User interface with PLC as an SWD coordinator,24VDC,15.6-inch PCT widescreen display,1366x768,2xEthernet,1xRS232,1xRS485,1xCAN,1xSWD,1xProfibus,1

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Part no.	XV-303-15-CE2-A00-1C
Catalog No.	191076
Eaton Catalog No.	XV-303-15-CE2-A00-1C

Similar to illustration

Delivery program

Product range		XV300 15.6"
Product range		XV-303
Subrange		SmartWire-DT touch display with integrated controller (HMI PLC)
Function		SmartWire-DT coordinator
Description		XV300 multi touch display with PLC function for flush mounting plates
Description		Control panel with PLC as a SmartWire-DT coordinator with 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 USB host 2.0 1 x USB device 1 x CANopen®/easyNet 1 x PROFIBUS/MPI 1 x SmartWire-DT
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
Connection to SmartWire-DT		yes

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)			Zero maintenance
Backup (time at zero voltage)			Normally 10 years
Operating system			Windows Embedded Compact 7 Pro

Engineering

Visualisation software			GALILEO XSOFT-CODESYS
PLC-Programming software			XSOFT-CODESYS-2 XSOFT-CODESYS-3
Target and web visualization			Yes

Interfaces, communication

built-in interfaces			2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x USB host 2.0 1 x USB device 1 x CANopen®/easyNet 1 x PROFIBUS/MPI 1 x SmartWire-DT
PLC-licence			PLC licence inclusive
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
SmartWire-DT master			Yes
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
Siemens MPI, (optional)			yes
Type of fuse			Yes (fuse not accessible)

Potential isolation			no

General

Housing material			Aluminium die-cast (glass panel) Insulated material black
Front type		V	Non-reflective tempered glass in aluminum frame
Dimensions (W x H x D)		mm	404 x 255 x 53
flush mounted		V	Clearance: W x H ≥ 50 mm (1.97"), T ≥ 20 mm (0.79") Inclination from vertical: α ⊑ ± 10 ° (if using natural convection) Mounting plate: min. 1.5 mm (0.06"), max. 4 mm
Weight		kg	3.95
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			CE; pending: cUL 61010-2-201
shipping classification			DNV GL
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
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

Environmental conditions

Temperature			
Operation	ϑ	°C	0 - +50
Storage / Transport	ϑ	°C	-20 - +60
Operating ambient temperature max.		°C	0
Operating ambient temperature max.		°C	+ 50
Relative humidity			
Condensation			Non-condensing
Relative humidity			10 - 95%, non-condensing

Supply voltage U$_{Aux}$

Rated operational voltage	U$_{Aux}$	V	24 V DC (-15/+20%)
Residual ripple on the input voltage		%	⊑ 5
Protection against polarity reversal			Yes
Max. current	I$_{max}$	A	3
Note			If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.
Short-circuit rating			no, external fuse FAZ Z3
Potential isolation			No
Rated operating voltage of 24-V-DC slaves		V	typ. U$_{Aux}$ - 0.2

Supply voltage U$_{POw}$

Supply voltage	U$_{Pow}$	V	24 DC -15 % + 20 %

Input voltage ripple		%	$\leqq 5$
Siemens MPI, (optional)			yes
Rated current	I	A	0.7
Overload proof			yes
Inrush current and duration		A	12.5 A/6 ms
Heat dissipation at 24 V DC		W	1.0
Potential isolation between U_{POW} and 15 V SmartWire-DT supply voltage			No
Bridging voltage dips		ms	10
Repetition rate		s	1
Status indication		LED	yes

SmartWire-DT supply voltage

Rated operating voltage	U_e	V	14.5 ± 3 %
max. current	I_{max}	A	0.7
Note			If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.
Short-circuit rating			Yes

Connection supply voltages

Connection type			Push in terminals
Solid		mm²	0.2 - 1.5
Flexible with ferrule		mm²	0.25 - 1.5
UL/CSA solid or stranded		AWG	24 - 16

SmartWire-DT network

Station type			SmartWire-DT master
Number of SmartWire-DT slaves			99
Baud Rates		kBd	125 250
Address allocation			automatic
Status indication		LED	SmartWire-DT master LED: red/green Configurations LED: red/green
Connections			Plug, 8-pole
Plug connectors			Blade terminal SWD4-8MF2

