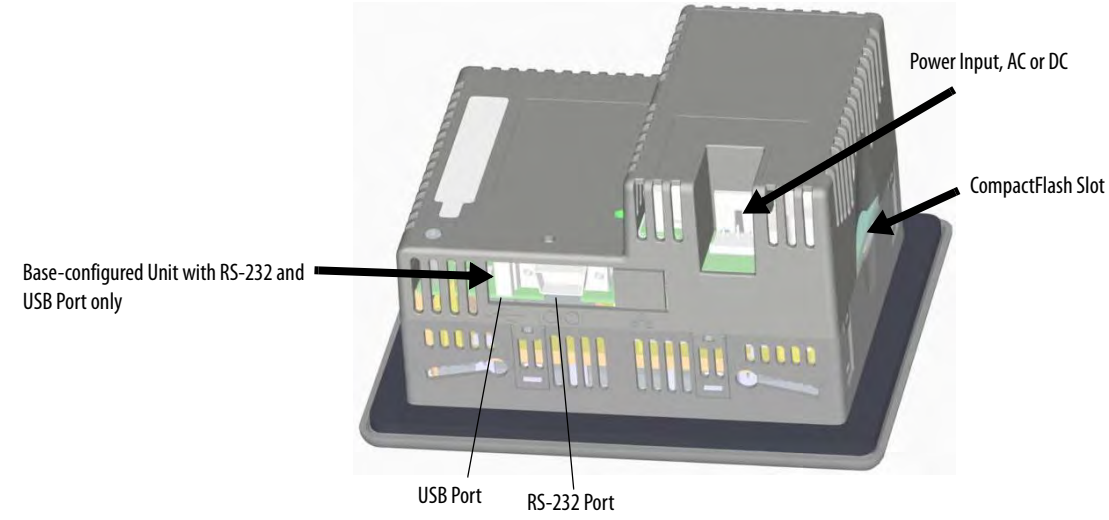
- PanelView Plus 400 terminals
  - Color or grayscale graphic displays
  - Keypad or keypad and touch screen input support
- PanelView Plus 600 terminals
  - Color or grayscale graphic displays
  - Keypad, touch screen, or keypad and touch screen input
- Base-configured unit
  - RS-232 only
  - RS-232, Ethernet, and modular communications interface
- Communication modules provide add-on capability to base-configured units with a modular communications interface
- Power input, AC (85...264V) or DC (18...30V)
- CompactFlash card slot supports Type 1 CompactFlash cards
- USB port for attaching mouse, keyboard, printer, bar code scanner, and other devices
- Same panel cutouts as the PanelView Standard 550 terminals

Base-configured Units

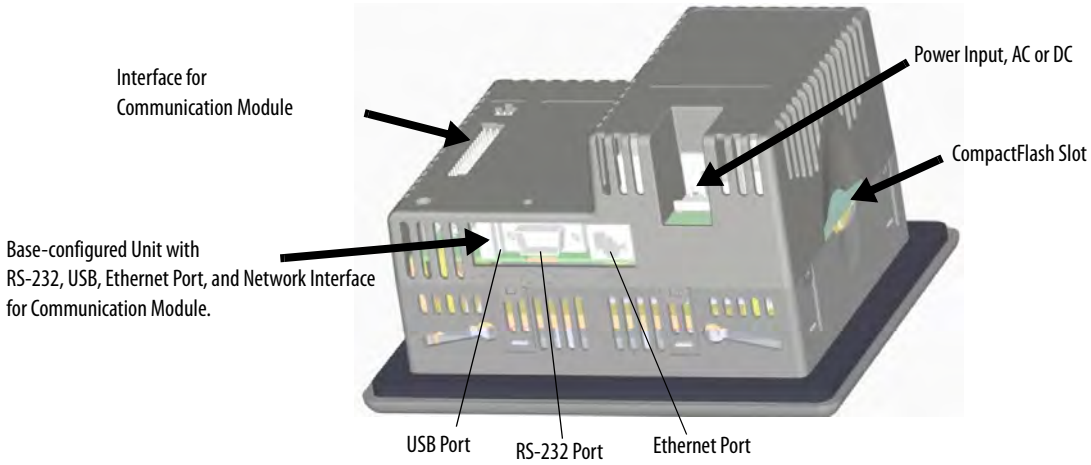
The base-configured unit of the 400 and 600 terminals is available in two versions.

- Base unit with RS-232 port and one USB port
- Base unit with RS-232 port, 10/100BaseT Ethernet port, one USB port, and a network interface for a communication module

Base Unit with RS-232 Only



Base Unit with RS-232, Ethernet Port, and Modular Communications Interface



Communication Modules

You can attach a communication module with a network interface to the base-configured unit of the PanelView Plus 400 and 600 terminals to increase your communication capability with these networks:

- DH-485
- DH+
- Isolated RS-232
- ControlNet

The communication module installs easily on the back of the unit.



Power Options

The base-configured unit of the PanelView Plus 400 and 600 terminals is available with either AC (85...264V) or DC (18...30V) power input providing application flexibility.

Display and Input Options

PanelView Plus 400 and 600 terminals are available with these display and operator input options:

- 400 terminals: 3.8 in. grayscale (320 x 240) graphics display with keypad or 3.5 in. (320 x 240) color with keypad or keypad and touch support
- 600 terminals: 5.5 in. color or grayscale (320 x 240) graphics display with keypad, touch screen, or keypad and touch support

Touch Screen

The PanelView Plus 600 terminals offer an analog resistive touch screen for touch input.

600 Touch Grayscale or Color Terminal



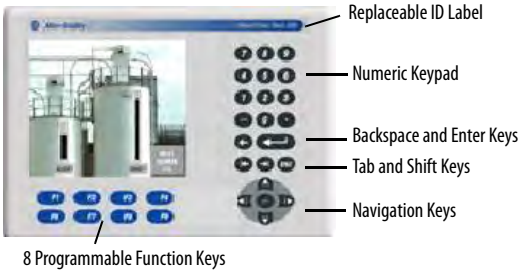
IMPORTANT The touch screen may be operated with a finger, gloved finger, or plastic stylus device with a minimum tip radius of 1.3 mm (0.051 in.) to prevent damage to the touch screen. Using any other object or tool may damage the touch screen.

Keypad or Keypad and Touch

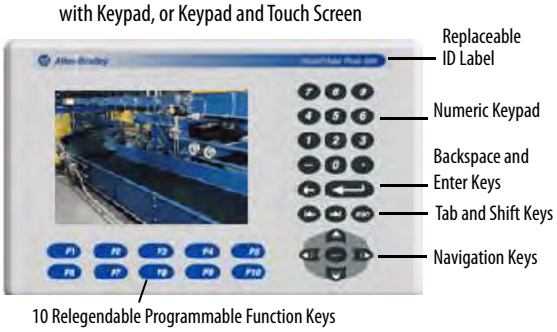
The keypad versions of the PanelView Plus 400 and 600 terminals are available with these options:

- 400 terminals: grayscale display with keypad or color display with keypad or keypad and touch input
- 400 and 600 terminals offer an analog resistive touch screen for touch input.
- 600 terminals: color or grayscale displays with either keypad, or keypad and touch input

400 Grayscale with Keypad, or 400 Color with Keypad or Keypad and Touch



600 Grayscale or Color Terminal with Keypad, or Keypad and Touch Screen



Keys		Description
400 600	F1 through F8 F1 through F10	Programmable keys that initiate functions on terminal display. Replaceable legends are available for the 600 terminals allowing for custom function key labels.
Numeric Keypad		0…9, ., -, Backspace, Enter, Left and Right Tab keys, Shift keys
Navigation Keys		Use the arrow keys for navigation. Use the Alt+arrow keys to activate home, end, page up, and page down functions.

