



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

Part no. **XV-102-E6-57TVRC-10**
153525
 EL Number **4521128**
(Norway)

General specifications		
Product name		Eaton XV-102 Touch panel
Part no.		XV-102-E6-57TVRC-10
EAN		7640130097605
Product Length/Depth		170 millimetre
Product height		39 millimetre
Product width		130 millimetre
Product weight		0.56 kilogram
Compliances		CE Marked RoHS Compliant
Certifications		UL 60950 CUL508 UL Category Control No.: NRAQ CSA File No.: UL report applies to both US and Canada UL Listed EAC CULus CSA Class No.: none Certified by UL for use in Canada IEC/EN 61131-2, CE DNV GL UL File No.: E205091 UL508 IEC/EN 61000-6-2 EN 50178 IEC/EN 61000-6-4 EN 60950 cULus Listed IEC/EN 61131-2 UL
Product Tradename		XV-102
Product Type		Touch panel
Product Sub Type		None
Features & Functions		
Enclosure material		Plastic
Features		Overload proof USB Host Slot for SD card Target and web visualization USB device UL508, cUL approvals Portrait format Fanless CPU and system cooling, natural convection-based passive cooling Ethernet interface
Fitted with:		SW interfaces 1 x USB device (built-in interface) Color display 1 x RS485 (built-in interface) Alpha numeric keyboard Printer output Recipes Numeric keyboard 1 x USB host 2.0 (built-in interface) 1 x Ethernet 10/100 Mbps (built-in interfaces) Message system (incl. buffer and confirmation) 1 x SmartWire-DT (built-in interface) 1 x CANopen@/easyNet (built-in interfaces) Message indication
Functions		SmartWire-DT coordination 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)
Degree of protection		IP20 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 \geq 30 mm (1.18") Flush mounting - Inclination from vertical: $\pm 45^\circ$ (if using natural convection)
Product category		SmartWire-DT coordinators
Repetition rate		1 s
Residual ripple		\leq 5 % (input voltage)
RoHs conformity		Yes
Short-circuit protection		Yes, Short-circuit rating, SmartWire-DT supply voltage No, external fuse FAZ Z3, Supply voltage UAux
Software		XSOFT-CODESYS-2, Visualization software, Engineering GALILEO, Visualization software, Engineering XSOFT-CODESYS-3, PLC-Programming software, Engineering XSOFT-CODESYS-3, Visualization software, Engineering EPAM, Visualization software, Engineering XSOFT-CODESYS-2, PLC-Programming software, Engineering
Terminal capacity		0.2 - 1.5 mm ² , solid 0.25 - 1.5 mm ² , flexible with ferrule 24 - 16 AWG, solid or stranded
Type		Coordinator for the SmartWire-DT communications system
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		\leq 10 ms, Bridging voltage dips 5 ms from undervoltage (19.2 V DC) \leq 10 ms from rated voltage (24 V DC)
Electrical rating		
Inrush current		12.5 A (for 6 ms)
Permissible voltage		35 V DC (for a duration of < 100 ms) 19.2 - 30 V DC, effective (rated operating voltage -20 %/+25 %) 18 - 31.2 V DC, battery powered (rated operating voltage -25 %/+30 %) 18.0 - 31.2 V DC, absolute with ripple
Power consumption		7 W Max. 10 W 9.5 W total 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 current (Ie)		0.7 A
Rated operational voltage		Typically UAUX -0.2 V (for 24 V DC slaves) 14.5 V (\pm 3 % - SmartWire-DT) 24 V DC (power-supply - safety extra low voltage)
Supply current		0.7 A, I _{max} , SmartWire-DT supply 3 A, I _{max} , Supply voltage UAux If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used; SmartWire-DT supply If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used; Supply voltage UAux
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		
Addressing		Address set automatically
Communication interface		SmartWire-DT master
Connection		SmartWire-DT blade terminal SWD4-8MF2
Connection to SmartWire-DT		Yes
Connection type		SWD: Plug, 8-pole Push in terminals, Supply voltage
Data transfer rate		250 kBit/s, SmartWire-DT 125 kBit/s, SmartWire-DT
Interfaces		RS485 USB 2.0 host (1.5 - 12 Mbit/s, not galvanically isolated) CAN USB 2.0 device (not galvanically isolated) easyNet Ethernet (100Base-TX/10Base-T)
LED indicator		Status indication of Supply voltage: LED Status indication of SmartWire-DT network: Configurable green or red LED Status indication of SmartWire-DT master: Green and red LEDs
Number of slots		1 (for SD-Card)
Number of SmartWire-DT slaves		99
Protocol		CAN MODBUS Other bus systems EtherNet/IP TCP/IP
Station		SmartWire-DT master, SmartWire-DT network
Display		
Display contrast ratio		300:1
Display lighting		LED Dimmable via software
Display size		115 x 86 mm
Display type		Color display, TFT TFT Standard front with standard membrane (fully enclosed)
Luminance intensity		250 cd/m ²
Number of colors of the display		65536
Screen size (diagonal)		5.7 in
Touch technology		Glass with film touch sensor Touch sensor (glass with foil), Resistive touch protective screen Resistive touch
Input/Output		
Resolution		VGA 640 x 480 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
Explosion safety category for gas		Explosion protection according to EN 13463_x Explosion protection according to EN 60079-0 Explosion protection according to EN 61241-1
Potential isolation		Power supply: no Between U _{Pow} and 15 V SmartWire-DT supply voltage: 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) 128 MByte internal NAND-Flash (can be used for data backup) SD Memory Card Slot: SDA Specification 1.00 (External) 32 kByte internal NVRAM (retained data)
Memory capacity		64,000 kByte
Operating system		Windows CE 5.0 (license included) Galileo XSoft-CoDeSys
Processor		RISC CPU, 32 Bit, 400 MHz
Design verification		

Equipment heat dissipation, current-dependent Pvid		9.5 W
Heat dissipation capacity Pdis		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	2.5
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		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