

PROCUREMENT SPECIFICATION

PanelView™ Plus 7 Performance Operator Interface for 7-inch to 19-inch Displays

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TABLE OF CONTENTS

PART 1 GENERAL	3
1.01 QUALIFICATIONS.....	3
1.02 REFERENCES.....	3
1.03 ENVIRONMENTAL REQUIREMENTS.....	3
1.04 SUBMITTALS.....	3
PART 2 PRODUCTS	3
2.01 MANUFACTURER–GENERAL.....	3
2.02 CONSTRUCTION–GENERAL.....	4
2.03 DISPLAY FEATURES–GENERAL.....	4
2.04 LOGIC FEATURES–GENERAL.....	4
2.05 PROGRAMMING–GENERAL.....	5
2.06 PROGRAMMING TECHNIQUES–GENERAL.....	6
2.07 RATINGS–GENERAL.....	7
2.08 OPERATOR TERMINAL–SPECIFIC.....	7
PART 3 EXECUTION	8
3.01 INSTALLATION.....	8
3.02 INTERFACE WITH OTHER PRODUCTS.....	8
3.03 CLEANING.....	8
3.04 SPARE MATERIALS.....	9

PART 1 GENERAL

1.01 QUALIFICATIONS

- A. **Manufacturer** must:
- Specialize in manufacturing products specified in this section with minimum 20 years documented experience
 - Have service personnel available 24 hours per day through a toll-free phone number
 - Offer local standard and customized training courses
- B. **Supplier** must be an authorized distributor of specified manufacturer with minimum three years documented experience.

1.02 REFERENCES

- A. The operator interface terminal shall be designed to meet the following agency approvals:
- cULus listed
 - CE marked for all applicable directives
 - North American Hazardous Locations Class I, Division II, Groups A,B,C,D certified
 - RCM marked for use in continental Australia
 - RoHS (Europe, China, and Turkey)
 - KCC
 - ODVA Conformant

1.03 ENVIRONMENTAL REQUIREMENTS

- A. The supplier shall conform to specified service conditions during and after installation of programmable controllers.
- B. The supplier shall maintain area free of dirt and dust during and after installation of products.

1.04 SUBMITTALS

- A. The supplier shall provide catalog cut-sheets.

PART 2 PRODUCTS

Any general specifications (–GENERAL) are design requirements for all PanelView Plus 7 Performance models covered in this document. Design requirements specific to each model start in section 2.08 and are in addition to the general design requirements.

2.01 MANUFACTURER–GENERAL

- A. Shall be Allen-Bradley[®], Model 2711P PanelView Plus 7 Performance Terminal.
- B. Substitutions are not permitted.

2.02 CONSTRUCTION–GENERAL

- A. The operator interface terminal shall combine the display, logic communication, and power into one base unit in a fixed hardware configuration.
- B. The operator interface terminal shall be designed with interchangeability provided for similar PanelView Plus models with 7-inch to 19-inch display sizes.
- C. The operator interface terminal shall have downward compatibility whereby all new model designs can be interchanged with similar models to reduce obsolescence.
- D. The operator interface terminal shall be designed for the following environmental parameters:
 - Operating temperature range of 0 to 55 °C (32 to 131 °F) [19-inch models to 50 °C (122 °F)]
 - Non-operating temperature range of -25 to +70 °C (-13 to 158 °F)
 - Humidity range of 5 to 95% non-condensing
- E. The operator interface terminal shall operate on power input of 18 to 30 VDC and 100 to 240 VAC.
- F. The operator interface terminal shall be provided with clamps for installing the display in the enclosure's cutout. The clamps shall compress the bezel gasket to form a permanent seal against the panel.
- G. The operator interface terminal shall be designed to provide free air flow convection cooling without a fan.

2.03 DISPLAY FEATURES–GENERAL

- A. The operator interface terminal shall have:
 - A flat panel display with Active Matrix Thin Film Transistor (TFT) color
 - A backlight (not replaceable)
- B. Touch screen operator interface terminals shall have the entire display available for object usage or shall have a combination touch screen and keypad layout.
- C. The operator interface terminal shall be configured to run an open or closed desktop environment:
 - An open system launches the Windows Explorer shell on start-up and appears with the Windows CE desktop and control panel. The system is configurable via the control panel and supports Windows operations.
 - A closed system launches a FactoryTalk® View Machine Edition application on start-up and does not allow access to the Windows CE desktop.

