DATASHEET - XV-102-E8-70TWRC-10

Touch panel, 24 V DC, 7z, TFTcolor, ethernet, RS485, profibus, SWDT, PLC

Powering Business Worldwide

Part no.	**XV-102-E8-70TWRC-10**
	153528
EL Number (Norway)	**4521133**

Product name	Eaton XV-102 Touch panel
Part no.	XV-102-E8-70TWRC-10
EAN	7640130097636
Product Length/Depth	210 millimetre
Product height	38 millimetre
Product width	135 millimetre
Product weight	0.66 kilogram
Certifications	IEC/EN 61131-2 CSA File No.: UL report applies to both US and Canada UL508 UL File No.: E205091 EN 60950 IEC/EN 61131-2, CE DNV GL UL 60950 IEC/EN 61000-6-2 CUL508 IEC/EN 61000-6-4 UL EN 50178 Certified by UL for use in Canada CULus UL Category Control No.: NRAQ CSA Class No.: none 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
Enclosure material	Plastic
Features	Overload proof UL508, cUL approvals USB device Target and web visualization Portrait format Slot for SD card USB Host Fanless CPU and system cooling, natural convection-based passive cooling Ethernet interface
Fitted with:	Message system (incl. buffer and confirmation) Alpha numeric keyboard Message indication Printer output Color display Recipes SW interfaces 1 x RS485 (built-in interface) Numeric keyboard 1 x USB device (built-in interface) 1 x PROFIBUS/MPI (built-in interface) 1 x USB host 2.0 (built-in interface) 1 x Ethernet 10/100 Mbps (built-in interfaces) 1 x SmartWire-DT (built-in interface) MPI interface
Functions	Additional software components, loadable Process value representation (output) possible Process default value (input) possible SmartWire-DT coordination
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)	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: ±45° (if using natural convection) Flush mounting Flush mounting - Clearance: Width x Height x Depth ≥ 30 mm (1.18")
Product category	SmartWire-DT coordinators
Repetition rate	1 s
Residual ripple	≤ 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	GALILEO, Visualisation software, Engineering EPAM, Visualisation software, Engineering XSOFT-CODESYS-2, Visualisation software, Engineering XSOFT-CODESYS-2, PLC-Programming software, Engineering XSOFT-CODESYS-3, Visualisation software, Engineering XSOFT-CODESYS-3, PLC-Programming software, Engineering
Terminal capacity	24 - 16 AWG, solid or stranded 0.25 - 1.5 mm^2, flexible with ferrule 0.2 - 1.5 mm^2, solid
Type	Coordinator for the SmartWire-DT communications system
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
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)
Voltage dips	≤ 10 ms from rated voltage (24 V DC) ≤ 10 ms, Bridging voltage dips 5 ms from undervoltage (19.2 V DC)
Inrush current	12.5 A (for 6 ms)
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 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	24 V DC (power-supply - safety extra low voltage) Typically UAUX -0.2 V (for 24 V DC slaves) 14.5 V (± 3 % - SmartWire-DT)
Supply current	3 A, Imax, 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, Imax, 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
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	250 kBit/s, SmartWire-DT 125 kBit/s, SmartWire-DT
Interfaces	USB 2.0 host (1.5 - 12 Mbit/s, not galvanically isolated) Ethernet (100Base-TX/10Base-T) USB 2.0 device (not galvanically isolated) RS485
LED indicator	Status indication of Supply voltage: LED Status indication of SmartWire-DT master: Green and red LEDs 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	PROFIBUS MODBUS Other bus systems TCP/IP EtherNet/IP
Station	SmartWire-DT master, SmartWire-DT network
Display contrast ratio	300:1
Display lighting	LED Dimmable via software
Display size	152 x 91 mm
Display type	Color display, TFT Standard front with standard membrane (fully enclosed) TFT
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
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
Explosion safety category for gas	Explosion protection according to EN 61241-1 Explosion protection according to EN 60079-0 Explosion protection according to EN 13463_x
Potential isolation	Between UPow and 15 V SmartWire-DT supply voltage: no Supply voltage UAUX: no Power supply: no
Protection against polarity reversal	Yes Yes, for supply voltage (Siemens MPI optional)
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		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 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 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

© 04/2023 by Eaton Industries GmbH