

## ELC Graphics Panel



## HMI Operator Interface



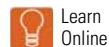
## XV and XP Operator Interface



## PanelMate Operator Interface



|            |  |          |
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## Product Selection Guides

### Operator Interface System Components

Each operator interface system requires component selection from three major categories:

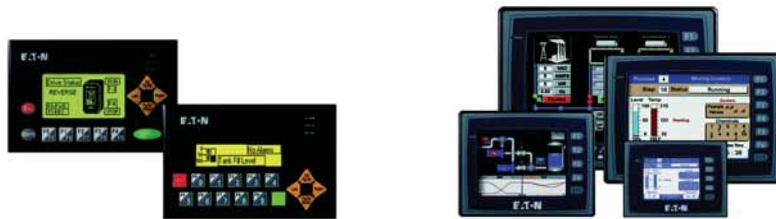
- Operator interface—the online unit or operator station
- Configuration software—PC-based software, used to configure and transfer applications to and from the operator interface
- Connectivity—includes optional cables, hardware interfaces and software utilities

### Selection Criteria

- First, select the most appropriate operator interface, display type and size, and operator input options for the customer's application
  - The selection of the operator interface model line is driven by such considerations as the size and complexity of the operator interface application, performance requirements, as well as the economic factors of the overall control system
  - The display type is chosen based on application complexity and the operator's proximity to the operator interface
- Operator input options include either touchpanel (keypad) or touchscreen operator interface models. Criteria for selection of the best input method include environmental factors (airborne particles, grease, etc.), and application design (numeric input, one-touch control, etc.)
- Second, select the appropriate configuration editing software for the chosen Operator Interface

**Note:** In order to specify the proper configuration software, cabling and other connectivity options, you must know the target PLC or controller to be used with the operator interface. Required information may include the PLC brand, model number, software/firmware revision level and hardware/software interface type. If the customer already has the configuration software, they may only need a software upgrade, which may be downloaded at [www.eaton.com/oi](http://www.eaton.com/oi).

Operator Interfaces and Programming Software Selection Guide



| Description                  | ELC-GP Graphics Panel  | HMI Operator Interface  |
|------------------------------|------------------------|---|
|                              | Page V7-T5-6           | Page V7-T5-14   |
| Screen size                  | Two-line and four-line | 3.5 in, 5.7 in, 7.0 in, 8.0 in and 10.4 in  |
| Screen options               | Monochrome             | 65k color TFT   |
| Interface                    | Keypad only            | Resistive touchscreen only or touchscreen and keypad                                |
| Communication ports          | 2 serial               | 3 serial; USB; Expansion port for Ethernet or Local I/O, onboard Ethernet VU models |
| Simultaneous protocols       | 1                      | 3 or 4  |
| Ethernet drivers             | —                      | Yes   |
| Upload/download              | Serial cable           | Serial, Ethernet, and/or USB  |
| Operating system             | Proprietary            | Proprietary   |
| Third-party software support | —                      | —   |
| Screen saver                 | —                      | Yes   |

Operator Interfaces and Programming Software Selection Guide, continued



| Description                  | XV Operator Interface   | XP Operator Interface   | PanelMate ePro PS Operator Interface   |
|------------------------------|---|---|--|
|                              | Page V7-T5-32   | Page V7-T5-36   | Page V7-T5-44  |
| Screen size                  | 3.5 in, 5.7 in, 7.0 in, 8.4 in and 10.4 in  | 8.4 in, 10.4 in, 12.1 in, 15.0 in and blind node (no screen)                          | 8 in, 10 in, 12 in, 15 in and blind node (no screen)   |
| Screen options               | Color TFT, 64k colors; resolutions from QVGA (320 x 240) to WVGA (800 x 480)                                | Color TFT, 16 million colors; resolutions from SVGA (800 x 600) to UVGA (1600 x 1200) | 16 million color TFT; indoor and outdoor; resolutions from VGA (640 x 480) to UXGA (1600 x 1200) |
| Interface                    | Resistive touchscreen   | Infrared, non-reflective safety glass   | Touchscreen only   |
| Communication ports          | Ethernet, RS-232 and/or RS-485, USB; CANopen or PROFIBUS DP, SmartWire-DT, USB and RS-485 on CoDeSys models | 2 serial; 2 Ethernet; removable CompactFlash; 4 USB; VGA                              | 2 serial; 1 Ethernet; 2 PCMCIA; 1 removable CompactFlash; 4 USB; VGA                             |
| Simultaneous protocols       | 3   | 5 or 8  | 3  |
| Ethernet drivers             | Yes   | Yes   | Yes  |
| Upload/download              | Serial, Ethernet, USB   | Serial, Ethernet, USB   | Serial, Ethernet, USB  |
| Operating system             | Windows CE 5.0 Professional   | Windows XP Embedded (protected)   | Windows XP Embedded (protected)  |
| Third-party software support | —   | Yes   | Yes  |
| Screen saver                 | Yes   | Yes   | Yes  |

### Software Product Selection Guide



| Description  | Visual Designer  | XSoft-CoDeSys-2 <sup>①</sup>   | HMISoft  | ELCSoftGP  |
|--|--|--|--|--|
| Overview   | Feature-rich software package with SCADA functionality and web serving capabilities that can be run on XV, XP, ePro PS operator interfaces or personal computers | Feature-rich software package with integrated logic and visualization that can be run on specific XV operator interface models | Use <b>HMISoft</b> to create, edit, upload and download applications to the <b>HMISoft</b> family of operator interfaces | Use ELCSoftGP to create, edit, upload and download applications to ELC Graphics Panels |
| <b>Catalog ID</b>  |  |  |  |  |
| Development software seat license                          | VISUALDCE (CE hardware)<br>VISUALDXP5 (5-pack of VISUALDXP)<br>VISUALDCE5 (5-pack of VISUALDCE)<br>VISUALDXP (PCs, XPe, and CE hardware)                         | SW-XSOFT-CODESYS-2-S <sup>②</sup><br>SW-XSOFT-CODESYS-2-M <sup>③</sup>   | HMISOFT  | ELCSOFTGP  |
| Runtime software for a PC                                  | VISUALRTPC   | N/A  | N/A  | N/A  |
| <b>Time-Saving Editor Features</b>                         |  |  |  |  |
| On and off-line simulation                                 | •  | •  | •  | —  |
| Macro capability   | •  | •  | •  | —  |
| VB scripting   | •  | —  | —  | —  |
| Multi-language   | •  | •  | •  | —  |
| System/internal variables                                  | •  | •  | •  | —  |
| Auto-scale application to different resolution/screen size | •  | •  | •  | —  |
| Scripting (IF, THEN, ELSE, GOTO)                           | •  | •  | •  | —  |
| Graphics library   | •  | —  | •  | —  |
| Master pages   | • Screen groups  | • One  | • Base screen  | —  |
| User-created controls                                      | •  | •  | •  | —  |
| Customizable application symbols                           | •  | •  | —  | —  |
| Full math evaluation                                       | •  | •  | • With macros  | —  |
| Reusable controls, images and pages                        | • Via indirect tag and/or PLC assignments  | •  | —  | —  |
| Advanced search and replace                                | •  | •  | —  | —  |
| Advanced context sensitive help                            | •  | •  | —  | —  |
| Conversion of legacy PanelMate™ configurations             | •  | —  | —  | —  |
| Optional PanelBuilder™ conversion utility                  | •  | —  | —  | —  |
| Online configuration/editing                               | •  | •  | —  | —  |

**Notes**

- ① See the logic section of the catalog for details on the logic features in the XSoft-CoDeSys-2 software package.
- ② Includes XSoft-CoDeSys-2 software for developing applications, runtime software for the XV Series. Single User License.
- ③ Includes XSoft-CoDeSys-2 software for developing applications, runtime software for the XV Series. Multi User License.

### Software Product Selection Guide, continued



**Visual Designer**



**XSoft-CoDeSys-2** <sup>①</sup>



**HMISoft**



**ELCSoftGP**

| Description   | Visual Designer        | XSoft-CoDeSys-2 <sup>①</sup>           | HMISoft                     | ELCSoftGP |
|---|------------------------|--|-----------------------------|-----------|
| <b>Runtime Features</b>                                   |                        |  |                             |           |
| Clock synchronization with controller                     | •                      | • Configured via visualization screens | •                           | •         |
| Sound actions or control                                  | •                      | —                                      | •                           | •         |
| Security  | • Advanced multi-level | •                                      | • Multi-level               | •         |
| Pop-up screens  | • And group screens    | —                                      | •                           | —         |
| Animated graphics   | •                      | •                                      | •                           | —         |
| Real-time trending  | •                      | •                                      | •                           | —         |
| Recipes   | •                      | •                                      | •                           | —         |
| Report generation   | •                      | —                                      | • Using Excel and VU Server | —         |
| Timer scheduling  | •                      | •                                      | •                           | —         |
| Calendar scheduling                                       | •                      | •                                      | —                           | —         |
| Notification of data and events via e-mail/text messaging | •                      | •                                      | —                           | —         |
| Data archiving  | •                      | •                                      | •                           | —         |
| Archive to shared network drive                           | •                      | •                                      | —                           | —         |
| Alarm and event archiving                                 | •                      | •                                      | •                           | —         |
| Historical trending                                       | •                      | •                                      | •                           | —         |
| Import/export from XML or CSV                             | •                      | •                                      | —                           | —         |
| Database interface  | • ADO.net compliant    | • DDE                                  | •                           | —         |
| Vision system interfaces                                  | •                      | —                                      | —                           | —         |
| Secure document and Web network browser                   | •                      | • With user created passwords          | —                           | —         |
| Websserver—viewing and control                            | •                      | •                                      | —                           | —         |
| Automatic scaling of web clients                          | •                      | —                                      | —                           | —         |
| Remote desktop  | • VNC and RemoteClient | • VNC and RemoteClient                 | • VU Remote                 | —         |
| Launch/control third-party applications                   | •                      | —                                      | —                           | —         |
| Embedded PLC logic  | —                      | •                                      | —                           | —         |

**Note**

<sup>①</sup> See the logic section of the catalog for details on the logic features in the XSoft-CoDeSys-2 software package.

### ELC Graphics Panels



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Drawings  
Online



An Eaton  
Green Solution

### Product Description

ELC Graphics Panels are simple to program and easily connect to ELC products. ELC graphics panels make modifying an application quick and easy. With more than 30 objects that can be placed anywhere on the display, these tough panels also communicate to other major controllers. These graphics panels have two serial ports that can be used simultaneously to communicate. Transfer applications to or from these graphics panels using the handy transfer module. Ten programmable functions keys on the outdoor rated display provide easy-to-change pages, input numeric values, enter alpha-numeric passwords, set, reset and more. Create alarms, password protect, import bitmaps and use many different fonts.

### Features

#### Protocols

#### Supported Protocols

| Protocol               |
|------------------------|
| Eaton ELC              |
| Eaton D50/D32LT, D320  |
| Eaton MVX ASCII        |
| Eaton MVX RTU          |
| Modbus ASCII           |
| Modbus RTU             |
| Allen-Bradley DF1      |
| Mitsubishi FX Series   |
| Mitsubishi FX2N Series |
| Koyo K-Sequence        |
| LG 200S                |
| OMRON C-Series         |
| Siemens S7-200 Series  |
| ASCII Slave Mode       |
| And more...            |

ELC Graphics Panel Features



| Item  | ELC-GP02   | ELC-GP04   |
|---|--|--|
| Display screen  |  |  |
| Screen  | STN-LCD  | STN-LCD  |
| Color   | Monochromatic  | Monochromatic  |
| Backlight   | The backlight automatic turn off time is 1–99 minutes (0 = do not to turn off) (backlight life is 50 thousand hours at 25°C)   | The backlight automatic turn off time is 1–99 minutes (0 = do not to turn off) (backlight life is 50 thousand hours at 25°C)   |
| Resolution  | 160 x 32 pixels  | 128 x 64 pixels  |
| Display range   | 72 mm (W) x 22 mm (H)  | 67 mm (W) x 32 mm (H)  |
| Contrast adjustment   | 15-step contrast adjustment  | 10-step contrast adjustment  |
| Language font   | ASCII: characters (including European fonts)<br>Taiwan: (BIG 5 code) traditional Chinese character font<br>China: (GB2324-80 code) simplified Chinese character font | ASCII: characters (including European fonts)<br>Taiwan: (BIG 5 code) traditional Chinese character font<br>China: (GB2324-80 code) simplified Chinese character font |
| Font size (ASCII)   | 5 x 8, 8 x 8, 8 x 12, 8 x 16   | 5 x 8, 8 x 8, 8 x 12, 8 x 16   |
| ALARM indication LED  | 1. Power-on indication (flash three times)<br>2. Flash for communication error or other alarm<br>3. Special indication by user programming                           | 1. Power-on indication (flash three times)<br>2. Flash for communication error or other alarm<br>3. Special indication by user programming                           |
| RS-232 LED (yellow)   | Flashes when communicating   | Flashes when communicating   |
| RS-485 LED (green)  | Flashes when communicating   | Flashes when communicating   |
| Program memory  | 256KB flash memory   | 256KB flash memory   |
| External interface  |  |  |
| Serial communication port<br>RS-232 (COM1)<br>9 PIN D-SUB male                                | Data length: 7 or 8 bits<br>Stop bits: 1 or 2 bits<br>Parity: None/Odd/Even<br>Baud rate: 4800 bps–115,200 bps   | Data length: 7 or 8 bits<br>Stop bits: 1 or 2 bits<br>Parity: None/Odd/Even<br>Baud rate: 4800 bps–115,200 bps   |
| Extension communication port<br>RS-485 (COM2)<br>5-pin removal terminal<br>(RS-485 or RS-422) | Data length: 7 or 8 bits<br>Stop bits: 1 or 2 bits<br>Parity: None/Odd/Even<br>Baud rate: 4800 bps–115,200 bps   | Data length: 7 or 8 bits<br>Stop bits: 1 or 2 bits<br>Parity: None/Odd/Even<br>Baud rate: 4800 bps–115,200 bps   |
| Extension slot  | The slot for program copy card   | The slot for program copy card   |
| Power   | 24 Vdc input   | 24 Vdc input   |

Standards and Certifications

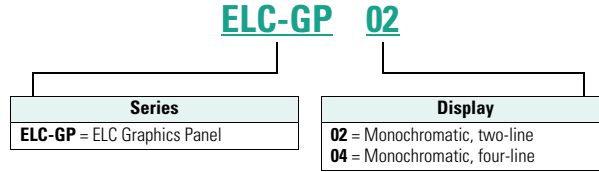
- UL 508
- cUL (CSA C22.2 No. 14)
- CE (Low Voltage Directive);  
Class 1 Div 2 Groups A, B,  
C, D
- RoHS



#### Catalog Number Selection

#### ELC-GP Graphics Panel

#### ELC-GP



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#### Product Selection

ELC-GP04



#### Graphics Panels

| Description   | Catalog Number     |
|---|--------------------|
| <b>Panels</b>   |                    |
| 160 x 32 pixels, 10 function keys, monochrome                                   | <b>ELC-GP02</b>    |
| 128 x 64 pixels, 10 function keys, monochrome                                   | <b>ELC-GP04</b>    |
| <b>Spare Parts Kit</b>  |                    |
| Includes several power connectors, battery doors, gaskets, mounting clips, etc. | <b>ELC-GPSPKIT</b> |



## Software and Accessories

### ***ELCSoftGP Programming Software***

#### System Requirements

- Operating Systems—Windows 2000, Windows XP

ELCSoftGP Programming Software configures all ELC graphic panels. With ELCSoftGP, applications can be created, edited, downloaded and uploaded. Move programs from one controller to a different one with ease.

#### ELCSoftGP



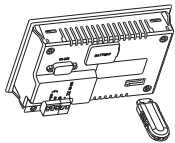
### **ELCSoftGP Editing Environment**

| Description                       | Catalog Number |
|-----------------------------------|----------------|
| Programming software for GP units | ELCSOFTGP      |

### ***ELC-GPXFERMOD Program Transfer Module***

The ELC-GPXFERMOD is a multifunction device that provides the ability to back up an application already loaded onto one of the ELC-GP units. It will store all system settings such as baud and ID, as well as passwords and the application itself. Once stored in the module, the application and settings can be transferred to another ELC-GP unit of the same model number.

#### ELC-GPXFERMOD



### **ELC-GPXFERMOD**

| Description             | Catalog Number |
|-------------------------|----------------|
| Program transfer module | ELC-GPXFERMOD  |

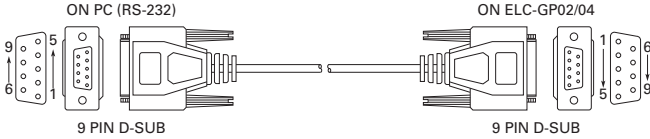
### **ELC-CBPCELC\_**

| Description  | Catalog Number |
|--|----------------|
| 1 meter cable to connect between the <b>HMI</b> and Eaton Logic Controller (ELC) | ELC-CBPCELC1   |
| 3 meter cable to connect between the <b>HMI</b> and Eaton Logic Controller (ELC) | ELC-CBPCELC3   |

#### ELC-CBPCGP3 Cable

Use this cable to download or upload applications between a PC and the ELC-GP graphics panels. This cable can also be used to transfer a program from an ELC-GP to another ELC-GP.

Pin definition of 9 PIN D-SUB RS-232:



| PC COM Port<br>9 PIN D-SUB Female |   |   | GP02/04 COM Port<br>9 PIN D-SUB Female |     |
|-----------------------------------|---|---|--|-----|
| Rx                                | 2 | ↔ | 3                                      | Tx  |
| Tx                                | 3 | ↔ | 2                                      | Rx  |
| GND                               | 5 | ↔ | 5                                      | GND |

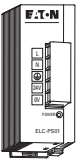
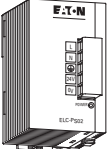
#### PC to ELC-GPxx Cable

| Description                      | Catalog Number |
|----------------------------------|----------------|
| Cable, PC to ELC-GP, 9.8 ft (3m) | ELC-CBPCGP3    |

#### Power Supplies

All ELC modules operate from 24 Vdc. These power supplies provide a convenient way to provide robust DC voltage.

#### ELC Power Supplies

|  | Description                  | Catalog Number  |
|--|------------------------------|-----------------|
|  <p><b>ELC-PS01</b></p> | Power supply, 24 watt, 1 amp | <b>ELC-PS01</b> |
|  <p><b>ELC-PS02</b></p> | Power supply, 48 watt, 2 amp | <b>ELC-PS02</b> |

## Technical Data and Specifications

### ELC Graphics Panels

| Description                      | Specification  |
|----------------------------------|--|
| <b>Environmental</b>             |  |
| Transportation and storage       |  |
| Temperature                      | −4° to 140°F (−20° to 60°C)  |
| Operating                        |  |
| Temperature                      | 32° to 122°F (0° to 50°C)  |
| Humidity                         | 20–90% RH (non-condensing)   |
| Communication interface          | COM1: RS-232; COM2: RS-485/RS-422  |
| Vibration                        | 0.5 mm displacement, 10–55 Hz, X, Y, Z three directions and two hours for each direction |
| Impact                           | 10G, 11 ms, from X, Y, Z three directions and three times for each direction             |
| Weight                           | 0.53 lbs (0.24 kg)   |
| Cooling method                   | Natural air cooling  |
| <b>Electrical/EMC Approvals</b>  |  |
| Electrostatic discharge immunity | EN61000-4-2/1995   |
| Radiated immunity                | EN61000-4-3/1995   |
| Electrical fast transient        | EN61000-4-4/1995   |
| Radiated emission                | CISPR22, Class A   |
| <b>Other Approvals</b>           |  |
| Waterproof class of front panel  | UL Type 4X outdoor rated   |
| UV resistant                     | UL 746C  |

### ELC Power Supply

| Item                                   | ELC-PS01                               | ELC-PS02                             |
|--|--|--------------------------------------|
| Dimensions W x H x D<br>in inches (mm) | 1.44 x 3.54 x 2.36<br>(36.5 x 90 x 60) | 2.17 x 3.54 x 2.36<br>(55 x 90 x 60) |
| Input power                            | 100–240 Vac 50/60 Hz                   | 100–240 Vac 50/60 Hz                 |
| Output volts                           | 24 Vdc                                 | 24 Vdc                               |
| Output current (A)                     | 1A                                     | 2A                                   |
| Watts                                  | 24                                     | 48                                   |

# 5.2

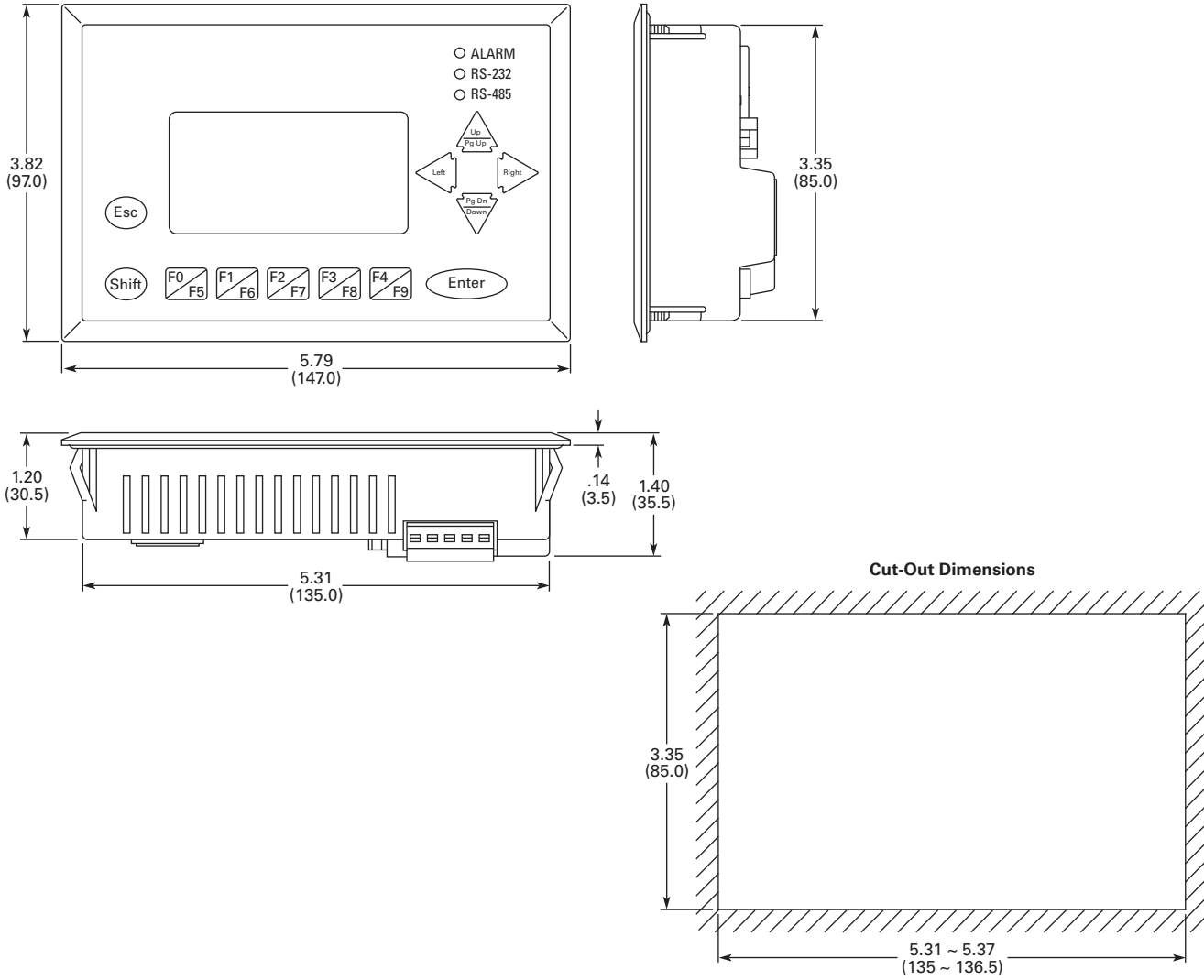
## Operator Interface Products

### ELC Graphics Panels

#### Dimensions

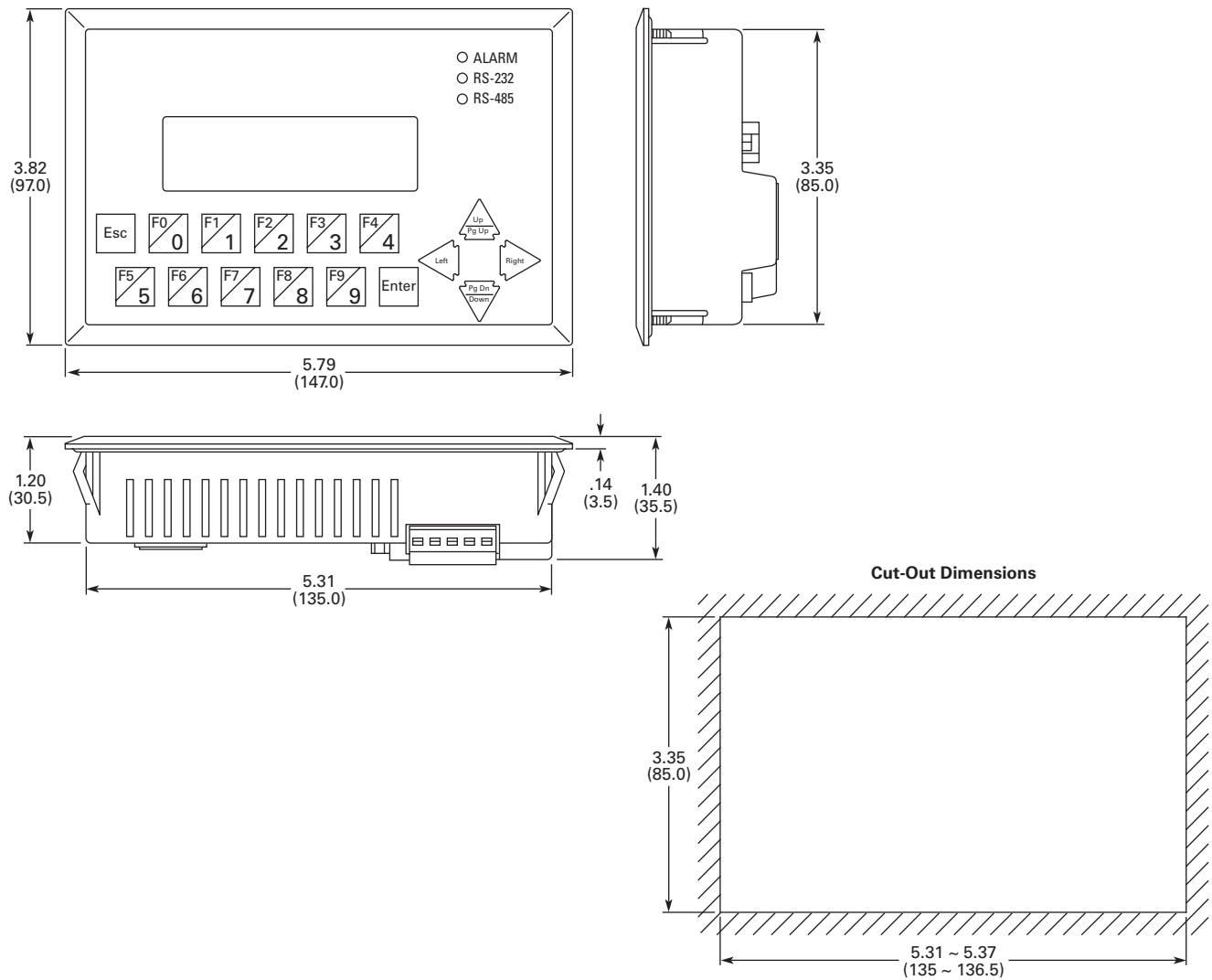
Approximate Dimensions in Inches (mm)

