

New Generation Air Circuit Breaker IZM9

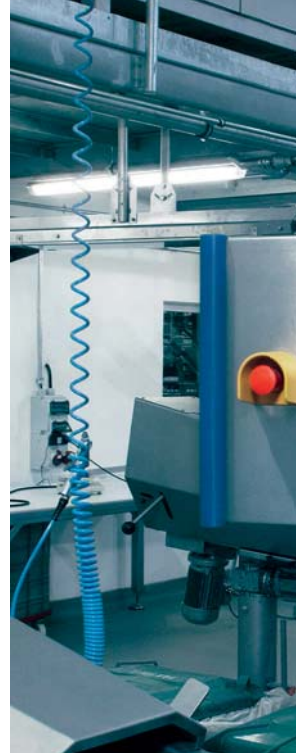
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Buildings, Information Technology, Industrial & Machinery, Energy & Utilities
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 - Food and packaging machines
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-
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 - Solar
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 - Traditional energy:
 - Oil
 - Gas
 - Smart grid
 - Water and waste water
-
- Electrical balance of system and turnkey services for residential, utility and commercial solar installations
 - Power distribution equipment, control components and system installations services
 - Network power grid technology for intelligent data, lower costs and crew / public safety

The next generation trip unit platform: Power Xpert Release (PXR)

- LCD display with multilingual capability
- Current metering on PXR20 and power metering on PXR25
- Extended range for pickup value and delay timing setting
- "OFF" setting available for ground fault(G) and non-delayed instantaneous trip(I)
- Onboard Modbus communication(-standard on PXR25 and optional on PXR20)
- MicroUSB for computer connection
- PXR Configuration and Test Tool to remotely configure and test the trip unit
 - Trip test
 - Waveform capture
 - Diagnostics
 - Long trip curve setting
 - ZSI/Thermal Memory on/off

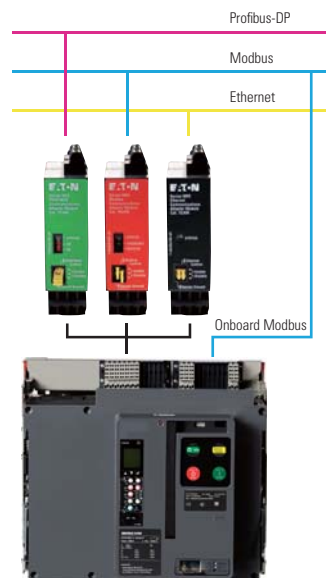


PXR Trip Unit

Increased operating on communication

With the respective communication module - PCAM, MCAM or ECAM (Profibus-DP / Modbus/ Ethernet Communications Adapter Module) - every circuit breaker of the IZM series is equipped for modern communication and is fit for the future. The databus not only allows to transmit information, but also to receive commands/settings.

Onboard Modbus communication is standard on the PXR25 (U type) trip unit and optional on the PXR20(V type) trip unit upon order. Additional PCAM, MCAM or ECAM module can be installed externally for PXR25 to expand the communication capability. (No more than one external CAM module can be installed)



Arcflash Reduction Maintenance System™

Eaton's patented Arcflash Reduction Maintenance System technology provides maintenance staff improved safety of downstream maintenance locations using a simple and reliable method to reduce fault clearing times and energy in an arc flash event (radiation, sound, pressure, temperature).

Arcflash Reduction Maintenance System uses a separate analog trip circuit providing faster signal processing and interruption times than the standard (digital) "instantaneous" protection.

The Arcflash Reduction Maintenance System function is activated either directly on the circuit breaker through a local switch or remotely through communications or a contact input.

Arcflash Reduction Maintenance System is optional on both PXR20 and PXR25 trip units.



Software Power Xpert Protection Manager (PXPM) for interaction with PXR

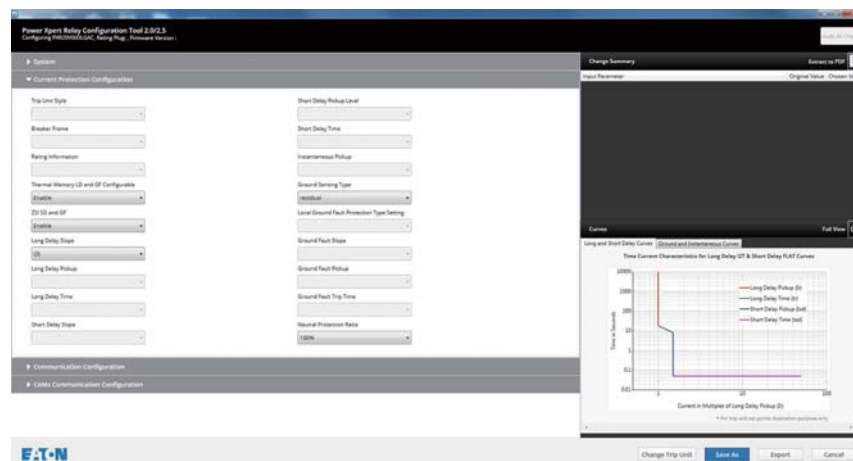
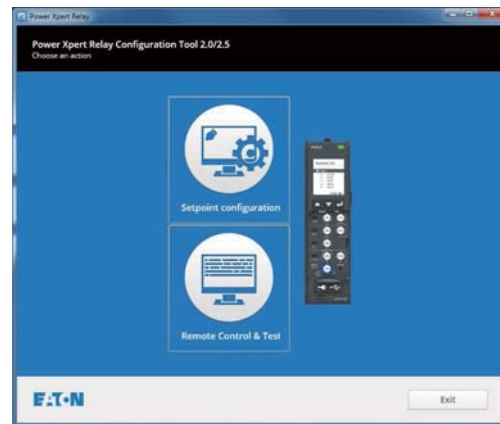
Using the software is easy and self-explaining. The cursor above a selectable function opens a window with its explanation. Depending on the selection next logical selection opens.

Testers no longer require specialized test tools thanks to the much better software solution in combination with the integrated secondary injection test hardware.

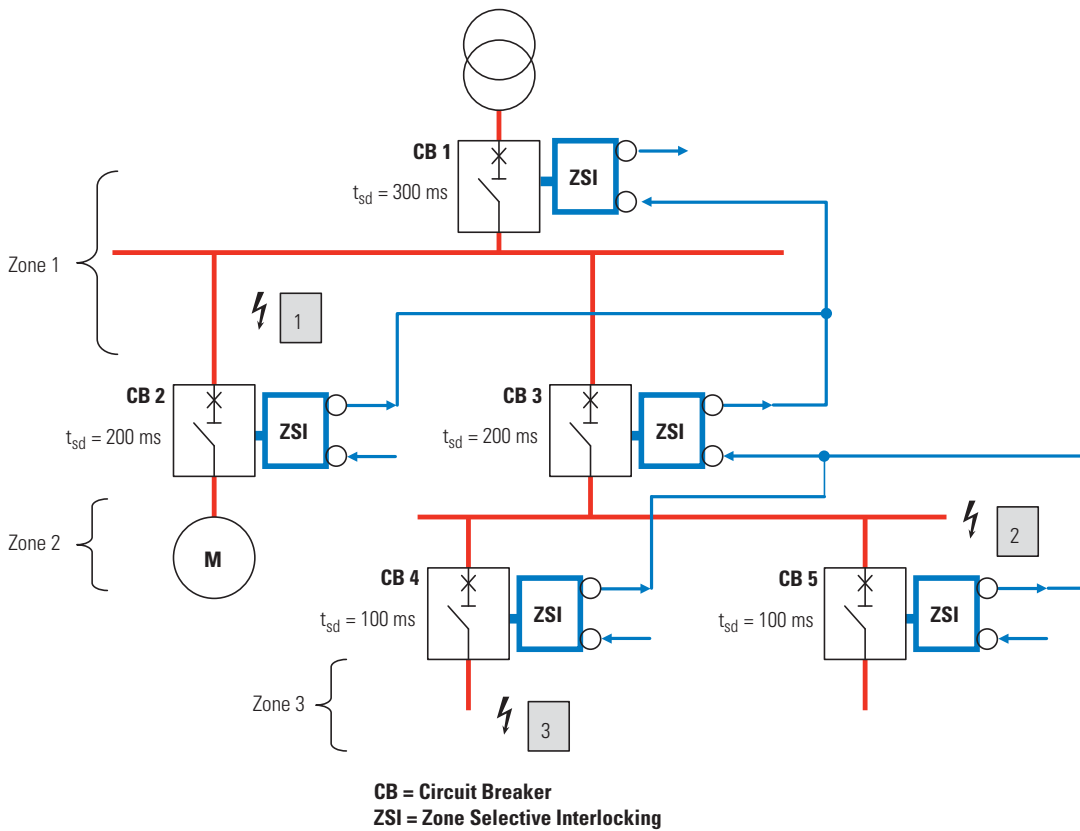
The Power Xpert Release trip unit platform enables engineers to configure and test circuit breakers from a PC via a USB port. As a result, it is easier for users to interact with the trip unit and store or print test data so they can improve their control and maintenance regimes.

Load your settings and record them. If any values are changed a "final setting adjustments" screen shows the original and revised settings, highlighting any that were modified. The sheet can be saved or printed.

- Dis-/enable functions
- Reading/Changing settings (not basic protection settings)
- Waveform capture
- Multiple test procedures with final test protocol print including date/time stamp
- Print settings and curves



Zone Selectivity Interlocking



Zone Selective Interlocking

- Circuit breakers are directly connected to a signal line, without any additional modules. So, in case of a malfunction, they ensure that only the circuit breaker immediately upstream the point of failure will break a short-circuit without delay.
- The advantage of the zone selectivity feature - compared to ordinary time selectivity - is the significantly reduced time until switch-off and the reduced amount of energy released in case of a short-circuit.
- For additional safety of maintenance staff we recommend combining ZSI functionality with Arcflash Reduction Maintenance System.

Zone Selective Interlocking Example

Example A – Short-circuit at position 3

- Circuit-breakers CB1, CB3, CB4 all see the short circuit current and register a short delay pick-up.
- Circuit breaker CB4 sends a ZSI out-put blocking signal to CB3 ZSI input. CB3 sends a ZSI output blocking signal to CB1 ZSI input. CB1 sends a ZSI output signal that is not wired. This signal could be wired to a MV relay on the other side of the transformer with a compatible ZSI circuitry.
- CB1 registers the ZSI input signal and starts its timer for 300ms. CB3 registers the ZSI input signal and starts its timer for 200ms. CB4 gets no input from any lower zone circuit breaker. This breaker will then trip immediately without any time delay. CB4 interrupts the fault and CB1 and CB3 stop short delay timing because the fault current is gone.
- If for some reason CB4 does not open and interrupt the fault then at the end of its short delay time CB3 will open and interrupt the fault.

Example B – Short-circuit at position 2

- Circuit-breakers CB1, CB3, see the short circuit current and register a short delay pick-up. CB4 and CB5 do not see the fault current and do not send a ZSI output.
- Circuit breaker CB3 sends a ZSI out-put blocking signal to CB1 ZSI input. CB1 sends a ZSI output signal. In this example that signal is not wired.
- CB1 registers the ZSI input signal and starts a timer for 300ms. CB3 gets no input from any lower zone circuit breaker. This breaker will then trip immediately without any time delay. CB3 interrupts the fault and CB1 stops short delay timing because the fault current is gone. The clearance time is reduced by approximately 150ms.

Example C – Short-circuit at position 1

- Only Circuit breaker CB1 sees the short circuit current and registers a short delay pick-up. CB2, CB3, CB4 and CB5 do not see the fault current and do not send ZSI outputs.
- CB1 sends a ZSI output signal. In this example that signal is not wired.
- CB1 gets no input from any lower zone circuit breaker. This breaker will then trip immediately without any time delay. CB1 interrupts the fault and the clearance time is reduced by approximately 250ms.

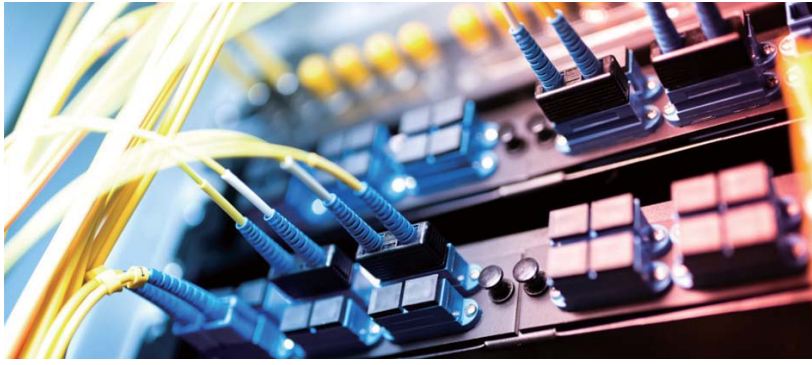
Breaker Health Feature and Programmable Alarms

Less Costly Downtime

By enabling you to perform predictive and preventive maintenance on your power distribution system prior to component failure, the breaker health feature and programmable alarms will help you avoid costly downtime.

- Communicates circuit breaker status at customer determined levels to prompt for breaker maintenance or inspection.
- Provides real-time evaluation of breaker condition by tracking and analyzing diagnostic details including breaker operations, short circuit fault levels, operational time, internal temperature and overloads.





General Purpose Relay Mapping

The PXR family supports 3 general purpose relay contacts. Any relay in the PXR can be configured to any one of the functions. The mapping is conveniently done using the Power Xpert Protection Manager software. Relays require auxiliary power to operate.

Function Name	Description of Relay Operation: "The relay will close when ..."	Description of Relay Operation: "The relay will open when ..."
Overload Trip	there was a Long or Over-temperature trip	RESET button is pressed or communications reset command received
Neutral Trip	there was a Neutral Current trip	RESET button is pressed or communications reset command received
Short Delay Trip	there was a Short Delay trip	RESET button is pressed or communications reset command received
Instantaneous Trip	there was an Instantaneous trip or MCR	RESET button is pressed or communications reset command received
Short Circuit Trip	there was a Short, Inst or Override trip	RESET button is pressed or communications reset command received
Ground Fault Trip	there was a Ground Fault trip	RESET button is pressed or communications reset command received
Maint. Mode Trip	there was a Maintenance Mode trip	RESET button is pressed or communications reset command received
All Trips	any of protective trip (Overload, Neutral, Short, Instantaneous, Ground, Maint. Mode)	RESET button is pressed or communications reset command received
High Load 1	current flow is greater than set point (adjustable from 50% to 120% of I _r)	current flow falls 5% below the set point
High Load 2	current flow is greater than set point (adjustable from 50% to 120% of I _r)	current flow falls 5% below the set point
High Temperature	temperature exceeds 5C below the level of the temperature trip setting	temperature falls 5C below the setting
Ground Fault Pre-Alarm	ground current is greater than the set point (adjustable from 50% to 100%)	ground current falls 5% below the set point
Thermal Memory	the Thermal Memory value is greater than set point (adjustable from 50% to 100%)	Thermal Memory falls 5% below the set point
Watchdog	auxiliary power is active and the trip unit is healthy and operating	there is an error in the trip unit from any of the self-diagnostics
Low Battery	the battery is below 1 bar (20%)	the battery value is 1 bar (20%) or higher
Internal (HW) Fault	there is an internal fault detected	RESET button is pressed or communications reset command received
Setpoint Mismatch	a setpoint in the trip unit does not match the CAM's copy	RESET button is pressed or if a reset command sent by any communication
Breaker Health Alarm	the health value is below 25%	the health value is at or above 25%
Communication Error	any external communications error occurs	RESET button is pressed or communications reset command received
All Faults	any of Internal Fault, Setpoint Mismatch, Breaker Health Alarm, or Communication Error faults	all of Internal Fault, Setpoint Mismatch, Breaker Health Alarm, or Communication Error are inactive
Aux Contact	breaker is closed	breaker is open
Bell Contact	breaker is tripped	breaker is not tripped (it is open or closed)
Maintenance Mode Active	the trip unit is in the Maintenance Mode	when the trip unit exits Maintenance Mode
ZSI Active	the ZSI function active	ZSI is not active
ZSI Input Received	a ZSI INPUT signal is received	RESET button is pressed or communications reset command received
ZSI Output Sent	a ZSI OUTPUT signal is sent	RESET button is pressed or communications reset command received
Open Breaker Pulse	an OPEN breaker command from any of the communications channels is received	2 seconds after the OPEN breaker command is received
Close Breaker Pulse	a CLOSE breaker command from any of the communications channels is received	2 seconds after the CLOSE breaker command is received
Output	an Output ON command for the relay specified was received on one of the communications channels	an Output OFF is received on any of the communications channels
Off	relay is disabled	relay is disabled

Air circuit breaker IZM9



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New Generation Air Circuit Breaker IZM9

Key Features

Air Circuit Breaker IZM9 Series

Eaton's IZM9, circuit-breakers offer a proven and complete range of air circuit-breakers up to 6300 A. Four sizes enable the ideal circuit-breaker to be selected economically for any project. The particularly rugged circuit-breakers are already in use 100,000 times in harsh industrial environments worldwide. Large material thicknesses and high short-time withstand current are its characteristic features.

Applications

The circuit-breakers can be used in four main application areas depending on the type of equipment to be protected:

- System protection,
- Motor protection,
- Transformer protection,
- Generator protection.

These key applications make different demands on the switches, which are met with a range of trip units.

Switches with Closing Release

They are particularly suitable for synchronization tasks.

Coupler Switches

Beside the IZM91/IZM97/IZM99 circuit-breakers, IN91/IN97/IN9 switch-disconnectors are available. These are used, for example, as coupler switches between different power supplies.

Modular Design

Because components are installed from the front, retrofitting accessories is especially quick and easy. This allows flexible response to changing requirements within the system.

Communication Capability

The communication capability of the IZM91/IZM97/IZM99 type circuit-breakers opens new possibilities in power distribution system. It provides all important operational information and passes this on. This increases system transparency and shortens the response times to states such as overcurrent, phase asymmetry and overvoltage. A rapid intervention in a process can, for example, prevent downtimes and help to schedule maintenance activities and therefore boost plant availability.

In addition to Modbus interface, the Profibus interface is offered.

Standard Scope of Delivery as Usual for IZM9 Series

- With the IZM9, you select a basic device that is already fitted with an electronic trip unit (no horizontal or vertical wiring terminals equipped, to be supplied to your request)
- Horizontal mounting wiring is standard in the switching cabinet
- With four-pole devices, the neutral conductor is arranged on the left (front view).
- The neutral conductor can be loaded 100% like the phase conductors
- The circuit-breakers are provided with a standard mechanical reclosing lockout. After an overload trip, the fault is usually examined first. After the fault is identified and rectified, the mechanical reclosing lockout is reset by pressing the red mechanical trip indicator on the front of the circuit-breaker.
- An "Automatic Reset" can be ordered as an option. This enables the circuit-breaker to be restored to operation immediately at any time after the spring-operated stored energy mechanism is re-tensioned. In these applications, compulsory fault analysis is intentionally avoided.
- The number of terminals on the terminal bars of the secondary control circuit depends on the accessories fitted.
- 4NOs and 4NCs are provided instead of 2NOs and 2NCs
- A coding mechanism between the basic device and the cassette prevents impermissible combinations ("Rejection Interlock").

Expanded Standard Scope of Delivery for IZM9 Series

The following options are now already part of the standard scope of delivery:

- With withdrawable circuit breakers, the door escutcheon is supplied with the cassette option, with no separate ordering required
- On withdrawable units, the circuit breaker can be pulled out to inspect the arc chutes. With fixed units, it is recommended that sufficient space is provided above the circuit breaker to enable inspection. An additional cover is not required.
- All circuit breakers that are provided with protective trip unit function now feature a LCD display.
- On each circuit breaker, the electronic trip unit is factory fitted with a sealable protective cover.
- If a motor operator is ordered, the "Spring-operated stored energy tensioned" indicator auxiliary contact is automatically provided.

ARMS™ Offers Increased Safety for Maintenance Staff

When equipped with the latest patented ARMS (arcflash reduction maintenance system), the IZM91/IZM97/IZM99 circuit breakers can ensure immediate breaking in the case of arc flash fault. This is even faster than instantaneous short-circuit tripping. When maintenance staff enter a hazardous area, the ARMS function can be activated directly on the circuit breaker or through an external switch. In conjunction with IZM9, other components of the ARMS enable an expansion of arc fault protection.

Selection Criteria for IZM9 type

Fundamental criteria for the selection of circuit-breakers:

- Max short-circuit current $I_{k\max}$ of the circuit-breaker' point of installation: this value determines the short-circuit breaking capacity or the short-circuit current carrying capacity of the circuit breaker. It is compared with the I_{cl} , I_{cs} and I_{cw} values of the switch and essentially determines its size (see Technical data)
- Rated operational current I_n which should flow through the respective branch circuit: this value must not be greater than the maximum rated operational current of the circuit breaker. The rated operational current can be adjusted down using additional rated operational current modules.
- Ambient temperature of the circuit breaker: this is generally the internal temperature in the control panel. Observe the derating values with increased ambient temperature (see Technical data).
- Circuit-breaker type: fixed mounted or withdrawable units, 3 or 4Ps.
- Minimum short-circuit current which flows through the switching device: the release must recognize this value as a short-circuit and may react with a trip.
- Protection functions of the circuit breaker is determined by the selection of the respective overcurrent release.

Other Benefits of the IZM9 type

- Some applications have demand on the trip unit to offer a power interface for connection to an external control voltage source (see below). A power supply of 240 VAC external control voltage can be equipped
- Based on different mounting positions, a switching operations counter can now be used independently of a motor operator.

- Withdrawable unit operation: The unit is actuated with a hand crank supplied. This is now possible also with a standard tool (square drive socket 3/8").
- Three frame sizes are available, enabling to provide best devices for different applications. The rated operational voltage cover 630A to 6300A.
- An IZM99 circuit breaker can be produced in a simplified manner by assembling 2 IZM97 circuit breakers together. Therefore, IZM99 breakers are equipped with 2 wiring terminals for each phase on the incoming and outgoing sides. This can facilitate heat dissipation of power distribution cabinets and simplify production in some distribution cabinets, and reduce the number of different bus adapter models.
- Phase sequence of IZM99: (NN) AABCC
- 6300A IZM99 circuit breaker: horizontal wiring is supplied as standard, thus simplifying the busbar connection in the switchgear system

External Control Voltage Supply

- The standard protection functions of the IZM91/IZM97/IZM99 circuit breakers operate generally independently of an external control voltage supply. The power supply of the electronics unit, for example for overload and short-circuit protection, is implemented via the current transformers integrated in the circuit breaker.
- The trip unit can be fed with an external 24VDC /48VDC or 240VAC supply if required so that the display function can also be used without a load. An external power supply is needed if communication functions are required.

Characteristic Curve Selection Options

The trip characteristics is selected to user settings and the relationship among circuit breakers. For more information, consult EATON's Technical Support.

Greater Safety for Maintenance Personnel with ARMS™

Personnel safety is of paramount importance in today's work environment. Of recent concern is the potential for serious injury due to exposure to electrical arcs. Eaton's IZM Series trip units offer the patented ARMS system (Arcflash Reduction Maintenance System™), which offers a non-delayed immediate disconnection in the event of an arc fault. This disconnection is even faster than that of a non-delayed short-circuit release. This function can be activated directly on the circuit-breaker or via an external switch, such as when maintenance personnel enter a hazardous area.

Major Benefits of ARMS:

- Increased personnel safety – by limiting the available arc flash energy
- Simple to operate
- Enabled with circuit breaker door closed by a door mounted lockable switch
- Enabled only for the time required to perform the desired maintenance work
- Preserves overcurrent coordination under normal conditions
- Reduction in incident energy levels may permit reduced levels of Personal Protective Equipment (PPE), therefore improving worker comfort and mobility

Communication Options for IZM Series

With the respective communication module - PCAM, MCAM or ECAM (Profibus-DP / Modbus/ Ethernet Communications Adapter Module) - every circuit breaker of the IZM series is equipped for modern communication and is fit for the future. The databus not only allows to transmit information, but also to receive commands/ settings.

Onboard Modbus communication is standard on the PXR25 (U type) trip unit and optional on the PXR20(V type) trip unit upon order. Additional PCAM, MCAM or ECAM module can be installed externally for PXR25 to expand the communication capability. (No more than one external CAM module can be installed)

PROFIBUS-DP Configuration

Communications module PCAM has a 9-pin D-Sub socket for connection to PROFIBUS. The module works as a slave on PROFIBUS-DP; the data is defined through a standardized device master data file, which permits smooth integration of IZM in a DP line.

- On the PROFIBUS-DP side the module supports automatic baud rate detection; the PROFIBUS-DP bus address is set through the trip unit's display. The maximum cable length is 2.4 km.
- To operate the PCAM, a supply voltage of 24 V DC is required.
- The data connection to the circuit-breaker is implemented internally through a serial highspeed data connection.

Data access via PROFIBUS-DP

The data on PROFIBUS-DP are offered according to the profile for low-voltage switchgear (LVSG) of PROFIBUS International (PROFIBUS and PROFINET User Group). Five different data structures with varying numbers of parameters are available through the device master data file. This allows a data filter to be easily implemented, which simplifies integration of the Series NRX data into the control system.

Modbus Configuration

Communications module MCAM has a plug-in screw terminal for connection to Modbus. The module operates as a Modbus slave.

- Baud rate, data format and address (max. 247) for Modbus are set with the input keys of the trip unit. The maximum cable length is 1.2 km.
- The Modbus must be terminated with a 120 Ω terminating resistor.
- To operate the MCAM, a supply voltage of 24 V DC is required.
- The data connection to the circuit-breaker is implemented internally through a serial highspeed data connection.

Data access via Modbus

The data is contained in comprehensive data tables. Each data point is available as floating-point (IEEE) or fixed-point value. This variance allows the integration of the IZM to be adapted to the Modbus architecture. This enables a simple means of implementing a data filter, which facilitates the integration of IZM data in the control system.

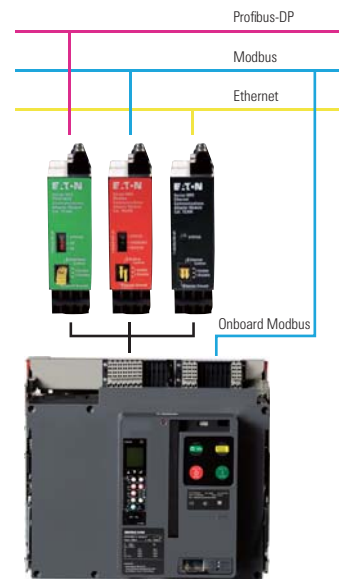
Ethernet Configuration

has standard RJ45 socket for connection to Ethernet. This module has a configured web server on board and supports Simple Network Mail Protocol (SNMP) for alarm or event notifications.

- IP address and related parameters are set through the trip unit's display.
- The data connection to the circuit-breaker is implemented internally through a serial high speed data connection.
- To operate the ECAM, a supply voltage of 24 V DC is required.

Data access via Ethernet

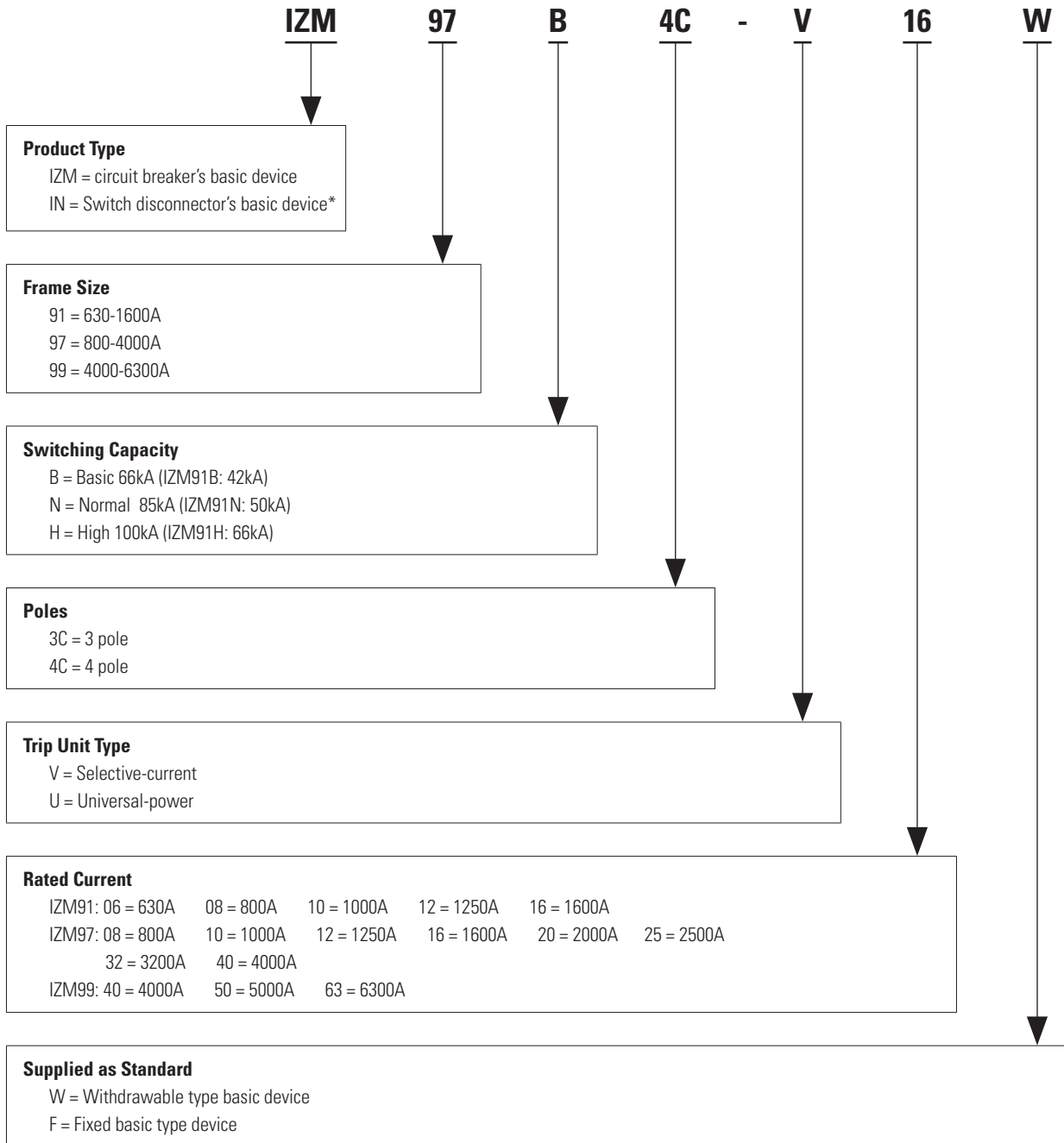
The data is contained in different web pages structured according to the topics „Data View“, „Alarms“, „Logs“ and „Configuration“. This variance allows the integration of the IZM to be adapted to all Ethernet networks supporting http protocol. An „around the world access“ to the breaker becomes reality and using the SNMP protocol alarm messages can be transported everywhere.



New Generation Air Circuit Breaker IZM9

Breaker Catalog Number

IZM9 Series Air Circuit Breaker Catalog Number (IZM9-W or IZM9-F)



Fixed type

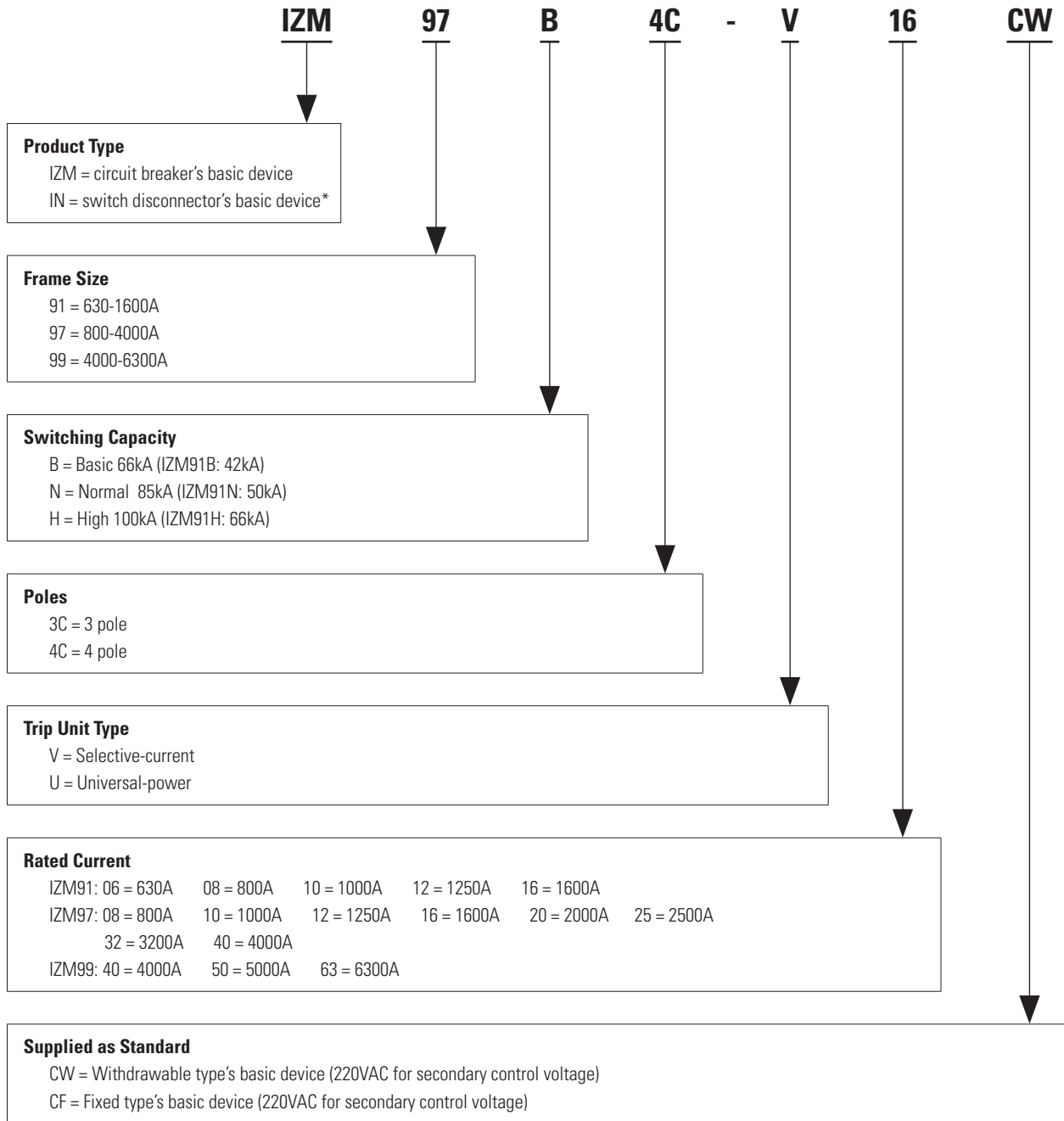
Standard IZM91,97,99 basic device includes: fixed circuit breaker's basic device, wiring terminal, auxiliary contact (4a4b), door escutcheon, 220VAC/DC power supply module

Withdrawable type

Standard IZM91,97,99 basic device includes: withdrawable circuit breaker's basic device, wiring terminal, auxiliary contact (4a4b), door escutcheon, 220VAC/DC power supply module

Notes: *The IN91/97/99 is an isolated circuit breaker that removes the IZM91/97/99 circuit breaker from the PXR series of trip unit in accordance with the requirements of Annex L of GB14048.2-2008/IEC 60947-2, and the remaining configurations are consistent with the standard circuit breakers.
 IZM91-W/F does not contain wiring terminal and must be ordered separately; IZM97/99-W/F contains horizontal wiring terminal.
 IZM91/97/99 F provides secondary control terminals configured according to requirements; IZM91/97/99 W does not provide secondary control terminals on breaker.
 IZM91 with auxiliary contacts (2a2b) as standard.
 EASY400-POW-CN instruction manual for details of power module input voltage.
 The trip unit is not connected to the power supply does not affect the protection effect.

IZM9 Series Air Circuit Breaker Catalog Number (Supplied As standard) (IZM9-CW or IZM9-CF)



Fixed type

Standard fixed type basic device includes: fixed circuit breaker basic device, shunt release (220V AD), closing release (220V AD), motor operator (220V AC), auxiliary contact (4a4b), trip signal auxiliary contact OTS (2a2b), door escutcheon, wiring terminal, 220VAC/DC power supply module

Withdrawable type

Standard withdrawable type basic device includes: withdrawable circuit breaker basic device, shunt release (220V AD), closing release (220V AD), motor operator (220VAC), auxiliary contact (4a4b), trip signal auxiliary contact OTS (2a2b), door escutcheon, wiring terminal, 220VAC/DC power supply module, protection shutter, arc chamber cover, cassette, handle

Notes: *The IN91/97/99 is an isolated circuit breaker that removes the IZM91/97/99 circuit breaker from the PXR series of trip unit in accordance with the requirements of Annex L of GB14048.2-2008/IEC 60947-2, and the remaining configurations are consistent with the standard circuit breakers.
CW/CF is dedicated to 220VAC control voltage, one tailored type under W/F, so W/F is marked on the nametag of the circuit breaker's basic device, rather than CW/CF.
IZM91/97/99 CW/CF provides secondary control terminals configured according to requirements.
IZM91 with auxiliary contacts (2a2b) as standard.
EASY400-POW-CN instruction manual for details of power module input voltage.
The trip unit is not connected to the power supply does not affect the protection effect.

New Generation Air Circuit Breaker IZM9

Breaker Technical Data



IZM91/IN91²⁾



IZM97/IN97²⁾



IZM99/IN99²⁾

General										
Standards		IEC/EN 60947			IEC/EN 60947			IEC/EN 60947		
Ambient temperature	Storage	°C	-25 - 85			-25 - 85			-25 - 85	
	Operating (open)	°C	-25 - 85			-25 - 85			-25 - 85	
Mounting position										
Utilization category		B			B			B		
Protection type		IP20			IP20			IP20		
Environment humidity		Comply with GB / T2423.4 Alternating Humidity and Heat Test +55 °C, Relative Humidity 95%, Non-condensing (exceeding standards, cabinet needs to be protected)								
Direction of incoming supply		as required								
Switching capacity										
Rated Current (I _n)		630A, 800A, 1000A, 1250A, 1600A			800A, 1000A, 1250A, 1600A, 2000A, 2500A, 3200A, 4000A			4000A, 5000A, 6300A		
Type of circuit breaker		B	N	H	B	N	H	N	H	
Rated impulse withstand voltage (U _{imp} , VAC)		12000			12000			12000		
Rated insulation voltage (U _i , VAC)		1000			1000			1000		
Rated operational voltage (U _e , VAC)		690			690			690		
Ultimate breaking capacity (I _{cu} , kA)	440V 50/60Hz	42	50	66	66	85	100	85	100	
	690V 50/60Hz	42	42	42	66	85	85	85	100	
Rated service breaking capacity (I _{cs} , kA)	440V 50/60Hz	42	50	50	66	85	100	85	100	
	690V 50/60Hz	42	42	42	66	85	85	85	100	
Rated short-time withstand current (I _{cw} , kA)	1s	42/-	42/-	42/-	66	85	85	85	100	
Rated short-circuit making capacity (I _{cm} , kA)	440V 50/60Hz	88	105	145	145	187	220	187	220	
	690V 50/60Hz	88	88	88	145	187	187	187	220	
Operating delays (ms)	Closing delay	30			35			35		
	Opening delay	25			30			30		
Maximum operating frequency (Operations/h)		60			60			60		
Durability and installation characteristics										
Lifespan		630A-1600A			800-1600A 2000		2500-4000A 4000-6300A			
	Mechanical, w/o maintenance	12500			12500 10000		10000 5000			
	Mechanical, w/maintenance	25000			25000 20000		20000 10000			
	Electrical, w/o maintenance	10000			10000 10000		8000 ¹⁾ 3000			
Dimensions (H × W × D, mm)	Fixed 3P	338 × 210 × 184			461 × 431 × 372			461 × 907 × 372		
	Fixed 4P	338 × 279 × 184			461 × 558 × 372			461 × 1161 × 372		
	Withdrawable 3P	360 × 254 × 289			486 × 450 × 474			486 × 926 × 474		
	Withdrawable 4P	360 × 324 × 289			486 × 577 × 474			486 × 1180 × 474		
Weight (kg)	Fixed 3P/4P	15/20			68/86			125/163		
	Withdrawable 3P/4P	39/47			86/112			157/200		

Notes: ¹⁾ 5000 operations at 4000A.

²⁾ The IN91/97/99 is an isolated circuit breaker that removes the IZM91/97/99 circuit breaker from the PXR series of trip unit in accordance with the requirements of Annex L of GB14048.2-2008/IEC 60947-2, and the remaining configurations are consistent with the standard circuit breakers. The IN91/97/99 is used in conjunction with an external protection relay (maximum delay of 400ms) to achieve a breaking capability (at U_e) to the I_{cw} (1 second).



