# DATASHEET - XV-152-E6-57TVRC-10

**Touch panel, 24 V DC, 5.7z, TFTcolor, ethernet, RS485, CAN, SWDT, PLC**

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| **Part no.** | **XV-152-E6-57TVRC-10** |
| | **166700** |
| **EL Number (Norway)** | **4521134** |

## General specifications

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|---|---|
| Product name | Eaton XV-152 Touch panel |
| Part no. | XV-152-E6-57TVRC-10 |
| EAN | 7640130097766 |
| Product Length/Depth | 212 millimetre |
| Product height | 52.5 millimetre |
| Product width | 156 millimetre |
| Product weight | 1.3 kilogram |
| Certifications | IEC/EN 61241-0 (ATEX 94/9/EG: Zone 22, Category 3D (II 3D Ex tc IIIC T70°C IP6x)<br>IEC/EN 61000-6-2<br>IEC/EN 60079-0 (ATEX 94/9/EG: Zone 22, Category 3D (II 3D Ex tc IIIC T70°C IP6x)<br>CULus<br>EN 50178<br>ATEX 94/9/EG: Zone 22, Category 3D (II 3D Ex tc IIIC T70°C IP6x)<br>CSA Class No.: none<br>UL508<br>IEC/EN 60950<br>EN 60950<br>DNV GL<br>CSA File No.: UL report applies to both US and Canada<br>UL File No.: E205091<br>IEC/EN 61241-1 (ATEX 94/9/EG: Zone 22, Category 3D (II 3D Ex tc IIIC T70°C IP6x)<br>IEC/EN 61131-2<br>UL 60950<br>IEC/EN 61131-2, CE<br>Certified by UL for use in Canada<br>Security:<br>UL 508<br>UL Category Control No.: NRAQ<br>UL<br>CUL508<br>IEC/EN 61000-6-4<br>IEC/EN 61000-6-3 |
| Product Tradename | XV-152 |
| Product Type | Touch panel |
| Product Sub Type | None |

## Features & Functions

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| Enclosure material | Metal, anodized |
| Features | Overload proof<br>USB device<br>USB Host<br>Portrait format<br>UL508, cUL approvals<br>Ethernet interface<br>Fanless CPU and system cooling, natural convection-based passive cooling<br>Target and web visualization<br>Slot for SD card |
| Fitted with: | Recipes<br>SW interfaces<br>1 x SmartWire-DT (built-in interface)<br>Message indication<br>1 x RS485 (built-in interface)<br>1 x USB host 2.0 (built-in interface)<br>1 x CANopen®/easyNet (built-in interfaces)<br>Printer output<br>Alpha numeric keyboard<br>Numeric keyboard<br>Color display<br>1 x Ethernet 10/100 Mbps (built-in interfaces)<br>1 x USB device (built-in interface)<br>Message system (incl. buffer and confirmation) |
| Functions | Additional software components, loadable<br>Process default value (input) possible<br>SmartWire-DT coordination<br>Process value representation (output) possible |

## General information

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| Battery runtime | Back-up of real-time clock: CR 2032 (190 mA/h), zero maintenance (soldered) |

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| Current consumption | 0.4 A, continuous current, Power Supply, 24 V DC |
| Degree of protection | IP20<br>IP20, rear<br>NEMA 4X |
| Degree of protection (front side) | NEMA 4X<br>IP65 |
| Fuse type | Built-in fuse (not accessible) |
| Lifespan | 40,000 h (Service life of back-lighting) |
| Model | Metal enclosure and front plate |
| Mounting method | Flush mounting<br>Flush mounting - Inclination from vertical: ±45° (if using natural convection)<br>Flush mounting - Clearance: Width x Height x Depth ≥ 30 mm (1.18") |
| Product category | SmartWire-DT coordinators |
| Repetition rate | 1 s |
| Residual ripple | ≤ 5 % (input voltage) |
| RoHs conformity | Yes |
| Short-circuit protection | Yes, Short-circuit rating, SmartWire-DT supply voltage<br>No, external fuse FAZ Z3, Supply voltage UAux |
| Software | XSOFT-CODESYS-2, PLC-Programming software, Engineering<br>XSOFT-CODESYS-2, Visualization software, Engineering<br>XSOFT-CODESYS-3, PLC-Programming software, Engineering<br>XSOFT-CODESYS-3, Visualization software, Engineering<br>GALILEO, Visualization software, Engineering<br>EPAM, Visualization software, Engineering |
| Terminal capacity | 0.25 - 1.5 $mm^2$, 24 - 16 AWG<br>24 - 16 AWG, solid or stranded<br>0.2 - 1.5 $mm^2$, solid |
| Type | Coordinator for the SmartWire-DT communications system |
| Voltage type | DC |

