

XV-100 Operator Interface



XV-300 Operator Interface



XP-500 Operator Interface



5.1	Product Overview	
	Product and Software Selection Guides	V7-T5-2
5.2	XV-100 Operator Interface	
	Product Description	V7-T5-8
	Features	V7-T5-8
	Standards and Certifications	V7-T5-8
	Catalog Number Selection	V7-T5-9
	Product Selection	V7-T5-9
	Accessories	V7-T5-10
	Technical Data and Specifications	V7-T5-11
5.3	XV-300 Operator Interface	
	Product Description	V7-T5-12
	Features	V7-T5-12
	Standards and Certifications	V7-T5-12
	Catalog Number Selection	V7-T5-13
	Product Selection	V7-T5-14
	Accessories	V7-T5-15
	Technical Data and Specifications	V7-T5-16
5.4	XP-500 Operator Interface	
	Product Description	V7-T5-17
	Features	V7-T5-17
	Standards and Certifications	V7-T5-17
	Catalog Number Selection	V7-T5-18
	Product Selection	V7-T5-18
	Accessories	V7-T5-18
	Technical Data and Specifications	V7-T5-19
5.5	Operator Interface Software	
	Galileo Software	V7-T5-20
	XSoft-CoDeSys-3 Software	V7-T5-21
	Visual Designer Software	V7-T5-22



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Tab 5—Operator Interface Products

Revision date	Section	Change page(s)	Description
01/08/2018	—	V7-T5-1	Updates to Tab TOC
01/08/2018	5.1	V7-T5-2–V7-T5-4	Updates and content added
01/08/2018	5.2	V7-T5-5–V7-T5-12	ELC Graphics Panels Section deleted
01/08/2018	5.3	V7-T5-13–V7-T5-20	HMI Operator Interface Section deleted
01/08/2018	All	All	Complete tab structure and layout revised



Powering Business Worldwide

Product and Software Selection Guides

Operator Interfaces and Programming Software Selection Guide



5

Description	XV-100 Operator Interface	XV-300 Operator Interface	XP-500 Series Operator Interface
	Page V7-T5-8	Page V7-T5-12	Page V7-T5-17
Screen size	3.5-inch, 5.7-inch, 7.0-inch, 8.4-inch and 10.4-inch	7.0-inch, 10.1-inch, 15-inch	10.1-inch, 15.6-inch, 21.5-inch
Screen options	Color TFT, 64 k colors; resolutions from QVGA (320 x 240) to WVGA (800 x 480)	LED backlit Projected Capacitive Touch (PCT), resolutions from (1024 x 600) to (1366 x 768)	LED backlit Projected Capacitive Touchscreen (PCT), resolutions from (1024 x 600) to (1920 x 1080)
Interface	Resistive touchscreen	Non-reflective tempered scratch-resistant glass	Non-reflective tempered scratch-resistant glass
Communication ports	Ethernet, RS-232 and/or RS-485, USB; CANopen or PROFIBUS [®] -DP, SmartWire-DT [®] , USB and RS-485 on CoDeSys models	Ethernet, RS-232 and/or RS-485, USB; CANopen or PROFIBUS-DP, SmartWire-DT, USB and RS-485 on CoDeSys models	2 Ethernet, 1 RS-232, 1 RS-485, 2 USB 3.0, 1 DVI-I
Simultaneous protocols	Varies	3 on Visual Designer, varies for Galileo and XSoft-CoDeSys-3	5 (8 optional)
Ethernet drivers	Yes	Yes	Yes
Upload/download	Serial, Ethernet, USB	Serial, Ethernet, USB	Serial, Ethernet, USB
Operating system	Windows CE 5.0 Professional	Windows CE 7	Windows [®] Embedded Standard 7 (protected)
Third-party software support	—	—	Yes
Screen saver	Yes	Yes	Yes

Product Selection Guide

XV Series with Galileo

Series Model Screen Size	XV Model XV-102-H 3.5, 5.7, 7.0	XV Model XV-303
Housing material	Plastic	Plastic
Operating system	WinCE 5.0 Standard	WinCE 7.0 Professional
Touchscreen	Resistive	Projected Capacitive Touchscreen (PCT)
Communications ports	1 Ethernet, 1 RS-232, or 1 RS-485, 1 USB	1 Ethernet, 1 RS-232, or 1 RS-485, 1 USB
Optional field buses	N/A	N/A
Development software	Galileo	Galileo
Alarm online/historical	Yes	Yes
Trend online/historical	Yes	Yes
Scripting	Structured text	Structured text
Scheduler	No	No
Recipe	Yes	Yes
Reports	No	No
Full remote access	Yes	Yes
Ability to run third-party software	No	No
Vision system interfaces	Yes	Yes
Multi-language support	Yes	Yes
PLC variable import	Yes	Yes