V Type (PXR20)
IZM-PXRV
IZM91/97/99...V



U Type (PXR25)
IZM-PXRU
IZM91/97/99...U

Protective options	LSI; LSIG/LSIA (Optional)	LSI; LSIG/LSIA (Optional)
Overload protection (L)		
Overload trip (I_r), $\times I_n$	0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 0.95, 0.98, 1.0	0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 0.95, 0.98, 1.0
Long delay time t_r ($6 \times I_r$)	0.5, 1, 2, 4, 7, 10, 12, 15, 20, 24 s	0.5, 1, 2, 4, 7, 10, 12, 15, 20, 24 s
Short-time delayed short-circuit protection (S)		
Short delayed pickup (I_{sd}), $\times I_r$	1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 10	1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 10
Short delay time, flat characteristic curve (t_{sd})	0.0, 0.1, 0.2, 0.3, 0.4, 0.5 s ¹⁾	0.0, 0.1, 0.2, 0.3, 0.4, 0.5 s ¹⁾
Short delay time at $8 \times I_r$, I ² t curve (t_{sd})	0.1, 0.3, 0.4, 0.5 s	0.1, 0.3, 0.4, 0.5 s
Non-delayed short-circuit protection (I)		
Non-delayed pickup (I_i), $\times I_n$	OFF, 2, 4, 5, 6, 7, 8, 10, 12, 15	OFF, 2, 4, 5, 6, 7, 8, 10, 12, 15
Optional ground fault protection (G)		
Ground/Earth fault alarm (A), $\times I_n$	0.2, 0.4, 0.6, 1.0	0.2, 0.4, 0.6, 1.0
Ground/Earth pickup (I_g), $\times I_n$	OFF, 0.2, 0.4, 0.6, 0.8, 1.0	OFF, 0.2, 0.4, 0.6, 0.8, 1.0
Short delay time, flat characteristic curve (t_g)	0.1, 0.2, 0.3, 0.4, 0.5 s	0.1, 0.2, 0.3, 0.4, 0.5 s
Short delay time at $0.625 \times I_n$, I ² t curve (t_g)	0.1, 0.2, 0.3, 0.4, 0.5 s	0.1, 0.2, 0.3, 0.4, 0.5 s
Over-temperature trip	●	●
Thermal memory	●	●
Zone selectivity ZSI	●	●
Making current release (MCR)	●	●
Protective functions		
System diagnostic		
Status/Overload LED	●	●
Cause of trip LEDs	●	●
Current at trip point (display indication)	●	●
High load or ground fault alarm contact	●	●
System monitor		
LCD display	● ²⁾	● ²⁾
Current metering accuracy	$\pm 1\%$ of Reading	$\pm 1\%$ of Reading
Current THD	–	$\pm 10\%$ of Reading ⁴⁾
Voltage (%) L to L	–	$\pm 1\%$ of Reading ³⁾
Voltage THD	–	$\pm 10\%$ of Reading ⁴⁾
Power and energy (%)	–	$\pm 2\%$ of Reading ³⁾
Apparent power kVA and demand	–	● ³⁾
Reactive power kVAR	–	● ³⁾
Power factor	–	● ³⁾
Communications		
Onboard (ModBus)	○	●
External (CAM Module)	○	○
Power supply requirement	+24 V DC, optional	+24 V DC, optional
Additional functions		
Test Capability	Integral	Integral
Maintenance Mode ARMS (Arc Flash Reduction Maintenance System™)	○	○
Trip log	●	●
Electronic operations counter	●	●
Waveform capture	●	●
Breaker health monitor	●	●

Notes: ¹⁾ 0.1s: trip time is 0.06s to 0.1s; 0s: nominal clear time is 60ms with auxiliary power and 120ms without.

²⁾ Requires external 24VDC control voltage supply when continuous current below 20% of I_n

³⁾ Requires external PT module (ZMC2-PXR-PTM-2) for voltage sensing input to trip unit

⁴⁾ Firmware version 02.02 and later

● Standard

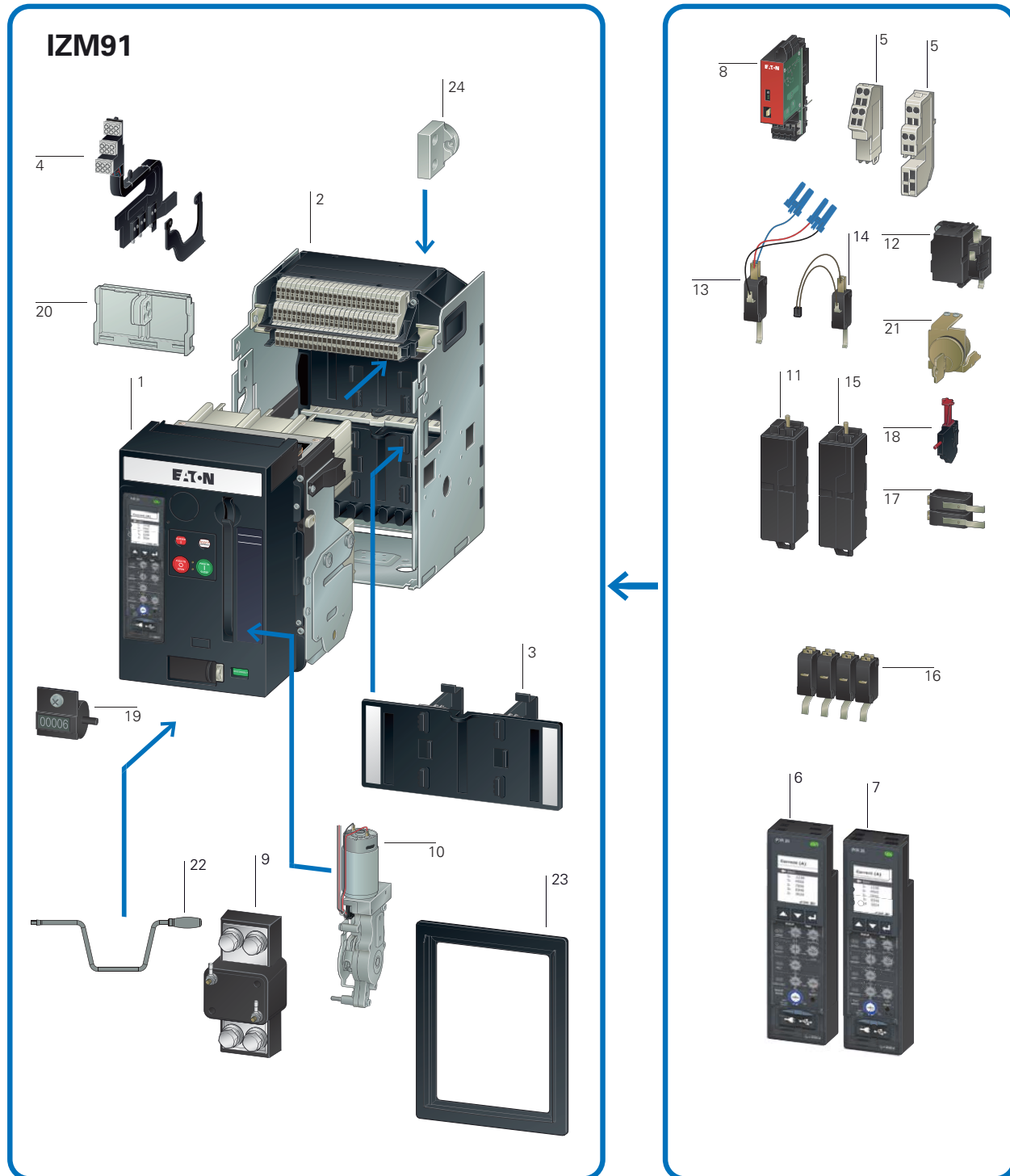
○ Optional

– not available

New Generation Air Circuit Breaker IZM9

System Overview

IZM91 Circuit-breakers and Accessori



1 IZM91 air circuit breaker	10 Motor operator Automatic charging of the spring force storage for remote or local operations	18 Red-pop trip indicator Red-pop trip indicator signals a trip by the trip unit Included in breaker with trip unit
2 Cassette	11 Shunt releases Opens the breaker by an electrical signal	19 Switching operations counters Counts the number of operations.
3 Safety Shutter	12 Closing releases Closes the breaker by an electrical signal	20 Locking facilities Plastic or metal
4 Position cell switches Cell switch signals the position of the breaker inside of the cassette. Connect, Test and Disconnect Position	13 Latch check switch For external application Usage	21 Key locking Locking of the breaker by a keylock.
5 Secondary circuit wiring terminal 8, 20, 30 secondary circuit wiring terminals can be ordered	14 Latch check switch For use with closing release.	22 Levering tool Lev-in tool to move the breaker in and out of the cassette. Standard Omega shaped handle is included in D/O breaker. Optional collapsible handle can be ordered separately
6 Trip unit PXR20, V-type, current metering C - Onboard Modbus G - Ground fault protection M - Arcflash Reduction Maintenance System™	15 Undervoltage releases Opens the breaker by a voltage-drop in the control circuit.	23 Door escutcheon Closes the gap between Breaker and Switchgear-door. IP31 included in breaker For IP55
7 Trip unit PXR25, U-type, power metering	16 Auxiliary contacts Signaling switch ON-OFF 2a2b standard. 4a4b maximum for IZM91	24 Main terminal kits Universal terminals, 3- and 4-pole horizontal/vertical
8 Communication modules Profibus DP, Ethernet and Modbus onboard	17 Trip indicator switches Overcurrent trip switch (OTS) signals a trip by the trip unit	
9 Current sensor for neutral conductor Current sensor for sensing the neutral-conductor current		

Model coding

IZM	91	B	3	C	-	V	06	W
IN		N	4			U	08	F
		H					10	
							12	
							16	

IZM, IN = air circuit breaker, switch disconnecter

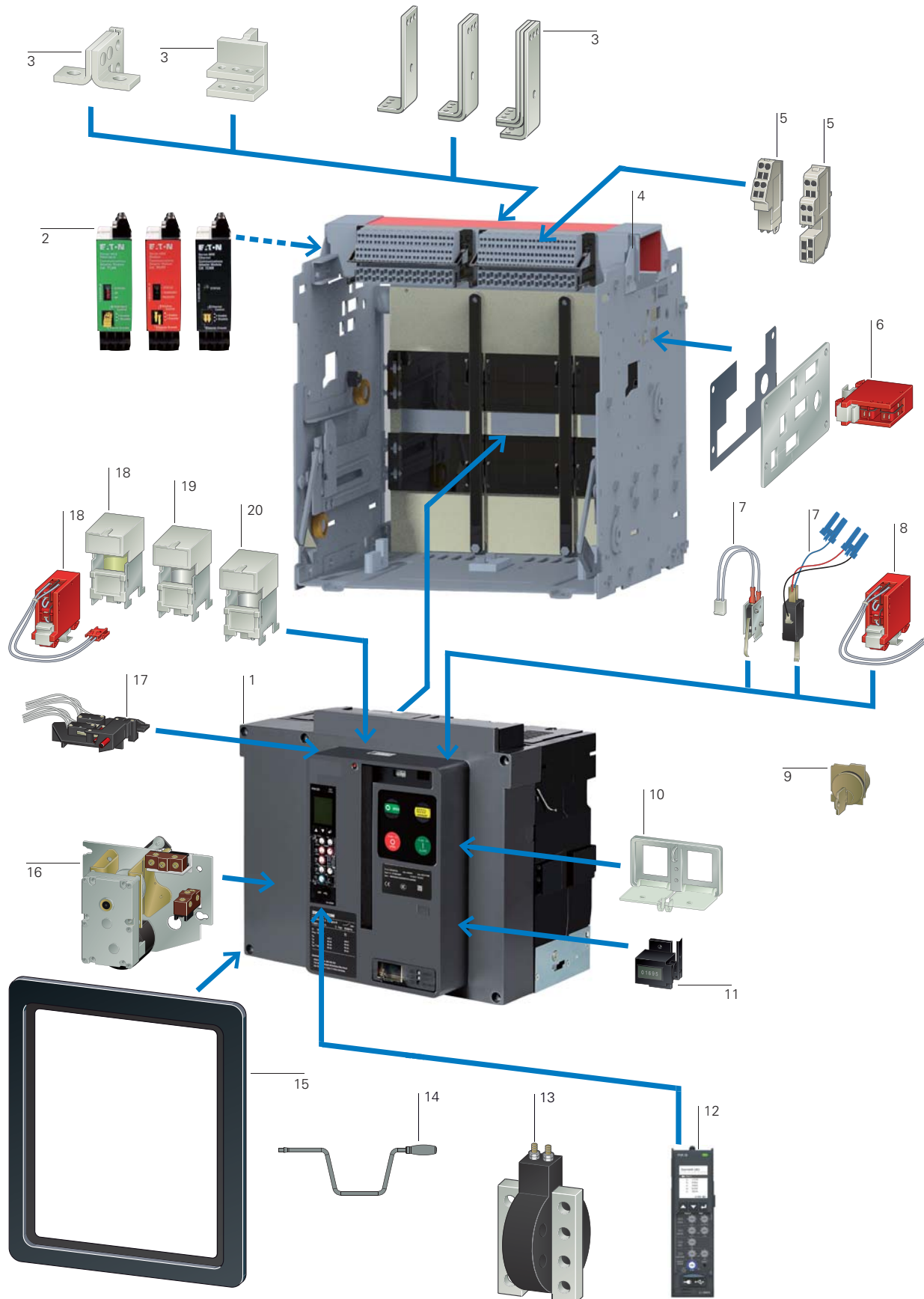
Circuit breaker frame	Switching capacity	3 pole	Trip unit	Rated current	Circuit breaker type
91: 200-1600A	B = Basic	4 pole	V = Ammeter type	06: 630 A	W = Withdrawable
	N = Standard		U = Power meter type	08: 800 A	F = Fixed
	H = High			10: 1000 A	
				12: 1250 A	
				16: 1600 A	

Notes: 1. V and U basic configuration for LSI .
2. IN91 only offer IN91B type.
3. Please contact Eaton for IZM91 requirements below 630A.

New Generation Air Circuit Breaker IZM9

System Overview

IZM97 Circuit-breakers and Accessori



1 IZM97/IZM99 air circuit breaker	9 Key locking Locking of the breaker by a keylock.	16 Motor operator To store energy for closing release
2 Communication modules Profibus DP, Ethernet and Modbus onboard	10 Button cover Plastic or metal	17 Red-pop trip indicator Red-pop trip indicator signals a trip by the trip unit Included in breaker with trip unit Trip signal auxiliary contact OTS, 2CO
3 Main circuit wiring terminal Vertical wiring terminal 3/4P Front wiring terminal 3/4P	11 Switching operations counters Counts the number of operations	18 Shunt releases Opens the breaker by an electrical signal.
4 Cassette	12 Trip unit PXR20, V-type, current metering PXR25, U-type, power metering Cannot be ordered separately	19 Closing releases Closes the breaker by an electrical signal.
5 Secondary circuit wiring terminal 8, 20, 30 secondary circuit wiring terminals can be ordered	13 Current sensor for neutral conductor Current sensor for sensing the neutral-conductor current.	20 Undervoltage releases Opens the breaker by a voltage-drop in the control circuit
6 Position cell switches Cell switch signals the position of the breaker inside of the cassette. Connect, Test and Disconnect Position	14 Levering tool Lev-in tool to move the breaker in and out of the cassette. Standard Omega shaped handle is included in D/O breaker	
7 Latch check switch For external application Usage For use with closing release	15 Door escutcheon Closes the gap between Breaker and Switchgear-door. IP31 included in breaker For IP54	
8 Standard auxiliary contact Signaling switch ON-OFF. 4 ONs and 4 OFFs standard. 12 ONs and 12 OFFs maximum		

Model coding

IZM	97	B	3	C	-	V	08	W
IN	99	N	4			U	10	F
		H					12	
							16	
							20	
							25	
							32	
							40	
							50	
							63	

IZM, IN = air circuit breaker, switch disconnecter

Circuit breaker frame	Switching capacity	3 pole	Trip unit	Rated current	Circuit breaker type
97: Standard frame 800-4000A	B = Basic	4 pole	V = Ammeter type	08: 800 A	W = Withdrawable
99: Double frame 4000-6300 A	N = Standard		U = Power meter type	10: 1000 A	F = Fixed
	H = High			12: 1250 A	
				16: 1600 A	
				20: 2000 A	
				25: 2500 A	
				32: 3200 A	
				40: 4000 A	
				50: 5000 A	
				63: 6300 A	

Notes: IZM99 busbar sequence: (NN)AABBCC IN97/99
No IN97H and IN99H

New Generation Air Circuit Breaker IZM9

IZM91 Circuit Breaker Basic Device

3P Circuit Breakers of Ammeter Type (Including Type V Trip Unit, 2ON/2OFF Auxiliary Contacts, Some Secondary Terminal Blocks, Power Module, Terminals are not Included and Need to be Ordered Separately)

Switching capacity I_{cu} / I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range		Fixed	Withdrawable	
		Overload releases	Short-circuit releases			
		I_r A	Delayed $I_{sd} = I_r \times \dots$	Non-delayed $I_i = I_n \times \dots$	Part no. Article no.	Part no. Article no.
						Cassette must be ordered separately.
42/42	630	252-630	1.5-10	2-15,OFF	IZM91B3C-V06F YC-303126	IZM91B3C-V06W YC-303006
42/42	800	320-800	1.5-10	2-15,OFF	IZM91B3C-V08F YC-303127	IZM91B3C-V08W YC-303007
42/42	1000	400-1000	1.5-10	2-15,OFF	IZM91B3C-V10F YC-303128	IZM91B3C-V10W YC-303008
42/42	1250	500-1250	1.5-10	2-15,OFF	IZM91B3C-V12F YC-303129	IZM91B3C-V12W YC-303009
42/42	1600	640-1600	1.5-10	2-15,OFF	IZM91B3C-V16F YC-303130	IZM91B3C-V16W YC-303010
50/50	630	252-630	1.5-10	2-15,OFF	IZM91N3C-V06F YC-303166	IZM91N3C-V06W YC-303046
50/50	800	320-800	1.5-10	2-15,OFF	IZM91N3C-V08F YC-303167	IZM91N3C-V08W YC-303047
50/50	1000	400-1000	1.5-10	2-15,OFF	IZM91N3C-V10F YC-303168	IZM91N3C-V10W YC-303048
50/50	1250	500-1250	1.5-10	2-15,OFF	IZM91N3C-V12F YC-303169	IZM91N3C-V12W YC-303049
50/50	1600	640-1600	1.5-10	2-15,OFF	IZM91N3C-V16F YC-303170	IZM91N3C-V16W YC-303050
66/50	630	252-630	1.5-10	2-15,OFF	IZM91H3C-V06F YC-303206	IZM91H3C-V06W YC-303086
66/50	800	320-800	1.5-10	2-15,OFF	IZM91H3C-V08F YC-303207	IZM91H3C-V08W YC-303087
66/50	1000	400-1000	1.5-10	2-15,OFF	IZM91H3C-V10F YC-303208	IZM91H3C-V10W YC-303088
66/50	1250	500-1250	1.5-10	2-15,OFF	IZM91H3C-V12F YC-303209	IZM91H3C-V12W YC-303089
66/50	1600	640-1600	1.5-10	2-15,OFF	IZM91H3C-V16F YC-303210	IZM91H3C-V16W YC-303090

New Generation Air Circuit Breaker IZM9

IZM91 Circuit Breaker Basic Device

3P Circuit Breaker of Power Meter Type (Including Type V Trip Unit, 2ON/2OFF Auxiliary Contacts, Some Secondary Terminal Blocks, Power Module, Terminals are not Included and Need to be Ordered Separately)

Switching capacity I_{cu} / I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range Overload releases I_r A 	Short-circuit releases		Fixed Part no. Article no.	Withdrawable Part no. Article no. Cassette must be ordered separately.
			Delayed $I_{sd} = I_r \times \dots$ 	Non-delayed $I_i = I_n \times \dots$ 		
42/42	630	252-630	1.5-10	2-15, OFF	IZM91B3C-U06F YC-303131	IZM91B3C-U06W YC-303011
42/42	800	320-800	1.5-10	2-15, OFF	IZM91B3C-U08F YC-303132	IZM91B3C-U08W YC-303012
42/42	1000	400-1000	1.5-10	2-15, OFF	IZM91B3C-U10F YC-303133	IZM91B3C-U10W YC-303013
42/42	1250	500-1250	1.5-10	2-15, OFF	IZM91B3C-U12F YC-303134	IZM91B3C-U12W YC-303014
42/42	1600	640-1600	1.5-10	2-15, OFF	IZM91B3C-U16F YC-303135	IZM91B3C-U16W YC-303015
50/50	630	252-630	1.5-10	2-15, OFF	IZM91N3C-U06F YC-303171	IZM91N3C-U06W YC-303051
50/50	800	320-800	1.5-10	2-15, OFF	IZM91N3C-U08F YC-303172	IZM91N3C-U08W YC-303052
50/50	1000	400-1000	1.5-10	2-15, OFF	IZM91N3C-U10F YC-303173	IZM91N3C-U10W YC-303053
50/50	1250	500-1250	1.5-10	2-15, OFF	IZM91N3C-U12F YC-303174	IZM91N3C-U12W YC-303054
50/50	1600	640-1600	1.5-10	2-15, OFF	IZM91N3C-U16F YC-303175	IZM91N3C-U16W YC-303055
66/50	630	252-630	1.5-10	2-15, OFF	IZM91H3C-U06F YC-303211	IZM91H3C-U06W YC-303091
66/50	800	320-800	1.5-10	2-15, OFF	IZM91H3C-U08F YC-303212	IZM91H3C-U08W YC-303092
66/50	1000	400-1000	1.5-10	2-15, OFF	IZM91H3C-U10F YC-303213	IZM91H3C-U10W YC-303093
66/50	1250	500-1250	1.5-10	2-15, OFF	IZM91H3C-U12F YC-303214	IZM91H3C-U12W YC-303094
66/50	1600	640-1600	1.5-10	2-15, OFF	IZM91H3C-U16F YC-303215	IZM91H3C-U16W YC-303095

New Generation Air Circuit Breaker IZM9

IZM91 Circuit Breaker Basic Device

4P Circuit Breakers of Ammeter Type (Including Type V Trip Unit, 2ON/2OFF Auxiliary Contacts, Some Secondary Terminal Blocks, Power Module, Terminals are not Included and Need to be Ordered Separately)

Switching capacity I_{cu} / I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range		Fixed	Withdrawable	
		Overload releases	Short-circuit releases			
		I_r A	Delayed $I_{sd} = I_r \times \dots$	Non-delayed $I_i = I_n \times \dots$	Part no. Article no.	Part no. Article no.
						Cassette must be ordered separately.
42/42	630	252-630	1.5-10	2-15,OFF	IZM91B4C-V06F YC-303146	IZM91B4C-V06W YC-303026
42/42	800	320-800	1.5-10	2-15,OFF	IZM91B4C-V08F YC-303147	IZM91B4C-V08W YC-303027
42/42	1000	400-1000	1.5-10	2-15,OFF	IZM91B4C-V10F YC-303148	IZM91B4C-V10W YC-303028
42/42	1250	500-1250	1.5-10	2-15,OFF	IZM91B4C-V12F YC-303149	IZM91B4C-V12W YC-303029
42/42	1600	640-1600	1.5-10	2-15,OFF	IZM91B4C-V16F YC-303150	IZM91B4C-V16W YC-303030
50/50	630	252-630	1.5-10	2-15,OFF	IZM91N4C-V06F YC-303186	IZM91N4C-V06W YC-303066
50/50	800	320-800	1.5-10	2-15,OFF	IZM91N4C-V08F YC-303187	IZM91N4C-V08W YC-303067
50/50	1000	400-1000	1.5-10	2-15,OFF	IZM91N4C-V10F YC-303188	IZM91N4C-V10W YC-303068
50/50	1250	500-1250	1.5-10	2-15,OFF	IZM91N4C-V12F YC-303189	IZM91N4C-V12W YC-303069
50/50	1600	640-1600	1.5-10	2-15,OFF	IZM91N4C-V16F YC-303190	IZM91N4C-V16W YC-303070
66/50	630	252-630	1.5-10	2-15,OFF	IZM91H4C-V06F YC-303226	IZM91H4C-V06W YC-303106
66/50	800	320-800	1.5-10	2-15,OFF	IZM91H4C-V08F YC-303227	IZM91H4C-V08W YC-303107
66/50	1000	400-1000	1.5-10	2-15,OFF	IZM91H4C-V10F YC-303228	IZM91H4C-V10W YC-303108
66/50	1250	500-1250	1.5-10	2-15,OFF	IZM91H4C-V12F YC-303229	IZM91H4C-V12W YC-303109
66/50	1600	640-1600	1.5-10	2-15,OFF	IZM91H4C-V16F YC-303230	IZM91H4C-V16W YC-303110

New Generation Air Circuit Breaker IZM9

IZM91 Circuit Breaker Basic Device

4P Circuit Breaker of Power Meter Type (Including Type U Trip Unit, 2ON/2OFF Auxiliary Contacts, Some Secondary Terminal Blocks, Power Module, Terminals are not Included and Need to be Ordered Separately)

Switching capacity I_{cu} / I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range Overload releases I_r A	Short-circuit releases		Fixed Part no. Article no.	Withdrawable Part no. Article no.
			Delayed $I_{sd} = I_r \times \dots$	Non-delayed $I_i = I_n \times \dots$		
						Cassette must be ordered separately.
42/42	630	252-630	1.5-10	2-15, OFF	IZM91B4C-U06F YC-303151	IZM91B4C-U06W YC-303031
42/42	800	320-800	1.5-10	2-15, OFF	IZM91B4C-U08F YC-303152	IZM91B4C-U08W YC-303032
42/42	1000	400-1000	1.5-10	2-15, OFF	IZM91B4C-U10F YC-303153	IZM91B4C-U10W YC-303033
42/42	1250	500-1250	1.5-10	2-15, OFF	IZM91B4C-U12F YC-303154	IZM91B4C-U12W YC-303034
42/42	1600	640-1600	1.5-10	2-15, OFF	IZM91B4C-U16F YC-303155	IZM91B4C-U16W YC-303035
50/50	630	252-630	1.5-10	2-15, OFF	IZM91N4C-U06F YC-303191	IZM91N4C-U06W YC-303071
50/50	800	320-800	1.5-10	2-15, OFF	IZM91N4C-U08F YC-303192	IZM91N4C-U08W YC-303072
50/50	1000	400-1000	1.5-10	2-15, OFF	IZM91N4C-U10F YC-303193	IZM91N4C-U10W YC-303073
50/50	1250	500-1250	1.5-10	2-15, OFF	IZM91N4C-U12F YC-303194	IZM91N4C-U12W YC-303074
50/50	1600	640-1600	1.5-10	2-15, OFF	IZM91N4C-U16F YC-303195	IZM91N4C-U16W YC-303075
66/50	630	252-630	1.5-10	2-15, OFF	IZM91H4C-U06F YC-303231	IZM91H4C-U06W YC-303111
66/50	800	320-800	1.5-10	2-15, OFF	IZM91H4C-U08F YC-303232	IZM91H4C-U08W YC-303112
66/50	1000	400-1000	1.5-10	2-15, OFF	IZM91H4C-U10F YC-303233	IZM91H4C-U10W YC-303113
66/50	1250	500-1250	1.5-10	2-15, OFF	IZM91H4C-U12F YC-303234	IZM91H4C-U12W YC-303114
66/50	1600	640-1600	1.5-10	2-15, OFF	IZM91H4C-U16F YC-303235	IZM91H4C-U16W YC-303115

New Generation Air Circuit Breaker IZM9

IN91 Switch Disconnecter Basic Device



Switch Disconnecter (Including 2ON/2OFF Auxiliary Contacts, Some Secondary Terminal Blocks, Terminals are not Included and Need to be Ordered Separately)

Rated short-circuit making capacity	Rated operational current	Circuit breaker type	Rated short-time withstand current	Fixed Part no. Article no.	Withdrawable Part no. Article no.
I_{cm} kA	$I_n = I_u$ A		I_{cw} kA		Cassette must be ordered separately.
88	630	IN91	42	IN91B3C-06F YC-303271	IN91B3C-06W YC-303241
88	800	IN91	42	IN91B3C-08F YC-303272	IN91B3C-08W YC-303242
88	1000	IN91	42	IN91B3C-10F YC-303273	IN91B3C-10W YC-303243
88	1250	IN91	42	IN91B3C-12F YC-303274	IN91B3C-12W YC-303244
88	1600	IN91	42	IN91B3C-16F YC-303275	IN91B3C-16W YC-303245
88	630	IN91	42	IN91B4C-06F YC-303276	IN91B4C-06W YC-303246
88	800	IN91	42	IN91B4C-08F YC-303277	IN91B4C-08W YC-303247
88	1000	IN91	42	IN91B4C-10F YC-303278	IN91B4C-10W YC-303248
88	1250	IN91	42	IN91B4C-12F YC-303279	IN91B4C-12W YC-303249
88	1600	IN91	42	IN91B4C-16F YC-303280	IN91B4C-16W YC-303250

New Generation Air Circuit Breaker IZM9

IZM97/99 Circuit Breaker Basic Device




3P Circuit Breakers of Ammeter Type (Including Type V Trip Unit, 4ON/4OFF Auxiliary Contacts, Main Wiring Terminal, Some Secondary Terminal Blocks and Power Module)

Switching capacity I_{cu}/I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range	Overload releases		Fixed	Withdrawable	
			Overload releases	Short-circuit releases			
		I_r A	Delayed $I_{sd} = I_r \times \dots$	Non-delayed $I_i = I_n \times \dots$	Part no. Article no.	Part no. Article no.	
						Cassette must be ordered separately.	
66	800	IZM97	320-800	1.5-10	2-15,OFF	IZM97B3C-V08F YC-301021	IZM97B3C-V08W YC-301105
66	1000	IZM97	400-1000	1.5-10	2-15,OFF	IZM97B3C-V10F YC-301022	IZM97B3C-V10W YC-301106
66	1250	IZM97	500-1250	1.5-10	2-15,OFF	IZM97B3C-V12F YC-301023	IZM97B3C-V12W YC-301107
66	1600	IZM97	640-1600	1.5-10	2-15,OFF	IZM97B3C-V16F YC-301024	IZM97B3C-V16W YC-301108
66	2000	IZM97	800-2000	1.5-10	2-15,OFF	IZM97B3C-V20F YC-301025	IZM97B3C-V20W YC-301109
66	2500	IZM97	1000-2500	1.5-10	2-15,OFF	IZM97B3C-V25F YC-301026	IZM97B3C-V25W YC-301110
66	3200	IZM97	1280-3200	1.5-10	2-15,OFF	IZM97B3C-V32F YC-301027	IZM97B3C-V32W YC-301111
66	4000	IZM97	1600-4000	1.5-10	2-15,OFF	-	IZM97B3C-V40W YC-301112
85	800	IZM97	320-800	1.5-10	2-15,OFF	IZM97N3C-V08F YC-301028	IZM97N3C-V08W YC-301113
85	1000	IZM97	400-1000	1.5-10	2-15,OFF	IZM97N3C-V10F YC-301029	IZM97N3C-V10W YC-301114
85	1250	IZM97	500-1250	1.5-10	2-15,OFF	IZM97N3C-V12F YC-301030	IZM97N3C-V12W YC-301115
85	1600	IZM97	640-1600	1.5-10	2-15,OFF	IZM97N3C-V16F YC-301031	IZM97N3C-V16W YC-301116
85	2000	IZM97	800-2000	1.5-10	2-15,OFF	IZM97N3C-V20F YC-301032	IZM97N3C-V20W YC-301117
85	2500	IZM97	1000-2500	1.5-10	2-15,OFF	IZM97N3C-V25F YC-301033	IZM97N3C-V25W YC-301118
85	3200	IZM97	1280-3200	1.5-10	2-15,OFF	IZM97N3C-V32F YC-301034	IZM97N3C-V32W YC-301119
85	4000	IZM97	1600-4000	1.5-10	2-15,OFF	-	IZM97N3C-V40W YC-301120
85	4000	IZM99	1600-4000	1.5-10	2-15,OFF	IZM99N3C-V40F YC-301354	IZM99N3C-V40W YC-301390
85	5000	IZM99	2000-5000	1.5-10	2-15,OFF	IZM99N3C-V50F YC-301355	IZM99N3C-V50W YC-301391
85	6300	IZM99	2520-6300	1.5-10	2-15,OFF	IZM99N3C-V63F YC-301356	IZM99N3C-V63W YC-301392




New Generation Air Circuit Breaker IZM9

IZM97/99 Circuit Breaker Basic Device

3P Circuit Breaker of ammeter Type (Including Type V Trip Unit, 4ON/4OFF Auxiliary Contacts, Main Wiring Terminal, Some Secondary Terminal Blocks and Power Module)

Switching capacity I_{cu}/I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range Overload releases I_r A	Short-circuit releases		Fixed Part no. Article no.	Withdrawable Part no. Article no.	
			Delayed $I_{sd} = I_r \times \dots$	Non-delayed $I_i = I_n \times \dots$			
							
100	800	IZM97	320-800	1.5-10	2-15,0FF	IZM97H3C-V08F YC-301035	IZM97H3C-V08W YC-301121
100	1000	IZM97	400-1000	1.5-10	2-15,0FF	IZM97H3C-V10F YC-301036	IZM97H3C-V10W YC-301122
100	1250	IZM97	500-1250	1.5-10	2-15,0FF	IZM97H3C-V12F YC-301037	IZM97H3C-V12W YC-301123
100	1600	IZM97	640-1600	1.5-10	2-15,0FF	IZM97H3C-V16F YC-301038	IZM97H3C-V16W YC-301124
100	2000	IZM97	800-2000	1.5-10	2-15,0FF	IZM97H3C-V20F YC-301039	IZM97H3C-V20W YC-301125
100	2500	IZM97	1000-2500	1.5-10	2-15,0FF	IZM97H3C-V25F YC-301040	IZM97H3C-V25W YC-301126
100	3200	IZM97	1280-3200	1.5-10	2-15,0FF	IZM97H3C-V32F YC-301041	IZM97H3C-V32W YC-301127
100	4000	IZM97	1600-4000	1.5-10	2-15,0FF	-	IZM97H3C-V40W YC-301128
100	4000	IZM99	1600-4000	1.5-10	2-15,0FF	IZM99H3C-V40F YC-301357	IZM99H3C-V40W YC-301393
100	5000	IZM99	2000-5000	1.5-10	2-15,0FF	IZM99H3C-V50F YC-301358	IZM99H3C-V50W YC-301394
100	6300	IZM99	2520-6300	1.5-10	2-15,0FF	IZM99H3C-V63F YC-301359	IZM99H3C-V63W YC-301395




3P Circuit Breaker of Power Meter Type (Including Type U Trip Unit, 4ON/4OFF Auxiliary Contacts, Main Wiring Terminal, Some Secondary Terminal Blocks and Power Module)

Switching capacity I_{cu}/I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range Overload releases I_r A	Short-circuit releases		Fixed Part no. Article no.	Withdrawable Part no. Article no.	
			Delayed $I_{sd} = I_r \times \dots$	Non-delayed $I_i = I_n \times \dots$			
							
66	800	IZM97	320-800	1.5-10	2-15,0FF	IZM97B3C-U08F YC-301042	IZM97B3C-U08W YC-301129
66	1000	IZM97	400-1000	1.5-10	2-15,0FF	IZM97B3C-U10F YC-301043	IZM97B3C-U10W YC-301130
66	1250	IZM97	500-1250	1.5-10	2-15,0FF	IZM97B3C-U12F YC-301044	IZM97B3C-U12W YC-301131
66	1600	IZM97	640-1600	1.5-10	2-15,0FF	IZM97B3C-U16F YC-301045	IZM97B3C-U16W YC-301132
66	2000	IZM97	800-2000	1.5-10	2-15,0FF	IZM97B3C-U20F YC-301046	IZM97B3C-U20W YC-301133
66	2500	IZM97	1000-2500	1.5-10	2-15,0FF	IZM97B3C-U25F YC-301047	IZM97B3C-U25W YC-301134
66	3200	IZM97	1280-3200	1.5-10	2-15,0FF	IZM97B3C-U32F YC-301048	IZM97B3C-U32W YC-301135
66	4000	IZM97	1600-4000	1.5-10	2-15,0FF	-	IZM97B3C-U40W YC-301136

New Generation Air Circuit Breaker IZM9

IZM97/99 Circuit Breaker Basic Device


3P Circuit Breaker of Power Meter Type (Including Type U Trip Unit, 4ON/4OFF Auxiliary Contacts, Main Wiring Terminal, Some Secondary Terminal Blocks and Power Module)

Switching capacity I_{cu}/I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range Overload releases	Short-circuit releases		Fixed Part no. Article no.	Withdrawable Part no. Article no.	
			Delayed $I_{sd} = I_r \times \dots$	Non-delayed $I_i = I_n \times \dots$			
		I_r A 				Cassette must be ordered separately.	
85	800	IZM97	320-800	1.5-10	2-15,OFF	IZM97N3C-U08F YC-301049	IZM97N3C-U08W YC-301137
85	1000	IZM97	400-1000	1.5-10	2-15,OFF	IZM97N3C-U10F YC-301050	IZM97N3C-U10W YC-301138
85	1250	IZM97	500-1250	1.5-10	2-15,OFF	IZM97N3C-U12F YC-301051	IZM97N3C-U12W YC-301139
85	1600	IZM97	640-1600	1.5-10	2-15,OFF	IZM97N3C-U16F YC-301052	IZM97N3C-U16W YC-301140
85	2000	IZM97	800-2000	1.5-10	2-15,OFF	IZM97N3C-U20F YC-301053	IZM97N3C-U20W YC-301141
85	2500	IZM97	1000-2500	1.5-10	2-15,OFF	IZM97N3C-U25F YC-301054	IZM97N3C-U25W YC-301142
85	3200	IZM97	1280-3200	1.5-10	2-15,OFF	IZM97N3C-U32F YC-301055	IZM97N3C-U32W YC-301143
85	4000	IZM97	1600-4000	1.5-10	2-15,OFF	-	IZM97N3C-U40W YC-301144
85	4000	IZM99	1600-4000	1.5-10	2-15,OFF	IZM99N3C-U40F YC-301360	IZM99N3C-U40W YC-301396
85	5000	IZM99	2000-5000	1.5-10	2-15,OFF	IZM99N3C-U50F YC-301361	IZM99N3C-U50W YC-301397
85	6300	IZM99	2520-6300	1.5-10	2-15,OFF	IZM99N3C-U63F YC-301362	IZM99N3C-U63W YC-301398
100	800	IZM97	320-800	1.5-10	2-15,OFF	IZM97H3C-U08F YC-301056	IZM97H3C-U08W YC-301145
100	1000	IZM97	400-1000	1.5-10	2-15,OFF	IZM97H3C-U10F YC-301057	IZM97H3C-U10W YC-301146
100	1250	IZM97	500-1250	1.5-10	2-15,OFF	IZM97H3C-U12F YC-301058	IZM97H3C-U12W YC-301147
100	1600	IZM97	640-1600	1.5-10	2-15,OFF	IZM97H3C-U16F YC-301059	IZM97H3C-U16W YC-301148
100	2000	IZM97	800-2000	1.5-10	2-15,OFF	IZM97H3C-U20F YC-301060	IZM97H3C-U20W YC-301149
100	2500	IZM97	1000-2500	1.5-10	2-15,OFF	IZM97H3C-U25F YC-301061	IZM97H3C-U25W YC-301150
100	3200	IZM97	1280-3200	1.5-10	2-15,OFF	IZM97H3C-U32F YC-301062	IZM97H3C-U32W YC-301151
100	4000	IZM97	1600-4000	1.5-10	2-15,OFF	-	IZM97H3C-U40W YC-301152
100	4000	IZM99	1600-4000	1.5-10	2-15,OFF	IZM99H3C-U40F YC-301363	IZM99H3C-U40W YC-301399
100	5000	IZM99	2000-5000	1.5-10	2-15,OFF	IZM99H3C-U50F YC-301364	IZM99H3C-U50W YC-301400
100	6300	IZM99	2520-6300	1.5-10	2-15,OFF	IZM99H3C-U63F YC-301365	IZM99H3C-U63W YC-301401

New Generation Air Circuit Breaker IZM9

IZM97/99 Circuit Breaker Basic Device

4P Circuit Breaker of Ammeter Type (Including Type V Trip Unit, 4ON/4OFF Auxiliary Contacts, Main Wiring Terminal, Some Secondary Terminal Blocks and Power Module)




Switching capacity I_{cu}/I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range Overload releases	Short-circuit releases		Fixed Part no. Article no.	Withdrawable Part no. Article no.	
			Delayed $I_{sd} = I_r \times \dots$	Non-delayed $I_i = I_n \times \dots$			
		I_r A					
66	800	IZM97	320-800	1.5-10	2-15,OFF	IZM97B4C-V08F YC-301198	IZM97B4C-V08W YC-301282
66	1000	IZM97	400-1000	1.5-10	2-15,OFF	IZM97B4C-V10F YC-301199	IZM97B4C-V10W YC-301283
66	1250	IZM97	500-1250	1.5-10	2-15,OFF	IZM97B4C-V12F YC-301200	IZM97B4C-V12W YC-301284
66	1600	IZM97	640-1600	1.5-10	2-15,OFF	IZM97B4C-V16F YC-301201	IZM97B4C-V16W YC-301285
66	2000	IZM97	800-2000	1.5-10	2-15,OFF	IZM97B4C-V20F YC-301202	IZM97B4C-V20W YC-301286
66	2500	IZM97	1000-2500	1.5-10	2-15,OFF	IZM97B4C-V25F YC-301203	IZM97B4C-V25W YC-301287
66	3200	IZM97	1280-3200	1.5-10	2-15,OFF	IZM97B4C-V32F YC-301204	IZM97B4C-V32W YC-301288
66	4000	IZM97	1600-4000	1.5-10	2-15,OFF	-	IZM97B4C-V40W YC-301289
85	800	IZM97	320-800	1.5-10	2-15,OFF	IZM97N4C-V08F YC-301205	IZM97N4C-V08W YC-301290
85	1000	IZM97	400-1000	1.5-10	2-15,OFF	IZM97N4C-V10F YC-301206	IZM97N4C-V10W YC-301291
85	1250	IZM97	500-1250	1.5-10	2-15,OFF	IZM97N4C-V12F YC-301207	IZM97N4C-V12W YC-301292
85	1600	IZM97	640-1600	1.5-10	2-15,OFF	IZM97N4C-V16F YC-301208	IZM97N4C-V16W YC-301293
85	2000	IZM97	800-2000	1.5-10	2-15,OFF	IZM97N4C-V20F YC-301209	IZM97N4C-V20W YC-301294
85	2500	IZM97	1000-2500	1.5-10	2-15,OFF	IZM97N4C-V25F YC-301210	IZM97N4C-V25W YC-301295
85	3200	IZM97	1280-3200	1.5-10	2-15,OFF	IZM97N4C-V32F YC-301211	IZM97N4C-V32W YC-301296
85	4000	IZM97	1600-4000	1.5-10	2-15,OFF	-	IZM97N4C-V40W YC-301297
85	4000	IZM99	1600-4000	1.5-10	2-15,OFF	IZM99N4C-V40F YC-301372	IZM99N4C-V40W YC-301408
85	5000	IZM99	2000-5000	1.5-10	2-15,OFF	IZM99N4C-V50F YC-301373	IZM99N4C-V50W YC-301409
85	6300	IZM99	2520-6300	1.5-10	2-15,OFF	IZM99N4C-V63F YC-301374	IZM99N4C-V63W YC-301410

Cassette must be ordered separately.




