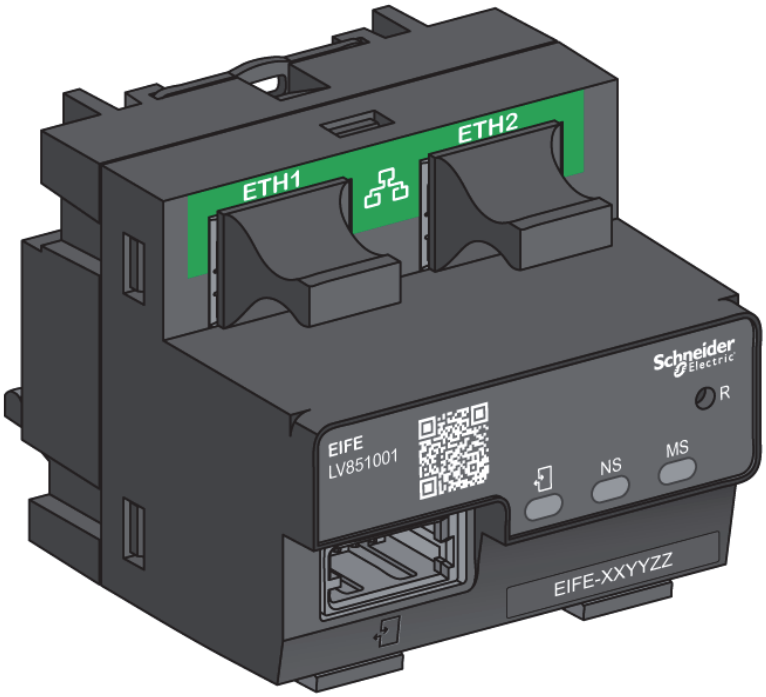
Enerlin’X EIFE

Embedded Ethernet Interface for One Masterpact MTZ Drawout Circuit Breaker User Guide

04/2018



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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

Table of Contents

Safety Information

Important Information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result** in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About the Book

At a Glance

Document Scope

The aim of this document is to provide the users, installers, and the maintenance personnel with the technical information and procedure needed to access and maintain the EIFE Embedded Ethernet interface for Masterpact MTZ drawout circuit breakers webpages.

Validity Note

The information contained in this document is likely to be updated at any time. Schneider Electric strongly recommends that you have the most recent and up-to-date version available on *www.schneider-electric.com/docs*.

The technical characteristics of the devices described in the present document also appear online. To access the information online:

Step	Action
1	Go to the Schneider Electric home page *www.schneider-electric.com*.
2	In the **Search** box type the reference of a product or the name of a product range. ● Do not include blank spaces in the reference or product range. ● To get information on grouping similar modules, use asterisks (*).
3	If you entered a reference, go to the **Product Datasheets** search results and click on the reference that interests you. If you entered the name of a product range, go to the **Product Ranges** search results and click on the product range that interests you.
4	If more than one reference appears in the **Products** search results, click on the reference that interests you.
5	Depending on the size of your screen, you may need to scroll down to see the data sheet.
6	To save or print a data sheet as a .pdf file, click **Download XXX product datasheet**.

The characteristics that are presented in the present document should be the same as those characteristics that appear online. In line with our policy of constant improvement, we may revise content over time to improve clarity and accuracy. If you see a difference between the document and online information, use the online information as your reference.

Related Documents for IEC Devices

Title of the Documentation	Reference Number
Enerlin'X EIFE - Embedded Ethernet Interface for One Masterpact MTZ Drawout Circuit Breaker - Instruction Sheet	*NVE23550*
Masterpact MTZ Modbus Communication Guide	*DOCA0105EN* *DOCA0105ES* *DOCA0105FR* *DOCA0105ZH*
ULP System - User Guide	*DOCA0093EN* *DOCA0093ES* *DOCA0093FR* *DOCA0093ZH*
Masterpact MTZ - Cybersecurity Guide	*DOCA0122EN* *DOCA0122ES* *DOCA0122FR* *DOCA0122ZH*

Related Documents for UL Devices

Title of the Documentation	Reference Number
Enerlin'X EIFE - Embedded Ethernet Interface for One Masterpact MTZ Drawout Circuit Breaker - Instruction Sheet	*NVE23550*
Masterpact MTZ Modbus Communication Guide	*DOCA0105EN* *DOCA0105ES* *DOCA0105FR* *DOCA0105ZH*
ULP System - User Guide	*0602IB1503* (EN) *0602IB1504* (ES) *0602IB1505* (FR) *0602IB1506* (ZH)
Masterpact MTZ - Cybersecurity Guide	*DOCA0122EN* *DOCA0122ES* *DOCA0122FR* *DOCA0122ZH*

Trademark Notice

Chapter 1
EIFE Interface Presentation

What Is in This Chapter?

This chapter contains the following topics:

Introduction

Overview

The EIFE embedded Ethernet interface for one Masterpact™ MTZ drawout circuit breaker (or EIFE interface) enables one Masterpact MTZ drawout circuit breaker to be connected to an Ethernet network.

It provides digital access to all the data delivered by the Micrologic™ X control unit of the Masterpact MTZ circuit breaker. It provides information about the intelligent modular unit (IMU) system. In addition, it monitors the three positions of the circuit breaker when inserted in its cradle:

- Cradle connected
- Cradle disconnected
- Cradle test position

EIFE Interface Features

The main features of EIFE interface are:

- Dual 10/100 Mbps Ethernet port for simple daisy chain connection
- Device profile web service for discovery of the EIFE interface on the local area network (LAN)
- Ethernet interface for Masterpact MTZ drawout circuit breakers
- Embedded setup webpages
- Embedded monitoring webpages
- Embedded control webpages
- Cradle status management (CE, CD, and CT)
- Built-in email alarm notification
- Network time management (SNTP)

Intelligent Modular Unit

Definition

A modular unit is a mechanical and electrical assembly containing one or more products to perform a function in a switchboard (incoming protection, motor command, and control).

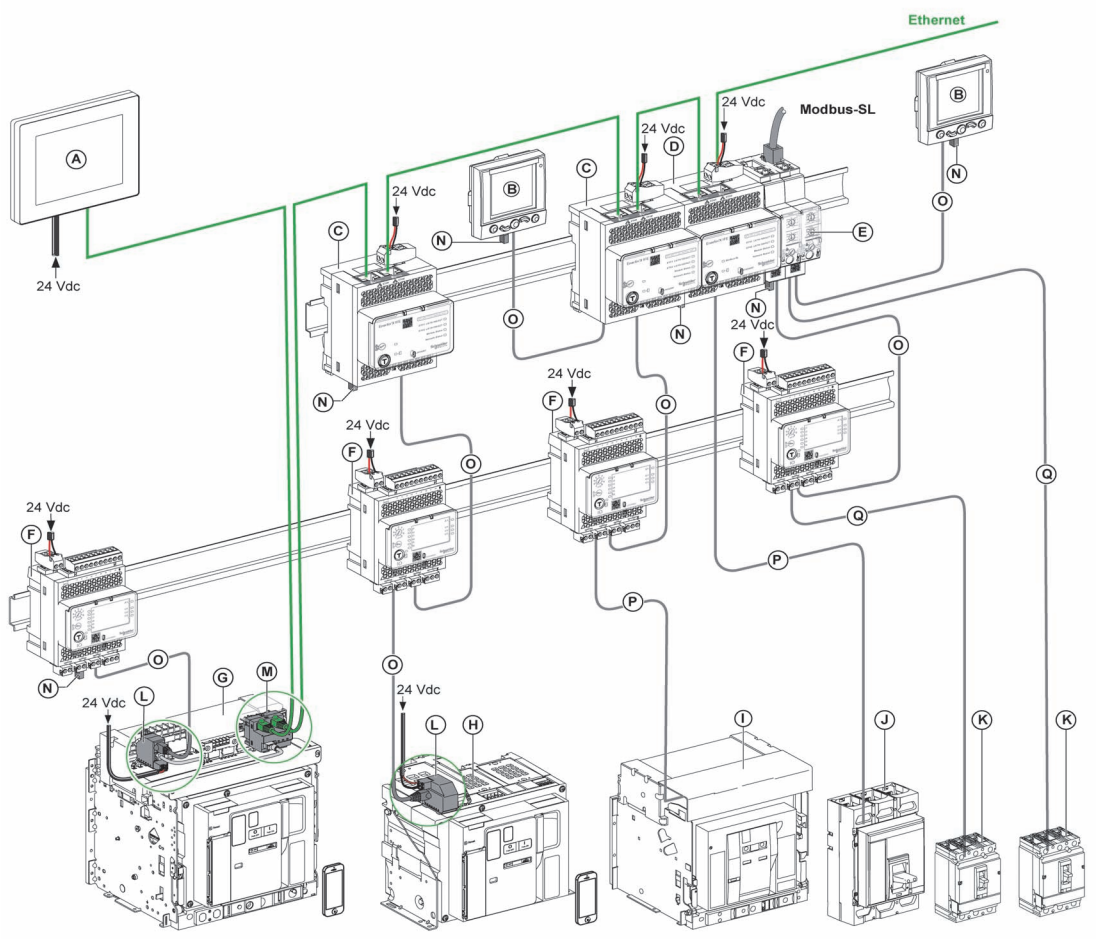
The circuit breaker with its internal communicating components (Micrologic control unit) and external ULP modules (IO module) connected to one communication interface is called an intelligent modular unit (IMU).

ULP Modules Per Circuit Breaker Range

The following table lists the compatible ULP modules for each range of circuit breakers.

ULP Module	Part Number	Masterpact MTZ with ULP Port Module and Micrologic Control Unit	Masterpact NT/NW or Compact NS with BCM ULP Module and Micrologic Control Unit	Compact NSX with BSCM Module and/or Micrologic Trip Unit
IFE Ethernet interface for one circuit breaker	LV434001 LV434010	✓	✓	✓
IFE Ethernet switchboard server	LV434002 LV434011	✓	✓	✓
EIFE Embedded Ethernet interface for one Masterpact MTZ drawout circuit breaker	LV851001	✓	–	–
Spare part kit EIFE for one Masterpact MTZ1 drawout circuit breaker	LV851100SP	✓	–	–
Spare part kit EIFE for one Masterpact MTZ2/MTZ3 drawout circuit breaker	LV851200SP	✓	–	–
IFM Modbus-SL interface for one circuit breaker	TRV00210	–	✓	✓
IFM Modbus-SL interface for one circuit breaker	LV434000	✓	✓	✓
FDM121 front display module for one circuit breaker	TRV00121	–	✓	✓
IO input/output application module for one circuit breaker	LV434063	✓	✓	✓
USB maintenance interface	TRV00911	–	✓	✓

Communication Architecture



A FDM128 Ethernet display for eight devices
B FDM121 front display module for one circuit breaker
C IFE Ethernet interface for one circuit breaker
D IFE Ethernet switchboard server
E IFM Modbus-SL interface for one circuit breaker
F IO input/output application module for one circuit breaker
G Masterpact MTZ1 or MTZ2/MTZ3 drawout circuit breaker
H Masterpact MTZ1 or MTZ2/MTZ3 fixed circuit breaker
I Masterpact NT/NW circuit breaker
J Compact NS circuit breaker
K Compact NSX circuit breaker
L ULP port module
M EIFE Embedded Ethernet Interface for one Masterpact MTZ drawout circuit breaker
N ULP line termination
O RJ45 male/male ULP cord
P Circuit breaker BCM ULP cord
Q NSX cord

Component Part Numbers

The following table lists the part numbers for the components of the ULP system for the circuit breaker:

