Masterpact MTZ2 / MTZ3

UL Rated/ANSI Certified 800 to 6000 A Circuit Breakers and Switches

User Guide

0614IB1701EN
11/2018

www.schneider-electric.com

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Safety Information

Related Topics

- Hazard Categories and Special Symbols
- Please Note
- FCC Notice

Hazard Categories and Special Symbols

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

The addition of either 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 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.

NOTE: Provides additional information to clarify or simplify a procedure.

Related Topics

- Safety Information (Parent Topic)

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.

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

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Related Topics

- Safety Information (Parent Topic)

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. This Class A digital apparatus complies with Canadian ICES-003.

Related Topics

- Safety Information (Parent Topic)

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Masterpact MTZ2/MTZ3 User Guide

Related Topics

- Validity Scope
- Document Scope
- Trademarks
- Related Documents

Validity Scope

This document applies to Masterpact MTZ2/MTZ3 circuit breakers and switches.

Related Topics

- Masterpact MTZ2/MTZ3 User Guide (Parent Topic)

Document Scope

The aim of this guide is to provide users, installers, and maintenance personnel with technical information needed to operate Masterpact™ MTZ2/MTZ3 circuit breakers and switches.

These devices comply with the following standards:

ANSI C37 Certified Device	UL 489 Listed Device
ANSI C37.13	UL 489[2]
ANSI C37.16	CSA C22.2 No. 5-023[3]
ANSI C37.17	
ANSI C37.50	
UL1066[1]	
CSA C22.2 No 311	

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use. Neither Schneider Electric nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

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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.

1. cULus
2. UL® Listed
3. CSA® Certified

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Related Topics

- Masterpact MTZ2/MTZ3 User Guide (Parent Topic)

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Related Topics

- Masterpact MTZ2/MTZ3 User Guide (Parent Topic)

Related Documents

Title of Documentation	Language	Part Number
Micrologic X Control Unit - User Guide	English	*DOCA0102EN*
	Spanish	*DOCA0102ES*
	French	*DOCA0102FR*
	Chinese	*DOCA0102ZH*
Masterpact MTZ - Modbus Communication Guide	English	*DOCA0105EN*
	Spanish	*DOCA0105ES*
	French	*DOCA0105FR*
	Chinese	*DOCA0105ZH*
Masterpact MTZ Circuit Breakers - Maintenance Guide	English	*DOCA0099EN*
	Spanish	*DOCA0099ES*
	French	*DOCA0099FR*
	Chinese	*DOCA0099ZH*
Masterpact MTZ Circuit Breakers and Switches - Catalog	English	*0614CT1701*
Enerlin'X IO Input/Output Application Module for One Circuit Breaker - User Guide	English	*0613IB1317*
	Spanish	*0613IB1318*
	French	*0613IB1319*
	Chinese	*0613IB1320*
Enerlin'X IFE Ethernet Interface for One Circuit Breaker - User Guide	English	*DOCA0084EN*
	Spanish	*DOCA0084ES*
	French	*DOCA0084FR*
	Chinese	*DOCA0084ZH*
Enerlin'X EIFE Embedded Ethernet Interface for One Masterpact MTZ Drawout Circuit Breaker - User Guide	English	*DOCA0106EN*
	Spanish	*DOCA0106ES*
	French	*DOCA0106FR*
	Chinese	*DOCA0106ZH*
Enerlin'X FDM128 - Ethernet Display for Eight Devices - User Guide	English	*DOCA0037EN*
	Spanish	*DOCA0037ES*
	French	*DOCA0037FR*
	Chinese	*DOCA0037ZH*
ULP System - User Guide	English	*DOCA0093EN*
	Spanish	*DOCA0093ES*

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Title of Documentation	Language	Part Number
	French	*DOCA0093FR*
	Chinese	*DOCA0093ZH*

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Related Topics

- Masterpact MTZ2/MTZ3 User Guide (Parent Topic)

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Masterpact MTZ2/MTZ3 Description

Related Topics

- Masterpact MTZ2/MTZ3 Range
- Masterpact MTZ2/MTZ3 Fixed Device
- Masterpact MTZ2/MTZ3 Drawout Device
- Masterpact MTZ2/MTZ3 Device Identification
- Micrologic X Control Unit Description
- Go2SE Landing Page
- Masterpact MTZ2/MTZ3 Operating Conditions

Masterpact MTZ2/MTZ3 Range

Related Topics

- Masterpact MTZ2/MTZ3 Range Description
- Masterpact MTZ2/MTZ3 Range Convention
- Masterpact MTZ2/MTZ3 Circuit Breakers
- Masterpact MTZ2/MTZ3 Switches
- Masterpact MTZ2/MTZ3 Neutral Position on Four Pole (4P) Devices
- Masterpact MTZ2/MTZ3 Description (Parent Topic)

Masterpact MTZ2/MTZ3 Range Description

The Masterpact MTZ2/MTZ3 range of circuit breakers and switches offers current ratings from 800 A to 6,000 A, for AC power systems up to 600 Vac.

The Masterpact MTZ2/MTZ3 range is available in the following frame sizes:

- Masterpact MTZ2 for current ratings from 800 A to 4,000 A
- Masterpact MTZ3 for current ratings from 4,000 A to 6,000 A

Each frame size is available in the following power systems:

- Three-pole (3P)
- Four-pole (4P)

Devices are available in the following installation types:

- Fixed-mounted devices
- Drawout devices

For complete information on available circuit breaker and switch models, frame sizes, interrupting ratings, sensor sizes and trip units, see *Masterpact MTZ Circuit Breakers and Switches – Catalog (0614CT1701)*.

Related Topics

- Masterpact MTZ2/MTZ3 Range (Parent Topic)

Masterpact MTZ2/MTZ3 Range Convention

In this guide, the term Masterpact MTZ device covers circuit breakers and switches.

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Related Topics

- Masterpact MTZ2/MTZ3 Range (Parent Topic)

Masterpact MTZ2/MTZ3 Circuit Breakers

The following performance levels are available:

- N, N1: standard short-circuit level with total discrimination
- H1: high short-circuit level with total discrimination
- H, H2, H3: very high short-circuit level with very high discrimination
- L, L1, LF: extremely high short-circuit level with strong current limitation and significant discrimination

Circuit breakers are fitted with a Micrologic™ X control unit.

Related Topics

-
- Masterpact MTZ2/MTZ3 Range (Parent Topic)

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Frame Sizes and Ratings

ANSI C37 Certified Masterpact MTZ2 / MTZ3 Circuit Breakers				
Frame Size	Type	Interrupting Ratings		
		254 Vac	508 Vac	635 Vac
800 A	N1	42 kA	42 kA	42 kA
	H1, HA	65 kA	65 kA	65 kA
	H2	85 kA	85 kA	85 kA
	H3	100 kA	100 kA	85 kA
	L1	200 kA	200 kA	130 kA
	L1F	200 kA	200 kA	130 kA
1600 A	N1	42 kA	42 kA	42 kA
	H1, HA	65 kA	65 kA	65 kA
	H2	85 kA	85 kA	85 kA
	H3	100 kA	100 kA	85 kA
	L1	200 kA	200 kA	130 kA
	L1F	200 kA	200 kA	130 kA
2000 A	H1, HA	65 kA	65 kA	65 kA
	H2	85 kA	85 kA	85 kA
	H3,	100 kA	100 kA	85 kA
	L1	200 kA	200 kA	130 kA
	L1F	200 kA	200 kA	130 kA
3200 A	H1, HA	65 kA	65 kA	65 kA
	H2	85 kA	85 kA	85 kA
	H3	100 kA	100 kA	85 kA
	L1 (MTZ3 Only)	200 kA	200 kA	130 kA
4000 A MTZ2	H1, HA	65 kA	65 kA	65 kA
	H2	85 kA	85 kA	85 kA
	H3	100 kA	100 kA	85 kA
4000 A	H2, HA	85 kA	85 kA	85 kA
	H3	100 kA	100 kA	85 kA
	L1	200 kA	200 kA	130 kA
5000 A	H2, HA	85 kA	85 kA	85 kA
	H3	100 kA	100 kA	85 kA
	L1	200 kA	200 kA	130 kA
6000 A	H2, HA	85 kA	85 kA	85 kA
	H3	100 kA	100 kA	85 kA
	L1	200 kA	200 kA	130 kA

UL489 Listed Masterpact MTZ2 / MTZ3 Circuit Breakers				
Frame Size	Type	Interrupting Ratings		
		240 Vac	480 Vac	600 Vac
800 A	N	65 kA	65 kA	50 kA
	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA
	LF	200 kA	150 kA	100 kA
1200 A	N	65 kA	65 kA	50 kA
	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA
	LF	200 kA	150 kA	100 kA
1600 A	N	65 kA	65 kA	50 kA
	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA
	LF	200 kA	150 kA	100 kA
2000 A	N	65 kA	65 kA	50 kA
	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA
	LF	200 kA	150 kA	100 kA
2500 A	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA
3000A	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA
4000 A	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA
5000 A	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA
6000 A	H	100 kA	100 kA	85 kA
	L	200 kA	150 kA	100 kA

For full information about available circuit breaker models, frame sizes, interrupting ratings, sensor ratings, and control units, refer to *Masterpact MTZ Circuit Breakers and Switches – Catalog (0614CT1701)*.

Related Topics

- Masterpact MTZ2/MTZ3 Circuit Breakers (Parent Topic)

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Masterpact MTZ2/MTZ3 Switches

Masterpact MTZ2/MTZ3 switches are non-automatic switches. The performance level is HA, indicating no protection.

Frame Sizes and Ratings

ANSI C37 Certified Masterpact MTZ2 / MTZ3 Switches				
Frame Size	Type	Interrupting Ratings		
		254 Vac	508 Vac	635 Vac
800 A	HA	65 kA	65 kA	65 kA
1600 A	HA	65 kA	65 kA	65 kA
2000 A	HA	65 kA	65 kA	65 kA
3200 A	HA	65 kA	65 kA	65 kA
4000 A	HA	85 kA	85 kA	85 kA
5000 A	HA	85 kA	85 kA	85 kA
6000 A	HA	85 kA	85 kA	85 kA

For information about available switch models and frame sizes, refer to *Masterpact MTZ Circuit Breakers and Switches – Catalog (0614CT1701)*.

Related Topics

- Masterpact MTZ2/MTZ3 Range (Parent Topic)

Masterpact MTZ2/MTZ3 Neutral Position on Four Pole (4P) Devices

On four-pole devices, the neutral is on the left side as standard.

For four-pole circuit breakers with performance levels N and H, a version with neutral on the right side is available.

Related Topics

- Masterpact MTZ2/MTZ3 Range (Parent Topic)

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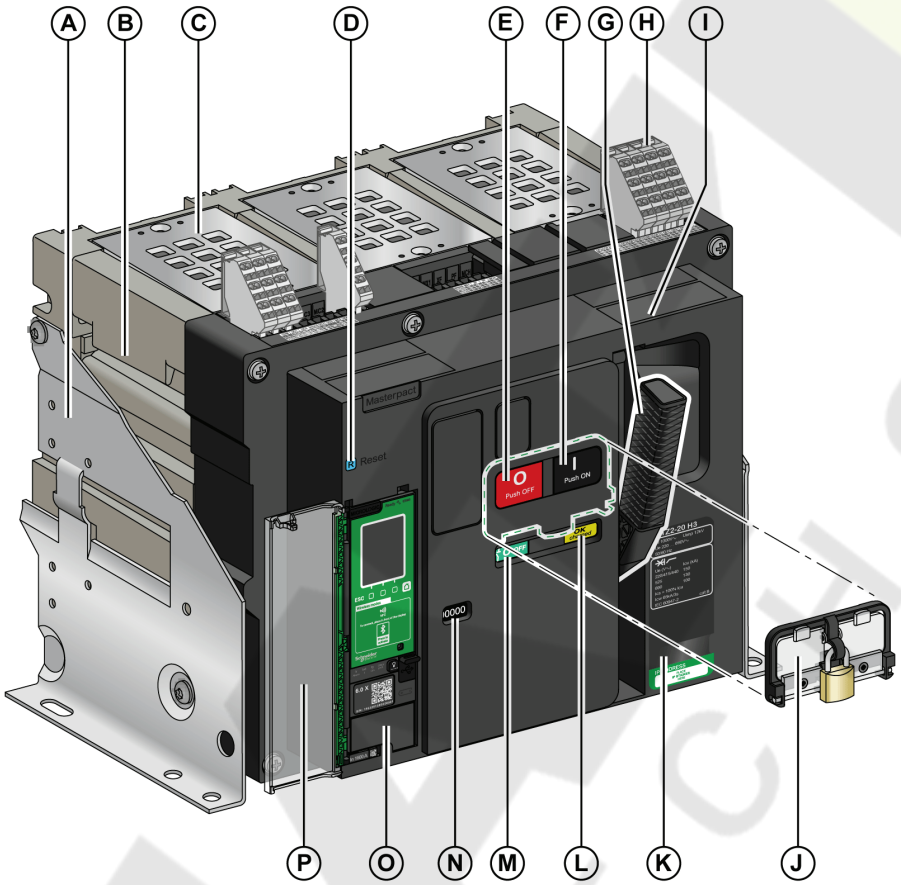
Masterpact MTZ2/MTZ3 Fixed Device

Related Topics

- Fixed Masterpact MTZ2/MTZ3 Description
- Fixed Masterpact MTZ2/MTZ3 Accessories Description
- Fixed Masterpact MTZ2/MTZ3 Terminal Block Description
- Masterpact MTZ2/MTZ3 Description (Parent Topic)

Fixed Masterpact MTZ2/MTZ3 Description

The following image shows the standard version of the fixed device.



A. Mounting side plate
B. Carrying grip
C. Arc chute
D. Fault-trip reset button
E. Opening pushbutton
F. Closing pushbutton
G. Spring charging handle
H. Connectors for terminal blocks
I. Front cover
J. VBP pushbutton locking cover (optional)
K. Faceplate label
L. Spring charged and ready-to-close indicator
M. Main contact position indicator
N. Window to read the (optional) CDM mechanical operation counter
O. Control unit
P. Control unit transparent cover

Related Topics

- Masterpact MTZ2/MTZ3 Fixed Device (Parent Topic)

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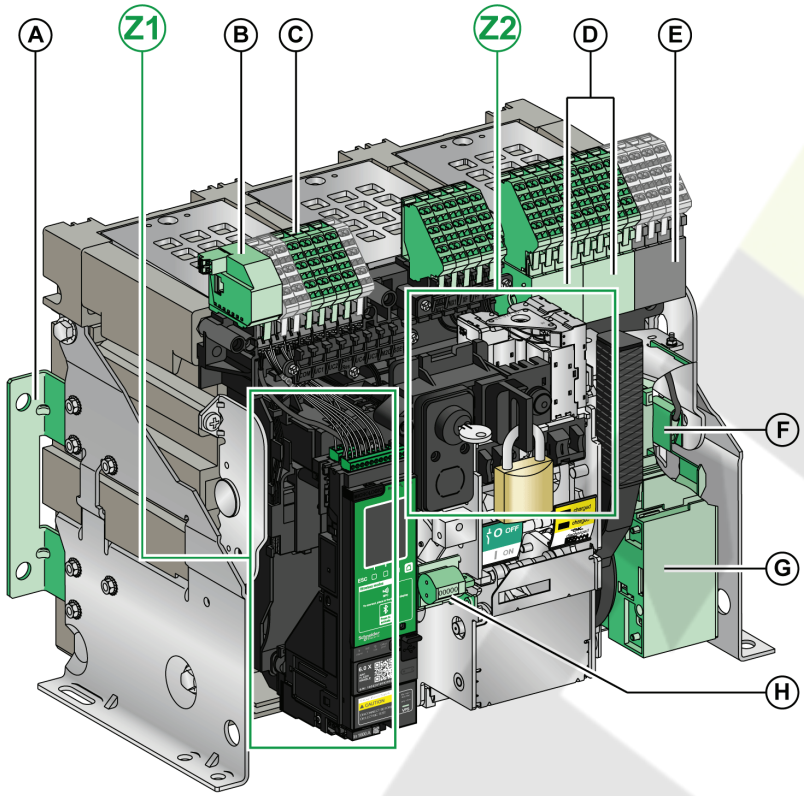
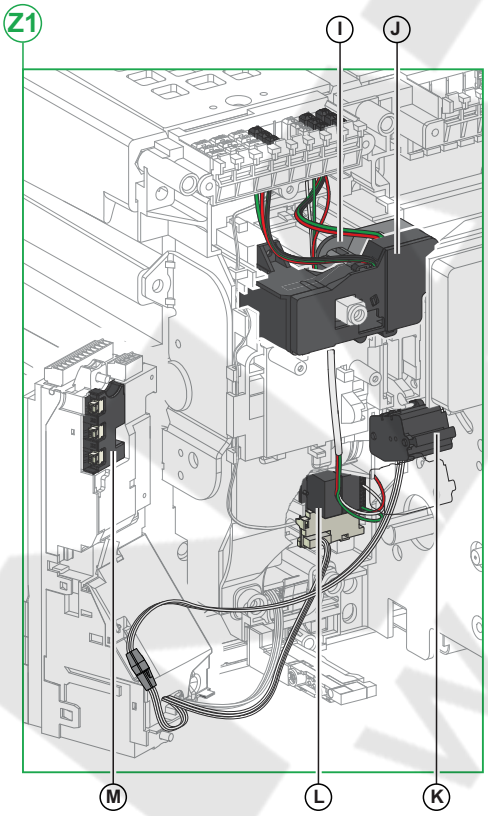
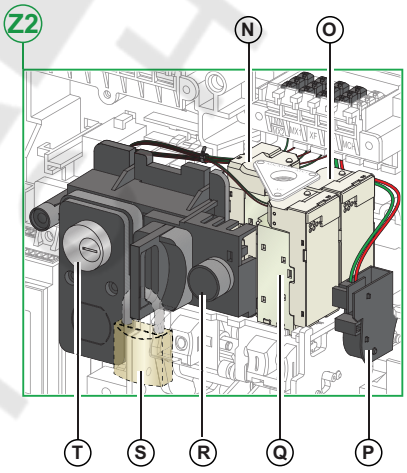
Fixed Masterpact MTZ2/MTZ3 Accessories Description

The following image shows the accessories available for the fixed device. For Z1 and Z2, see the following images.



A. Additional support brackets for mounting on a backplate (optional)
B. ULP port module (optional)
C. Terminal blocks for optional accessories (optional)
D. Optional block of four auxiliary switches (OF) (optional)
E. Standard block of four auxiliary switches (OF)
F. Grounding kit (KMT) (optional)
G. Spring charging motor (MCH) (optional)
H. Mechanical operation counter (CDM) (optional)
I. Standard overcurrent trip switch (SDE1)
J. Overcurrent trip switch (SDE2) or RES electrical remote reset (RES) (optional)
K. Microswitch
L. Programmable contacts (M2C) (optional)
M. Isolation module (optional)
N. Undervoltage release (MN) or shunt trip (MX)
O. Shunt trip (MX1)
P. Ready-to-close contact (PF)
Q. Shunt close (XF)
R. Electrical closing pushbutton (BPFE)
S. OFF-position padlock (VCPO)
T. OFF-position keylock (VSPO)





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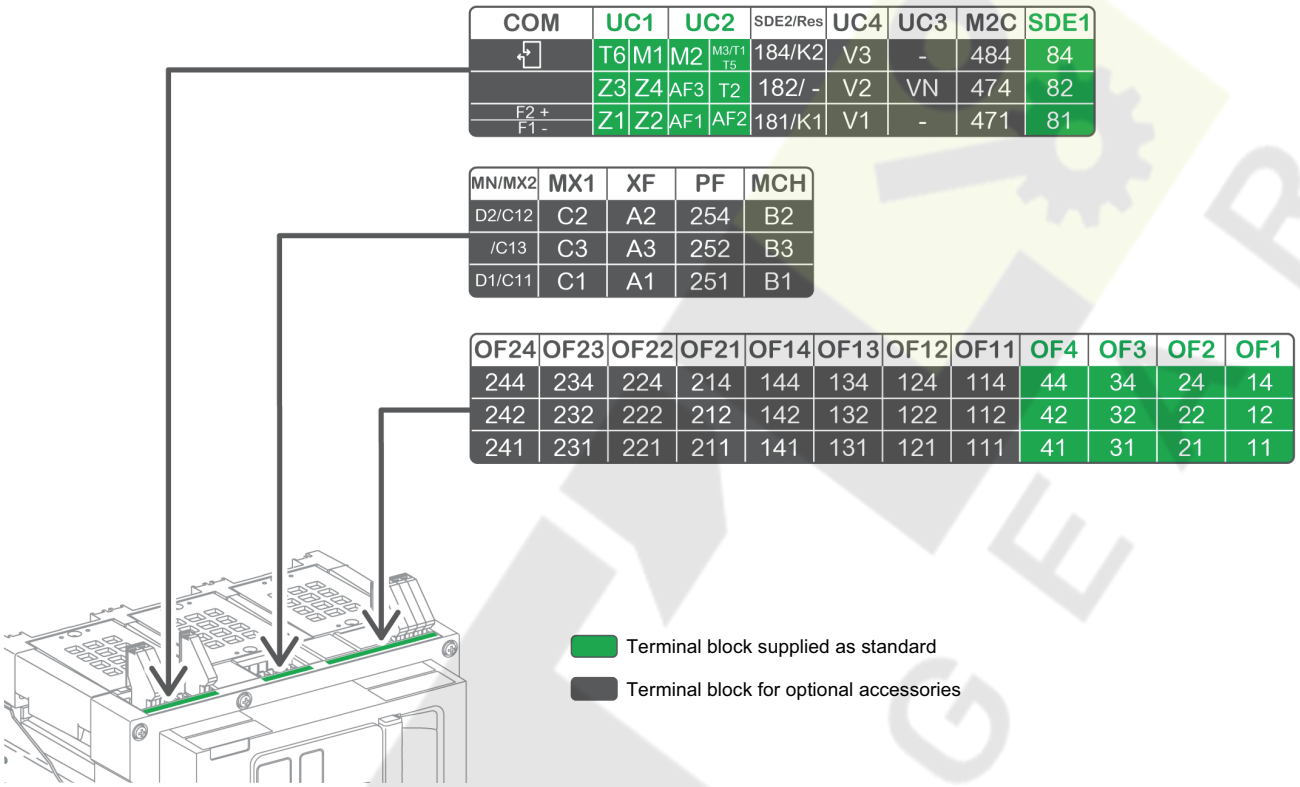
Related Topics

- Masterpact MTZ2/MTZ3 Fixed Device (Parent Topic)

Fixed Masterpact MTZ2/MTZ3 Terminal Block Description



Assignment of the Terminal Blocks

Block	Marking	Description	Standard/Optional
A	COM	Terminal block for the external power supply of the Micrologic X control unit or ULP port module	Standard Optional
	UC1	Zone selective interlocking, rectangular sensor for ground-fault protection, or MDGF module input	Optional
	UC2	Neutral external sensors, rectangular sensor for ground-fault protection, or MDGF module input	Optional
	SDE2/RES	Overcurrent trip switch (SDE2) or electrical remote reset (RES)	Optional
	UC4	External voltage connector	Optional
	UC3	External voltage connector	Optional
	M2C	Programmable contacts	Optional
	SDE1	Overcurrent trip switch 1	Standard
B	MN/MX2	Undervoltage release (MN) or shunt trip (MX)	Optional
	MX1	Shunt trip	Optional
	XF	Shunt close	Optional
	PF	Ready-to-close contact	Optional
	MCH	Spring charging motor	Optional
C	OF21–OF24	4 auxiliary switches (OF)	Optional
	OF11–OF14	4 auxiliary switches (OF)	Optional
	OF1–OF4	4 auxiliary switches (OF)	Standard

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Related Topics

- Masterpact MTZ2/MTZ3 Fixed Device (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Device

Related Topics

- Drawout Masterpact MTZ2/MTZ3 Definition
- Masterpact MTZ2/MTZ3 Moving Part Description
- Drawout Masterpact MTZ2/MTZ3 Accessories Description
- Masterpact MTZ2/MTZ3 Cradle Description
- Masterpact MTZ2/MTZ3 Cradle Accessories Description
- Masterpact MTZ2/MTZ3 Cradle Terminal Block Description
- Masterpact MTZ2/MTZ3 Description (Parent Topic)

Drawout Masterpact MTZ2/MTZ3 Definition

A drawout device is composed of the circuit breaker or switch (the Masterpact device, also called the moving part) and the cradle (or fixed part).

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Related Topics

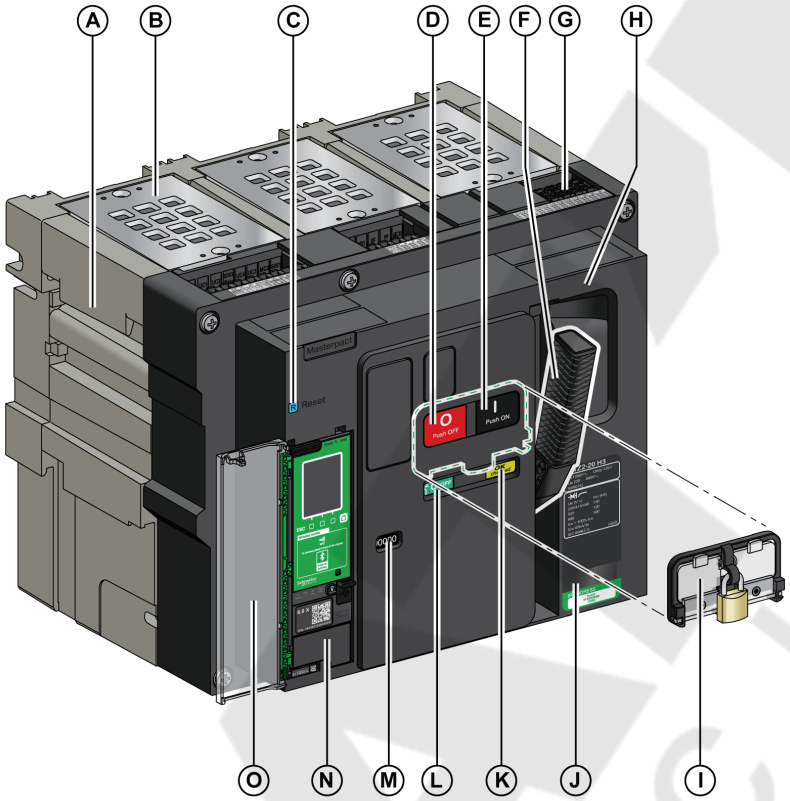
- Masterpact MTZ2/MTZ3 Drawout Device (Parent Topic)

Masterpact MTZ2/MTZ3 Moving Part Description

Related Topics

- Standard Masterpact MTZ Circuit Breaker or Switch Description
- Masterpact MTZ Circuit Breaker with ArcBlok™ Technology Description
- Masterpact MTZ2/MTZ3 Drawout Device (Parent Topic)

Standard Masterpact MTZ Circuit Breaker or Switch Description



A. Carrying grip
B. Arc chute
C. Fault-trip reset button
D. Opening pushbutton
E. Closing pushbutton
F. Spring charging handle
G. Terminal block connectors
H. Front cover
I. VBP pushbutton locking cover (optional)
J. Faceplate label
K. Spring charged and ready-to-close indicator
L. Position indicator of main contacts
M. Window to consult the (optional) CDM mechanical operation counter
N. Control unit
O. Control unit transparent cover

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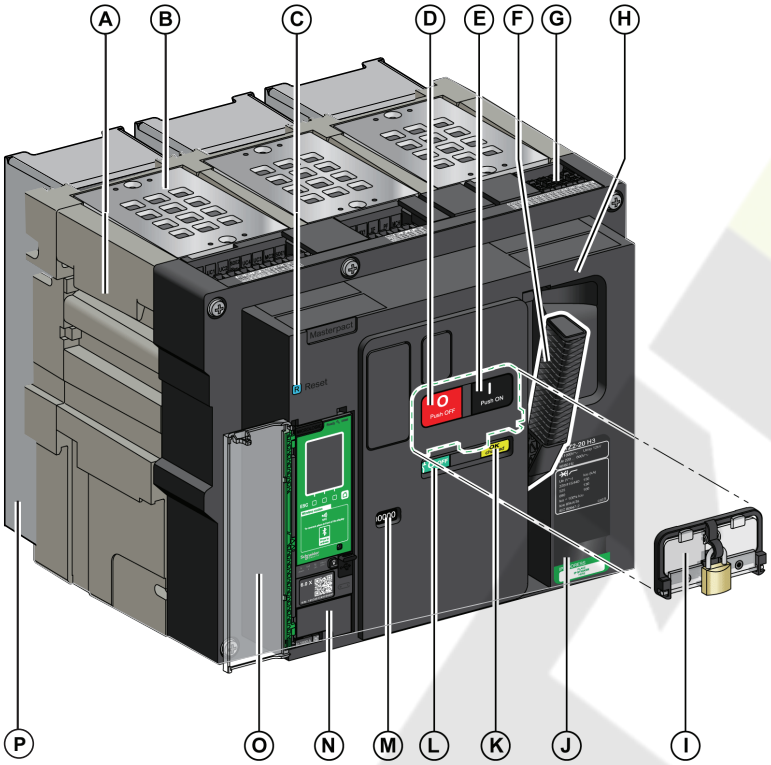
Related Topics

- Masterpact MTZ2/MTZ3 Moving Part Description (Parent Topic)

Masterpact MTZ Circuit Breaker with ArcBlok™ Technology Description



A. Carrying grip
B. Arc chute
C. Fault-trip reset button
D. Opening pushbutton
E. Closing pushbutton
F. Spring charging handle
G. Terminal block connectors
H. Front cover
I. VBP pushbutton locking cover (optional)
J. Faceplate label
K. Spring charged and ready-to-close indicator
L. Position indicator of main contacts
M. Window to consult the (optional) CDM mechanical operation counter
N. Control unit
O. Control unit transparent cover
P. ArcBlok Shield

Related Topics

- Masterpact MTZ2/MTZ3 Moving Part Description (Parent Topic)

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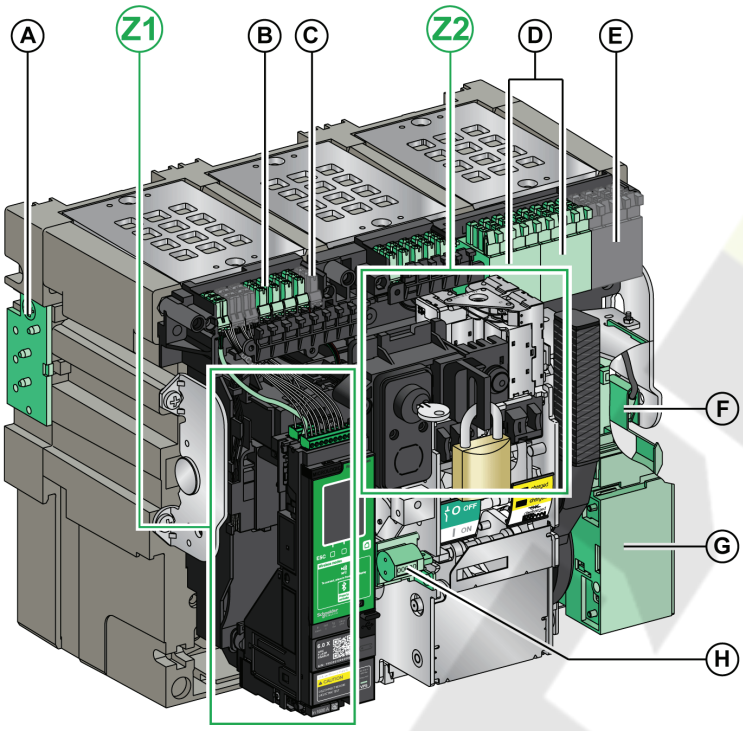
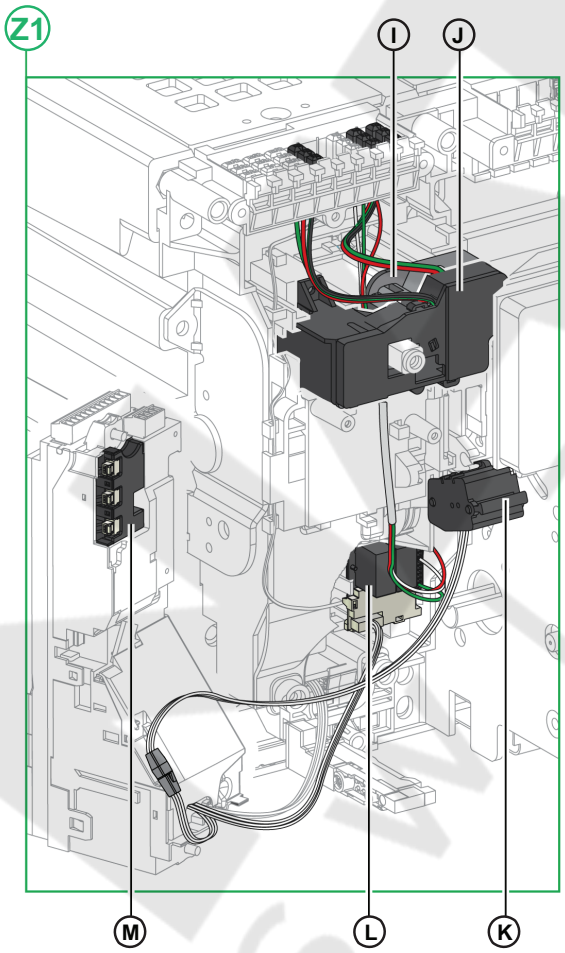
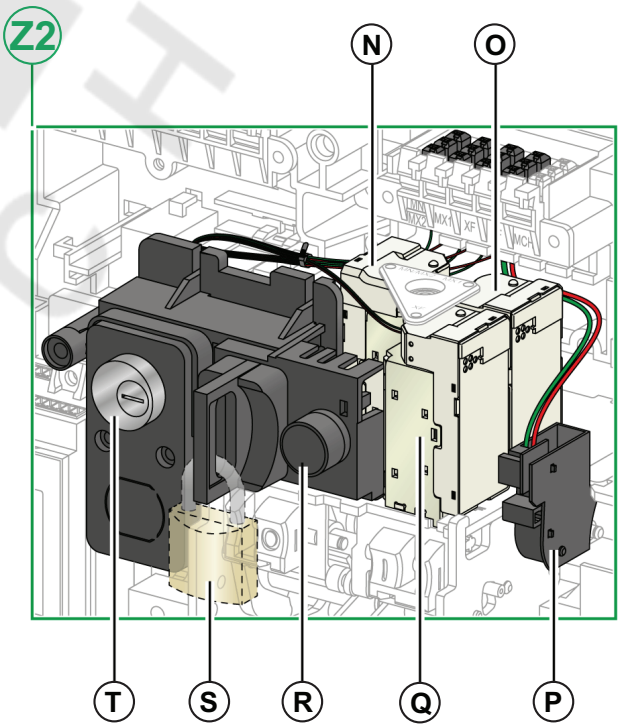
Drawout Masterpact MTZ2/MTZ3 Accessories Description

The following image shows the accessories available for the moving part of a drawout device. For Z1 and Z2, see the following images.



A. Cradle rejection feature
B. Terminal block connectors for optional accessories
C. Terminal block connectors for standard accessories
D. Four auxiliary switches (OF) or combined connected/closed switches (EF) (optional)
E. Four auxiliary switches (OF) (standard)
F. Grounding kit (KMT)
G. Spring charging motor (MCH)
H. Mechanical operation counter (CDM)
I. Standard overcurrent trip switch (SDE1)
J. Optional overcurrent trip switch (SDE2) or electrical remote reset (RES)
K. Microswitch
L. Interlock between racking handle and opening pushbutton (IBPO)
M. Programmable contacts (M2C)
N. Isolation module
O. Undervoltage release (MN) or shunt trip (MX2)
P. Shunt trip (MX1)
Q. Ready-to-close contact (PF)
R. Shunt close (XF)
S. Electrical closing pushbutton (BPFE)
T. OFF-position locking by padlocks (VCPO)
U. OFF-position locking by keylocks (VSPO)





Courtesy of NationalSwitchgear.com

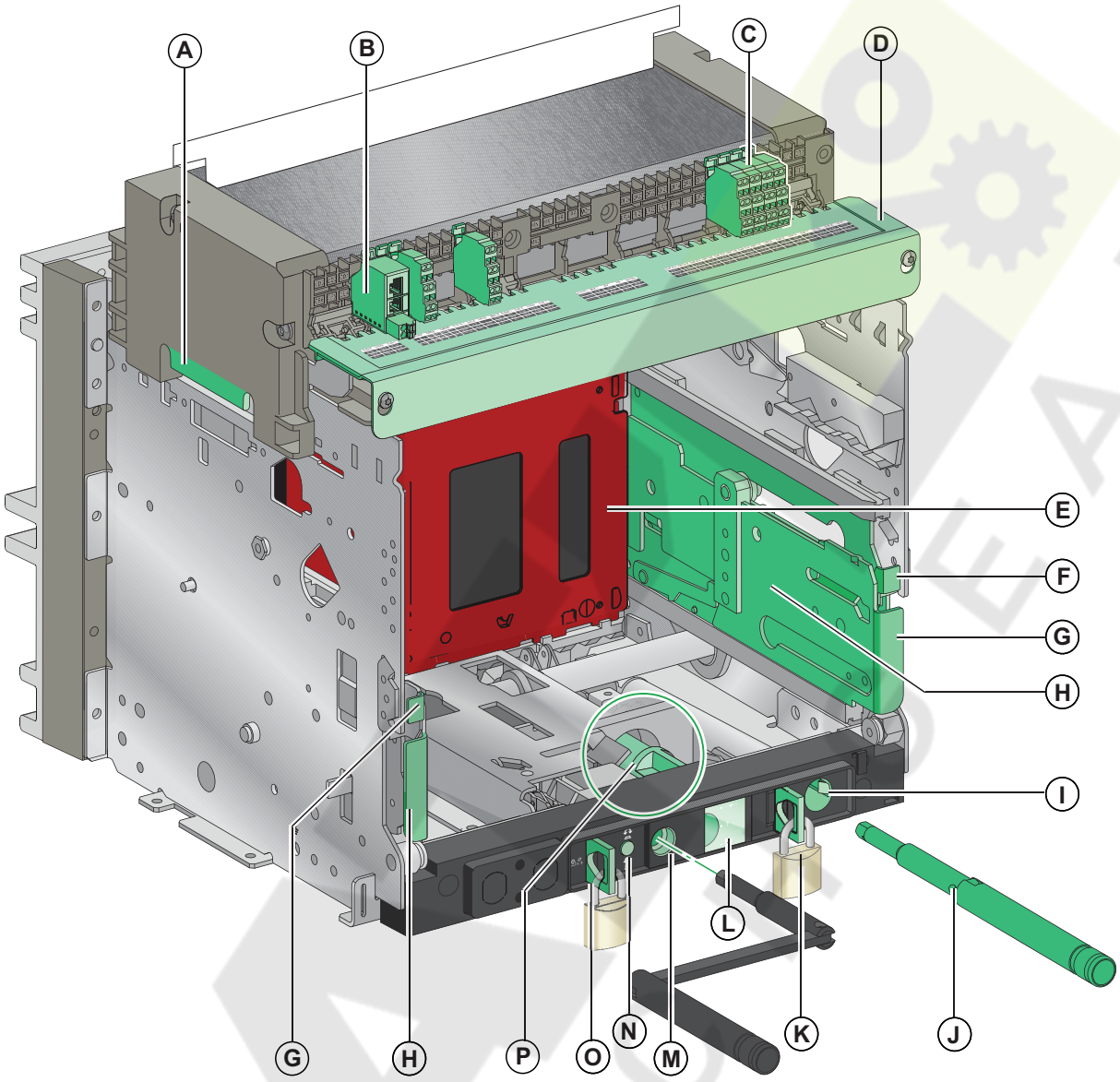
Related Topics

- Masterpact MTZ2/MTZ3 Drawout Device (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Cradle Description

The following image shows the standard cradle (no optional accessories).



