DATASHEET - XV-102-B4-35TQR-10

Touch panel, 24 V DC, 3.5z, TFTcolor, ethernet, RS485, (PLC)

Part no.	**XV-102-B4-35TQR-10**
	140010
EL Number (Norway)	**4521106**

Product name	Eaton XV-102 Touch panel
Part no.	XV-102-B4-35TQR-10
EAN	7640130095540
Product Length/Depth	136 millimetre
Product height	30 millimetre
Product width	100 millimetre
Product weight	0.265 kilogram
Certifications	IEC/EN 61131-2 UL 60950-01 EN 50178 CE CSA Class No.: NWGQ8 Certified by UL for use in Canada IEC/EN 61000-6-2 CSA-C22.2 No. 60950-1 UL report applies to both US and Canada CUL508 UL Recognized UL 60950 DNV GL UL Category Control No.: NWGQ2 EN 60950 UL File No.: E208621 IEC/EN 61000-6-4 EAC
Product Tradename	XV-102
Product Type	Touch panel
Product Sub Type	None
Catalog Notes	4-wire Technology Can be expanded as required, see Accessories Can be fitted by user with article no. 142581 LIC-PLC-MXP-COMPACT Heat dissipation with power consumption for 24 V, all ports and interfaces connected Optionally with SD card -> article no. 139807
Enclosure material	Plastic
Features	USB device UL508, cUL approvals Portrait format Ethernet interface Fanless CPU and system cooling, natural convection-based passive cooling Slot for SD card
Fitted with:	Alpha numeric keyboard Message system (incl. buffer and confirmation) 1 x USB device (built-in interface) Recipes Printer output Message indication SW interfaces 1 x Ethernet 10/100 Mbps (built-in interfaces) Numeric keyboard Color display 1 x RS485 (built-in interface)
Functions	Process value representation (output) possible Process default value (input) possible Additional software components, loadable
Battery runtime	Back-up of real-time clock: CR 2032 (190 mA/h), zero maintenance (soldered)
Conditions of acceptability	The unit must be supplied via a SELV source. The following end-product enclosures are required: Fire The investigated Pollution Degree is: 2 UL/CSA The provided Ethernet Connection is only allowed to connect to inhouse networks.
Degree of protection	IP20, rear IP65

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 - Clearance: Width x Height x Depth ≥ 30 mm (1.18") Flush mounting - Inclination from vertical: ±45° (if using natural convection) Flush mounting
Product category	HMI-PLC (SPS function, retrofittable)
Residual ripple	≤ 5 % (input voltage)
RoHs conformity	Yes
Software	GALILEO, Visualisation software, Engineering XSOFT-CODESYS-3, PLC-Programming software, Engineering XSOFT-CODESYS-2, PLC-Programming software, Engineering XSOFT-CODESYS-2, Visualisation software, Engineering EPAM, Visualisation software, Engineering XSOFT-CODESYS-3, Visualisation software, Engineering
Voltage type	DC
Shock resistance	Mechanical, According to IEC/EN 60068-2-27
Vibration resistance	According to IEC/EN 60068-2-6
Air pressure	795 - 1080 hPa (operation)
Ambient operating temperature - min	0 °C
Ambient operating temperature - max	50 °C
Operating temperature - min	0 °C
Operating temperature - max	50 °C
Relative humidity	10 - 95 % (non-condensing)
Voltage dips	≤ 10 ms from rated voltage (24 V DC) 5 ms from undervoltage (19.2 V DC)
Permissible voltage	18 - 31.2 V DC, battery powered (rated operating voltage -25 %/+30 %) 18.0 - 31.2 V DC, absolute with ripple 35 V DC (for a duration of < 100 ms) 19.2 - 30 V DC, effective (rated operating voltage -20 %/+25 %)
Power consumption	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
Interfaces	RS485 (not galvanically isolated, 9-pin SUB-D plug, UNC) Ethernet (100Base-TX/10Base-T) USB 2.0 device (not galvanically isolated)
Number of slots	1 (for SD-Card)
Protocol	Other bus systems MODBUS TCP/IP EtherNet/IP
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) Color display, TFT
Luminance intensity	250 cd/m^2
Number of colors of the display	65536
Screen size (diagonal)	3.5 in

Touch technology		Touch sensor (glass with foil), Resistive touch protective screen Resistive touch Glass with film touch sensor
Resolution		320 x 240 px QVGA
Explosion safety category for dust		ATEX dust-ex-protection, II 3D Ex II T70°C IP5x: Zone 22, Category 3D ATEX dust-ex-protection, in relation to CE
Potential isolation		Power supply: no Supply voltage UAUX: no
Protection against polarity reversal		Yes, for supply voltage (Siemens MPI optional) Yes
Backup time		10 years, typ. (time at zero voltage)
Memory		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)
Memory capacity		64,000 kByte
Operating system		Windows CE 5.0 (license included)
Processor		RISC CPU, 32 Bit, 400 MHz
Equipment heat dissipation, current-dependent Pvid		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		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 8.0

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

Electric engineering, automation, process control engineering / Display and control component / Panel (HMI) / Graphic panel (HMI) (ecl@ss10.0.1-27-33-02-01 [AFX016003])

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 of supply voltage		DC
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		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 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 Wi-Fi 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		65,536
Number of grey-scales/blue-scales of display		0
Screen diagonal	inch	3.5
Number of pixels, horizontal		320
Number of pixels, vertical		240
Useful project memory/user memory	kByte	64,000
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
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

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