DATASHEET - XV-303-15-C02-A00-1C

User interface with PLC, 24VDC, 15.6-inch PCT widescreen display, 1366x768 pixels, 2xEthernet, 1xRS232, 1xRS485, 1xCAN, 1xProfibus, 1xSD card slot

Part no.	XV-303-15-C02-A00-1C
Catalog No.	191074
Alternate Catalog No.	XV-303-15-C02-A00-1C

Similar to illustration

Delivery program

Product range		XV300 15.6"
Product range		XV-303
Function		HMI-PLC (integrated SPS function)
Description		Control panel with PLC, PROFIBUS, and 2nd Ethernet port
Common features of the model series		Ethernet interface CAN USB device USB Host RS232 RS485 Slot for SD card Operating System Windows Embedded Compact 7 pro Integrated Runtime visualization software license
Display - Type		Color display, TFT, anti-glare
Touch-technology		Capacitive multi-touch technology (PCT)
Number of colours		16777216 (Color depth 24 bit)
Resolution	Pixel	WXGA 1366 x 768
Portrait format		yes
Screen diagonal	Inch	15.6 widescreen
Model		Glass panel in aluminum bezel with die-cast aluminum enclosure and plastic enclosure
Operating system		Windows Embedded Compact 7 Pro
PLC-licence		PLC licence inclusive
License certificates for onboard interfaces		Not required
built-in interfaces		2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CANopen®/easyNet 1 x USB host 2.0 1 x USB device 1 x PROFIBUS/MPI
Front type		Non-reflective tempered glass in aluminum frame
Utilization		Flush mounting
Slots		for SD card: 1
Memory card automation		Optionally with SD card -> article no. 181638
Pluggable communication cards (optional)		no
Touch sensor		Multi-touch touch panel
Heat dissipation	W	21.6

Technical data
Display

Display - Type		Color display, TFT, anti-glare
Screen diagonal	Inch	15.6 widescreen
Resolution	Pixel	WXGA 1366 x 768
Visible screen area	mm	344.23 x 193.54
Format		16:9
Viewing range	[left/right/up/down] ° (Degrees)	85°/85°/80°/80°

Number of colours			16777216 (Color depth 24 bit)
Contrast ratio (Normally)			Normally 500:1
Brightness	cd/m^2		Normally 300
Back-lighting			LED dimmable via software
Service life of back-lighting	h		Normally 50000

Operation

Technology		Projected Capacitive Touch (PCT)
Touch sensor		Multi-touch touch panel

System

Processor		ARM Cortex-A9 800 MHz
Internal memory		DRAM: 512 MB RAM Flash: 1GB SLC NVRAM: 128kB Retain
External memory		SD card, Type: SDSC, SDHC
Cooling		Fanless CPU and system cooling, natural convection-based passive cooling
Back-up of real-time clock		
Battery (service life)		non-replaceable, BR2330 soldered in
Backup (time at zero voltage)		Normally 10 years

Engineering

Visualisation software		GALILEO XSOFT-CODESYS
PLC-Programming software		XSOFT-CODESYS-2 XSOFT-CODESYS-3
Target and web visualization		Yes
PLC-licence		PLC licence inclusive
Operating system		Windows Embedded Compact 7 Pro

Interfaces, communication

built-in interfaces		2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x CANopen®/easyNet 1 x USB host 2.0 1 x USB device 1 x PROFIBUS/MPI
USB Host		USB 2.0, not galvanically isolated
USB device		USB 2.0, not galvanically isolated
RS-232		Not galvanically isolated, 9-pin D-sub plug, UNC
RS-485		Not galvanically isolated, 9-pin D-sub plug, UNC
CAN		Not galvanically isolated, 9-pin D-sub plug, UNC
Profibus		PROFIBUS-DP, not galvanically isolated, 9 pole SUB-D socket, UNC
Slots		for SD card: 1
Ethernet		10/100 Mbps
MPI		Yes

