DATASHEET - XV-102-D6-57TVRC-10

Touch panel, 24 V DC, 5.7z, TFTcolor, ethernet, RS232, RS485, CAN, PLC

Powering Business Worldwide

Part no.	**XV-102-D6-57TVRC-10**
	142533
EL Number (Norway)	**4521118**

General specifications

Product name	Eaton XV-102 Touch panel
Part no.	XV-102-D6-57TVRC-10
EAN	7640130096752
Product Length/Depth	170 millimetre
Product height	39 millimetre
Product width	130 millimetre
Product weight	0.54 kilogram
Certifications	UL report applies to both US and Canada UL Recognized CE DNV GL UL Category Control No.: NWGQ2 IEC/EN 61000-6-4 CSA Class No.: NWGQ8 CSA-C22.2 No. 60950-1 UL 60950 IEC/EN 61000-6-2 UL 60950-01 EN 50178 CUL508 UL File No.: E208621 EN 60950 IEC/EN 61131-2 Certified by UL for use in Canada 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 Heat dissipation with power consumption for 24 V Optionally with SD card -> article no. 139807 PLC license inclusive

Features & Functions

Enclosure material	Plastic
Features	Ethernet interface USB device USB Host Slot for SD card Portrait format Fanless CPU and system cooling, natural convection-based passive cooling UL508, cUL approvals
Fitted with:	1 x RS232 (built-in interface) 1 x RS485 (built-in interface) Message system (incl. buffer and confirmation) SW interfaces Numeric keyboard 1 x USB device (built-in interface) Message indication 1 x Ethernet 10/100 Mbps (built-in interfaces) 1 x CANopen®/easyNet (built-in interfaces) 1 x USB host 2.0 (built-in interface) Color display Alpha numeric keyboard Printer output Recipes
Functions	Process value representation (output) possible Additional software components, loadable Process default value (input) possible

General information

Battery runtime	Back-up of real-time clock: CR 2032 (190 mA/h), zero maintenance (soldered)
Conditions of acceptability	The provided Ethernet Connection is only allowed to connect to inhouse networks. The following end-product enclosures are required: Fire The unit must be supplied via a SELV source. UL/CSA

	The investigated Pollution Degree is: 2
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 - 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 (integrated SPS function)
Residual ripple	≤ 5 % (input voltage)
RoHs conformity	Yes
Software	XSOFT-CODESYS-3, PLC-Programming software, Engineering XSOFT-CODESYS-2, Visualization software, Engineering XSOFT-CODESYS-3, Visualization software, Engineering XSOFT-CODESYS-2, PLC-Programming software, Engineering GALILEO, Visualization software, Engineering EPAM, 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	≤ 10 ms from rated voltage (24 V DC) 5 ms from undervoltage (19.2 V DC)
Electrical rating	
Permissible voltage	35 V DC (for a duration of < 100 ms) 18.0 - 31.2 V DC, absolute with ripple 18 - 31.2 V DC, battery powered (rated operating voltage -25 %/+30 %) 19.2 - 30 V DC, effective (rated operating voltage -20 %/+25 %)
Power consumption	Max. 10 W 2.5 W (USB Slave to USB Host) 9.5 W total 7 W
Rated control supply voltage	24 V DC (UAUX, -20 %/+25 %) 24 V DC (UPOW, -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) CAN, not galvanically isolated (SUB-D plug 9 pole, UNC) USB 2.0 device (not galvanically isolated) RS485 (not galvanically isolated, 9-pin SUB-D plug, UNC) USB 2.0 host (1.5 - 12 Mbit/s, not galvanically isolated) RS232 (not galvanically isolated, 9-pin SUB-D plug, UNC)
Number of slots	1 (for SD-Card)
Protocol	TCP/IP Other bus systems EtherNet/IP CAN MODBUS

Display

Display contrast ratio	300:1
Display lighting	LED Dimmable via software
Display size	115 x 86 mm
Display type	Standard front with standard membrane (fully enclosed) Color display, TFT TFT
Luminance intensity	250 cd/m²
Number of colors of the display	65536
Screen size (diagonal)	5.7 in
Touch technology	Resistive touch Touch sensor (glass with foil), Resistive touch protective screen Glass with film touch sensor

Input/Output

Resolution	640 x 480 px VGA

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	Power supply: no Supply voltage UAUX: no
Protection against polarity reversal	Yes Yes, for supply voltage (Siemens MPI optional)

System

Backup time	10 years, typ. (time at zero voltage)
Memory	64 MByte internal DRAM (OS, Program and data memory) 32 kByte internal NVRAM (retained data) 128 MByte internal NAND-Flash (can be used for data backup) SD Memory Card Slot: SDA Specification 1.00 (External)
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 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 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	10
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			1
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			1
With SW interfaces			Yes
Supporting protocol for EtherCAT			No
Supporting protocol for TCP/IP			Yes
Supporting protocol for PROFIBUS			No
Supporting protocol for CAN			Yes
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			Yes
Number of colours of the display			65536
Number of grey-scales/blue-scales of display			0
Screen diagonal		inch	5.7

Number of pixels, horizontal			640
Number of pixels, vertical			480
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	170
Height of the front		mm	130
Built-in depth		mm	34