IMPORTANT The keypad is designed for finger or gloved finger operation. The touch screen may be operated with a finger, gloved finger, or plastic touch screen stylus with a minimum tip radius of 1.3 mm (0.051 in.) to prevent damage to the touch screen.
Using any other object or tool may damage the touch screen or keypad.

PanelView Plus 700 to 1500 Terminals

This section gives an overview of the PanelView Plus 700, 1000, 1250, 1250H, and 1500 terminals.

- Modular components
- Base-configured unit
- Communication modules
- Logic module, standard or CE
- Power supply, AC or DC
- Display modules

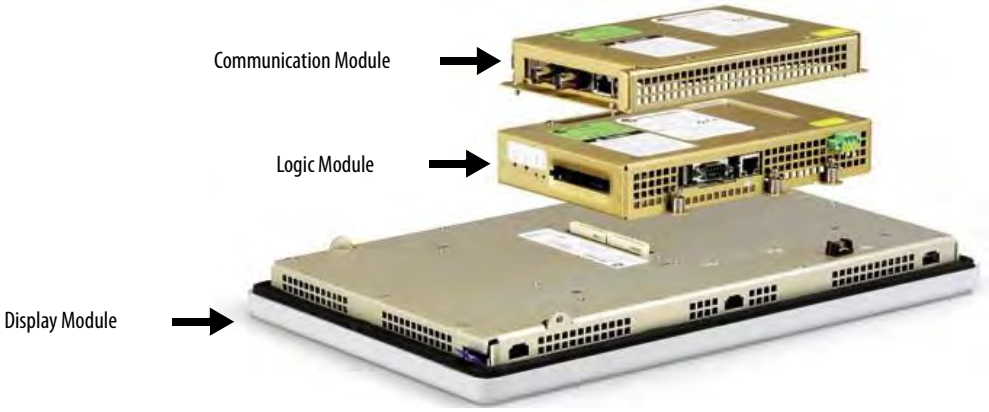


The PanelView Plus 700 to 1500 terminals are HMI devices that offer these features:

- Graphic color-display modules with keypad, touch screen, or keypad and touch screen support
- Analog resistive touch screen
- Ethernet and serial communications
- Modular communication interface for easy add-on capability
- Memory expansion modules for field upgrades to 256 MB RAM and 512 MB CompactFlash
- Power input, AC (85...264V AC) or DC (18...32V DC)
- CompactFlash card slot supports Type 1 CompactFlash cards
- USB ports provide connections for keyboard, mouse, and printer
- Field replaceable bezels
- Same panel cutouts as the PanelView Standard and PanelView Enhanced terminals
- Standard or CE logic module

Modular Components

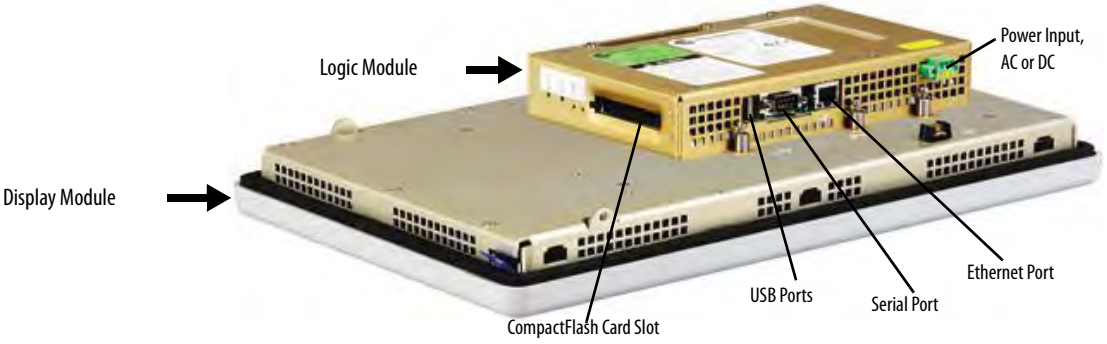
The terminals use modular components allowing for flexible configuration, installation, and upgrades. You can order items as separate components or factory assembled per your configuration.



Base-configured Unit

The base-configured unit of the terminal consists of:

- display module (700, 1000, 1250, 1500) with keypad, touch, or keypad and touch input.
- logic module.



The logic module contains:

- 24V DC input (18...32V) or AC input (85...264V).
- SDRAM and flash memory, various sizes.
- 10/100 BaseT Ethernet port.
- serial RS-232 port for file transfers, printing, and logic controller communications.
- two USB ports for attaching mouse, keyboard, or printer.
- card slot for Type I CompactFlash cards.
- battery-backed real-time clock.

Logic Modules and CompactFlash

The logic module is available with or without internal CompactFlash. The contents of the internal CompactFlash is what differentiates a PanelView Plus device from a PanelView Plus CE device.

- For the PanelView Plus terminals, the internal CompactFlash contains FactoryTalk View ME software and flash memory.
- For the PanelView Plus CE terminals, the internal CompactFlash contains the open Windows CE operating system, FactoryTalk View ME software, and flash memory.

The internal CompactFlash is available in different sizes and can be ordered separately or bundled with the logic module.

Communication Modules

You can attach a communication module with a network interface to the base-configured unit of the terminal to increase your communication capability with these networks:

- DH+/DH-485
- ControlNet

The communication module installs easily on top of the logic module on the back of the unit.



Power Options

The basic configured units of the 700 to 1500 PanelView Plus terminals provide application flexibility with three available power power options:

- AC (85...264V)
- unisolated DC (18...32V)
- isolated DC (18...32V)

For DC applications using AC power, a remote AC-to-DC power supply, cat. no. 1606-XLE120E, is available for DIN-rail mounting.

Display Modules

The terminals offer a range of TFT color graphic displays with either keypad, touch screen, or keypad and touch screen support.

- 700 (6.5 in.)
- 1000 (10.4 in.)
- 1250 (12.1 in.)
- 1500 (15 in.)

The 700 and 1250 touch displays are available in conformal-coated options. A 1250 high-bright, touch display module is available for outdoor installations. Plus the 1250 and 1500 touch displays offer an integral antiglare overlay.

All displays have common features and firmware providing for easy migration to a larger display. Field-replaceable bezels are also available.