A. Carrying grip
B. ULP port module
C. Terminal blocks for standard accessories
D. Terminal block identification plate
E. Safety shutter
F. Rail release tab
G. Drawout grip
H. Extension rail
I. Racking handle storage space
J. Racking handle
K. Shutter lock
L. Moving part position indicator
M. Racking handle socket
N. Stop release button
O. Cradle locking by padlocks
P. Latch for switching cradle locking from disconnected position to any position (connected, test, disconnected)

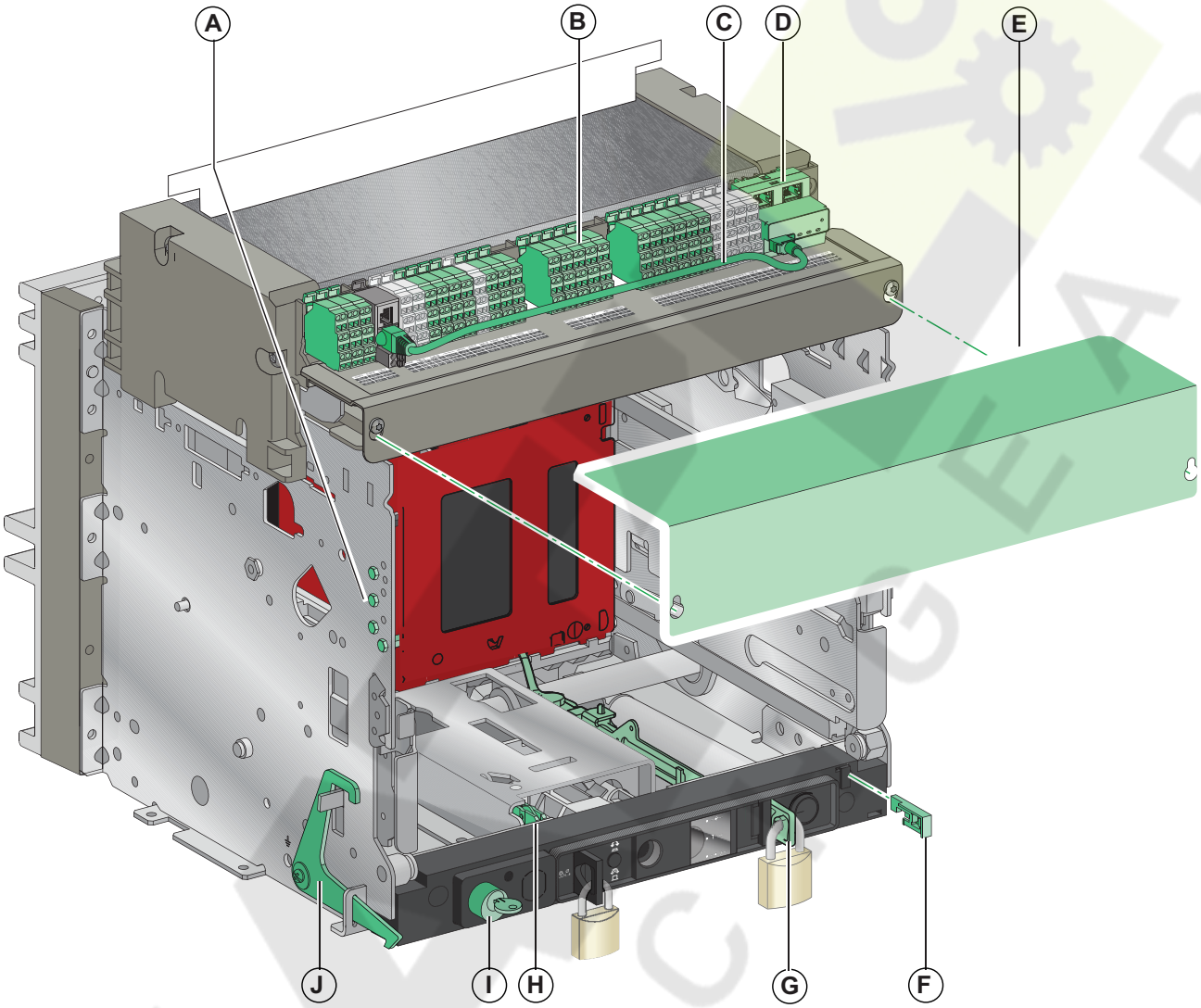
Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Device (Parent Topic)

Masterpact MTZ2/MTZ3 Cradle Accessories Description

Accessories available for the cradle.



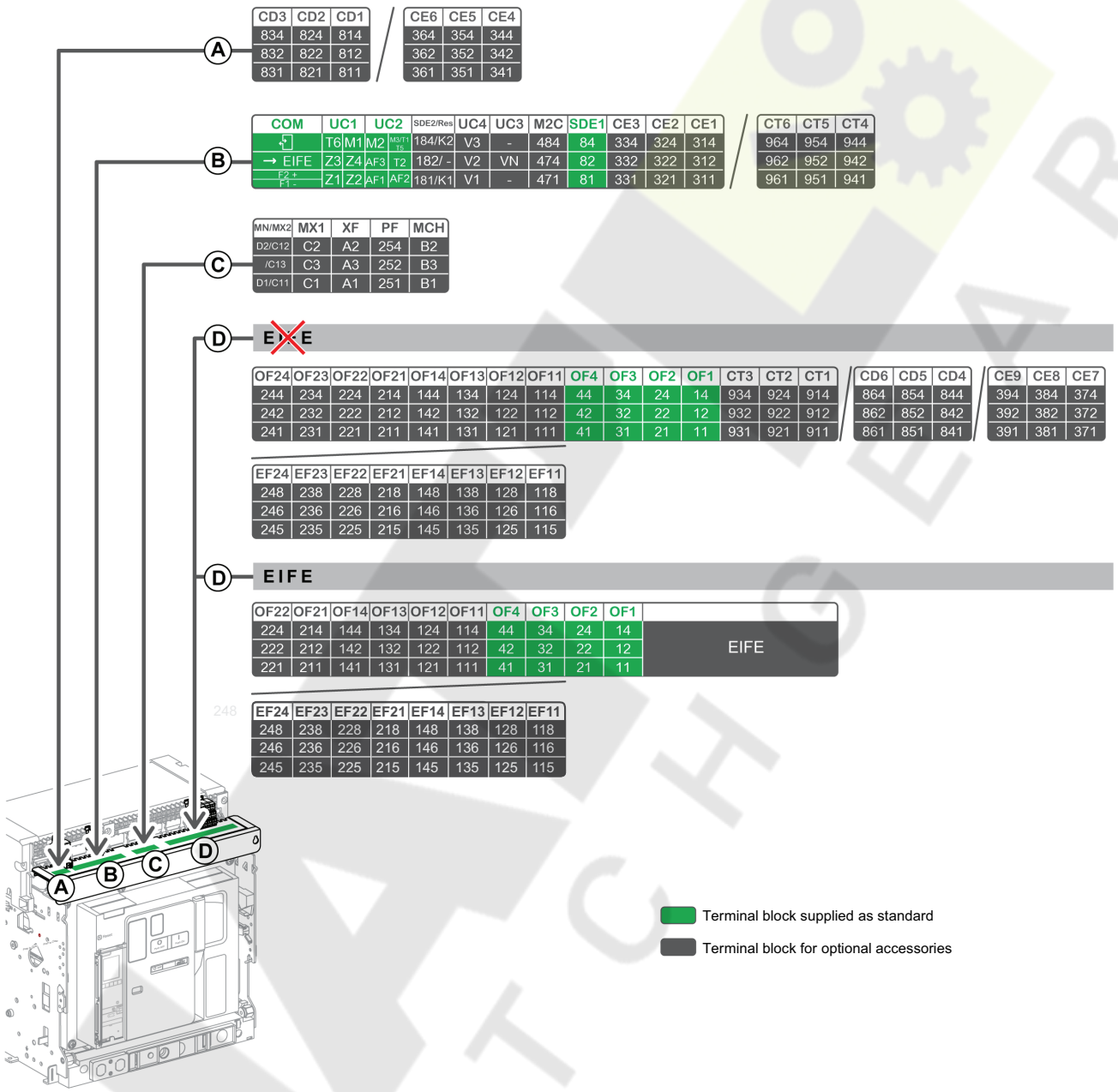
A. Cradle rejection feature
B. Terminal blocks for optional accessories
C. Cord between ULP port module and EIFE interface
D. Embedded Ethernet interface (EIFE)
E. Auxiliary terminal shield (CB)
F. Racking interlock (VPOC)
G. Shutter position indication and locking (VIVC)
H. Interlock between racking handle and opening pushbutton (IBPO)
I. Cradle locking by keylocks (VSPD)
J. Door interlock (VPEC)

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Device (Parent Topic)

Masterpact MTZ2/MTZ3 Cradle Terminal Block Description



Courtesy of NationalSwitchgear.com

Assignment of the Cradle Terminal Blocks

Block	Marking	Description	Standard or Optional
A	CD1–CD3 CE4–CE6	3 disconnected position contacts (CD) or 3 connected position contacts (CE)	Optional
B	COM	Port module (ILP) or terminal block for the external power supply of the Micrologic X control unit	Standard
	UC1	Zone selective interlocking, rectangular sensor for ground-fault protection, or MDGF module input	Optional
	UC2	Neutral external sensors, rectangular sensor for ground-fault protection, or MDGF module input	Optional
	SDE2/RES	Overcurrent trip switch (SDE2) or electrical remote reset (RES)	Optional
	UC4	External voltage connector	Optional
	UC3	External voltage connector	Optional
	M2C/ESM	Programmable contact (M2C) or ERMS switch module (ESM)	Optional
	SDE1	Overcurrent trip switch	Standard
	CE1–CE3 CT4–CT6	3 connected position contacts (CE) or 3 test position contacts (CT)	Optional
C	MN/MX2	Undervoltage release (MN) or shunt trip (MX2)	Optional
	MX1	Shunt trip (MX1)	Optional
	XF	Shunt close (XF)	Optional
	PF	Ready-to-close contact (PF)	Optional
	MCH	Spring charging motor (MCH)	Optional
D (no EIFE)	OF11–OF24 EF11–EF24	8 auxiliary switches (OF) or 8 combined connected/closed position auxiliary contacts (EF)	Optional
	OF1–OF4	4 auxiliary switches (OF)	Standard
	CT1–CT3 CD4–CD6 CE7–CE9	3 test position contacts (CT) or 3 disconnected position contacts (CD) or 3 connected position contacts (CE)	Optional
D (with EIFE)	OF11–OF22 EF11–EF22	6 auxiliary switches (OF) or 6 combined connected/closed position auxiliary contacts (EF)	Optional
	OF1–OF4	4 auxiliary switches (OF)	Standard
	EIFE	Embedded Ethernet interface (EIFE)	Optional

Related Topics

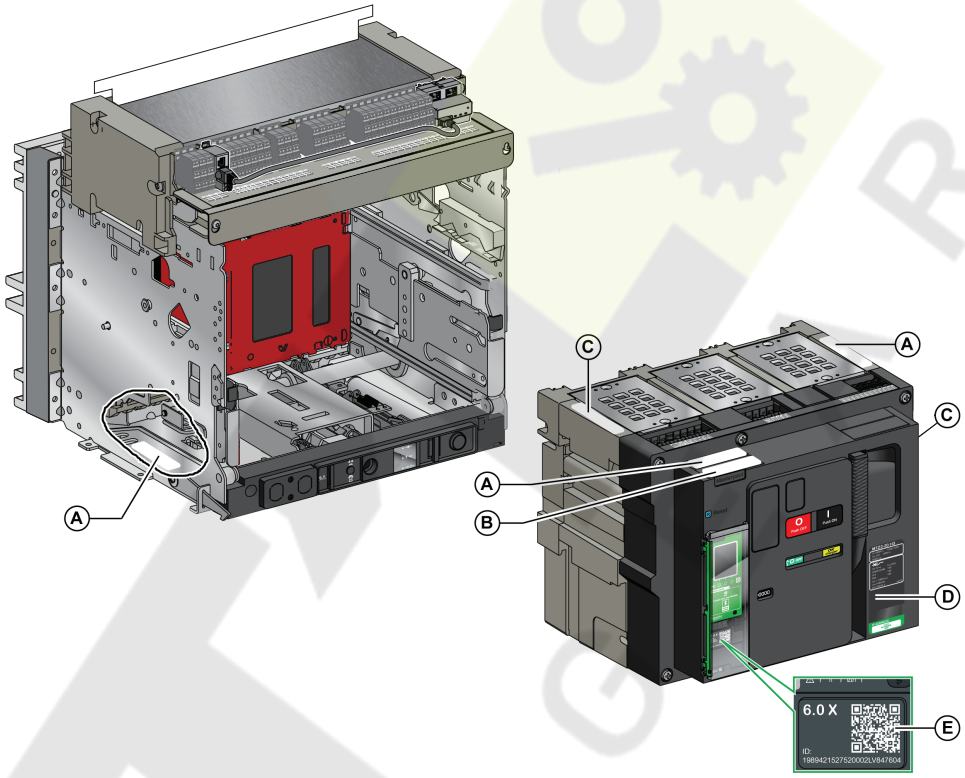
- Masterpact MTZ2/MTZ3 Drawout Device (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Device Identification

The Masterpact MTZ2/MTZ3 device can be identified in the following ways:

- Faceplate label on device
- QR code on the Micrologic X control unit
- Identification labels on the device and on the cradle



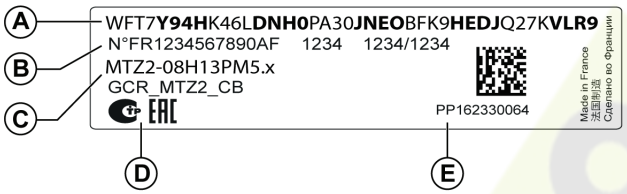
A. Product identification label
B. Product checked label
C. Accessory voltages label
D. Faceplate Label
E. QR code

Related Topics

- Masterpact MTZ2/MTZ3 Product Identification Label
- Masterpact MTZ2/MTZ3 Product Checked Label
- Masterpact MTZ2/MTZ3 Accessory Side Label
- Masterpact MTZ2/MTZ3 Faceplate Label
- Masterpact MTZ2/MTZ3 QR Code
- Masterpact MTZ2/MTZ3 Description (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Product Identification Label

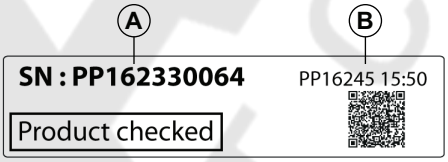


Legend	Description	Explanation
A	Product code	The product code represents the complete configuration of a Masterpact MTZ circuit breaker or switch. The product code: • Is automatically generated for each Masterpact device after completing the configuration by using the ACE configuration tool. • Appears on the invoice and on the delivery documents as well as on the Masterpact device and packaging labels.
B	Schneider Electric internal identification number	—
C	Description of device	The following characteristics are specified: • Range • Rating • Performance level • Number of poles • Control unit type
D	Certification Logos	Logos of the mandatory certification of the device.
E	Device serial number	—

Related Topics

- Masterpact MTZ2/MTZ3 Device Identification (Parent Topic)

Masterpact MTZ2/MTZ3 Product Checked Label



A. The device serial number (SN)
B. The device test date code

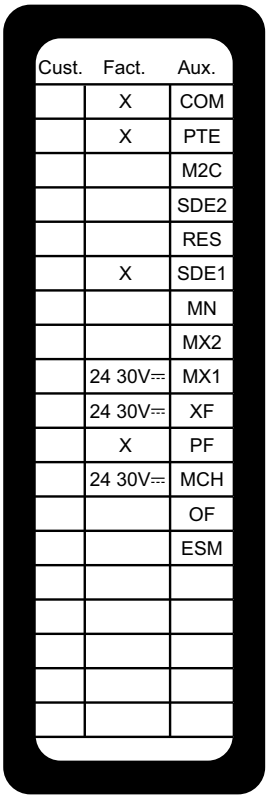
Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Device Identification (Parent Topic)

Masterpact MTZ2/MTZ3 Accessory Side Label

The accessory side label gives the accessories which have been installed in the device, and the voltages of the installed accessories which need to be connected to a power supply.



Related Topics

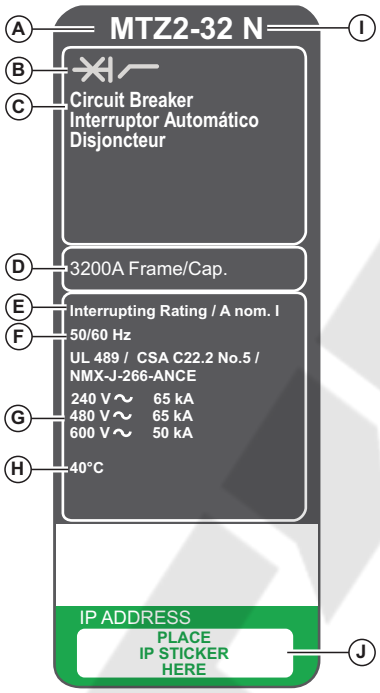
- Masterpact MTZ2/MTZ3 Device Identification (Parent Topic)

Courtesy of NationalSwitchgear.com

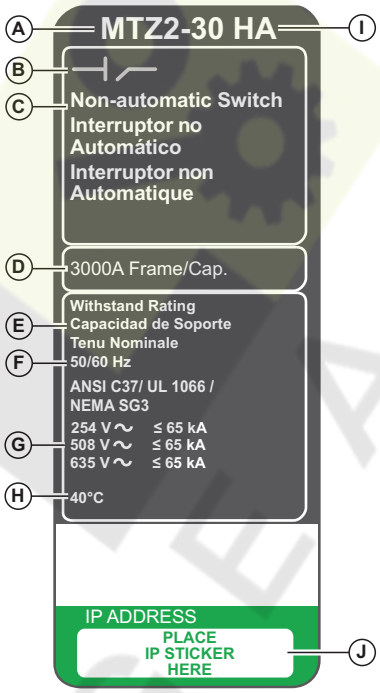
Masterpact MTZ2/MTZ3 Faceplate Label

The faceplate label with the device information is located on the front cover of the device.

Circuit Breaker Faceplate



Switch Faceplate



A. Device size and rated current x 100 A
B. Device type symbol
C. Type of device: circuit breaker or switch
D. Frame size
E. Frequency
F. Standard
G. Interrupting ratings
H. Temperature rating
I. Performance level
J. Place for IP address sticker

Related Topics

- Masterpact MTZ2/MTZ3 Device Identification (Parent Topic)

Masterpact MTZ2/MTZ3 QR Code

When the QR code on the front face of a Micrologic X control unit is scanned with a smartphone running a QR code reader and connected to the internet, the Go2SE landing page is displayed (see *Go2SE Landing Page, page 39*). The landing page displays information about the device and a list of menus.

Related Topics

- Masterpact MTZ2/MTZ3 Device Identification (Parent Topic)

Courtesy of NationalSwitchgear.com

Micrologic X Control Unit Description

The Micrologic X control unit includes:

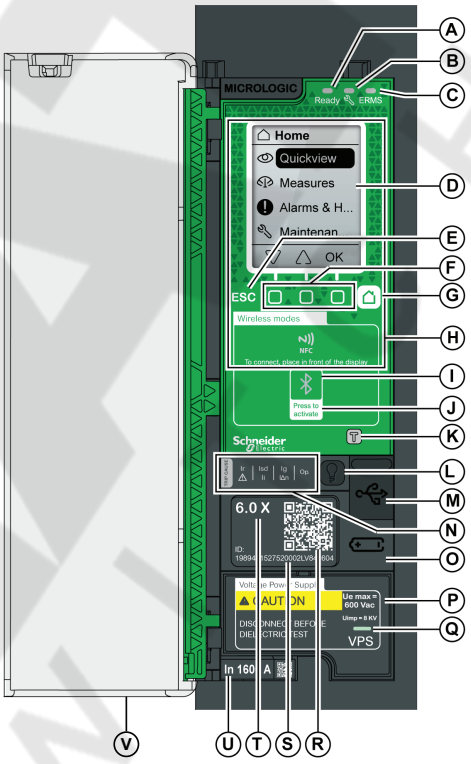
- Micrologic X status LEDs.
- A local HMI comprising a graphic display with colored backlight, contextual buttons, and dedicated buttons.
- LEDs to monitor circuit breaker operations as well as the source of trips and alarms.

Courtesy of NationalSwitchgear.com

Related Topics

- Control Unit Layout
- Micrologic X Status LEDs
- Local HMI Display Screen with Contextual and Dedicated Buttons
- NFC Communication Zone
- Bluetooth Activation Button and LED
- Micrologic X Control Unit Test Button
- Micrologic X Control Unit Test/Reset Button
- Micrologic X Control Unit Mini USB Port
- Micrologic X Control Unit Overload and Trip Cause LEDs
- Micrologic X Internal Battery
- Micrologic X VPS Voltage Power Supply Module
- Micrologic Control Unit QR Code
- Micrologic X Control Unit Identification Number
- Micrologic X Control Unit Type
- Micrologic X Sensor Plug
- Masterpact MTZ2/MTZ3 Description (Parent Topic)

Control Unit Layout



A. Ready LED
B. Service LED
C. ERMS LED
D. HMI display screen
E. Escape button ESC
F. Three contextual buttons
G. Home button
H. NFC wireless communication zone
I. Bluetooth LED
J. Bluetooth activation button
K. Test button for ground-fault protection (Micrologic 6.0 X)
L. Test/Reset button for trip cause LEDs and alarms
M. Mini USB port under rubber cover
N. Overload and trip cause LEDs
O. Cover for internal battery
P. Voltage power supply module (VPS) (optional)
Q. VPS LED to indicate that the VPS is supplying the control unit
R. QR code for product information
S. Control unit identification number
T. Control unit type
U. Sensor plug with the rated current of the circuit breaker
V. Plastic cover

Courtesy of NationalSwitchgear.com

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X Status LEDs

LED	Description
Ready	The Ready LED flashes when the control unit is ready to provide standard protection.
	The service LED indicates the overall health of the circuit breaker: • Unlit LED: the circuit breaker is in good working order • Orange LED: non-urgent alert message • Red LED: alert message that requires immediate action
ERMS	The ERMS (Energy Reduction Maintenance Setting) LED has the following statuses:. • Blue LED: ERMS engaged • Off LED: ERMS disengaged

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Local HMI Display Screen with Contextual and Dedicated Buttons

Use the local HMI screen and buttons to:

- Navigate the menu structure
- Display monitored values
- Access and edit configuration settings

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

NFC Communication Zone

Use the NFC communication zone to create an NFC connection between a smartphone running the Masterpact MTZ Mobile App and the Micrologic X control unit. When the connection is established, the circuit breaker operating data is automatically uploaded to the smartphone.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Bluetooth Activation Button and LED

Use the Bluetooth activation button to create a Bluetooth low-energy connection between a smartphone running the Masterpact MTZ Mobile App and the Micrologic X control unit. When the connection is established, the circuit breaker can be monitored and controlled from the smartphone.

The Bluetooth LED blinking indicates that a Bluetooth device is in communication.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X Control Unit Test Button

Use the test button to test the ground-fault protection for Micrologic 6.0 X control units.

Courtesy of NationalSwitchgear.com

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X Control Unit Test/Reset Button

The Test/Reset button performs the following functions:

- Test internal battery or check LED functionality: press and hold the Test/Reset button for less than three seconds, the four trip cause LEDs switch off for one second. One of the following results:
  - The four trip cause LEDs switch on for two seconds: the battery is OK.
  - The four trip cause LEDs flash sequentially for two seconds: the battery is near the end of its life. Replace the battery.
  - The four trip cause LEDs do not light: replace the battery.
- Reset: press and hold the Test/Reset button for more than three seconds to reset the control unit. The trip cause LEDs and the service LED switch off.

  NOTE: When the Micrologic X control unit is not powered by an external 24 Vdc power supply or through a USB connection, the Micrologic X control unit can be restarted by pressing and holding the Test/Reset button for 15 seconds. The standard protection functions remain active during the restart.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X Control Unit Mini USB Port

Remove the rubber cover of the mini USB port to connect the following devices:

- A Mobile Power Pack to supply power to the Micrologic X control unit.
- A smartphone running the Masterpact MTZ Mobile App through USB OTG connection.
- A PC equipped with Ecoreach software.

  NOTE: The Micrologic X control unit does not support USB keys. Even if a USB key is connected using an adaptor, data is not transferred.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X Control Unit Overload and Trip Cause LEDs

The indications of the four trip cause LEDs depend on the type of control unit.

LEDs	Description
	Micrologic 3.0 X, 5.0 X, 6.0 X: Overload pre-alarm, the load exceeds 90% and is lower than 105% of the Ir setting of the long-time protection.
	Micrologic 3.0 X, 5.0 X, 6.0 X: Overload alarm, the load exceeds 105% of the Ir setting of the long-time protection.
	Micrologic 3.0 X, 5.0 X, 6.0 X: Trip due to long-time protection.
	Micrologic 3.0 X: Trip due to instantaneous protection. Micrologic 5.0 X, 6.0 X: Trip due to short-time protection or instantaneous protection.

Courtesy of NationalSwitchgear.com

LEDs	Description
	Micrologic 3.0 X, 5.0 X: Not used. Micrologic 6.0 X: Trip due to ground-fault protection.
	Micrologic 3.0 X, 5.0 X, 6.0 X: Trip due to other protection (optional protections activated via digital modules).
	Micrologic 3.0 X, 5.0 X, 6.0 X: Invalid Micrologic control unit self-test

NOTE: If the Micrologic X control unit is not powered, the trip cause LEDs go off after four hours. After this period, press the Test/Reset button to light them again.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X Internal Battery

The internal battery powers the trip cause LEDs and the main diagnostic functions in the absence of any other power supply.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X VPS Voltage Power Supply Module

The optional VPS power supply module provides an internal voltage supply to the Micrologic X control unit.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic Control Unit QR Code

When the QR code on the front face of a Micrologic X control unit is read with a smartphone running a QR code reader and connected to the internet, the Go2SE landing page is displayed (see *Go2SE Landing Page, page 39*). The landing page displays information about the device and a list of menus.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Courtesy of NationalSwitchgear.com

Micrologic X Control Unit Identification Number

The identification number consists of:

- The serial number of the Micrologic X control unit in the format FFFFFFYYWWDXXXXX.
- The commercial reference of the control unit in the format LV8XXXX.

Use the identification number to register the Micrologic X control unit.

Registering the Micrologic X control unit enables up-to-date record keeping and traceability.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X Control Unit Type

This code indicates the type of Micrologic control unit:

- The number (for example, 3.0) defines the types of protection provided by the control unit.
- The letter (X) identifies the range.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Micrologic X Sensor Plug

The protection ranges depend on the rated current In, defined by the sensor plug present below the Micrologic X control unit.

Related Topics

- Micrologic X Control Unit Description (Parent Topic)

Courtesy of NationalSwitchgear.com

Go2SE Landing Page

Related Topics

- Go2SE Presentation
- Go2SE Landing Page Description
- Go2SE Characteristics
- Go2SE Download Documents
- Go2SE Download Customer Care App
- Go2SE Download EcoStruxure Facility Expert App
- Go2SE Safe Repository
- Go2SE Download Masterpact MTZ Mobile App
- Go2SE Purchase Additional Features
- Masterpact MTZ2/MTZ3 Description (Parent Topic)

Go2SE Presentation

When the QR code on the front face of a Micrologic X control unit is read with a smartphone running a QR code reader and connected to the Internet, the Go2SE landing page is displayed. The landing page displays information about the device and a list of menus.

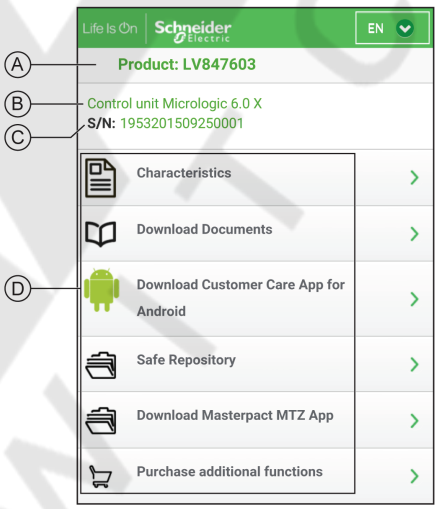
Related Topics

- Go2SE Landing Page (Parent Topic)

Go2SE Landing Page Description

The landing page is accessible from Android and iOS smartphones. It displays the same list of menus with slight differences in presentation.

The following example shows the landing page displayed on an Android smartphone:



A. Commercial reference of Micrologic X control unit
B. Type of Micrologic X control unit
C. Serial number of Micrologic X control unit
D. Landing page menus. See the following menu descriptions for details.

Courtesy of NationalSwitchgear.com

Related Topics

- Go2SE Landing Page (Parent Topic)

Go2SE Characteristics

Select “Go2SE Characteristics” to access a product datasheet with detailed information about the Micrologic X control unit.

Related Topics

- Go2SE Landing Page (Parent Topic)

Go2SE Download Documents

Select “Go2SE Download Documents” to access documentation, including the following:

- Micrologic X Control Unit - User Guide
- Masterpact MTZ1 Circuit Breakers and Switches - User Guide
- Masterpact MTZ2/MTZ3 Circuit Breakers and Switches - User Guide
- Instruction sheets for Masterpact MTZ devices and Micrologic X control units

Related Topics

- Go2SE Landing Page (Parent Topic)

Go2SE Download Customer Care App

Select “Go2SE Download Customer Care App” to access the Schneider Electric customer care mobile application mySchneider that can be downloaded on Android and iOS smartphones. The customer care application offers self-service instructions and easy access to expert support and information.

Related Topics

- Go2SE Landing Page (Parent Topic)

Go2SE Download EcoStruxure Facility Expert App

Select “Go2SE Download EcoStruxure Facility Expert App” to access the EcoStruxure Facility Expert mobile application that can be downloaded on Android and iOS smartphones. For smartphone compatibility, check on an application store.

The EcoStruxure Facility Expert mobile application is designed to:

- Make operations simpler, more effective, and more convenient.
- Make processes and assets more reliable.

Related Topics

- Go2SE Landing Page (Parent Topic)

Go2SE Safe Repository

Select “Go2SE Safe Repository” to access a web service allowing documentation linked to assets to be consulted, stored, and shared in a Schneider Electric environment. Access to the safe repository is restricted to authorized users.

Safe Repository gives access to the bill of materials of the Masterpact MTZ device.

Courtesy of NationalSwitchgear.com

Related Topics

- Go2SE Landing Page (Parent Topic)

Go2SE Download Masterpact MTZ Mobile App

Select “Go2SE Download Masterpact MTZ Mobile App” to access the Masterpact MTZ Mobile App that can be downloaded and installed on Android and iOS smartphones.

Related Topics

- Go2SE Landing Page (Parent Topic)

Go2SE Purchase Additional Features

Select “Go2SE Purchase Additional Features” to access the GoDigital marketplace webpage. Digital Modules are available for purchase in the marketplace.

Related Topics

- Go2SE Landing Page (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Operating Conditions

Masterpact MTZ devices are designed and tested for operation in industrial atmospheres. It is recommended that equipment be cooled or heated to the proper operating temperature and kept free of excessive vibration and dust.

Related Topics

- Masterpact MTZ—Ambient Temperature
- Masterpact MTZ—Extreme Atmospheric Condition
- Masterpact MTZ—Industrial Environments
- Masterpact MTZ—Vibration
- Masterpact MTZ—Altitude
- Masterpact MTZ—Electromagnetic Disturbances
- Masterpact MTZ2/MTZ3 Description (Parent Topic)

Masterpact MTZ—Ambient Temperature

Masterpact MTZ devices can operate under the following temperature conditions:

- Electrical and mechanical characteristics specified for an ambient temperature of -25°C to +70°C (-13°F to +158°F).
- Circuit breaker closing specified down to -35°C (-31°F) by manual operation with closing pushbutton.

Storage conditions are as follows:

- -40°C to +85°C (-40°F to +185°F) for the device without the control unit.
- -25°C to +85°C (-13°F to +185°F) for the control unit.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Conditions (Parent Topic)

Masterpact MTZ—Extreme Atmospheric Condition

Masterpact MTZ devices have successfully passed tests for extreme atmospheric conditions, defined by the following standards:

Standard	Title
IEC 60068-2-1	Dry cold, at -40°C (-40°F)
IEC 60068-2-2	Dry heat, at +85°C (+185°F)
IEC 60068-2-30	Damp heat (temperature +55°C (+131°F), relative humidity 95%)
IEC 60068-2-52 level 2	Salt mist

Related Topics

- Masterpact MTZ2/MTZ3 Operating Conditions (Parent Topic)

Masterpact MTZ—Industrial Environments

Masterpact MTZ devices can operate in the industrial environments defined by IEC 60947 (pollution degree up to 3).

Check that devices are installed in suitably cooled switchboards without excessive dust.

Courtesy of NationalSwitchgear.com

Conditions	Standard
Corrosive industrial atmospheres	Category 3C3 compliant with IEC 60721-3-3
Sea salts 0.8 to 8 mg/m² day average over the year	Compliant with IEC 60721-2-5
Mechanically active substances	Category 3S3 compliant with IEC 60721-3-3

Beyond these conditions, Masterpact MTZ devices must be installed inside switchboards with an IP rating equal to or greater than IP54.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Conditions (Parent Topic)

Masterpact MTZ—Vibration

Masterpact MTZ devices have successfully passed tests for the following vibration levels, in compliance with IEC 60068-2-6 and IEC 60068-2-27:

- 2 Hz to 13.2 Hz: amplitude +/- 1 mm.
- 13.2 Hz to 100 Hz: constant acceleration of 0.7 g.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Conditions (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ—Altitude

Masterpact MTZ devices are designed and tested to operate at altitudes below 2,000 m (6562 ft.).

At altitudes above 2,000 m (6562 ft.), the characteristics of the ambient air (electrical resistance, cooling capacity) lower product characteristics as follows:

Characteristics	Altitude			
	2,000 m (6,562 ft.)	3,000 m (9,843 ft.)	4,000 m (13,123 ft.)	5,000 m (16,505 ft.)
Impulse withstand voltage (kV)	12	11	10	8
Rated insulation voltage (V)	1,000	900	780	700
Maximum rated operational voltage 50/60 Hz (V)	690	690	630	560
Rated current (A) at 40°C (104°F)	1 x In	0.99 x In	0.96 x In	0.94 x In

NOTE: Intermediate values can be obtained by interpolation.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Conditions (Parent Topic)

Masterpact MTZ—Electromagnetic Disturbances

Masterpact MTZ devices have protection against:

- Overvoltages caused by devices that generate electromagnetic disturbance.
- Overvoltages caused by atmospheric disturbance or by a distribution-system outage (for example, a lighting system outage).
- Devices emitting radio waves (for example, radio transmitters, walkie-talkies, or radar).
- Electrostatic discharge produced by users.

Masterpact MTZ devices have successfully passed the electromagnetic-compatibility tests (EMC) defined by IEC 60947-2, appendix F.

The devices have passed the above tests and therefore:

- Nuisance tripping from electromagnetic interference does not occur.
- Tripping times are respected.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Conditions (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Normal Operation

Related Topics

- Masterpact MTZ2/MTZ3 Operation Actions
- Masterpact MTZ2/MTZ3 Operating Accessories
- Lifting and Transporting Masterpact MTZ2/MTZ3 Devices
- Masterpact MTZ2/MTZ3 Drawout Device Racking
- Masterpact MTZ2/MTZ3 Locking Actions
- Masterpact MTZ2/MTZ3 Interlocking Actions

Masterpact MTZ2/MTZ3 Operation Actions

Related Topics

- Masterpact MTZ2/MTZ3 Device Operation
- Masterpact MTZ2/MTZ3 Control Modes
- Opening Masterpact MTZ Devices
- Closing Masterpact MTZ Devices
- Resetting Masterpact MTZ Devices
- Engaging the Masterpact MTZ2/MTZ3 ERMS Function
- Masterpact MTZ2/MTZ3 Normal Operation (Parent Topic)

Masterpact MTZ2/MTZ3 Device Operation

Related Topics

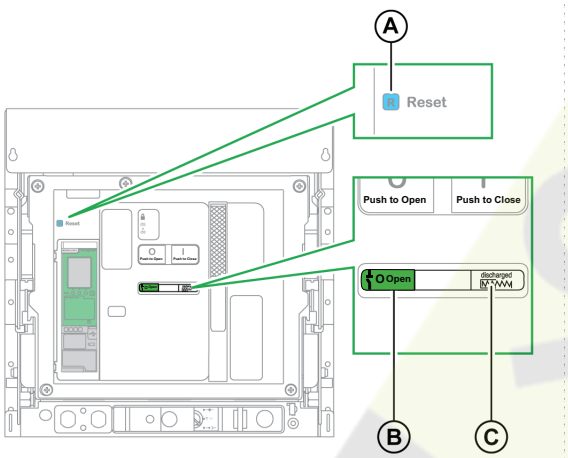
- Masterpact MTZ2/MTZ3 Device Status Indication
- Masterpact MTZ2/MTZ3 Device Status Description
- Masterpact MTZ2/MTZ3 Device Auxiliary Switches (OF)
- Masterpact MTZ2/MTZ3 Anti-Pumping Function
- Charging the Masterpact MTZ2/MTZ3 Closing Spring
- Masterpact MTZ Manual Operation with the Spring Charging Handle (MCH)
- Masterpact MTZ Electrical Operation with a Spring Charging Motor (MCH)
- Masterpact MTZ2/MTZ3 Operation Actions (Parent Topic)

Masterpact MTZ2/MTZ3 Device Status Indication

The indicators on the front of the device show the following information:

- Reset button:
  - In: the device is closed or open voluntarily (not tripped)
  - Out: the device has tripped
- Position indicator of main contacts: Open or Closed.
- Closing spring and ready-to-close indicator. The state can be one of the following:
  - Discharged (no energy to close the circuit breaker)
  - Charged not ready-to-close
  - Charged ready-to-close

Courtesy of NationalSwitchgear.com



A. Reset button
B. Position indicator of main contacts
C. Closing spring and ready-to-close indicator

The combination of both indicators gives the device status:

Related Topics

- Masterpact MTZ2/MTZ3 Device Operation (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Device Status Description

Position Indicator of Main Contacts	Closing Spring and Ready-to-Close Indicator	Device Status Description
Open	Discharged	Device is off (contacts are open) and closing spring is discharged.
Open	Charged OK	Device is off (contacts are open) and closing spring is charged. The device is not ready-to-close because at least one of the following conditions is true: • The device has tripped and must be reset. • The shunt trip (MX) is energized. • The undervoltage release (MN) is not energized. • The device is mechanically locked (by using padlock and/or keylock or by using interlocking cables) in the open position.
Open	Charged OK	Device is off (contacts are open) and closing spring is charged. The device is ready-to-close.
Closed	Discharged	Device is on (contacts are closed) and closing spring is discharged.
Closed	Charged OK	Device is on (contacts are closed) and closing spring is charged. The device is not ready-to-close because it is already closed.

Related Topics

- Masterpact MTZ2/MTZ3 Device Operation (Parent Topic)

Masterpact MTZ2/MTZ3 Device Auxiliary Switches (OF)

The position of the device main contacts is indicated by auxiliary switches (OF).

Name	Contact Number	Position of Switches and Contacts		
Device status	—	On	Off	Tripped (by Micrologic X control unit)
Position indicator of main contacts	—	Closed	Open	Open
Main contact position	—	Closed	Open	Open
Reset button position	—	IN	IN	OUT
Auxiliary switch (OF) position	1–2	Open	Closed	Closed
	1–4	Closed	Open	Open
Overcurrent trip switch (SDE) position	1–2	Closed	Closed	Open
	1–4	Open	Open	Closed

Related Topics

- Masterpact MTZ2/MTZ3 Device Operation (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Anti-Pumping Function

Masterpact MTZ devices provide a mechanical anti-pumping function. In the event of maintained opening and closing orders, the standard mechanism blocks the main contacts in the open position. After a trip due to an electrical fault or intentional opening using the manual or electrical controls, the closing order must first be discontinued, then reactivated to close the circuit breaker. This prevents a cycle of closing and opening.

When remote operation features are used, allow at least four seconds for the spring charging motor (MCH) to charge the device closing spring completely before the shunt close (XF) is actuated.

To prevent the device from closing prematurely, the ready-to-close contact (PF) can be connected in series with the shunt close (XF).

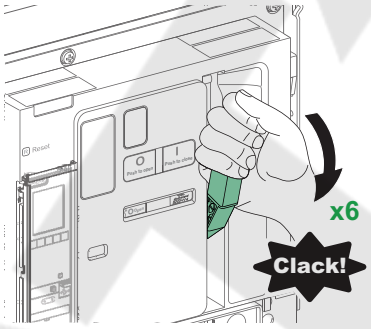
Related Topics

- Masterpact MTZ2/MTZ3 Device Operation (Parent Topic)

Charging the Masterpact MTZ2/MTZ3 Closing Spring

The closing spring must be charged with sufficient energy to close the Masterpact MTZ circuit breaker:

- Manual charge: Charge the mechanism by pulling the spring charging handle down six times.



- Automatic charge: If the optional MCH spring charging motor is installed, the spring is automatically charged after closing.

  NOTE: For drawout devices the DAE automatic spring-discharge is factory installed as standard, so the closing spring is discharged when the device is moved from the disconnected to the withdrawn position.

