

Efficient solutions for your energy management

Series NZM / Series IZMX

Modbus RTU-capable 3<sup>rd</sup> party devices



BreakerVisu



MCB-SWD-HK



IZMX series



NZM-XMC measuring and communication modules



NZM with electronic tripping units



Motor protection PKE

Capture Energy  
by Circuit Breaker  
Communication  
Module. Visualization.  
Communication interfaces.

**EATON**

Powering Business Worldwide



# Your partner for energy efficiency

**As a specialist for energy management, Eaton is one of the worldwide leading technology providers in the field of electrical systems for a safe and efficient power supply, distribution and control. This makes Eaton a reliable partner when it comes to the introduction of energy management systems in businesses.**

The Eaton Electrical Engineering business division is worldwide leading as regards products and engineering services for energy distribution, safe and uninterrupted power supply, machine and building automation, system and motor protection, lighting, safety and cable management, as well as components for harsh ambient conditions and areas at risk of explosion. With its global solutions, Eaton is in an excellent

position to provide answers to today's most important energy management challenges.

As a diversified business in the field of energy management, Eaton provides its customers with energy-efficient solutions with which they can manage electrical, hydraulic, and mechanical energy more effectively

## **More energy efficiency through ISO 50001**

The EN ISO 50001 standard was defined on an international level for the internal implementation of an energy management system. The major goals of the standard are to sustainably reduce energy costs, energy consumption and CO<sub>2</sub> emissions through the implementation of organisational and technical measures.



Not only for corporations acting on a global scale but also for small and medium-sized companies optimal energy management will provide improved cost transparency for sustainable cost cutting by reducing operating costs and avoiding peak loads. By scaling its products, Eaton offers a favourably priced

option for efficient energy management even to small enterprises. The pay-off period for investment costs involved can be reduced to a minimum thanks to duty drawbacks regulated by law in most European countries.

**Measurement and analysis is the basis**

The prerequisite for the introduction of an energy management system according to ISO 50001 is the measurement of all energy data in a company, the determination of the major energy consumers as well as the analysis of energy expenses.

Based on this, specific measures for more energy efficiency can be derived as a consequence. With a wide range of innovative products, Eaton provides the basis for the monitoring, measurement, and analysis of your energy data.



# Eaton circuit breakers

## Series NZM



Eaton's range of circuit breakers combines maximum safety with maximum benefit for our customers. Therefore the NZM product series – although the frame size of the breakers has been reduced to a minimum – offers breaking capacities up to 150 kA in a fraction of a sinus wave. Special focus has also been placed on easy operation and a uniform way of handling for all of the different sizes, from setting the values to mounting the breakers.

Whether used as a remote-controlled main switch, equipped with a mechanical lock (interlock) or an emergency stop, a rotary switch activated at the side or rear, or a local door lock - the range of accessories for the NZM series offers a proven solution for practically any kind of application.

With the traditionally high-quality and comprehensive range of accessories and up to 20,000 switching cycles tested on a permanent basis, the NZM circuit breaker series offers maximum reliability and flexibility for on-site installation. Whether UL or IEC certified, the dimensions of the NZM series circuit breakers are always the same. So there is no need to make any market-specific modifications before their installation.

### Compact circuit breakers and switch disconnectors:

- Compact, efficient design
- Four frame sizes up to 1600 A
- Breaking capacity levels up to 150 kA
- Comprehensive and standardized accessories for every application

## IZMX circuit breakers



### Small, flexible and efficient.

The new IZMX circuit breakers provide a maximum of capacity in a minimum of space. Thanks to the innovative design, Eaton is able to offer optimal utilization of space in all switchgear systems, e.g. in xEnergy and MODAN.

The IZMX16 series is the smallest air circuit breaker (ACB) worldwide. With a volume of only 24 dm<sup>3</sup> and a front surface of only 0.092 m<sup>2</sup>, it is only slightly larger than a DIN-A4 sheet of paper! Two IZMX16 circuit breakers fit into a 600 mm wide section and provide a maximum of capacity in a minimum of space. The modern IZMX40 in its reduced size scores high in Eaton switchgear systems, especially with

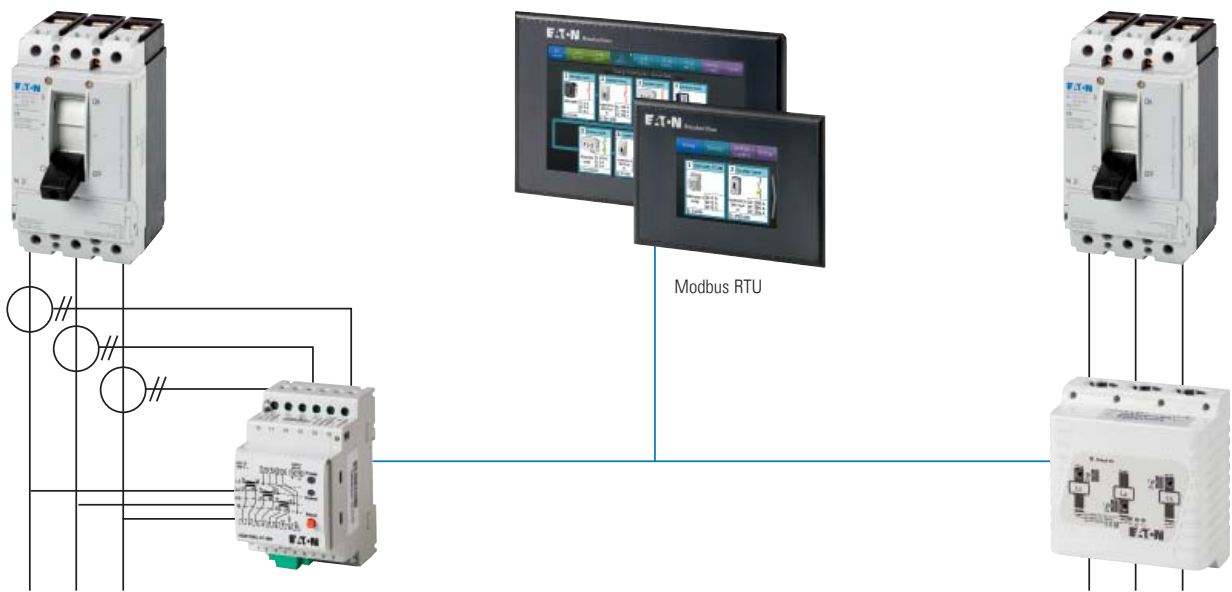
significantly better de-rating values than other models in its class.

Our high-capacity circuit breakers cover a rated current range from 630 to 4000 A at a breaking capacity ranging from 42 to 105 kA.

### Air circuit breakers and switch disconnectors from 630 to 4000 A:

- IZMX16 for applications in the range from 630 to 1600 A
- IZMX40 for applications in the range from 800 to 4000 A
- Electronic tripping unit with integrated measuring-function

# Switching, measuring and data collecting with the NZM and NZM-XMC series



## NZM-XMC-TC module for connecting external current and voltage transformers

- + Ideal retrofit solution
- + Suitable for integrating new or existing transformers
- + DIN rail mounting
- + RTU Modbus
- + Plug&Play in combination with BreakerVisu

## BreakerVisu - Visualisation and logging system

- + Cost-efficient complete device
- + Collection of operating data
- + ISO 50001 Reporting-capable
- + Automatic identification of participants
- + Gateway functionality
- + Integration of third-party devices possible

## NZM-XMC measuring and communication modules

- + Compact system
- + Easy to mount
- + Measurement of all values in both directions (Feed and feed-back)
- + RTU Modbus
- + Plug&Play in combination with BreakerVisu

### Flexible measurement points

Measuring electrical parameters is the basis for a modern style of energy management. We have developed the NZM-XMC product series in order to provide maximum flexibility in terms of measurement methodology - to make sure measurements can be carried out where they matter most. A main focus has also been placed on flexibility of integration into existing structures. The measurement and communication modules of the NZM-XMC series, in particular the new NZM-XMC-TC-MB measuring transformer - designed for the use of external existing current transformers -

are superbly suited for retrofitting in existing machines and systems.

