



**BreakerVisu - visualization and logging system, 24 VDC, 3, 5 inch, TFT color display, Modbus RTU, Ethernet**



**Part no. NZM-XMC-MDISP35-MOD**  
**Catalog No. 172764**  
**Eaton Catalog No. NZM-XMC-MDISP35-MOD**  
**EL-Nummer 4315597**  
**(Norway)**

**Delivery program**

Product range			XV100 3.5"
Product range			XV-102
Subrange			Touch display with integrated controller BreakerVisu (HMI-PLC)
Function			Visualize and log circuit-breaker and/or measuring device data
Description			Max. 8 devices via MODBUS RTU
Common features of the model series			Read diagnostic memories Create energy logs Connect NZM using NZM-XSWD-704 Connect all NZM...-XMC-MB... measuring modules and NZM-XMC-TC-MB Connection of IZMX16/40 using IZMX-MCAM Connect IZM26... using IZM-MMINT Connect PKE with XTUA or XTUWA using PKE-SWD-SP Connect PKE with XTUACP or XTUWACP using PKE-SWD-CP Connect RCCBs, MCBs, RCBOs using MCB-HK-SWD Ethernet connection for display on web browsers FTP connection for data transfers Gateway function for forwarding data Non-Eaton devices can be connected
Display - Type			Color display, TFT
Touch-technology			Resistive-Touch
Number of colours			64 k Colours
Resolution		Pixel	QVGA 320 x 240
Portrait format			no
Screen diagonal		Inch	3.5
Model			Insulating enclosure and front plate
Operating system			Windows CE 5.0 (licence incl.)
PLC-licence			PLC licence inclusive
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 RS485
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
Touch sensor			Glass with film
Heat dissipation		W	5

**Technical data**

**Display**

Display - Type			Color display, TFT
Screen diagonal		Inch	3.5
Resolution		Pixel	QVGA 320 x 240
Visible screen area		mm	70 x 53
Number of colours			64 k Colours
Contrast ratio (Normally)			Normally 300:1
Brightness		cd/m <sup>2</sup>	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)
<b>Operation</b>			
Technology			Resistive-Touch 4 wire
Touch sensor			Glass with film
<b>System</b>			
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
Cooling			Fanless CPU and system cooling, natural convection-based passive cooling
Back-up of real-time clock			
Battery (service life)			non-replaceable, CR2032 soldered in
Backup (time at zero voltage)			Normally 10 years
Operating system			Windows CE 5.0 (licence incl.)
<b>Engineering</b>			
Target and web visualization			no
<b>Interfaces, communication</b>			
built-in interfaces			1 x Ethernet 100base-TX/10base-T 1 x RS485
PLC-licence			PLC licence inclusive
USB Host			no
USB device			USB 2.0, not galvanically isolated
RS-232			no
RS-485			Yes
CAN			no
Profibus			no
Slots			for SD card: 1
SmartWire-DT master			No
Ethernet			100Base-TX/10Base-T
<b>Power supply</b>			
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 <sub>max.</sub>	W	5
Note on power consumption			Basic device USB Slave to USB Host: 2.5 Total: 9.5
Heat dissipation		W	5
Note on heat dissipation			Heat dissipation with power consumption for 24 V, all ports and interfaces connected
Siemens MPI, (optional)			yes
Type of fuse			Yes (fuse not accessible)
Potential isolation			no potential isolation
<b>General</b>			
Housing material			Insulated material black
Front type			Standard front with standard membrane (fully enclosed)
Dimensions (W x H x D)		mm	136 x 100 x 30
flush mounted			Clearance: W x H x D ≥ 30 mm (1.18") Inclination from vertical: ±45° (if using natural convection)
Weight		kg	0.3
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
shipping classification			DNV GL



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			according to IEC/EN 60068-2-6
RoHS			conform

### 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 (-20/+25%)
Residual ripple on the input voltage		%	≤ 5
Protection against polarity reversal			Yes
Max. current	$I_{max}$	A	3
Short-circuit rating			no, external fuse FAZ Z3
Potential isolation			No

### Supply voltage $U_{Pow}$

Supply voltage	$U_{Pow}$	V	24 DC -20 % + 25 %
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

### 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	5
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	0
Operating ambient temperature max.		°C	50
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			