New Generation Air Circuit Breaker IZM9

IZM97/99 Circuit Breaker Basic Device

4P Circuit Breaker of Ammeter Type (Including Type V Trip Unit, 4ON/4OFF Auxiliary Contacts, Main Wiring Terminal, Some Secondary Terminal Blocks and Power Module)

Switching capacity I_{cu}/I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range Overload releases	Short-circuit releases		Fixed Part no. Article no.	Withdrawable Part no. Article no.	
			Delayed $I_{sd} = I_n \times \dots$	Non-delayed $I_i = I_n \times \dots$			
						Cassette must be ordered separately.	
100	800	IZM97	320-800	1.5-10	2-10, OFF	IZM97H4C-V08F YC-301212	IZM97H4C-V08W YC-301298
100	1000	IZM97	400-1000	1.5-10	2-10, OFF	IZM97H4C-V10F YC-301213	IZM97H4C-V10W YC-301299
100	1250	IZM97	500-1250	1.5-10	2-10, OFF	IZM97H4C-V12F YC-301214	IZM97H4C-V12W YC-301300
100	1600	IZM97	640-1600	1.5-10	2-10, OFF	IZM97H4C-V16F YC-301215	IZM97H4C-V16W YC-301301
100	2000	IZM97	800-2000	1.5-10	2-10, OFF	IZM97H4C-V20F YC-301216	IZM97H4C-V20W YC-301302
100	2500	IZM97	1000-2500	1.5-10	2-10, OFF	IZM97H4C-V25F YC-301217	IZM97H4C-V25W YC-301303
100	3200	IZM97	1280-3200	1.5-10	2-10, OFF	IZM97H4C-V32F YC-301218	IZM97H4C-V32W YC-301304
100	4000	IZM97	1600-4000	1.5-10	2-10, OFF	-	IZM97H4C-V40W YC-301305
100	4000	IZM99	1600-4000	1.5-10	2-10, OFF	IZM99H4C-V40F YC-301375	IZM99H4C-V40W YC-301411
100	5000	IZM99	2000-5000	1.5-10	2-10, OFF	IZM99H4C-V50F YC-301376	IZM99H4C-V50W YC-301412
100	6300	IZM99	2520-6300	1.5-10	2-10, OFF	IZM99H4C-V63F YC-301377	IZM99H4C-V63W YC-301413

4P Circuit Breaker of Power Meter Type (Including Type U Trip Unit, 4ON/4OFF Auxiliary Contacts, Main Wiring Terminal, Some Secondary Terminal Blocks and Power Module)

Switching capacity I_{cu}/I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range Overload releases	Short-circuit releases		Fixed Part no. Article no.	Withdrawable Part no. Article no.	
			Delayed $I_{sd} = I_n \times \dots$	Non-delayed $I_i = I_n \times \dots$			
						Cassette must be ordered separately.	
66	800	IZM97	320-800	1.5-10	2-10, OFF	IZM97B4C-U08F YC-301219	IZM97B4C-U08W YC-301306
66	1000	IZM97	400-1000	1.5-10	2-10, OFF	IZM97B4C-U10F YC-301220	IZM97B4C-U10W YC-301307
66	1250	IZM97	500-1250	1.5-10	2-10, OFF	IZM97B4C-U12F YC-301221	IZM97B4C-U12W YC-301308
66	1600	IZM97	640-1600	1.5-10	2-10, OFF	IZM97B4C-U16F YC-301222	IZM97B4C-U16W YC-301309
66	2000	IZM97	800-2000	1.5-10	2-10, OFF	IZM97B4C-U20F YC-301223	IZM97B4C-U20W YC-301310
66	2500	IZM97	1000-2500	1.5-10	2-10, OFF	IZM97B4C-U25F YC-301224	IZM97B4C-U25W YC-301311
66	3200	IZM97	1280-3200	1.5-10	2-10, OFF	IZM97B4C-U32F YC-301225	IZM97B4C-U32W YC-301312
66	4000	IZM97	1600-4000	1.5-10	2-10, OFF	-	IZM97B4C-U40W YC-301313

New Generation Air Circuit Breaker IZM9

IZM97/99 Circuit Breaker Basic Device

4P Circuit Breaker of Power Meter Type (Including Type U Trip Unit, 4ON/4OFF Auxiliary Contacts, Main Wiring Terminal, Some Secondary Terminal Blocks and Power Module)

Switching capacity I_{cu}/I_{cs} kA	Rated operational current $I_n = I_u$ A	Setting range	Setting range		Fixed	Withdrawable	
			Overload releases	Short-circuit releases			
		I_r A	Delayed $I_{sd} = I_r \dots$	Non-delayed $I_i = I_n \times \dots$	Part no. Article no.	Part no. Article no.	
						Cassette must be ordered separately.	
85	800	IZM97	320-800	1.5-10	2-10, OFF	IZM97N4C-U08F YC-301226	IZM97N4C-U08W YC-301314
85	1000	IZM97	400-1000	1.5-10	2-10, OFF	IZM97N4C-U10F YC-301227	IZM97N4C-U10W YC-301315
85	1250	IZM97	500-1250	1.5-10	2-10, OFF	IZM97N4C-U12F YC-301228	IZM97N4C-U12W YC-301316
85	1600	IZM97	640-1600	1.5-10	2-10, OFF	IZM97N4C-U16F YC-301229	IZM97N4C-U16W YC-301317
85	2000	IZM97	800-2000	1.5-10	2-10, OFF	IZM97N4C-U20F YC-301230	IZM97N4C-U20W YC-301318
85	2500	IZM97	1000-2500	1.5-10	2-10, OFF	IZM97N4C-U25F YC-301231	IZM97N4C-U25W YC-301319
85	3200	IZM97	1280-3200	1.5-10	2-10, OFF	IZM97N4C-U32F YC-301232	IZM97N4C-U32W YC-301320
85	4000	IZM97	1600-4000	1.5-10	2-10, OFF	-	IZM97N4C-U40W YC-301321
85	4000	IZM99	1600-4000	1.5-10	2-10, OFF	IZM99N4C-U40F YC-301378	IZM99N4C-U40W YC-301414
85	5000	IZM99	2000-5000	1.5-10	2-10, OFF	IZM99N4C-U50F YC-301379	IZM99N4C-U50W YC-301415
85	6300	IZM99	2520-6300	1.5-10	2-10, OFF	IZM99N4C-U63F YC-301380	IZM99N4C-U63W YC-301416
100	800	IZM97	320-800	1.5-10	2-10, OFF	IZM97H4C-U08F YC-301233	IZM97H4C-U08W YC-301322
100	1000	IZM97	400-1000	1.5-10	2-10, OFF	IZM97H4C-U10F YC-301234	IZM97H4C-U10W YC-301323
100	1250	IZM97	500-1250	1.5-10	2-10, OFF	IZM97H4C-U12F YC-301235	IZM97H4C-U12W YC-301324
100	1600	IZM97	640-1600	1.5-10	2-10, OFF	IZM97H4C-U16F YC-301236	IZM97H4C-U16W YC-301325
100	2000	IZM97	800-2000	1.5-10	2-10, OFF	IZM97H4C-U20F YC-301237	IZM97H4C-U20W YC-301326
100	2500	IZM97	1000-2500	1.5-10	2-10, OFF	IZM97H4C-U25F YC-301238	IZM97H4C-U25W YC-301327
100	3200	IZM97	1280-3200	1.5-10	2-10, OFF	IZM97H4C-U32F YC-301239	IZM97H4C-U32W YC-301328
100	4000	IZM97	1600-4000	1.5-10	2-10, OFF	-	IZM97H4C-U40W YC-301329
100	4000	IZM99	1600-4000	1.5-10	2-10, OFF	IZM99H4C-U40F YC-301381	IZM99H4C-U40W YC-301417
100	5000	IZM99	2000-5000	1.5-10	2-10, OFF	IZM99H4C-U50F YC-301382	IZM99H4C-U50W YC-301418
100	6300	IZM99	2520-6300	1.5-10	2-10, OFF	IZM99H4C-U63F YC-301383	IZM99H4C-U63W YC-301419

New Generation Air Circuit Breaker IZM9

IN97/99 Switch Disconnecter Basic Device

Switch Disconnecter (Including 4ON/4OFF Auxiliary Contacts, Main Terminals and all Secondary Terminal Blocks Equipped)

Rated short-circuit making capacity	Rated operational current	Circuit breaker type	Rated short-time withstand current	Fixed	Withdrawable
I_{cm} kA	$I_n = I_u$ A		I_{cw} kA	Part no. Article no.	Part no. Article no.
145	800	IN97	66	IN97B3C-08F YC-302001	IN97B3C-08W YC-302029
145	1000	IN97	66	IN97B3C-10F YC-302002	IN97B3C-10W YC-302030
145	1250	IN97	66	IN97B3C-12F YC-302003	IN97B3C-12W YC-302031
145	1600	IN97	66	IN97B3C-16F YC-302004	IN97B3C-16W YC-302032
145	2000	IN97	66	IN97B3C-20F YC-302005	IN97B3C-20W YC-302033
145	2500	IN97	66	IN97B3C-25F YC-302006	IN97B3C-25W YC-302034
145	3200	IN97	66	IN97B3C-32F YC-302007	IN97B3C-32W YC-302035
145	4000	IN97	66	-	IN97B3C-40W YC-302036
187	800	IN97	85	IN97N3C-08F YC-302008	IN97N3C-08W YC-302037
187	1000	IN97	85	IN97N3C-10F YC-302009	IN97N3C-10W YC-302038
187	1250	IN97	85	IN97N3C-12F YC-302010	IN97N3C-12W YC-302039
187	1600	IN97	85	IN97N3C-16F YC-302011	IN97N3C-16W YC-302040
187	2000	IN97	85	IN97N3C-20F YC-302012	IN97N3C-20W YC-302041
187	2500	IN97	85	IN97N3C-25F YC-302013	IN97N3C-25W YC-302042
187	3200	IN97	85	IN97N3C-32F YC-302014	IN97N3C-32W YC-302043
187	4000	IN97	85	-	IN97N3C-40W YC-302044
187	4000	IN99	85	IN99N3C-40F YC-302061	IN99N3C-40W YC-302073
187	5000	IN99	85	IN99N3C-50F YC-302062	IN99N3C-50W YC-302074
187	6300	IN99	85	IN99N3C-63F YC-302063	IN99N3C-63W YC-302075
220	4000	IN99	100	IN99H3C-40F YC-302064	IN99H3C-40W YC-302076
220	5000	IN99	100	IN99H3C-50F YC-302065	IN99H3C-50W YC-302077
220	6300	IN99	100	IN99H3C-63F YC-302066	IN99H3C-63W YC-302078

Cassette must be ordered separately.

New Generation Air Circuit Breaker IZM9

IN97/99 Switch Disconnecter Basic Device

Switch Disconnecter (Including 4ON/4OFF Auxiliary Contacts, Main Terminals and all Secondary Terminal Blocks Equipped)

Rated short-circuit making capacity	Rated operational current	Circuit breaker type	Rated short-time withstand current	Fixed	Withdrawable
I_{cm} kA	$I_n = I_u$ A		I_{cw} kA	Part no. Article no.	Part no. Article no.
145	800	IN97	66	IN97B4C-08F YC-302015	IN97B4C-08W YC-302045
145	1000	IN97	66	IN97B4C-10F YC-302016	IN97B4C-10W YC-302046
145	1250	IN97	66	IN97B4C-12F YC-302017	IN97B4C-12W YC-302047
145	1600	IN97	66	IN97B4C-16F YC-302018	IN97B4C-16W YC-302048
145	2000	IN97	66	IN97B4C-20F YC-302019	IN97B4C-20W YC-302049
145	2500	IN97	66	IN97B4C-25F YC-302020	IN97B4C-25W YC-302050
145	3200	IN97	66	IN97B4C-32F YC-302021	IN97B4C-32W YC-302051
145	4000	IN97	66	-	IN97B4C-40W YC-302052
187	800	IN97	85	IN97N4C-08F YC-302022	IN97N4C-08W YC-302053
187	1000	IN97	85	IN97N4C-10F YC-302023	IN97N4C-10W YC-302054
187	1250	IN97	85	IN97N4C-12F YC-302024	IN97N4C-12W YC-302055
187	1600	IN97	85	IN97N4C-16F YC-302025	IN97N4C-16W YC-302056
187	2000	IN97	85	IN97N4C-20F YC-302026	IN97N4C-20W YC-302057
187	2500	IN97	85	IN97N4C-25F YC-302027	IN97N4C-25W YC-302058
187	3200	IN97	85	IN97N4C-32F YC-302028	IN97N4C-32W YC-302059
187	4000	IN97	85	-	IN97N4C-40W YC-302060
187	4000	IN99	85	IN99N4C-40F YC-302067	IN99N4C-40W YC-302079
187	5000	IN99	85	IN99N4C-50F YC-302068	IN99N4C-50W YC-302080
187	6300	IN99	85	IN99N4C-63F YC-302069	IN99N4C-63W YC-302081
220	4000	IN99	100	IN99H4C-40F YC-302070	IN99H4C-40W YC-302082
220	5000	IN99	100	IN99H4C-50F YC-302071	IN99H4C-50W YC-302083
220	6300	IN99	100	IN99H4C-63F YC-302072	IN99H4C-63W YC-302084

Cassette must be ordered separately.

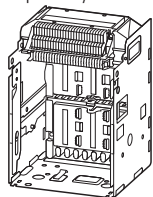
New Generation Air Circuit Breaker IZM9

Circuit Breaker Accessories

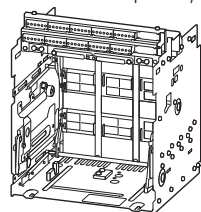
Cassette

Rated operational current I_n A	Pole	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device
IZM91 cassettes equipment supplied as standard: arcing chamber cover, mismatch protection, door escutcheon, no main terminal for connection, no secondary control terminal module, to be ordered separately			
≤1600	3	IZM91...W IN91...W	+IZMC1-CAS163-1600 YC-305031
≤1600	3	IZM91...W IN91...W	IZMC1-CAS163-1600-SEC-2 YC-500164
≤1600	4	IZM91...W IN91...W	+IZMC1-CAS164-1600 YC-305032
≤1600	4	IZM91...W IN91...W	IZMC1-CAS164-1600-SEC-2 YC-500165
Cassettes ordered with basic device Standard cassette equipment: - Arc chamber cover - Mismatch protection - Main terminal for horizontal connection, except for IZM97... 4000A supplied with vertical terminal - Door escutcheon - No secondary control terminal module, to be ordered separately			
≤2000	3	IZM97...W IN97...W	+IZMC2-CAS323-2000 YC-300076
2500	3	IZM97...W IN97...W	+IZMC2-CAS323-2500 YC-300084
3200	3	IZM97...W IN97...W	+IZMC2-CAS323-3200 YC-300077
4000	3	IZM97...W IN97...W	+IZMC2-CAS-E403 YC-300078
4000	3	IZM99...W IN99...W	+IZMC2-CAS633-4000 YC-300080
5000-6300	3	IZM99...W IN99...W	+IZMC2-CAS633-6300 YC-300081
≤2000	4	IZM97...W IN97...W	+IZMC2-CAS324-2000 YC-300062
2500	4	IZM97...W IN97...W	+IZMC2-CAS324-2500 YC-300064
3200	4	IZM97...W IN97...W	+IZMC2-CAS324-3200 YC-300063
4000	4	IZM97...W IN97...W	+IZMC2-CAS-E404 YC-300065
4000	4	IZM99...W IN99...W	+IZMC2-CAS634-4000 YC-300066
5000-6300	4	IZM99...W IN99...W	+IZMC2-CAS634-6300 YC-300067
Cassettes ordered with basic device Standard cassette equipment: - Arc chamber cover - Mismatch protection - Main terminal for horizontal connection, except for IZM97... 4000A supplied with vertical terminal - Door escutcheon - Safety Shutter			
≤2000	3	IZM97...W IN97...W	IZMC2-CAS323-2000 YC-500076
2500	3	IZM97...W IN97...W	IZMC2-CAS323-2500 YC-500151
3200	3	IZM97...W IN97...W	IZMC2-CAS323-3200 YC-500077
4000	3	IZM97...W IN97...W	IZMC2-CAS-E403 YC-500078
4000	3	IZM99...W IN99...W	IZMC2-CAS633-4000 YC-500080
5000-6300	3	IZM99...W IN99...W	IZMC2-CAS633-6300 YC-500081
≤2000	4	IZM97...W IN97...W	IZMC2-CAS324-2000 YC-500062
2500	4	IZM97...W IN97...W	IZMC2-CAS324-2500 YC-500152
3200	4	IZM97...W IN97...W	IZMC2-CAS324-3200 YC-500063
4000	4	IZM97...W IN97...W	IZMC2-CAS-E404 YC-500065
4000	4	IZM99...W IN99...W	IZMC2-CAS634-4000 YC-500066
5000-6300	4	IZM99...W IN99...W	IZMC2-CAS634-6300 YC-500067

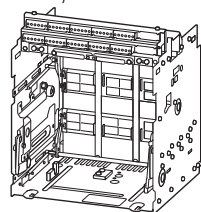
Cassettes equipment supplied as standard: arc chamber cover, mismatch protection, door escutcheon, terminals are not included and secondary control terminal module, need to be ordered separately



Cassettes ordered with basic device
Standard cassette equipment:
- Arc chamber cover
- Mismatch protection
- Main terminal for horizontal connection, except for IZM97... 4000A supplied with vertical terminal
- Door escutcheon
- No secondary control terminal module, to be ordered separately



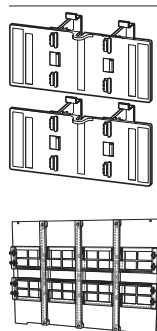
Cassettes ordered with basic device
Standard cassette equipment:
- Arc chamber cover
- Mismatch protection
- Main terminal for horizontal connection, except for IZM97... 4000A supplied with vertical terminal
- Door escutcheon
- Safety Shutter



New Generation Air Circuit Breaker IZM9

Circuit Breaker Accessories

Cassette Safety Shutters

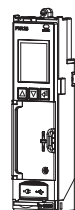


	Pole	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device
When the breaker is withdrawn from its connected position, the shutters automatically cover the cassette's live main terminals.			
-	3	IZM91...W IN91...W	+IZMC1-SH163 YC-305033
-	3	IZM97...W IN97...W	+IZMC2-SH323 YC-300096
-	3	IZM99...W IN99...W	+IZMC2-SH633 YC-300098
-	4	IZM91...W IN91...W	+IZMC1-SH164 YC-305034
-	4	IZM97...W IN97...W	+IZMC2-SH324 YC-300068
-	4	IZM99...W IN99...W	+IZMC2-SH634 YC-300069

IZMC2-PXRV..., IZMC2-PXRU Trip Unit



	For use with	Ground Earth-Fault Protection (G)	ARMS (M)	Onboard ModBUS Communication (C)	Part no. Article no. Suffix + for ordering with circuit breaker basic device
Type V trip unit with current metering (with LSI protection function, current metering and zone selective protection function ZSI)					
	-	-	-	-	IZMC2-PXRV
Add-on functions for current metering Type V (PXR20)					
Add onboard Modbus, V type	IZM91/97/99	-	-	●	+IZMC2-PXRV-C YC-300058
Add ground fault protection, V type	IZM91/97/99	●	-	-	+IZMC2-PXRV-G YC-300057
Add ground fault protection and onboard Modbus, V type	IZM91/97/99	●	-	●	+IZMC2-PXRV-GC YC-300056
Add ground fault protection and ARMs, V type	IZM91/97/99	●	●	-	+IZMC2-PXRV-GM YC-300055
Add ground fault protection, onboard Modbus and ARMs, V type	IZM91/97/99	●	●	●	+IZMC2-PXRV-GMC YC-300054

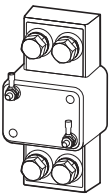
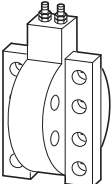


Type U Trip Unit with Power Metering (with LSI protection function, zone selective protection function and onboard Modbus)					
Onboard ModBUS is standard on all PXR25 trip units	-	-	-	●	IZMC2-PXRU
Add-on functions for power metering Type U (PXR25)					
Add ground fault protection, U type	IZM91/97/99	●	-	●	+IZMC2-PXRU-G YC-300059
Add ARMs, U type	IZM91/97/99	-	●	●	+IZMC2-PXRU-M YC-300060
Add ground fault protection and ARMs, U type	IZM91/97/99	●	●	●	+IZMC2-PXRU-GM YC-300061

Accessories for Electronic Releases

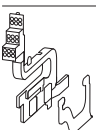
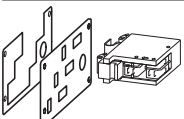
	For use with	Rated control voltage U_s V	Part no. Article no.	Notes
External trip unit power adapter				
External trip unit power adapter	IZM91... IZM97... IZM99...	85-264VAC, 120-370VDC input 24VDC, 1.5A output	EASY400-POW-CN 90000019400525	DIN rail mount Order separately
External voltage measurement module, for U type release unit	IZM99...	—	IZMC2-PXR-PTM-2 YC-500160	
Communication modules				
Communication module Modbus	IZM91... IZM97... IZM99...	—	IZMC2-MCAM-2 YC-500119	DIN rail mount Order separately
Communication module Profibus DP	IZM99...	—	IZMC2-PCAM-2 YC-500120	
Communication module Ethernet		—	IZMC2-ECAM-2 YC-500121	

External Neutral Transformer

		Rated current I_n A	For use with	Part no. Article no.
Current sensor for neutral conductor on 3-pole circuit-breakers				
	For IZM91 Externally mounted neutral sensor for residual ground.	—	IZM91...	IZMC1-CT16-N-2 YC-500161
	For IZM97,99 ¹⁾ Externally mounted neutral sensor for residual ground.	—	IZM97... IZM99...	IZMC2-CT40-N-2 YC-500102

Notes: ¹⁾IZM99 requires two orders.

Position Indication Contact for Withdrawable Circuit Breaker

	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device
	One changeover contact for position Disconnected, Test, Connected. Installation on left in the cassette	IZMC1-CS16-1-2 YC-500192
	For remote indication of circuit breaker's position in the cassette. Maximum three sets of withdrawer position indication contacts (each set includes 4 indication contacts) can be installed. Each withdrawer only requires one mounting support.	
4CO, 1 module with mounting	IZM97,99...W IN97,99...W	IZMC2-CS4MB YC-500122
8CO, 2 module with mounting	IZM97,99...W IN97,99...W	IZMC2-CS8MB YC-500123
12CO, 3 module with mounting	IZM97,99...W IN97,99...W	IZMC2-CS12MB YC-500124

New Generation Air Circuit Breaker IZM9

Circuit Breaker Accessories

Motor Operator

Rated control voltage
U_s
V

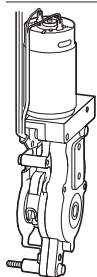
For use with

Part no.

Article no.

Suffix + for ordering with circuit breaker basic device

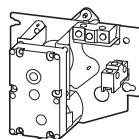
Instructions



The motor automatically tensions the spring force storage mechanism for remote or local actuation.

A signaling switch for the “Spring force storage charged” message is included as standard

24 V DC	IZM91... IN91...	IZMC1-M16-24DC-2 YC-500168	If ordered separately for upgrade, need to order 1 separate for the control secondary terminal block
24 V DC	IZM91... IN91...	+IZMC1-M16-24DC YC-305001	
48 V DC	IZM91... IN91...	IZMC1-M16-48DC-2 YC-500169	
48 V DC	IZM91... IN91...	+IZMC1-M16-48DC YC-305002	
110 - 127 V AC 50/60 Hz 110 - 125 V DC	IZM91... IN91...	IZMC1-M16-110AD-2 YC-500170	
110 - 127 V AC 50/60 Hz 110 - 125 V DC	IZM91... IN91...	+IZMC1-M16-110AD YC-305006	
208 - 240 V AC 50/60 Hz 220 - 250 V DC	IZM91... IN91...	IZMC1-M16-230AD-2 YC-500171	
208 - 240 V AC 50/60 Hz 220 - 250 V DC	IZM91... IN91...	+IZMC1-M16-230AD YC-305007	



It can store energy by motor. When motor operator operates, it requires additionally a closing release and a shunt release. The “Spring energy store tensioned” status indication switch is also included.

24VDC	IZM97,99 IN97,99...	IZMC2-M24DC YC-500027	If ordered separately for upgrade, need to order 1 separate for the control secondary terminal block
24VDC	IZM97,99 IN97,99...	+IZMC2-M24DC YC-300027	
48VDC	IZM97,99 IN97,99...	IZMC2-M48DC YC-500028	
48VDC	IZM97,99 IN97,99...	+IZMC2-M48DC YC-300028	
110-125VDC	IZM97,99 IN97,99...	IZMC2-M110DC YC-500029	
110-125VDC	IZM97,99 IN97,99...	+IZMC2-M110DC YC-300029	
220-250VDC	IZM97,99 IN97,99...	IZMC2-M220DC YC-500030	
220-250VDC	IZM97,99 IN97,99...	+IZMC2-M220DC YC-300030	
110-127VAC	IZM97,99 IN97,99...	IZMC2-M110AC YC-500031	
110-127VAC	IZM97,99 IN97,99...	+IZMC2-M110AC YC-300031	
208-240VAC	IZM97,99 IN97,99...	IZMC2-M230AC (for 220V DC) YC-500032	
208-240VAC	IZM97,99 IN97,99...	+IZMC2-M230AC (for 220V DC) YC-300032	

Shunt Release

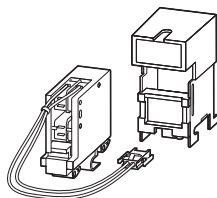
Rated control voltage U_s V	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device	Instructions
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Shunt release



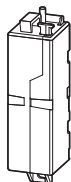
Can be combined with an undervoltage release or a second shunt release.			
24 V DC	IZM91... IN91...	IZMC1-ST24DC-2 YC-500172	If ordered separately for upgrade, need to order 1 separate for the control secondary terminal block
24 V DC	IZM91... IN91...	+IZMC1-ST24DC YC-305008	
48 V DC	IZM91... IN91...	IZMC1-ST48DC-2 YC-500173	
48 V DC	IZM91... IN91...	+IZMC1-ST48DC YC-305009	
110 - 125 V AC/DC	IZM91... IN91...	IZMC1-ST110AD-2 YC-500174	
110 - 125 V AC/DC	IZM91... IN91...	+IZMC1-ST110AD YC-305010	
220 - 240 V AC/DC	IZM91... IN91...	IZMC1-ST230AD-2 YC-500175	
220 - 240 V AC/DC	IZM91... IN91...	+IZMC1-ST230AD YC-305011	

Shunt release



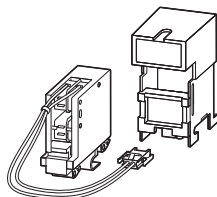
24DC	IZM97,99... IN97,99...	IZMC2-ST24DC YC-500006
24DC	IZM97,99... IN97,99...	+IZMC2-ST24DC YC-300006
48DC	IZM97,99... IN97,99...	IZMC2-ST48DC YC-500007
48DC	IZM97,99... IN97,99...	+IZMC2-ST48DC YC-300007
110-125 DC 110-127 AC	IZM97,99... IN97,99...	IZMC2-ST110AD YC-500008
110-125 DC 110-127 AC	IZM97,99... IN97,99...	+IZMC2-ST110AD YC-300008
220-250 DC 208-240 AC	IZM97,99... IN97,99...	IZMC2-ST230AD YC-500009
220-250 DC 208-240 AC	IZM97,99... IN97,99...	+IZMC2-ST230AD YC-300009

Second shunt release



Cannot be combined with an undervoltage release.			
24 V DC	ZM91... IN91...	+IZMC1-STS24DC YC-305012	
48 V DC	ZM91... IN91...	+IZMC1-STS48DC YC-305013	
110 - 125 V AC/DC	ZM91... IN91...	+IZMC1-STS110AD YC-305014	
220 - 240 V AC/DC	ZM91... IN91...	+IZMC1-STS230AD YC-305015	

Second shunt release



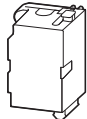
Cannot be combined with an undervoltage release.			
24DC	IZM97,99... IN97,99...	IZMC2-STS24DC YC-500022	
24DC	IZM97,99... IN97,99...	+IZMC2-STS24DC YC-300022	
48DC	IZM97,99... IN97,99...	IZMC2-STS48DC YC-500023	
48DC	IZM97,99... IN97,99...	+IZMC2-STS48DC YC-300023	
110-125 DC 110-127 AC	IZM97,99... IN97,99...	IZMC2-STS110AD YC-500024	
110-125 DC 110-127 AC	IZM97,99... IN97,99...	+IZMC2-STS110AD YC-300024	
220-250 DC 208-240 AC	IZM97,99... IN97,99...	IZMC2-STS230AD YC-500025	
220-250 DC 208-240 AC	IZM97,99... IN97,99...	+IZMC2-STS230AD YC-300025	

New Generation Air Circuit Breaker IZM9

Circuit Breaker Accessories

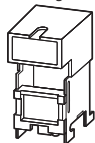
Closing Releases

Closing releases

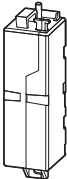
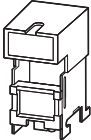


Rated control voltage U_s V	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device	Instructions
24 V DC	IZM91... IN91...	IZMC1-SR24DC-2 YC-500176	If ordered separately for upgrade, need to order 1 separate for the control secondary terminal block
24 V DC	IZM91... IN91...	+IZMC1-SR24DC YC-305016	
48 V DC	IZM91... IN91...	IZMC1-SR48DC-2 YC-500177	
48 V DC	IZM91... IN91...	+IZMC1-SR48DC YC-305017	
110 - 125 V AC/DC	IZM91... IN91...	IZMC1-SR110AD-2 YC-500178	
110 - 125 V AC/DC	IZM91... IN91...	+IZMC1-SR110AD YC-305018	
220 - 240 V AC/DC	IZM91... IN91...	IZMC1-SR230AD-2 YC-500179	
220 - 240 V AC/DC	IZM91... IN91...	+IZMC1-SR230AD YC-305019	
24DC	IZM97,99... IN97,99...	IZMC2-SR24DC YC-500001	
24DC	IZM97,99... IN97,99...	+IZMC2-SR24DC YC-300001	
48DC	IZM97,99... IN97,99...	IZMC2-SR48DC YC-500002	
48DC	IZM97,99... IN97,99...	+IZMC2-SR48DC YC-300002	
110-125 DC 110-127 AC	IZM97,99... IN97,99...	IZMC2-SR110AD YC-500003	
110-125 DC 110-127 AC	IZM97,99... IN97,99...	+IZMC2-SR110AD YC-300003	
220-250 DC 208-240 AC	IZM97,99... IN97,99...	IZMC2-SR230AD YC-500004	
220-250 DC 208-240 AC	IZM97,99... IN97,99...	+IZMC2-SR230AD YC-300004	

Closing releases



Undervoltage Release

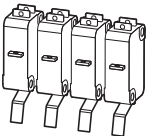
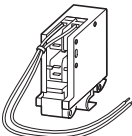
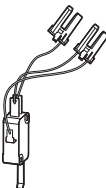
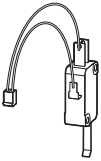
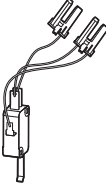
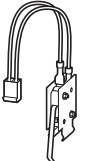
	Rated control voltage U_s V	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device	Instructions
Undervoltage release Can not be used in combination With 2nd shunt release 	24 V DC	IZM91... IN91...	IZMC1-UVR24DC-2 YC-500180	If ordered separately for upgrade, need to order 1 separate for the control secondary terminal block
	24 V DC	IZM91... IN91...	+IZMC1-UVR24DC YC-305020	
	48 V DC	IZM91... IN91...	IZMC1-UVR48DC-2 YC-500181	
	48 V DC	IZM91... IN91...	+IZMC1-UVR48DC YC-305021	
	110 - 125 V AC/DC	IZM91... IN91...	IZMC1-UVR110AD-2 YC-500182	
	110 - 125 V AC/DC	IZM91... IN91...	+IZMC1-UVR110AD YC-305022	
	220 - 240 V AC/DC	IZM91... IN91...	IZMC1-UVR220AD-2 YC-500183	
	220 - 240 V AC/DC	IZM91... IN91...	+IZMC1-UVR220AD YC-305023	
	380-415V AC	IZM91... IN91...	IZMC1-UVR400AC-2 YC-500184	
	Undervoltage release Can not be used in combination With 2nd shunt release 	24 DC	IZM97,99... IN97,99...	
24 DC		IZM97,99... IN97,99...	+IZM-UVR24DC YC-300011	
48 DC		IZM97,99... IN97,99...	IZMC2-UVR48DC YC-500013	
48 DC		IZM97,99... IN97,99...	+IZMC2-UVR48DC YC-300013	
110-125 DC		IZM97,99... IN97,99...	IZMC2-UVR110DC YC-500014	
110-125 DC		IZM97,99... IN97,99...	+IZMC2-UVR110DC YC-300014	
220-250 DC		IZM97,99... IN97,99...	IZMC2-UVR220DC YC-500015	
220-250 DC		IZM97,99... IN97,99...	+IZMC2-UVR220DC YC-300015	
110-127 AC		IZM97,99... IN97,99...	IZMC2-UVR110AC YC-500016	
110-127 AC		IZM97,99... IN97,99...	+IZMC2-UVR110AC YC-300016	
208-240 AC		IZM97,99... IN97,99...	IZMC2-UVR230AC YC-500017	
208-240 AC		IZM97,99... IN97,99...	+IZMC2-UVR230AC YC-300017	
380-415 AC		IZM97,99... IN97,99...	IZMC2-UVR400AC YC-500018	
Time-delay module In use with undervoltage module. Time setting: 0.1s, 0.5s, 1.0s, 2.0s.		120 AC	IZM91... IN91...	IZMC1-UVR-TD-120AC YC-500205
	230 AC	IZM91... IN91...	IZMC1-UVR-TD-230AC YC-500206	
	120 AC	IZM97,99... IN97,99...	IZMC2-UVR-TD-120AC YC-500100	
	230 AC	IZM97,99... IN97,99...	IZMC2-UVR-TD-230AC YC-500101	

Notes: Please indicate "factory install" when placing order, if the 380-415 VAC undervoltage release is to be installed by the factory.

New Generation Air Circuit Breaker IZM9

Circuit Breaker Accessories


Auxiliary Contacts

	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device	Notes	
	Auxiliary contact 2 ONs and 2 OFFs are supplied as standard. IZM91: Two additional changeover contacts possible.			
	Additionally 2 NO / NC contacts	IZM91... IN91...	IZMC1-AS22-16-2 YC-500188	Same for changeover contacts of No.1&2 or No.3&4
	Auxiliary contact 4 ONs and 4 OFFs are supplied as standard IZM97 and IZM 99 a maximum of 8 ONs and 8 OFFs available (with additional AS44-1, 2nd group), 12 ONs and 12 OFFs (with additional 2 AS44, 2nd and 3rd group)			
	4CO	IZM97,99... IN97,99...	IZMC2-AS44-2 YC-500034	2nd group auxiliary 4 ONs and 4 OFFs
	4CO	IZM97,99... IN97,99...	+IZMC2-AS44 YC-300034	Additional 2nd group auxiliary 4 ONs and 4 OFFs
	4CO	IZM97,99... IN97,99...	IZMC2-AS44-3 YC-500035	3rd group auxiliary 4 ONs and 4 OFFs
	4CO	IZM97,99... IN97,99...	+IZMC2-AS88 YC-300035	Additional 2nd and 3rd group auxiliary 8 ONs and 8 OFFs
	Latch check switch Latch check switch = latch check signal with 1 convertible contact (1CO)			
	-	IZM91... IN91...	IZMC1-LCS-2 YC-500186	For external signal
	-	IZM91... IN91...	+IZMC1-LCS YC-305039	
	-	IZM91... IN91...	IZMC1-LCS-SR-2 YC-500187	For connection to closing release
	-	IZM91... IN91...	+IZMC1-LCS-SR YC-305040	
	-	IZM97,99... IN97,99...	IZMC2-LCS YC-500037	For external signal
	-	IZM97,99... IN97,99...	+IZMC2-LCS YC-300037	
	-	IZM97,99... IN97,99...	IZMC2-LCS-SR YC-500036	For connection to closing release
	-	IZM97,99... IN97,99...	+IZMC2-LCS-SR YC-300036	

Notes: Accessories attached to the secondary terminals, if ordered separately for upgrade, need to order the corresponding number of separate secondary terminal blocks.

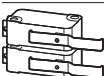
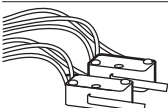
Collapsible Hand Lever

Standard Omega shaped handle is included in D/O breaker.

	For use with	Part no. Article no.	Notes	
	-	IZM91... IN91...	IZMC1-LT16-2 YC-500204	Handle un-foldable
	-	IZM97,99... IN97,99...	IZMC2-LT YC-500136	



Trip Signal Switch

Trip signal switch (OTS)
2CO switches

	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device	Notes
	IZM91...	IZMC1-OTS16-2 YC-500163	–
	IZM91...	+IZMC1-OTS YC-305028	–
	IZM97,99...	IZMC2-OTS YC-500038	–
	IZM97,99...	+IZMC2-OTS YC-300038	–


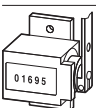
Non-Interlocked Trip Indicators

Contains mechanical trip indicator (red pin)
After tripping, no interlocking mechanism is available to avoid switching to circuit breaker
Can be used in combination with OTS.

	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device	Notes
	IZM91...	IZMC1-RA16-2 YC-500162	Instead of standard delivery.
	IZM91...	+IZMC1-RA YC-305029	
	IZM97,99...	IZMC2-RA YC-500043	
	IZM97,99...	+IZMC2-RA YC-300043	

Operation Counters

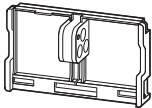
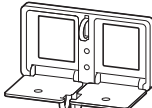

To record the number of ON-OFF operations. It can operate without a motor operator.

	For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device
	IZM91... IN91...	IZMC1-OC16-2 YC-500185
	IZM91... IN91...	+IZMC1-OC16 YC-305035
	IZM97,99 IN97,99...	IZMC2-OC YC-500039
	IZM97,99 IN97,99...	+IZMC2-OC YC-300039

New Generation Air Circuit Breaker IZM9

Circuit Breaker Accessories

Interlocking Devices

		For use with	Part no. Article no. Suffix + for ordering with circuit breaker basic device
Button cover (with optional padlock) Sealed button cover 	P = Insulated material	IZM91... IN91...	IZMC1-PLPC16-P-2 YC-500190
		IZM91... IN91...	+IZMC1-PLPC-P YC-305043
	M = Metal	IZM91... IN91...	IZMC1-PLPC16-M-2 YC-500191
		IZM91... IN91...	+IZMC1-PLPC-M YC-305041
		IZM97,99... IN97,99...	IZMC2-PLPC-P YC-500044
		IZM97,99... IN97,99...	+IZMC2-PLPC-P YC-300044
Button cover (with optional padlock) Sealed button cover 	Plastic cover, ON and OFF position button lock	IZM97,99... IN97,99...	IZMC2-PLPC-M YC-500045
		IZM97,99... IN97,99...	+IZMC2-PLPC-M YC-300045
		IZM97,99... IN97,99...	IZMC2-1L1K YC-500193
		IZM97,99... IN97,99...	IZMC1-1L1K-B YC-500194
OFF position safety lock The cylinder lock of each part are not interchangeable 	Kirk installation kit with lock cylinder and key, A type	IZM91... IN91...	IZMC1-1L1K YC-500195
		IZM91... IN91...	IZMC1-1L1K-C YC-500195
		IZM97,99... IN97,99...	IZMC2-1L1K YC-500125
		IZM97,99... IN97,99...	IZMC2-1L1K-B YC-500126
		IZM97,99... IN97,99...	IZMC2-1L1K-C YC-500127
		IZM97,99... IN97,99...	IZMC2-1L1K-D YC-500128
		IZM97,99... IN97,99...	IZMC2-1L1K-E YC-500129
		IZM97,99... IN97,99...	IZMC2-1L1K-F YC-500130
		IZM97,99... IN97,99...	+IZMC2-KLP-SO-KIRK YC-300051
		IZM97,99... IN97,99...	+IZMC2-KLP-SO-CASTELL YC-300052
		IZM97,99... IN97,99...	+IZMC2-KLP-SO-RONIS YC-300053

Notes: Factory mounting to be recommended (free mounting), with indication in the order about which type of basic device to be mounted on. Additional charge is required for onsite mounting by Eaton. For more details, please consult with Eaton sales representatives prior to ordering.

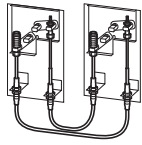
3 key locks and 2 keys
The cylinder lock and key of -B and -C are not interchangeable with IZM-3L2K

3 identical key locks, including 3 complete sets of lock frames, lock cylinders and keys

IZM97,99... IN97,99...	IZMC2-3L2K YC-500131
IZM97,99... IN97,99...	IZMC2-3L2K-B YC-500132
IZM97,99... IN97,99...	IZMC2-3L2K-C YC-500133

Notes: Factory mounting to be recommended (free mounting), with indication in the order about which type of basic device to be mounted on. Additional charge is required for onsite mounting by Eaton. For more details, please consult with Eaton sales representatives prior to ordering.