Product	Description	Part Number
IFM Modbus-SL interface for one circuit breaker	With 5-pin connector	TRV00210
IFM Modbus-SL interface for one circuit breaker	With RJ45 port	LV434000
IFE Ethernet interface for one circuit breaker	–	LV434001
IFE Ethernet switchboard server	–	LV434002
EIFE Embedded Ethernet interface for one Masterpact MTZ drawout circuit breaker	–	LV851001
Kit EIFE for one Masterpact MTZ1 drawout circuit breaker	–	LV851100SP
Kit EIFE for one Masterpact MTZ2/MTZ3 drawout circuit breaker	–	LV851200SP
ULP port module for Masterpact MTZ2/MTZ3 fixed circuit breaker	–	LV850061SP
ULP port module for Masterpact MTZ2/MTZ3 drawout circuit breaker	–	LV850062SP
ULP port module for Masterpact MTZ1 fixed circuit breaker	–	LV850063SP
ULP port module for Masterpact MTZ1 drawout circuit breaker	–	LV850064SP
Stacking accessory	Ten stacking accessories	TRV00217
BCM ULP circuit breaker communication module	–	33106
BSCM circuit breaker status control module	–	LV434205
IO input/output application module for one circuit breaker	–	LV434063
FDM121 front display module for one circuit breaker	–	TRV00121
Surface-mounting accessory	–	TRV00128
USB maintenance interface	–	TRV00911
NSX cord	L = 0.35 m (1.15 ft)	LV434200
	L = 1.3 m (4.27 ft)	LV434201
	L = 3 m (9.84 ft)	LV434202
Circuit breaker BCM ULP cord	L = 0.35 m (1.15 ft)	LV434195
	L = 1.3 m (4.26 ft)	LV434196
	L = 3 m (9.84 ft)	LV434197
Insulated ULP module and circuit breaker ULP cord for system voltage greater than 480 Vac	L = 1.3 m (4.26 ft), U > 480 Vac (cord with female socket)	LV434204
RJ45 male/male ULP cord	L = 0.3 m (0.98 ft), ten cords	TRV00803
	L = 0.6 m (1.97 ft), ten cords	TRV00806
	L = 1 m (3.28 ft), five cords	TRV00810
	L = 2 m (6.56 ft), five cords	TRV00820
	L = 3 m (9.84 ft), five cords	TRV00830
	L = 5 m (16.40 ft), five cords	TRV00850
RJ45 female/female connector	Ten RJ45 female/female connectors	TRV00870
ULP line termination	Ten ULP line terminations	TRV00880
Two-wire RS 485 isolated repeater module	–	TRV00211
Modbus line termination	Two Modbus cable terminations with impedance of 120 Ω + 1 nF	VW3A8306DRC
Modbus cable for IFM interface with 5-pin connector	Belden: 7 mm (0.27 in.) diameter shielded cable with two twisted pairs	3084A
	Belden: 9.6 mm (0.38 in.) diameter (recommended) shielded cable with two twisted pairs	7895A
	Cable with two twisted pairs without shielding drain wire	50965

Product	Description	Part Number
RJ45 male/male Modbus-SL cable	L = 0.3 m (0.98 ft)	VW3A8306R03
	L = 1 m (3.28 ft)	VW3A8306R10
	L = 3 m (9.84 ft)	VW3A8306R30
T-junction RJ45 Modbus	L = 0.3 m (0.98 ft)	VW3A8306TF03
	L = 1 m (3.28 ft)	VW3A8306TF10
24 Vdc power supply	24/30 Vdc-24 Vdc-1 A-overvoltage category IV	54440
	48/60 Vdc-24 Vdc-1 A-overvoltage category IV	54441
	100/125 Vdc-24 Vdc-1 A-overvoltage category IV	54442
	110/130 Vac-24 Vdc-1 A-overvoltage category IV	54443
	200/240 Vac-24 Vdc-1 A-overvoltage category IV	54444
	380/415 Vac-24 Vdc-1 A-overvoltage category IV	54445
	100/500 Vac-24 Vdc-3 A-overvoltage category II	ABL8RPS24030

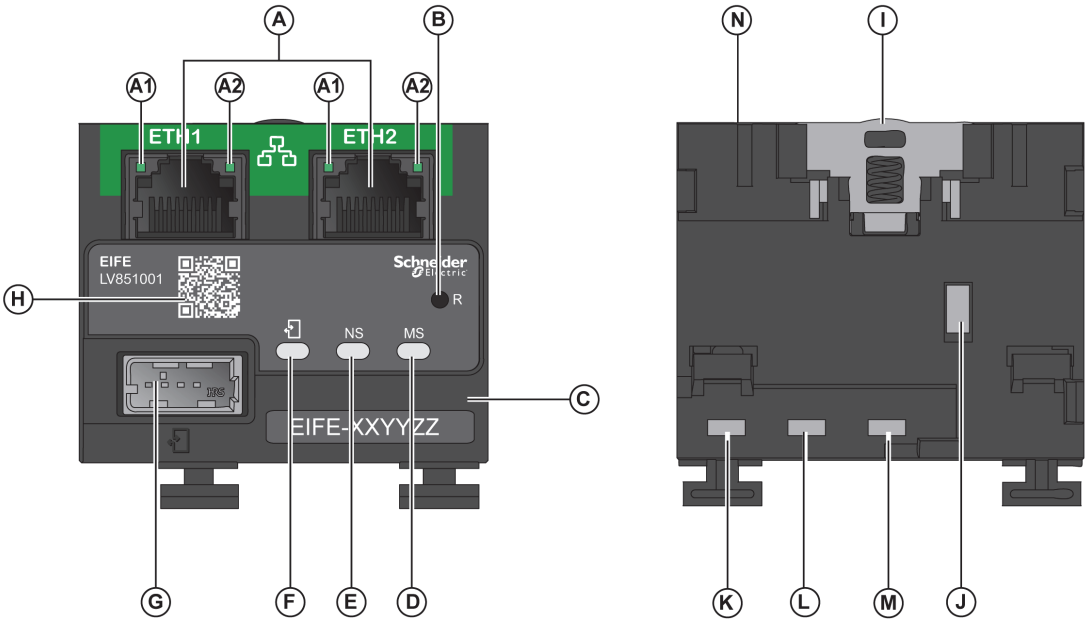
Remote Controller

A remote controller is a device that is able to communicate with an IMU using a communication interface, such as the EIFE Embedded Ethernet interface. For example, FDM128 Ethernet display for eight devices, supervisor, PLC, BMS, SCADA system, and so on, are remote controllers.

For the description of Modbus registers and commands related to the EIFE Embedded Ethernet interface, refer to the *Masterpact MTZ Modbus Communication Guide*.

Hardware Description

Description



A Two RJ45 Ethernet ports
A1 OFF: 10 Mbps
Steady green: 100 Mbps
A2 Steady green: link
Blinking green: activity
B IP reset button
C Device identification label
D Module status LED
E Network status LED
F ULP status LED
G USB mode ULP port
H QR code to product information
I DIN clip
J Grounding connection
K CT limit switch
L CE limit switch
M CD limit switch
N MAC ID

For information on installation, consult the instruction sheet available on Schneider Electric website: *NVE23550*.

Mounting

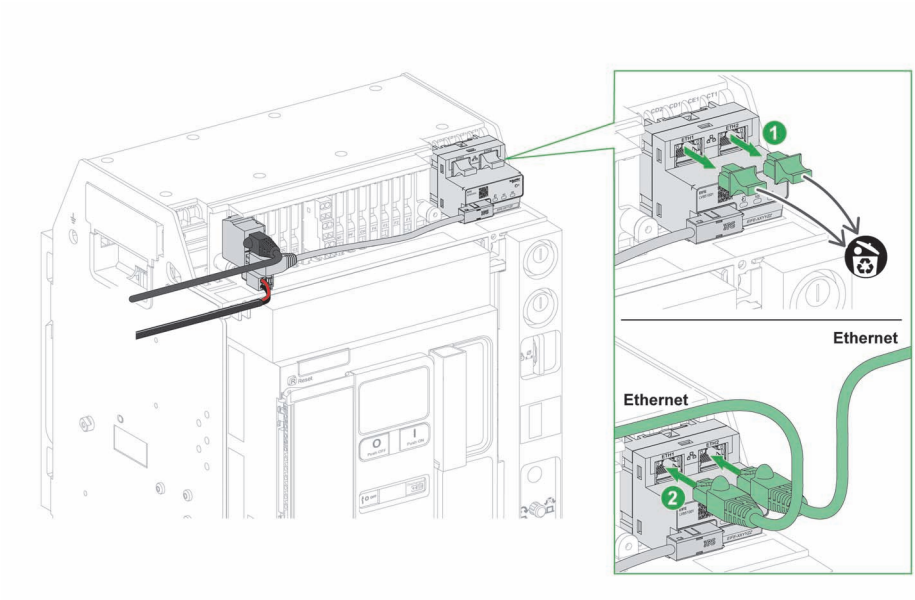
The EIFE interface is embedded in the cradle of the Masterpact MTZ circuit breaker.

24 Vdc Power Supply

The EIFE interface is powered by the ULP port module.

For more information, refer to *ULP System User Guides*.

Ethernet Connection



Module Status LED

The module status dual color LED, indicates the EIFE interface status.

LED Indication	Status Description	Action
OFF	No power	None
Steady green	EIFE interface operational	None
Blinking green (250 ms ON, 250 ms OFF)	Hidden control webpage available	None
Blinking green (500 ms ON, 500 ms OFF)	EIFE interface firmware corrupted	Contact your local Schneider Electric service team for support.
Blinking red (500 ms ON, 500 ms OFF)	EIFE interface in degraded mode	Replace ULP module at the next maintenance operation.
Steady red	EIFE interface out of service	None
Blinking green/red (1 s green, 1 s red)	Firmware upgrade in progress	None
Blinking green/red (250 ms green, 250 ms red)	Self-test in progress	None

Network Status LED

The network status dual color LED, indicates the Ethernet network status.

LED Indication	Status Description
OFF	No power or no IP address
Steady green	Valid IP address
Steady red	Duplicated IP address
Blinking green/red (250 ms green, 250 ms red)	Self-test in progress
Steady amber	Error detected in IP configuration

ULP Status LED

The yellow ULP status LED describes the mode of the ULP module.

ULP LED	Mode	Action
	Nominal	None
	Conflict	Remove extra ULP module
	Degraded	Replace EIFE interface at the next maintenance operation
	Test	None
	Non-critical firmware discrepancy	Upgrade firmware at the next maintenance operation
	Non-critical hardware discrepancy	Replace EIFE interface at the next maintenance operation
	Configuration discrepancy	Install missing features
	Critical firmware discrepancy	Use the Ecoreach software to check the firmware and hardware compatibility and follow the recommended actions
	Critical hardware discrepancy	
	Stop	Replace EIFE interface
	Power OFF	Check power supply

Modbus Address

The EIFE interface accepts the Modbus address of the IMU to which it is connected.

The Modbus address is 255 and cannot be changed.

Intrusive Command Mode

The EIFE intrusive command mode can be configured with Ecoreach software. This software can enable or disable the ability to send the remote control commands over the Ethernet network to the EIFE interface, and to the other modules of the connected IMU.

- If the intrusive command mode is Locked, the remote control commands are disabled.
- If the intrusive command mode is Unlocked (factory setting), the remote control commands are enabled.

NOTE: Whatever is the intrusive command mode, the only remote control command that is always enabled is the **Set Absolute Time** command.

Reset Button

When the reset button is pressed for 1–5 seconds, it forces the IP acquisition mode to the factory default setting (DHCP).

Cradle Position Contacts

To identify the cradle position of the circuit breaker, the EIFE interface has three limit switches.

Limit Switch	Description
CE	Cradle connected position contact
CD	Cradle disconnected position contact
CT	Cradle test position contact

Ecoreach Software

Overview

Ecoreach software helps you to manage a project as part of testing, commissioning, and maintenance phases of the project life cycle. The innovative features in it provide simple ways to configure, test, and commission the smart electrical devices.

Ecoreach software automatically discovers the smart devices and allows you to add the devices for an easy configuration. You can generate comprehensive reports as part of Factory Acceptance Test and Site Acceptance Test to replace your heavy manual work. Additionally, when the panels are under operation, any change of settings made can be easily identified by a yellow highlighter. This indicates the difference between the project and device values, and hence provides a system consistency during the operation and maintenance phase.

The Ecoreach software enables the configuration of the Masterpact MTZ devices with:

- Micrologic X control unit
- Communication interface modules: IFE, EIFE, and IFM interfaces
- IO application modules
- M2C output module

For more information, refer to the *Ecoreach Online Help*.

The Ecoreach software is available at *www.schneider-electric.com*.

Key Features

Ecoreach software performs the following actions for the supported devices and modules:

- Create projects by device discovery
- Save the project in the Ecoreach cloud for reference
- Upload settings to the device and download settings from the device
- Compare the settings between the project and the device
- Perform control actions in a secured way
- Generate and print the device settings report
- Perform a communication wiring test on the entire project and generate and print test report
- View the communication architecture between the devices in a graphical representation
- View the measurements, logs, and maintenance information
- Export Waveform Capture on Trip Event (WFC)
- View the status of device and IO module
- View the alarm details
- Buy, install, uninstall, or retrieve the Digital Modules
- Check the system firmware compatibility status
- Upgrade to the latest device firmware
- Perform force trip and automatic trip curve tests
- Declare Masterpact MTZ accessories

Cradle Management Function

Presentation

The cradle management function is used to:

- record and check the position of drawout circuit breakers in the cradle.
- provide information about the preventive maintenance actions.
- notify the remote controller about the position of the drawout circuit breaker.
  NOTE: When the circuit breaker is detected as being in the disconnected position, the remote controller quits polling the Micrologic control unit. If the remote controller does not quit polling, the remote controller receives the time-out response as long as the circuit breaker is disconnected.