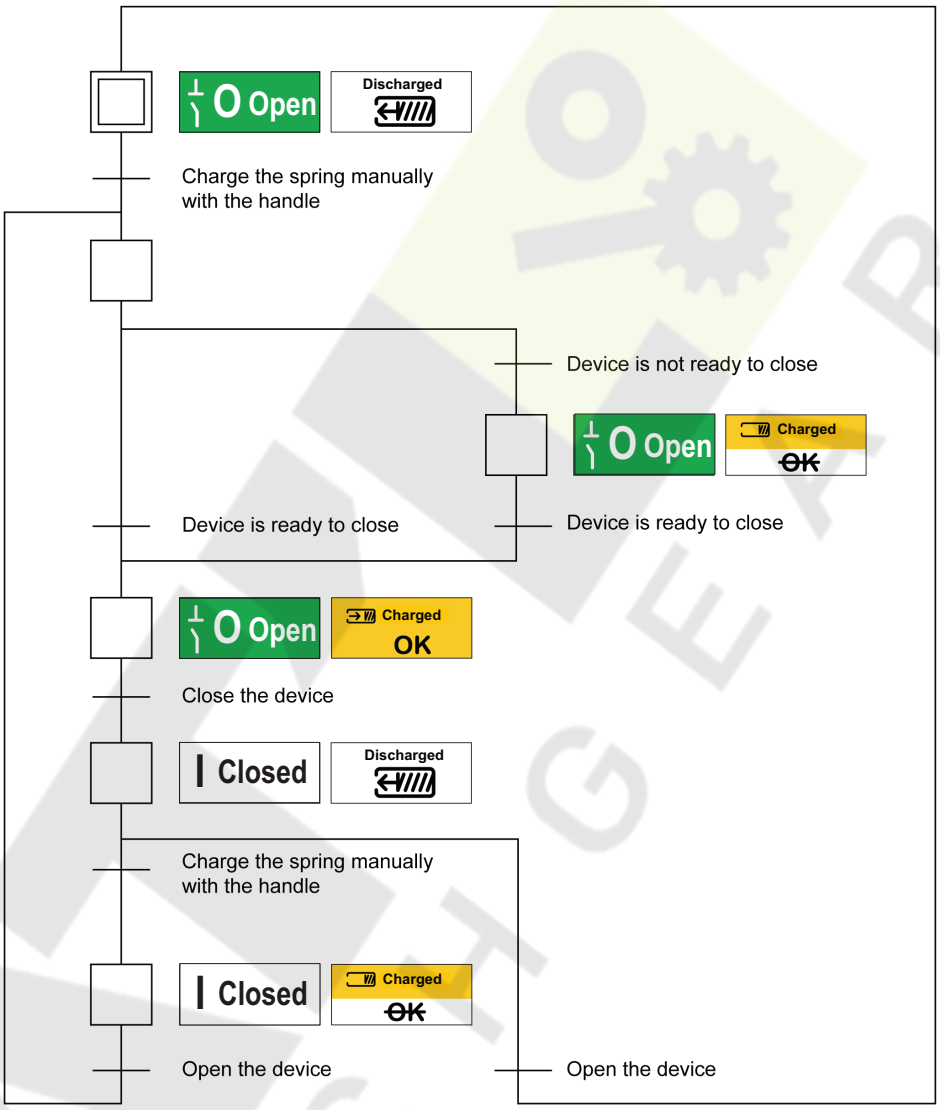
Related Topics

- Masterpact MTZ2/MTZ3 Device Operation (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ Manual Operation with the Spring Charging Handle (MCH)

The following image shows an Open/Close/Open (OCO) cycle for manually charged devices without an spring charging motor (MCH):



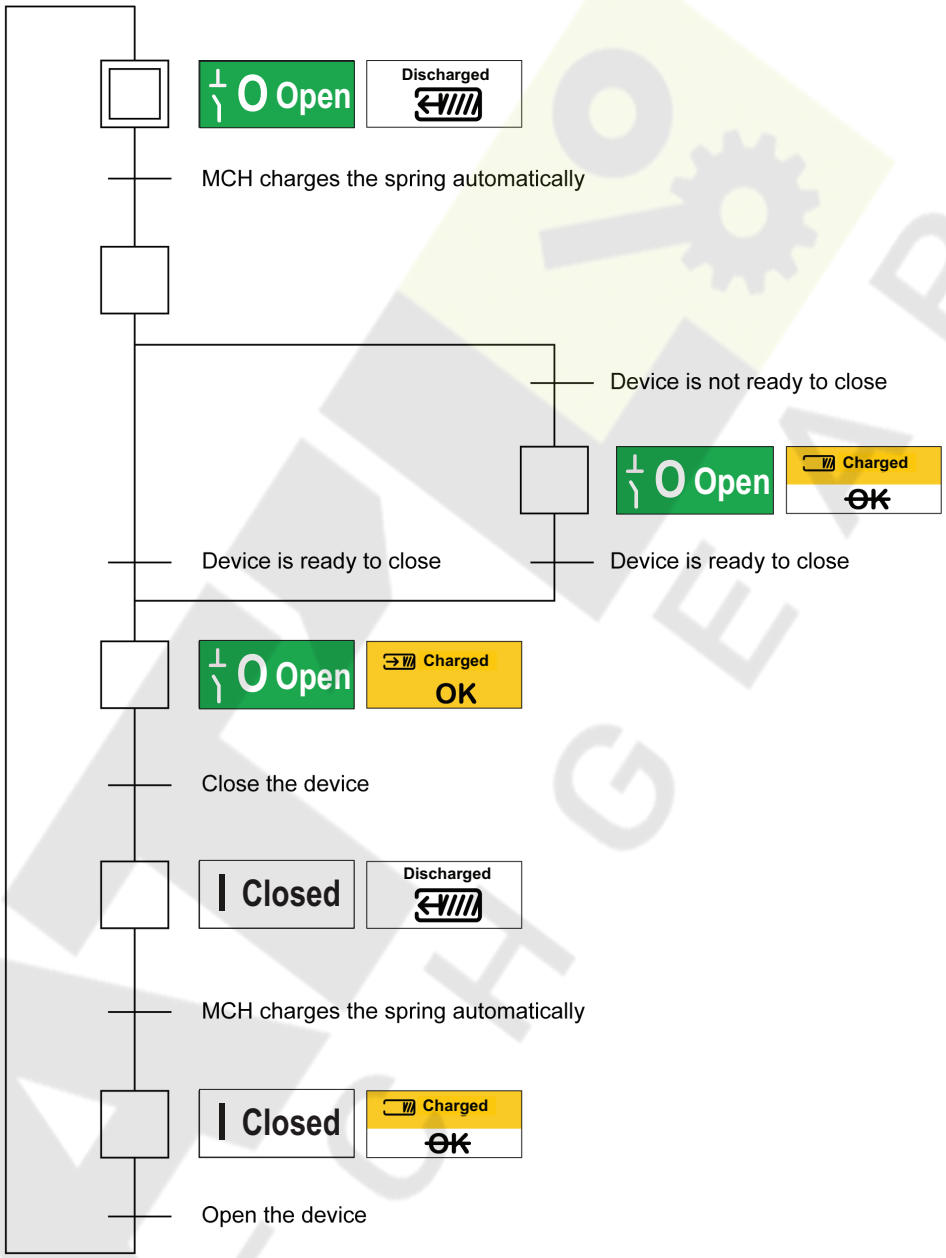
Related Topics

- Masterpact MTZ2/MTZ3 Device Operation (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ Electrical Operation with a Spring Charging Motor (MCH)

The following image shows an Open/Close/Open (OCO) cycle for electrically charged devices using an spring charging motor (MCH):



Related Topics

- Masterpact MTZ2/MTZ3 Device Operation (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Control Modes

The control mode of the Micrologic X control unit sets how the opening and closing functions of the circuit breaker are controlled.

Two control modes are available: Manual and Auto.

Manual mode only accepts orders made using one of the following:

- The mechanical buttons on the front of the circuit breaker.
- The external pushbutton connected to the undervoltage release (MN) /shunt trip (MX)/shunt close (XF).
- The electrical closing pushbutton (BPFE).

Auto mode has two settings: Local or Remote. All orders accepted in manual mode are accepted in auto mode, as well as orders from local or remote communication as follows:

- Auto Local: the operator needs to be close to the circuit breaker to establish communication and only orders sent from a local source through communication are accepted:
  - Ecoreach software through the USB connection.
  - Masterpact MTZ Mobile App through Bluetooth or the USB connection with the Masterpact Operation Assistant Digital Module.
- Auto Remote: the operator does not need to be next to the circuit breaker to establish communication and orders are only accepted when sent from a remote source through the communication network.

  NOTE: Ecoreach software connected through the communication network can be used to send control orders to the circuit breaker.

The control mode factory setting is Auto Remote.

Related Topics

- Masterpact MTZ Operation According to Control Mode Configuration
- Masterpact MTZ2/MTZ3 Operation in Manual Mode
- Masterpact MTZ2/MTZ3 Operation in Auto: Local Mode
- Masterpact MTZ2/MTZ3 Operation in Auto: Remote Mode
- Setting the Micrologic X Control Mode
- Displaying the Micrologic X Control Mode
- Micrologic X Control Mode Predefined Events
- Masterpact MTZ2/MTZ3 Operation Actions (Parent Topic)

Masterpact MTZ Operation According to Control Mode Configuration

The following table summarizes the opening and closing operations available, depending on the control mode configured:

Courtesy of NationalSwitchgear.com

Control Mode	Type of Order and Delivery Method							
	Mechanical	Electrical		Through Communication				
	Pushbutton	BPFE	Point to point (voltage release)	IO module[4]	Ecoreach software through USB	Masterpact MTZ Mobile App through Bluetooth + Masterpact Operation Assistant Digital Module	Ethernet Modbus/ TCP	IFE/IEFE Webpages
Manual	◉	◉	◉	—	—	—	—	—
Auto: Local	◉	◉	◉	◉	◉	◉	—	—
Auto: Remote	◉	◉	◉	◉	—	—	◉	◉

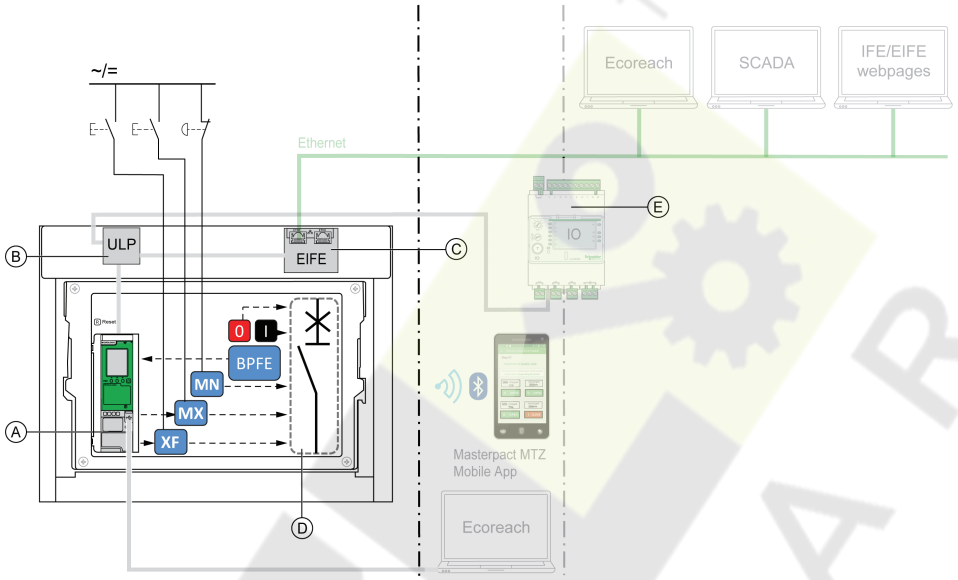
Related Topics

- Masterpact MTZ2/MTZ3 Control Modes (Parent Topic)

4. According to IO input mode setting.

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Operation in Manual Mode



A. Micrologic X control unit
B. ULP port module
C. Embedded Ethernet interface (EIFE)
D. Circuit breaker mechanism

Opening and closing operations available in Manual mode:

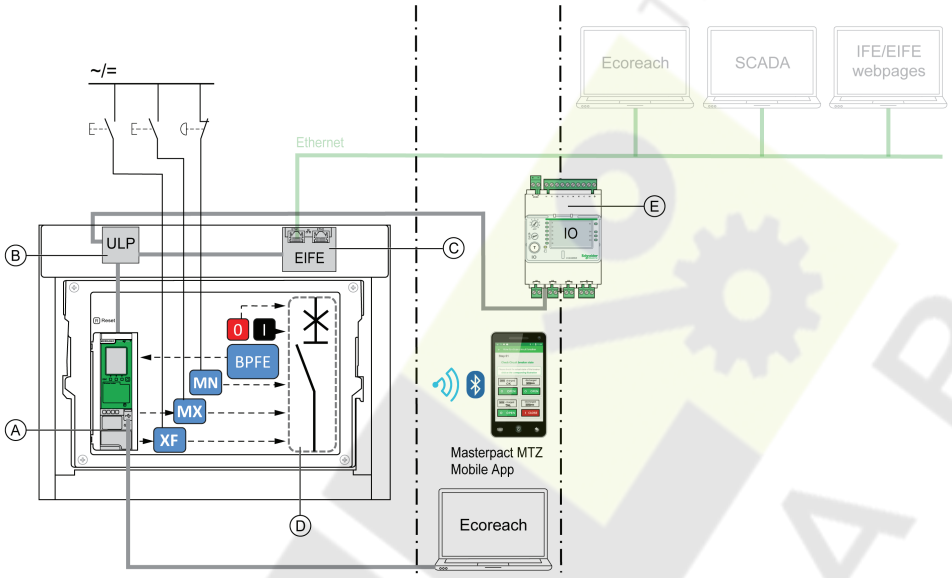
- 0: mechanical opening pushbutton
- 1: mechanical closing pushbutton
- Electrical closing pushbutton (BPFE)
- External pushbuttons wired by customer, and connected to:
  - Standard or communicating and diagnostic shunt close (XF or XF diag&com)
  - Standard or communicating and diagnostic shunt trip (MX or MX diag&com)
  - Standard or diagnostic undervoltage release (MN or MN diag)

Related Topics

- Masterpact MTZ2/MTZ3 Control Modes (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Operation in Auto: Local Mode



A. Micrologic X control unit
B. ULP port module
C. Embedded Ethernet interface (EIFE)
D. Circuit breaker mechanism
E. IO input/output application module

Opening and closing operations available in Auto: Local mode:

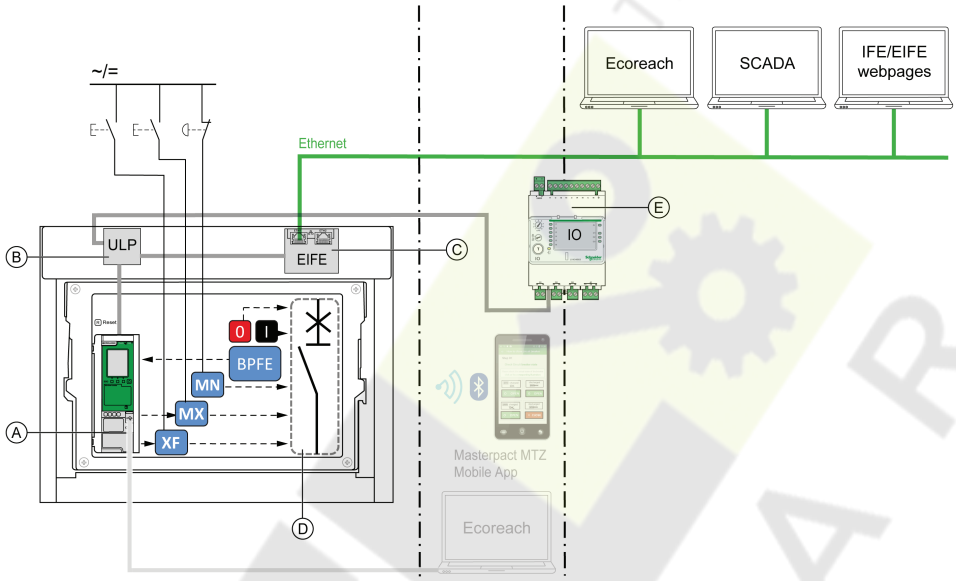
- 0: mechanical opening pushbutton
- 1: mechanical closing pushbutton
- Electrical closing pushbutton (BPFE)
- External pushbuttons wired by customer, and connected to:
  - Diagnostic and communicating shunt close (XF diag&com)
  - Diagnostic and communicating shunt trip (MX diag&com)
  - Standard or diagnostic undervoltage release (MN or MN diag)
- IO: with the Breaker Operation predefined application of the IO module set to local control mode
- Ecoreach software: command sent through USB connection
- Masterpact MTZ Mobile App with Masterpact Operation Assistant Digital Module:
  - Through Bluetooth low energy wireless communication
  - Through USB OTG connection

Related Topics

- Masterpact MTZ2/MTZ3 Control Modes (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Operation in Auto: Remote Mode



A. Micrologic X control unit
B. ULP port module
C. Embedded Ethernet interface (EIFE)
D. Circuit breaker mechanism
E. IO input/output application module

Opening and closing operations available in Auto: Remote mode:

- 0: mechanical opening pushbutton
- 1: mechanical closing pushbutton
- Electrical closing pushbutton (BPFE)
- External pushbuttons wired by customer, and connected to:
  - Diagnostic and communicating shunt close (XF diag&com)
  - Diagnostic and communicating shunt trip (MX diag&com)
  - Standard or diagnostic undervoltage release (MN or MN diag)
- IO: with the Breaker Operation predefined application of the IO module set to remote control mode
- Communication: remote command through IFE, EIFE, or IFM interface

Related Topics

- Masterpact MTZ2/MTZ3 Control Modes (Parent Topic)

Courtesy of NationalSwitchgear.com

Setting the Micrologic X Control Mode

The Auto or Manual mode can be set as follows:

- On the Micrologic X display screen, at **Home → Configuration → Communication → Control Mode → Mode.**
- With the Masterpact MTZ Mobile App through Bluetooth or USB OTG connection.

The Local or Remote mode can be set as follows:

- When the IO module is used with the Breaker Operation predefined application, the local or remote mode is defined only by the control mode selector switch wired to the digital input I1 of the IO module.
- When the IO module is not used with the Breaker Operation predefined application, the local or remote mode can be set as follows:
  - With Ecoreach software through a USB connection.
  - With the Masterpact MTZ Mobile App through Bluetooth or a USB OTG connection.

NOTE:

- The Local or Remote mode cannot be set on the Micrologic X display screen.
- When Auto mode is set, the control mode is Auto Local or Auto Remote, depending on the last setting.

Related Topics

- Masterpact MTZ2/MTZ3 Control Modes (Parent Topic)

Displaying the Micrologic X Control Mode

The control mode (Manual, Auto Local, or Auto Remote) is displayed as follows:

- On the Micrologic X display screen, at **Home → Configuration → Communication → Control Mode → Mode**.
- With Ecoreach software through the USB connection.
- With the Masterpact MTZ Mobile App through Bluetooth or the USB OTG connection.
- On the IFE/EIFE webpages.
- By a remote controller using the communication network.

Related Topics

- Masterpact MTZ2/MTZ3 Control Modes (Parent Topic)

Micrologic X Control Mode Predefined Events

Changing the control mode settings generates the following events:

Event	History	Severity
Manual mode enabled	Operation	Low
Local mode enabled	Operation	Low
Config. error IO and CU - Local/Remote mode	Configuration	Medium

Related Topics

- Masterpact MTZ2/MTZ3 Control Modes (Parent Topic)

Courtesy of NationalSwitchgear.com

Opening Masterpact MTZ Devices

Related Topics

- Conditions Required to Open
- Opening the Masterpact MTZ2/MTZ3 Mechanism in All Control Modes
- Opening the Masterpact MTZ2/MTZ3 Mechanism in Auto Control Mode
- Masterpact MTZ2/MTZ3 Operation Actions (Parent Topic)

Conditions Required to Open

To open the device, the device must be closed (I).

NOTE: An opening order always takes priority over a closing order.

Related Topics

- Opening Masterpact MTZ Devices (Parent Topic)

Opening the Masterpact MTZ2/MTZ3 Mechanism in All Control Modes

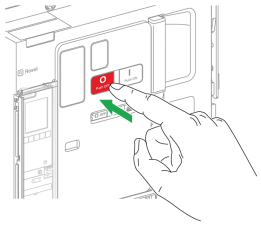
The device can be opened in the following ways in all control modes:

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Turn off all power supplying the downstream equipment by manually opening the circuit breaker.
- Before working on or inside equipment, always use a properly rated voltage sensing device to confirm power is off.

Failure to follow these instructions will result in death or serious injury.

Opening Type	Control Mode	Accessories	Opening Action	
Mechanical	Manual, Auto: Local, or Auto: Remote	—	Press the opening pushbutton on the front of the device. This opening action is possible at any time.	
Automatic	Manual, Auto: Local, or Auto: Remote	Undervoltage release (MN), with or without MN delay unit	The undervoltage release (MN) opens the device automatically in the case of voltage drop.	
By external pushbutton	Manual, Auto: Local, or Auto: Remote	External pushbutton wired by customer MX or MN accessory: • Standard shunt trip (MX) or communicating shunt trip (MX diag&com) • Undervoltage release (MN), with or without MN delay unit	Press the external pushbutton which is connected to the shunt trip (MX) or to the undervoltage release (MN) via the customer terminal block. When the undervoltage release (MN) is connected to the MN delay unit, the device opens with the corresponding time delay.	

If the device does not open, refer to *Troubleshooting, page 162*.

Related Topics

- Opening Masterpact MTZ Devices (Parent Topic)

Courtesy of NationalSwitchgear.com

Opening the Masterpact MTZ2/MTZ3 Mechanism in Auto Control Mode

In addition, the device can be opened in the following ways when Auto control mode is configured.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Turn off all power supplying the downstream equipment using the local or remote software for opening the circuit breaker or switching off the electrical circuit.
- Before working on or inside equipment, always use a properly rated voltage sensing device to confirm power is off.

Failure to follow these instructions will result in death or serious injury.

Opening Type	Control Mode	Accessories	Opening Action
Through IO module	Auto: Local or Auto: Remote	Communicating shunt trip (MX diag&com) ULP port IO module	Open the device by using the predefined application 2 Breaker Operation of the IO module. • When the device is set to local control mode by the IO module, the command to open is issued from local pushbuttons wired on digital inputs. • When the device is set to remote control mode by the IO module, the command to open is issued from remote PLC outputs wired on digital inputs. Refer to *Enerlin'X IO Input/Output Application Module for One Circuit Breaker - User Guide (0613IB1317)*.
Through Ecoreach software	Auto: Local	Communicating shunt trip (MX diag&com)	Send a command to open to the device from Ecoreach software running on a PC connected locally to the device through the mini USB port on the Micrologic X control unit. This opening action is password-protected. Refer to *Ecoreach Online Help (DOCA0069EN)*.
Through Masterpact MTZ Mobile App	Auto: Local	Communicating shunt trip (MX diag&com) Masterpact Operation Assistant Digital Module	Send a command to open to the device from the Masterpact MTZ Mobile App with Masterpact Operation Assistant Digital Module, through Bluetooth wireless communication or USB OTG connection. The opening action is password-protected.
Through communication	Auto: Remote	Communicating shunt trip (MX diag&com) ULP port module Communication interface	Send a command to open to the device through the communication network. This opening action is password-protected. Refer to *Masterpact MTZ - Modbus Communication Guide (OCA0105EN)*. **NOTE:** Ecoreach software running on a PC connected to the device through the communication network can be used to send commands to open.
Through IFE/EIFE webpages	Auto: Remote	Communicating shunt trip (MX diag&com) ULP port module Communication interface	Send a command to open to the device from the IFE/EIFE control webpage. This opening action is password-protected. Refer to: • *Enerlin'X IFE Ethernet Interface for One Circuit Breaker - User Guide (DOCA0084EN)* • *Enerlin'X EIFE Embedded Ethernet Interface for One Masterpact MTZ Drawout Circuit Breaker - User Guide (DOCA0106EN)*

If the device does not open, refer to *Troubleshooting, page 162*.

Related Topics

- Opening Masterpact MTZ Devices (Parent Topic)

Courtesy of NationalSwitchgear.com

Closing Masterpact MTZ Devices

Related Topics

- Conditions Required to Close
- Closing the Masterpact MTZ2/MTZ3 Mechanism
- Inhibiting the Masterpact MTZ2/MTZ3 Closing Function
- Masterpact MTZ2/MTZ3 Operation Actions (Parent Topic)

Conditions Required to Close

⚠WARNING

HAZARD OF CLOSING ON ELECTRICAL FAULT

Do not close the circuit breaker again without first inspecting and, if necessary, repairing the downstream electrical equipment.

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

To close the device, the following conditions must be met:

- Device is open (O).
- Closing spring is charged.
- The device is ready to close, OK is displayed.

  NOTE: An opening order always takes priority over a closing order. The device cannot be closed while an opening order is being received. If OK is crossed-out on the ready-to-close indicator, an order to open is being received (either electrically or mechanically) and must be ended before OK can be displayed.

Related Topics

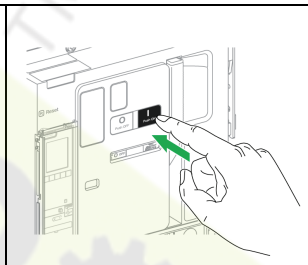
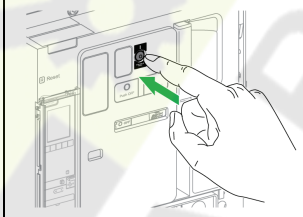
- Closing Masterpact MTZ Devices (Parent Topic)

Closing the Masterpact MTZ2/MTZ3 Mechanism

The following tables present the different ways to close the device in the different control modes available.

The device can be closed in the following ways in all control modes:

Courtesy of NationalSwitchgear.com

Closing Type	Control Mode	Accessories	Closing Action	
Mechanical	Manual, Auto: Local, or Auto: Remote	—	Press the closing pushbutton on the front of the device. This closing action is possible when the closing conditions are met.	
Electrical with BPFE	Manual, Auto: Local, or Auto Remote	• Electrical closing pushbutton (BPFE) • Communicating shunt close (XF)	Press the electrical closing pushbutton (BPFE), mounted on the front cover. The closing action takes into account internal closing conditions of the device and the external conditions that are part of the control and monitoring system of the installation.	
External pushbutton	Manual, Auto: Local, or Auto: Remote	• External pushbutton wired by customer • Standard (XF) or communicating shunt close (XF diag&com) • Spring charging motor (MCH)	Press the external pushbutton, which is connected to the XF shunt close through the customer terminal block.	

Courtesy of NationalSwitchgear.com

In addition, the device can be closed in the following ways when Auto control mode is configured.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Before working on or inside equipment, turn off all power supplying the equipment manually or using the local or remote software for opening the circuit breaker or switching off the electrical circuit.
- Always use a properly rated voltage sensing device to confirm power is off.

Failure to follow these instructions will result in death or serious injury.

Closing Type	Control Mode	Accessories	Closing Action
Through IO module	Auto: Local or Auto: Remote	Communicating shunt close (XF com&diag) Spring charging motor ((MCH) ULP port module IO module Spring charging motor (MCH) ULP port module IO module	Close the device using the predefined application 2 Breaker Operation of the IO module. • When the device is set to local control mode by the IO module, the command to close is issued from local pushbuttons wired on digital inputs. • When the device is set to remote control mode by the IO module, the command to close is issued from remote PLC outputs wired on digital inputs. Refer to *Enerlin'X IO Input/Output Application Module for One Circuit Breaker - User Guide (0613IB1317)*.
Through Ecoreach software	Auto: Local	Communicating shunt close (XF com&diag) Spring charging motor (MCH)	Send a command to close to the device from Ecoreach software running on a PC connected locally to the device through the mini USB port on the Micrologic X control unit. The closing action is password-protected. Refer to *Ecoreach Online Help (DOCA0069EN)*.
Through Masterpact MTZ Mobile App	Auto: Local	Communicating shunt close (XF diag&com) Spring charging motor (MCH) Masterpact Operation Assistant Digital Module	Send a command to close to the device from the Masterpact MTZ Mobile App with Masterpact Operation Assistant Digital Module, through Bluetooth wireless communication or USB OTG connection. The closing action is password protected.
Through communication	Auto: Remote	Communicating shunt close (XF diag&com) Spring charging motor (MCH) ULP port module Communication interface	Send a command to close to the device through the communication network. This closing action is password-protected. Refer to *Masterpact MTZ - Modbus Communication Guide (OCA0105EN)*. **NOTE:** Ecoreach software running on a PC connected to the device through the communication network can be used to send commands to close.
Through IFE/EIFE webpages	Auto: Remote	Communicating shunt close (XF diag&com) Spring charging motor (MCH) ULP port module Communication interface	Send a command to close to the device from the IFE/EIFE control webpage. This closing action is password-protected. Refer to: • *Enerlin'X IFE Ethernet Interface for One Circuit Breaker - User Guide (DOCA0084EN)* • *Enerlin'X EIFE Embedded Ethernet Interface for One Masterpact MTZ Drawout Circuit Breaker - User Guide (DOCA0106EN)*

If the device does not close, refer to *Troubleshooting, page 162*.

Courtesy of NationalSwitchgear.com

Related Topics

- Closing Masterpact MTZ Devices (Parent Topic)

Inhibiting the Masterpact MTZ2/MTZ3 Closing Function

The closing function can be inhibited by sending a command through:

- The communication network through Ethernet Modbus/TCP.
- The IO module.

⚠WARNING

RESTRICTED CLOSING INHIBITION

Do not use the inhibit closing order to lock the device in open position.

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

The inhibit close order inhibits only the closing orders allowed in Auto control mode. The closing orders issued from the mechanical closing pushbutton or BPFE, or from the pushbutton directly connected to the XF shunt close are not inhibited.

Related Topics

- Closing Masterpact MTZ Devices (Parent Topic)

Resetting Masterpact MTZ Devices

Related Topics

- Conditions Required to Reset
- Resetting the Masterpact MTZ2/MTZ3 Mechanism
- Masterpact MTZ2/MTZ3 Operation Actions (Parent Topic)

Conditions Required to Reset

After a trip, the device must be reset before it can be closed.

Resetting is possible in all control modes.

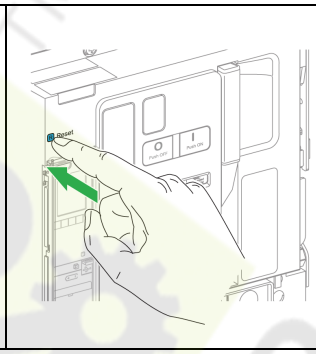
Related Topics

- Resetting Masterpact MTZ Devices (Parent Topic)

Resetting the Masterpact MTZ2/MTZ3 Mechanism

The device can be reset in different ways, according to the device configuration and its accessories:

Courtesy of NationalSwitchgear.com

Type of Resetting	Accessories	Resetting Action
Mechanical	—	Push in the fault-trip reset pushbutton on the front of the device. This resetting action is always possible. Pushing in the fault-trip reset pushbutton resets the overcurrent trip switch (SDE), and allows the device to be closed. 
Automatic (RAR automatic reset)	XF communicating or standard shunt close MCH spring charging motor	After a trip, RAR automatic reset allows the device to be closed without the fault-trip reset pushbutton being pushed in. The use of the XF shunt close is required with this option. The mechanical indicator and the overcurrent trip switch (SDE) remain in detected fault position. To reset the overcurrent trip switch (SDE) and the mechanical indicator, push in the fault-trip reset pushbutton
By external pushbutton	External pushbutton RES electrical remote reset XF communicating or standard shunt close	Press the external pushbutton which is connected to the RES electrical remote reset via the customer terminal block. The use of the XF shunt close is required with this option. The RES electrical remote reset resets theovercurrent trip switch (SDE) and the mechanical indicator, and allows the device to be closed. **NOTE:** The electrical remote reset (RES) cannot be installed if the SDE2 is already installed.

Related Topics

- Resetting Masterpact MTZ Devices (Parent Topic)

Engaging the Masterpact MTZ2/MTZ3 ERMS Function

Engage the ERMS function to reduce protection settings so that the circuit breaker trips as soon as possible when an internal arc fault occurs. Minimizing the time between fault and trip helps to reduce the risk of injury when qualified electrical personnel are near energized equipment.

Related Topics

- Conditions for Engaging the ERMS Function
- Energy Reducing Maintenance Setting (ERMS) Function Operating Principles
- Engaging the ERMS Function
- Disengaging the Energy Reducing Maintenance Setting (ERMS) Function
- Masterpact MTZ2/MTZ3 Operation Actions (Parent Topic)

Conditions for Engaging the ERMS Function

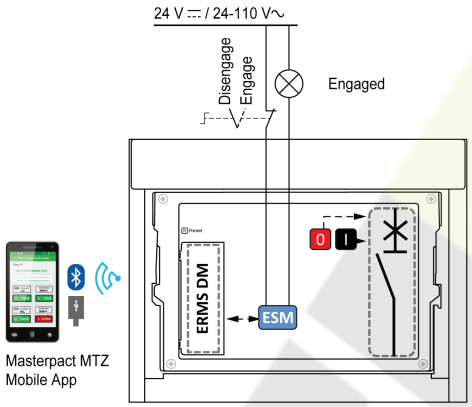
The Energy Reducing Maintenance Setting (ERMS) function is available when the Energy Reducing Maintenance Settings Digital Module is purchased and installed on the Micrologic X control unit.

Courtesy of NationalSwitchgear.com

Related Topics

- Engaging the Masterpact MTZ2/MTZ3 ERMS Function (Parent Topic)

Energy Reducing Maintenance Setting (ERMS) Function Operating Principles



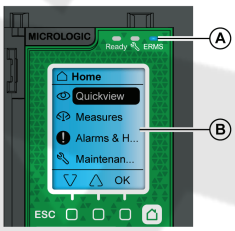
The ERMS function can be engaged as follows:

- With the Masterpact MTZ Mobile App (password-protected).
  There is a digital lock between a smartphone running the Masterpact MTZ Mobile App and the Micrologic X control unit.
- By using an external selector switch connected to the optional ERMS switch module (ESM).
  The ESM module is installed in the circuit breaker and is connected to an external selector switch, which can be padlocked. The ERMS function is engaged by turning the external selector switch.

The ERMS function can be engaged with both the Masterpact MTZ Mobile App (password-protected) and an external selector switch.

The ERMS function must be disengaged by the interface that engaged it:

- If it is engaged on a smartphone, it must be disengaged by the same smartphone.
- If it is engaged by the external ERMS switch connected to the ESM module, it must be disengaged by the ERMS switch.
- If it is engaged by both a smartphone and the ERMS switch, it must be disengaged by both that smartphone and the ERMS switch.



While the ERMS function is engaged:

- A blue ERMS LED (A) is lit on the front face of the Micrologic X control unit.
- Quick View scrolling is interrupted and the ERMS engaged message is displayed with a blue backlight.
- All screens, except pop-up messages, are displayed with a blue backlight.

For more information, refer to the Micrologic X - Control Unit - User Guide (see *Related Documents, page 11*).

Related Topics

- Engaging the Masterpact MTZ2/MTZ3 ERMS Function (Parent Topic)

Courtesy of NationalSwitchgear.com

Engaging the ERMS Function

NOTICE

HAZARD OF LOSS OF POWER

Confirm that the Energy Reducing Maintenance Setting (ERMS) protection settings are properly configured prior to engagement.

Failure to follow these instructions can result in loss of service due to power loss.

The ERMS can be engaged in different ways, according to the device configuration and its accessories:

Type	Accessories	Action
Through Masterpact MTZ Mobile App	—	Send a command from the Masterpact MTZ Mobile App to engage the ERMS function, through Bluetooth wireless communication or USB OTG connection. The action is password-protected.
Through an external selector switch connected to the ESM module	• ERMS switch module (ESM) • External selector switch	Turn the external selector switch to the Engaged position

Related Topics

- Engaging the Masterpact MTZ2/MTZ3 ERMS Function (Parent Topic)

Disengaging the Energy Reducing Maintenance Setting (ERMS) Function

⚠⚠DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION, OR ARC FLASH

Prior to disengaging the Energy Reducing Maintenance Setting (ERMS) function:

- Carefully inspect your work area, and remove any tools and objects left inside the equipment.
- Ensure that all personnel are away from the equipment, and devices, doors, and covers are in place.

Failure to follow these instructions will result in death or serious injury.

A digital lock function establishes a digital lock between a smartphone running the Masterpact MTZ Mobile App and the Micrologic X control unit when ERMS is engaged by the smartphone. The digital lock function ensures that when the ERMS function is engaged by a smartphone, it must be disengaged by the same smartphone.

The way to disengage the ERMS function depends on how it was engaged:

Courtesy of NationalSwitchgear.com

Type	Accessories	Action
Through Masterpact MTZ Mobile App	—	Disengage the ERMS function on the same smartphone that engaged it
Through an external selector switch	• ERMS switch module (ESM) • External selector switch	Turn the external selector switch to the Disengaged position
Through Masterpact MTZ Mobile App and an external selector switch	• ERMS switch module (ESM) • External selector switch	• Disengage the ERMS function on the same smartphone that engaged it • Turn the external selector switch to the Disengaged position

Related Topics

- Engaging the Masterpact MTZ2/MTZ3 ERMS Function (Parent Topic)

Masterpact MTZ2/MTZ3 Operating Accessories

Related Topics

- Masterpact Shunt Close (XF), Shunt Trip (MX) and Undervoltage Release (MN) Accessories
- Masterpact Shunt Close (XF)
- Masterpact Shunt Trip (MX)
- Masterpact Undervoltage Release (MN)
- Masterpact Communicating Internal Isolation Module
- Masterpact Electrical Closing Pushbutton (BPFE)
- Masterpact Ready-to-Close Contact (PF)
- Masterpact Spring Charging Motor (MCH)
- Masterpact Electrical Remote Reset (RES)
- Masterpact ERMS Switch Module (ESM)
- Masterpact Grounding Kit (KMT)
- Masterpact Mechanical Operation Counter (CDM)
- Masterpact ULP Port Module
- Masterpact Embedded Ethernet Interface (EIFE)
- Masterpact Ethernet Interface (IFE) for One Circuit Breaker
- Masterpact Ethernet Switchboard Server (IFE)
- Masterpact IFM Modbus-SL (RTU) Interface for One Circuit Breaker
- Masterpact IO Input/Output Application Module
- Masterpact MTZ2/MTZ3 Normal Operation (Parent Topic)

Masterpact Shunt Close (XF), Shunt Trip (MX) and Undervoltage Release (MN) Accessories

The shunt close (XF), shunt trip (MX), and undervoltage release (MN) are optional accessories mounted inside the device. They can be of standard type or diagnostic and communicating type (standard or with diagnostic function for the undervoltage release [MN]).

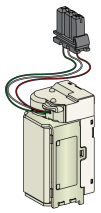
Courtesy of NationalSwitchgear.com

The standard XF, MX, and MN accessories can have either impulse-type or maintained actions, depending on the incoming commands.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Shunt Close (XF)



The Masterpact shunt close (XF) is available as standard or with the diagnostic and communicating function.

The shunt close closes the circuit breaker instantaneously when powered if the spring mechanism is charged. The minimum duration of the pulse operating order must be 200 ms.

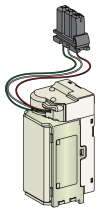
For information on installation, consult the instruction sheet on the Schneider Electric website:

- Standard shunt close (XF): *NVE40749*
- Diagnostic and communicating shunt close (XF diag&com): *NVE40766*

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Shunt Trip (MX)



The Masterpact shunt trip (MX) is available as standard or with the diagnostic and communicating function.

The shunt trip opens the circuit breaker instantaneously when powered. The minimum duration of the pulse operating order must be 200 ms. The MX standard trip locks the circuit breaker in OFF position if the command is maintained.

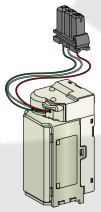
For information on installation, consult the instruction sheet on the Schneider Electric website:

- Standard shunt trip (MX): *NVE40749*
- Diagnostic and communicating shunt trip (MX diag&com): *NVE40766*

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Undervoltage Release (MN)



The Masterpact undervoltage release (MN) is available as standard or with the diagnostic and communicating function.

The undervoltage release instantaneously opens the circuit breaker when its supply voltage drops to a value between 35% and 70% of its rated voltage. If there is no supply to the release, it is impossible to close the circuit breaker, either manually or electrically. Any attempt to close the circuit breaker has no effect on the main contacts. Circuit breaker closing is enabled again when the supply voltage of the release returns to 85% of its rated value.

For information on installation, consult the instruction sheet on the Schneider Electric website:

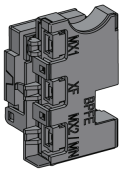
- Standard undervoltage release (MN): *NVE40749*
- Diagnostic undervoltage release (MN diag): *NVE40766*

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Communicating Internal Isolation Module



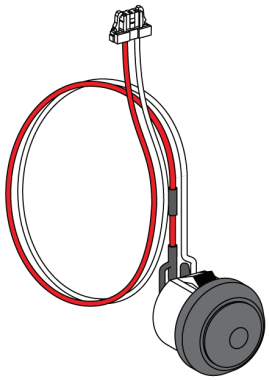
The internal isolation module for Micrologic X control units provides double isolation in compliance with IEC 60664-1 (up to 12 kV). It also provides isolation between the diagnostic and communicating shunt close (XF diag&com), diagnostic and communicating shunt trip (MX diag&com), diagnostic undervoltage release (MN diag), and the electrical closing pushbutton (BPFE).