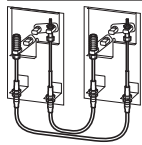
IZM91 Interlocking Devices



Type 2 requires 2 interlock mounting kits and 1 set of cables

Type 31 requires 3 interlock mounting kits and 2 sets of cables

Type 32 or 33 requires 3 interlock mounting kits and 3 sets of cables



Type 2 requires 2 interlock mounting kits and 1 set of cables

Type 31 requires 3 interlock mounting kits and 2 sets of cables

Type 32 or 33 requires 3 interlock mounting kits and 3 sets of cables

	For use with	Part no. Article no.
Mechanical interlock, drawout mounting		
Type 2, for 2 circuit-breakers: A normal power supply (A) and an emergency network supply (B).	IZM91...W IN91...W	IZMC1-MIL2C-W16-2 YC-500199
Type 31, for 3 circuit-breakers: Two normal power supplies(A, C) and an emergency network supply (B). When B in Off, A and C can be switched on. B can be switched on only when A and C are in Off.	IZM91...W IN91...W	IZMC1-MIL3133C-W16-2 YC-500200
or Type 33, for 3 circuit-breakers: Three incoming units (A, B, C), normal or emergency network. Only one of the three circuit breakers can be switched on at any one time.		
Type 32, for 3 circuit-breakers: Two normal incoming units (A, C) and one coupling (B). Any one or two circuitbreakers can be closed at the same time.	IZM91...W IN91...W	IZMC1-MIL32C-W16-2 YC-500201
Mechanical interlock, fixed mounting		
Type 2, for 2 circuit-breakers: A normal power supply (A) and an emergency network supply (B).	IZM91...F IN91...F	IZMC1-MIL2C-F16-2 YC-500196
Type 31, for 3 circuit-breakers: Two normal power supplies(A, C) and an emergency network supply (B). When B in Off, A and C can be switched on. B can be switched on only when A and C are in Off.	IZM91...F IN91...F	IZMC1-MIL3133C-F16-2 YC-500197
or Type 33, for 3 circuit-breakers: Three incoming units (A, B, C), normal or emergency network. Only one of the three circuit breakers can be switched on at any one time. Three sets of cables are required in addition.		
Type 32, for 3 circuit-breakers: Two normal incoming units (A, C) and one coupling (B). Any one or two circuitbreakers can be closed at the same time.	IZM91...F IN91...F	IZMC1-MIL32C-F16-2 YC-500198
Cable kits for mechanical interlock		
Depending on the type of interlock, a particular number of cable connectors is required. With the flexible cable connectors, various different switch arrangements can be implemented. One set contains two cables.		
1520 mm long	IZM91... IN91...	IZMC1-MIL-CAB1520-2 YC-500222
1830 mm long	IZM91... IN91...	IZMC1-MIL-CAB1830-2 YC-500223
2440 mm long	IZM91... IN91...	IZMC1-MIL-CAB2440-2 YC-500224
3050 mm long	IZM91... IN91...	IZMC1-MIL-CAB3050-2 YC-500225

New Generation Air Circuit Breaker IZM9

Circuit Breaker Accessories

IZM97/99 Interlocking Devices

	For use with	Part no. Article no.
Mechanical interlocking of fixed circuit breaker		
2 circuit breakers interlocking: 1 for normal power supply (A), 1 for emergency supply (B). It requires additional ropes.	IZM97,99...F IN97,99...F	IZMC2-MIL2C-F YC-500139
31 type, 3 circuit breakers interlocking: 2 for normal power supply (A & C), 1 for emergency supply (B). If B breaks, circuit breaker A&C can still turn off. B can turn off only when A&C breaks. It requires 2 set of ropes.	IZM97,99...F IN97,99...F	IZMC2-MIL31C-F YC-500140
32 type, circuit breakers interlocking: 2 for normal power supply (A & C), 1 for emergency supply (B). If B breaks, circuit breaker A&C can still turn off. Among the 3 circuit breakers, 1 or 2 breakers can turn off simultaneously. It requires 3 set of ropes.	IZM97,99...F IN97,99...F	IZMC2-MIL32C-F YC-500141
33 type, circuit breakers interlocking: 3 for normal power supply (A&B & C), or in the case of emergency supply, only 1 circuit breaker can turn off. It requires 3 set of ropes.	IZM97,99...F IN97,99...F	IZMC2-MIL33C-F YC-500142
Mechanical interlocking of withdrawable circuit breaker		
2 circuit breakers interlocking: 1 for normal power supply (A), 1 for emergency supply (B). It requires additional ropes.	IZM97,99...W IN97,99...W	IZMC2-MIL2C-W YC-500143
31 type, 3 circuit breakers interlocking: 2 for normal power supply (A & C), 1 for emergency supply (B). If B breaks, circuit breaker A&C can still turn off. B can turn off only when A&C breaks. It requires 2 set of ropes.	IZM97,99...W IN97,99...W	IZMC2-MIL31C-W YC-500144
32 type, circuit breakers interlocking: 2 for normal power supply (A & C), 1 for emergency supply (B). If B breaks, circuit breaker A&C can still turn off. Among the 3 circuit breakers, 1 or 2 breakers can turn off simultaneously. It requires 3 set of ropes.	IZM97,99...W IN97,99...W	IZMC2-MIL32C-W YC-500145
33 type, circuit breakers interlocking: 3 for normal power supply (A&B & C), or in the case of emergency supply, only 1 circuit breaker can turn off. It requires 3 set of ropes.	IZM97,99...W IN97,99...W	IZMC2-MIL33C-W YC-500146
Cable kits for mechanical interlock		
Depending on the type of interlock, a particular number of cable connectors is required. With the flexible cable connectors, various different switch arrangements can be implemented. One set contains two cables.		
1520 mm long	IZM97,99... IN97,99...	IZMC2-MIL-CAB1520 YC-500147
1830 mm long	IZM97,99... IN97,99...	IZMC2-MIL-CAB1830 YC-500148
2440 mm long	IZM97,99... IN97,99...	IZMC2-MIL-CAB2440 YC-500149
3050 mm long	IZM97,99... IN97,99...	IZMC2-MIL-CAB3050 YC-500150

2-line interlocking logic

A	B
0	0
1	0
0	1

31 type interlocking logic

A	B	C
0	0	0
1	0	0
1	0	1
0	0	1
0	1	0


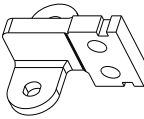
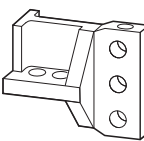
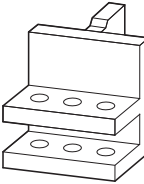
32 type interlocking logic

A	B	C
0	0	0
1	0	0
0	1	0
0	0	1
1	1	0
0	1	1
1	0	1

33 type interlocking logic

A	B	C
0	0	0
1	0	0
0	1	0
0	0	1

Main terminal component adapter

Connection	Rated Current I_n A	Rated ultimate switching capacity I_{cu} KA	Pole	For use with	Part no. Article no.	
Vertical connection by fixed or withdrawable circuit breaker						
	Universal connection horizontal, vertical	630-1600	≤ 66	3	IZM91... IN91...	IZMC1-THV163-2* YC-305051
	Universal connection horizontal, vertical	630-1600	≤ 66	3	IZM91... IN91...	IZMC1-THV163-2^(ordered separately) YC-500211
	Universal connection horizontal, vertical	630-1600	≤ 66	4	IZM91... IN91...	IZMC1-THV164-2* YC-305052
	Universal connection horizontal, vertical	630-1600	≤ 66	4	IZM91... IN91...	IZMC1-THV164-2^(ordered separately) YC-500212
Vertical Wiring Supplied as Standard on Vertical Main Wiring Terminal						
 ≤ 1600A	Connection vertical	≤ 1600	≤ 65	3	IZM97... IN97...	IZMC2-TV323B-1600 YC-500109
	Connection vertical	≤ 2000	≤ 100	3	IZM97B...20 IN97B...20 IZM97H...IN97H...	IZMC2-TV323H-2000 YC-500110
 2000A, 4000A (For double wide)	Connection vertical	2500-3200	100	3	IZM97... IN97...	IZMC2-TV323H-3200 YC-500111
	Connection vertical	≤ 1600	≤ 65	4	IZM97... IN97...	IZMC2-TV324B-1600 YC-500112
	Connection vertical	≤ 2000	≤ 100	4	IZM97B...20 IN97B...20 IZM97H...IN97H...	IZMC2-TV324H-2000 YC-500113
 2500-3200A, 5000-6300A	Connection vertical	2500-3200	100	4	IZM97... IN97...	IZMC2-TV324H-3200 YC-500114
	Connection vertical	4000	100	3	IZM99... IN99...	IZMC2-TV633H-4000 YC-500115
	Connection vertical	5000-6300	100	3	IZM99... IN99...	IZMC2-TV633H-6300 YC-500116
	Connection vertical	4000	100	4	IZM99... IN99...	IZMC2-TV634H-4000 YC-500117
	Connection vertical	5000-6300	100	4	IZM99... IN99...	IZMC2-TV634H-6300 YC-500118

Notes: *For ordering with circuit breaker basic device.

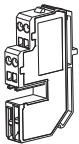
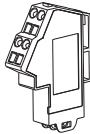
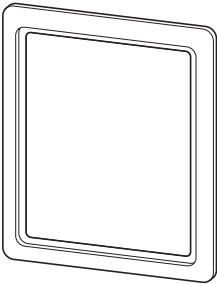
Standard frame
6 pcs for 3P, 8 pcs for 4P

For double wide
12 pcs for 3P, 16 pcs for 4P

New Generation Air Circuit Breaker IZM9

Circuit Breaker Accessories

Other Accessories

		Rated control voltage U_s V	For use with	Part no. Article no.
Control circuit wiring terminal for withdrawable circuit breakers				
The number of secondary terminals to be purchased separately depends on the type of accessories to be mounted separately. For the exact number, please refer to wiring diagrams.				
	Secondary terminal, 8	–	IZM91 IN91...	IZMC1-SEC-TB8-W-2 YC-500216
	Secondary terminal, 20	–	IZM91 IN91...	IZMC1-SEC-TB20-W-2 YC-500217
	Secondary terminal, 30	–	IZM91 IN91...	IZMC1-SEC-TB30-W-2 YC-500218
	Secondary terminal, 8	–	IZM97,99 IN97,99...	IZMC2-SEC-TB8-W-2 YC-500103
	Secondary terminal, 20	–	IZM97,99 IN97,99...	IZMC2-SEC-TB20-W-2 YC-500104
	Secondary terminal, 30	–	IZM97,99 IN97,99...	IZMC2-SEC-TB30-W-2 YC-500105
Control circuit wiring terminal for fixed circuit breakers				
The number of secondary terminals to be purchased separately depends on the type of accessories to be mounted separately. For the exact number, please refer to wiring diagrams.				
	Secondary terminal, 8	–	IZM91 IN91...	IZMC1-SEC-TB8-F-2 YC-500219
	Secondary terminal, 20	–	IZM91 IN91...	IZMC1-SEC-TB20-F-2 YC-500220
	Secondary terminal, 30	–	IZM91 IN91...	IZMC1-SEC-TB30-F-2 YC-500221
	Secondary terminal, 8	–	IZM97,99 IN97,99...	IZMC2-SEC-TB8-F-2 YC-500106
	Secondary terminal, 20	–	IZM97,99 IN97,99...	IZMC2-SEC-TB20-F-2 YC-500107
	Secondary terminal, 30	–	IZM97,99 IN97,99...	IZMC2-SEC-TB30-F-2 YC-500108
IP31 door escutcheon				
Door escutcheon is supplied as standard with circuit breaker basic device / cassette.				
		–	IZM91 IN91...	IZMC1-DEG16-W-2 YC-500203
		–	IZM97,99 IN97,99...	IZMC2-DEG YC-500137
IP54 protection cover				
		–	IZM91 IN91...	IZMC1-DC40-W-2 YC-500214
		–	IZM97,99 IN97,99...	IZMC2-DC YC-500138

Technical Data

		IZMC2-PCAM-2	IZMC2-MCAM-2	IZMC2-ECAM-2
General				
Size (W × H × D)	mm	24 x 105 x 80	24 x 105 x 80	24 x 105 x 80
Mounting		35mm DIN rail (top hat rail)	35mm DIN rail (top hat rail)	35mm DIN rail (top hat rail)
Protection type		IP20	IP20	IP20
Power supply	V DC	24 V DC	24 V DC	24 V DC
LED indicator		Status	Status	Status
		SF	Transmit	
		BF	Receive	
Network				
Ethernet		–	–	RJ45 socket
PROFIBUS		SUB-D type 9 pole socket	–	–
Modbus		–	Plug type wiring terminal	–
Function		Submodule	Sub module	TCP/IP user
Interface		RS485	RS485	Ethernet
Protocol		PROFIBUS DP	Modbus-RTU	Modbus TCP, http(s), SMTP
Baud rate		Automatic search up to 12 MBit/s	1200/4800/9600/19200 baut/S, adjustable via trip units	100MBit/s self-adjustable
Bus end resistance		Plug into socket based on requirements	121Ω, switch on/off externally	
Bus address		1 - 127, adjustable via trip units	1 - 127, adjustable via trip units	IP, adjustable via trip units
Maximum distance		2.4 km	1.2 km	100 m
Supported functions		Periodic data transmission	Periodical data transmission 03=read register 04=read word variable 08=connection test 16=write register	Web server

New Generation Air Circuit Breaker IZM9

Technical Data

Accessories of IZM91

		Signalling switch ON-OFF IZMC1-AS22...	Tripped signalling contact IZMC1-OTS...	Latch Check Switch IZMC1-LCS...(SR)	Cell switch IZMC1-CS...
Rated breaking capacity					
Inductive load					
250 V AC	A	10	10	10	10
125 V DC	A	0.5	0.5	0.5	0.5
250 V DC	A	0.25	0.25	0.25	0.25

Accessories of IZM91

			Shunt releases				Closing releases			
			IZMC1- ST(S)24DC	IZMC1- ST(S)48DC	IZMC1- ST(S)110AD	IZMC1- ST(S)230AD	IZMC1- SR24DC	IZMC1- SR48DC	IZMC1- SR110AD	IZMC1- SR230AD
Rated control voltage										
AC 50/60 Hz	U _s	V	–	–	110 - 127	208 - 240	–	–	110 - 127	208 - 240
DC	U _s	V	24	48	110 - 125	208 - 250	24	48	110 - 125	220 - 250
Power consumption										
AC	VA		–	–	5 (540 pick-up)	5 (500 pick-up)	–	–	(450 pick-up)	(450 pick-up)
DC	W		5 (500 pick-up)	5 (530 pick-up)	5 (540 pick-up)	5 (515 pick-up)	(400 pick-up)	(500 pick-up)	(450 pick-up)	(450 pick-up)
Circuit-breaker response time at U_s	ms		25	25	25	25	25	25	25	25
Operating range										
Drop-out voltage										
AC operated, 50/60 Hz, pick-up	Dropout	× U _c	–	–	–	–	–	–	–	–
Pick-up voltage	Pick-up	× U _c	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1

Accessories of IZM91

			Undervoltage releases				
			IZMC1-UVR24DC	IZMC1-UVR48DC	IZMC1-UVR110AD	IZMC1-UVR220AD	IZMC1-UVR400AC
Rated control voltage							
AC 50/60 Hz	U _s	V	–	–	110 - 127	208 - 240	–
DC	U _s	V	24	48	110 - 125	208 - 250	380 - 415
Power consumption							
AC	VA		–	–	5 (500 pick-up)	5 (500 pick-up)	5 (500 pick-up)
DC	W		5 (500 pick-up)	5 (500 pick-up)	5 (500 pick-up)	5 (500 pick-up)	–
Circuit-breaker response time at U_s	ms		50	50	50	50	50
Operating range							
Drop-out voltage							
AC operated, 50/60 Hz, pick-up	Dropout	× U _c	0.35 - 0.7	0.35 - 0.7	0.35 - 0.7	0.35 - 0.7	0.35 - 0.7
Pick-up voltage	pick-up	× U _c	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1

Accessories of IZM91

			Motor operator IZMC1-M16-24DC	IZMC1-M16-48DC	IZMC1-M16-110AD	IZMC1-M16-230AD
Rated control voltage	U_s	V	24 V DC	48 V DC	110 - 127 V AC 50/60 Hz 110 - 125 V DC	220 - 240 V AC 50/60 Hz 220 - 250 V DC
Energy storing time			4 s	3 s	3 s	4 s
Rated current	I_n	A	6 A	3 A	2 A AC 50/60 Hz 1 A DC	1 A AC 50/60 Hz 1 A DC
Starting current		A	20 A	15 A	6 A AC 50/60 Hz 5 A DC	10 A AC 50/60 Hz 10 A DC
Power consumption			160 W	150 W	280 VA AC 50/60 Hz 150 W DC	280 VA AC 50/60 Hz 280 W DC

New Generation Air Circuit Breaker IZM9

Technical Data

Accessories of IZM97/IZM99

		Standard auxiliary contact IZMC2-AS...	Trip signal auxiliary contact IZMC2-OTS	Circuit breaker withdrawer position indication contact IZMC2-CS...
Rated switching capacity				
Inductive load				
250 V AC	A	10	10	10
125 V DC	A	0.5	0.5	0.5
250 V DC	A	0.25	0.25	0.25

Accessories of IZM97/IZM99

		Shunt release IZMC2-ST24DC IZMC2-ST24DC		IZMC2-ST48DC IZMC2-ST48DC	IZMC2-ST110AD IZMC2-ST110AD	IZMC2-ST230AD IZMC2-ST230AD
Rated control voltage						
AC 50/60 Hz	U_s	V	-	-	110-127	208-240
DC	U_s	V	24	48	110-125	220-250
Power consumption						
AC		VA	-	-	(pick-up 450)	(pick-up 450)
DC		W	(pick-up 250)	(pick-up 250)	(pick-up 450)	(pick-up 450)
Response time of circuit breaker		ms	35	35	35	35
Operating range						
Drop-out voltage		$\times U_c$	-			
Pick-up voltage		$\times U_c$	According to IEC standards			

Accessories of IZM97/IZM99

		Closing release IZMC2-SR24DC		IZMC2-SR48DC	IZMC2-SR110AD	IZMC2-SR230AD
Rated control voltage						
AC 50/60 Hz	U_s	V	-	-	110-127	208-240
DC	U_s	V	24	48	110-125	220-250
Power consumption						
AC		VA	-	-	(pick-up 450)	(pick-up 450)
DC		W	(pick-up 250)	(pick-up 250)	(pick-up 450)	(pick-up 450)
Response time of circuit breaker		ms	40	40	40	40
Operating range						
Drop-out voltage		$\times U_c$	-			
Pick-up voltage		$\times U_c$	According to IEC standards			

Accessories of IZM97/IZM99

			Undervoltage release			
			IZMC2-UVR24DC	IZMC2-UVR48DC	IZMC2-UVR110AC	IZMC2-UVR110DC
Rated control voltage						
AC 50/60 Hz	U _s	V	-	-	110-127	-
DC	U _s	V	24	48	-	110-125
Power consumption						
AC		VA	-	-	10 (pick-up 450)	-
DC		W	18 (pick-up 250)	18 (pick-up 250)	-	10 (pick-up 450)
Response time of circuit breaker		ms	70	70	70	70
Operating range						
Drop-out voltage		× U _c	According to IEC standards			
Pick-up voltage		× U _c	According to IEC standards			

Accessories of IZM97/IZM99

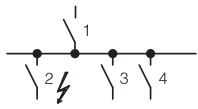
			Undervoltage release			
			IZMC2-UVR220DC	IZMC2-UVR230AC	IZMC2-UVR400AC	
Rated control voltage						
AC 50/60 Hz	U _s	V	-	208-240	380-415	
DC	U _s	V	220-250	-	-	
Power consumption						
AC		VA	-	10 (pick-up 400)	10 (pick-up 400)	
DC		W	10 (pick-up 250)	-	-	
Response time of circuit breaker		ms	70	70	70	
Operating range						
Drop-out voltage		× U _c	According to IEC standards			
Pick-up voltage		× U _c	According to IEC standards			

Accessories of IZM97/IZM99

			Motor operator					
			IZMC2-M24DC	IZMC2-M48DC	IZMC2-M110DC	IZMC2-M220DC	IZMC2-M110AC	IZMC2-M230AC
Rated control voltage								
AC 50/60 Hz	U _s	V	-	-	-	-	110-127	208-240
DC	U _s	V	24	48	110-125	220-250	-	-
Energy storing time		s	5	5	5	5	5	5
Rated current		I _n	12	5	2	1	2	1
Starting current		A	3	5	6	6	6	6
Power consumption								
AC 50/60 Hz		VA	300	250	250	250	250	250
DC		W	300	250	250	250	250	250

New Generation Air Circuit Breaker IZM9

Selectivity



- I_n Rated operational current
- I_u Rated uninterrupted current
- I_{cu} Rated short-circuit breaking capacity
- I_i Set value non-delayed short-circuit releases

Selectivity 415 V AC

Between circuit-breakers enables the separate disconnection of faulty system sections. Selectivity exists between incoming circuitbreaker 1 and outgoing circuit-breaker 2 if, only outgoing breaker 2 trips at position 2 during a short-circuit. System sections 3 and 4 remain operational.

Selection:

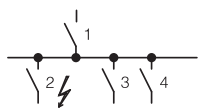
Provided that the short-circuit current does not exceed those values specified ($I_{cc\ rms}$). These details represent the limits of selectivity. Both circuit-breakers will switch off with higher short-circuit currents. On IZM circuit-breakers with V, U releases, the delay time t_{sd} must be at least 100 ms longer than the delay time of the next downstream levels (2, 3, 4).

Incoming circuit breaker (1)		Incoming circuit breaker IZM91...-V												
		I_n [A]	630	630	630	800	800	800	1000	1000	1000	1250	1250	1250
		I_{cu} [KA]	42	50	65	42	50	65	42	50	65	42	50	65
		I_i [A]	7560	7560	7560	9600	9600	9600	12000	12000	12000	15000	15000	15000
Outgoing circuit breaker (2)	I_u [A]	$I_{cu2(415V)}$ [KA]	B	N	H	B	N	H	B	N	H	B	N	H
	Prospective short circuit current ($I_{cc\ rms}$ in kA)													
PDC1F(G)(K)(M)-TAA...	16	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	20	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	25	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	32	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	40	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	50	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	63	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	80	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	100	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	125	25-50	T	T	T	T	T	T	T	T	T	T	T	T
PDC9G(K)(M)-B(D)(E)(P)...	63	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	100	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	160	36-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC2F(G)(K)(N)-TAA...	90	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	125	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	160	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	200	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	220	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	250	25-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC2G(N)(K)-B(D)(E)(P)...	160	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	200	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	250	36-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC3F(G)(K)(N)-TAA...	250	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	320	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	400	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	500	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	630	25-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC3G(N)(K)-B(D)(E)(P)...	250	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	400	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	630	36-70	-	-	-	T	T	T	T	T	T	T	T	T
PDC4F(G)(K)(N)-TAA...	800	36-70	-	-	-	-	-	-	T	T	T	T	T	
PDC4G(N)(K)-B(D)(E)(P)...	800	36-70	-	-	-	-	-	-	T	T	T	T	T	

Notes B = Basic switching capacity, N = Normal switching capacity, H = High switching capacity, T = Total selectivity

New Generation Air Circuit Breaker IZM9

Selectivity



- I_n Rated operational current
- I_u Rated uninterrupted current
- I_{cu} Rated short-circuit breaking capacity
- I_i Set value non-delayed short-circuit releases

Selectivity 415 V AC

Between circuit-breakers enables the separate disconnection of faulty system sections. Selectivity exists between incoming circuitbreaker 1 and outgoing circuit-breaker 2 if, only outgoing breaker 2 trips at position 2 during a short-circuit. System sections 3 and 4 remain operational.

Selection:

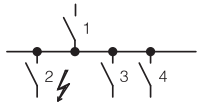
Provided that the short-circuit current does not exceed those values specified ($I_{cc\ rms}$). These details represent the limits of selectivity. Both circuit-breakers will switch off with higher short-circuit currents. On IZM circuit-breakers with V, U releases, the delay time t_{sd} must be at least 100 ms longer than the delay time of the next downstream levels (2, 3, 4).

Incoming circuit breaker (1)		Incoming circuit breaker IZM97...-V												
		I_n [A]	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1600
		I_{cu} [KA]	66	85	100	66	85	100	66	85	100	66	85	100
		I_i [A]	11200	11200	11200	14000	14000	14000	17500	17500	17500	19200	19200	19200
Outgoing circuit breaker (2)	I_u [A]	I_{cu2} (415V) [KA]	B	N	H	B	N	H	B	N	H	B	N	H
	Prospective short circuit current ($I_{cc\ rms}$ in kA)													
PDC1F(G)(K)(M) -TAA...	16	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	20	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	25	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	32	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	40	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	50	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	63	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	80	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	100	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	125	25-50	T	T	T	T	T	T	T	T	T	T	T	T
PDC9G(K)(M) -B(D)(E)(P)...	63	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	100	36-70	T	T	T	T	T	T	T	T	T	T	T	
	160	36-70	T	T	T	T	T	T	T	T	T	T	T	
PDC2F(G)(K)(N) -TAA...	90	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	125	25-70	T	T	T	T	T	T	T	T	T	T	T	
	160	25-70	T	T	T	T	T	T	T	T	T	T	T	
	200	25-70	T	T	T	T	T	T	T	T	T	T	T	
	220	25-70	T	T	T	T	T	T	T	T	T	T	T	
	250	25-70	T	T	T	T	T	T	T	T	T	T	T	
PDC2G(N)(K) -B(D)(E)(P)...	160	36-70	T	T	T	T	T	T	T	T	T	T	T	
	200	36-70	T	T	T	T	T	T	T	T	T	T		
	250	36-70	T	T	T	T	T	T	T	T	T	T		
PDC3F(G)(K)(N) -TAA...	250	25-70	T	T	T	T	T	T	T	T	T	T	T	
	320	25-70	T	T	T	T	T	T	T	T	T	T		
	400	25-70	T	T	T	T	T	T	T	T	T	T		
	500	25-70	T	T	T	T	T	T	T	T	T	T		
	630	25-70	T	T	T	T	T	T	T	T	T	T		
PDC3G(N)(K) -B(D)(E)(P)...	250	36-70	T	T	T	T	T	T	T	T	T	T		
	400	36-70	T	T	T	T	T	T	T	T	T			
	630	36-70	T	T	T	T	T	T	T	T	T			
PDC4F(G)(K)(N) -TAA...	800	36-70	-	-	-	T	T	T	T	T	T	T		
PDC3G(N)(K)	800	36-70	-	-	-	T	T	T	T	T	T	T		

Notes B = Basic switching capacity, N = Normal switching capacity, H = High switching capacity, T = Total selectivity

New Generation Air Circuit Breaker IZM9

Selectivity



- I_n Rated operational current
- I_u Rated uninterrupted current
- I_{cu} Rated short-circuit breaking capacity
- I_i Set value non-delayed short-circuit releases

Selectivity 415 V AC

Between circuit-breakers enables the separate disconnection of faulty system sections. Selectivity exists between incoming circuitbreaker 1 and outgoing circuit-breaker 2 if, only outgoing breaker 2 trips at position 2 during a short-circuit. System sections 3 and 4 remain operational.

Selection:

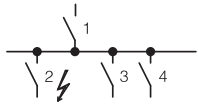
Provided that the short-circuit current does not exceed those values specified ($I_{cc\ rms}$). These details represent the limits of selectivity. Both circuit-breakers will switch off with higher short-circuit currents. On IZM circuit-breakers with V, U releases, the delay time t_{sd} must be at least 100 ms longer than the delay time of the next downstream levels (2, 3, 4).

Incoming circuit breaker (1)		Incoming circuit breaker IZM97...-U												
	I_n [A]	800	800	800	1000	1000	1000	1250	1250	1250	1600	1600	1600	
	I_{cu} [KA]	66	85	100	66	85	100	66	85	100	66	85	100	
	I_i [A]	11200	11200	11200	14000	14000	14000	17500	17500	17500	19200	19200	19200	
Outgoing circuit breaker (2)	I_u [A]	I_{cu2} (415V) [KA]	B	N	H	B	N	H	B	N	H	B	N	H
Prospective short circuit current ($I_{cc\ rms}$ in kA)														
PDC1F(G)(K)(M) -TAA...	16	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	20	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	25	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	32	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	40	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	50	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	63	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	80	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	100	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	125	25-50	T	T	T	T	T	T	T	T	T	T	T	T
PDC9G(K)(M) -B(D)(E)(P))...	63	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	100	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	160	36-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC2F(G)(K)(N) -TAA...	90	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	125	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	160	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	200	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	220	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	250	25-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC2G(N)(K) -B(D)(E)(P))...	160	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	200	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	250	36-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC3F(G)(K)(N) -TAA...	250	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	320	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	400	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	500	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	630	25-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC3G(N)(K) -B(D)(E)(P))...	250	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	400	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	630	36-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC4F(G)(K)(N) -TAA...	800	36-70	-	-	-	T	T	T	T	T	T	T	T	
PDC3G(N)(K) -B(D)(E)(P))...	800	36-70	-	-	-	T	T	T	T	T	T	T	T	

Notes B = Basic switching capacity, N = Normal switching capacity, H = High switching capacity, T = Total selectivity

New Generation Air Circuit Breaker IZM9

Selectivity



- I_n Rated operational current
- I_u Rated uninterrupted current
- I_{cu} Rated short-circuit breaking capacity
- I_i Set value non-delayed short-circuit releases

Selectivity 415 V AC

Between circuit-breakers enables the separate disconnection of faulty system sections. Selectivity exists between incoming circuitbreaker 1 and outgoing circuit-breaker 2 if, only outgoing breaker 2 trips at position 2 during a short-circuit. System sections 3 and 4 remain operational.

Selection:

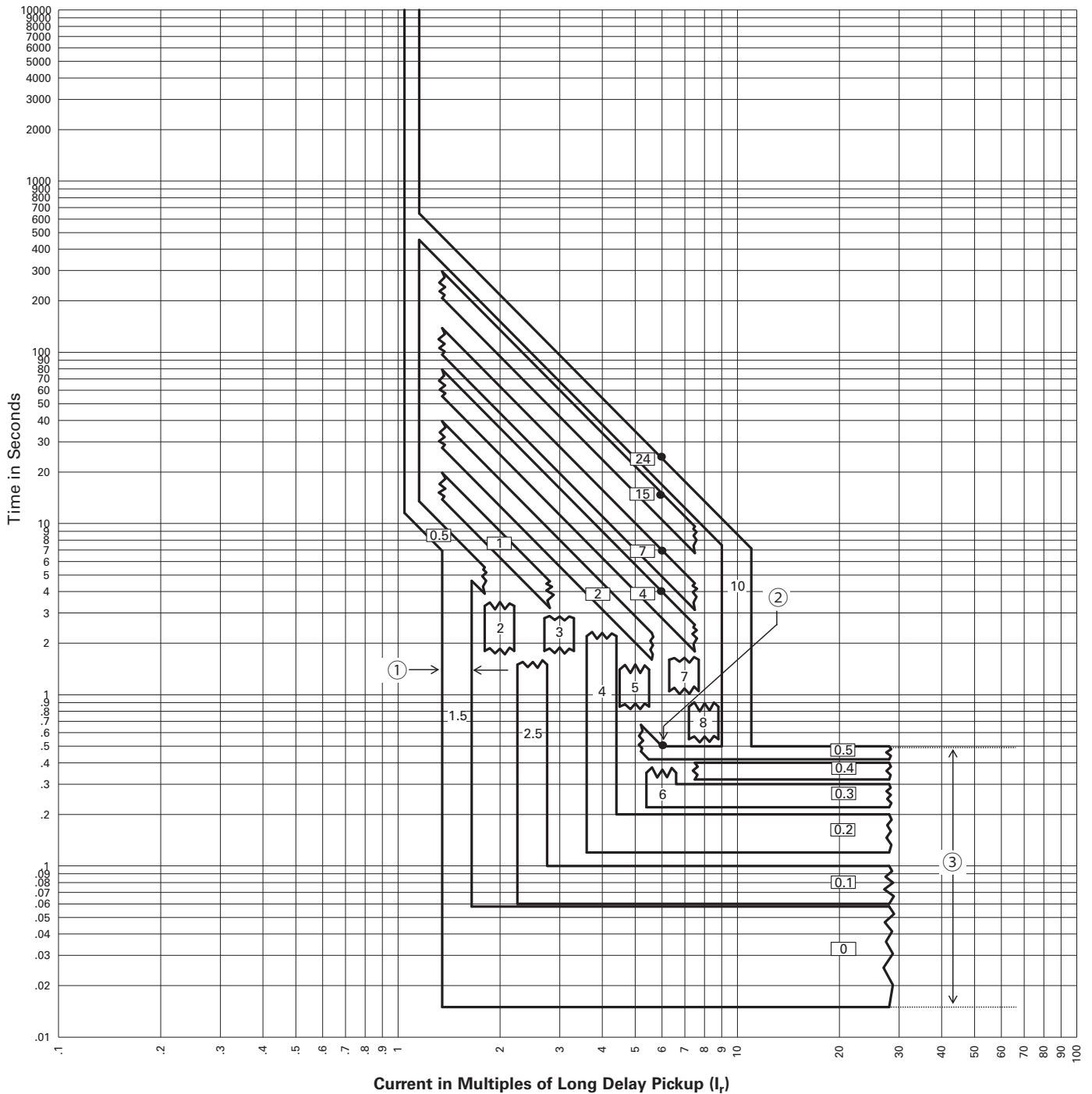
Provided that the short-circuit current does not exceed those values specified ($I_{cc\ rms}$). These details represent the limits of selectivity. Both circuit-breakers will switch off with higher short-circuit currents. On IZM circuit-breakers with V, U releases, the delay time t_{sd} must be at least 100 ms longer than the delay time of the next downstream levels (2, 3, 4).

Incoming circuit breaker (1)		IZM99...-V						IZM99...-U						
	I_n [A]	4000	4000	5000	5000	6300	6300	4000	4000	5000	5000	6300	6300	
	I_{cu} [KA]	85	100	85	100	85	100	85	100	85	100	85	100	
	I_i [A]	48000	48000	60000	60000	63000	63000	48000	48000	60000	60000	63000	63000	
Outgoing circuit breaker (2)	I_u [A]	I_{cu2} (415V) [KA]	N	H	N	H	N	H	N	H	N	H	N	H
Prospective short circuit current ($I_{cc\ rms}$ in kA)														
PDC1F(G)(K)(M) -TAA...	16	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	20	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	25	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	32	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	40	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	50	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	63	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	80	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	100	25-50	T	T	T	T	T	T	T	T	T	T	T	T
	125	25-50	T	T	T	T	T	T	T	T	T	T	T	T
PDC9G(K)(M) -B(D)(E)(P)...	63	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	100	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	160	36-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC2F(G)(K)(N) -TAA...	90	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	125	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	160	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	200	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	220	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	250	25-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC2G(N)(K) -B(D)(E)(P)...	160	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	200	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	250	36-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC3F(G)(K)(N) -TAA...	250	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	320	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	400	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	500	25-70	T	T	T	T	T	T	T	T	T	T	T	T
	630	25-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC3G(N)(K) -B(D)(E)(P)...	250	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	400	36-70	T	T	T	T	T	T	T	T	T	T	T	T
	630	36-70	T	T	T	T	T	T	T	T	T	T	T	T
PDC4F(G)(K)(N) -TAA...	800	36-70	T	T	T	T	T	T	T	T	T	T	T	
PDC3G(N)(K) -B(D)(E)(P)...	800	36-70	T	T	T	T	T	T	T	T	T	T	T	

Notes B = Basic switching capacity, N = Normal switching capacity, H = High switching capacity, T = Total selectivity

IZM91/97/99...V(U)...PXR20/25 Long Delay(L) and Short Delay(S) Curves

L-Protection: I²t-Characteristic curve and S-Protection: Flat characteristic curve



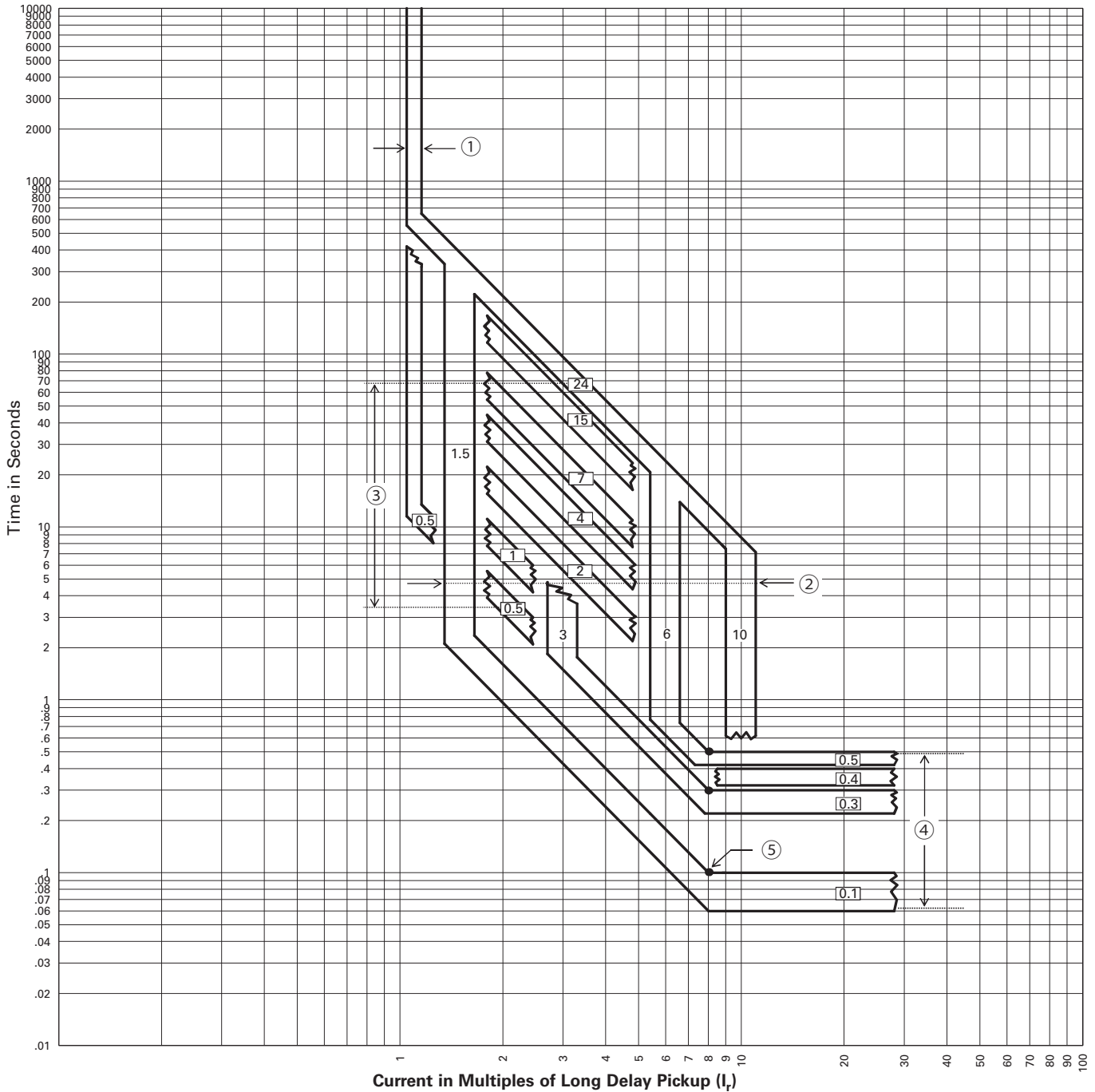
Notes:

1. Short slope: Flat, the actual pickup point has 100% ± 10% tolerance.
2. Long delay I²T slopes flattens out at 6x of I_r.
3. Short time delay from 0(50ms) to 0.5s, with +0 / -80ms tolerance except 0.1s and 0s setting
0.1s setting, trip time is 0.06s to 0.1s
0s setting, nominal clear time is 60ms with auxiliary power and 120ms without.
4. If long delay thermal memory is enabled, trip times may be shorter than indicated in this chart.
5. Curves applies from -20° C to +50° C ambient. Temperatures above +85° C will cause over temperature trip.
6. This curve is for 50Hz, 60Hz applications.
7. These curves are comprehensive for series IZM91/97/99 circuit breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current

New Generation Air Circuit Breaker IZM9

Tripping Curves

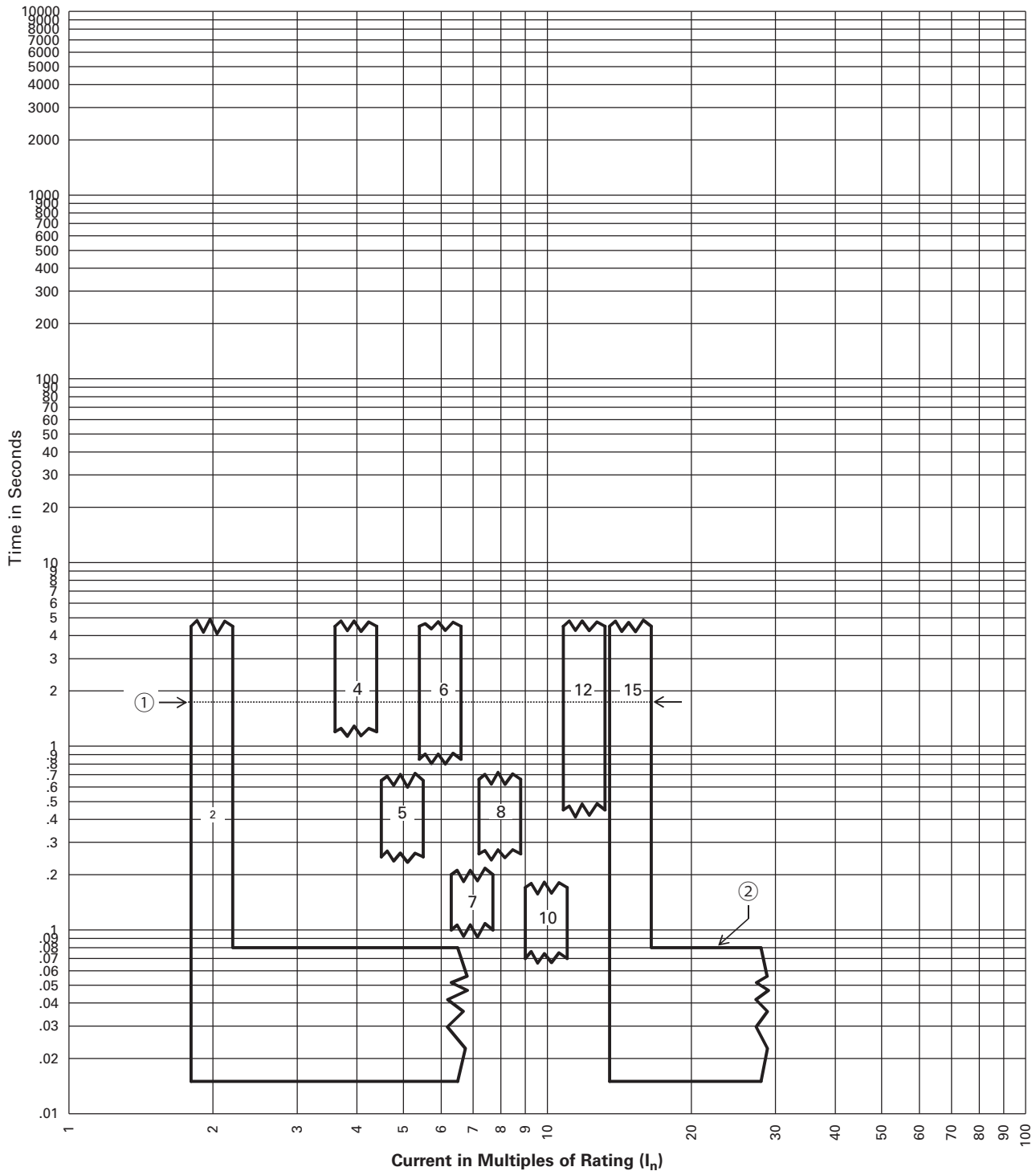
IZM91/97/99...V(U)...PXR20/25 Long Delay(L) and Short Delay(S) Curves S-Protection with: I^2t -Characteristic curve ON



Notes:

1. This curve shown as a multiple of the LONG PU setting(I_r). The actual pickup point occurs at 110% of the I_r , with $\pm 5\%$ tolerance.
2. SDPU = 1.5x to 10x of I_r , have 100% $\pm 10\%$ tolerance.
3. LD Time = 0.5s to 24s, have 100% +0 / -30% tolerance.
4. SD Slope = I^2T . The short pickup points have $\pm 10\%$ tolerance.
time setting from 0.1s to 0.5s, with steps of 0.1s, except 0.2s.
tolerance is 100% +0 / -30% except 0.1s, has tolerance 100% +0 / -40%.
5. I^2T slopes flattens out at 8x of I_r for top of band with FLAT time minimum value prevailing for bottom of band. For all curves the lower flat response time value projected to I^2T line will determine the other break point and shape of the curve.
6. If long delay thermal memory is enabled, trip times may be shorter than indicated in this chart.
7. Curves applies from -20°C to $+50^\circ\text{C}$ ambient. Temperatures above $+85^\circ\text{C}$ will cause over temperature trip.
8. This curve is for 50Hz, 60Hz applications.
9. These curves are comprehensive for series IZM91/97/99 circuit breakers including all frame sizes, ratings, and constructions.

