

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

Part no. XV-102-D0-70TWR-10
Article no. 142535

Powering Business Worldwide

Delivery programme

Product range		XV100 7"
Product range		XV-102
Function		HMI-PLC (PLC retrofitted by user)
Common features of the model series		Ethernet interface USB device USB Host Slot for SD card UL508, cUL approvals
Display - Type		Color display, TFT
Touch-technology		Resistive-Touch
Number of colours		64 k Colours
Resolution	Pixel	WVGA 800 x 480
Portrait format		yes
Screen diagonal	Inch	7
Model		Insulating enclosure and front plate
Operating system		Windows CE 5.0 (licence incl.)
PLC-licence		Can be fitted by user with article no. 142581 LIC-PLC-MXP-COMPACT
License certificates for onboard interfaces		Can be expanded as required, see Accessories -> License product certificates
built-in interfaces		1 x Ethernet 100base-TX/10base-T 1 x USB device 1 x RS232
Front type		Standard front with standard membrane (fully enclosed)
Utilization		Flush mounting
Slots		for SD card: 1
Memory card automation		Optionally with SD card -> article no. 139807
Pluggable communication cards (optional)		no
Heat dissipation	W	9.5

Technical data

Display

Display - Type		Color display, TFT
Screen diagonal	Inch	7
Resolution	Pixel	WVGA 800 x 480
Visible screen area	mm	152 x 91
Number of colours		64 k Colours
Contrast ratio (Normally)		Normally 300:1
Brightness	cd/m^2	Normally 250
Back-lighting		LED dimmable via software
Service life of back-lighting	h	Normally 40000
Resistive touch protective screen		Touch sensor (glass with foil)

Operation

Technology		Resistive-Touch 4 Drath

System

Processor		RISC CPU, 32 Bit, 400 MHz
Internal memory		DRAM (OS, Program and data memory): 64 MByte NAND-Flash (can be used for data backup): approx. 128 MByte available NVRAM (retained data): approx. 32 KByte available
External memory		SD Memory Card Slot: SDA Specification 1.00
Back-up of real-time clock		
Battery (service life)		Zero maintenance

Backup (time at zero voltage)			Normally 10 years
Operating system			Windows CE 5.0 (licence incl.)

Engineering

Visualisation software			GALILEO EPAM XSOFT-CODESYS-2 XSOFT-CODESYS-3
PLC-Programming software			XSOFT-CODESYS-2 XSOFT-CODESYS-3

Interfaces, communication

built-in interfaces			1 x Ethernet 100base-TX/10base-T 1 x USB device 1 x RS232
PLC-licence			Can be fitted by user with article no. 142581 LIC-PLC-MXP-COMPACT
USB Host			USB 2.0 (1.5 - 12 Mbit/s), not galvanically isolated
USB device			USB 2.0, not galvanically isolated
RS232 (System Port)			RS232, not galvanically isolated (SUB-D plug 9 pole, UNC)
Slots			for SD card: 1
Ethernet			100Base-TX/10Base-T

Power supply

Nominal voltage			24 V DC SELV (safety extra low voltage)
permissible voltage			Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%) Absolute with ripple: 18,0-31,2 V DC Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%) 35 V DC for a duration of < 100 ms
Voltage dips		ms	≤ 10 ms from rated voltage (24 V DC) 5 ms from undervoltage (20.4 V DC)
Power consumption	$P_{max.}$	W	10
Note on power consumption			Basic device USB Slave to USB Host: 2.5 Total: 9.5
Siemens MPI, (optional)			yes
Type of fuse			Yes (fuse not accessible)
Potential isolation			no potential isolation
Heat dissipation		W	9.5
Note on heat dissipation			Heat dissipation with power consumption for 24 V 7 W for basic device + 2.5 W for USB module

