

## 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) VISUALDXP5 (5-pack of VISUALDXP) VISUALDCE5 (5-pack of VISUALDCE) VISUALDXP (PCs, XPe, and CE hardware)	SW-XSOFT-CODESYS-2-S <sup>②</sup> 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>



**HM/Soft**



**ELCSoftGP**

**Description**

**Runtime Features**

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**

① 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) Taiwan: (BIG 5 code) traditional Chinese character font China: (GB2324-80 code) simplified Chinese character font	ASCII: characters (including European fonts) Taiwan: (BIG 5 code) traditional Chinese character font 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) 2. Flash for communication error or other alarm 3. Special indication by user programming	1. Power-on indication (flash three times) 2. Flash for communication error or other alarm 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 RS-232 (COM1) 9 PIN D-SUB male	Data length: 7 or 8 bits Stop bits: 1 or 2 bits Parity: None/Odd/Even Baud rate: 4800 bps–115,200 bps	Data length: 7 or 8 bits Stop bits: 1 or 2 bits Parity: None/Odd/Even Baud rate: 4800 bps–115,200 bps
Extension communication port RS-485 (COM2) 5-pin removal terminal (RS-485 or RS-422)	Data length: 7 or 8 bits Stop bits: 1 or 2 bits Parity: None/Odd/Even Baud rate: 4800 bps–115,200 bps	Data length: 7 or 8 bits Stop bits: 1 or 2 bits Parity: None/Odd/Even 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

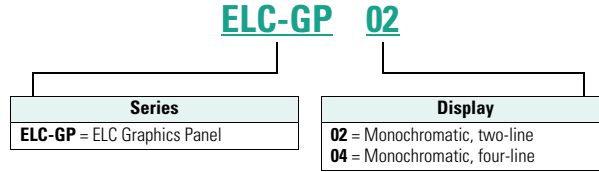
- UL 508
- cUL (CSA C22.2 No. 14)
- CE (Low Voltage Directive);  
Class 1 Div 2 Groups A, B, C, D
- RoHS



#### 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



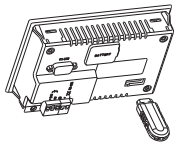
### **ELCSoftGP Editing Environment**

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

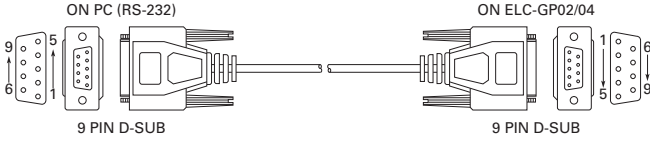
### **ELC-CBPCELC\_**

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 9 PIN D-SUB Female			GP02/04 COM Port 9 PIN D-SUB Female	
Rx	2	↔	3	Tx
Tx	3	↔	2	Rx
GND	5	↔	5	GND

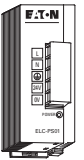
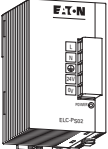
#### PC to ELC-GPxx Cable

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 in inches (mm)	1.44 x 3.54 x 2.36 (36.5 x 90 x 60)	2.17 x 3.54 x 2.36 (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