IZM91/97/99...V(U)...PXR20/25 Instantaneous(I) Curves I-Protection: Adjustable



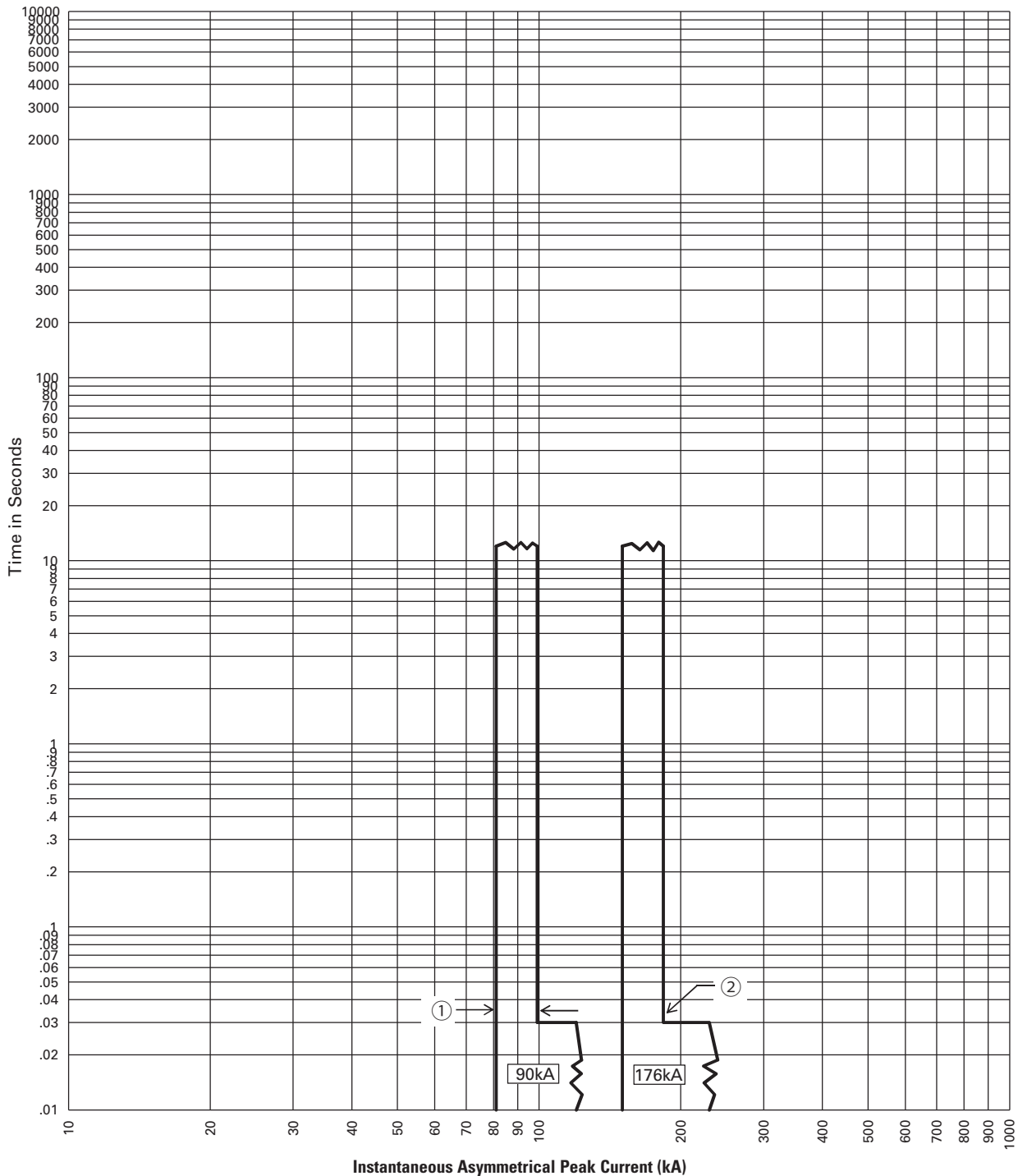
Notes:

1. The Instantaneous settings have conventional 100% \pm 10% as the pickup points.
2. The nominal Instantaneous trip time is 60ms with auxiliary power supply and 100ms without.
3. Instantaneous protection could be disabled by setting Instantaneous PU switch to OFF position.
4. The curve is shown as a multiple of the Current Rating (I_n).
5. The end of the curve is determined by the interrupting rating of the circuit breaker.
6. Curves applies from -20° C to +50° C ambient. Temperatures above +85° C will cause over temperature trip.
7. This curve is for 50Hz, 60Hz applications.
8. These curves are comprehensive for series IZM91/97/99 circuit breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current.

New Generation Air Circuit Breaker IZM9

Tripping Curves

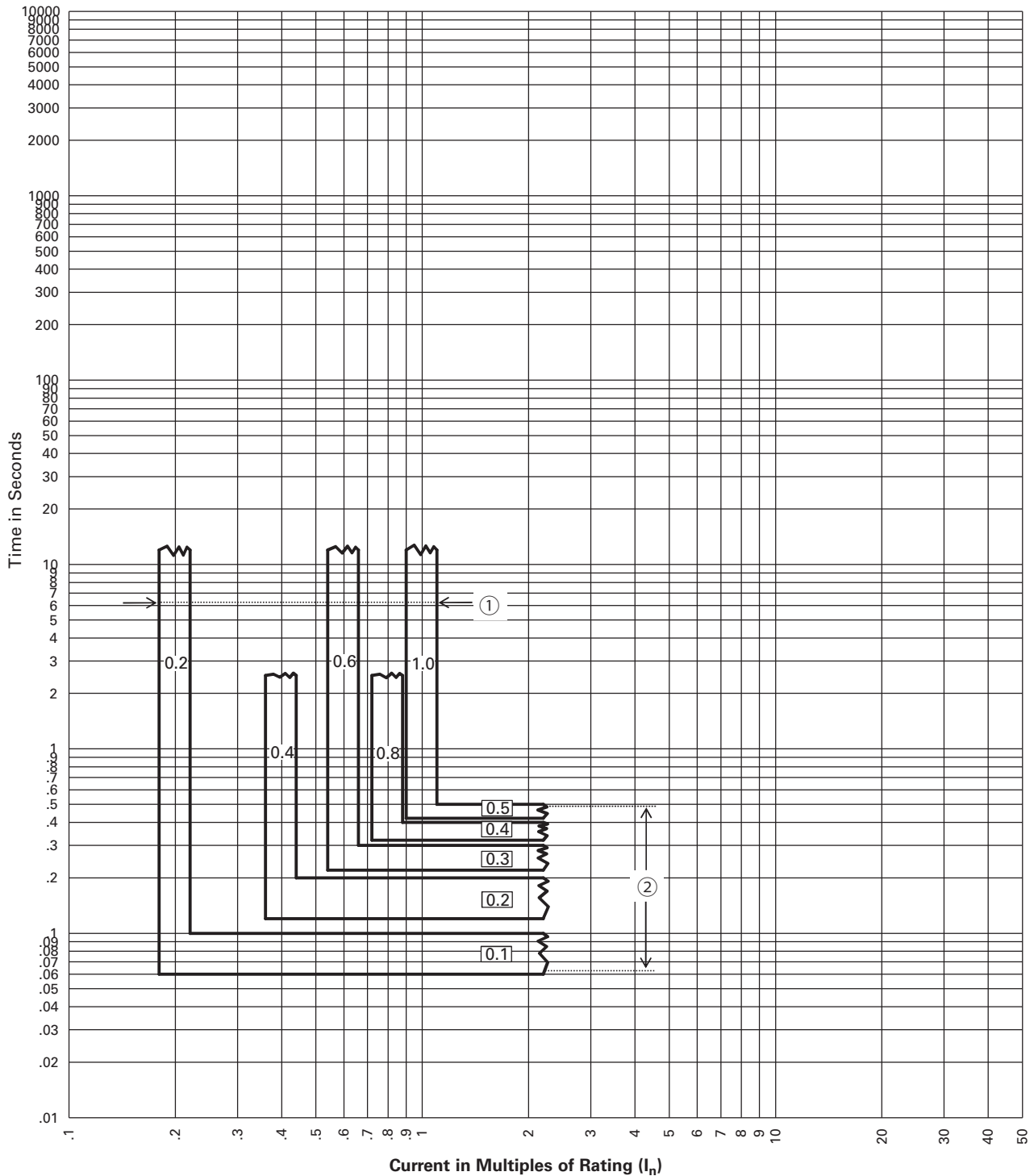
IZM91/97/99...V(U)...PXR20/25 Instantaneous(I) Curves Instantaneous Trip at High Fault Currents



Notes:

1. Fixed High Instantaneous Trip function is provided in the circuit breaker for Series IZM97 set to pickup at 90kA. Instantaneous peak current level. The tolerance is 100% \pm 10% as the pickup points.
2. The peak current level setting for IZM99 is fixed at 176kA.
3. This protection is functional even when the Instantaneous is set to the OFF position.
4. The PXR will light the Instantaneous LED for a High Instantaneous trip.
5. The total Instantaneous clearing times shown are conservative and consider the maximum response times of the trip unit, the circuit breaker opening, and the interruption of the current under factors that contribute to worst case conditions, like: maximum rated voltages, single phase interruption, and minimum power factor. Faster clearing times are possible depending on the specific system conditions, the type of circuit breaker applied, and if any arc reduction settings are employed.

IZM91/97/99...V(U)...PXR20/25 Ground(G) Curves G: Ground fault protection - Flat characteristic curve



Notes:

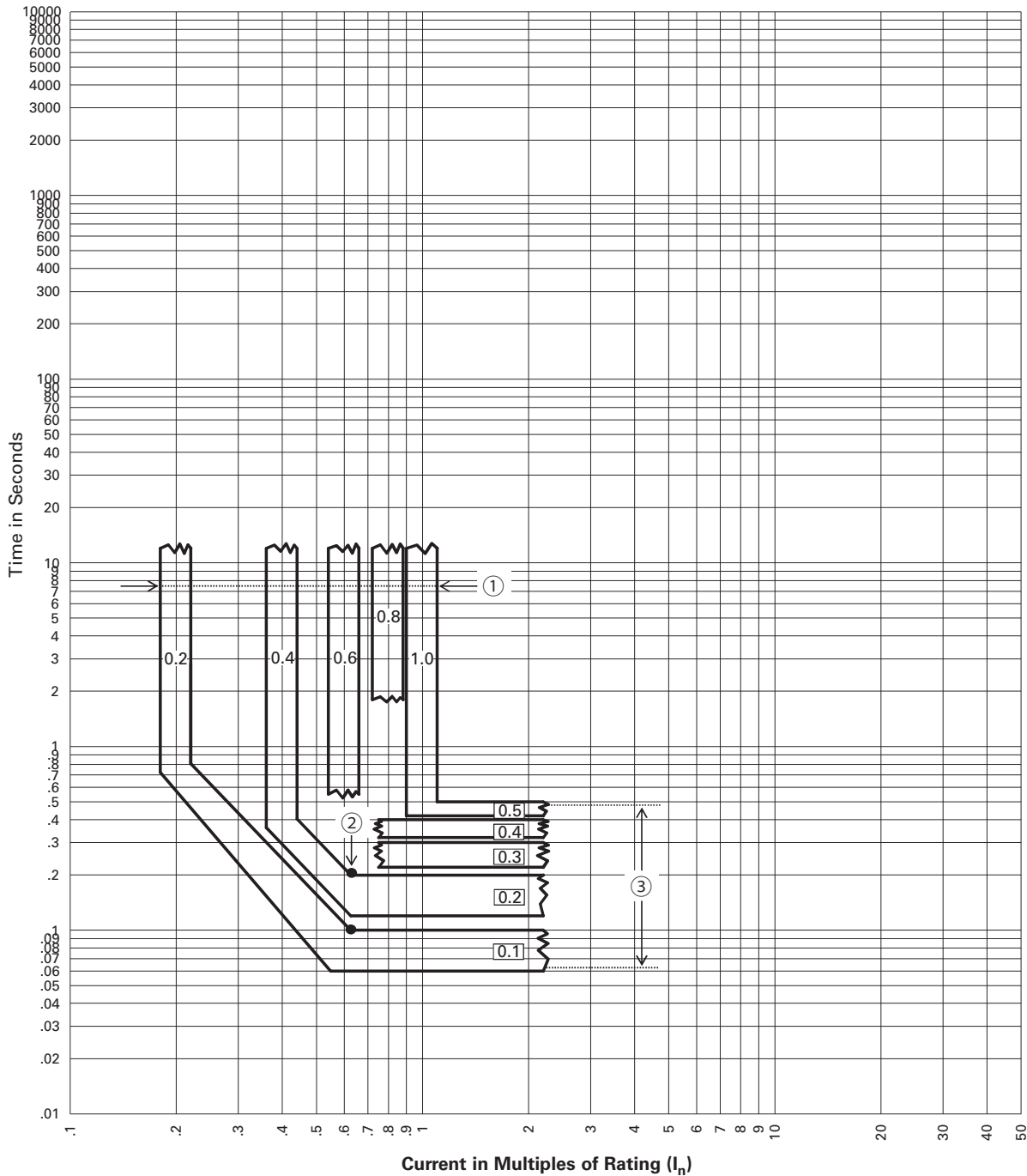
1. Ground PU setting from 0.2 to 1.0 of I_n with steps of 0.2, have tolerance of 100% \pm 10%.
2. Ground Flat time from 0.1s to 0.5s, with 0.1s increments.
3. Ground slope: Flat, trip time tolerance is +0 / -80ms for all settings except 0.1s setting is 0.06s to 0.1s.
4. The curve is shown as a multiple of the Current Rating (I_n).
5. The end of the curve is determined by the interrupting rating of the circuit breaker.
6. Curves applies from -20° C to +50° C ambient. Temperatures above +85° C will cause over temperature trip.
7. This curve is for 50Hz, 60Hz applications.
8. These curves are comprehensive for series IZM91/97/99 breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current.

New Generation Air Circuit Breaker IZM9

Tripping Curves

IZM91/97/99...V(U)...PXR20/25 Ground(G) Curves

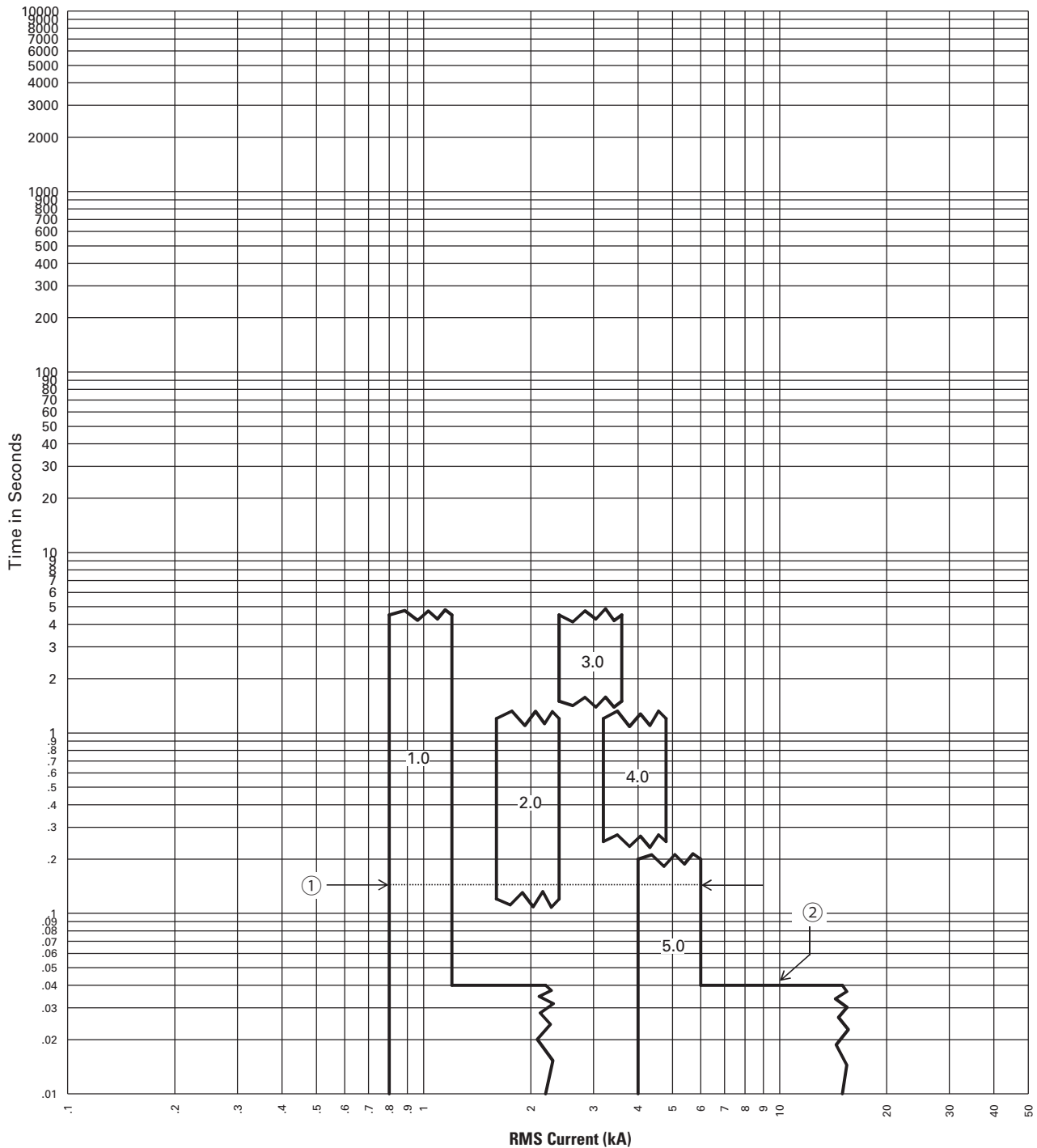
G: Ground fault protection-I²t-Characteristic curve ON



Notes:

1. Ground PU setting from 0.2 to 1.0 of I_n with steps of 0.2, have tolerance of $100\% \pm 10\%$.
2. Beak points at $0.625 \times I_n$ to flat.
3. Ground I²T time from 0.1s to 0.5s, with 0.1s increments.
4. Ground slope: Flat, trip time tolerance is $+0 / -80\text{ms}$ for all settings except 0.1s setting is 0.06s to 0.1s.
Ground slope: I²T, tolerance is
0.1s, 0.2s : $+0 / -40\%$
0.3s, 0.4s, 0.5s : $+0 / -30\%$
5. The curve is shown as a multiple of the Current Rating (I_n).
6. The end of the curve is determined by the interrupting rating of the circuit breaker.
7. Curves applies from -20°C to $+50^\circ \text{C}$ ambient. Temperatures above $+85^\circ \text{C}$ will cause over temperature trip.
8. This curve is for 50Hz, 60Hz applications.
9. These curves are comprehensive for series IZM91/97/99 circuit breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current.

IZM91...V(U)...PXR20/25 Maintenance Mode Curve Arc-flash Reduction Maintenance Mode for IZM91



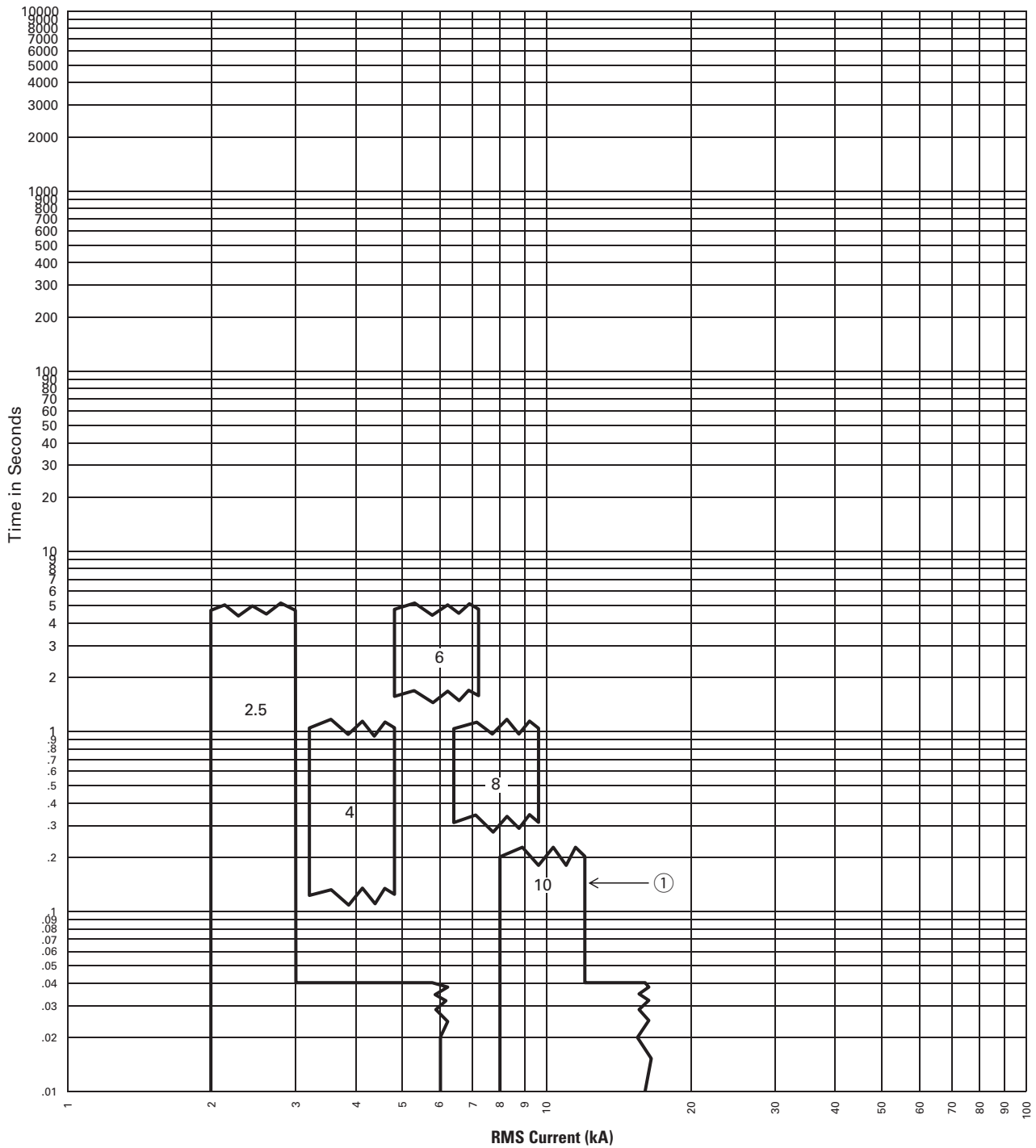
Notes:

- Nominal reduction values have a tolerance of $\pm 20\%$.
- The nominal ARMs trip time is 40ms with auxiliary power supply.
- The Maintenance Mode feature must be ENABLED via setting Maintenance Mode switch to ON position remote switch, or communications for these curves to apply.
Maintenance Mode is in use being shown by blue LED.
- The PXR will light the Instantaneous LED for a Maintenance Mode Trip.
- The end of the curve is determined by the interrupting rating of the circuit breaker.
- Curves applies from -20°C to $+50^{\circ}\text{C}$ ambient. Temperatures above $+85^{\circ}\text{C}$ will cause over temperature trip.
- This curve is for 50Hz, 60Hz applications.
- These curves are comprehensive for series IZM91 circuit breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current.

New Generation Air Circuit Breaker IZM9

Tripping Curves

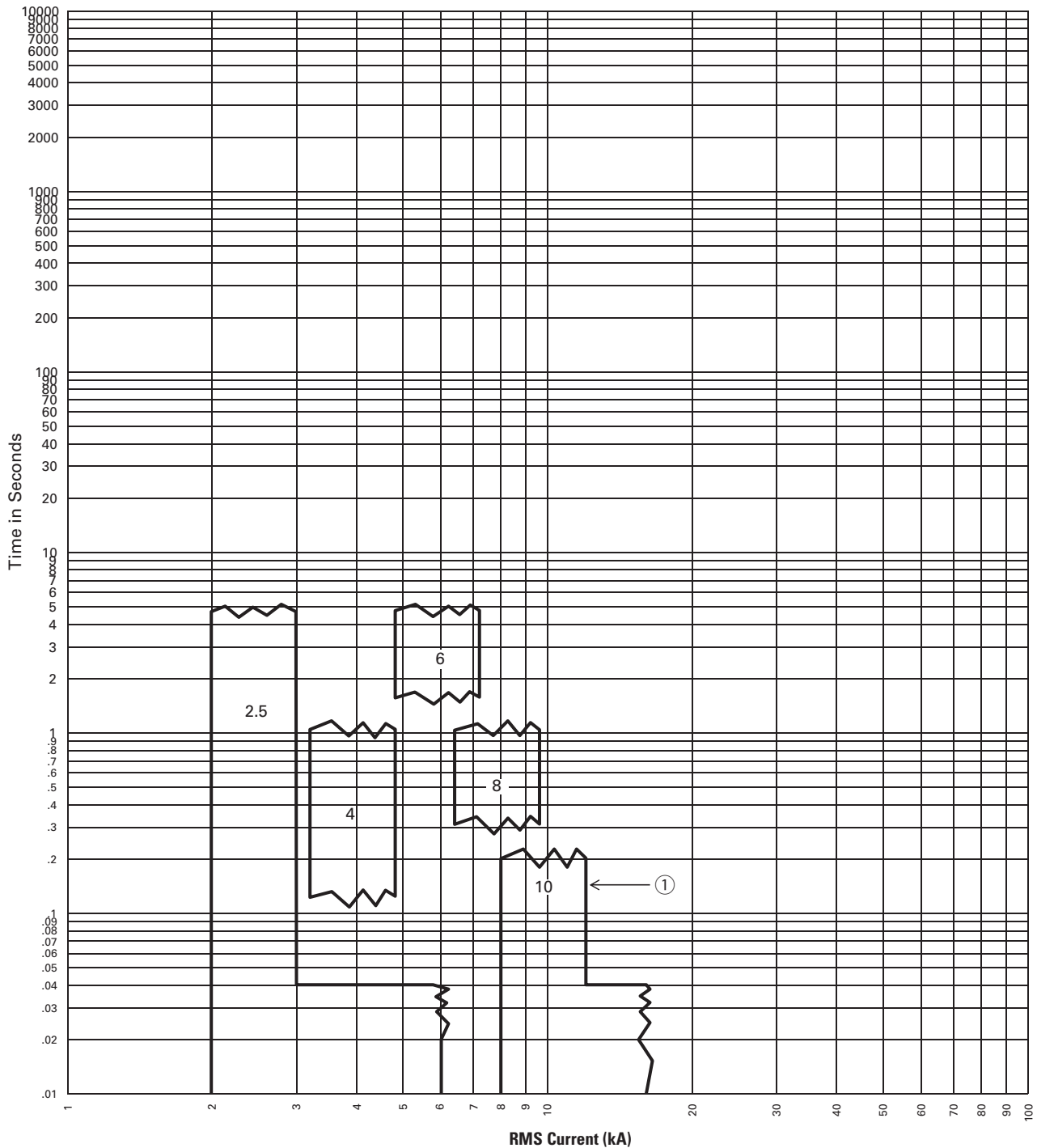
IZM97/99...V(U)...PXR20/25 Maintenance Mode Curve Arc-flash Reduction Maintenance Mode for IZM97



Notes:

- Nominal reduction values have a tolerance of $\pm 20\%$.
- The nominal ARMs trip time is 40ms with auxiliary power supply.
- The Maintenance Mode feature must be ENABLED via setting Maintenance Mode switch to ON position remote switch, or communications for these curves to apply.
Maintenance Mode is in use being shown by blue LED.
- The PXR will light the Instantaneous LED for a Maintenance Mode Trip.
- The end of the curve is determined by the interrupting rating of the circuit breaker.
- Curves applies from -20°C to $+50^{\circ}\text{C}$ ambient. Temperatures above $+85^{\circ}\text{C}$ will cause over temperature trip.
- This curve is for 50Hz, 60Hz applications.
- These curves are comprehensive for series IZM97/99 circuit breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current.

IZM97/99...V(U)...PXR20/25 Maintenance Mode Curve Arc-flash Reduction Maintenance Mode for IZM99



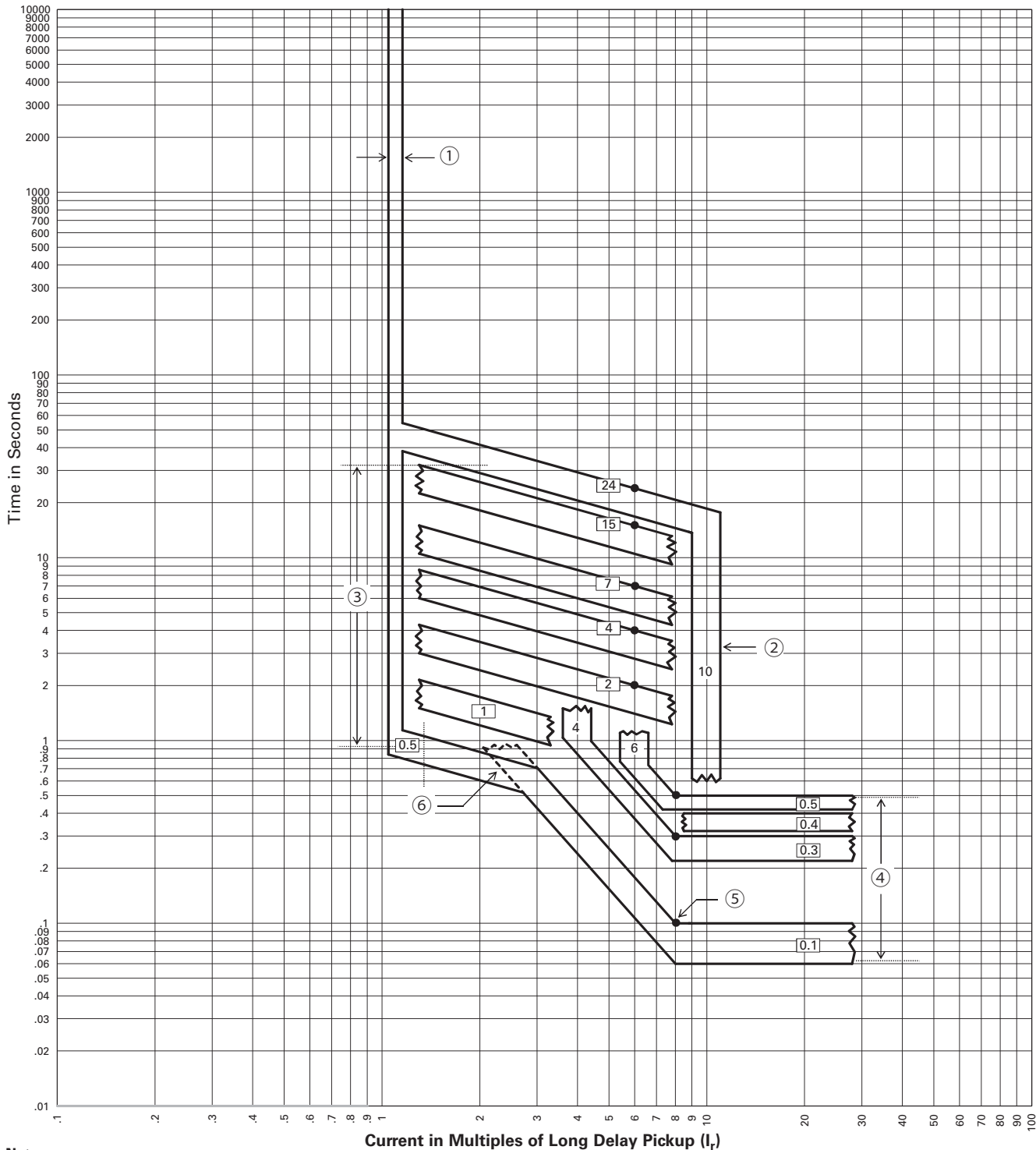
Notes:

- Nominal reduction values have a tolerance of $\pm 20\%$.
- The nominal ARMs trip time is 40ms with auxiliary power supply.
- The Maintenance Mode feature must be ENABLED via setting Maintenance Mode switch to ON position remote switch, or communications for these curves to apply.
Maintenance Mode is in use being shown by blue LED.
- The PXR will light the Instantaneous LED for a Maintenance Mode Trip.
- The end of the curve is determined by the interrupting rating of the circuit breaker.
- Curves applies from -20°C to $+50^{\circ}\text{C}$ ambient. Temperatures above $+85^{\circ}\text{C}$ will cause over temperature trip.
- This curve is for 50Hz, 60Hz applications.
- These curves are comprehensive for series IZM97/99 circuit breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current.

New Generation Air Circuit Breaker IZM9

Tripping Curves

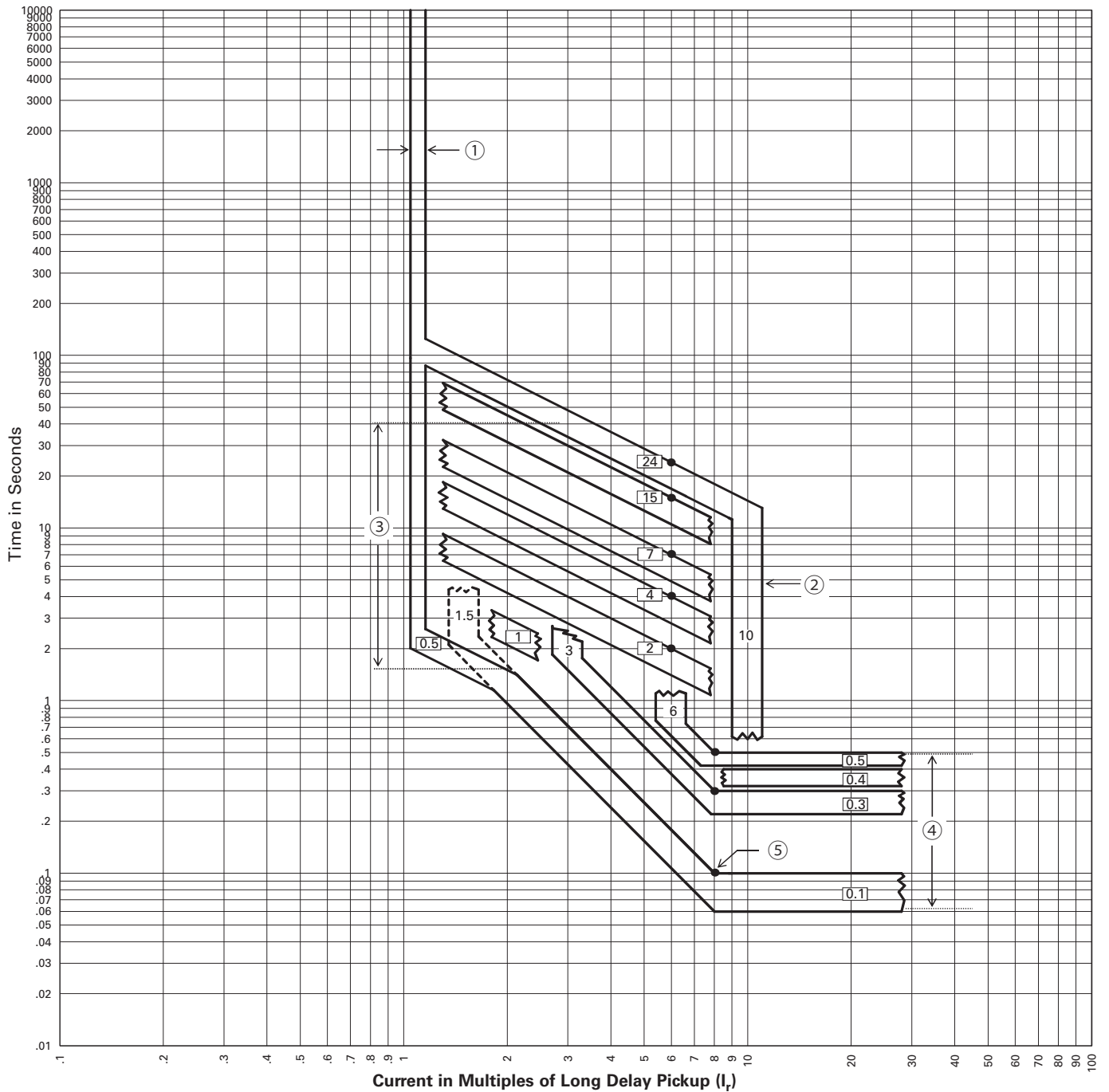
IZM91/97/99...V(U)...PXR20/25 Long Delay(L) Curves L-Protection: $I^{0.5}t$ -Characteristic curve



Notes:

1. This curve shown as a multiple of the LONG PU setting (I_r). The actual pickup point occurs at 110% of the I_r , with $\pm 5\%$ tolerance.
2. SDPU = 1.5x to 10x of I_r , have 100% $\pm 10\%$ tolerance.
3. LD Time = 0.5s to 24s, have 100% +0 / -30% tolerance.
4. SD Slope = I^2T . The short pickup points have $\pm 10\%$ tolerance. time setting from 0.1s to 0.5s, with steps of 0.1s, except 0.2s. tolerance is 100% +0 / -30% except 0.1s, has tolerance 100% +0 / -40%.
5. I^2T slopes flattens out at 8x of I_r , for top of band with FLAT time minimum value prevailing for bottom of band. For all curves the lower flat response time value projected to I^2T line will determine the other break point and shape of the curve.
6. If the short delay time is longer than long delay time, the short delay trip time will follow the long time setting.
7. If long delay thermal memory is enabled, trip times may be shorter than indicated in this chart.
8. Curves applies from -20°C to $+50^\circ\text{C}$ ambient. Temperatures above $+85^\circ\text{C}$ will cause over temperature trip.
9. This curve is for 50Hz, 60Hz applications.
10. These curves are comprehensive for series IZM91/97/99 circuit breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current.

IZM91/97/99...V(U)...PXR20/25 Long Delay(L) Curves L-Protection: I²t-Characteristic curve



Notes:

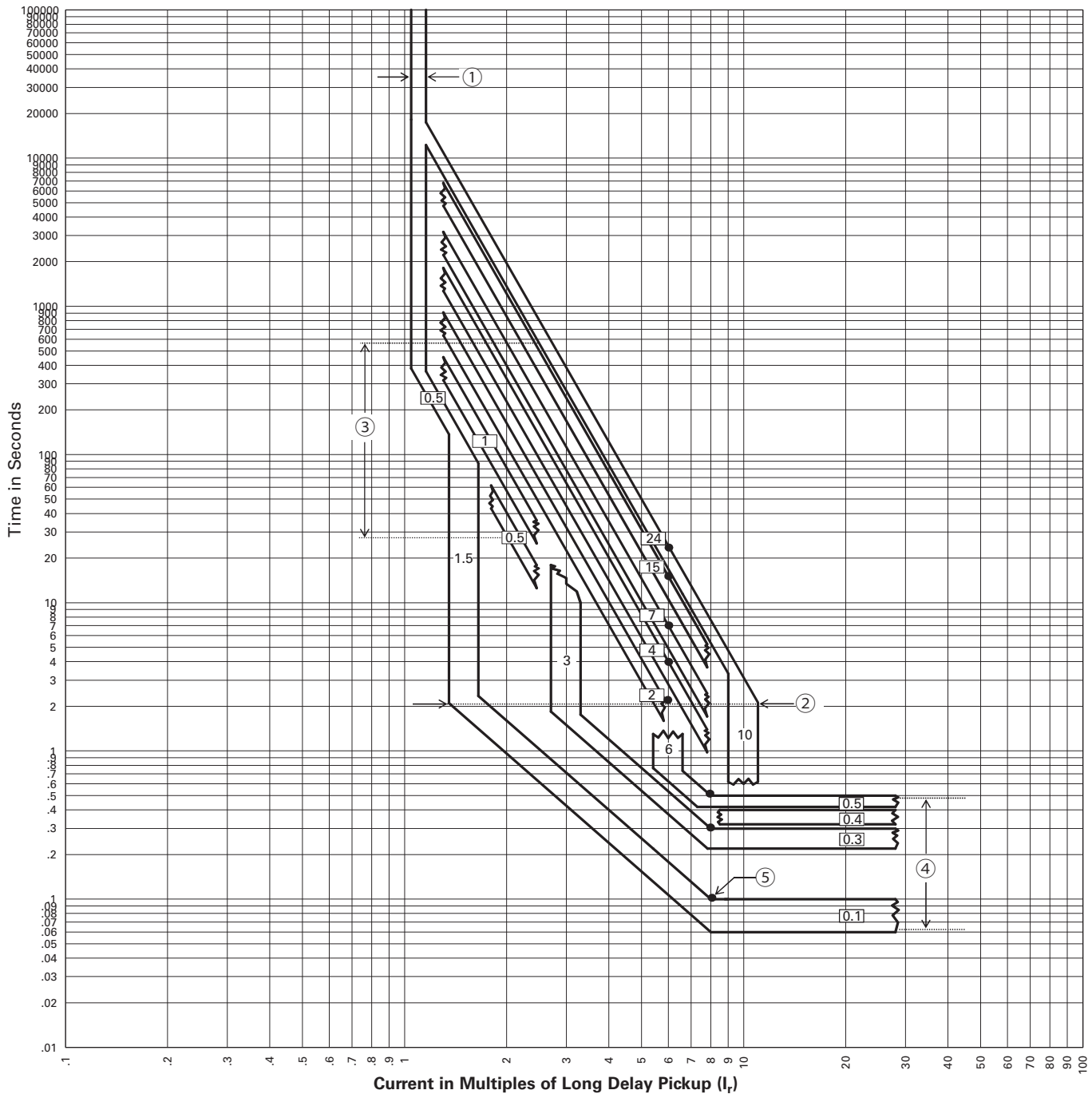
1. This curve shown as a multiple of the LONG PU setting(I_r). The actual pickup point occurs at 110% of the I_r , with $\pm 5\%$ tolerance.
2. SDPU = 1.5x to 10x of I_r , have 100% $\pm 10\%$ tolerance.
3. LD Time = 0.5s to 24s, have 100% +0 / -30% tolerance.
4. SD Slope = I^2T . The short pickup points have $\pm 10\%$ tolerance.
time setting from 0.1s to 0.5s, with steps of 0.1s, except 0.2s.
tolerance is 100% +0 / -30% except 0.1s, has tolerance 100% +0 / -40%.
5. I^2T slopes flattens out at 8x of I_r for top of band with FLAT time minimum value prevailing for bottom of band. For all curves the lower flat response time value projected to I^2T line will determine the other break point and shape of the curve.
6. If long delay thermal memory is enabled, trip times may be shorter than indicated in this chart.
7. Curves applies from -20° C to +50° C ambient. Temperatures above +85° C will cause over temperature trip.
8. This curve is for 50Hz, 60Hz applications.
9. These curves are comprehensive for series IZM91/97/99 circuit breakers including all frame sizes, ratings, and constructions.

