Operator Interface Products

ELC Graphics Panel

HM*i* Operator Interface

XV Operator Interface

XP Operator Interface

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Product and Software Selection Guides

Operator Interfaces and Programming Software Selection Guide

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Description	ELC-GP Graphics Panel	HM*i* Operator Interface
	Page V7-T5-5	**Page V7-T5-13**
Screen size	Two-line and four-line	4.3-inch, 5.7-inch, 7.0-inch, 8.0-inch and 10.4-inch
Screen options	Monochrome	65 k 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	XP-500 Series Operator Interface	XV Operator Interface
	Page V7-T5-21	**Page V7-T5-24**
Screen size	10.1-inch, 15.6-inch, 21.5-inch	3.5-inch, 5.7-inch, 7.0-inch, 8.4-inch and 10.4-inch
Screen options	LED backlit Projected Capacitive Touchscreen (PCT), resolutions from (1024 x 600) to (1920 x 1080)	Color TFT, 64 k colors; resolutions from QVGA (320 x 240) to WVGA (800 x 480)
Interface	Non-reflective tempered scratch-resistant glass	Resistive touchscreen
Communication ports	2 Ethernet, 1 RS-232, 1 RS-485, 2 USB 3.0, 1 DVI-I	Ethernet, RS-232 and/or RS-485, USB; CANopen or PROFIBUS®-DP, SmartWire-DT®, USB and RS-485 on CoDeSys models
Simultaneous protocols	5 (8 optional)	3 on Visual Designer, varies for Galileo and XSoft-CoDeSys-3
Ethernet drivers	Yes	Yes
Upload/download	Serial, Ethernet, USB	Serial, Ethernet, USB
Operating system	Windows® Embedded Standard 7 (protected)	Windows CE 5.0 Professional
Third-party software support	Yes	—
Screen saver	Yes	Yes

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Software Product Selection Guide

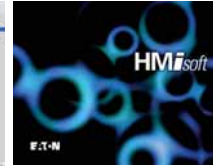| Description	Visual Designer	XSoft-CoDeSys-3 [1]	Galileo	HM*i*Soft	ELCSoftGP
Overview	Feature-rich software package with SCADA functionality and Web serving capabilities that can be run on XV, XP, ePro PS operator interfaces or personal computers	Feature-rich software package with integrated logic and visualization that can be run on specific XV operator interface models	Intuitive visualization tool. Use Galileo on XV-102-H_ units or on XV units running CoDeSys when a stronger visualization package is needed	Use **HM***i* Soft to create, edit, upload and download applications to the **HM***i* family of operator interfaces	Use ELCSoftGP to create, edit, upload and download applications to ELC Graphics Panels
Catalog ID					
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-3-S [2] SW-XSOFT-CODESYS-3-M [3]	SW-GALILEO-S SW-GALILEO-M	HMISOFT	ELCSOFTGP
Runtime software for a PC	VISUALRTPC	N/A	■	N/A	N/A
Time-Saving Editor Features					
Online and offline 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	■ Screen groups	■ Base screen	—
User-created controls	■	■	■	■	—
Customizable application symbols	■	■	■	—	—
Full math evaluation	■	■	■ With macros	■ 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-3 software package.

[2] Includes XSoft-CoDeSys-3 software for developing applications, runtime software for the XV Series. Single User License.

[3] Includes XSoft-CoDeSys-3 software for developing applications, runtime software for the XV Series. Multi User License.

Software Product Selection Guide, continued

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Description	Visual Designer	XSoft-CoDeSys-3 [①]	Galileo	HM*i*Soft	ELCSoftGP
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	■	■	■	■	—
Multi-touch and gesture support	■	—	■	—	—
Real-time trending	■	■	■	■	—
Recipes	■	■	■	■	—
Report generation	■	—	■	■ Using Excel® and VU Server	—
Timer scheduling	■	■	■	■	—
Calendar scheduling	■	■	—	—	—
Notification of data and events via email/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	—	—	—
Web server—viewing and control	■	■	—	—	—
Automatic scaling of Web clients	■	—	—	—	—
Remote desktop	■ VNC and RemoteClient	■ 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-3 software package.

ELC Graphics Panels
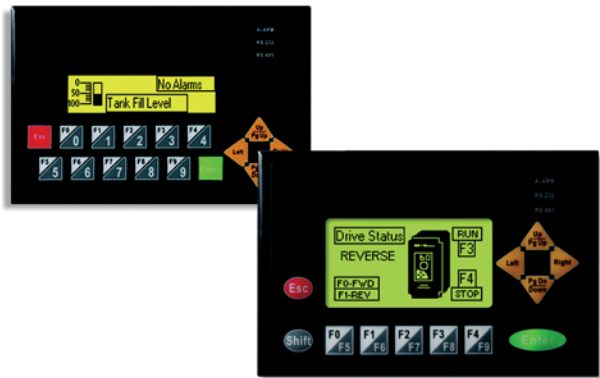
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Product Description

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...

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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	256 KB flash memory	256 KB 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

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Catalog Number Selection

ELC-GP Graphics Panel

ELC-GP

ELC-GP   02

Series	Display
ELC-GP = ELC Graphics Panel	**02** = Monochromatic, two-line **04** = Monochromatic, four-line
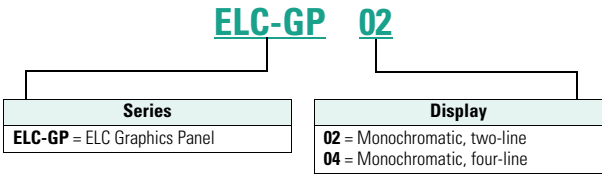
Product Selection

ELC-GP04

Graphics Panels

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

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**

Program Transfer Cables

ELC-CBPCELC_

Description	Catalog Number
1 meter cable to connect between the **HM***i* and Eaton Logic Controller (ELC)	**ELC-CBPCELC1**
3 meter cable to connect between the **HM***i* 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:

ON PC (RS-232)   ON ELC-GP02/04

9 PIN D-SUB   9 PIN D-SUB

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
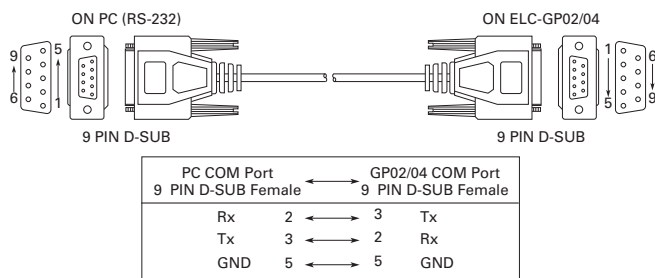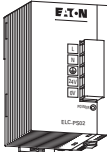
PC to ELC-GPxx Cable

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

Power Supplies

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
ELC-PS01	Power supply, 24 watt, 1 amp	**ELC-PS01**
ELC-PS02	Power supply, 48 watt, 2 amp	**ELC-PS02**

Technical Data and Specifications

ELC Graphics Panels

Description	Specification
Environmental	
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 (noncondensing)
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	10 G, 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
Electrical/EMC Approvals	
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
Other Approvals	
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

Dimensions

Approximate Dimensions in Inches (mm)

ELC-GP04
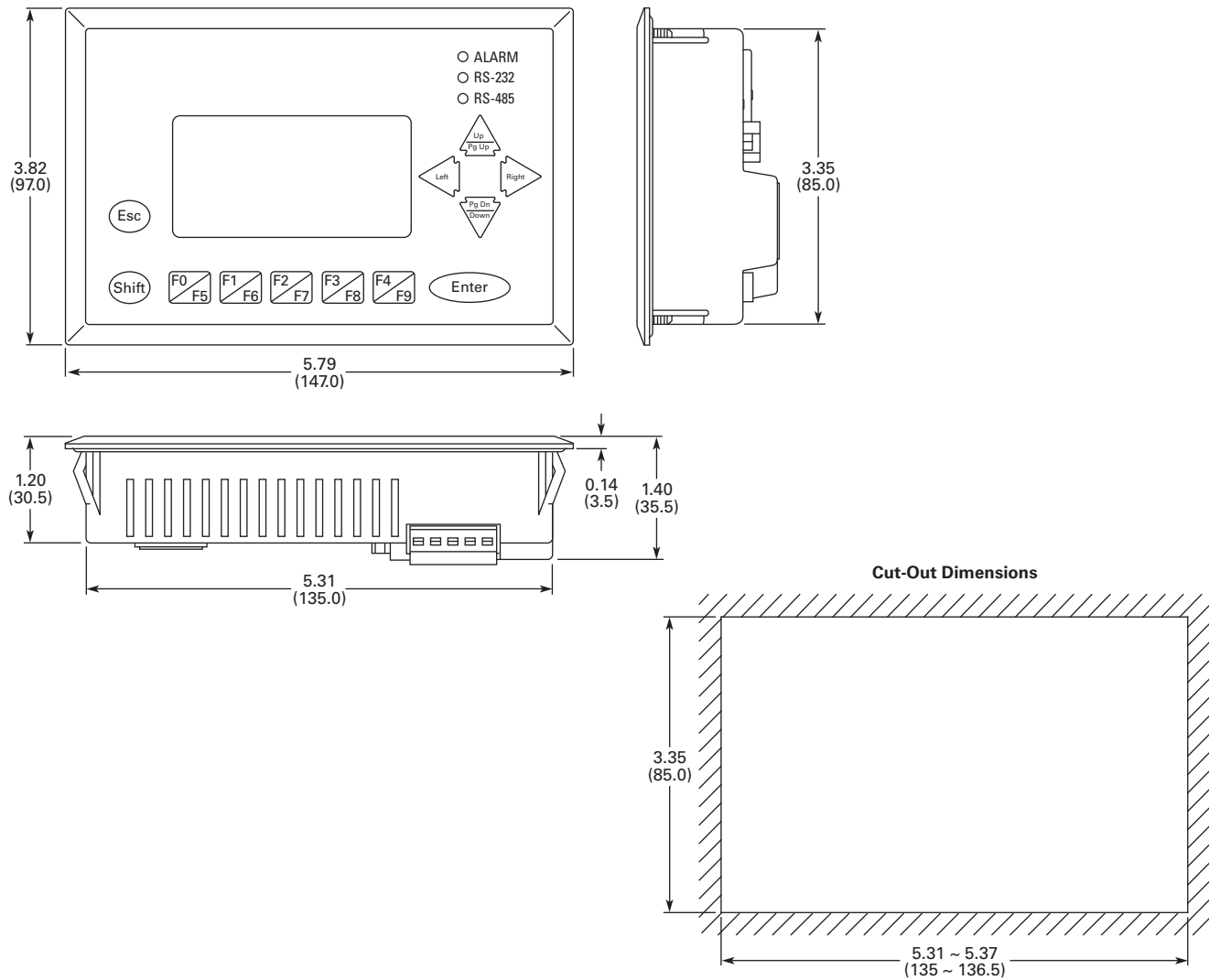
Cut-Out Dimensions

Approximate Dimensions in Inches (mm)

