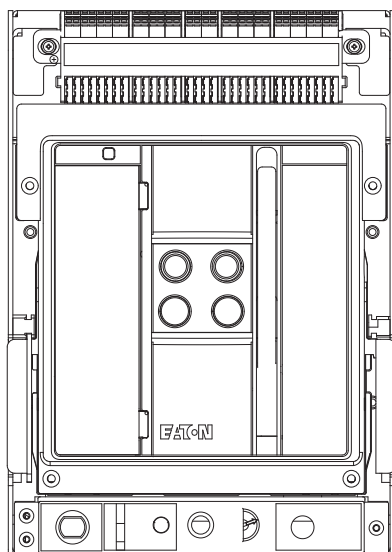
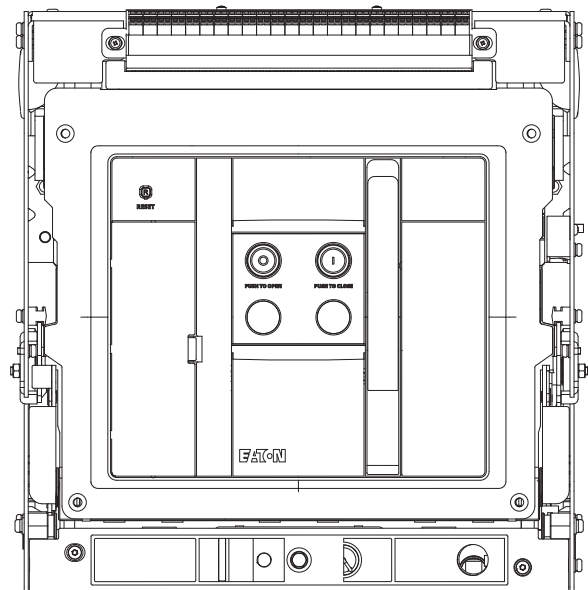


IZMY Series Air Circuit Breakers Instruction Manual

Instructions apply to:



IZMY16



IZMY25/40



Powering Business Worldwide

 WARNING

The warnings and cautions included as part of the procedural steps in this manual are for personnel safety and protection of equipment from damage. This example of a typical warning is intended to familiarize personnel with the style of presentation.

 WARNING

IZMY Series circuit breakers are provided with safety features. Nevertheless, the voltages, currents, and power levels available around operational equipment are extremely dangerous. Under no circumstances should interlocks and other safety features be made inoperative, as this may result in death, bodily injury, or property damage.

 WARNING

IZMY Series circuit breakers should not under any circumstances be applied outside their nameplate ratings. Operation outside of these ratings could result in death, bodily injury, or property damage.

 WARNING

Never attempt to disable any interlocks. Doing so could result in an electrical fault that could result in death, bodily injury, and/or equipment damage.

 WARNING

Failure to inspect, clean, and maintain circuit breakers can reduce equipment life or cause the equipment to not operate properly under faulty conditions. This could result in equipment damage, bodily injury, or even death.

 WARNING

Arc chutes and their cover plates must always be secured properly in place before a breaker is installed in its compartment. Failure to do so could result in equipment damage, bodily injury, or even death.

 WARNING

The circuit breaker mechanism contains stored mechanical energy and moving parts and should be operated with the front cover and arc chutes in place. Parts may move forcefully and without warning. If the front cover or arc chutes have been removed, limit contact to the handle and buttons. Failure to do so may result in serious bodily injury.

 CAUTION

Do not attempt to lift a breaker or cassette with ordinary crane hooks or chains. Damage to vital circuit breaker parts could result. Use two appropriate lifting straps when using any type of lifting device.

 CAUTION

Make certain that the cassette is properly mounted or seated securely on a work table before attempting to have the breaker fully extended on the cassette's drawout rails. Failure to comply could result in the cassette tipping forward resulting in equipment damage and/or bodily injury.

 CAUTION

Do not store equipment on its back. This could result in equipment damage.

 CAUTION

It is important to take care when placing a drawout circuit breaker on its extension rails. If the circuit breaker is not properly seated on the rails, the breaker could fall causing equipment damage and/or bodily injury.

 CAUTION

Inspection and maintenance procedures should be carried out only by personnel familiar with the hazards associated with working on power circuit breakers. Additionally, they should become familiar with the specifics associated with IZMY Series circuit breakers as presented in this manual.

 IMPORTANT

Please read and understand these instructions before attempting to unpack, install, operate, or maintain this equipment. Study the breaker and its mechanism carefully before attempting to operate it on an energized circuit.

 IMPORTANT

A circuit breaker stored for any length of time should be operated a minimum of five times before it is placed in service.

 IMPORTANT

Different degrees of access to push-buttons on the front of the circuit breaker can be achieved through the use of optional accessory devices.

 IMPORTANT

Before doing any work, make sure a drawout breaker is levered out to the TEST, DISCONNECT, or WITHDRAWN position. During the levering out and levering in of the circuit breaker, be aware of any signs that would indicate that the levering process is not working properly. If working on a fixed circuit breaker, bus systems should be de-energized for convenience and safety. All circuit breakers should be switched to the OFF position and the mechanism springs discharged.

Purpose

This instruction manual is expressly intended to cover the installation, operation, and maintenance of IZMY air circuit breakers. These circuit breakers may be supplied as part of complete switchboard assemblies or as separate components. This manual applies only to the circuit breaker and (if drawout) its mating cassette. In the case of fixed circuit breakers, certain sections of this leaflet, referring to such items as position interlocks and the drawout mechanism, will not apply.

Trip units associated with the IZMY air circuit breakers will be addressed in a general manner in this leaflet. Specific trip unit details and time-current characteristic curves are covered in separate documents specific to the trip units.

IZMY circuit breaker accessory items are just shortly described in this leaflet. Field installation instructions for such items, however, are covered in individual instruction leaflets specific to the accessory.

For application information, consult Eaton or see applicable Product Guides, Technical Documents, and Industry Standards.

Safety

All safety codes, safety standards, and/or regulations must be strictly observed in the installation, operation, and maintenance of this equipment.

WARNING

The warnings and cautions included as part of this booklet are for personnel safety and protection of equipment from damage. An example of a typical warning label heading is shown above to familiarize personnel with the style of presentation. This will help to ensure that personnel are alert to warnings. In addition, cautions, similar to warnings, are boldface.

All possible contingencies that may arise during installation, operation or maintenance do not purport to be covered by this manual. If further information is desired by purchaser regarding particular installation, operation, or maintenance of particular equipment, contact the local Eaton representative.

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Section 1. Circuit breaker overview

Usage and scope of application

The IZMY series intelligent general-purpose circuit breakers (hereafter referred to as circuit breakers) are a new-generation of high-performance air circuit breakers with advanced technology and comprehensive functions, thus offering safety and reliability.

The IZMY air circuit breaker series is a fixed or drawout design using an electronic tripping system. It is designed and tested for use at nominal voltages of AC 440 V and 690 V.

IZMY air circuit breakers are available with continuous current ratings from 400 A to 4000 A. The circuit breaker nameplate provides complete rating information.

The circuit breakers feature isolation function, with the symbol as

“”.



IZMY16 Fixed type



IZMY16 Withdrawable type



IZMY25/40 Fixed type



IZMY25/40 Withdrawable type

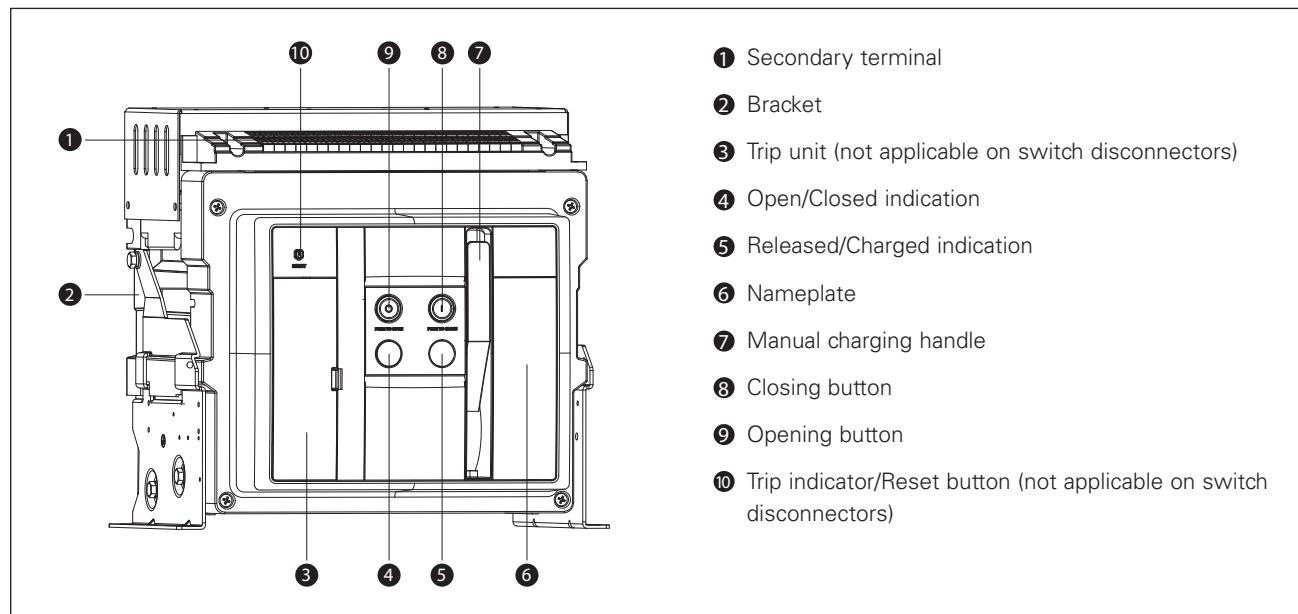
IZMY series Air circuit breaker

Normal operation, installation and transportation conditions

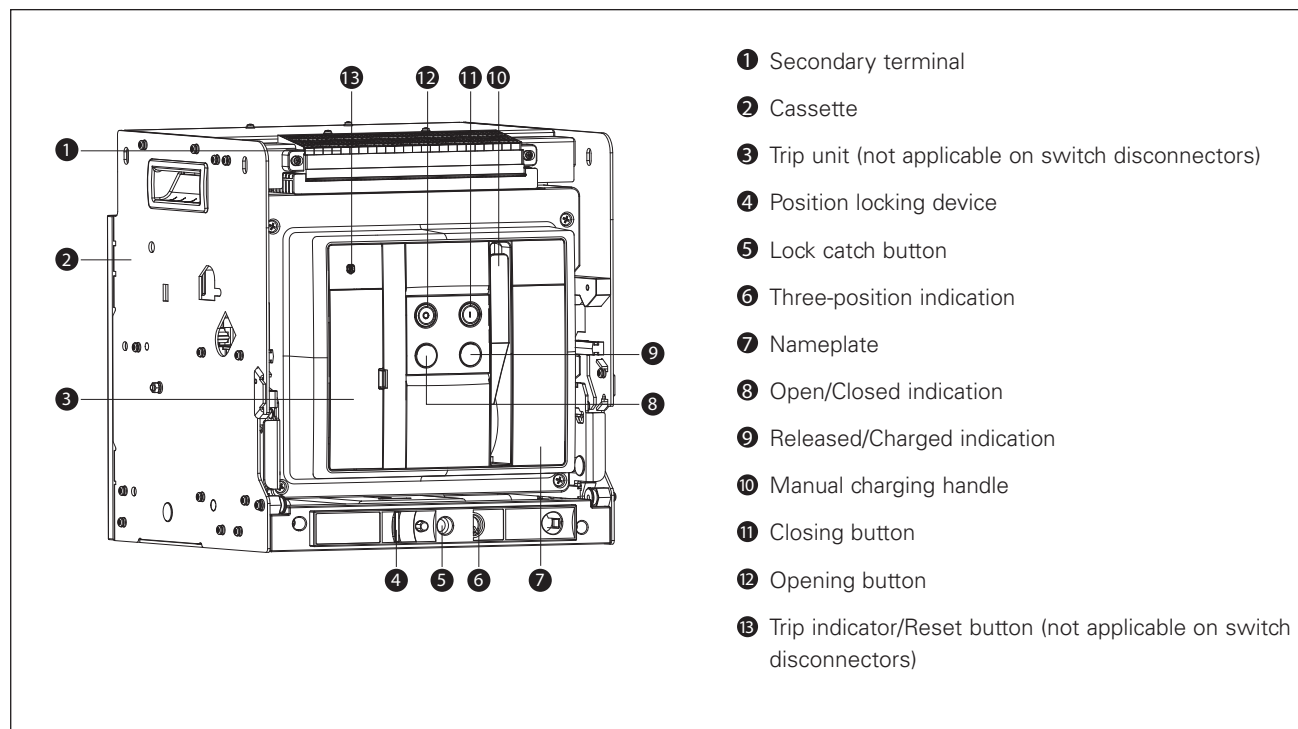
- The electrical and mechanical characteristics are suitable for ambient temperature of -25°C to +70°C with 24-hour average values equal to or below +35°C. When above +40°C, derating is needed for use. See Derating Factor Table.
- The altitude should not exceed 5000m at the installation site. When higher than or equal to 2000m, the electrical performance of the circuit breaker needs to be corrected. See Derating Factor Table.
- With the maximum temperature at +40°C, the relative air humidity does not exceed 50%. A higher relative humidity (RH) is allowed at a lower temperature, such as 90% RH when at 20°C. Special measurement should be taken for occasional condensation due to temperature changes.
- Pollution level: 3.
- Protection degree: IP40 when the circuit breaker is installed inside cabinet cubicles and the door escutcheon is installed.
- Utilization category: B.
- Mounting category: IV for the circuit breaker's main circuit, and III for the remaining auxiliary circuits and control circuits.
- The vertical inclination does not exceed 5° during mounting.
- Transportation and storage temperature: -40°C to +70°C.

