



Control panel with PLC as SWD coordinator, 24 VDC, 7 Inches PCT-Display, 1024x600, 1xEthernet, 1xRS232, 1xRS485, 1xCAN,1xSWD, 1xProfibus



Part no. XV-303-70-BE2-A00-1C
Article no. 179657
Catalog No. XV-303-70-BE2-A00-1C

Delivery program

| | | | |
|---|--|-------|---|
| Product range | | | XV300 7" |
| 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 and PROFIBUS |
| Common features of the model series | | | Ethernet interface CAN USB device USB Host RS232 RS485 Slot for SD card Windows Embedded Compact 7 pro operating system Integrated GALILEO Runtime visualization software license |
| Display - Type | | | Color display, TFT, anti-glare |
| Touch-technology | | | Capacitive multi-touch technology (PCT) |
| Number of colours | | | 16 mil. |
| Resolution | | Pixel | WSVGA 1024 x 600 |
| Portrait format | | | yes |
| Screen diagonal | | Inch | 7 widescreen |
| Model | | | Plastic enclosure and glass panel in plastic frame |
| Operating system | | | Windows Embedded Compact 7 Pro |
| PLC-licence | | | PLC licence inclusive |
| License certificates for onboard interfaces | | | Not required |
| built-in interfaces | | | 1 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 | | | Anti-glare tempered glass in plastic bezel |
| 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 | 14.4 |
| Connection to SmartWire-DT | | | yes |

Technical data

| | | | |
|---------------------------|--|-------|--------------------------------|
| Display - Type | | | Color display, TFT, anti-glare |
| Screen diagonal | | Inch | 7 widescreen |
| Resolution | | Pixel | WSVGA 1024 x 600 |
| Visible screen area | | mm | 153.6 x 90.0 |
| Format | | | 16:9 |
| Number of colours | | | 16 mil. |
| Contrast ratio (Normally) | | | Normally 850:1 |

| | | | |
|----------------------------------|-------------------|-------------------|--|
| Brightness | | cd/m ² | Normally 400 |
| 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 XSOF-CODESYS |
| PLC-Programming software | | | XSOF-CODESYS-2 XSOF-CODESYS-3 |
| Target and web visualization | | | Yes |
| Interfaces, communication | | | |
| built-in interfaces | | | 1 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 | 14.4 |
| Power consumption | | W | Normally 14 |
| Heat dissipation | | W | 14.4 |
| Note on heat dissipation | | | Current consumption at 24 V DC 11.9 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 | | | Insulated material black |
| Front type | | | Anti-glare tempered glass in plastic bezel |

| | | | |
|---|--|-----|---|
| Dimensions (W x H x D) | | mm | 196 x 135 x 51 |
| flush mounted | | | Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection) |
| Weight | | kg | 0.74 |
| 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 (in preparation) |
| Approvals | | | |
| Approvals | | | cUL 61010-2-201 |
| Applied standards and directives | | | |
| EMC | | | 2004/108/EEC |
| Emitted interference | | | IEC/EN 6100-6-4 |
| Interference immunity | | | IEC/EN 6100-6-2 |
| 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 min. | | °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 | | % | ≤ 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 | | mm ² | 0.2 - 1.5 |
| Flexible with ferrule | | mm ² | 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 | 14.4 |
| 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 |
| IEC/EN 61439 design verification | | | |
| 10.2 Strength of materials and parts | | | |
| 10.2.2 Corrosion resistance | | | |
| 10.2.2.1 Verification of thermal stability of enclosures | | | |
| 10.2.2.2 Verification of resistance of insulating materials to normal heat | | | |
| 10.2.2.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects | | | |
| 10.2.4 Resistance to ultra-violet (UV) radiation | | | |
| 10.2.5 Lifting | | | |
| 10.2.6 Mechanical impact | | | |
| 10.2.7 Inscriptions | | | |
| 10.3 Degree of protection of ASSEMBLIES | | | |
| 10.4 Clearances and creepage distances | | | |
| 10.5 Protection against electric shock | | | |
| 10.6 Incorporation of switching devices and components | | | |
| 10.7 Internal electrical circuits and connections | | | |
| 10.8 Connections for external conductors | | | |
| 10.9 Insulation properties | | | |
| 10.9.2 Power-frequency electric strength | | | |
| 10.9.3 Impulse withstand voltage | | | |
| 10.9.4 Testing of enclosures made of insulating material | | | |
| 10.10 Temperature rise | | | |
| 10.11 Short-circuit rating | | | |
| 10.12 Electromagnetic compatibility | | | |
| 10.13 Mechanical function | | | |