The cradle information is available on:

- remote controller using the communication network.
- EIFE interface webpages.

Compatible Devices

Range	Minimum Hardware Configuration Required
Masterpact MTZ circuit breaker	Drawout circuit breaker + Micrologic X control unit + EIFE interface + ULP port module

Cradle Position Status

The cradle position status is defined by the position of the limit switches.

Cradle Position Status	CE Limit Switch	CT Limit Switch	CD Limit Switch
Cradle in connected position	ON	OFF	ON
Cradle in test position	OFF	ON	ON
Cradle in disconnected position	OFF	OFF	OFF

Cradle Position Counters

The cradle position counters are:

- Cradle connected position counter
- Cradle disconnected position counter
- Cradle test position counter

A counter is linked to each cradle position state. The counter is incremented each time the linked state is activated.

The cradle position counters have the following properties:

- The counters are saved in non-volatile memory to prevent loss of data in case of power outage.
- The counters are incremented from 0 to 65534.

Predefined Events

The following events are generated by the cradle management function.

Code	Description	Type	Priority	Reset
2304 (0x0900)	Cradle position discrepancy	Alarm	Medium	Manual or remote
2308 (0x0904)	Remove device from cradle and put it back	Alarm	Medium	Manual or remote
2309 (0x0905)	Design life of the cradle, replacement of the cradle has to be performed within six months	Alarm	High	Manual or remote
2310 (0x0906)	Regreasing cradle and disconnecting-contact clusters to be performed by qualified maintenance staff	Alarm	Medium	Manual or remote
2311 (0x0907)	New Micrologic control unit has been detected	Alarm	High	Manual or remote

Cradle Position Discrepancy Alarm

The EIFE interface detects the cradle position discrepancy and generates an alarm when the cradle position contacts indicate that the circuit breaker is not in one of the allowable positions, connected, disconnected, or test.

Cradle Maintenance Alarms

Time-stamped alarms are generated to allow preventive maintenance actions:

- To remind the user to operate the cradle at least once in every year by moving the circuit breaker from connected position to disconnected position and from disconnected position to connected position. The alarm is generated after 11 months without disconnecting the circuit breaker.
- Replacement of the cradle: the cradle is designed to be connected 500 times and must be replaced before that number is reached. An alarm is generated when the cradle connected position counter reaches 450.
- Regrease the cradle and clusters: The cradle needs a comprehensive check-up when:
  - the cradle is in operation for five years,
  - or the cradle position counter reaches 250.

New Micrologic Detection Alarm

A time-stamped alarm is generated when the EIFE interface detects that the Micrologic control unit of the circuit breaker has been replaced. The detection is based on the Micrologic control unit serial number.

Time-Stamped Information

The following time-stamped information is recorded:

- Last connection of the cradle
- Last disconnection of the cradle
- Last cradle in test position

The stamped information can be read by a remote controller using the communication network.

Technical Characteristics

Environmental Characteristics

Characteristics		Value
Conforming to standards		• IEC 60947-2 • IEC 61000-6-2 • IEC 61000-6-4
Certification		CE
Ambient temperature	Storage	-40 °C to +85 °C (-104 °F to +185 °F)
	Operation	-20 °C to +70 °C (-68 °F to +158 °F)
Relative humidity		5 to 85 %
Protective treatment		ULV0, conforming to IEC/EN 60068-2-30
Pollution		Level 3

Mechanical Characteristics

Characteristics	Value
Shock resistance	Same as Masterpact MTZ circuit breakers.
Resistance to sinusoidal vibrations	Same as Masterpact MTZ circuit breakers.

Electrical Characteristics

Characteristics	Value
Power supply	24 Vdc, -20%/+10% (19.2...26.4 Vdc)
Consumption	24 Vdc, 100 mA at 25 °C
Resistance to electrostatic discharge	Conforming to IEC/EN 6100-4-2 8 kV AD
Immunity to radiated fields	Conforming to IEC/EN 6100-4-3 10 V/m
Immunity to surges	Conforming to IEC/EN 6100-4-3 Class 2

Physical Characteristics

Characteristics	Value
Dimensions	51 x 51 x 52.5 mm (2.01 x 2.01 x 2.07 in)
Mounting	Embedded in the cradle of the circuit breaker
Weight	75 g (0.17 lb)
Degree of protection of the installed module	• Connectors: IP20 • Other parts: IP30
Connections	• RJ45 for Ethernet • Industrial USB type connector for ULP

Firmware Upgrade

Description

The EIFE interface consists of two component types that can be upgraded using the Ecoreach software *(see page 18)*:

- Firmware
- Webpage, device supporting file, and data file

The Ecoreach software provides a one-click update option that helps to ensure consistency between the firmware and device webpages.

NOTE:

- Before starting the firmware upgrade, take a backup of the data log files *(see page 54)*.
- The Ecoreach software automatically downloads the latest firmware version from the Schneider Electric server.

If you add or update a device, the firmware has the potential to create inconsistencies. Hence, it is important to review your firmware upgrade plan with respect to other devices in the system. If the firmware creates inconsistencies, the system may have some limitations or unexpected behavior.

Signed Firmware

All firmware designed for the Masterpact MTZ IMU is signed using the Schneider Electric public key infrastructure.

The digital certificates used to authenticate genuine Schneider Electric firmware and software must be regularly verified to ensure that they are still valid. Digital certificates that are no longer valid are published on the certificate revocation list (CRL) available on the Schneider Electric *Cybersecurity Support Portal*.

NOTE: Each time you connect to the Micrologic X control unit using Ecoreach software, the digital signature of the control unit is automatically verified.

For more information on cybersecurity for the Masterpact MTZ circuit breakers, refer to the *Masterpact MTZ – Cybersecurity Guide (see page 7)*.

Checking the Firmware Version

Step	Action	Result
1	Open the web browser and log in to the EIFE webpage.	Opens the EIFE home page.
2	Locate the firmware version on **Device Identification** page on the **Diagnostics** menu *(see page 62)*. **NOTE:** If you have updated the firmware recently, press **F5** to refresh the webpage and update the displayed firmware number.	Determines the firmware version of the EIFE interface.

Schneider Electric Green Premium™ Ecolabel

Description

Green Premium by Schneider Electric is a label that allows you to develop and promote an environmental policy while preserving your business efficiency. This ecolabel is compliant with up-to-date environmental regulations.

Accessing Green Premium

Green Premium data on labeled products can be accessed online through any of the following ways:

- By navigating to the *Green Premium* page on the Schneider Electric website.
- By flashing the QR code displayed in the following image:

Checking Products Through the Schneider Electric Website

To check the environmental criteria of a product using a PC or smartphone, follow these steps:

Step	Action
1	From *www.schneider-electric.com*, select **Support → Additional Links → Green Premium Eco Label**.
2	Click **Find Green Premium Products** to open the search tool webpage.
3	Fill in the fields: ● Enter the commercial reference or product range of the product to search for. ● Optional: Enter the manufacturing date code of the product with format **YYWW**. By default, this field is filled with the date of the search.
4	To search for several products simultaneously, click the **Add product** button, and then fill in the fields.
5	Click **Check product(s)** to generate a report of the environmental criteria available for the products with the entered commercial references.

Environmental Criteria

The Green Premium ecolabel provides documentation on the following criteria about the environmental impact of the products:

- RoHs: European Union Restriction of Hazardous Substances (RoHS) directive.
- REACh: European Union Registration, Evaluation, Authorization, and Restriction of Chemicals regulation.
- PEP: Product Environmental Profile.
- EoLI: End of Life Instructions.

RoHs

Schneider Electric products are subject to RoHS requirements at a worldwide level, even for the many products that are not required to comply with the terms of the regulation. Compliance certificates are available for products that fulfill the criteria of this European initiative, which aims to eliminate hazardous substances.

REACh

Schneider Electric applies the strict REACh regulation on its products at a worldwide level, and discloses extensive information concerning the presence of SVHC (Substances of Very High Concern) in all of these products.

PEP

Schneider Electric publishes complete set of environmental data, including carbon footprint and energy consumption data for each of the life cycle phases on all of its products, in compliance with the ISO 14025 PEP ecopassport program. PEP is especially useful for monitoring, controlling, saving energy, and/or reducing carbon emissions.

EoLI

These instructions provide:

- Recyclability rates for Schneider Electric products.
- Guidance to mitigate personnel hazards during the dismantling of products and before recycling operations.
- Part identification for recycling or for selective treatment, to mitigate environmental hazards/incompatibility with standard recycling processes.

Chapter 2
EIFE Interface Webpages

What Is in This Chapter?

This chapter contains the following sections:

Section 2.1
Webpage Access and User Interface

What Is in This Section?

This section contains the following topics:

Access to EIFE Webpages

Supported Web Browsers

Browser	Version with Windows XP	Version with Windows Vista	Version with Windows 7 and later
Internet Explorer	IE 9.0	IE 9.0	IE 10.0, IE11.0
Firefox	15.0	20.0	20.0, 45.0
Chrome (recommended)	24.0 and later	24.0 and later	24.0 and later

First Access to the EIFE Webpages

The EIFE name must be configured during the first access to the EIFE webpages.

The procedure to access the EIFE webpages for the first time depends on the operating system of the PC:
- Windows Vista, Windows 7 and later, or newer operating systems
- Windows XP or older operating systems

NOTE: On upgrade of EIFE interface before accessing the webpages for the first time, delete the browser cache.

First Access Through PC with Windows Vista or Windows 7 and Later

Step	Action
1	Disconnect the PC from the local area network (LAN) and switch off Wi-Fi.
2	Connect an Ethernet cable from the PC to the EIFE interface or to the Ethernet switch inside the panel.
3	Open **Windows Explorer**.
4	Click **Network** and the EIFE-**XXYYZZ** appears in the list of devices. **NOTE:** If the EIFE name is not displayed in the list of devices in **Windows Explorer**, check if the PC and the EIFE interface are not connected through the router.
5	Double-click the selected EIFE-**XXYYZZ**, the login page automatically opens in the browser.
6	Enter `Administrator` as the user name and `Gateway` as the password, the home page automatically opens in the browser. **NOTE:** The user name and password are case-sensitive.
7	To locate the EIFE-XXYYZZ, select the **Configuration & Settings** menu, go to **General** submenu, click **Device Physical Location**, and click **Blink ON**. The ULP LED of the selected EIFE-XXYYZZ blinks for 15 seconds (test mode).
8	To name the EIFE-**XXYYZZ**, select the **Configuration & Settings** menu, go to **Device Configuration** submenu, click **Device List** and then click **Name**. Click EIFE-**XXYYZZ** to set the EIFE name.
9	Write the EIFE name on a blank device name label and stick it on the existing one.

NOTE:
- XXYYZZ is the last 3 bytes of the MAC address in hexadecimal format.
- Check the firewall settings if DPWS is not enabled.

First Access Through PC with Windows XP

Step	Action
1	Disconnect the PC from the local area network (LAN) and switch off Wi-Fi.
2	Connect an Ethernet cable from the PC to the EIFE interface.
3	Start the web browser *(see page 25)*. **NOTE:** The PC automatically uses the default IP address 169.254.#.# (#=0–255) and the default subnet mask 255.255.0.0.
4	In the address text box, enter `169.254.YY.ZZ`, where YY and ZZ are the last 2 bytes of the EIFE interface MAC address (to be found on the EIFE interface side label), then press **Enter**: the home page opens in the browser. Example: For an EIFE with MAC address 00-B0-D0-86-BB-F7 or 0-176-208-134-187-247 in decimal, enter 169.254.187.247 in the address text box.
5	Press **Enter**, the login page automatically opens in the browser.

Step	Action
6	Enter `Administrator` as the user name and `Gateway` as the password. The homepage automatically opens in the browser. **NOTE:** The user name and password are case-sensitive.
7	To locate the -XXYYZZ, select the **Configuration & Settings** menu, go to **General** submenu, click **Device Physical Location**, go to **Device Physical Location,** and click **Blink ON**. The ULP LED of the selected -XXYYZZ blinks for 15 seconds.
8	To name the -XXYYZZ, select the **Configuration & Settings** menu, go to **Device Configuration** submenu, click **Device List** and then click **Name** to set the EIFE name.
9	Write the EIFE name on a blank device name label and stick it on the existing one.