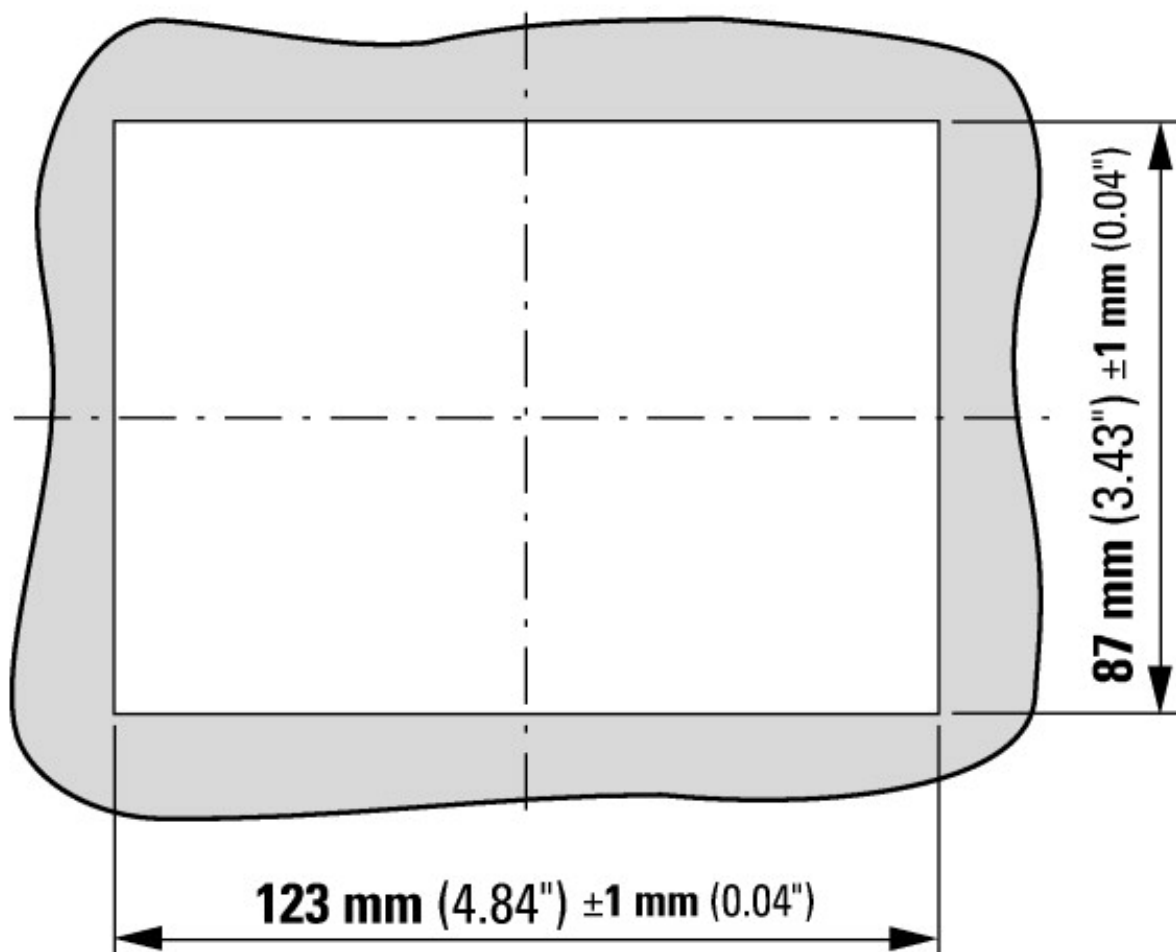
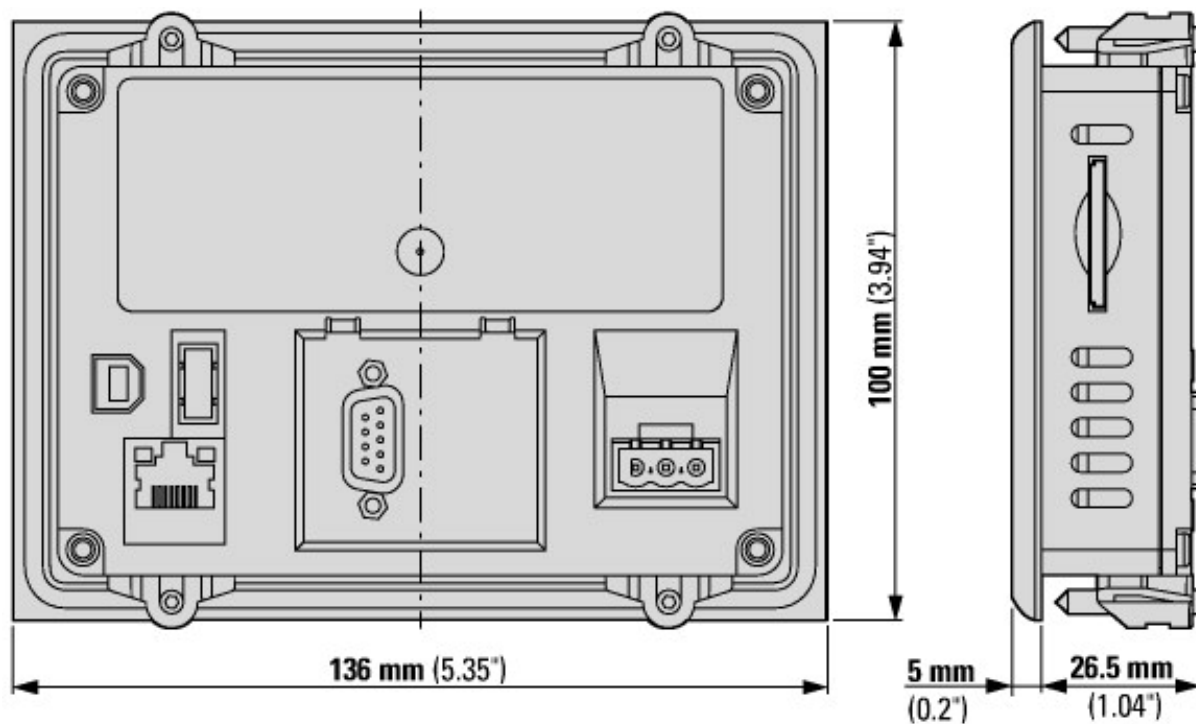
10.2.2 Corrosion resistance		Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat		Meets the product standard's requirements.
10.2.3.3 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 7.0

