



**Control panel, 24 VDC, 7 Inches PCT-Display, 1024x600, 2xEthernet,
1xRS232, 1xRS485, 1xCAN, 1xProfibus, 1xSD card slot**

Part no. XV-303-70-C02-A00-1B
Article no. 179652
Catalog No. XV-303-70-C02-A00-1B

Delivery program

Product range			XV300 7"
Product range			XV-303
Function			HMI-PLC (PLC retrofitted by user)
Description			Control panel with PROFIBUS and 2nd Ethernet port
Common features of the model series			Ethernet interface CAN USB device USB Host RS232 RS485 Slot for SD card Windows Embedded Compact 7 pro operating system Integrated GALILEO Runtime visualization software license
Display - Type			Color display, TFT, anti-glare
Touch-technology			Capacitive multi-touch technology (PCT)
Number of colours			16 mil.
Resolution		Pixel	WSVGA 1024 x 600
Portrait format			yes
Screen diagonal		Inch	7 widescreen
Model			Plastic enclosure and glass panel in plastic frame
Operating system			Windows Embedded Compact 7 Pro
PLC-licence			Can be fitted by user with article no. 181585 LIC-PLC-A
License certificates for onboard interfaces			Not required
built-in interfaces			2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x USB host 2.0 1 x USB device 1 x CANopen®/easyNet 1 x PROFIBUS/MPI
Front type			Anti-glare tempered glass in plastic bezel
Utilization			Flush mounting
Slots			for SD card: 1
Memory card automation			Optionally with SD card -> article no. 181638
Pluggable communication cards (optional)			no
Touch sensor			Multi-touch touch panel
Heat dissipation		W	14.4

Technical data

Display

Display - Type			Color display, TFT, anti-glare
Screen diagonal		Inch	7 widescreen
Resolution		Pixel	WSVGA 1024 x 600
Visible screen area		mm	153.6 x 90.0
Format			16:9
Number of colours			16 mil.
Contrast ratio (Normally)			Normally 850:1
Brightness		cd/m ²	Normally 400
Back-lighting			LED dimnable via software
Service life of back-lighting		h	Normally 50000

Operation

Technology			Projected Capacitive Touch (PCT)
Touch sensor			Multi-touch touch panel

System

Processor			ARM Cortex-A9 800 MHz
Internal memory			DRAM: 512 MB RAM Flash: 1GB SLC NVRAM: 128kB Retain
External memory			SD card, Type: SDSC, SDHC
Cooling			Fanless CPU and system cooling, natural convection-based passive cooling
Back-up of real-time clock			
Battery (service life)			Zero maintenance
Backup (time at zero voltage)			Normally 10 years
Operating system			Windows Embedded Compact 7 Pro

Engineering

Visualisation software			GALILEO XSOFT-CODESYS
PLC-Programming software			XSOFT-CODESYS-2 XSOFT-CODESYS-3
Target and web visualization			Yes

Interfaces, communication

built-in interfaces			2 x Ethernet 10/100 Mbps 1 x RS232 1 x RS485 1 x USB host 2.0 1 x USB device 1 x CANopen®/easyNet 1 x PROFIBUS/MPI
PLC-licence			Can be fitted by user with article no. 181585 LIC-PLC-A
USB Host			USB 2.0, not galvanically isolated
USB device			USB 2.0, not galvanically isolated
RS-232			Not galvanically isolated, 9-pin D-sub plug, UNC
RS-485			Not galvanically isolated, 9-pin D-sub plug, UNC
CAN			Not galvanically isolated, 9-pin D-sub plug, UNC
Profibus			PROFIBUS-DP, not galvanically isolated, 9 pole SUB-D socket, UNC
Slots			for SD card: 1
Ethernet			10/100 Mbps