Power supply

Nominal voltage			24 V DC SELV (safety extra low voltage)
permissible voltage			Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%) Absolute with ripple: 18,0-31,2 V DC Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%) 35 V DC for a duration of < 100 ms
Voltage dips		ms	≤ 10 ms from rated voltage (24 V DC) 5 ms from undervoltage (19.2 V DC)
Power consumption	$P_{max.}$	W	21.6
Power consumption		W	Normally 16
Heat dissipation		W	21.6
Note on heat dissipation			Heat dissipation with power consumption for 24 V 19.1 W for basic device + 2.5 W for USB module
Protection against polarity reversal			yes
Type of fuse			Yes (fuse not accessible)
Potential isolation			no

General

Housing material		Aluminium die-cast (glass panel) Insulated material black

Front type			Non-reflective tempered glass in aluminum frame
Dimensions (W x H x D)		mm	404 x 255 x 53
flush mounted			Clearance: W x H ≥ 50 mm (1.97"), T ≥ 20 mm (0.79") Inclination from vertical: # ≦ ± 10 ° (if using natural convection) Mounting plate: min. 1.5 mm (0.06"), max. 4 mm
Weight		kg	3.9
Degree of protection (IEC/EN 60529, EN50178, VBG 4)			IP65 (in the front as per EN 60529-1), IP20 (on rear as per EN 60529-1) NEMA 4X NEMA12 (as per NEMA 250-2003)
Approvals			
Approvals			cUL 61010-2-201
Applied standards and directives			
EMC			2004/108/EEC
Emitted interference			IEC/EN 61000-6-4
Interference immunity			IEC/EN 61000-6-2
Product standards			EN50178/IEC/EN 61131-2
Mechanical shock resistance		g	15g / 11ms
Vibration			5...9 Hz +- 3.5 mm 9...60 Hz +- 0.15 mm 60…150 Hz ± 2 g
Free fall, packaged		m	IEC/EN 60068-2-31
RoHS			conform

Environmental conditions

Climatic environmental conditions			
Climatic proofing			Cold to EN 60068-2-1 Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3
Air pressure (operation)		hPa	795 - 1080
Temperature			
Storage / Transport	θ	°C	-20 - +60
Operating ambient temperature min.		°C	0
Operating ambient temperature max.		°C	+ 50
Relative humidity			
Condensation			Non-condensing
Relative humidity			10 - 95%, non-condensing

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	0
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	21.6
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	0
Operating ambient temperature max.		°C	50
Degree of Protection			IP65 (in the front as per EN 60529-1), IP20 (on rear as per EN 60529-1) NEMA 4X NEMA12 (as per NEMA 250-2003)
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Please enquire
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Meets the product standard's requirements.

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10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 7.0

PLC's (EG000024) / Graphic panel (EC001412)			
Electric engineering, automation, process control engineering / Display and control component / Panel (HMI) / Graphic panel (HMI) (ecl@ss10.0.1-27-33-02-01 [AFX016003])			
Supply voltage AC 50 Hz		V	0 - 0
Supply voltage AC 60 Hz		V	0 - 0
Supply voltage DC		V	19.2 - 30
Voltage type of supply voltage			DC
Number of HW-interfaces industrial Ethernet			2
Number of interfaces PROFINET			0
Number of HW-interfaces RS-232			1
Number of HW-interfaces RS-422			0
Number of HW-interfaces RS-485			1
Number of HW-interfaces serial TTY			0
Number of HW-interfaces USB			2
Number of HW-interfaces parallel			0
Number of HW-interfaces Wireless			0
Number of HW-interfaces other			1
With SW interfaces			Yes
Supporting protocol for TCP/IP			Yes
Supporting protocol for PROFIBUS			Yes
Supporting protocol for CAN			Yes
Supporting protocol for INTERBUS			No
Supporting protocol for ASI			No
Supporting protocol for KNX			No
Supporting protocol for MODBUS			Yes
Supporting protocol for Data-Highway			No
Supporting protocol for DeviceNet			No
Supporting protocol for SUCONET			No
Supporting protocol for LON			No
Supporting protocol for PROFINET IO			No
Supporting protocol for PROFINET CBA			No
Supporting protocol for SERCOS			No
Supporting protocol for Foundation Fieldbus			No
Supporting protocol for EtherNet/IP			Yes
Supporting protocol for AS-Interface Safety at Work			No
Supporting protocol for DeviceNet Safety			No
Supporting protocol for INTERBUS-Safety			No
Supporting protocol for PROFIsafe			No
Supporting protocol for SafetyBUS p			No
Supporting protocol for other bus systems			No