General

Housing material			Plastic, gray
Front type			Standard front with standard membrane (fully enclosed)
Weight		kg	0.6
Degree of protection (IEC/EN 60529, EN50178, VBG 4)			IP65 (at front), IP20 (at rear)
Approvals			
Approvals			cUL (UL508)
Explosion protection (according to ATEX 94/9/EC)			II 3D Ex II T70°C IP5x: Zone 22, Category 3D
Applied standards and directives			
EMC			(in relation to CE) EN 61000-6-2 EN 61000-6-4 EN 61131-2
Product standards			EN 50178 EN 61131-2
Security			EN 60950 UL 60950
Mechanical shock resistance		g	according to IEC 60068-2-27
Vibration			To IEC 68-2-6

Environmental conditions

Temperature			
Operation	ϑ	°C	0 - +50
Relative humidity		%	
Relative humidity			10 - 95%, non-condensing

Supply voltage U_{Aux}

Rated operational voltage	U_{Aux}	V	24 V DC (-20/+25%)
Protection against polarity reversal			Yes

Potential isolation			No

Supply voltage U_{Pow}

Supply voltage	U_{Pow}	V	24 DC -20 % + 25 %
Input voltage ripple		%	≤ 5
Siemens MPI, (optional)			yes

Data for design verification according to IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	0
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	9.5
Heat dissipation capacity	P_{diss}	W	0
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties			
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 5.0

PLC's (EG000024) / Graphic panel (EC001412)			
Electric engineering, automation, process control engineering / Control / Operate and Observe (HMI) / Graphic panel (HMI) (ecl@ss8-27-24-23-02 [BAA722009])			
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 HW-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
Radiostandard Bluetooth		No
Radiostandard WLAN 802.11		No
Radiostandard GPRS		No
Radiostandard GSM		No
Radiostandard UMTS		No
IO link master		No
Type of display		TFT
With 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		800
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
With system buttons		No
Buttons with LED		No
With touch screen		Yes
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
Printer output available		Yes
Number of online languages		100
Additional software components, loadable		Yes
Degree of protection (IP), front side		IP65

Operation temperature		°C	0 - 50
Rail mounting possible			No
Wall mounting/direct mounting			No
Suited for safety functions			No
Width of the front		mm	210
Height of the front		mm	135
Built-in depth		mm	33

Dimensions

Dimensions

Additional product information (links)

IL04802004Z Instruction leaflet	
IL04802004Z Instruction leaflet	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL04802004Z2013_03.pdf
MN04802004Z Operator manual XV-102	
MN04802004Z Betriebsanleitung XV-102 - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802004Z_DE.pdf
MN04802004Z Operator manual XV-102 - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802004Z_EN.pdf
MN04802013Z quick-start instructions XV100	
MN04802013Z Schnellstartanleitung XV100 - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802013Z_DE.pdf
MN04802013Z quick-start instructions XV100 - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802013Z_EN.pdf
MN04802091Z User manual XSoft-CoDeSys-2, PLC programming XV100	
MN04802091Z User manual XSoft-CoDeSys-2, PLC programming XV100	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802091Z-DE_2010-12.pdf
MN04802091Z User manual XSoft-CoDeSys-2, PLC programming XV100	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802091Z-DE_2012-05.pdf
MN04802091Z User manual XSoft-CoDeSys-2, PLC programming XV100	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802091Z-DE_2014-05.pdf
MN04802091Z User manual XSoft-CoDeSys-2, PLC programming XV100	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802091Z-EN_2010-12.pdf
MN04802091Z User manual XSoft-CoDeSys-2, PLC programming XV100	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802091Z-EN_2012-05.pdf
MN04802091Z User manual XSoft-CoDeSys-2, PLC programming XV100	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN04802091Z-EN_2014-05.pdf
MN048008ZU Manual XSOFT-CODESYS-3, PLC programming	
MN048008ZU Handbuch XSOFT-CODESYS-3, SPS-Programmierung - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048008ZU_DE.pdf
MN048008ZU Manual XSOFT-CODESYS-3, PLC programming - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048008ZU_EN.pdf

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