NOTE: XXYYZZ is the last 3 bytes of the MAC address in hexadecimal format.

Access to Webpages

Follow the Network Discovery, Name Browsing, and IP Address Browsing process to access the webpages.

The webpage access depends on the IT infrastructure.

Network Discovery

Follow the below procedure to access the EIFE webpages once the EIFE name has been configured.

Step	Action
1	Connect the EIFE interface or the Ethernet switch inside the panel to the local area network (LAN).
2	Connect the PC to the local area network (LAN).
3	Open **Windows Explorer**.
4	Click **Network**, the EIFE name is displayed in the list of devices. **NOTE:** If the EIFE name is not displayed in the list of devices in **Windows Explorer**, check if the PC and the EIFE interface are not connected through the router.
5	Double-click the EIFE name which is written on the device label located on the front face of the selected EIFE interface, the login page automatically opens in the browser.

Name Browsing

DNS server is mandatory.

Step	Action
1	Connect the EIFE interface or the Ethernet switch inside the panel to the local area network (LAN).
2	Connect the PC to the local area network (LAN).
3	Start the web browser *(see page 25)*.
4	In the address text box, enter the EIFE name which is written on the device label located on the front face of the selected EIFE interface.
5	Press **Enter**, the login page automatically opens in the browser. **NOTE:** If the EIFE interface does not appear in the list of devices in **Windows Explorer**, check if the PC and the EIFE interface are not connected through the router.

NOTE: The EIFE IP address is mapped to the device label in the DNS server.

IP Address Browsing

IP static configuration has to be set.

Step	Action
1	Connect the EIFE interface or the Ethernet switch inside the panel to the local area network (LAN).
2	Connect the PC to the local area network (LAN).
3	Start the web browser *(see page 25)*.
4	In the address text box, enter IP address given by the IT administrator.
5	Press **Enter**, the login page automatically opens in the browser. **NOTE:** If the login page in the web browser does not open or does not display correctly, check if **Internet Explorer\Tools\Compatibility View Settings\Display Intranet sites in Compatibility View** in Internet Explorer is checked.

First Time Log In

The web browser is a tool for reading and writing data. It is recommended to change the default password when logged in for the first time to prevent unauthorized access.

⚠ WARNING

UNAUTHORIZED ACCESS TO CONTROL FUNCTIONS

- Immediately change the default password to a new and secure password.
- DO NOT distribute the password to unauthorized or otherwise unqualified personnel.

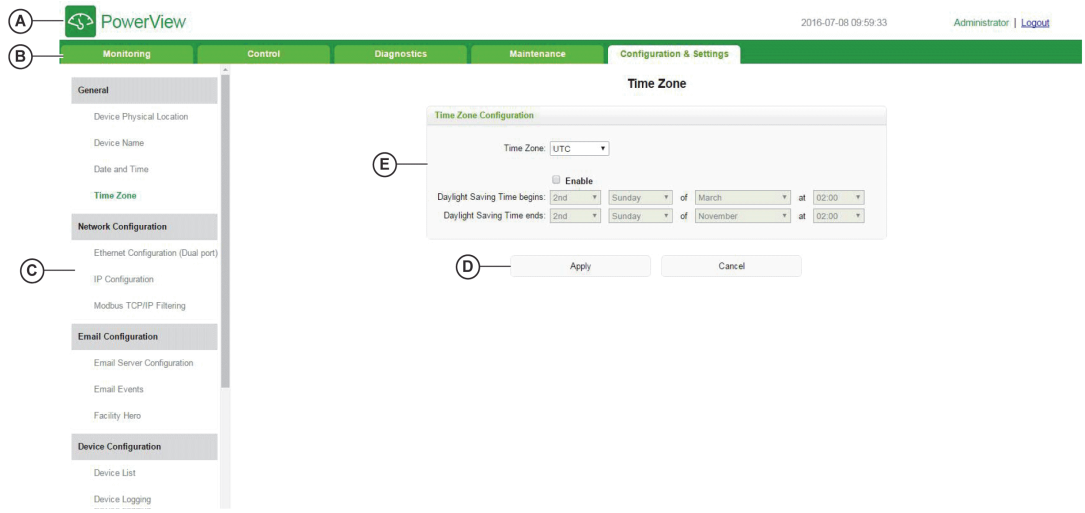
Failure to follow these instructions can result in death, serious injury, or equipment damage.

NOTE: The password should not contain any personal or obvious information.

User Interface Layout

Overview

This graphic shows the EIFE user interface layout.



A Banner
B Menu tabs
C Subtabs
D Action button
E Display zone

Banner

The banner displays the following information at the top of all the pages.

Generic Information	Description
Date and time	Current date and time in the format yyyy-mm-dd hh-mm-sec
User name checked	Name of the user who has logged in
Logout	To log out the EIFE session, click **Logout** or close your browser. It is recommended to log out from the EIFE session when it is not in use.

Main Tabs

The main tabs are:

- **Monitoring**
- **Control**
- **Diagnostics**
- **Maintenance**
- **Configuration & Settings**

Subtabs

The subtabs display the submenus under the selected main tab.

Action Buttons

The action buttons correspond to the selected tab and it varies.

The following table describes the interface buttons:

Button	Action
Apply	Applies the changes.
Cancel	Cancels the modifications to return to the last saved settings.

Display Zone

The display zone shows the selected subtab in detail with all the related fields.

Webpage Description

Monitoring Webpage

Monitoring Submenu	Webpage	Description
Real Time Data	**Single Device Pages** *(see page 51)*	The single device pages provide basic readings of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.
	Summary Device Pages *(see page 51)*	The summary device pages provide summaries of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.
	Trending *(see page 51)*	The trending page view provides real-time graphic and table trending of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.
Device Logging	**Single Device Pages** *(see page 52)*	The single device pages provide the graphic and table trending logs of user-selectable quantities for the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.
	Summary Device Pages *(see page 55)*	The summary device pages provide graphic trending logs of Masterpact MTZ drawout circuit breaker connected to the EIFE interface.

Control Webpage

Control Submenu	Webpage	Description
Device Control	**Device Control** *(see page 57)*	Resets and controls the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.
Set Device Time	**Set Device Time** *(see page 58)*	Displays the time of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.

Diagnostics Webpage

Diagnostics Submenu	Webpage	Description
General	**Statistics** *(see page 60)*	Displays diagnostic data used to troubleshoot the network-related problems.
Product Information	**Device Identification** *(see page 62)*	• Displays the EIFE basic information to set the EIFE device name and helps in the device physical location. • Contains information about the product name, serial number, model number, firmware version, unique identifier, MAC address, IPv4 address, and IPv6 link local address.
	IMU Information *(see page 62)*	Displays the list of the IMU devices connected to the ULP port.
Device Health Check	**Read Device Registers** *(see page 62)*	Displays register data connected locally to the EIFE interface.
	Communications Check *(see page 63)*	Verifies the communication health of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.
IO Readings	**IO Readings** *(see page 63)*	Displays the status of IO module connected to the Masterpact MTZ drawout circuit breaker. Displays **No IO modules connected** if the Masterpact MTZ drawout circuit breaker is not connected to a IO module. NOTE: **IO Module** refers to the Masterpact MTZ drawout circuit breaker name defined in the **Device List** page.

Maintenance Webpage

Maintenance Submenu	Webpage	Description
Indicators	**Indicators** *(see page 65)*	Displays the maintenance counters of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.

Configuration & Settings Webpage

Configuration & Settings Submenu	Webpage	Description
General	**Device Physical Location** *(see page 32)*	• Locate the EIFE-XXYYZZ interface. • Click **Blink ON**. • The ULP LED of the EIFE-XXYYZZ interface blinks and is active for 15 s (Test mode: 1 s ON, 1 s OFF).
	Date and Time *(see page 32)*	Sets the date and time manually or sets the EIFE time automatically using an SNTP source or configures the ULP devices connected to EIFE interface to synchronize their time with the EIFE time automatically.
	Time Zone *(see page 32)*	Configures the time zone for the region and sets the daylight saving time.
Network Configuration	**Ethernet Configuration (Dual port)** *(see page 33)*	Configures the Ethernet.
	IP Configuration *(see page 33)*	Configures the IP parameters.
	Modbus TCP/IP Filtering *(see page 34)*	Configures the maximum number of Modbus TCP/IP server connections. Configures the IP addresses that can access the EIFE interface through Modbus TCP/IP.
Email Configuration	**Email Server Configuration** *(see page 35)*	Configures the alarms to be emailed. Configures the SMTP parameter for mailing purpose.
	Email Events *(see page 37)*	Configures the alarms to be sent through email.
	Facility Expert *(see page 43)*	Configures the SMTP server automatically when you enable the EcoStruxure Facility Expert and sends alarms to the EcoStruxure Facility Expert notification center.

Configuration & Settings Submenu	Webpage	Description
Device Configuration	**Device List** *(see page 44)*	Configures Masterpact MTZ drawout circuit breaker connected to the EIFE interface.
	Device Logging *(see page 44)*	Configures device logging parameters.
	Device Log Export *(see page 46)*	Configures device logging export options.
Other Configuration	**SNMP Parameters** *(see page 47)*	Configures Simple Network Management Protocol (SNMP).
	Preferences *(see page 47)*	Configures EIFE preferences.
	Advanced Services Control *(see page 47)*	Configures the advanced service control parameters.
	User Account *(see page 48)*	Creates and edits groups and users. Configures email accounts.
	Webpage Access *(see page 49)*	Configures webpage access rights for each user group.

Section 2.2
Configuration & Settings Webpages

What Is in This Section?

This section contains the following topics:

General

Device Physical Location

Step	Action	Result
1	From the EIFE menu bar, click **Configuration & Settings**.	Opens the **Configuration & Settings** menu.
2	From the **Configuration & Settings** menu, in the **General** submenu, click **Device Physical Location**.	Opens the **Device Physical Location** page.
3	In **Device Physical Location** webpage, click **Blink ON**.	Sets the EIFE interface in test mode and the LED blinks in ULP pattern with 1 second ON and 1 second OFF.

Date and Time

Description

The **Date and Time** page allows you:

- To manually set the date and time of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface
- To automatically synchronize the date and time of the Masterpact MTZ drawout circuit breaker to the EIFE time
- To periodically check the synchronization at specified interval of time

List of Parameters in Date and Time Configuration

Parameter	Description
Manual	Allows you to select the manual date and time setting of the Masterpact MTZ drawout circuit breaker. This option is disabled when **Automatic** is selected.
Date	Allows you to set the present date manually in the format yyyy-mm-dd.
Time	Allows you to set the present time manually in the format hh:mm:sec.
Automatic (SNTP)	Allows you to enable the automatic time setting of the Masterpact MTZ drawout circuit breaker. This option is disabled when **Manual** is selected.
Poll Interval	Allows you to enter the poll interval in hours that ranges from 1 through 63.
Obtain Servers Automatically via DHCP/BOOTP	Allows you to enable the check box that obtains the server address from DHCP or BOOTP.
Primary SNTP/NTP server	Allows you to enter the primary SNTP server address.
Secondary SNTP/NTP server	Allows you to enter the secondary SNTP server address.
Apply	Allows you to automatically synchronize the time of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface with the EIFE time.
Cancel	Allows you to clear the synchronization of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.

Time Zone

Time Zone Configuration

Step	Action
1	From the EIFE menu bar, click **Configuration & Settings**.
2	From the **Configuration & Settings** menu, in the **General** submenu, click **Time Zone**.
3	In **Time Zone Configuration** webpage, select the time zone of your region from the **Time Zone** list.
4	Select the **Enable** check box if you have to set the daylight saving time.
5	Select the beginning and end time of daylight saving from the **Daylight Saving Time begins** and the **Daylight Saving Time ends** list.
6	Click **Apply** to save the settings.

NOTE: The settings of **Time Zone** is applicable only when **Date and Time** is in **Automatic** mode.