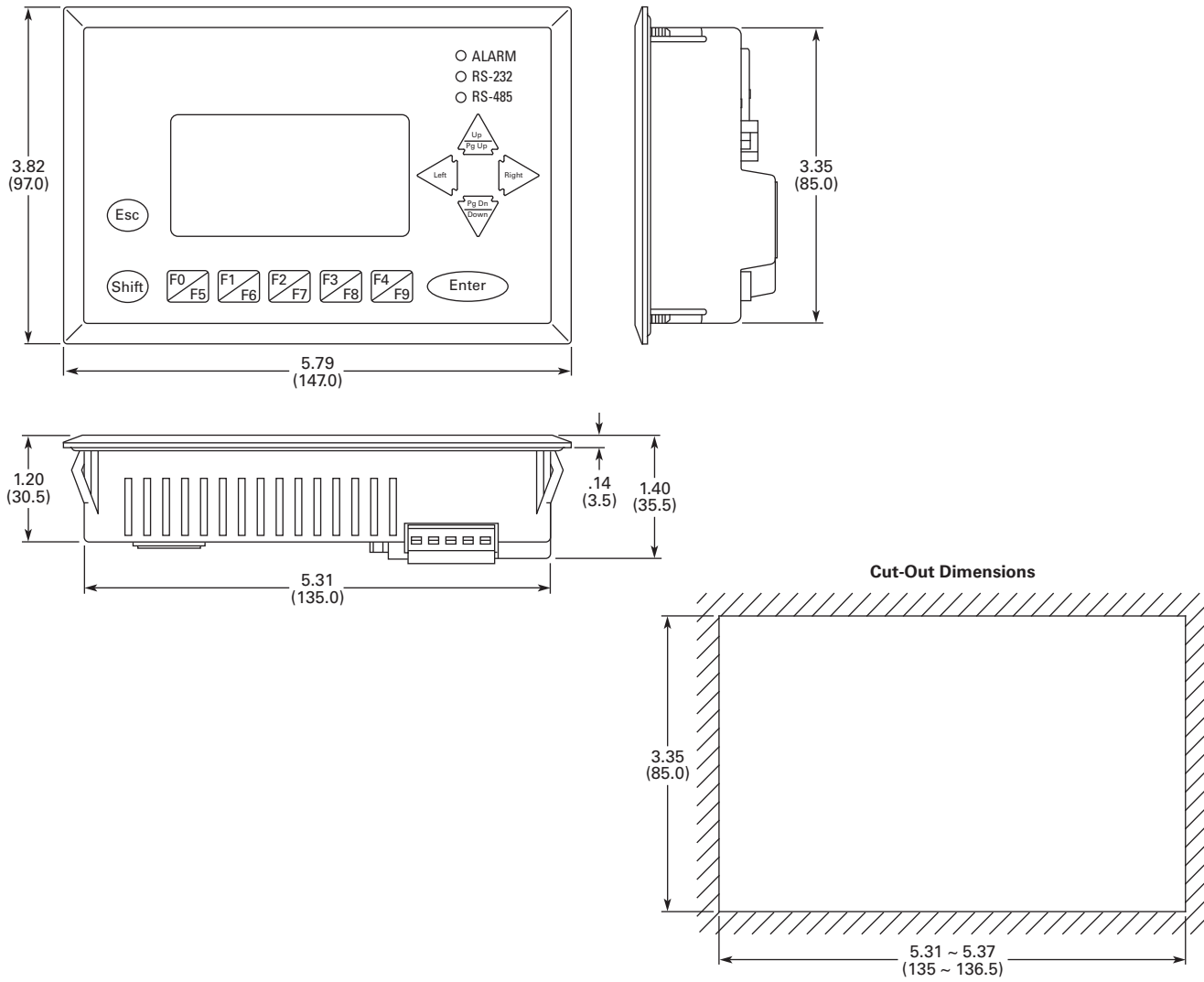
## Operator Interface Products

### ELC Graphics Panels

#### Dimensions

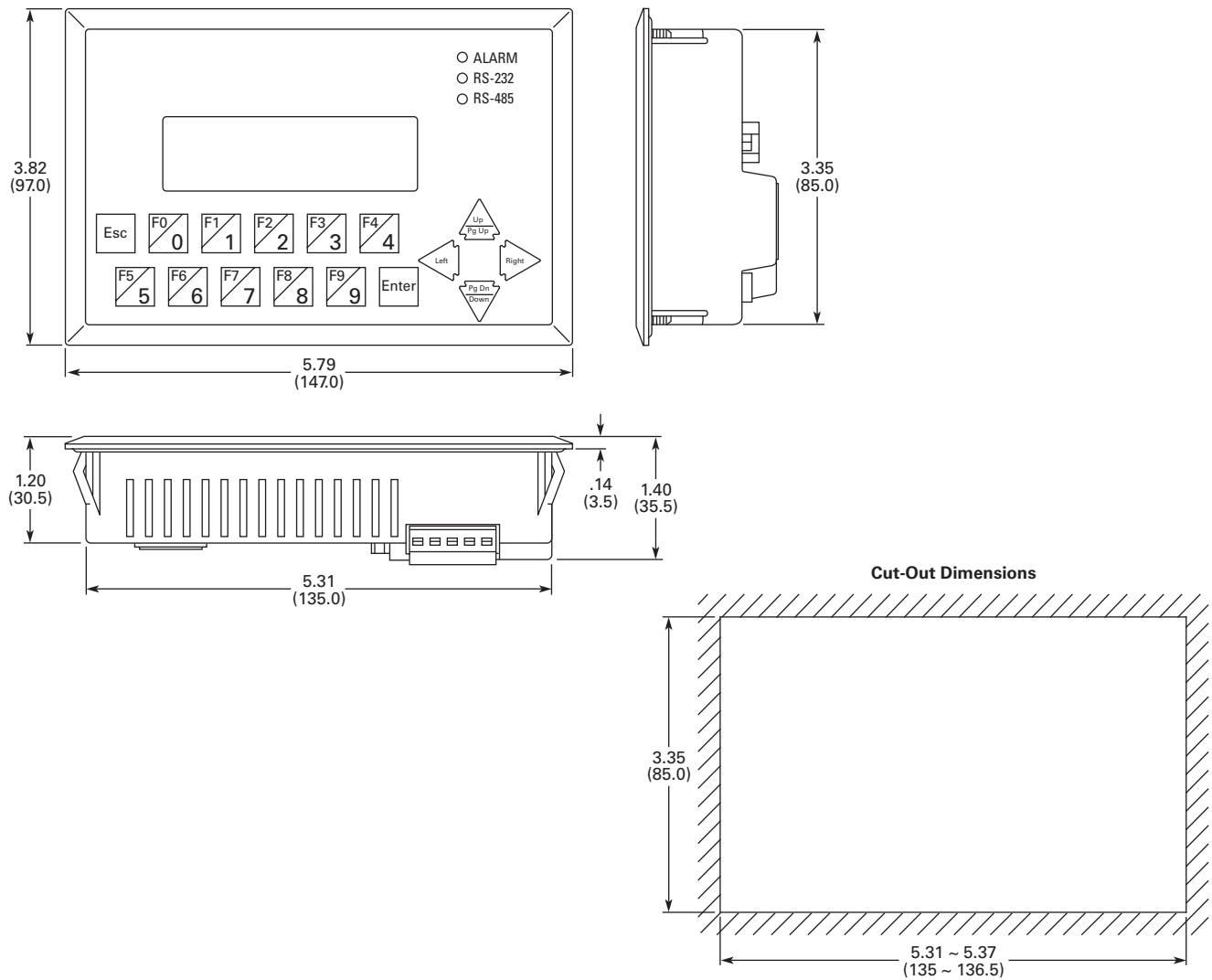
Approximate Dimensions in Inches (mm)

#### ELC-GP04

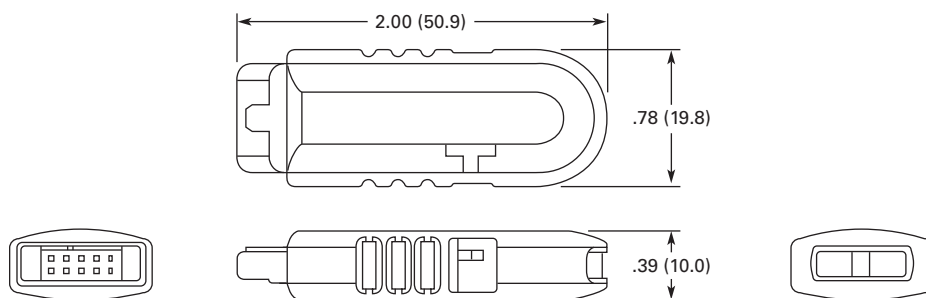


Approximate Dimensions in Inches (mm)

**ELC-GP02**



**ELC-GPXFERMOD**



HMI Operator Interface



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### 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

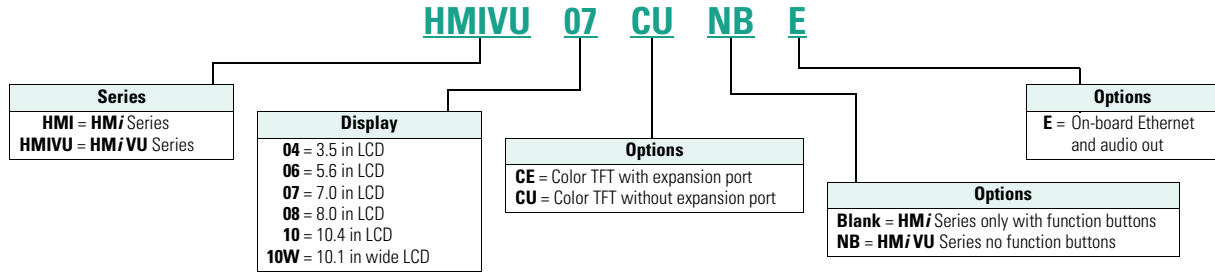
- CE
- UL
- cUL
- C-Tick
- RoHS



#### 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.

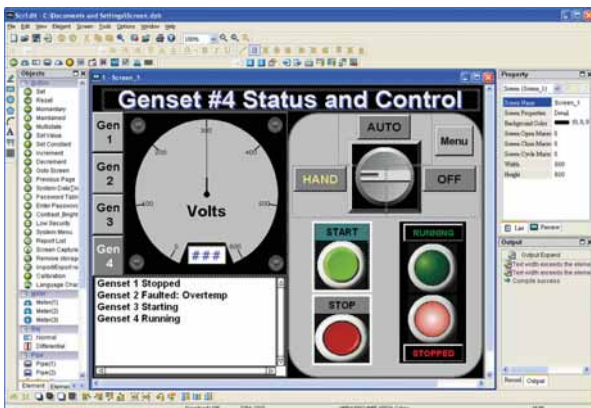
- Ethernet and serial communication drivers
- Up to four simultaneous protocols
- Screen manager
- Over 70 on-screen objects
- Pop-up screens
- Animated graphics
- Conditional visibility
- Built-in picture library
- Create your own picture library
- Multi-language
- Eight levels of security
- Macro editing 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> 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.