ELC-GP02
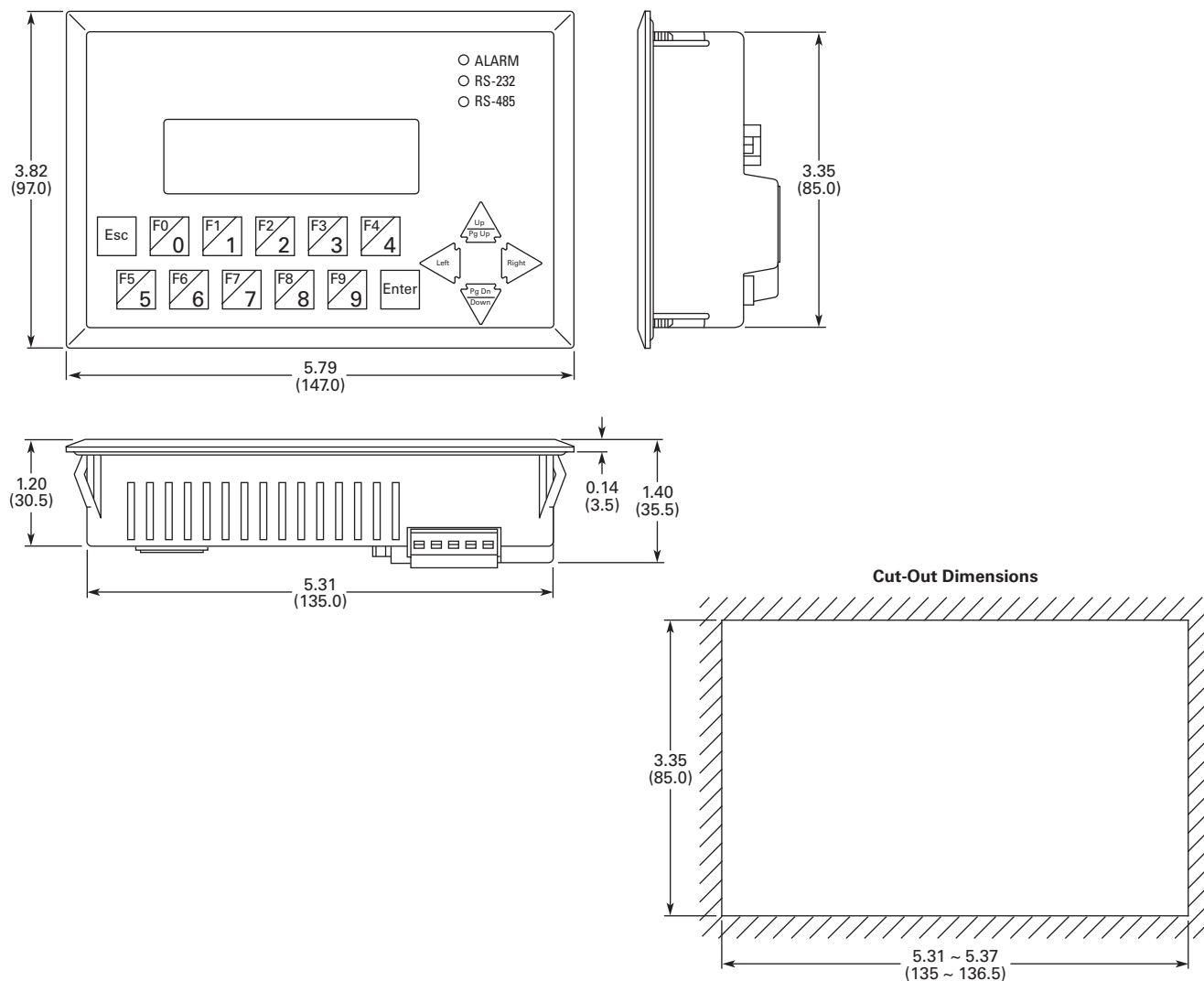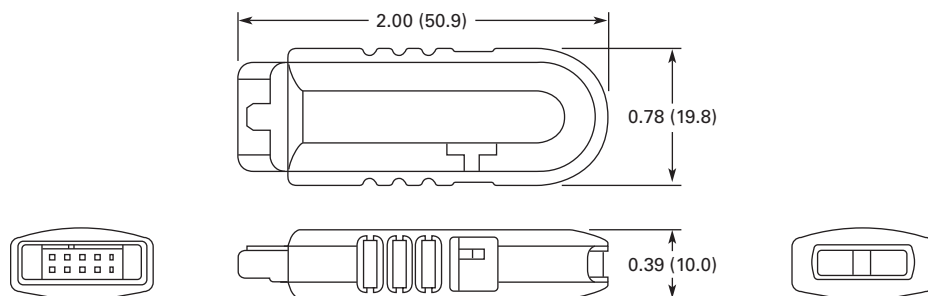
Cut-Out Dimensions

ELC-GPXFERMOD

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HM*i* Operator Interface

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Product Description

Positioned between the ELC graphics panels and the XV series of operator interfaces, **HM*i*** is the workhorse of the industry. Ideal for machinery OEMs, the **HM*i*** 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 4-, 7-, 8- and 10-inch units also offer Ethernet communication options.

Features

- Auto-scale application from 10 to 4 inches
- 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
- Online and offline simulation

HM*i* 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 Adapter)
S7 300 (without PC Adapter)
S7 300 (Direct MPI)
S7 300 (ISO TCP)
S7 1200 (ISO TCP)
Taian
TP02
Ti
Ti435
Vigor
M Series
VIPA
S7 300 (with PC Adapter)
Yokogawa
ACE

Standards and Certifications
- CE
- UL
- cUL
- C-Tick
- RoHS

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Catalog Number Selection

HM*i* Operator Interface

HM*i*

HMIVU   07   CU   NB   E

Series
HMIVU = **HM*i* VU** Series

Display
04 = 4.3-inch LCD
06 = 5.6-inch LCD
07 = 7.0-inch LCD
08 = 8.0-inch LCD
10W = 10.1-inch-wide LCD

Options
CU = Color TFT without expansion port

Options
NBx = **HM*i* VU** Firmware Series
NB = **HM*i* VU** Series no function buttons

Options
E = On-board Ethernet and audio out

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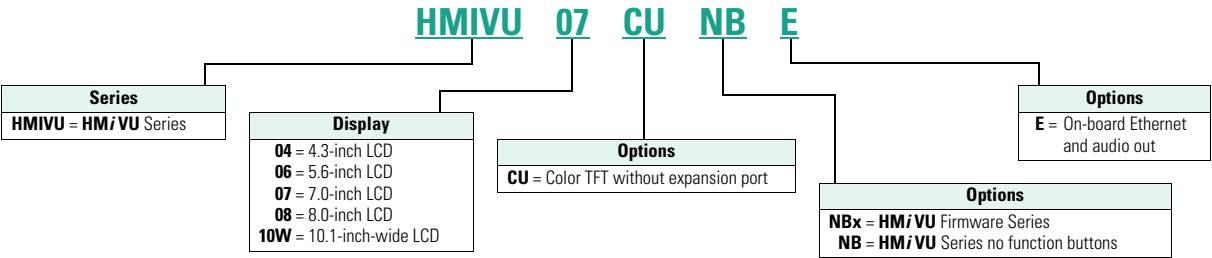
Product Selection

HMI_

HM*i* VU Products

Description	Catalog Number
4-inch color TFT, no function buttons, on-board Ethernet	**HMIVU04CUNBE**
6-inch color TFT, no function buttons, no Ethernet	**HMIVU06CUNB1**
7-inch color TFT, no function buttons, on-board Ethernet	**HMIVU07CUNBE**
8-inch color TFT, no function buttons, on-board Ethernet	**HMIVU08CUNBE**
10-inch color TFT, no function buttons, on-board Ethernet	**HMIVU10WCUNBE**

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Software and Accessories

HMiSoft Programming Software

For use with the of **HM*i*** and **HM*i*VU** 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 inches
- On and offline 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* Editor

HM*i* Editor

Description	Catalog Number
Programming software for **HM*i*** and **HM*i*VU** models	**HMISOFT**

HM*i* Screen Management

HMiSoft Editor
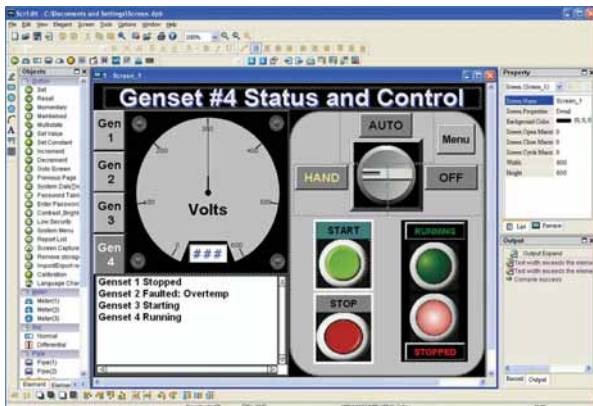
Note

① Exclusive **HM*i*VU** features.