Touch Screen

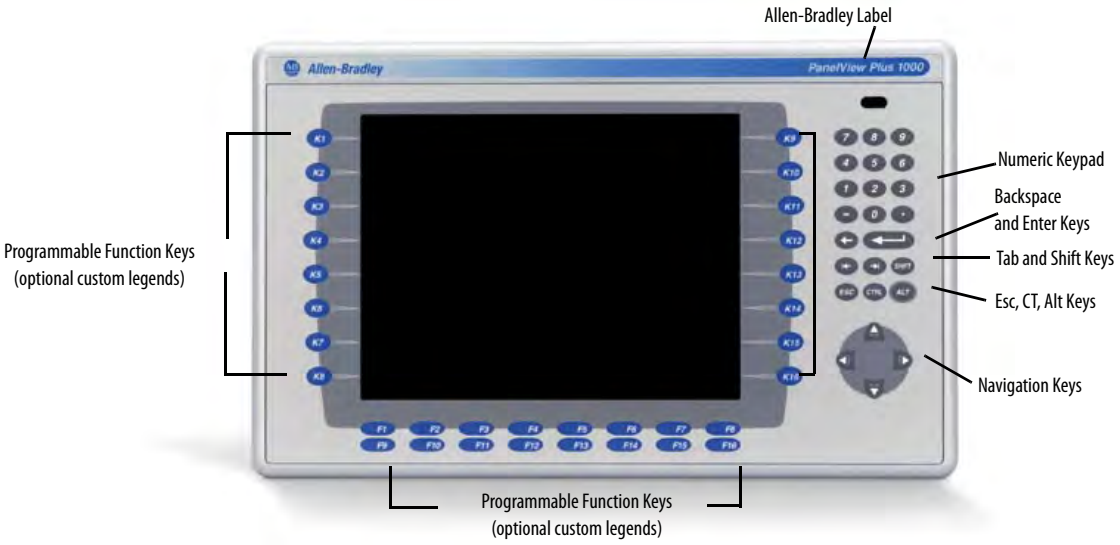
Touch-screen displays are analog resistive and similar except for size.



IMPORTANT The touch screen may be operated with a finger, gloved finger, or plastic stylus device with a minimum tip radius of 1.3 mm (0.051 in.) to prevent damage to the touch screen. Using any other object or tool may damage the touch screen.

Keypad or Keypad and Touch

All displays are similar except for size and the number of function keys available.



IMPORTANT The keypad is designed for finger or gloved finger operation. The touch screen may be operated with a finger, gloved finger, or plastic stylus device with a minimum tip radius of 1.3 mm (0.051 in.) to prevent damage to the touch screen.
Using any other object or tool may damage the touch screen or keypad.

The K*xx* and F*xx* function keys on the keypad terminals are programmable.

Function Keys	Description
Function Keys 700 (F1 through F10, K1 through K12) 1000 (F1 through F16, K1 through K16) 1250 (F1 through F20, K1 through K20) 1500 (F1 through F20, K1 through K20)	Programmable keys that initiate functions on terminal display. Replaceable legends are available for the terminals allowing for custom function key labels.
Numeric Keypad	0…9, ., -, Backspace, Enter, Left and Right tab, Shift, Esc, Ctrl, Alt keys.
Navigation Keys	Use the arrow keys to move cursor in lists and select objects. Alt+arrow key activates home, end, page up, page down functions.

Catalog Number Configuration

The table shows the catalog number explanation for configured versions of the PanelView Plus and PanelView Plus CE terminals. Not all combinations of options are available for sale.

	Input Type	Display Size	Display Type	Communication [1]	Power	Logic Module with Flash and RAM Memory [2]	Special Option[2]
2711P-	**K** = Keypad	**4** = 3.5 in.	**C** = Color	**PanelView Plus 400 and 600**	**A** = AC	**1**= Logic Module 64 MB	**K** = Conformal-Coated[3]
	T = Touch	**6** = 5.5 in.	**M**=Grayscale	**5** = RS-232 & USB	**D** = DC	**2** = Logic Module 128 MB	**M** = Marine Certified
	B = Keypad/Touch	**7** = 6.5 in.		**20** = Ethernet, RS-232 & USB plus Communication Module Interface		**6** = CE Logic Module with 128 MB	
		10 = 10.4 in.				**7** = CE Logic Module with 256 MB	
		12 = 12.1 in.		**PanelView Plus 700 to 1500**			
		15 = 15 in.		**4** = Ethernet, RS-232 & (2) USB			

(1) Additional communication options are available and listed on page 23 in the following section.

(2) Applies to PanelView Plus 700 to 1500 terminals only.

(3) Applies to PanelView Plus 700 and 1250 terminals only.

PanelView Plus Product Components

Components are available as separate catalog numbers for field installation or replacement.

Display Modules (700 to 1500 only)

Cat. No.	Description
2711P-RDK7C	700 keypad color display
2711P-RDT7C	700 touch color display
2711P-RDT7CM	700 touch color display, marine certified
2711P-RDB7C	700 keypad and touch color display
2711P-RDB7CM	700 keypad and touch color display, marine certified
2711P-RDT7CK	Conformal-coated 700 touch color display
2711P-RDK10C	1000 keypad color display
2711P-RDT10C	1000 touch color display
2711P-RDT10CM	1000 touch display, marine certified
2711P-RDB10C	1000 keypad and touch color display
2711P-RDB10CM	1000 keypad and touch display, marine certified
2711P-RDK12C	1250 keypad color display
2711P-RDT12C	1250 touch color display
2711P-RDT12AG	1250 touch color display with antiglare overlay
2711P-RDT12CK	Conformal-coated 1250 touch color display
2711P-RDT12H	1250 high-bright touch color display
2711P-RDB12C	1250 keypad and touch color display
2711P-RDK15C	1500 keypad color display

Display Modules (700 to 1500 only)

Cat. No.	Description
2711P-RDT15C	1500 touch color display
2711P-RDT15AG	1500 touch color display with antiglare overlay
2711P-RDB15C	1500 keypad and touch color display

Logic Modules (700 to 1500 only)

Cat. No.	Description
Standard Logic Modules for PanelView Plus Terminals	
2711P-RP	Logic module without flash/RAM memory, DC input
2711P-RPD	Logic module, without memory, isolated DC input, marine certified
2711P-RPA	Logic module without flash/RAM memory, AC input, marine certified
2711P-RP1	Logic module with 64 MB flash/64 MB RAM, DC input
2711P-RP1A	Logic module with 64 MB flash/64 MB RAM, AC input, marine certified
2711P-RP1D	Logic module with 64MB, isolated DC input, marine certified
2711P-RP2	Logic module with 128 MB flash/128 MB RAM, DC input (1)
2711P-RP2A	Logic module with 128 MB flash/128 MB RAM, AC input, marine certified (1)
2711P-RP2D	Logic module with 128MB, isolated DC input, marine certified (1)
2711P-RP2DK	Conformal-coated logic module with 128MB, isolated DC input (1)
2711P-RP2K	Conformal-coated logic module with 128 MB flash/128 MB RAM, DC input (1)
2711P-RP3	Logic module with 256 MB flash/256 MB RAM, DC input (1)
2711P-RP3A	Logic module with 256 MB flash/256 MB RAM, AC input, marine certified (1)
2711P-RP3D	Logic module with 256MB, isolated DC input, marine certified (1)
CE Logic Modules for PanelView Plus CE Terminals	
2711P-RP6	CE logic module with 128 MB flash/128 MB RAM, DC input (1)
2711P-RP6A	CE logic module with 128 MB flash/128 MB RAM, AC input, marine certified (1)
2711P-RP6D	CE logic module with 128MB, isolated DC input, marine certified(1)
2711P-RP6DK	CE conformal-coated logic module with 128MB, isolated DC input(1)
2711P-RP6K	CE conformal-coated logic module with 128 MB flash/128 MB RAM, DC input (1)
2711P-RP7	CE logic module with 256 MB flash/256 MB RAM, DC input (1)
2711P-RP7A	CE logic module with 256 MB flash/256 MB RAM, AC input, marine certified (1)
2711P-RP7D	CE logic module with 256 MB, isolated DC input, marine certified(1)

(1) Compatible with ViewPoint Software.