Section 2. Circuit breaker structure

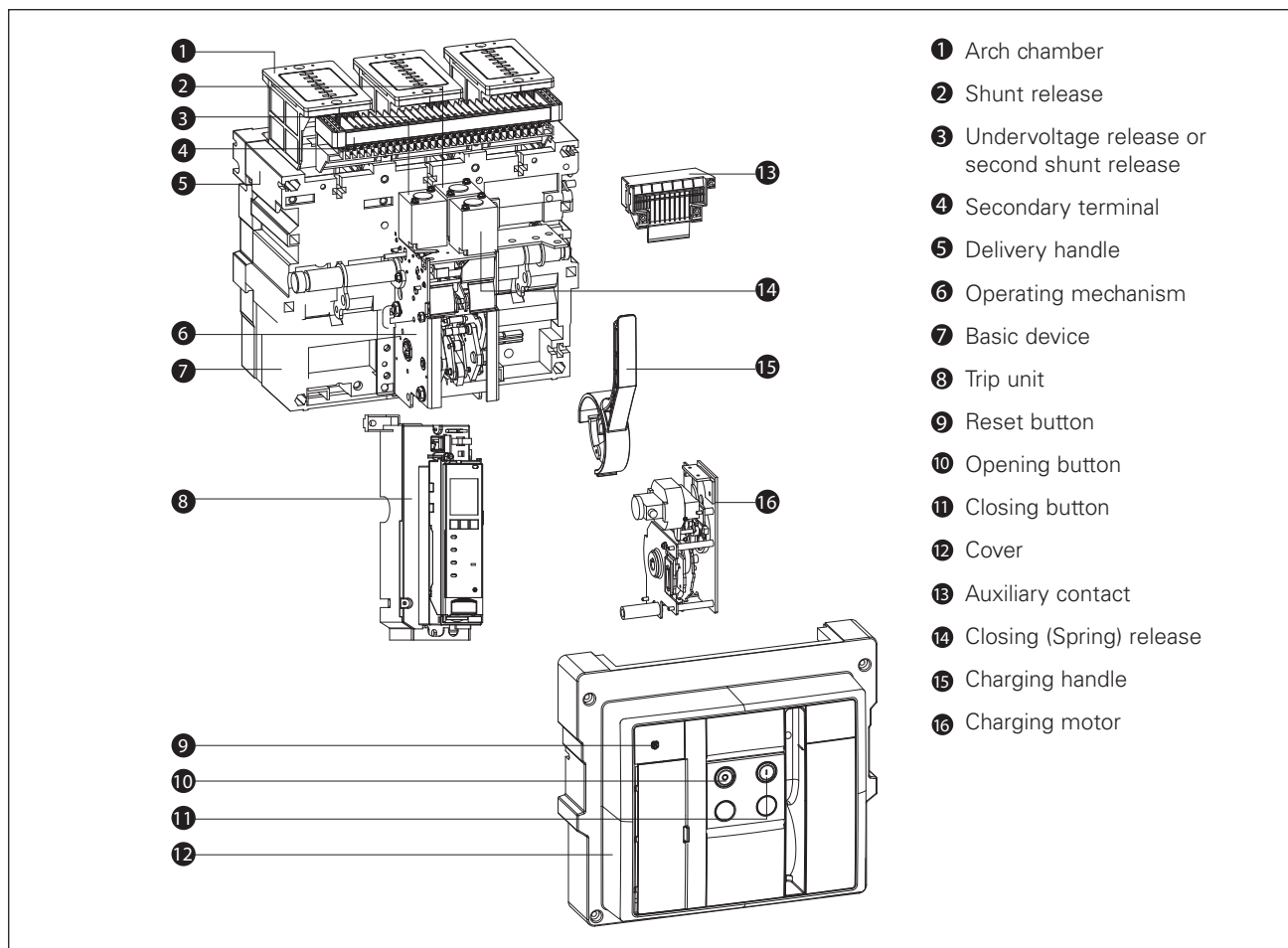
External structure – Fixed type



External structure – Drawout type



Internal structure – Fixed/drawout types



Section 3. Circuit breaker installation

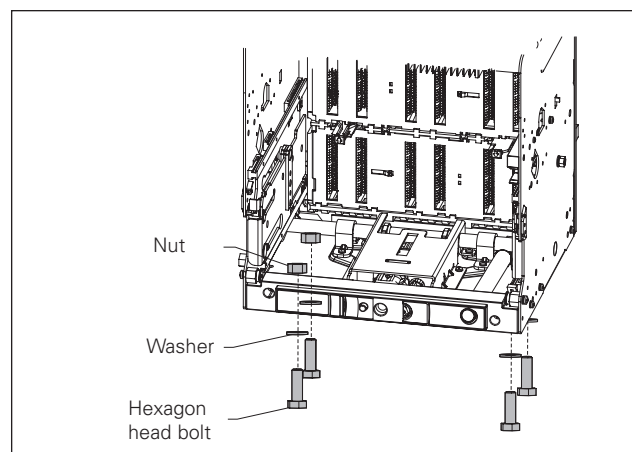
Drawout circuit breaker installation

1. Remove the basic device of the circuit breaker (see lever-out operation for more details on Section 5)
2. Mount the cassette into the cabinet:

Circuit breaker IZMY	Hexagon head bolt GB5783-	Nut GB6170-	Washer GB97 GB93-
IZMY16	M6×30	M6	Φ6
IZMY25	M10×30	M10	Φ10
IZMY40	M10×30	M10	Φ10

Notes: See below diagram for detailed mounting methods and locations.

3. Lever the basic device of the circuit breaker into the cassette (see circuit breaker lever-in operation for more details on Section 5)



Fixed circuit breaker installation

Place the circuit breaker into the cabinet.

Fixing Hardware

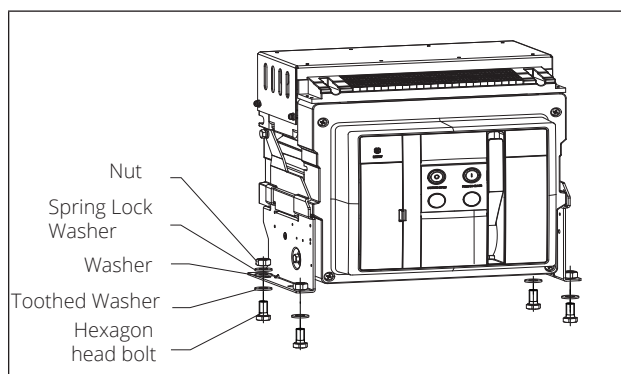
Circuit breaker IZMY	Hexagon head bolt GB5783-	Nut GB6170-	Washer GB97 GB93-
IZMY16	M6×30	M6	Φ6
IZMY25	M10×30	M10	Φ10
IZMY40	M10×30	M10	Φ10

Grounding Hardware

Circuit breaker IZMY	Hexagon head bolt GB5783	Toothed Washer GB 9074.27	Washer GB97 - GB93	Spring Lock Washer GB 9074.26	Nut GB6170
IZMY16	M6×30	Φ6	Φ6	Φ6	M6
IZMY25	M10×30	Φ10	Φ10	Φ10	M10
IZMY40	M10×30	Φ10	Φ10	Φ10	M10

Note: Four pieces of mounting hardware are provided to mount the pair of mounting feet, those being:

- Three sets as described on the above table for fixing purpose.
- One set as described on the above table is used to ground (earth) the mounting foot to the switchgear.



Power loss (with ambient temperature at +40°C)

Power loss is the total power consumption measured when the rated current of frame level (In) passes through the circuit breaker.

Frame	Rated current(A)	Power loss (W) with ambient temperature at 40°C			
		Fixed 3-pole	Withdrawable 3-pole	Fixed 4-pole	Withdrawable 4-pole
IZMY16	400	12	22	16	29
	630	30	54	40	71
	800	48	86	64	115
	1000	75	135	100	180
	1250	117	211	156	281
	1600	154	307	205	410
IZMY25	800	31	67	41	90
	1000	48	105	64	140
	1250	75	164	100	219
	1600	123	269	164	358
	2000	156	300	208	400
	2500	244	469	325	625
IZMY40	2000	144	240	192	320
	2500	225	375	300	500
	3200	307	553	410	737
	4000	480	720	640	960

Derating factors

When the working ambient temperature is greater than +40°C, the continuous current carrying capacity can be corrected with reference to below table:

Model	Rated current (A)	+40°C	+45°C	+50°C	+55°C	+60°C	+65°C	+70°C
IZMY16 1600 A frame	400-1250	1	1	1	1	1	1	1
	1600	1	1	1	0.95	0.93	0.87	0.8
IZMY25 2500 A frame	400-2000	1	1	1	1	1	1	1
	2500	1	1	1	1	0.99	0.94	0.88
IZMY40 4000 A frame	2000-2500	1	1	1	1	1	1	1
	3200	1	1	1	0.95	0.92	0.89	0.85
	4000	1	0.95	0.92	0.89	0.85	0.82	0.8

When the attitude is higher than or equal to 2000 meters at the installation site, the electrical performance of the circuit breaker can be corrected with reference to below table:

Altitude (m)		2000	3000	4000	4500	5000
Power frequency voltage withstand (V)		5000	4500	3500	3000	2900
Operating voltage		440/690	440/690	440/690	440/690	440/690
Short-circuit breaking capacity correction factor		1	0.83	0.71	0.66	0.63
Operating current correction factor	IZMY16 1600 A frame	1	0.98	0.93	0.9	0.87
	IZMY25 2500 A frame	1	1	1	1	0.97
	IZMY40 1600 A frame	1	0.93	0.88	0.85	0.82

Note: The derating correction factor is only for the maximum current in the frame.

Recommended bus bar specifications

		Recommended bus bar dimensions		
		No. of bars		
Rated frame current Inm (A)	Rated current In (A)	Horizontal outgoing	Vertical outgoing	Dimensions (mm x mm)
IZMY16 1600 A frame	400	2	/	50×5
	630	2	/	50×6
	800	2	/	50×10
	1000	2	/	50×10
	1250	3	/	50×8
	1600	3	/	50×10
IZMY25 2500 A frame	400	2	/	80×5
	630	2	/	80×5
	800	2	/	80×5
	1000	2	/	80×5
	1250	3	/	80×5
	1600	2	/	80×10
	2000	3	/	80×10
	2500	4	/	80×10
IZMY40 4000 A frame	2000	3	2	100×5
	2500	2	2	100×10
	3200	3	3	100×10
	4000	5	4	100×10

The copper bar specifications used in the table are when the circuit breaker is at the ambient temperature of up to 40 °C and installed in an open area, in accordance with the conventional thermal conditions in GB14048.2.

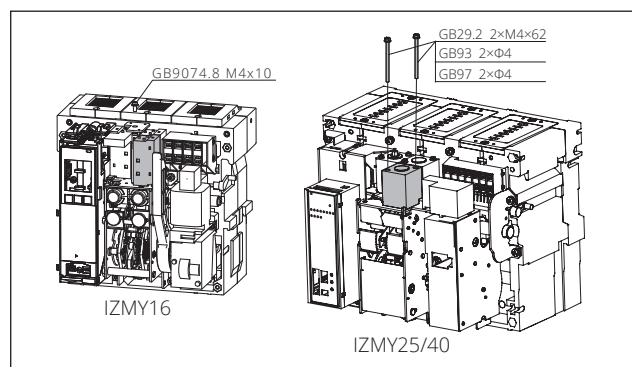
Section 4. Accessory

Closing release

After charging, the closing release enables the energy stored in the operating mechanism to release instantaneously, allowing the circuit breaker to close quickly.

When used with the Latch check switch (LCS), the closing release can operate on the circuit breaker only when the charging spring is fully charged and the tripping latch is in the re-trip (non-tripping) position. If both conditions are not met, the closing signal will be invalid until the signal is removed and re-applied.