Adapter Plate

Description	Catalog Number
6-inch **HM***i* adapter plate for PM1000	**APPM1HMI6**

Kits

Description	Catalog Number
HM*i* spare parts kits (includes several power connectors, battery doors, gaskets, mounting clips, etc.)	**HMI-SPKIT**

Replacement Gaskets

Description	Catalog Number
4-inch **HM***i* replacement gasket (2/kit)	**HMI04-GASKET**
6-inch **HM***i* and 7-inch **HM***i* **VU** replacement gasket (2/kit)	**HMI06-GASKET**
8-inch **HM***i* replacement gasket (2/kit)	**HMI08-GASKET**
10-inch **HM***i* replacement gasket (2/kit)	**HMI10-GASKET**

Cable

Description	Catalog Number
1 meter cable to connect between the **HM***i* and Eaton Logic Controller (ELC)	**ELC-CBPCELC1**
3 meter cable to connect between the **HM***i* and Eaton Logic Controller (ELC)	**ELC-CBPCELC3**

Power Supply

Description	Catalog Number
1 amp 24 Vdc power supply	**ELC-PS01**
2 amp 24 Vdc power supply	**ELC-PS02**

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Technical Data and Specifications

HM*i* VU Operator Interface

Description	Specification HMIVU04CUNBE	HMIVU06CUNB1	HMIVU07CUNBE	HMIVU08CUNBE	HMIVU10WCUNBE
LCD module					
Display type	4.3-inch TFT LCD	5.6-inch TFT LCD	7-inch TFT LCD	8-inch TFT LCD	10.1-inch widescreen TFT LCD
Display color	65536 colors	65536 colors	65536 colors	65536 colors	65536 colors
Resolution	480 x 234 pixels	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 (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	400 DC/m²	200 DC/m²	200 DC/m²	250 DC/m²	200 DC/m²
Display size	95.04 x 53.856 mm	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	Real Time OS
MCU	32-bit RISC micro-controller	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 128 MB OS System: 30 MB Backup: 16 MB User Application: 82 MB	Flash ROM 128 MB OS System: 30 MB Backup: 16 MB User Application: 82 MB	Flash ROM 128 MB OS System: 30 MB Backup: 16 MB User Application: 82 MB	Flash ROM 128 MB OS System: 30 MB Backup: 16 MB User Application: 82 MB	Flash ROM 128 MB OS System: 30 MB Backup: 16 MB User Application: 82 MB
SDRAM	64 M bytes	64 M bytes	64 M bytes	64 M bytes	64 M bytes
Backup memory	16 M bytes	16 M bytes	16 M bytes	16 M bytes	16 M bytes
Sound effect output					
Buzzer	Multi-tone frequency (2–4 kHz)/85 dB				
AUX	N/A	N/A	Stereo output	Stereo output	Stereo output
Ethernet interface	IEEE 802.3, IEEE 802.3u 10/100 Mbps auto-sensing has built-in isolated power circuit [3]	N/A	IEEE 802.3, IEEE 802.3u 10/100 Mbps auto-sensing has built-in isolated power circuit [3]	IEEE 802.3, IEEE 802.3u 10/100 Mbps auto-sensing has built-in isolated power circuit [3]	IEEE 802.3, IEEE 802.3u 10/100 Mbps auto-sensing has built-in isolated power circuit [3]
Memory card	N/A	N/A	SD card (supports SDHC)	SD card (supports SDHC)	SD card (supports SDHC)
USB	1 USB Host [2] Ver 2.0 1 USB Client Ver 1.1				
Serial COM port					
COM1	RS-232 (supports hardware flow control) / RS-485	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-422/RS-485	RS-232/RS-485	RS-232/RS-422/RS-485 (has built-in isolated power circuit) [3]		
COM3	N/A	RS-422/RS-485	RS-232/RS-422/RS-485 (has built-in isolated power circuit) [3]		
Perpetual calendar (RTC)	Built-in	Built-in	Built-in	Built-in	Built-in
Cooling method	Natural air circulation	Natural air circulation	Natural air circulation	Natural air circulation	Natural air circulation
Safety approval	CE/UL	CE/UL	CE/UL	CE/UL	CE/UL
Waterproof degree	IP65/NEMA® 4X (indoor use only)				
Operation voltage [4]	DC +24 V (−10 to +15%) Please use isolated power supply				
Voltage endurance	AC500V for 1 minute (between charging [DC24 terminal] and FG terminals)				
Power consumption [4]	4.8 W	3.0 W	7.68 W	7.8 W	12 W
Backup battery	3 V lithium battery CR2032 x 1	3 V lithium battery CR2032 x 1	3 V lithium battery CR2032 x 1	3 V lithium battery CR2032 x 1	3 V lithium battery CR2032 x 1
Backup battery life	It depends on the temperature used and the conditions of usage, about 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	0 to 50 °C
Storage temp.	−20 to 60 °C	−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	5 Hz < f < 8.3 Hz = continuous: 3.5 mm 8.3 Hz < f < 150 Hz = continuous: 1.0 g				
Shock	IEC 61131-2 Compliant 5 Hz < f < 9 Hz = continuous: 1.75 mm/occasional: 3.5 mm 9 Hz < f < 150 Hz = continuous: 0.5 g/occasional: 1.0 g X, Y, Z directions for 10 times				
Dimensions (W) x (H) x (D) mm	129 x 103 x 39	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	118.8 x 92.8	172.4 x 132.4	172.4 x 132.4	219.4 x 166.5	261.3 x 189.3
Weight	Approx. 264 g	Approx. 670 g	Approx. 800 g	Approx. 1228 g	Approx.1520 g

Notes

[1] The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to **HM*i***. 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 5 V/500 mA of power.

[3] The withstand voltage of the isolated power circuit is 1500 V peak for 1 minute.

[4] The value of the power consumption indicates the electrical power consumed by **HM*i*** 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.
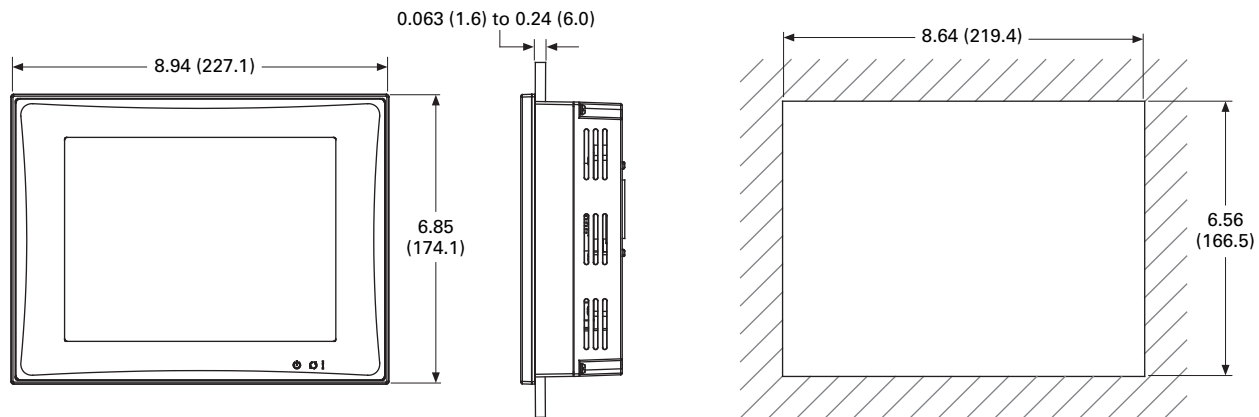
5

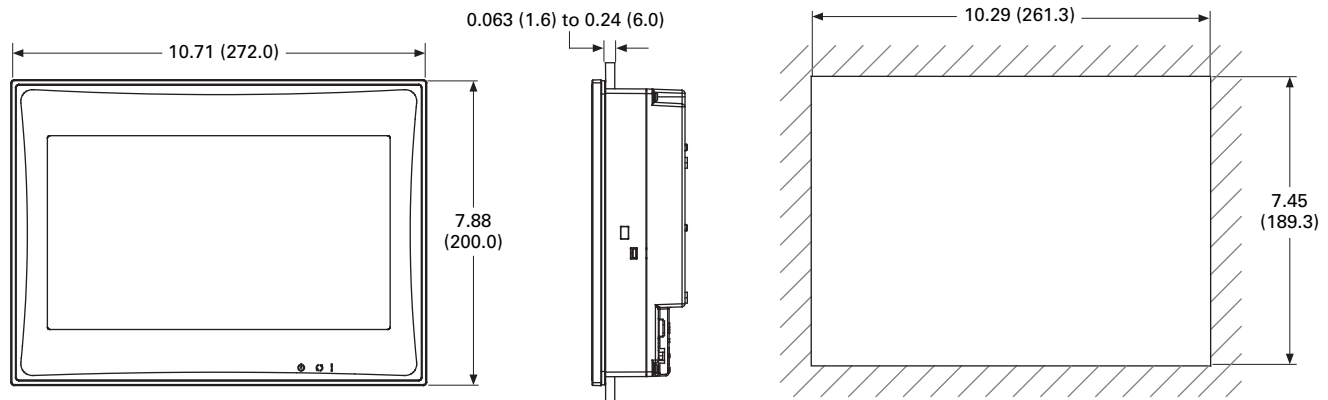## Dimensions

Approximate Dimensions in Inches (mm)