## Ambient conditions, mechanical

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| Shock resistance | Mechanical, According to IEC/EN 60068-2-27 |
| Vibration resistance | According to IEC/EN 60068-2-6 |

## Climatic environmental conditions

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| Air pressure | 795 - 1080 hPa (operation) |
| Ambient operating temperature - min | 0 °C |
| Ambient operating temperature - max | 50 °C |
| Ambient storage temperature - min | -20 °C |
| Ambient storage temperature - max | 60 °C |
| Operating temperature - min | 0 °C |
| Operating temperature - max | 50 °C |
| Relative humidity | IEC/EN 50178<br>10 - 95 % (non-condensing) |

## Electro magnetic compatibility

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| Voltage dips | ≤ 10 ms from rated voltage (24 V DC)<br>5 ms from undervoltage (19.2 V DC)<br>≤ 10 ms, Bridging voltage dips |

## Electrical rating

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| Inrush current | 12.5 A (for 6 ms) |
| Permissible voltage | 35 V DC (for a duration of < 100 ms)<br>18 - 31.2 V DC, battery powered (rated operating voltage -25 %/+30 %)<br>18.0 - 31.2 V DC, absolute with ripple<br>19.2 - 30 V DC, effective (rated operating voltage -20 %/+25 %) |
| Power consumption | 7 W<br>9.5 W total<br>2.5 W (USB Slave to USB Host)<br>Max. 7 W |
| Rated control supply voltage | 24 V DC (UAUX, -20 %/+25 %)<br>24 V DC (UPOW, -20 %/+25 %) |
| Rated operational current (Ie) | 0.7 A |
| Rated operational voltage | Typically UAUX -0.2 V (for 24 V DC slaves)<br>24 V DC (power-supply - safety extra low voltage)<br>14.5 V (± 3 % - SmartWire-DT) |
| Supply current | 0.7 A, Imax, SmartWire-DT supply<br>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; SmartWire-DT supply<br>If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used, Supply voltage UAux |

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| | 3 A, Imax, Supply voltage UAux |
| Supply voltage at AC, 50 Hz - min | 0 V AC |
| Supply voltage at AC, 50 Hz - max | 0 V AC |
| Supply voltage at DC - min | 20.4 V DC |
| Supply voltage at DC - max | 28.8 V DC |
| **Communication** | |
| Addressing | Address set automatically |
| Communication interface | SmartWire-DT master |
| Connection | SmartWire-DT blade terminal SWD4-8MF2 |
| Connection to SmartWire-DT | Yes |
| Connection type | Push in terminals, Supply voltage<br>SWD: Plug, 8-pole |
| Data transfer rate | 250 kBit/s, SmartWire-DT<br>125 kBit/s, SmartWire-DT |
| Interfaces | RS485<br>USB 2.0 device (not galvanically isolated)<br>Ethernet (100Base-TX/10Base-T)<br>easyNet<br>CAN |
| LED indicator | Status indication of Supply voltage: LED<br>Status indication of SmartWire-DT network: Configurable green or red LED<br>Status indication of SmartWire-DT master: Green and red LEDs |
| Number of slots | 1 (for SD-Card) |
| Number of SmartWire-DT slaves | 99 |
| Protocol | MODBUS<br>TCP/IP<br>CAN<br>Other bus systems<br>EtherNet/IP |
| Station | SmartWire-DT master, SmartWire-DT network |
| **Display** | |
| Display contrast ratio | 300:1 |
| Display lighting | LED<br>Dimmable via software |
| Display size | 115 x 86 mm |
| Display type | Standard front with standard membrane (fully enclosed)<br>TFT<br>Color display, TFT |
| Luminance intensity | 250 cd/m$^2$ |
| Number of colors of the display | 65536 |
| Screen size (diagonal) | 5.7 in |
| Touch technology | Resistive touch<br>Touch sensor (glass with foil), Resistive touch protective screen<br>Glass with film touch sensor |
| **Input/Output** | |
| Resolution | VGA<br>640 x 480 px |
| **Safety** | |
| Explosion safety category for dust | ATEX dust-ex-protection, II 3D Ex II T70°C IP5x: Zone 22, Category 3D<br>ATEX dust-ex-protection, in relation to CE |
| Potential isolation | UAUX: no<br>Power supply: no<br>Between UPow and 15 V SmartWire-DT supply voltage: no |
| Protection against polarity reversal | Yes, for supply voltage (Siemens MPI optional)<br>Yes |
| **System** | |
| Backup time | 10 years, typ. (time at zero voltage) |
| Memory | SD Memory Card Slot: SDA Specification 1.00 (External)<br>64 MByte internal DRAM (OS, Program and data memory)<br>NVRAM (Retain data): 125 kByte<br>NAND-Flash (can be used for data backup): approx. 64 MByte available<br>NOR-Flash: 2 MByte |
| Memory capacity | 64,000 kByte |
| Operating system | Windows CE 5.0 (license included) |
| Processor | RISC CPU, 32 Bit, 400 MHz |