For information on accessory installation, consult instruction sheet *NVE40748* on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Electrical Closing Pushbutton (BPFE)



The electrical closing pushbutton (BPFE) carries out electrical closing of the circuit breaker. It takes into account the internal closing conditions of the device and the external conditions that are part of the control and monitoring system of the installation. It connects to the standard shunt closes (XF) or the communicating shunt close (XF diag&com).

If the BPFE is being used, it is recommended to lock access to the closing pushbutton using the VBP accessory because the closing pushbutton does not take into account internal and external conditions.

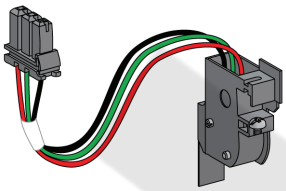
This optional accessory is mounted on the front cover of the device.

For information on accessory installation, consult instruction sheet *NVE40773* on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Ready-to-Close Contact (PF)



The ready-to-close contact (PF) indicates remotely that the circuit breaker is ready to close..

It indicates that the circuit breaker is ready to close when:

- The circuit breaker is in the open position.
- The spring mechanism is charged.
- There is no maintained opening order.

This optional accessory is mounted inside the device.

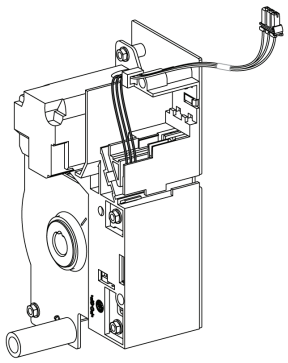
For information on accessory installation, consult instruction sheet *NVE35466* on the Schneider Electric website.

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Spring Charging Motor (MCH)



The spring charging motor (MCH) automatically charges the spring mechanism when the circuit breaker is closed, allowing instantaneous closing of the circuit breaker following opening.

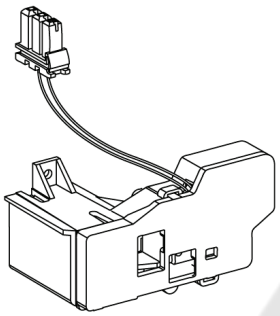
This optional accessory is mounted inside the device.

For information on accessory installation, consult instruction sheet *NVE35483* on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Electrical Remote Reset (RES)



Following tripping, this function resets the overcurrent trip switch (SDE) and the mechanical indicator to enable circuit breaker closing.

This optional accessory is mounted inside the device.

The use of a shunt close (XF) is required with this option.

The additional overcurrent trip switch (SDE2) is not compatible with RES.

For information on accessory installation, consult instruction sheet *NVE35503* on the Schneider Electric website.

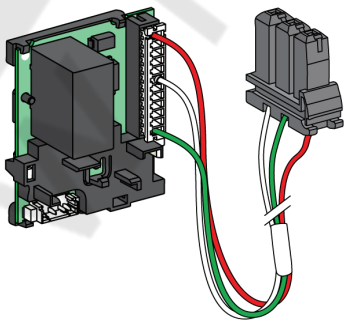
Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact ERMS Switch Module (ESM)

The ERMS switch module (ESM) is an optional accessory mounted inside of the device.

It is used to engage ERMS protection settings with an external selector switch. The ESM module works in conjunction with the ERMS Digital Module, which must also be installed.



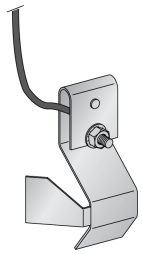
The ERMS switch module (ESM) is not compatible with M2C programmable contacts because they are installed in the same physical place.

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Grounding Kit (KMT)



The grounding kit (KMT) allows the circuit breaker mechanism to be grounded when the front cover is removed. The grounding is made through the cradle for the drawout version and through the mounting side plate for the fixed version.

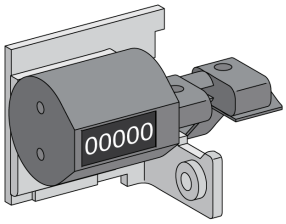
This optional accessory is mounted inside the device.

For information on accessory installation, consult instruction sheet *NVE35480* on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Mechanical Operation Counter (CDM)



The mechanical operation counter (CDM) counts the number of operating cycles and is visible on the front panel. It is compatible with manual and electrical control functions.

This optional accessory is mounted inside the device.

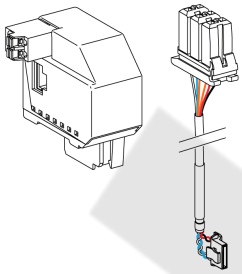
This accessory is required for all source-changeover systems.

For information on accessory installation, consult instruction sheet *NVE35485* on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact ULP Port Module



The ULP port module:

- Supplies 24 Vdc power to the Micrologic X control unit.
- Integrates the ULP termination with the Micrologic X control unit.
- Allows the connection of the Micrologic X control unit to external ULP modules, such as the embedded Ethernet interface (EIFE)) or the Ethernet interface (IFE).

The ULP port module is optional on the fixed device and standard on the drawout device. It is mounted with the terminal blocks of the device.

For information on accessory installation, consult the instruction sheet on the Schneider Electric website:

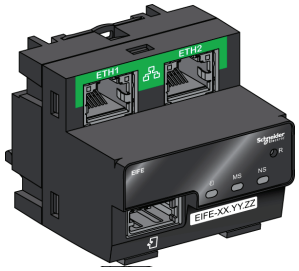
- ULP port module for fixed Masterpact MTZ2/MTZ3: *NVE40791*.
- ULP port module for drawout Masterpact MTZ2/MTZ3: *NVE40797*

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Embedded Ethernet Interface (EIFE)



The embedded Ethernet interface (EIFE) enables drawout Masterpact MTZ circuit breakers to be connected to an Ethernet network. It provides digital access to all the data delivered by the Micrologic X control unit.

In addition, it monitors the position of the device in the cradle: connected, test, and disconnected.

This optional accessory is mounted on the cradle of the drawout device.

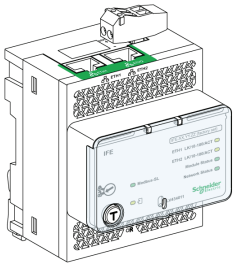
For information on accessory installation, consult instruction sheet *NVE23550* on the Schneider Electric website.

For information on accessory usage, refer to user *Enerlin'X EIFE Embedded Ethernet Interface for One Masterpact MTZ Drawout Circuit Breaker - User Guide (DOCA0106EN)*, available on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Ethernet Interface (IFE) for One Circuit Breaker



The Ethernet interface (IFE) provides an Ethernet access to a single device. The device is connected to the IFE interface through the ULP port module and a prefabricated ULP cord.

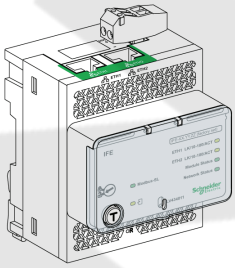
For information on accessory installation, consult instruction sheet *HRB49218* on the Schneider Electric website.

For information on accessory usage, refer to *Enerlin'X IFE Ethernet Interface for One Circuit Breaker - User Guide (DOCA0084EN)*, available on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact Ethernet Switchboard Server (IFE)



The Ethernet switchboard server (IFE) provides Ethernet access to one or several circuit breakers. It allows the following communication architectures:

- One single circuit breaker connected to the IFE server through the ULP port module.
- Up to 20 circuit breakers, including up to 12 Compact NSX devices, through the IFM Modbus-SL (RTU) interface for one circuit breaker stacked to the IFE server.

For information on accessory installation, consult instruction sheet *HRB49218*, available at the Schneider Electric website.

For information on accessory usage, refer to *Enerlin'X IFE Ethernet Interface for One Circuit Breaker - User Guide (DOCA0084EN)* on the Schneider Electric website.

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact IFM Modbus-SL (RTU) Interface for One Circuit Breaker

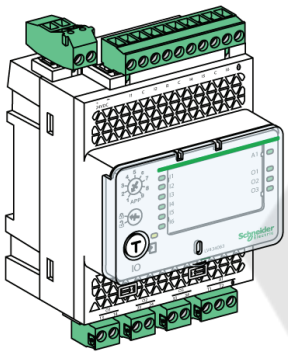
The IFM Modbus-SL (RTU) interface provides access from a single device to a Modbus serial line communication network. The device is connected to the IFM interface through the ULP port module and a prefabricated ULP cord.

For information on installation, consult the instruction sheet on the Schneider Electric website: https://www.schneider-electric.us/en/download/document/NVE85393/.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Masterpact IO Input/Output Application Module



The IO input/output application module for one circuit breaker is one component of the ULP architecture.

The IO input/output application module uses built-in applications to enhance control and monitoring functions. Its resources are:

- Six self-powered digital inputs for either NO and NC dry contact or pulse counters.
- Three digital outputs that are bistable relay (5 A maximum).
- One analog input for a Pt100 temperature sensor.

For information on accessory installation, consult instruction sheet *HRB49217* on the Schneider Electric website.

For information on accessory usage, refer to *Enerlin'X IO Input/Output Application Module for One Circuit Breaker - User Guide (0613IB1317)* on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Operating Accessories (Parent Topic)

Courtesy of NationalSwitchgear.com

Lifting and Transporting Masterpact MTZ2/MTZ3 Devices

⚠DANGER

HAZARD OF DEVICE FALLING

- Be sure lifting equipment has lifting capacity for the unit being lifted.
- Follow manufacturer's instructions for use of lifting equipment.
- Wear hard hat, safety shoes and heavy gloves.

Failure to follow these instructions will result in death or serious injury.

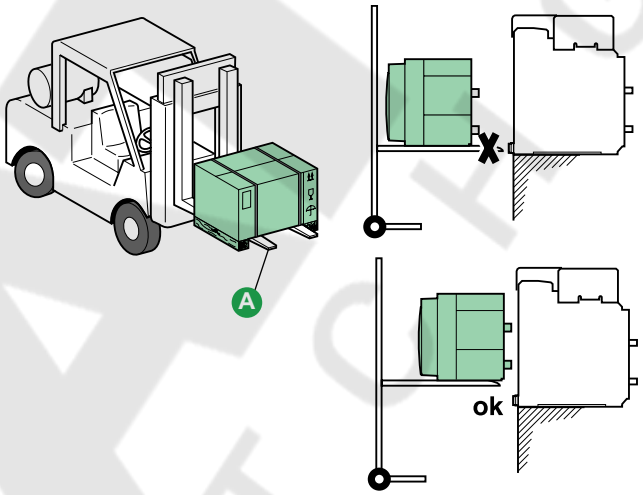
Both the circuit breaker and cradle have lifting flanges for lifting. To lift the circuit breaker, use an overhead lifting device attached to the lifting flanges, following the directions given in this section.

Related Topics

- Use a Platform Lift for Masterpact MTZ2/MTZ3 Device
- Lifting a Masterpact MTZ2/MTZ3 Device
- Lifting a Masterpact MTZ2/MTZ3 Cradle
- Masterpact MTZ2/MTZ3 Normal Operation (Parent Topic)

Use a Platform Lift for Masterpact MTZ2/MTZ3 Device

When using a platform lift, lift flanges (A) should not extend beyond back of circuit breaker.



Related Topics

- Lifting and Transporting Masterpact MTZ2/MTZ3 Devices (Parent Topic)

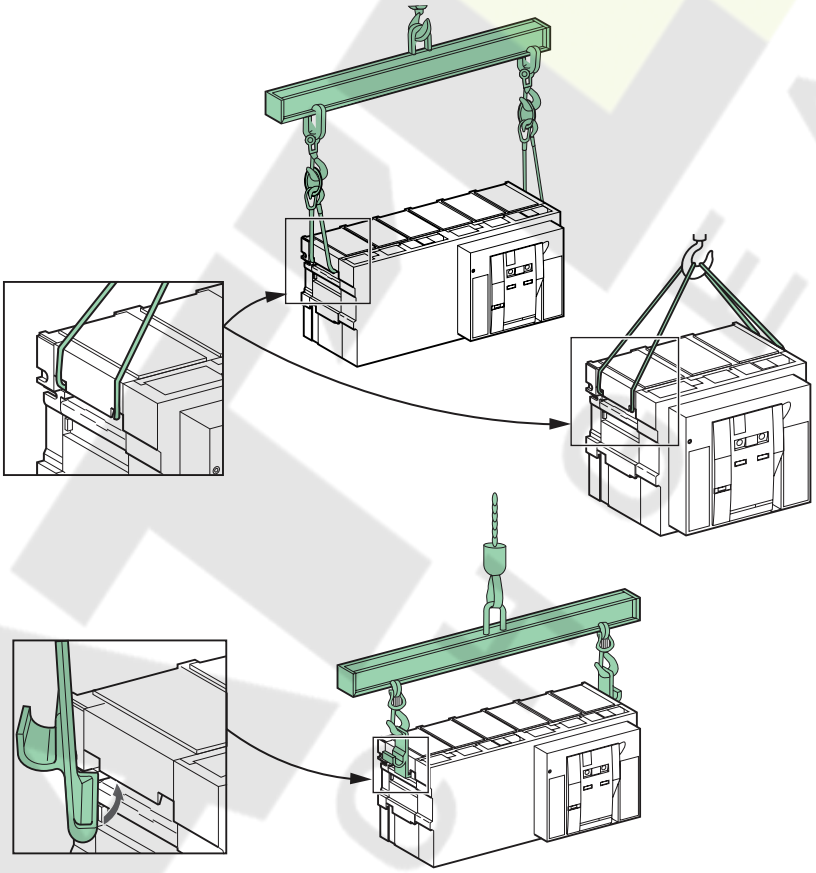
Courtesy of NationalSwitchgear.com

Lifting a Masterpact MTZ2/MTZ3 Device

NOTICE
HAZARD OF EQUIPMENT DAMAGE Cradle must be secured before installing or removing circuit breaker. **Failure to follow these instructions can result in equipment damage.**

Lift using lifting flanges on sides of circuit breaker, lifting hooks and crossbar.

- Lifting Hook Kit: S48906
- Masterpact MTZ2 Crossbar Kit: S48900
- Masterpact MTZ3 Crossbar Kit: S48901

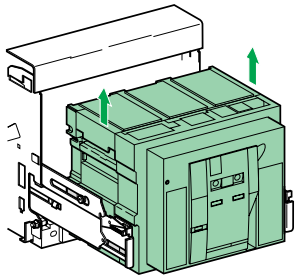


Related Topics

- Lifting and Transporting Masterpact MTZ2/MTZ3 Devices (Parent Topic)

Courtesy of NationalSwitchgear.com

Lifting a Masterpact MTZ2/MTZ3 Cradle

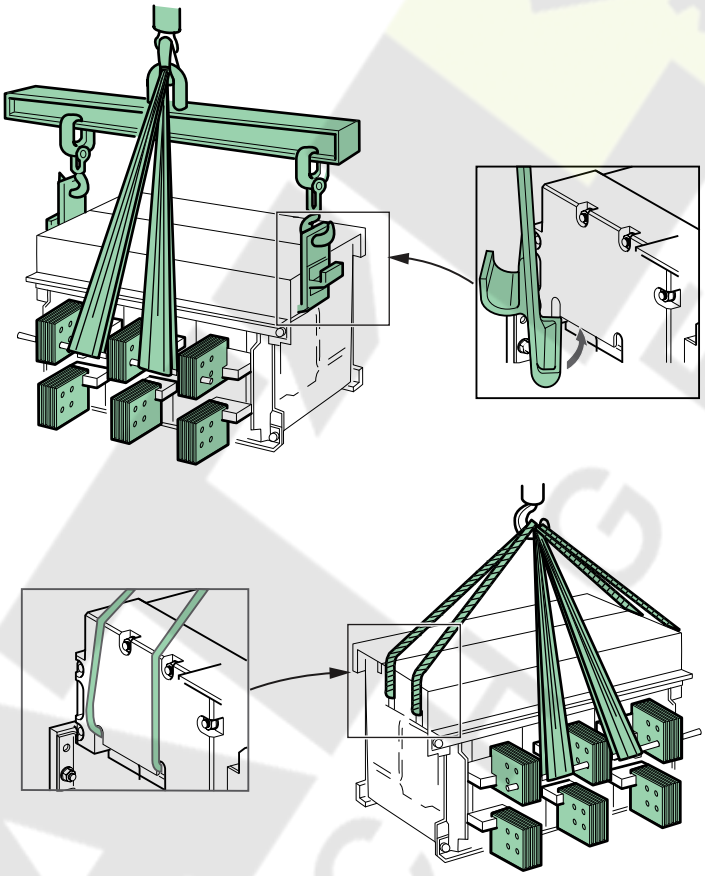


NOTE: If a circuit breaker is installed in the cradle, remove circuit breaker from cradle before lifting cradle. To remove circuit breaker, see *Removing Masterpact MTZ2/MTZ3 Device from the Cradle, page 86*.

Lift using lifting flanges on sides of cradle, a piece of bar stock through the connectors, lifting hooks and crossbar.

- Lifting Hook Kit: S48906
- Masterpact MTZ2 Crossbar Kit: S48900
- Masterpact MTZ3 Crossbar Kit: S48901

NOTE: Connectors must be supported while lifting cradle.



Related Topics

- Lifting and Transporting Masterpact MTZ2/MTZ3 Devices (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Drawout Device Racking

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Status
- Masterpact MTZ2/MTZ3 Disconnection
- Masterpact MTZ2/MTZ3 Connection
- Removing Masterpact MTZ2/MTZ3 Device from the Cradle
- Installing Masterpact MTZ2/MTZ3 Device in the Cradle
- Masterpact MTZ2/MTZ3 Normal Operation (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Status

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Handling Conditions
- Masterpact MTZ2/MTZ3 Drawout Positions
- Masterpact MTZ2/MTZ3 Drawout Position Contacts
- Masterpact MTZ2/MTZ3 Drawout Position Contact Without EIFE Ethernet Interface
- Masterpact MTZ2/MTZ3 Drawout Position Contacts with EIFE Ethernet Interface
- Masterpact MTZ2/MTZ3 Cradle Management Function
- Masterpact MTZ2/MTZ3 Drawout Device Racking (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Handling Conditions

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E or CSA Z462 or local equivalent.
- This equipment must only be installed and serviced by qualified electrical personnel.

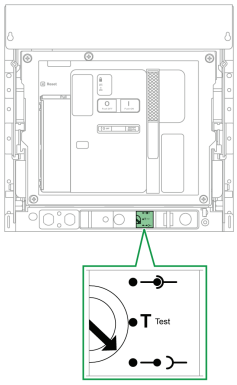
Failure to follow these instructions will result in death or serious injury.

Connection or disconnection of the drawout device requires insertion of the racking handle. When interlocks, padlocks, or an open door lock are in place, the racking handle cannot be inserted.

Related Topics

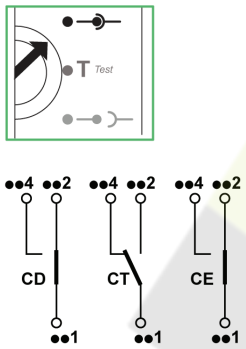
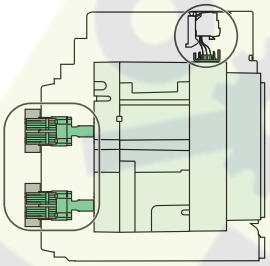
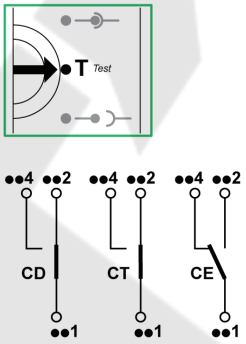
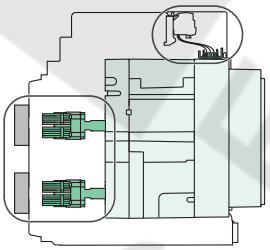
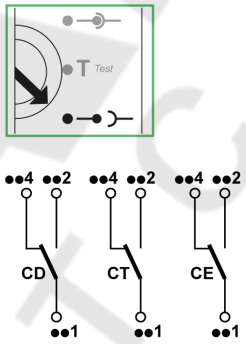
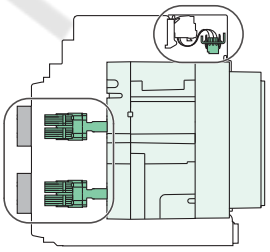
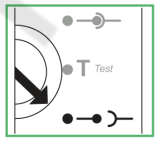
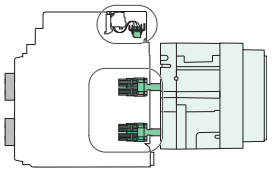
- Masterpact MTZ2/MTZ3 Drawout Status (Parent Topic)

Courtesy of NationalSwitchgear.com



Masterpact MTZ2/MTZ3 Drawout Positions

The indicator located on the front of the cradle locally signals the position of the device in the cradle.

Device Position	Position Contact State		Device Status
Connected		 • Clusters: engaged • Control: engaged	• Can be operated. • Ready for service.
Test		 • Clusters: disengaged - the minimum isolation distance between the device clusters and the cradle terminals is reached • Control: engaged	• Can be operated. • Can have operation and control systems tested.
Disconnected		 • Clusters: disengaged • Control: disengaged	• Can be operated. • Can be removed from the cradle.
Withdrawn		 • Clusters: disengaged • Control: disengaged	Removed from the cradle.

Courtesy of NationalSwitchgear.com

Related Topics

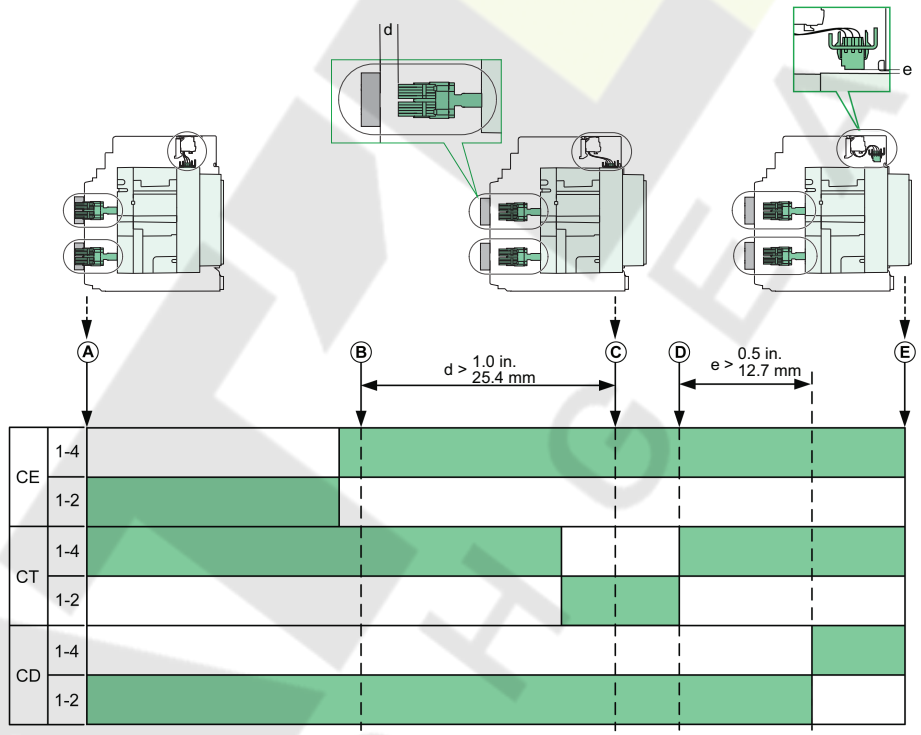
- Masterpact MTZ2/MTZ3 Drawout Status (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Position Contacts

The position of the device in the cradle is indicated remotely by the position contacts:

- CE: connected position
- CT: test position
- CD: disconnected position

The state of the position contacts changes according to the device position during racking-in and racking-out operations, as shown in the diagram below.



Position contact is open

Position contact is closed

A. Device in connected position
B. Separation of the main circuits
C. Device in test position
D. Separation of auxiliary circuits
E. Device in disconnected position

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Status (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Position Contact Without EIFE Ethernet Interface

Without an EIFE Ethernet interface, the standard configuration of the position contacts is:

- 3 CD disconnected position contacts
- 3 CE connected position contacts
- 3 CT test position contacts

The following optional configurations are available:

- 6 CE + 3 CT
- 3 CD + 6 CE

Courtesy of NationalSwitchgear.com

- 6 CD + 3 CE
- 9 CE

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Status (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Position Contacts with EIFE Ethernet Interface

With an EIFE Ethernet interface, the standard configuration of the position contacts is:

- 3 CD disconnected position contacts
- 3 CE connected position contacts

The following optional configurations are available:

- 3 CE + 3 CT
- 3 CD + 3 CT
- 6 CE

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Status (Parent Topic)

Masterpact MTZ2/MTZ3 Cradle Management Function

The cradle management function is used to:

- Record and check the position of the moving part of the drawout device in the cradle.
- Provide information about preventive maintenance actions.
- Notify the remote controller about the position of the drawout device.

The cradle management function is performed by:

- The EIFE Ethernet interface (refer to *Enerlin'X IFE Ethernet Interface for One Circuit Breaker - User Guide (DOCA0084EN)*, available at the Schneider Electric website).
- The IO module (refer to *Enerlin'X IO Input/Output Application Module for One Circuit Breaker - User Guide (0613IB1317)*, available at the Schneider Electric website).

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Status (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Disconnection

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Handling Conditions
- Racking Out from Connected to Test Position
- Racking Out from Test to Disconnected Position
- Masterpact MTZ2/MTZ3 Drawout Device Racking (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Handling Conditions

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E or CSA Z462 or local equivalent.
- This equipment must only be installed and serviced by qualified electrical personnel.

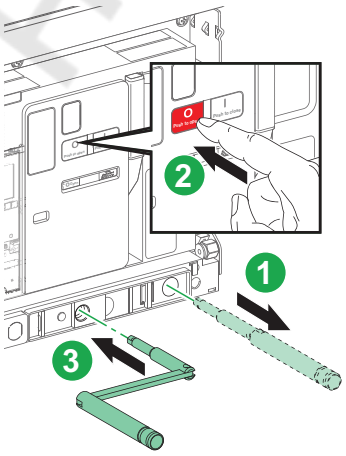
Failure to follow these instructions will result in death or serious injury.

Connection or disconnection of the drawout device requires insertion of the racking handle. When interlocks, padlocks, or an open door lock are in place, the racking handle cannot be inserted.

Related Topics

- Masterpact MTZ2/MTZ3 Disconnection (Parent Topic)

Racking Out from Connected to Test Position

Step	Action	
1	Remove the racking handle from its storage space.	
2	Press the opening pushbutton to open the device.	
3	Hold the opening pushbutton in and insert the racking handle into the racking handle socket.	

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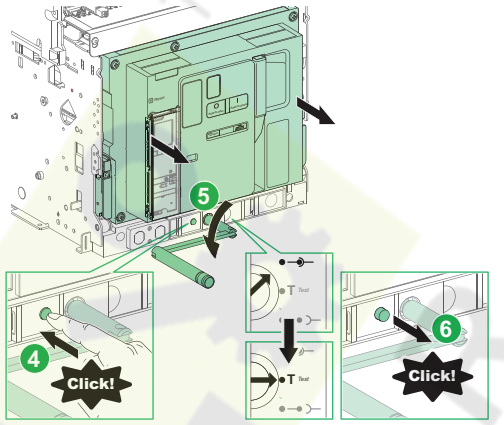
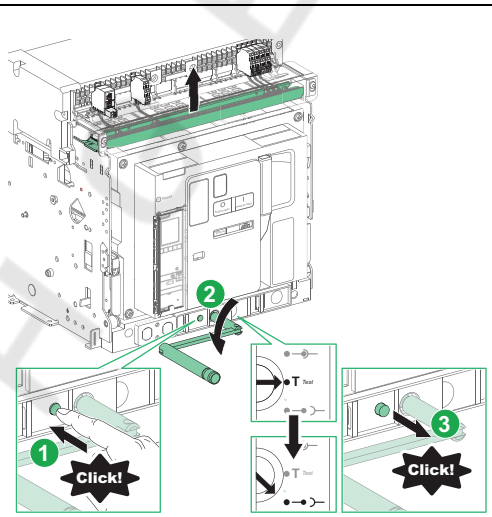
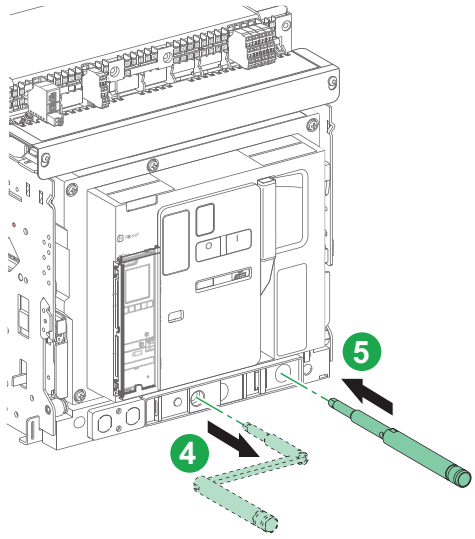
Step	Action	
4	Push in the stop release button.	
5	Turn the racking handle counterclockwise.	
6	When the test position is reached, the stop release button pops out and the mechanism blocks the racking handle. Result: The device is in the test position.	

Related Topics

- Masterpact MTZ2/MTZ3 Disconnection (Parent Topic)

Racking Out from Test to Disconnected Position

Step	Action	
1	Push in the stop release button.	
2	Turn the racking handle counterclockwise.	
3	When the disconnected position is reached, the stop release button pops out and the mechanism blocks the racking handle. Result: The device is in the disconnected position.	
4	Remove the racking handle from the racking socket.	
5	Put the racking handle back into its storage space.	

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Disconnection (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Connection

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Handling Conditions
- Racking-In from Disconnected to Test Position
- Racking In from Test to Connected Position
- Masterpact MTZ2/MTZ3 Drawout Device Racking (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Handling Conditions

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E or CSA Z462 or local equivalent.
- This equipment must only be installed and serviced by qualified electrical personnel.

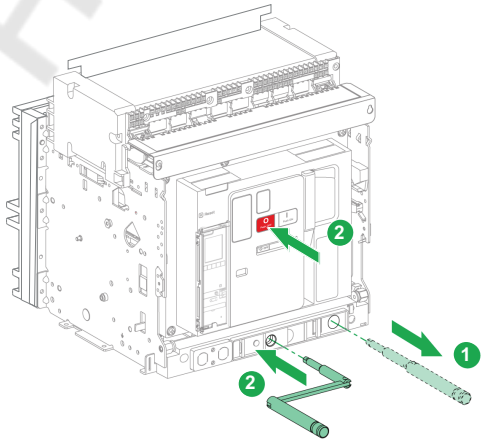
Failure to follow these instructions will result in death or serious injury.

Connection or disconnection of the drawout device requires insertion of the racking handle. When interlocks, padlocks, or an open door lock are in place, the racking handle cannot be inserted.

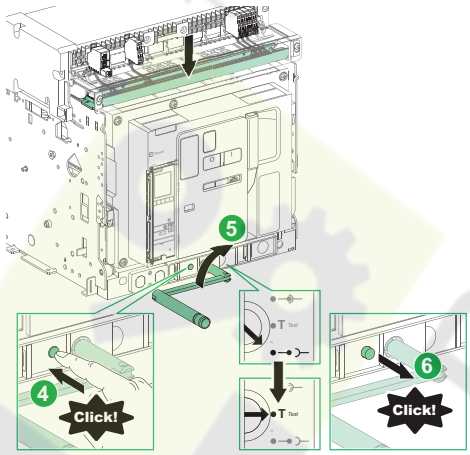
Related Topics

- Masterpact MTZ2/MTZ3 Connection (Parent Topic)

Racking-In from Disconnected to Test Position

Step	Action	
1	Remove the racking handle from its storage space.	
2	Press the opening pushbutton in and insert the racking handle into the racking handle socket.	

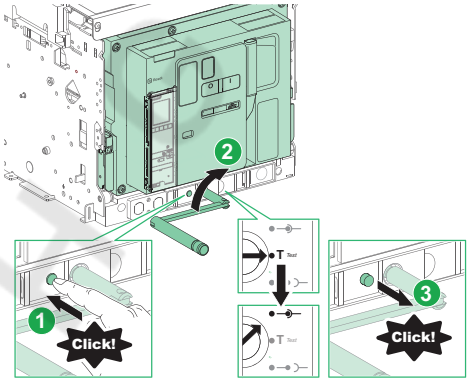
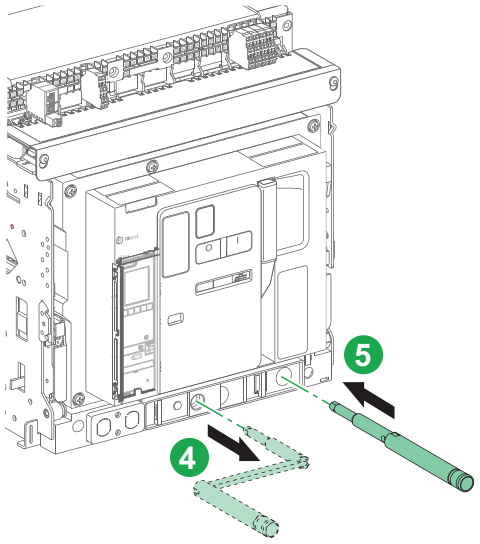
Courtesy of NationalSwitchgear.com

Step	Action	
3	Push the stop release button.	
4	Turn the racking handle clockwise.	
5	When the test position is reached, the stop release button pops out and the mechanism blocks the racking handle. Result: The device is in the test position.	

Related Topics

- Masterpact MTZ2/MTZ3 Connection (Parent Topic)

Racking In from Test to Connected Position

Step	Action	
1	Push the stop release button.	
2	Turn the racking handle clockwise.	
3	When the connected position is reached, the stop release button pops out and the mechanism blocks the racking handle. Result: The device is in the connected position.	
4	Remove the racking handle from the racking socket.	
5	Put the racking handle back into its storage space.	

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Connection (Parent Topic)

Courtesy of NationalSwitchgear.com

Removing Masterpact MTZ2/MTZ3 Device from the Cradle

Related Topics

- Masterpact MTZ2/MTZ3 Device Removal
- Lifting the Masterpact MTZ2/MTZ3 Device
- Masterpact MTZ2/MTZ3 Circuit Breaker Weights
- Masterpact MTZ2/MTZ3 Drawout Device Racking (Parent Topic)

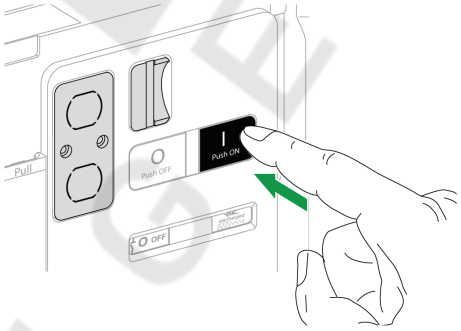
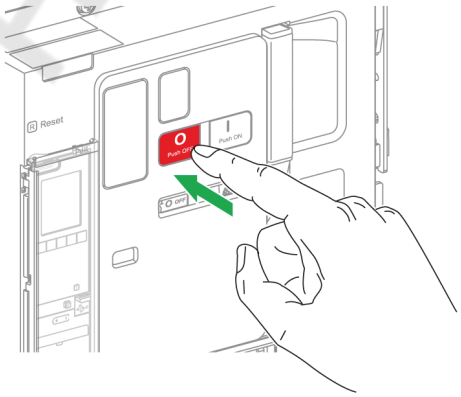
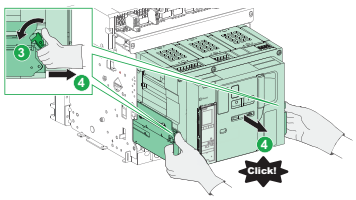
Masterpact MTZ2/MTZ3 Device Removal

NOTICE

HAZARD OF EQUIPMENT DAMAGE

The cradle must be securely fastened when installing or removing the device.

Failure to follow these instructions can result in equipment damage.

Step	Action	
1	Discharge the closing spring. With the device in the disconnected position, press the closing pushbutton. The device will close if the closing spring is charged.	
2	Press the opening pushbutton to open the device.	
3	Press and hold the rail release tabs towards the back.	
4	Pull out the rails to the maximum by pulling on the drawout grips. Result: The device is supported on the rails, clear of the cradle and ready to be lifted.	

Related Topics

- Removing Masterpact MTZ2/MTZ3 Device from the Cradle (Parent Topic)

Courtesy of NationalSwitchgear.com

Lifting the Masterpact MTZ2/MTZ3 Device

Both the device and cradle have a carrying grip for lifting. To lift, use an overhead lifting device attached to the carrying grip, following the directions given in this section.

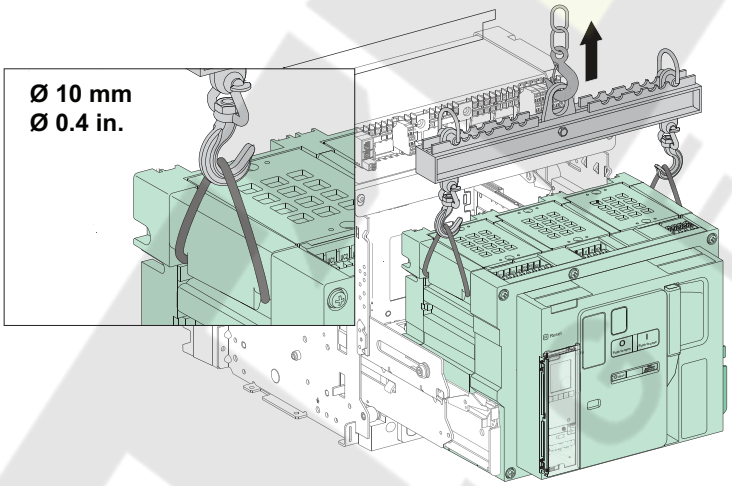
⚠DANGER

HAZARD OF DEVICE FALLING

- Be sure that lifting equipment has lifting capacity for the device being lifted.
- Follow manufacturer's instructions for use of lifting equipment.
- Wear hard hat, safety shoes, and heavy gloves.

Failure to follow these instructions will result in death or serious injury.

Lift the device from the cradle rails by using the carrying grip located on the sides of the device.



Related Topics

- Removing Masterpact MTZ2/MTZ3 Device from the Cradle (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Circuit Breaker Weights

Frame Rating	Connector Type[5]	Weights (lbs./kg.)								
		Circuit Breaker		Cradle		Connector		Pallet	Total	
		MTZ2	MTZ3	MTZ2	MTZ3	MTZ2	MTZ3		MTZ2	MTZ3
800–2000 A, Drawout	FCF	109/50	142/65	97/44	116/53	42/19	55/25	17/8	265/121	330/151
	FCT	109/50	142/65	97/44	116/53	84/38	109/50	17/8	307/140	384/176
	RCTH/ RCTV	109/50	142/65	97/44	116/53	17/8	22/10	17/8	240/110	297/136
800–2000 A, Fixed-Mounted	FCF	109/50	142/65	—	—	42/19	55/25	17/8	168/77	214/98
	FCT	109/50	142/65	—	—	84/38	109/50	17/8	210/96	268/123
	RCTH/ RCTV	109/50	142/65	—	—	17/8	22/10	17/8	143/66	181/83
2500–3000 A, Drawout	RCTH/ RCTV	127/58	165/75	124/57	149/68	26/12	34/15	17/8	294/135	365/166
	FCT	127/58	165/75	124/57	149/68	80/36	104/47	17/8	348/159	435/198
2500–3000 A, Fixed-Mounted	FCT	127/58	165/75	—	—	80/36	104/47	17/8	224/102	286/130
	RCTH/ RCTV	127/58	165/75	—	—	26/12	34/15	17/8	170/78	216/98
2000 A L1/ L1F & 3200 A, Drawout	RCOV	127/58	165/75	124/57	149/68	100/46	130/59	17/8	368/169	461/210
3200 A, Fixed-Mounted	RCOV	127/58	165/75	—	—	100/46	130/59	17/8	244/112	312/142
4000 A, Fixed-Mounted	RCOV (Special)	127/58	165/75	—	—	115/52	145/66	17/8	259/118	327/149
3200 A L1 & 4000 A, Drawout	FCF	227/103	295/134	278/126	334/152	84/38	109/50	39/18	628/285	777/354
	FCT	227/103	295/134	278/126	334/152	168/76	218/99	39/18	712/324	886/403
	RCTH/ RCTV	227/103	295/134	278/126	334/152	52/24	68/31	39/18	596/271	736/335
4000 A, Fixed-Mounted	RCTH/ RCTV	227/103	295/134	—	—	52/24	68/31	39/18	318/145	402/183
5000 A, Drawout	FCT	227/103	295/134	278/126	334/152	168/77	218/99	39/18	712/324	886/403
	RCTH/ RCTV	227/103	295/134	278/126	334/152	52/24	68/31	39/18	596/271	736/335
5000 A, Fixed-Mounted	RCTH/ RCTV	227/103	295/134	—	—	52/24	68/31	39/18	318/145	402/183
6000 A, Drawout	RCTV	227/103	295/134	278/126	334/152	396/180	528/240	39/18	940/427	1196/544
6000 A, Fixed-Mounted	RCTV	227/103	295/134	—	—	396/180	528/240	39/18	662/301	862/392

Related Topics

- Removing Masterpact MTZ2/MTZ3 Device from the Cradle (Parent Topic)

5. FCF = Front-connected flat connector.
FCT = Front-connected “T” connector.
RCTH = Rear-connected “T” horizontal connector.
RCTV = Rear-connected “T” vertical connector.