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

Series Model Screen Size	XV-102 3.5, 5.7, 7.0	XV XV-152 5.7, 8.4, 10.4	XV-303 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

XV Operator Interface with Visual Designer**Series****Model****XV-300****Screen Size****7.0, 10.1**

Housing material	Plastic
Operating system	WinCE 7.0 Professional
Touchscreen technology	PCT, ruggedized glass
Communication ports	1 Ethernet, 2 serial, 1 USB, CAN
Optional field buses	Optional Communication Ports—2nd Ethernet, SmartWire-DT, PROFIBUS-DP
Development software	Visual Designer
Pre-licensed tags, driver and Web session and field upgrade options	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
Trend online/history	Yes
Scripting	Yes (VB Script)
Scheduler	Yes
Recipe	Yes
Reports	Yes
OPC, TCP/IP, and communication drivers	Yes
Web Server and Web Thin Client support	Yes
Full remote access	Yes
Local/remote database interface	Yes
Ability to run third-party software	No
ActiveX and .NET controls	No
Full document viewing	Yes (PDF and HTML)
Windows media player	No
Vision system interfaces	No
Network camera monitoring	No

XP Operator Interface with Galileo**Series****XP****Model****XP-503****Screen Size****10.1, 15.6, 21.5**

Housing material	Powder-coated aluminum
Operating system	Windows Embedded Standard 7
Touchscreen technology	Projected Capacitive Touchscreen (PCT), non-reflective tempered glass
Communication ports	2 Ethernet, 2 serial, 4 USB 2 Ethernet; 1 RS-232; 1 RS-485; 2 USB 3.0
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

XP Operator Interface with Visual Designer

Series	XP
Model	XP-503
Screen Size	10.1, 15.6, 21.5
Housing material	Powder-coated aluminum
Operating system	Windows Embedded Standard 7
Touchscreen technology	Projected Capacitive Touchscreen (PCT), non-reflective tempered glass
Communication ports	2 Ethernet, 2 serial, 4 USB 2 Ethernet; 1 RS-232; 1 RS-485; 2 USB 3.0
Optional field buses	N/A
Development software	Visual Designer (VISUALDXP) (Runtime pre-installed)
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
Alarm online/history	Yes
Trend online/history	Yes
Scripting	Yes (VB Script)
Scheduler	Yes
Recipe	Yes
Reports	Yes
OPC, TCP/IP, and communication drivers	Yes
Web Server and Web Thin Client support	Yes
Full remote access	Yes
Local/remote database interface	Yes
Ability to run third-party software	Yes
ActiveX and .NET controls	Yes
Full document viewing	Yes
Windows media player	Yes
Vision system interfaces	Yes
Network camera monitoring	Yes

Software Product Selection Guide



Galileo



XSoft-CoDeSys-3 ①



Visual Designer

Description

Overview

Intuitive visualization tool. Use Galileo on XV-102-H_ units or on XV units running CoDeSys when a stronger visualization package is needed

Feature-rich software package with integrated logic and visualization that can be run on specific XV operator interface models

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

Catalog ID

Development software seat license

SW-GALILEO-S
SW-GALILEO-M

SW-XSOFT-CODESYS-3-S ②
SW-XSOFT-CODESYS-3-M ③

VISUALDCE (CE hardware)
VISUALDXP5 (5-pack of VISUALDXP)
VISUALDCE5 (5-pack of VISUALDCE)
VISUALDXP (PCs, XPe, and CE hardware)

Runtime software for a PC

■

N/A

VISUALRTPC

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

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-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



Galileo



XSoft-CoDeSys-3 [Ⓢ]



Visual Designer

Description	Galileo	XSoft-CoDeSys-3 [Ⓢ]	Visual Designer
Runtime Features			
Clock synchronization with controller	■	■ Configured via visualization screens	■
Sound actions or control	■	—	■
Security	■	■	■ Advanced multi-level
Pop-up screens	■	—	■ And group screens
Animated graphics	■	■	■
Multi-touch and gesture support	■	—	■
Real-time trending	■	■	■
Recipes	■	■	■
Report generation	■	—	■
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	—	■ DDE	■ ADO.net compliant
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
Launch/control third-party applications	—	—	■
Embedded PLC logic	—	■	—

Note

[Ⓢ] See the logic section of the catalog for details on the logic features in the XSoft-CoDeSys-3 software package.