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 (19.2 V DC)
Power consumption	P _{max.}	W	14.4
Power consumption		W	Normally 14
Heat dissipation		W	14.4
Note on heat dissipation			Current consumption at 24 V DC 11.9 W for basic device + 2.5 W for USB module
Siemens MPI, (optional)			yes
Type of fuse			Yes (fuse not accessible)
Potential isolation			no

General


Housing material			Insulated material black
Front type			Anti-glare tempered glass in plastic bezel
Dimensions (W x H x D)		mm	196 x 135 x 51
flush mounted			Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection)
Weight		kg	0.74
Degree of protection (IEC/EN 60529, EN50178, VBG 4)			IP65 (in the front as per EN 60529-1), IP20 (on rear as per EN 60529-1), NEMA 4X (in preparation)
Approvals			
Approvals			cUL 61010-2-201

Applied standards and directives			
EMC			2004/108/EEC
Emitted interference			IEC/EN 6100-6-4
Interference immunity			IEC/EN 6100-6-2
Product standards			EN50178/IEC/EN 61131-2
Mechanical shock resistance		g	15g / 11ms
Vibration			5...9 Hz +- 3.5 mm 9...60 Hz +- 0.15 mm 60...150 Hz ± 2 g
Free fall, packaged		m	IEC/EN 60068-2-31
RoHS			conform
Climatic environmental conditions			
Climatic proofing			Cold to EN 60068-2-1 Dry heat to IEC 60068-2-2 Damp heat as per EN 60068-2-3
Air pressure (operation)		hPa	795 - 1080


Environmental conditions

Temperature			
Operation	θ	°C	0 - +50
Storage / Transport	θ	°C	-20 - +60
Operating ambient temperature min.		°C	0
Operating ambient temperature max.		°C	+ 50
Relative humidity			
Condensation			Non-condensing
Relative humidity			10 - 95%, non-condensing

Supply voltage U_{Aux}

Rated operational voltage	U_{Aux}	V	24 V DC (-15/+20%)
Residual ripple on the input voltage		%	 5
Protection against polarity reversal			Yes
Max. current	I_{max}	A	3
Note			If contactors with a total power consumption > 3 A are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.
Short-circuit rating			no, external fuse FAZ Z3
Potential isolation			No

Supply voltage U_{Pow}

Supply voltage	U_{Pow}	V	24 DC -15 % + 20 %
Input voltage ripple		%	 5
Siemens MPI, (optional)			yes
Rated current	I	A	0.7
Overload proof			yes
Inrush current and duration		A	12.5 A/6 ms
Heat dissipation at 24 V DC		W	1.0
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage			No
Bridging voltage dips		ms	10
Repetition rate		s	1
Status indication		LED	yes

Connection supply voltages

Connection type			
Solid		mm ²	0.2 - 1.5
Flexible with ferrule		mm ²	0.25 - 1.5
UL/CSA solid or stranded		AWG	24 - 16

Design verification as per 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	14.4
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature min.		°C	0
Operating ambient temperature max.		°C	50
Degree of Protection			IP65 (in the front as per EN 60529-1), IP20 (on rear as per EN 60529-1), NEMA 4X
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 6.0