New Generation Air Circuit Breaker IZM9

Tripping Curves

IZM91/97/99...V(U)...PXR20/25 Long Delay(L) Curves

L-Protection: I²t-Characteristic curve



Notes:

1. This curve shown as a multiple of the LONG PU setting(I_r). The actual pickup point occurs at 110% of the I_r , with $\pm 5\%$ tolerance.
2. SDPU = 1.5x to 10x of I_r , have 100% $\pm 10\%$ tolerance.
3. LD Time = 0.5s to 24s, have 100% +0 / -30% tolerance.
4. SD Slope = I²T. The short pickup points have $\pm 10\%$ tolerance.
time setting from 0.1s to 0.5s, with steps of 0.1s, except 0.2s.
tolerance is 100% +0 / -30% except 0.1s, has tolerance 100% +0 / -40%.
5. I²T slopes flattens out at 8x of I_r for top of band with FLAT time minimum value prevailing for bottom of band. For all curves the lower flat response time value projected to I²T line will determine the other break point and shape of the curve.
6. If long delay thermal memory is enabled, trip times may be shorter than indicated in this chart.
7. Curves applies from -20° C to +50° C ambient. Temperatures above +85° C will cause over temperature trip.
8. This curve is for 50Hz, 60Hz applications.
9. These curves are comprehensive for series IZM91/97/99 circuit breakers including all frame sizes, ratings, and constructions.
The total clearing times shown include the response time for trip unit, the breaker opening and the interruption of the current.

New Generation Air Circuit Breaker IZM9

Temperature and Altitude Derating Factors

Temperature Derating

	Rated Current	630A	800A	1000A	1250A	1600A
IZM91	40°C [A]	630	800	1000	1250	1600
	50°C [A]	630	800	1000	1250	1500
	60°C [A]	630	800	1000	1250	1400
	70°C [A]	630	800	1000	1250	1350

	Rated Current	800A	1000A	1250A	1600A	2000A	2500A	3200A	4000A
IZM97	40°C [A]	800	1000	1250	1600	2000	2500	3200	4000
	50°C [A]	800	1000	1250	1600	2000	2500	3100	4000
	60°C [A]	800	1000	1250	1600	2000	2500	2800	3650
	70°C [A]	800	1000	1250	1600	2000	2500	2550	3500

	Rated Current	4000A	5000A	63000A
IZM99	40°C [A]	4000	5000	6300
	50°C [A]	4000	5000	6200
	60°C [A]	4000	5000	5600
	70°C [A]	4000	5000	5100

Altitude Derating Factors

Altitude [m]	Voltage Correction	Current Correction
2000	1.000	1.000
2150	0.989	0.998
2300	0.976	0.995
2450	0.963	0.993
2600	0.950	0.990
2750	0.933	0.987
2900	0.917	0.983
3050	0.900	0.980
3200	0.883	0.977
3350	0.867	0.973
3500	0.850	0.970
3650	0.833	0.967
3800	0.817	0.963
3950	0.800	0.960
5000	0.700	0.940

Notes

IZM9 series circuit breakers can be applied at their full voltage and current ratings up to a maximum altitude of 2000 meters above sea level. When installed at higher altitudes, the ratings are subject to correction factors. Short circuit current is not affected as long as the voltage is rated in accordance with the table.

New Generation Air Circuit Breaker IZM9

Terminal Assignment of Control Circuit Terminals

IZM91 Control Circuit Terminal Assignment

1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55
ST1 +	UV1 +	OT1C	OT1B	ACCY2	N1	ALMC	ALM2	G1	+24V	ZIN	ZCOM	CMM1	CMM3	PTVA	PTVC	MODBA	MODBG	ACCY5	ACCY7	E01	SR1	C1	B1	C2	C3	B3	C4
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
ST2 -	UV2 -	OT1M	ACCY1	ACCY3	N2	ALM1	ALM3	G2	AGND	ARMSIN	ZOUT	CMM2	CMM4	PTVB	PTVN	MODBB	ACCY4	ACCY6	SC	E02	SR2	A1	B2	A2	A3	B4	A4

1, 2 - Shunt trip

3, 4 - UVR/2nd shunt trip

5~7 - Overload trip switch 1 (OTS) (5-COM, 6-N.O, 7-N.C.)

8~10 - Overload trip switch 2 (OTS) (8-N.C., 9-COM, 10-N.O.)

11,12 - External neutral sensor

13~16 - Alarm

17,18 - Ground fault source sensor

19, 20 - Control voltage supply 24VDC

21,23,24 - Zone selectivity ZSI

20,22 - ARMs

25-28 - External CAM module

29~32 - PT module

33~35 - Onboard ModBus

36 - ACCY4 (Reserved)

37~39 - Latch check switch (37-COM, 38-N.O, 39-N.C.)

40 - Message :Spring energy store tensioned

41,42 - Motor operator

43,44 - Spring closing release

45~56 - Auxiliary contact On/off, C-COM, A-N.O., B-N.C.

IZM97/99 Control Circuit Terminal Assignment

1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47
E01 +		OT1C	OT1B	OT2C	N1	ALMC	ALM2	G1	+ 24V	ZIN	ZCOM	CMM1	CMM3	PTVA	PTVC	MODB	MODG	ZCMM	ZCMM	ARCO			
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
E02 -	SC	OT1M	OT2B	OT2M	N2	ALM1	ALM3	G2	AGND	ARMS	ZOUT	CMM2	CMM4	PTVB	PTVN	MODB	ZCMM	ZCMM	ARCO	ARCO			

1, 2 - Motor operator

4 - Message :Spring energy store tensioned

5~7 - Overload trip switch 1 (OTS) (5-COM, 6-N.O, 7-N.C.)

8~10 - Overload trip switch 2 (OTS)/ (8-NC, 9-COM,10-NO)

11,12 - External neutral sensor

13~16 - Alarm

17,18 - Ground fault source sensor

19, 20 - Control voltage supply 24VDC

21, 23,24 - Zone selectivity ZSI

20,22 - ARMs

25-28 - External CAM module

29~32 - PT module

33~35 - Onboard ModBus

36~39 - External CAM module (reserved)

40~42 - ARCON(reserved)

3, 88, 95, 96, 43~48 – reserved

49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91	93	95
C1	B1	C2	C3	B3	C4	C5	B5	C6	C7	B7	C8	C9	B9	C10	C11	B11	C12	LCC	LCB	ST1	SRI	UV1+	
50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96
A1	B2	A2	A3	B4	A4	A5	B6	A6	A7	B8	A8	A9	B10	A10	A11	B12	LCM		ST2	SR2	UV2		

49~84 - Auxiliary contact (C-COM, A- NO, B-NC)

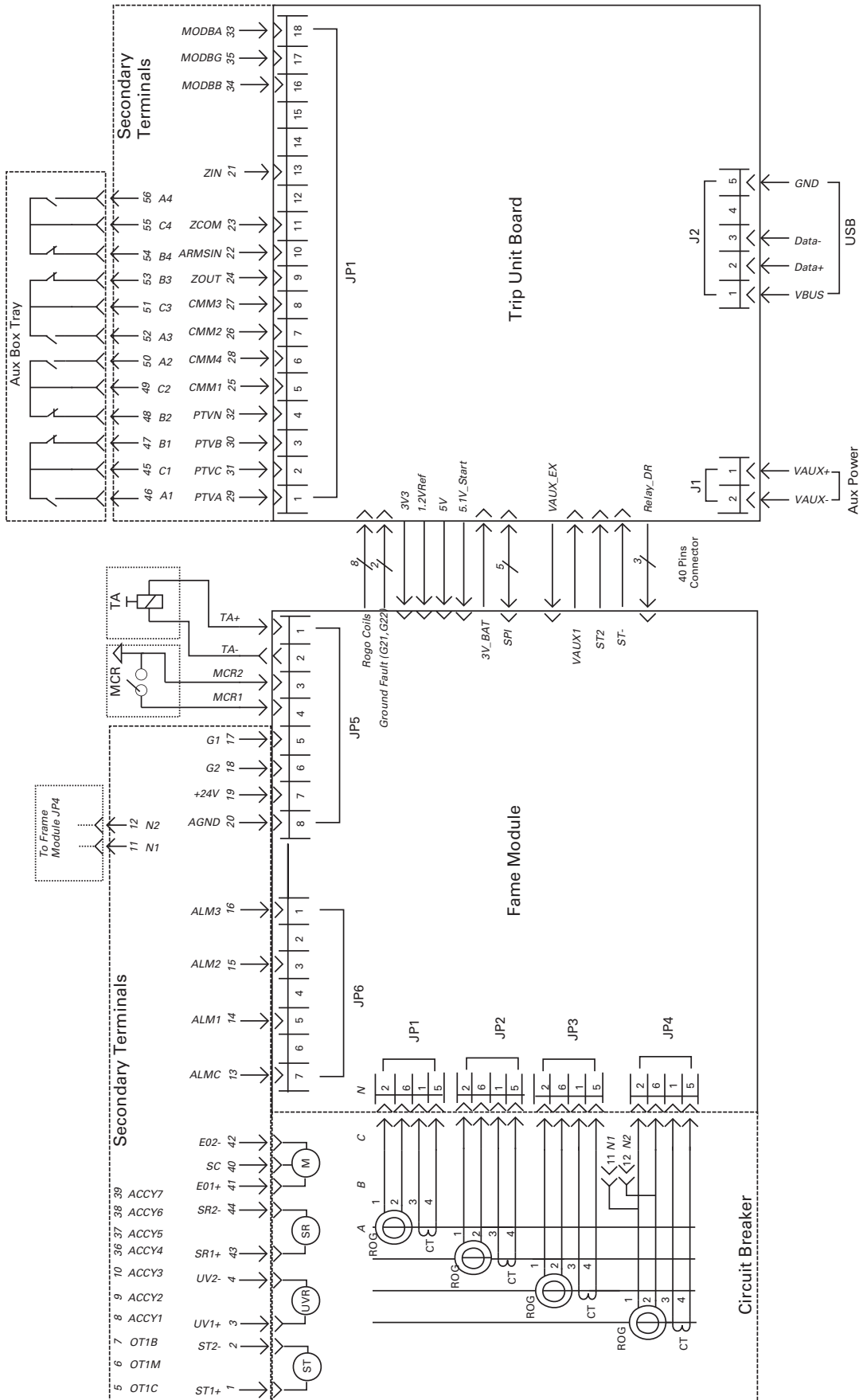
85~87 - Latch check switch (85-COM, 86-NO, 87-NC)

89, 90 - Shunt trip

91, 92- Spring closing release

93, 94 - UVR/2nd shunt trip

IZM91 control circuit internal wiring diagram

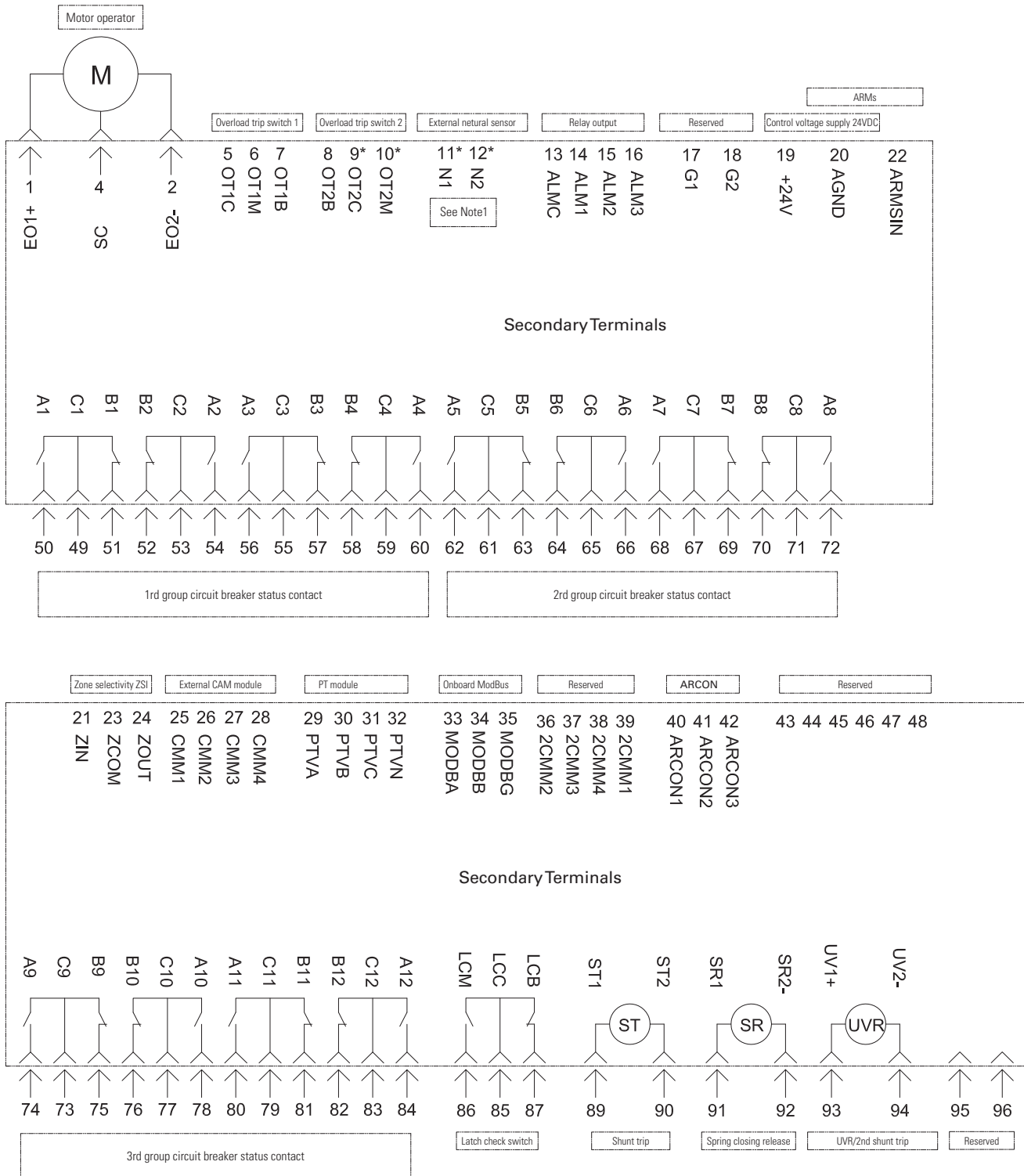


New Generation Air Circuit Breaker IZM9

Circuit breaker wiring diagram

IZM97/99 control circuit internal wiring diagram

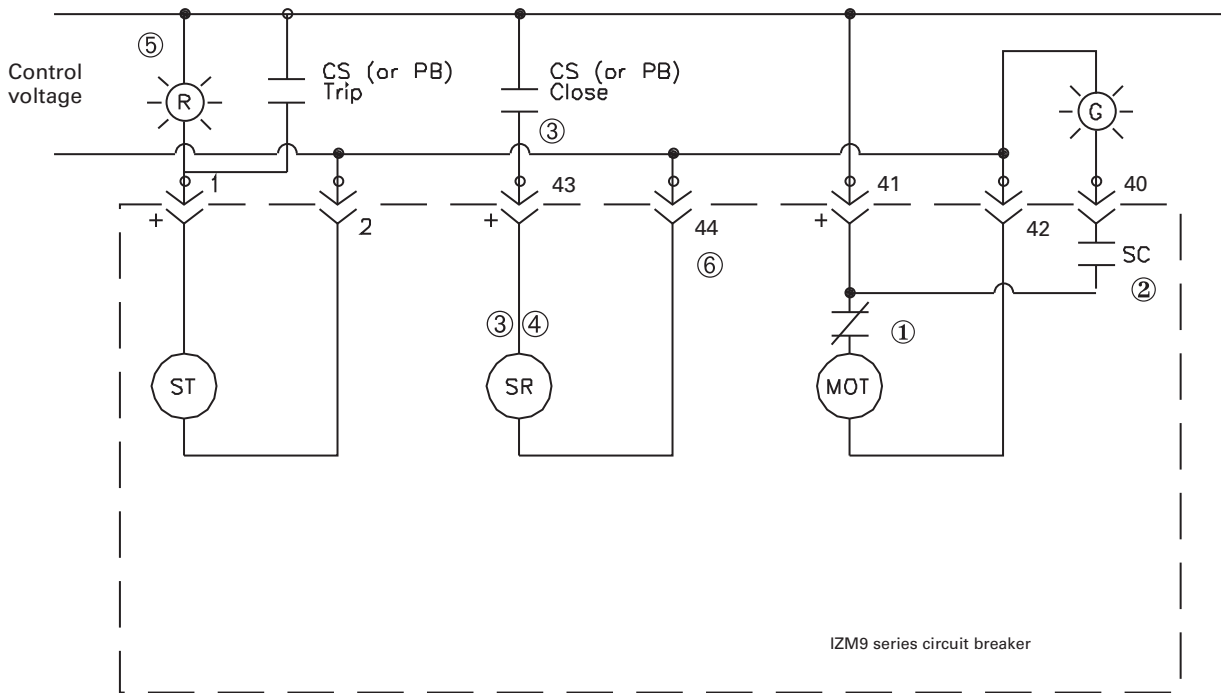
PXR20&25 wiring diagrams



Note 1:

On a 4P circuit breaker, the neutral current sensor has the same style and wiring method as the phase sensor, located within the circuit breaker frame, no need to connect the secondary terminals 11N1, 12N2

Electrical control diagram of IZM91 circuit breakers – Open/Close and motor



Legend:

MOT – Motor Operator for Charging Closing Spring

ST – Shunt Trip

SR – Spring Release

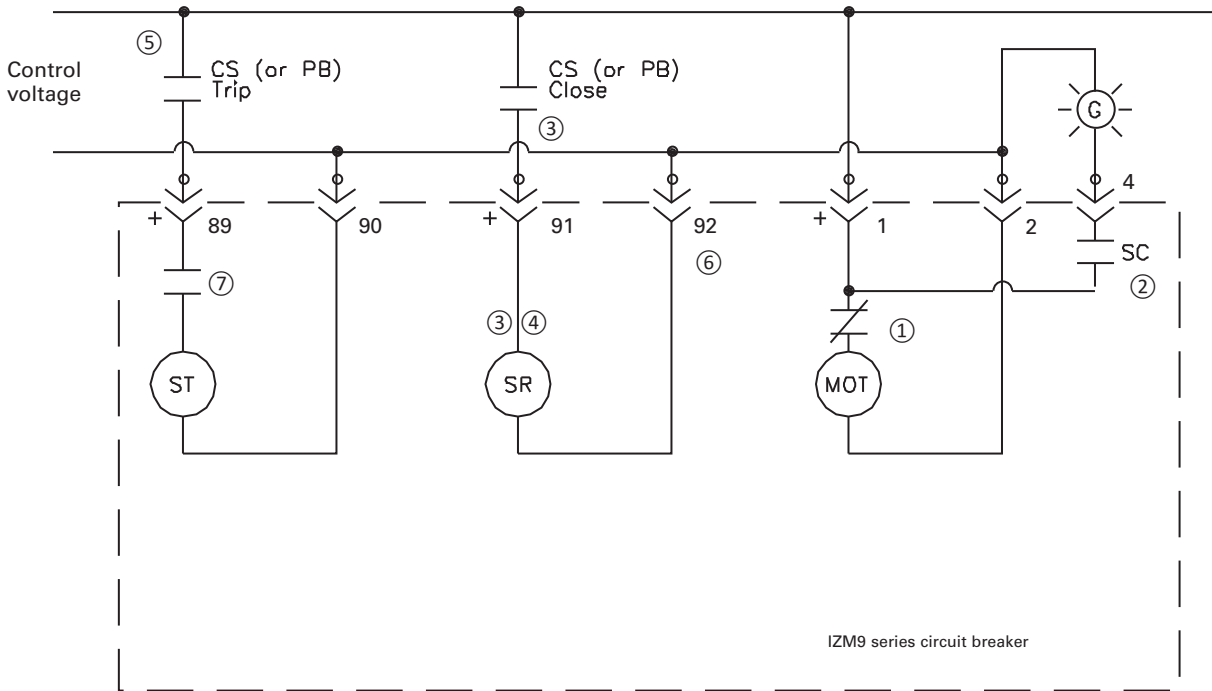
Description of Operation:

1. The motor is energized and runs, charges closing spring, and is cut off by switch.
2. When the spring is charged, the SC closes and the green indicating light will illuminate (if applicable).
3. Closing the CS-C contact energizes the Spring Release Coil and closes the circuit breaker. The Spring Release internal electronics pulse the SR coil and then provides a high impedance circuit. This provides anti-pumping.
4. When the spring discharges its energy, the motor switch will re-energize the charging motor until the spring is charged again.
5. To detect the presence of voltage (Health Light), use Omron Red indicator LED Port # C22-L-R-120 for 120 Vac application. For 230 Vac application, use C22-L-R-230. For 24 Vdc application, use C22-L-R-24. Remove the white (22 mm [0.89 in.] diameter pilot light) Light Diffuser from the assembly to give better indication of voltage present. Activate the push-button to trip the circuit breaker. See Eaton for other voltages.
6. For secondary contacts, odd numbers should be treated as positive for any accessory. This will not apply to AC ratings.
7. Reference Page 65 for internal circuit breaker wiring.

New Generation Air Circuit Breaker IZM9

Circuit breaker wiring diagram

Electrical control diagram of IZM97/IZM 99 circuit breakers – Open/Close and motor



Legend:

MOT – Motor Operator for Charging Closing Spring

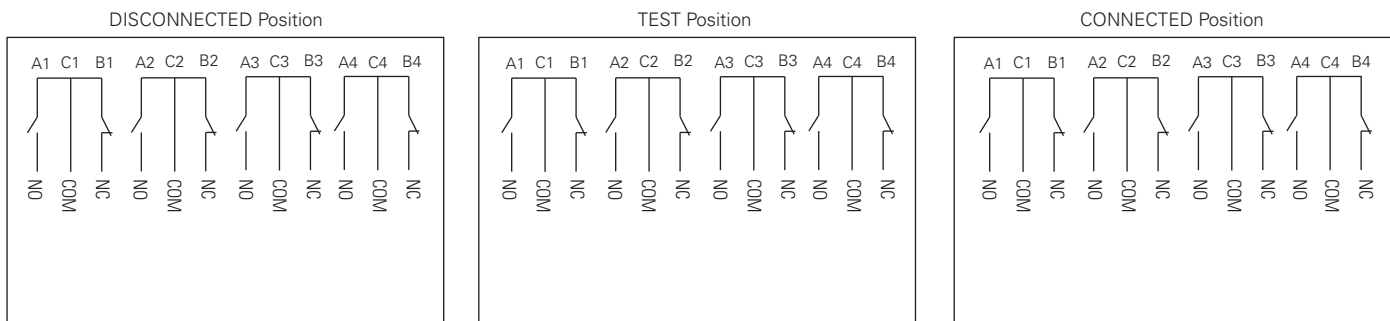
ST – Shunt Trip

SR – Spring Release

Description of Operation:

1. The motor is energized and runs, charges closing spring, and is cut off by switch.
2. When the spring is charged, the SC closes and the green indicating light will illuminate (if applicable).
3. Closing the CS-C contact energizes the Spring Release Coil and closes the circuit breaker. The Spring Release internal electronics pulse the SR coil and then provides a high impedance circuit. This provides anti-pumping.
4. When the spring discharges its energy, the motor switch will re-energize the charging motor until the spring is charged again.
5. When the circuit breaker closes, contact 7 closes, then energize the Shunt release, the circuit breaker disconnects, and contact 7 then breaks.
6. For secondary contacts, odd numbers should be treated as positive for any accessory. This will not apply to AC ratings.
7. Reference Page 66 for internal circuit breaker wiring.

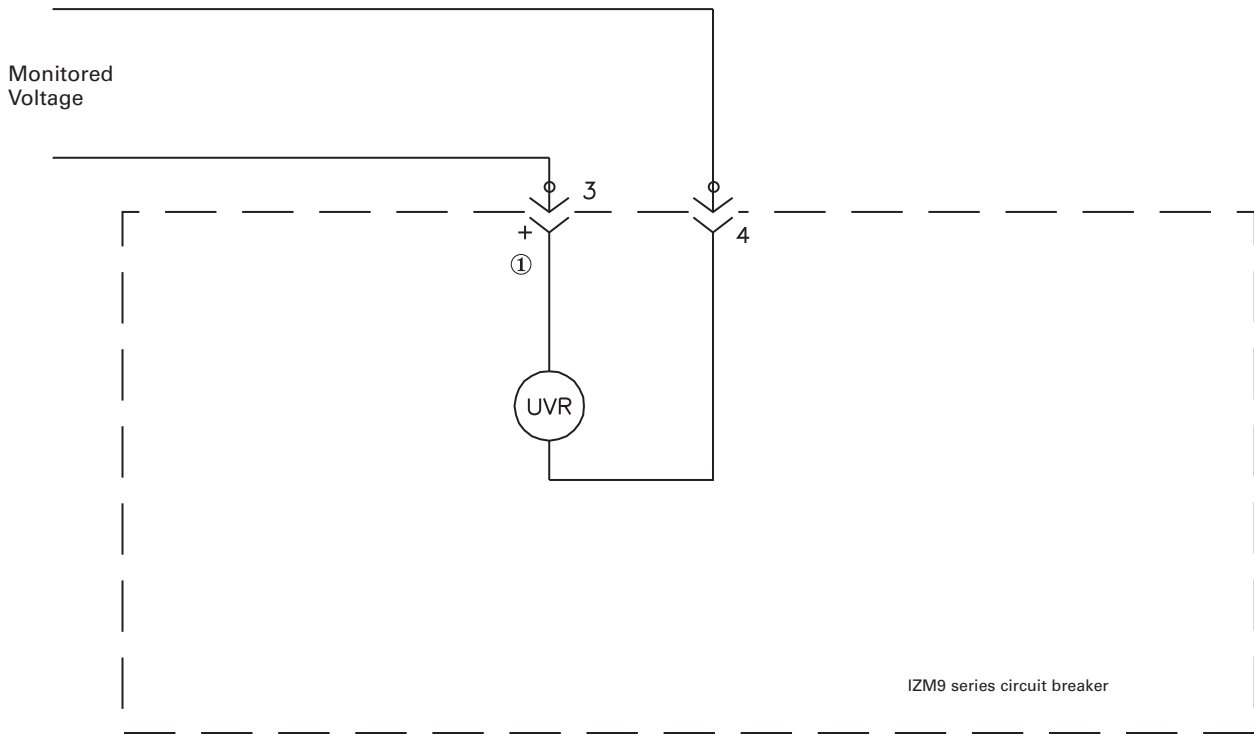
IZM97/99 Terminal Assignment of Cell Switch



Notes:

1. Installs one or more of these locations (disconnect/test/connect), depending on the actual needs
2. Each position switch provides 4A4B auxiliary contact, see figure above
3. Each line head has a detailed line marker

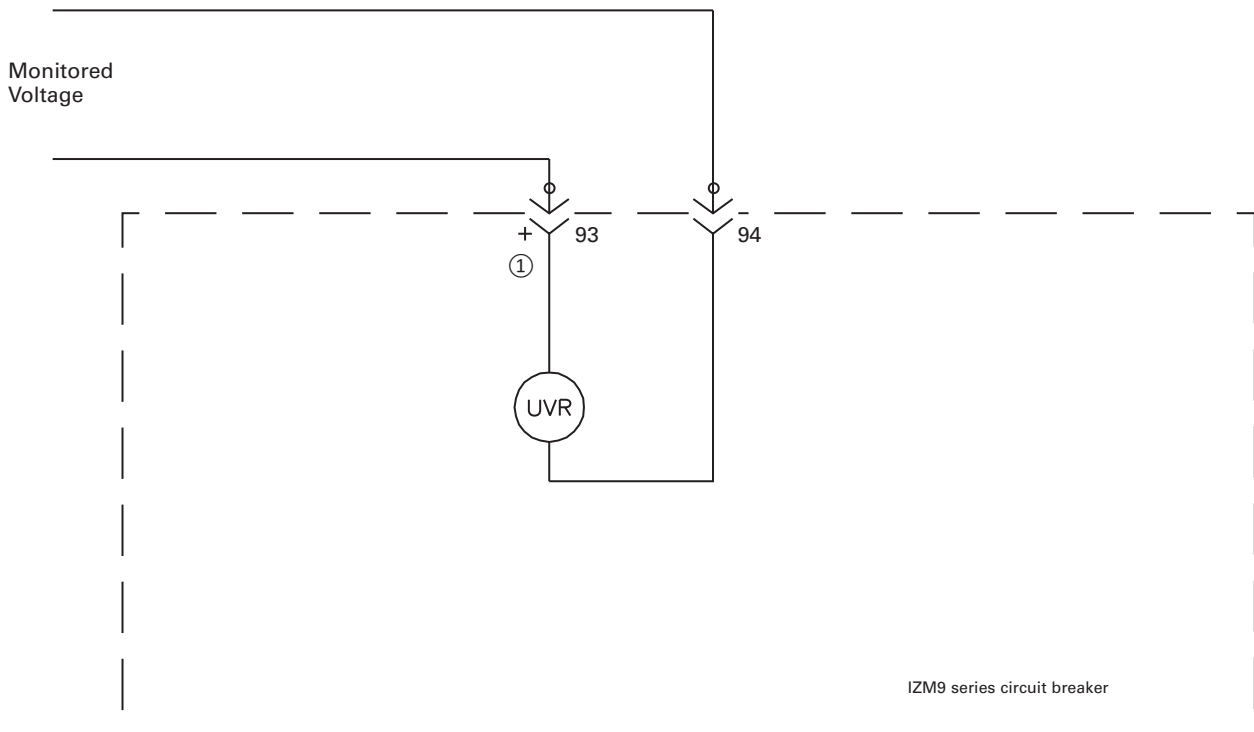
IZM91 Under Voltage Release



Notes:

1. Treated as the positive voltage for DC ratings.

IZM97/99 Under Voltage Release



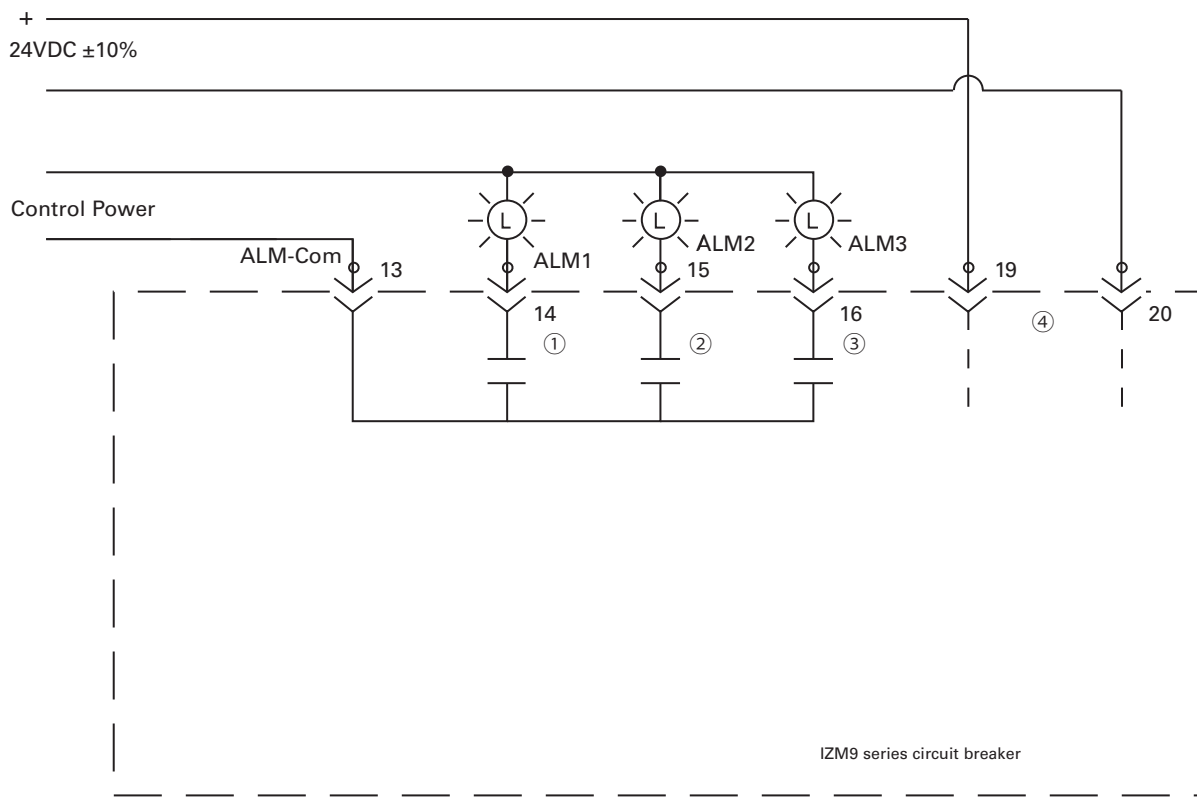
Notes:

1. Treated as the positive voltage for DC ratings.

New Generation Air Circuit Breaker IZM9

Circuit breaker wiring diagram

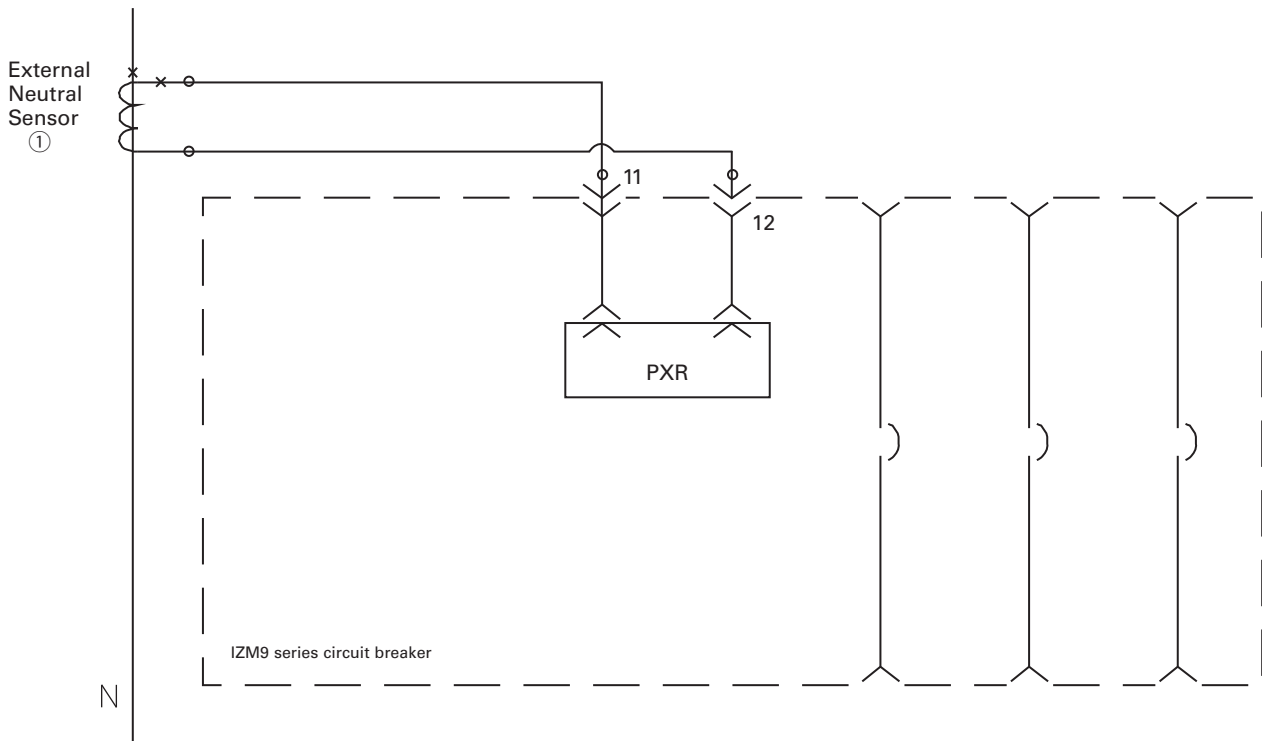
PXR Alarm Wiring



Notes:

1. For the PXR20/25, the Alarm 1 is for Remote Indication/ Maintenance Mode indication. Contact rating 1 A @ 120 Vac, 1 A @ 24 Vdc, and 0.5 A @ 230 Vac.
2. For the PXR20/25, the Alarm 2 is for High Load alarm/Ground Fault alarm. Contact rating 1 A @ 120 Vac, 1 A @ 24 Vdc, and 0.5 A @ 230 Vac.
3. For the PXR20/25, the Alarm 3 is for Trip N.O. contact. Contact rating 1 A @ 120 Vac, 1 A @ 24 Vdc, and 0.5 A @ 230 Vac.
4. If the control voltage is +24 Vdc, the trip unit should be fed from a separate, galvanically isolated + 24 V voltage dc supply.

Ground Fault Residual, 3 pole, 4 pole (IZM91 630-1600A/IZM97 800-4000A)



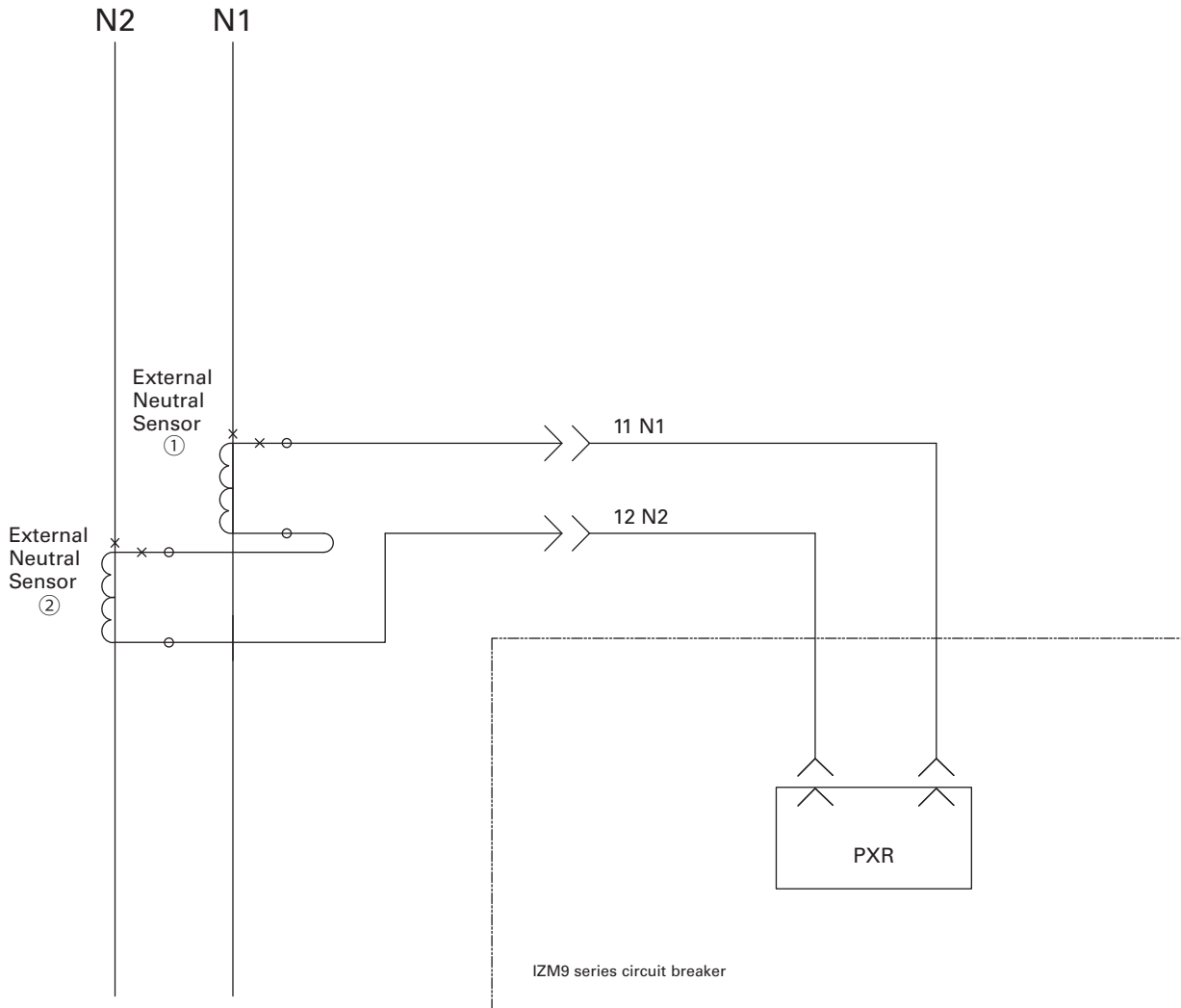
Notes:

1. Sensor is customer wired to sense neutral currents. This is required for 3 pole, 4 pole ACB no need to buy the external sensor.