- IZMY16/25/40



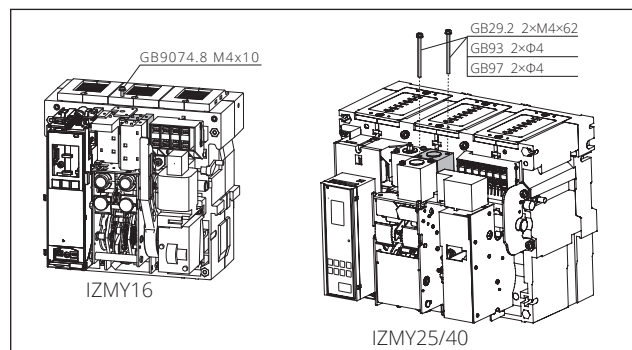
Power loss table of the closing release

Frame	Insulation voltage (Ui)	Rated control voltage U_s (V)	Actuating voltage	Pickup transient current	Pickup transient power
1600 A	400 V	AC230/DC220	$(0.85 \sim 1.1) U_s$	2.2 A	500 W
		AC24/DC24	$(0.85 \sim 1.1) U_s$	2.5 A	60 W
2500 A 4000 A	400 V	AC230/DC220	$(0.85 \sim 1.1) U_s$	2.5 A	550 W
		AC24/DC24	$(0.85 \sim 1.1) U_s$	5.1 A	264 W

Shunt release

The shunt release enables the circuit breaker to open remotely.

- IZMY16/25/40



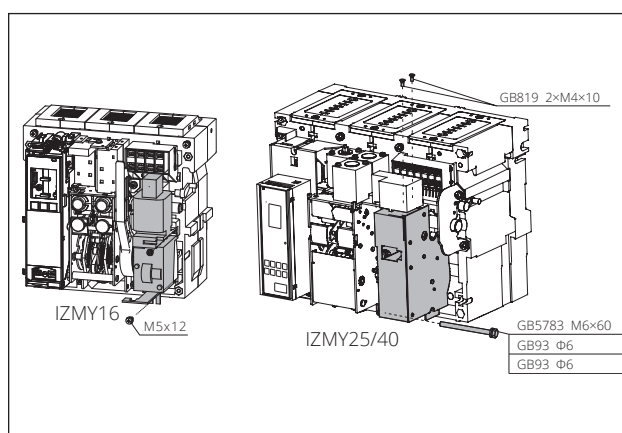
Power loss table of the shunt release

Frame	Insulation voltage (Ui)	Rated control voltage U_s (V)	Actuating voltage	Pickup transient current	Pickup transient power
1600 A	400 V	AC230/DC220	$(0.85 \sim 1.1) U_s$	2.2 A	500 W
		AC24/DC24	$(0.85 \sim 1.1) U_s$	2.5 A	60 W
2500 A 4000 A	400 V	AC230/DC220	$(0.85 \sim 1.1) U_s$	2.5 A	550 W
		AC24/DC24	$(0.85 \sim 1.1) U_s$	5.1 A	264 W

Motor operator

The circuit breaker offers motor charging and automatic recharging functions (manual charging is also available for the circuit breaker)

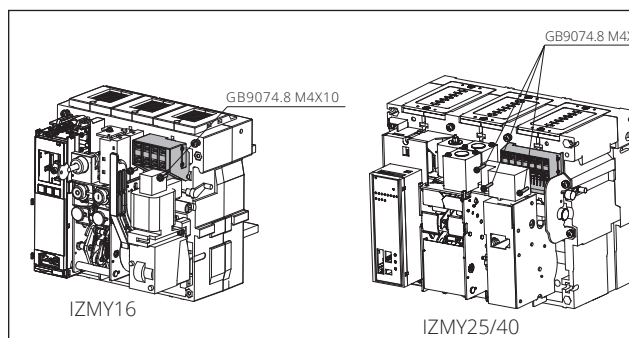
- IZMY16/25/40



Rated control voltage U_s (V)	AC24/DC24	AC230/DC230
Actuating voltage	$(0.85 \sim 1.1) U_s$	
Power loss	1600 A frame	80 W
	2500 A frame	150 W
	4000 A frame	150 W
Charging time (s)	5s	5s

Internal auxiliary contact

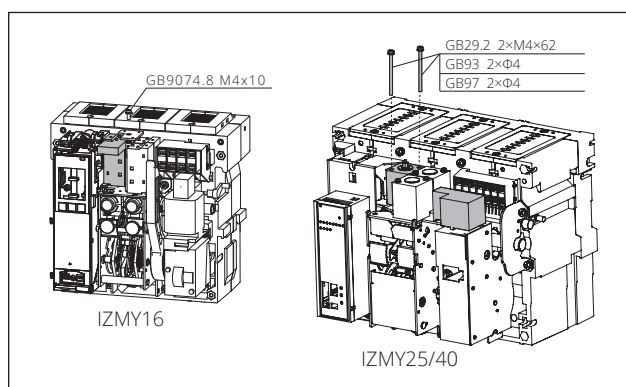
- IZMY16/25/40



	Rated operating voltage U_e (V)	Rated control capacity	Conventional thermal current I_{th} (A)
Auxiliary contact	AC400	800 VA	6
	AC230		
	DC220	300 W	
	DC110		

Undervoltage release

- IZMY16/25/40

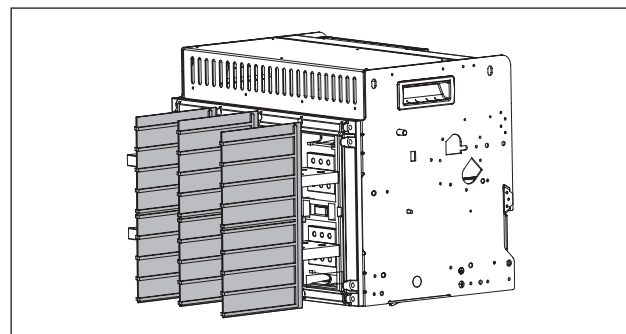


In areas prone to thunderstorms or in power grids with unstable power supply voltage, it is recommended to use undervoltage release with time delay functions, to prevent the circuit breaker from tripping due to short-time voltage drop. The delay time can be selected from 0.3s, 0.5s, 0.7s, 1s, 3s, 5s, and 10s by users. For special requirements on the delay time, please contact Eaton.

Rated operating voltage U_e (V)	AC24/ DC24	AC230/ DC220
Actuating voltage(V)	(0.35-0.7) U_e	
Reliable closing voltage(V)	(0.85-1.1) U_e	
Reliable no-closing voltage(V)	$\leq 0.35 U_e$	
Pickup power	IZMY16	263 W
	IZMY25/40	228 W
Maintaining power	IZMY16	2.2 W
	IZMY25/40	5.7 W

Interphase partition

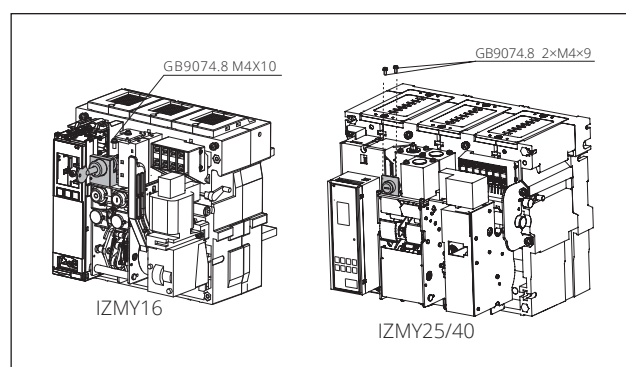
The interphase partition is mounted vertically between the wiring boards in the fixed section of the drawout circuit breaker, to increase the insulation strength of the busbar connection.



Counter

The counter calculates the number of operations, which can be read on the front panel. It is compatible with manual and electrical operation functions. Only available for IZMY25/40.

Keylock Safe-OFF



The keylock Safe-OFF can secure the opening (OFF) button of the circuit breaker in its actuated position. The keylock facility is supplied as a kit for field installation.

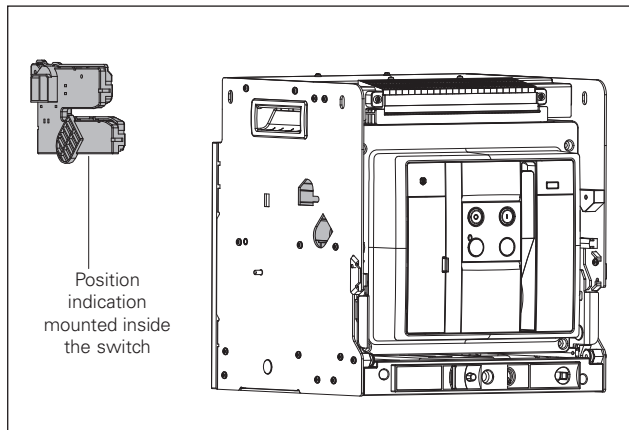
How to use:

One lock and one key: The keylock safe-OFF kit is supplied with one lock and one key. The circuit breaker is not allowed to close in the locked state;

Section 4. Accessory

Position cell switch

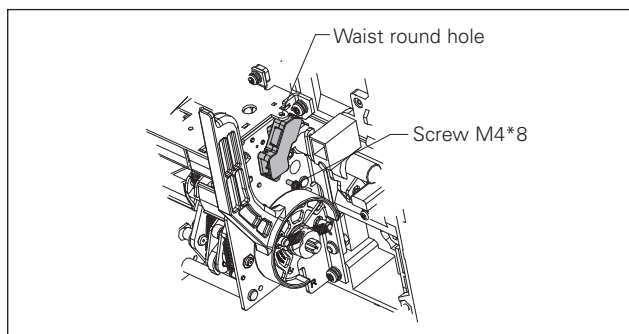
Three sets of switches are available to indicate the current position of the circuit breaker (Connected, Test, Disconnected). The corresponding switch will be switched on when the circuit breaker is in a certain position



Latch check switch (LCS)

A latch check switch (LCS) indicates when the circuit breaker is “ready to close” (charged and not held tripped).

The LCS for Remote Indication consists of one Form C contact wired to the circuit breaker secondary contacts (31, 32 and 33) for integration into external control schemes.

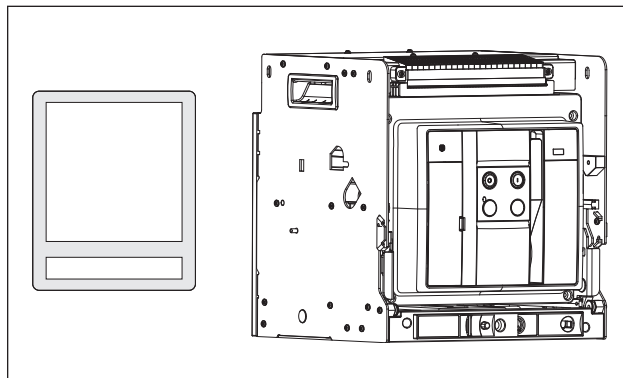


Overcurrent trip switch (OTS)

An overcurrent trip switch (bell alarm) provides an electrical indication when a circuit breaker trips as a result of the trip unit. Opening as a result of a circuit breaker’s manual open button, shunt trip, or undervoltage release does not cause the overcurrent trip switch to operate. Overcurrent trip switches are available in two switch combinations only.

Door escutcheon

The door escutcheon is mounted on the door, and features a protection level up to IP40. The circuit breaker offers an IP20 protection level when mounted separately. Corresponding door escutcheon is available for both fixed and drawout circuit breakers.



External neutral current transformer

The TN-S power distribution system uses a three-pole circuit breaker, which requires an external neutral current transformer to be equipped with. The ground-current N-phase transformer only measures the N-phase current for ground protection judgement, with its N-phase transformer mounting direction not subject to the wiring method.

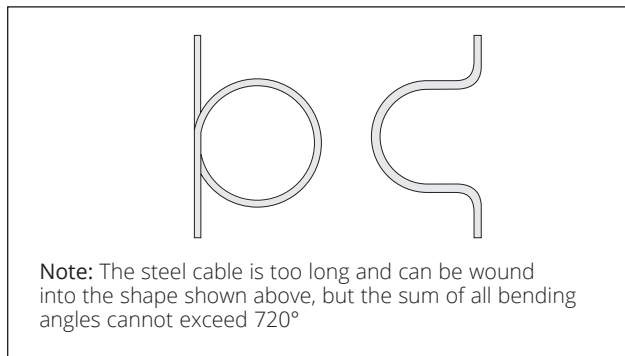
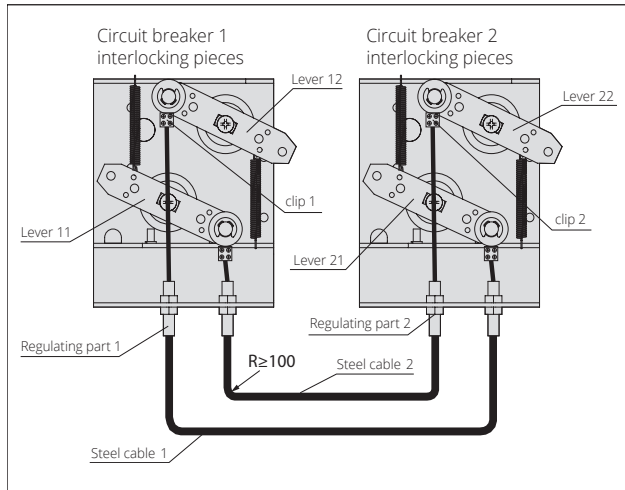
During mounting, be cautious of the following:

Twisted-pair wires are available on the external neutral current transformer, with Code No. 23 and 24 on them to connect corresponding secondary terminals. Simply follow the code numbers on the conductors to connect to the secondary terminals.