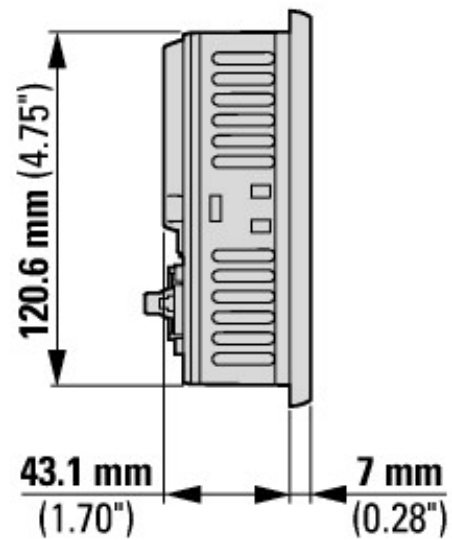
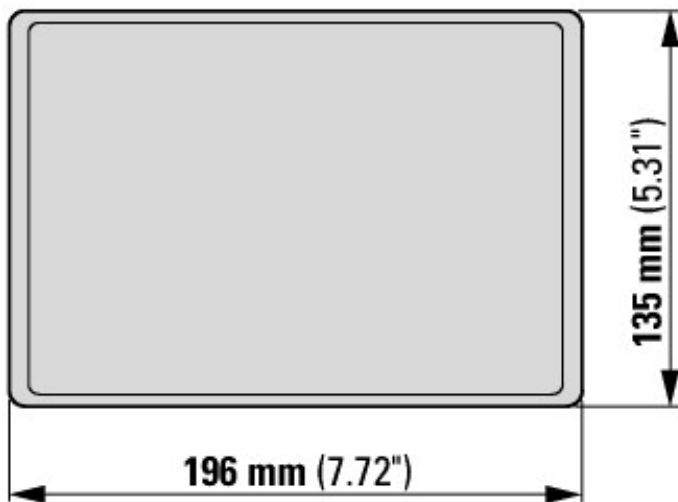
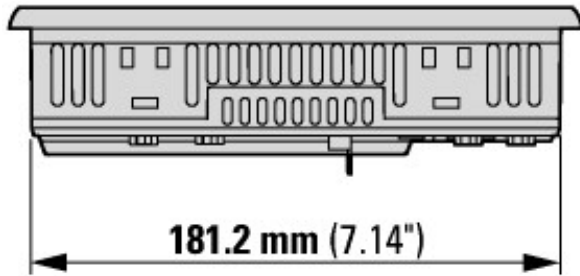
PLC's (EG000024) / Graphic panel (EC001412)			
Electric engineering, automation, process control engineering / Control / Operate and Observe (HMI) / Graphic panel (HMI) (ecl@ss8.1-27-24-23-02 [BAA722010])			
Supply voltage AC 50 Hz		V	0 - 0
Supply voltage AC 60 Hz		V	0 - 0
Supply voltage DC		V	19.2 - 30
Voltage type of supply voltage			DC
Number of HW-interfaces industrial Ethernet			2
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			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			2
With SW interfaces			Yes
Supporting protocol for TCP/IP			Yes
Supporting protocol for PROFIBUS			Yes
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		No
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
With colour display		Yes
Number of colours of the display		16000000
Number of grey-scales/blue-scales of display		0
Screen diagonal	inch	7
Number of pixels, horizontal		1024
Number of pixels, vertical		600
Useful project memory/user memory	kByte	512000
With numeric keyboard		No
With alpha numeric keyboard		No
Number of function buttons, programmable		0
Number of buttons with LED		0
Number of system buttons		1
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
Suitable for safety functions		No
Width of the front	mm	196
Height of the front	mm	135
Built-in depth	mm	43.1