Communication Modules

Terminal Type	Cat. No.	Description
400 and 600	2711P-RN3	DH-485 communication module
	2711P-RN8	DH+ communication module
	2711P-RN15C	ControlNet communication module
	2711P-RN22C	RS-232 isolated communication module
700 to 1500	2711P-RN6	DH+/DH-485 communication module
	2711P-RN6K	Conformal-coated DH+/DH-485 communication module
	2711P-RN15S	ControlNet communication module, marine certified
	2711P-RN15SK	Conformal-coated ControlNet communication module

Internal Compact Flash

Cat. No.	Description
Internal CompactFlash for Standard Logic Modules	
2711P-RW1	64 MB CompactFlash with FactoryTalk View ME software
2711P-RW2	128 MB CompactFlash with FactoryTalk View ME software
2711P-RW3	256 MB CompactFlash with FactoryTalk View ME software

Internal Compact Flash

Cat. No.	Description
Internal CompactFlash for CE Logic Modules	
2711P-RW6	128 MB CompactFlash with FactoryTalk View ME software and the open Windows CE operating system for the CE logic module
2711P-RW7	256 MB CompactFlash with FactoryTalk View ME software and the open Windows CE operating system for the CE logic module
2711P-RW8	512 MB CompactFlash with FactoryTalk View ME software and the open Windows CE operating system for the CE logic module

RAM Memory (700 to 1500 only)

Cat. No.	Description
2711P-RR64	64 MB SODIMM memory
2711P-RR128	128 MB SODIMM memory
2711P-RR256	256 MB SODIMM memory

Compact Flash Cards (Blank)

Cat. No.	Description
2711P-RC2	128 MB blank CompactFlash card
2711P-RC3	256 MB blank CompactFlash card
2711P-RC4	512 MB blank CompactFlash card
2711P-RCH	CompactFlash to PCMCIA adapter

Legend Kits

Cat. No.	Description
2711P-RFK6	Replacement legends strips for 600 keypad terminal
2711P-RFK7	Replacement legends strips for 700 keypad terminal
2711P-RFK10	Replacement legends strips for 1000 keypad terminal
2711P-RFK12	Replacement legends strips for 1250 keypad terminal
2711P-RFK15	Replacement legends strips for 1500 keypad terminal

Backlights (700 to 1500 only)

Cat. No.	Description
2711P-RL7C	Replacement color backlight for 700 series A and B display modules
2711P-RL7C2	Replacement color backlight for 700 series C and D display modules
2711P-RL10C	Replacement color backlight for 1000 series A display modules
2711P-RL10C2	Replacement color backlight for 1000 series B display modules
2711P-RL12C	Replacement color backlight for 1250 series A and B display modules
2711P-RL12C2	Replacement color backlight for 1250 series C display modules
2711P-RL15C	Replacement color backlight for 1500 series B display modules

Replacement Bezels

Cat. No.	Description
2711P-RBK7	Replacement bezel for 700 keypad terminal
2711P-RBT7	Replacement bezel for 700 touch terminal
2711P-RBB7	Replacement bezel for 700 keypad or keypad/touch terminal
2711P-RBK10	Replacement bezel for 1000 keypad terminal
2711P-RBT10	Replacement bezel for 1000 touch terminal
2711P-RBB10	Replacement bezel for 1000 keypad or keypad/touch terminal
2711P-RBK12	Replacement bezel for 1250 keypad terminal
2711P-RBT12	Replacement bezel for 1250 touch terminal
2711P-RBT12H	Replacement bezel for 1250 high-bright touch terminal
2711P-RBB12	Replacement bezel for 1250 keypad or keypad/touch terminal
2711P-RBK15	Replacement bezel for 1500 keypad terminal
2711P-RBT15	Replacement bezel for 1500 touch terminal
2711P-RBB15	Replacement bezel for 1500 keypad or keypad/touch terminal

Protective Antiglare Overlays

Cat. No.[1]	Description
2711P-RGK4	Antiglare overlay for PanelView Plus 400 grayscale terminal
2711P-RGB4	Antiglare overlay for PanelView Plus 400 color keypad/touch terminal
2711P-RGK6	Antiglare overlay for PanelView Plus 600 keypad or keypad/touch terminal
2711P-RGT6	Antiglare overlay for PanelView Plus 600 touch terminal
2711P-RGK7	Antiglare overlay for PanelView Plus 700 keypad or keypad/touch terminal
2711P-RGT7	Antiglare overlay for PanelView Plus 700 touch terminal
2711P-RGK10	Antiglare overlay for PanelView Plus 1000 keypad or keypad/touch terminal
2711P-RGT10	Antiglare overlay for PanelView Plus 1000 touch terminal
2711-RGK12	Antiglare overlay for PanelView Plus 1250 keypad or keypad/touch terminal
2711P-RGT12	Antiglare overlay for PanelView Plus 1250 touch and high-bright touch terminal
2711P-RGK15	Antiglare overlay for PanelView Plus 1500 keypad or keypad/touch terminal
2711P-RGT15	Antiglare overlay for PanelView Plus 1500 touch terminal

(1) All catalog numbers ship with a quantity of three overlays.

Adapter Plates

Cat. No.	Description
2711P-RAK4	Adapts a PanelView Plus 400 keypad terminal to a PanelView Standard 550 keypad cutout
2711P-RAK6	Adapts a PanelView Plus 600 keypad terminal to a PanelView Standard 600 keypad cutout
2711P-RAK7	Adapts a PanelView Plus 700 keypad terminal to a PanelView Standard 900 keypad cutout
2711P-RAT7	Adapts a PanelView Plus 700 touch terminal to a PanelView Standard 900 touch cutout

Adapter Plates

Cat. No.	Description
2711P-RAK10	Adapts a PanelView Plus 1000 keypad terminal to a PanelView 1000/1000E keypad cutout
2711P-RAT10	Adapts a PanelView Plus 1000 touch terminal to a PanelView 1000/1000E touch cutout
2711P-RAK12E	Adapts a PanelView Plus 1250 (or PV1000/1000E) keypad terminal to a PanelView 1200/1400E keypad cutout
2711P-RAT12E2	Adapts a PanelView Plus 1250 (or PV1000/1000E) touch terminal to a PanelView 1200E touch cutout
2711P-RAT12E	Adapts a PanelView Plus 1250 (or PV1000/1000E) touch terminal to a PanelView 1400E touch cutout
2711P-RAK12S	Adapts a PanelView Plus 1250 (or PV1000/1000E) keypad terminal to a PanelView Standard 1400 keypad cutout
2711P-RAT12S	Adapts a PanelView Plus 1250 (or PV1000/1000E) touch terminal to a PanelView Standard 1400 touch cutout
2711P-RAK15	Adapts a PanelView Plus 1500 keypad or keypad/touch terminal to a PanelView 1200E/1400E keypad terminal
2711P-RAT15	Adapts a PanelView Plus 1500 touch terminal to a PanelView 1400E touch cutout

