

## PanelMate® ePro™ PS Operator Interface

### Commercial Issues

#### 1. What is the PanelMate ePro PS?

The PanelMate ePro PS is a family of high performance operator interface products. The ePro PS models are available with 8, 10, 12 and 15-inch color TFT touchscreen displays or as a Blind Node with no display. The product features integrated Ethernet and serial communications, builtin OPC servers, UL, cUL, CSA, Class I Div 2 and CE certifications and USB, PCMCIA and removable CompactFlash® interfaces. The PanelMate ePro PS is now also RoHS compliant.

#### 2. What models are available?

There are 4 basic categories of models:

PS: The standard PS series supports ePro Canvas® Runtime.

PS Classic: The PS Classic series includes all of the features of the standard PS models with the addition of support for the PanelMate Power Pro Runtime and three application kits – Headline Manager, Document Viewer and Recipe Manager.

PS OD: The PS Outdoor series includes all of the features of the standard PS with built in anti-glare, anti-reflective and anti-UV coatings that make the unit suitable for use in direct sunlight and harsh outdoor applications.

PS EE: The PS Enterprise Edition series provides a more comprehensive set of Windows XP® components and services. By adding these components, you have the ability to run more third party applications, such as competitive OI and SCADA software packages.

#### 3. What software is used to create and edit pages for the PanelMate ePro PS?

Canvas development software is used to build and edit pages and to configure unit information for the PanelMate ePro PS. This software package provides an editing environment that delivers state-of-the-art features. Canvas seat and site licenses are a one-time purchase, and therefore, a single development software package can be used for an unlimited number of ePro PS hardware applications. Runtime software comes pre-licensed on ePro PS hardware at no additional cost. For further details, refer to Canvas Frequently Asked Questions, PA04803001E, available on [www.eaton.com/electrical](http://www.eaton.com/electrical) under Products, Logic Control, Operator Interface, Software.

#### 4. Is the PanelMate ePro PS available in stainless steel?

Yes. All PanelMate ePro PS 10, 12 and 15-inch models are available in stainless steel. All painted steel and stainless steel units with displays are rated NEMA 4, 4X, 12 and IP65 when properly mounted in a correspondingly rated enclosure.

#### 5. Can I customize the front panel of the PanelMate ePro PS?

Yes. It is possible to customize the front panels of the display models. Customization is available and quoted on a case-by-case basis. Contact your local sales engineer or distributor partner for further details.

#### 6. Are there trade-up programs for PanelMate ePro PS?

Yes. The trade up program has been expanded to include select ePro PS models. By taking advantage of this incredible trade-up program, you can receive thousands of dollars for your obsolete PanelMate products when purchasing new PanelMate ePro™ PS and Power Pro products.

#### 7. Can I use the communication cables sold for use with the PanelMate Power Pro and PanelMate ePro units?

Serial communication cables can be used with the PanelMate ePro PS. A DB9 (F) / DB9 (F) port converter (gender changer) is required to convert one of the cable's DB9 (M) connectors to a DB9 (F) connector so that it can attach to the DB9 (M) connectors on the PanelMate ePro PS. Where the Power Pro cables will not work, the standard PC to PLC serial programming cables will work.

#### 8. Can I get the ePro PS product manual in hard copy form from Eaton?

No. The PanelMate ePro PS hardware manual is supplied on CD-ROM with each PanelMate ePro PS unit. The manual is copyrighted, but users can make copies of the electronic files for their personal use only. The manual is called "PanelMate ePro PS Family Users Guide" and is available on the web at [www.eaton.com/electrical](http://www.eaton.com/electrical) under Products, Logic Control, Operator Interface, PanelMate ePro PS.

#### 9. Is the backlight field replaceable on the PanelMate ePro PS display models?

Yes. The bulb-life for the 8, 10, 12 and 15-inch display models is 50,000 hours typical and the bulb is field replaceable. Backlight kits are available as spare parts. The end-user can greatly extend the bulb life by reducing the bulb brightness when not in use. There is a backlight dimming feature on the PanelMate ePro PS where the bulb can be automatically dimmed after a selected time of inactivity. Please see RP04801001E for more information on PanelMate replacement bulbs.

#### 10. What kind of support is available?

Technical support is available FREE of charge by calling the Technical Resource Center (TRC) at 877-ETN-CARE from 8AM to 6PM Eastern time. You may also e-mail the TRC at [CHATechsupport@eaton.com](mailto:CHATechsupport@eaton.com).