Mechanical interlock

Mechanical interlocks are available to interlock the operation of two or three IZMY Series circuit breakers. The mechanical interlock holds one or more circuit breakers tripped (prevents closure) when others are closed.

Consult the instruction leaflet for details.



Circuit breaker 1	Circuit breaker 2
0	0
0	1
1	0

Notes: 1 = Closed, 0 = Open

Section 5. Circuit breaker operation

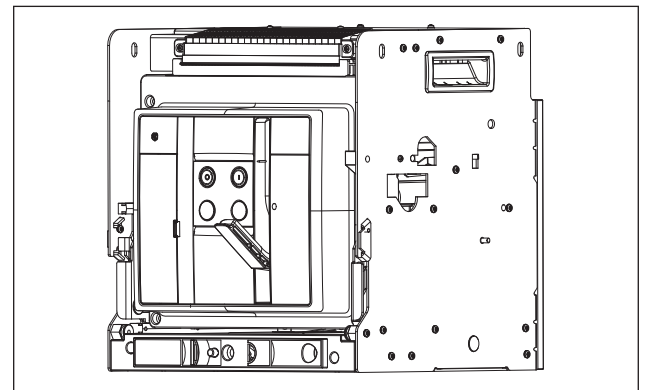
Charging operation

Manual operation

When charging, repeatedly pull the handle up and down several times, until you cannot feel the reaction force of the handle, indicating the charging is completed. At this point, the "CHARGED" and "DISCHARGED" indicators are in the "CHARGED" position.

Motor charging

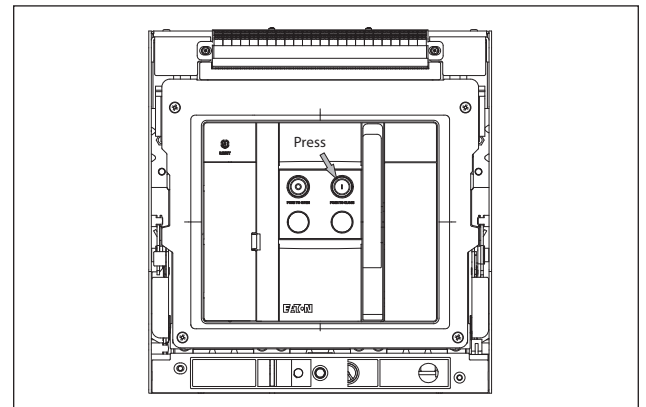
The motor operator starts charging automatically upon energization of the control circuit.



Opening and closing operations

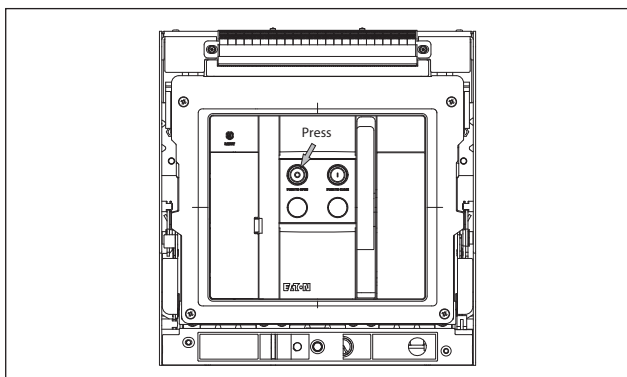
Manual operation

- Manual closing
When the circuit breaker is in "CHARGED" and "OPEN" states, press down the green button (I), and the circuit breaker will be closed. The "OPEN" and "CLOSED" indicators are switched from "0" to "1".



- Manual opening
When the circuit breaker is in closed state, press down the red button (O), and the circuit breaker will be opened. The "OPEN" and "CLOSED" indicators are switched from "T" to "0".

Section 5. Circuit breaker operation



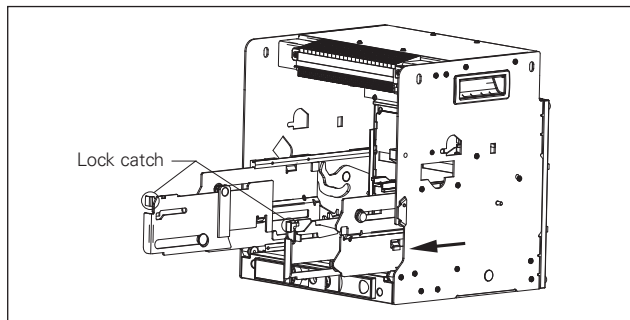
Motor operation

Closing: Apply the rated voltage to the closing release to close the circuit breaker when in "CHARGED" and "OPEN" states.

Opening: Apply the rated voltage to the shunt release to open the circuit breaker when in the "CLOSED" state.

Lever-in operation of drawout circuit breaker

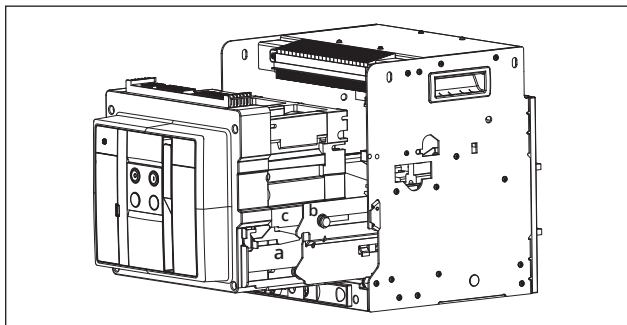
1. Make sure that the cassette is in the "Disconnected" position and the crank handle is not in the "handle moving position hole". Press the lock catch with your thumb and pull out the sliding plate in the direction shown in the figure until it cannot be pulled further.



CAUTION

To pull out the slide plate, make sure to press and hold the "Lock catch".

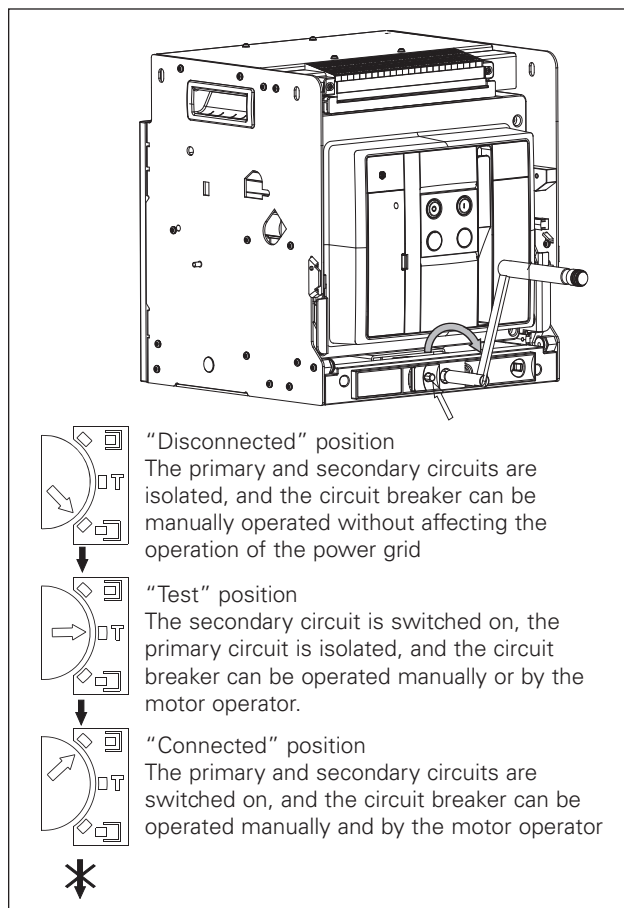
2. Place the circuit breaker's basic device onto the sliding plate. After placing it properly, push the circuit breaker's basic device inward until it cannot be pushed further. The operation is shown in the figure.



CAUTION

Make sure that the clamping band (a) on the sliding plate of the cassette fully enters the corresponding groove of the basic device. Sliding plate part (b) cannot stand out of surface (c) of the basic device.

3. Push the circuit breaker's basic device inward until you hear two "clicks", which means that the basic device reaches the "Disconnected" position, and the "sliding plate's locking device" locks the basic device.
4. Remove the crank handle.
5. Fully insert the hexagonal head of the crank handle into the position switch hole of the cassette. Press down the unlock button and turn the crank handle clockwise to move the basic device inward (During the process from the "Disconnected" position to "Connected" position, every time when a position is reached, the "unlock button" will be ejected as shown in the figure below. Press the unlock button to continue rotating the handle)



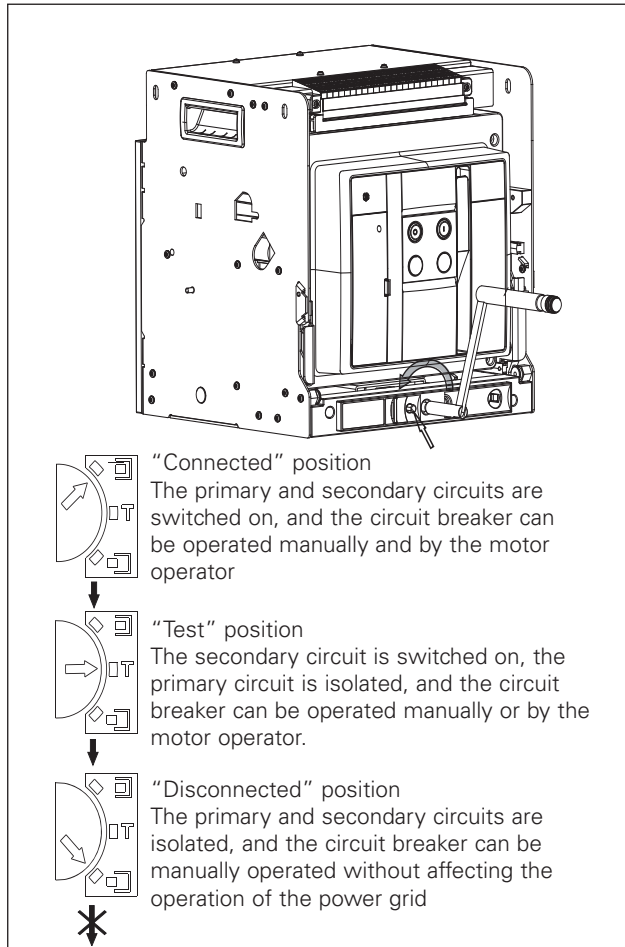
CAUTION

When the "unlock button" cannot be pressed, slightly shake the crank handle from side to side until the unlock button can be pressed down. It is forbidden to test the circuit breaker when in the connected position.

When the circuit breaker is levered into to this position, the "unlock button" will be ejected. At this point, the circuit breaker has fully reached the mounting position, so you can no longer continue to turn the crank handle clockwise

Lever-out operation of circuit breaker's basic device

1. Remove the crank handle and insert the hexagonal head of the handle fully into the position switch hole of the cassette.
2. Press down the position lock button while turning the handle counterclockwise (During the process from the "Connected" position to "Disconnected" position, the "unlock button" will be ejected every time it reaches a position, thereby locking the handle so that it cannot continue to rotate. At this point, press the "unlock button" as shown in the figure below to continue rotating the handle)



CAUTION

When the "unlock button" cannot be pressed, slightly shake the crank handle from side to side until the unlock button can be pressed down.

It is forbidden to test the circuit breaker when in the connected position.

3. Put the crank handle back to its original place and pull out the circuit breaker's basic device.

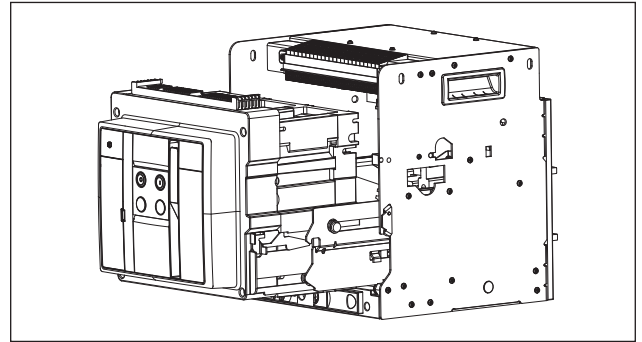
CAUTION

Only when levered to the "disconnected" position, the handle must be removed before pulling out the sliding plate.

4. Remove the circuit breaker's basic device

CAUTION

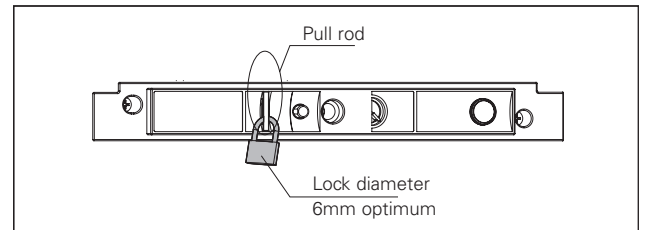
Put the sliding plate back to its original position until you hear two "clicks," indicating that the "lock catch" locks the sliding plate.