Cables

Cat. No.	Description
2711-NC13	RS-232 operating/programming cable (9-pin D-shell to 9-pin D-shell), 5 m (16.4 ft)
2711-NC14	RS-232 operating/programming cable (9-pin D-shell to 9-pin D-shell), 10 m (32.7 ft)
2711-NC17	Remote RS-232 serial cable (9-pin D-shell to 9-pin D-shell)
2711-NC21	RS-232 operating cable (9-pin D-shell to 8-pin mini DIN), 5 m (16.4 ft)
2711-NC22	RS-232 operating cable (9-pin D-shell to 8-pin mini DIN), 10 m (32.7 ft)
1761-CBL-AS03	DH-485 operating cable (6-pin Phoenix to RJ45), 3 m (10 ft)
1761-CBL-AS09	DH-485 operating cable (6-pin Phoenix to RJ45), 9 m (30 ft)
1746-C10	DH-485 network interface cable (SDL AMP to RJ45), 1.83 m (6 ft)
1746-C11	DH-485 network interface cable (SDL AMP to RJ45), .3 m (1 ft.)
1784-CP14	DH-485 network interface cable (5-pin Phoenix to RJ45)
2711P-CBL-EX04	Ethernet CAT5 crossover cable, industrial grade, 4.3 m (14 ft)

Communication Adapters

Cat. No.	Description
1761-NET-AIC	AIC+ advanced interface converter
1747-AIC	DH-485 isolated link coupler for use with DH-485 communication modules (2711P-RN3, 2711P-RN6)

Remote AC Power Supply (700 to 1500 only)

Cat. No.	Description
1606-XLE120E	DIN-rail power supply, AC-to-DC, 85…265V AC, 47…63 Hz

Miscellaneous

Cat. No.	Description
2711P-RVT12	Solar visor for outdoor high-bright 1250 touch screen display modules
2711P-RY2032	Replacement battery for 700 to 1500 terminals
2711P-RTMC	Replacement mounting clips for 700 to 1500 terminals, quantity of 8
2711P-RTFC	Replacement mounting levers for 400 and 600 terminals, quantity of 8
2711P-RVAC	Replacement AC power terminal block for 400 and 600 terminals
2711-TBDC	Replacement DC power terminal block for 400 and 600 terminals
2711P-RTBDC3 (1)	Three-position terminal block for DC logic modules, series A to D
2711P-RTBDC2 (1)	Two-position terminal block for DC logic modules, series E or later
2711P-RTBAC3(1)	Three-position terminal block for all AC logic modules

(1) Catalog numbers ship with a quantity of ten.

Firmware Upgrade Kits

Cat. No.	Description
2711P-RU310	PanelView Plus media kit includes firmware upgrade wizard, one firmware license, certificate of authenticity, end user license agreement.
2711P-RUA310	PanelView Plus advanced media kit includes the 2711P-RU310 media kit, PCMCIA to compact flash adapter, and 32 MB CompactFlash card.
2711P-RUL01	Firmware upgrade license kit with one PanelView Plus firmware license.(1)
2711P-RUL05	Firmware upgrade license kit with five PanelView Plus firmware licenses.(1)
2711P-RUL10	Firmware upgrade license kit with 10 PanelView Plus firmware licenses.(1)
2711P-RUL25	Firmware upgrade license kit with 25 PanelView Plus firmware licenses.(1)
2711P-RUL50	Firmware upgrade license kit with 50 PanelView Plus firmware licenses.(1)

(1) Also includes certificate of authenticity, end user license agreement, installation instructions.

Notes:

Installation

Chapter Objectives

This chapter provides pre-installation information and procedures on how to install the terminals.

- Hazardous locations
- Environment and enclosure
- Outdoor installation for 1250 high-bright display module
- Required tools
- Clearances
- Panel cutout dimensions
- Mount the 400 or 600 terminal in a panel
- Mount the 700 to 1500 terminals in a panel
- Product dimensions

Hazardous Locations

When marked, this equipment is suitable for use in these locations:

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, Group IIC
- Class II, Division 2, Groups F, G
- Class III
- ordinary, nonhazardous locations

The following statement applies to use in hazardous locations.

WARNING



Explosion Hazard

- Do not disconnect equipment unless power has been removed and area is known to be nonhazardous.
- Do not disconnect connections to this equipment unless power has been removed and the area is known to be nonhazardous.
- Substitution of components may impair suitability for Class 1, Division 2.
- Peripheral equipment must be suitable for the location it is used in.
- The battery or realtime clock module in this product must only be changed in an area known to be nonhazardous.
- All wiring must be in accordance with Class I, Division 2, Class II, Division 2, or Class III, Division 2 wiring methods of Articles 501, 502 or 503, as appropriate, 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.

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

USB Ports

The terminals contain universal serial bus (USB) ports that comply with hazardous location environments. This section details the field-wiring compliance requirements and is provided in accordance with the National Electrical Code, article 500.

PanelView Plus 400, 600, and 700 to 1500 Terminals Control Drawing

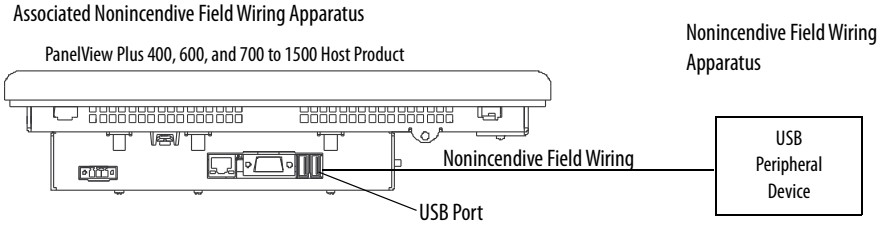


Table 1 - PanelView Plus 400, 600, and 700 to 1500 USB Port Circuit Parameters

Display Size	V_{oc}	I_{sc}	C_a		L_a	
			Groups A and B	Groups C and D	Groups A and B	Groups C and D
400 and 600 Series A and B	5.25V DC	1.68 A	10 µF	10 µF	15 µH	15 µH
400 and 600 Series C or later	5.25V DC	1.68 A	10 µF	10 µF	3.5 µH	15 µH
700 to 1500	5.25V DC	1.68 A	10 µF	10 µF	15 µH	15 µH

Selected nonincendive field wiring apparatus must have nonincendive circuit parameters conforming with Table 2.

Table 2 - Required Circuit Parameters for the USB Peripheral Device

V_{max}	≥	V_{oc}
I_{max}	≥	I_{sc}
$C_i + C_{cable}$	≤	C_a
$L_i + L_{cable}$	≤	L_a

Application Information

Per the National Electrical Code the circuit parameters of nonincendive field wiring apparatus for use in hazardous locations shall be coordinated with the associated nonincendive field wiring apparatus such that their combination remains nonincendive. The PanelView Plus terminal and the USB peripheral device shall be treated in this manner.

The circuit parameters of the PanelView Plus terminal USB port are given in Table 1. The USB peripheral device and its associated cabling shall have circuit parameters with the limits given in Table 2 for them to remain nonincendive when used with the PanelView Plus terminal USB port. If cable capacitance and inductance are not known the following values from ANSI/ISA-RP 12.06.01-2003 may be used:

C_{cable} = 197pF/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.

Symbol Definitions

V_{oc}	Open circuit voltage of the host USB port.
I_{sc}	Maximum output current of the host USB port.
V_{max}	Maximum applied voltage rating of the USB peripheral device. V_{max} shall be greater than or equal to V_{oc} in Table 1. ($V_{max} \geq V_{oc}$).
I_{max}	Maximum current to which the USB peripheral device can be subjected. I_{max} shall be greater than or equal to I_{sc} in Table 1. ($I_{max} \geq I_{sc}$).
C_i	Maximum internal capacitance of the USB peripheral device.
C_a	Maximum allowed capacitance of the USB peripheral device and its associated cable. The sum of C_i of the USB peripheral device and C_{cable} of the associated cable shall be less than or equal to C_a. ($C_i + C_{cable} \leq C_a$).
L_i	Maximum internal inductance of the USB peripheral device.
L_a	Maximum allowed inductance of the USB peripheral device and its associated cable. The sum of L_i of the USB peripheral device and L_{cable} of the associated cable shall be less than or equal to L_a. ($L_i + L_{cable} \leq L_a$).