2.04 LOGIC FEATURES–GENERAL

- A. The operator interface terminal memory shall have a minimum total capacity of:
 - 512 MB of RAM memory that processes any active application program
 - 512 MB of solid-state (Flash) memory
- B. The back of the operator interface terminal shall have a slot for a Secure Digital (SD) memory card for loading the application, for upgrading firmware and for backing up, restoring, and cloning system images. The operator terminal shall operate with the memory card removed.

- C. The operator interface terminal shall have two Universal Serial Bus (USB) type-A connector ports to connect to:
 - HID, USB keyboard, and USB mouse devices with native device drivers
 - Removable, hot-swappable USB flash drives for external storage
 - Other USB devices such as modems, cameras, and bar-code readers
- D. The operator interface terminal shall have a Back Up and Restore Utility which allows creation of a clone image of the terminal's configuration, including firmware, application, and network settings. This cloned file can be put on a USB Flash Drive or SD Card, allowing complete restoration of a replacement terminal without the need for a computer or software.
- E. The operator interface terminal shall use an embedded EtherNet/IP switch and communicate over an Ethernet connection using DLR, linear, or star network topologies.
- F. The operator interface terminal shall include a battery-backed real-time clock.
 - Access to the time and date shall be from the user program.
 - Message generation and alarm generation shall be time-stamped.
- G. The operator interface terminal shall include indicators for the following:
 - CPU status information
 - Communications status information for the logic module channel

2.05 PROGRAMMING—GENERAL

- A. The programming software shall be:
 - Compatible with the logic controller programming software, RSLogix™
 - Compatible with communications systems driver software, RSLinx® Enterprise, or KEPServer
 - Tested to run on Microsoft Windows 2000/XP/7 (32/64-bit for Windows 7)
- B. A single programming package shall be capable of programming the family of specified graphical operator interfaces.
- C. A configuration mode on the operator interface terminal shall be provided to adjust display characteristics, memory card (if used), terminal presets, terminal information, date and time, and printer setup on demand, and be available from run mode if required.
- D. Run mode object shall be available to place the operator interface terminal in Run mode on demand from the configuration mode.
- E. The software package shall serve the following minimum operator devices:
 - Pushbuttons and selectors
 - ASCII entry devices
 - Diagnostic indicators
 - Message displays
 - Embedded numeric and ASCII variable displays
 - Analog and digital gauges
 - Trends
 - Animation of objects
- F. The software package shall offer such features as cut, copy, paste, and tag import/export capabilities in and between various PanelView Plus application files.

- G. The operator interface terminal shall be capable of displaying the following data types:
- Bit 0 or 1
 - 4BCD 0 to 9999
 - Unsigned Integer 0 to 65535
 - Signed Integer -32768 to +32767
 - DINT -2,147,483,648 to 2,147,483,647
 - SINT -128 to +127
 - IEEE Floating Point to single precision
 - String 82 characters
 - Boolean True or False

2.06 PROGRAMMING TECHNIQUES–GENERAL

- A. The programming format shall involve placing input and output objects via the offline programming and configuration package, FactoryTalk View Machine Edition.
- B. Input and output objects shall be linked to the logic controller via “tags” that contain addressing information to access the data in the logic controller.
- C. Capability shall exist for the following:
- Trending/data logging
 - Recipe management
 - Macros
 - Graphics library to include various industry objects such as motors, pumps, pipes, etc.
 - Graphic animation
 - Go online and then download the application to the operator interface terminal
- D. The operator interface terminal software shall be compatible with pre-programmed and pre-tested graphics (Faceplates) and associated programmable controller code (Add-on-Instructions), which include device configuration, commissioning, status and control, fault and alarm indication, diagnostics, and operator help. Faceplates/Add-on-Instruction sets shall be available for devices such as Variable Frequency Drives, Digital and Analog Input/Output Modules, Overload Relays, Power Monitors, and Networks.
- E. Print operation shall be initiated with a “print” object in the user application.
- F. The operator interface terminal desktop shall include these features:
- PDF reader
 - FTP server
 - VNC client server
 - ActiveX controls
 - Third-party device support
- G. The operator interface terminal desktop shall include these extended features:
- Web browser with ability to embed HTML pages in application
 - Remote desktop connection to allow RDP sessions and create thin-client capabilities
 - Microsoft Office file viewers (PowerPoint, Excel, Word, Image Viewer)
 - Text editor
 - Media player