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 max.		°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.
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 6.0

PLC's (EG000024) / Graphic panel (EC001412)		
Electric engineering, automation, process control engineering / Control / Operate and Observe (HMI) / Graphic panel (HMI) (ecl@ss8.1-27-24-23-02 [BAA722010])		
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 HW-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		3
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

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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
With touch screen		Yes
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
Printer output available		Yes
Number of online languages		100
Additional software components, loadable		Yes
Degree of protection (IP), front side		IP65
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

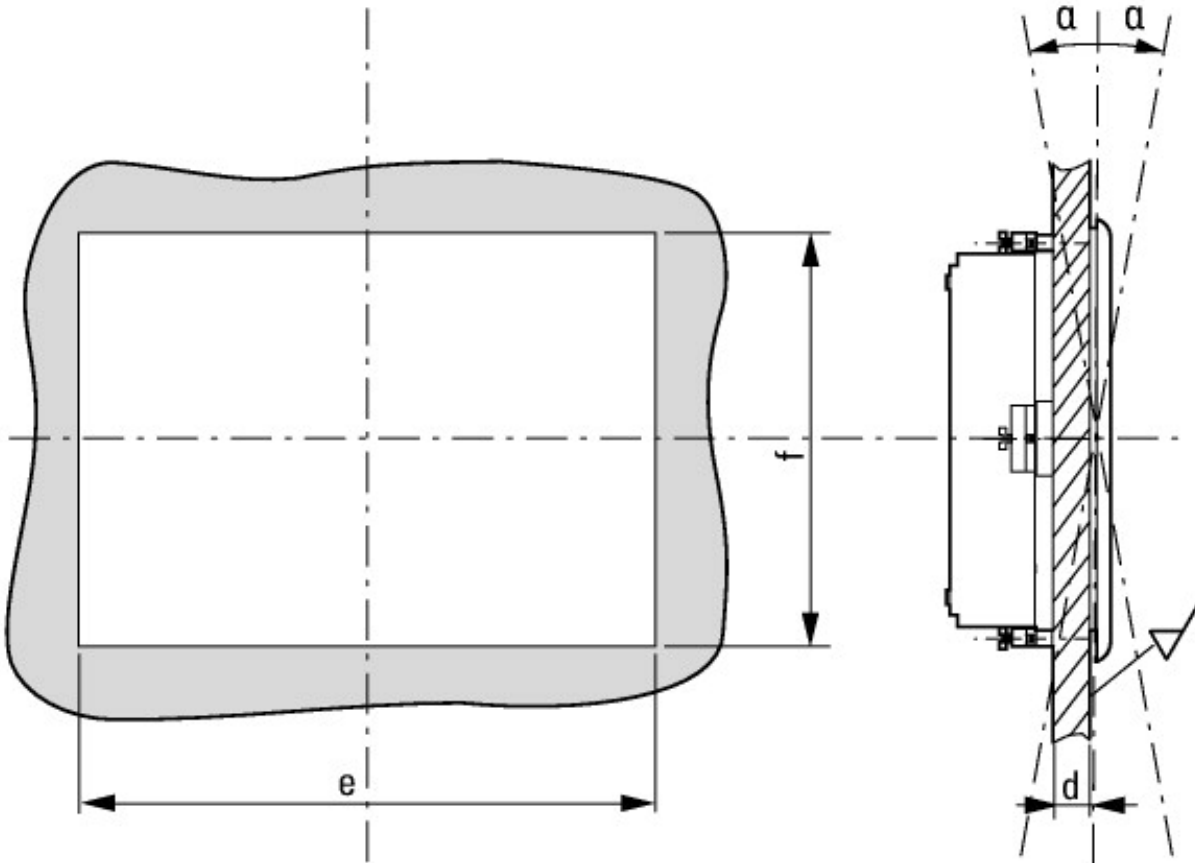|		
North America Certification		Request filed for UL
Specially designed for North America		No
Current Limiting Circuit-Breaker		No
Degree of Protection		IEC: IP65, NA: NEMA4X, NEMA12