HMIVU04
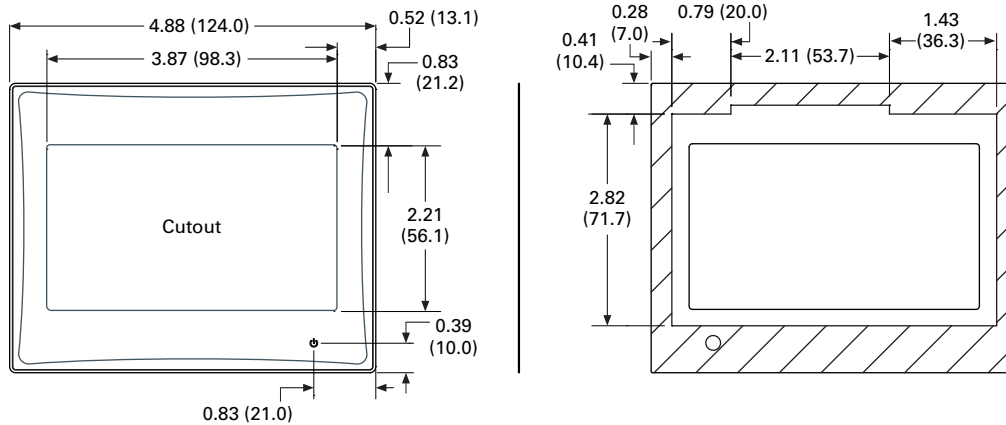
HMIVU06
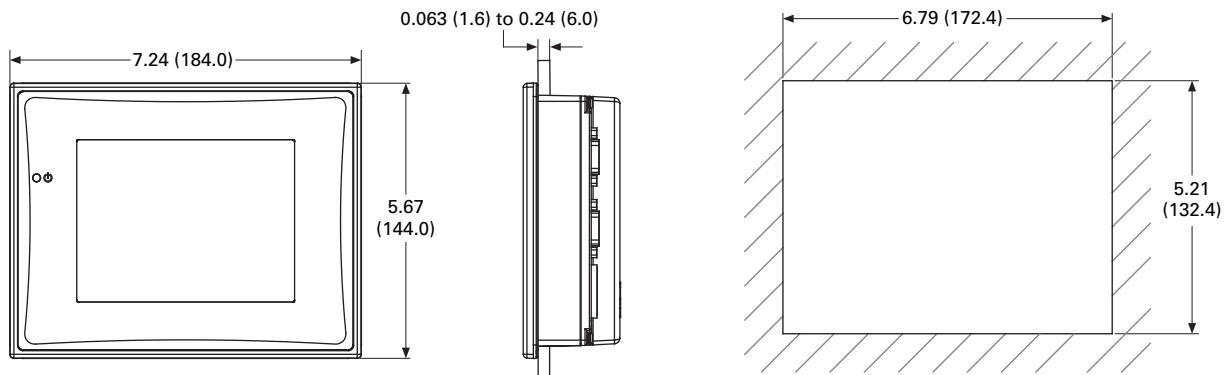
HMIVU07
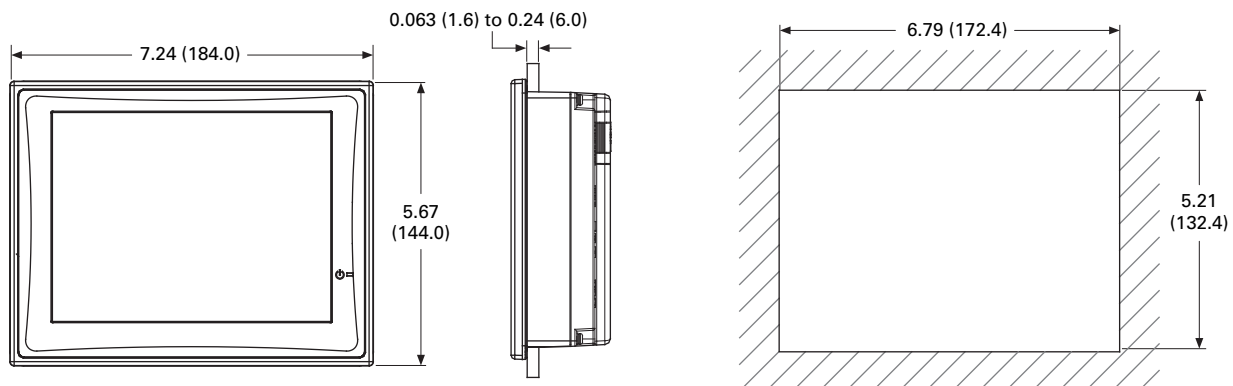
Approximate Dimensions in Inches (mm)

HMIVU08

HMIVU10

XP Operator Interface

Contents

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XP-503 with Visual Designer

Product Description

The XP-500 series sets a new standard for HMI and SCADA controls. Capacitive multi-touch displays allow familiar intuitive gestures for zoom, scroll and swipe, and offer increased safety to your system with two hand or multiple button activation control for critical functions.

XP-500 Panel PCs run on an open Windows Embedded Standard 7 Operating System to support all Windows standard PC applications and feature Protect Mode™ for preventing unauthorized changes to the operating system.

XP-500 units come with advanced yet easy-to-use Visual Designer software pre-installed and licensed.

All these features come standard in a package that is slim and modern in design yet also rugged. With no fan or moving parts, a scratch-resistant glass screen, and powder-coated aluminum body, XP-500 is fit for any industrial application.

Features

XP-500 series operator interface with Windows Embedded Standard 7 operating system

- 10.1, 15.6 and 21.5 inch high resolution widescreen displays
- Projected capacitive touchscreen supports gestures and recognizes up to 4 simultaneous touch inputs
- Remote access to mobile devices or tablets using HTML5 interface
- 1.65 GHz Dual Core CPU with fast Radeon™ HD graphics for best-in-class speed and graphics performance

- 4 GB DDR3-RAM large memory for parallel processing and increased system performance
- 32 GB internal solid-state drive high volume internal memory
- 2 independent Ethernet ports standard for separation of IT and process level communications
- All solid-state media and no moving parts or fan increases reliability
- Non-corruptible OS with Protect Mode increases security and reliability

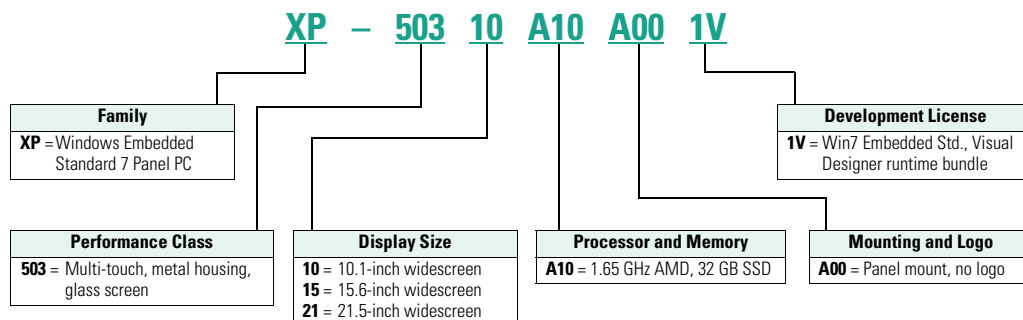### Standards and Certifications

- UL/cUL (UL 508)
- CE Mark
- UL Class 1 Div 2 (Groups A, B, C, D)
- ATEX Zone 22, Category 3D
- Front
  - IP65, NEMA 4X (indoor), NEMA 12
- Rear
  - IP20

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Catalog Number Selection

XP Operator Interface

XP

XP **–** **503** **10** **A10** **A00** **1V**

Family
XP = Windows Embedded Standard 7 Panel PC

Development License
1V = Win7 Embedded Std., Visual Designer runtime bundle

Performance Class
503 = Multi-touch, metal housing, glass screen

Display Size
10 = 10.1-inch widescreen
15 = 15.6-inch widescreen
21 = 21.5-inch widescreen

Processor and Memory
A10 = 1.65 GHz AMD, 32 GB SSD

Mounting and Logo
A00 = Panel mount, no logo

Product Selection

Series Information

All XP-500 models have a Microsoft® Windows Embedded Standard 7 operating system and are pre-licensed with Visual Designer runtime. The standard license is for 4000 tags, 5 simultaneous communication drivers and 1 Web session each of 3 types—Thin Client, Secure Viewer and Mobile Access. Field upgrades are available for 64,000 tags, 8 drivers and 2, 4, 8, 16, 32, 64 or 128 simultaneous Web sessions of each type.

XP Operator Interface

XP Operator Interface

Description	Catalog Number
XP 10.1-inch widescreen with multi-touch, 1.65 GHz dual core CPU, 4 GB DDR3-RAM, 4 GB CFast memory, 4000 tags, 5 drivers, 1 Web session	**XP-503-10-A10-A00-1V**
XP 15.6-inch widescreen with multi-touch, 1.65 GHz dual core CPU, 4 GB DDR3-RAM, 4 GB CFast memory, 4000 tags, 5 drivers, 1 Web session	**XP-503-15-A10-A00-1V**
XP 21.5-inch widescreen with multi-touch, 1.65 GHz dual core CPU, 4 GB DDR3-RAM, 4 GB CFast memory, 4000 tags, 5 drivers, 1 Web session	**XP-503-21-A10-A00-1V**

Notes

① All 5XX units have 2 x 10/100/1000 Ethernet, 2 x USB 3.0, 1 x RS-232, 1 x RS-485, 1 x DVI-I.

② Standard software on embedded hardware.