# 5.3

## Operator Interface Products

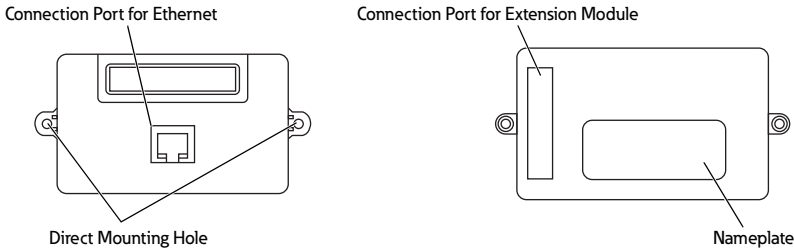
### HMI Operator Interface

#### Ethernet Expansion Module

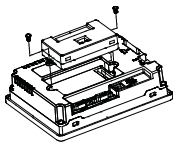
The HMIECENT expansion module adds 10/100 Ethernet communications when plugged into the expansion slot of a 6, 8 or 10 inch **HMI** series units only (not for use with **HMI VU** models). Upload and download programs and communicate to other supported Ethernet devices listed in the Supported Protocols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

#### Product Outline

5



HMIECENT



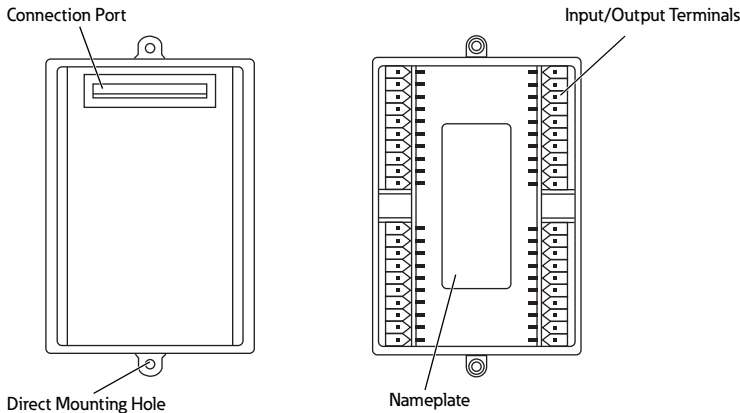
HMIECENT

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 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 5 Hz ≤ f < 9 Hz = continuous: 1.75 mm/occasional: 3.5 mm 9 Hz ≤ f < 150 Hz = continuous: 0.5g/occasional: 1.0g 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 (20,000 hours half-life at 25°C) ①	LED backlight (10,000 hours half-life at 25°C) ①	LED backlight (10,000 hours half-life at 25°C) ①	LED backlight (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 OS System: 2MB User Application: 6MB	Flash ROM 128MB OS System: 30MB Backup: 16MB User Application: 82MB	Flash ROM 128MB OS System: 30MB Backup: 16MB User Application: 82MB	Flash ROM 128MB OS System: 30MB Backup: 16MB 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 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 1 USB Client Ver 1.1	1 USB Host ② Ver 2.0 1 USB Client Ver 1.1	1 USB Host ② Ver 2.0 1 USB Client Ver 1.1	1 USB Host ② Ver 2.0 1 USB Client Ver 1.1
Serial COM port				
COM1	RS-232 (supports hardware flow control)	RS-232 (supports hardware flow control)	RS-232 (supports hardware flow control)	RS-232 (supports hardware flow control)
COM2	RS-232/RS-485	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③
COM3	RS-422/RS-485	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③	RS-232/RS-422/RS-485 (has built-in isolated power circuit) ③	RS-232/RS-422/RS-485 (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%) Please use isolated power supply	DC +24V (–10 to +15%) (has built-in isolated power circuit) ③	DC +24V (–10 to +15%) (has built-in isolated power circuit) ③	DC +24V (–10 to +15%) (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] Pollution Degree 2			
Vibration resistance	IEC 61131-2 Compliant 5 Hz ≤ f ≤ 9 Hz = continuous: 1.75 mm/occasional: 3.5 mm 9 Hz ≤ f ≤ 150 Hz = continuous: 0.5g/occasional: 1.0g 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 $\mu$ s)	Application command (30 ~ hundreds $\mu$ s)
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 RS, CS, ESD, and EFT	Frequency: 80 MHz ~ 1 GHz, 1.4 GHz ~ 2.0 GHz, test level 10 V/m Frequency: 0.15 MHz ~ 80 MHz, test level 10V ( <b>HMI</b> power port and I/O line) Air discharge $\pm 8$ kV	Frequency: 80 MHz ~ 1 GHz, 1.4 GHz ~ 2.0 GHz, test level 10 V/m Frequency: 0.15 MHz ~ 80 MHz, test level 10V ( <b>HMI</b> power port and I/O line) Air discharge $\pm 8$ kV
Surge	$\pm 1.5$ kV ( <b>HMI</b> power port), $\pm 1$ kV (I/O line) $\pm 2$ kV ( <b>HMI</b> power port)	$\pm 1.5$ kV ( <b>HMI</b> power port), $\pm 1$ kV (I/O line) $\pm 2$ kV ( <b>HMI</b> power port)
Ambient temperature/humidity	Operation: 0°C to 50°C (temperature), 10 to 90% (humidity) Storage: -40°C to 85°C (temperature), 10 to 90% (humidity)	Operation: 0°C to 50°C (temperature), 10 to 90% (humidity) Storage: -40°C to 85°C (temperature), 10 to 90% (humidity)
Vibration/shock	IEC 61131-2 Compliant 5 Hz $\leq f < 9$ Hz = Continuous: 1.75 mm / Occasional: 3.5 mm 9 Hz $\leq f \leq 150$ Hz = Continuous: 0.5g / Occasional: 1.0g X, Y, Z directions for 10 times	IEC 61131-2 Compliant 5 Hz $\leq f < 9$ Hz = Continuous: 1.75 mm / Occasional: 3.5 mm 9 Hz $\leq f \leq 150$ Hz = Continuous: 0.5g / Occasional: 1.0g 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 On $\rightarrow$ Off, below 14.4 Vdc	Off $\rightarrow$ On, above 16 Vdc 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) 6,000 times (5A 250 Vac/30 Vdc)	100,000 times (3A 250 Vac/30 Vdc) 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 (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 EFT (IEC 61131-2, IEC 61000-4-4): Power line: 2 kV, Communication I/O: 1 kV Damped-oscillatory wave: Power line: 1 kV, digital I/O: 1 kV RS (IEC 61131-2, IEC 61000-4-3): 26MHz ~ 1GHz, 10V/m
Certifications	C-Tick, cULus, CE