New Generation Air Circuit Breaker IZM9

Circuit breaker wiring diagram

Ground Fault Residual, 3 pole, 4 pole (IZM99 4000-6300A)

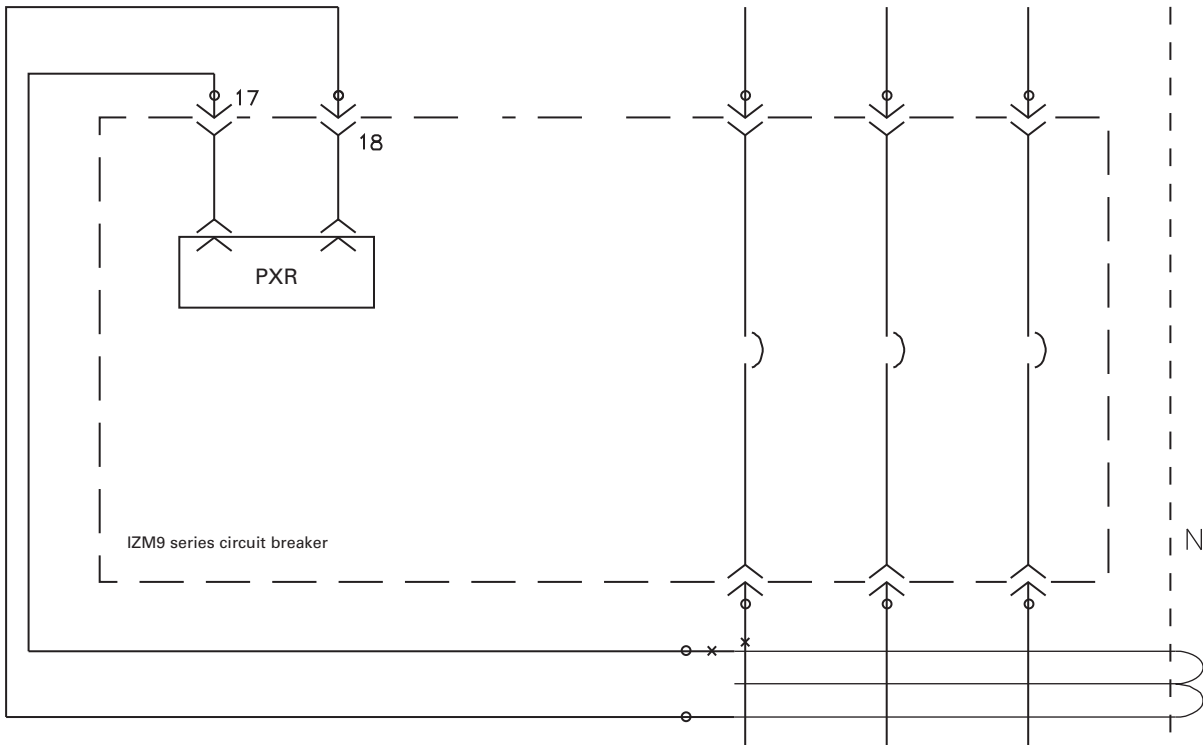


Notes1, 2:

Sensor is customer wired to sense neutral currents. This is required for 3 pole ,4 pole ACB no need to buy the external sensor.

Two external neutral transformers must be purchased for the two N-bars of the IZM99 circuit breakers, with serial connection to 11&12

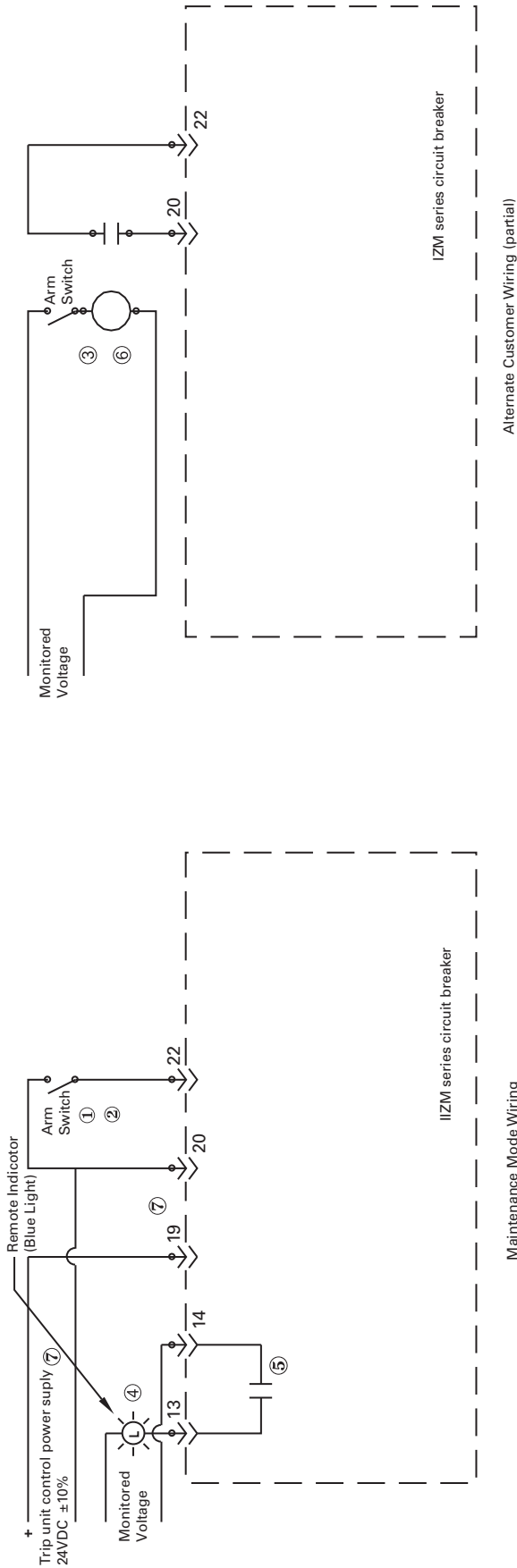
Zero Sequence Ground Fault Sensing



New Generation Air Circuit Breaker IZM9

Circuit breaker wiring diagram

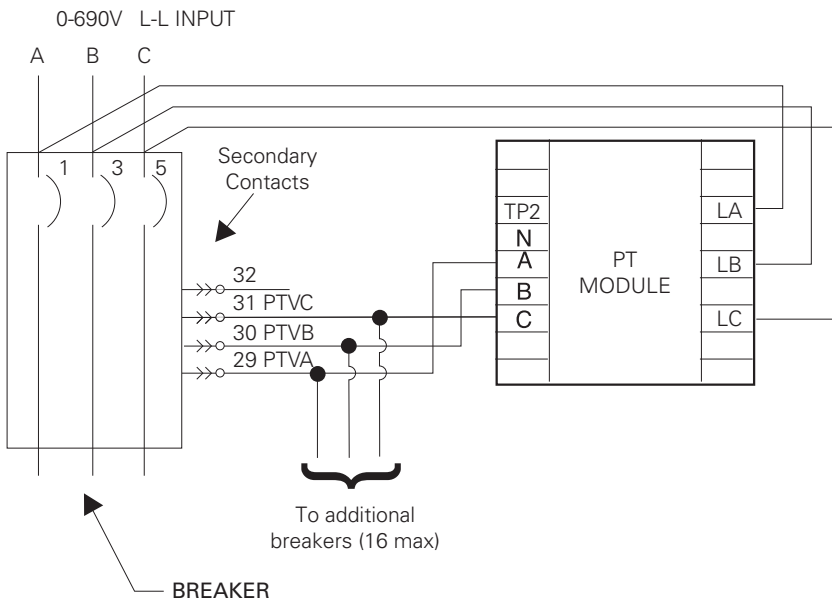
Maintenance Mode Wiring



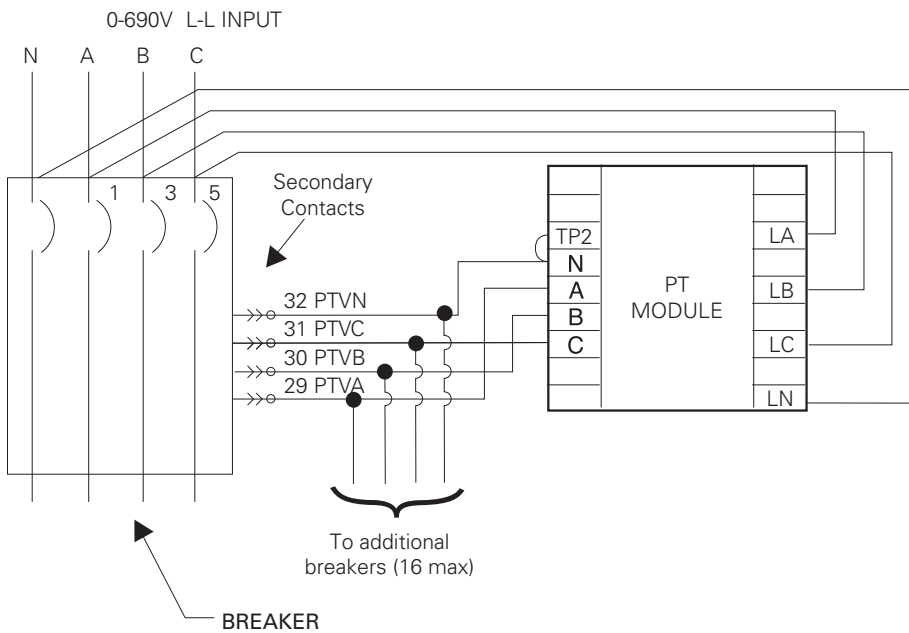
Notes:

1. PXR20/25 can locally be placed in Maintenance Mode via a two position switch located on the trip unit. The function can be armed via a remote switch as shown. In addition, the function can be activated via communication modules. A blue LED on the PXR verifies the PXR release in Maintenance Mode.
2. The recommended selector switch for this low voltage application is Eaton part number 10250T133-2E which includes a contact block rated for logic level and corrosive use.
3. The maximum length of this wiring to remotely arm the switch (or alternate relay contact) is 9.78 feet (3 m). Use #20 AWG wire or larger.
4. A remote Stack Light Annunciator panel or other remote indication device can be connected to verify that PXR is in the Maintenance Mode.
5. The relay in the PXR release makes when in Maintenance Mode. Contact is rated 1 A @ 120 Vac, 1 A @ 24 Vdc, and 0.5 A @ 230 Vac.
6. The PXR release can also be placed remotely in its Maintenance Mode via a general purpose relay (ice cube type with logic level contacts) and activated by a remote control switch. A recommended type is IDEC Relay RY22. Choose the voltage as desired.
7. If a Communication Module is used, The Communication Module will require 24 Vdc power and will provide isolated power to the PXR release in the circuit breaker. If a Communication Module is not used, the PXR release that requires auxiliary voltage for alarms which should be fed from a galvanically isolated, 24 Vdc supply.

External PT Module for PXR25 U type trip unit



IZM circuit breaker - 3 pole - 3 wire

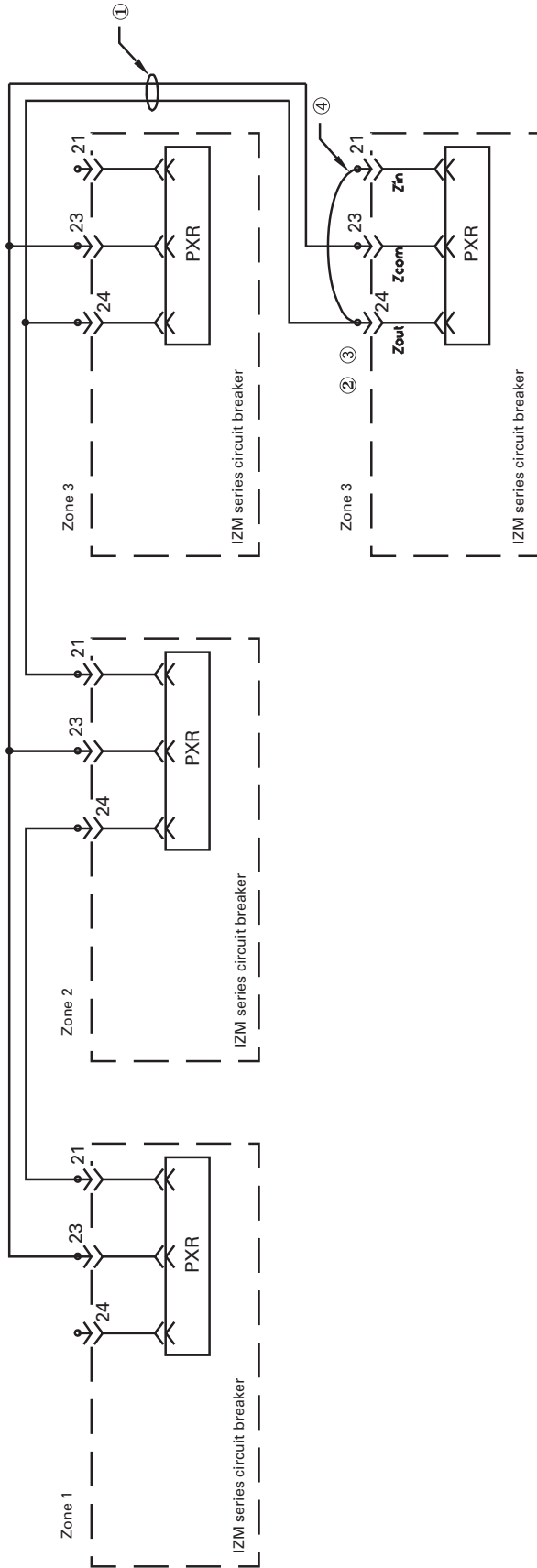


IZM circuit breaker - 3 pole or 4 pole - 4 wire

New Generation Air Circuit Breaker IZM9

Circuit breaker wiring diagram

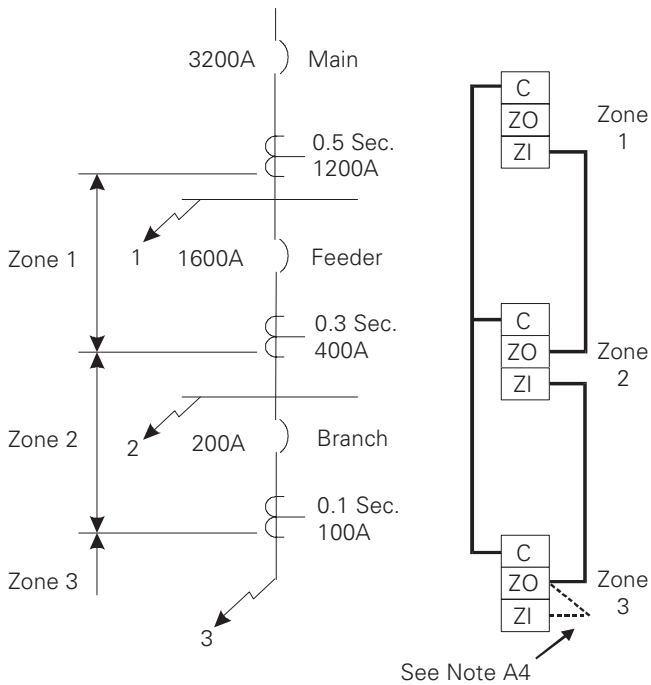
Zone Interlock Wiring



Notes:

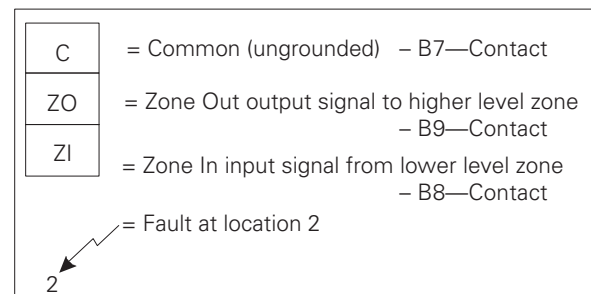
1. Twisted together AWG #14 to #20 copper wire. Route the Zone Interlock wiring separate from power conductors. DO NOT GROUND any Zone Interlock wiring.
2. The maximum distance between two farthest breakers on different zones (from the Z_{out} downstream to the Z_{in} upstream terminals) is 250 feet (75 m).
3. A maximum of 20 breakers may be contained in parallel in one zone.
4. Provide a self interlocking jumper (on Zone 3), if coordination is desired with other downstream breakers not providing the Zone Interlock feature.

Typical Zone Interlocking

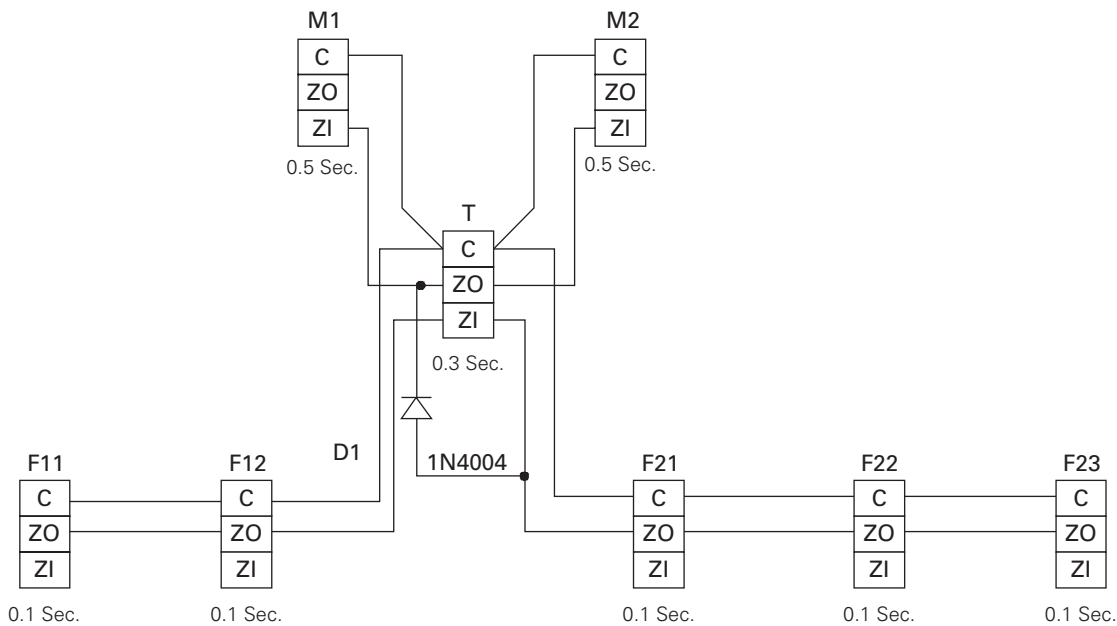


Notes:

- A1:** Wiring to be twisted pair of AWG #14 to #20. Route zone interlocking wiring separate from power conductors. DO NOT GROUND any zone interlocking wiring.
- A2:** The maximum distance between two farthest breakers on different zones (from the ZO downstream to ZI upstream terminals is 250 feet (76m).
- A3:** A maximum of 20 breakers may be contained in parallel in one zone.
- A4:** Provide a self-interlocking jumper (on Zone 3) if coordination is desired with other downstream circuit breakers not providing the zone interlock feature.



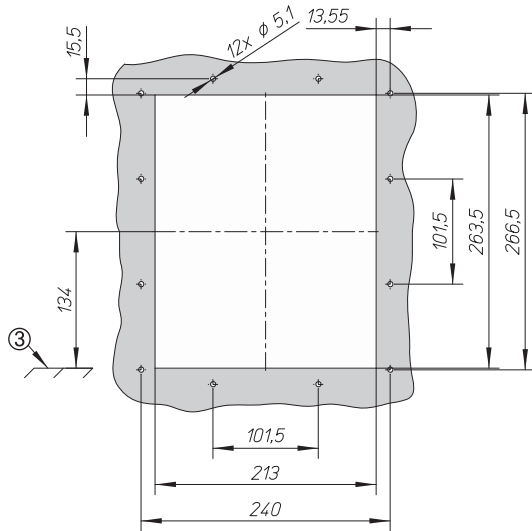
Typical Zone Interlocking Connections with Two Main Breakers (M1, M2) and a Tie Breaker (T)



IZM91 Fixed Type

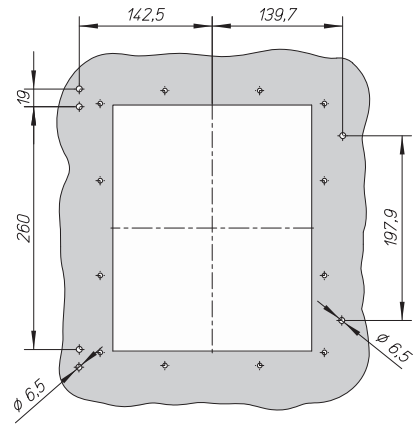
Door cut-out IZM91

IZMC1-DEG16-F-2



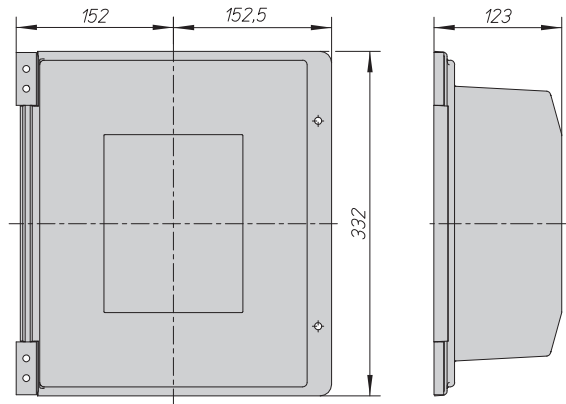
③ Top edge of mounting plate

IZMC1-DC91-F



Door cover

IZMC1-DC91-F



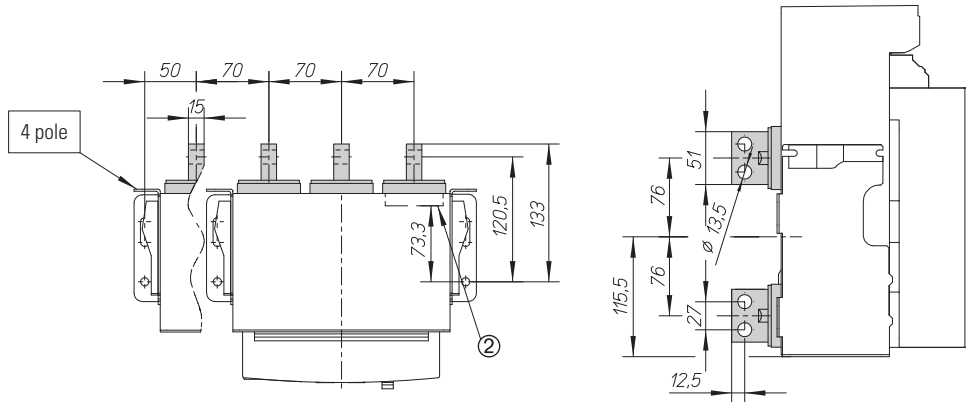
New Generation Air Circuit Breaker IZM9

Basic Device Dimensions

IZM91 Fixed Type

Terminal adapter horizontal/vertical - vertical mounted

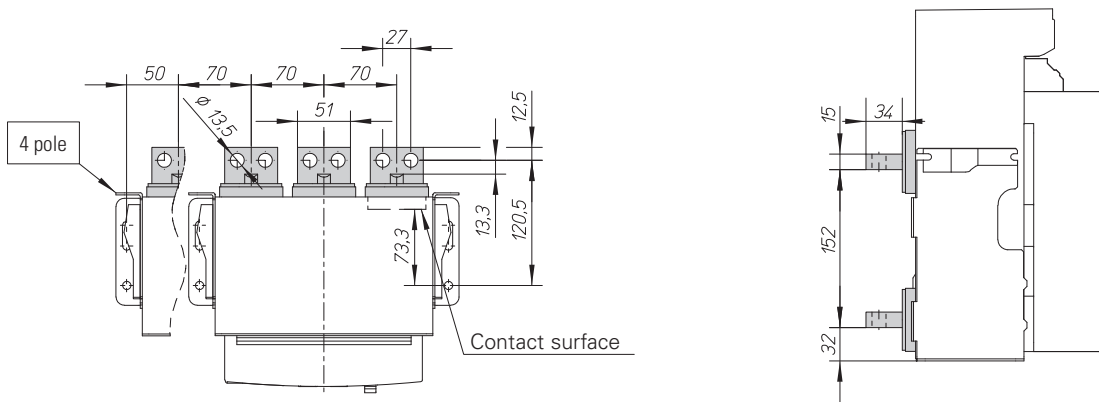
IZMC1-THV16...



Ⓜ Contact surface

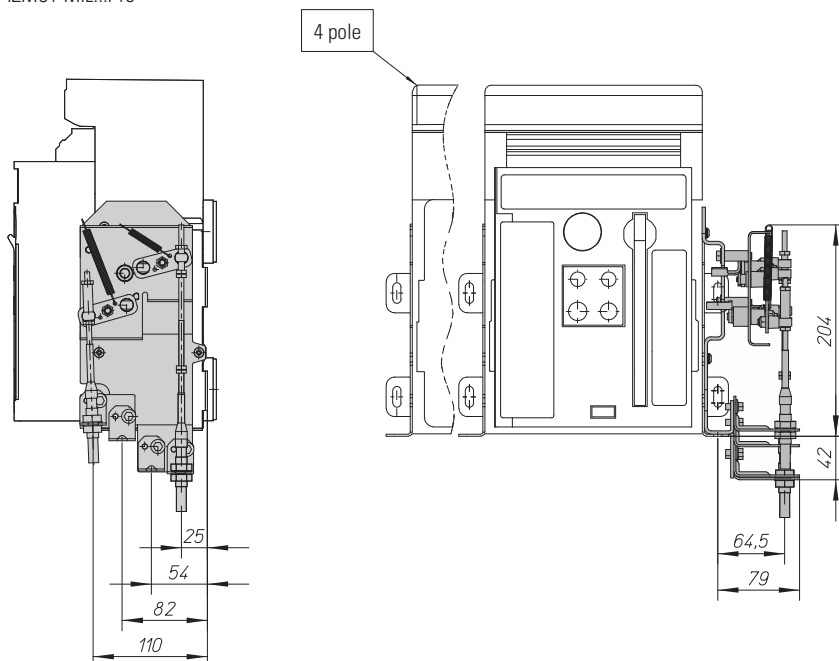
Terminal adapter horizontal/vertical - horizontal mounted

IZMC1-THV16...



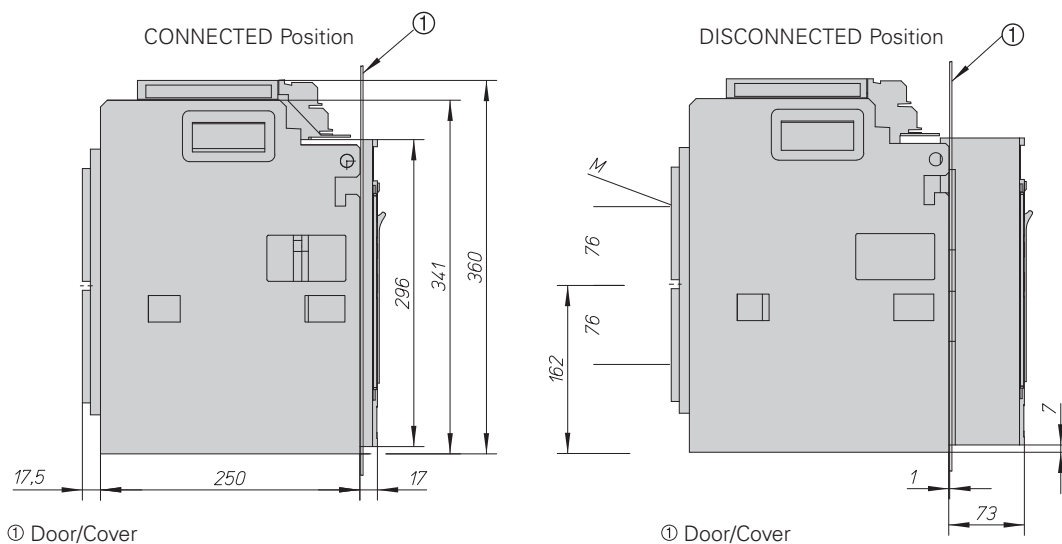
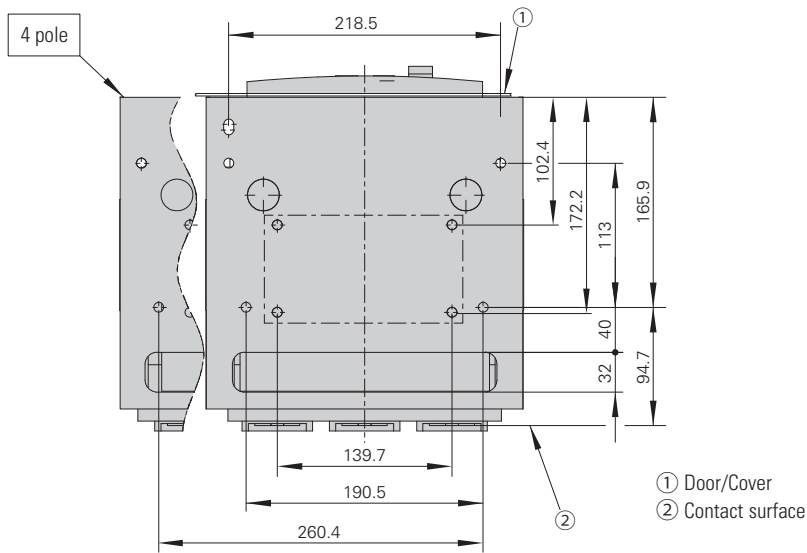
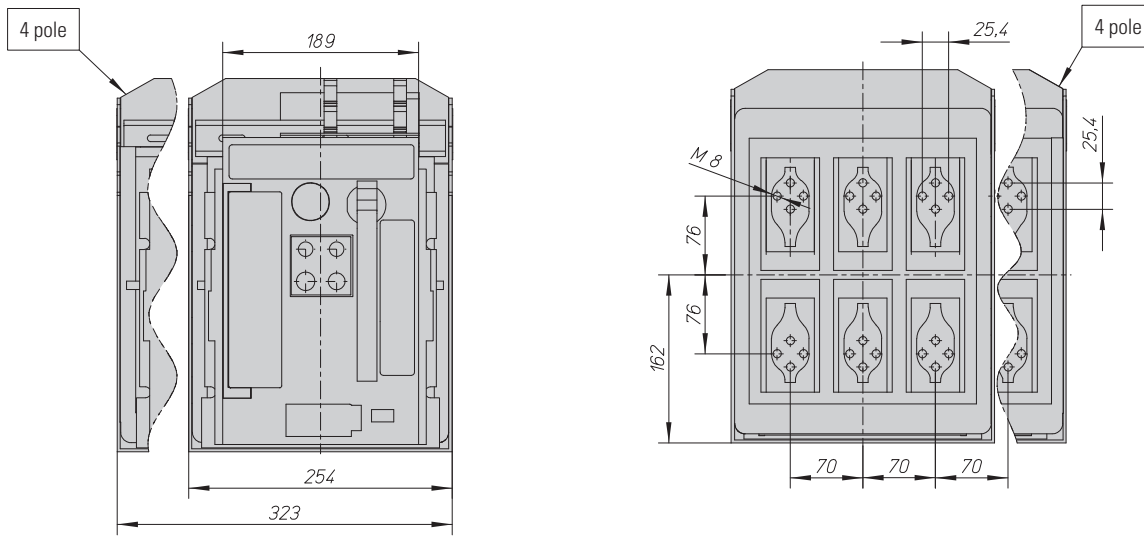
IZM91 mechanical interlock for fixed mounting units

IZMC1-MIL...F16



IZM91 Withdrawable Type

IZM91...W, IN91...W



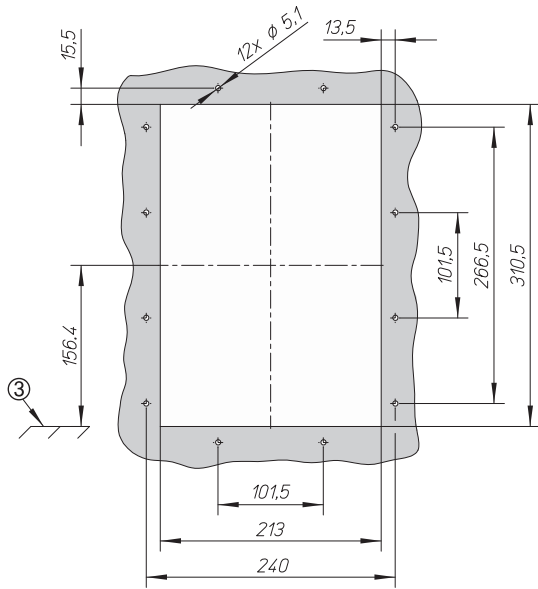
New Generation Air Circuit Breaker IZM9

Basic Device Dimensions

IZM91 Withdrawable Type

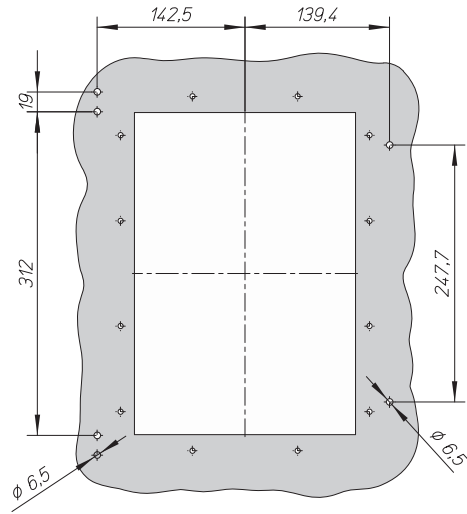
Door cut-out IZM91

IZMC1-DEG91-W



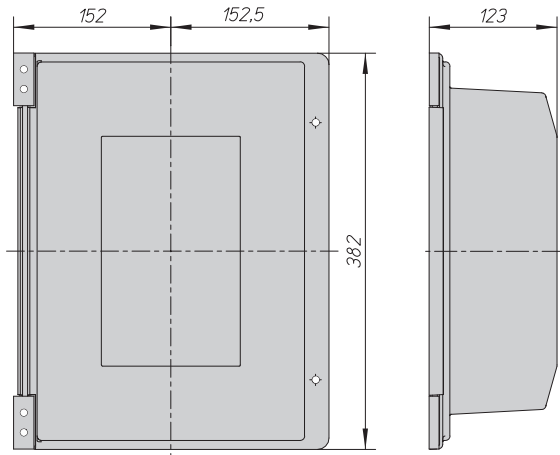
③ Top edge of mounting plate

IZMC1-DC91-W



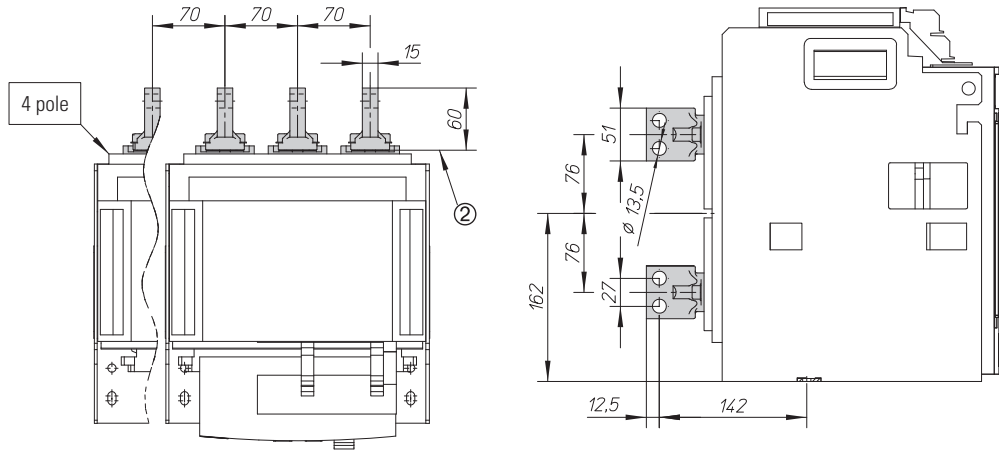
Door cover

IZMC1-DC91-W



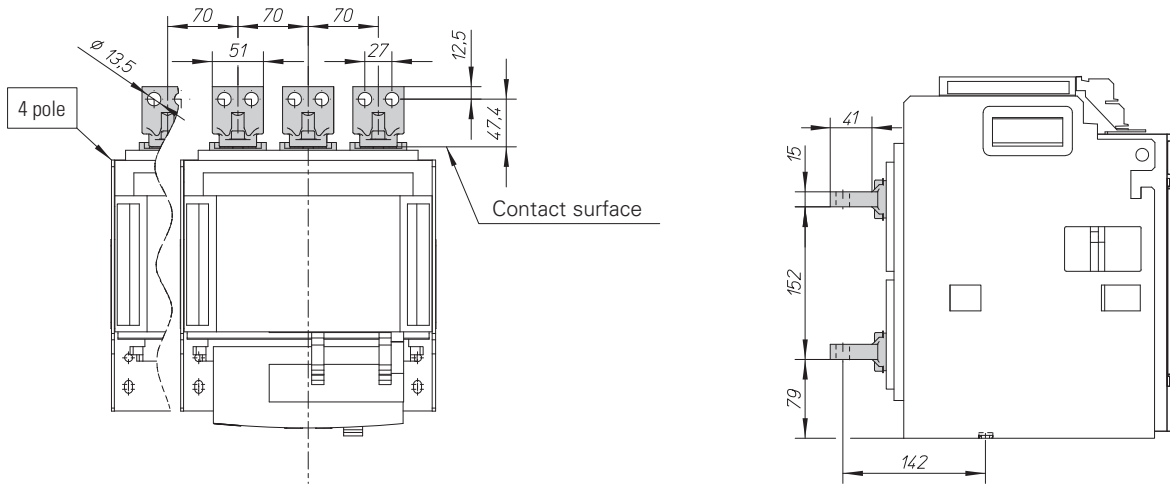
IZM91 Withdrawable Type

Terminal adapter horizontal/vertical - vertical mounted
IZMC1-THV16...

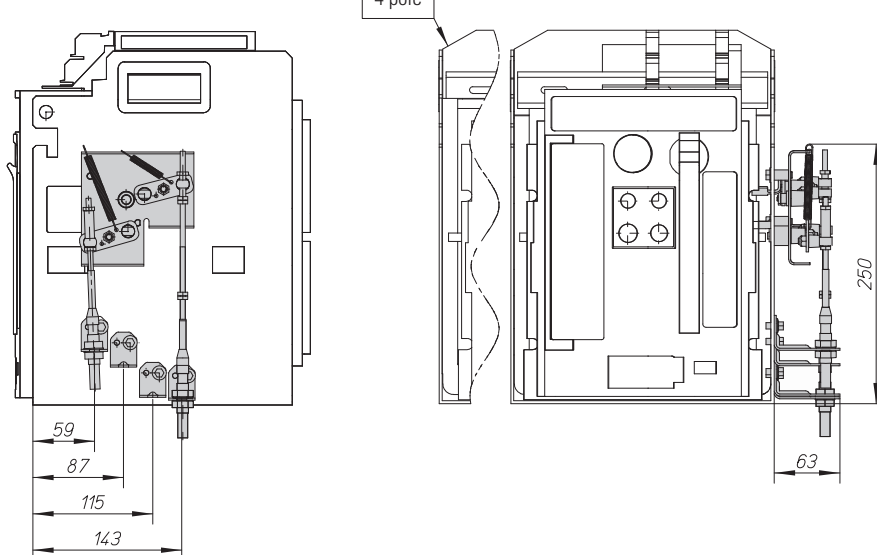


② Contact surface

Terminal adapter horizontal/vertical - horizontal mounted
IZMC1-THV16...