## Technical Questions

### **11. What power supply should be used with the PanelMate ePro PS?**

The PanelMate ePro PS voltage specification is 24V dc nominal (16 - 30V dc). The power consumption, current, and peak current inrush specifications vary for the different model series, so users should refer to the product specification details before procuring a power supply. The Cutler-Hammer power conversion module with Catalog Number PSS160E converts 115 / 230 VAC to 24 VDC and is recommended for use with any of the ePro PS models.

### **12. What communication drivers are available for use with the PanelMate ePro PS?**

Over 100 different serial, Ethernet, and industrial network OPC servers/drivers are provided with Canvas. See the PanelMate Migration document, TD04806001E, for a complete listing of drivers. Drivers may also be found on [www.kepware.com](http://www.kepware.com) or in our free 30-day trial software download at [www.eaton.com/electrical](http://www.eaton.com/electrical). Drivers are constantly being added, so please contact the TRC at 877-ETN-CARE if your desired driver is not listed. For further details on software, refer to the Canvas Frequently Asked Questions, PA04803001E, available on [www.eaton.com/electrical](http://www.eaton.com/electrical) under Products, Logic Control, Operator Interface, Software.

### **13. How many OPC drivers can I use simultaneously on the PanelMate ePro PS?**

Each individual application (.UCF file) can use up to 3 OPC drivers simultaneously on the ePro PS platform as a standard. Contact your local sales engineer for a custom ePro PS if you need to communicate on more than three protocols at once.

### **14. What industrial network interface cards can I use with the PanelMate ePro PS?**

All PanelMate ePro PS units come with an Ethernet 10/100 Base-T port and 2 serial ports (1 RS232/422/485 optically isolated and 1 RS232) connections for communications. The PanelMate ePro PS also has 2 PCMCIA Type II slots (or 1 Type III slot) to support high-speed network interface cards (NICs). Only authorized NICs should be used with the ePro PS. A complete list of authorized hardware devices is included in AP04802005E, available on the web at [www.eaton.com/electrical](http://www.eaton.com/electrical) under Products, Logic Control, Operator Interface, PanelMate ePro PS.

### **15. Can I run 3rd party software (not supplied by Eaton) on the PanelMate ePro PS?**

Yes. The enterprise edition (EE) was designed with a more comprehensive set of Windows XP components and services. By adding these components, you have the ability to run more third party applications such as competitive OI and SCADA software packages.

### **16. Is there a limit to the number of pages I can have in my ePro PS configuration?**

No. There is no limit to the number of pages allowed in a Canvas application. Of course, there are many factors which affect performance and memory utilization such as density and complexity of controls, number and resolution of pages, etc. Reuse tools in Canvas such as Master Pages and Index Lists greatly improves the performance of your application and decreases the memory footprint and development time. These advanced Canvas features enable users to create larger scale applications in comparison to earlier PanelMate and competitive software packages.

### **17. Is there a limit to the number of controller (PLC) references or tags?**

No. There is no limit to the number of addresses or tags allowed in a Canvas application. There is also no limit to the number of devices that may be communicated to using a single protocol. Hundreds of protocols are available and up to three protocols such as Ethernet/IP, Modbus TCP/IP, and GE SNP serial may be used simultaneously. Contact your local sales engineer for a custom ePro PS if you need to communicate on more than three protocols at once.

### **18. What type of memory is used on the ePro PS models?**

The ePro PS family of Operator Interface has both volatile (temporary) and non-volatile memory. The Standard, Classic, and Outdoor versions have 512MB DDR2 RAM, or system memory. The Enterprise Edition has 1GB DDR2 RAM.

The non-volatile memory is an internal CompactFlash that is used to store the operating system and support files, along with the PanelMate ePro PS Runtime software and application files. No rotating or magnetic media is used. The Standard, Classic, and Outdoor versions have a 1GB internal CF. The Enterprise Edition has a 4GB internal CF and a 512MB external CF.

The internal CompactFlash memory is partitioned as a C and D drive on the Standard, Classic, and Outdoor models. The C drive on all models, including the Enterprise Edition, that contains the operating system and other non-user files is protected at all times by the exclusive Protect Mode™ feature. This means that the storage device can not become corrupted by viruses, power outages or cluttered with unwanted files.

### **19. Can I add more memory to my ePro PS unit?**

Yes. There several ways that you can add more memory to the ePro PS. First, a custom Enterprise Edition may be ordered with a larger internal and/or external CF as well as increased RAM (system memory).

In addition, end customers may chose to purchase commercially available CompactFlash to use in the external CF slot. Other means of extending non-volatile memory include USB drives and PCMCIA drives. You can also map shared network drives to the ePro PS to access and store data and files outside of the unit.