# 5.3

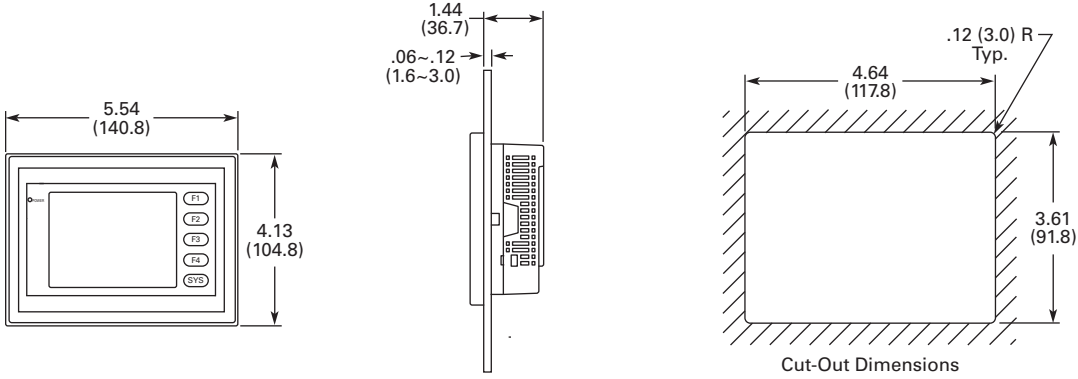
## Operator Interface Products

### HM/Operator Interface

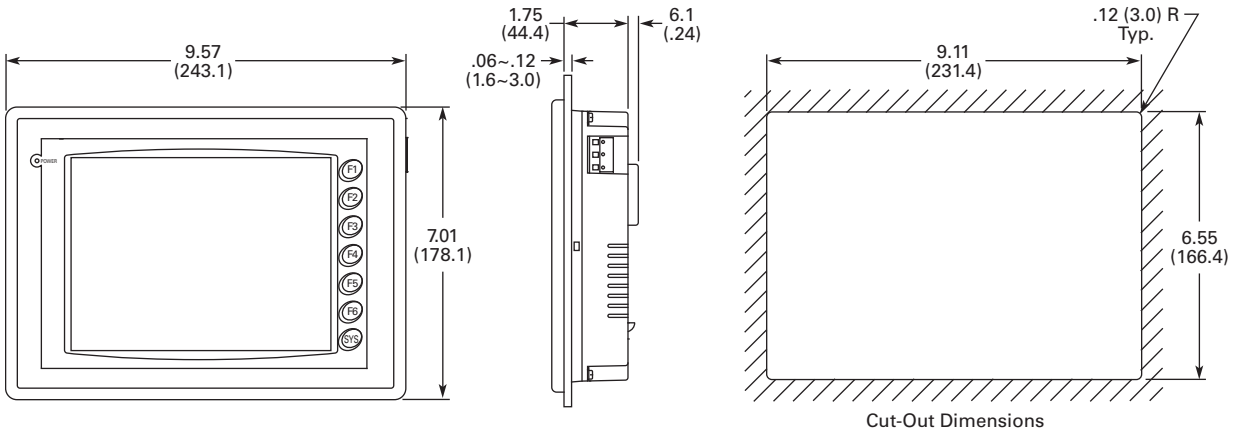
#### Dimensions

Approximate Dimensions in Inches (mm)