### Data collection with the NZM-XMC (-TC) -MB series

- Voltage
- Current
- Active power/energy
- Reactive power/energy
- Power factor
- Inductive reactive power
- Capacitive reactive power
- Harmonic distortion (THD)
- Frequency
- All measurements in both directions (NZM-XMC module only)

### Energy management using BreakerVisu

With BreakerVisu, Eaton offers a cost-effective solution for modern energy distribution. Via a Multi-Breaker display, the system shows all operating data of your low-voltage switch-

ing system centrally and in a clearly structured way. Centralisation on a 7" HMI touch screen improves the availability of important operating data. At the same time you can achieve cost savings compared to a conventional switching system

Features:	Benefits:
<ul style="list-style-type: none"> <li>• Integrated current and voltage measurement</li> <li>• Centralisation of system-related information</li> <li>• Log file on operating data, energy and incidents</li> <li>• Password protection for important settings</li> <li>• Integrated incidents and diagnosis function</li> </ul>	<ul style="list-style-type: none"> <li>• Plug&amp;Play for energy data collection using BreakerVisu and the NZM-XMC series</li> <li>• Enables automated ISO 50001 reporting</li> <li>• Enables peak load management</li> <li>• Front-end data memory in Excel format (.csv) for mains-independent operation</li> <li>• Integration into any automated environment</li> <li>• Currently best price/performance ratio on the market</li> </ul>

with separate display units for each individual breaker. BreakerVisu is a pre-programmed solution, which means that no additional programming effort is required.



# Eaton energy management

## Measurement

### Retrofit



- Solution for central connection  
Transducer module  
NZM-XMC-TC-MB

### New systems



- Solution for data collection of the  
NZM circuit breakers using  
NZM-XSWD-704 communication modules

- Individual solutions  
NZM-XMC measuring and  
communication modules



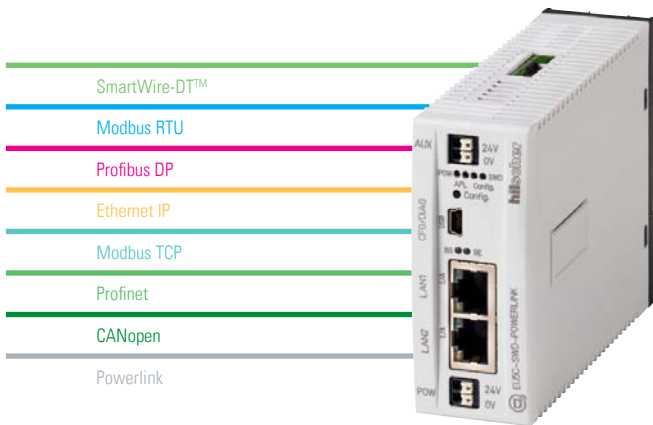
- Solutions for IZMX air circuit breakers  
with communication modules  
IZMX-PCAM, IZMX-MCAM and  
IZMX-ECAM

# Central data recording



BreakerVisu

Visualization and logging system

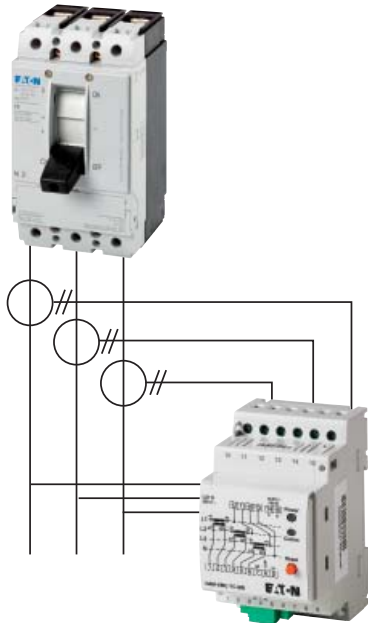


Communication interfaces

BreakerVisu / SWD Gateways / xCAM modules

# Eaton energy management: Measurement Retrofit solution for central connection

## NZM-XMC-TC-MB transducer module



### Upgrading of existing systems

We are facing the challenge of updating existing switchboards and machines for an energy management according to ISO 50001. Eaton has developed a simple solution to this problem: the NZM-XMC-TC-MB transducer module. This makes it possible for Eaton to realize a retrofit solution including a connection to the BreakerVisu central visualization and logging system using the classical cabling system.

It is also possible to connect the module to various control systems without further ado.

If current transformers and voltage tap-off are already available in the existing system, e.g. in connection with a local multimeter that does not offer any advantages in terms of modern energy management, the new XMC-TC module can be easily and quickly installed using the available current transformers and cabling system.



### Features of XMC-TC:

- Use of current transformers and voltage probe
- Adjustable transformer ratio (X / 5A)
- Modbus RTU interface
- Compatible data with XMC modules
- Energy pulse output S0
- Alarm outputs

### Benefits of XMC-TC:

- Measuring technology for the entire power range up to 6300A in one device
- Existing current transformers and cabling can be used – saves time and costs
- Small size on DIN rail
- Full integration in Breaker-Visu possible