PLC's (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
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		1
Number of HW-interfaces parallel		1
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
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		65536
Number of grey-scales/blue-scales of display		0
Screen diagonal	inch	3.5
Number of pixels, horizontal		320
Number of pixels, vertical		240
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
Operation temperature	°C	0 - 50
Rail mounting possible		No
Wall mounting/direct mounting		No
Suitable for safety functions		No
Width of the front	mm	136
Height of the front	mm	100
Built-in depth	mm	25

## Dimensions



## Additional product information (links)

Instruction leaflet "BreakerVisu NZM-XMC-MDISP..." IL048002ZU

Instruction leaflet "BreakerVisu NZM-XMC-MDISP..." IL048002ZU [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL048002ZU2018\\_02.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL048002ZU2018_02.pdf)

MN048013 Hardware Manual BreakerVisu NZM-XMC-MDISP...

MN048013 Hardware-Handbuch BreakerVisu NZM-XMC-MDISP... - Deutsch [ftp://ftp.moeller.net/DOCUMENTATION/AWB\\_MANUALS/MN048013\\_DE.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048013_DE.pdf)

MN048013 Hardware Manual BreakerVisu NZM-XMC-MDISP... - English	<a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048013_EN.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048013_EN.pdf</a>
MN048013 Hardware Manual BreakerVisu NZM-XMC-MDISP... - italiano	<a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048013_IT.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN048013_IT.pdf</a>
<b>MN01210001Z Software Manual for BreakerVisu NZM-XMC-MDISP..</b>	
MN01210001Z Software-Handbuch für BreakerVisu NZM-XMC-MDISP ... - Deutsch	<a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN01210001Z_DE.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN01210001Z_DE.pdf</a>
MN01210001Z Software Manual for BreakerVisu NZM-XMC-MDISP... - English	<a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN01210001Z_EN.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN01210001Z_EN.pdf</a>
MN01210001Z Software Manual for BreakerVisu NZM-XMC-MDISP... - italiano	<a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN01210001Z_IT.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN01210001Z_IT.pdf</a>