#### ELC-GP04

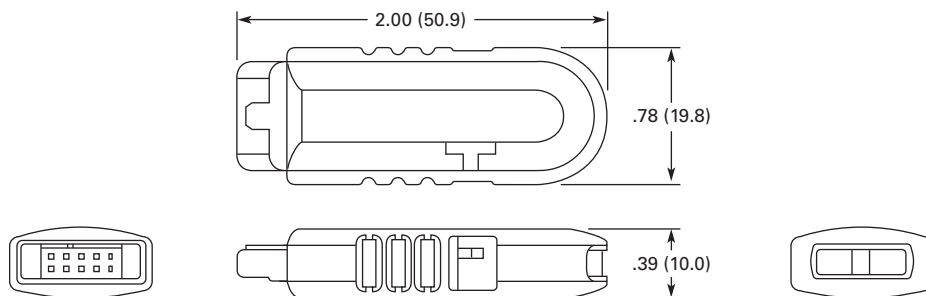


Approximate Dimensions in Inches (mm)

**ELC-GP02**



**ELC-GPXFERMOD**



#### HMI Operator Interface



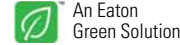
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#### Description

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### Product Description

Positioned between the ELC graphics panels and the XV series of operator interfaces, **HMI** is the workhorse of the industry. Ideal for machinery OEMs, the **HMI** series provides the most value with the latest technology and advanced feature set in an economical hardware and software package. All units offer RS-232, RS-485 and RS-422 communications. The 7, 8 and 10 inch units also offer Ethernet communication options.

### Features

- Auto-scale application from 10 to 4 inch
- Screen and backlight saver
- Pop-up screens
- Animated graphics
- Conditional visibility
- Application lock for IP protection
- Data archiving
- Multi-language
- Eight levels of security
- Ethernet communication drivers
- Ethernet, COMM port and USB upload/download
- USB ports for data storage
- Three serial ports
- Up to four simultaneous protocols
- Math and logic functions
- CSV import/export tags and recipes
- Macro capability
- Alarm/event recording and viewing
- Real-time and historical trending
- On and off-line simulation

### HMI/VU Exclusive Features

- VU server
- VU remote
- Multi-link
- Onboard Ethernet on some models
- Audio and SD on some models
- Supports USB mouse and other industrial pointing devices

## Protocols

### Supported Protocols

#### Manufacturer and Protocol

##### Allen-Bradley

MicroLogix

SLC 5

DH485

Ethernet/IP (Micro, Compact and ControlLogix, SCL 5)

##### Cimon

BP Series Loader Protocol

CP Series Loader Protocol

XP Series Loader Protocol

##### Copley

Stepnet

##### Danfoss

VLT 2800 (FC Protocol)

##### Delta

Delta DVP PLC

Delta DVP EH/SA ES/EX/SS (V5.1)

Delta Controller ASCII

Delta Controller RTU

Delta DVP TCP/IP

##### Eaton

ELC Series Serial

ELC Series TCP/IP

GVX—RTU

GVX—ASCII

MVX—RTU

MVX—ASCII

NFX—RTU

NFX—ASCII

Eaton Controller ASCII

Eaton Controller RTU

EasyPLC 800/MFD (EasyCom)

##### Emerson

EC20 Series

##### Facon

FB Series

#### Manufacturer and Protocol

##### Festo

Festo PLC

##### FuFeng

APC

##### Fuji Electric

Frenic Inverter

##### GE Fanuc

Series 90 SNP

##### Hitachi

EH Series Procedure 1

EH Series Procedure 2

##### Hust

Hust CNC Controller

Hust CNC Controller v2

##### IDEC

Micro Smart

##### Jetter

JC Series

Nano Series

##### Keyence

KV/KZ Series

##### Koyo

DL/SU Series

K-Sequence

##### Lenze

LECOM-A/B Protocol

##### LG

Master-K 120S/200S

Glofa GM6 CNET

Master-K CNET

XGT CNET

##### LiYan

LYPLC EX

#### Manufacturer and Protocol

##### M2i

M2i Master

M2i Slave

##### Matsushita

FP Series

##### Mirle

FAMA SC

##### Mitsubishi

FX Series

FX2N

FX3U

FX Series Computer Link

A Series/J71UC24

A2A/A2AS/A2USH

A1SH/A3N/A2ASH CPU Port

Q Series CPU Port

Q Series Ethernet

Q Series Computer Link

J2s Series

##### MKS

BY125

CT150

MC700/720

##### Modbus

ASCII (Master)

984 RTU (Master)

RTU 2W (Master)

ASCII Hex Address (Master)

RTU Hex Address (Master)

ASCII nW (Master)

RTU nW (Master)

ASCII (Slave)

RTU (Slave)

TCP/IP

#### Manufacturer and Protocol

##### Modicon

TSX Micro (Uni-Telway)

TSX Premium (Uni-Telway 1-1)

NEZA (Uni-Telway)

TWIDO

##### Moeller

PS3 Series

PS4 Series

##### NIKKI DENSO

NCS-FI/FS Series

##### Omron

C Series

CJ1 Series

TPM1A

##### Parker

Compax 3

##### SIEMENS

S7 200

S7 300 (with PC Adaptor)

S7 300 (without PC Adaptor)

S7 300 (Direct MPI)

S7 300 (ISO TCP)

S7 1200 (ISO TCP)

##### Taian

TP02

##### Ti

Ti435

##### Vigor

M Series

##### VIPA

S7 300 (with PC Adaptor)

##### YOKOGAWA

ACE

## Standards and Certifications

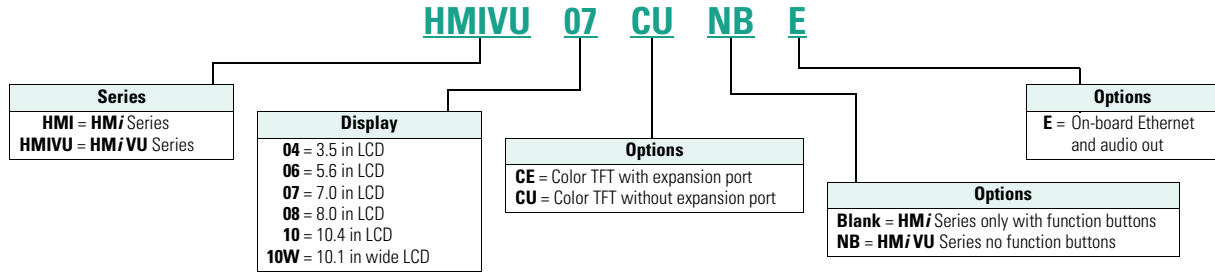
- CE
- UL
- cUL
- C-Tick
- RoHS



#### Catalog Number Selection

#### HM*i* Operator Interface

#### HM*i*



#### Product Selection

HMI\_



#### HM*i* Products

| Description  | Catalog Number |
|--|----------------|
| 4 in color TFT touchscreen with function buttons         | HM104CU        |
| 8 in color TFT with expansion slot and function buttons  | HM108CE        |
| 10 in color TFT with expansion slot and function buttons | HM110CE        |

#### HM*i* VU Products

| Description   | Catalog Number           |
|---|--------------------------|
| 6 in color TFT, no function buttons, no Ethernet        | HMIVU06CUNB <sup>①</sup> |
| 7 in color TFT, no function buttons, on-board Ethernet  | HMIVU07CUNBE             |
| 8 in color TFT, no function buttons, on-board Ethernet  | HMIVU08CUNBE             |
| 10 in color TFT, no function buttons, on-board Ethernet | HMIVU10WCUNBE            |

#### Note

<sup>①</sup> Physically identical to earlier Catalog Number HM106CU. HMIVU06CUNB will supersede HM106CU once existing inventory is depleted.



### Software and Accessories

#### HMISoft Programming Software

For use with the of **HMi** and **HMiVU** series touchscreens. This easy to use Windows based software can run on Windows XP and Windows 7 32-bit and 64-bit systems.

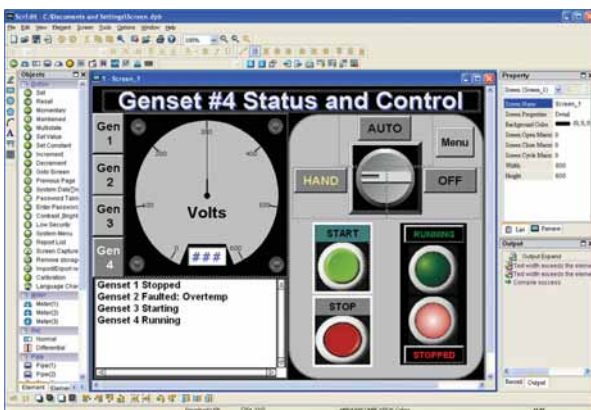
- Ethernet and serial communication drivers
- Up to four simultaneous protocols
- Screen manager
- Over 70 on-screen objects
- Pop-up screens
- Animated graphics
- Conditional visibility
- Built-in picture library
- Create your own picture library
- Multi-language
- Eight levels of security
- Macro editing with math and logic functions
- CSV import/export tags and recipes
- Alarm/event recording and viewing
- Store archived data, alarms and events to USB
- Real-time and historical trending
- Auto-scale application from 10 to 4 inch
- On and off-line simulation
- Upload/download applications over USB, serial or Ethernet
- Application lock for IP protection
- Screen and backlight saver
- Multi-link allows sharing of PLC data over Ethernet ①
- VU Server optional download ①
- VU Remote optional download ①

| HM <i>i</i> Editor  | HM <i>i</i> Editor  | Catalog Number |
|---|---|----------------|
|  | <b>Description</b><br>Programming software for <b>HMi</b> and <b>HMiVU</b> models | <b>HMISOFT</b> |

### HM*i* Screen Management



### HMISoft Editor



**Note**

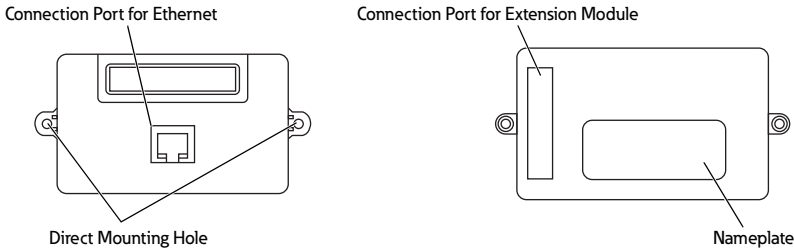
① Exclusive **HMiVU** features.

#### Ethernet Expansion Module

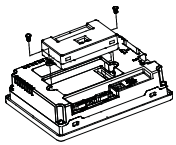
The HMIECENT expansion module adds 10/100 Ethernet communications when plugged into the expansion slot of a 6, 8 or 10 inch **HMI** series units only (not for use with **HMI VU** models). Upload and download programs and communicate to other supported Ethernet devices listed in the Supported Protocols table. No need to distinguish between patch or crossover cables because this module auto-detects and adjusts for proper operation.

#### Product Outline

5



HMIECENT



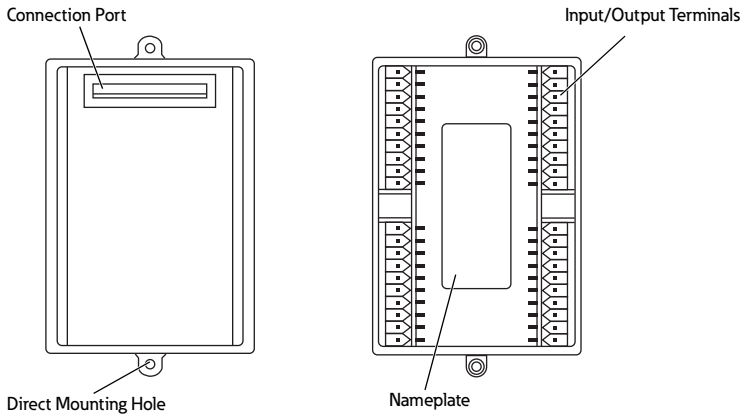
HMIECENT

| Description               | Catalog Number |
|---------------------------|----------------|
| Ethernet expansion module | HMIECENT       |

#### I/O Expansion Modules

The HMIEC0806 and HMIEC1612 are 14 and 28 discrete I/O expansion modules providing eight DC inputs and six relay outputs or 16 DC inputs and 12 relay outputs. These modules plug into the available expansion slot on the back of the **HMI** series 6, 8 and 10 inch units only (not for use with **HMI VU** models). No need for a separate PLC controller with this built in unit. Combine operator interface and logic into a single platform—use HMISOFT to build both the ladder logic and OI program.

#### Product Outline



#### I/O Expansion Modules

| Power                        | Input Unit |                        | Output Unit |       | Catalog Number |
|------------------------------|------------|------------------------|-------------|-------|----------------|
|                              | Point      | Type                   | Point       | Type  |                |
| 5 Vdc supplied by <b>HMI</b> | 8          | DC Type sink or source | 6           | Relay | HMIEC0806      |
|                              | 16         |                        | 12          | Relay | HMIEC1612      |

HMIEC\_

| Description                        | Catalog Number |
|------------------------------------|----------------|
| I/O expansion module, 8 in/6 out   | HMIEC0806      |
| I/O expansion module, 16 in/12 out | HMIEC1612      |

**Adapter Plate**

| Description                              | Catalog Number   |
|--|------------------|
| 6 in <b>HMI</b> adapter plate for PM1000 | <b>APPM1HM16</b> |

**Kits**

| Description   | Catalog Number   |
|---|------------------|
| 8 in anti-glare overlay kit (5/kit)   | <b>17AGT</b>     |
| 10 in anti-glare overlay kit (5/kit)  | <b>39AG</b>      |
| <b>HMI</b> spare parts kits (includes several power connectors, battery doors, gaskets, mounting clips, etc.) | <b>HMI-SPKIT</b> |

**Replacement Gaskets**

| Description   | Catalog Number      |
|---|---------------------|
| 4 in <b>HMI</b> replacement gasket (2/kit)                        | <b>HMI04-GASKET</b> |
| 6 in <b>HMI</b> and 7 in <b>HMI VU</b> replacement gasket (2/kit) | <b>HMI06-GASKET</b> |
| 8 in <b>HMI</b> replacement gasket (2/kit)                        | <b>HMI08-GASKET</b> |
| 10 in <b>HMI</b> replacement gasket (2/kit)                       | <b>HMI10-GASKET</b> |

**Cable**

| Description  | Catalog Number      |
|--|---------------------|
| 1 meter cable to connect between the <b>HMI</b> and Eaton Logic Controller (ELC) | <b>ELC-CBPCELC1</b> |
| 3 meter cable to connect between the <b>HMI</b> and Eaton Logic Controller (ELC) | <b>ELC-CBPCELC3</b> |

**Power Supply**

| Description               | Catalog Number  |
|---------------------------|-----------------|
| 1 amp 24 Vdc power supply | <b>ELC-PS01</b> |
| 2 amp 24 Vdc power supply | <b>ELC-PS02</b> |

## Technical Data and Specifications

### HMI Operator Interface

| Description                    | Specification<br>HMI04CU                    | HMI08CE  | HMI10CE                                     |
|--------------------------------|---|--|---|
| Display type                   | TFT LCD                                     | TFT LCD  | TFT LCD                                     |
| Display color                  | 65536 colors                                | 65536 colors   | 65536 colors                                |
| Screen pixels                  | 320 x 240 pixels                            | 640 x 480 pixels   | 640 x 480 pixels                            |
| NIT rating                     | 300 cd/m <sup>2</sup>                       | 400 cd/m <sup>2</sup>  | 330 cd/m <sup>2</sup>                       |
| LCD module                     | LED backlight                               | CCFL backlight   | 2CCFL backlight                             |
| Backlight life                 | 30,000 hours half-life at 25°C <sup>①</sup> | 50,000 hours half-life at 25°C <sup>①</sup>  | 50,000 hours half-life at 25°C <sup>①</sup> |
| Display size                   | 3.5 in (70.1 x 52.6 mm)                     | 8 in (162.2 x 121.7 mm)  | 10.4 in (215.2 x 162.4 mm)                  |
| Operating system               | Real Time OS                                | Real Time OS   | Real Time OS                                |
| MCU                            | 32-bit RISC micro-controller/206.4 MHz      | 32-bit RISC micro-controller/206.4 MHz   | 32-bit RISC micro-controller/206.4 MHz      |
| Memory                         |   |  |   |
| Program                        | 3M  | 7M   | 7M  |
| History                        | 120K  | 360K   | 360K  |
| Recipe                         | 64K <sup>②</sup>                            | 128K   | 128K  |
| Alarm                          | 4K  | 16K  | 16K   |
| Data registers                 |   |  |   |
| Volatile                       | 64K   | 64K  | 64K   |
| Non-volatile                   | 1K  | 1K   | 1K  |
| Backup memory (bytes)          | 128K  | 512K   | 512K  |
| USB host <sup>③</sup>          | ✓   | ✓  | ✓   |
| Expansion port                 | ✓   | ✓  | ✓   |
| USB client for programming     | ✓   | ✓  | ✓   |
| Serial COM port                |   |  |   |
| COM1                           | RS-232                                      | RS-232   | RS-232                                      |
| COM2                           | RS-422/RS-485                               | RS-232/RS-422/RS-485   | RS-232/RS-422/RS-485                        |
| COM3                           | RS-232                                      | RS-232/RS-422/RS-485   | RS-232/RS-422/RS-485                        |
| Function key                   | 4 user defined keys + 1 system key          | 6 user defined keys + 1 system key   | 7 user defined keys + 1 system key          |
| Perpetual calendar (RTC)       | Built-in                                    | Built-in   | Built-in                                    |
| Cooling method                 | Natural air circulation                     | Natural air circulation  | Natural air circulation                     |
| Enclosure ratings              | IP65/NEMA 4X (indoor only)                  | IP65/NEMA 4X (indoor only)   | IP65/NEMA 4X (indoor only)                  |
| Agency certifications          | CE/UL/cUL/C-Tick                            | CE/UL/cUL/C-Tick   | CE/UL/cUL/C-Tick                            |
| Operating voltage              |   | DC +24V (-10% to +15%) (use isolated power supply) <sup>④</sup>  |   |
| Power consumption <sup>⑤</sup> | 3.36W                                       | 14W  | 15W   |
| Operating temp.                | 32° to 122°F (0° to 50°C)                   | 32° to 122°F (0° to 50°C)  | 32° to 122°F (0° to 50°C)                   |
| Storage temp.                  | -4° to 140°F (-20° to 60°C)                 | -4° to 140°F (-20° to 60°C)  | -4° to 140°F (-20° to 60°C)                 |
| Ambient humidity               |   | 10% to 90% RH (0° to 40°C), 10% to 55% RH (41° to 50°C) pollution degree 2   |   |
| Shock                          | 30G at 11 ms                                | 30G at 11 ms   | 30G at 11 ms                                |
| Vibration resistance           |   | IEC61131-2 compliant<br>5 Hz ≤ f < 9 Hz = continuous: 1.75 mm/occasional: 3.5 mm<br>9 Hz ≤ f < 150 Hz = continuous: 0.5g/occasional: 1.0g<br>X, Y, Z directions for 10 times |   |
| Backup battery                 |   | 3V lithium battery CR2032 x 1/battery life: 5 years  |   |
| Backup battery life            | Three years or more at 25°C                 | 3 years or more at 25°C  | 3 years or more at 25°C                     |
| Buzzer                         |   | Multitone frequency (2K to 4K Hz)/85dB   |   |
| Dimensions                     | 5.54 x 4.13 x 1.76                          | 9.57 x 7.01 x 2.06   | 11.70 x 8.74 x 2.01                         |
| (W) x (H) x (D) in inches (mm) | (140.8 x 104.8 x 44.8)                      | (243.1 x 178.1 x 52.4)   | (297.1 x 222.1 x 51.1)                      |
| Panel cutout                   | 4.68 x 3.65                                 | 9.11 x 6.55  | 11.23 x 8.28                                |
| (W) x (H) in inches (mm)       | (118.8 x 92.8)                              | (231.4 x 166.4)  | (285.2 x 210.2)                             |
| Weight in lbs (kg)             | 0.62 (0.310)                                | 2.52 (1.147)   | 3.79 (1.721)                                |

#### Notes

- ① The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to **HMI**. The life of LED backlight shown is an estimated value under 25°C normal temperature and humidity conditions.
- ② Program memory is used for recipes.
- ③ USB Host port can provide up to 5V/500mA of power. Supports USB memory devices and certain USB printers.
- ④ Use isolated power supply (not applicable for HMI08CE and HMI10CE).
- ⑤ The value of the power consumption indicates the electrical power consumed by **HMI** without peripheral devices. In order to ensure the normal operation, it is recommended to use a power supply which the capacity is 1.5 to 2 times the value of the power consumption.