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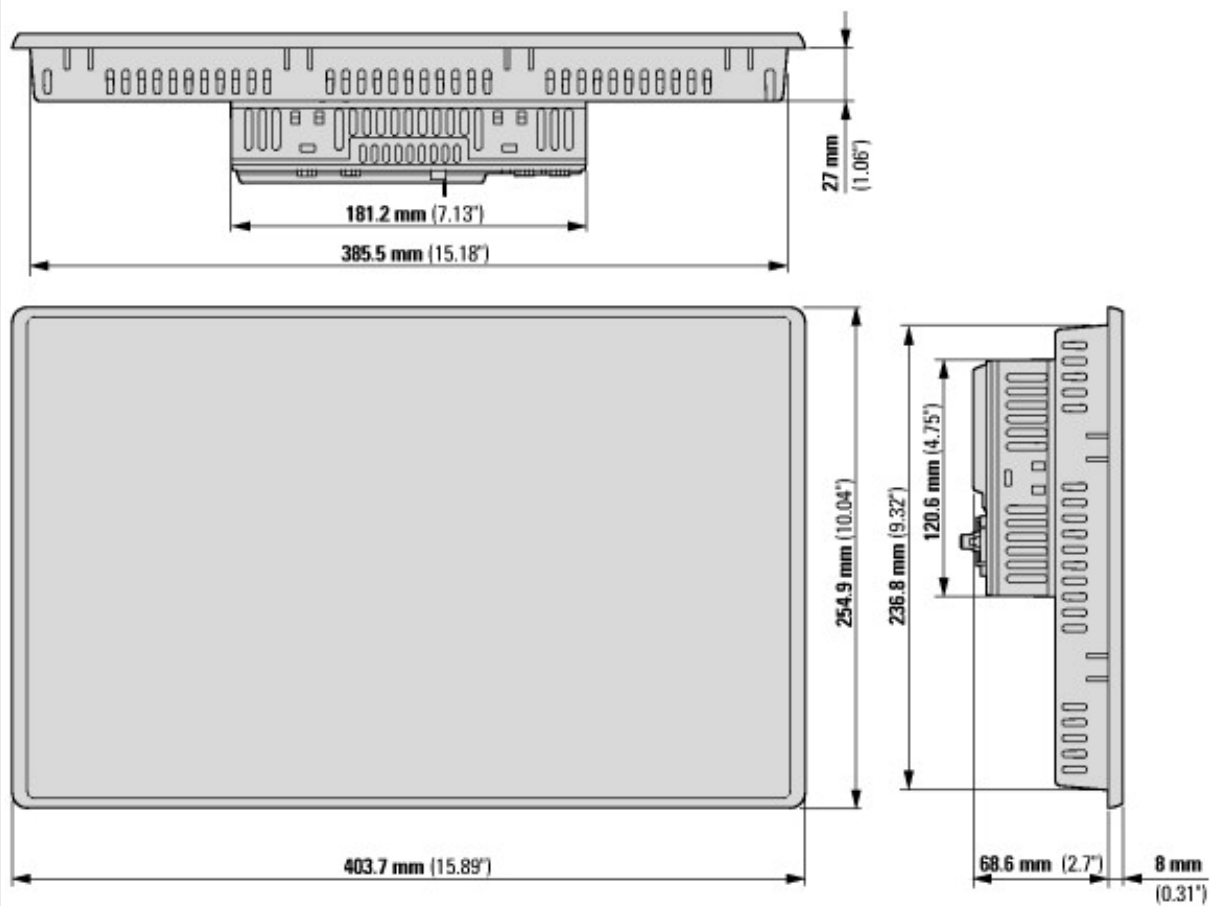
XV-303-... multi-touch panel with 15.6" screen diagonal; version: flush mounting
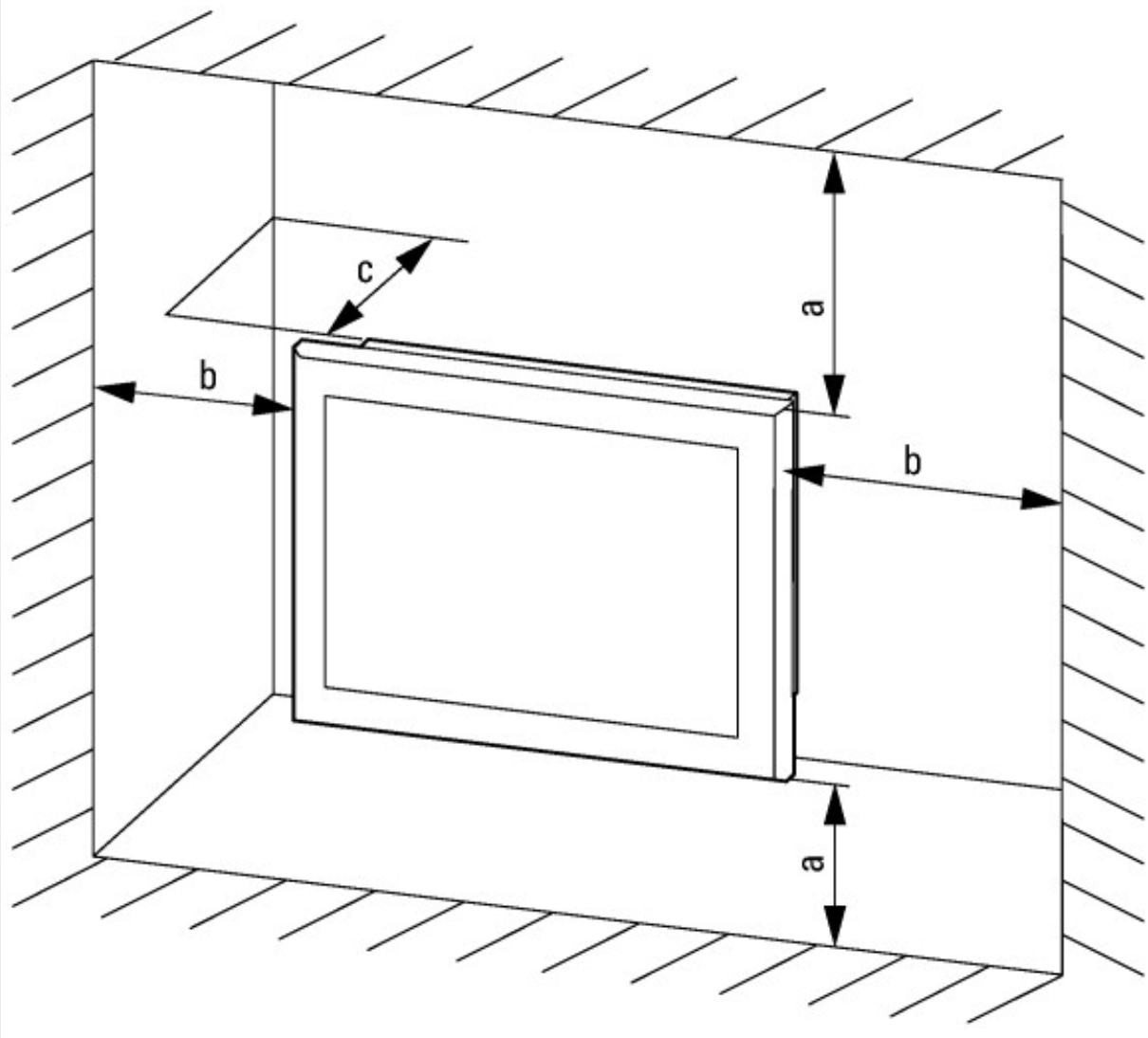
a, b $\geqq$ 50 mm, c $\geqq$ 20 mm, ϑ 0 $\leqq$ T $\leqq$ 50 °C

1.5 mm $\leqq$ d $\leqq$ 4 mm, e = 388 mm, f = 239 mm, α = 10°

Additional product information (links)

Instruction leaflet XV-303-… IL048009ZU	
Instruction leaflet XV-303-… IL048009ZU	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL048009ZU.pdf
MN048017 XV300 Multi-Touch Panel Manual	
MN048017 Handbuch Multi-Touchpanel XV300 - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048017_DE.pdf
MN048017 XV300 Multi-Touch Panel Manual - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048017_EN.pdf
MN048019ZU Communications Manual	
MN048019ZU Communications Manual - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048019ZU_EN.pdf
SmartWire-DT product range catalog	http://ecat.moeller.net/flip-cat/?edition=SWKAT&startpage=Titel
Technical data	http://ecat.moeller.net/flip-cat/?edition=SWKAT&startpage=48