Ethernet Configuration (Dual Port)

Ethernet

Parameter	Description	Settings
MAC address	A unique media access control address of an EIFE interface. The MAC address is written on the label which is placed on the side of the EIFE interface.	–
Frame format	Used to select the format for data sent over an Ethernet connection. **NOTE:** Whenever the frame format settings are changed, restart the device to implement the changes.	• **Ethernet II** • **802.3** • **Auto** (Factory setting)

Ethernet Port Control

Parameter	Description	Settings
Speed and mode for Port #1	Used to define the physical Ethernet connection speed and transmission mode for Ethernet port 1.	**Auto-negotiation** (Factory setting)
Speed and mode for Port #2	Used to define the physical Ethernet connection speed and transmission for Ethernet port 2.	**Auto-negotiation** (Factory setting)

Broadcast Storm Protection

Parameter	Description	Settings
Level	Defines the storm protection level. The level value corresponds to a committed information rate (CIR) value, that is, the amount of traffic entering the switch port from which the storm protection drops entering the broadcast traffic. **NOTE:** If the level value is changed, you are prompted to restart the device to implement changes.	• **0** • **1** • **2** • **3** • **4** (Factory setting) • **5** • **6**
Committed Information Rate	Defines the read-only value of the storm protection level.	–

IP Configuration

IPv4 Configuration

Parameter	Description	Settings
Obtain an IP address automatically using	Used to select the mode for assigning the IPv4 parameters set. Obtain IPv4 parameters automatically using BOOTP or DHCP. **NOTE:** While using a legacy DHCP server, the device name must be limited to 16 characters.	• **DHCP** (Factory setting) • **BOOTP**
Manual IP address	Used to enter the static IP address of an EIFE interface.	–
Manual Subnet mask	Used to enter the Ethernet IP subnet mask address of your network.	–
Manual Default gateway	Used to enter the gateway (router) IP address used for wide area network (WAN) communication.	–

IPv6 Configuration

Parameter	Description	Settings
Enable IPv6	Defines the IPv6 configuration.	**Enabled** (Factory setting) **NOTE:** The setting is unavailable to edit.
Link local address	Used to open the EIFE webpage for future use. **NOTE:** In the URL address box, use [ ] brackets to enter the link local address.	–

DNS

Parameter	Description	Setting
Obtain DNS address automatically	Defines the dynamic behavior of the DNS server address configuration. Used to obtain the IP address from the DNS server automatically. **NOTE:** Domain name system (DNS) is the naming system for computers and devices connected to a local area network (LAN) or the Internet.	Disabled when manual setting is selected.
Manual Primary server address	Defines the IPv4 address of the primary DNS server.	–
Manual Secondary server address	Defines the IPv4 address of the secondary DNS server. Used to perform a DNS resolution when the resolution fails with the primary DNS server.	–

Modbus TCP/IP Filtering

Description

The **Modbus TCP/IP Filtering** page allows you to define the level of access for Modbus TCP/IP clients connected to EIFE interface.

Block Connections

You can select the maximum number of IP connections allowed, 8 or 16. Each connection can have 12 concurrent transactions simultaneously.

NOTE: When the maximum number of IP connections is changed, a message pops-up on the screen **Max Connection is changed. Restart the Device to Take Effect** and prompts to restart the device.

IP Filtering

Parameter	Description	Setting
Enable IP Filtering	Activates the IP address filtering. The list of IP addresses available in the table is granted access.	• Enabled • Disabled (No filtering)
IP Address	Filters the required IP address entered by you.	10 addresses (Maximum allowed IP addresses)
Access level	Defines the access level for the corresponding IP address.	• Read: The following Modbus TCP/IP function codes are allowed: ❍ 1 (0x01) ❍ 2 (0x02) ❍ 3 (0x03) ❍ 4 (0x04) ❍ 7 (0x07) ❍ 8 (0x08) ❍ 11 (0x0B) ❍ 12 (0x0C) ❍ 17 (0x11) ❍ 20 (0x14) ❍ 24 (0x18) ❍ 43 (0x2B), with subfunction codes 14 (0x0E), 15 (0x0F), and 16 (0x10). ❍ 100 (0x64) • **None**: The access to the IP address is blocked. • **Read/Write**: Full access is provided.
Allow Anonymous IP	Allows all Modbus TCP/IP clients to have the read-only access.	• Enabled • Disabled (Factory setting)

Email Server Configuration

Introduction

The built-in email alarm notifications are sent through emails when the connected devices trigger an alarm. The alarms are notifications that occur in response to a status change or when a value exceeds a threshold value. The administrator selects and configures several alarm notifications. The recipient list is configurable to notify the several users of the same alarm.

The email alarm notifications require unfiltered Internet access. This level of service is suited for small or mid-sized non-critical buildings. The device sends the emails when Internet access is available through a dedicated connection or through a local area network (LAN) with Internet access.

NOTE: The email alarm notifications should not be used if email services are managed internally by a customer IT domain administrator.

Email Service

Parameter	Description	Setting
My Own SMTP Server	Sets **My Own SMTP Server** profile as the email service in EIFE interface by default. If you have configured SMTP profile for the previous version of the EIFE interface, on upgrade to a newer version, you can still retrieve the saved configuration under **My Own SMTP Server** profile.	–

Email SMTP Server Settings

Parameter	Description	Setting
SMTP server address	Allows you to enter an email server address (SMTP server). **NOTE:** Contact your network administrator to know the IP address or the name of the simple mail transfer protocol (SMTP) server.	–
SMTP server port	Allows you to enter the SMTP server port.	• **25** • **587** (factory setting) • **2525**
Authentication	If the SMTP server requires login information, enable the **Authentication Enable** check box.	• **Enabled** • **Disabled** (factory setting)
SMTP account login	Allows you to enter the SMTP account login name.	–
SMTP account password	Allows you to enter the SMTP account password.	–

Email Sender Address

Parameter	Description	Setting
From address	In the **From Address** box, enter the email address of the administrator.	–

The **From address** can be used in different ways:

- Use the **From address** as a context provider: If you do not want to receive any reply, and only notify the recipient, use **From address** as contextual information. The **From address** syntax includes “no-reply”, “device name”, “site name”, @a validated domain .com, .net, and so on.
- Create an alias in the **From address** to allow replies to be sent to the person in charge of an alarm: An email can be sent to multiple people who are responsible for a specific appliance. This feature allows the receivers to reply to follow up with the responsible person.
  For example, the facility manager would receive an email from an alarm. Facility manager can send a reply email to the maintenance contractor to follow up on the action.

Email Language

Parameter	Description	Setting
Language	Allows you to select the language of the email body.	• **English** (factory setting) • **French**

Email Test

Parameter	Description	Setting
Recipient address for test	Allows you to enter the email address of the recipient to test the delivery of the email.	–

The **Email Test** feature enables connection from the device to the service. If the test emails are not received, the Internet connection needs to enable the email ports (port 25 or 587 or 2525). The required setting of the port is done in accordance between the device that sends the email and the site router settings.

NOTE: The email with custom text that uses characters such as à, è, ù, é, â, ê, î, ô, û, ë, ï, ü, ÿ, and ç are not shown correctly in the email. However, the generic text message is shown correctly.

Email Events

Description

The **Email Events** page allows the selection of the events to notify through email among a list of events.

⚠ CAUTION
EQUIPMENT INCOMPATIBILITY OR INOPERABLE EQUIPMENT Do not rely solely on the notification of the emails for maintaining your equipment. **Failure to follow these instructions can result in injury or equipment damage.**

The list of events displayed contain only applicable events related to the Masterpact MTZ circuit breaker:

- with Micrologic X control unit and EIFE interface
- with 1 or 2 optional IO modules connected to the ULP port module.

NOTE: If an email SMTP server is not located on the same Ethernet network segment as EIFE interface, ensure that the EIFE default gateway is properly configured.

Parameter	Description
Events	List of events for configuration
Add Event	A check box to enable to add events.
Email Recipients	Allows you to choose from a list of email recipients. **NOTE:** You can choose a maximum of 12 recipients.
Custom Text	Allows you to enter a custom text. **NOTE:** You can enter a maximum of 63 characters in the custom text area.

Events from Masterpact MTZ Circuit Breaker

Device Connected	Events
Masterpact MTZ circuit breaker with Micrologic X control unit	Ir trip
	Isd trip
	Ii trip
	Ig trip
	IΔn trip
	Ultimate self-protection trip (SELLIM)
	Self diagnostic trip
	Ultimate self-protection trip (DIN/DINF)
	IΔn/Ig test trip
	Undervoltage on 1 phase trip
	Overvoltage on 1 phase trip
	Reverse power trip
	Undervoltage on all 3 phases trip
	Overvoltage on all 3 phases trip
	Optional protection trip
	Ultimate self-protection (DIN/DINF) operate
	Ultimate self-protection (SELLIM) operate
	Thermal memory reset order

Device Connected	Events
Masterpact MTZ circuit breaker with Micrologic X control unit	Ir prealarm (I > 90% Ir)
	Ir start (I > 105% Ir)
	Ir operate
	Isd start
	Isd operate
	Ii operate
	Ig alarm
	Ig start
	Ig operate
	IΔn alarm
	IΔn start
	IΔn operate
	Undervoltage on 1 phase start
	Undervoltage on 1 phase operate
	Undervoltage on all 3 phases start
	Undervoltage on all 3 phases operate
	Overvoltage on 1 phase start
	Overvoltage on 1 phase operate
	Overvoltage on all 3 phases start
	Overvoltage on all 3 phases operate
	Reverse Power start
	Reverse Power operate
	ERMS engaged
	ERMS engaged for more than 24 hours
	ESM (ERMS switch module) self diagnostic alarm
	Communication lost with ESM (ERMS switch module)
	Request to unlock ERMS by Smartphone
	B curve active
	Optional protections inhibited by IO
	Circuit breaker opened
	Circuit breaker closed
	Closing order sent to XF
	Opening order sent to MX
	Circuit Breaker did not open or close

Device Connected	Events
Masterpact MTZ circuit breaker with Micrologic X control unit	Manual mode enabled
	Local mode enabled
	Allow control by Digital input is disabled (by Ecoreach)
	Closing inhibited by communication
	Closing inhibited through IO module
	Alarm reset
	M2C output 1 is forced
	M2C output 2 is forced
	Protection settings change by display enabled
	Remote protection settings change enabled
	Protection settings changed by display
	Protection settings changed by Bluetooth/USB/IFE
	Communication lost with IO#1 module
	Communication lost with IO#2 module
	Config error IO/CU: dual settings or inhibit cls.
	Config error IO/CU: optional protection Inhibit
	Config. error IO and CU - Local/Remote mode
	Date and time set
	Digital module license installed
	Digital module license uninstalled
	Digital module license expired
	Digital module license rejected
	Digital module License expires in 30 days
	Digital module License expires in 20 days
	Digital module License expires in 10 days
	Connection on USB port
	Injection test in progress
	Ig function inhibited for test propose
	Test aborted by user
	Ig protection in OFF mode
	Control unit self test major malfunction 1
	Control unit self test major malfunction 2
	Control unit self test major malfunction 3
	Control unit self test major malfunction 4

Device Connected	Events
Masterpact MTZ circuit breaker with Micrologic X control unit	Control unit self test major malfunction 5
	Internal current sensor disconnected
	External neutral current sensor disconnected
	Earth leakage (Vigi) sensor disconnected
	Protection settings reset to factory values
	Protection settings no accessible # 1
	Protection settings no accessible # 2
	Protection settings no accessible # 3
	Protection settings no accessible # 4
	Protection settings no accessible # 5
	Control unit self test # 1
	Control unit self test # 2
	Control unit self test # 3
	Control unit self test # 4
	Control unit self test # 5
	Invalid measurement and optional protection # 1
	Invalid measurement and optional protection # 2
	Invalid measurement and optional protection # 3
	Invalid optional protection self test
	NFC invalid communication #1
	NFC invalid communication #2
	NFC invalid communication #3
	Invalid display screen or wireless communication # 1
	Invalid display screen or wireless communication # 2
	Invalid display screen or wireless communication # 3
	Loss of IEEE 802.15.4 communication
	Loss of Bluetooth communication
	Replace Battery
	No battery detected
	Control Unit alarm reset
	Self diagnostic test - firmware
	Unable to read sensor plug
	Invalid Control Unit factory config #1
	Invalid Control Unit factory config #2

Device Connected	Events
Masterpact MTZ circuit breaker with Micrologic X control unit	Critical hardware modules discrepancy
	Critical firmware modules discrepancy
	Non-critical hardware modules discrepancy
	Non-critical firmware modules discrepancy
	Firmware discrepancy within control unit
	IΔn/Ig test - no trip
	IΔn/Ig test button pressed
	ZSI test in progress
	Contact wear is above 60% Check contacts
	Contact wear is above 95% Plan for replacement
	Contacts 100% worn out CB needs to be replaced
	Less than 20% CB operation remaining
	CB has reached the max number of operations
	Invalid self test - MX1 shunt trip
	MX1 shunt trip not detected
	MCH charging operations above threshold
	MCH has reached the max number of operations
	Invalid self test - XF shunt close
	XF shunt close not detected
	Invalid self test - MN undervoltage release
	MN undervoltage release not detected
	Voltage loss on MN undervoltage release
	Communication loss on MN undervoltage release
	Invalid self test - MX2 shunt trip
	MX2 shunt trip not detected
	Presence of external 24V power supply
	Loss of voltage and CB is closed
	Events in history log have been erased
	Reset Min/Max currents
	Reset Min/Max voltages
	Reset Min/Max power
	Reset Min/Max frequency
	Reset Min/Max harmonics
	Reset Min/Max power factor
Masterpact MTZ circuit breaker with Micrologic X control unit	Reset current demand
	Reset power demand
	Reset energy counters
	Bluetooth communication enabled
	ZigBee communication enabled
	Connection on Bluetooth port