Courtesy of NationalSwitchgear.com

Installing Masterpact MTZ2/MTZ3 Device in the Cradle

Related Topics

- Masterpact MTZ2/MTZ3 Drawout Handling Conditions
- Masterpact MTZ2/MTZ3 Optional Cradle Rejection Feature
- Installing Masterpact MTZ2/MTZ3 Devices in the Cradle
- Masterpact MTZ2/MTZ3 Drawout Device Racking (Parent Topic)

Masterpact MTZ2/MTZ3 Drawout Handling Conditions

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E or CSA Z462 or local equivalent.
- This equipment must only be installed and serviced by qualified electrical personnel.

Failure to follow these instructions will result in death or serious injury.

Connection or disconnection of the drawout device requires insertion of the racking handle. When interlocks, padlocks, or an open door lock are in place, the racking handle cannot be inserted.

Related Topics

- Installing Masterpact MTZ2/MTZ3 Device in the Cradle (Parent Topic)

Masterpact MTZ2/MTZ3 Optional Cradle Rejection Feature

The cradle rejection feature (see *Masterpact MTZ2/MTZ3 Cradle Rejection Feature, page 108*) allows the installation of a drawout device only in a cradle with compatible characteristics.

Related Topics

- Installing Masterpact MTZ2/MTZ3 Device in the Cradle (Parent Topic)

Courtesy of NationalSwitchgear.com

Installing Masterpact MTZ2/MTZ3 Devices in the Cradle

⚠DANGER

HAZARD OF DEVICE FALLING

- Be sure that lifting equipment has lifting capacity for the device being lifted.
- Follow manufacturer's instructions for use of lifting equipment.
- Wear hard hat, safety shoes, and heavy gloves.

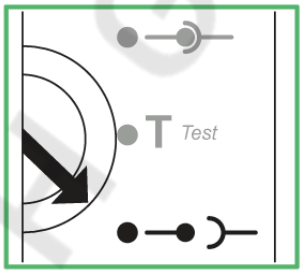
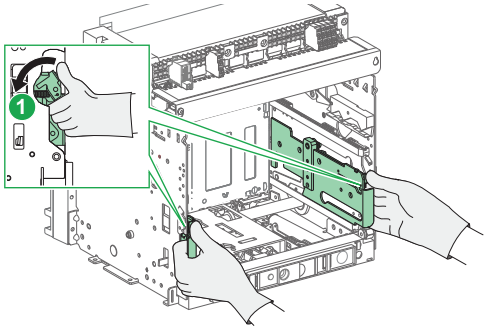
Failure to follow these instructions will result in death or serious injury.

NOTICE

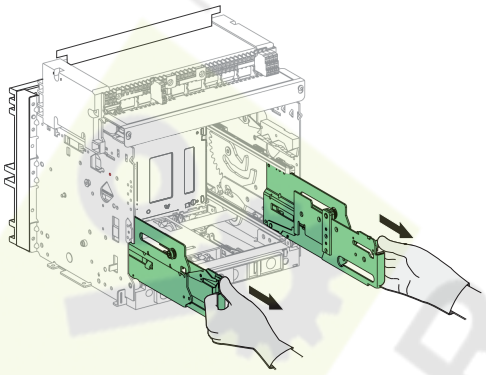
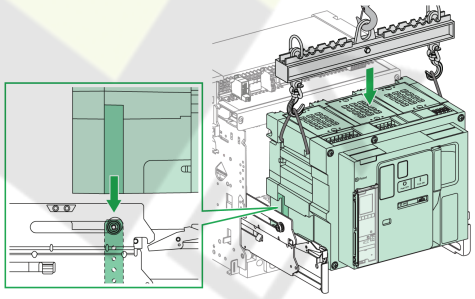
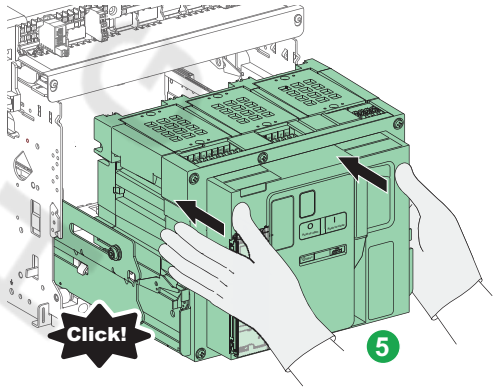
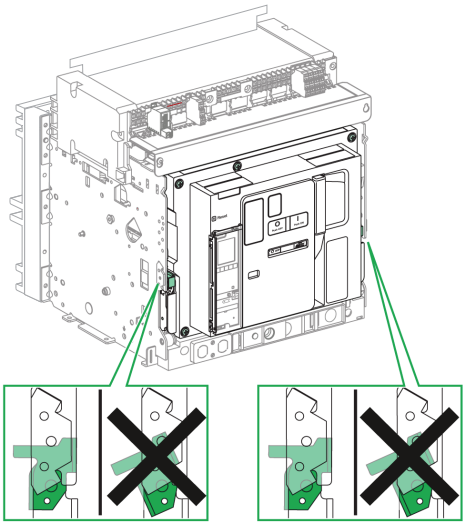
HAZARD OF EQUIPMENT DAMAGE

- Cradle must be securely fastened when installing or removing the device.
- Before mounting the device, make sure that it matches the cradle.

Failure to follow these instructions can result in equipment damage.

Step	Action
1	If the cradle is not installed in a switchboard or panelboard, securely fasten the cradle on a pallet.
2	Inspect the circuit breaker clusters for missing or misaligned clusters. See the bulletin shipped with the circuit breaker for information on checking, installing, and lubricating clusters.
3	Remove the racking handle from its storage space.
4	Check that the cradle indicator is in the disconnected position: If the cradle indicator is not in the disconnected position, follow the steps on disconnecting the drawout device (see *Masterpact MTZ2/MTZ3 Disconnection, page 80*) . 
5	Press the rail release tabs. 

Courtesy of NationalSwitchgear.com

Step	Action	
6	Pull out the drawout grips until the extension rails are fully extended. NOTE: The right-hand rail cannot be extended if the racking handle has not been removed.	
7	Install the device on the extension rails by using appropriate lifting equipment. Check that the slots on the device are correctly aligned with the guides on the rails while bringing the device down.	
8	Detach the lifting equipment.	
9	Check that the device is in the open position.	
10	Using both hands, push in the device so that the rails are inserted to the maximum in the cradle. Take care not to push the control unit.	
11	Check that the rail release tabs are in the correct position. Result: The device is in the disconnected position.	

Courtesy of NationalSwitchgear.com

Related Topics

- Installing Masterpact MTZ2/MTZ3 Device in the Cradle (Parent Topic)

Masterpact MTZ2/MTZ3 Locking Actions

Related Topics

- Locking the Masterpact MTZ2/MTZ3 Pushbuttons
- Padlocking the Masterpact MTZ2/MTZ3 Device Open
- Keylocking the Masterpact MTZ2/MTZ3 Device Open
- Locking the Masterpact Cradle in the Disconnected Position
- Locking the Masterpact MTZ2/MTZ3 Cradle in Any Position
- Locking the Masterpact MTZ2/MTZ3 Safety Shutters
- Masterpact MTZ2/MTZ3 Normal Operation (Parent Topic)

Locking the Masterpact MTZ2/MTZ3 Pushbuttons

Installing the optional pushbutton locking cover on the Masterpact MTZ2/MTZ3 device prevents access to the closing and opening pushbuttons:

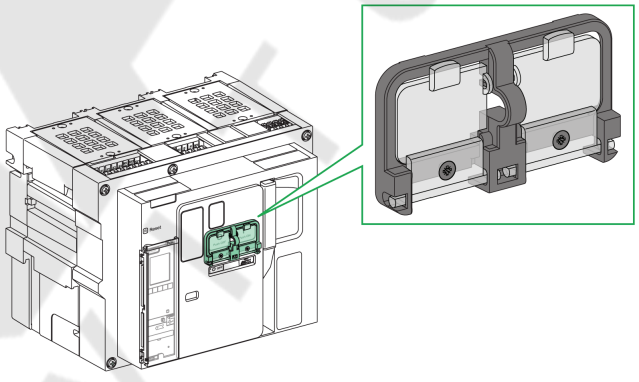
- Together or separately.
- By using a padlock (shackle diameter 5–8 mm).
- By using a wire seal.
- By using screws.

Related Topics

- Masterpact MTZ2/MTZ3 VBP Pushbutton Locking Accessory
- Locking the Masterpact MTZ2/MTZ3 Pushbuttons
- Masterpact MTZ2/MTZ3 Locking Actions (Parent Topic)

Masterpact MTZ2/MTZ3 VBP Pushbutton Locking Accessory

The optional pushbutton locking accessory is a transparent cover, mounted on the front cover of the device, which covers the closing and opening pushbuttons.



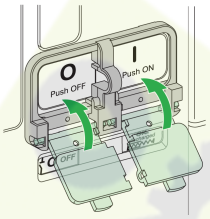
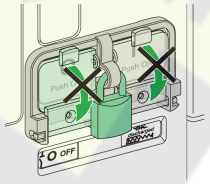
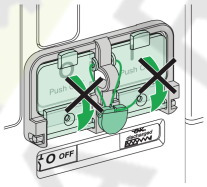
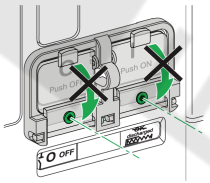
For information on the accessory installation, consult instruction sheet *NVE16147* on the Schneider Electric website.

Related Topics

- Locking the Masterpact MTZ2/MTZ3 Pushbuttons (Parent Topic)

Courtesy of NationalSwitchgear.com

Locking the Masterpact MTZ2/MTZ3 Pushbuttons

Step	Action	
1	Close the transparent covers of the locking accessory. **NOTE:** One or both transparent covers of the locking accessory can be closed and locked.	
2	Lock the transparent covers in place by using a padlock, lead seal, or screws.	Padlock  Lead Seal  Screws 

Related Topics

- Locking the Masterpact MTZ2/MTZ3 Pushbuttons (Parent Topic)

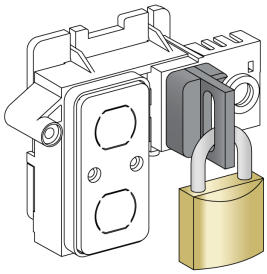
Courtesy of NationalSwitchgear.com

Padlocking the Masterpact MTZ2/MTZ3 Device Open

Related Topics

- Masterpact MTZ2/MTZ3 VCPO OFF-Position Locking Accessory
- Locking the Masterpact MTZ2/MTZ3 Device Open with VCPO
- Unlocking the Masterpact MTZ2/MTZ3 Device Locked with VCPO
- Masterpact MTZ2/MTZ3 Locking Actions (Parent Topic)

Masterpact MTZ2/MTZ3 VCPO OFF-Position Locking Accessory



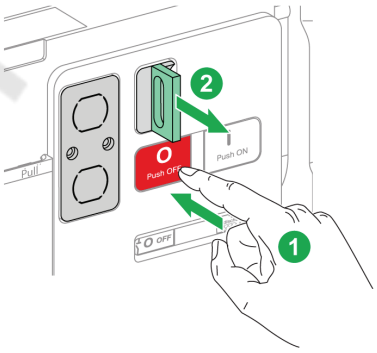
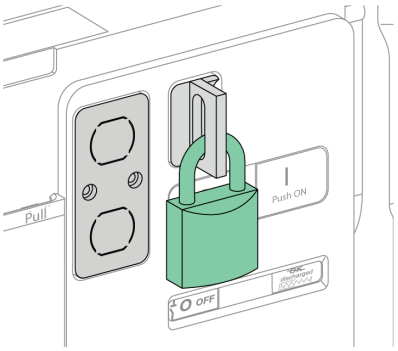
The optional off-position locking accessory can be mounted on the front face of the device.

For information on the accessory installation, consult instruction sheet *NVE16146*, available at the Schneider Electric website.

Related Topics

- Padlocking the Masterpact MTZ2/MTZ3 Device Open (Parent Topic)

Locking the Masterpact MTZ2/MTZ3 Device Open with VCPO

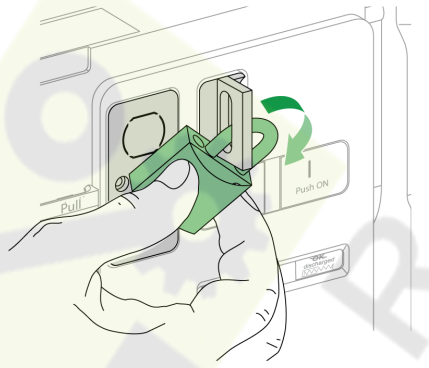
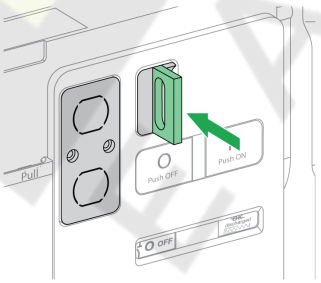
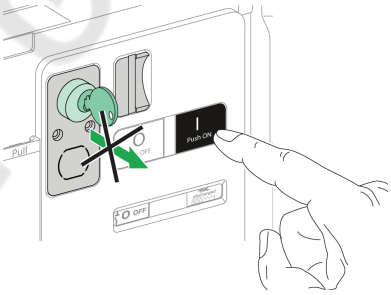
Step	Action	
1	Press and hold down the opening pushbutton.	
2	With the opening button pressed, pull out the tab of the off-position locking accessory.	
3	Insert the padlock in the tab and close the padlock. Release the opening pushbutton.	

Related Topics

- Padlocking the Masterpact MTZ2/MTZ3 Device Open (Parent Topic)

Courtesy of NationalSwitchgear.com

Unlocking the Masterpact MTZ2/MTZ3 Device Locked with VCPO

Step	Action	
1	Remove the padlock.	
2	The tab of the OFF-position locking accessory retracts.	
3	Press the closing pushbutton to close the device.	

Related Topics

- Padlocking the Masterpact MTZ2/MTZ3 Device Open (Parent Topic)

Courtesy of NationalSwitchgear.com

Keylocking the Masterpact MTZ2/MTZ3 Device Open

Optional keylocks can be used:

- To lock one Masterpact MTZ2/MTZ3 in the open position. When locked the device cannot be closed either locally with the closing pushbutton or remotely.
- To interlock several Masterpact MTZ2/MTZ3 devices locked with the same key.

To use keylocks to lock the device in the open position, an optional OFF-position locking accessory is necessary.

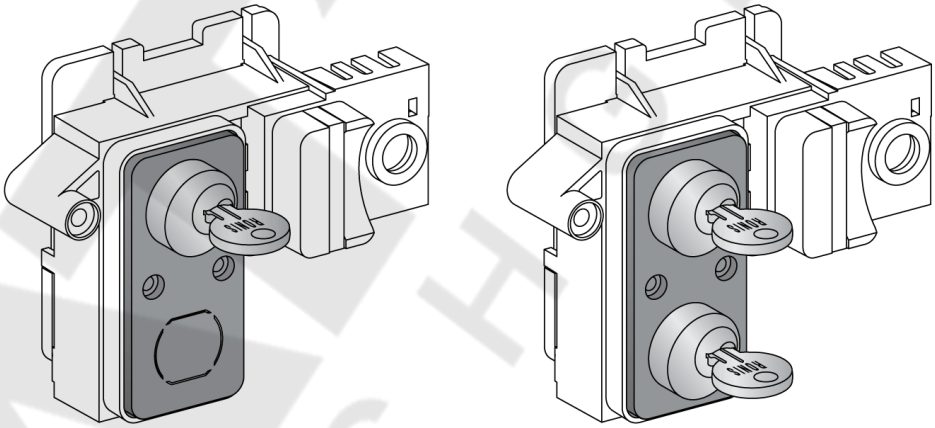
The keylocks can be used in addition to padlocks.

Related Topics

- Masterpact MTZ2/MTZ3 VSPO OFF-Position Locking Accessory
- Locking the Masterpact MTZ2/MTZ3 Device Open with VSPO
- Unlocking the Masterpact MTZ2/MTZ3 Locked Open with VSPO
- Masterpact MTZ2/MTZ3 Locking Actions (Parent Topic)

Masterpact MTZ2/MTZ3 VSPO OFF-Position Locking Accessory

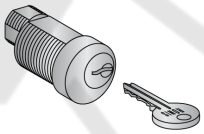
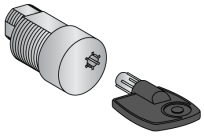
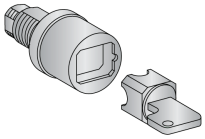
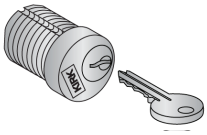
The OFF-position locking accessory is an optional accessory that can be mounted on the front of the device.



The OFF-position locking accessory can be fitted with either:

- One keylock.
- Two keylocks with identical keys or different keys.

The following types of keylocks can be fitted:

Ronis keylock	Profalux keylock	Castell keylock	Kirk keylock
			

For information on the accessory installation, consult instruction sheet *NVE16146*, available at the Schneider Electric website.

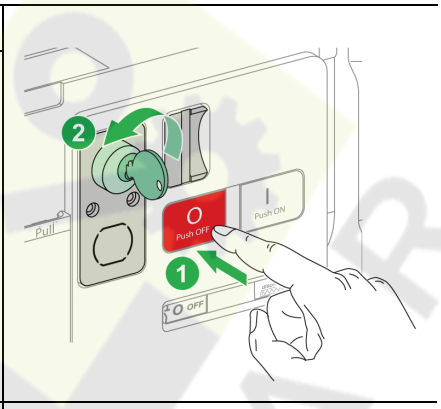
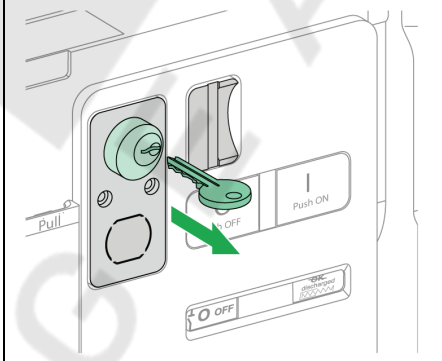
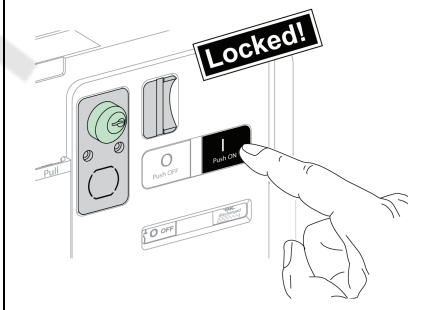
Related Topics

- Keylocking the Masterpact MTZ2/MTZ3 Device Open (Parent Topic)

Courtesy of NationalSwitchgear.com

Locking the Masterpact MTZ2/MTZ3 Device Open with VSPO

For devices equipped with two keylocks, locking with one key is sufficient to lock the device in the open position.

Step	Action	
1	Press and hold the opening pushbutton.	
2	With the opening pushbutton pressed, turn the key counterclockwise to lock the device.	
3	Remove the key and release the opening pushbutton.	
4	Check that the device is locked in the open position and cannot be closed either locally with the closing pushbutton or remotely.	

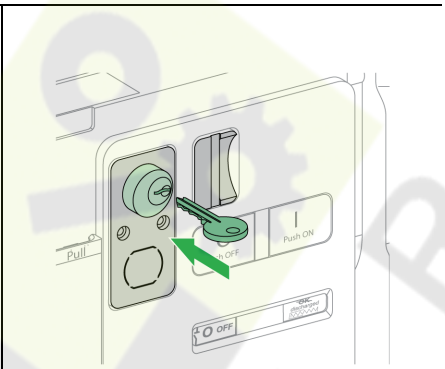
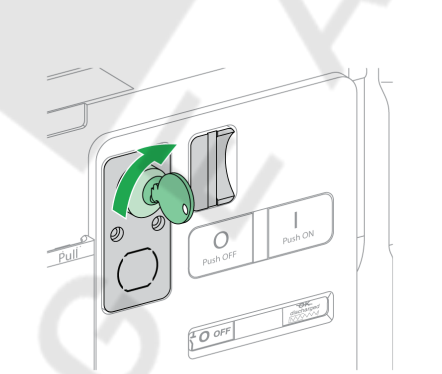
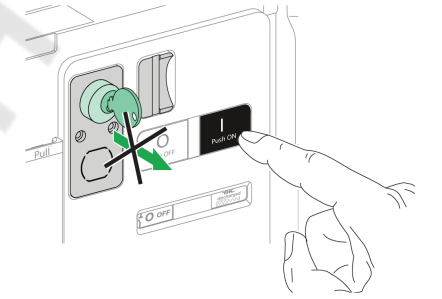
Related Topics

- Keylocking the Masterpact MTZ2/MTZ3 Device Open (Parent Topic)

Courtesy of NationalSwitchgear.com

Unlocking the Masterpact MTZ2/MTZ3 Locked Open with VSPO

For devices equipped with two keylocks, locking with one key is sufficient to lock the device in the open position.

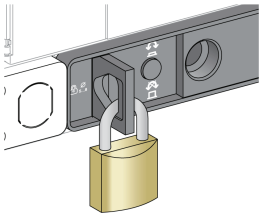
Step	Action	
1	Put the key in the keylock.	
2	Turn the key clockwise to unlock the device.	
3	Press the closing pushbutton to close the device. **NOTE:** The key remains captive in the keylock.	

Related Topics

- Keylocking the Masterpact MTZ2/MTZ3 Device Open (Parent Topic)

Courtesy of NationalSwitchgear.com

Locking the Masterpact Cradle in the Disconnected Position



The cradle can be locked in the disconnected position. When the cradle is locked in the disconnected position, the racking handle cannot be inserted.

The cradle can be locked in the disconnected position:

- By up to three padlocks with shackle diameter 5–8 mm (3/16–5/16 in.).
- By optional keylocks.

Keylocks can be used in addition to padlocks.

Cradle locking by padlock is always possible and does not require any accessory.

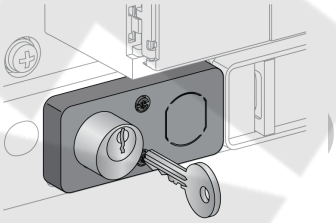
Related Topics

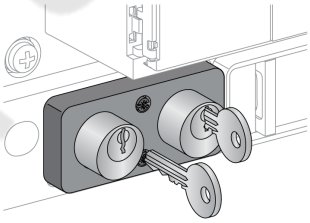
- Locking a Masterpact MTZ2/MTZ3 Cradle in with VSPO
- Locking a Masterpact MTZ2/MTZ3 Cradle with Padlocks
- Unlocking a Padlocked Masterpact MTZ2/MTZ3 Cradle
- Locking a Masterpact MTZ2/MTZ3 Cradle with Keylocks
- Unlocking a Keylocked Masterpact MTZ2/MTZ3 Cradle
- Masterpact MTZ2/MTZ3 Locking Actions (Parent Topic)

Locking a Masterpact MTZ2/MTZ3 Cradle in with VSPO

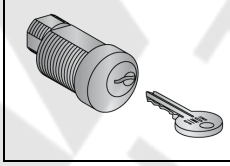
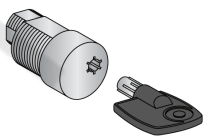
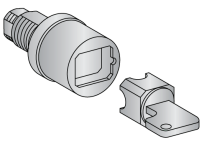
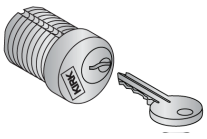
A cradle locking by keylock accessory can be fitted with either:

- One keylock.
- Two keylocks with identical keys or different keys.





The following types of keylocks can be fitted:

Ronis keylock	Profalux keylock	Castell keylock	Kirk keylock
			

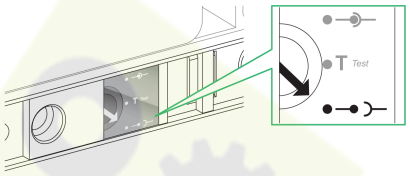
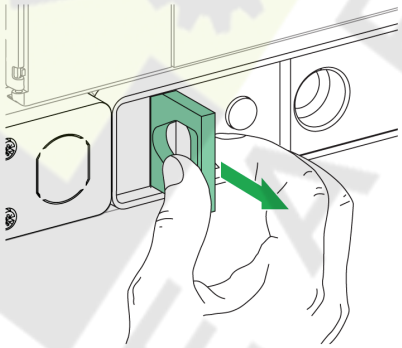
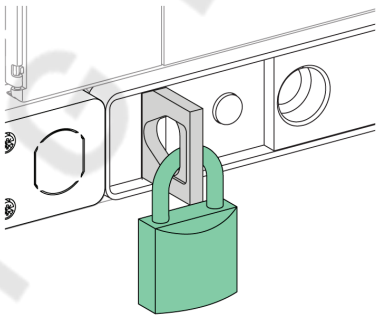
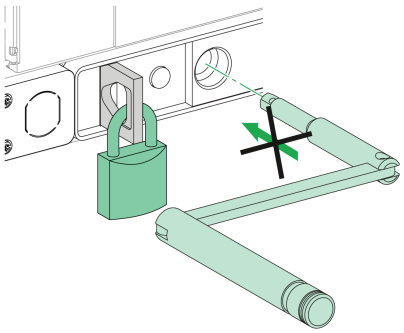
For information on the accessory installation, consult instruction sheet *NVE16142*, available at the Schneider Electric website.

Related Topics

- Locking the Masterpact Cradle in the Disconnected Position (Parent Topic)

Courtesy of NationalSwitchgear.com

Locking a Masterpact MTZ2/MTZ3 Cradle with Padlocks

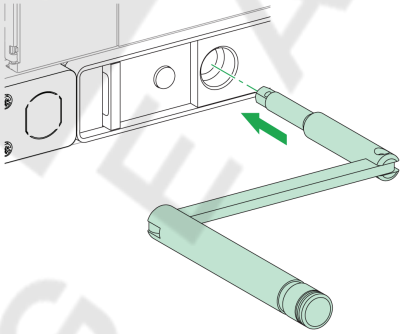
Step	Action	
1	Check that the cradle indicator is in the disconnected position.	
2	Pull out the padlocking tab.	
3	Insert the padlock in the tab and close the padlock.	
4	Press and hold down the opening pushbutton, then check that the racking handle cannot be inserted into the racking handle socket.	

Related Topics

- Locking the Masterpact Cradle in the Disconnected Position (Parent Topic)

Courtesy of NationalSwitchgear.com

Unlocking a Padlocked Masterpact MTZ2/MTZ3 Cradle

Step	Action	
1	Remove the padlock. The tab retracts.	
2	Press and hold down the opening pushbutton, then check that the racking handle can be inserted into the racking handle socket.	

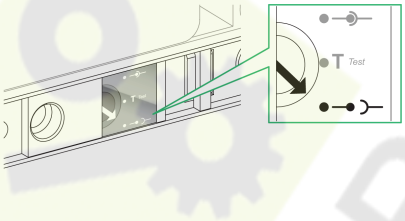
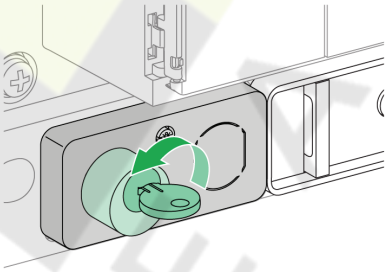
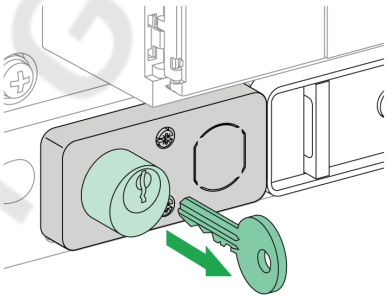
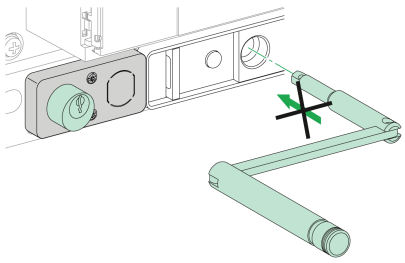
Related Topics

- Locking the Masterpact Cradle in the Disconnected Position (Parent Topic)

Courtesy of NationalSwitchgear.com

Locking a Masterpact MTZ2/MTZ3 Cradle with Keylocks

For a cradle equipped with two keylocks, locking with one key is sufficient to lock the cradle in the disconnected position.

Step	Action	
1	Check that the cradle indicator is in the disconnected position.	
2	Turn the key counterclockwise to lock the cradle.	
3	Remove the key.	
4	Press and hold down the opening pushbutton, then check that the racking handle cannot be inserted into the racking handle socket.	

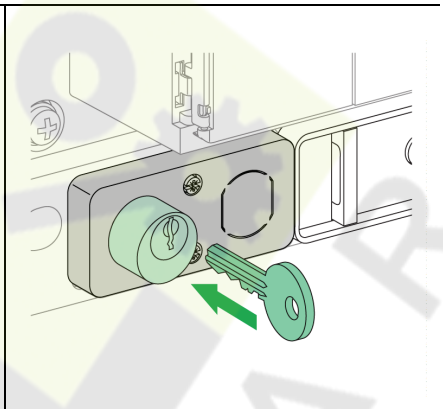
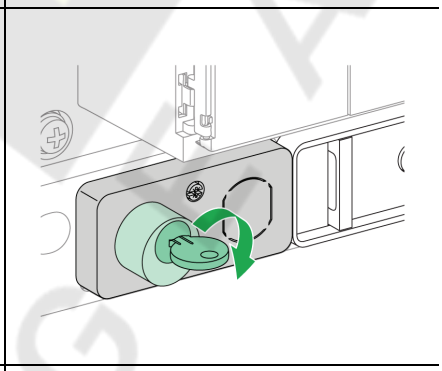
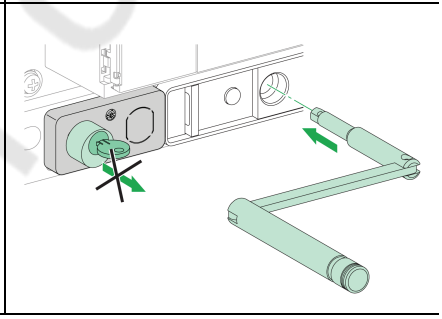
Related Topics

- Locking the Masterpact Cradle in the Disconnected Position (Parent Topic)

Courtesy of NationalSwitchgear.com

Unlocking a Keylocked Masterpact MTZ2/MTZ3 Cradle

For a cradle equipped with two keylocks, both keys must be inserted in the keylocks to unlock the cradle.

Step	Action	
1	Put the key in the lock.	
2	Turn the key clockwise to unlock the cradle **NOTE:** The key remains captive in the keylock.	
3	Press and hold down the opening pushbutton, then check that the racking handle can be inserted into the racking handle socket.	

Related Topics

- Locking the Masterpact Cradle in the Disconnected Position (Parent Topic)

Courtesy of NationalSwitchgear.com

Locking the Masterpact MTZ2/MTZ3 Cradle in Any Position

The cradle can be locked in any position (connected, test, or disconnected position).

This locking function requires a mechanical adaptation of the cradle, explained in the following procedure.

When the cradle is locked, the racking handle cannot be inserted in the racking handle socket.

The cradle can be locked in any position:

- By up to three padlocks with shackle diameter 5–8 mm (3/16–5/16 in.) as standard.
- By one or two optional keylocks.

Keylocks can be used in addition to padlocks.

Related Topics

- Masterpact MTZ2/MTZ3 Cradle Locking with VSPD Keylock Accessory
- Converting the Masterpact MTZ2/MTZ3 Cradle for Keylocking
- Masterpact MTZ2/MTZ3 Locking Actions (Parent Topic)

Masterpact MTZ2/MTZ3 Cradle Locking with VSPD Keylock Accessory

The cradle locking by keylock accessory and the locking and unlocking procedures are the same as for cradle locking in disconnected position (see *Locking the Masterpact Cradle in the Disconnected Position, page 99*).

Related Topics

- Locking the Masterpact MTZ2/MTZ3 Cradle in Any Position (Parent Topic)

Converting the Masterpact MTZ2/MTZ3 Cradle for Keylocking

⚠DANGER

HAZARD OF DEVICE FALLING

- Be sure that lifting equipment has lifting capacity for the device being lifted.
- Follow manufacturer's instructions for use of lifting equipment.
- Wear hard hat, safety shoes, and heavy gloves.

Failure to follow these instructions will result in death or serious injury.

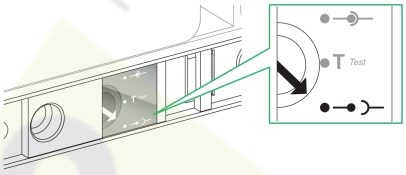
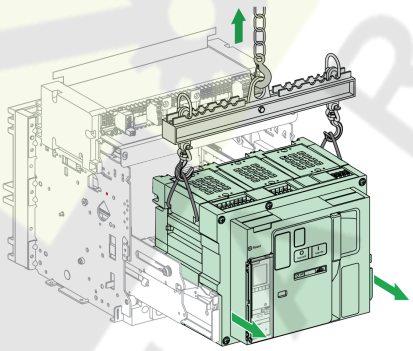
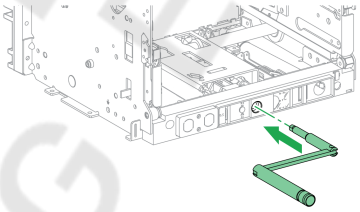
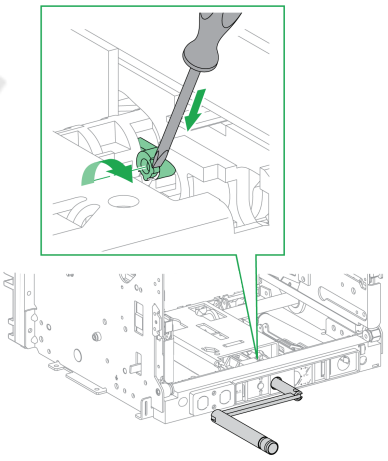
NOTICE

HAZARD OF EQUIPMENT DAMAGE

The cradle must be securely fastened when installing or removing the device.

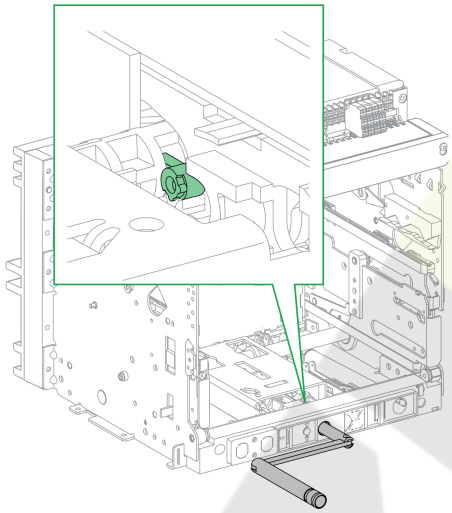
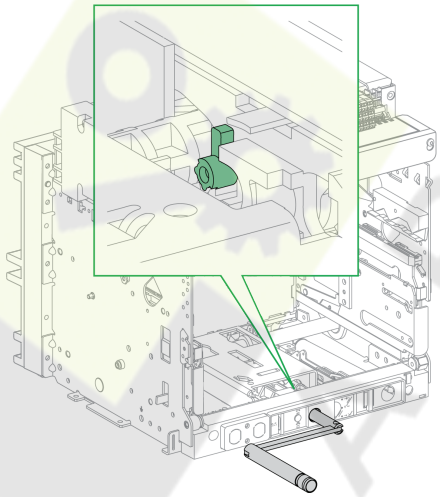
Failure to follow these instructions can result in equipment damage.

Courtesy of NationalSwitchgear.com

Step	Action	
1	Make sure that cradle indicator is in the disconnected position	
2	Remove the device from the cradle (see *Removing Masterpact MTZ2/MTZ3 Device from the Cradle, page 86*).	
3	Insert the racking handle into the racking handle socket.	
4	Rotate the latch to the front. The cradle can now be locked in any position.	

Courtesy of NationalSwitchgear.com

NOTE: To return the cradle to locking only in the disconnected position, rotate the latch to its original position at the rear.

Latch position for locking in disconnected position.	Latch position for locking in any position.
	

Related Topics

- Locking the Masterpact MTZ2/MTZ3 Cradle in Any Position (Parent Topic)

Courtesy of NationalSwitchgear.com

Locking the Masterpact MTZ2/MTZ3 Safety Shutters

The shutters automatically block access to the main disconnects when the circuit breaker is in the disconnected, test, or fully withdrawn position.

The shutter lock is used to prevent connection of the circuit breaker or to lock the shutters in the closed position.

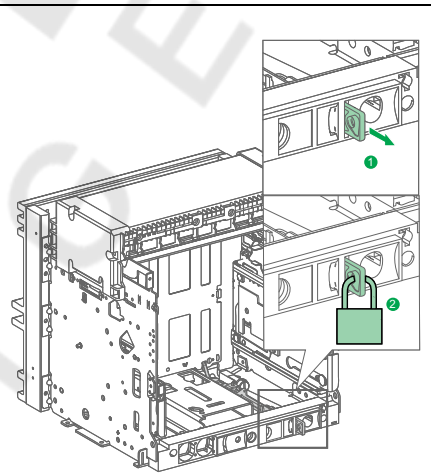
- The safety shutters can be locked by a padlock on the front of the cradle .
- The shutter can be locked with one padlock with maximum shackle diameter 5–8 mm (3/16–5/16 in.).

Not available on cradles with ArcBlok technology.

Related Topics

- Locking the Mastepact MTZ Shutters with Shutter Position Indication and Locking Accessory
- Masterpact MTZ2/MTZ3 Locking Actions (Parent Topic)

Locking the Mastepact MTZ Shutters with Shutter Position Indication and Locking Accessory

Step	Action	
1	Pull out the padlock tab	
2	Insert the padlock in the padlock tab and close padlock.	

Related Topics

- Locking the Masterpact MTZ2/MTZ3 Safety Shutters (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Interlocking Actions

An interlocking action is an automatic locking operation provided by interlocking accessories added to the Masterpact MTZ2/MTZ3 device or cradle.

A number of optional interlocking accessories are available for the Masterpact MTZ2/MTZ3 device and cradle. For a complete listing of available interlocks, refer to catalog 0614CT1701, Masterpact MTZ Power Circuit Breakers and Switches, available on the Scheider Electric website.

For detailed installation instructions on field-installable interlocks, refer to the installation instructions shipped with these accessories.

Related Topics

- Masterpact MTZ2/MTZ3 Cradle Rejection Feature
- Masterpact MTZ2/MTZ3 VPEC Door Interlock
- Masterpact MTZ2/MTZ3 VPOC Open-Door Racking Interlock
- Masterpact MTZ2/MTZ3 IPA Cable-Type Door Interlock
- Mechanically Interlocking Masterpact MTZ Transfer Switches
- Masterpact MTZ DAE Automatic Spring-Discharge Interlock
- Masterpact MTZ2/MTZ3 IBPO Racking Interlock
- Masterpact MTZ2/MTZ3 Normal Operation (Parent Topic)

Masterpact MTZ2/MTZ3 Cradle Rejection Feature

The cradle rejection feature allows the installation of a Masterpact MTZ2/MTZ3 device only in a cradle with compatible characteristics.

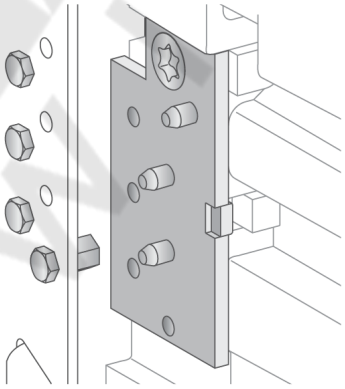
Cradle rejection pins offer over 100 different combinations that can be selected so that a device can only be mounted on a cradle with the matching combination.