Environment and Enclosure

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. Terminals that are AC powered must be connected to the secondary of an isolating transformer. Terminals that are DC Class 2 powered may be supplied from an isolated DC source when used with the indicated fuse kit.

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

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 will be present and appropriately designed to 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 Type and IEC ratings only when mounted in a panel or enclosure with the equivalent rating. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see:

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

For more enclosure and certification information, refer to the PanelView Plus/PanelView Plus CE Outdoor High-bright Display Modules Installation Instructions, publication 2711P-IN026.

Outdoor Installation for High-bright Displays

When using the high-bright display module, cat. no. 2711P-RDT12H, outdoors, considerations in maximizing the field life of the front bezel and display are:

- selecting the proper enclosure.
- orientation of the terminal.

Both ultraviolet and infrared radiation can reduce the field life of any electronic device. While the materials used in the terminal bezels provide long field life, that life can be extended by proper installation.

Ultraviolet radiation from the sun causes all plastics to fade or yellow and become brittle over time. Using an antiglare overlay, cat. no. 2711P-RGT12, will protect the front of the terminal from direct exposure to UV radiation and greatly increase its field life.

When installing the high-bright display module in an environment where the front of the terminal will be in direct sunlight during the hottest part of the day and the external ambient temperature can exceed 40 °C (104 °F), use the visor kit, cat. no. 2711P-RVT12. The visor reduces the solar load on the front of the display and helps to maintain internal temperatures within specification.

The high-bright display module has a built-in temperature sensor that automatically reduces the backlight intensity if the temperature inside the cabinet exceeds 55 °C (131 °F). This reduces the risk of damage to the display.

The paint color, size, and power dissipated by the internal components of an enclosure affect the temperature rise inside the cabinet. Hoffman, a Rockwell Automation Encompass Partner, has information to assist you with enclosure selection and heating/cooling accessories to meet the temperature requirements of the installed equipment. See website http://www.hoffmanonline.com.

Stirring fans or active cooling may be required in high altitude and high ambient temperature locations to keep the internal enclosure temperature below 55 °C (131 °F). Use a heater in installations where the ambient temperature is below 0 °C (32 °F).

The backlight of the high-bright display generates a significant amount of heat when set to full intensity. To minimize the amount of heat generated and extend the life of the backlight, decrease the display intensity by using the screen saver with a 5...10 minute delay.

Avoid placing the terminal on the south (north in the southern hemisphere) or west side of the cabinet, if possible. This will reduce the heat rise due to solar loading during the hottest part of the day.

Mount the terminal vertically to minimize solar loading on the display. Do not mount the terminal in a sloped enclosure if it will be exposed to direct sunlight.

Required Tools

These tools are required for panel installation:

- Panel cutout tools
- Small, slotted screwdriver
- Torque wrench (lb•in) for tightening the mounting clips on the PanelView Plus 700 to 1500 and PanelView Plus CE terminals

Clearances

Allow adequate clearance around the terminal, inside the enclosure, for adequate ventilation. Consider heat produced by other devices in the enclosure. The ambient temperature around the terminals must be between 0...55 °C (32...131 °F).

Clearance Area	400 and 600 Terminals	700 to 1500 Terminals
Top	51 mm (2 in.)	51 mm (2 in.)
Bottom	102 mm (4 in.)	51 mm (2 in.)
Side(1)	25 mm (1 in.)	25 mm (1 in.)
Back	None	25 mm (1 in.)

(1) Minimum side clearance for insertion of memory card and cable wiring is 102 mm (4 in.).

Cutout Dimensions

Use the full size template shipped with your terminal to mark the cutout dimensions.

Terminal Type	Height mm (in.)	Width mm (in.)
PanelView Plus 400 and 600 Terminals		
400 Keypad or Keypad and Touch	123 (4.86)	156 (6.15)
600 Keypad or Keypad and Touch	142 (5.61)	241 (9.50)
600 Touch	123 (4.86)	156 (6.15)
PanelView Plus and PanelView Plus CE 700 to 1500 Terminals		
700 Keypad or Keypad and Touch	167 (6.57)	264 (10.39)
700 Touch	154 (6.08)	220 (8.67)
1000 Keypad or Keypad and Touch	224 (8.8)	375 (14.75)
1000 Touch	224 (8.8)	305 (12.00)
1250 Keypad or Keypad and Touch	257 (10.11)	390 (15.35)
1250 Touch and 1250 High-bright Touch	257 (10.11)	338 (13.29)
1500 Keypad or Keypad and Touch	305 (12.00)	419 (16.50)
1500 Touch	305 (12.00)	391 (15.40)

Mount the 400 or 600 Terminal in a Panel

Mounting levers secure the terminal to the panel. The number of levers you use (4 or 6) varies by terminal type.

ATTENTION



Disconnect all electrical power from the panel before making the panel cutout.

Make sure the area around the panel cutout is clear.

Take precautions so metal cuttings do not enter any components already installed in the panel.

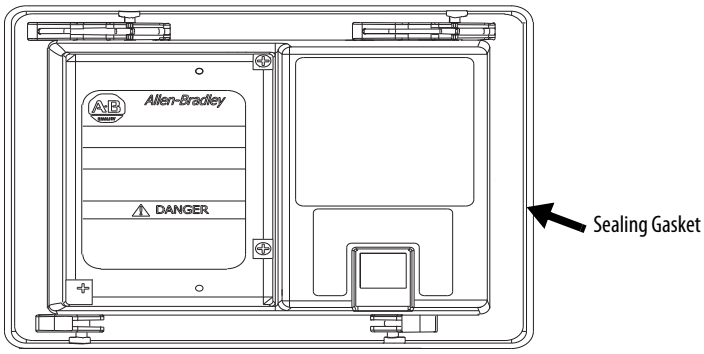
Failure to follow these warnings may result in personal injury or damage to panel components.

Follow these steps to mount the 400 or 600 terminals in a panel.

1. Cut an opening in the panel by using the panel cutout shipped with the terminal.
2. If a communication module is ordered separately, attach the module to the base unit before panel installation.

   Refer to the instructions shipped with module.
3. Make sure the terminal sealing gasket is properly positioned on the terminal.

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

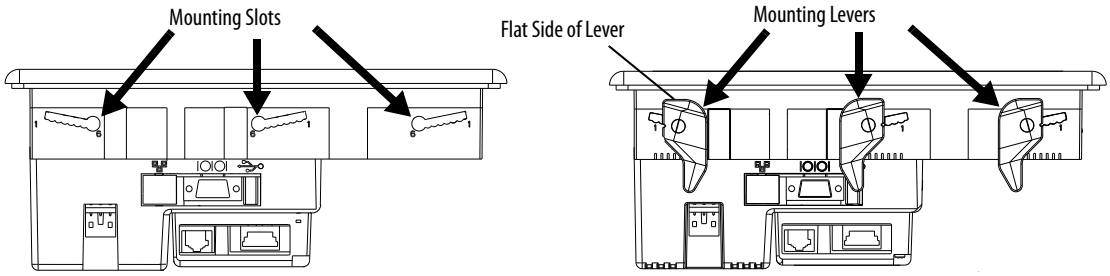


4. Install legend strips before installing the terminal if you are using keypad legend strips on a 600 keypad terminal.

   Be careful not to pinch legend strip during installation.
5. Place the terminal in the panel cutout.