Events from IO Modules

Device Connected	Events
IO module 1	Threshold overrun on Input 1 counter (#1)
	Threshold overrun on Input 2 counter (#1)
	Threshold overrun on Input 3 counter (#1)
	Threshold overrun on Input 4 counter (#1)
	Threshold overrun on Input 5 counter (#1)
	Threshold overrun on Input 6 counter (#1)
	Switchboard Temperature threshold 1(#1)
	Switchboard Temperature threshold 2 (#1)
	Switchboard Temperature threshold 3 (#1)
	IO module Failure (STOP mode) (#1)
	IO module Failure (ERROR mode) (#1)
IO module 2	Threshold overrun on Input 1 counter (#2)
	Threshold overrun on Input 2 counter (#2)
	Threshold overrun on Input 3 counter (#2)
	Threshold overrun on Input 4 counter (#2)
	Threshold overrun on Input 5 counter (#2)
	Threshold overrun on Input 6 counter (#2)
	Switchboard Temperature threshold 1(#2)
	Switchboard Temperature threshold 2 (#2)
	Switchboard Temperature threshold 3 (#2)
	IO module Failure (STOP mode) (#2)
	IO module Failure (ERROR mode) (#2)
IO module 1 or IO module 2	Discrepancy with ERMS orders
	Earth leakage trip signal contact (SDV) alarm
	Control voltage presence contact alarm
	Surge protection status contact alarm
	Surge failure contact alarm
	Switch disconnector ON/OFF indication alarm contact (OF)
	Fuse blown indication contact alarm
	Emergency Stop alarm
	Panel board temperature contact alarm
	Panel board ventilation contact alarm
	Panel board door contact alarm

Events from EIFE Interface

Device Connected	Events
EIFE interface	Remove device from cradle and put it back
	Regrease cradle and disconnecting-contact clusters to be performed by qualified maintenance staff
	Design life of the cradle, replacement of the cradle must be performed within 6 months
	New Micrologic unit has been detected
	Cradle Position Discrepancy
	Cradle connected position status (CE)
	Cradle disconnected position status (CD)
	Cradle test position status (CT)
	Cradle repalcement within 6 month
	Regrease cradle to be performed
	New Micrologic unit has been detected
	Drawer Position Discrepancy
	Cradle Connected Contact Change
	Cradle Disconnected Contact Change
	Cradle Test Contact Change

EcoStruxure Facility Expert

Description

The **EcoStruxure™ Facility Expert** service enables the electricians and the facility manager to stay connected with their customer assets. The manager in charge of maintaining the electrical installation can receive the alarms from all the installed EIFE interfaces logged in a notebook, and the complete history of the maintenance is shared within the maintenance staff. You can receive alarms directly in the notification center of **EcoStruxure Facility Expert** as it is easy to monitor all the connected panels in the same space.

⚠ CAUTION
EQUIPMENT INCOMPATIBILITY OR INOPERABLE EQUIPMENT Do not rely solely on the notification of the emails for maintaining your equipment. **Failure to follow these instructions can result in injury or equipment damage.**

For more details on EcoStruxure Facility Expert, see *https://app.schneider-electric.com*.

EcoStruxure Facility Expert Parameters

Parameters	Description
Enable	Configures the EcoStruxure Facility Expert service. You can receive all the alarm emails in the EcoStruxure Facility Expert notification center. When you enable EcoStruxure Facility Expert, the following actions are performed: ● All the alarm emails are received in the EcoStruxure Facility Expert notification center. ● The **Email Recipients** field is automatically populated with **Facility Expert** in the **Email Events** page. **NOTE:** When the EcoStruxure Facility Expert service is enabled, the **From address** configured in **Email Server Configuration** page cannot be changed.
Facility expert premium web site	Allows you to log into the EcoStruxure Facility Expert account. The EcoStruxure Facility Expert manages a special page to declare your EIFE interface. An alarm notification is sent to the EcoStruxure Facility Expert premium website on occurrence of an alarm.

Device List

Description

The Masterpact MTZ circuit breaker connected to the EIFE interface is automatically detected. Click the **Apply** button to add it in the device list.

Device List Parameters

Parameters	Description	Settings
IP Address	Displays the device IP address.	–
Gateway	Indicates if the IP device is a gateway or not. **NOTE:** Gateway check box is always cleared for EIFE interface.	–
Address	Displays the Modbus address of the EIFE interface. **NOTE:** The **Address** text box is unavailable to edit.	255 (fixed)
Name	Allows you to enter the name for EIFE interface. **NOTE:** ● The LV breaker system is uniquely identified over possible interfaces such as HMI, Modbus/TCP, DPWS, and DHCP. ● EIFE device name is common across all interfaces. Thus, changing EIFE device name by any means has direct impact on all the connected interfaces.	The EIFE device name can have up to 64 ASCII characters with the following characters: **A–Z**, **a–z**, **0–9**, and **-**. However, **-** cannot be used at the end of the name. **NOTE:** ● EIFE device name should be unique within the device list. ● Duplicate device names for different devices may have impact on web applications, logging, and export features.
Connection	Displays the connection type (ULP). **NOTE:** The **Connection** field is unavailable to edit.	**ULP** port
Device Type	Automatically displays the device type discovered on the ULP system. **NOTE:** The **Device Type** field is auto-detected and it is unavailable to edit.	–
Device Name	Allows you to enter the name for the discovered devices.	The device name can have up to: ● 59 ASCII characters for Masterpact MTZ devices ● 64 ASCII characters for other devices The allowed characters are: **A–Z**, **a–z**, **0–9**, and **-**. However, **-** cannot be used at the end of the name.
Slave ID	Displays the local address of the device connected to the EIFE interface.	255 (Fixed)
Apply	Allows you to save device list configuration.	–
Delete	This operation is not available.	–
Operation	Allows you to edit the device name.	–

Device Logging

Description

Logging is available for the device which is in the device list *(see page 44)*. The logging contents can be customized using topics. Topics are the parameters for a device that can be selected to have the desired logging content. The number of log entries per device is fixed irrespective to the number of topics selected for that device. The EIFE interface can log data received at predefined intervals (5, 10, 15, 20, 30, and 60 minutes). Below is an explanation of how the EIFE interface logs data and how to set up logging for a device.

NOTE: Device information in the **Device List** page cannot be edited if the device logging for that device is selected.

Logging Interval

Many devices in a power monitoring system do not have the ability to record data in non-volatile memory. The EIFE interface provides this data logging at predefined intervals.

The features of EIFE data logging are:

- The maximum number of log entries per device is fixed to 12960.
- Select maximum of 24 topics per device for data logging (topics are kVAh, kWh, kVARh, and so on).
- Select the device and list of topics for data logging.

NOTE: Number of days of logging is impacted only by the log interval selected. It is independent of number of devices selected, number of topics selected per device, and type of topic selected.

Logging interval is a predefined time for the EIFE interface to log data received from the device. The logging capacity of a device is calculated by multiplying the log capacity factor with the logging interval set in the **Device Logging** page.

Logging capacity (in days) = Log capacity factor * logging interval (in minutes)

The log capacity factor is 9 and is calculated as follows:

Log capacity factor = 12960/1440

Where:

- 12960 is the maximum number of log entries per device
- 1440 is the number of minutes per day

Example: If the **Logging Interval** in the **Device Logging** page is set to 5 minutes, then the logging capacity is 45 days.

The table shows the logging capacity for the corresponding logging interval:

Logging Interval (Minutes)	Logging Capacity (Days)
5	45
10	90
15	135
20	180
30	270
60	540

Interval Logging Setting Procedure

The Masterpact MTZ drawout circuit breaker in the device list can be enabled for logging. Topics to log are unique to each device. To view interval data logs, refer to Device Logging *(see page 52)* in **Monitoring** menu.

NOTE: To enable the **Device Logging** feature, there must be a time value selected from the **Logging Interval** drop-down list. It is recommended to disable the logging feature for the specific device being configured. To do this, clear the logging check box for the device being selected.

Logging

To disable logging, select the logging interval as **Disabled**, ensure that the logging selections are cleared, then click **Apply**.

Purge Data

To delete a data log, check **Purge Data** for the topics to be deleted.

Customize

To customize logging content, enable device logging. Click **Topics** under **Customize** for the device to be configured.

Device Log Export

Description

The **Device Log Export** page is used to export the device logs automatically by EIFE interface. The device log export allows you to configure EIFE interface to export device logs periodically. You can choose to export the device log files through email or FTP.

NOTE: If the email and the FTP servers are not located on the same Ethernet network segment as the EIFE interface, ensure that the EIFE default gateway is properly configured.

Transport

Parameter	Description	Setting
Disabled	When **Disabled** is selected, either email or FTP is enabled.	–
Email	Allows you to choose the way of exporting the log files through email.	–
FTP	Allows you to choose the way of exporting the log files through FTP. **NOTE:** When **FTP** is selected, **Test FTP** is enabled.	–
Test FTP	Sends the text file to the FTP server configured in the FTP parameters. The text file contains the device information, and the device name with the date and time.	–
Incremental	Selects only the new interval data logged since the last successful data export. **NOTE:** • If the transport is scheduled for **Hourly** or **Logging Interval**, the incremental check box is selected automatically and is unavailable to be cleared. • If the **Incremental** check box is not selected, the complete log file is sent through an email as an attachment on each scheduled interval.	–
Manual Export	Allows you to export the accumulated log files manually.	–

Schedule

Parameter	Description	Setting
Logging Interval	Selects how often the data logs are sent.	• **Hourly** • **Daily** • **Weekly** • **Monthly** • **Logging Interval**

To Addresses

Parameter	Description	Setting
To Addresses	Lists the email recipients configured in the EIFE user accounts.	–

FTP Parameters

Parameter	Description	Setting
Server IP Addresses	Allows you to enter the FTP server IP address.	–
Server TCP Port	Allows you to enter the server port number.	–
Directory	Allows you to select the directory where you want the files to be saved.	–
Username	Allows you to enter the FTP username.	–
Password	Allows you to enter the FTP password.	–
Passive	Allows you to select the mode of FTP operation. **NOTE: Passive** mode is enabled by default.	–

SNMP Parameters

Manage IP Parameters

The EIFE interface supports SNMP, allowing a network administrator to access remotely an EIFE interface with an SNMP manager and to view the networking status and diagnostics of the EIFE interface in the MIB-II format.

Parameter	Description	Setting
Manager One	Allows you to configure the IP address of SNMP manager one.	–
Manager Two	Allows you to configure the IP address of SNMP manager two.	–
System Contact	Allows you to configure the SNMP system contact name.	–
System Name	Allows you to configure the system name.	–
System Location	Allows you to configure the SNMP system location.	–
Read-only Community Name	Allows you to configure the SNMP read-only community name.	**Public** (Factory setting)
Read-write Community Name	Allows you to configure the SNMP read-write community name.	**Private** (Factory setting)
Trap	Allows you to trap the community name.	**Public** (Factory setting)

NOTE: Only SNMP version 1 is supported.

Enabled Traps

Parameter	Description	Setting
Coldstart Trap	Generates a trap when the EIFE interface is powered ON.	–
Warmstart Trap	Not supported	–
Linkdown Trap	Generates a trap when an Ethernet port communication link is disconnected.	–
Linkup Trap	Generates a trap when an Ethernet port communication link is reconnected.	–
Authentication Failure Trap	Generates a trap when an SNMP manager is accessing the EIFE interface with incorrect authentication.	–

Preferences

General Settings

Parameter	Description	Setting
Equipment Name	Displays the equipment name. This name is used in the web interface banner. **NOTE:** The device name can be updated in the **Name** field of the **Device Configuration** submenu in the **Configuration & Settings** menu.	–
Real Time Sample Rate	Controls how often data is read from the device in the standard monitoring table views.	5–60 s Factory setting: 5 s
Communications Check Rate	Controls how often a communications check is performed while the browser is displaying real-time readings in the standard monitoring table views. This function attempts to bring any out-of-service devices back into service automatically.	5–30 min Factory setting: 5 min

Advanced Services Control

Industrial Protocol

Parameter	Description	Setting
Enable Modbus/TCP	Allows you to enable/disable the Modbus/TCP service.	• Enabled (Factory setting) • Disabled

Services Configuration

Parameter	Description	Setting
Enable FTP server	Allows you to enable/disable the FTP service.	• Enabled (Factory setting) • Disabled
Enable device announcement	Allows you to enable/disable the DPWS service.	• Enabled (Factory setting) • Disabled
Enable SNMP	Allows you to enable/disable the SNMP service.	• Enabled • Disabled (Factory setting)

User Accounts

Description

The EIFE users are assigned with user names and passwords. Each user belongs to a group, and each group has access rights to the EIFE webpages assigned by the EIFE administrator.