## HMI VU Operator Interface

| Description              | Specification   |   |  |  |
|--------------------------|---|---|--|--|
|                          | HMIVU06CUNB   | HMIVU07CUNBE  | HMIVU08CUNBE   | HMIVU10WCUNBE  |
| LCD Module               |   |   |  |  |
| Display type             | 5.6 in TFT LCD  | 7 in TFT LCD  | 8 in TFT LCD   | 10.1 in widescreen TFT LCD   |
| Display color            | 65536 colors  | 65536 colors  | 65536 colors   | 65536 colors   |
| Resolution               | 320 x 234 pixels  | 800 x 600 pixels  | 800 x 600 pixels   | 1024 x 600 pixels  |
| Backlight                | LED backlight<br>(20,000 hours half-life at 25°C) ①   | LED backlight<br>(10,000 hours half-life at 25°C) ①                                       | LED backlight<br>(10,000 hours half-life at 25°C) ①                          | LED backlight<br>(10,000 hours half-life at 25°C) ①                          |
| Brightness NIT rating    | 200 DC/m <sup>2</sup>   | 200 DC/m <sup>2</sup>   | 250 DC/m <sup>2</sup>  | 200 DC/m <sup>2</sup>  |
| Display size             | 113.28 x 84.70 mm   | 141 x 105.75 mm   | 162 x 121.5 mm   | 226 x 128.7 mm   |
| Operation system         | Real Time OS  | Real Time OS  | Real Time OS   | Real Time OS   |
| MCU                      | 32-bit RISC micro-controller  | 32-bit RISC micro-controller  | 32-bit RISC micro-controller   | 32-bit RISC micro-controller   |
| NOR Flash ROM            | Flash ROM 8MB<br>OS System: 2MB<br>User Application: 6MB  | Flash ROM 128MB<br>OS System: 30MB<br>Backup: 16MB<br>User Application: 82MB              | Flash ROM 128MB<br>OS System: 30MB<br>Backup: 16MB<br>User Application: 82MB | Flash ROM 128MB<br>OS System: 30MB<br>Backup: 16MB<br>User Application: 82MB |
| SDRAM                    | 16M bytes   | 64M bytes   | 64M bytes  | 64M bytes  |
| Backup memory            | 128K bytes  | 16M bytes   | 16M bytes  | 16M bytes  |
| Sound effect output      |   |   |  |  |
| Buzzer                   | Multi-tone frequency (2–4 kHz)/85dB   | Multi-tone frequency (2–4 kHz)/85dB   | Multi-tone frequency (2–4 kHz)/85dB  | Multi-tone frequency (2–4 kHz)/85dB  |
| AUX                      | N/A   | Stereo output   | Stereo output  | Stereo output  |
| Ethernet interface       | N/A   | IEEE 802.3, IEEE 802.3u 10/100 Mbps<br>auto-sensing has built-in isolated power circuit ③ |  |  |
| Memory card              | N/A   | SD card (supports SDHC)   | SD card (supports SDHC)  | SD card (supports SDHC)  |
| USB                      | 1 USB Host ② Ver 1.1<br>1 USB Client Ver 1.1  | 1 USB Host ② Ver 2.0<br>1 USB Client Ver 1.1  | 1 USB Host ② Ver 2.0<br>1 USB Client Ver 1.1                                 | 1 USB Host ② Ver 2.0<br>1 USB Client Ver 1.1                                 |
| Serial COM port          |   |   |  |  |
| COM1                     | RS-232<br>(supports hardware flow control)  | RS-232<br>(supports hardware flow control)  | RS-232<br>(supports hardware flow control)                                   | RS-232<br>(supports hardware flow control)                                   |
| COM2                     | RS-232/RS-485   | RS-232/RS-422/RS-485<br>(has built-in isolated power circuit) ③                           | RS-232/RS-422/RS-485<br>(has built-in isolated power circuit) ③              | RS-232/RS-422/RS-485<br>(has built-in isolated power circuit) ③              |
| COM3                     | RS-422/RS-485   | RS-232/RS-422/RS-485<br>(has built-in isolated power circuit) ③                           | RS-232/RS-422/RS-485<br>(has built-in isolated power circuit) ③              | RS-232/RS-422/RS-485<br>(has built-in isolated power circuit) ③              |
| Perpetual calendar (RTC) | Built-in  | Built-in  | Built-in   | Built-in   |
| Cooling method           | Natural air circulation   | Natural air circulation   | Natural air circulation  | Natural air circulation  |
| Safety approval          | CE/UL   | CE/UL   | CE/UL  | CE/UL  |
| Waterproof degree        | IP65/NEMA 4X (indoor use only)  | IP65/NEMA 4X (indoor use only)  | IP65/NEMA 4X (indoor use only)   | IP65/NEMA 4X (indoor use only)   |
| Operation voltage ④      | DC +24V (–10 to +15%)<br>Please use isolated power supply   | DC +24V (–10 to +15%)<br>(has built-in isolated power circuit) ③                          | DC +24V (–10 to +15%)<br>(has built-in isolated power circuit) ③             | DC +24V (–10 to +15%)<br>(has built-in isolated power circuit) ③             |
| Voltage endurance        | AC500V for 1 minute (between charging [DC24 terminal] and FG terminals)   |   |  |  |
| Power consumption ④      | 3.0W  | 7.68W   | 7.8W   | 12W  |
| Backup battery           | 3V lithium battery CR2032 x 1   | 3V lithium battery CR2032 x 1   | 3V lithium battery CR2032 x 1  | 3V lithium battery CR2032 x 1  |
| Backup battery life      | Varies based on temperature and conditions. Approximately 3 years or more at 25°C.  |   |  |  |
| Operation temp.          | 0° to 50°C  | 0° to 50°C  | 0° to 50°C   | 0° to 50°C   |
| Storage temp.            | –20° to 60°C  | –20° to 60°C  | –20° to 60°C   | –20° to 60°C   |
| Ambient humidity         | 10%–90% RH [0° to 40°C], 10%–55% RH [41° to 50°C]<br>Pollution Degree 2   |   |  |  |
| Vibration resistance     | IEC 61131-2 Compliant<br>5 Hz ≤ f ≤ 9 Hz = continuous: 1.75 mm/occasional: 3.5 mm<br>9 Hz ≤ f ≤ 150 Hz = continuous: 0.5g/occasional: 1.0g<br>X, Y, Z directions for 10 times |   |  |  |
| Dimensions               |   |   |  |  |
| (W) x (H) x (D) mm       | 184 x 144 x 50  | 184 x 144 x 50  | 227.1 x 174.1 x 61   | 272 x 200 x 61   |
| Panel cutout             |   |   |  |  |
| (W) x (H) mm             | 172.4 x 132.4   | 172.4 x 132.4   | 219.4 x 166.5  | 261.3 x 189.3  |
| Weight                   | Approx. 670g  | Approx. 800g  | Approx. 1228g  | Approx. 1520g  |

## Notes

- ① The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to **HMI**. The life of LED backlight shown is an estimated value under 25°C normal temperature and humidity conditions
- ② USB Host port can provide up to 5V/500 mA of power.
- ③ The withstand voltage of the isolated power circuit is 1500V peak for 1 minute.
- ④ The value of the power consumption indicates the electrical power consumed by **HMI** only without connecting to any peripheral devices. In order to ensure the normal operation, it is recommended to use a power supply where the capacity is 1.5–2 times the value of the power consumption.

## HMIEC0806/HMIEC1612

| Description               | Specification   | Remark   |
|---------------------------|---|--|
| Control method            | Stored program, cyclic scan system  | —  |
| I/O processing method     | Batch I/O (refresh)   | Immediate refresh command available only with I/O of the MPU                               |
| Execution speed           | Basic command (30 µs)   | Application command (30 ~ hundreds µs)   |
| Program language          | Commands + ladder diagram + SFC   | Step commands included   |
| Program capacity          | 999 Steps   | Built-in EEPROM  |
| Commands                  | Basic commands: 32 (including the STL commands)   | Application commands: 59   |
| Step relay (latched)      |   |  |
| General step point        | 128 points  | S0 ~ S127  |
| Auxiliary relay           |   |  |
| General                   | 1024 points   | M0 ~ M511, M768 ~ M999, 744 points; M1000 ~ M1279, 280 points <sup>①</sup>                 |
| Latched                   | 256 points  | M512 ~ M767  |
| Timer                     |   |  |
| Digital                   | 64 points   | T0 ~ T63 (100 ms time base)  |
|                           | 63 points   | T64 ~ T126 (10 ms time base)   |
|                           | 1 point   | T127 (1 ms time base)  |
| Counter                   |   |  |
| General                   | 112 points  | C0 ~ C111  |
| Latched                   | 16 points   | C112 ~ C127  |
| 32 bit                    | 13 points   | C235, C236, C237, C238, C241, C242, C244, C246, C247, C249, C251, C252, C254 (all latched) |
| Data register             |   |  |
| General                   | 408 points  | D0 ~ D407  |
| Latched                   | 192 points  | D408 ~ D599  |
| Pointer                   |   |  |
| P                         | 64 points   | P0 ~ P63   |
| Index register            |   |  |
| E/F                       | 2   | E, F   |
| Constant                  |   |  |
| Decimal K                 | 16 bit: -32768 ~ +32767   | 32 bit: -2147483648 ~ +2147483647  |
| Hexadecimal H             | 16 bit: 0000 ~ FFFF   | 32 bit: 00000000 ~ FFFFFFFF  |
| Self diagnosis/protection | I/O check, system execution timeout check, invalid command check, program check and password settings |  |
| Monitor/debug             | Program execution time display, bit / word, device settings   |  |
| Certifications            | C-Tick, cULus, CE   |  |

**Note**

<sup>①</sup> M1000, M1001, M1002, M1003, M1020, M1021, M1022, M1067, M1068, and M1161 are the special auxiliary relays (special M).

## HMIEC0806/HMIEC1612, continued

| Description                                 | Specification  |  |
|---|--|--|
|   | HMIEC0806  | HMIEC1612  |
| Power supply voltage                        | 5 Vdc, 1A (supplied by <b>HMI</b> )  | 5 Vdc, 1A (supplied by <b>HMI</b> )  |
| Power consumption                           | 0.25W  | 0.5W   |
| Noise immunity<br>RS, CS, ESD, and EFT      | Frequency: 80 MHz ~ 1 GHz, 1.4 GHz ~ 2.0 GHz, test level 10 V/m<br>Frequency: 0.15 MHz ~ 80 MHz, test level 10V<br>( <b>HMI</b> power port and I/O line)<br>Air discharge $\pm 8$ kV           | Frequency: 80 MHz ~ 1 GHz, 1.4 GHz ~ 2.0 GHz, test level 10 V/m<br>Frequency: 0.15 MHz ~ 80 MHz, test level 10V<br>( <b>HMI</b> power port and I/O line)<br>Air discharge $\pm 8$ kV           |
| Surge                                       | $\pm 1.5$ kV ( <b>HMI</b> power port), $\pm 1$ kV (I/O line)<br>$\pm 2$ kV ( <b>HMI</b> power port)  | $\pm 1.5$ kV ( <b>HMI</b> power port), $\pm 1$ kV (I/O line)<br>$\pm 2$ kV ( <b>HMI</b> power port)  |
| Ambient temperature/humidity                | Operation: 0°C to 50°C (temperature), 10 to 90% (humidity)<br>Storage: -40°C to 85°C (temperature), 10 to 90% (humidity)   | Operation: 0°C to 50°C (temperature), 10 to 90% (humidity)<br>Storage: -40°C to 85°C (temperature), 10 to 90% (humidity)   |
| Vibration/shock                             | IEC 61131-2 Compliant<br>5 Hz $\leq f < 9$ Hz = Continuous: 1.75 mm / Occasional: 3.5 mm<br>9 Hz $\leq f \leq 150$ Hz = Continuous: 0.5g / Occasional: 1.0g<br>X, Y, Z directions for 10 times | IEC 61131-2 Compliant<br>5 Hz $\leq f < 9$ Hz = Continuous: 1.75 mm / Occasional: 3.5 mm<br>9 Hz $\leq f \leq 150$ Hz = Continuous: 0.5g / Occasional: 1.0g<br>X, Y, Z directions for 10 times |
| Weight                                      | 95.5g  | 116g   |
| <b>Input Point Electric Specifications</b>  |  |  |
| Input type                                  | DC (SINK or SOURCE)  | DC (SINK or SOURCE)  |
| Input voltage                               | 24 Vdc (5mA)   | 24 Vdc (5mA)   |
| Active level                                | Off $\rightarrow$ On, above 16 Vdc<br>On $\rightarrow$ Off, below 14.4 Vdc   | Off $\rightarrow$ On, above 16 Vdc<br>On $\rightarrow$ Off, below 14.4 Vdc   |
| Response time                               | Approx. 10 ms  | Approx. 10 ms  |
| <b>Output Point Electric Specifications</b> |  |  |
| Output type                                 | Relay-R  | Relay-R  |
| Current specifications                      | 1.5A/1 point (5A/COM)  | 1.5A/1 point (5A/COM)  |
| Voltage specifications                      | 250 Vac, below 30 Vdc  | 250 Vac, below 30 Vdc  |
| Maximum loading                             | 75 VA (inductive), 90W (resistive)   | 75 VA (inductive), 90W (resistive)   |
| Response time                               | Approx. 10 ms  | Approx. 10 ms  |
| Mechanical life                             | 2-107 times (without load)   | 2-107 times (without load)   |
| Electrical life                             | 100,000 times (3A 250 Vac/30 Vdc)<br>6,000 times (5A 250 Vac/30 Vdc)   | 100,000 times (3A 250 Vac/30 Vdc)<br>6,000 times (5A 250 Vac/30 Vdc)   |

## HMIECENT

| Description                                   | Specification  |
|---|--|
| Power supply voltage                          | 5 Vdc $\pm 10\%$ , 1A (provided by <b>HMI</b> )  |
| Interfaced supported                          | RJ-45 with auto MDI/MDIX   |
| Number of ports                               | 1  |
| Transmission method<br>(standard conformance) | IEEE 802.3, IEEE 802.3u  |
| Transmission cable                            | Category 5e (TIA/EIA-568-A, TIA/EIA-568-B)   |
| Transmission speed                            | 10/100 Mbps auto detection   |
| Ethernet protocol                             | ICMP, IP, TCP, UDP, DHCP, Modbus TCP   |
| Noise immunity                                | ESD (IEC 61131-2, IEC 61000-4-2): 8 kV air discharge<br>EFT (IEC 61131-2, IEC 61000-4-4):<br>Power line: 2 kV,<br>Communication I/O: 1 kV<br>Damped-oscillatory wave:<br>Power line: 1 kV, digital I/O: 1 kV<br>RS (IEC 61131-2, IEC 61000-4-3): 26MHz ~ 1GHz, 10V/m |
| Certifications                                | C-Tick, cULus, CE  |

# 5.3

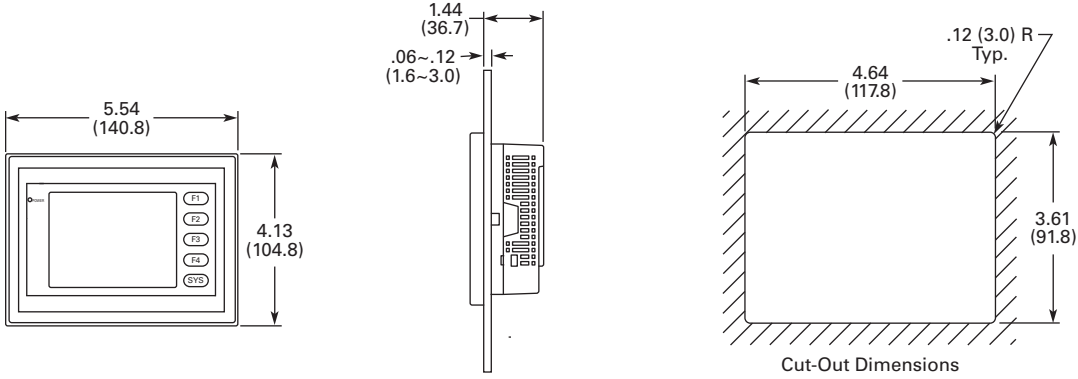
## Operator Interface Products

### HM/Operator Interface

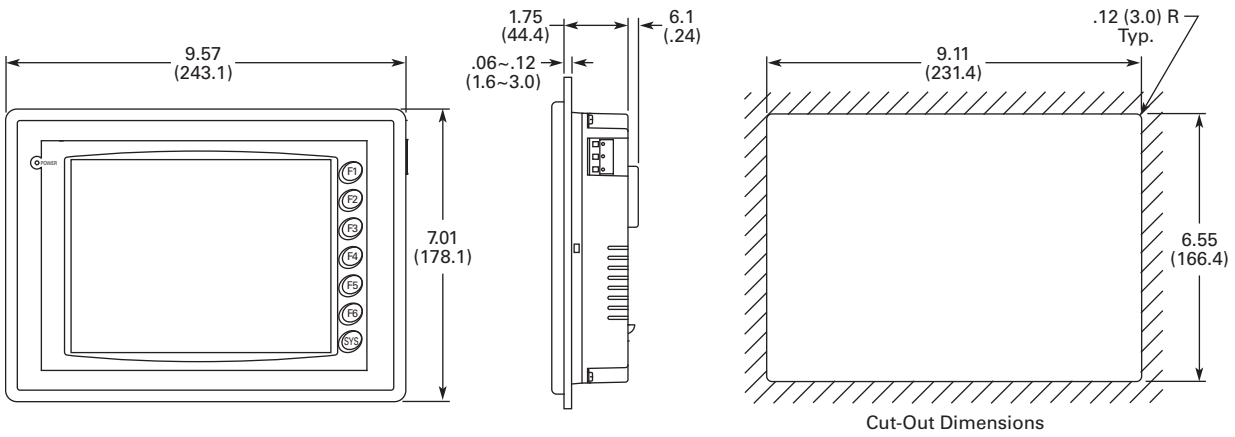
#### Dimensions

Approximate Dimensions in Inches (mm)

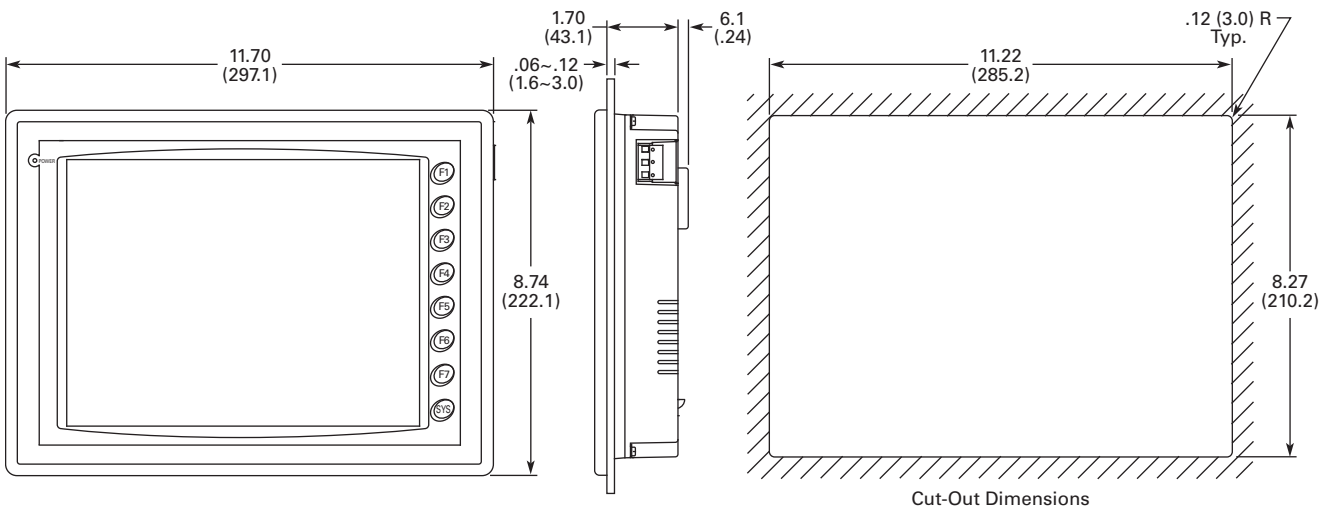
##### HMI04



##### HMI08CE



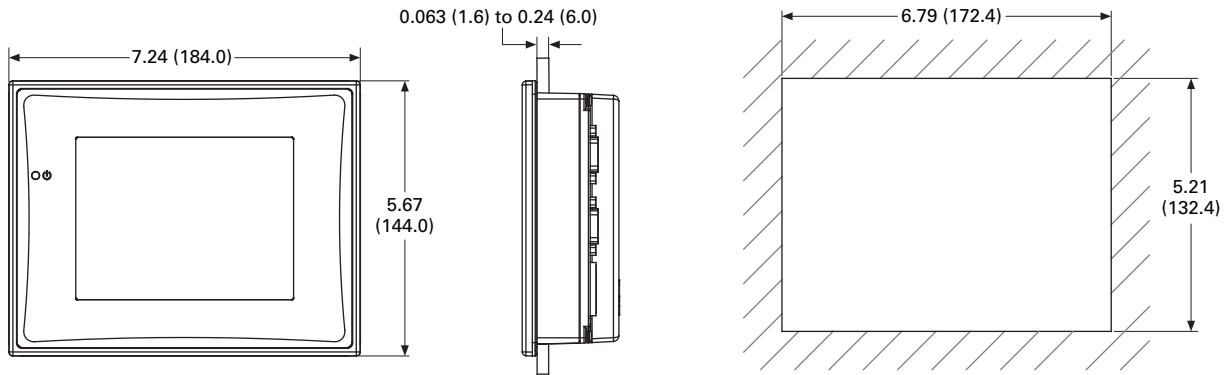
##### HMI10CE



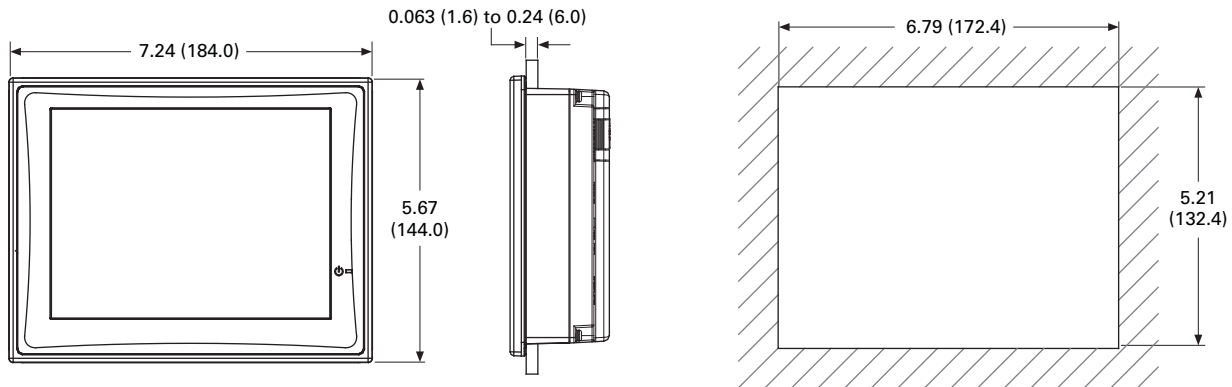


Approximate Dimensions in Inches (mm)