Drawout circuit breaker position locking

To lock the circuit breaker, pull out and padlock the pull rod when the circuit breaker is in any position. At this point, the position switching cannot be continued.

1. Pull the pull rod out.
2. Put the padlock through. At this point, the basic device cannot switch positions.



CAUTION

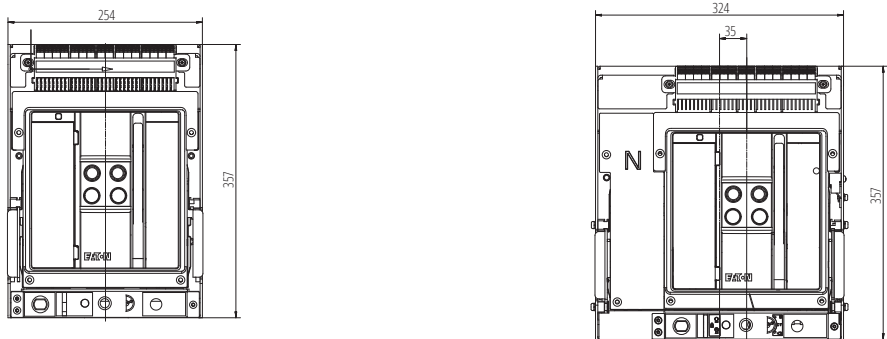
Remove the crank handle from the position switch hole before pulling out the position lock's pull rod.

Section 6. Outline and mounting dimension diagrams

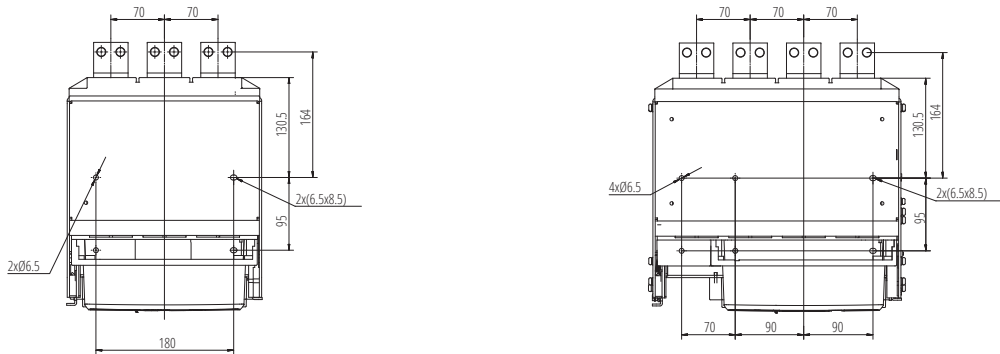
Section 6. Outline and mounting dimension diagrams

Drawout type (IZMY16 400-1600 A)

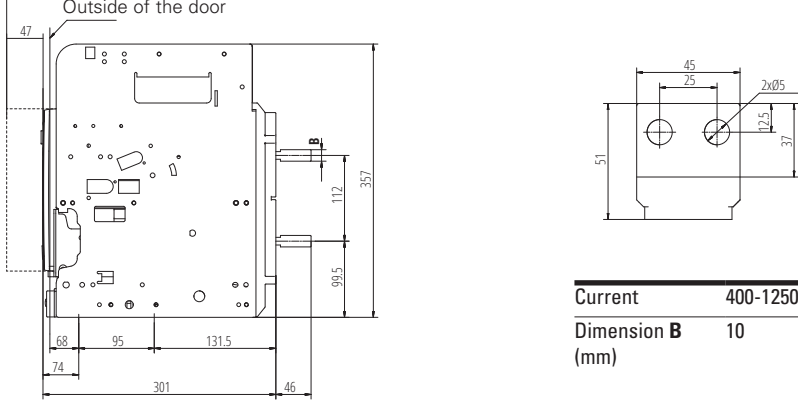
Front view



Horizontal wiring

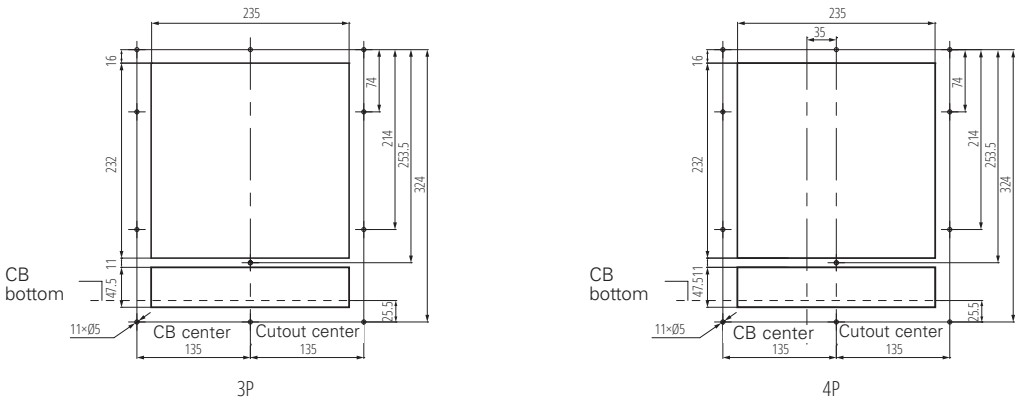


Disconnected position
Outside of the door



Current	400-1250 A	1600 A
Dimension B (mm)	10	15

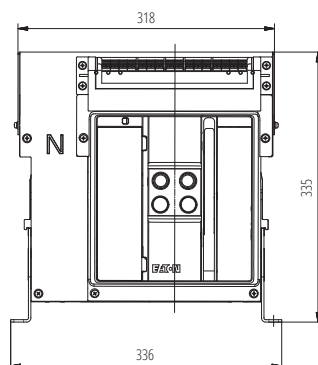
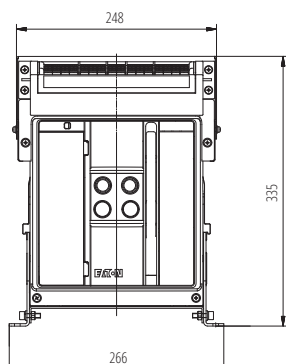
Door escutcheon cutout

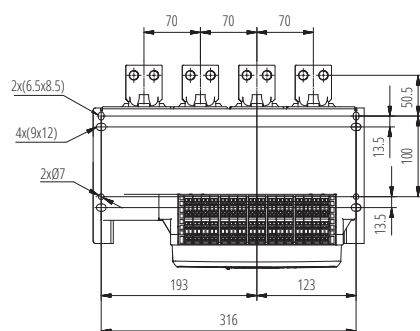
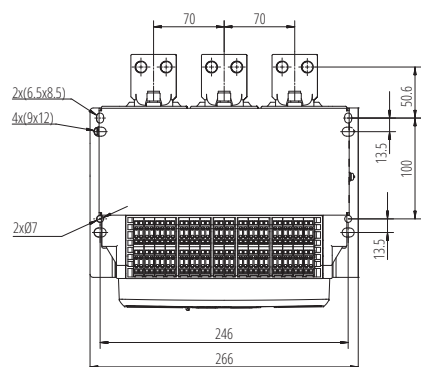


Section 6. Outline and mounting dimension diagrams

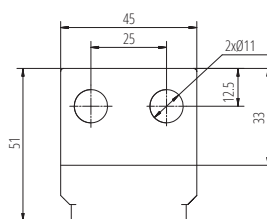
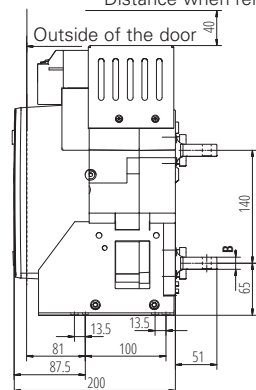
Fixed type (IZMY16 400-1600 A)

Front view



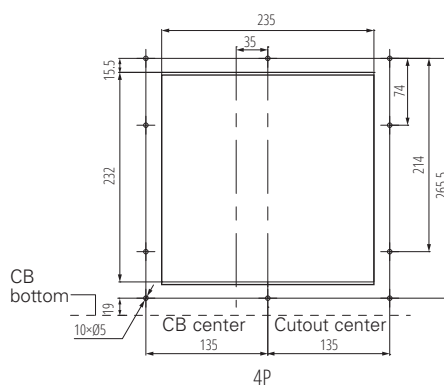
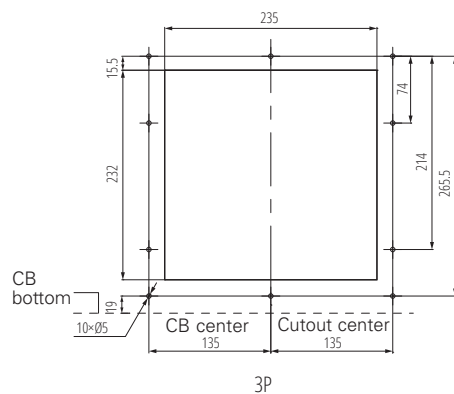
Horizontal wiring

Distance when removing the arc chamber



Current	400-1250 A	1600 A
Dimension B (mm)	10	15

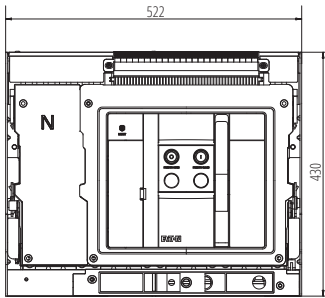
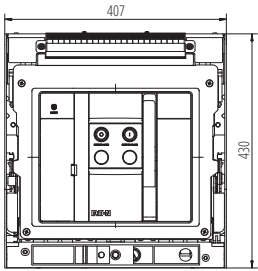
Door escutcheon cutout



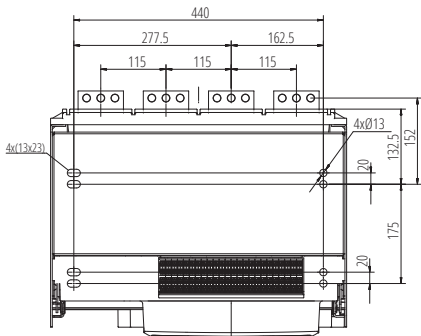
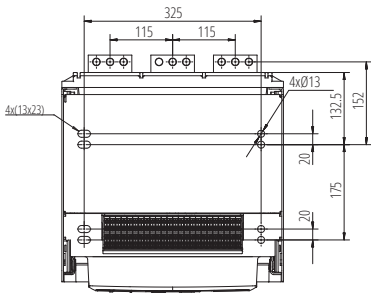
Section 6. Outline and mounting dimension diagrams

Drawout type (IZMY25 800-2500A)

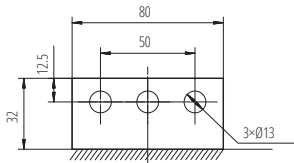
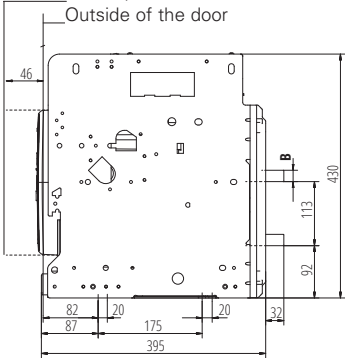
Front view



Horizontal wiring

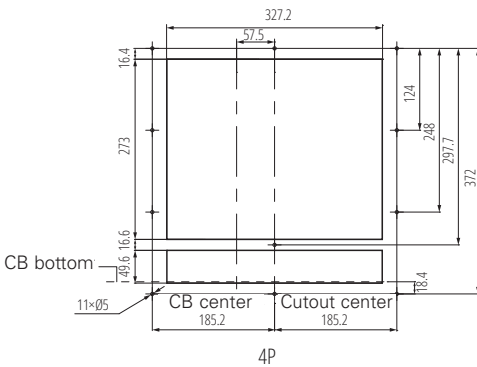
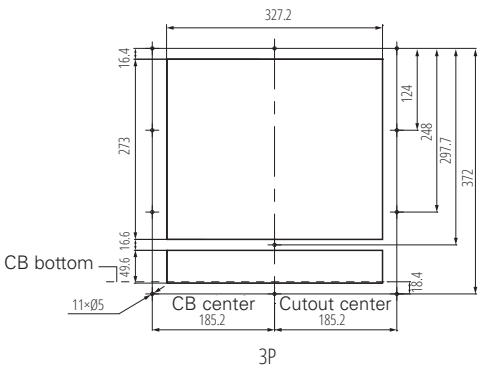


Disconnected position
Outside of the door



Current	800-1600A	2000-2500A
Dimension B	10	20
(mm)		