**Type Designation**

NZM-XMC-TC-MB

**Article No.**

169832



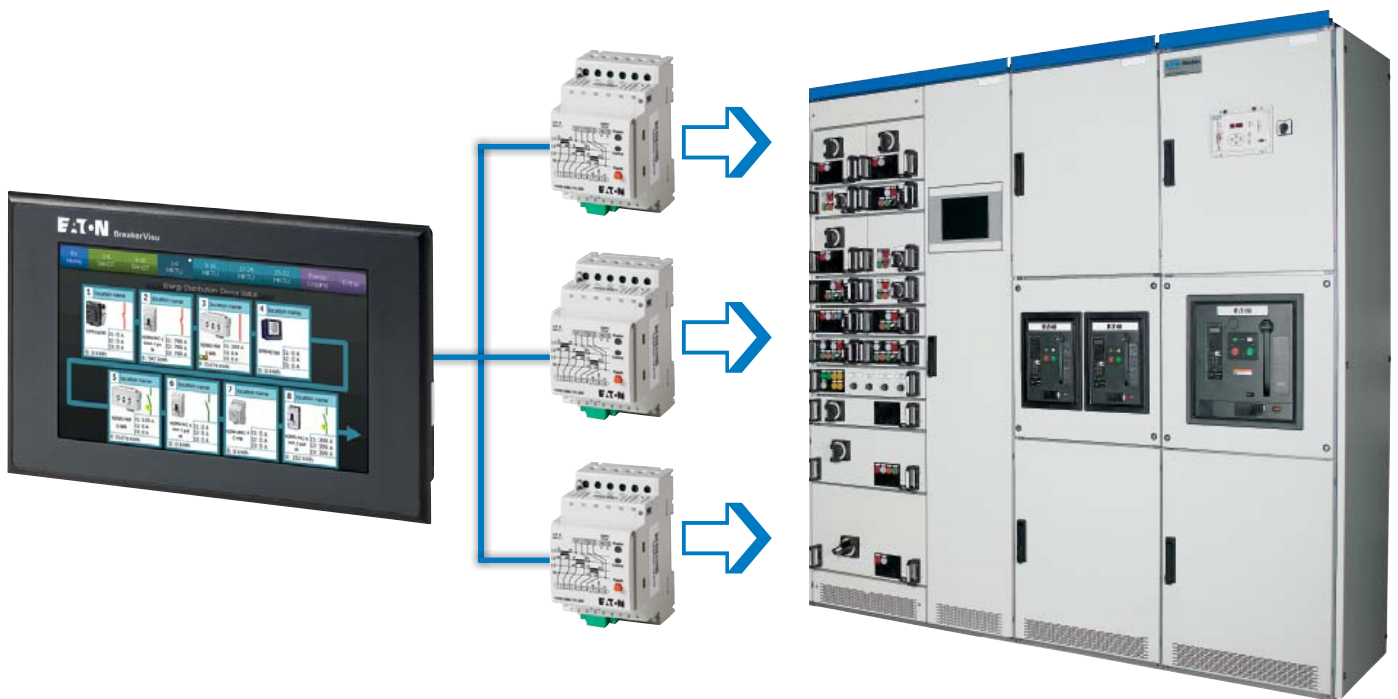
# Eaton energy management: Collecting energy data with Eaton – according to ISO EN 50001

Monitoring our energy consumption in order to reduce costs and to save the environment by using the resources available in a responsible way is now generally accepted knowledge in our society. Eaton introduces energy management according to ISO EN 50001 at all Eaton sites in Germany. One of the elements in this overall concept is the collection of data on energy consumption

through measuring points at energy-intensive consumers. The combination of measuring module and BreakerVisu provides an optimal solution for both small and large companies who wish to benefit from the advantages of an energy management system. Project planning is easy and flexible, the installation is easy to do thanks to the plug-and-play functionality, and its way of functioning is

focused on the customer's benefit. In addition to the hardware, Eaton also offers free software for parameterization of the communication devices and a program for automatic analysis based on the reporting function – at the push of a button. The objective is to provide our customers with specific solutions to meet their individual requirements.

For more information please visit [www.eaton.eu/breakervisu](http://www.eaton.eu/breakervisu)



## Features NZM-XMC-TC-MB + BreakerVisu:

- Provides operating data such as voltage, currents, kWh etc. for BreakerVisu
- Automatic logging function
- Connection to SCADA possible
- Remote access via web browser or CoDeSys Remote Client via Ethernet TCP/IP
- Additional integration of external devices possible
- 3.5" BreakerVisu (8 users)
- 7" BreakerVisu (32 Modbus users)

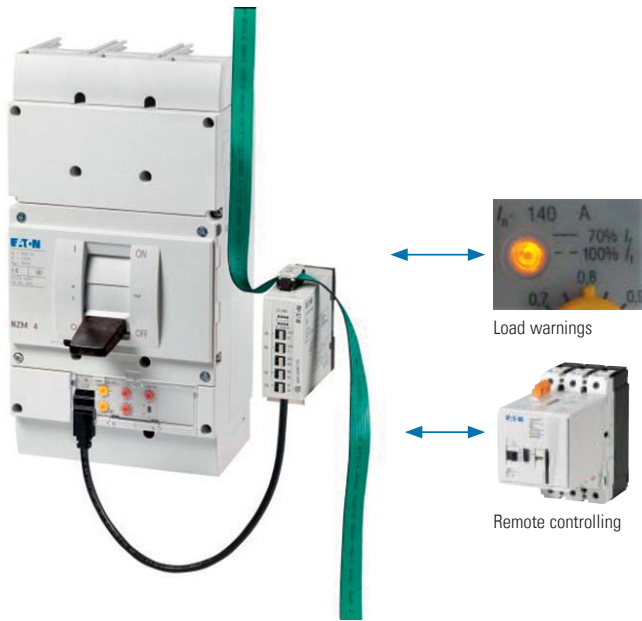
## Benefits NZM-XMC-TC-MB + BreakerVisu:

- Enables a retrofit solution for small and large systems and machines
- In connection with BreakerVisu, the expense for installation, parameter settings, and integration is considerably reduced
- Best price-performance ratio for energy management according to ISO EN 50001
- Easy to handle thanks to free software programs (Eaton Modbus Configurator, ISO 50001 Reporting Tool etc.)

# Eaton energy management: Measurement

## New systems - A smart concept

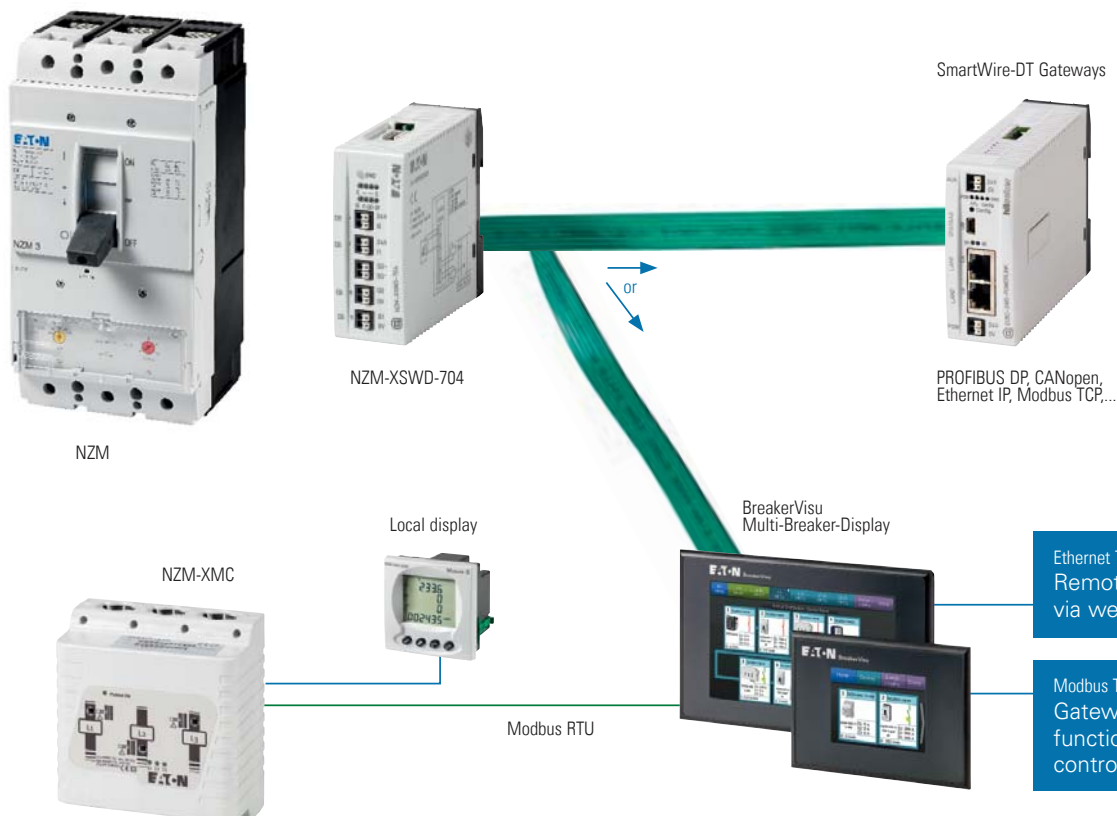
### NZM with the NZM-XSWD-704 communication module



#### Preventive safety features

In order to avoid costly production stops - in addition to the reliable short-circuit and overload protection of the NZM circuit breakers – BreakerVisu includes valuable real-time diagnosis information on the connected devices. This comprises standard warning messages. Early identification of a potential switch-off risk enables the operator of a machine or system to start preventive action before a switch-off can occur. However, should an emergency switch-off happen all the same,

the breaking currents will be measured (up to 150 kA) to allow an analysis of these data. Via the NZM-XSWD-704 Gateway they can then be sent to BreakerVisu where the data will be saved locally and transmitted to the automation environment. Additional safety is provided through saving the data locally, so they can be recovered from the built-in SD card in case of a network failure.