Technical data ETIM 6.0

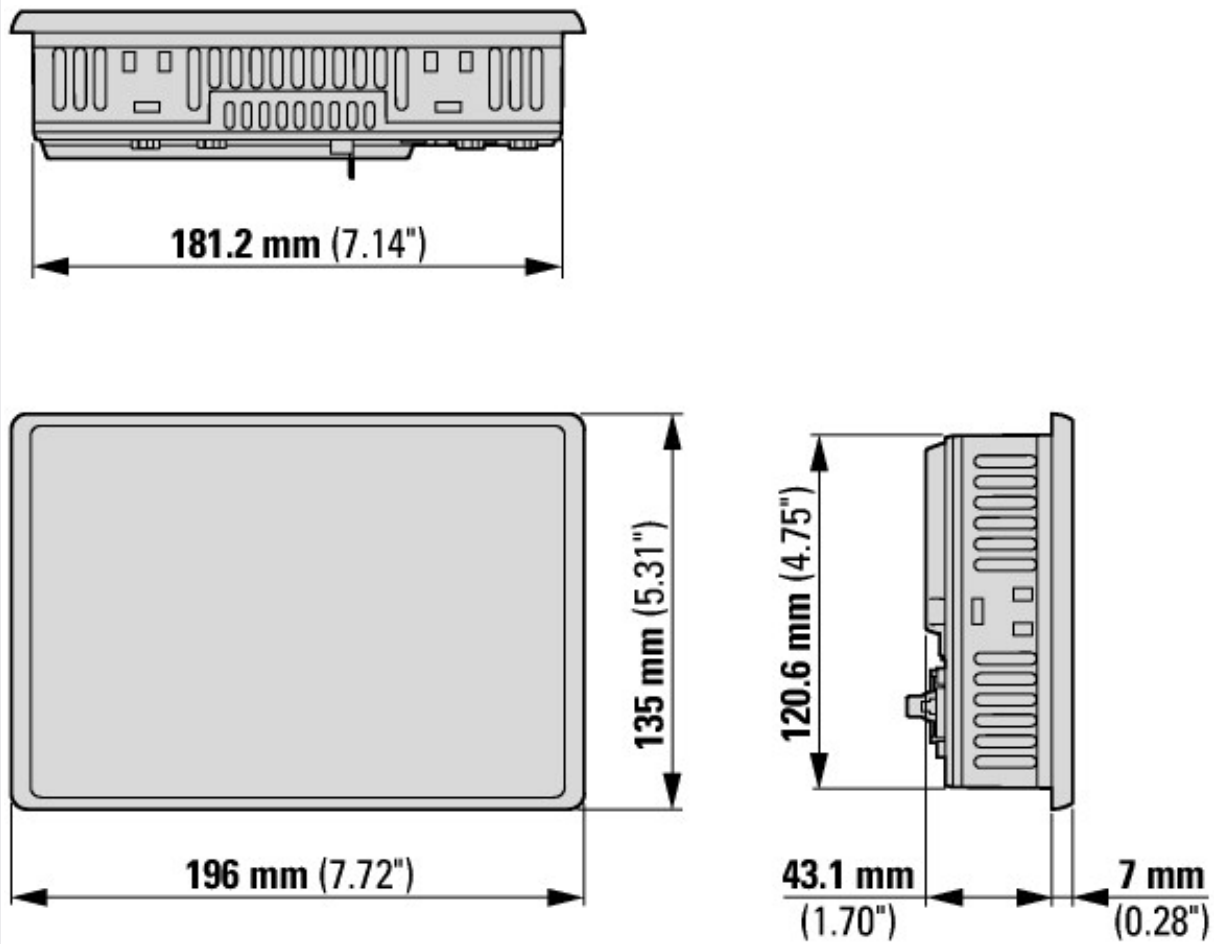
| | | |
|---|-------|-----------|
| PLC's (EG000024) / Graphic panel (EC001412) | | |
| Electric engineering, automation, process control engineering / Control / Operate and Observe (HMI) / Graphic panel (HMI) (ecl@ss8.1-27-24-23-02 [BAA722010]) | | |
| Supply voltage AC 50 Hz | V | 0 - 0 |
| Supply 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 | | 1 |
| 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 | | Yes |
| 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 | | 16000000 |
| Number of grey-scales/blue-scales of display | | 0 |
| Screen diagonal | inch | 7 |
| Number of pixels, horizontal | | 1024 |
| Number of pixels, vertical | | 600 |
| 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 | 196 |
| Height of the front | | mm | 135 |
| Built-in depth | | mm | 43.1 |