Accessories

XP Operator Interface

Description	Catalog Number
XP-702 spare part kit for all XP models—1 power connector, 8 mounting brackets, 1 sealing strip	**ACC-TP-57-RES-1**

Technical Data and Specifications

XP Operator Interface

Model	10.1-inch XP-503-10-A10-A00-1V	15.6-inch XP-503-15-A10-A00-1V	21.5-inch XP-503-21-A10-A00-1V
Display			
Screen diagonal	10.1-inch widescreen	15.6-inch widescreen	21.5-inch widescreen
Resolution	1024 x 600 pixels	1366 x 768 pixels	1920 x 1080 pixels
Backlight	LED, dimmable via software	LED, dimmable via software	LED, dimmable via software
Display brightness (typical)	500 cd/m^2	300 cd/m^2	250 cd/m^2
Contrast ratio (typical)	500:1	500:1	1000:1
Operation			
Touch sensor	Multi-touch touchscreen (4 simultaneous touches)	Multi-touch touchscreen (4 simultaneous touches)	Multi-touch touchscreen (4 simultaneous touches)
Technology	Projected Capacitive Touch (PCT)	Projected Capacitive Touch (PCT)	Projected Capacitive Touch (PCT)
Enclosures			
Front glass	Non-reflective tempered glass	Non-reflective tempered glass	Non-reflective tempered glass
Bezel	Powder-coated aluminum	Powder-coated aluminum	Powder-coated aluminum
Device dimensions (w x h x d)	275 x 179 x 80 mm	404 x 255 x 80 mm	536 x 328 x 83 mm
Installation cutout (w x h)	261 x 164 mm	387 x 238 mm	519 x 313 mm
Weight	2.6 kg	4.8 kg	7.8 kg
System			
Processor	AMD GX217GA 1.65 GHz DualCore	AMD GX217GA 1.65 GHz DualCore	AMD GX217GA 1.65 GHz DualCore
Graphic	AMD Radeon HD8280E 450 MHz	AMD Radeon HD8280E 450 MHz	AMD Radeon HD8280E 450 MHz
Memory	4 GB DDR3-RAM	4 GB DDR3-RAM	4 GB DDR3-RAM
Internal mass memory	32 GB SSD mSATA	32 GB SSD mSATA	32 GB SSD mSATA
Removable memory	1 x CFast slot, pre-populated with 4 GB CFast memory card	1 x CFast slot, pre-populated with 4 GB CFast memory card	1 x CFast slot, pre-populated with 4 GB CFast memory card
Interfaces	2 x Ethernet 10/100/1000 Mbps; 2 x USB 3.0; 1 x RS-232; 1 x RS-485; 1 x DVI-I	2 x Ethernet 10/100/1000 Mbps; 2 x USB 3.0; 1 x RS-232; 1 x RS-485; 1 x DVI-I	2 x Ethernet 10/100/1000 Mbps; 2 x USB 3.0; 1 x RS-232; 1 x RS-485; 1 x DVI-I
Power supply	24 Vdc	24 Vdc	24 Vdc
Maximum current	1.2 A	1.5 A	1.7 A
Operating system	Windows Embedded Standard 7	Windows Embedded Standard 7	Windows Embedded Standard 7
Environment			
Agency certifications	UL/cUL Class I Div 2, Groups A, B, C, D, ATEX Zone 22	UL/cUL Class I Div 2, Groups A, B, C, D, ATEX Zone 22	UL/cUL Class I Div 2, Groups A, B, C, D, ATEX Zone 22
Degree of protection	Front: IP65, NEMA 4X (indoor), NEMA 12; Rear: IP20	Front: IP65, NEMA 4X (indoor), NEMA 12; Rear: IP20	Front: IP65, NEMA 4X (indoor), NEMA 12; Rear: IP20
Operating temperature	0 to +50 °C	0 to +50 °C	0 to +50 °C
Storage temperature	−20 to +60 °C	−20 to +60 °C	−20 to +60 °C
Relative air humidity	10 to 20% noncondensing	10 to 20% noncondensing	10 to 20% noncondensing
Shock	IEC 60068-2-27 15 g for 11 ms duration	IEC 60068-2-27 15 g for 11 ms duration	IEC 60068-2-27 15 g 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: 2 g acceleration	IEC 60068-2-6 5–9 Hz: 3.5 mm displacement 9–60 Hz: 0.15 mm displacement 60–150 Hz: 2 g acceleration	IEC 60068-2-6 5–9 Hz: 3.5 mm displacement 9–60 Hz: 0.15 mm displacement 60–150 Hz: 2 g acceleration
Software			
Development software	Visual Designer	Visual Designer	Visual Designer
Ability to run third-party software	Yes	Yes	Yes
Pre-licensed tags, drivers, Web sessions Standard models	4000 tags, 5 drivers, 1 Web session	4000 tags, 5 drivers, 1 Web session	4000 tags, 5 drivers, 1 Web session
Field upgradable max. tags, drivers, Web sessions	64,000 tags, 8 drivers, 1, 2, 4, 8, 16, 32, 64 or 128 Web sessions simultaneously	64,000 tags, 8 drivers, 1, 2, 4, 8, 16, 32, 64 or 128 Web sessions simultaneously	64,000 tags, 8 drivers, 1, 2, 4, 8, 16, 32, 64 or 128 Web sessions simultaneously

XV-100 and XV-300 Series Operator Interface

Contents

Description	Page

XV with Visual Designer, Galileo or XSoft-CoDeSys-3

Product Description

XV with Visual Designer

Positioned between the **HM*i*** 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 Galileo

The XV Series with Galileo offers a global visualization software package for all applications in system and machine building. It is designed to optimize performance on the XV platform. Galileo can also run as the visualization package on XV CoDeSys units when a stronger visualization tool is required.

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.

XV-300 Software Bundles

The XV-300 series is the latest and most powerful in the XV product line. It's powerful CPU and graphics co-processor provide the high-performance engine required by demanding HMI and HMI-PLC applications. Coupled with an attractive, sleek design and multi-touch touchscreen, it supports the modern gesture based user interface that redefines ease of use.

The XV-300 series can run Visual Designer, XSoft-CoDeSys and Galileo and unlike the XV-100 series, there are bundles that include Visual Designer and XSoft-CoDeSys runtime licenses on a single unit. Because of the higher capacity and performance of the XV-300 over the XV-100, these appeal to OEMs who have demanding HMI-PLC applications in which case they will choose a model bundled with XSoft-CoDeSys software.

All XSoft-CoDeSys models include XSoft-CoDeSys logic and visualization tools, but also include a Galileo runtime license at no additional charge so the user can choose which visualization tool is appropriate for their needs. Users who have large or demanding HMI applications that also require some SCADA software features such as web serving, document (PDF) viewing, SQL database interfaces, FDA 21 CFR Part 11 compliance or other advanced functionality could choose the XV-300 models bundled with Visual Designer software. For users who need PLC applications and advanced Visualization and SCADA features, they can choose XV-300 models with both XSoft-CoDeSys and Visual Designer runtime licenses bundled in a single package.

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Features

XV-100 with Visual Designer

XV Series operator interface with Windows CE operating system

- 3.5-, 5.7-, 7.0- (widescreen), 8.4- and 10.4-inch 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-102 with Galileo only units

- 3.5-, 5.7- and 7.0-inch (widescreen)
- Plastic housing
- Resistive touch with flush bezel
- Ethernet on all models
- RS-232 or RS-485 serial ports available
- Prelicensed for Galileo Runtime (GRS)

XV-100 with XSoft-CoDeSys

XV Series operator interface with Windows CE operating system

- 3.5-, 5.7-, 7.0- (widescreen), 8.4- and 10.4-inch 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-3 programming software
- Pre-licensed for CoDeSys runtime

Standards and Certifications

- CE
- UL
- cUL
- RoHS

CE (UL) c (UL) RoHS COMPLIANT

Selecting the right model for your application

The XV product offered with Visual Designer, Galileo or XSoft-CoDeSys offers the highest level of flexibility for one operator interface product.

Visual Designer provides a fully integrated SCADA and HMI platform. Use Visual Designer when Web enabling, remote access, database and connectivity, and when one operator software package is required across XV and XP platforms.

Galileo provides a visualization environment designed around the needs of machine building OEMs. Use Galileo when designing high-performance machines in the OEM space.

XSoft-CoDeSys turns the XV into a fully integrated Logic and OI platform (HMI-PLC). Use XSoft-CoDeSys to unleash the PLC functionality on an XV. With optional communication interfaces like SmartWire-DT, CANopen and PROFIBUS, Eaton welcomes you into the Lean Automation space.

On XV-300 models, you can take advantage of the best of both worlds with Visual Designer and XSoft-CoDeSys together. Combining the power of these two software platforms provides limitless possibilities on an HMI-PLC and SCADA platform.

Software Suite

FTP, Remote Client, Real VNC® Gateway, SD Slot

HMI

PLC

Features

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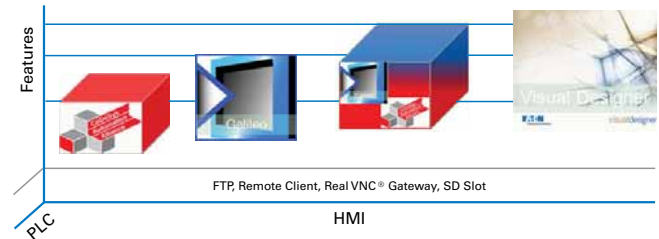
Product Selection Guide

XP and XV Operator Interface with Visual Designer

Series	XP	XV		
Model	XP-503	XV-102	XV-152	XV-300
Screen Size	10.1, 15.6, 21.5	3.5, 5.7, 7.0	5.7, 8.4, 10.4	7.0, 10.1
Housing material	Powder-coated aluminum	Plastic	Metal	Plastic
Operating system	Windows Embedded Standard 7	WinCE 5.0 Professional		WinCE 7.0 Professional
Touchscreen technology	Projected Capacitive Touchscreen (PCT), non-reflective tempered glass	Resistive		PCT, ruggedized glass
Communication ports	2 Ethernet, 2 serial, 4 USB 2 Ethernet; 1 RS-232; 1 RS-485; 2 USB 3.0	1 Ethernet, 1 or 2 serial, 0 or 1 USB		1 Ethernet, 2 serial, 1 USB, CAN
Optional field buses	N/A	PROFIBUS, CANopen, SmartWire-DT		Optional Communication Ports—2nd Ethernet, SmartWire-DT, PROFIBUS-DP
Development software	Visual Designer (VISUALDXP) (Runtime pre-installed)	Visual Designer (VISUALDCE or VISUALDXP)		Visual Designer
Pre-licensed tags, driver and Web session and field upgrade options	Standard 4000 tags, 5 drivers, 1 Web session Optional upgrades to 64,000 tags, 8 drivers, 1, 2, 4, 8, 16, 32, 64 or 128 simultaneous Web sessions	1500 tags, 3 drivers, 1 Web session 4000 tags, 3 drivers, 1, 2, 4 or 8 simultaneous Web sessions		1500 tags, 3 drivers, 1 Web session Optional upgrade to 4000 tags, 3 drivers, 1, 2, 4 or 8 simultaneous Web sessions
Alarm online/history	Yes	Yes		Yes
Trend online/history	Yes	Yes		Yes
Scripting	Yes (VB Script)	Yes (VB Script)		Yes (VB Script)
Scheduler	Yes	Yes		Yes
Recipe	Yes	Yes		Yes
Reports	Yes	Yes		Yes
OPC, TCP/IP, and communication drivers	Yes	Yes		Yes
Web Server and Web Thin Client support	Yes	Yes		Yes
Full remote access	Yes	Yes		Yes
Local/remote database interface	Yes	Yes		Yes
Ability to run third-party software	Yes	No		No
ActiveX and .NET controls	Yes	No		No
Full document viewing	Yes	No		Yes (PDF and HTML)
Windows media player	Yes	No		No
Vision system interfaces	Yes	No		No
Network camera monitoring	Yes	No		No