**Powerful communication with SmartWire-DT™**

Thanks to the XSWD-704 NZM communication system can directly communicate with compact circuit breakers. Plain command devices of only 1 data bit can be operated just as well as complex circuit breakers of 32 data bytes. Important information, such as phase currents or diagnosis data, load warnings or diagnosis messages of the circuit breaker are made available via the SmartWire-DT™. All NZM 2/3/4 breakers with an electronic tripping unit can directly be connected to the SmartWire-DT™ via the NZM module. Currents up to 1600 A in energy distribution can therefore be accessed by SmartWire-DT™.

**NZM communication**

Identifying and eliminating errors before they can occur, that's the objective of any preventive warning. Via SmartWire-DT™ the NZM will report increased current values in 3 different alarm levels (70%, 100% and 120%). The electronic tripping system also provides detailed information on the cause of tripping, parameterisation and phase status. Activating a remote drive for the circuit breaker also happens via SmartWire-DT™, so there is no need for any further wiring here either.

**SmartWire-DT speaks many different languages**

If you wish to use the information collected for you by the 704 module for other field bus systems or communication platforms, you will be optimally supported by Eaton. With the Gateways included in the Smart-Wire-DT product portfolio you can choose from among five different Gateways:

- PROFIBUS DP
- CAN
- Modbus TCP
- Ethernet IP
- PROFINET

**At a glance:**

- Status (open/closed)
- Currents
- Type of switchgear
- Parameter settings
- Tripping caused by
- Remote controlling

**Type Designation**

NZM-XSWD-704

**Article No.**

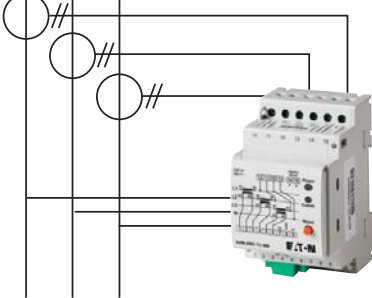
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# Eaton energy management: Measurement New systems - Individual solutions



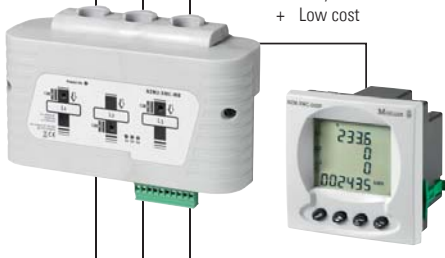
## Classic

- + Versatile
- High cabling effort and expense



## Compact

- + Universal
- + Easy installation
- + Low cost



## NZM-XMC measuring and communication modules

### The new and compact solution for recording energy-related data

The new range of XMC measuring and communication modules offers a very interesting solution: transformers, voltage tap-off, measuring electronics, fieldbus interface and display interface – everything in a single enclosure. This is how you can avoid the usually considerably higher amount of mounting and cabling. And all relevant measuring data required for calculating energy consumption can be made available:

- Phase and N conductor currents
- RMS voltages
- Active, reactive and apparent power
- Active, reactive and apparent energy
- Power factor  $\cos\phi$
- Frequency

This provides the transparency you need for optimizing energy consumption and cost cutting.

### MXMCM as a source of data for different recipients

Apart from local display for on-site staff, all relevant data are also made available for the control level via Modbus RTU. The control level is interested in the real values of currents, voltages and capacities which are both displayed and saved individually on that level. This is also where you can set the course for optimizing your energy consumption. XMC is a vital element in modern energy distribution. It is easy to integrate mechanically and it is able to transmit the measured values both on site and via a fieldbus. It is a major contribution to issues such as energy recording, control of switchgear, load shedding and diagnostics.



Modbus RTU







### NZM-XMC in a smaller frame size

With the XMC up to 250A, Eaton offers a compact frame size for currents up to 250A. It is especially designed to go with the NZM frame size 2. The clearance for inserting wires or busbars is designed to suit the NZM2. This is why bending of wires/busbars is no longer necessary, a fact that will help you to cut costs and to reduce assembly time.

block and assembly material. Depending on the application, the circuit breaker can be ordered separately to fulfil various protective functions. This complete solution constitutes a comfortable order option while also making sure that the right components are available.

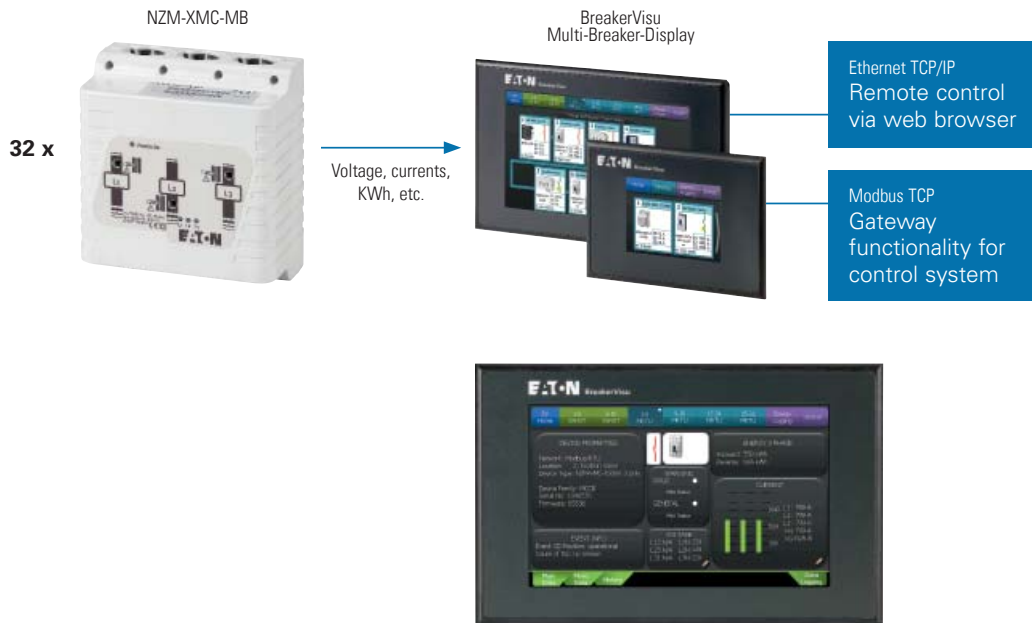


### NZM-XMC-KIT for 630A application

The NZM-XMC-KIT enables the combination with an NZM circuit breaker for 630A current rating. The KIT includes the XMC module, specially preassembled conductors as well as covering cap, terminal

#### At a glance:

- Compact frame size saves space in the switchgear cabinet while reducing assembly costs
- SO pulse output and Modbus RTU versions
- Connection to super-ordinated systems and BreakerVisu possible
- Small 250A module suitable for NZM2
- KIT version for 630A application



## NZM-XMC and BreakerVisu

With the NZM-XMC measuring and communication modules, local displays can be replaced by a connection to the BreakerVisu visualization and logging system supplied by Eaton.