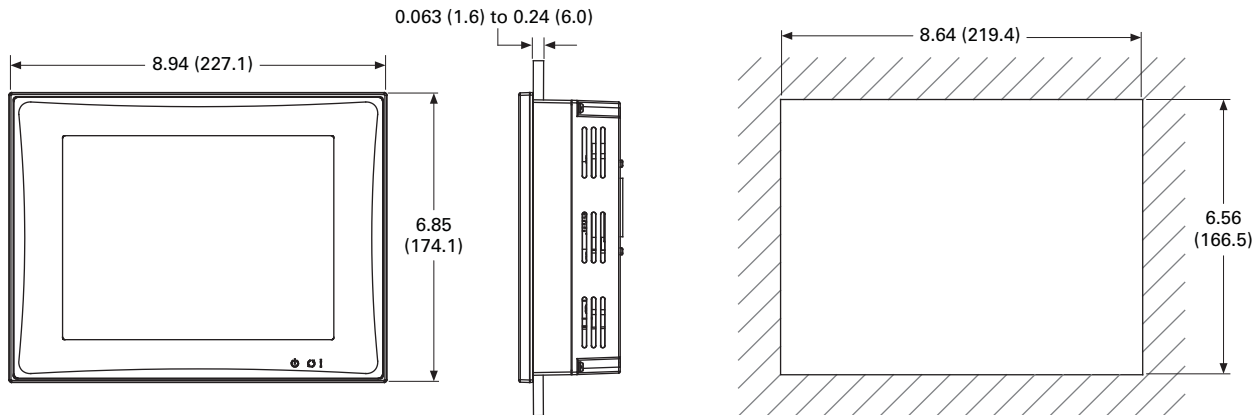
**HMIVU06**



**HMIVU07**



**HMIVU08**



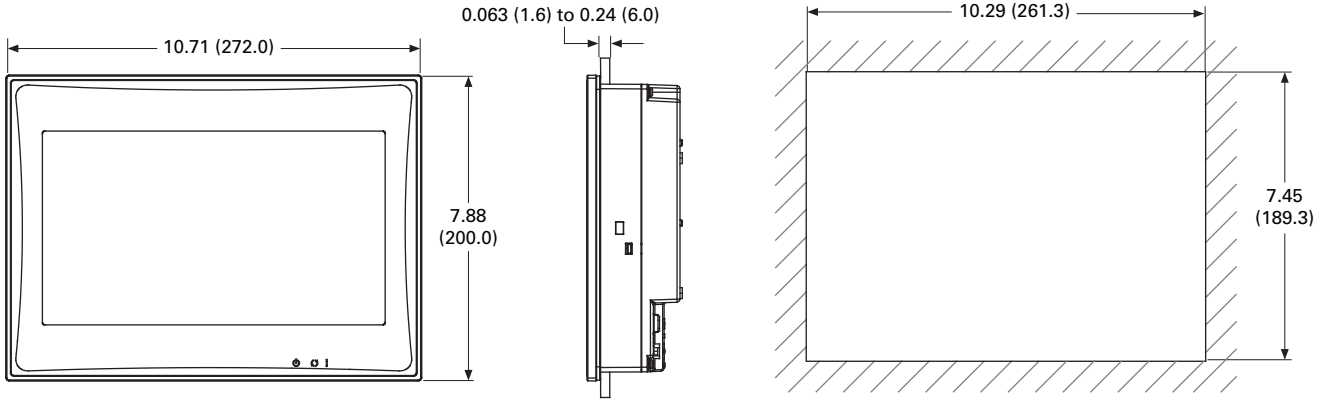
# 5.3

## Operator Interface Products

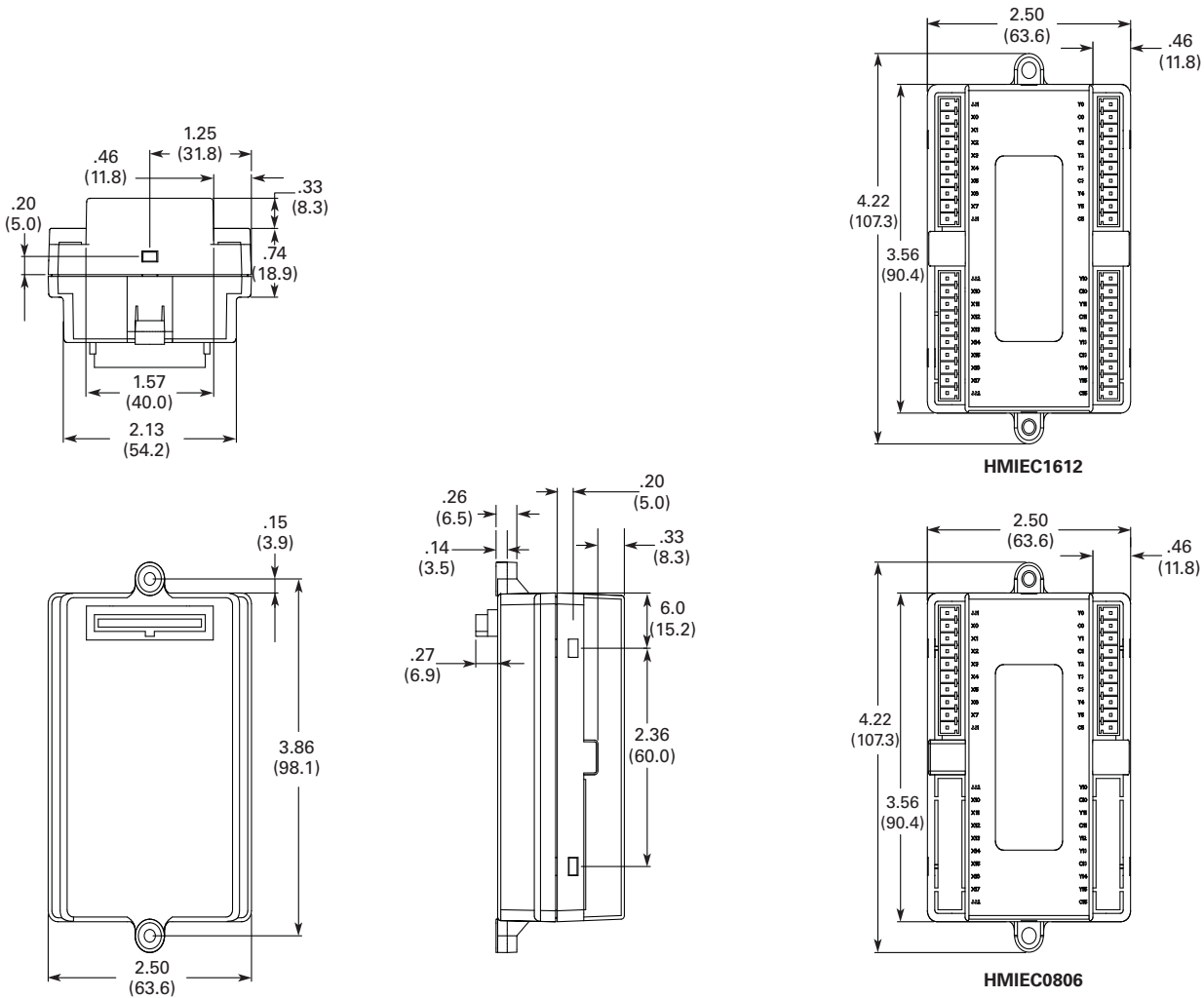
### HM/Operator Interface

Approximate Dimensions in Inches (mm)

#### HMIVU10

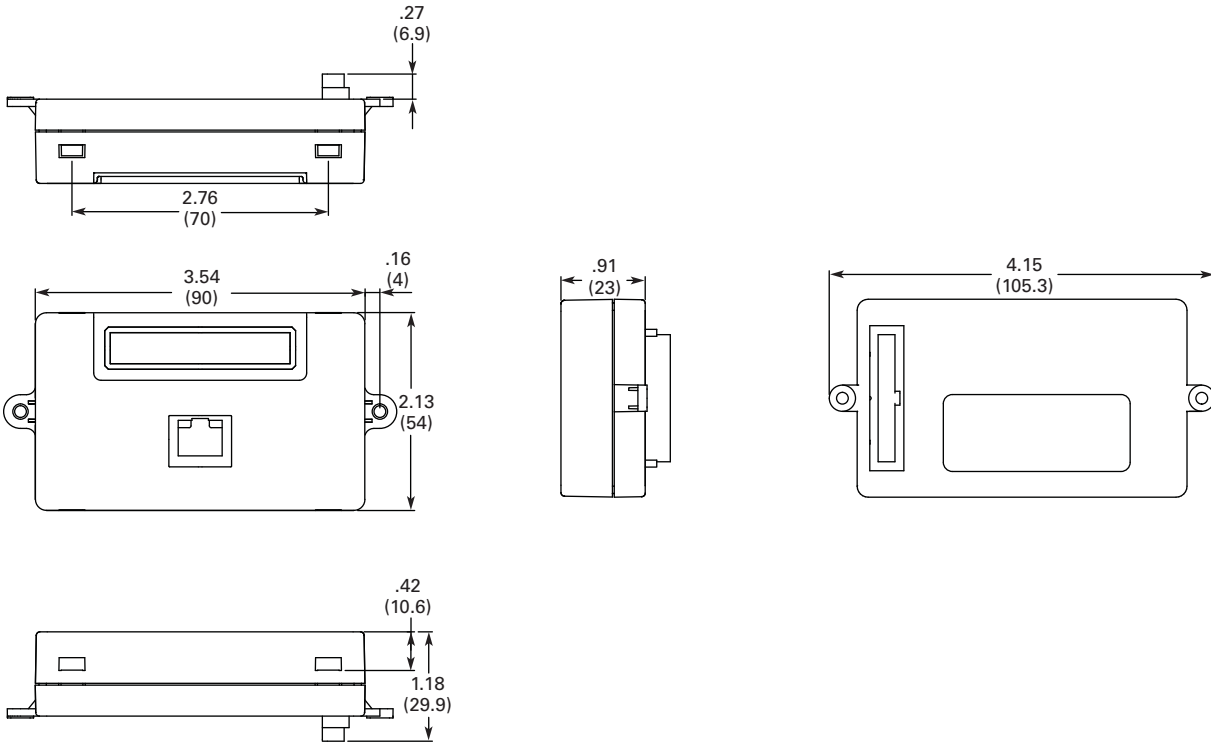


#### HMIEC0806 and HMIEC1612 Expansion Modules



Approximate Dimensions in Inches (mm)

**HMIECENT Ethernet Expansion Module**



## XV and XP Operator Interface



5

## Product Description

The XV and XP Series, along with Visual Designer software, completes Eaton's strong portfolio of operator interfaces and logic control products. Along with a broad selection of industrial control components, Eaton is a single-source supplier for automation and control products

The new XV and XP Series of operator interfaces represent the broadest set of solutions Eaton has introduced in more than 25 years of HMI innovation. This family of high performance platforms provides unmatched flexibility, with a slim OEM design and a variety of communication port options that include onboard Ethernet on all models. With screen sizes ranging from 3.5 to 15 inches, vast communications capabilities, and a single development software package, the XV and XP Series represent a complete solution to any HMI application.

### Visual Designer—a single software solution

At the heart of any good operator interface system is a powerful and intuitive software package. For this reason, Eaton introduces Visual Designer. When coupled with this new software package, XV and XP Series operator interfaces can communicate with virtually any network, any PLC, any web client, and any database. Development is simplified by the ability to seamlessly scale a single application across all XV and XP Series models. The Visual Designer runtime and web server licenses are pre-installed on all XV and XP Series units, eliminating the hassle and cost of purchasing and installing separately.

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| XV with Visual Designer or XSoft-CoDeSys-2 . . . . . | <b>V7-T5-32</b> |
| XP with Visual Designer . . . . .                    | <b>V7-T5-36</b> |
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| XSoft-CoDeSys-2 Software . . . . .                   | <b>V7-T5-42</b> |



Drawings  
Online



An Eaton  
Green Solution

### XSoft-CoDeSys-2: Integrated PLC and Operator Interface Solution

The XV Series is offered with a combination PLC/Operator Interface runtime software. (Not available on the XP Series.) These units handle both the Visualization and Logic needs of a system, eliminating the need for a separate PLC. XSoft-CoDeSys-2 provides a powerful environment to develop both the logic and visualization for your application. Logic development is available in multiple programming languages and is fully IEC-61131 compliant. Operator interface development is directly integrated with the logic development reducing design and administration time.

CoDeSys on which XSoft-CoDeSys-2 is based, is the leading IEC-61131 compliant programming software in the world. Eaton Corporation is a member of the CoDeSys Alliance and offers CoDeSys development tools across multiple Eaton product groups around the world.

### Selecting the right model for your application

The XV product offered with either Visual Designer or XSoft-CoDeSys-2 offers the best solution for two different user requirements. Visual Designer provides a fully integrated SCADA and HMI platform and XSoft-CoDeSys-2 provides a fully integrated Logic and OI platform. Both are fully web enabled for remote access and annunciation.

The XP with Visual Designer offers SCADA functionality with full windows compatibility and protected operating system, all in a rugged industrial hardware platform.

## Features and Benefits

### Fully connected, web-enabled

Today's operator interface applications range from basic monitor and control to high-end, feature-rich HMI software with Supervisory Control and Data Acquisition (SCADA). Customers demand communications capability with any network, PLC, Web client, and database. The answer: Eaton's Web-enabled Visual Designer operator interface software.

#### Web-based thin client

- Zero admin client—no need to install software on the remote PC
- Supports multiple simultaneous and independent web clients
- Simplified security—the same local user accounts and passwords for viewing and control also apply remotely

#### Connectivity

- Extensive list of over 240 native communication drivers for PLCs, drives, and many other industrial and commercial devices
- Visual Designer software can interface to any relational database—access both local and enterprise functions such as MRP/ERP through databases such as Microsoft® Access, Fox Pro, SQL Server, Oracle®, PI System® and many others
- Other connectivity tools provide redundancy capabilities, Real-Time Data Exchange, Centralized Alarm Management, and more

#### Open platform

- Visual Designer Software can host third party ActiveX® and .NET controls and Visual Basic® programs
- In addition to Eaton's Operator Interface families, Visual Designer's runtime may be licensed on any 32 or 64-bit Windows PC

#### Interoperability

- Software is designed to open standards such as XML, OPC, ActiveX, .NET, ODBC, ADO, SOAP, DDE and more

#### Peace of mind

All of these capabilities—combined with Eaton's commitment to provide free technical support for both OI hardware and software—make it quick and easy to purchase, develop and deploy XV and XP operator interface solutions.

## Product Selection Guide

### XV and XP Operator Interface with Visual Designer Series XV Operator Interface

| Series<br>Model                                   | XV  |                | XP  |                         |
|---|---|----------------|---|-------------------------|
|   | XV-102  | XV-152         | XP-702  | Blind Node (no display) |
| Screen Size                                       | 3.5, 5.7, 7.0   | 5.7, 8.4, 10.4 | 8.4, 10.4, 12.1, 15.0                                   |                         |
| Housing material                                  | Plastic   | Metal          | Metal   |                         |
| Operating system                                  | WinCE 5.0 Professional  |                | Windows XPe   |                         |
| Touchscreen technology                            | Resistive   |                | Infrared, non-reflective safety glass                   | N/A                     |
| Communication ports                               | 1 Ethernet, 1 or 2 serial, 0 or 1 USB                           |                | 2 Ethernet, 2 serial, 4 USB                             |                         |
| Development software                              | Visual Designer (VISUALDCE or VISUALDXP)                        |                | Visual Designer (VISUALDXP)                             |                         |
| Pre-licensed tags, drivers, web sessions          | 1500 tags, 3 drivers, 1 web session                             |                | Standard models 4000 tags, 5 drivers, 1 web session     |                         |
| Field upgradeable max tags, drivers, web sessions | 4000 tags, 3 drivers, 1, 2, 4, or 8 web sessions simultaneously |                | Enterprise models 64,000 tags, 8 drivers, 1 web session |                         |
| Alarm online/history                              | Yes   |                | Yes   |                         |
| Trend online/history                              | Yes   |                | Yes   |                         |
| Scripting   | Yes (VB Script)   |                | Yes (VB Script)   |                         |
| Scheduler   | Yes   |                | Yes   |                         |
| Recipe  | Yes   |                | Yes   |                         |
| Reports   | Yes   |                | Yes   |                         |
| OPC, TCP/IP, and communication drivers            | Yes   |                | Yes   |                         |
| Web Server and Web Thin Client support            | Yes   |                | Yes   |                         |
| Full remote access                                | Yes   |                | Yes   |                         |
| Local/remote database interface                   | Yes   |                | Yes   |                         |
| Ability to run third party software               | No  |                | Yes   |                         |
| ActiveX and .NET controls                         | No  |                | Yes   |                         |
| Full document viewing                             | No  |                | Yes   |                         |
| Windows media player                              | No  |                | Yes   |                         |
| Vision system interfaces                          | No  |                | Yes   |                         |
| Network camera monitoring                         | No  |                | Yes   |                         |

**XV Series with CoDeSys Run Time** (Not Available on XP Series)

| <b>Series</b>                          | <b>XV</b>                             |                       |
|--|---------------------------------------|-----------------------|
|  | <b>XV-102</b>                         | <b>XV-152</b>         |
| <b>Model</b>                           | <b>3.5, 5.7, 7.0</b>                  | <b>5.7, 8.4, 10.4</b> |
| <b>Screen Size</b>                     | <b>3.5, 5.7, 7.0</b>                  | <b>5.7, 8.4, 10.4</b> |
| Housing material                       | Plastic                               | Metal                 |
| Operating system                       | WinCE 5.0 Standard                    |                       |
| Touchscreen                            | Resistive                             |                       |
| Communications ports                   | 1 Ethernet, 1 or 2 serial, 0 or 1 USB |                       |
| Optional field buses                   | PROFIBUS, CANopen, SmartWire-DT       |                       |
| Development software                   | XSoft-CoDeSys-2                       |                       |
| IEC-61131-3 logic programming          | (LD, ST, SFC, IL, FBD, CFC) Yes       |                       |
| Integrated screen design               | Yes                                   |                       |
| Integrated field bus configuration     | Yes                                   |                       |
| Alarm online/historical                | Yes                                   |                       |
| Trend online/historical                | Yes                                   |                       |
| Scripting                              | Structured Text                       |                       |
| Scheduler                              | Yes                                   |                       |
| Recipe                                 | Yes                                   |                       |
| Reports                                | No                                    |                       |
| OPC, TCP/IP and communication driver   | Yes (OPC Server for PC)               |                       |
| Web Server and Web Thin Client support | Yes                                   |                       |
| Full remote access                     | Yes                                   |                       |
| Local/remote data base access          | Limited (DDE)                         |                       |
| Ability to run third party software    | No                                    |                       |
| ActiveX and .NET controls              | No                                    |                       |
| Full document viewing                  | No                                    |                       |
| Windows media player                   | No                                    |                       |
| Vision system interfaces               | No                                    |                       |
| Network camera monitoring              | No                                    |                       |

**XV Operator Interface**



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| Visual Designer Software . . . . .          | <b>V7-T5-40</b> |
| XSoft-CoDeSys-2 Software . . . . .          | <b>V7-T5-42</b> |

**XV with Visual Designer or XSoft-CoDeSys-2**

**Product Description**

***XV with Visual Designer***

Positioned between the **HMI** and the XP series of operator interface, the XV series is ideal for applications requiring extensive connectivity and the advanced features available in Visual Designer without the expense associated with more powerful open platforms.

The XV models were designed with OEMs in mind featuring an attractive bezel and slim and light weight housing. The clip mount design simplifies installation.

***XV with XSoft-CoDeSys***

The XV series with XSoft-CoDeSys combines powerful logic and visualization capabilities into a single device. It is ideal for OEM applications where low component count and ease of program development and remote administration is critical.

The XV Models with XSoft-CoDeSys offer multiple field bus options built directly on-board the unit to provide an overall solution optimized both for size and cost.

**Features**

***XV with Visual Designer***

XV Series operator interface with Windows CE operating system

- 3.5 in, 5.7 in, 7.0 in (widescreen), 8.4 in, and 10.4 in screen sizes
- Cost effective plastic or metal housing
- Resistive touch with flush bezel
- Ethernet and serial ports on all models
- Visual Designer XP or CE development software
- Pre-installed Visual Designer runtime and web serving licenses

***XV with XSoft-CoDeSys***

XV Series operator interface with Windows CE operating system

- 3.5 in, 5.7 in, 7.0 in (widescreen), 8.4 in, and 10.4 in screen sizes
- Cost effective plastic or metal housing
- Resistive touch with flush bezel
- Ethernet and serial ports on all models
- PROFIBUS, CANopen and SmartWire-DT optional
- XSoft-CoDeSys-2 programming software
- Pre-licensed for CoDeSys run time

**Standards and Certifications**

- CE
- UL
- cUL
- RoHS

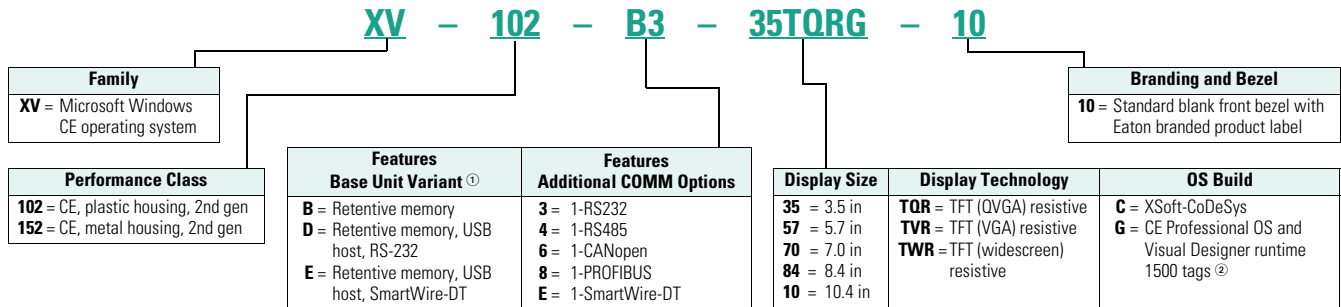




**Catalog Number Selection**

**XV Operator Interface**

**XV**



**Product Selection**

**XV Operator Interface**



**XV Operator Interface with Visual Designer**

| Description   | Catalog Number             |
|---|----------------------------|
| XV 3.5 in TFT, plastic housing, resistive touch, Ethernet and RS-232                  | <b>XV-102-B3-35TORG-10</b> |
| XV 3.5 in TFT, plastic housing, resistive touch, Ethernet and RS-485                  | <b>XV-102-B4-35TORG-10</b> |
| XV 5.7 in TFT, plastic housing, resistive touch, Ethernet, RS-232, RS-485             | <b>XV-102-D4-57TVRG-10</b> |
| XV 7.0 in TFT wide screen, plastic housing, resistive touch, Ethernet, RS-232, RS-485 | <b>XV-102-D4-70TWRG-10</b> |
| XV 5.7 in TFT, metal housing, resistive touch, Ethernet, RS-232, RS-485               | <b>XV-152-D4-57TVRG-10</b> |
| XV 8.4 in TFT, metal housing, resistive touch, Ethernet, RS-232, RS-485               | <b>XV-152-D4-84TVRG-10</b> |
| XV 10.4 in TFT, metal housing, resistive touch, Ethernet, RS-232, RS-485              | <b>XV-152-D4-10TVRG-10</b> |

**Notes**

- ① All 1xx performance class units have 400MHz processor, 64 MB DRAM, 1 x 10/100 Ethernet, and 1 x USB device.
- ② Standard software on embedded hardware. These XV models have a Microsoft Windows CE 5.0 Professional operating system and are pre-licensed with Visual Designer runtime for up to 1500 tags, 3 simultaneous communication drivers, and 1 web session. Field upgrades are available for up to 4000 tags, 3 drivers, and 2, 4, or 8 simultaneous web sessions.

**XV Operator Interface with XSoft-CoDeSys**

| <b>Description</b>   | <b>Catalog Number</b>      |
|--|----------------------------|
| XV 3.5 in TFT plastic housing, resistive touch, CANopen                | <b>XV-102-B6-35TQRC-10</b> |
| XV 3.5 in TFT plastic housing, resistive touch, PROFIBUS               | <b>XV-102-B8-35TQRC-10</b> |
| XV 3.5 in TFT plastic housing, resistive touch, SmartWire-DT           | <b>XV-102-BE-35TQRC-10</b> |
| XV 5.7 in TFT plastic housing, resistive touch, CANopen                | <b>XV-102-D6-57TVRC-10</b> |
| XV 5.7 in TFT plastic housing, resistive touch, PROFIBUS               | <b>XV-102-D8-57TVRC-10</b> |
| XV 5.7 in TFT plastic housing, resistive touch, CANopen, SmartWire-DT  | <b>XV-102-E6-57TVRC-10</b> |
| XV 5.7 in TFT plastic housing, resistive touch, PROFIBUS, SmartWire-DT | <b>XV-102-E8-57TVRC-10</b> |
| XV 7.0 in TFT plastic housing, resistive touch, CANopen                | <b>XV-102-D6-70TWRC-10</b> |
| XV 7.0 in TFT plastic housing, resistive touch, PROFIBUS               | <b>XV-102-D8-70TWRC-10</b> |
| XV 7.0 in TFT plastic housing, resistive touch, CANopen, SmartWire-DT  | <b>XV-102-E6-70TWRC-10</b> |
| XV 7.0 in TFT plastic housing, resistive touch, PROFIBUS, SmartWire-DT | <b>XV-102-E8-70TWRC-10</b> |
| XV 5.7 in TFT metal housing, resistive touch, CANopen                  | <b>XV-152-D6-57TVRC-10</b> |
| XV 5.7 in TFT metal housing, resistive touch, PROFIBUS                 | <b>XV-152-D8-57TVRC-10</b> |
| XV 5.7 in TFT metal housing, resistive touch, CANopen, SmartWire-DT    | <b>XV-152-E6-57TVRC-10</b> |
| XV 5.7 in TFT metal housing, resistive touch, PROFIBUS, SmartWire-DT   | <b>XV-152-E8-57TVRC-10</b> |
| XV 8.4 in TFT metal housing, resistive touch, CANopen                  | <b>XV-152-D6-84TVRC-10</b> |
| XV 8.4 in TFT metal housing, resistive touch, PROFIBUS                 | <b>XV-152-D8-84TVRC-10</b> |
| XV 8.4 in TFT metal housing, resistive touch, CANopen, SmartWire-DT    | <b>XV-152-E6-84TVRC-10</b> |
| XV 8.4 in TFT metal housing, resistive touch, PROFIBUS, SmartWire-DT   | <b>XV-152-E8-84TVRC-10</b> |
| XV 10.4 in TFT metal housing, resistive touch, CANopen                 | <b>XV-152-D6-10TVRC-10</b> |
| XV 10.4 in TFT metal housing, resistive touch, PROFIBUS                | <b>XV-152-D8-10TVRC-10</b> |
| XV 10.4 in TFT metal housing, resistive touch, CANopen, SmartWire-DT   | <b>XV-152-E6-10TVRC-10</b> |
| XV 10.4 in TFT metal housing, resistive touch, PROFIBUS, SmartWire-DT  | <b>XV-152-E8-10TVRC-10</b> |

**Accessories****XV Operator Interface with Visual Designer or XSoft-CoDeSys**

| <b>Description</b>  | <b>Catalog Number</b>        |
|---|------------------------------|
| SD memory card for all XV models  | <b>MEMORY-SD-A1-S</b>        |
| Spare part kit for XV-102 models—1 power connector, 8 mounting brackets, 1 sealing strip, 1 touch pen | <b>ACC-TP-57-KG-1 XV-102</b> |
| Spare part kit for XV-152 models—1 power connector, 8 mounting brackets, 1 sealing strip, 1 touch pen | <b>ACC-TP-10-12-RES-1</b>    |