Radio standard Bluetooth			No
Radio standard WLAN 802.11			No
Radio standard GPRS			No
Radio standard GSM			No
Radio standard UMTS			No
IO link master			No
Type of display			TFT
With colour display			Yes
Number of colours of the display			16777216
Number of grey-scales/blue-scales of display			0
Screen diagonal		inch	15.6
Number of pixels, horizontal			1366
Number of pixels, vertical			768
Useful project memory/user memory		kByte	512000
With numeric keyboard			No
With alpha numeric keyboard			No
Number of function buttons, programmable			0
Number of buttons with LED			0
Number of system buttons			1
Touch technology			Capacitive multitouch
With message indication			Yes
With message system (incl. buffer and confirmation)			Yes
Process value representation (output) possible			Yes
Process default value (input) possible			Yes
With recipes			Yes
Number of password levels			200
With printer output			Yes
Number of online languages			100
Additional software components, loadable			Yes
Degree of protection (IP), front side			IP65
Degree of protection (NEMA), front side			12
Operation temperature		°C	0 - 50
Rail mounting possible			No
Wall mounting/direct mounting			No
Suitable for safety functions			No
Width of the front		mm	404
Height of the front		mm	255
Built-in depth		mm	75.5

Approvals

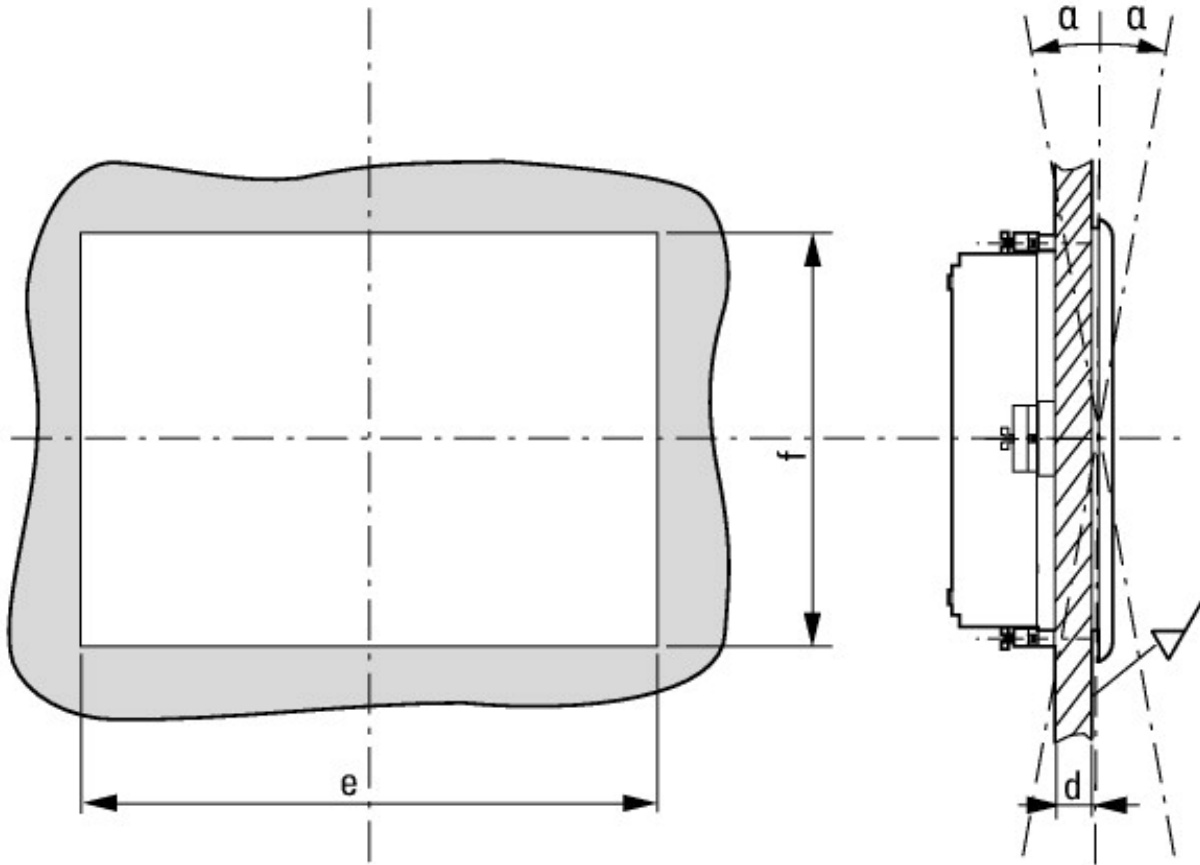|			
North America Certification			Request filed for UL
Specially designed for North America			No
Current Limiting Circuit-Breaker			No
Degree of Protection			IEC: IP65, NA: NEMA4X, NEMA12