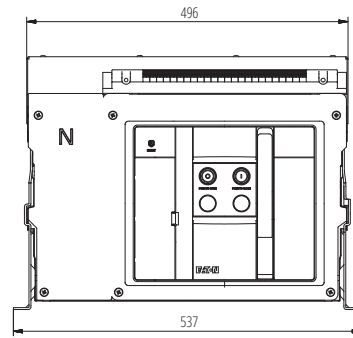
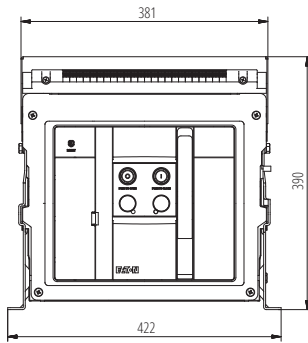
Door escutcheon cutout



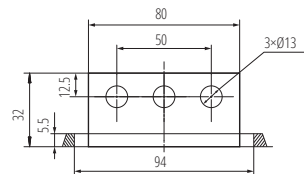
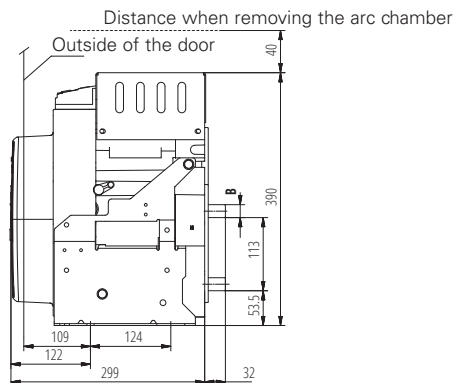
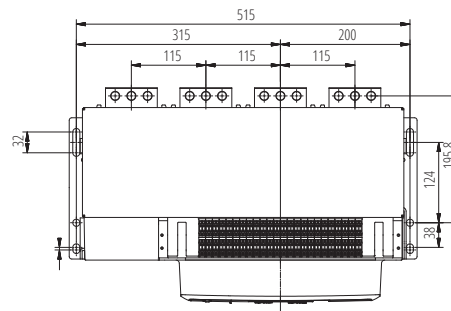
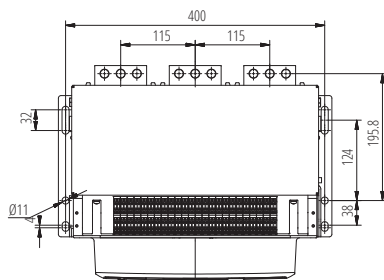
Section 6. Outline and mounting dimension diagrams

Fixed type (IZMY25 800-2500 A)

Front view



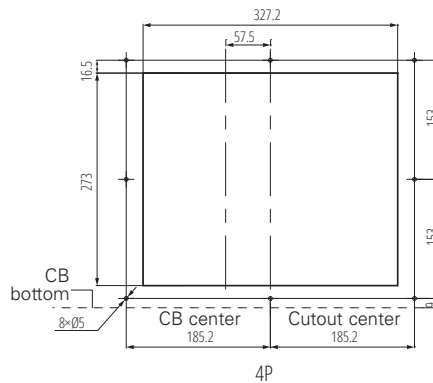
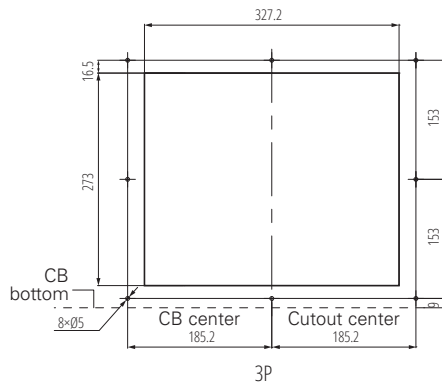
Horizontal wiring



Standard type
The shaped part is the lap surface of the busbar

Current	800-1600 A	2000-2500 A
Dimension B (mm)	10	20

Door escutcheon cutout



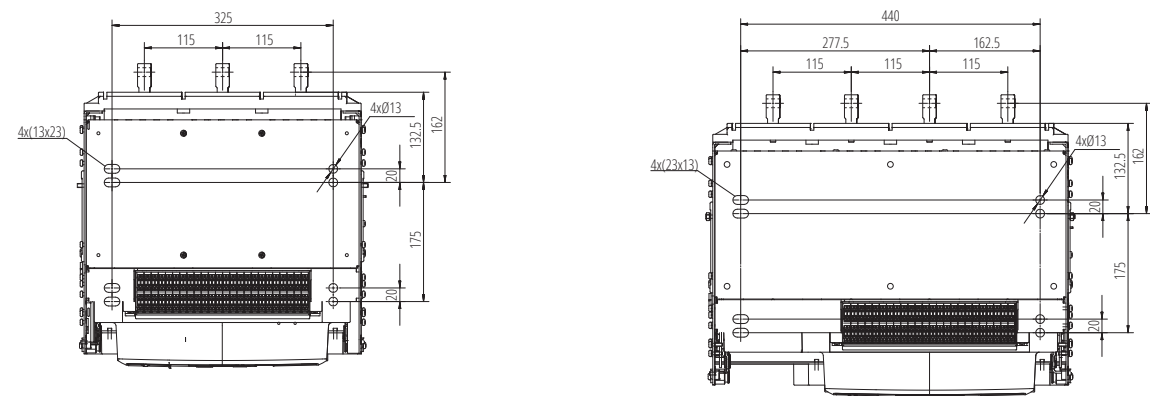
Section 6. Outline and mounting dimension diagrams

Drawout type (IZMY40 2000-3200 A)

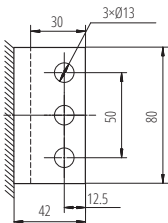
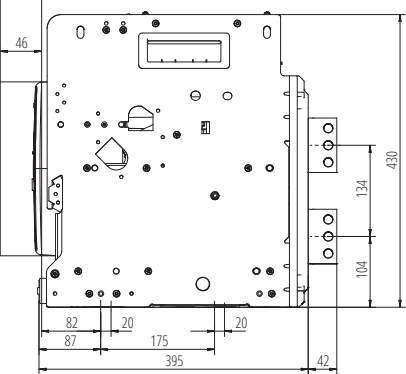
Front view



Vertical wiring



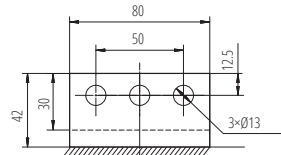
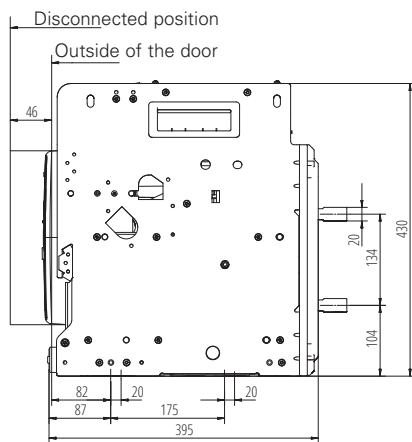
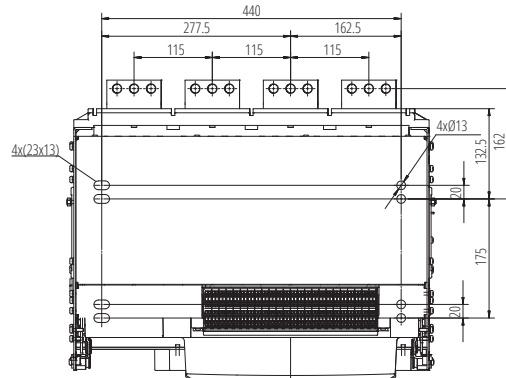
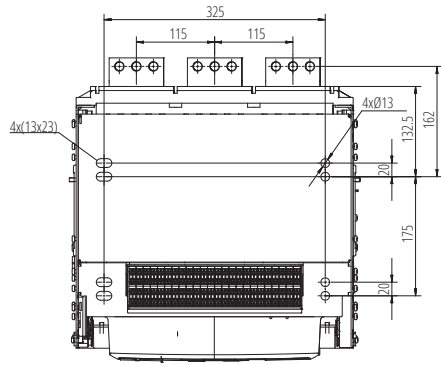
Disconnected position
Outside of the door



Standard type

Drawout type (IZMY40 2000-3200 A)

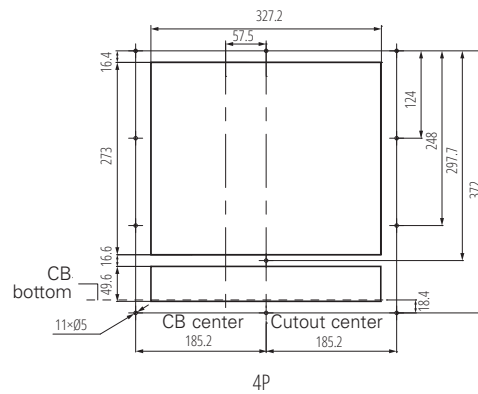
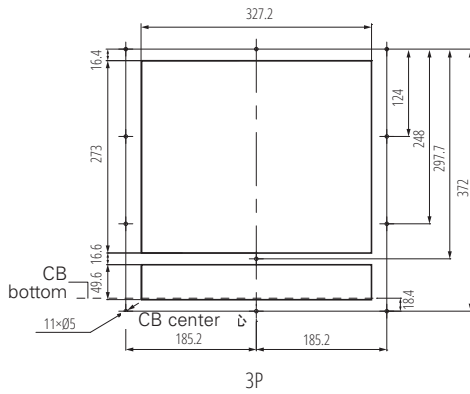
Horizontal wiring



Standard type

The shaped part is the lap surface of the busbar

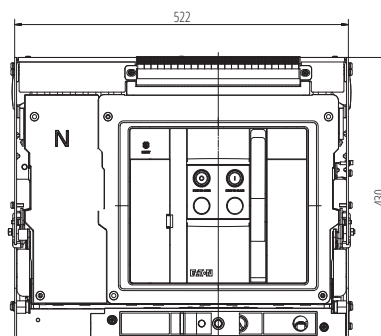
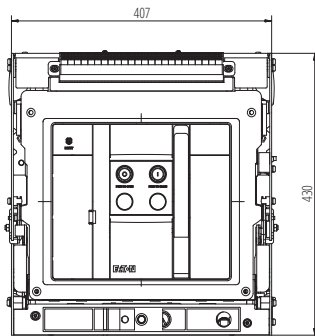
Door escutcheon cutout



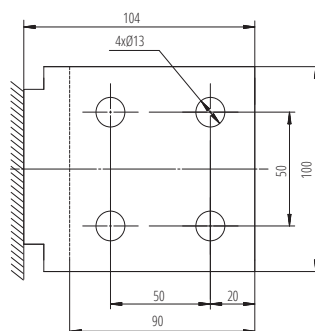
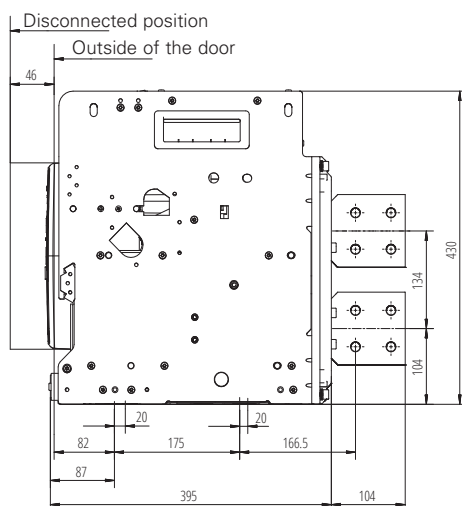
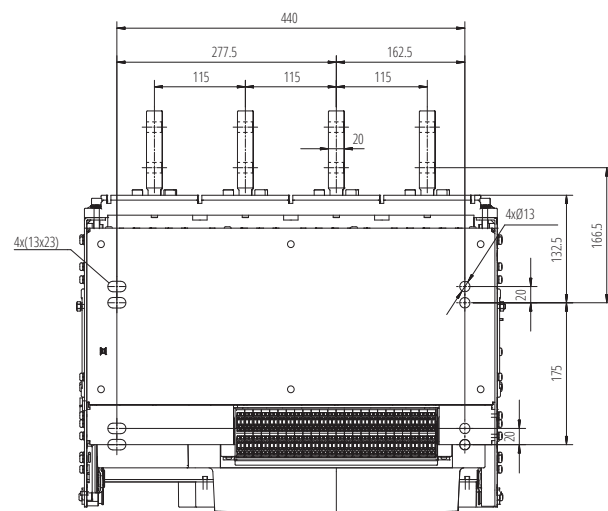
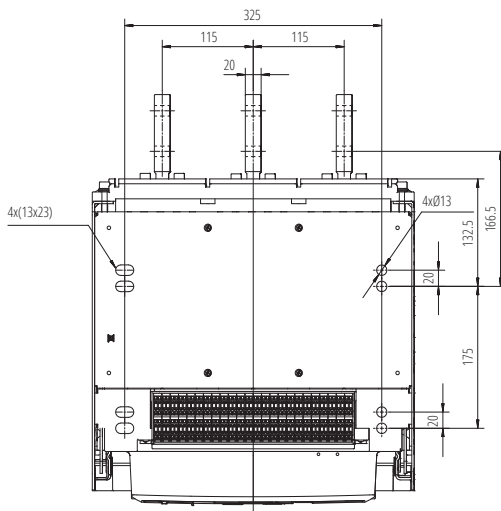
Section 6. Outline and mounting dimension diagrams