XV-100 Series Operator Interface



Contents

<i>Description</i>	<i>Page</i>
XV-100 Series Operator Interface	
Catalog Number Selection	V7-T5-9
Product Selection	V7-T5-9
Accessories	V7-T5-10
Technical Data and Specifications	V7-T5-11

XV-100 with Galileo and XSoft-CoDeSys-3

Product Description

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.

Features

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



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.

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.

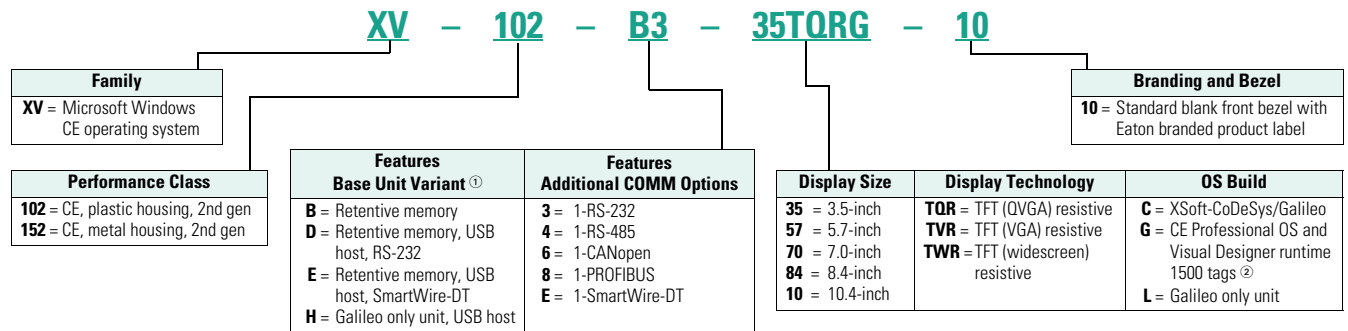
On XV-300 models on **Page V7-T5-12**, you can take advantage of the best of both worlds with Visual Designer and XSoft-CoDeSys together. Combining the power of these two software platforms on an HMI-PLC and SCADA platform.

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.

Catalog Number Selection

XV Operator Interface—XV-102, XV-152

XV-102, XV-152



Product Selection

XV Operator Interface with Galileo Only^③



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

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.
- ③ For more information on Galileo software, see **Page V7-T5-20**.



XV Operator Interface with XSoft-CoDeSys, HMI-PLC ^①

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

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

Note

^① For more information on XSoft-CoDeSys software, see **Page V7-T5-21**.

Technical Data and Specifications

XV Operator Interface

Series Model	XV Midrange Operator Interface			XV-152		
	3.5-Inch	5.7-Inch	7.0-Inch		5.7-Inch	8.4-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
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)		

XV-300 Series Operator Interface



Contents

<i>Description</i>	<i>Page</i>
XV-300 Series Operator Interface	
Catalog Number Selection	V7-T5-13
Product Selection	V7-T5-14
Accessories	V7-T5-15
Technical Data and Specifications	V7-T5-16

XV-300 with Galileo, XSoft-CoDeSys-3 or Visual Designer

Product Description

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 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.

Features

XV-300 Software Bundles

The XV-300 series is the latest and most powerful in the XV product line. Its 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.

Standards and Certifications

- CE
- UL
- cUL
- RoHS



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.

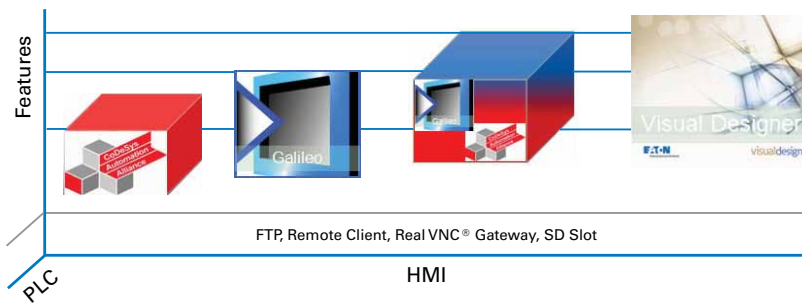
Galileo provides a visualization environment designed around the needs of machine building OEMs. Use Galileo when designing high-performance machines in the OEM space.

