



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

Part no. **XV-102-E8-57TVRC-10**
153526
EL Number **4521129**
(Norway)

General specifications		
Product name		Eaton XV-102 Touch panel
Part no.		XV-102-E8-57TVRC-10
EAN		7640130097612
Product Length/Depth		170 millimetre
Product height		39 millimetre
Product width		130 millimetre
Product weight		0.56 kilogram
Certifications		UL 60950 IEC/EN 61131-2 EN 50178 UL File No.: E205091 EN 60950 CUL508 UL CSA File No.: UL report applies to both US and Canada UL508 IEC/EN 61131-2, CE DNV GL Certified by UL for use in Canada IEC/EN 61000-6-4 UL Category Control No.: NRAQ CULus CSA Class No.: none IEC/EN 61000-6-2 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 Heat dissipation with power consumption for 24 V License certificates for onboard interfaces not required Optionally with SD card -> article no. 139807 PLC license inclusive
Features & Functions		
Enclosure material		Plastic
Features		Fanless CPU and system cooling, natural convection-based passive cooling USB device Target and web visualization Slot for SD card USB Host Ethernet interface UL508, cUL approvals Overload proof Portrait format
Fitted with:		1 x Ethernet 10/100 Mbps (built-in interfaces) 1 x RS485 (built-in interface) Message indication 1 x USB device (built-in interface) 1 x USB host 2.0 (built-in interface) Recipes 1 x PROFIBUS/MPI (built-in interface) Message system (incl. buffer and confirmation) SW interfaces Alpha numeric keyboard Printer output 1 x SmartWire-DT (built-in interface) MPI interface Numeric keyboard Color display
Functions		Process value representation (output) possible Process default value (input) possible SmartWire-DT coordination Additional software components, loadable
General information		
Battery runtime		Back-up of real-time clock: CR 2032 (190 mA/h), zero maintenance (soldered)

Degree of protection		IP20, rear IP20
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 - Inclination from vertical: $\pm 45^\circ$ (if using natural convection) Flush mounting - Clearance: Width x Height x Depth ≥ 30 mm (1.18") Flush mounting
Product category		SmartWire-DT coordinators
Repetition rate		1 s
Residual ripple		≤ 5 % (input voltage)
RoHs conformity		Yes
Short-circuit protection		No, external fuse FAZ Z3, Supply voltage UAux Yes, Short-circuit rating, SmartWire-DT supply voltage
Software		EPAM, Visualization software, Engineering GALILEO, Visualization software, Engineering XSOFTE-CODESYS-2, Visualization software, Engineering XSOFTE-CODESYS-3, Visualization software, Engineering XSOFTE-CODESYS-2, PLC-Programming software, Engineering XSOFTE-CODESYS-3, PLC-Programming software, Engineering
Terminal capacity		0.2 - 1.5 mm ² , solid 24 - 16 AWG, solid or stranded 0.25 - 1.5 mm ² , flexible with ferrule
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		≤ 10 ms, Bridging voltage dips 5 ms from undervoltage (19.2 V DC) ≤ 10 ms from rated voltage (24 V DC)
Electrical rating		
Inrush current		12.5 A (for 6 ms)
Permissible voltage		18.0 - 31.2 V DC, absolute with ripple 18 - 31.2 V DC, battery powered (rated operating voltage -25 %/+30 %) 35 V DC (for a duration of < 100 ms) 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 current (Ie)		0.7 A
Rated operational voltage		14.5 V (± 3 % - SmartWire-DT) 24 V DC (power-supply - safety extra low voltage) Typically UAUX -0.2 V (for 24 V DC slaves)
Supply current		3 A, I _{max} , Supply voltage UAux 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 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 0.7 A, I _{max} , SmartWire-DT supply
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		PROFIBUS SmartWire-DT master
Connection		SmartWire-DT blade terminal SWD4-8MF2
Connection to SmartWire-DT		Yes
Connection type		Push in terminals, Supply voltage SWD: Plug, 8-pole
Data transfer rate		125 kBit/s, SmartWire-DT 250 kBit/s, SmartWire-DT
Interfaces		RS485 Ethernet (100Base-TX/10Base-T) USB 2.0 device (not galvanically isolated) USB 2.0 host (1.5 - 12 Mbit/s, not galvanically isolated)
LED indicator		Status indication of SmartWire-DT master: Green and red LEDs Status indication of Supply voltage: LED Status indication of SmartWire-DT network: Configurable green or red LED
Number of slots		1 (for SD-Card)
Number of SmartWire-DT slaves		99
Protocol		TCP/IP PROFIBUS MODBUS Other bus systems EtherNet/IP
Station		SmartWire-DT master, SmartWire-DT network
Display		
Display contrast ratio		300:1
Display lighting		Dimmable via software LED
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)		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, II 3D Ex II T70°C IP5x: Zone 22, Category 3D ATEX dust-ex-protection, in relation to CE
Explosion safety category for gas		Explosion protection according to EN 61241-1 Explosion protection according to EN 13463_x Explosion protection according to EN 60079-0
Potential isolation		Supply voltage UAUX: no Power supply: no Between UPow and 15 V SmartWire-DT supply voltage: 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) 64 MByte internal DRAM (OS, Program and data memory) 32 kByte internal NVRAM (retained data) 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 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) (ec@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		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		Yes
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		Yes
Number of colours of the display		65536
Number of grey-scales/blue-scales of display		0
Screen diagonal	inch	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