Related Topics

- Masterpact MTZ2/MTZ3 Cradle Rejection
- Masterpact MTZ2/MTZ3 Cradle Rejection Pin Locations
- Masterpact MTZ2/MTZ3 Cradle Rejection Recommended Pin Combinations
- Masterpact MTZ2/MTZ3 Interlocking Actions (Parent Topic)

Masterpact MTZ2/MTZ3 Cradle Rejection

The use of cradle rejection pins is optional. One cradle rejection accessory is required for each device.



For information on the accessory installation, consult instruction sheet *HRB28360* on the Schneider Electric website.

Courtesy of NationalSwitchgear.com

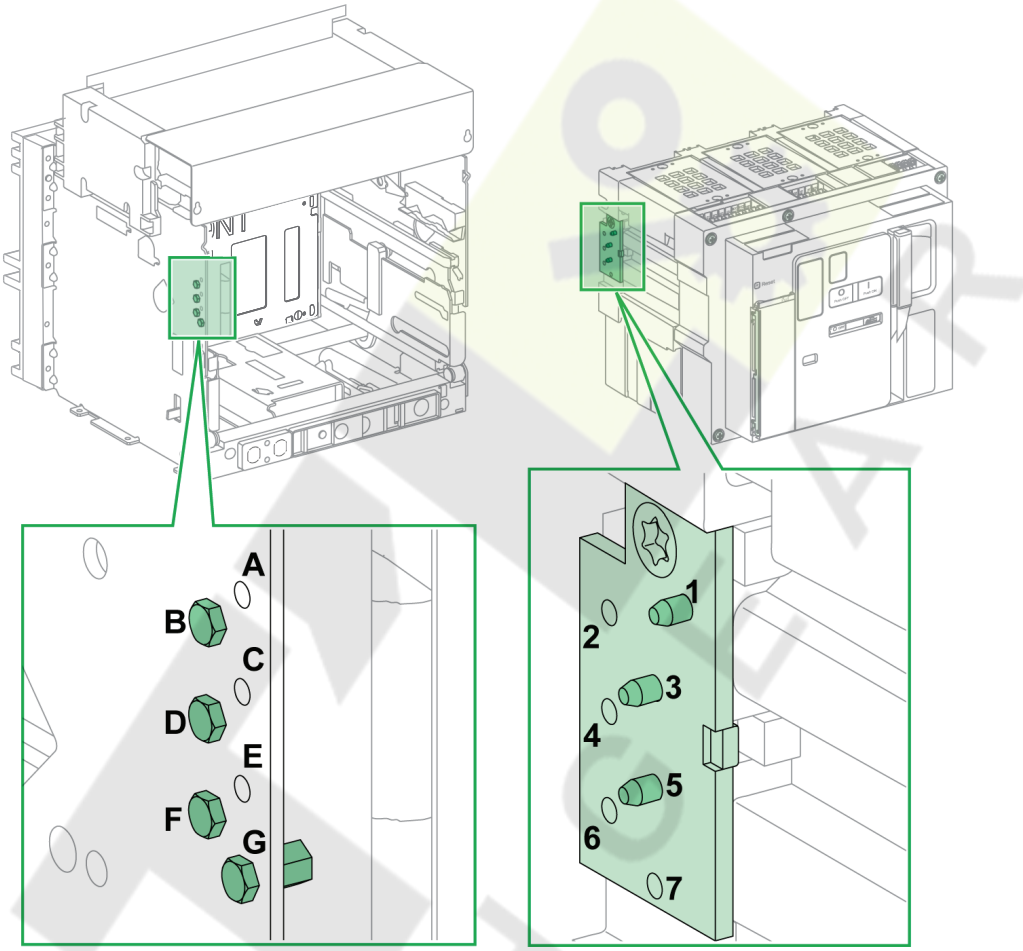
Related Topics

- Masterpact MTZ2/MTZ3 Cradle Rejection Feature (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Cradle Rejection Pin Locations

The following illustration shows the pin location on the cradle and device, respectively.



The pin combination selected on the cradle must correspond to the pin combination selected on the device (see following table). For example, the combination ABCD on the cradle corresponds to the combination 567 on the device.

Pins on the cradle are labeled A, B, C, D, E, F, G.

Pins on the device are labeled 1, 2, 3, 4, 5, 6, 7.

Related Topics

- Masterpact MTZ2/MTZ3 Cradle Rejection Feature (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Cradle Rejection Recommended Pin Combinations

The following are the recommended pin combinations:

Pins on Cradle	Pins on Device	Pins on Cradle	Pins on Device
ABCD	567	BCDE	167
ABCE	467	BCDF	157
ABCF	457	BCDG	156
ABCG	456	BCEF	147
ABDE	367	BCEG	146
ABDF	357	BCFG	145
ABDG	356	BDEF	137
ABEF	347	BDE	136
ABEG	346	BDFG	135
ABFG	345	BEFG	134
ACDE	267	CDEF	127
ACDF	257	CDEG	126
ACDG	256	CDFG	125
ACEF	247	CEFG	124
ACEG	246	DEFG	123
ACFG	245		
ADEF	237		
ADEG	236		
ADFG	235		
AEFG	234		

Related Topics

- Masterpact MTZ2/MTZ3 Cradle Rejection Feature (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 VPEC Door Interlock

With the door interlock:

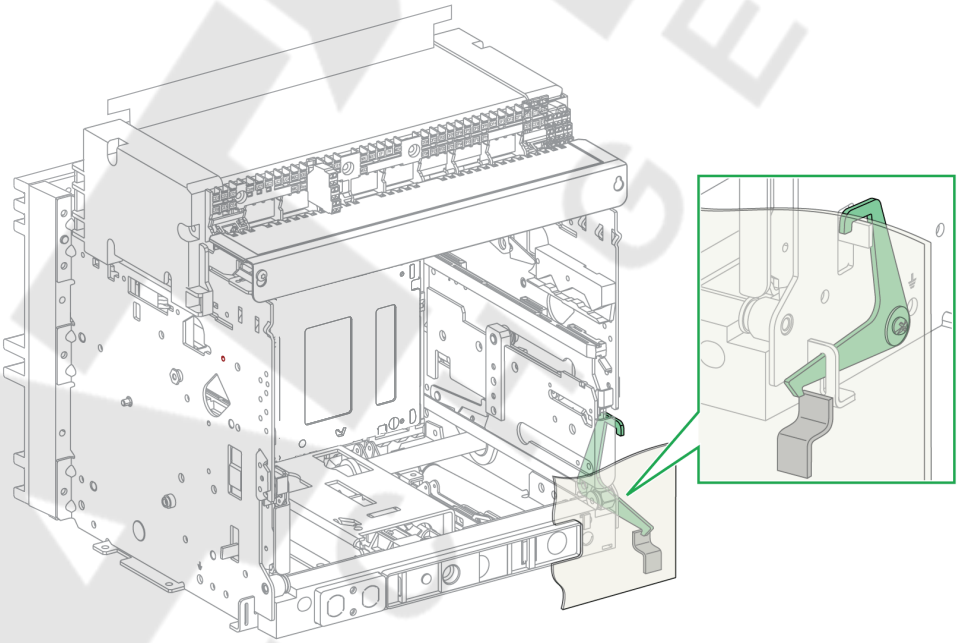
- The equipment door is locked and cannot be opened when the drawout device is in the connected or test position.
- The equipment door can be opened when the drawout device is in the disconnected position.
- The equipment door can be closed with the drawout device in any position.

Related Topics

- VPEC Door Interlock Accessory
- Using VPEC Accessory to Lock the Equipment Door
- Unlocking Equipment Door Locked with VPEC Accessory
- Masterpact MTZ2/MTZ3 Interlocking Actions (Parent Topic)

VPEC Door Interlock Accessory

The VPEC door interlock accessory is an optional accessory that is mounted on the left or right side of the cradle. One door interlock is necessary for one cradle



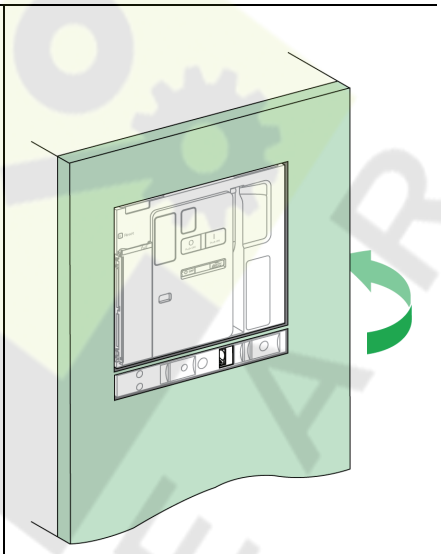
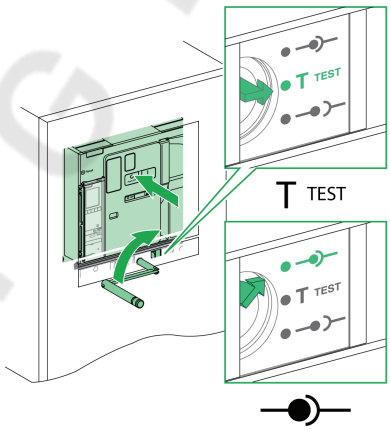
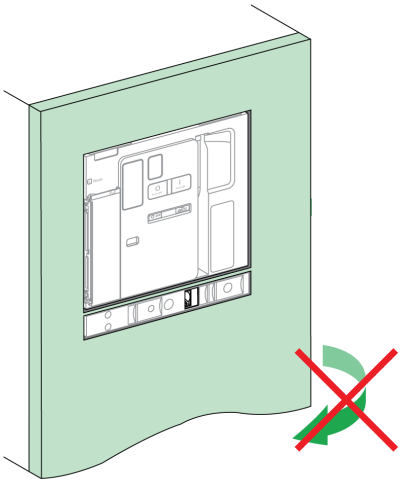
For information on the accessory installation, consult instruction sheet *NVE35493* on the Schneider Electric website.

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 VPEC Door Interlock (Parent Topic)

Using VPEC Accessory to Lock the Equipment Door

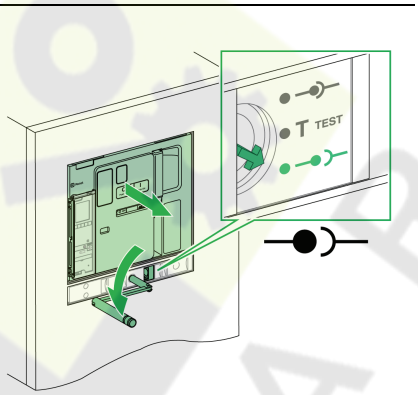
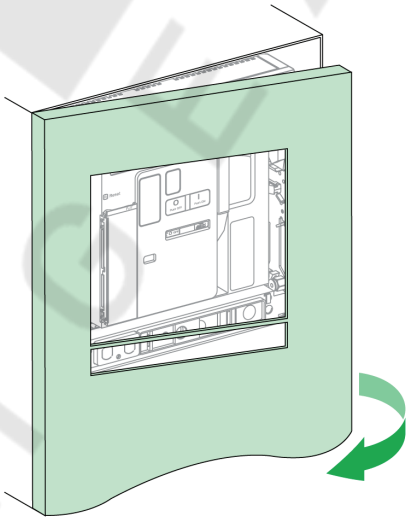
Step	Action	
1	Close the equipment door.	
2	Put the device into the test or connected position (see *Masterpact MTZ2/MTZ3 Connection, page 83*).	
3	Check that the equipment door is locked.	

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 VPEC Door Interlock (Parent Topic)

Unlocking Equipment Door Locked with VPEC Accessory

Step	Action	
1	Put the device into the disconnected position (see *Masterpact MTZ2/MTZ3 Disconnection, page 80*).	
2	Check that the equipment door is unlocked.	

Related Topics

- Masterpact MTZ2/MTZ3 VPEC Door Interlock (Parent Topic)

Courtesy of NationalSwitchgear.com

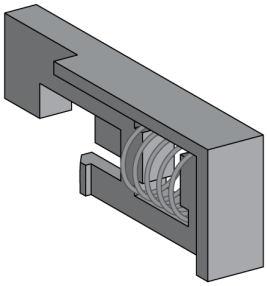
Masterpact MTZ2/MTZ3 VPOC Open-Door Racking Interlock

With the racking interlock installed, a drawout Masterpact MTZ2/MTZ3 device cannot be racked in or out when the equipment door is open because the racking handle cannot be inserted.

Related Topics

- VPOC Open-Door Racking Interlock
- Activating the VPOC Racking Interlock
- Deactivating the VPOC Racking Interlock
- Masterpact MTZ2/MTZ3 Interlocking Actions (Parent Topic)

VPOC Open-Door Racking Interlock



The optional VPOC racking interlock can be installed on the right side of the cradle.

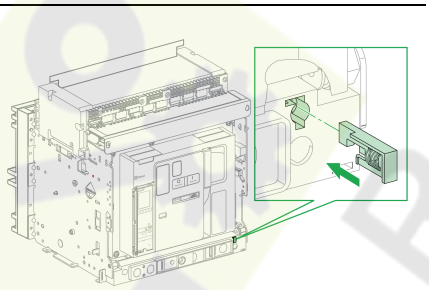
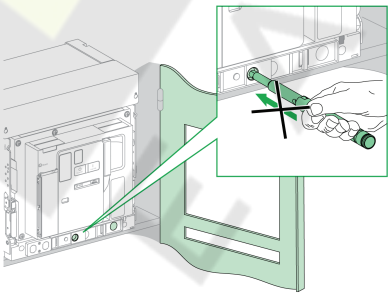
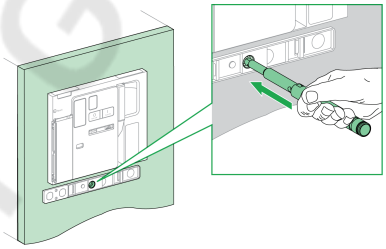
For information on the accessory installation, consult instruction sheet *NVE35494* on the Schneider Electric website.

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 VPOC Open-Door Racking Interlock (Parent Topic)

Activating the VPOC Racking Interlock

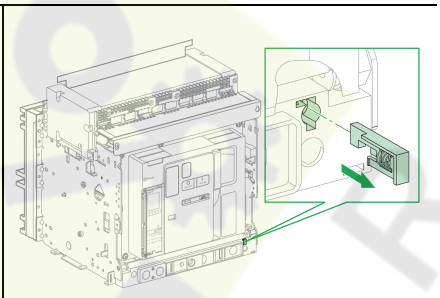
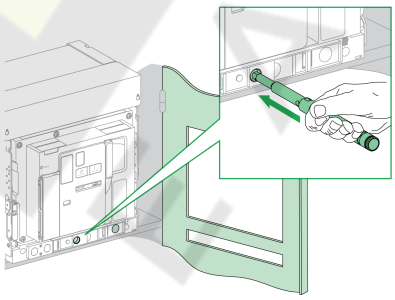
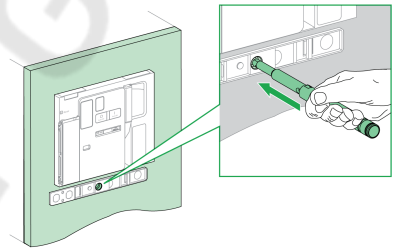
Step	Action	
1	Insert the racking interlock.	
2	Press and hold down the opening pushbutton, then check that the racking handle cannot be inserted into the racking handle socket when the equipment door is open.	
3	Press and hold down the opening pushbutton, then check that the racking handle can be inserted into the racking handle socket when the equipment door is closed.	

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 VPOC Open-Door Racking Interlock (Parent Topic)

Deactivating the VPOC Racking Interlock

Step	Action	
1	Pull out the racking interlock.	
2	Press and hold down the opening pushbutton, then check that the racking handle can be inserted into the racking handle socket when the equipment door is open or closed.	 

Related Topics

- Masterpact MTZ2/MTZ3 VPOC Open-Door Racking Interlock (Parent Topic)

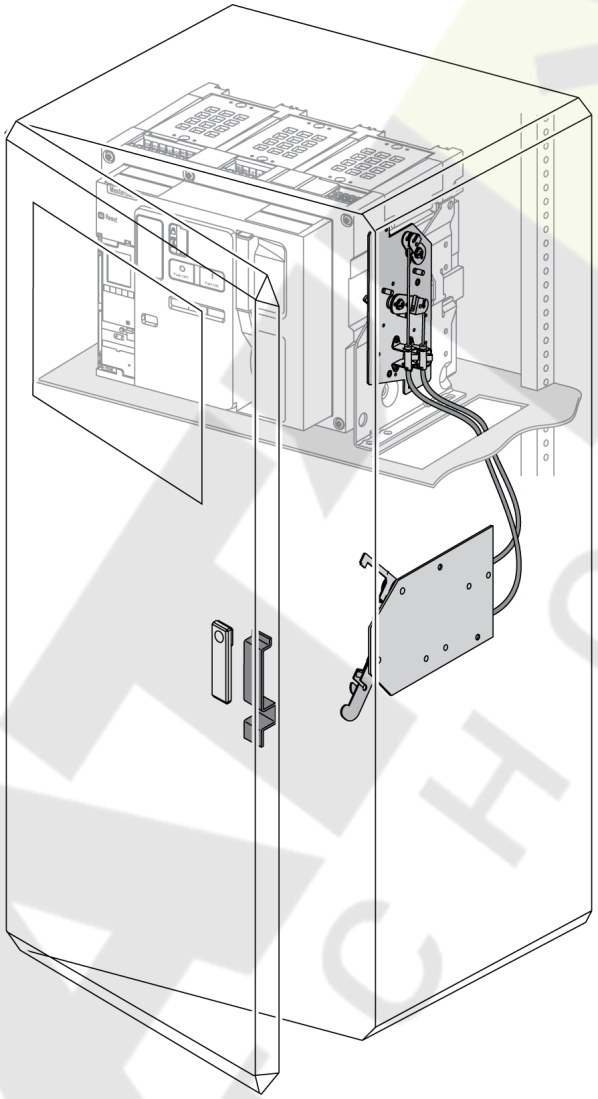
Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 IPA Cable-Type Door Interlock

The IPA cable-type door interlock is an optional accessory. When installed, the door cannot be opened when the device is closed and the device cannot be closed when the door is open.

The cable-type door interlock is mounted on the right-hand side of the device.

When the interlock is installed, the mechanical interlock for transfer switches cannot be implemented.



For information on the accessory installation, consult instruction sheet *NVE35495* on the Schneider Electric website.

Related Topics

- Masterpact MTZ2/MTZ3 Interlocking Actions (Parent Topic)

Courtesy of NationalSwitchgear.com

Mechanically Interlocking Masterpact MTZ Transfer Switches

The mechanical interlocking between Masterpact MTZ transfer switches prevents the interlocked devices from closing at the same time. The following interlocking functions are available:

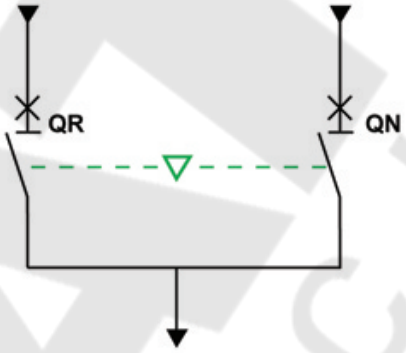
- Interlocking between two devices
- Interlocking between three devices:
  - Three incomers
  - Two incomers and one coupling
  - Two incomers and one replacement

Related Topics

- Mechanical Interlocking Between Two Masterpact MTZ Devices
- Mechanical Interlocking Between Three Main Masterpact MTZ Device
- Mechanical Interlocking Between Two Main and One Tie Masterpact MTZ Devices
- Mechanical Interlocking Between Two Main and One Replacement Masterpact MTZ Devices
- Masterpact MTZ2/MTZ3 Interlocking Actions (Parent Topic)

Mechanical Interlocking Between Two Masterpact MTZ Devices

Two devices can be mechanically interlocked by cables or by rods so that both devices cannot be closed at the same time.



QR	QN
0	0
1	0
0	1

For information on the accessory installation, consult the instruction sheet on Schneider Electric website:

- For interlocking by cables:*NVE35496*
- For interlocking by rods: *NVE35497*

Related Topics

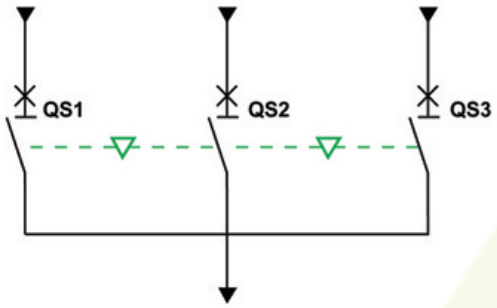
- Mechanically Interlocking Masterpact MTZ Transfer Switches (Parent Topic)

Mechanical Interlocking Between Three Main Masterpact MTZ Device

Mechanical interlocking is between three main devices connected to different power sources.

Only one of the three devices can be in the closed position at a time. The other two devices are held in the locked open position.

Courtesy of NationalSwitchgear.com



QS1	QS2	QS3
0	0	0
1	0	0
0	1	0
0	0	1

For information on the accessory installation, consult instruction sheet *NVE35498* on the Schneider Electric website.

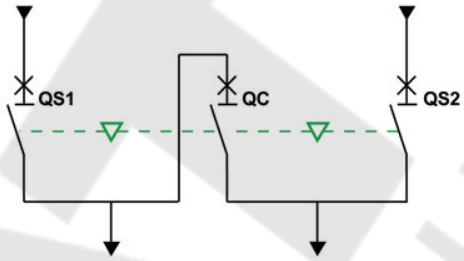
Related Topics

- Mechanically Interlocking Masterpact MTZ Transfer Switches (Parent Topic)

Mechanical Interlocking Between Two Main and One Tie Masterpact MTZ Devices

Mechanical interlocking is between two main devices connected to different power sources and one tie device.

Two of the three devices can be in the closed position at any time.



QS1	QC	QS2	
0	0	0	
1	0	1	
1	1	0	
0	1	1	
1	0	0	6
0	0	1	6

For information on the accessory installation, consult instruction sheet *NVE35500* on the Schneider Electric website.

Related Topics

- Mechanically Interlocking Masterpact MTZ Transfer Switches (Parent Topic)

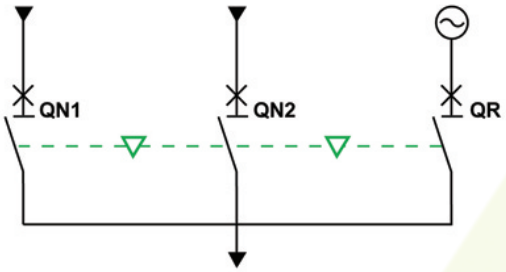
Mechanical Interlocking Between Two Main and One Replacement Masterpact MTZ Devices

Mechanical interlocking is between two main devices connected to the same power source and a third device connected to a generator power source.

The generator device is locked open when either or both of the main devices are closed.

6. Possible by forcing operation

Courtesy of NationalSwitchgear.com



QN1	QN2	QR
0	0	0
1	0	0
0	1	0
1	1	0
0	0	1

For information on the accessory installation, consult instruction sheet *NVE35499* on the Schneider Electric website.

Related Topics

- Mechanically Interlocking Masterpact MTZ Transfer Switches (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ DAE Automatic Spring-Discharge Interlock

The DAE automatic spring-discharge interlock releases the closing spring energy when a drawout Masterpact MTZ2/MTZ3 device is moved from the disconnected position to the withdrawn position.

The DAE interlock is factory installed as a standard interlock mounted inside the device.

Related Topics

- Masterpact MTZ2/MTZ3 Interlocking Actions (Parent Topic)

Masterpact MTZ2/MTZ3 IBPO Racking Interlock

The IBPO racking interlock is factory installed as a standard interlock mounted inside the device.

With the IBPO racking interlock installed, a drawout Masterpact MTZ2/MTZ3 device cannot be disconnected in the closed position.

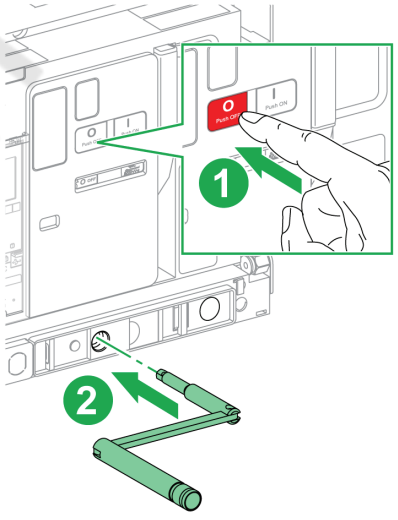
Insertion of the racking handle for connection or disconnection of the drawout device is only possible when the opening pushbutton is pressed.

Related Topics

- Inserting the Racking Handle with IBPO Racking Interlock Installed
- Masterpact MTZ2/MTZ3 Interlocking Actions (Parent Topic)

Inserting the Racking Handle with IBPO Racking Interlock Installed

Step	Action
1	Press and hold the opening pushbutton.
2	Insert the racking handle.



Related Topics

- Masterpact MTZ2/MTZ3 IBPO Racking Interlock (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ Critical Cases

Related Topics

- Finding the Cause of a Masterpact MTZ Trip or Alarm
- Resetting the Circuit Breaker after a Trip Due to an Electrical Fault
- Resetting the Circuit Breaker after a Trip Due to an Invalid Micrologic X Control Unit Self-Test
- Diagnosing Micrologic X Control Unit Alarms
- Diagnosing Masterpact X Error Messages

Finding the Cause of a Masterpact MTZ Trip or Alarm

While operating the device, the user may face two critical cases:

- The circuit breaker has tripped automatically, interrupting the power supply.
- The circuit breaker has not tripped, but the Micrologic X control unit has detected an alarm:
  - For a high severity alarm, the service LED is red, indicating that urgent corrective action is required.
  - For a medium severity alarm, the service LED is orange, indicating that corrective action needs to be scheduled.

Related Topics

- Notification of a Masterpact MTZ Trip or Alarm
- Identifying the Cause of a Masterpact MTZ Trip or Alarm Using the Micrologic X Control Unit
- Diagnostic Data after a Masterpact MTZ Circuit Breaker Trip
- Using the Display Screen and LEDs to Find the Cause of a Trip
- Using the Display Screen and LEDs to Find the Cause of an Alarm
- Masterpact MTZ Critical Cases (Parent Topic)

Notification of a Masterpact MTZ Trip or Alarm

A trip or alarm event is signaled:

- On the Micrologic X control unit HMI, by the trip cause LEDs or the service LED. When the control unit is powered, a red or orange pop-up message is displayed on the screen.
- By the overcurrent trip switch (SDE).

Depending on the options installed, a trip or alarm can also be signaled:

- By an additional overcurrent trip switch (SDE2).
- By the outputs of the programmable contacts (M2C).
- By the outputs of an IO application module.
- By an email sent through IFE or EIFE Ethernet interface.
- On a remote controller connected to the communication network (application customized by user).
- On the FDM128 display.

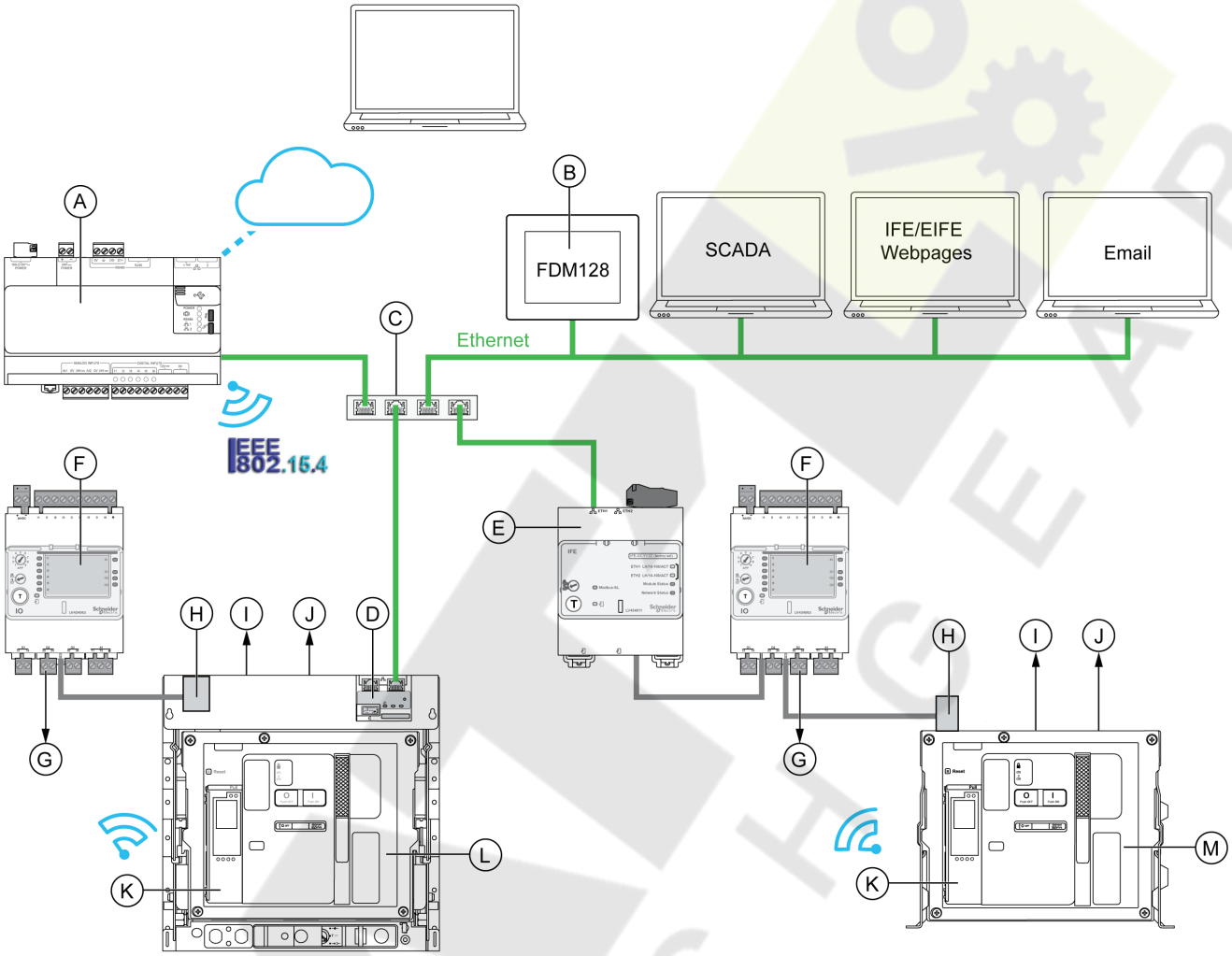
Active alarms can also be consulted in the following ways:

- On a smartphone with Masterpact MTZ Mobile App connected to the Micrologic X control unit:
  - Through Bluetooth.

Courtesy of NationalSwitchgear.com

- Through the USB OTG connection.

- On Ecoreach software connected to the Micrologic X control unit:
  - Through the USB connection.
  - Through the Ethernet interface.
  - Through the IFM Modbus-SL (RTU) interface.



A. Com'X energy server
B. FDM128 Ethernet display for eight devices
C. Ethernet switch
D. EIFE embedded Ethernet interface for one Masterpact MTZ drawout circuit breaker
E. IFE Ethernet interface for one Masterpact MTZ circuit breaker
F. IO input/output application module for one circuit breaker
G. IO module outputs used for event notification
H. ULP port module
I. One or two overcurrent trip switches (SDE)
J. Two optional programmable contacts (M2C)
K. Micrologic X control unit HMI
L. Drawout Masterpact MTZ circuit breaker
M. Fixed Masterpact MTZ circuit breaker

Courtesy of NationalSwitchgear.com

Related Topics

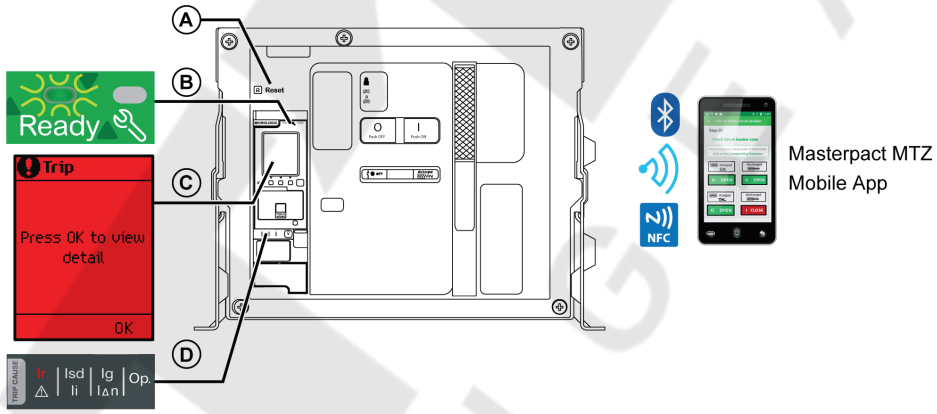
- Finding the Cause of a Masterpact MTZ Trip or Alarm (Parent Topic)

Courtesy of NationalSwitchgear.com

Identifying the Cause of a Masterpact MTZ Trip or Alarm Using the Micrologic X Control Unit

The cause of a trip or an alarm can be identified locally by using one of the following:

- The indicators on the Micrologic X control unit HMI (see *Identifying the Cause of a Masterpact MTZ Trip or Alarm Using the Micrologic X Control Unit, page 126*):
  - The fault trip reset button on the circuit breaker (A).
  - The Micrologic X health status LEDs (Ready and service LEDs) (B).
  - The Micrologic X display screen (C).
  - The trip cause LEDs (D).
- A smartphone with Masterpact MTZ Mobile App installed to get the tripping cause, the trip or alarm context, and the device ID:
  - Through NFC.
  - Through Bluetooth.
  - Through the USB OTG connection.



A. Fault trip reset button
B. Health status LEDs
C. Micrologic X display screen
D. Trip cause LEDs

NOTE: The optional Power Restoration Assistant Digital Module provides assistance with restoring power after a trip.

For more information, refer to the Micrologic X - Control Unit - User Guide (see *Related Documents, page 11*).

Related Topics

- Finding the Cause of a Masterpact MTZ Trip or Alarm (Parent Topic)

Courtesy of NationalSwitchgear.com

Diagnostic Data after a Masterpact MTZ Circuit Breaker Trip

The diagnostic data is available when the Micrologic X control unit is powered.

If the Micrologic X control unit is not permanently powered by an external 24 Vdc power source, connect the Micrologic X control unit to an external power supply (such as the Mobile Power Pack as an example) through the mini USB port to have access to the diagnostic data.

When the Micrologic X control unit is powered externally, the availability of diagnostic data depends on the Micrologic X control unit status:

- If the Micrologic X control unit is healthy, all diagnostic data is available.
- If there is an invalid Micrologic X control unit self-test, what diagnostic data is available will vary.
- If the Micrologic X control unit is inoperative, no data is directly available. However, some data can be extracted using the NFC function with the Masterpact MTZ Mobile App.

The trip cause LEDs and the service LED are powered by the Micrologic X control unit internal lithium battery and will remain on for four hours when there is no other power to the control unit. To switch on the trip cause LEDs again after four hours, press the Test/Reset button.

Related Topics

- Finding the Cause of a Masterpact MTZ Trip or Alarm (Parent Topic)

Using the Display Screen and LEDs to Find the Cause of a Trip

The circuit breaker has tripped automatically, interrupting the power supply, and the fault-trip reset button has popped out.

Status LEDs	Micrologic X Display Screen	Trip Cause LEDs	Probable Cause
 Ready LED flashing green. Service LED off.		    One of the trip cause LEDs is on red.	Electrical fault on the network (see *Resetting the Circuit Breaker after a Trip Due to an Electrical Fault, page 130*).
 Ready LED off. Service LED red.		 All LEDs are on.	Invalid Micrologic X control unit self-test (see *Resetting the Circuit Breaker after a Trip Due to an Invalid Micrologic X Control Unit Self-Test, page 133*).

Courtesy of NationalSwitchgear.com

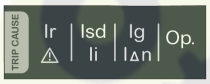
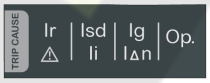
Related Topics

- Finding the Cause of a Masterpact MTZ Trip or Alarm (Parent Topic)

Courtesy of NationalSwitchgear.com

Using the Display Screen and LEDs to Find the Cause of an Alarm

The circuit breaker has not tripped, but the Micrologic X control unit service LED is on.

Status LEDs	Micrologic X Display Screen	Trip Cause LEDs	Probable Cause
 Ready LED flashing green. Service LED orange.		 All LEDs are off.	Medium severity alarm (see *Recommended Action after Detection of a Medium Severity Micrologic X Alarm, page 139*).
 Service LED red. Ready LED flashing green.  Service LED red. Ready LED off.		 All LEDs are off.  All LEDs are on.	High severity alarm (see *Recommended Action after Detection of a High Severity Micrologic X Control Unit Alarm, page 138*).

Related Topics

- Finding the Cause of a Masterpact MTZ Trip or Alarm (Parent Topic)

Courtesy of NationalSwitchgear.com

Resetting the Circuit Breaker after a Trip Due to an Electrical Fault

Related Topics

- Masterpact MTZ Reset Sequence
- Identifying the Masterpact MTZ Trip Cause
- Acknowledging a Trip Message on Micrologic X Control Units
- Clearing the Electrical Fault Before Reclosing the Masterpact MTZ Circuit Breaker
- Inspecting the Masterpact MTZ Circuit Breaker and Switchboard after a Trip on a Short Circuit
- Masterpact MTZ Critical Cases (Parent Topic)

Masterpact MTZ Reset Sequence

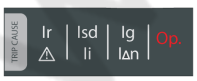
The table shows the sequence of actions to follow after a trip due to an electrical fault. Further explanation of each action is given in the following paragraphs.

Step	Description
1	Identify the trip cause by using the Micrologic X control unit HMI.
2	Acknowledge the trip message on the Micrologic X control unit.
3	Clear the electrical fault on the network.
4	Inspect the circuit breaker and switchboard after a short circuit.
5	Reset the circuit breaker (see *Resetting Masterpact MTZ Devices, page 62*).
6	When the circuit breaker is ready-to-close, re-close it (see *Closing the Masterpact MTZ2/ MTZ3 Mechanism, page 59*)

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Electrical Fault (Parent Topic)

Identifying the Masterpact MTZ Trip Cause

Trip Cause LEDs	Control Unit	Description
	Micrologic 3.0 X, 5.0 X, 6.0 X	Trip due to the long-time protection.
	Micrologic 5.0 X, 6.0 X	Trip due to the short-time protection or instantaneous protection.
	Micrologic 3.0 X, 5.0 X	Not used.
	Micrologic 6.0 X	Trip due to the ground-fault protection.
	Micrologic 3.0 X, 5.0 X, 6.0 X	Trip due to other protection (optional protections).

NOTE: Diagnostic assistance can be obtained by using a smartphone running the Masterpact MTZ Mobile App.

Courtesy of NationalSwitchgear.com

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Electrical Fault (Parent Topic)

Acknowledging a Trip Message on Micrologic X Control Units

Step	Action
1	Press OK to view details of the trip cause on the display screen.
2	Consult the two tripping context screens: • Screen 1: Name and settings of the tripping protection. Date and time of the trip. • Screen 2: Current values recorded before the trip.
3	Press OK to acknowledge the trip and return to the Home menu. NOTE: If the trip is not acknowledged within the event timeout, the pop-up is displayed again.
4	Press the Test/Reset button for 3 seconds to reset the control unit and switch off the trip cause and service LEDs.

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Electrical Fault (Parent Topic)

Courtesy of NationalSwitchgear.com

Clearing the Electrical Fault Before Reclosing the Masterpact MTZ Circuit Breaker

The fact that a circuit breaker has tripped does not remedy the cause of the electrical fault detected on the downstream electrical equipment.

⚠CAUTION

HAZARD OF CLOSING ON ELECTRICAL FAULT

Do not close the circuit breaker again without first inspecting and, if necessary, repairing the downstream electrical equipment.

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

The feed must be isolated before inspecting the electrical equipment downstream of the protection.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, CSA Z462, NOM 029-STPS or local equivalent.
- This equipment must be installed and serviced by qualified electrical personnel.
- Disconnect all power sources before performing maintenance inspections. Assume that all circuits are live until they are de-energized, tested, grounded, and tagged. Consider all sources of power, including the possibility of backfeeding and control power.
- Always use a properly rated voltage sensing device to confirm that power is off.
- Replace all devices, doors, and covers before turning on power to this equipment.

Failure to follow these instructions will result in death or serious injury.

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Electrical Fault (Parent Topic)

Inspecting the Masterpact MTZ Circuit Breaker and Switchboard after a Trip on a Short Circuit

After a trip on a short circuit due to short-time or instantaneous protection, the circuit breaker and switchboard must be inspected for smoke deposits or cracks in the device casing.

Refer to *Masterpact MTZ Circuit Breakers - Maintenance Guide (DOCA0099EN)* and contact a Schneider Electric field service representative.