- H. New operator interface terminal firmware can be downloaded into the terminal on demand via SD card, serial communications (USB type B connector), or Ethernet communications.
- I. The operator interface terminal shall have a user-configurable alarm system capable of popping up an alarm banner on a user screen and presenting information that is critical to the user and of immediate use.
 - The Alarm banner shall be configured to include the following buttons:
 - a) Acknowledge
 - b) Acknowledge All
 - c) Alarm Status Mode
 - d) Clear Alarm Banner
 - e) Clear Alarm History
 - f) Print Alarm History
 - g) Print Alarm Status
 - h) Reset Alarm Status
 - i) Silence
 - j) Sort Alarms
- J. Non-volatile memory shall store the operating system information to protect against loss in case of power loss or system shutdown.

2.07 RATINGS—GENERAL

- A. The operator interface terminal shall be able to withstand:

Vibration (7- to 12-inch models)	10 – 57 Hz, 0.012 peak-to-peak displacement;
	57 – 500 Hz, 2 g peak acceleration
Vibration (15- and 19-inch models)	10 – 57 Hz, 0.006 peak-to-peak displacement;
	57 – 640 Hz, 1 g peak acceleration
Altitude, Operating	2000 m (6561 ft)
Shock, Operating	15 g at 11 ms
Shock, Non-operating	30 g at 11 ms
- B. The operator interface terminal shall have enclosure ratings of NEMA/UL Type 12, 13, 4X (Indoor use only), and IP66 as classified by UL.

2.08 OPERATOR TERMINAL—SPECIFIC

- A. 7-INCH DISPLAY
 - The operator interface terminal shall be Allen-Bradley Series 2711P, PanelView Plus 7 Performance 700.
 - The viewing area shall be 132 mm wide by 99 mm high.
 - The operator display/input shall be a color graphic display with touch screen input [or combination touch screen and keypad layout].
- B. 9-INCH DISPLAY
 - The operator interface terminal shall be Allen-Bradley Series 2711P, PanelView Plus 7 Performance 900W.
 - The viewing area shall be 196 mm wide by 118 mm high.
 - The operator display/input shall be a color graphic display with touch screen input.

C. 10-INCH DISPLAY

- The operator interface terminal shall be Allen-Bradley Series 2711P, PanelView Plus 7 Performance 1000.
- The viewing area shall be 211 mm wide by 158 mm high.
- The operator display/input shall be a color graphic display with touch screen input [or combination touch screen and keypad layout].

D. 12-INCH DISPLAY

- The operator interface terminal shall be Allen-Bradley Series 2711P, PanelView Plus 7 Performance 1200W.
- The viewing area shall be 261 mm wide by 163 mm high.
- The operator display/input shall be a color graphic display with touch screen input.

E. 15-INCH DISPLAY

- The operator interface terminal shall be Allen-Bradley Series 2711P, PanelView Plus 7 Performance 1500.
- The viewing area shall be 304 mm wide by 228 mm high.
- The operator display/input shall be a color graphic display with touch screen input [or combination touch screen and keypad layout].

F. 19-INCH DISPLAY

- The operator interface terminal shall be Allen-Bradley Series 2711P, PanelView Plus 7 Performance 1900.
- The viewing area shall be 376 mm wide by 301 mm high.
- The operator display/input shall be a color graphic display with touch screen input.

PART 3 EXECUTION

3.01 INSTALLATION

- A. The supplier shall install in accordance with manufacturer's instructions.
- B. The supplier shall unload, unpack, and transport equipment to prevent damage or loss.
- C. The supplier shall replace damaged components as directed by engineer.
- D. The graphical operator interface shall be protected from dust and other harmful materials.

3.02 INTERFACE WITH OTHER PRODUCTS

- A. The supplier shall provide all required cables, cords, and connections for interface with other control system components.
- B. The supplier shall coordinate size and configuration of enclosure to meet project requirements.

3.03 CLEANING

- A. The supplier shall clean units as recommended by manufacturer.

3.04 SPARE MATERIALS

- A. For each size operator interface terminal being installed, the supplier shall provide:
- Antiglare overlay kit
 - SD card
 - Real-time clock replacement battery

END OF SECTION

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