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PanelView Plus Terminals

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



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-RWx, to support any series logic module, catalog number 2711P-RPxx.

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

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

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.
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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

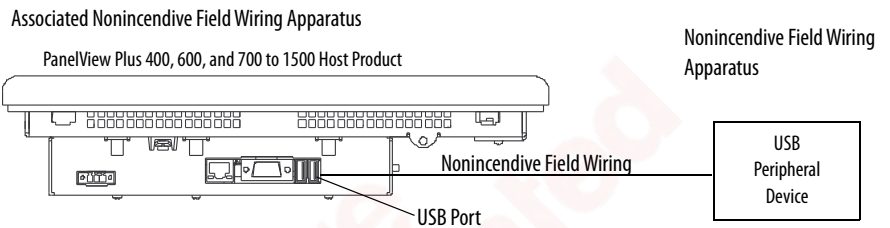


Table 1 - PanelView Plus 400, 600, and 700 to 1500 USB Port Circuit Parameters

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 μ F	10 μ F	15 μ H	15 μ H
400 and 600 Series C or later	5.25V DC	1.68 A	10 μ F	10 μ F	3.5 μ H	15 μ H
700 to 1500	5.25V DC	1.68 A	10 μ F	10 μ F	15 μ H	15 μ H

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}	$\geq$	V_{oc}
I_{max}	$\geq$	I_{sc}
$C_i + C_{cable}$	$\leq$	C_a
$L_i + L_{cable}$	$\leq$	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:

$$C_{\text{cable}} = 197 \text{ pF/m (60 pF/ft)}$$

$$L_{\text{cable}} = 0.7 \text{ } \mu\text{H/m (0.20 } \mu\text{H/ft)}$$

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 . ($C_i + C_{\text{cable}} \leq C_a$).
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 . ($L_i + L_{\text{cable}} \leq L_a$).

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.

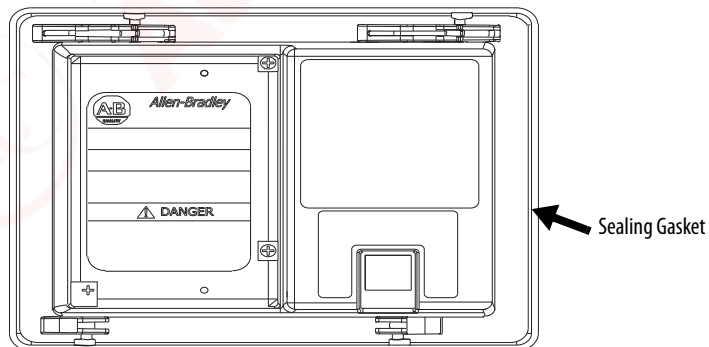
Follow these steps to mount the 400 or 600 terminals in a panel.

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.

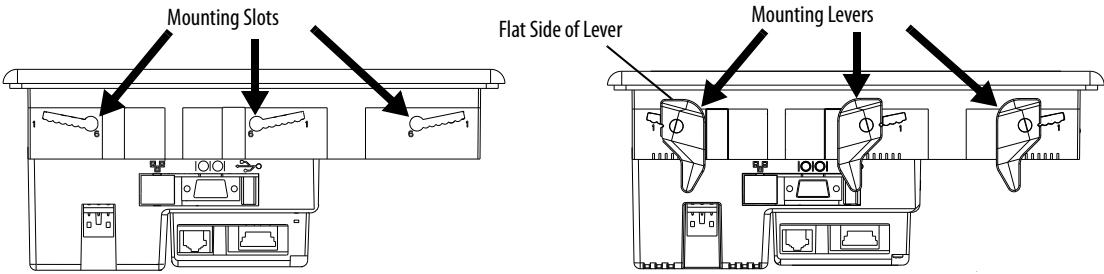
Be careful not to pinch legend strip during installation.

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.

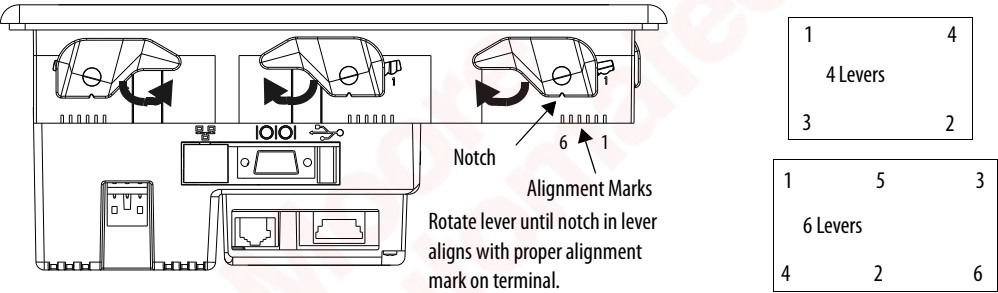
6. Insert all mounting levers into the mounting slots on the terminal.

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.

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