## Technical Data and Specifications

### XV Operator Interface

| Series<br>Model  | XV Midrange Operator Interface  |   |                         | XV-152  |  |                         |
|--|---|---|-------------------------|---|--|-------------------------|
|  | 3.5 in  | 5.7 in  | 7.0 in                  | 5.7 in  | 8.4 in   | 10.4 in                 |
| Operating system   | WinCE 5.0 Professional  | WinCE 5.0 Professional                                  | WinCE 5.0 Professional  | WinCE 5.0 Professional  | WinCE 5.0 Professional                               | WinCE 5.0 Professional  |
| Touchscreen technology   | Resistive   | Resistive   | Resistive               | Resistive   | Resistive  | Resistive               |
| Display, colors  | Color TFT, 64k colors   | Color TFT, 64k colors                                   | Color TFT, 64k colors   | Color TFT, 64k colors   | Color TFT, 64k colors                                | Color TFT, 64k colors   |
| Pixel resolution (landscape)<br>portrait mode also available                     | QVGA 320 x 240  | VGA 640 x 480   | WVGA 800 x 480          | VGA 640 x 480   | VGA 640 x 480  | VGA 640 x 480           |
| Brightness (cd/m <sup>2</sup> )  | 250   | 250   | 250                     | 350   | 350  | 350                     |
| Backlight  | LED, selectable dimming   | LED, selectable dimming                                 | LED, selectable dimming | LED, selectable dimming   | LED, selectable dimming                              | LED, selectable dimming |
| Lifespan of backlight (half-life)  | 40,000 hrs  | 40,000 hrs  | 40,000 hrs              | 40,000 hrs  | 40,000 hrs   | 40,000 hrs              |
| Processor  | 32 bit RISC, 400 MHz  | 32 bit RISC, 400 MHz                                    | 32 bit RISC, 400 MHz    | 32 bit RISC, 400 MHz  | 32 bit RISC, 400 MHz                                 | 32 bit RISC, 400 MHz    |
| Volatile memory  | 64 MB DRAM  | 64 MB DRAM  | 64 MB DRAM              | 64 MB DRAM  | 64 MB DRAM   | 64 MB DRAM              |
| Non-volatile memory  | 125 KB NVRAM/64 MB NAND,<br>1 SD card slot  | 125 KB NVRAM/64 MB NAND/<br>2 MB NOR, 1 SD card slot    |                         |   | 125 KB NVRAM/64 MB NAND/<br>2 MB NOR, 1 SD card slot |                         |
| Real time clock  | Yes   | Yes   | Yes                     | Yes   | Yes  | Yes                     |
| Communication ports  | Ethernet 10/100, RS-485<br>or RS-232 USB Device   | Ethernet 10/100, RS-485, RS-232<br>USB Host, USB Device |                         | Ethernet 10/100, RS-485, RS-232<br>USB Host, USB Device   |  |                         |
| Slots for COMMM modules  | None  | None  | None                    | None  | None   | None                    |
| Power supply rated voltage   | 24 Vdc nominal (–20%/+25%) with polarity protection   |   |                         | 24 Vdc nominal (–20%/+25%) with polarity protection   |  |                         |
| Continuous current consumption<br>(max. amps)                                    | 0.2   | 0.4   | 0.4                     | 0.4   | 0.6  | 0.6                     |
| Starting current inrush (A <sup>2</sup> s)                                       | 1.5   | 1.5   | 1.5                     | 1.5   | 1.5  | 1.5                     |
| Ambient conditions   |   |   |                         |   |  |                         |
| Operation—relative humidity,<br>non-condensing                                   | 0 to 50°C, 10 to 95%  | 0 to 50°C, 10 to 95%                                    | 0 to 50°C, 10 to 95%    | 0 to 50°C, 10 to 95%  | 0 to 50°C, 10 to 95%                                 | 0 to 50°C, 10 to 95%    |
| Storage/transport—relative<br>humidity, non-condensing                           | –20 to 60°C, 10 to 95%  | –20 to 60°C, 10 to 95%                                  | –20 to 60°C, 10 to 95%  | –20 to 60°C, 10 to 95%  | –20 to 60°C, 10 to 95%                               | –20 to 60°C, 10 to 95%  |
| Shock  | IEC 60068-2-27 15g for 11 ms duration   |   |                         | IEC 60068-2-27 15g for 11 ms duration   |  |                         |
| Vibration  | IEC 60068-2-6<br>5–9 Hz: 3.5 mm displacement<br>9–60 Hz: 0.15 mm displacement<br>60–150 Hz: 2g acceleration |   |                         | IEC 60068-2-6<br>5–9 Hz: 3.5 mm displacement<br>9–60 Hz: 0.15 mm displacement<br>60–150 Hz: 2g acceleration |  |                         |
| Agency certifications and<br>standards   | CE, UL/cUL, CSA (pending), RoHS   |   |                         | CE, UL/cUL, CSA (pending), RoHS   |  |                         |
| Protection type  |   |   |                         |   |  |                         |
| Front  | IP65, NEMA 4X (indoor)  | IP65, NEMA 4X (indoor)                                  | IP65, NEMA 4X (indoor)  | IP65, NEMA 4X (indoor)  | IP65, NEMA 4X (indoor)                               | IP65, NEMA 4X (indoor)  |
| Rear   | IP20, NEMA 1  | IP20, NEMA 1  | IP20, NEMA 1            | IP20, NEMA 1  | IP20, NEMA 1   | IP20, NEMA 1            |
| Housing material   | Plastic   | Plastic   | Plastic                 | Metal   | Metal  | Metal                   |
| Dimensions WxHxD (mm)  | 136 x 100 x 30  | 170 x 130 x 39  | 210 x 135 x 38          | 212 x 156 x 53  | 275 x 208 x 53                                       | 345 x 260 x 54          |
| Mounting cutout WxH (mm)   | 123 x 87  | 157 x 117   | 197 x 122               | 198 x 142   | 261 x 194  | 329 x 238               |
| Approximate weight lbs (kg)  | 0.7 (0.3)   | 1.3 (0.6)   | 1.3 (0.6)               | 2.9 (1.3)   | 4.3 (2.1)  | 6.1 (3.0)               |
| Ability to run third party<br>software   | No  | No  | No                      | No  | No   | No                      |
| Visual Designer<br>development software  | VISUALDCE or VISUALDXP  |   |                         | VISUALDCE or VISUALDXP  |  |                         |
| Pre-licensed tags, drivers, web<br>sessions (Visual Designer<br>models)          | 1500 tags, 3 drivers, 1 web session   |   |                         | 1500 tags, 3 drivers, 1 web session   |  |                         |
| Field upgradeable max tags,<br>drivers, web sessions (Visual<br>Designer Models) | 4000 tags, 3 drivers, 1, 2, 4, or 8 web sessions simultaneously   |   |                         | 4000 tags, 3 drivers, 1, 2, 4, or 8 web sessions simultaneously   |  |                         |
| XSoft-CoDeSys-2 development<br>software  | SW-XSOFT-CODESYS-2-S (seat)<br>SW-XSOFT-CODESYS-2-M (multi-seat)  |   |                         | SW-XSOFT-CODESYS-2-S (seat)<br>SW-XSOFT-CODESYS-2-M (multi-seat)  |  |                         |

#### XP Operator Interface



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### XP with Visual Designer

#### Product Description

The XP models were designed for performance. This series is perfect for OEMs who require extensive connectivity, the advanced features available in Visual Designer, have large or high speed applications, or need an open platform for running third party software. The unique infrared touchscreen with scratch resistant safety glass is ideal for harsh environments where traditional touchscreens are easily damaged. The two externally accessible solid state CompactFlash® drives provide both easy access and reliability. Protect Mode, available only on Eaton's XP embedded operator interface products, protects the operating system from unwanted changes providing improved up-time and reliability.

#### Features

XP Series operator interface with Windows XP Embedded operating system

- 8.4 in, 10.4 in, 12.1 in, and 15.0 in screen sizes as well as blind node
- Infrared touch screen, safety glass and metal housing for demanding environments
- Multiple Ethernet, serial, and USB ports on all models
- All solid state media increases reliability
- Open architecture compatible with third party software and hardware
- Non-corruptible OS with Protect Mode® increases security and minimizes emergency and preventative maintenance downtime
- Visual Designer XP development software
- Pre-installed Visual Designer runtime and web serving licenses

#### Standards and Certifications

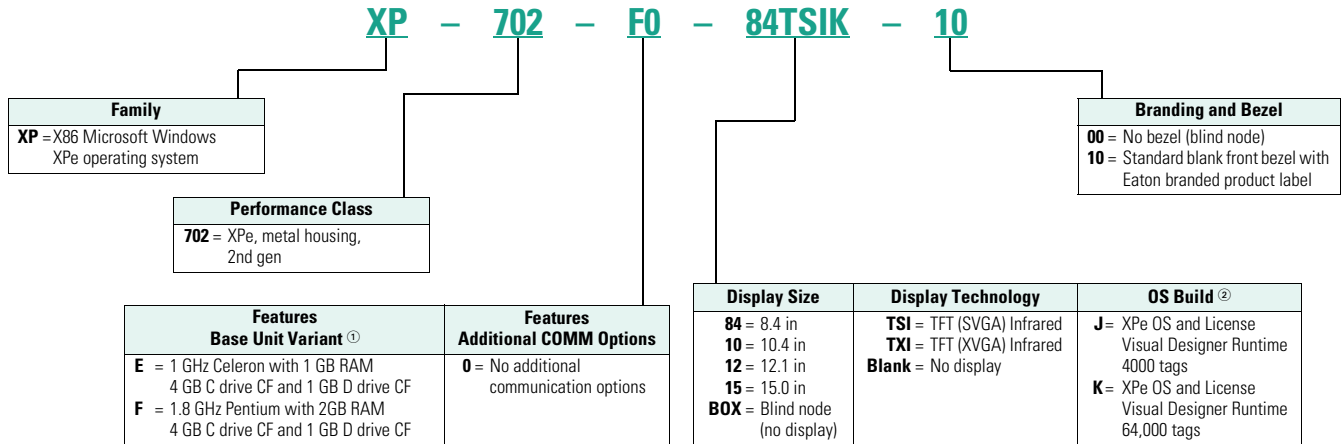
- CE
- UL
- cUL
- RoHS



**Catalog Number Selection**

**XP Operator Interface**

**XP**



**Product Selection**

**Series Information**

All XP models have a Microsoft Windows XP embedded operating system and are pre-licensed with Visual Designer runtime. The standard models are licensed for 4000 tags, 5 simultaneous communication drivers, and 1 web session. The enterprise models are licensed for 64,000 tags, 8 simultaneous communication drivers, and 1 web session. Field upgrades are available for up to 64,000 tags, 8 drivers, and 2, 4, 8, 16, 32, 64, 128, or 256 simultaneous web sessions.

**XP Operator Interface**

**XP Operator Interface**



| Description   | Catalog Number             |
|---|----------------------------|
| XP 8.4 in TFT, 1 GHz Celeron, 1 GB RAM, 4 GB C drive, 1 GB D drive, 4000 tags, 5 drivers, 1 web session               | <b>XP-702-E0-84TSIJ-10</b> |
| XP 10.4 in TFT, 1 GHz Celeron, 1 GB RAM, 4 GB C drive, 1 GB D drive, 4000 tags, 5 drivers, 1 web session              | <b>XP-702-E0-10TSIJ-10</b> |
| XP 12.1 in TFT, 1 GHz Celeron, 1 GB RAM, 4 GB C drive, 1 GB D drive, 4000 tags, 5 drivers, 1 web session              | <b>XP-702-E0-12TXIJ-10</b> |
| XP 15.0 in TFT, 1 GHz Celeron, 1 GB RAM, 4 GB C drive, 1 GB D drive, 4000 tags, 5 drivers, 1 web session              | <b>XP-702-E0-15TXIJ-10</b> |
| XP blind node (no display), 1 GHz Celeron, 1 GB RAM, 4 GB C drive, 1 GB D drive, 4000 tags, 5 drivers, 1 web session  | <b>XP-702-E0-BOXJ-00</b>   |
| XP 8.4 in TFT, 1.8 GHz Pentium, 2 GB RAM, 4 GB C drive, 1 GB D drive, 64k tags, 8 drivers, 1 web session              | <b>XP-702-F0-84TSIK-10</b> |
| XP 10.4 in TFT, 1.8 GHz Pentium, 2 GB RAM, 4 GB C drive, 1 GB D drive, 64k tags, 8 drivers, 1 web session             | <b>XP-702-F0-10TSIK-10</b> |
| XP 12.1 in TFT, 1.8 GHz Pentium, 2 GB RAM, 4 GB C drive, 1 GB D drive, 64k tags, 8 drivers, 1 web session             | <b>XP-702-F0-12TXIK-10</b> |
| XP 15.0 in TFT, 1.8 GHz Pentium, 2 GB RAM, 4 GB C drive, 1 GB D drive, 64k tags, 8 drivers, 1 web session             | <b>XP-702-F0-15TXIK-10</b> |
| XP blind node (no display), 1.8 GHz Pentium, 2 GB RAM, 4 GB C drive, 1 GB D drive, 64k tags, 8 drivers, 1 web session | <b>XP-702-F0-BOXK-00</b>   |

**Notes**

- ① All 7xx Performance Class units have 1 x 10/100, 1 x 10/100/1000 Ethernet, 4 x USB Host V2.0, 2 x RS-232.
- ② Standard software on embedded hardware.

## Accessories

### XP Operator Interface

| Description   | Catalog Number         |
|---|------------------------|
| Hard drive, 80 GB minimum for all XP models for application or data storage                     | <b>HDU-A7-S XP700</b>  |
| Industrial grade hard drive, 80 GB minimum for all XP models for application or data storage    | <b>HDU-A7-SI XP700</b> |
| XP700 externally mounted fan for all XP models (included with 1.8 GHz Enterprise models)        | <b>ACC-FAN-700-S</b>   |
| CompactFlash memory card, minimum 4 GB, with Visual Designer image for all XP models            | <b>OS-FLASH-A7-V</b>   |
| XP-702 spare part kit for all XP models—1 power connector, 8 mounting brackets, 1 sealing strip | <b>ACC-TP-57-RES-1</b> |

## Technical Data and Specifications

### XP Operator Interface

| Series<br>Model   | XP Performance Operator Interface                                    |                   |                   |                   |                          |
|---|--|-------------------|-------------------|-------------------|--------------------------|
|   | XP-702   |                   |                   |                   |                          |
| Screen Size   | 8.4 in   | 10.4 in           | 12.1 in           | 15.0 in           | Blind Node (no display)  |
| Operating system  | Windows XPe  | Windows XPe       | Windows XPe       | Windows XPe       | Windows XPe              |
| Touchscreen technology  | Infrared, non-reflective safety glass                                |                   |                   |                   | N/A                      |
| Display, colors   | Color TFT, selectable 16 million, 64k, or 256 colors                 |                   |                   |                   | VGA and DVI-D output     |
| Pixel resolution (landscape)—<br>Portrait mode also available | SVGA 800 x 600   | SVGA 800 x 600    | XGA 1024 x 768    | XGA 1024 x 768    | 800 x 600 to 1920 x 1200 |
| Brightness (cd/m <sup>2</sup> )                               | 400  | 400               | 400               | 400               | N/A                      |
| Backlight   | 2 CCFL   | 2 CCFL            | 2 CCFL            | 4 CCFL            | N/A                      |
| Lifespan of backlight<br>(half-life)                          | 50,000 hrs   | 50,000 hrs        | 50,000 hrs        | 50,000 hrs        | N/A                      |
| Processor   |  |                   |                   |                   |                          |
| Standard models   | 1 GHz Celeron M  | 1 GHz Celeron M   | 1 GHz Celeron M   | 1 GHz Celeron M   | 1 GHz Celeron M          |
| Enterprise models   | 1.8 GHz Pentium M  | 1.8 GHz Pentium M | 1.8 GHz Pentium M | 1.8 GHz Pentium M | 1.8 GHz Pentium M        |
| Volatile memory   |  |                   |                   |                   |                          |
| Standard models   | 1 GB   | 1 GB              | 1 GB              | 1 GB              | 1 GB                     |
| Enterprise models   | 2 GB   | 2 GB              | 2 GB              | 2 GB              | 2 GB                     |
| Non-volatile memory   |  |                   |                   |                   |                          |
| Standard models <sup>①</sup>                                  | 4 GB min C drive (OS), 1 GB min D drive                              |                   |                   |                   |                          |
| Enterprise models <sup>①</sup>                                | 4 GB min C drive (OS), 1 GB min D drive                              |                   |                   |                   |                          |
| Real time clock   | Yes  | Yes               | Yes               | Yes               | Yes                      |
| Communication ports   | Ethernet 1 x 10/100 and 1 x 10/100/1000; 2 x RS232; 4 x USB 2.0 Host |                   |                   |                   |                          |
| Slots for COMM modules  | 1 x PCI 32-bit   | 1 x PCI 32-bit    | 1 x PCI 32-bit    | 1 x PCI 32-bit    | 1 x PCI 32-bit           |
| Power supply rated voltage                                    | 24 Vdc nominal (–15%/+20%) with polarity protection                  |                   |                   |                   |                          |

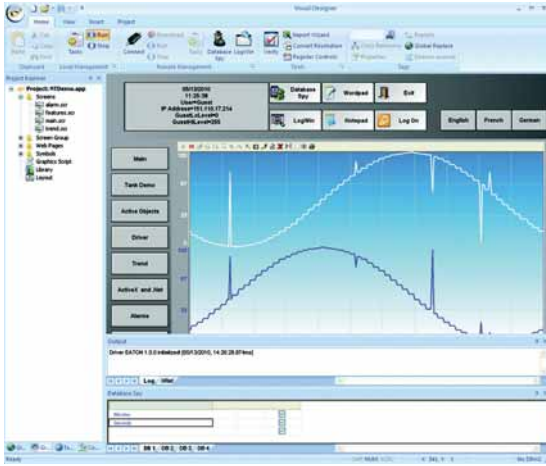
#### Note

<sup>①</sup> All are removable CompactFlash.

## XP Operator Interface, continued

| Series<br>Model                                     | XP Performance Operator Interface   |                             |                             |                             |                             |
|---|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|   | XP-702  |                             |                             |                             |                             |
| Screen Size   | 8.4 in  | 10.4 in                     | 12.1 in                     | 15.0 in                     | Blind Node (no display)     |
| Continuous current consumption (maximum amps)       |   |                             |                             |                             |                             |
| Standard models                                     | 2.0   | 2.0                         | 2.1                         | 2.1                         | 1.4                         |
| Enterprise models                                   | 3.1   | 3.1                         | 3.2                         | 3.2                         | 2.8                         |
| Starting Current Inrush (A <sup>2</sup> s)          | 2.0   | 2.0                         | 2.0                         | 2.0                         | 2.0                         |
| Ambient conditions                                  |   |                             |                             |                             |                             |
| Operation—relative humidity, non-condensing         | 0 to 50°C, 10 to 95%  | 0 to 50°C, 10 to 95%        | 0 to 50°C, 10 to 95%        | 0 to 50°C, 10 to 95%        | 0 to 50°C, 10 to 95%        |
| Storage/transport—relative humidity, non-condensing | -20 to 60°C, 10 to 95%  | -20 to 60°C, 10 to 95%      | -20 to 60°C, 10 to 95%      | -20 to 60°C, 10 to 95%      | -20 to 60°C, 10 to 95%      |
| Shock   | IEC 60068-2-27 15g for 11 ms duration   |                             |                             |                             |                             |
| Vibration   | IEC 60068-2-6   | IEC 60068-2-6               | IEC 60068-2-6               | IEC 60068-2-6               | IEC 60068-2-6               |
| 5–9 Hz  | 3.5 mm displacement   | 3.5 mm displacement         | 3.5 mm displacement         | 3.5 mm displacement         | 3.5 mm displacement         |
| 9–60 Hz   | 0.15 mm displacement  | 0.15 mm displacement        | 0.15 mm displacement        | 0.15 mm displacement        | 0.15 mm displacement        |
| 60–150 Hz   | 1g acceleration   | 1g acceleration             | 1g acceleration             | 1g acceleration             | 1g acceleration             |
| Agency certifications and standards                 | CE, UL/cUL, CSA (pending), RoHS   |                             |                             |                             |                             |
| Protection type                                     |   |                             |                             |                             |                             |
| Front   | IP65, NEMA 4X (indoor)  | IP65, NEMA 4X (indoor)      | IP65, NEMA 4X (indoor)      | IP65, NEMA 4X (indoor)      | IP20, NEMA 1                |
| Rear  | IP20, NEMA 1  | IP20, NEMA 1                | IP20, NEMA 1                | IP20, NEMA 1                | IP20, NEMA 1                |
| Housing material                                    | Metal   | Metal                       | Metal                       | Metal                       | Metal                       |
| Dimensions WxHxD (mm)                               | 275 x 208 x 102/140   | 345 x 260 x 91/129          | 361 x 279 x 98/136          | 427 x 322 x 101/139         | 264 x 194 x 58/96           |
| Mounting cutout WxH (mm)                            | 261 x 194   | 329 x 238                   | 344 x 262                   | 410 x 315                   | N/A                         |
| Approximate weight lbs (kg)                         | 6.4/7.3 (3.2/3.6)   | 8.3/9.1 (4.1/4.5)           | 9.5/10.3 (4.7/5.1)          | 12.8/13.6 (6.3/6.7)         | 3.9/4.7 (1.9/2.3)           |
| Development software                                | Visual Designer (VISUALDXP)   | Visual Designer (VISUALDXP) | Visual Designer (VISUALDXP) | Visual Designer (VISUALDXP) | Visual Designer (VISUALDXP) |
| Ability to run third party software                 | Yes   | Yes                         | Yes                         | Yes                         | Yes                         |
| Pre-licensed tags, drivers, web sessions            |   |                             |                             |                             |                             |
| Standard models                                     | 4000 tags, 5 drivers, 1 web session   |                             |                             |                             |                             |
| Enterprise models                                   | 64,000 tags, 8 drivers, 1 web session   |                             |                             |                             |                             |
| Field upgradeable max tags, drivers, web sessions   | 64,000 tags, 8 drivers, 1, 2, 4, 8, 16, 32, 64, 128, or 256 web sessions simultaneously |                             |                             |                             |                             |

#### Visual Designer Software



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#### Visual Designer Software

##### Product Description

###### **Advanced GUI Development, Made Easy**

Time-saving solutions, lower costs.

With application development expense often outweighing the hardware expense, the demand to quickly design and implement advanced GUI solutions is greater than ever. Even advanced features such as data archiving, recipe management, multi-language, SQL database access, and web serving are made easy through an elegant and modern user interface. Visual Designer's ease-of-use and time-saving features lower your total installed cost.

##### Features

Visual Designer is a software development package optimized for OEMs. New tools streamline the application development process, and the creation of web-based applications has never been easier. In addition to basic monitor and control functionality, Visual Designer is packed with advanced features streamlining the design of sophisticated applications.

##### Advanced Features

- Pop-ups and group screens
- Full mathematical and logical evaluation
- Web browsing and document viewing
- Remote access and control without having to install software to the remote PC
- Database interfacing
- Historical alarms and events
- Historical data archiving and trending
- Recipe management
- Multi-language
- VB scripting
- Report generation
- Scheduling
- Resolution conversion
- E-mailing and text messaging
- Launch and control of third party applications

##### Advanced Development Features

- Conversion of legacy PanelMate™ configurations
- Optional PanelBuilder™ conversion utility
- Online configuration/editing
- Advanced search and replace
- Automatic scaling of web clients
- Customizable application symbols
- Reusable controls, images, and screens via indirect tag and/or PLC assignments

##### System Requirements

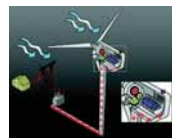
Windows XP and Windows 7 32-bit and 64-bit systems



## Product Selection

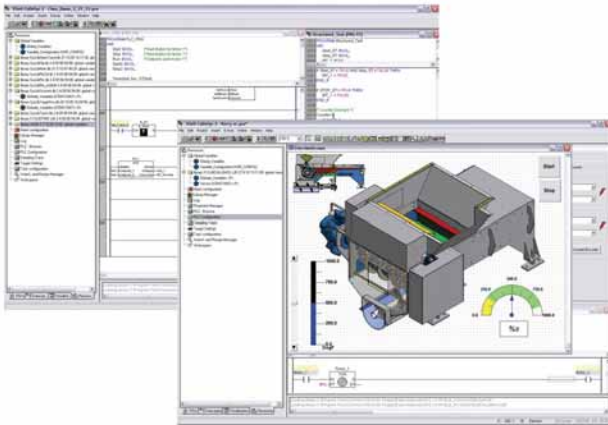
## Visual Designer

## Visual Designer Software



| Description   | Catalog Number       |
|---|----------------------|
| <b>Visual Designer Development Software License Key</b>   |                      |
| For CE hardware   | <b>VISUALDCE</b>     |
| For PCs, XPe, and CE hardware   | <b>VISUALDXP</b>     |
| For CE hardware, 5-pack of VISUALDCE  | <b>VISUALDCE5</b>    |
| For PCs, XPe, and CE hardware, 5-pack of VISUALDXP  | <b>VISUALDXP5</b>    |
| For a PC Runtime software license with a maximum of 64k tags, 8 drivers, 1 web session                                | <b>VISUALRTPC</b>    |
| Visual Designer development software and PC runtime software licenses for a max of 64k tags, 8 drivers, 1 web session | <b>VISUALRTDEVPC</b> |
| <b>Software Updates and Upgrades</b>  |                      |
| Update to current version Visual Designer development software for CE hardware  | <b>VISUALDUPCE</b>   |
| Update to current version Visual Designer development software PCs/XPe/CE   | <b>VISUALDUPXP</b>   |
| Update to current version of Visual Designer runtime license for PCs  | <b>VISUALRTUPPC</b>  |
| Upgrade from Visual Designer CE 1500 tag to 4000 tag runtime  | <b>VISUALRT4KCE</b>  |
| Upgrade from Visual Designer XPe 4000 tag, 5 driver to 64k tag, 8 driver runtime license                              | <b>VISUALRT64KXP</b> |
| Upgrade from Visual Designer development software CE to CE plus PC and XPe (64k tag, 8 drivers)                       | <b>VISUALDCE2XP</b>  |
| Visual Designer PanelBuilder conversion utility optional plug-in (requires Visual Designer software)                  | <b>VISUALDPBCU</b>   |
| Visual Designer 1 additional web thin client license for Internet Explorer  | <b>VISUALWEB1</b>    |
| Visual Designer 3 additional web thin client licenses for Internet Explorer   | <b>VISUALWEB3</b>    |
| Visual Designer 7 additional web thin client licenses for Internet Explorer   | <b>VISUALWEB7</b>    |

**XSoft-CoDeSys-2 Software**



### XSoft-CoDeSys-2 Software

#### Product Description

##### Combined Logic and Visualization Development

##### IEC 61131-3 Logic Programming

- Ladder Diagram (LD)
- Structured Text (ST)
- Sequential function chart (SFC)
- Function block diagram (FBD)
- Freely definable function block chart/continuous function chart (CFC)
- Instruction List (IL)

##### Target Visualization

Integrated design of Operator Interface screens for the XV series. Visualization and logic developed as part of the same project. Simplifies screen design and always keeps the Logic and visualization in synch.