Dimensions
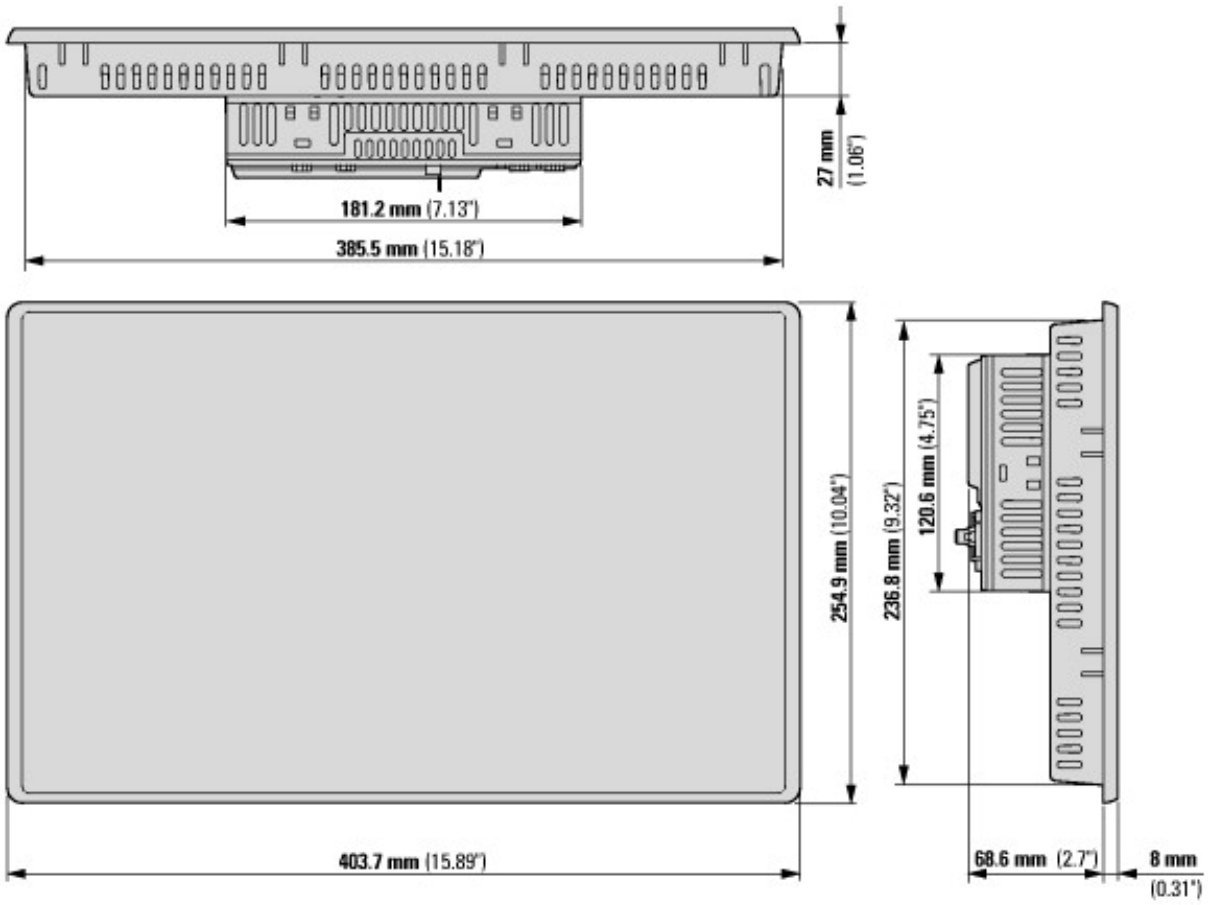
XV-303-... multi-touch panel with 15.6" screen diagonal; version: flush mounting