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XV Series with Galileo Only Runtime Option (Not Available on XP Series)

Series	XV
Model	Model XV-102-H
Screen Size	3.5, 5.7, 7.0
Housing material	Plastic
Operating system	WinCE 5.0 standard
Touchscreen	Resistive
Communications ports	1 Ethernet, 1 RS-232, or 1 RS-485, 1 USB
Optional field buses	N/A
Development software	Galileo
Alarm online/historical	Yes
Trend online/historical	Yes
Scripting	Structured text
Scheduler	No
Recipe	Yes
Reports	No
Full remote access	Yes
Ability to run third-party software	No
Vision system interfaces	Yes
Multi-language support	Yes
PLC variable import	Yes

XV Series with CoDeSys Runtime (Not Available on XP Series)

Series	XV		
Model	XV-102	XV-152	XV-303
Screen Size	3.5, 5.7, 7.0	5.7, 8.4, 10.4	7.0, 10.1
Housing material	Plastic	Metal	Plastic
Operating system	WinCE 5.0 Standard	WinCE 5.0 Standard	WinCE 7.0 Professional
Touchscreen	Resistive	Resistive	PCT, ruggedized glass
Communications ports	1 Ethernet, 1 or 2 serial, 0 or 1 USB	1 Ethernet, 1 or 2 serial, 0 or 1 USB	1 Ethernet, 2 serial, 1 USB, CAN
Optional field buses	PROFIBUS, CANopen, SmartWire-DT	PROFIBUS, CANopen, SmartWire-DT	Optional Field Buses—2nd Ethernet, SmartWire-DT, PROFIBUS
Development software	XSoft-CoDeSys-3	XSoft-CoDeSys-3	XSoft-CoDeSys-3
IEC-61131-3 logic programming	(LD, ST, SFC, IL, FBD, CFC) Yes	(LD, ST, SFC, IL, FBD, CFC) Yes	(LD, ST, SFC, IL, FBD, CFC) Yes
Integrated screen design	Yes	Yes	Yes
Integrated field bus configuration	Yes	Yes	Yes
Alarm online/historical	Yes	Yes	Yes
Trend online/historical	Yes	Yes	Yes
Scripting	Structured Text	Structured Text	Structured Text (ST)
Scheduler	Yes	Yes	Yes
Recipe	Yes	Yes	No
Reports	No	No	Yes
OPC, TCP/IP and communication driver	Yes (OPC Server for PC)	Yes (OPC Server for PC)	Yes (OPC Server for PC)
Web Server and Web Thin Client support	Yes	Yes	Yes
Full remote access	Yes	Yes	Yes
Local/remote data base access	Limited (DDE)	Limited (DDE)	Yes (with Visual Designer software bundle)
Ability to run third-party software	No	No	No
ActiveX and .NET controls	No	No	No
Full document viewing	No	No	Yes (PDF and HTML)
Windows media player	No	No	No
Vision system interfaces	No	No	No
Network camera monitoring	No	No	No

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Catalog Number Selection

XV Operator Interface—XV-102, XV-152

XV-102, XV-152

<div align="center">

XV – **102** – **B3** – **35TQRG** – **10**

</div>

Family
XV = Microsoft Windows CE operating system

Branding and Bezel
10 = Standard blank front bezel with Eaton branded product label

Performance Class
102 = CE, plastic housing, 2nd gen
152 = CE, metal housing, 2nd gen

Features Base Unit Variant ①
B = Retentive memory
D = Retentive memory, USB host, RS-232
E = Retentive memory, USB host, SmartWire-DT
H = Galileo only unit, USB host

Features Additional COMM Options
3 = 1-RS-232
4 = 1-RS-485
6 = 1-CANopen
8 = 1-PROFIBUS
E = 1-SmartWire-DT

Display Size	Display Technology	OS Build
35 = 3.5-inch	**TQR** = TFT (QVGA) resistive	**C** = XSoft-CoDeSys/Galileo
57 = 5.7-inch	**TVR** = TFT (VGA) resistive	**G** = CE Professional OS and Visual Designer runtime 1500 tags ②
70 = 7.0-inch	**TWR** = TFT (widescreen) resistive	**L** = Galileo only unit
84 = 8.4-inch		
10 = 10.4-inch		

Product Selection

XV Operator Interface

XV Operator Interface with Visual Designer

Description	Catalog Number
XV 3.5-inch TFT, plastic housing, resistive touch, Ethernet and RS-232	**XV-102-B3-35TQRG-10**
XV 3.5-inch TFT, plastic housing, resistive touch, Ethernet and RS-485	**XV-102-B4-35TQRG-10**
XV 5.7-inch TFT, plastic housing, resistive touch, Ethernet, RS-232, RS-485	**XV-102-D4-57TVRG-10**
XV 7.0-inch TFT wide screen, plastic housing, resistive touch, Ethernet, RS-232, RS-485	**XV-102-D4-70TWRG-10**
XV 5.7-inch TFT, metal housing, resistive touch, Ethernet, RS-232, RS-485	**XV-152-D4-57TVRG-10**
XV 8.4-inch TFT, metal housing, resistive touch, Ethernet, RS-232, RS-485	**XV-152-D4-84TVRG-10**
XV 10.4-inch TFT, metal housing, resistive touch, Ethernet, RS-232, RS-485	**XV-152-D4-10TVRG-10**

Notes

① All 1xx performance class units have 400 MHz 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, HMI-PLC

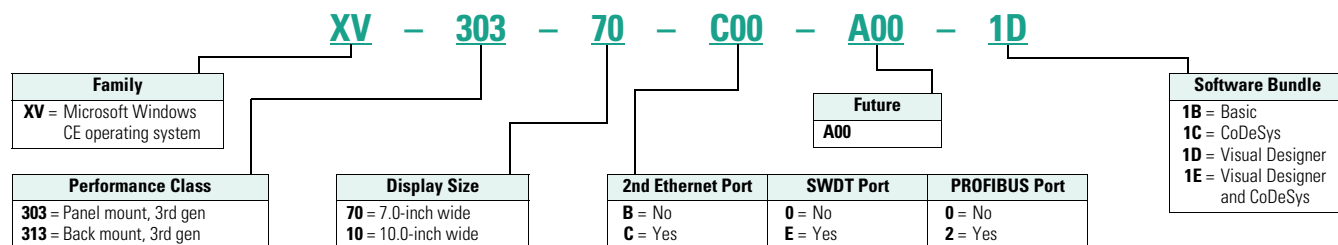| Description	Catalog Number
XV 3.5-inch TFT plastic housing, resistive touch, CANopen, RS-485	**XV-102-B6-35TQRC-10**
XV 3.5-inch TFT plastic housing, resistive touch, PROFIBUS, RS-485	**XV-102-B8-35TQRC-10**
XV 3.5-inch TFT plastic housing, resistive touch, SmartWire-DT	**XV-102-BE-35TQRC-10**
XV 5.7-inch TFT plastic housing, resistive touch, CANopen, RS-232, RS-485	**XV-102-D6-57TVRC-10**
XV 5.7-inch TFT plastic housing, resistive touch, PROFIBUS, RS-232, RS-485	**XV-102-D8-57TVRC-10**
XV 5.7-inch TFT plastic housing, resistive touch, CANopen, SmartWire-DT, RS-485	**XV-102-E6-57TVRC-10**
XV 5.7-inch TFT plastic housing, resistive touch, PROFIBUS, SmartWire-DT, RS-485	**XV-102-E8-57TVRC-10**
XV 7.0-inch TFT plastic housing, resistive touch, CANopen, RS-232, RS-485	**XV-102-D6-70TWRC-10**
XV 7.0-inch TFT plastic housing, resistive touch, PROFIBUS, RS-232, RS-485	**XV-102-D8-70TWRC-10**
XV 7.0-inch TFT plastic housing, resistive touch, CANopen, SmartWire-DT, RS-485	**XV-102-E6-70TWRC-10**
XV 7.0-inch TFT plastic housing, resistive touch, PROFIBUS, SmartWire-DT, RS-485	**XV-102-E8-70TWRC-10**
XV 5.7-inch TFT metal housing, resistive touch, CANopen, RS-232, RS-485	**XV-152-D6-57TVRC-10**
XV 5.7-inch TFT metal housing, resistive touch, PROFIBUS, RS-232, RS-485	**XV-152-D8-57TVRC-10**
XV 5.7-inch TFT metal housing, resistive touch, CANopen, SmartWire-DT, RS-485	**XV-152-E6-57TVRC-10**
XV 5.7-inch TFT metal housing, resistive touch, PROFIBUS, SmartWire-DT, RS-485	**XV-152-E8-57TVRC-10**
XV 8.4-inch TFT metal housing, resistive touch, CANopen, RS-232, RS-485	**XV-152-D6-84TVRC-10**
XV 8.4-inch TFT metal housing, resistive touch, PROFIBUS, RS-232, RS-485	**XV-152-D8-84TVRC-10**
XV 8.4-inch TFT metal housing, resistive touch, CANopen, SmartWire-DT, RS-485	**XV-152-E6-84TVRC-10**
XV 8.4-inch TFT metal housing, resistive touch, PROFIBUS, SmartWire-DT, RS-485	**XV-152-E8-84TVRC-10**
XV 10.4-inch TFT metal housing, resistive touch, CANopen, RS-232, RS-485	**XV-152-D6-10TVRC-10**
XV 10.4-inch TFT metal housing, resistive touch, PROFIBUS, RS-232, RS-485	**XV-152-D8-10TVRC-10**
XV 10.4-inch TFT metal housing, resistive touch, CANopen, SmartWire-DT, RS-485	**XV-152-E6-10TVRC-10**
XV 10.4-inch TFT metal housing, resistive touch, PROFIBUS, SmartWire-DT, RS-485	**XV-152-E8-10TVRC-10**