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.

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.

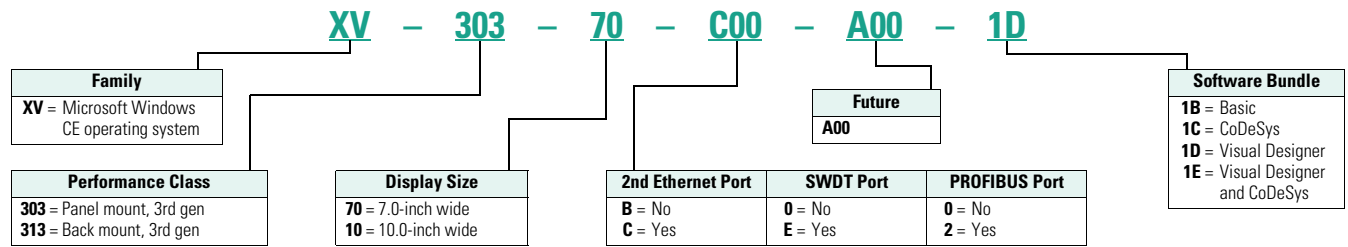
Software Suite



Catalog Number Selection

XV Operator Interface—XV-303, XV-313

XV-303, XV-313



Product Selection

XV Operator Interface with Galileo ^①

Description	Catalog Number
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, single Ethernet	XV-303-70-B00-A00-1B
XV with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet	XV-303-70-C00-A00-1B
XV with 10.1-inch TFT, plastic housing, PCT multi-touch, single Ethernet	XV-303-10-B00-A00-1B
XV with 10.1-inch TFT, plastic housing, PCT multi-touch, dual Ethernet	XV-303-10-C00-A00-1B
XV with 15.4-inch TFT, plastic housing, PCT multi-touch, single Ethernet	XV-303-15-C00-A00-1B
XV with 15.4-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, Profibus	XV-303-15-C02-A00-1B

XV Operator Interface with XSoft-CoDeSys, HMI-PLC ^②

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 with 15.4-inch TFT, plastic housing, PCT multi-touch, dual Ethernet	XV-303-15-C00-A00-1C
XV with 15.4-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, Profibus	XV-303-15-C02-A00-1C
XV with 15.4-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, SWDT	XV-303-15-CE0-A00-1C
XV with 15.4-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, Profibus and SWDT	XV-303-15-CE2-A00-1C

XV Rear Mounted Operator Interface with XSoft-CoDeSys, HMI-PLC

Description	Catalog Number
XV rear mount with 7.0-inch TFT, plastic housing, PCT multi-touch, single Ethernet	XV-313-70-B00-A00-1C
XV rear mount with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet	XV-313-70-C00-A00-1C
XV rear mount with 7.0-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, SWDT	XV-313-70-CE0-A00-1C
XV rear mount with 10.1-inch TFT, plastic housing, PCT multi-touch, single Ethernet	XV-313-10-B00-A00-1C
XV rear mount with 10.1-inch TFT, plastic housing, PCT multi-touch, dual Ethernet	XV-313-10-C00-A00-1C
XV rear mount with 10.1-inch TFT, plastic housing, PCT multi-touch, dual Ethernet, SWDT	XV-313-10-CE0-A00-1C

Notes

- ① For more information on Galileo software, see **Page V7-T5-20**.
- ② For more information on XSoft-CoDeSys software, see **Page V7-T5-21**.

XV Operator Interface

XV Operator Interface with Visual Designer ^①

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 with 15.4-inch TFT, plastic housing, PCT multi-touch, dual Ethernet	XV-303-15-C00-A00-1D

XV Operator Interface with Visual Designer and XSoft-CoDeSys ^②

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

Notes

- ① For more information on Galileo software, see **Page V7-T5-20**.
- ② For more information on Visual Designer software, see **Page V7-T5-22**.