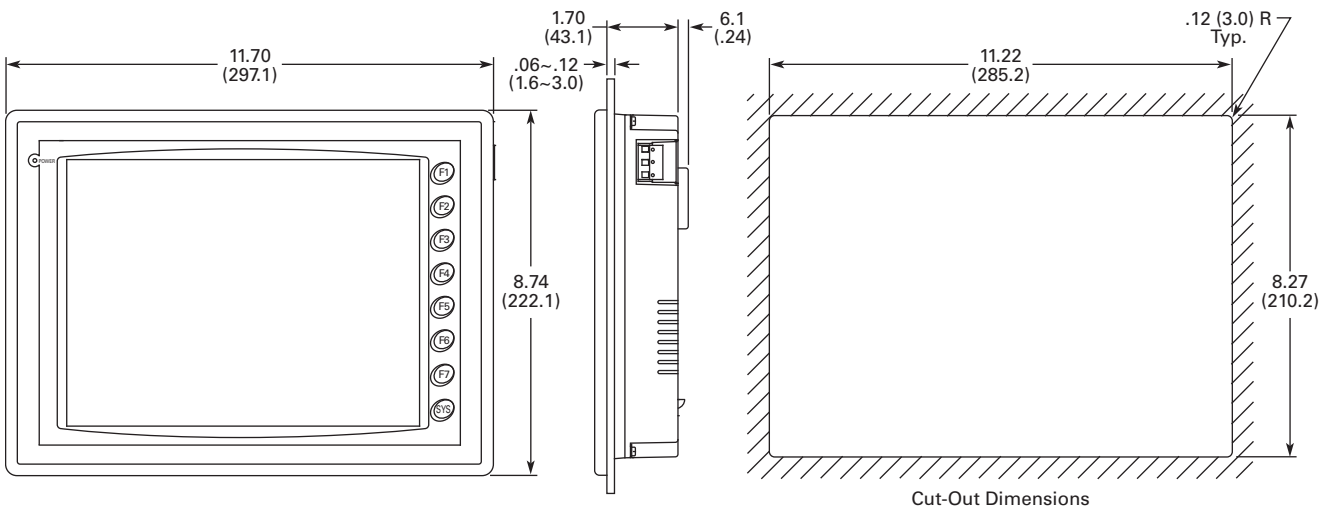
##### HMI04



##### HMI08CE



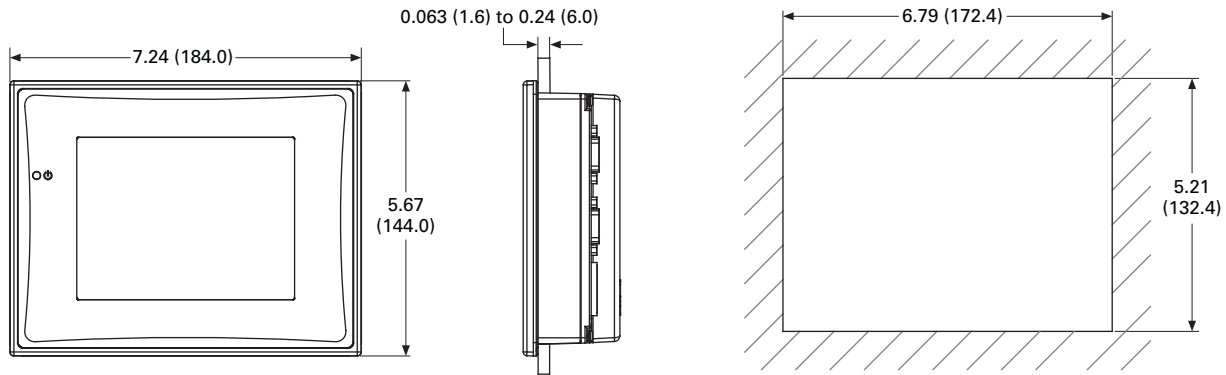
##### HMI10CE



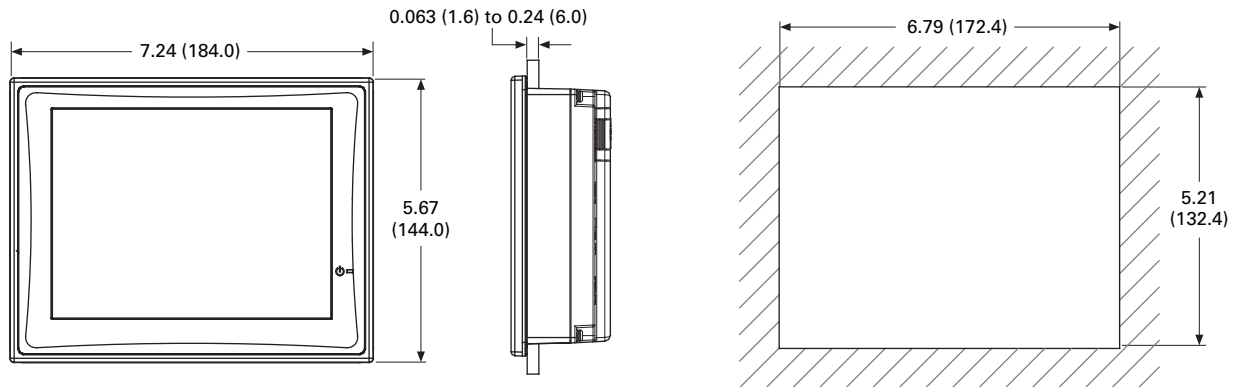


Approximate Dimensions in Inches (mm)