XV Operator Interface with Galileo Only

Description	Catalog Number
XV 3.5-inch TFT plastic housing, resistive touch, Ethernet RS-232	**XV-102-H3-35TQRL-10**
XV 3.5-inch TFT plastic housing, resistive touch, Ethernet RS-485	**XV-102-H4-35TQRL-10**
XV 5.7-inch TFT plastic housing, resistive touch, Ethernet RS-232	**XV-102-H3-57TVRL-10**
XV 5.7-inch TFT plastic housing, resistive touch, Ethernet RS-485	**XV-102-H4-57TVRL-10**
XV 7.0-inch TFT plastic housing, resistive touch, Ethernet RS-232	**XV-102-H3-70TWRL-10**
XV 7.0-inch TFT plastic housing, resistive touch, Ethernet RS-485	**XV-102-H4-70TWRL-10**

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Catalog Number Selection

XV Operator Interface—XV-303, XV-313

XV-303, XV-313

XV – 303 – 70 – C00 – A00 – 1D

Family
XV = Microsoft Windows CE operating system

Future
A00

Software Bundle
1B = Basic
1C = CoDeSys
1D = Visual Designer
1E = Visual Designer and CoDeSys

Performance Class
303 = Panel mount, 3rd gen
313 = Back mount, 3rd gen

Display Size
70 = 7.0-inch wide
10 = 10.0-inch wide

2nd Ethernet Port	SWDT Port	PROFIBUS Port
B = No	**0** = No	**0** = No
C = Yes	**E** = Yes	**2** = Yes

Product Selection

XV Operator Interface

XV Operator Interface with Visual Designer

Description	Catalog Number
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, RS-232, RS-485, USB host	**XV-303-70-C00-A00-1D**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, RS-232, RS-485, USB host	**XV-303-10-C00-A00-1D**

XV Operator Interface with XSoft-CoDeSys, HMI-PLC

CoDeSys Automation Alliance

Description	Catalog Number
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, single Ethernet, CAN, RS-232, RS-485, USB host	**XV-303-70-B00-A00-1C**
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, RS-232, RS-485, USB host	**XV-303-70-C00-A00-1C**
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, single Ethernet, CAN, PROFIBUS, RS-232, RS-485, USB host	**XV-303-70-B02-A00-1C**
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, PROFIBUS, RS-232, RS-485, USB host	**XV-303-70-C02-A00-1C**
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, single Ethernet, CAN, SmartWire-DT, RS-232, RS-485, USB host	**XV-303-70-BE0-A00-1C**
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, SmartWire-DT, RS-232, RS-485, USB host	**XV-303-70-CE0-A00-1C**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, single Ethernet, CAN, RS-232, RS-485, USB host	**XV-303-10-B00-A00-1C**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, RS-232, RS-485, USB host	**XV-303-10-C00-A00-1C**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, single Ethernet, CAN, PROFIBUS, RS-232, RS-485, USB host	**XV-303-10-B02-A00-1C**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, PROFIBUS, RS-232, RS-485, USB host	**XV-303-70-C02-A00-1C**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, single Ethernet, CAN, SmartWire-DT, RS-232, RS-485, USB host	**XV-303-10-BE0-A00-1C**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, SmartWire-DT, RS-232, RS-485, USB host	**XV-303-10-CE0-A00-1C**

XV Operator Interface with Visual Designer and XSoft-CoDeSys, HMI-PLC-SCADA

Description	Catalog Number
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, RS-232, RS-485, USB host	**XV-303-70-C00-A00-1E**
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, SmartWire-DT, RS-232, RS-485, USB host	**XV-303-70-CE0-A00-1E**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, RS-232, RS-485, USB host	**XV-303-10-C00-A00-1E**
XV with 10.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, CAN, SmartWire-DT, RS-232, RS-485, USB host	**XV-303-10-CE0-A00-1E**

Accessories

XV Family Accessories

Description	Catalog Number
SD memory card for all XV-102 and XV-152 models	**MEMORY-SD-A1-S**
Spare part kit for XV-102 models—1 power connector, 8 mounting brackets, 1 sealing strip, 1 touch pen	**ACC-TP-57-KG-1**
Spare part kit for XV-152 models—1 power connector, 8 mounting brackets, 1 sealing strip, 1 touch pen	**ACC-TP-10-12-RES-1**
SD memory card with 1 GB storage for all XV-100 and XV-300 models	**MEMORY-SD-A2-S**
Accessory set for XV-303 (10 mounting brackets and 1 power plug)	**ACCESSORIES-TP-10-KG**

XV Family Software Options

Description	Catalog Number
Product license for 40 points for use with Galileo or XSoft-CoDeSys units	**LIC-OPT-1ST-LEVEL**
Product license for 80 points for use with Galileo or XSoft-CoDeSys units	**LIC-OPT-2ND-LEVEL**
License product Paper PLC with license sticker for XSoft-CoDeSys-2/-3 for XV-300	**LIC-PLC-A**
License product Paper Visual Designer with license sticker for XV-300	**LIC-VISD-A**

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Technical Data and Specifications

XV Operator Interface

Series	XV Midrange Operator Interface					
Model	XV-102			XV-152		
Screen Size	3.5-Inch	5.7-Inch	7.0-Inch	5.7-Inch	8.4-Inch	10.4-Inch
Operating system	WinCE 5.0 Professional/Standard			WinCE 5.0 Professional/Standard		
Touchscreen technology	Resistive	Resistive	Resistive	Resistive	Resistive	Resistive
Display, colors	Color TFT, 64 k colors	Color TFT, 64 k colors	Color TFT, 64 k colors	Color TFT, 64 k colors	Color TFT, 64 k colors	Color TFT, 64 k 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^2)	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 COMM 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^{2}s)	1.5	1.5	1.5	1.5	1.5	1.5
Ambient conditions						
Operation—relative humidity, noncondensing	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, noncondensing	−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 15 g for 11 ms duration			IEC 60068-2-27 15 g 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: 2 g acceleration			IEC 60068-2-6 5–9 Hz: 3.5 mm displacement 9–60 Hz: 0.15 mm displacement 60–150 Hz: 2 g 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 W x H x D (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 W x H (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-3 development software	SW-XSOFT-CODESYS-3-S (seat) SW-XSOFT-CODESYS-3-M (multi-seat)			SW-XSOFT-CODESYS-3-S (seat) SW-XSOFT-CODESYS-3-M (multi-seat)		
Galileo development software	SW-GALILEO-S (seat) SW-GALILEO-M (multi-seat)			SW-GALILEO-S (seat) SW-GALILEO-M (multi-seat)		

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XV Operator Interface

Series Model Screen Size	XV-303 7.0-Inch	10.0-Inch
Operating system	WinCE7.0 Professional	
Touchscreen technology	Projected Capacitive Multi-touch	
Display colors	16 million	
Pixel resolution (landscape) portrait mode also available	WSVGA 1024 x 600	
Brightness (cd/m^2)	400	
Backlight	LED, selectable dimming	
Lifespan of backlight (half-life)	50,000 hrs	
Processor	800 MHz Cortex A8 CPU with graphics co-processor	
Volatile memory	512 MB DRAM	
Non-volatile memory	128 KB NVRAM (PLC), 1 GB SLC, 1 SD card slot	
Real time clock	Yes	
Communication ports	Ethernet 10/100, RS-232, RS-485, CAN, USB Host, USB Device	
Optional communication ports	Second Ethernet 10/100, PROFIBUS DP, SmartWire-DT	
Power supply rated voltage	24 Vdc nominal (−20%/+25%) with polarity protection	
Continuous current consumption (max. amps)	0.6 (7.0-inch)	0.75 (10.1-inch)
Starting current inrush (A2s)	1.0 (7.0-inch)	1.0 (10.1-inch)
Ambient conditions		
Operation-relative humidity, noncondensing	0 to 50 °C, 10 to 95%	
Storage/transport-relative humidity, noncondensing	−20 to +60 °C, 10 to 95%	
Shock	IEC 60068-2-27 15 g 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: 2 g acceleration	
Agency certifications and standards	CE, UL/cUL, RoHS2, UL/cUL Class I Div 2 groups A, B, C, D (pending) ATEX Zone 22 (pending)	
Protection type		
Front	IP65, NEMA 4X (indoor)	
Rear	IP20, NEMA 1	
Housing material	Plastic	
Dimensions W x H x D (mm)	196 x 135 x 51	269 x 174 x 58
Mounting cutout W x H (mm)	182 x 121	254 x 160
Approximate weight lbs (kg)	1.6 (0.74)	2.5 (1.13)
Ability to run third-party software	No	
Visual Designer development software	VISUALDCE or VISUALDXP	
Pre-licensed tags, drivers, Web	1500 tags, 3 drivers, 1 Web session	
Field upgradeable max. tags, drivers, Web sessions (VisD)	4000 tags, 5 drivers, 1, 2, 4 or 8 simultaneous Web sessions	
XSoft-CoDeSys-3 development software	SW-XSOFT-CODESYS-3-S (seat)	SW-XSOFT-CODESYS-3-M (multi-seat)

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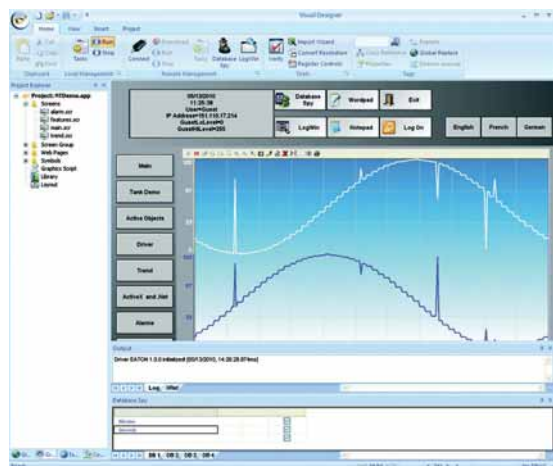
Visual Designer Software

Contents

Description	Page

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
- Emailing 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

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, FoxPro, 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 XP and XV operator interface solutions.