No special programming is necessary because BreakerVisu automatically detects the connected devices and clearly and centrally displays the provided measuring data.

Up to 32 XMC modules can be integrated into a larger machine or energy distribution system.

### Features:

- Provides operating data, like voltage, currents, kWh etc. for BreakerVisu
- Automatic logging function
- Connection to super-ordinated systems possible
- Remote access via web browser or CoDeSys Remote Client via Ethernet TCP/IP
- Additional integration of external devices possible
- 3.5" BreakerVisu also possible (8 users)
- 7" BreakerVisu (32 Modbus users)
- Compact design and easy installation

### Benefits:

- Ideal for the preparation of an energy management system according to ISO 50001
- Compact frame size saves space in the switchgear cabinet
- Easy cabling reduces assembly costs
- BreakerVisu centralizes the measuring data and simplifies access
- Automatic logging functions enable evaluation for users
- Efficient cost-benefit ratio for several measuring points in external solutions

Type Designation	Article No.	
Measuring and communication modules with Modbus RTU		
NZM2-XMC-MB-250	156641	3-pole, up to 250A, small frame size
NZM3-XMC-MB	129962	3-pole, up to 500A
NZM2-4-XMC-MB-250	156642	-pole, up to 250A, small frame size
NZM3-4-XMC-MB	129966	4-pole, up to 500A
Measuring and communication module as construction kit with conductor and terminal for 630A		
NZM3-XMC-KIT-630	153141	
Accessories		
NZM-XMC-DISP	129967	Local display
NZM-XMC-USB485	158562	USB to RS485 converter for parameterization
easy200-POW	229424	230V AC / 24V DC Power supply unit max. 0.35 A output

# Eaton energy management: Measurement Solutions for air circuit breakers



## Fieldbus interfaces - communicative and informative

Thanks to its communication skills, the IZMX circuit breaker series offers new opportunities in energy distribution. It supplies and forwards all the information that is important for operation. Consequently, the transparency of the system will increase while the response time to statuses such as excess current, phase imbalance and overvoltage will

decrease. By quickly intervening in a process, it is possible to avoid system failures or to plan preventive maintenance action, for example. This will increase the availability of the system. Interface modules for Profibus, Modbus and Ethernet can now easily be plugged onto the circuit breaker, between the control line connections.

### Communication modules:

IZMX-PCAM:  
Profibus DP logging

IZMX-MCAM:  
Modbus-RTU logging

IZMX-ECAM:  
Ethernet logging

With the respective communication module – PCAM, MCAM or ECAM – every circuit breaker of the NRX series is equipped for the needs of modern and future-proof communication.

Via databus it will not only be possible to transmit information, but also to receive commands/ settings.

### At a glance:

#### MCAM

- Status (open/closed)
- Current ratings
- Voltages
- Capacity
- Energy
- Reason for tripping
- Remote switching
- ARMS On/Off

#### PCAM

- Status (open/closed)
- Current ratings
- Voltages
- Capacity
- Reason for tripping
- Remote switching

#### ECAM

- Status (open/closed)
- Current ratings
- Voltages
- Capacity
- Energy
- Type of circuit breaker
- Parameter settings
- Remote parameterization
- Reason for tripping
- Remote switching
- ARMS On/Off



### Type Designation

### Article No.

IZMX-MCAM

122892

IZMX-PCAM

122913

IZMX-ECAM

124164

# Eaton energy management: Central data recording with BreakerVisu

## Visualization and logging system

With BreakerVisu, Eaton offers a cost-effective solution for modern energy management. On a Multi-Breaker display, the system displays all operating data of the connected circuit breakers in a centralized and easy-to-read way.

Centralizing them on a 3.5" or 7" HMI touch screen will increase the availability of important operating data. At the same

time, you will achieve cost-savings as compared to a conventional switchgear system using individual display units for each individual circuit breaker.

You will receive BreakerVisu as a fully programmed solution, instantly ready to operate without any further requirements.

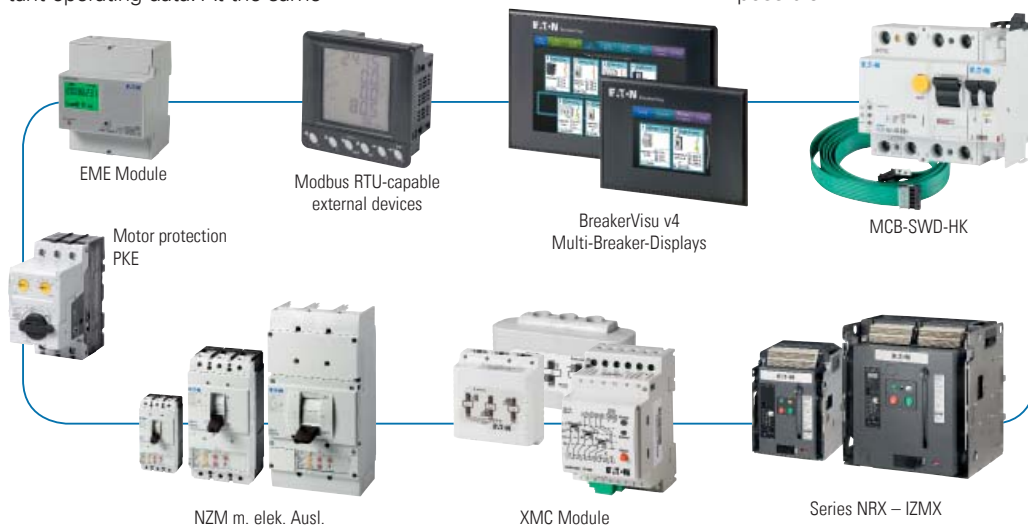
### Overview of functions:

- Data collection from several devices (up to 32 via Modbus RTU + 16 via SmartWire-DT™)
- Data visualization either locally or per remote access
- Data logging (data, energy, event logging)
- Connection to control system via Modbus TCP and/or a CoDe-Sys OPC server possible

- Integration of external devices possible
- New version as ready-to-use unit (hardware and software)
- Plug & Work principle

### The following devices will be supported:

- Compact circuit breakers of the NZM and NZM-MC series
- Air circuit breakers IZMX16 / IZMX40 of the NRX series
- Air circuit breakers of the IZM26 series
- NZM-XMC measuring and communication modules
- NZM-XMC-TC-MB transducer module for retrofit solution
- Motor protection devices PKE
- SmartWire-DT Auxiliary switch
- EME electronic energy metering modules up to 125A
- Modbus RTU-compatible external devices per import function



### Selectable display

BreakerVisu is available as a complete solution with Ethernet connection (RJ45) in two display sizes.

An SD card is included in the scope of delivery for saving the logging data.