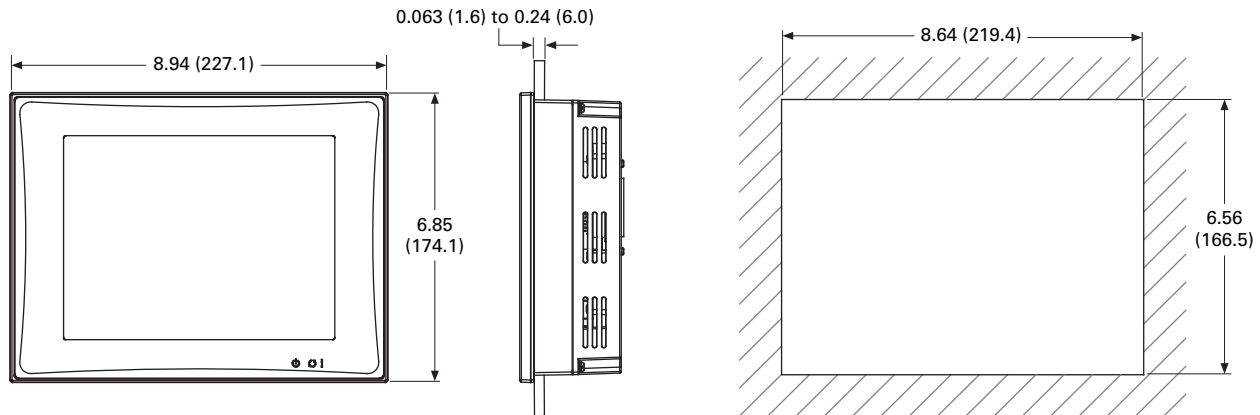
**HMIVU06**



**HMIVU07**



**HMIVU08**



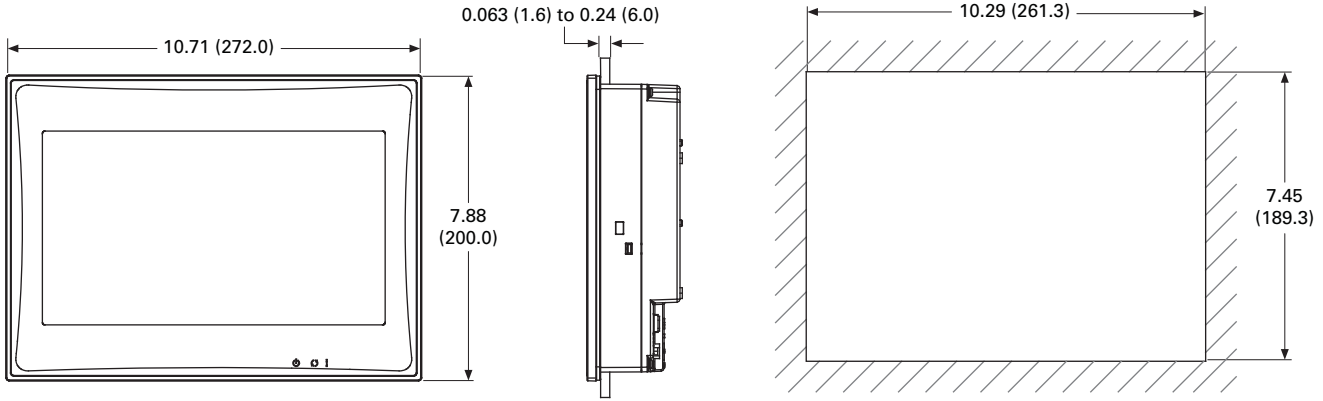
# 5.3

## Operator Interface Products

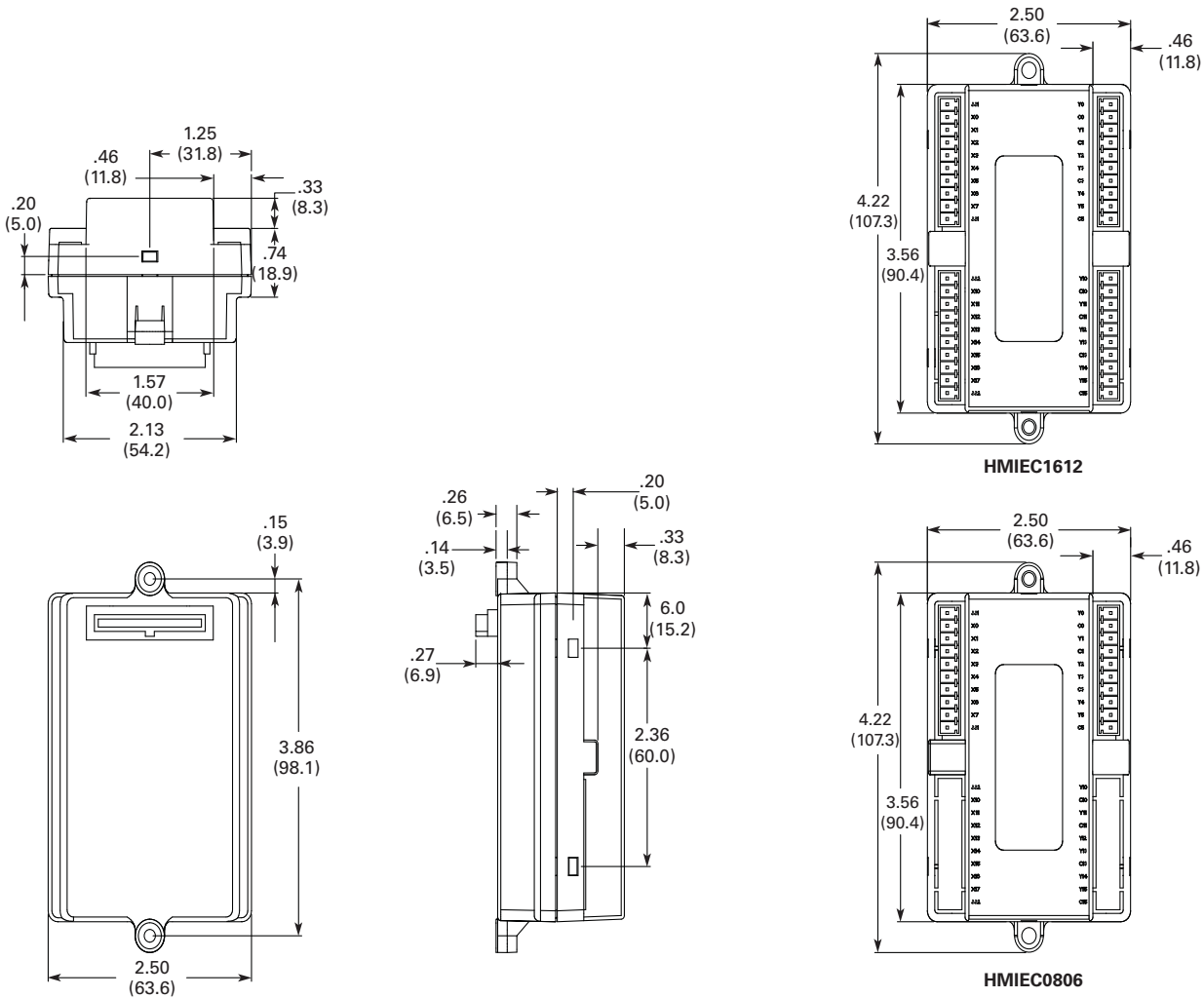
### HM/Operator Interface

Approximate Dimensions in Inches (mm)

#### HMIVU10

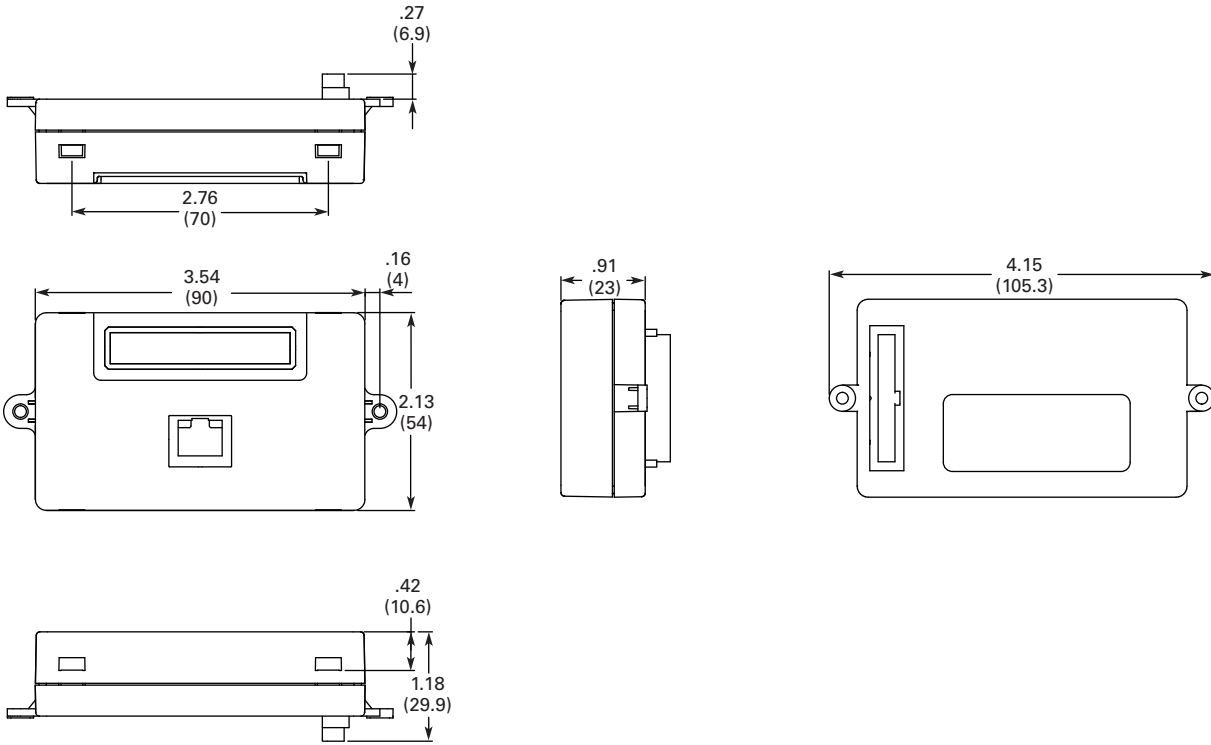


#### HMIEC0806 and HMIEC1612 Expansion Modules



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.

## Contents

<b>Description</b>	<b>Page</b>
XV and XP Operator Interface	
Product Selection Guide . . . . .	<b>V7-T5-30</b>
XV with Visual Designer or XSoft-CoDeSys-2 . . . . .	<b>V7-T5-32</b>
XP with Visual Designer . . . . .	<b>V7-T5-36</b>
Visual Designer Software . . . . .	<b>V7-T5-40</b>
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 Model	XV		XP
	XV-102	XV-152	XP-702
Screen Size	3.5, 5.7, 7.0	5.7, 8.4, 10.4	8.4, 10.4, 12.1, 15.0 Blind Node (no display)
Housing material	Plastic	Metal	Metal
Operating system	WinCE 5.0 Professional		Windows XPe
Touchscreen technology	Resistive		Infrared, non-reflective safety glass
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 Enterprise models 64,000 tags, 8 drivers, 1 web session
Field upgradeable max tags, drivers, web sessions	4000 tags, 3 drivers, 1, 2, 4, or 8 web sessions simultaneously		64,000 tags, 8 drivers, 1, 2, 4, 8, 16, 32, 64, 128, or 256 web sessions simultaneously
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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**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

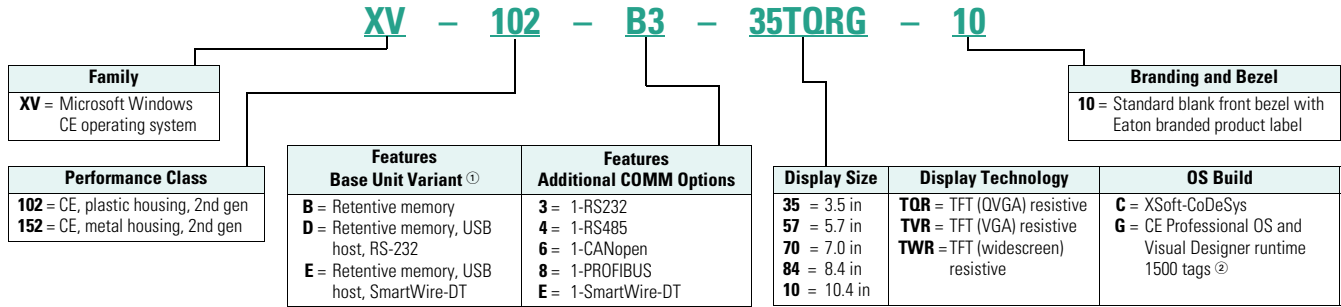




**Catalog Number Selection**

**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**

Description	Catalog Number
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**