Technical Data and Specifications

XV Operator Interface

Series

Model

Screen Size

	XV-303		
	7.0-Inch	10.0-Inch	15.0-Inch
Operating system	WinCE7.0 Professional	WinCE7.0 Professional	WinCE7.0 Professional
Touchscreen technology	Projected Capacitive Multi-touch	Projected Capacitive Multi-touch	Projected Capacitive Multi-touch
Display colors	16 million	16 million	16 million
Pixel resolution (landscape) portrait mode also available	WSVGA 1024 x 600	WSVGA 1024 x 600	1366 x 768
Brightness (cd/m ²)	400	400	400
Backlight	LED, selectable dimming	LED, selectable dimming	LED, selectable dimming
Lifespan of backlight (half-life)	50,000 hrs	50,000 hrs	50,000 hrs
Processor	800 MHz Cortex A8 CPU with graphics co-processor	800 MHz Cortex A8 CPU with graphics co-processor	800 MHz Cortex A8 CPU with graphics co-processor
Volatile memory	512 MB DRAM	512 MB DRAM	512 MB DRAM
Non-volatile memory	128 KB NVRAM (PLC), 1 GB SLC, 1 SD card slot	128 KB NVRAM (PLC), 1 GB SLC, 1 SD card slot	128 KB NVRAM (PLC), 1 GB SLC, 1 SD card slot
Real time clock	Yes	Yes	Yes
Communication ports	Ethernet 10/100, RS-232, RS-485, CAN, USB Host, USB Device	Ethernet 10/100, RS-232, RS-485, CAN, USB Host, USB Device	Ethernet 10/100, RS-232, RS-485, CAN, USB Host, USB Device
Optional communication ports	Second Ethernet 10/100, PROFIBUS DP, SmartWire-DT	Second Ethernet 10/100, PROFIBUS DP, SmartWire-DT	Second Ethernet 10/100, PROFIBUS DP, SmartWire-DT
Power supply rated voltage	24 Vdc nominal (–20%/+25%) with polarity protection	24 Vdc nominal (–20%/+25%) with polarity protection	24 Vdc nominal (–20%/+25%) with polarity protection
Continuous current consumption (max. amps)	0.6 (7.0-inch)	0.75 (10.1-inch)	0.9 (15.4-inch)
Starting current inrush (A2s)	1.0 (7.0-inch)	1.0 (10.1-inch)	1.0 (15.4-inch)
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%
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%
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
Agency certifications and standards	CE, UL/cUL, RoHS2, UL/cUL Class I Div 2 groups A, B, C, D (pending) ATEX Zone 22 (pending)	CE, UL/cUL, RoHS2, UL/cUL Class I Div 2 groups A, B, C, D (pending) ATEX Zone 22 (pending)	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)	IP65, NEMA 4X (indoor)	IP65, NEMA 4X (indoor)
Rear	IP20, NEMA 1	IP20, NEMA 1	IP20, NEMA 1
Housing material	Plastic	Plastic	Plastic
Dimensions W x H x D (mm)	196 x 135 x 51	269 x 174 x 58	404 x 255 x 53
Mounting cutout W x H (mm)	182 x 121	254 x 160	388 x 239
Approximate weight lbs (kg)	1.6 (0.74)	2.5 (1.13)	8.6 (3.9)
Ability to run third-party software	No	No	No
Visual Designer development software	VISUALDCE or VISUALDXP	VISUALDCE or VISUALDXP	VISUALDCE or VISUALDXP
Pre-licensed tags, drivers, Web	1500 tags, 3 drivers, 1 Web session	1500 tags, 3 drivers, 1 Web session	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	4000 tags, 5 drivers, 1, 2, 4 or 8 simultaneous Web sessions	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)	SW-XSOFT-CODESYS-3-M (multi-seat)

XP Operator Interface



Contents

Description	Page
XP-503 with Visual Designer	
Catalog Number Selection	V7-T5-18
Product Selection	V7-T5-18
Accessories	V7-T5-18
Technical Data and Specifications	V7-T5-19