   If installing the terminal in an existing 550 panel cutout, align the terminal with the center of the cutout for best gasket sealing.
6. Insert all mounting levers into the mounting slots on the terminal.

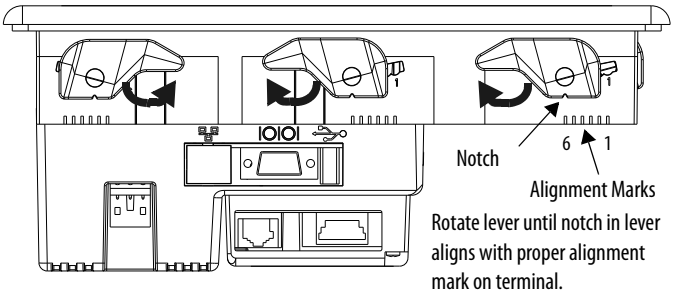
Slide each lever until the flat side of the lever touches the surface of the panel.

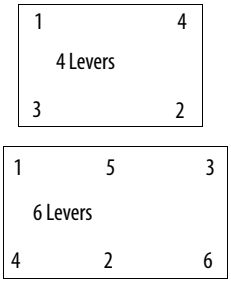


7. When all levers are in place, slide each lever an additional notch or two until you hear a click.

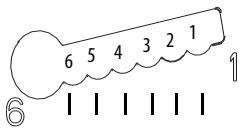
8. Rotate each lever in the direction indicated until it is in the final latch position.

   Follow the latching sequence for the optimum terminal fit.





Use this table as a guide to provide an adequate gasket seal between the terminal and the panel.

	Lever Position	Panel Thickness Range	Typical Gauge
 Terminal Markings	1	1.5…2.01 mm (0.060…0.079 in.)	16
	2	2.03…2.64 mm (0.08…0.104 in.)	14
	3	2.67…3.15 mm (0.105…0.124 in.)	12
	4	3.17…3.66 mm (0.125…0.144 in.)	10
	5	3.68…4.16 mm (0.145…0.164 in.)	8/9
	6	4.19…4.75 mm (0.165…0.187 in.)	7

ATTENTION



Follow instructions to provide a proper seal and to prevent potential damage to the product. Rockwell Automation assumes no responsibility for water or chemical damage to the terminal or other equipment within the enclosure because of improper installation.

Mount the 700 to 1500 Terminal in a Panel

Mounting clips secure the terminal to the panel. The number of clips you use (4, 6, or 8) varies by terminal type.

ATTENTION



Disconnect all electrical power from the panel before making the panel cutout.

Make sure the area around the panel cutout is clear.

Take precautions so metal cuttings do not enter any components already installed in the panel.

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

Follow these steps to mount a 700 to 1500 terminal in a panel.

1. Cut an opening in the panel by using the panel cutout shipped with the terminal.
2. Make sure the terminal sealing gasket is properly positioned on the terminal.

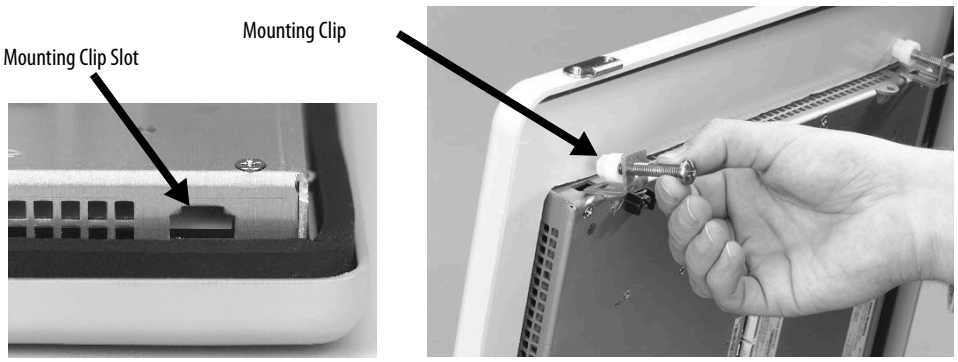
   This gasket forms a compression-type seal. Do not use sealing compounds.



3. Install the legend strips before installing the terminal if you are using keypad legend strips on keypad terminals.

   Be careful not to pinch the legend strip during installation.
4. Place the terminal in the panel cutout.

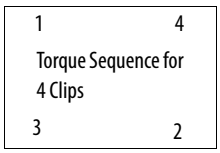
5. Slide the ends of the mounting clips into the slots on the terminal.

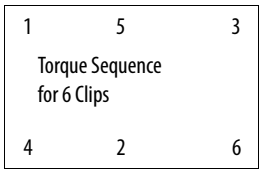


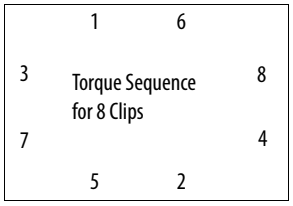
6. Tighten the mounting clip screws by hand until the gasket seal contacts the mounting surface uniformly.



7. Tighten the mounting clips screws to a torque of 0.90...1.1 Nm (8...10 lb•in) by using the specified sequence, making sure not to overtighten.







ATTENTION

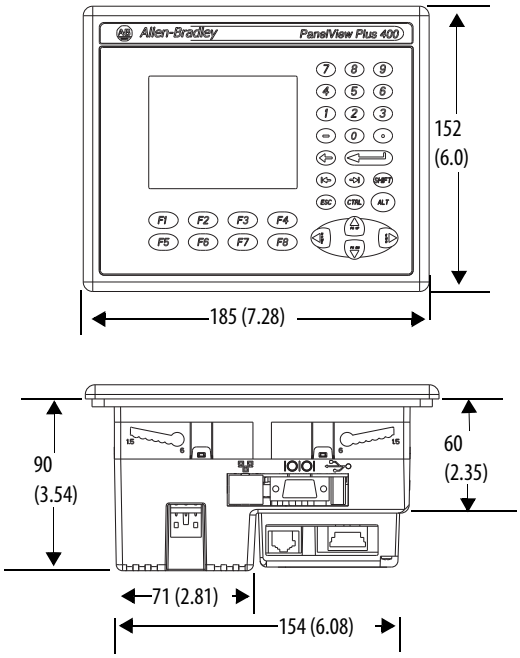
Tighten the mounting clips to the specified torque to provide a proper seal and to prevent damage to the product. Allen-Bradley assumes no responsibility for water or chemical damage to the product or other equipment within the enclosure because of improper installation.

Product Dimensions

Product dimensions for each terminal are in mm (in.).