## Design verification

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| Equipment heat dissipation, current-dependent Pvid | | 9.5 W |
| Heat dissipation capacity Pdiss | | 0 W |
| Heat dissipation per pole, current-dependent Pvid | | 0 W |
| Rated operational current for specified heat dissipation (In) | | 0 A |
| Static heat dissipation, non-current-dependent Pvs | | 9.5 W |
| 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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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. |
| 10.9.2 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 9.0

Programmable logic controllers PLC (EG000024) / Graphic panel (EC001412)

Electric engineering, automation, process control engineering / Display and control component / Panel (HMI) / Graphic panel (HMI) (ecl@ss13-27-33-02-01 [AFX016008])

| | | |
|---|---|---|
| Supply voltage AC 50 Hz | V | 0 - 0 |
| Supply voltage AC 60 Hz | V | 0 - 0 |
| Supply voltage DC | V | 20.4 - 28.8 |
| Voltage type (supply voltage) | | DC |
| Power consumption | W | 7 |
| Number of HW-interfaces industrial Ethernet | | 1 |
| Number of interfaces PROFINET | | 0 |
| Number of HW-interfaces RS-232 | | 0 |
| 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 | | 2 |
| With SW interfaces | | Yes |
| Supporting protocol for EtherCAT | | No |
| Supporting protocol for TCP/IP | | Yes |
| Supporting protocol for PROFIBUS | | No |
| Supporting protocol for CAN | | Yes |
| Supporting protocol for INTERBUS | | No |
| Supporting protocol for ASI | | No |
| Supporting protocol for KNX | | No |

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| 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 |
| Colour display | | Yes |
| Number of colours of the display | | 65536 |
| Number of grey-scales/blue-scales of display | | 0 |
| Screen diagonal | inch | 5.7 |
| Number of pixels, horizontal | | 640 |
| Number of pixels, vertical | | 480 |
| Useful project memory/user memory | kByte | 64000 |
| With numeric keyboard | | Yes |
| With alpha numeric keyboard | | Yes |
| Number of function buttons, programmable | | 0 |
| Number of buttons with LED | | 0 |
| Number of system buttons | | 1 |
| Touch technology | | Resistive touch |
| 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 | | 4X |
| Certified for UL hazardous location class I | | No |
| Certified for UL hazardous location class II | | No |
| Certified for UL hazardous location class III | | No |
| Certified for UL hazardous location division 1 | | No |
| Certified for UL hazardous location division 2 | | No |
| Certified for UL hazardous location group A (acetylene) | | No |
| Certified for UL hazardous location group B (hydrogen) | | No |
| Certified for UL hazardous location group C (ethylene) | | No |

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| Certified for UL hazardous location group D (propane) | | | No |
| Certified for UL hazardous location group E (metal dusts) | | | No |
| Certified for UL hazardous location group F (carbonaceous dusts) | | | No |
| Certified for UL hazardous location group G (non-conductive dusts) | | | No |
| Operating temperature | | °C | 0 - 50 |
| Rail mounting possible | | | No |
| Wall mounting/direct mounting | | | No |
| Suitable for safety functions | | | No |
| Width of the front | | mm | 212 |
| Height of the front | | mm | 156 |
| Built-in depth | | mm | 47 |