#### 3.5" display

- As Modbus or SmartWire-DT™ version
- Up to 8 connected devices

#### 7" display

- Modbus & SmartWire-DT™ simultaneously
- SWD up to 16 connected devices
- Modbus up to 32 connected devices
- Galvanic separation (RS485)

#### Type Designation

NZM-XMC-MDISP35-MOD

NZM-XMC-MDISP35-SWD

NZM-XMC-MDISP70

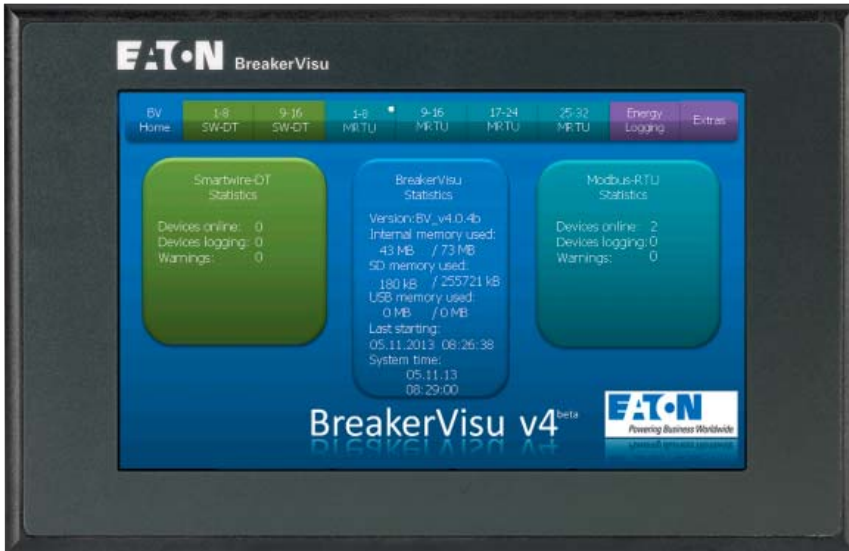
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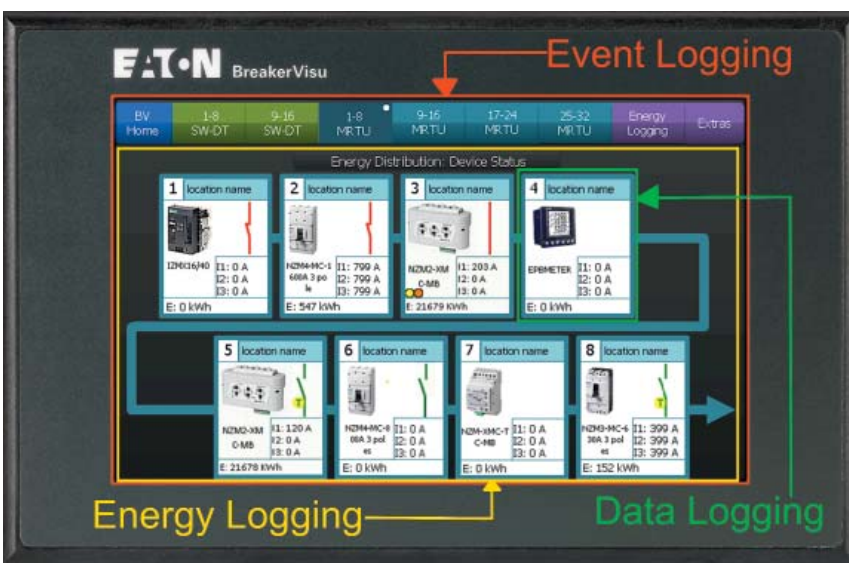


Visualization - easy to read and clearly structured

Menu guidance is easy and clearly structured. At the top you will find the menu bar which allows you to get to the individual menu items. "Touching" one of the fieldbus networks, e.g. Modbus, will take you to an overview page.

### Network overview

There you will find a list of all devices that are connected. A short overview will provide information on the type of circuit breaker, on the status, as well as on the prevailing currents and energy meters. Moreover, alarm signals and a user-defined name are displayed. With this view, the user gets a fast, compact overview of the switchgear system and/or machine and their measuring points. If you select a circuit breaker, more in-depth operating data will be displayed. The logging function can be activated and diagnostic data can be displayed and exported.



### Logging function

Logging of operating data cannot be easier. You can individually select which of the data you wish to log. Three settings prepared for this purpose will help you to make your choice:

1. Event logging: Automatically collects status and error reports from the entire system
2. Energy logging: Records the energy consumption data of all connected devices with only one click
3. Data logging: Captures all measuring data of a connected device and can be activated on an individual basis

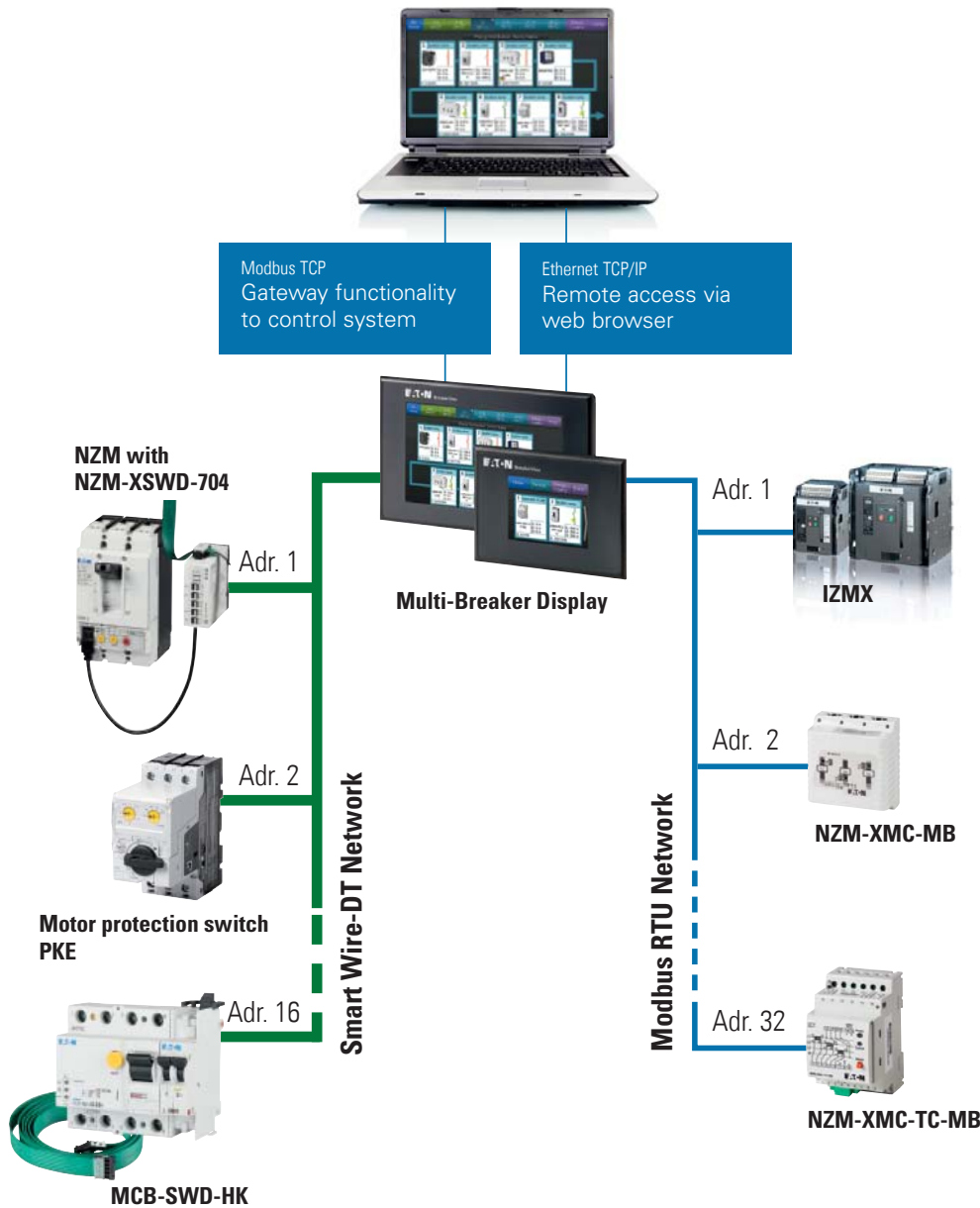


The visualization of the 3.5" version of BreakerVisu provides a more compact and reduced representation of the data. With a maximum of eight connectable devices, the 3.5" version is particularly interesting in terms of price for smaller applications.