Description	Catalog Number
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 Model	XV Midrange Operator Interface			XV-152		
	3.5 in	5.7 in	7.0 in		5.7 in	8.4 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) 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, 1 SD card slot	125 KB NVRAM/64 MB NAND/ 2 MB NOR, 1 SD card slot			125 KB NVRAM/64 MB NAND/ 2 MB NOR, 1 SD card slot	
Real time clock	Yes	Yes	Yes	Yes	Yes	Yes
Communication ports	Ethernet 10/100, RS-485 or RS-232 USB Device	Ethernet 10/100, RS-485, RS-232 USB Host, USB Device			Ethernet 10/100, RS-485, RS-232 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 (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, 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 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 5–9 Hz: 3.5 mm displacement 9–60 Hz: 0.15 mm displacement 60–150 Hz: 2g acceleration			IEC 60068-2-6 5–9 Hz: 3.5 mm displacement 9–60 Hz: 0.15 mm displacement 60–150 Hz: 2g acceleration		
Agency certifications and 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 software	No	No	No	No	No	No
Visual Designer development software	VISUALDCE or VISUALDXP			VISUALDCE or VISUALDXP		
Pre-licensed tags, drivers, web sessions (Visual Designer models)	1500 tags, 3 drivers, 1 web session			1500 tags, 3 drivers, 1 web session		
Field upgradeable max tags, drivers, web sessions (Visual 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 software	SW-XSOFT-CODESYS-2-S (seat) SW-XSOFT-CODESYS-2-M (multi-seat)			SW-XSOFT-CODESYS-2-S (seat) 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

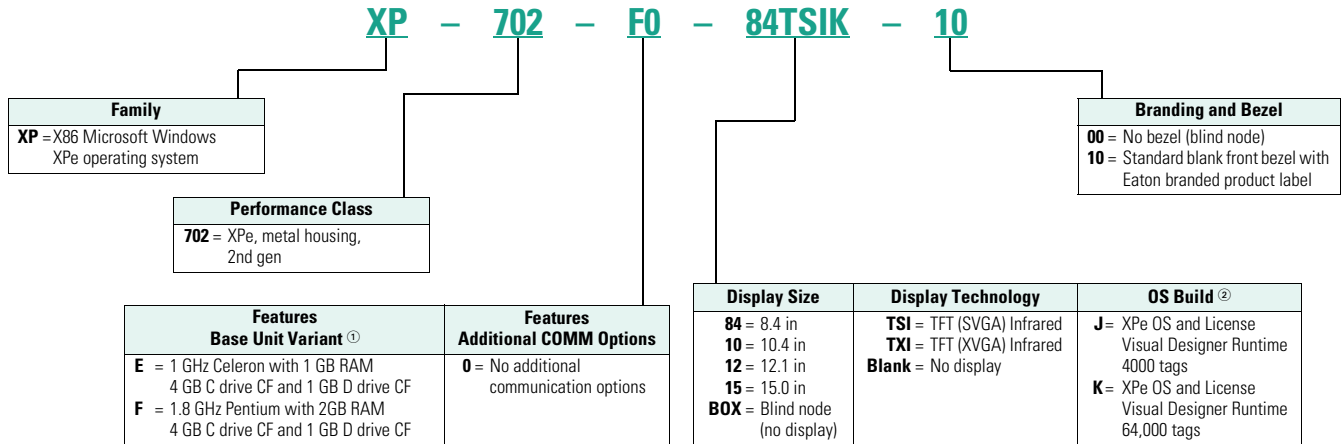
- CE
- UL
- cUL
- RoHS



**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-E0-12TSIJ-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-E0-15TSIJ-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-F0-12TSIK-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-F0-15TSIK-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 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)— 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 (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				

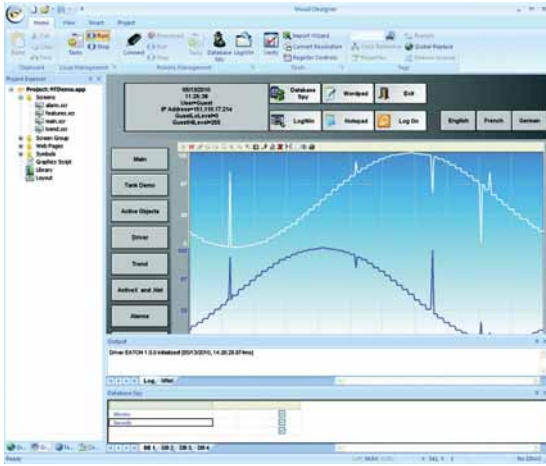
#### Note

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

## XP Operator Interface, continued

Series 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

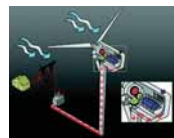
Windows XP and Windows 7 32-bit and 64-bit systems



## Product Selection

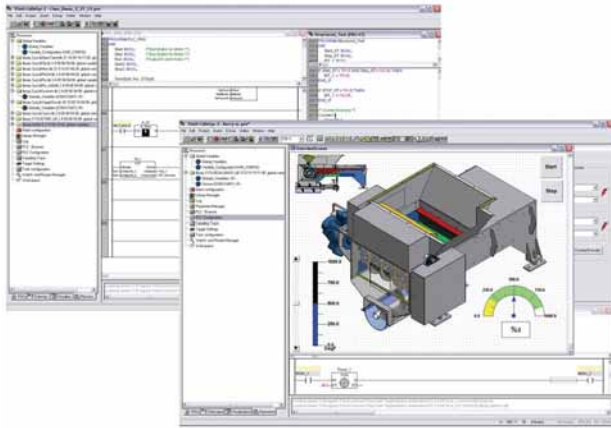
## Visual Designer

## 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**



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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.

**Advanced Features**

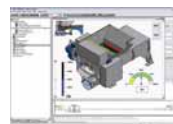
- Up to 16 time and/or event driven tasks per project
- Each task can include multiple logic programs or subroutines
- Programs and screen designs can be exported and imported to support reuse
- Powerful, built-in function block libraries
- Ability to create user-defined function blocks
- Fieldbus Configurator 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**

<b>Description</b>	<b>Catalog Number</b>
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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**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



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## 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.