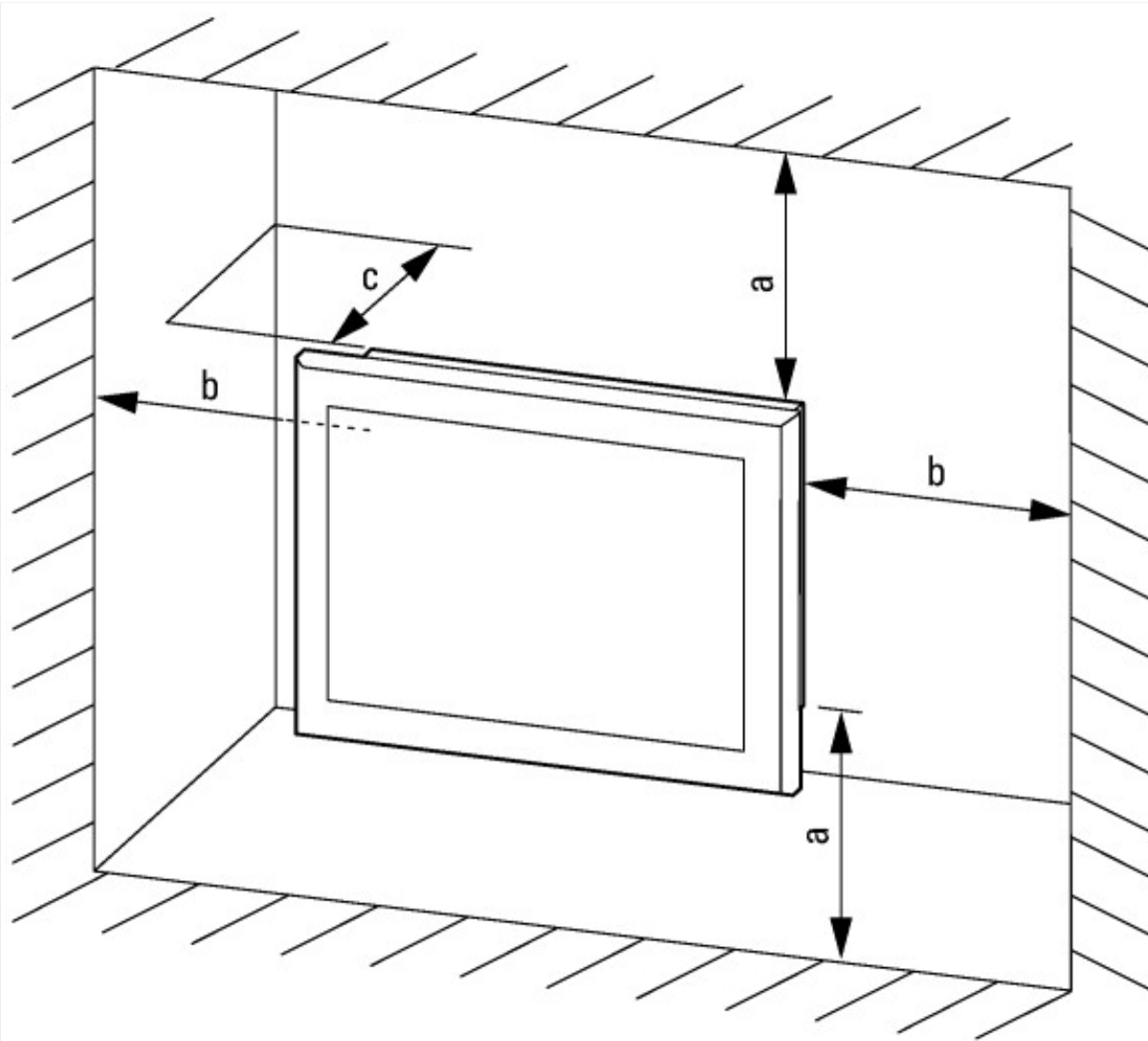
Approvals

Product Standards		UL 61010-2-201; IEC/EN 61131-2; CE
UL File No.		E205091
North America Certification		UL listed, certified by UL for use in Canada
Specially designed for North America		No
Current Limiting Circuit-Breaker		No
Degree of Protection		IEC: IP65, UL/CSA Type: -