### Logging - individually adjustable

All operating data will be logged and prepared for your MS Office system in a well-structured way in the CSV file format. The particularly user-friendly menu guidance and the touch screen will make it easy for you to handle the system. The analysis of the data you save depends on your individual needs and decisions.

# Eaton energy management: Central data recording with BreakerVisu



## Topology

### Variable and multifunctional structure

The variable structure of the BreakerVisu topology enables you to individually adjust the system to your system structure. It supports the Modbus RTU and SmartWire-DT™ fieldbus systems.

BreakerVisu allows you to connect a max. of 48 circuit breakers and/or measuring devices.

Via SmartWire-DT™ you can address NZM circuit breakers of frame size 2,3 and 4. In a Modbus network, BreakerVisu supports NZM, IZMX, and IZM26 circuit breakers. Via Modbus you can also link up the NZM-XMC measuring and communication module for NZM2 and NZM3 circuit breakers and the new NZM-XMC-TC-MB module.

## BreakerVisu speaks many languages

The standard language of BreakerVisu is English. German and French are also included in the scope of delivery. The language setting occurs when starting BreakerVisu for the first time or can be subsequently accessed via the start page. In

addition to the first three languages, further language packs, such as English - Russian - Polish, can be downloaded and installed. English is included in all language packs as a basic language.

Thus, BreakerVisu is currently available in a total of 18 different languages.

Further language packs can be created if need be.



# Remote access



## Remote access of all functions

The local display on the Multi-Breaker display is supplemented by remote access via Ethernet TCP/IP. Access via web browser provides the full range of functions like on the touch screen. In addition to

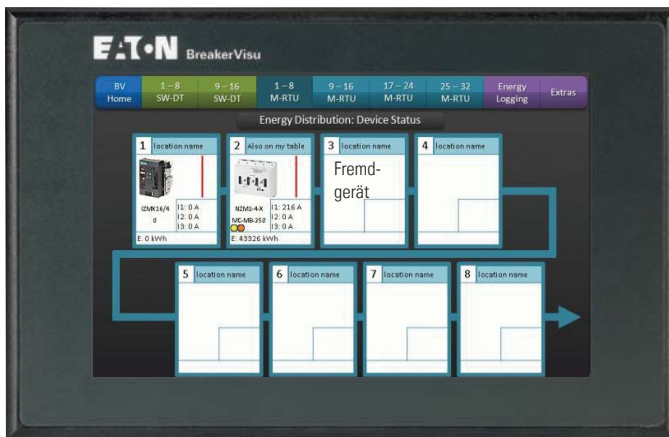
this, BreakerVisu can be integrated into a superordinated system, whereby BreakerVisu provides all data of all connected devices as Modbus TCP client. These data can then be centrally retrieved by the Modbus TCP master.

### Remote access via Ethernet TCP-IP:

- Connection to corporate Intranet
- Access to visualization via web browser or CoDeSyS Remote Server
- FTP server for the download of logging data
- Password-protected access
- Full access to all functions

### Gateway functionality to control system via TCP:

- Central provision of all data of all connected devices with BreakerVisu
- Integration into a customer-specific control system
  - Connection via Modbus TCP
  - Optionally to CodeSys OPC server
- Data in control system: Evaluation and realisation of energy management functions, such as load shedding, etc.



## Implementierung von Fremdgeräten:

- XML-Dateiimport mit Syntaxüberprüfung
- Import von bis zu 4 verschiedenen Modbus-RTU-fähigen Fremdgeräten in die BreakerVisu
- Volle Integration und Funktionalität der BreakerVisu
- Jeder Typ kann zusätzliche Parameter mit benutzerdefinierten Namen anzeigen
  - 3,5"-Version: bis zu 4 Parameter
  - 7"-Version: bis zu 12 Parameter

# Integration of 3<sup>rd</sup> party devices

## 100% integration into BreakerVisu

A new feature of BreakerVisu is the implementation of 3<sup>rd</sup> party devices. For this, a 3<sup>rd</sup> party device does not necessarily have to be from another manufacturer; rather, it can also be a device that BreakerVisu does not know (yet). The only requirement is that it must be a Modbus-RTU-compatible device.

With the help of a structured XML file provided by Eaton, the data map of the 3<sup>rd</sup> party device is adjusted to that of BreakerVisu. This file is then

imported into BreakerVisu. That way, BreakerVisu can "familiarize itself" with up to four different new devices.

With these two new functions, the integration of external devices and the gateway functionality, BreakerVisu is now also a competent solution for special customer use cases.

These two functions can be activated with the help of license points. License points can be purchased with license product vouchers from the Eaton XV Micro Panel System.

### Article No.

LIC-OPT-1ST-LEVEL (40 points) 140391

LIC-OPT-2ND-LEVEL (80 points) 140392

Every function requires 40 license points.

SmartWire-DT™

Modbus RTU

Profibus DP

Ethernet IP

Modbus TCP

Profinet

CANopen

Powerlink



NZM2 250A / NZM3 630A / NZM4 1600A



NZM-XMC 250A /  
NZM-XMC 300/500A



NZM-XMC-TC-MB  
≤ 6300A

# Eaton energy management: Central data recording Communication interfaces

Eaton circuit breakers and measuring and communication modules record measurements reliably and efficiently. Providing those measurements to the user in the required form as well as in the required data

format is a challenge whose origin lies in the diverse communication structure used in the industry. Eaton gladly takes on this challenge by providing a solution with a variable topology of measuring

points that is designed to meet the requirements of users. Eaton builds its communication structure on the innovative communication system SmartWire-DT™ used in parallel with Modbus RTU.

On this basis, data are transmitted to other communication platforms via interfaces and gateways when required.