Drawout type (IZMY40 4000 A)

Front view



Vertical wiring

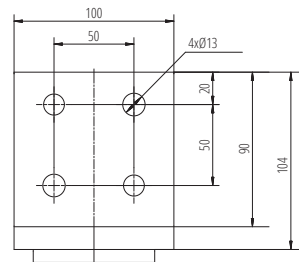
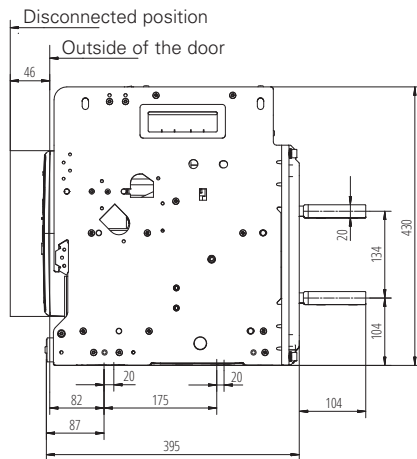
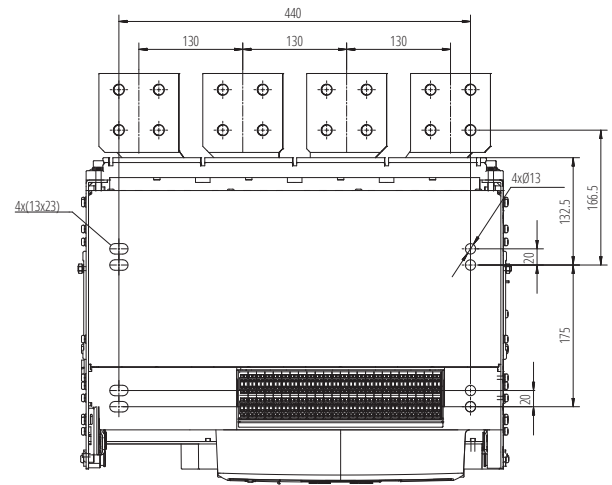
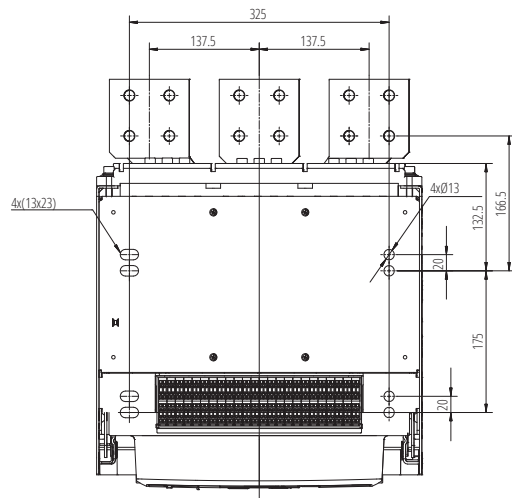


The shaped part is the lap surface of the busbar

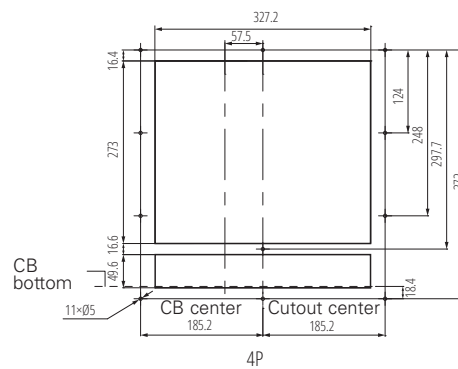
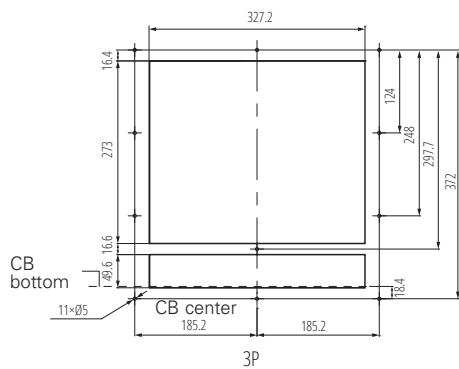
Section 6. Outline and mounting dimension diagrams

Drawout type (IZMY40 4000 A)

Horizontal wiring



Door escutcheon cutout

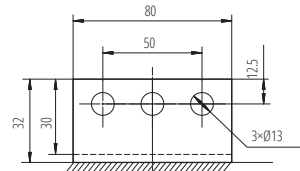
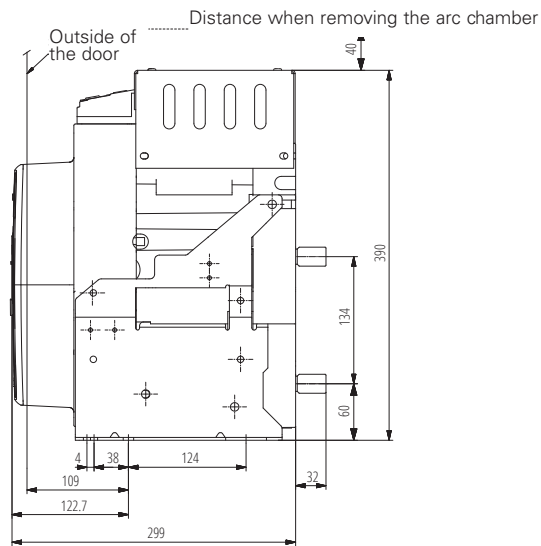
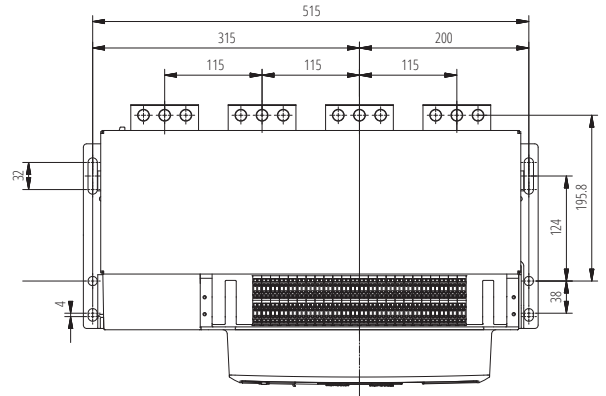
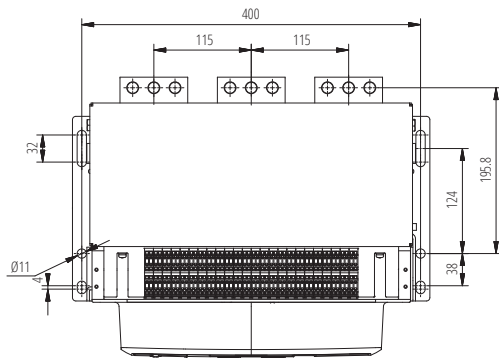


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Section 6. Outline and mounting dimension diagrams

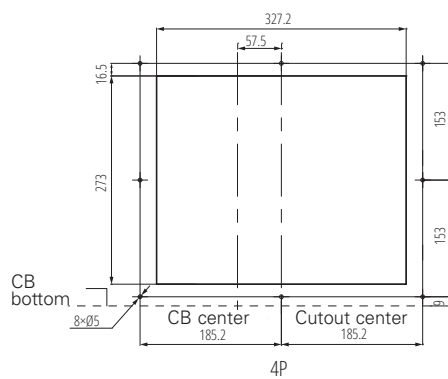
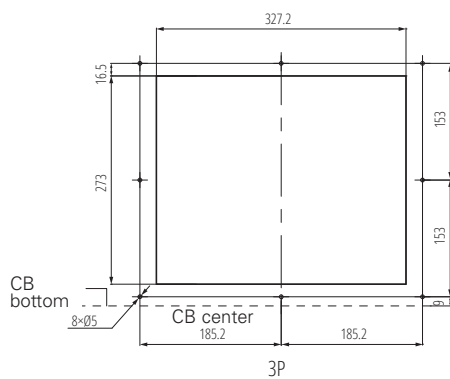
Fixed type (IZMY40 2000-3200 A)

Horizontal wiring



Standard type
The shaped part is the lap surface of the busbar

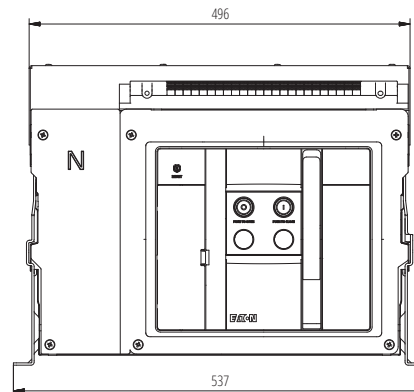
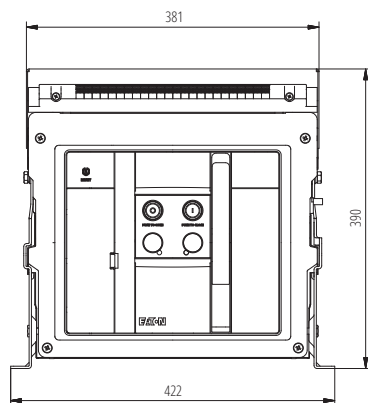
Door escutcheon cutout



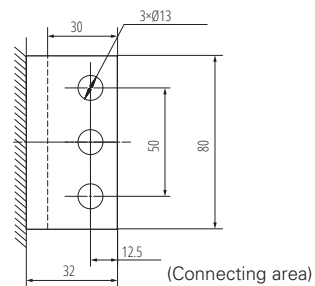
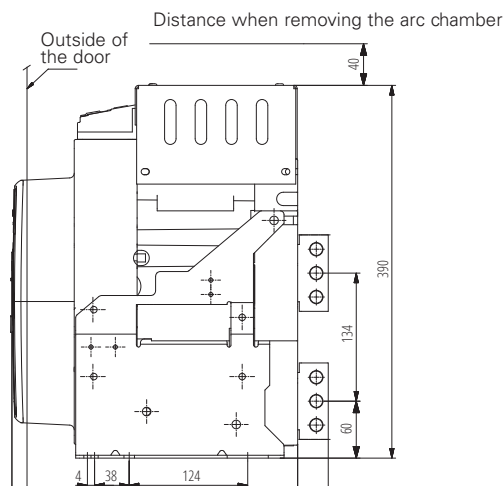
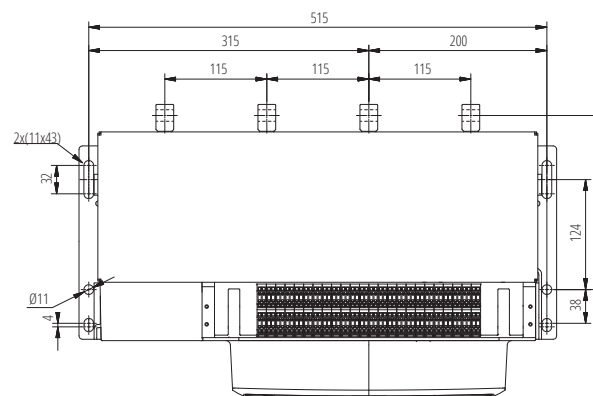
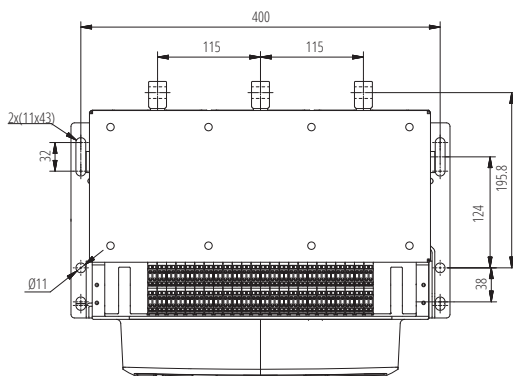
Section 6. Outline and mounting dimension diagrams

Fixed type (IZMY40 4000 A)