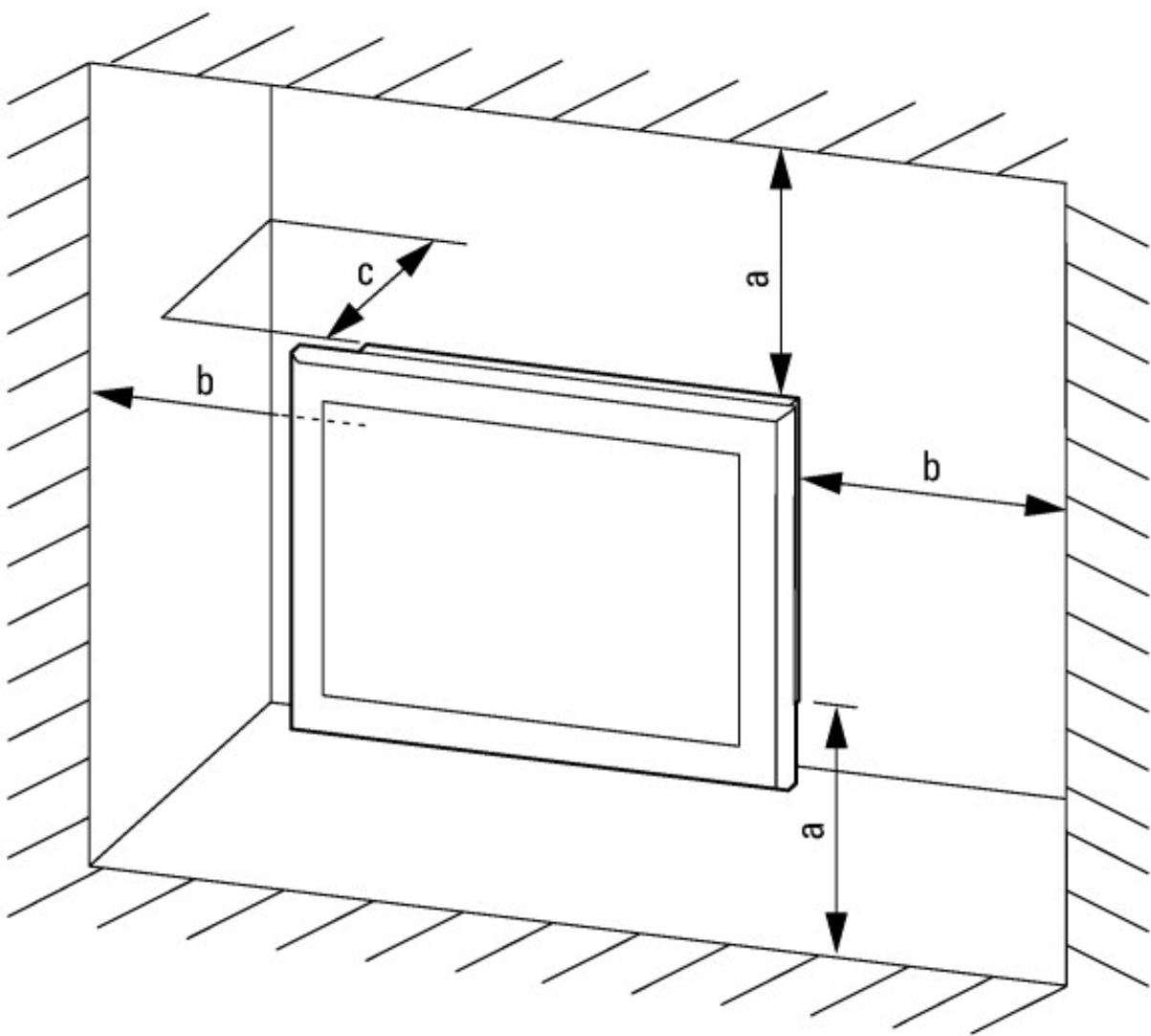
Approvals

| | | | |
|--------------------------------------|--|--|--|
| Product Standards | | | UL 61010-2-201; IEC/EN 61131-2; CE |
| UL File No. | | | E205091 |
| North America Certification | | | UL listed, certified by UL for use in Canada |
| Specially designed for North America | | | No |
| Current Limiting Circuit-Breaker | | | No |
| Degree of Protection | | | IEC: IP65, UL/CSA Type: - |