Product Selection

Visual Designer Software

Visual Designer

Visual Designer Development Software License Key

| Description	Development Software Catalog Number	Runtime Software Catalog Number
Development license for CE hardware	**VISUALDCE**	—
Development license for PCs, XP-503 and CE hardware	**VISUALDXP**	—
Multiple development licenses for CE hardware (5-pack of VISUALDCE)	**VISUALDCE5**	—
Multiple development licenses for PCs, XP-503 and CE hardware (5-pack of VISUALDXP)	**VISUALDXP5**	—
Development license for all hardware platforms (for use with VISUALD-LIC-SERVER)	**VISUALDXPLS**	—
Multiple development licenses for use with VISUALD-LIC-SERVER (5-pack for use with VISUALDXPLS)	**VISUALDXP5LS**	—
License server key to serve development licenses over a LAN	**VISUALD-LIC-SERVER**	—
Visual Designer development software license and PC Runtime software licenses for a maximum of 64 k tags, 8 drivers, 1 Web session	**VISUALRTDEVPC**	**VISUALRTDEVPC**
For a PC Runtime license with a maximum of 64 k tags, 8 drivers, 1 Web session	—	**VISUALRTPC64K**
For a PC Runtime license with a maximum of 4 k tags, 5 drivers, 1 Web session	—	**VISUALRTPC4k**
For a PC Runtime license with a maximum of 1500 tags, 3 drivers, 1 Web session	—	**VISUALRTPC1500**
For a PC Runtime license with a maximum of 300 tags, 3 drivers, 1 Web session	—	**VISUALRTPC300**
For an XP-503 PC Runtime license with a maximum of 4 k tags, 5 drivers, 1 Web session	—	**N/A: Unit pre-licensed**
For an XP-503 PC Runtime license with up to 64 k tags, 8 drivers, and 128 Web sessions	—	**See upgrade list on next page**

Visual Designer

Software Updates and Upgrades

Description	Catalog Number
Update to current version Visual Designer development software for CE hardware	**VISUALDUPCE**
Update to current version Visual Designer development software PCs/XPe/CE	**VISUALDUPXP**
Update to current version of Visual Designer runtime license for PCs	**VISUALRTUPPC**
Upgrade from Visual Designer CE 1500 tag to 4000 tag runtime	**VISUALRT4KCE**
Upgrade from Visual Designer XP-500 4000 tag, 5 driver to 64 k tag, 8 driver runtime license	**VISUALRT64KXP**
Upgrade from Visual Designer development software CE to CE plus PC and XPe (64 k tag, 8 drivers)	**VISUALDCE2XP**
Visual Designer PanelBuilder conversion utility optional plug-in (requires Visual Designer software)	**VISUALDPBCU**
Visual Designer 1 additional Web thin client license for Internet Explorer: Total of 2	**VISUALWEB1**
Visual Designer 3 additional Web thin client licenses for Internet Explorer: Total of 4	**VISUALWEB3**
Visual Designer 7 additional Web thin client licenses for Internet Explorer Total of 8	**VISUALWEB7**
Visual Designer 15 additional Web thin client licenses for Internet Explorer: Total of 16	**VISUALWEB16**
Visual Designer 31 additional Web thin client licenses for Internet Explorer: Total of 32	**VISUALWEB32**
Visual Designer 63 additional Web thin client licenses for Internet Explorer: Total of 64	**VISUALWEB64**
Visual Designer 127 additional Web thin client licenses for Internet Explorer: Total of 128	**VISUALWEB128**
Visual Designer 1 additional Secure Viewer Thin Client license: Total of 2	**VISUALSVT2**
Visual Designer 3 additional Secure Viewer Thin Client license: Total of 4	**VISUALSVT4**
Visual Designer 7 additional Secure Viewer Thin Client license: Total of 8	**VISUALSVT8**
Visual Designer 15 additional Secure Viewer Thin Client license: Total of 16	**VISUALSVT16**
Visual Designer 31 additional Secure Viewer Thin Client license: Total of 32	**VISUALSVT32**
Visual Designer 63 additional Secure Viewer Thin Client license: Total of 64	**VISUALSVT64**
Visual Designer 127 additional Secure Viewer Thin Client license: Total of 128	**VISUALSVT128**
Visual Designer 1 additional SMA Thin Client license: Total of 2	**VISUALSMA2**
Visual Designer 3 additional SMA Thin Client license: Total of 4	**VISUALSMA4**
Visual Designer 7 additional SMA Thin Client license: Total of 8	**VISUALSMA8**
Visual Designer 15 additional SMA Thin Client license: Total of 16	**VISUALSMA16**
Visual Designer 31 additional SMA Thin Client license: Total of 32	**VISUALSMA32**
Visual Designer 63 additional SMA Thin Client license: Total of 64	**VISUALSMA64**
Visual Designer 127 additional SMA Thin Client license: Total of 128	**VISUALSMA128**
Visual Designer collaborative server	**VISUALCBSERVER**
Visual Designer business dashboard tool	**VISUALDASHBOARD**
Visual Designer communication package for electrical products	**VISUALDELECDRVS**
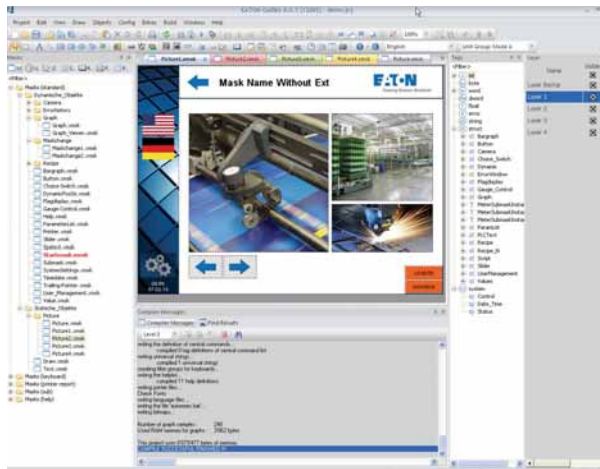
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Galileo Software

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Galileo Software

Product Description

The Intuitive Visualization Tool

Galileo is an easy to learn yet powerful and extensive project design environment that can be used ideally in all system and machine building applications close to the machine and process.

Galileo is designed for use in all sectors and offers comprehensive project design tools. Galileo provides a full range of functions without any graduated restrictions on tags or screens, and is optimized for our XV operator interface panels.

Features

- Easy to learn and intuitive graphical user interface with a project overview window
- User-friendly project design with project simulation on development PC
- Different user interface styles
- Drag and drop positioning of objects, WYSIWYG (what you see is what you get)
- Simple, clear user guidance
- Tabular object properties, easy and fast assignment of attributes—copy and paste
- Convenient series assignment of texts and images to tags
- Many graphical objects such as bar graph, slide adjuster, graph plotter, curve chart, camera
- Anti-aliased gauge display
- Enhanced password handling with complex password and aging
- Extensive recipe handling
- Alarm handling with time stamp, history and diagnostics support with image display

- Multi-line display of alarm entries
- Online language selection
- Unicode support (also Asian character sets)
- Text import/export in XML format (example, Excel®)
- Brilliant image display, up to 65536 colors
- Import of 15 different image formats
- Dynamic objects
- Object parameter list, any number of data objects in a screen
- Dynamic unit of measure selection (example, °C–°F, inch–mm)
- Direct printing on panel (reports, forms)
- Many specific objects and system functions
- Simple import of PLC variables
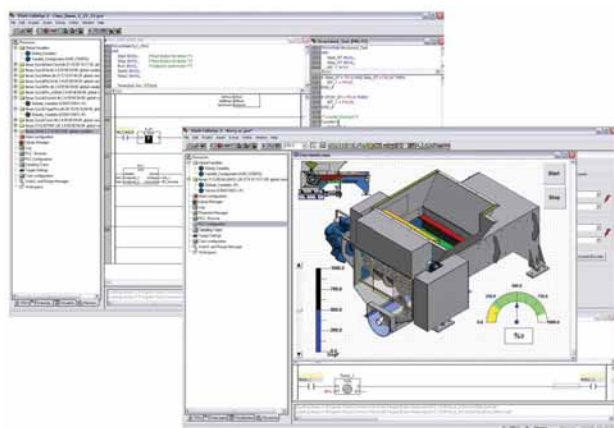- Full functionality always available, no graduated performance level

System Requirements

Windows XP and Windows 7

Product Selection

Galileo Development Software

Description	Catalog Number
Single-seat license	**SW-GALILEO-S**
Multiple-seat license	**SW-GALILEO-M**

XSoft-CoDeSys-3 Software

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Contents

XSoft-CoDeSys-3 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-3 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-3 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)
- Online and historical alarms
- Online and historical trends

System Requirements

Windows XP and Windows 7 32-bit systems

Product Selection

XSoft-CoDeSys-3

XSoft-CoDeSys-3 Software

Description	Catalog Number
Single Seat License	**SW-XSOFT-CODESYS-3-S**
Multiple Seat License (3)	**SW-XSOFT-CODESYS-3-M**