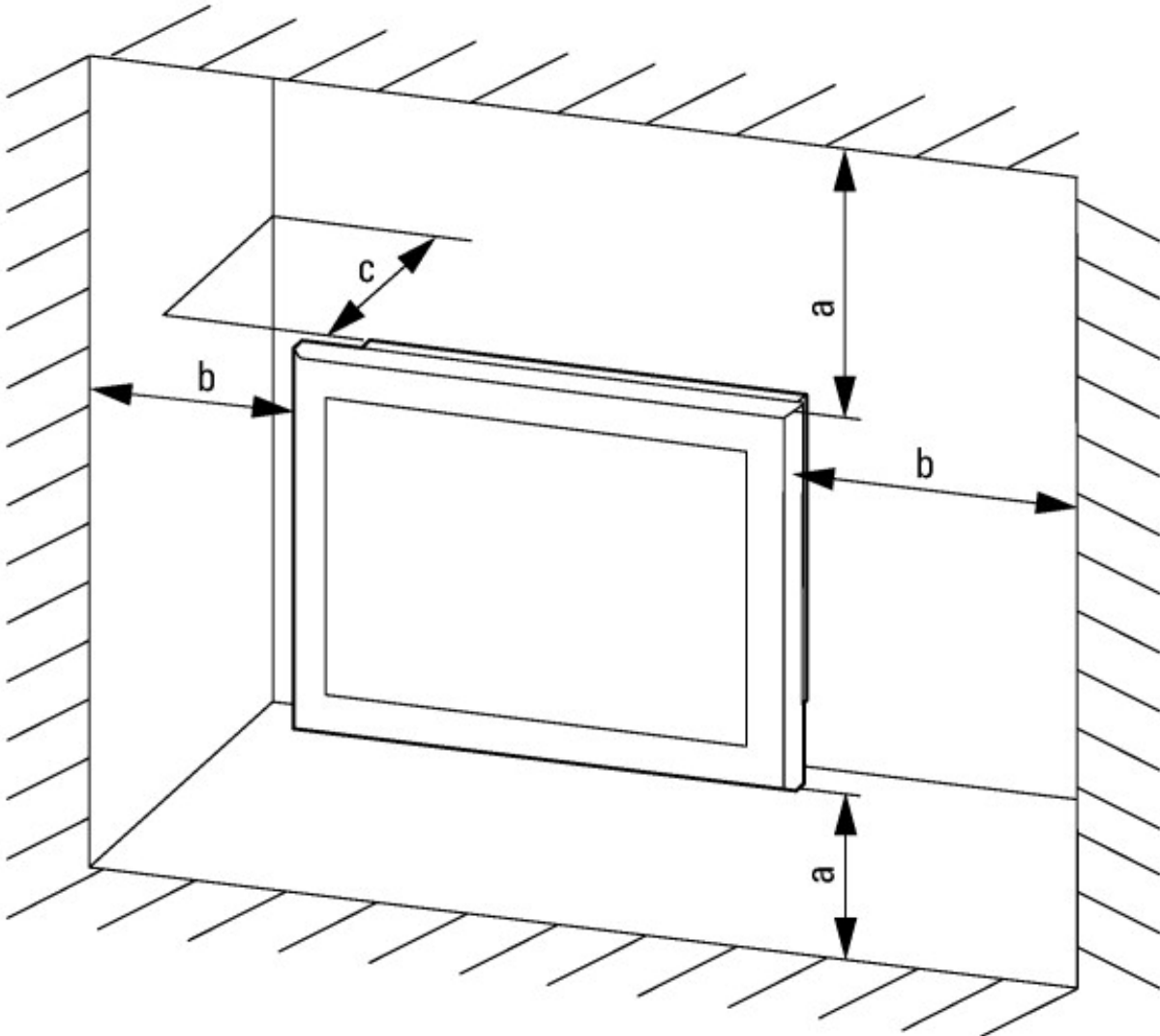
a, b ≧ 50 mm, c ≧ 20 mm, θ 0 ≦ T ≦ 50 °C

1.5 mm ≦ d ≦ 4 mm, e = 388 mm, f = 239 mm, # = 10°