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



5.4

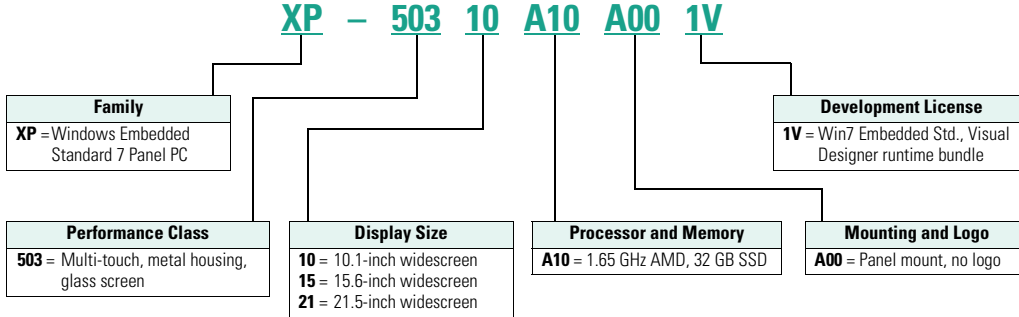
Operator Interface Products

XP-500 Operator Interface

Catalog Number Selection

XP Operator Interface

XP



Product Selection

XP Operator Interface with Galileo

Description	Catalog Number
10.1-inch widescreen with multi-touch, 1.65 GHz dual core CPU, 4 GB DDR3-RAM, 4 GB CFast memory	XP-503-10-A10-A00-1B
15.4-inch widescreen with multi-touch, 1.65 GHz dual core CPU, 4 GB DDR3-RAM, 4 GB CFast memory	XP-503-15-A10-A00-1B
21.5-inch widescreen with multi-touch, 1.65 GHz dual core CPU, 4 GB DDR3-RAM, 4 GB CFast memory	XP-503-21-A10-A00-1B

XP Operator Interface



XP Operator Interface with Visual Designer

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

Accessories

XP Operator Interface

Description	Catalog Number
XP-500 spare part kit for all XP models—1 power connector, 8 mounting brackets, 1 sealing strip	ACC-TP-57-RES-1

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.

Technical Data and Specifications

XP Operator Interface



10.1-inch XP-503-10-A10-A00-1V



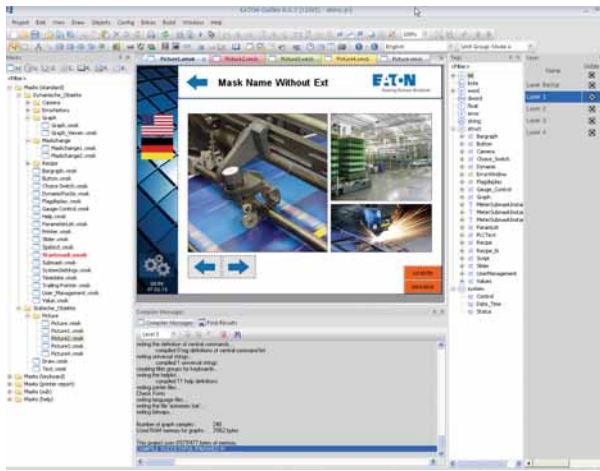
15.6-inch XP-503-15-A10-A00-1V



21.5-inch XP-503-21-A10-A00-1V

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

Galileo Software



Contents

Description

Description	Page
Operator Interface Software	
Galileo Software	
XSoft-CoDeSys-3 Software	V7-T5-21
Visual Designer Software	V7-T5-22

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

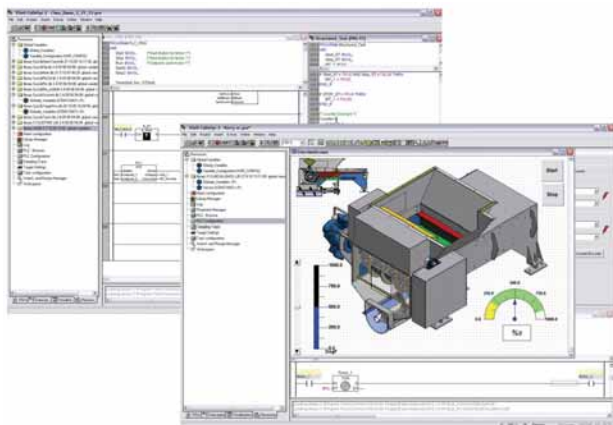
Windows XP and Windows 7

Product Selection

Galileo Development Software

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

XSoft-CoDeSys-3 Software



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.

Contents

Description	Page
Operator Interface Software	
Galileo Software	V7-T5-20
XSoft-CoDeSys-3 Software	
Visual Designer Software	V7-T5-22

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

Visual Designer Software



Contents

<i>Description</i>	<i>Page</i>
Operator Interface Software	
Galileo Software	V7-T5-20
XSoft-CoDeSys-3 Software	V7-T5-21
Visual Designer Software	
Product Selection	V7-T5-23

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

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.

Interoperability

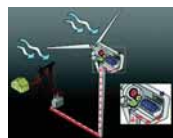
- Software is designed to open standards such as XML, OPC, ActiveX, .NET, ODBC, ADO, SOAP, DDE and more

Product Selection

Visual Designer Software

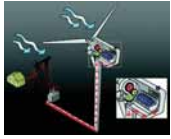
Visual Designer

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



5

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