NOTE: There are three pre-defined user accounts:

- Administrator (the pre-defined password is `Gateway`)
- Guest (the pre-defined password is `Guest`)
- EcoStruxure Facility Expert (the login credentials are not provided to log into the webpages). However, if you have the EcoStruxure Facility Expert account, you can receive the alarm event notifications by enabling the EcoStruxure Facility Expert feature.

Groups

To change the group name, enter a new name in one of the group text boxes.

NOTE: The administrator group name cannot be changed.

Users

Parameter	Description
Name	Enter a name (1 to 15 characters) for a new user. **NOTE:** User names are case-sensitive and can contain only alphanumeric characters.
Password	Enter a password (0 to 11 characters) for a new user.
Email ID	Enter a valid email address for the selected name.
Group	Select a group for the new user.
Language	Select the language for the new user and click the **Apply** button to view the webpages in the selected language. **NOTE:** When the administrator switches to a different language for the user account, make sure to refresh the webpage manually to display the webpages in a selected language.

NOTE: The maximum number of user-defined accounts are 11.

EIFE Accounts and Passwords

Accounts	Password
Administrator	Gateway
Guest	Guest
User-defined accounts (11 accounts possible)	User-defined passwords

NOTE:

- You can change your password.
- If you forget the password, contact your local Schneider Electric service team for retrieving the password.

Webpage Access

Group Access

Group	Access
Administrator	Full access to all webpages. **NOTE:** It is recommended to change the default administrator password for system security the first time you log in.
Guest	Read-only access to selected webpages.
User-defined groups	Choosing from the following options, the administrator assigns webpage access for each group. The access levels are as follows: ● **None**: A group has no access to selected webpage ● **Read-Only**: The password grants a group read-only access to the selected webpage ● **Full**: A group has the same access as the administrator group to the selected webpage

NOTE:
- The **Webpage Access** is available for the **Administrator** only.
- The **Administrator** has full access to all the webpages.

Section 2.3
Monitoring Webpages

What Is in This Section?

This section contains the following topics:

Real Time Data

Description

The **Real Time Data** page provides:

- The basic readings of the circuit breaker connected to the EIFE interface in real time on **Single Device Pages**.
- The circuit breaker summaries on **Summary Device Pages**.
- The real-time trending for the circuit breaker for the selected topics on **Trending**.

NOTE: Refresh the webpage by action on the function key **F5** when out of service is displayed.

Single Device Pages

This page displays the basic readings of the circuit breaker connected to the EIFE interface on real-time basis. This includes circuit breaker health status with green, orange, and red indication, cradle status, load current, power, power factor, voltage, and so on.

The table shows the steps to monitor the real-time data of a device:

Step	Action	Result
1	From the EIFE menu bar, click **Monitoring**.	Opens the **Monitoring** menu.
2	From the **Monitoring** menu, in the **Real Time Data** submenu, select the circuit breaker from **Single Device Pages**.	Displays the real-time data of the circuit breaker.

Summary Device Pages

The summary device table views provide summary of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface.

Step	Action	Result
1	From the **Monitoring** menu, in the **Real Time Data** submenu, click **Summary Device Pages**.	Expands the tree for summary page selection choices.
2	Select the **Summary Page** to be viewed.	Opens the device selection list.
3	Select the circuit breaker from the **Available Devices**, then click **Apply**. **NOTE:** Click **select all** to select all the available devices. Click **clear all** to clear all the selected devices.	Summary of the circuit breaker appears. **NOTE:** Click **New selection** to navigate back to the device selection list.

Trending

Step	Action	Result
1	From the EIFE menu bar, click **Monitoring**.	Opens the **Monitoring** menu.
2	From the **Monitoring** menu, in the **Real Time Data** submenu, select **Trending**.	Expands the data tree for real-time data option selection and the time trending option selection.
3	Select **Real Time Trending**.	Opens the real-time trending setup page.
4	Select the circuit breaker from the **Available Devices** list.	Selects the circuit breaker for trending.
5	Select up to 8 topics from the **Available Topics** list.	Selects topics for trending.
6	Click **Apply** to open the **Real Time Trending** display page.	Opens the real-time trending display page.
7	Set the trending parameters.	Allows trending parameters to be set.

Trending Parameters

Step	Action	Result
1	Select **Absolute** or **Relative** trending. **NOTE: Absolute** redraws the x-axis in the graph after each sample, filling it with all the data collected since the start of the trend. The **Relative** updates the graph with the latest data after each sample while the x-axis stays constant to show the overall trend time selected.	Selects graph mode.
2	Choose a trend time from 1–15 minutes. This is the duration of the trend.	Selects the amount of time of the trend.
3	Select **Start Sampling** to start the trending of the selected topics. **NOTE:** Trending may be stopped before reaching the trend time by clicking **Stop Sampling**. If **Start Sampling** is pressed after stopping the sampling, a new trend is started.	Starts trending.
4	Press **Data Points** to view a log of all the sampled topics recorded during the trend time.	Displays a log of all topic values sampled during the trend.
5	Press **New Selection** to reselect the devices and topics to trend.	Navigates back to the real-time trending setup page.

Device Logging

Introduction

The **Device Logging** page provides the graphic and table representations of the log data of the circuit breaker connected to the EIFE interface. For more details on configuring device logging, refer to Device Logging *(see page 44)*.

Single Device Pages

Step	Action	Result
1	From the EIFE menu bar, click **Monitoring**.	Opens the **Monitoring** menu.
2	From the **Monitoring** menu, click **Device Logging**.	Displays the available device logging choices.
3	From the **Device Logging**, click **Single Device Pages**.	Displays the available device with logged data available for viewing.
4	Select the device from the **Device List**.	Displays the device log for the selected device.
5	To view a data range, select a period range from the period range drop-down list: • **Last Full Day** • **Last Full Week** • **Last Full Month** • **All**	Plots the selected period range.
6	Hold the left mouse button and drag a selection box around a graph area to zoom in on it.	Zooms in on the selected graph area.
7	To return to the original full view, enter **Z** on your keyboard, or double-click the graph.	The view zooms out.
8	Click **Data Points** to view the selected interval data log table.	Opens the selected **Interval Data Log** table.
9	To view different topics, click **New Topic(s)**. Enable the check boxes of the topics to be displayed, and click **Apply**.	Enables the display of the selected topics.

The data logged from the circuit breaker is displayed in a webpage in a time-trend chart format. The time-trend chart is preconfigured to display data from the **Last Full Day**, **Last Full Week**, **Last Full Month**, or **All**.

Energy parameters are logged as accumulating values but are displayed as incremental values on an interval basis. All other parameters are logged and displayed as the actual value recorded.

Retrieving a Data Log

Interval data logs can be retrieved using the methods given in the following table:

Retrieval Method	File Format Retrieved
EIFE FTP server	Comma-separated variable (CSV)
Export to an external FTP server	CSV
Data point button	HTML
Email	CSV

To view the list of all the available log files, follow steps 2 to 4 in the section Getting an Interval Data Log using FTP *(see page 54)*. Files are in the format: *Device Name.csv* where the device name is the name given to the Masterpact MTZ drawout circuit breaker. For example, a device named building 1 utility entrance is *Building 1 Utility Entrance.csv*.

When the log files are exported, the date and time are appended to the file name in the following format: _YYYYMMDDHHMMSS. For example, *Building 1 Utility Entrance_20100218115216.csv*. This indicates that the file was exported on 2010 February 18 at 11:52:16 AM.

NOTE:

- The circuit breaker status in log file is coded by numbers. For information on circuit breaker status, refer to the description of the Modbus register 12001 in the *Modbus Communication Guides*.
- The device log file may contain invalid values (-9999, -99999, 32768) for electrical parameters based on the data read from the device.

Log Format

Data is logged in the CSV file with the following format:

Row	Data in CSV Format	Description
1	EIFE name, EIFE serial number, EIFE address, device name, device local ID, device type name, logging interval.	This row contains the column headings for the information in row 2.
2	EIFE 555, 23227,157.198.184.116, building1 utility entrance, 893, Masterpact MTZ,15	This row contains the information about the EIFE interface and the logged device.
3	This row is blank.	–
4	,,,topic id 1,topic id 2,topic id 3	This row contains the column headings for the topic IDs in row 5. A topic ID is a numerical reference to the quantity being logged. Topic IDs are used to identify the quantity, regardless of the device or language. The first three commas are used for layout purposes in a spreadsheet application.
5	,,,1617,1621,1625	This row contains the topic IDs of the values logged.
6	This row is blank.	–
7	Error, UTC offset (Minutes), local time stamp, apparent energy (kVAh), real energy (kWh), reactive energy (kVARh)	This row contains the column headings for the data logged in rows 8 and higher.
8 and higher	These rows contain the logged data. 0,-300,2008-10-09 14:15:00,1400738.219,1201962.707,647069.906,15 0,-300,2008-10-09 14:20:00,1400758.260,1201980.725,647078.602,15 0,-300,2008-10-09 14:25:00,1400778.198,1201998.661,647087.233,15	

If a spreadsheet application is used to view the CSV file, data should look similar to the interval data log opened in a spreadsheet application.

Error Codes for Data Logs

The following error codes may be seen when troubleshooting data logs:

Error Code	Definition
19	Communication error occurred (for example: CRC, protocol, or exception).
25	Timeout occurred when a request was sent without receiving a corresponding response within the allowed time.
38	Invalid data.
100	Interval time expired before data could be recorded.
101	Invalid local time stamp. EIFE is not set with absolute time.

Contact technical support if you need assistance in resolving these or other error conditions.

Retrieving Data Log Using EIFE FTP Server

You can use EIFE FTP server to retrieve a data log file by connecting to the EIFE interface via FTP and transferring the .csv file, as shown in the steps below.

NOTE: If you want the EIFE interface to send the data log file via FTP automatically, the device log export must be configured for FTP.

Step	Action	Result
1	Create a folder on your PC, such as `C\:file_logs`.	Creates a folder to store the EIFE data log.
2	Launch Windows Explorer, enter `ftp://` and the IP address of the EIFE interface in the address text box (for example, `ftp://169.254.0.10`), press **Enter**.	Opens the **Log On As** dialog box.
3	Enter the user name as `Administrator` and password as `Gateway` in the text boxes, click **Log On**.	Opens an FTP session with the EIFE interface and displays the files stored in the EIFE interface.
4	Navigate to the directory*//logging/data* on the EIFE interface.	Opens the data logging directory on the EIFE interface.
5	Copy the log file and paste it into the folder created in step 1.	Copies the data log to the folder.

Retrieving Data Log Using the Data Points Button

Step	Action	Result
1	From the **Device Logging** webpage, click **Data Points**.	Opens a new window displaying the logged data.
2	Press **CTRL+A**, then press **CTRL+C**.	Selects all of the data and copies the data to the clipboard.
3	Open Excel, then press **CTRL+V**.	Pastes the data into an Excel spreadsheet.

Retrieving Data Log Using Email

The EIFE interface must be configured to deliver data logs to an email address. For more information, refer to Email Export *(see page 46)*.

Summary Device Pages

The summary device view provides the summary of the circuit breaker connected to the EIFE interface.

Step	Action	Result
1	From the **Monitoring** menu, click **Device Logging**.	Displays the available device logging choices.
2	Under **Device Logging**, click **Summary Device Page**.	–
3	Under **Summary Device Pages**, click **Single Topic, Multiple Devices**.	Opens the setup page for selecting the device and topics.
4	Select the device from the **Available Devices** list.	Displays the available topics for the selected device.
5	Select a topic from the **Available Topics** list.	Displays the selected topic for the selected device.
6	Hold the left mouse button and drag a selection box around a graph area to zoom in on it.	Zooms in on the selected graph area.
7	To return to the original full view, enter **Z** on the keyboard, or double-click the graph.	The view zooms out.
8	Repeat steps 3 through 7 to display other topics of the selected device.	Displays the selected topic for the selected device.