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Electrical Fault (Parent Topic)

Courtesy of NationalSwitchgear.com

Resetting the Circuit Breaker after a Trip Due to an Invalid Micrologic X Control Unit Self-Test

Related Topics

- Masterpact MTZ Circuit Breaker Reset Sequence
- Masterpact MTZ Circuit Breaker Trip Cause Identification
- Micrologic X Display Screen Trip Message Acknowledgement
- Recommended Actions After a Trip Due to Invalid Micrologic X Control Unit Self Test
- Masterpact MTZ Critical Cases (Parent Topic)

Masterpact MTZ Circuit Breaker Reset Sequence

The following table shows the sequence of actions to take after a trip. Further explanation of each action is given in the following paragraphs.

Step	Description
1	Identify the tripping cause.
2	Acknowledge the trip message on the Micrologic X trip unit display screen.
3	Consult the list of possible trip causes and perform the actions recommended to restart after the trip.
4	Reset the circuit breaker (see *Resetting Masterpact MTZ Devices, page 62*).
5	When the circuit breaker is ready-to-close, reclose it (see *Closing the Masterpact MTZ2/MTZ3 Mechanism, page 59*)

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Invalid Micrologic X Control Unit Self-Test (Parent Topic)

Masterpact MTZ Circuit Breaker Trip Cause Identification

Status LEDs	Micrologic X display screen T	Trip Cause LEDs	Probable Cause
 Ready LED off. Service LED red.		 All LEDs are on.	Invalid Micrologic control unit self test (see *Resetting the Circuit Breaker after a Trip Due to an Invalid Micrologic X Control Unit Self-Test, page 133*).

Courtesy of NationalSwitchgear.com

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Invalid Micrologic X Control Unit Self-Test (Parent Topic)

Micrologic X Display Screen Trip Message Acknowledgement

Step	Action
1	Press OK. The screen displays: • A description of the trip cause. • The date and time that the trip cause occurred.
2	Consult the list of possible detected trip causes in the following table and perform the actions recommended.
3	Press OK to acknowledge the trip and return to the Home menu.
4	Press the Test/Reset button for 3 seconds to reset the control unit and switch off the trip cause and service LEDs.

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Invalid Micrologic X Control Unit Self-Test (Parent Topic)

Courtesy of NationalSwitchgear.com

Recommended Actions After a Trip Due to Invalid Micrologic X Control Unit Self Test

Code	Trip Message	Description	Recommended Action
0x1400 0x1404 0x1405 0x1406 0x1416	CU self-test major malfunction	The control unit self-test detected a major malfunction in the control unit operation. **NOTE:** The control unit may or may not trip the circuit breaker, depending on how the fallback position is configured.	Call Schneider Electric field service to replace the control unit.
0x1402	Internal current sensor disconnected	The control unit self-test detected the disconnection of an internal sensor of the circuit breaker.	Call Schneider Electric field service to replace the control unit.
0x1403	ENCT disconnected	The control unit self-test detected the disconnection of the external neutral current sensor of the circuit breaker.	Reconnect the external neutral current sensor (ENCT).
0x6407	Self diagnostic trip	The control unit tripped the circuit breaker for an unknown reason.	Call Schneider Electric field service to replace the control unit.

Related Topics

- Resetting the Circuit Breaker after a Trip Due to an Invalid Micrologic X Control Unit Self-Test (Parent Topic)

Courtesy of NationalSwitchgear.com

Diagnosing Micrologic X Control Unit Alarms

Related Topics

- Micrologic X Control Unit Diagnosis Sequence
- Identifying the Micrologic X Control Unit Alarm
- Acknowledging the Alarm on the Micrologic X Display Screen
- Recommended Action after Detection of a High Severity Micrologic X Control Unit Alarm
- Recommended Action after Detection of a Medium Severity Micrologic X Alarm
- Masterpact MTZ Critical Cases (Parent Topic)

Micrologic X Control Unit Diagnosis Sequence

The following table shows the sequence of actions to take after an alarm is detected by the Micrologic X control unit. Further explanation of each action is given in the following paragraphs.

Step	Description
1	Identify the alarm detected.
2	Acknowledge the alarm cause on the Micrologic X display screen.
3	Consult the list of alarms and perform the recommended actions.

Related Topics

- Diagnosing Micrologic X Control Unit Alarms (Parent Topic)

Identifying the Micrologic X Control Unit Alarm

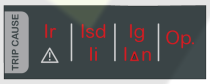
The Micrologic X control unit indicates alarms with:

- The ready LED (flashing green or off).
- The service LED (red or orange).
- A pop-up alarm screen (red or orange).

Two levels of alarm are detected and indicated by the color of the service LED:

- Red for high-severity alarms.
- Orange for medium-severity alarms.

Courtesy of NationalSwitchgear.com

Health Status LEDs	Micrologic X Display Screen	Trip Cause LEDs	Probable Cause
 Ready LED flashing green. Service LED orange.		 All LEDs are off.	Medium severity alarm (see *Recommended Action after Detection of a Medium Severity Micrologic X Alarm, page 139*).
 Service LED red. Ready LED flashing green.  Service LED red. Ready LED off.		 All LEDs are off.  All LEDs are on.	High severity alarm (see *Recommended Action after Detection of a High Severity Micrologic X Control Unit Alarm, page 138*).

Related Topics

- Diagnosing Micrologic X Control Unit Alarms (Parent Topic)

Courtesy of NationalSwitchgear.com

Acknowledging the Alarm on the Micrologic X Display Screen

Step	Action
1	Press OK. The display screen displays: • An alarm message. • The date and time that the alarm occurred.
2	Consult the list of alarm messages in the following tables and perform the actions recommended.
3	Press OK to acknowledge the trip and return to the Home menu.
4	Press the Test/Reset button for three seconds to reset the control unit and switch off the service LED.

Related Topics

- Diagnosing Micrologic X Control Unit Alarms (Parent Topic)

Recommended Action after Detection of a High Severity Micrologic X Control Unit Alarm

Code	Alarm Message	Alarm Description	Recommended Action
0x1400 0x1404 0x1405 0x1406 0x1416	CU self-test major malfunction	The control unit self-test detected a major malfunction in the control unit operation. NOTE: The malfunction trips or does not trip the device, depending on how the fallback position is configured. The control unit self-test had invalid results. **NOTE:** The invalid self-test result trips or does not trip the device, depending on how the fallback position is configured.	Call Schneider Electric field service to replace the control unit.
0x1409	Unable to read sensor plug	The control unit is unable to read the value of the sensor plug.	Check connection of the sensor plug and performer plugs. If the connection is good but the control unit is still unable to reach the value, replace the sensor plug or the control unit.
0x1413	Ig test - no trip	The ground fault (Ig) test trip not executed.	Restart the test. If it does not execute again, replace the control unit.
0x1430	Protection reset to default setting if rebooted.	If switched off, the control unit will be reset at next reboot to the default values of the protection settings.	Call Schneider Electric field service to replace the control unit.
0x1442	Contact wear > 100%. Replace CB	The contact wear indicator reached the threshold of 100%.	Replace the circuit breaker.
0x1444	CB has reached the max number of operations	The circuit breaker reached the maximum number of operations.	Replace the circuit breaker.
0x1451	MCH has reached the max number of operations	The spring charging motor (MCH) reached the maximum number of operations.	Replace the MCH.

Contact a Schneider Electric field service representative for more information about who can carry out the recommended actions.

Related Topics

- Diagnosing Micrologic X Control Unit Alarms (Parent Topic)

Courtesy of NationalSwitchgear.com

Recommended Action after Detection of a Medium Severity Micrologic X Alarm

Code	Alarm Message	Alarm Description	Recommended Action
0x03F5	Ir prealarm (I > 90% Ir)	The long time protection prealarm started: at least one of the phase or neutral currents is higher than 90% Ir threshold. The circuit breaker is operating close to Ir threshold.	Check the load.
0x0D00	Critical hardware modules discrepancy	There is a major hardware discrepancy between the installed modules that prevent them from operating.	In the Ecoreach Firmware menu, see which module has the discrepancy. Replace the module.
0x0D01	Critical firmware modules discrepancy	There is a major software discrepancy between the installed ULP modules that prevent them from operating.	With Ecoreach software, upgrade the firmware in the module .
0x0D02	Non-critical hardware modules discrepancy	There is a minor hardware discrepancy between the installed modules that prevent them from operating correctly.	Plan to replace the module.
0x0D03	Non-critical firmware modules discrepancy	There is a minor software discrepancy between the installed modules that prevent them from operating correctly.	With Ecoreach software, upgrade the firmware in the module.
0x0D06	Config error IO/CU: dual settings or inhibit cls.	There is a declaration discrepancy between the IO module and the control unit.	Use Ecoreach software to correct the mismatch, as follows: • Dual settings configuration mismatch: 1. Set Switch mode to IO-1 Wire or IO-2 Wire. 2. Set IO module with dual setting assignment.. • Inhibit close order configuration mismatch 1. Set Allow control by digital input under breaker close as enabled . 2. Set IO module with Enable/Inhibit close order assignment.
0x0D08	Address conflict between modules	The control unit self-test detected the unexpected presence of IO2 module when IO1 is not present.	Check the supply of the IO#1 module.
0x0D09	Firmware discrepancy within control unit	The control unit self-test detected a discrepancy between the firmware versions of control unit processors.	Use Ecoreach software to upgrade the firmware in the control unit.
0x0D0C	Config mismatch IO/CU - optional protection inhibit	There is a declaration discrepancy between the IO module and the control unit for inhibition of optional protection functions.	Using Ecoreach software: • If you want optional protection inhibition to be controlled by an IO module, connect an IO with inhibit optional protection assignment. • If you do not want optional protection inhibition to be controlled by an IO module, connect an IO without inhibit optional protection assignment.
0x0D0D	Config.error IO/CU- Local/ Remote mode	There is a declaration discrepancy between the IO module and the control unit for local/remote mode assignment.	Using Ecoreach software: • If you want the L/R mode to be controlled by an IO module, connect an IO with L/R mode assignment. • If you do not want the L/R mode to be controlled by IO module, connect an IO without L/R mode assignment.
0x101C	Circuit breaker did not open or close	The circuit breaker did not open or to close as expected.	Visually check circuit breaker position and plan maintenance.
0x1108	Protection changed by Bluetooth / USB / IFE	The protection parameters were changed by communication through Modbus, Ecoreach, or the MTZ mobile app..	For information: No action is required.
0x1120	Communication lost with IO#1 module	The control unit lost communication with the IO#1 module	Check the power supply of the IO#1 module. Check the ULP cable connection.
0x1121	Communication lost with IO#2 module	The control unit lost communication with the IO#2 module	Check the power supply of the IO#2 module. Check the ULP cable connection.

Courtesy of NationalSwitchgear.com

Code	Alarm Message	Alarm Description	Recommended Action
0x1122	Communication lost with EIFE or IFE module	The control unit lost communication with the EIFE or IFE module	Check the power supply of the IFE module. Check the ULP cable connection.
0x1123	Communication lost with IFM module	The control unit lost communication with the IFM module.	Check the power supply of the IFM module. Check the ULP cable connection.
0x112C	Control unit firmware upgrade unsuccessful	The firmware upgrade of the control unit was unsuccessful.	Restart the upgrade procedure. If the message is displayed again, call Schneider Electric field service.
0x1407 0x1470 0x1471 0x1472 0x1473	Control unit self test	The control unit self-test had unexpected results.	Plan to replace the control unit.
0x140A 0x147A 0x147B	Invalid display screen or wireless communication	Control unit self-test detected an invalid result on display screen or the wireless module.	Plan to replace the embedded display screen, which contains the wireless antenna.
0x1411	Invalid measurement and optional protection	Control unit self test detected an invalid result for metering and other protection	Monitor the control unit. If other invalid self-test results occur, plan to replace the control unit.
0x1412 0x1414 0x1415	NFC invalid communication	The control unit self-test detected an invalid NFC communication	Plan to replace the control unit.
0x1422	Bluetooth communication lost	The control unit self-test found no Bluetooth communication	Plan to replace the control unit.
0x1433	Replace battery	The lithium battery is under 3 V and needs to be replaced soon.	Replace the battery.
0x1434	Self diagnostic test – firmware	The control unit self-test detected a firmware internal problem.	Use Ecoreach software to upgrade the firmware version of the control unit.
0x1436	Control unit alarm reset	The control unit self-test detected an invalid result in the control unit and corrected it.	Monitor the control unit. If other self-test invalid results occur and are corrected, plan to replace the control unit.
0x1437	Battery not detected	The required battery is not present.	Add battery.
0x1438	Main voltage loss and circuit breaker is closed	The circuit breaker is closed but no voltage is detected.	Check main voltage.
0x1440	Contact wear is above 60%. Check contacts.	The contact wear indicator has reached or is above the threshold of 60%.	Check contact wear.
0x1441	Contact wear is above 95%. Plan for replacement.	The contact wear indicator has reached or is above the threshold of 95%.	Plan to replace the circuit breaker.
0x1443	Less than 20% CB operation remaining	The remaining number of operations of the circuit breaker is less than 20%.	Plan to replace the circuit breaker.
0x1450	MCH charging operations above threshold	The number of operations of the spring charging motor (MCH) reached the alarm threshold.	Plan to replace the MCH.
0x1460	Invalid self test – MX1 shunt trip	The control unit self-test detected an invalid result for the shunt trip (MX1).	Replace the shunt trip (MX1).
0x1461	MX1 shunt trip not detected.	The control unit self-test detected the unexpected absence of the shunt trip (MX1).	Check the connection of the shunt trip (MX1).
0x1462	Invalid self test – XF shunt close	The control unit self-test detected an invalid result for the shunt close (XF).	Replace the shunt close (XF).
0x1463	XF shunt close not detected.	The control unit self-test detected the unexpected absence of the shunt close (XF).	Check the connection of the shunt close (XF).
0x1464	Invalid self test – MN undervoltage release	The control unit self-test detected an invalid result for the undervoltage release (MN).	Replace the undervoltage release (MN).
0x1465	MN undervoltage release not detected	The control unit cannot detect the undervoltage release (MN).	Check the connection of the undervoltage release (MN).
0x1466	Voltage loss on MN undervoltage release	—	Check the control voltage.
0x1468	Invalid self test – MX2 shunt trip	The control unit self-test detected an invalid result for the shunt trip (MX2).	Replace the shunt trip (MX2).

Courtesy of NationalSwitchgear.com

Code	Alarm Message	Alarm Description	Recommended Action
0x1469	MX2 shunt trip not detected	The control unit cannot detect the shunt trip (MX2).	Check the connection of the shunt trip (MX2).
0x1474 0x1475 0x1476 0x1477	Protection settings no longer accessible	The control unit cannot access the protection settings.	Call Schneider Electric field service to replace the control unit.
0x1411 0x1478 0x1479	Invalid measurement and optional protection	The control unit self-test detected an invalid result in the metering or optional protection functions of the control unit.	Plan to replace the control unit.
0x6200	Ir start (I > 105% Ir)	The long time protection started: at least one of the phase or neutral currents is higher than the Ir threshold. The circuit breaker will trip at the end of the time delay.	Operation information. No action required.
0x6300	Ir operate	The long time protection operated: at least one of the phase or neutral currents is higher than the Ir threshold and the time delay is elapsed.	Reset the device (see *Resetting Masterpact MTZ Devices, page 62*) or use the Masterpact MTZ Mobile App Power restoration assistant.
0x6301	Isd operate	The short time protection operated: at least one of the phase or neutral currents is higher than the Isd threshold and the time delay is elapsed.	Reset the device (see *Resetting Masterpact MTZ Devices, page 62*) or use the Masterpact MTZ Mobile App Power restoration assistant.
0x6302	Ii operate	The instantaneous protection operated: at least one of the phase or neutral currents is higher than the Ii threshold (no time delay).	Reset the device (see *Resetting Masterpact MTZ Devices, page 62*) or use the Masterpact MTZ Mobile App Power restoration assistant.
0x6303	Ig operate	The ground-fault protection operated: the ground-fault current is higher than the Ig threshold and the time delay tg is elapsed.	Reset the device (see *Resetting Masterpact MTZ Devices, page 62*) or use the Masterpact MTZ Mobile App Power restoration assistant.
0x6306	Ultimate self-protection (SELLIM) operate	The integrated instantaneous protection (SELLIM) operates: at least one of the phase or neutral currents is higher than the SELLIM threshold (no time delay).	Reset the device (see *Resetting Masterpact MTZ Devices, page 62*) or use the Masterpact MTZ Mobile App Power restoration assistant.
0x631D	Ultimate self-protection trip (DIN/DINF) operate	The integrated instantaneous protection (DIN/DINF) operates: at least one of the phase or neutral currents is higher than the DIN/DINF threshold (no time delay).	Reset the device (see *Resetting Masterpact MTZ Devices, page 62*) or use the Masterpact MTZ Mobile App Power restoration assistant.

Contact a Schneider Electric field service representative for more information about who can carry out the recommended actions.

Related Topics

- Diagnosing Micrologic X Control Unit Alarms (Parent Topic)

Courtesy of NationalSwitchgear.com

Diagnosing Masterpact X Error Messages

The following table shows the sequence of actions to take after an error message is received from the Micrologic X control unit. Further explanation of each action is given in the following paragraphs.

Stage	Description
1	Identify the problem detected.
2	Acknowledge the cause on the Micrologic X display screen.
3	Consult the list of error messages and perform the recommended actions.

Related Topics

- Identify the Problem
- Acknowledging the Error Message
- Action after Receiving Error Message
- Masterpact MTZ Critical Cases (Parent Topic)

Identify the Problem

An error message is displayed when the Micrologic X control unit detects an internal problem.

Example of error message:

Related Topics

- Diagnosing Masterpact X Error Messages (Parent Topic)

Acknowledging the Error Message

Acknowledge the error message on the Micrologic X control unit display screen.

Step	Action
1	Consult the list of error messages in the following tables and perform the actions recommended.
2	Press OK to acknowledge the message and return to the Home menu.
3	Press the Test/Reset button for 3 seconds to reset the control unit.

Related Topics

- Diagnosing Masterpact X Error Messages (Parent Topic)

Courtesy of NationalSwitchgear.com

Action after Receiving Error Message

Recommended action after receiving a Micrologic X control unit error message.

Code	Error Message	Description	Recommended Action
1 to 24 157 190	Service not performed - internal problem	The requested action was not performed due to an internal problem.	Repeat the action that caused the error message. If the message is displayed again, switch off the 24 Vdc of the Micrologic X control unit and switch it on again. If the problem persists, call Schneider Electric field service.
158	Command rejected, already in progress	The Micrologic X control unit has detected simultaneous orders (for example between IO and control unit).	Repeat the command.
169	Command rejected, already in asked state.	The Micrologic X control unit is already in the requested state.	Check that the Micrologic X control unit is in the required state. If it is not, repeat the command.
174	Session Key is invalid	The request action was not performed because the session key is not valid.	Repeat the action that caused the error message. If the message is displayed again, switch off the 24 Vdc of the Micrologic X control unit and switch it on again. If the problem persists, call Schneider Electric field service.
175	Out of session scope	The requested action was not performed because it is not within the session scope.	Repeat the action that caused the error message. If the message is displayed again, switch off the 24 Vdc of the Micrologic X control unit and switch it on again. If the problem persists, call Schneider Electric field service.
176	Session is already opened	The Micrologic X control unit has detected simultaneous settings sessions (for example, Ecoreach and control unit).	Press OK to clear the message and then repeat the command.
177	No session is open	Submit/apply operations have not been performed within five minutes.	Start a new session, re-enter the settings, then submit and apply them.
180	Bluetooth disabled! To enable go to Configuration menu.	Bluetooth communication has not been enabled for the Micrologic X control unit.	Enable Bluetooth communication from the Micrologic X control unit menu > Configuration > Communication > Bluetooth.

Contact a Schneider Electric field service representative for more information about who can carry out the recommended actions.

Related Topics

- Diagnosing Masterpact X Error Messages (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ Commissioning

Related Topics

- Masterpact MTZ2/MTZ3 Commissioning Introduction
- Masterpact MTZ2/MTZ3 Inspection and Micrologic X Settings
- Masterpact MTZ2/MTZ3 Tests
- Masterpact MTZ2/MTZ3 Final Checks and Reporting
- Masterpact MTZ Test Form

Masterpact MTZ2/MTZ3 Commissioning Introduction

Related Topics

- Masterpact MTZ Devices Overview
- Masterpact MTZ Devices Scope
- Masterpact MTZ Devices Equipment
- Masterpact MTZ Devices Test Form
- Masterpact MTZ Commissioning (Parent Topic)

Masterpact MTZ Devices Overview

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, CSA Z462, NOM 029-STPS, or local equivalent.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Unless specified otherwise in the commissioning procedures, all operations (inspection, test, and preventive maintenance) must be carried out with the device, the cradle, and the auxiliary circuits deenergized.
- Check that the device and the cradle are de-energized on the upstream and downstream terminals.
- Always use a properly rated voltage sensing device to confirm that the device, the cradle, and the auxiliary circuits are de-energized.
- Install safety barriers and display a danger sign.
- During the tests, it is strictly forbidden for anyone to touch the device, the cradle, or the conductors while voltage is applied.
- Before putting the equipment back into operation, it is mandatory to check that all connections are made with the correct tightening torque, there are no tools or objects inside the equipment, all devices, doors, and protective covers are in position, and the device is off (open position).

Failure to follow these instructions will result in death or serious injury.

This chapter details the testing and commissioning procedure for Masterpact MTZ devices that must be done before the device can be accepted as fit for service and connected to a power supply.

The commissioning procedure must be done by an authorized commissioning engineer with appropriate training and experience:

- Only qualified electrical personnel with training and experience on low voltage circuits must perform the work described in this chapter.

Courtesy of NationalSwitchgear.com

Personnel must understand the hazards involved in working with or near low-voltage equipment. Such work must be performed only after reading the complete set of instructions.

- Some inspections or procedures require that certain parts of the electrical system remain energized at hazardous voltage during the procedure. Observe all safety messages (Danger, Warning, Caution) throughout this chapter and the corresponding instruction notices.
- Wear personal protective equipment, recognize potential hazards, and take adequate safety precautions when performing the procedures outlined in this chapter and the corresponding instruction notices.

The commissioning procedure assumes that the following conditions are met at the start of the procedure:

- The device is not connected to a power system or a control system.
- A drawout device is in the disconnected position.
- The device is not connected to a communication network.

The results of all observations, tests, adjustments, together with any relevant comments must be recorded on the appropriate form, if applicable.

Wherever possible, testing must be done without disconnecting or disturbing existing wiring.

Related Topics

- Masterpact MTZ2/MTZ3 Commissioning Introduction (Parent Topic)

Masterpact MTZ Devices Scope

The commissioning procedure applies to the Masterpact MTZ intelligent modular unit (IMU), made up of:

- Masterpact MTZ circuit breaker
- Micrologic X control unit
- Optional ULP modules:
  - One IFE, EIFE or IFM Modbus SL (RTU)
  - One or two IO modules

The associated information, which must be read with this procedure, includes specific schematic diagrams, connections, and trip levels for the devices covered by this document.

Related Topics

- Masterpact MTZ2/MTZ3 Commissioning Introduction (Parent Topic)

Masterpact MTZ Devices Equipment

The following equipment is required to do the tests detailed in the commissioning procedure:

- Insulation resistance tester
- Multimeter
- A PC equipped with updated Ecoreach software
- A USB to mini USB cable (LV850067SP) to connect the PC to the Micrologic X control unit

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Commissioning Introduction (Parent Topic)

Masterpact MTZ Devices Test Form

A test form (see *Masterpact MTZ Test Form, page 157*) is available to guide you through the commissioning procedure and to record the results of the commissioning tests. Each test is described in detail in the Commissioning chapter.

Do only the tests required, depending on the Masterpact MTZ device type and the functions in use.

Related Topics

- Masterpact MTZ2/MTZ3 Commissioning Introduction (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Inspection and Micrologic X Settings

Related Topics

- Masterpact MTZ Devices Visual Inspection
- Masterpact MTZ Devices Condition of Connections and Auxiliaries
- Masterpact MTZ Devices Firmware Compatibility Check
- Micrologic X Control Unit Settings
- Masterpact MTZ Commissioning (Parent Topic)

Masterpact MTZ Devices Visual Inspection

Step	Action
1	Record the equipment identification, including substation name, switchboard name, Masterpact MTZ device type, Micrologic X model type and serial number, Micrologic X type, and protection settings.
2	Check that the device is undamaged, correctly mounted, and securely fastened in the switchboard.
3	Check the three-phase clearance at terminal blocks.
4	Check that there is no debris remaining at the back of the device housing/enclosure.
5	Check that the ground terminals of the device are securely connected with the correct grounding cables.
6	Check that all external surfaces are undamaged.
7	Rectify any non-conformities, if possible. All equipment non-conformities must be referred to asset management.

Related Topics

- Masterpact MTZ2/MTZ3 Inspection and Micrologic X Settings (Parent Topic)

Masterpact MTZ Devices Condition of Connections and Auxiliaries

Check device mounting in the switchboard and the tightness of all connections (main connection and auxiliary wiring).

Check that all auxiliaries and accessories are correctly installed:

- Electrical auxiliaries
- Terminal blocks
- Connections of auxiliary circuits

Related Topics

- Masterpact MTZ2/MTZ3 Inspection and Micrologic X Settings (Parent Topic)

Masterpact MTZ Devices Firmware Compatibility Check

Using Ecoreach software, check that the firmware of the Micrologic X control unit and ULP modules in the intelligent modular unit (IMU) are up-to-date and compatible with each other. The ULP modules are the EIFE, IFE or IFM communication interfaces, and the IO module.

Step	Action
1	Connect a PC running Ecoreach software by using a cable connected to the mini USB port on the front face of the Micrologic X control unit.
2	Establish a connection. Ecoreach software reads the parameters of the control unit.

Courtesy of NationalSwitchgear.com

Step	Action
3	On Ecoreach, use the Overall System firmware status/compatibility matrix to display: • The installed firmware version of the IMU devices (Micrologic X control unit and ULP modules). • The latest firmware version of the devices that are available on the Schneider Electric System Updates Internet site. • The recommended actions to get a compatible system. For more information, refer to *Ecoreach Online Help (DOCA0069EN)*.
4	Follow the recommended actions to get a compatible system.

Related Topics

- Masterpact MTZ2/MTZ3 Inspection and Micrologic X Settings (Parent Topic)

Courtesy of NationalSwitchgear.com

Micrologic X Control Unit Settings

NOTICE

RISK OF UNINTENDED OPERATION

- The device must only be configured and set by qualified personnel, using the results of the installation protection system study.
- During commissioning of the installation and following any modification, check that the Micrologic X configuration and protection function settings are consistent with the results of this study.
- Micrologic X protection functions are set by default to the minimum value, except for the long time protection function which is set to the maximum value, by default.

Failure to follow these instructions can result in equipment damage.

Check the settings with Ecoreach software connected to the Micrologic X control unit.

Step	Action
1	Connect a PC running Ecoreach software by using a cable connected to the mini USB port on the front face of the Micrologic X control unit.
2	Establish a connection. Ecoreach software will read the parameters of the control unit.
3	Check that the settings read in the control unit match the requirements of the application. If necessary, correct the settings with Ecoreach software: • The protection settings must be defined according to the installation protection system study. • Other settings must be defined according to the application.
4	Complete the project and device data.
5	Generate the project report with Ecoreach software, and save or print the project report as needed.

NOTE: The protection functions available depend on the type of Micrologic X control unit and its associated options.

Related Topics

- Masterpact MTZ2/MTZ3 Inspection and Micrologic X Settings (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Tests

The tests to do while commissioning an MTZ device are described in this section:

- Functional checks
- Check spring charging motor (MCH) (if fitted)
- Check M2C programmable contacts and IO module (if fitted)
- Check electrical continuity
- Check high-voltage insulation
- Check Micrologic X **Ready** LED status
- Test the tripping mechanism with Ecoreach software
- Test the tripping mechanism with the test button (Micrologic 6.0 X control units only)

Do only the tests required, depending on the Masterpact MTZ type and the functions in use, and record the results on the test form (see *Masterpact MTZ Test Form, page 157*). In the event of non-conformance, record the result (for future reference) and DO NOT place the Masterpact MTZ device into service.

Related Topics

- Masterpact MTZ Devices Functional Checks
- Masterpact MTZ Devices Check of Spring Charging Motor (MCH) (If Installed)
- Check Masterpact MTZ Devices M2C Programmable Contact and IO Module (If Installed)
- Check ESM ERMS Switch Module (If Installed)
- Check Masterpact MTZ Devices Electrical Continuity
- Check Masterpact MTZ Devices High-Voltage Insulation
- Check Micrologic X Control Unit Ready LED Status
- Test the Tripping Function with EcoReach Software
- Test the Tripping Mechanism with the Test Button (Micrologic 6.0X Control Units)
- Masterpact MTZ2/MTZ3 Communication Tests
- Masterpact MTZ Commissioning (Parent Topic)

Masterpact MTZ Devices Functional Checks

Check the Masterpact MTZ device operation and record the results on the test form.

Step	Action
1	Manually charge the mechanism by pulling the spring charging handle down.
2	Close the device. Check the device closing in the different control modes and means designed for the application.
3	Open the device. Check the device opening in the different control modes and means designed for the application.

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Masterpact MTZ Devices Check of Spring Charging Motor (MCH) (If Installed)

Check the spring charging motor (MCH) operation and record the results on the test form.

Courtesy of NationalSwitchgear.com

Step	Action
1	Remove the spring charging motor (MCH) power supply.
2	Do an opening/closing/opening cycle to discharge the mechanism.
3	With the device in the open position and the mechanism discharged, check electrical continuity between terminals B1 and B2, and electrical non-continuity between terminals B1 and B3.
4	Manually charge the mechanism.
5	Reconnect the spring charging motor (MCH) power supply. The device closes and the mechanism is automatically charged.
6	Check electrical continuity between terminals B1 and B3.
7	Operate the device several times to check that the spring mechanism automatically recharges after every closing operation.

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Courtesy of NationalSwitchgear.com

Check Masterpact MTZ Devices M2C Programmable Contact and IO Module (If Installed)

Check the operation of inputs and outputs, and record the results on the test form.

Step	Action
1	Connect a PC running Ecoreach software by using a cable to the mini USB port on the front face of the Micrologic X control unit.
2	Force the state of both inputs of the M2C programmable contacts and check that the operation is correct.
3	Force the state of the six digital inputs and three outputs of the one or two IO modules in the IMU to check the wiring to the circuit breaker. Check that the operation is correct.

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Check ESM ERMS Switch Module (If Installed)

Check the operation of the ESM ERMS switch module, and record the results on the test form.

Step	Action
1	Make sure that the Micrologic X control unit is powered permanently with a 24 Vdc power supply.
2	Connect the ESM ERMS switch module to an external switch with a 24 Vdc or 24–120 Vac power supply.
3	Activate the ERMS function by moving the external switch to the **Engage** position. Check that: • The ERMS LED on the front face of the Micrologic X control unit lights blue. • The Micrologic X control unit display screen is lit with a blue backlight. • The message ERMS Engaged is displayed on the Micrologic X control unit display screen.
4	Disengage the ERMS function by moving the external switch to the **Disengage** position, and check after three seconds that the Micrologic X control unit returns to its original state.

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Check Masterpact MTZ Devices Electrical Continuity

Check electrical continuity using a multimeter or continuity checker and record the results on the test form.

Step	Action
1	Close the device.
2	Check electrical continuity, for each phase, between the upper and lower power terminals: • For a fixed device: on the power terminals. • For a drawout device: on the cradle power terminals, with the device in the connected position.

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Courtesy of NationalSwitchgear.com

Check Masterpact MTZ Devices High-Voltage Insulation

Dielectric tests (high potential and insulation resistance tests) are used to check the insulation between phases and between each phase and ground. The equipment used to conduct these tests creates a high potential voltage (thousands of volts) to check dielectric or insulation integrity.

If included in the Micrologic X control unit, the voltage power supply (VPS) module connects and disconnects the control unit from the voltage connections in the circuit breaker.

Before conducting any high-voltage insulation tests, move the VPS module to the disconnected position and unplug any cables from the mini USB port on the front face of the Micrologic X control unit. For information on VPS disconnection, consult instruction sheet *NVE40741* on the Schneider Electric website.

⚠CAUTION

DETERIORATION OF VPS MODULE

Disconnect the VPS module by pulling it out to the disconnected position before running a dielectric test on the equipment.

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

Check insulation resistance and record the results on the test form.

Step	Action
1	Disconnect the VPS module and unplug any cables from the mini USB port on the front face of the Micrologic X control unit.
2	Close the device.
3	Measure the insulation resistance using a 500 Vdc insulation resistance tester between one of the phases and the other two phases grounded. Repeat for each phase.
4	Open the Masterpact MTZ device by pressing the opening pushbutton.
5	Measure the insulation resistance using a 500 Vdc insulation resistance tester between one of the phases and ground, with all other phases grounded. Repeat for each phase.
6	Check that the insulation resistance is above 5 MΩ in each case. If this result is not obtained, contact a Schneider Electric field service representative.

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Courtesy of NationalSwitchgear.com

Check Micrologic X Control Unit Ready LED Status

Check the functioning of the Micrologic X control unit and record the results on the test form.

Step	Action
1	Provide power to the Micrologic X control unit, for example, by connecting a PC or Mobile Power Pack to the mini USB port on the front face.
2	Check that the Micrologic X **Ready** LED is flashing green. The Ready LED flashes green to indicate that: • The sensors are correctly wired. • The tripping mechanism is functioning correctly. • The Micrologic X control unit is functioning correctly.
3	If the **Ready** LED is not flashing green, refer to chapter Critical Cases (see *Masterpact MTZ Critical Cases, page 123*).

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Test the Tripping Function with EcoReach Software

Test the Masterpact MTZ tripping mechanism and record the results on the test form.

Step	Action
1	Close the circuit breaker.
2	Connect a PC running Ecoreach software by using a cable to the mini USB port on the front face of the Micrologic X control unit.
3	On Ecoreach software, select the circuit breaker and connect to it.
4	Force the circuit breaker to trip by clicking the **Force Trip** button on the Ecoreach screen. This action is password-protected.
5	Check that the circuit breaker is open.
6	Check that the blue fault-trip reset button has popped out.
7	Check that the Isd/Ii LED is on.
8	Check that the SDE contacts have switched.
9	After the test, reset the circuit breaker.

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Test the Tripping Mechanism with the Test Button (Micrologic 6.0X Control Units)

Test the Masterpact MTZ tripping mechanism when fitted with a Micrologic 6.0 X control unit, and record the results on the test form.

Step	Action
1	Close the circuit breaker.
2	Use a thin screwdriver to briefly push in (<1 s) the test button on the control unit.
3	Check that the circuit breaker is open.
4	Check that the blue fault-trip reset button has popped out.
5	Check that the Ig/IΔn LED is on.
6	Check that the SDE contacts have switched.
7	After the test, reset the circuit breaker.

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Masterpact MTZ2/MTZ3 Communication Tests

Related Topics

- Communication Network Test with Ecoreach Software
- Masterpact MTZ Devices Remote Control Tests
- Masterpact MTZ2/MTZ3 Tests (Parent Topic)

Communication Network Test with Ecoreach Software

Use Ecoreach software to test the communication network between all the communicating devices of the project:

- Devices connected to the Ethernet network through an IFE or EIFE Ethernet interface.
- Devices connected to a Modbus serial line network through an IFM Modbus SL (RTU) interface stacked through at Ethernet server.
- Devices connected to a Modbus serial line network from an IFM Modbus SL (RTU) interface.

Step	Action
1	Connect a PC running Ecoreach software by using an RJ45 cable to the Ethernet network, on the IFE or EIFE Ethernet interface, or IFM interface, for example.
2	In Ecoreach software, at **Create report** → **Communication test & report**, select devices to be tested from the list of communicating devices defined in the project.
3	Click **Run test**. All selected devices are tested.
4	Results are displayed at the end of the test.
5	Generate the communication test report with Ecoreach software, and save or print the project report as needed.

Related Topics

- Masterpact MTZ2/MTZ3 Communication Tests (Parent Topic)

Masterpact MTZ Devices Remote Control Tests

If the Masterpact MTZ device can be opened and closed remotely through the communication network, use the following tests to check for the correct operation of remote control:

Step	Action
1	Connect a PC running Ecoreach software by using an RJ45 cable to the Ethernet network, on the IFE or EIFE Ethernet interface for example.
2	Check that the control mode is set to Auto: Remote.
3	In Ecoreach software, select the circuit breaker and connect to it.
4	Click the Device tab to access the Open and Close buttons.
5	Check that it is possible to open and close the Masterpact MTZ device remotely. These actions are password-protected.

Related Topics

- Masterpact MTZ2/MTZ3 Communication Tests (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ2/MTZ3 Final Checks and Reporting

Related Topics

- Masterpact MTZ Devices Final Checks
- Project Report Generated by Ecoreach Software
- Communication Test Report Generated by Ecoreach Software
- Masterpact MTZ Commissioning (Parent Topic)

Masterpact MTZ Devices Final Checks

After completing the commissioning tests, check the following:

Step	Action
1	Check that connections are made with the correct tightening torque, that there are no tools or objects inside the equipment, and that all devices, doors, and protective covers are in position.
2	Check that the device is off (open position) and the closing spring is charged.

Related Topics

- Masterpact MTZ2/MTZ3 Final Checks and Reporting (Parent Topic)

Project Report Generated by Ecoreach Software

Ecoreach software generates a project report with a list of the devices for that project. For each device it provides the following information:

- The circuit breaker identification data.
- The Micrologic X identification data, including the list of digital modules installed.
- The list of accessories including internal accessories (for example, M2C programmable contacts), and external modules (for example, IO module).
- The protection settings for the Micrologic X control unit.
- The alarm settings.
- The IFE, EIFE, or IFM communication interface settings.

Related Topics

- Masterpact MTZ2/MTZ3 Final Checks and Reporting (Parent Topic)

Communication Test Report Generated by Ecoreach Software

Ecoreach software performs a communication test and generates a report of the test. For each device it provides the following information:

- The name and type of the device.
- The type of communication.
- The address of the device or gateway.
- The status of the connection.

Related Topics

- Masterpact MTZ2/MTZ3 Final Checks and Reporting (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ Test Form

Related Topics

- How to Use the Masterpact MTZ Test Form
- Masterpact MTZ Device Identification
- Masterpact MTZ Devices Preliminary Checks
- Masterpact MTZ Devices Functional and Interlock Checks
- Masterpact MTZ Devices Electrical Continuity Checks
- Masterpact MTZ Device Insulation Test
- Micrologic X Control Unit Ready LED Check
- Micrologic X Control Unit Tripping Mechanism Test
- Micrologic 6.0X Test Button Tripping Mechanism Test
- Masterpact MTZ Communication Tests
- Masterpact MTZ Device Final Checks
- Masterpact MTZ Commissioning (Parent Topic)

How to Use the Masterpact MTZ Test Form

Print this test form to record the results of the commissioning tests.

Check the box (✓) when the test has been made and is conclusive.

This test form, the project report, and the communication test report should be left on-site in a plastic wallet and in an easily accessible, safe place.

Each test is described in detail in the Commissioning chapter.

Only do the tests required, depending on the Masterpact MTZ type and the functions in use.

When all the tests have been satisfactorily completed, sign and date the test form.

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Masterpact MTZ Device Identification

<table>
<tr><td colspan="2">Workstation</td><td>Tests conducted on:</td><td>By:</td></tr>
<tr><td colspan="2" rowspan="5"></td><td rowspan="5"></td><td>Signature:</td></tr>
<tr><td>Substation name</td><td rowspan="4">Comments:</td></tr>
<tr><td>Substation number</td></tr>
<tr><td>Switchboard/ switchgear name</td></tr>
<tr><td>Voltage</td></tr>
</table>

Masterpact MTZ device	
Manufacturer	Schneider Electric
Type of Masterpact MTZ device	

Courtesy of NationalSwitchgear.com

Masterpact MTZ device	
Serial number	
Hardware version	

Micrologic X Control Unit			
Micrologic X type CT		CT ratio	
Firmware version			

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ Devices Preliminary Checks

Type of check	(✓)
Visual inspection satisfactory (for example, no visible signs of damage).	
Grounding satisfactory.	
Connection tightness checked.	
Firmware compatibility satisfactory.	
Micrologic X settings applied.	
Project report generated.	

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Masterpact MTZ Devices Functional and Interlock Checks

Type of check	(✓)
Mechanism charges when spring charging handle is pulled.	
Masterpact MTZ device closes.	
Masterpact MTZ device opens.	
Mechanism charges automatically after closing when the device is fitted with a spring charging motor (MCH) .	
M2C programmable contacts function correctly.	
IO module functions correctly.	
Interlocking systems of the circuit breaker function correctly.	
Interlocking systems between two or three circuit breakers function correctly.	

