



Touch panel, 24 V DC, 3.5z, TFTmono, ethernet, PLC

Part no. XV-102-B0-35MQR-10-PLC
140012
EL Number 4560830
(Norway)

General specifications		
Product name		Eaton XV-102 Touch panel
Part no.		XV-102-B0-35MQR-10-PLC
EAN		7640130095595
Product Length/Depth		136 millimetre
Product height		30 millimetre
Product width		100 millimetre
Product weight		0.245 kilogram
Certifications		EAC IEC/EN 61000-6-2 UL File No.: E208621 UL 60950 DNV GL UL report applies to both US and Canada EN 50178 CSA Class No.: NWGQ8 UL 60950-01 IEC/EN 61131-2 IEC/EN 61000-6-4 EN 60950 CE Certified by UL for use in Canada UL Recognized CUL508 CSA-C22.2 No. 60950-1 UL Category Control No.: NWGQ2
Product Tradename		XV-102
Product Type		Touch panel
Product Sub Type		None
Features & Functions		
Enclosure material		Plastic
Features		Slot for SD card Ethernet interface Portrait format UL508, cUL approvals USB device Fanless CPU and system cooling, natural convection-based passive cooling
Fitted with:		1 x USB device (built-in interface) Recipes Printer output Message indication Alpha numeric keyboard Numeric keyboard SW interfaces Message system (incl. buffer and confirmation) 1 x Ethernet 10/100 Mbps (built-in interfaces)
Functions		Process default value (input) possible Process value representation (output) possible Additional software components, loadable
General information		
Battery runtime		Back-up of real-time clock: CR 2032 (190 mA/h), zero maintenance (soldered)
Conditions of acceptability		The following end-product enclosures are required: Fire UL/CSA The investigated Pollution Degree is: 2 The unit must be supplied via a SELV source. The provided Ethernet Connection is only allowed to connect to inhouse networks.
Degree of protection		IP65 IP20, rear
Degree of protection (front side)		NEMA 4X IP65
Fuse type		Built-in fuse (not accessible)
Lifespan		40,000 h (Service life of back-lighting)
Model		Insulating enclosure and front plate

Mounting method		Flush mounting Flush mounting - Clearance: Width x Height x Depth ≥ 30 mm (1.18") Flush mounting - Inclination from vertical: ±45° (if using natural convection)
Product category		HMI-PLC (integrated SPS function)
Residual ripple		≤ 5 % (input voltage)
RoHs conformity		Yes
Software		XSOFT-CODESYS-2, PLC-Programming software, Engineering XSOFT-CODESYS-3, Visualization software, Engineering XSOFT-CODESYS-2, Visualization software, Engineering XSOFT-CODESYS-3, PLC-Programming software, Engineering EPAM, Visualization software, Engineering GALILEO, Visualization software, Engineering
Voltage type		DC
Ambient conditions, mechanical		
Shock resistance		Mechanical, According to IEC/EN 60068-2-27
Vibration resistance		According to IEC/EN 60068-2-6
Climatic environmental conditions		
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		10 - 95 % (non-condensing)
Electro magnetic compatibility		
Voltage dips		5 ms from undervoltage (19.2 V DC) ≤ 10 ms from rated voltage (24 V DC)
Electrical rating		
Permissible voltage		18 - 31.2 V DC, battery powered (rated operating voltage -25 %/+30 %) 19.2 - 30 V DC, effective (rated operating voltage -20 %/+25 %) 18.0 - 31.2 V DC, absolute with ripple 35 V DC (for a duration of < 100 ms)
Power consumption		5 W Max. 5 W
Rated control supply voltage		24 V DC (UPOW, -20 %/+25 %) 24 V DC (UAUX, -20 %/+25 %)
Rated operational voltage		24 V DC (power-supply - safety extra low voltage)
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		
Interfaces		Ethernet (100Base-TX/10Base-T) USB 2.0 device (not galvanically isolated)
Number of slots		1 (for SD-Card)
Protocol		TCP/IP MODBUS Other bus systems EtherNet/IP
Display		
Display contrast ratio		300:1
Display lighting		Dimmable via software LED
Display size		70 x 53 mm
Display type		TFT Standard front with standard membrane (fully enclosed) B/W display, TFT
Luminance intensity		250 cd/m ²
Number of colors of the display		32
Screen size (diagonal)		3.5 in
Touch technology		Touch sensor (glass with foil), Resistive touch protective screen Glass with film touch sensor

		Resistive touch
Input/Output		
Resolution		QVGA 320 x 240 px
Safety		
Explosion safety category for dust		ATEX dust-ex-protection, in relation to CE ATEX dust-ex-protection, II 3D Ex II T70°C IP5x: Zone 22, Category 3D
Potential isolation		Supply voltage UAUX: no Power supply: no
Protection against polarity reversal		Yes, for supply voltage (Siemens MPI optional) Yes
System		
Backup time		10 years, typ. (time at zero voltage)
Memory		128 MByte internal NAND-Flash (can be used for data backup) 32 kByte internal NVRAM (retained data) SD Memory Card Slot: SDA Specification 1.00 (External) 64 MByte internal DRAM (OS, Program and data memory)
Memory capacity		64,000 kByte
Operating system		Windows CE 5.0 (license included)
Processor		RISC CPU, 32 Bit, 400 MHz
Design verification		
Equipment heat dissipation, current-dependent P _{vid}		5 W
Heat dissipation capacity P _{diss}		0 W
Heat dissipation per pole, current-dependent P _{vid}		0 W
Rated operational current for specified heat dissipation (I _n)		0 A
Static heat dissipation, non-current-dependent P _{vs}		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	5

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		0
Number of HW-interfaces serial TTY		0
Number of HW-interfaces USB		1
Number of HW-interfaces parallel		0
Number of HW-interfaces wireless		0
Number of HW-interfaces other		0
With SW interfaces		Yes
Supporting protocol for EtherCAT		No
Supporting protocol for TCP/IP		Yes
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		No
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
Colour display		No
Number of colours of the display		32
Number of grey-scales/blue-scales of display		32
Screen diagonal	inch	3.5
Number of pixels, horizontal		320
Number of pixels, vertical		240
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
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	136
Height of the front		mm	100
Built-in depth		mm	25