DATASHEET - XV-102-D0-70TWR-10

Touch panel, 24 V DC, 7z, TFTcolor, ethernet, RS232, (PLC)

Part no.	**XV-102-D0-70TWR-10**
	142535
EL Number (Norway)	**4521120**

Product name			Eaton XV-102 Touch panel
Part no.			XV-102-D0-70TWR-10
EAN			7640130096776
Product Length/Depth			210 millimetre
Product height			38 millimetre
Product width			135 millimetre
Product weight			0.62 kilogram
Certifications			Certified by UL for use in Canada CE IEC/EN 61000-6-2 DNV GL CSA-C22.2 No. 60950-1 UL File No.: E208621 EN 60950 UL Recognized IEC/EN 61000-6-4 IEC/EN 61131-2 UL report applies to both US and Canada CUL508 UL Category Control No.: NWGQ2 EN 50178 UL 60950 UL 60950-01 CSA Class No.: NWGQ8 EAC
Product Tradename			XV-102
Product Type			Touch panel
Product Sub Type			None
Catalog Notes			4-wire Technology 7 W for basic device + 2.5 W for USB module 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 Optionally with SD card -> article no. 139807
Enclosure material			Plastic
Features			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
Fitted with:			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
Functions			Additional software components, loadable Process value representation (output) possible Process default value (input) possible
Battery runtime			Back-up of real-time clock: CR 2032 (190 mA/h), zero maintenance (soldered)
Conditions of acceptability			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.
Degree of protection			IP20, rear

			IP65
Degree of protection (front side)			IP65 NEMA 4X
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			EPAM, Visualisation software, Engineering XSOFT-CODESYS-2, PLC-Programming software, Engineering XSOFT-CODESYS-3, Visualisation software, Engineering XSOFT-CODESYS-3, PLC-Programming software, Engineering XSOFT-CODESYS-2, Visualisation software, Engineering GALILEO, 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			5 ms from undervoltage (19.2 V DC) ≤ 10 ms from rated voltage (24 V DC)
Permissible voltage			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 %)
Power consumption			9.5 W total Max. 10 W 2.5 W (USB Slave to USB Host)
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			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)
Number of slots			1 (for SD-Card)
Protocol			MODBUS EtherNet/IP Other bus systems TCP/IP
Display contrast ratio			300:1
Display lighting			LED Dimmable via software
Display size			152 x 91 mm
Display type			TFT Standard front with standard membrane (fully enclosed) Color display, TFT

Luminance intensity		250 cd/m²
Number of colors of the display		65536
Screen size (diagonal)		7 in
Touch technology		Resistive touch Touch sensor (glass with foil), Resistive touch protective screen Glass with film touch sensor
Resolution		800 x 480 px WVGA
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		Supply voltage UAUX: no Power supply: 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		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 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			1
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			2
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	7
Number of pixels, horizontal			800
Number of pixels, vertical			480
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	210
Height of the front	mm	135
Built-in depth	mm	33