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Masterpact MTZ Devices Electrical Continuity Checks

Masterpact MTZ device status	Tested terminals		Electrical continuity
	Incoming side	Outgoing side	
Closed	L1	L1	Ω
Closed	L2	L2	Ω
Closed	L3	L3	Ω

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Masterpact MTZ Device Insulation Test

Masterpact MTZ device status	Terminals under test	Voltage	Insulation resistance
Closed	Closed L1, with L2 and L3 grounded	500 Vdc	MΩ
Closed	Closed L2, with L1 and L3 grounded	500 Vdc	MΩ
Closed	Closed L3, with L1 and L3 grounded	500 Vdc	MΩ

Courtesy of NationalSwitchgear.com

Masterpact MTZ device status	Terminals under test	Voltage	Insulation resistance
Open	Open L1, with L1, L2, L3 grounded on the other side	500 Vdc	MΩ
Open	Open L2, with L1, L2, L3 grounded on the other side	500 Vdc	MΩ
Open	Open L3, with L1, L2, L3 grounded on the other side	500 Vdc	MΩ

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Micrologic X Control Unit Ready LED Check

Type of check	(✓)
Micrologic X **Ready** LED flashes green.	

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Micrologic X Control Unit Tripping Mechanism Test

Type of check	(✓)
With the circuit breaker closed, force the circuit breaker to trip using Ecoreach software.	
Check that the circuit breaker is open.	
Check that the blue fault-trip reset button has popped out.	
Check that the Isd/Ii LED is on.	
Check that the SDE contacts have switched.	

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Micrologic 6.0X Test Button Tripping Mechanism Test

Type of check	(✓)
With the circuit breaker closed, briefly press (<1 s) the test button on the front face of the control unit.	
Check that the circuit breaker is open.	
Check that the blue fault-trip reset button has popped out.	
Check that the Ig/IΔn LED is on.	
Check that the SDE contacts have switched.	

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Masterpact MTZ Communication Tests

Type of check	(✓)
Communication network tested.	
Communication test report generated.	
Remote opening and closing tested.	

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Masterpact MTZ Device Final Checks

Type of check	(✓)
All doors and protected covers are in position.	
The device is off (open position) and the closing spring is charged.	

Related Topics

- Masterpact MTZ Test Form (Parent Topic)

Courtesy of NationalSwitchgear.com

Masterpact MTZ Troubleshooting

Related Topics

- Troubleshooting the Masterpact MTZ Device
- Layer Model for Troubleshooting Masterpact MTZ Devices
- Troubleshooting the Masterpact MTZ Device with Assistance
- Maintenance of the Masterpact MTZ Device
- Troubleshooting Masterpact MTZ Cradle Operation
- Troubleshooting Unexpected Tripping
- Troubleshooting Masterpact MTZ Mechanical Control Operations
- Troubleshooting Masterpact MTZ Electrical Control Operations
- Troubleshooting Control Operations from Masterpact MTZ Mobile App
- Troubleshooting Control Operation from the IO Module
- Troubleshooting Control Operations from Ecoreach Software
- Troubleshooting Control Operations from IFE/EIFE Webpages
- Troubleshooting Control Operations from the Communication Network
- Troubleshooting Control Operations from FDM128 Display

Troubleshooting the Masterpact MTZ Device

This chapter contains information for troubleshooting problems in a working system. It assumes that the system is correctly installed and that all the commissioning tests (see *Masterpact MTZ Commissioning, page 144*) have been completed successfully. The troubleshooting operations are described under the following headings:

- Cradle operation
- Unexpected tripping
- Mechanical control operations
- Electrical control operations
- Control operations from Masterpact MTZ Mobile App
- Control operations from IO module
- Control operations from Ecoreach software
- Control operations from IFE/EIFE webpages
- Control operations from communication network
- Control operations from FDM128 display

Related Topics

- Masterpact MTZ Troubleshooting (Parent Topic)

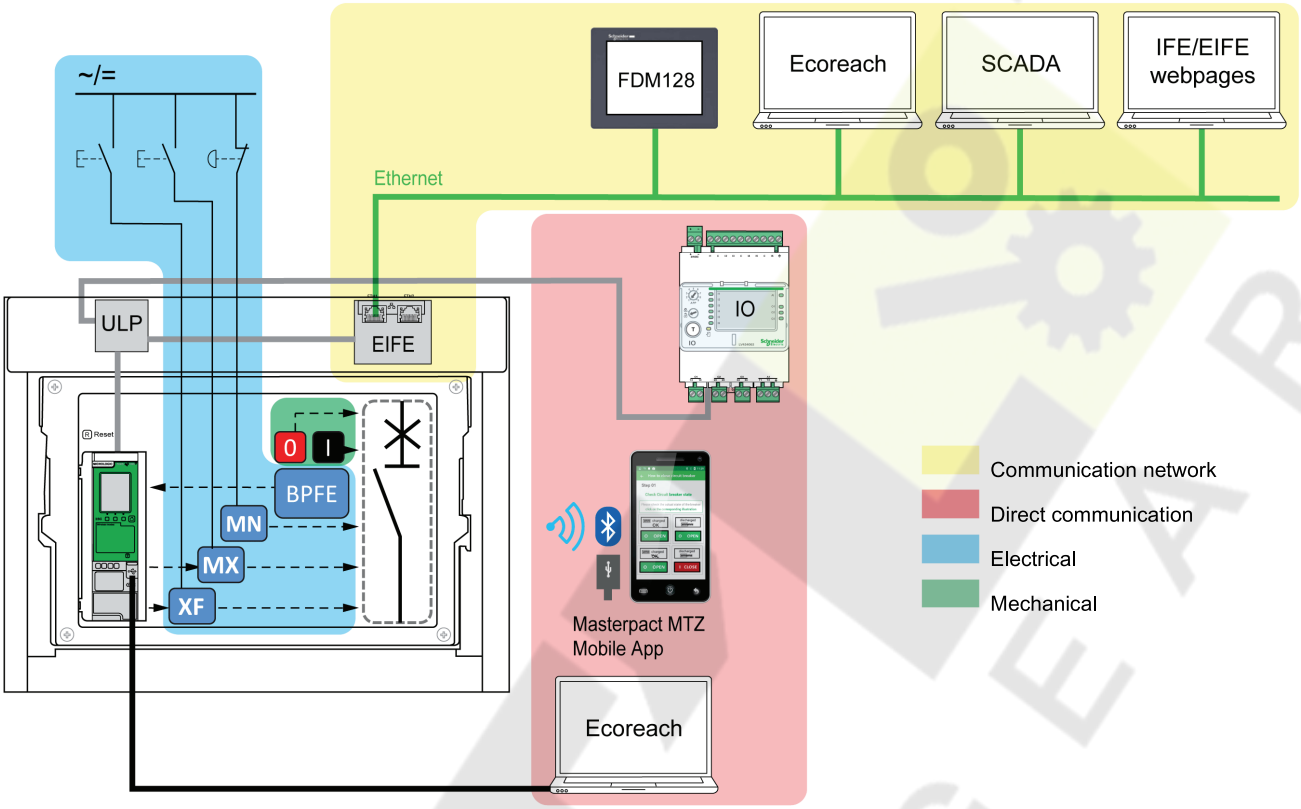
Layer Model for Troubleshooting Masterpact MTZ Devices

When troubleshooting the device, it is useful to consider a layer model. There are four layers:

- Communication network
- Direct connection
- Electrical
- Mechanical

Courtesy of NationalSwitchgear.com

The following diagram shows the layers in the device:



If the troubleshooting actions for a layer are not successful, go to the next layer, until you reach the Mechanical layer. If you cannot solve the problem after troubleshooting the Mechanical layer, contact a Schneider Electric field service representative.

Related Topics

- Masterpact MTZ Troubleshooting (Parent Topic)

Troubleshooting the Masterpact MTZ Device with Assistance

Assistance for troubleshooting is provided by the Masterpact Operation Assistant Digital Module, which is available to be downloaded from GoDigital.

The Masterpact Operation Assistant Digital Module helps to close a circuit breaker after a trip or an opening.

The following features are available:

- Ready-to-close status
- Reset (if applicable)
- Spring charging (if applicable)
- Diagnostics on related reclosing information, for example, no power supply to shunt trip (MX) , undervoltage release (MN), or spring charging motor (MCH)

Refer to *Micrologic X Control Unit - User Guide (DOCA0102EN)* for more information about downloading Digital Modules.

Courtesy of NationalSwitchgear.com

Related Topics

- Masterpact MTZ Troubleshooting (Parent Topic)

Maintenance of the Masterpact MTZ Device

For information about the preventive maintenance program and maintenance procedures, refer to *Micrologic X Control Unit - User Guide (DOCA0102EN)*.

Related Topics

- Masterpact MTZ Troubleshooting (Parent Topic)

Courtesy of NationalSwitchgear.com

Troubleshooting Masterpact MTZ Cradle Operation

Cradle operation includes the following:

- Racking in and racking out the drawout device.
- Locking and unlocking the cradle.

Related Topics

- Troubleshooting the Cradle
- Masterpact MTZ Troubleshooting (Parent Topic)

Troubleshooting the Cradle

Problem Description	Probable Causes	Solutions
Impossible to insert the racking handle in connected, test, or disconnected position.	A padlock or keylock is present on the cradle or a door interlock is present.	Disable the locking function.
Impossible to turn the racking handle.	The position release button is not pushed in and so the racking handle cannot be rotated.	Push the position release button.
Device cannot be removed from cradle.	Device is not in the disconnected position.	Turn the racking handle until the device is in the disconnected position and the position release button pops out.
	Rails are not completely extended.	Pull out the rails of the cradle.
Device cannot be connected (racked in).	Cradle and device do not match (cradle rejection kit pins prevent racking).	Check that the cradle corresponds with the device.
	Safety shutters are locked.	Remove the locks.
	Device clusters are incorrectly positioned.	Reposition the device clusters.
	Cradle is locked in the disconnected position.	Disable the cradle locking function.
	The position release button is not pushed in and so the racking handle cannot be rotated.	Push the position release button.
	Device has not been sufficiently inserted in the cradle.	Insert the device completely so that it is engaged in the racking mechanism.
Device cannot be locked in the disconnected position.	Device is not in the correct position.	Check the device position by checking that the position release button is popped out.
	Racking handle is still in the cradle.	Remove the racking handle and store it.
Device cannot be locked in the connected, test, or disconnected position.	Locking in any position is not enabled.	Adapt the cradle locking mechanism so that the cradle can be locked in any position (see *Converting the Masterpact MTZ2/MTZ3 Cradle for Keylocking, page 104*) .
	Device is not in the correct position.	Check the device position by checking that the position release button is out.
	Racking handle is still in the cradle.	. Remove the racking handle and store it.

Courtesy of NationalSwitchgear.com

Problem Description	Probable Causes	Solutions
The racking handle cannot be inserted to connect or disconnected the device.	Rails are not completely in.	Push the rails all the way in.
The right-hand rail (chassis alone) or the device cannot be drawn out.	Racking handle is still in the cradle..	Remove the racking handle and store it.

Related Topics

- Troubleshooting Masterpact MTZ Cradle Operation (Parent Topic)

Courtesy of NationalSwitchgear.com

Troubleshooting Unexpected Tripping

Unexpected tripping is tripping that is not caused by a protection function during normal operation or by tests.

Related Topics

- Troubleshooting Unexpected Tripping
- Masterpact MTZ Troubleshooting (Parent Topic)

Troubleshooting Unexpected Tripping

Problem Description	Symptom	Probable Causes	Solutions
Device opened without any overcurrent electrical fault.	The blue fault-trip reset button is not popped out and no trip cause LED is lit.	Drop in voltage to below the threshold detected by undervoltage release (MN).	Check the voltage and the MN supply circuit (V > 0.85 Vn).
		An order (for example loadshedding) sent to the shunt trip (MX) by another device.	Check the parameters of the device that sent the order.
		Unnecessary opening order from the shunt trip (MX).	Determine the origin of the order and cancel it.
Device trips in a shorter time than expected after attempt to close the device.	The blue fault-trip reset button is popped out and the Ir LED is lit.	Thermal memory is still active and current on the line is above the Ir threshold.	Check whether there is still an overload on the line. If necessary, make a correction. For details of thermal memory, refer to Masterpact MTZ Micrologic X - Control Unit - User Guide (see *Related Documents, page 11*).
	The blue fault-trip reset button is popped out, the Ir or Isd LED is lit, and the ERMS LED is lit.	ERMS is active so device opens at lower protection settings.	The ERMS function (see *Engaging the ERMS Function, page 65*) applies reduced protection settings for use during maintenance. Check whether maintenance is in progress. If ERMS is no longer necessary, disengage it to revert to normal protection settings.
	—	The tripping curves (A or B) have been modified, or the control unit is not set to the usual set of tripping curves (A or B).	This might be a change in intended behavior so not a problem. Check the tripping curve definitions are describing the intended behavior. Modify the definitions if necessary.
Immediate tripping after an attempt to close the device.	The blue fault-trip reset button is popped out and the Ir LED is lit.	Transient overcurrent when closing.	• Modify the distribution system or the control unit settings. • Check the condition of the device before putting it back into service.
Immediate tripping after an attempt to close the device with activation of the blue fault-trip reset button.	—	Closing on a short-circuit. I	Refer to Masterpact MTZ Critical Cases (see *Masterpact MTZ Critical Cases, page 123*).
Nuisance tripping of the device with activation of the blue fault-trip reset button.	—	Blue fault-trip reset button is not pushed-in completely.	Push in the blue fault-trip reset button completely.
	—	Transient overcurrent detected on the line and fast instantaneous trip setting is active in Ecoreach software.	Intended behavior. If necessary, adjust the settings in Ecoreach software

Related Topics

- Troubleshooting Unexpected Tripping (Parent Topic)

Courtesy of NationalSwitchgear.com

Troubleshooting Masterpact MTZ Mechanical Control Operations

Mechanical control operations are operations that are made using the opening or closing pushbuttons.

Related Topics

- Device Cannot be Closed by Using the Mechanical Closing Pushbutton
- Device Cannot be Opened by Using the Mechanical Opening Pushbutton
- Masterpact MTZ Troubleshooting (Parent Topic)

Device Cannot be Closed by Using the Mechanical Closing Pushbutton

Symptom	Probable Causes	Solutions
The blue fault-trip reset button is popped out.	The blue fault-trip reset button has not been reset.	• Clear the fault. • Push the blue fault-trip reset button.
—	Device is padlocked or keylocked in the open position.	Unlock the device.
—	Device is interlocked mechanically in a mechanical interlocking system.	• Check the position of the other device in the changeover system. • Modify the situation to release the interlock.
The closing spring and ready-toclose indicator shows that the mechanism is discharged. 	Stored energy mechanism is not charged.	• Charge the mechanism manually. • If the device is equipped with a spring charging motor (MCH) , check the supply of power to the motor. If the problem persists, replace the spring charging motor (MCH) .
The closing spring and ready-toclose indicator shows that the mechanism is charged but the device is not ready to close. 	Shunt trip (MX) is powered.	As there is an opening order, determine the origin of the order. The order must be canceled before the device can be closed.
	Undervoltage release (MN) is not powered due to an opening order.	As there is an opening order, determine the origin of the order. The order must be canceled before the device can be closed.
	Undervoltage release (MN) is not powered due to insufficient voltage power supply.	Check the voltage and the MN supply circuit (V > 0.85 Vn). If the problem persists, replace the undervoltage release (MN).
Recurring undervoltage trip.	The measured voltage remains at 0 V.	Set the undervoltage behavior parameter, Vmin behavior, to Force to Off when CB is open. For more information, refer to Masterpact MTZ Micrologic X - Control Unit - User Guide (see *Related Documents, page 11*).
The position release button on the cradle of the drawout device is pushed in.	Device is not correctly connected.	Terminate racking in (connection) of the device, making sure that it is fully inserted in the cradle, to the connected position. Check that the position release button is popped out.

Related Topics

- Troubleshooting Masterpact MTZ Mechanical Control Operations (Parent Topic)

Device Cannot be Opened by Using the Mechanical Opening Pushbutton

Probable Causes	Solutions
Operating mechanism malfunction or welded contacts.	Contact your field service representative.

Courtesy of NationalSwitchgear.com

Related Topics

- Troubleshooting Masterpact MTZ Mechanical Control Operations (Parent Topic)

Courtesy of NationalSwitchgear.com

Troubleshooting Masterpact MTZ Electrical Control Operations

Electrical control operations are operations made by an electrical order through an accessory such as a shunt close (XF), shunt trip (MX) or undervoltage release (MN), or by an external pushbutton directly connected to such an accessory,

Troubleshooting depends on the type of accessory, as follows:

- For communicating accessories, consult the Micrologic X event messages and then refer to Diagnosing Alarms in the Critical Cases chapter of this guide (see *Diagnosing Micrologic X Control Unit Alarms, page 136*).
- For standard accessories, follow the troubleshooting instructions given in the following tables. If the problem persists, replace the accessory.

Related Topics

- Device Cannot be Closed by External Pushbutton/Electrical Order
- Device Cannot be Opened by External Pushbutton/Electrical Order
- Device Cannot be Reset Using RES Electrical Remote Reset
- Additional Troubleshooting—Check Mechanical Operations
- Masterpact MTZ Troubleshooting (Parent Topic)

Device Cannot be Closed by External Pushbutton/Electrical Order

Symptom	Probable Causes	Solutions
—	Device is padlocked or keylocked in the open position.	Unlock the device.
—	Electrical closing order not executed by the shunt close (XF) due to insufficient voltage power supply.	Check the voltage and the XF supply circuit (0.85–1.1 Vn). If the problem persists, replace the shunt close (XF).
The closing spring and ready-to-close indicator show that the mechanism is charged but the device is not ready to close. 	Shunt trip (MX) is powered.	As there is an opening order, determine the origin of the order. The order must be cancelled before the device can be closed.
	Undervoltage release (MN) is not powered due to an opening order.	As there is an opening order, determine the origin of the order. The order must be cancelled before the device can be closed.
	Undervoltage release (MN) is not powered due to insufficient voltage power supply.	Check the voltage and the MN supply circuit (V > 0.85 Vn). If the problem persists, replace the undervoltage release (MN).
—	Shunt close (XF) is continuously supplied, but was not ready-to-close when the closing order was sent (XF shunt close is not wired in series with PF ready-to-close contact).	• Remove the power supply to the shunt close (XF). • If the device is ready-to-close, send the closing order again via the shunt close (XF).

Related Topics

- Troubleshooting Masterpact MTZ Electrical Control Operations (Parent Topic)

Device Cannot be Opened by External Pushbutton/Electrical Order

Probable Causes	Solutions
Opening order is not executed by the undervoltage release (MN).	Drop in voltage insufficient or residual voltage (V > 0.35 Vn) across the terminals of the undervoltage release (MN). If the problem persists, replace the undervoltage release (MN).
Opening order is not executed by the shunt trip (MX).	Check the voltage and the MX supply circuit (0.7–1.1 Vn). If the problem persists, replace the shunt trip (MX).

Courtesy of NationalSwitchgear.com

Related Topics

- Troubleshooting Masterpact MTZ Electrical Control Operations (Parent Topic)

Device Cannot be Reset Using RES Electrical Remote Reset

Symptom	Probable Causes	Solutions
The blue fault-trip reset button is popped out.	Insufficient supply voltage for the RES electrical remote reset.	Check the voltage and the RES supply circuit (0.7–1.1 Vn). If the problem persists, replace the RES electrical remote reset.

Related Topics

- Troubleshooting Masterpact MTZ Electrical Control Operations (Parent Topic)

Additional Troubleshooting—Check Mechanical Operations

If the troubleshooting actions described above do not work, the problem might be in the mechanical or electrical operations of the device. Refer to the troubleshooting information for Mechanical Control Operations (see *Troubleshooting Masterpact MTZ Mechanical Control Operations, page 168*).

Related Topics

- Troubleshooting Masterpact MTZ Electrical Control Operations (Parent Topic)

Troubleshooting Control Operations from Masterpact MTZ Mobile App

Control operations include commands to open and close the device from the Masterpact MTZ Mobile App.

Related Topics

- Device Cannot be Controlled from the Masterpact MTZ Mobile App
- Inhibit Closing by IO Module is Not Operational
- Device Cannot be Controlled from the Masterpact MTZ Mobile App Connected Through Bluetooth
- Additional Troubleshooting—Check Mechanical and Electrical Operations
- Masterpact MTZ Troubleshooting (Parent Topic)

Device Cannot be Controlled from the Masterpact MTZ Mobile App

Problem Description	Symptom	Probable Causes	Solutions
Device cannot be opened or closed.	—	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Manual.	Change the control mode to Auto (see *Setting the Micrologic X Control Mode, page 56*).
	—	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Auto Remote.	Change the control mode to Auto Local (see *Setting the Micrologic X Control Mode, page 56*) .
	The Masterpact MTZ Mobile App displays a message to download the Masterpact Operation Assistant Digital Module.	The Masterpact Operation Assistant Digital Module is not installed.	Use Ecoreach software to download and install the Masterpact Operation Assistant Digital Module in the Micrologic X control unit.
	The Masterpact MTZ Mobile App displays a message indicating a firmware version mismatch.	The Masterpact MTZ Mobile App on the smartphone is not compatible with the firmware version of the Micrologic X control unit.	Update the Masterpact MTZ Mobile App.

Courtesy of NationalSwitchgear.com

Problem Description	Symptom	Probable Causes	Solutions
Device cannot be closed.	—	The close command is inhibited by the IO module.	Enable the close command by using the selector switch wired on a digital input of the IO module (I=1).
		The close command is inhibited by a command from the communication network or Ecoreach software.	In Ecoreach software, in the Device Check-up → Devices menu, change the value of the Remote Close Breaker Inhibited parameter from Enabled by communication to Disabled.

Related Topics

- Troubleshooting Control Operations from Masterpact MTZ Mobile App (Parent Topic)

Inhibit Closing by IO Module is Not Operational

Problem Description	Probable Cause	Solution
Device can be closed while selector switch wired on a digital input of the IO module is set to Inhibit (I4=0).	The Micrologic X setting **Breaker closing by digital input** is disabled.	In Ecoreach software, in the **General** menu, in **Breaker Closing Inhibition**, change the **Allow control by a digital input parameter** to **Enable**.

Related Topics

- Troubleshooting Control Operations from Masterpact MTZ Mobile App (Parent Topic)

Courtesy of NationalSwitchgear.com

Device Cannot be Controlled from the Masterpact MTZ Mobile App Connected Through Bluetooth

Problem Description	Probable Cause	Solution
The Bluetooth LED does not light up when you press the Bluetooth activation pushbutton on the Micrologic X control unit.	The Bluetooth function is not enabled in the Micrologic X control unit.	Enable Bluetooth communication in the Micrologic X control unit.
	The Micrologic X control unit is not powered.	Check the power supply of the Micrologic X control unit.
The Bluetooth connection was established but the signal is lost.	The smartphone has been moved out of range.	Place the smartphone within the range for Bluetooth and establish a new connection.
The Bluetooth LED is blinking on the control unit but you cannot see its ID number in the list of devices available.	A smartphone is already connected to the Micrologic X control unit.	Check whether another smartphone within range is also connected to the control unit.

Related Topics

- Troubleshooting Control Operations from Masterpact MTZ Mobile App (Parent Topic)

Additional Troubleshooting—Check Mechanical and Electrical Operations

If the troubleshooting actions described above do not work, the problem might be in the mechanical or electrical operations of the device. Refer to the troubleshooting information for Mechanical Control Operations (see *Troubleshooting Masterpact MTZ Mechanical Control Operations, page 168*) and Electrical Control Operations (see *Troubleshooting Masterpact MTZ Electrical Control Operations, page 170*).

Related Topics

- Troubleshooting Control Operations from Masterpact MTZ Mobile App (Parent Topic)

Courtesy of NationalSwitchgear.com

Troubleshooting Control Operation from the IO Module

Control operations include commands to open and close the device from the IO module with the Breaker Operation predefined application.

For information on control operations from the IO module, refer to Enerlin'X IO - Input/Output Application Module for One IEC Circuit Breaker - User Guide (see *Related Documents, page 11*).

Related Topics

- Device Cannot be Controlled from the IO Module
- Inhibit Closing by IO Module is Not Operational
- Additional Troubleshooting—Check Mechanical and Electrical Operations
- Masterpact MTZ Troubleshooting (Parent Topic)

Device Cannot be Controlled from the IO Module

Device Cannot be Controlled from the IO Module

Problem Description	Symptom	Probable Causes	Solutions
Device cannot be opened or closed.	—	The IO module is not configured for Breaker Operation predefined application 2.	Configure the IO module for Breaker Operation predefined application 2, by using the rotary switch and pressing the test/reset button for 5 seconds to validate the configuration.
	—	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Manual.	Change the control mode to Auto (see *Setting the Micrologic X Control Mode, page 56*).
	Local open or close orders wired on digital inputs I5 or I6 do not control the device.	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Remote.	Change the control mode to Local (see *Setting the Micrologic X Control Mode, page 56*) by using the control mode selector switch wired on the digital input I1 of the IO module (I1=0).
	Remote open or close orders wired on digital inputs I2 or I3 do not control the device.	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Local.	Change the control mode to Remote (see *Setting the Micrologic X Control Mode, page 56*) by using the control mode selector switch wired on the digital input I1 of the IO module (I1=1).
Device cannot be closed.	—	The close command is inhibited by the IO module configured in the Breaker Operation predefined application 2.	Enable the close command by using the selector switch wired on the digital input I4 of the IO module (I4=1).
	—	The close command is inhibited by a command from the communication network or Ecoreach software.	In Ecoreach software, in the **Device Check-up** → **Devices** menu, change the value of the **Remote Close Breaker Inhibited** parameter from **Enabled by communication** to **Disabled**.

Related Topics

- Troubleshooting Control Operation from the IO Module (Parent Topic)

Inhibit Closing by IO Module is Not Operational

Problem Description	Probable Cause	Solution
Device can be closed while selector switch wired on a digital input of the IO module is set to Inhibit (I4=0).	The Micrologic X setting **Breaker closing by digital input** is disabled.	In Ecoreach software, in the **General** menu, in **Breaker Closing Inhibition**, change the **Allow control by a digital input parameter** to **Enable**.

Courtesy of NationalSwitchgear.com

Related Topics

- Troubleshooting Control Operation from the IO Module (Parent Topic)

Additional Troubleshooting—Check Mechanical and Electrical Operations

If the troubleshooting actions described above do not work, the problem might be in the mechanical or electrical operations of the device. Refer to the troubleshooting information for Mechanical Control Operations (see *Troubleshooting Masterpact MTZ Mechanical Control Operations, page 168*) and Electrical Control Operations (see *Troubleshooting Masterpact MTZ Electrical Control Operations, page 170*).

Related Topics

- Troubleshooting Control Operation from the IO Module (Parent Topic)

Courtesy of NationalSwitchgear.com

Troubleshooting Control Operations from Ecoreach Software

Control operations include commands to open and close the device from Ecoreach software.

For information about control operation from Ecoreach software, refer to Ecoreach Online Help

Related Topics

- Device Cannot be Controlled from Ecoreach Software Connected to a Mini USB Port
- Inhibit Closing by IO Module is Not Operational
- Device Cannot be Controlled from Ecoreach Software Connected by IFE, EIFE, or IFM Interface
- Additional Troubleshooting—Check Mechanical and Electrical Operations
- Masterpact MTZ Troubleshooting (Parent Topic)

Device Cannot be Controlled from Ecoreach Software Connected to a Mini USB Port

Problem Description	Symptom	Probable Causes	Solutions
Device cannot be opened or closed.	Ecoreach message: **Breaker operation not successful: actuator is in manual mode. Remote breaker commands are not allowed**	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Manual.	Change the control mode to Auto (see *Setting the Micrologic X Control Mode, page 56*).
	Ecoreach message: **Breaker operation not successful: Operation mode is Remote**	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Auto Remote.	Change the control mode to Auto Local (see *Setting the Micrologic X Control Mode, page 56*).
	Ecoreach software does not display the relevant option.	Insufficient access rights.	Log in to Ecoreach software with Administrator rights.
	Ecoreach message: **Insufficient user rights (incorrect password)**	The password is incorrect: invalid password entered or the user has insufficient access rights.	Enter the password again. In the case of insufficient access rights, check the password validity with the system administrator. If the password is lost, refer to Masterpact MTZ Micrologic X - Control Unit - User Guide (see *Related Documents, page 11*).
Device cannot be closed.	Ecoreach message: **Breaker operation not successful: The requested action is not allowed as it has been previously inhibited**	The close command is inhibited by the IO.	Enable the close command by using the selector switch wired on a digital input of the IO module (I=1).
		The close command is inhibited by a command from the communication network or Ecoreach software.	In Ecoreach software, in the **Device Check-up → Devices** menu, change the value of the **Remote Close Breaker Inhibited** parameter from **Enabled by communication** to **Disabled**.

Related Topics

- Troubleshooting Control Operations from Ecoreach Software (Parent Topic)

Inhibit Closing by IO Module is Not Operational

Problem Description	Probable Cause	Solution
Device can be closed while selector switch wired on a digital input of the IO module is set to Inhibit (I4=0).	The Micrologic X setting **Breaker closing by digital input** is disabled.	In Ecoreach software, in the **General** menu, in **Breaker Closing Inhibition**, change the **Allow control by a digital input parameter** to **Enable**.

Courtesy of NationalSwitchgear.com

Related Topics

- Troubleshooting Control Operations from Ecoreach Software (Parent Topic)

Courtesy of NationalSwitchgear.com

Device Cannot be Controlled from Ecoreach Software Connected by IFE, EIFE, or IFM Interface

Symptom	Probable Causes	Solutions
Ecoreach message: **Breaker operation not successful: actuator is in manual mode. Remote breaker commands are not allowed**	The device control mode (see page 39) is set to Manual.	Change the control mode to Auto (see page 42).
Ecoreach software does not display the relevant option.	Insufficient access rights.	Log in to Ecoreach software with Administrator rights.
Ecoreach message: **Breaker operation is not successful: Operation mode is Local (Operation via remote control is not allowed)**	The device control mode (see page 39) is set to Auto Local.	Change the control mode to Auto Remote (see page 42) .
Ecoreach message: **Insufficient user rights: Incorrect password**	The password is incorrect: invalid password entered or the user has insufficient access rights.	Enter the password again. In the case of insufficient access rights, check the password validity with the system administrator. If the password is lost, refer to Masterpact MTZ Micrologic X - Control Unit - User Guide (see page 7) .

Related Topics

- Troubleshooting Control Operations from Ecoreach Software (Parent Topic)

Additional Troubleshooting—Check Mechanical and Electrical Operations

If the troubleshooting actions described above do not work, the problem might be in the mechanical or electrical operations of the device. Refer to the troubleshooting information for Mechanical Control Operations (see *Troubleshooting Masterpact MTZ Mechanical Control Operations, page 168*) and Electrical Control Operations (see *Troubleshooting Masterpact MTZ Electrical Control Operations, page 170*).

Related Topics

- Troubleshooting Control Operations from Ecoreach Software (Parent Topic)

Courtesy of NationalSwitchgear.com

Troubleshooting Control Operations from IFE/EIFE Webpages

Control operations include commands to open and close the device from IFE or EIFE webpages.

For information on control operations from IFE or EIFE webpages, refer to the following guides (see *Related Documents, page 11*):

- Enerlin'X IFE - Ethernet Switchboard Server - User Guide
- Enerlin'X IFE - Ethernet Interface for One IEC Circuit Breaker - User Guide
- Enerlin'X EIFE - Embedded Ethernet Interface for One Masterpact MTZ Drawout Circuit Breaker - Instruction Sheet

Related Topics

- Device Cannot be Controlled from IFE or EIFE Webpages
- Inhibit Closing by IO Module is Not Operational
- Additional Troubleshooting—Check Mechanical and Electrical Operations
- Masterpact MTZ Troubleshooting (Parent Topic)

Device Cannot be Controlled from IFE or EIFE Webpages

Problem Description	Symptom	Probable Causes	Solutions
Device cannot be opened or closed.	The Close and Open buttons are not displayed on the webpage.	Application control is not enabled in the IFE interface.	Enable application control by pressing the Test button on the front of the IFE interface for 10–15 s.
		The user is not logged in as Administrator.	Log in as Administrator.
	Message on webpage: **Breaker operation not successful: actuator is in manual mode. Remote breaker commands are not allowed**	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Manual.	Change the control mode to Auto (see *Setting the Micrologic X Control Mode, page 56*).
	Message on webpage: **Breaker operation is not successful: Operation mode is Local (Operation via remote control is not allowed).**	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Auto Local.	Change the control mode to Auto Remote (see *Setting the Micrologic X Control Mode, page 56*).
	Message on webpage: **Close has failed.** NOTE: There is no message if opening action fails.	The remote control commands are disabled by the locking pad on the front of the IFE interface.	Move the locking pad on the front of the IFE interface to the **Unlocked** position.
		The EIFE interface is locked by Ecoreach software.	In Ecoreach software, in the **Configure > Communication** menu, change the **Remote Padlock Position** parameter from **Locked** to **Unlocked**.
Device cannot be closed.	Message on webpage: **Close has failed.**	The close command is inhibited by the IO module.	Enable the close command using the selector switch wired on a digital input of the IO module (I=1).
		The close command is inhibited by a command from the communication network or Ecoreach software.	In Ecoreach software, in the **Device Check-up > Devices** menu, change the **Remote Close Breaker Inhibited** parameter from **Enabled by communication** to **Disabled**.

Related Topics

- Troubleshooting Control Operations from IFE/EIFE Webpages (Parent Topic)

Courtesy of NationalSwitchgear.com

Inhibit Closing by IO Module is Not Operational

Problem Description	Probable Cause	Solution
Device can be closed while selector switch wired on a digital input of the IO module is set to Inhibit (I4=0).	The Micrologic X setting **Breaker closing by digital input** is disabled.	In Ecoreach software, in the **General** menu, in **Breaker Closing Inhibition**, change the **Allow control by a digital input parameter** to **Enable**.

Related Topics

- Troubleshooting Control Operations from IFE/EIFE Webpages (Parent Topic)

Additional Troubleshooting—Check Mechanical and Electrical Operations

If the troubleshooting actions described above do not work, the problem might be in the mechanical or electrical operations of the device. Refer to the troubleshooting information for Mechanical Control Operations (see *Troubleshooting Masterpact MTZ Mechanical Control Operations, page 168*) and Electrical Control Operations (see *Troubleshooting Masterpact MTZ Electrical Control Operations, page 170*).

Related Topics

- Troubleshooting Control Operations from IFE/EIFE Webpages (Parent Topic)

Troubleshooting Control Operations from the Communication Network

Control operations include commands to open and close the device from the communication network.

For information on control operations from the communication network, refer to Masterpact MTZ - Modbus Communication Guide (see *Related Documents, page 11*).

Related Topics

- Device Cannot be Controlled with a Remote Controller Connected from IFE, EIFE, or IFM Interface
- Inhibit Closing by IO Module is Not Operational
- Additional Troubleshooting—Check Mechanical and Electrical Operations
- Masterpact MTZ Troubleshooting (Parent Topic)

Device Cannot be Controlled with a Remote Controller Connected from IFE, EIFE, or IFM Interface

Problem Description	Symptom	Probable Causes	Solutions
Device cannot be opened or closed.	—	The device control mode (see *Masterpact MTZ2/MTZ3 Control Modes, page 51*) is set to Manual.	Change the control mode to Auto (see *Setting the Micrologic X Control Mode, page 56*).
	—	The device control mode (see Reset the device (see *Resetting Masterpact MTZ Devices, page 62*) or the Masterpact MTZ Mobile App Power restoration assistant.) is set to Auto Local.	Change the control mode to Auto Remote (see *Setting the Micrologic X Control Mode, page 56*).
	—	The remote control commands are disabled by the locking pad on the front of the IFE interface.	Move the locking pad on the front of the IFE interface to the Unlocked position.
	—	The EIFE interface is locked by Ecoreach software.	In Ecoreach software, in the **Configure > Communication** menu, change the **Remote Padlock Position** parameter from **Locked** to **Unlocked**.

Courtesy of NationalSwitchgear.com

Problem Description	Symptom	Probable Causes	Solutions
	The opening or closing command is returned with Modbus error code 01.	The password in the opening or closing is incorrect or the user has insufficient access rights.	Send the opening or closing command with a valid password. In the case of insufficient access rights, check the password validity with the system administrator. If the password is lost, refer to Masterpact MTZ - Modbus Communication Guide (see *Related Documents, page 11*).
Device cannot be closed.	—	The close command is inhibited by the IO module.	Enable the close command by using a selector switch wired on a digital input of the IO module (I=1).
		The close command is inhibited by a command from the communication network or Ecoreach software.	Use the **Set Close Breaker Inhibition** command to enable the close order.

Related Topics

- Troubleshooting Control Operations from the Communication Network (Parent Topic)

Inhibit Closing by IO Module is Not Operational

Problem Description	Probable Cause	Solution
Device can be closed while selector switch wired on a digital input of the IO module is set to Inhibit (I4=0).	The Micrologic X setting **Breaker closing by digital input** is disabled.	In Ecoreach software, in the **General** menu, in **Breaker Closing Inhibition**, change the **Allow control by a digital input parameter** to **Enable**.

Related Topics

- Troubleshooting Control Operations from the Communication Network (Parent Topic)

Additional Troubleshooting—Check Mechanical and Electrical Operations

If the troubleshooting actions described above do not work, the problem might be in the mechanical or electrical operations of the device. Refer to the troubleshooting information for Mechanical Control Operations (see *Troubleshooting Masterpact MTZ Mechanical Control Operations, page 168*) and Electrical Control Operations (see *Troubleshooting Masterpact MTZ Electrical Control Operations, page 170*).

Related Topics

- Troubleshooting Control Operations from the Communication Network (Parent Topic)

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Troubleshooting Control Operations from FDM128 Display

Control operations include commands to open and close the device from the FDM128 display.

For information on control operations from the FDM128 display, refer to Enerlin'X FDM128 - Ethernet Display for Eight Devices - User Guide (see *Related Documents, page 11*).

Related Topics

- Device Cannot be Controlled from the FDM128 Display
- Additional Troubleshooting—Check Communication Network
- Masterpact MTZ Troubleshooting (Parent Topic)

Device Cannot be Controlled from the FDM128 Display

Symptom	Probable Causes	Solutions
On FDM128 display, in the Device view, the Control submenu is grayed out.	You are not logged in as Administrator.	Log in to the FDM128 display as Administrator.
	The password is incorrect: invalid password entered or the user has insufficient access rights.	Enter a valid password. In the case of insufficient access rights, check the password validity with the system administrator.

If the troubleshooting actions described above do not work, the problem might be linked to the communication network. Refer to the troubleshooting information for the communication network (see *Troubleshooting Control Operations from the Communication Network, page 180*).

Related Topics

- Troubleshooting Control Operations from FDM128 Display (Parent Topic)

Additional Troubleshooting—Check Communication Network

If the troubleshooting actions described above do not work, the problem might be in linked to the communication network. Refer to the troubleshooting information for the communication network, (see *Troubleshooting Control Operations from the Communication Network, page 180*).

Related Topics

- Troubleshooting Control Operations from FDM128 Display (Parent Topic)

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Schneider Electric Green Premium™ Ecolabel

Related Topics

- Description of the Green Premium Label
- Accessing the Green Premium Ecolabel
- Check Product Environmental Criteria
- Environmental Critera of the Green Premium Ecolabel
- RoHs Requirements Compliance
- REACh Regulation Compliance
- PEP Ecopassport Compliance
- EoLI Compliance

Description of the Green Premium Label

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.

Related Topics

- Schneider Electric Green Premium™ Ecolabel (Parent Topic)

Accessing the Green Premium Ecolabel

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

- By navigating through the Schneider Electric website.
- By scanning the QR code displayed below.

Related Topics

- Schneider Electric Green Premium™ Ecolabel (Parent Topic)

Check Product Environmental Criteria

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

Courtesy of NationalSwitchgear.com

Step	Action
1	From http://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.

Related Topics

- Schneider Electric Green Premium™ Ecolabel (Parent Topic)

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Environmental Critera of the Green Premium Ecolabel

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.

Related Topics

- Schneider Electric Green Premium™ Ecolabel (Parent Topic)

RoHs Requirements Compliance

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.

Related Topics

- Schneider Electric Green Premium™ Ecolabel (Parent Topic)

REACh Regulation Compliance

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.

Related Topics

- Schneider Electric Green Premium™ Ecolabel (Parent Topic)

PEP Ecopassport Compliance

Schneider Electric publishes a 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.

Related Topics

- Schneider Electric Green Premium™ Ecolabel (Parent Topic)

EoLI Compliance

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.

Courtesy of NationalSwitchgear.com

Related Topics

- Schneider Electric Green Premium™ Ecolabel (Parent Topic)

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Printed in.
Schneider Electric

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