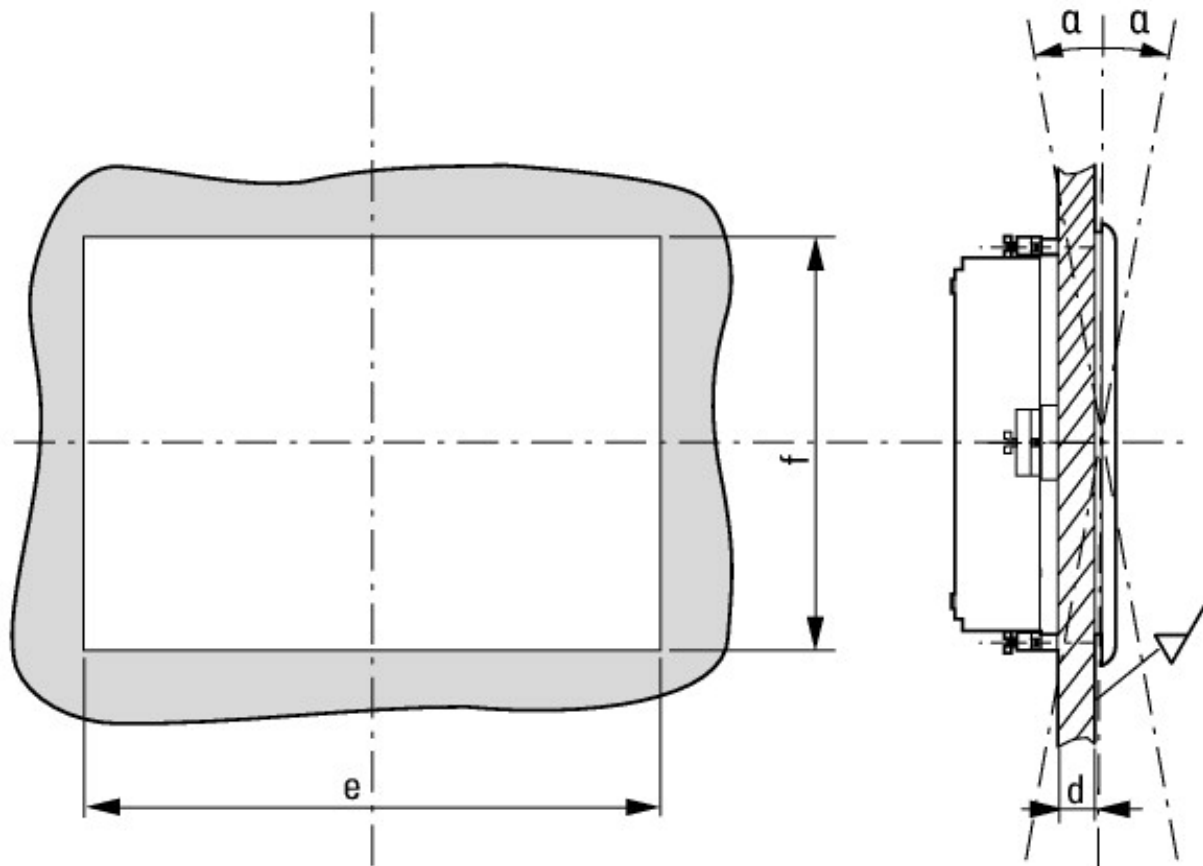
Dimensions



XV-303-... multi-touch panel with 7" screen diagonal; version: flush mounting



$a, b, c \stackrel{IV}{=} 30 \text{ mm}, \theta \stackrel{IV}{=} T \stackrel{IV}{=} 50^\circ \text{C}$



$2 \text{ mm} \stackrel{IV}{=} d \stackrel{IV}{=} 5 \text{ mm}, e = 183 \text{ mm}, f = 122 \text{ mm}, \alpha = 45^\circ$

Additional product information (links)

| | |
|--|---|
| Instruction leaflet XV-303... IL048009ZU | |
| Instruction leaflet XV-303... IL048009ZU | ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL048009ZU2015_12.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 - Deutsch | ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048019ZU_DE.pdf |
| MN048019ZU Communications Manual - English | ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048019ZU_EN.pdf |