The topic logged from the selected device is displayed in a webpage in a time-trend chart format. The time-trend chart is preconfigured to display data from the last full day, last full week, and last full month.

Energy parameters are displayed as incremental values on an interval basis. All other parameters are logged and displayed as the actual value recorded.

Section 2.4
Control Webpages

What Is in This Section?

This section contains the following topics:

Device Control

Reset Commands

The **Device Control** page allows you to execute one or more reset commands.

From the **Control** menu, in the **Device Control** submenu, on the device list, select the device and click **Reset**. Select an **Operation** in the **Resets** list to reset.

This feature is always enabled.

Application Control

The **Device Control** page allows you to control the following applications remotely:

- Breaker application
- IO application

Password Management

When the application control operation is performed, an **Authorization Required** dialog box appears in the EIFE webpage. Enter the password in the **Authorization Required** dialog box to perform the application control operation.

The password required is for Masterpact MTZ circuit breaker with Micrologic X control unit.

The following operations in the **Device Control** page require a password:

Control	Operation	Availability
Breaker	Open/Close	Masterpact MTZ circuit breaker with Micrologic X control unit
Light	On/Off	IO 1 or IO 2
Load	On/Off	IO 1 or IO 2
Reset input counters	I1 I2 I3 I4 I5 I6	IO 1
	#I1 #I2 #I3 #I4 #I5 #I6	IO 2
Reset output counters	O1 O2 O3	IO 1
	#O1 #O2 #O3	IO 2
User-defined output control	On/Off	IO 1 or IO 2

Breaker Application

From the **Device Control** page, in the **Breaker Application**, the authorized group can perform the following operations:

Control	Status	Operation	Availability
Breaker	Open/Close/Tripped/NA	Open/Close	Masterpact MTZ circuit breaker with Micrologic X control unit

NOTE: Pop-up message confirms that the command is successfully sent. It does not confirm whether the complete operation is successful.

IO Application

From the **Device Control** page, in the **IO Application**, the authorized group can perform the following operations:

Control	Status	Operation	Availability
Reset input counters	–	I1 I2 I3 I4 I5 I6	IO 1
		#I1 #I2 #I3 #I4 #I5 #I6	IO 2
Reset output counters	–	O1, O2, O3	IO 1
		#O1 #O2 #O3	IO 2
Light control	ON or OFF	ON / OFF	IO 1 or IO 2
Load control	ON or OFF	ON / OFF	IO 1 or IO 2
User-defined output control	ON or OFF	ON / OFF	IO 1 or IO 2

NOTE:

- The IO application control is possible only when the IO module is connected to a circuit breaker.
- The light and the load control are available when the application rotary switch of IO 1 or IO 2 is in position 4.
- The user-defined output control is available only when the user-defined output has been assigned with Ecoreach software.
- If the input is assigned as a pulse counter, the operation is P1, P2, P3, P4, P5, and P6 for IO 1. For IO 2, the pulse counter operation is #P1, #P2, #P3, #P4, #P5, and #P6.

Set Device Time

Description

The **Set Device Time** page allows you to synchronize the date and time of the Masterpact MTZ drawout circuit breaker connected to the EIFE interface to EIFE date and time. The time is set automatically. This page is used to get the Masterpact MTZ drawout circuit breaker time.

List of Parameters in Set Device Time

Parameter	Description
Device Selection	Allows you to select the Masterpact MTZ drawout circuit breaker that is to be synchronized with EIFE date and time.
Localized Time	Displays the time of the Masterpact MTZ drawout circuit breaker.
Status	Displays the status of the Masterpact MTZ drawout circuit breaker.
Get Time	Allows you to get time of the Masterpact MTZ drawout circuit breaker.
Set Device Time	Not applicable.

Setting the Device Time

Step	Action	Table
1	From the EIFE menu bar, click **Control**.	Opens the **Control** menu.
2	From the **Control** menu, click **Set Device Time**.	Opens the **Set Device Time** page.
3	Select the circuit breaker from the **Set Device Time** page and then click **Get Time**.	The date and time of the Masterpact MTZ drawout circuit breaker gets synchronized with the EIFE date and time, and the status is updated as successful. **NOTE:** If the synchronization fails, then the status is updated as unsuccessful.

Section 2.5
Diagnostics Webpages

What Is in This Section?

This section contains the following topics:

Statistics

Description

The **Statistics** page shows the readings accumulated since the EIFE interface was last activated. If the power to the EIFE interface is terminated or the device is reset due to a configuration change or other event, all cumulative values are reset to 0.

Reset Procedure

Step	Action	Result
1	From the EIFE menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **General** submenu, click **Statistics**.	Opens the **Statistics** page.
3	View the data.	See the statistics for each group.
4	Click **Reset Counters**.	Resets the EIFE cumulative diagnostic data to 0.

Interpreting Ethernet Statistics

Global Statistic	Description
Received Frames	Number of frames received
Transmitted Frames	Number of frames transmitted
Reset Counters	Resets the transmitted and received frames

Statistic Per Port	Description
Link Speed	Operational speed (10 Mbps or 100 Mbit/s)
Duplex mode	Current mode of operation (full duplex or half duplex)

Interpreting Modbus TCP/IP Statistics

Statistic	Description
Port status	Status of the connected Ethernet port
Opened TCP connections	Number of active connections
Received messages	Number of messages received
Transmitted messages	Number of messages transmitted
Reset counters	Resets the received and transmitted messages

Interpreting System Statistics

Statistic	Description
CPU	Status of the CPU: • Nominal • Degraded • Out of service
Boot Memory	Healthiness of the boot memory
EEPROM	Healthiness of EEPROM
File System	Healthiness of the file system
Ethernet PHY 1	Healthiness of PHY 1 hardware
Ethernet PHY 2	Healthiness of PHY 2 hardware
DDR	Healthiness of the execution memory

Interpreting Date and Time Statistics

Statistic	Description
Date	Current date
Time	Current time
Uptime	Run time during the system power-up

Interpreting Date /Time Synchronization

Statistic	Description
Last Synchronization	
Last Synchronization Since	Time elapsed since the last synchronization has happened
Time Source	Source of time with which the last synchronization has happened
Date	Last synchronization date
Time	Last synchronization time
Synchronization with SNTP	
Status	The following is the status of synchronization with SNTP: ● If SNTP is disabled, the status is displayed as “--” ● If SNTP is enabled but not synchronized, then the status is displayed as “NOK” ● If SNTP is enabled and successfully synchronized, then the status is displayed as “OK”

Interpreting ULP Statistics

Statistic	Description
Frames Transmitted	Number of CAN frames transmitted successfully
Frames Received	Number of CAN frames received successfully
Max Transmit Error	Maximum number of CAN transmitted errors (TEC)
Max Receive Error	Maximum number of CAN received errors (REC)
Bus off	CAN Bus off count
Max Bus off	Maximum number of bus off counts

Interpreting File System Statistics

Statistic	Description
Total Size	Total amount of the EIFE disk size in kilobytes
Used Size	Total amount of used disk size on the EIFE disk in kilobytes
Free Size	Total amount of unused disk space on the EIFE disk in kilobytes
Bad Size	Amount of corrupted disk space on the EIFE disk in kilobytes

Interpreting TCP Port Connections Statistics

Statistics	Description
Remote IP	Remote IP address
Remote Port	Remote port number
Transmitted messages	Number of messages transmitted
Received message	Number of messages received
Sent Errors	Number of error messages sent
Reset Counters	Resets the transmitted and received messages

Device Identification

Device Name Configuration Procedure

Step	Action	Result
1	From the EIFE menu bar, click **Diagnostics**.	Opens the **Diagnostics** page.
2	From the **Diagnostics** menu, in the **Product Information** submenu, click **Device Identification**.	Opens the **Device Identification** page.

List of Parameters in Device Identification

Parameter	Description
Device name	Device name which is updated in the device name field
Product name	Name of the product
Serial number	Device serial number
Product model number	Device model number
Firmware version	Current firmware version
Unique Identifier	Combination of MAC address and the time
MAC address	Unique MAC address
IPv4 address	IP address of the EIFE interface
IPv6 link local address	Address used to communicate on the local network

IMU Information

Description

The **IMU Information** page gives the information about the devices connected to the ULP port of the EIFE interface. The devices connected are:

- Micrologic X control unit
- IO module IO 1
- IO module IO 2

Read Device Registers

Description

Read device registers allows the EIFE interface to read Modbus registers from the devices of the Masterpact MTZ IMU:

- Micrologic X control unit
- EIFE interface
- IO modules

Read Procedure

Step	Action	Result
1	From the EIFE menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **Device Health Check** submenu, click **Read Device Registers**.	Opens the **Read Device Registers** page.
3	From the **Device Name**, select the device.	Selects the device from the drop-down list.
4	Enter **Local ID** (or choose from the defined device list), **Starting Register**, and the **Number of Registers** to read.	Enters the registers to read from the specified device.
5	Select the data type from **Data Type** drop-down list.	Selects the appropriate data type.
6	To change how Modbus data is displayed in the **Value** column, select **Decimal**, **Hexadecimal**, **Binary**, or **ASCII**.	Selects how the data values are displayed.
7	Click **Read**.	Reads the device registered according to the selected configuration.

EIFE Read Device Register Parameters

Parameter	Description	Settings
Device Name	Selects a device to read from the list of previously added devices.	–
Local ID	The address (local ID) of the device that is to be read.	1
Starting Register	Register number in decimal.	0–65535 Factory setting: 1000
Number of Registers	The number of registers to read.	1–125 Factory setting: 10
Register	Lists the register numbers in decimal.	–
Value	Lists the data stored for a register. Values retrieved depend on the device connected to the EIFE interface. Refer to the documentation for the connected device for more information about stored register values.	–
Data Type	Lists the data types available for the device.	• **Holding Registers** (Factory setting) • **Input Registers** • **Input Coils** • **Output Coils**
Decimal, Hexadecimal, Binary, or ASCII options	Select an option to specify how the value column data is displayed.	**Decimal** (Factory setting)

Communication Check

Automated Communication Check

While browsing the real-time data views, the EIFE interface has an automated communication check that runs every 15 minutes by default. To change the timing, refer to Preferences *(see page 47)*. This check verifies the communication health of all the devices configured on the EIFE interface, and attempts to re-establish the communication to any device marked out of service within the current browser session.

Manual Communication Check

In certain cases, there is no need to wait for the automated communications check interval and need to force the check to run manually.

Step	Action	Result
1	From the EIFE menu bar, click **Diagnostics**.	Opens the **Diagnostics** menu.
2	From the **Diagnostics** menu, in the **Device Health Check** submenu, click **Communications Check**.	Opens the **Communications Check** page.
3	Click **Check Device Status**.	Runs a communications check. The communicating device displays: • **Passed** in the **Communications** column. • **In Service** in the **Status** column. A device that is not communicating display: • **Failed** in the **Communications** column. • **Out of Service** in the **Status** column if it has failed multiple times.

IO Readings

Description

The **IO Readings** page shows the IO module input/output configuration. It displays six digital inputs, three digital outputs, and one analog input. The IO application control is possible only when the IO module is connected to a Masterpact MTZ drawout circuit breaker.

The table shows the steps to access the **IO Readings** page:

Step	Action	Result
1	From the EIFE menu bar, click **Diagnostics**.	Opens the **Diagnostics** page.
2	From the **Diagnostics** menu, select the circuit breaker from **IO Readings** submenu.	Opens the **IO Readings** page for the circuit breaker.

List of Parameters in IO Module

Parameter	Description	Setting
Inputs	Displays the six digital inputs configured in the IO module.	–
Outputs	Displays the three digital outputs configured in the IO module.	–
Analog Inputs	Displays the analog input assigned in the IO module.	–
Label	Displays the assigned functions of the corresponding inputs or outputs.	–
Value	Displays the value of the six digital inputs and three digital outputs	• 1 • 0
Force/Unforce	Displays the six digital inputs and three digital outputs are forced or unforced	• **UNFORCED** • **FORCED**

Section 2.6
Maintenance Webpages

Indicators

Description

The **Indicators** page provides the maintenance counter information for the Masterpact MTZ drawout circuit breaker connected to the EIFE interface. The page displays the information about the remaining service life of the circuit breaker, contact wear counters, circuit breaker operation counters, and the cradle counters.

Viewing Maintenance Counters

Step	Action	Result
1	From the EIFE menu, click **Maintenance**.	Opens the **Maintenance** page.
2	From the **Indicators** menu, select the circuit breaker from the device list. **NOTE:** This feature is available for circuit breakers only.	Displays the information about the remaining service life of the circuit breaker, contact wear counters, circuit breaker operation counters, and the cradle counters.

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