SWD Gateway



NZM-XMC-KIT  
630A



IZMX16 1600A / IZMX40 4000A



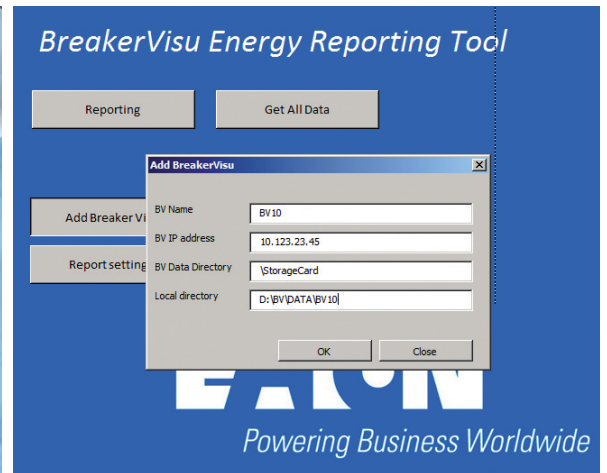
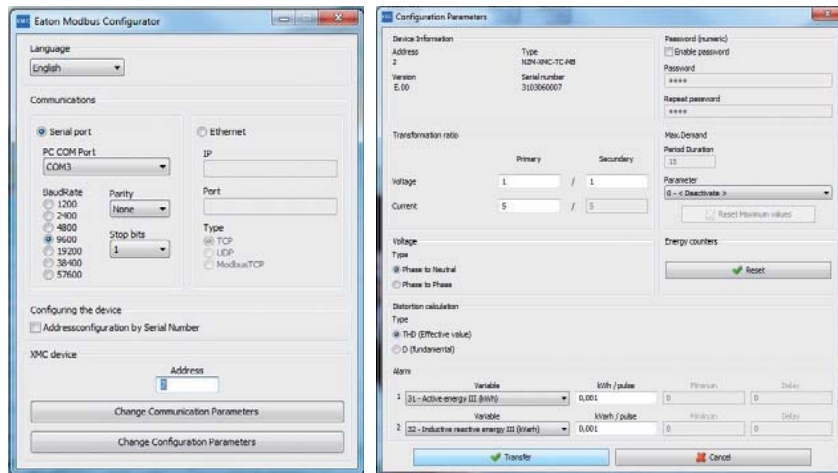
BreakerVisu 7" / 3,5"

# Free software support

Eaton Modbus Configurator is a free software for parameterization of the NZM-XMC family devices. The RS485 to USB converter makes it very easy to adjust communication parameters, alarms and other settings.

The software is included in the scope of delivery or can be downloaded from the internet [www.eaton.eu/breakervisu](http://www.eaton.eu/breakervisu)

The ISO 50001 Reporting Tool enables you to automatically import the collected data from BreakerVisu and to generate a report with just a few "clicks". Provided BreakerVisu is connected with Ethernet, log files can automatically be loaded and analysed. There are several different types of analysis to choose from.



## Motor protection switch PKE

The BreakerVisu system is now also compatible with the devices of the PKE series. It will therefore be possible to also collect operating data in lower current ranges up to 63A. The particularly easy handling

based on SWD enables the user to connect up to 16 participants to BreakerVisu. This allows the collection of valuable status, warning and current-related data for further processing.

## MCB Auxiliary switch for SWD

Auxiliary switches for MCB, RCBO, RCCB protective devices of the xEffect series can be fixed at the side and will collect the data on the switching status of the connected devices. This is how you can collect these

data via SWD and intervene in a targeted way in case of a tripping event. MCB auxiliary switches can by default be identified from BreakerVisu. So there is no configuration necessary.

### Benefits PKE + BreakerVisu:

- Collection of operating data for early identification of load conditions
- Very little project planning effort required thanks to a plain system architecture
- In combination with BreakerVisu the efforts for installation, parameterization and integration can be significantly reduced

### Features PKE + BreakerVisu:

- Provides operating data such as status, setting values, tripping reason and currents for BreakerVisu
- Automatic logging function
- Connection to a higher-level system is possible
- Remote access via Webbrowser, or CoDeSys Remote Client via Ethernet TCP/IP
- 3.5" BreakerVisu (8 users)
- 7" BreakerVisu (16 SWD participants)


### Benefits MCB MCB Auxiliary switch + BreakerVisu:

- Status collection for remote identification of tripping events
- Very little project planning effort required thanks to a plain system architecture
- In combination with BreakerVisu the efforts for installation, parameterization and integration can be significantly reduced

### Features MCB MCB Auxiliary switch + BreakerVisu:

- Provides operating data – such as the status – for BreakerVisu
- Automatic logging function
- Connection to a higher-level system is possible
- Remote access via Webbrowser, or CoDeSys Remote Client via Ethernet TCP/IP
- 3.5" BreakerVisu (8 users)
- 7" BreakerVisu (16 SWD participants)

# Ordering data

Description	Type Article No.	Notes
<b>Multibreakerdisplays - BreakerVisu</b>		
 <p>Visualizing and logging of circuit breaker data. Connection of NZM via NZM-XMOD-707 or NZM-XSWD-707 and of IZMX16/40 via IZMX-MCAM as well as all measuring modules NZM...-XMC-MB and IZM26 via IZM-MMINT. Depending on the display, several circuit breakers can be connected at the same time.</p> <ul style="list-style-type: none"> <li>• Reading of diagnostic memory</li> <li>• Preparation of energy logs</li> </ul> <p>RS 485 master interface and SWD interface. Ethernet connection for display on the web browser and FTP connection for data exchange. Gateway function for the transmission of data and integration of external devices possible.</p>		
Connection of max. 8 circuit breakers via SmartWire-DT 3.5" color display	<b>NZM-XMC-MDISP35-SWD</b> 172765	
Connection of max. 8 circuit breakers via Modbus RTU 3.5" color display	<b>NZM-XMC-MDISP35-MOD</b> 172764	
Connection of max. 32 circuit breakers via Modbus RTU and max. 16 circuit breakers via SmartWire-DT 7" color display	<b>NZM-XMC-MDISP70</b> 172766	
License points 1st Level (40 points)	<b>LIC-OPT-1ST-Level</b> 140391	
License points 2nd Level (80 points)	<b>LIC-OPT-2ND-Level</b> 140392	
<b>NZM interface to SmartWire-DT and to the display</b>		
NZM Communication modules	<b>NZM-XSWD-704</b> 135530	
<b>Energy meter for external current transformers and voltage taps</b>		
Transducer module for ext. CTs, Modbus	<b>NZM-XMC-TC-MB</b> 169832	
<b>Energy meter for integrated current transformers and voltage taps</b>		
NZM-XMC, 3-pole, up to 250A, Modbus, small frame size	<b>NZM2-XMC-MB-250</b> 156641	
NZM-XMC, 3-pole, up to 500A, Modbus	<b>NZM3-XMC-MB</b> 129962	
NZM-XMC, 4-pole, up to 250A, Modbus, small frame size	<b>NZM2-4-XMC-MB-250</b> 156642	
NZM-XMC, 4-pole, up to 500A, Modbus	<b>NZM3-4-XMC-MB</b> 129966	
NZM-XMC-Kit for measurements up to 630A, Modbus	<b>NZM3-XMC-KIT-630</b> 153141	
<b>Accessories</b>		
Local Display	<b>NZM-XMC-DISP</b> 129967	
USB zu RS485 Konverter zur Parametrierung	<b>NZM-XMC-USB485</b> 158562	
230V AC/24 V DC Power supply unit max. 0.35 A output	<b>easy200-POW</b> 229424	
<b>Communication modules for the IZM air circuit breaker</b>		
Modbus Communication modules	<b>IZMX-MCAM</b> 122892	
Profibus Communication modules	<b>IZMX-PCAM</b> 122913	
Ethernet Communication modules	<b>IZMX-ECAM</b> 124164	

Eaton is a power management company with 2013 sales of \$22.0 billion. Eaton provides energy-efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. Eaton has approximately 101,000 employees and sells products to customers in more than 175 countries.

For more information, visit [www.eaton.com](http://www.eaton.com).



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