##### Web Visualization

Optionally XSoft-CoDeSys-2 can automatically generate XML-based runtime screens to make the screens from the XV accessible remotely using a web browser with a JavaScript plug-in such as Internet Explorer®, Firefox® and others.

#### Features

##### Project Development

- Automatic variable declaration
- On line editing
- Pop-up variable and function search/pick tools
- Automatic formatting and color coding of logic/declaration text
- Re-usable Visual-Logic Function Blocks

##### Debugging and commissioning

XSoft-CoDeSys-2 offers you a number of important functions for debugging, testing and commissioning your XV applications quickly and efficiently.

All these features are available as soon as you log on to the XV (online mode) over an Ethernet connection.

##### Simulation

Users can also test the application when the XV is not connected to the process. This is possible thanks to the integrated online simulation feature. Simulation supports both the screens and logic that have been designed using XSoft-CoDeSys.

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| Visual Designer Software . . . . .                   | <b>V7-T5-40</b> |
| XSoft-CoDeSys-2 Software                             |                 |

#### Advanced Features

- Up to 16 time and/or event driven tasks per project
- Each task can include multiple logic programs or subroutines
- Programs and screen designs can be exported and imported to support reuse
- Powerful, built-in function block libraries
- Ability to create user-defined function blocks
- Fieldbus Configurator for CANopen, PROFIBUS-DP and SmartWire-DT device I/O
- Ethernet and serial communication function blocks (OPC server, UDP, TCP/IP, FTP client/ server, Modbus Master/Slave, email, SMS, and more)
- 8 level password protection
- Web access selectable per screen
- System function libraries (OS Storage Card, and more)
- On-line and historical alarms
- On-line and historical trends

#### System Requirements

Windows XP and Windows 7 32-bit systems

### Product Selection

**XSoft-CoDeSys-2**



**XSoft-CoDeSys-2 Software**

| Description               | Catalog Number              |
|---------------------------|-----------------------------|
| Single Seat License       | <b>SW-XSOFT-CODESYS-2-S</b> |
| Multiple Seat License (3) | <b>SW-XSOFT-CODESYS-2-M</b> |

### PanelMate Operator Interface



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Drawings  
Online

### Product Description

Machine builders and manufacturing system designers increasingly recognize the benefits of using electronic operator interface devices to replace pushbuttons, lights, gauges and other traditional hardwired devices.

Most choose dedicated operator interface systems because they are easy to use, fully integrated and cost-effective.

### Industry Standard

PanelMate units are flexible, expandable, cost-effective alternatives to traditional operator control panels. A single PanelMate unit easily replaces panels that once contained numerous pushbuttons, indicator lights, thumbwheels, message displays and alarm annunciators.

### Features and Benefits

- Replaces conventional control panels at less than half the cost
- Gives operators more information for better control decisions
- Standardizes operator stations and minimizes operator training
- Saves processor memory by utilizing Boolean logic and math functions
- Reduces hardwiring costs and minimizes installation time
- Adds advanced capabilities such as machine diagnostics, troubleshooting, trending and alarms at no additional cost
- Automates documentation.
- Meets tight panel space requirements

### PanelMate Operator Interface Models

| Family  | Series   | Display   | TS | SST | OD | Classic | EE | Ethernet | Power Pro SW   | Canvas SW | Visual Designer SW <sup>②</sup> |
|---------|----------|---|----|-----|----|---------|----|----------|----------------|-----------|---------------------------------|
| ePro PS | 7685T-8  | 8.4 in color TFT  | ✓  | —   | ✓  | ✓       | ✓  | ✓        | ✓ <sup>①</sup> | ✓         | ✓                               |
|         | 7685T-10 | 10.4 in color TFT   | ✓  | ✓   | —  | ✓       | ✓  | ✓        | ✓ <sup>①</sup> | ✓         | ✓                               |
|         | 7685T-12 | 12.1 in color TFT   | ✓  | ✓   | ✓  | ✓       | ✓  | ✓        | ✓ <sup>①</sup> | ✓         | ✓                               |
|         | 7685T-15 | 15.0 in color TFT   | ✓  | ✓   | ✓  | ✓       | ✓  | ✓        | ✓ <sup>①</sup> | ✓         | ✓                               |
|         | 7600     | Display with TS or other input device purchased separately. | —  | —   | —  | ✓       | ✓  | ✓        | ✓ <sup>①</sup> | ✓         | ✓                               |

#### Notes

- ① Classic model required.
- ② Enterprise model required.

ePro PS



5

## ePro PS

### Product Description

The PanelMate ePro PS family is made up of high performance, yet cost-effective operator interface products. The ePro PS family carries on the PanelMate tradition of performance in balance with ease of use. The ePro PS family sets the standard for hybrid OI systems by combining the flexibility of Microsoft® Windows® XP Embedded operating system with the stability and reliability achieved through the solid-state hardware design and exclusive Protect Mode™ that provides protection for the operating system and software.

The ePro PS family provides the performance and flexibility of PC-based operator interfaces without the associated complexity of a PC on the plant floor. With integrated high-speed Ethernet, serial ports, USB ports, removable CompactFlash® and PCMCIA, the ePro PS models can be adapted for a wide variety of user requirements.

The ePro PS family of products are configured with Canvas editing software. Specific ePro PS Enterprise Edition models are pre-licensed to run Eaton's Visual Designer editing software. Both editors support a modern suite of graphical templates for replacing hardwired panel devices such as pushbuttons, indicator lights, bars, readouts, message displays, and more.

The PanelMate ePro PS family of products includes:

- PanelMate ePro PS
- PanelMate ePro PS OD (Outdoor Series)
- PanelMate ePro PS EE (Enterprise Edition)
- PanelMate ePro PS Classic

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### PanelMate ePro PS OD

The PanelMate ePro PS OD (Outdoor Series) operator interface is designed for use in outdoor applications. The OD models offer increased visibility in high ambient light, broad temperature specifications and UV resistance.

### PanelMate ePro PS EE

The PanelMate ePro PS EE (Enterprise Edition) operator interface is designed for end users that need more system memory, more data storage or additional Windows XP Embedded components and services to support large Canvas applications or third-party software.

### PanelMate ePro PS Classic

The PanelMate ePro PS Classic operator interface is designed for use by end users that are currently using the PanelMate Power Pro software and are ready for the new PanelMate ePro PS hardware but are not quite ready to convert their PanelMate Power Pro configurations to Canvas or Visual Designer applications. Since the PanelMate ePro PS Classic OI supports Power Pro and Canvas Runtime software, the user can utilize the Canvas Runtime software if and when they are ready.

The ePro PS Classic OI is based on the PanelMate ePro PS hardware models with the addition of software and licenses that allow users to run the PanelMate Power Pro Runtime software. One difference is in the area of drivers: the ePro PS Classic OI running PanelMate Power Pro configurations does not support native (non-OPC) communication drivers, but does support up to three OPC drivers simultaneously.

### Application Description

Whether replacing hard-wired pilot devices and pushbuttons or providing machine control and even SCADA functions, the ePro PS family of products will fit from both a form and functional standpoint. In monitoring and diagnostic applications, as well as operator controls for critical start/stop, ramp/jog and set point adjustment, the PanelMate ePro PS products offer a reliable and safe interface for a wide range of industrial applications such as:

- Discrete manufacturing machine diagnostics and controls
- Oil platform monitoring and control in the petroleum industry
- Central and remote water and wastewater control panels
- Monitoring and control panels for local facilities/air handling equipment
- Tire manufacturing mixing and building processes
- Industrial and commercial power house controls; building HVAC controls
- Material handling and palletizing monitoring and control
- Automotive press and machine parts controls

### Features

| Description                         | Specification   |
|-------------------------------------|---|
| 8 in display models                 | 8.40 in (213.4 mm), color TFT display, 16 million colors<br>SVGA (800 x 600) resolution<br>400 nits (400 cd/m <sup>2</sup> ), OD models 425 nits (425 cd/m <sup>2</sup> ) brightness<br>50,000 hours typical life for backlight; field replaceable<br>Auto dimming  |
| 10 in display models                | 10.40 in (260 mm), color TFT display, 16 million colors<br>SVGA (800 x 600) resolution<br>420 nits (420 cd/m <sup>2</sup> ) brightness<br>50,000 hours typical life for backlight; field replaceable<br>Auto dimming  |
| 12 in display models                | 12.10 in (307.3 mm), color TFT display, 16 million colors<br>SVGA (800 x 600) resolution<br>450 nits (450 cd/m <sup>2</sup> ), OD models 505 nits (505 cd/m <sup>2</sup> ) brightness<br>50,000 hours typical life for backlight; field replaceable<br>Auto dimming   |
| 15 in display models                | 15.00 in (381.0 mm), color TFT display, 16 million colors<br>XGA (1024 x 768) resolution<br>250 nits (250 cd/m <sup>2</sup> ), OD models 600 nits (600 cd/m <sup>2</sup> ) brightness<br>50,000 hours typical life for backlight; field replaceable<br>Auto dimming   |
| Blind node (no display) models      | VGA (640 x 480), SVGA (800 x 600), XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200) resolution<br>16 million colors (SXGA and UXGA—65K colors)  |
| Operator entry                      | Touchscreen interface with resistive technology for gloved-hand operation<br>Pop-up, on-screen alphanumeric keypad support  |
| Hardware/mounting                   | Single-piece lightweight design for easy panel mounting (except blind node models)  |
| Powerful OI capabilities            | Supports Canvas controls<br>Built-in two-touch control<br>Full math and logic expressions   |
| Communications and I/O capabilities | One integrated Ethernet port: 10/100Base-T<br>Two serial ports: RS-232 and RS-232/422/485 (optically isolated)<br>Four USB ports: V2.0<br>One CompactFlash <sup>®</sup> memory card slot<br>Two PCMCIA Type II slots (or one Type III)<br>Built-in OPC client/server with support for over 100 OPC drivers for both Ethernet and serial connectivity<br>One video output port |
| Protect mode                        | Safeguards the integrity of operating system files and data files by preventing unauthorized alterations and corruption caused by viruses or unexpected power disruptions   |

### Standards and Certifications

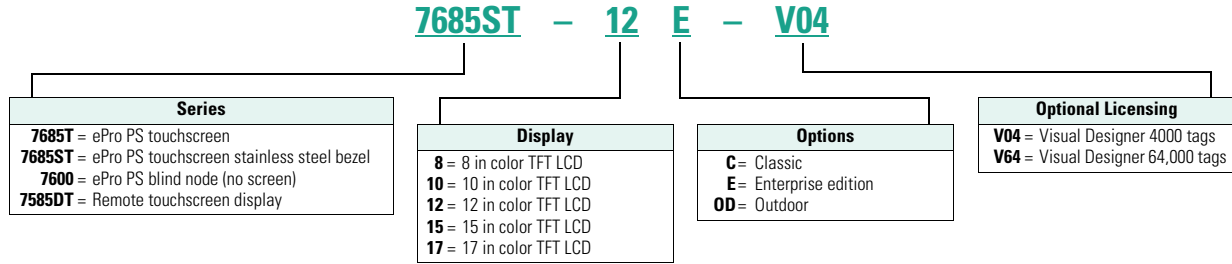
- RoHS, CE mark
- UL/cUL and CSA Class I, Div 2, Groups A, B, C, D



#### Catalog Number Selection

##### PanelMate ePro PS Operator Interface

##### PanelMate ePro PS



#### Product Selection

##### PanelMate ePro PS



##### PanelMate ePro PS Operator Interface (76xx Series) with Visual Designer Runtime License ①

| Description   | Catalog Number          |
|---|-------------------------|
| <b>Visual Designer Runtime License—4000 tags, 5 drivers, 1 web session</b>      |                         |
| Blind Node (no display), see table on <b>Page V7-T5-52</b> for display options) | <b>7600E-V04</b>        |
| 8.4 in color TFT display, touchscreen (acrylic), painted steel bezel            | <b>7685T-8E-V04</b>     |
| 8.4 in color TFT display, touchscreen (acrylic), painted steel bezel, Outdoor   | <b>7685T-80DE-V04</b>   |
| 10.4 in color TFT display, touchscreen (glass), painted steel bezel             | <b>7685T-10E-V04</b>    |
| 10.4 in color TFT display, touchscreen (glass), stainless steel bezel           | <b>7685ST-10E-V04</b>   |
| 12.1 in color TFT display, touchscreen (glass), stainless steel bezel           | <b>7685ST-12E-V04</b>   |
| 12.1 in color TFT display, touchscreen (glass), stainless steel bezel, Outdoor  | <b>7685ST-120DE-V04</b> |
| 12.1 in color TFT display, touchscreen (glass), painted steel bezel             | <b>7685T-12E-V04</b>    |
| 12.1 in color TFT display, touchscreen (glass), painted steel bezel, Outdoor    | <b>7685T-120DE-V04</b>  |
| 15.0 in color TFT display, touchscreen (glass), stainless steel bezel, Outdoor  | <b>7685ST-150DE-V04</b> |
| 15.0 in color TFT display, touchscreen (glass), painted steel bezel             | <b>7685T-15E-V04</b>    |
| 15.0 in color TFT display, touchscreen (glass), painted steel bezel, Outdoor    | <b>7685T-150DE-V04</b>  |
| <b>Visual Designer Runtime License—64,000 tags, 8 drivers, 1 web session</b>    |                         |
| Blind Node (no display), see table on <b>Page V7-T5-45</b> for display options) | <b>7600E-V64</b>        |
| 8.4 in color TFT display, touchscreen (acrylic), painted steel bezel            | <b>7685T-8E-V64</b>     |
| 8.4 in color TFT display, touchscreen (acrylic), painted steel bezel, Outdoor   | <b>7685T-80DE-V64</b>   |
| 10.4 in color TFT display, touchscreen (glass), stainless steel bezel           | <b>7685ST-10E-V64</b>   |
| 10.4 in color TFT display, touchscreen (glass), painted steel bezel             | <b>7685T-10E-V64</b>    |
| 12.1 in color TFT display, touchscreen (glass), stainless steel bezel           | <b>7685ST-12E-V64</b>   |
| 12.1 in color TFT display, touchscreen (glass), stainless steel bezel, Outdoor  | <b>7685ST-120DE-V64</b> |
| 12.1 in color TFT display, touchscreen (glass), painted steel bezel             | <b>7685T-12E-V64</b>    |
| 12.1 in color TFT display, touchscreen (glass), painted steel bezel, Outdoor    | <b>7685T-120DE-V64</b>  |
| 15.0 in color TFT display, touchscreen (glass), painted steel bezel             | <b>7685T-15E-V64</b>    |
| 15.0 in color TFT display, touchscreen (glass), painted steel bezel, Outdoor    | <b>7685T-150DE-V64</b>  |
| 15.0 in color TFT display, touchscreen (glass), stainless steel bezel, Outdoor  | <b>7685ST-150DE-V64</b> |

##### Note

① All ePro PS with Visual Designer runtime licenses have 1 GB DDR2 RAM, 4 GB internal CompactFlash (C drive), 512 MB external CompactFlash (D drive).

## PanelMate ePro PS



## PanelMate ePro PS Operator Interface (76xx Series) with Canvas and Kepware Runtime Licenses

| Description  | Catalog Number     |
|--|--------------------|
| <b>PanelMate ePro PS</b>   |                    |
| 8.4 in color TFT display, touchscreen (acrylic), OPC, DC, User manual on CD-ROM                                | <b>7685T-8</b>     |
| 10.4 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-10</b>    |
| 10.4 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-10</b>   |
| 12.1 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-12</b>    |
| 12.1 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-12</b>   |
| 15.0 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-15</b>    |
| 15.0 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-15</b>   |
| Blind node (no display, see table on <b>Page V7-T5-52</b> for display options), OPC, DC, User manual on CD-ROM | <b>7600</b>        |
| <b>PanelMate ePro PS EE (Enterprise Edition)</b>   |                    |
| 8.4 in color TFT display, touchscreen (acrylic), OPC, DC, User manual on CD-ROM                                | <b>7685T-8E</b>    |
| 10.4 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-10E</b>   |
| 10.4 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-10E</b>  |
| 12.1 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-12E</b>   |
| 12.1 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-12E</b>  |
| 15.0 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-15E</b>   |
| 15.0 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-15E</b>  |
| Blind node (no display, see table on <b>Page V7-T5-52</b> for display options), OPC, DC, User manual on CD-ROM | <b>7600E</b>       |
| <b>PanelMate ePro PS OD (Outdoor)</b>  |                    |
| 8.4 in color TFT display, touchscreen (acrylic), OPC, DC, User manual on CD-ROM                                | <b>7685T-80D</b>   |
| 12.1 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-120D</b>  |
| 12.1 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-120D</b> |
| 15.0 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-150D</b>  |
| 15.0 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-150D</b> |
| <b>PanelMate ePro PS Classic</b>   |                    |
| 8.4 in color TFT display, touchscreen (acrylic), OPC, DC, User manual on CD-ROM                                | <b>7685T-8C</b>    |
| 10.4 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-10C</b>   |
| 10.4 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-10C</b>  |
| 12.1 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-12C</b>   |
| 12.1 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-12C</b>  |
| 15.0 in color TFT display, touchscreen (glass), OPC, painted steel, DC, User manual on CD-ROM                  | <b>7685T-15C</b>   |
| 15.0 in color TFT display, touchscreen (glass), OPC, stainless steel, DC, User manual on CD-ROM                | <b>7685ST-15C</b>  |
| Blind node (no display, see table on <b>Page V7-T5-52</b> for display options), OPC, DC, User manual on CD-ROM | <b>7600C</b>       |

## PanelMate ePro PS

PanelMate ePro PS Spare Parts for all New RoHS Compliant Models <sup>①</sup>

| Description   | Standard | Enterprise Edition | Classic | Outdoor | Catalog Number |
|---|----------|--------------------|---------|---------|----------------|
| <b>8.4 Inch Models</b>  |          |                    |         |         |                |
| Acrylic touchscreen (gaskets 32-01682 and 32-02208 required)        | ✓        | —                  | ✓       | —       | 47-50888       |
| Acrylic touchscreen (gaskets 32-01682 and 32-02208 required)        | —        | ✓                  | —       | —       | 47-50888-1     |
| Front panel assembly  | ✓        | ✓                  | ✓       | ✓       | 91-01494       |
| Gasket for front panel  | ✓        | ✓                  | ✓       | ✓       | 32-01682       |
| Gasket for touchscreen  | ✓        | ✓                  | ✓       | ✓       | 32-02208       |
| Backlight kit   | ✓        | ✓                  | ✓       | ✓       | 99-5704        |
| Ship kit  | ✓        | ✓                  | ✓       | ✓       | 86-00088       |
| Outdoor color TFT display assembly                                  | —        | —                  | —       | ✓       | 34-4290        |
| Outdoor acrylic touchscreen (gaskets 32-1682 and 32-02208 required) | —        | —                  | —       | ✓       | 47-50888-2     |
| <b>10.4 Inch Models</b>   |          |                    |         |         |                |
| Color TFT display assembly  | ✓        | ✓                  | ✓       | —       | 35-4756-2      |
| Glass touchscreen   | ✓        | ✓                  | ✓       | —       | 63-00585       |
| Front panel (CRS) assembly (gaskets 32-02545 and 32-02546 required) | ✓        | ✓                  | ✓       | —       | 32-02544       |
| Front panel (SST) assembly (gaskets 32-02545 and 32-02546 required) | ✓        | ✓                  | ✓       | —       | 32-02550       |
| Gasket for front panel  | ✓        | ✓                  | ✓       | —       | 32-02545       |
| Gasket for touchscreen  | ✓        | ✓                  | ✓       | —       | 32-02546       |
| Backlight kit   | ✓        | ✓                  | ✓       | —       | 99-5704-2      |
| Ship kit  | ✓        | ✓                  | ✓       | —       | 86-00090       |
| <b>12.1 Inch Models</b>   |          |                    |         |         |                |
| Color TFT display assembly  | ✓        | ✓                  | ✓       | —       | 35-4756        |
| Glass touchscreen   | ✓        | ✓                  | ✓       | —       | 63-00808       |
| Front panel (CRS) assembly (gaskets 32-02491 and 32-02492 required) | ✓        | ✓                  | ✓       | ✓       | 32-02489       |
| Front panel (SST) assembly (gaskets 32-02491 and 32-02492 required) | ✓        | ✓                  | ✓       | ✓       | 32-02514       |
| Gasket for front panel  | ✓        | ✓                  | ✓       | ✓       | 32-02491       |
| Gasket for touchscreen  | ✓        | ✓                  | ✓       | ✓       | 32-02492       |
| Backlight kit   | ✓        | ✓                  | ✓       | ✓       | 99-5704-3      |
| Ship kit  | ✓        | ✓                  | ✓       | ✓       | 86-00089       |
| Outdoor color TFT display assembly                                  | —        | —                  | —       | ✓       | 34-4289        |
| Outdoor glass touchscreen   | —        | —                  | —       | ✓       | 63-00841       |
| <b>15.0 Inch Models</b>   |          |                    |         |         |                |
| Color TFT display assembly  | ✓        | ✓                  | ✓       | —       | 63-00814       |
| Glass touchscreen   | ✓        | ✓                  | ✓       | —       | 63-00809       |
| Front panel (CRS) assembly (gaskets 32-02497 and 32-02498 required) | ✓        | ✓                  | ✓       | ✓       | 32-02490       |
| Front panel (SST) assembly (gaskets 32-02497 and 32-02498 required) | ✓        | ✓                  | ✓       | ✓       | 32-02515       |
| Gasket for front panel  | ✓        | ✓                  | ✓       | ✓       | 32-02497       |
| Gasket for touchscreen  | ✓        | ✓                  | ✓       | ✓       | 32-02498       |
| Backlight kit   | ✓        | ✓                  | ✓       | —       | 87-02457       |
| Ship kit  | ✓        | ✓                  | ✓       | ✓       | 86-00089       |
| Outdoor color TFT display assembly                                  | —        | —                  | —       | ✓       | 63-00853       |
| Outdoor glass touchscreen   | —        | —                  | —       | ✓       | 63-00850       |
| Outdoor backlight kit   | —        | —                  | —       | ✓       | 87-02515       |
| <b>Blind Node</b>   |          |                    |         |         |                |
| Ship kit  | ✓        | ✓                  | ✓       | —       | 86-00087       |

**Note**

① RoHS compliant units have a silver-colored galvanized steel back cover. Non-RoHS compliant units have a gold-colored plated steel back cover.



