

# Specifications

## Eaton 142535

Eaton XV-102 Touch panel, 24 V DC, 7z, TFTcolor, ethernet, RS232, (PLC)

### General specifications

<b>PRODUCT NAME</b>	Eaton XV-102 Touch panel
<b>CATALOG NUMBER</b>	142535
<b>EAN</b>	7640130096776
<b>PRODUCT LENGTH/DEPTH</b>	210 mm
<b>PRODUCT HEIGHT</b>	38 mm
<b>PRODUCT WIDTH</b>	135 mm
<b>PRODUCT WEIGHT</b>	0.62 kg
<b>CERTIFICATIONS</b>	CE Certified by UL for use in Canada IEC/EN 61131-2 DNV GL UL Recognized UL 60950-01 EN 60950 UL 60950 UL File No.: E208621 IEC/EN 61000-6-2 CSA-C22.2 No. 60950-1 UL Category Control No.: NWGQ2 EN 50178 UL report applies to both US and Canada IEC/EN 61000-6-4 CSA Class No.: NWGQ8 CUL508 EAC
<b>MODEL CODE</b>	XV-102-D0-70TWR-10



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## Product specifications

<b>FEATURES</b>	Slot for SD card Fanless CPU and system cooling, natural convection-based passive cooling UL508, cUL approvals Portrait format Ethernet interface USB device USB Host
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Please enquire
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.

## Resources

<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">DA-DC-00003879.pdf</a> <a href="#">DA-DC-00003710.pdf</a>
<b>DRAWINGS</b>	<a href="#">eaton-operator-panels-xv-touch-panel-3d-drawing-004.eps</a> <a href="#">eaton-general-xv-touch-panel-symbol.eps</a>
<b>ECAD MODEL</b>	<a href="#">DA-CE-ETN.XV-102-D0-70TWR-10</a>
<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">IL048007ZU</a> <a href="#">MN04802004Z_EN</a>
<b>MANUALS AND USER GUIDES</b>	<a href="#">MN048008ZU_EN</a> <a href="#">MN04802091Z_EN</a> <a href="#">MN04802013Z_EN</a>
<b>MATERIAL SAFETY DATA SHEET (MSDS)</b>	<a href="#">MSDS Panasonic Manganese Dioxide Lithium Battery (Series CR).pdf</a>
<b>MCAD MODEL</b>	<a href="#">eaton-xv-102-70-1-3d-model.stp</a> <a href="#">eaton-xv-102-70-1-drawing.dwg</a>
<b>TEST REPORT</b>	<a href="#">UN38.3 Panasonic CR2032.pdf</a>

<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Meets the product standard's requirements.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	1 x USB device (built-in interface) Printer output Numeric keyboard Message indication 1 x Ethernet 10/100 Mbps (built-in interfaces) 1 x USB host 2.0 (built-in interface) 1 x RS232 (built-in interface) Message system (incl. buffer and confirmation) SW interfaces Color display Alpha numeric keyboard Recipes
<b>FUSE TYPE</b>	Built-in fuse (not accessible)
<b>ENCLOSURE MATERIAL</b>	Plastic
<b>SUPPLY VOLTAGE AT AC, 50 HZ - MAX</b>	0 VAC
<b>SUPPLY VOLTAGE AT AC, 50 HZ - MIN</b>	0 VAC
<b>SUPPLY VOLTAGE AT AC, 60 HZ - MAX</b>	0 VAC

<b>SUPPLY VOLTAGE AT AC, 60 HZ - MIN</b>	0 VAC
<b>SUPPLY VOLTAGE AT DC - MAX</b>	28.8 VDC
<b>SUPPLY VOLTAGE AT DC - MIN</b>	20.4 VDC
<b>WIDTH OF THE FRONT</b>	210 mm
<b>PRODUCT CATEGORY</b>	HMI-PLC (SPS function, retrofittable)
<b>RESOLUTION</b>	<ul style="list-style-type: none"> <li>• 800 x 480 px</li> <li>• WVGA</li> </ul>
<b>AIR PRESSURE</b>	795 - 1080 hPa (operation)
<b>EXPLOSION SAFETY CATEGORY FOR DUST</b>	ATEX dust-ex-protection, II 3D Ex II T70°C IP5x: Zone 22, Category 3D ATEX dust-ex-protection, in relation to CE
<b>DISPLAY SIZE</b>	152 x 91 mm
<b>BACKUP TIME</b>	10 years, typ. (time at zero voltage)
<b>MEMORY CAPACITY</b>	64,000 kByte
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	50 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	0 °C
<b>BUILT-IN DEPTH</b>	33 mm
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	9.5 W
<b>FRONT HEIGHT</b>	135 mm
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	0 W
<b>NUMBER OF BUTTONS (PROGRAMMABLE FUNCTION)</b>	0
<b>NUMBER OF BUTTONS WITH LED</b>	0
<b>NUMBER OF GREY-SCALES/BLUE-SCALES OF DISPLAY</b>	0
<b>NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)</b>	1