**20. Can I remove or insert an external CompactFlash memory card while the ePro PS is running?**

No! A CompactFlash memory card should not be removed or inserted while the ePro PS is running. The unit should be shut down or power disconnected before removing or inserting a CompactFlash memory card in order to protect the integrity of the CompactFlash and the unit.

In the event that you disregard the yellow warning sticker surrounding the external CF slot and remove/insert media under power, feel free to contact our Customer Service and Repair toll free number at 877-ETN-CARE for a non-warranty repair estimate.

**21. Can I remove or insert PCMCIA cards while the ePro PS is running?**

PCMCIA cards should be removed per the card manufacturer's instructions. If the manufacturer supports hot insertion and removal of their PCMCIA card, the "Safely Remove Hardware" tool in the start bar's System Tray should be used to stop the associated driver prior to removing the card.

**22. What Operating System is used on the PanelMate ePro PS?**

The PanelMate ePro PS utilizes Microsoft's Windows XP Embedded operating system. Stability and reliability is achieved through solid-state hardware design and the exclusive Protect Mode feature that protects against changes to the operating system and installed software.

**23. What are the mounting ratings of the PanelMate ePro PS?**

The PanelMate ePro PS display models are rated for NEMA 4, 4X, 12 and IP65 installations when mounted in a correspondingly rated enclosure. The Blind Node is designed for mounting inside a cabinet so these ratings do not apply.

**24. What agency certifications apply to the PanelMate ePro PS?**

The PanelMate ePro PS models come with UL, cUL, CSA Class I, Div 2 and CE Mark certifications. The ePro PS family of Operator Interface is also RoHS compliant.

**25. What communication ports come standard on the ePro PS?**

All PanelMate ePro PS models have:

- 1 Ethernet 10/100 Base-T port
- 2 DB9 (M) serial ports. The first port supports RS232 and the second supports RS232/RS422/RS485 and is optically isolated.
- 4 USB ports (V2.0)

**26. What USB devices can I use?**

Any Microsoft® compatible USB device is supported on ePro PS.

**27. Can USB devices be connected and disconnected while the PanelMate ePro PS is running?**

USB devices should be connected and disconnected per the device manufacturer's recommendations. Most devices can be added and removed without powering down. In many cases it is recommended to use the "Safely Remove Hardware" tool in the Start bar's System Tray to stop the associated driver prior to removing the USB device.

**28. Can I see my PanelMate ePro PS unit when I browse the network computers?**

Yes. The PanelMate ePro PS's Computer Name appears like any other computer when browsing the network. You can also use the Windows search tool to find the ePro PS by either Computer Name or IP Address.

**29. Does ePro PS support Remote Desktop?**

Yes. ePro PS comes standard with the Windows XP remote desktop feature and remote desktop connection utility. There are also a number of free software utilities available on the web such as RealVNC and UltraVNC that support multiple simultaneous remote connections. Many of these packages offer advanced features such as optional control, complete file transfers, and chat. All with security. For further information, see AP04801002E, Remote Access Capability with PanelMate ePro PS and Canvas, available on the web at [www.eaton.com/electrical](http://www.eaton.com/electrical) under Products, Logic Control, Operator Interface, PanelMate ePro PS.

**30. How do I turn my PanelMate ePro PS unit on and off?**

There is no ON/OFF switch on the ePro PS. For most applications, it is safe to simply apply and remove power. Instances when it is not safe to remove power are during a power up, during a Protect Mode Save, and when a third party application is writing to a memory device. Because of the Protect Mode™ feature, the ePro PS operating system will not be affected by unexpected power loss.

Note: when using any archiving feature, it is recommended that Eaton's Powerware UPS product be used to insure that your data is not lost or corrupted from an unexpected power loss.

**31. Are Microsoft security updates available for the ePro PS's XP Embedded operating system?**

Yes, as they become available you will be able to download them from [www.eaton.com/electrical](http://www.eaton.com/electrical) under Tools >> Software Downloads. You cannot receive updates from Microsoft as you would for a Windows XP Professional PC because the two operating systems are different. Furthermore, many of the XP Pro updates do not apply because not all Windows drivers and services are included in ePro's XP Embedded operating system image. Eaton will consolidate updates from Microsoft and publish them with an update procedure on the Eaton web site along with other ePro PS and Canvas software updates. Since the ePro PS's exclusive Protect Mode protects the operating system from security issues, a customer may choose not to install the Windows updates because they can clear a security problem by a simple reboot.

**32. What should I do if my PanelMate ePro PS unit needs to be repaired?**

Contact your local Eaton sales representative, authorized distributor, or call 877-ETN-CARE.