## PanelMate ePro PS

PanelMate ePro PS Spare Parts for all Legacy Non-RoHS Compliant Models <sup>①</sup>

| Description   | Standard | Enterprise Edition | Classic | Outdoor | Catalog Number |
|---|----------|--------------------|---------|---------|----------------|
| <b>8.4 Inch Models</b>  |          |                    |         |         |                |
| Acrylic touchscreen (gaskets 32-01682 and 32-02208 required)        | ✓        | ✓                  | ✓       | —       | 63-00833       |
| Front panel assembly  | ✓        | ✓                  | ✓       | ✓       | 91-01494       |
| Gasket for front panel  | ✓        | ✓                  | ✓       | ✓       | 32-01682       |
| Gasket for touchscreen  | ✓        | ✓                  | ✓       | ✓       | 32-02208       |
| Backlight kit   | ✓        | ✓                  | ✓       | ✓       | 87-02455       |
| Ship kit  | ✓        | ✓                  | ✓       | ✓       | 86-00088       |
| Outdoor color TFT display assembly                                  | —        | —                  | —       | ✓       | 63-00854       |
| Outdoor acrylic touchscreen (gaskets 32-1682 and 32-02208 required) | —        | —                  | —       | ✓       | 63-00848       |
| <b>10.4 Inch Models</b>   |          |                    |         |         |                |
| Color TFT display assembly  | ✓        | —                  | ✓       | —       | 63-00852       |
| Glass touchscreen   | ✓        | —                  | ✓       | —       | 63-00585       |
| Front panel (CRS) assembly (gaskets 32-02545 and 32-02546 required) | ✓        | —                  | ✓       | —       | 32-02544       |
| Front panel (SST) assembly (gaskets 32-02545 and 32-02546 required) | ✓        | —                  | ✓       | —       | 32-02550       |
| Gasket for front panel  | ✓        | —                  | ✓       | —       | 32-02545       |
| Gasket for touchscreen  | ✓        | —                  | ✓       | —       | 32-02546       |
| Ship kit  | ✓        | —                  | ✓       | —       | 86-00090       |
| <b>12.1 Inch Models</b>   |          |                    |         |         |                |
| Color TFT display assembly  | ✓        | ✓                  | —       | —       | 63-00815       |
| Glass touchscreen   | ✓        | ✓                  | —       | —       | 63-00808       |
| Front panel (CRS) assembly (gaskets 32-02491 and 32-02492 required) | ✓        | ✓                  | —       | ✓       | 32-02489       |
| Front panel (SST) assembly (gaskets 32-02491 and 32-02492 required) | ✓        | ✓                  | —       | ✓       | 32-02514       |
| Gasket for front panel  | ✓        | ✓                  | —       | ✓       | 32-02491       |
| Gasket for touchscreen  | ✓        | ✓                  | —       | ✓       | 32-02492       |
| Backlight kit   | ✓        | ✓                  | —       | ✓       | 87-02456       |
| Ship kit  | ✓        | ✓                  | —       | ✓       | 86-00089       |
| Outdoor color TFT display assembly                                  | —        | —                  | —       | ✓       | 63-00842       |
| Outdoor glass touchscreen   | —        | —                  | —       | ✓       | 63-00841       |
| <b>15.0 Inch Models</b>   |          |                    |         |         |                |
| Color TFT display assembly  | ✓        | ✓                  | —       | —       | 63-00814       |
| Glass touchscreen   | ✓        | ✓                  | —       | —       | 63-00809       |
| Front panel (CRS) assembly (gaskets 32-02497 and 32-02498 required) | ✓        | ✓                  | —       | ✓       | 32-02490       |
| Front panel (SST) assembly (gaskets 32-02497 and 32-02498 required) | ✓        | ✓                  | —       | ✓       | 32-02515       |
| Gasket for front panel  | ✓        | ✓                  | —       | ✓       | 32-02497       |
| Gasket for touchscreen  | ✓        | ✓                  | —       | ✓       | 32-02498       |
| Backlight kit   | ✓        | ✓                  | —       | —       | 87-02457       |
| Ship kit  | ✓        | ✓                  | —       | ✓       | 86-00089       |
| Outdoor color TFT display assembly                                  | —        | —                  | —       | ✓       | 63-00853       |
| Outdoor glass touchscreen   | —        | —                  | —       | ✓       | 63-00850       |
| Outdoor backlight kit   | —        | —                  | —       | ✓       | 87-02515       |
| <b>Blind Node</b>   |          |                    |         |         |                |
| Ship kit  | ✓        | ✓                  | ✓       | —       | 86-00087       |

**Note**

<sup>①</sup> RoHS compliant units have a silver-colored galvanized steel back cover. Non-RoHS compliant units have a gold-colored plated steel back cover.

## Technical Data and Specifications

### PanelMate ePro PS

| Description                       | Specification   |
|-----------------------------------|---|
| Memory                            | PS, OD and classic models: 512 MB DDR2 RAM, 1 GB internal CompactFlash (C and D drive)<br>EE models: 1 GB DDR2 RAM, 4 GB internal CompactFlash (C drive), 512 MB external CompactFlash (D drive)<br>All models: External CompactFlash card slot, USB and PCMCIA ports available for additional memory   |
| Voltage                           | 24 Vdc nominal (16–30 Vdc)  |
| Power consumption/<br>heat output | 8 in display models: 31 watts (105 BTU/hour)<br>10 in display models: 33 watts (113 BTU/hour)<br>12 in display models: 35 watts (120 BTU/hour)<br>15 in display models: 54 watts (184 BTU/hour), OD 52 watts (178 BTU/hour)<br>Blind node (no display) models: 24 watts (82 BTU/hour)   |
| Current                           | 8 in display models: 1.3A<br>10 in display models: 1.4A<br>12 in display models: 1.5A<br>15 in display models: 2.25A<br>Blind node (no display) models: 1.0A  |
| Peak inrush current               | 8 in display models: 7.0A<br>10 in display models: 7.0A<br>12 in display models: 7.0A<br>15 in display models: 8.0A<br>Blind node (no display) models: 7.0A   |
| Installation rating               | All ePro PS display models are approved for use in Type 4, 4X, 12 and IP65 installations when properly mounted in a correspondingly rated enclosure   |
| System ambient<br>temperature     | All models—<br>Operating: 0 to 60°C (32 to 140°F)<br>Non-operating: –25 to 70°C (–13 to 158°F)  |
| System vibration                  | Operating and non-operating: 1G from 5–500 Hz   |
| System shock                      | Operating and non-operating: 100G   |
| Relative humidity                 | Operating: 20–95% non-condensing<br>Non-operating: 20–95% non-condensing  |
| Altitude                          | Operating: 10,000 ft (3,048m) above sea level<br>Non-operating: 40,000 ft (12,192m) above sea level   |
| Emissions                         | CISPR 11 Class A, radiated and conducted  |
| Noise immunity                    | IEC 61000-4-2, 3, 4, 5, 6, 8, 11  |
| Overall dimensions<br>(H x W x D) | 8 in display models: 7.63 x 10.51 x 3.90 in (193.8 x 267.0 x 99.1 mm)<br>10 in display models: 12.00 x 12.30 x 3.90 in (304.8 x 312.4 x 99.1 mm)<br>12 in display models: 11.60 x 15.90 x 3.90 in (294.6 x 403.9 x 99.1 mm)<br>15 in display models: 13.50 x 18.60 x 4.00 in (342.9 x 472.4 x 101.6 mm)<br>Blind node (no display) models: 9.30 x 12.00 x 3.60 in (236.2 x 304.8 x 91.4 mm) |
| Cutout dimensions<br>(H x W)      | 8 in display models: 6.50 x 9.38 in (165.1 x 238.3 mm)<br>10 in display models: 11.02 x 11.40 in (279.9 x 289.6 mm)<br>12 in display models: 10.12 x 14.34 in (257.0 x 364.2 mm)<br>15 in display models: 12.05 x 17.01 in (306.1 x 432.1 mm)<br>Blind node (no display) models: Designed for mounting in a cabinet   |
| Weight                            | 8 in display models: 6.0 lbs (2.73 kg)<br>10 in display models: 10.5 lbs (4.77 kg)<br>12 in display models: 13.0 lbs (5.91 kg)<br>15 in display models: 17.0 lbs (7.73 kg)<br>Blind node (no display) models: 4.5 lbs (2.05 kg)   |

**Standalone Touchscreen Displays**



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**Standalone Touchscreen Displays**

**Product Description**

Three sizes of color TFT flat panel displays with touchscreens are available for use with the PanelMate ePro Blind Nodes. Models are available in 12.1, 15.0 and 17.0 inch sizes. These displays are constructed to handle rugged environments and can be easily mounted in a cabinet or a kiosk.

**Features**

- 12.1 in SVGA, 15 in XGA and 17 in SXGA Color TFT LCD displays
- Five-wire analog resistive ELO touchscreen
- Stainless steel open-frame architecture
- Aluminum front bezel.
- Strengthened glass protects the front panel from shock damage
- Approved for use in Type 4, 12 and IP65 installations when properly mounted in a correspondingly rated enclosure

**Standards and Certifications**

- CE
- FCC Class A
- UL



## Product Selection

7585DT-1\_

### Standalone Touchscreen Displays



| Description  | Catalog Number |
|--|----------------|
| 12.1 in color TFT display, ELO touchscreen (glass), AC | 7585DT-12      |
| 15.0 in color TFT display, ELO touchscreen (glass), AC | 7585DT-15      |
| 17.0 in color TFT display, ELO touchscreen (glass), AC | 7585DT-17      |

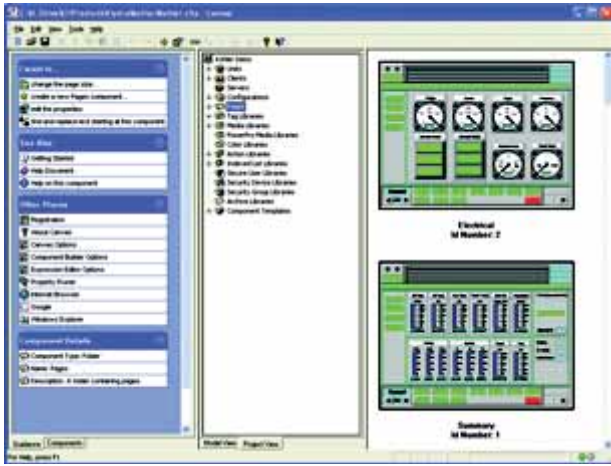
5

## Technical Data and Specifications

### PanelMate Standalone Touchscreen Displays

| Description                          | Specification   |
|--------------------------------------|---|
| Voltage                              | 100–240 Vac   |
| System ambient operating temperature | Operating: 32 to 122°F (0 to 50°C)  |
| System vibration                     | 12.1 in models: 10–200 Hz, 0.15 mm, 10 cycle, 1G<br>15.0 in models: 10 Hz, 0.15 mm, 10 cycle, 1G<br>17.0 in models: 10–500 Hz   |
| System shock                         | 12.1 in models: 15G peak acceleration (50 ms duration)<br>15.0 in models: 30G peak acceleration (11 ms duration)<br>17.0 in models: 30G peak acceleration (11 ms duration)                                  |
| Backlight                            | 12.1 in models: 50,000 typical life<br>15.0 in models: 50,000 typical life<br>17.0 in models: 30,000 typical life   |
| Overall dimensions (H x W x D)       | 12.1 in models: 11.46 x 14.41 x 1.92 in (291.1 x 366.0 x 48.8 mm)<br>15.0 in models: 13.23 x 17.48 x 2.10 in (336.0 x 444.0 x 53.3 mm)<br>17.0 in models: 15.71 x 19.02 x 2.25 in (399.0 x 483.1 x 57.2 mm) |
| Cutout dimensions (H x W)            | 12.1 in models: 10.16 x 13.11 in (258.1 x 333.0 mm)<br>15.0 in models: 11.77 x 15.94 in (299.0 x 404.9 mm)<br>17.0 in models: 14.45 x 17.68 in (367.0 x 449.1 mm)   |
| Weight                               | 12.1 in models: 12 lbs (5.5 kg)<br>15.0 in models: 14 lbs (6.5 kg)<br>17.0 in models: 34 lbs (15.4 kg)  |

**Canvas Software**



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**Canvas Software**

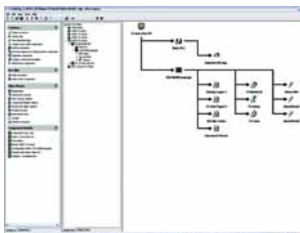
**Product Description**

The Canvas Software includes the Canvas application development software in addition to the Runtime software for the PanelMate ePro PS and the OPC servers/drivers. Canvas software is used to develop operator interface applications for PanelMate ePro PS industrial operator interface products. The powerful editing environment in Canvas delivers state-of-the-art features previously available only on more expensive, high-end SCADA packages. The included drivers in the form of OPC servers support Ethernet and serial connectivity to virtually any PLC platform or network, as well as a wide array of drives, motion controllers and databases. No additional fees are required.

Because the typical application development expense of a Human Machine Interface often far outweighs the expense of the hardware, the demand to design and implement these advanced solutions quickly is of paramount importance. That is why the Canvas advanced Operator Interface software package was designed with ease of use and time savings in mind.

Consistent functionality in Canvas from one control to the next and from one area to the next will help you maintain your sense of place within the project and shorten the development time. Canvas makes it easy to create and maintain an application with advanced features such as multi-language, security, recipe management and data archiving. Data may be exported, edited and imported with Microsoft Excel, saving time and ultimately reducing the cost of the project.

**Canvas Editor**



**Canvas Editor with Page Thumbnails**



**Canvas Application**



#### Features

- Operator interface—monitor and control
- High-resolution graphical interface
- Built-in two-touch control for safety applications
- Process/machine diagnostics
- Conversion of legacy PanelMate configurations
- Secure document and web/network browser
- Full mathematical evaluation
- Advanced search and replace
- Security (passwords and other security devices)
- Recipe management
- Real-time and historical alarms and events
- Real-time and historical data archiving and trending
- Notification of data and events via e-mail
- Import/export from XML
- Customizable templates/controls
- Scripting (IF, THEN, ELSE, GOTO capability)
- Launch and control of third-party applications
- Multi-language
- Reusable controls, images and pages via index lists
- Master pages
- Online and offline simulation
- Interface for DVT and Cognex Vision Systems

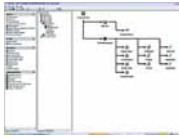
#### System Requirements

- Operating system—Microsoft Windows XP (SP1 or later) or Microsoft Windows Vista (Canvas V3.3 or later)
- Minimum Video Resolution—XGA (1024 x 768)

**Note:** File transfers can be done via Ethernet or USB memory devices.

#### Product Selection

##### CANVASPRO



#### Canvas

| Description  | Catalog Number     |
|--|--------------------|
| Includes Canvas software for developing applications, Runtime software for the PanelMate ePro PS Series and supporting OPC servers/drivers. Single user license. On CD-ROM. Development software requires Windows 2000 or Windows XP operating system. | <b>CANVASPRO</b>   |
| Site license—See CANVASPRO (for all users at 1 site location)  | <b>CANVASPROSL</b> |
| Installation CD and licensing to run Canvas runtime software on a PC with Windows XP Professional OS. Licenses for Kepware OPC servers, Data archiving and recipe management are included.   | <b>CANVASPC</b>    |

## Power Pro Software



## Contents

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## Power Pro Software

## Product Description

Windows-based configuration software is used to create PanelMate Power Pro, PanelMate PC Pro and PanelMate ePro configurations offline on a PC. It also permits the editing of character-based configurations from earlier-version PanelMate Series products. The following items can be configured:

- One-touch control (for touchscreen models)
- Customizable pixel-level graphics
- 8-state blink (for 256-level/color models)
- 3-level password protection
- International character set support
- Page change by operators and/or PLC
- User-definable online system prompts to permit non-English or customized text that can be toggled with standard online prompts by operators
- Alarm window with a 100-alarm capacity

## Features

- Indicator templates
- Readout templates
- Bar templates
- Display templates
- Trend templates
- Table templates
- Variable-size control button templates
- Pop-up maintenance window
- Alarm window
- Advanced trend templates
- Tag name file support
- Expression management
- 3000 symbol factory clipart

## PLC Communication Interfaces

Communication interfaces are available for the following programmable controllers and are downloaded from the configuration software.

**Note:** Multiple interfaces may be run simultaneously on PanelMate Power Pro 1700, 2000, 3000, 4000 and 5000 units.

- Allen-Bradley PLC-2, PLC-3, PLC-5 and SLC-500
- Eaton D50, D300, D320
- GE Fanuc Series 5, 6, 90
- Mitsubishi "A" Series and "FX" Series
- Modicon Modbus ASCII/RTU
- Omron "C" Series plus CV500, CV1000
- PLC-Direct DL 405 Family
- Square D SyMax
- Siemens S5 Series, 3964R Protocol, AS511
- Simatic TI 305/405 and 500/505 Series
- Reliance AutoMate
- Toshiba T2

## High Speed Direct Connectivity Available

- Allen-Bradley Data Highway and Data Highway Plus
- Allen-Bradley Remote I/O Link
- GE Fanuc GENius I/O Network
- Modicon Modbus Plus
- PROFIBUS

## Transfer Cables

PanelMate configuration software packages PMPROSW and PMPROSWSL include a PanelMate 1100, 1700, 3000, 5000 (0518) Transfer Serial Cable.

#### Product Selection

##### Windows Configuration Software



##### Windows Configuration Software for PanelMate Power Pro and PanelMate PC Pro

| Description   | Catalog Number     |
|---|--------------------|
| <b>PanelMate Power Pro Windows Configuration Software and Manuals with Communication Software Interfaces for all Major PLCs and High-Speed Industrial Networks on CD-ROM with Tag and Expression Management and Symbol Factory Clipart.</b><br>PMPROSW includes transfer serial cable for PM1700, 3000, 5000 (0518). PMPROSW includes electronic copies of manuals in .PDF format. Single user license. | <b>PMPROSW</b>     |
| <b>Site License—See PMPROSW (for all users at 1 site location)</b>  | <b>PMPROSWSL</b>   |
| <b>PanelMate Power Pro Upgrade from Previous PanelMate Power Series Software</b> to PanelMate Power Pro software version on CD-ROM. Requires earlier version of PanelMate Power Series software for installation. Single user license.  | <b>PMPROSWUP</b>   |
| <b>PanelMate Power Pro Software Upgrade—Site License</b><br>Requires previous installation of PanelMate Power Pro Software site license (PMPROSWSL). On CD-ROM.   | <b>PMPROSWSLUP</b> |

#### Accessories

##### Allen-Bradley Connectivity

##### Remote I/O, Data Highway, Data Highway Plus

##### Accelerate/On Interface

Licensed under A-B patented technology, the interface provides a communication port for connecting directly to

the user's choice of Allen-Bradley PLC networks: Remote I/O Link, Data Highway® or Data Highway

Plus. Can be used simultaneously with PanelMate 1700, 3000 and 5000 serial ports.

##### Remote I/O, Data Highway, Data Highway Plus

| Description  | Catalog Number |
|--|----------------|
| <b>Accelerate/On™ Interface</b>                                      |                |
| Direct connect to Remote I/O Link, Data Highway or Data Highway Plus |                |
| PanelMate Power Pro 1100, 1700                                       | <b>1241</b>    |
| PanelMate Power Pro 3000, 5000                                       | <b>1251</b>    |

##### Allen-Bradley PLC Network Upload/Download

Includes royalty for license under Allen-Bradley patented technology.

"One-time use" diskette enables the PanelMate unit to upload and download PanelMate configurations to PCs via Allen-Bradley PLC networks. This upload/download feature can be used to conduct the following operations without having to disconnect the PanelMate Unit from the PLC, or open the enclosure to access the serial ports:

- Download configurations from a PC in a central location to PanelMate units on a network
- Upload PanelMate configurations (while units are monitoring and controlling) to a PC for backup
- Download new PanelMate software enhancements to units. Requires Accelerate/On Interface (xx41) and Windows Configuration Software or Transfer Utility option 0621
- Requires A-B RSLinx-OEM version 2.0 or higher or A-B Interchange software

##### Allen-Bradley PLC Network Upload/Download

| Description   | Catalog Number |
|---|----------------|
| One-time use diskette. Enables upload/download on operator station. | <b>0524</b>    |



**Allen-Bradley DH-485 (SLC-500) Communications**

Includes royalty for license under Allen-Bradley patented technology.

“One-time use” diskette. Licensed under A-B patented technology, this option enables communications to Allen-Bradley SLC-500 PLCs

through the DH-485 network in a single target Power Series online unit. A-B 1747-AIC Module is only required when simultaneous

interface to PanelMate and PLC programming equipment is desired.

**DH-485**

| Description  | Catalog Number |
|--|----------------|
| <b>Allen-Bradley DH-485 (SLC-500) Communications</b> |                |
| One-time use diskette                                |                |
| PanelMate Power Pro 1100, 1700                       | <b>1525</b>    |
| PanelMate Power Pro 3000, 5000                       | <b>0725</b>    |

**Allen-Bradley Communication Cables****PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 and ePro**

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000,

5000 or ePro unit serial port and the PLC communications port using D-Shell connectors. Cables used with

PanelMate ePro require a DB9(M)/DB9(F) converter [converts DB9(M) to DB9(F)].

**PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 and ePro**

| Description   | Catalog Number |
|---|----------------|
| 1785-KE, 1771-KC, KD, KE, KF, KG                        | <b>AB21</b>    |
| AB 1747 AIC for SLC 500 (DH-485 INTFC)                  | <b>AB23A</b>   |
| AB SLC 500 direct (6 ft/1.8m) cable                     | <b>AB24A</b>   |
| AB SLC 503/504 (RS-232) Channel 0                       | <b>AB25</b>    |
| AB PLC5 (RS-232) Channel 0, DF1                         | <b>AB26</b>    |
| AB PLC5 (RS-422) Channel 0, DF1 cable                   | <b>AB27A</b>   |
| AB MicroLogix™ adapter cable (1 ft/0.3m) (DB9F to DB9M) | <b>AB29</b>    |

**Eaton Connectivity****Eaton Communication Cables****PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000, ePro**

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000,

5000 or ePro unit serial port and the PLC communications port using D-Shell connectors.

**PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000, ePro**

| Description   | Catalog Number |
|---|----------------|
| Eaton D200 cable, for use with 1100, 1700, 3000 or 5000 only                              | <b>CH21A</b>   |
| Eaton D50/D150/D300/D320 (RS-485) cable, for use with 1100, 1700, 3000 or 5000 only       | <b>CH22A</b>   |
| Eaton D50/D320/D32LT (RS-232) cable for use with ePro and PMPC-RT only—requires D50CPM485 | <b>CH23</b>    |
| ELC (RS-485) cable for use with ePro PS and Power Pro only                                | <b>CH24</b>    |

## General Electric Connectivity

### GE Fanuc GENius I/O Interface to GE PLCs

This interface provides a communication port for connection to GE Series 6 and Series 90 PLCs over the GENius I/O Network.

#### GENius I/O Interface

| Description  | Catalog Number |
|--|----------------|
| <b>GENius I/O Interface</b>                        |                |
| For all PanelMate Power Pro 1100, 1700, 3000, 5000 | <b>1243</b>    |

## General Electric Communication Cables

### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or e-Pro

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000, 5000 or ePro unit serial port and the PLC communications port using D-Shell connectors. Cables used with PanelMate ePro require a DB9(M)/DB9(F) converter [converts DB9(M) to DB9(F)].

#### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

| Description                           | Catalog Number |
|---------------------------------------|----------------|
| Series 90 programming port            | <b>GE21A</b>   |
| Series 90 (RS-422) Com 311/711 module | <b>GE22</b>    |
| Series 90 (RS-232) Com 311/711 module | <b>GE23</b>    |
| Series 6/6+ (RS-422) Com 2-J1 port    | <b>GE24</b>    |
| Series 6/6+ (RS-232) Com 2-J2 port    | <b>GE25</b>    |

## Mitsubishi Connectivity

### Mitsubishi Communication Cables

### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000, 5000 or ePro unit serial port and the PLC communications port using D-Shell connectors. Cables used with PanelMate ePro require a DB9(M)/DB9(F) converter [converts DB9(M) to DB9(F)].

#### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

| Description                             | Catalog Number |
|---|----------------|
| A Series—AJ71C24 Module (RS-232)        | <b>MI21</b>    |
| A Series—AJ71C24 Module (RS-422) cable  | <b>MI22A</b>   |
| FX/FXo Series—(RS-232/RS-422) converter | <b>MI23</b>    |

## Modicon Connectivity

### Modicon Modbus Plus PLC Network Upload/Download

“One-time use” diskette enables the PanelMate unit to upload and download PanelMate configurations to PCs via Modicon Modbus Plus PLC networks. This upload/download feature can be used to conduct the following operations without having to disconnect the PanelMate Unit from the PLC, or open the enclosure to access the serial ports:

- Download configurations from a PC in a central location to PanelMate units on a network
- Upload PanelMate configurations (while units are monitoring and controlling) to a PC for backup
- Download new PanelMate software enhancements to units. Requires Modbus Plus Interface, Configuration Software or Transfer Utility

### Modicon Modbus Plus Network Upload/Download

| Description  | Catalog Number |
|--|----------------|
| One-time use diskette. Enables upload/download on operator station. To operate, customer requires:<br>1) Modbus Plus Interface (1248) to be installed in unit<br>2) Windows Configuration Software OR Transfer Utility on the PC | <b>0548</b>    |

### Modbus Plus Communications and PanelMate

This interface provides a communication port for connection to Modicon PLCs over the Modbus Plus network. Interface mounts to the back of the online unit and can be mounted in a 4 inch (102 mm) deep enclosure.

