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## Eaton 140017

Eaton XV-102 Touch panel, 24 V DC, 3.5z,  
TFTmono, ethernet, RS485, profibus, PLC

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<b>PRODUCT NAME</b>	Eaton XV-102 Touch panel
<b>CATALOG NUMBER</b>	140017
<b>PRODUCT LENGTH/DEPTH</b>	136 mm
<b>PRODUCT HEIGHT</b>	30 mm
<b>PRODUCT WIDTH</b>	100 mm
<b>PRODUCT WEIGHT</b>	0.275 kg

### CERTIFICATIONS

Certified by UL for use in  
Canada  
EN 50178  
IEC/EN 61131-2  
EN 60950  
UL report applies to both  
US and Canada  
UL File No.: E208621  
UL 60950  
CSA-C22.2 No. 60950-1  
UL Recognized  
CE  
CSA Class No.: NWGQ8  
IEC/EN 61000-6-2  
UL 60950-01  
UL Category Control No.:  
NWGQ2  
CUL508  
DNV GL  
IEC/EN 61000-6-4  
EAC



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**FEATURES**

Portrait format  
Slot for SD card  
Ethernet interface  
Fanless CPU and system cooling, natural convection-based passive cooling  
UL508, cUL approvals  
USB device

**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.

**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.

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[eaton-operator-panels-xv-touch-panel-3d-drawing-004.eps](#)

[eaton-general-xv-touch-panel-symbol.eps](#)

<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>	Printer output 1 x PROFIBUS/MPI (built-in interface) Message indication 1 x USB device (built-in interface) Recipes SW interfaces 1 x Ethernet 10/100 Mbps (built-in interfaces) Numeric keyboard Alpha numeric keyboard 1 x RS485 (built-in interface) Message system (incl. buffer and confirmation)
<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>	136 mm

<b>PRODUCT CATEGORY</b>	HMI-PLC (integrated SPS function)
<b>RESOLUTION</b>	<ul style="list-style-type: none"> <li>• 320 x 240 px</li> <li>• QVGA</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>	70 x 53 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>	25 mm
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	5 W
<b>FRONT HEIGHT</b>	100 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>	32
<b>NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)</b>	1
<b>NUMBER OF HW-INTERFACES (OTHER)</b>	1
<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>	UL/CSA The investigated Pollution Degree is: 2 The provided Ethernet

	<p>Connection is only allowed to connect to inhouse networks.</p> <p>The unit must be supplied via a SELV source.</p> <p>The following end-product enclosures are required:</p> <p>Fire</p>
<b>OPERATING SYSTEM</b>	Windows CE 5.0 (license included)
<b>COMMUNICATION INTERFACE</b>	PROFIBUS, not galvanically isolated, max. 1.5 MBit/s (SUB-D socket 9 pole, UNC)
<b>SOFTWARE</b>	<p>EPAM, Visualization software, Engineering XSOFT-CODESYS-3, PLC-Programming software, Engineering XSOFT-CODESYS-2, Visualization software, Engineering GALILEO, Visualization software, Engineering XSOFT-CODESYS-3, Visualization software, Engineering XSOFT-CODESYS-2, PLC-Programming software, Engineering</p>
<b>MOUNTING METHOD</b>	<p>Flush mounting</p> <p>Flush mounting - Inclination from vertical: <math>\pm 45^\circ</math> (if using natural convection)</p> <p>Flush mounting - Clearance: Width x Height x Depth <math>\geq 30</math> mm (1.18")</p>
<b>DISPLAY CONTRAST RATIO</b>	300:1
<b>NUMBER OF SLOTS</b>	1 (for SD-Card)
<b>DISPLAY LIGHTING</b>	Dimmable via software LED
<b>DISPLAY TYPE</b>	<p>B/W display, TFT</p> <p>Standard front with standard membrane (fully enclosed)</p> <p>TFT</p>
<b>PROTECTION AGAINST POLARITY REVERSAL</b>	<p>Yes</p> <p>Yes, for supply voltage (Siemens MPI optional)</p>
<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 (UAUX, -20 %/+25 %) 24 V DC (UPOW, -20 %/+25 %)
<b>DEGREE OF PROTECTION</b>	IP20, rear IP65
<b>LUMINANCE INTENSITY</b>	250 cd/m²
<b>DEGREE OF PROTECTION (FRONT SIDE)</b>	IP65 NEMA 4X
<b>NUMBER OF COLORS OF THE DISPLAY</b>	32
<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) 64 MByte internal DRAM (OS, Program and data memory) 128 MByte internal NAND-Flash (can be used for data backup) SD Memory Card Slot: SDA Specification 1.00 (External)
<b>FUNCTIONS</b>	Additional software components, loadable Process value representation (output) possible Process default value (input) possible
<b>TOUCH TECHNOLOGY</b>	Resistive touch Glass with film touch sensor Touch sensor (glass with foil), Resistive touch protective screen
<b>MODEL</b>	Insulating enclosure and front plate
<b>INTERFACES</b>	USB 2.0 device (not galvanically isolated) Ethernet (100Base-TX/10Base-T) RS485 (not galvanically isolated, 9-pin SUB-D plug, UNC)
<b>VOLTAGE DIPS</b>	5 ms from undervoltage (19.2 V DC) ≤ 10 ms from rated voltage (24 V DC)
<b>NUMBER OF HW-</b>	0

<b>INTERFACES (PARALLEL)</b>	
<b>NUMBER OF HW-INTERFACES (RS-232)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-422)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-485)</b>	1
<b>NUMBER OF HW-INTERFACES (SERIAL TTY)</b>	0
<b>NUMBER OF HW-INTERFACES (USB)</b>	1
<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>	320
<b>NUMBER OF PIXELS (VERTICAL)</b>	240
<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>	3.5 in
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	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>	Power supply: no Supply voltage UAUX: no
<b>POWER CONSUMPTION</b>	Max. 5 W

	5 W
PROTOCOL	EtherNet/IP PROFIBUS TCP/IP MODBUS Other bus systems
RATED OPERATIONAL VOLTAGE	24 V DC (power-supply - safety extra low voltage)
SHOCK RESISTANCE	Mechanical, According to IEC/EN 60068-2-27