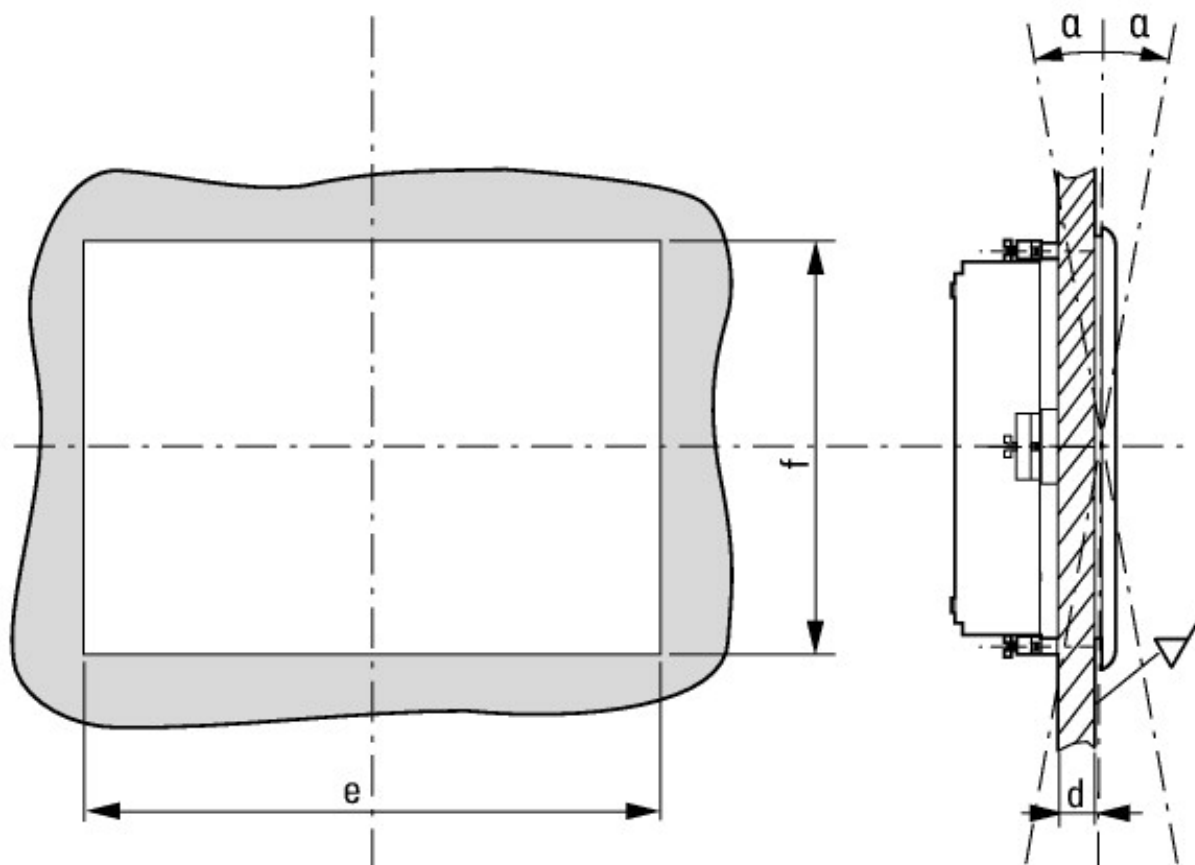
Dimensions



XV-303-... multi-touch panel with 7" screen diagonal; version: flush mounting



$a, b, c \begin{matrix} \text{IV} \\ \text{IV} \end{matrix} 30 \text{ mm}, \theta 0 \begin{matrix} \text{IV} \\ \text{IV} \end{matrix} T \begin{matrix} \text{IV} \\ \text{IV} \end{matrix} 50^\circ \text{C}$



$2 \text{ mm} \begin{matrix} \text{IV} \\ \text{IV} \end{matrix} d \begin{matrix} \text{IV} \\ \text{IV} \end{matrix} 5 \text{ mm}, e = 183 \text{ mm}, f = 122 \text{ mm}, \alpha = 45^\circ$

Additional product information (links)

Instruction leaflet XV-303-... IL048009ZU

Instruction leaflet XV-303-... IL048009ZU	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL048009ZU2015_12.pdf
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MN048017 XV300 Multi-Touch Panel Manual

MN048017 Handbuch Multi-Touchpanel XV300 - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048017_DE.pdf
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MN048017 XV300 Multi-Touch Panel Manual - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048017_EN.pdf
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MN048019ZU Communications Manual

MN048019ZU Communications Manual - Deutsch	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048019ZU_DE.pdf
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MN048019ZU Communications Manual - English	ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048019ZU_EN.pdf
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