### Modbus Interface

| Description                                | Catalog Number |
|--|----------------|
| <b>Direct Modbus Plus Interface</b>        |                |
| PanelMate Power Pro 1100, 1700, 3000, 5000 | <b>1248</b>    |

### Modicon Communication Cables

#### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000, 5000 or ePro unit serial port and the PLC communications port using D-Shell connectors. Cables used with PanelMate ePro require a DB9(M)/DB9(F) converter [converts DB9(M) to DB9(F)].

### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

| Description                    | Catalog Number |
|--------------------------------|----------------|
| 9-pin Modbus                   | <b>MB21</b>    |
| Micro PLC (RJ-45) Modbus cable | <b>MB22</b>    |

## Omron Connectivity

### Omron Communication Cables

#### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000, 5000 or ePro unit serial port and the PLC communications port using D-Shell connectors. Cables used with PanelMate ePro require a DB9(M)/DB9(F) converter [converts DB9(M) to DB9(F)].

#### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

| Description              | Catalog Number |
|--------------------------|----------------|
| C Series (RS-232)        | OM21           |
| CV Series (RS-232)       | OM22           |
| C Series (RS-422) cable  | OM23A          |
| CV Series (RS-422) cable | OM24A          |

## PROFIBUS DP Connectivity

### PROFIBUS DP Interface

This PROFIBUS DP Slave Adapter interface provides communications between a PanelMate operator interface and a PROFIBUS network without requiring any additional communications modules. A maximum of one interface can be installed on each PanelMate unit.

#### PROFIBUS DP Interface

| Description  | Catalog Number |
|--|----------------|
| <b>PROFIBUS DP Slave I/O Interface</b><br>For all PanelMate Power Pro 1100, 1700, 3000, 5000 | 1247           |

## Siemens Connectivity

#### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000, 5000 or ePro unit serial port and the PLC communications port using D-Shell connectors. Cables used with PanelMate ePro require a DB9(M)/DB9(F) converter [converts DB9(M) to DB9(F)].

#### PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro

| Description          | Catalog Number |
|----------------------|----------------|
| Siemens (RS-232)     | SI21           |
| Siemens S7 HMI cable | SI22           |

**Simatic TI Connectivity****Simatic TI Communication Cables****PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro**

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000, 5000 or ePro unit serial port and the PLC communications port using D-Shell connectors. Cables used with PanelMate ePro require a DB9(M)/DB9(F) converter [converts DB9(M) to DB9(F)].

**PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro**

| Description                            | Catalog Number |
|--|----------------|
| TI 500, 305 (RS-232)                   | <b>TI21</b>    |
| TI 405 (RS-232)                        | <b>TI22</b>    |
| TI 545 (RS-232)                        | <b>TI23</b>    |
| TI 305-02DM, TI 405 DCM (RS-422) cable | <b>TI25A</b>   |
| TI 545-1101 (RS-422) cable             | <b>TI26A</b>   |
| TI 545-12102, 1104, 1105 cable         | <b>TI27A</b>   |

**Square D Connectivity****Square D Communication Cables****PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro**

One 15 ft (4.6m) cable, unless otherwise stated, for communications between a PanelMate 1100, 1700, 3000, 5000 or ePro unit serial port and the PLC communications port using D-Shell connectors. Cables used with PanelMate ePro require a DB9(M)/DB9(F) converter [converts DB9(M) to DB9(F)].

**PLC Interface Cables for PanelMate Power Pro 1100, 1700, 3000, 5000 or ePro**

| Description                        | Catalog Number |
|------------------------------------|----------------|
| PLC processor cable                | <b>SD21A</b>   |
| NIM Network Interface Module cable | <b>SD22A</b>   |

**Transfer Serial Cable**

One 6.0 ft (1.8m), RS-232 cable with DB9 connectors on each end, for upload/download between standard serial PC communication port and PanelMate serial port.

**Transfer Serial Cable**

| Description                                   | Catalog Number |
|---|----------------|
| PanelMate 1100, 1700, 3000, 5000 additional ① | <b>0518</b>    |

**Note**

① Included in configuration software package PMPROSW and PMPROSWSL.

### Converter Connectors

Connectors that convert a 9-pin D-Shell connector to a RJ11 phone jack-style connector.

#### Converter Connectors

| Description  | Catalog Number |
|--|----------------|
| RS-232 DB9 (F) / RJ11 (M) converter [converts DB9 (M) to RJ11 (M)]. Ideal for converting PMPP 1700 cables for use with PMPS 1500 | <b>0820</b>    |
| RS-232 RJ11 (F) / DB9 (M) converter [converts RJ11 (M) to DB9 (M)]. Ideal for converting PMPS 1500 cables for use with PMPP 1700 | <b>0821</b>    |

### Mounting Collars and Plates

Mounting plates and collars can be used when replacing older PanelMate products with newer models with no or minimal cutout changes required.

#### Adapter Plates (Similar Look to a Painted Steel Front Panel)

| Description  | Catalog Number     |
|--|--------------------|
| Micro PanelMate (D820, D830, D840) to 2- or 4-line ELC graphics panel (ELC-GPxx) keypad              | <b>APPM1ELCGP4</b> |
| 6 in PM 500, 1000 to 6 in (HMI06xx) touchscreen and function buttons                                 | <b>APPM1HMI6</b>   |
| 8 in PM 1100 or 1700 (11xxK, 17xxK) keypad to 8 in XV or XP touchscreen                              | <b>APPM1XVXP8</b>  |
| 8 in PM (11xxK, 17xxK, 75xxK-8) keypad to 8 in (11xxT, 17xxT, 75xxT-8, 76xxT-8x) touchscreen         | <b>APPS8A</b>      |
| 8 in PM (11xxK, 17xxK, 75xxK-8) keypad to 8 in (HMI08CE) touchscreen                                 | <b>APPM1HMI8</b>   |
| 9 in PM 2000/compact (24xx/25xx) keypad to 8 in PM (11xxK, 17xxK, 75xxK-8) keypad ①                  | <b>1524TP</b>      |
| 9 in PM 2000/compact (24xx/25xx) keypad to 8 in PM (11xxT, 17xxT, 75xxT-8, 76xxT-8x) touchscreen     | <b>1524TPS</b>     |
| 9 in PM 2000 (26xx/27xx) keypad to 8 in PM (11xxK, 17xxK, 75xxK-8) keypad ①                          | <b>1527TP</b>      |
| 9 in PM 2000 (26xx/27xx) keypad to 8 in PM 11xxT, 17xxT, 75xxT-8, 76xxT-8 touchscreen                | <b>1527TPS</b>     |
| 9 in PM 2000 (26xx/27xx) touchscreen to 8 in PM (11xxT, 17xxT, 75xxT-8, 76xxT-8x) touchscreen ①      | <b>1527TS</b>      |
| 10 in PM 3000 (39xxK, 75xxK-10) keypad to 10 in (HMI10CE) touchscreen and function buttons           | <b>APPM2HMI10</b>  |
| 10 in PM 3000 (39xxT, 75xxT-10, 76xxT-10x) touchscreen to (HMI10CE) touchscreen and function buttons | <b>APPM1HMI10</b>  |
| 10 in PM ePro (7585K-10) keypad to 10 in ePro PS (76xxT-10x) touchscreen                             | <b>APPS10A</b>     |
| 13 in PM 5000 (5785K) keypad to 12 in XP touchscreen ②   | <b>APPM1XP12</b>   |
| 13 in PM 5000 (5485K) keypad to 12 in XP touchscreen ②③  | <b>APPM2XP12</b>   |
| 13 in PM 5000 (54xx) keypad-split to 12 in (76xxT-12x) touchscreen                                   | <b>APPS12B</b>     |
| 14 in PM 4000 (45xx), 13 in 5000 (55xx/57xx) keypad to 12 in PM ePro PS 12 in (7685T-12) touchscreen | <b>APPS12A</b>     |
| 14 in PM 4000 (45xx), 13 in 5000 (55xx/57xx) keypad to 15 in (7585DT-15) remote touchscreen display  | <b>APFP15A</b>     |

#### Adapter Collars (Raise front of PanelMate 1.00 In [25.4 mm] from the Mounting Surface)

| Description  | Catalog Number      |
|--|---------------------|
| PM 2000/compact (24xx) touchpanel to PM 11xxK, 17xxK, 75xxK-8 touchpanel collar. For Type 12 installations only. | <b>1524TPCOLLAR</b> |
| PM 2000 (26xx/27xx) touchpanel to PM 11xxK, 17xxK, 75xxK-8 touchpanel collar. For Type 12 installations only.    | <b>1527TPCOLLAR</b> |

#### Notes

- ① Cutting is required to make the cutout wider; drilling is required for new stud holes. For touchpanel units, see table above if cutting and drilling is not an option.
- ② Screen sizes for the PM5000 ranged from 14 in to 10 in but the cutout remained the same. This plate will adapt all PanelMate 5000 keypad models.
- ③ The adapter kit includes two pieces.

### PanelMate Overlay Kits

The overlay kits are ideal for protecting your screens from dirt, grime and abrasion and are particularly desirable for PanelMate touchscreen

models installed in dirty environments. These overlays have an additional anti-glare feature. The overlays simply adhere to the

front of the display and can be easily removed and replaced when required. Five overlays are included in each kit.

#### Overlay Kits

| Description  | Catalog Number |
|--|----------------|
| 8.4 in Anti-Glare Overlay Kit, 5 overlays/kit, for use with PanelMate 11xxT, 15xxT, 17xxT, 75xxT-8, 76xxT-8x, and HMI08CE  | <b>17AGT</b>   |
| 10.4 in Anti-Glare Overlay Kit, 5 overlays/kit, for use with PanelMate Power Pro 3000, 5000 (All 10.4 in models), 75xx-10 (all models), 76xxT-10x, and HMI10CE     | <b>39AG</b>    |
| 13.0 in Anti-Glare Overlay Kit, 5 overlays/kit, for use with PanelMate Power Pro 5000 (All 13.0 in models)   | <b>55AG</b>    |
| 12.1 in Anti-Glare Overlay Kit, 5 overlays/kit for use with 12 in PanelMate ePro PS 12 in models (76xxT-12x) and 12 in standalone touchscreen displays (7585DT-12) | <b>AG-12</b>   |
| 15.0 in Anti-Glare Overlay Kit, 5 overlays/kit for use with PanelMate ePro PS 15 in models (76xxT-15x) and 15 in standalone touchscreen displays (7585DT-15)       | <b>AG-15</b>   |
| 17.0 in Anti-Glare Overlay Kit, 5 overlays/kit for use with 17 in standalone touchscreen displays (7585DT-17)  | <b>AG-17</b>   |

### PanelMate Pro LT 1100 Tags

The PanelMate Pro LT 1100 I/O Reference Point Expansion is an upgrade kit that includes a hardware key and download software. The upgrades are provided on the

hardware key and are downloaded to a PanelMate Pro LT 1100 from a PC using the provided hardware key and software. The PanelMate Pro LT supports 64 I/O points as

standard and can be upgraded to support a maximum of 512 I/O points (7 upgrades installed).

#### PanelMate Pro LT Expansion

| Description  | Catalog Number   |
|--|------------------|
| <b>I/O Reference Point Expansion (64 points per upgrade)</b> |                  |
| 1 x 64 I/O point expansion                                   | <b>1100TAG1</b>  |
| 5 x 64 I/O point expansion                                   | <b>1100TAG5</b>  |
| 10 x 64 I/O point expansion                                  | <b>1100TAG10</b> |
| 50 x 64 I/O point expansion                                  | <b>1100TAG50</b> |

### PanelMate ePro PS Restore Kits

Each Restore Kit provides a simple way to reset the load of the PanelMate ePro PS internal CompactFlash® that holds the operating system to the factory-installed image or the customer's modified image. This kit is typically used as a field-recovery method for operating system problems, but it can also be used to upgrade the image load of installed units.

Each Restore Kit can be re-used to restore multiple PanelMate ePro PS units or to restore the same PS unit multiple times. The kit used for restoring the factory-installed image must match the model type of the unit being restored to maintain product integrity.

Installation requires a Microsoft-compatible USB keyboard and mouse and an Ethernet network connection.

#### Restore Kits

| Description   | Catalog Number  |
|---|-----------------|
| <b>New RoHS Compliant Models</b> ①  |                 |
| Kit to restore PanelMate ePro PS, OD, and Classic units to the current factory image load or the modified image | <b>76MLPS</b>   |
| Kit to restore PanelMate ePro PS EE units to the current factory image load or the modified image               | <b>76MLEE</b>   |
| <b>Legacy Non-RoHS Compliant Models</b> ①   |                 |
| Kit to restore PanelMate ePro PS and PS OD Display units to the current factory image load                      | <b>76MLPSD</b>  |
| Kit to restore PanelMate ePro PS Blind Node units to the current factory image load                             | <b>76MLPSB</b>  |
| Kit to restore PanelMate ePro PS EE Display units to the current factory image load                             | <b>76MLEED</b>  |
| Kit to restore PanelMate ePro PS EE Blind Node units to the current factory image load                          | <b>76MLEEB</b>  |
| Kit to restore PanelMate ePro PS Classic Display units to the current factory image load                        | <b>76MLPSCD</b> |
| Kit to restore PanelMate ePro PS Classic Blind Node units to the current factory image load                     | <b>76MLPSCB</b> |

#### Note

- ① RoHS compliant units have a silver-colored galvanized steel back cover.  
Non-RoHS compliant units have a gold-colored plated steel back cover.



## Legacy Products Spare Parts

## PanelMate ePro



## PanelMate ePro (75xx Series) Spare Parts

| Description   | Catalog Number |
|---|----------------|
| 10.4 in color TFT display assembly for 7585K-10 and 7585T-10 Series             | 63-00778       |
| Keypad with window for 7585K-8 Series   | 63-00796       |
| Touchscreen for 7575T-8 Series (gaskets 32-01682 and 32-02437 required)         | 63-00837       |
| Gasket for touchscreen (between touchscreen and front panel) for 7575T-8 Series | 32-01682       |
| Gasket for touchscreen (between touchscreen and display) for 7575T-8 Series     | 32-02437       |
| Touchscreen for 7585T-8 Series (gaskets 32-01682 and 32-02208 required)         | 63-00832       |
| Gasket for touchscreen (between touchscreen and front panel) for 7585T-8 Series | 32-01682       |
| Gasket for touchscreen (between touchscreen and display) for 7585T-8 Series     | 32-02208       |
| Keypad for 7585K-10 Series (does not include window)                            | 63-00805       |
| Plexi-Glass window for 7585K-10 Series  | 32-02151       |
| Touchscreen for 7585T-10 Series   | 63-00585       |
| Gasket for touchscreen for 7585T-10 Series (between touchscreen and display)    | 32-02145       |
| Front panel assembly for 7585K-8 Series   | 91-01985       |
| Front panel assembly for 7575T-8 and 7585T-8 Series                             | 91-01494       |
| Front panel for 7585T-10 Series (gaskets 32-02144 and 32-02145 required)        | 32-02444       |
| Gasket for front panel for 7585T-10 Series                                      | 32-02144       |
| Gasket for touchscreen for 7585T-10 Series                                      | 32-02145       |
| Backlight kit for 7585K-8 and 7585T-8 Series                                    | 87-02455       |
| Backlight kit for 7585K-10 and 7585T-10 Series                                  | 87-02379       |
| Ship kit for 7585K-8 Series   | 86-00086       |
| Ship kit for 7575T-8 and 7585T-8 Series   | 86-00083       |
| Ship kit for 7585T-10 Series  | 86-00085       |

## PanelMate Power Series 3000 Spare Parts

| Description                 | Catalog Number |
|-----------------------------|----------------|
| Keypad with window for 39xx | 63-00743       |

**PanelMate Power Series 4000 Spare Parts**

| Description                            | Catalog Number |
|--|----------------|
| Membrane keypad (5-position) for 42xx  | 63-00376       |
| Membrane keypad (15-position) for 42xx | 63-00375       |
| Cable for remote keypad                | 90-00594       |
| Membrane keypad (5-position) for 45xx  | 63-00391       |
| Display assembly for 42xx, 45xx        | 91-01538       |

**PanelMate Power Series 5000 Spare Parts**

| Description                            | Catalog Number |
|--|----------------|
| Membrane keypad (15-position) for 52xx | 63-00375       |
| Cable and remote keypad for 52xx       | 90-00594       |
| Touchscreen cable for 55xx             | 90-00715       |
| Backlight kit for 52xx, 55xx           | 87-01783       |

**PanelMate Power Series 1000 Spare Parts**

| Description  | Catalog Number |
|--|----------------|
| Front panel, keypad assembly, painted steel for 1218   | FRPNL-1218     |
| Front panel, keypad assembly, stainless steel for 218S | ①              |
| Backlight kit for 1218, 218S                           | 87-02143       |

**PanelMate Pro LT 1100****PanelMate Pro LT 1100 Spare Parts**

| Description  | Catalog Number |
|--|----------------|
| Keypad (4- and 15-position combined with window) for 1155K, 1175K (gasket 32-01941 required) | 63-00742       |
| Gasket for keypad (between keypad and display) for 1155K, 1175K                              | 32-01941       |
| Touchscreen for 1155T and 1175T (gaskets 32-01682 and 32-01941 required)                     | 63-00838       |
| <b>Do not replace the 63-00632 touchscreen, contact factory</b>                              |                |
| Gasket for touchscreen for 1155T, 1175T:   |                |
| Between touchscreen and front panel  | 32-01682       |
| Between touchscreen and display  | 32-01941       |
| Front panel assembly for 1155K, 1175K  | 91-01913       |
| Front panel assembly for 1155T, 1175T  | 91-01494       |
| Ship kit for 1155K, 1175K  | 86-00078       |
| Ship kit for 1155T, 1175T  | 86-00077       |

**Note**

① Contact factory.

## PanelMate Pro 1700



## PanelMate Power Pro 1700 Spare Parts

| Description  | Catalog Number |
|--|----------------|
| 8.4 in color TFT display assembly for 1785   | 35-4974        |
| Keypad (4- and 15-position combined with window) for 1755K, 1775K (gasket 32-01941 required) | 63-00742       |
| Gasket for keypad (between keypad and display) for 1755K, 1775K                              | 32-01941       |
| Front panel gasket for 1755K, 1775K  | 32-02229       |
| Keypad (4- and 15-position combined with window) for 1785K (gasket 32-02208 required)        | 63-00741       |
| Gasket for keypad (between keypad and display) for 1785K                                     | 32-02208       |
| Touchscreen for 1755T, 1775T (gaskets 32-01682 and 32-01941 required)                        | 63-00835       |
| <b>Do not replace 63-00632; contact factory</b>  |                |
| Gasket for touchscreen for 1755T, 1775T:   |                |
| Between touchscreen and front panel  | 32-01682       |
| Between touchscreen and display  | 32-01941       |
| Touchscreen for 1785T (gaskets 32-01682 and 32-02208 required)                               | 63-00831       |
| Gasket for touchscreen for 1785T:  |                |
| Between touchscreen and front panel  | 32-01682       |
| Between touchscreen and display  | 32-02208       |
| Front panel assembly for 1755K, 1775K  | 91-01801       |
| Front panel assembly for 1785K   | 91-01826       |
| Front panel assembly for 1755T, 1775T, 1785T   | 91-01494       |
| Gasket for mounting 1785T front panel assembly   | 32-02005       |
| Backlight kit for 1785   | 87-02455       |
| Ship kit for 1755K, 1775K, 1785K   | 86-00060       |
| Ship kit for 1755T, 1775T, 1785T   | 86-00059       |

## PanelMate Pro 3000



## PanelMate Power Pro 3000 Spare Parts

| Description   | Catalog Number |
|---|----------------|
| 10.4 in color TFT display assembly for 3985                                 | 63-00778       |
| Keypad (4- and 15-position combined with window) for 3985K                  | 63-00740       |
| Plexi-glass window for 3985K series   | 32-02151       |
| Touchscreen (glass) for 3985T and 3985ST                                    | 63-00585       |
| Touchscreen (acrylic) for 3985AT and 3985SAT                                | 63-00592       |
| Front panel for 3985K (gasket 32-02143 required)                            | 32-02141       |
| Front panel for 3985SK (gasket 32-02143 required)                           | 32-02288       |
| Gasket for front panel for 3985K and 3985SK                                 | 32-02143       |
| Front panel for 3985T and 3985AT (gaskets 32-02144 and 32-02145 required)   | 32-02142       |
| Front panel for 3985ST and 3985SAT (gaskets 32-02144 and 32-02145 required) | 32-02289       |
| Gasket for front panel for 3985T, 3985ST, 3985AT and 3985SAT                | 32-02144       |
| Gasket for touchscreen for 3985T, 3985ST, 3985AT and 3985SAT                | 32-02145       |
| Backlight kit for 3985  | 87-02379       |
| Ship kit for 3985   | 86-00066       |

## PanelMate Power Pro 5000



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## PanelMate Power Pro 5000 Spare Parts

| Description  | Catalog Number      |
|--|---------------------|
| 10.4 in color TFT display assembly for 5485, 5785  | <b>63-00778</b>     |
| 10.4 in backlight kit for 5485, 5785   | <b>87-02379</b>     |
| 10.4 in front panel for 5585K, 5785K (gasket 32-02301 and 32-02145 required)   | <b>47-50632</b>     |
| 10.4 in front panel (SST) for 5585SK, 5785SK (gasket 32-02301 and 32-02145 required)   | <b>47-50632-2</b>   |
| 10.4 in front panel for 5585T, 5785T (gaskets 32-02204 and 32-02145 required)  | <b>47-51017</b>     |
| 10.4 in front panel (SST) for 5585ST, 5785ST (gaskets 32-02204 and 32-02145 required)  | <b>47-51017-2</b>   |
| 10.4 in front panel (Upper) for 5285K, 5485K (gasket 32-02308 and 32-02145 required)   | <b>47-51016</b>     |
| 10.4 in front panel (Upper, SST) for 5285SK, 5485SK (gasket 32-02308 and 32-02145 required)  | <b>47-51016-2</b>   |
| 10.4 in gasket for front panel for 5585K, 5585SK, 5785K, 5785SK  | <b>32-02301</b>     |
| 10.4 in gasket for front panel   | <b>32-02145</b>     |
| 10.4 in touchscreen glass for 5585T, 5785T   | <b>63-00585</b>     |
| 13.0 in touchscreen for 5585T, 5785T   | <b>63-00658</b>     |
| 13.0 in front panel for 5585K, 5785K (gasket 32-02301 required)  | <b>32-02206</b>     |
| 13.0 in front panel (SST) for 5585SK, 5785SK (gasket 32-02301 required)  | <b>32-02432</b>     |
| 13.0 in front panel for 5585T, 5785T (gaskets 32-02204 and 32-02066 required)  | <b>32-02200</b>     |
| 13.0 in front panel (SST) for 5585ST, 5785ST (gaskets 32-02204 and 32-02066 required)  | <b>32-02430</b>     |
| 13.0 in front panel (upper) for 5285K, 5485K (gasket 32-02308 required)  | <b>32-02297</b>     |
| 13.0 in front panel (upper, SST) for 5285SK, 5485SK (gasket 32-02308 required)   | <b>32-02433</b>     |
| 13.0 in gasket for front panel for 5585K, 5585SK, 5785K, 5785SK  | <b>32-02301</b>     |
| 13.0 in gasket for touchscreen for 5585T, 5585ST   | <b>32-02066</b>     |
| Gasket for front panel for 5585T, 5585ST   | <b>32-02204</b>     |
| Gasket for upper front panel for 5285K, 5285SK, 5485K, 5485SK  | <b>32-02308</b>     |
| Membrane keypad (5- and 15-position combined) for 5585K, 5785K   | <b>63-00714</b>     |
| Membrane keypad (5-position) for 5285K, 5485K  | <b>63-00715</b>     |
| Membrane keypad (15-position) for 5285K, 5485K   | <b>63-00375</b>     |
| Front panel (lower) for 5285K, 5485K (gasket 32-01392 required)  | <b>32-02303</b>     |
| Front panel (lower, SST) for 5285SK, 5485SK (gasket 32-01392 required)   | <b>32-01388</b>     |
| Gasket for lower front panel for 5285K, 5285SK, 5485K, 5485SK  | <b>32-01392</b>     |
| Backlight kit for 5585, 5285   | <b>87-02137</b>     |
| Add-on 115/230 Vac to 24 Vdc power converter for PanelMate Power Pro 5000, all models. Mounts on back of unit and adds 1.5 in of depth | <b>PM5000-ACKIT</b> |
| Ship kit for 5585K, 5785K  | <b>86-00067</b>     |
| Ship kit for 5585T, 5785T  | <b>86-00068</b>     |
| Ship kit for 5285K, 5485K  | <b>86-00069</b>     |