Front view



Vertical wiring

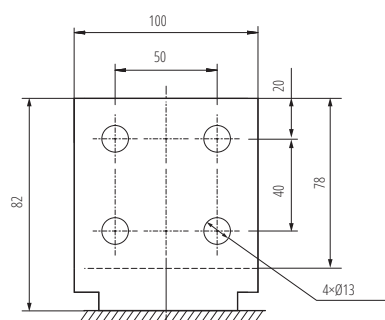
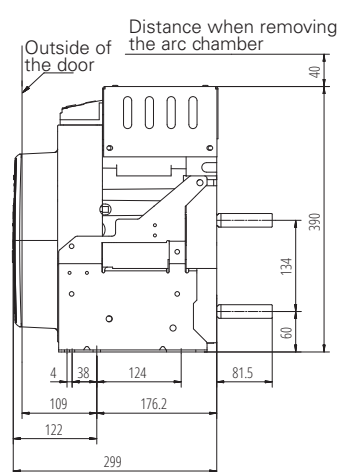
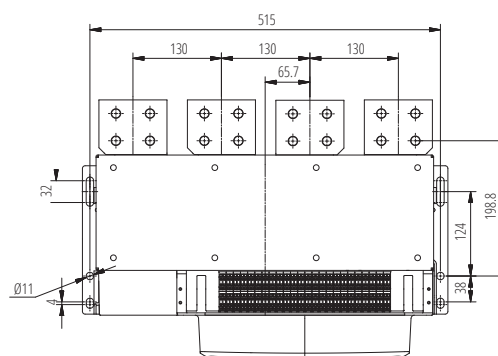
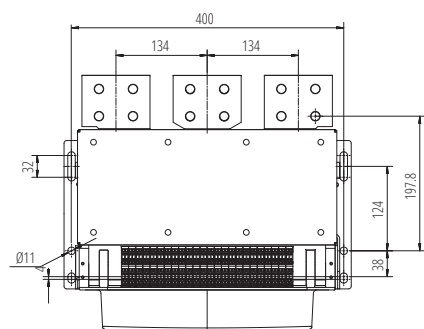


The shaped part is the lap surface of the busbar

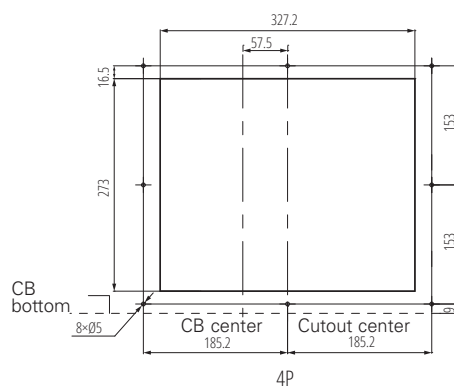
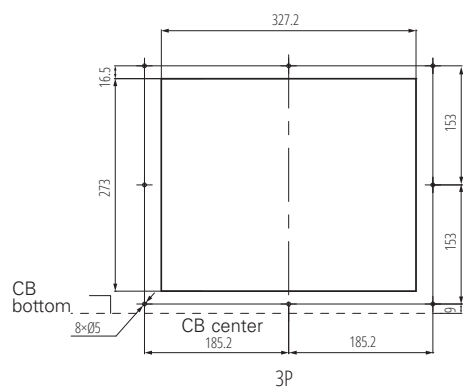
Section 6. Outline and mounting dimension diagrams

Fixed type (IZMY40 4000 A)

Horizontal wiring



Door escutcheon cutout



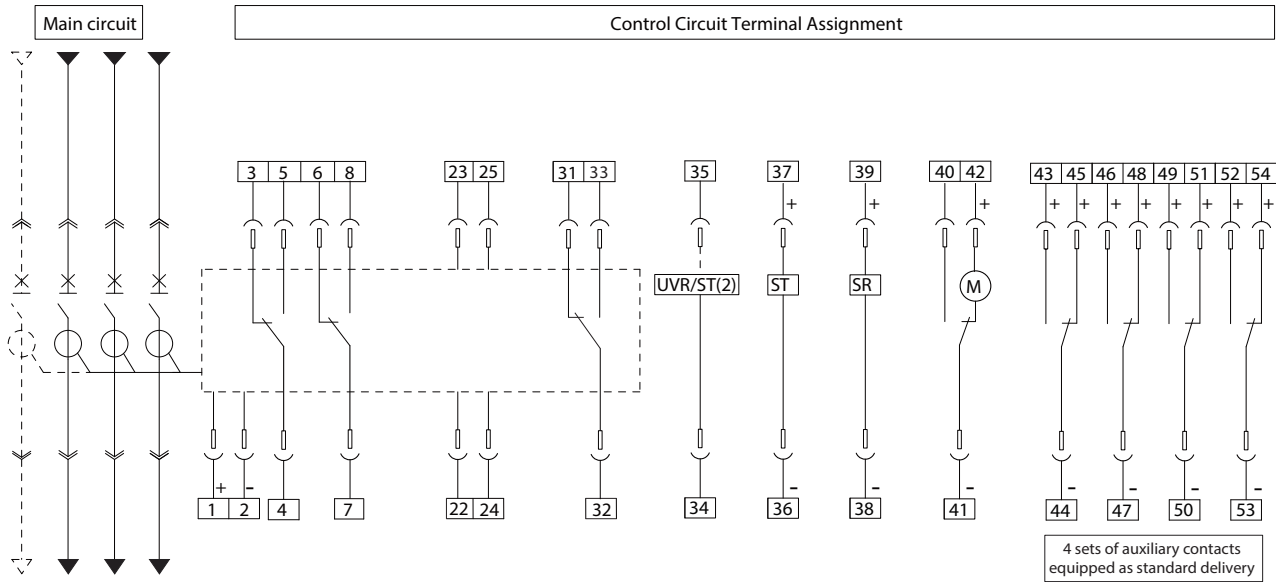
Section 7. Electrical wiring diagrams

Terminal numbers are described as follows:

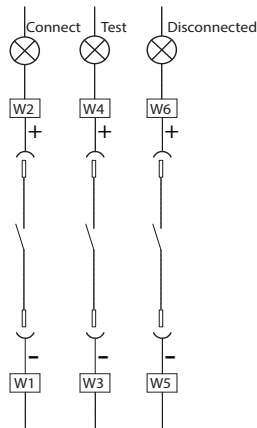
1# 2#	24V DC power supply input (optional)
3# 4# 5#	Overload trip switch 1 (OTS) (3-N.C., 4-COM, 5-N.O.) (default delivery)
6# 7# 8#	Overload trip switch 2 (OTS) (6-N.C., 7-COM, 8-N.O.) (default delivery)
22# 23#	External neutral sensor terminal N1 & N2 (optional function)
24# 25#	Ground fault source sensor (optional function)
31# 32# 33#	Latch check switch LCS (optional function)
34# 35#	UVR/2nd shunt trip release (optional function)
36# 37#	Shunt release (optional function)
38# 39#	Spring closing release (optional function)
40# 41# 42#	Motor operator (optional function)
43#---54#	Auxiliary contact wiring terminal (default delivery)

- Notes:**
- (1) Position cell switch terminals #W1-#W6 do not pass through the secondary terminal
 - (2) An optional 24V DC power supply may be connected to terminals #1 and #2 to enable some features, such as software breaker test and events storage. For more information, please consult the Trip Unit manual (MN013021ZU).
 - (3) The above circuit diagrams are the ones when the circuit breaker is in open, discharged positions.
 - (4) This wiring diagram includes all the functions. Optional functions are available only after selected by users.

IZMY16/25/40 electrical wiring diagram



Position cell switch electrical wiring diagram



Section 8. Installation, operation and maintenance notice

Installation and operation warnings

- To ensure the safety of your personal and electrical equipment, users must observe the following before the circuit breaker is put into operation:
 - Read carefully the operating instruction manual before mounting and operating the circuit breaker.
 - Make sure that the circuit breaker is used under normal operating conditions.
 - Prior to mounting, check whether the specifications of the circuit breaker meet the requirements for operation.
 - Prior to mounting, measure the insulation resistance of the circuit breaker with a 500V megohmmeter. The measured insulation resistance shall be equal to or greater than 500M Ohm with the ambient air temperature of 20°C ±5°C and the air humidity of 50% to 70%. Otherwise, dry the device until its insulation resistance meets the requirements for operation.
 - During mounting, make sure that the mounting surface of the circuit breaker is in a horizontal position and fastened with M6/ M12 bolts.
 - During mounting, make sure that no conductive foreign objects fall into the circuit breaker.
 - During mounting, ensure that the conductive busbar connected to the circuit breaker should be flat and without additional mechanical stress.
 - During mounting, the circuit breaker must be reliably grounded with an obvious grounding symbol sign at the ground point.
- After the circuit breaker is mounted, follow below steps to conduct operational testing before the main circuit is energized. Make sure that everything is in normal conditions prior to energizing the main circuit.
 - Check carefully whether there is any foreign object fallen into the circuit breaker. If any, the object must be completely removed, and the circuit breaker must be kept clean and clear.
 - Connect the secondary circuit according to the relevant wiring diagram, and check whether the operating voltage of the shunt release, closing release, motor operating mechanism and trip unit are in consistent with the actual power voltage; then energize the secondary circuit. For drawout circuit breakers, their basic device should be levered into the test position.
 - After the motor operator is fully charged, press the closing button (electric or manual) to close the circuit breaker.
 - Press the opening button (electric or manual), and the circuit breaker should be opened.
 - Reliably open the circuit breaker with the trip unit's testing function. Press the RESET button upon completion of the test.
 - During manual charging, press up and down the handle on the front panel. Repeat this operation seven times, and the rear panel will display "Charged". After a "click" sound is heard, the charging is done.

The circuit breaker can only be put into operation after testing with the above steps to prove normal operations!

Section 8. Installation, operation and maintenance notice

The following table allows you to determine the cause of the fault and how to troubleshoot.

If the fault still exists, please contact an Eaton representative.

No.	Symptom	Probable cause	Possible solutions
1	The circuit breaker opens automatically (The reset button is popped out)	Overload fault trip ("Ir1" light is lit on) Short circuit fault trip ("Isd" light is lit on or "I" light is lit on) Ground fault trip ("Ig" light is lit on)	Check and eliminate the fault in the circuit according to the fault type and fault current displayed on the trip unit. Press the reset button, then close the circuit breaker
2	The circuit breaker opens immediately as soon as closed (the reset button is not popped out)	Power supply still exists on the shunt release The undervoltage release is damaged The mechanism is faulty	Check the line Replace damaged undervoltage release Contact us for repair
3	The circuit breaker opens immediately as soon as closed, and the reset button pops out	Closed due to short circuit Transient current is too large during closing Trip unit is faulty	Check the condition of the circuit breaker Improve the set points of the power grid or control unit, and check the condition of the circuit breaker before putting it back to operation Contact us for repair
4	The circuit breaker cannot be closed remotely (can be closed by pressing the closed button on the basic device)	The closing release has insufficient power supply The line is faulty The closing release is faulty	Check its power supply (for voltage normality) Check whether the line is correct If the power supply and lines are normal, it could be a component failure. Contact us for repair
5	Motor charging fails (manual charging is fine)	The motor charger has insufficient voltage (<0.85 Us) The motor operator is faulty	Check the motor operators circuit by providing a voltage greater than 0.85 Us; if the voltage and wirings are normal, contact us for repair.
6	The handle cannot be inserted to lever out or in the basic device	A padlock is mounted with the "Disconnected" position The sliding panel or basic device is not fully levered into the "Disconnected" position	Remove the padlock Lever the sliding panel or the basic device into the "Disconnected" position
7	The sliding panel or basic device cannot lever out from the cassette	The handle remains in the inserted position The circuit breaker is not fully levered out to the "Disconnect" position	Remove the handle and keep it properly Lever the circuit breaker out to the "Disconnected" position
8	The circuit breaker cannot be opened remotely (can be opened by pressing the opening button on the basic device)	The power supply voltage of the shunt release is too low (<0.7Us) The shunt release circuit is faulty The shunt release is faulty	Check whether the power supply voltage is normal Check if the line is proper If the voltage and line are normal, it could be a component failure. Contact us for repair
9	The circuit breaker cannot be opened locally	The mechanical device is faulty or the main circuit is welded	Contact us for repair.
10	The circuit breaker cannot be closed remotely and locally	The trip indicator is not reset The circuit breaker is not fully in the Connected position The under voltage release is out of power or faulty Anti-closing lock is locked in the "OFF" position The circuit breaker is interlocked	Reset the reset button after checking and troubleshooting Lever the circuit breaker fully into the Connected position Check whether the circuit of the under voltage release is energized Unlock the anti-closing lock Remove the interlocking

[illegible]

CAUTION

An attacker with unauthorized physical access may severely damage system/device functions. The IZMY devices are designed to be deployed and operated in a physically secure location. Here are some best practices that Eaton recommends to physically protect your system/device:

- Protect your facilities, computer rooms or closets by proper use of access control systems (such as locks, access card readers, door guards, traps, closed-circuit televisions, etc.).
- Restrict physical access to cabinets containing IZMY and related systems. Always monitor and record visits.
- Restrict physical access to telecommunications lines and network cables to prevent attempts to intercept or disrupt communications. The best practice is to use metal conduits to run network cables between equipment cabinets.
- The following physical access ports are supported by the IZMY devices:
 - USB port
- Access to this port should be restricted.
 - Unless the source of the media is known and trusted, do not connect removable media (such as USB devices, SD cards, etc.) for any operations (such as firmware upgrades, configuration changes, or boot application changes).
 - Before connecting any portable device via the USB port or SD card slot, scan the device for malware and viruses.

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