<b>NUMBER OF HW-INTERFACES (OTHER)</b>	0
<b>BATTERY RUNTIME</b>	Back-up of real-time clock: CR 2032 (190 mA/h), zero maintenance (soldered)
<b>VOLTAGE TYPE</b>	DC
<b>CONDITIONS OF ACCEPTABILITY</b>	The investigated Pollution Degree is: 2 The following end-product enclosures are required: Fire UL/CSA The unit must be supplied via a SELV source. The provided Ethernet Connection is only allowed to connect to inhouse networks.
<b>OPERATING SYSTEM</b>	Windows CE 5.0 (license included)
<b>SOFTWARE</b>	EPAM, Visualization software, Engineering XSOFT-CODESYS-2, PLC-Programming software, Engineering XSOFT-CODESYS-3, Visualization software, Engineering XSOFT-CODESYS-3, PLC-Programming software, Engineering XSOFT-CODESYS-2, Visualization software, Engineering GALILEO, Visualization software, Engineering
<b>MOUNTING METHOD</b>	Flush mounting - Clearance: Width x Height x Depth $\geq$ 30 mm (1.18") Flush mounting - Inclination from vertical: $\pm 45^\circ$ (if using natural convection) Flush mounting
<b>DISPLAY CONTRAST RATIO</b>	300:1
<b>NUMBER OF SLOTS</b>	1 (for SD-Card)
<b>DISPLAY LIGHTING</b>	LED Dimmable via software
<b>DISPLAY TYPE</b>	TFT Standard front with standard membrane (fully enclosed)

	Color display, TFT
<b>PROTECTION AGAINST POLARITY REVERSAL</b>	Yes, for supply voltage (Siemens MPI optional) Yes
<b>RELATIVE HUMIDITY</b>	10 - 95 % (non-condensing)
<b>LIFESPAN</b>	40,000 h (Service life of back-lighting)
<b>RESIDUAL RIPPLE</b>	≤ 5 % (input voltage)
<b>RATED CONTROL SUPPLY VOLTAGE</b>	24 V DC (UPOW, -20 %/+25 %) 24 V DC (UAUX, -20 %/+25 %)
<b>DEGREE OF PROTECTION</b>	IP20, rear IP65
<b>LUMINANCE INTENSITY</b>	250 cd/m <sup>2</sup>
<b>DEGREE OF PROTECTION (FRONT SIDE)</b>	IP65 NEMA 4X
<b>NUMBER OF COLORS OF THE DISPLAY</b>	65536
<b>VIBRATION RESISTANCE</b>	According to IEC/EN 60068-2-6
<b>PROCESSOR</b>	RISC CPU, 32 Bit, 400 MHz
<b>ROHS CONFORMITY</b>	Yes
<b>MEMORY</b>	32 kByte internal NVRAM (retained data) SD Memory Card Slot: SDA Specification 1.00 (External) 64 MByte internal DRAM (OS, Program and data memory) 128 MByte internal NAND-Flash (can be used for data backup)
<b>FUNCTIONS</b>	Additional software components, loadable Process value representation (output) possible Process default value (input) possible
<b>TOUCH TECHNOLOGY</b>	Resistive touch Touch sensor (glass with foil), Resistive touch protective screen Glass with film touch sensor
<b>MODEL</b>	Insulating enclosure and front plate

<b>INTERFACES</b>	USB 2.0 host (1.5 - 12 Mbit/s, not galvanically isolated) Ethernet (100Base-TX/10Base-T) RS232 (not galvanically isolated, 9-pin SUB-D plug, UNC) USB 2.0 device (not galvanically isolated)
<b>VOLTAGE DIPS</b>	5 ms from undervoltage (19.2 V DC) $\leq 10$ ms from rated voltage (24 V DC)
<b>NUMBER OF HW-INTERFACES (PARALLEL)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-232)</b>	1
<b>NUMBER OF HW-INTERFACES (RS-422)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-485)</b>	0
<b>NUMBER OF HW-INTERFACES (SERIAL TTY)</b>	0
<b>NUMBER OF HW-INTERFACES (USB)</b>	2
<b>NUMBER OF HW-INTERFACES (WIRELESS)</b>	0
<b>NUMBER OF INTERFACES (PROFINET)</b>	0
<b>NUMBER OF ONLINE/RUNTIME LANGUAGES</b>	100
<b>NUMBER OF PASSWORD LEVELS</b>	200
<b>NUMBER OF PIXELS (HORIZONTAL)</b>	800
<b>NUMBER OF PIXELS (VERTICAL)</b>	480
<b>NUMBER OF SYSTEM BUTTONS</b>	1
<b>OPERATING TEMPERATURE - MAX</b>	50 °C
<b>OPERATING TEMPERATURE - MIN</b>	0 °C
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	0 A
<b>SCREEN SIZE (DIAGONAL)</b>	7 in

<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	9.5 W
<b>PERMISSIBLE VOLTAGE</b>	35 V DC (for a duration of < 100 ms) 18.0 - 31.2 V DC, absolute with ripple 19.2 - 30 V DC, effective (rated operating voltage - 20 %/+25 %) 18 - 31.2 V DC, battery powered (rated operating voltage -25 %/+30 %)
<b>POTENTIAL ISOLATION</b>	Supply voltage UAUX: no Power supply: no
<b>POWER CONSUMPTION</b>	9.5 W total Max. 10 W 2.5 W (USB Slave to USB Host) 7 W
<b>PROTOCOL</b>	MODBUS EtherNet/IP Other bus systems TCP/IP
<b>RATED OPERATIONAL VOLTAGE</b>	24 V DC (power-supply - safety extra low voltage)
<b>SHOCK RESISTANCE</b>	Mechanical, According to IEC/EN 60068-2-27

**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**



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