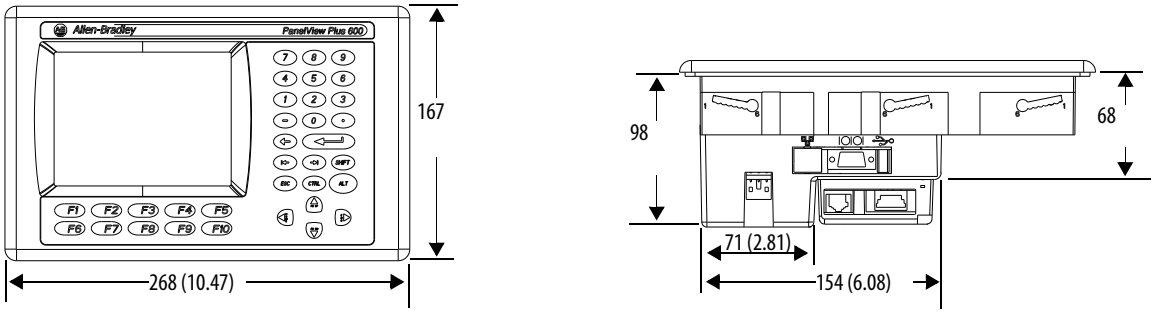
PanelView Plus 400 Dimensions

400 Keypad or Keypad/Touch Terminal

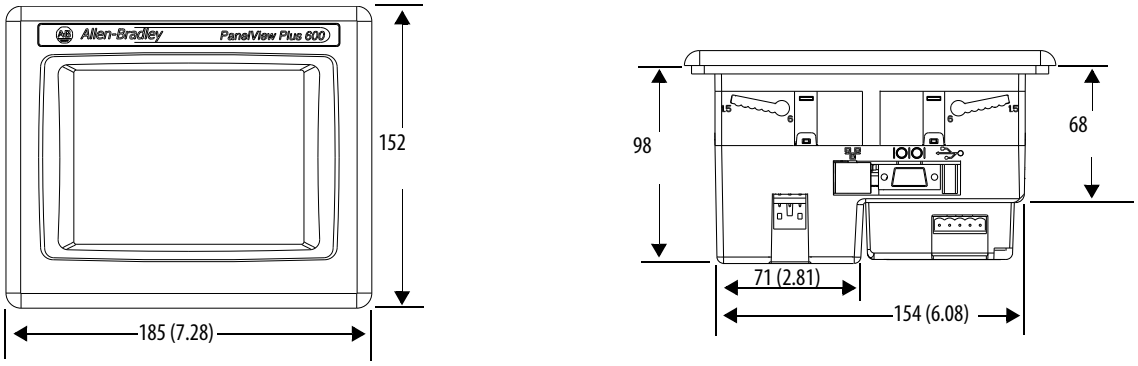


PanelView Plus 600 Dimensions

600 Keypad or Keypad/Touch Terminal



600 Touch Terminal

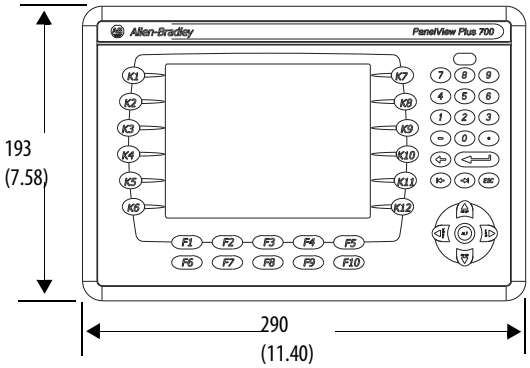


The depth dimensions are shown for:

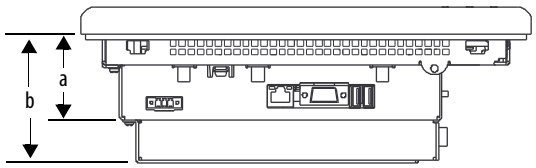
- base-configured unit (display module and logic module).
- base-configured unit with communication module.

PanelView Plus and PanelView Plus CE 700 Dimensions

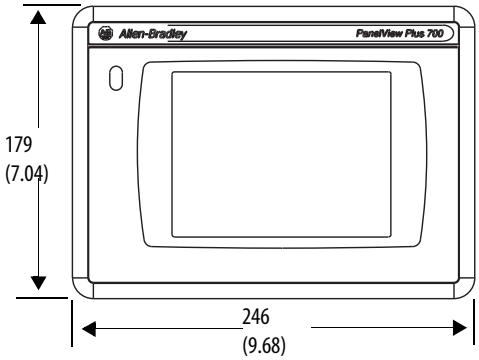
700 Keypad or Keypad/Touch Terminal



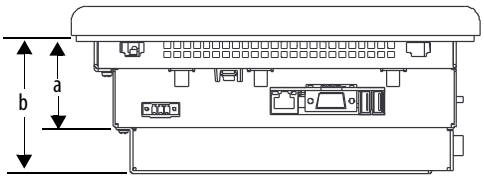
a 55 (2.18) Display to Logic Module



700 Touch Screen Terminal



a 55 (2.18) Display to Logic Module
b 83 (3.27) Display to Communication Module



The depth dimensions are shown for:

- base-configured unit (display module and logic module).
- base-configured unit with communication module.

Backlight 400 600…1500 1250 High-bright	 LED CCFL 50,000 hours life, min. Backlight not replaceable
Touch screen Actuation rating Operating force	Analog resistive 1 million presses 10…110 g
Keypad function keys(1) Actuation rating Operating force	Function keys, numeric and navigation 1 million presses 340 g

(1) Number of function keys varies by terminal size.

Mechanical

Attribute	Value
Weight, approx., HxWxD (for base unit without modules)	
400 keypad(1) or keypad and touch	562 g (1.24 lb)
600 keypad or keypad and touch(1)	930 g (2.05 lb)
600 touch(1)	789 g (1.74 lb)
700 keypad or keypad and touch	1.9 kg (4.2 lb)
700 Touch	1.7 kg (3.8 lb)
1000 keypad or keypad and touch	2.9 kg (6.3 lb)
1000 touch	2.6 kg (5.7 lb)
1250 keypad or keypad and touch	3.4 kg (7.6 lb)
1250 touch and 1250 high-bright touch	3.2 kg (7.1 lb)
1500 keypad or keypad and touch	4.6 kg (10.0 lb)
1500 touch	4.2 kg (9.3 lb)
Dimensions, approx. HxWxD (for base unit without communication module)	
400 keypad or keypad and touch	152 x 185 x 90 mm (6.0 x 7.28 x 3.54 in.)
600 keypad or keypad and touch	167 x 266 x 98 mm (6.58 x 10.47 x 3.86 in.)
600 touch	152 x 185 x 98 mm (6.0 x 7.28 x 3.86 in.)
700 keypad or keypad and touch	193 x 290 x 55 mm (7.58 x 11.40 x 2.18 in.)
700 touch	179 x 246 x 55 mm (7.04 x 9.68 x 2.18 in.)
1000 keypad or keypad and touch	248 x 399 x 55 mm (9.77 x 15.72 x 2.18 in.)
1000 touch	248 x 329 x 55 mm (9.77 x 12.97 x 2.18 in.)
1250 keypad or keypad and touch	282 x 416 x 55 mm (11.12 x 16.36 x 2.18 in.)
1250 touch	282 x 363 x 55 mm (11.12 x 14.30 x 2.18 in.)
1250 touch High-bright	282 x 363 x 74 mm (11.12 x 14.30 x 2.90 in.)
1500 keypad or keypad and touch	330 x 469 x 65 mm (12.97 x 18.46 x 2.55 in.)
1500 touch	330 x 416 x 65 mm (12.97 x 16.37 x 2.55 in.)

(1) Add approximately 95 g (0.21 lb) for communication module.