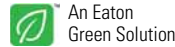
The PanelMate ePro PS family of products includes:

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

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Accessories . . . . .	<b>V7-T5-56</b>
Legacy Products Spare Parts . . . . .	<b>V7-T5-65</b>

### 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 SVGA (800 x 600) resolution 400 nits (400 cd/m <sup>2</sup> ), OD models 425 nits (425 cd/m <sup>2</sup> ) brightness 50,000 hours typical life for backlight; field replaceable Auto dimming
10 in display models	10.40 in (260 mm), color TFT display, 16 million colors SVGA (800 x 600) resolution 420 nits (420 cd/m <sup>2</sup> ) brightness 50,000 hours typical life for backlight; field replaceable Auto dimming
12 in display models	12.10 in (307.3 mm), color TFT display, 16 million colors SVGA (800 x 600) resolution 450 nits (450 cd/m <sup>2</sup> ), OD models 505 nits (505 cd/m <sup>2</sup> ) brightness 50,000 hours typical life for backlight; field replaceable Auto dimming
15 in display models	15.00 in (381.0 mm), color TFT display, 16 million colors XGA (1024 x 768) resolution 250 nits (250 cd/m <sup>2</sup> ), OD models 600 nits (600 cd/m <sup>2</sup> ) brightness 50,000 hours typical life for backlight; field replaceable 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 16 million colors (SXGA and UXGA—65K colors)
Operator entry	Touchscreen interface with resistive technology for gloved-hand operation 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 Built-in two-touch control Full math and logic expressions
Communications and I/O capabilities	One integrated Ethernet port: 10/100Base-T Two serial ports: RS-232 and RS-232/422/485 (optically isolated) Four USB ports: V2.0 One CompactFlash <sup>®</sup> memory card slot Two PCMCIA Type II slots (or one Type III) Built-in OPC client/server with support for over 100 OPC drivers for both Ethernet and serial connectivity 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

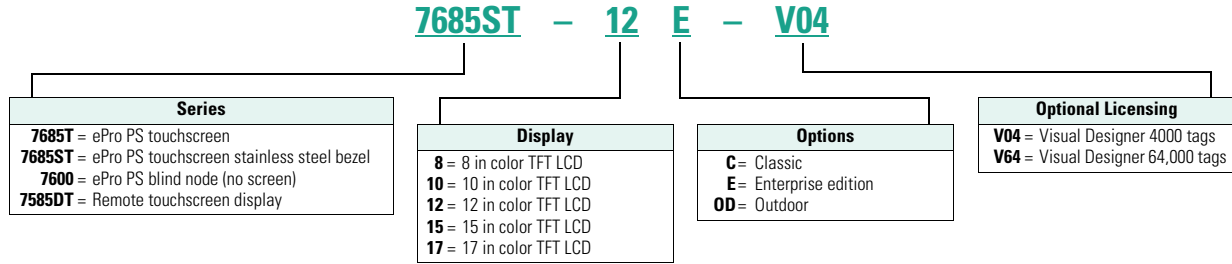
- RoHS, CE mark
- UL/cUL and CSA Class I, Div 2, Groups A, B, C, D



#### Catalog Number Selection

##### PanelMate ePro PS Operator Interface

##### PanelMate ePro PS



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#### 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) EE models: 1 GB DDR2 RAM, 4 GB internal CompactFlash (C drive), 512 MB external CompactFlash (D drive) All models: External CompactFlash card slot, USB and PCMCIA ports available for additional memory
Voltage	24 Vdc nominal (16–30 Vdc)
Power consumption/ heat output	8 in display models: 31 watts (105 BTU/hour) 10 in display models: 33 watts (113 BTU/hour) 12 in display models: 35 watts (120 BTU/hour) 15 in display models: 54 watts (184 BTU/hour), OD 52 watts (178 BTU/hour) Blind node (no display) models: 24 watts (82 BTU/hour)
Current	8 in display models: 1.3A 10 in display models: 1.4A 12 in display models: 1.5A 15 in display models: 2.25A Blind node (no display) models: 1.0A
Peak inrush current	8 in display models: 7.0A 10 in display models: 7.0A 12 in display models: 7.0A 15 in display models: 8.0A 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 temperature	All models— Operating: 0 to 60°C (32 to 140°F) 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 Non-operating: 20–95% non-condensing
Altitude	Operating: 10,000 ft (3,048m) above sea level 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 (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) 10 in display models: 12.00 x 12.30 x 3.90 in (304.8 x 312.4 x 99.1 mm) 12 in display models: 11.60 x 15.90 x 3.90 in (294.6 x 403.9 x 99.1 mm) 15 in display models: 13.50 x 18.60 x 4.00 in (342.9 x 472.4 x 101.6 mm) 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 (H x W)	8 in display models: 6.50 x 9.38 in (165.1 x 238.3 mm) 10 in display models: 11.02 x 11.40 in (279.9 x 289.6 mm) 12 in display models: 10.12 x 14.34 in (257.0 x 364.2 mm) 15 in display models: 12.05 x 17.01 in (306.1 x 432.1 mm) Blind node (no display) models: Designed for mounting in a cabinet
Weight	8 in display models: 6.0 lbs (2.73 kg) 10 in display models: 10.5 lbs (4.77 kg) 12 in display models: 13.0 lbs (5.91 kg) 15 in display models: 17.0 lbs (7.73 kg) 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

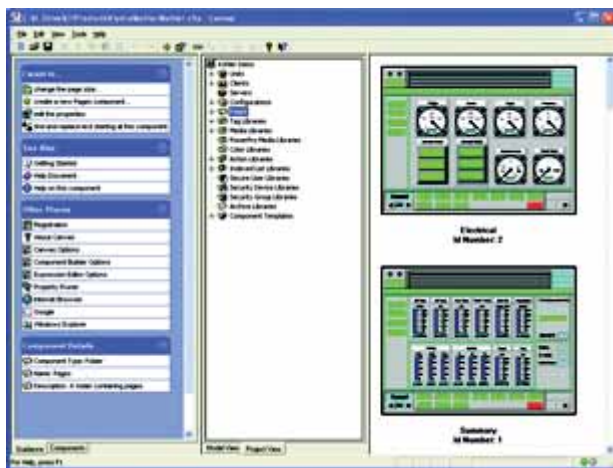
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## Technical Data and Specifications

### 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 15.0 in models: 10 Hz, 0.15 mm, 10 cycle, 1G 17.0 in models: 10–500 Hz
System shock	12.1 in models: 15G peak acceleration (50 ms duration) 15.0 in models: 30G peak acceleration (11 ms duration) 17.0 in models: 30G peak acceleration (11 ms duration)
Backlight	12.1 in models: 50,000 typical life 15.0 in models: 50,000 typical life 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) 15.0 in models: 13.23 x 17.48 x 2.10 in (336.0 x 444.0 x 53.3 mm) 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) 15.0 in models: 11.77 x 15.94 in (299.0 x 404.9 mm) 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) 15.0 in models: 14 lbs (6.5 kg) 17.0 in models: 34 lbs (15.4 kg)

Canvas Software



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Canvas Software

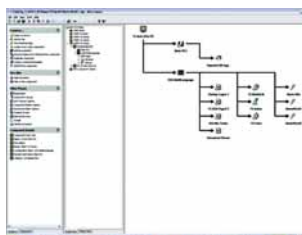
Product Description

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

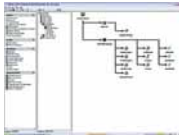
#### System Requirements

- 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



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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> 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> 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: 1) Modbus Plus Interface (1248) to be installed in unit 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> 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 PMPROSWL.

### 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 <sup>①</sup>	<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 <sup>①</sup>	<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 <sup>①</sup>	<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 <sup>②</sup>	<b>APPM1XP12</b>
13 in PM 5000 (5485K) keypad to 12 in XP touchscreen <sup>②③</sup>	<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>