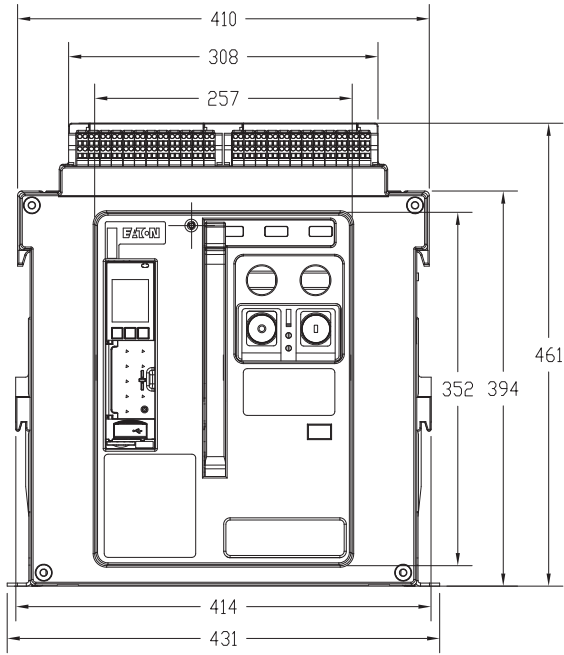
IZM91 mechanical interlock for withdrawable units
IZMC1-MIL...W16



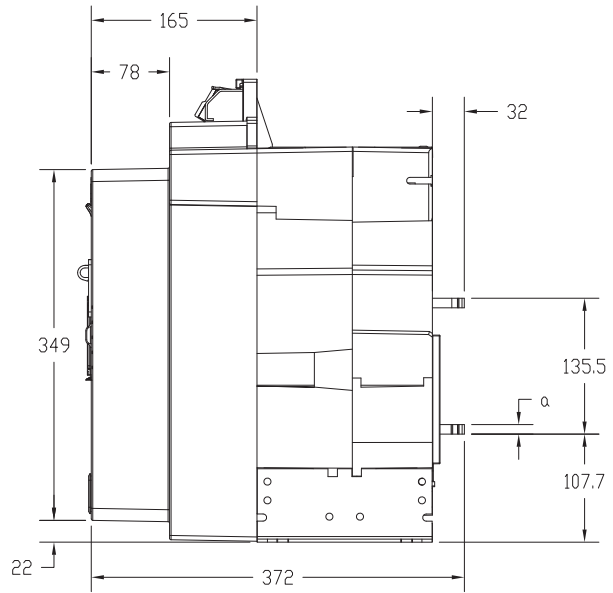
New Generation Air Circuit Breaker IZM9

Basic Device Dimensions

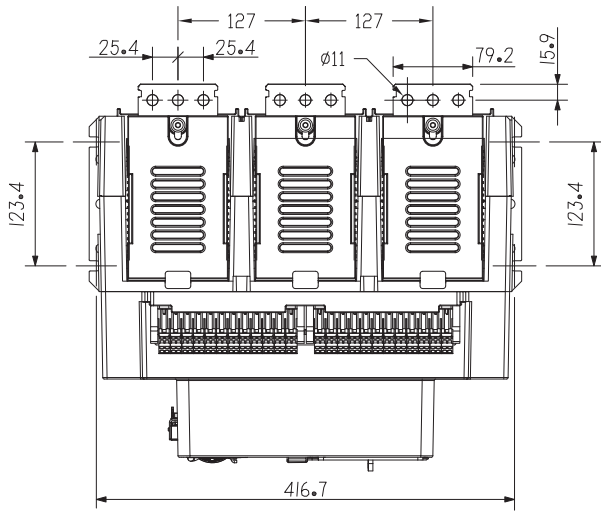
IZM97 Fixed Type Dimensions and Horizontal Board Dimensions (3P, 800~3200A)



Front view



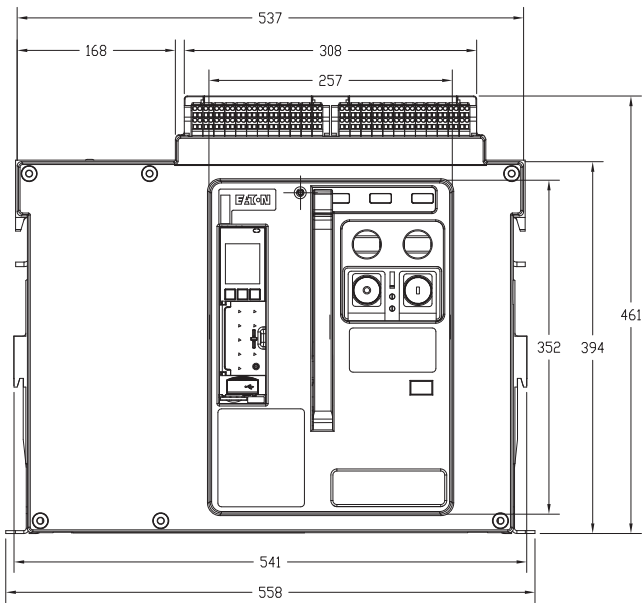
Right view



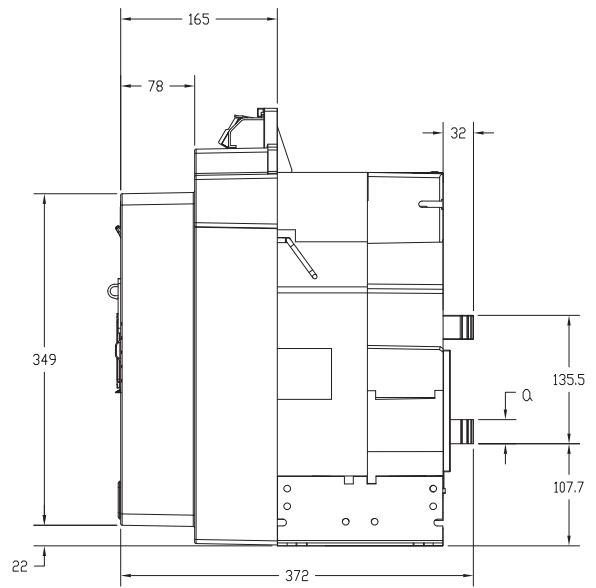
Top view

In(A)	800~2000	2500~3200
a(mm)	9.5	25.4

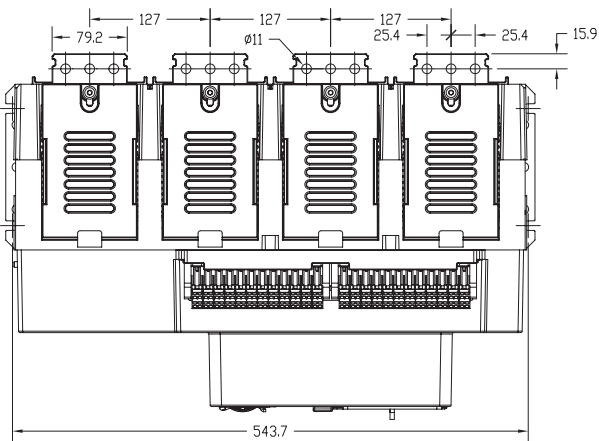
IZM97 Fixed Type Dimensions and Horizontal Board Dimensions (4P, 800~3200A)



Front view



Right view



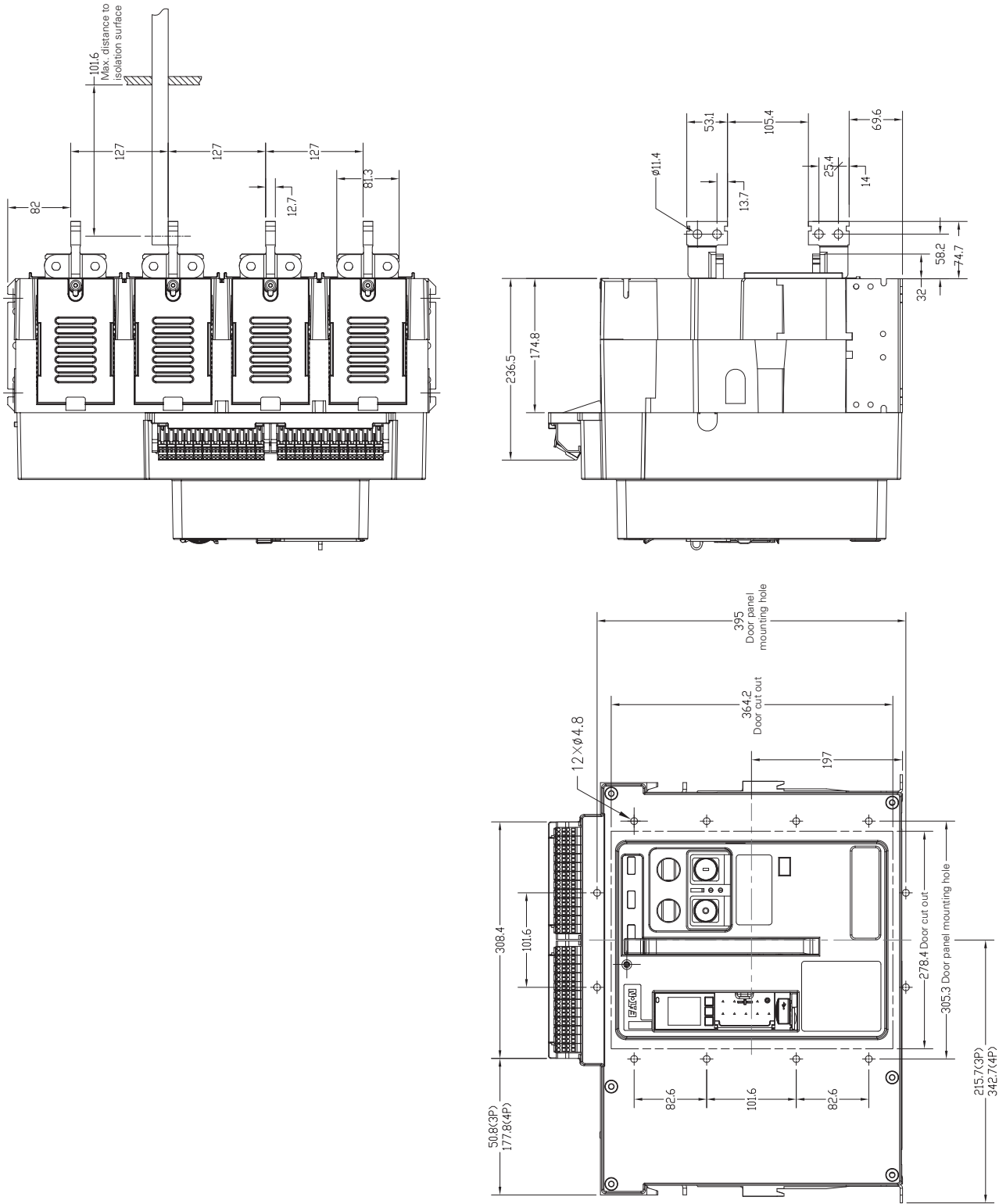
Top view

$I_n(A)$	800~2000	2500~3200
$a(mm)$	9.5	25.4

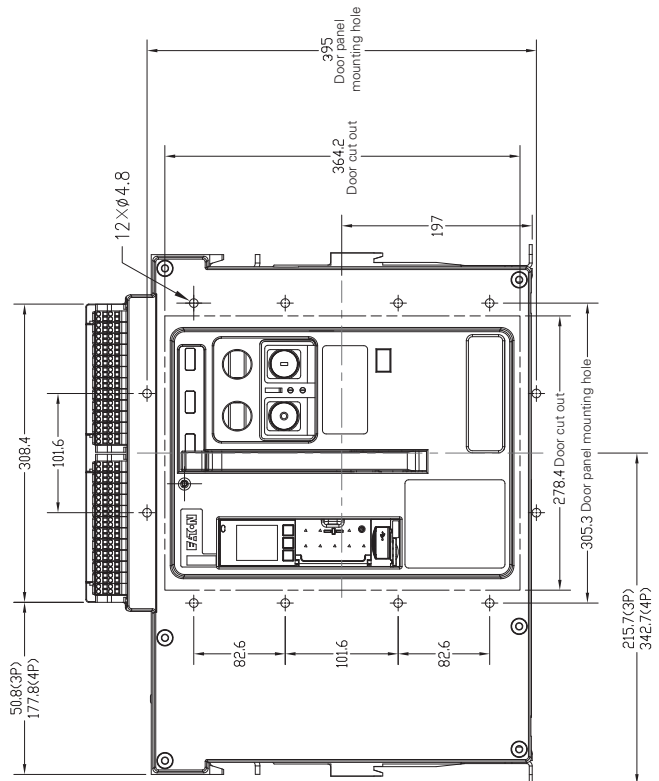
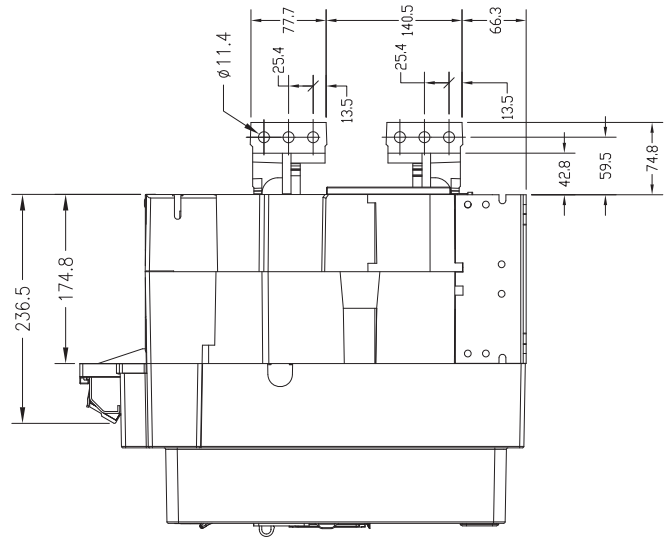
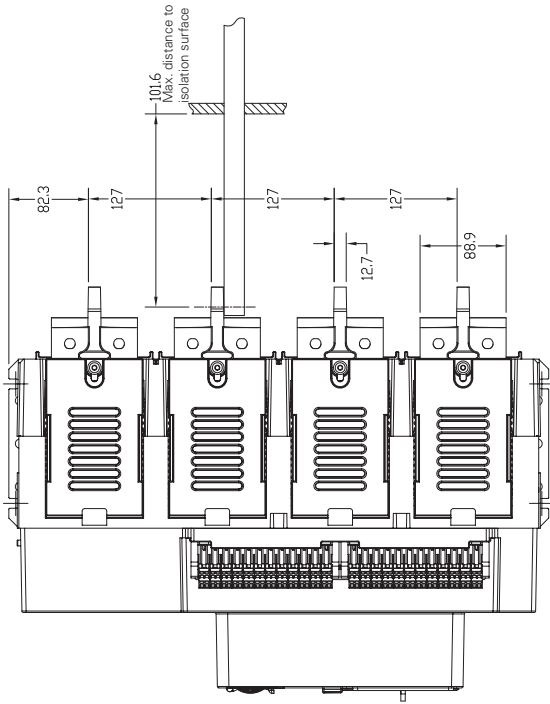
New Generation Air Circuit Breaker IZM9

Basic Device Dimensions

IZM97 Fixed Type Panel Cutout and External Vertical Board Dimensions (3P and 4P, 800~1600A)



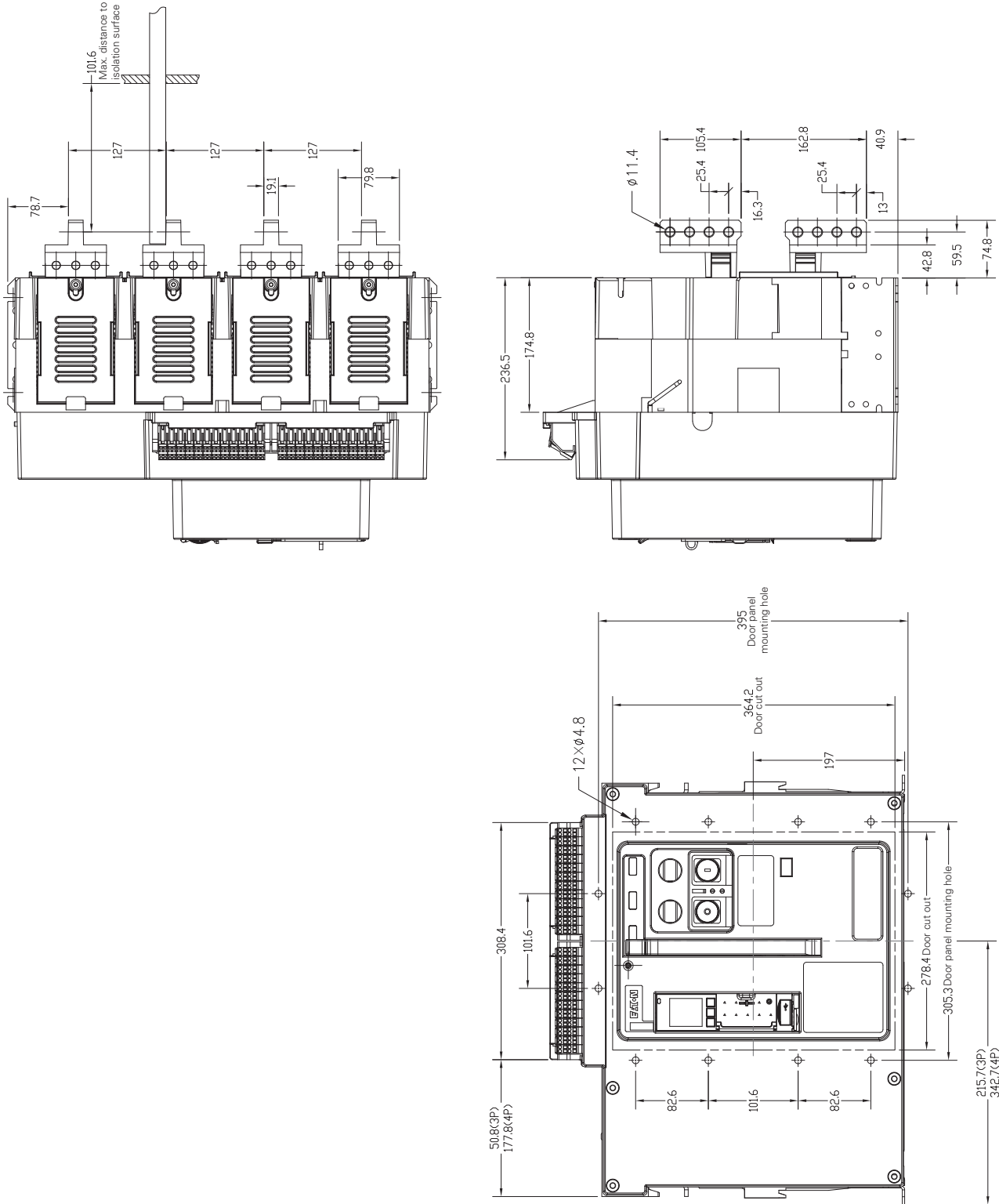
IZM97 Fixed Type External Vertical Board Dimensions (3P and 4P, 2000A)



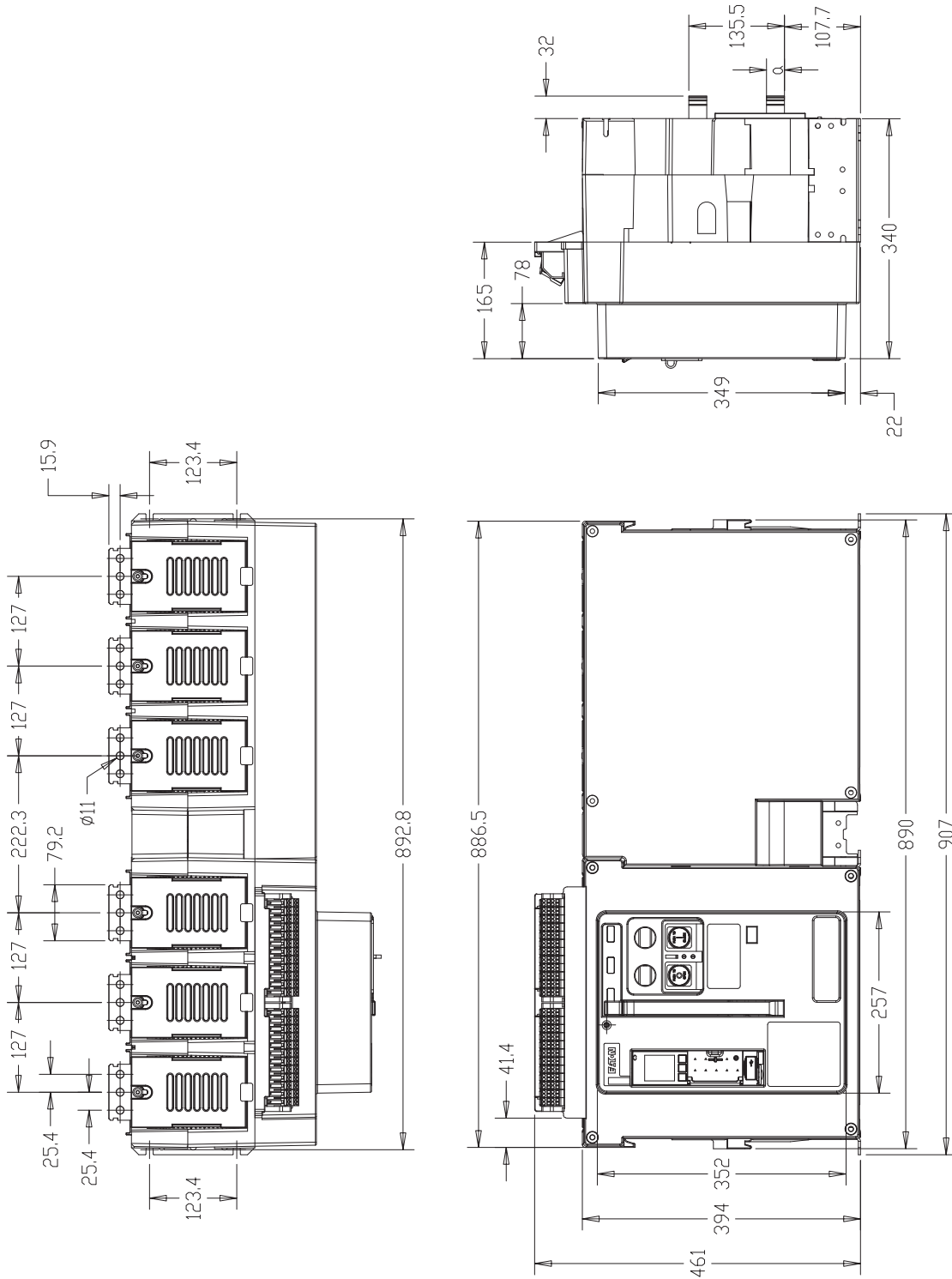
New Generation Air Circuit Breaker IZM9

Basic Device Dimensions

IZM97 Fixed Type External Vertical Board Dimensions (3P and 4P, 2500~3200A)



IZM9 Fixed Type Dimensions and Horizontal Board Dimensions (3P, 4000~6300A)

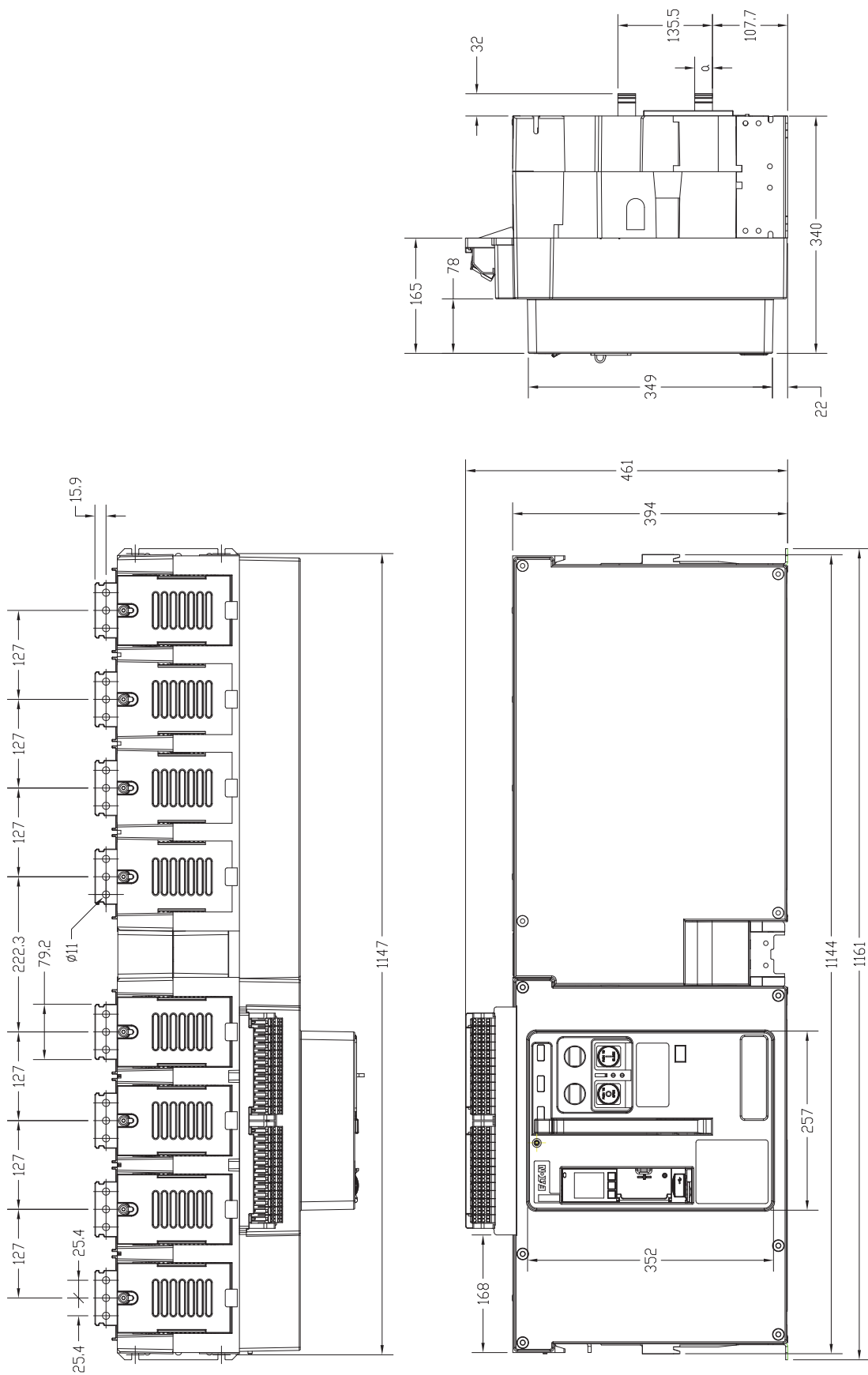


I _n (A)	4000	5000	6300
α(mm)	9.5	25.4	25.4

New Generation Air Circuit Breaker IZM9

Basic Device Dimensions

IZM99 Fixed Type Dimensions and Horizontal Board Dimensions (4P, 4000~6300A)

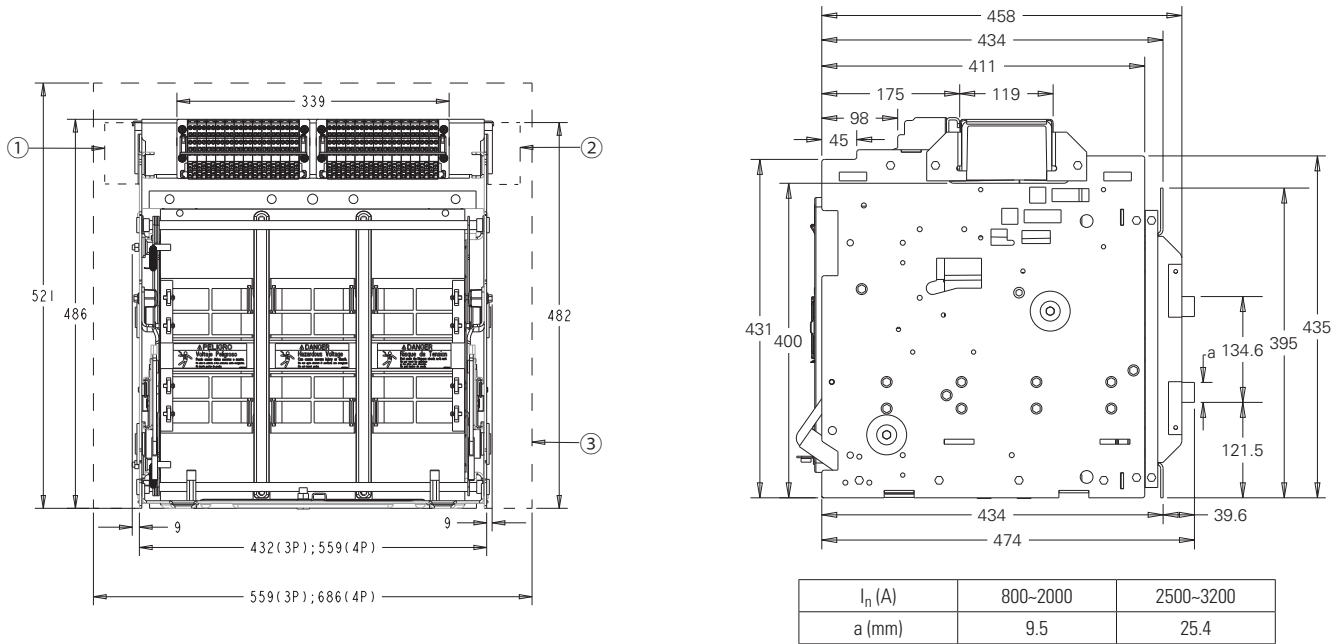


In(A)	4000	5000	6300
a(mm)	9,5	25,4	25,4

New Generation Air Circuit Breaker IZM9

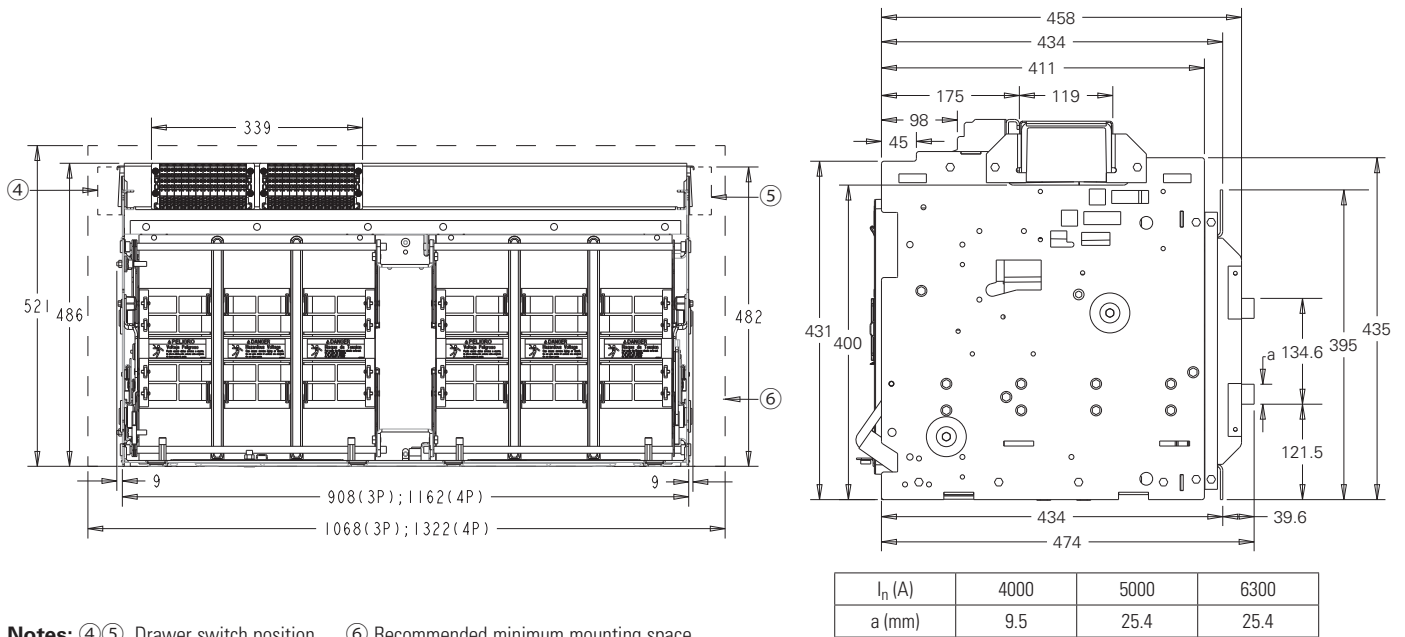
Basic Device Dimensions

IZM97 Withdrawable Type Dimensions (3P and 4P, 800~3200A)



Notes: ①② Drawer switch position ③ Recommended minimum mounting space

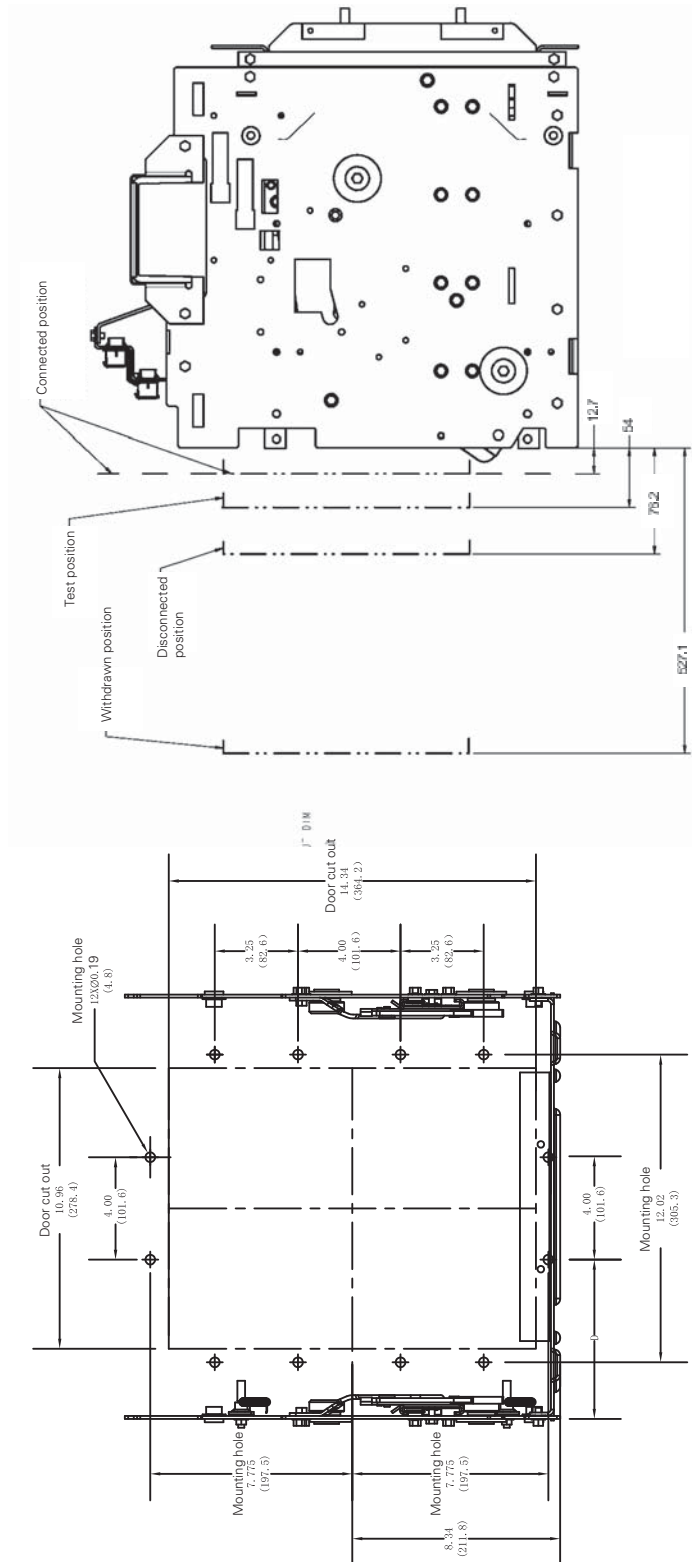
IZM99 Withdrawable Type Dimensions (3P and 4P, 4000~6300A)



Notes: ④⑤ Drawer switch position ⑥ Recommended minimum mounting space

IZM97 Withdrawable Type Panel Cutout Dimensions (3P and 4P, 800~4000A)

ITEM	D
3 POLE	640 (25.20)
4 POLE	1150 (45.28)



Panel cutout size and circuit breaker position

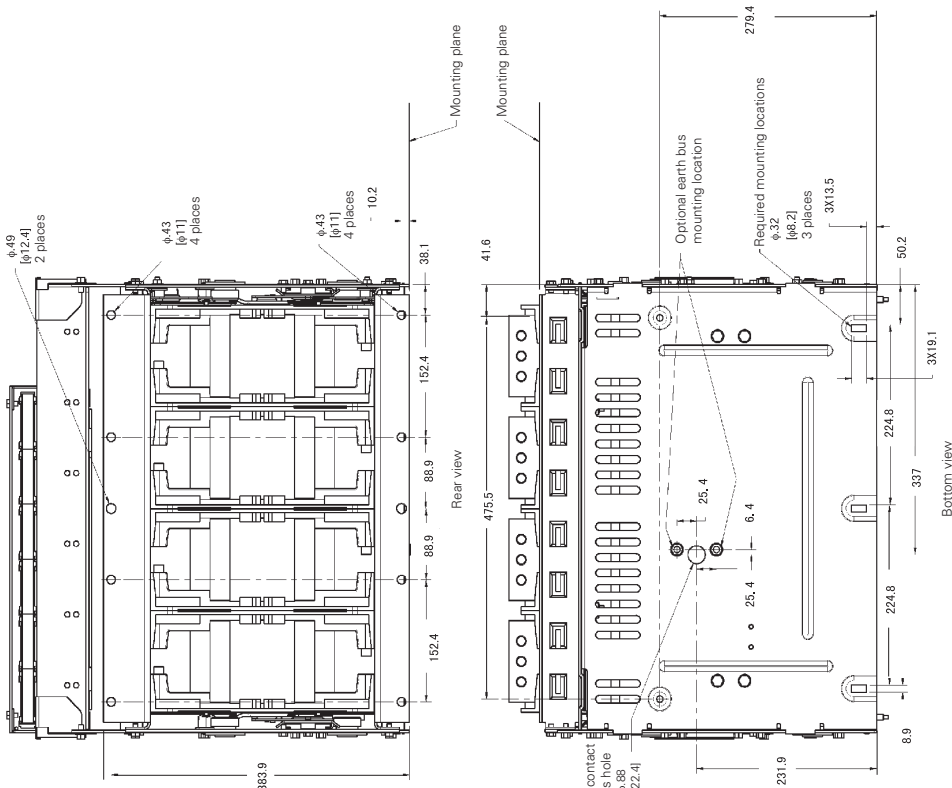
- Note:**
1. Imperial dimensions are Inches on top metric dimensions are [mm] bottom.
 2. All dimensions are reference only
 3. Tolerance range is shown as follow:

0 ~ 50mm	±0.1mm
51 ~ 100mm	±0.2mm
101 ~ 500mm	±0.5mm
501 ~ 2000mm	±3.0mm

New Generation Air Circuit Breaker IZM9

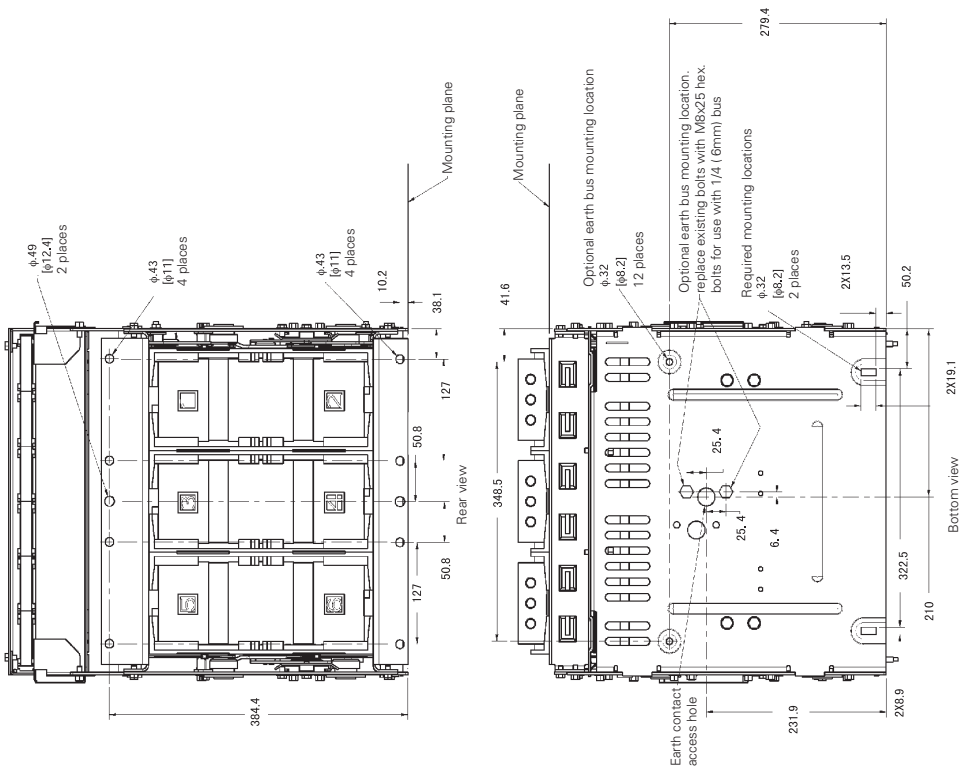
Basic Device Dimensions

IZM97 Withdrawable Type Cassette Dimensions and Mounting Dimensions (3P and 4P, 800~3200A)



4 pole mounting locations

Notes:
 1. Imperial dimensions are inches on top
 metric dimensions are (mm) bottom.
 2. All dimensions are reference only.

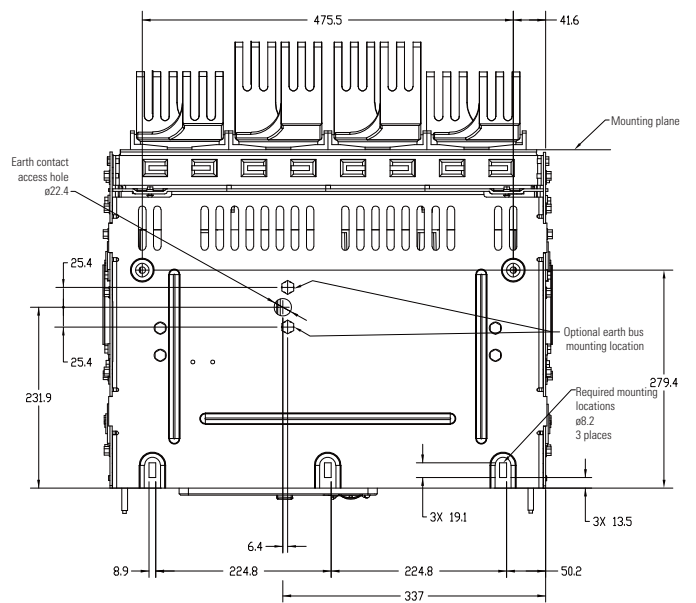
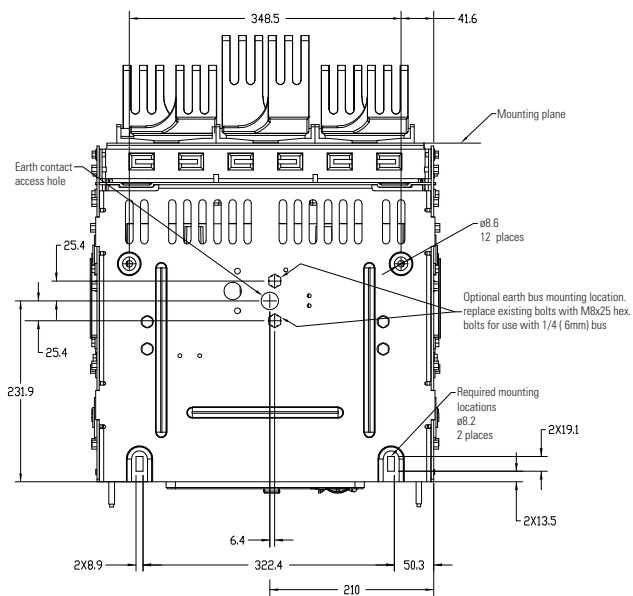
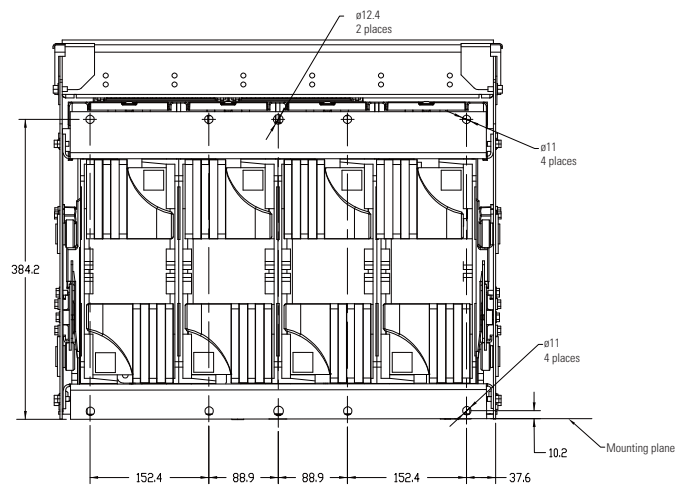
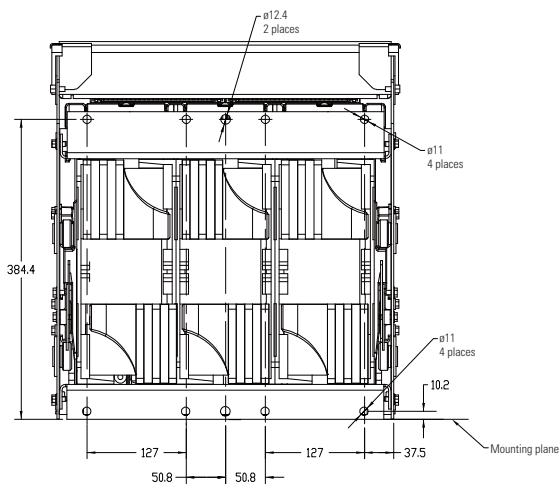
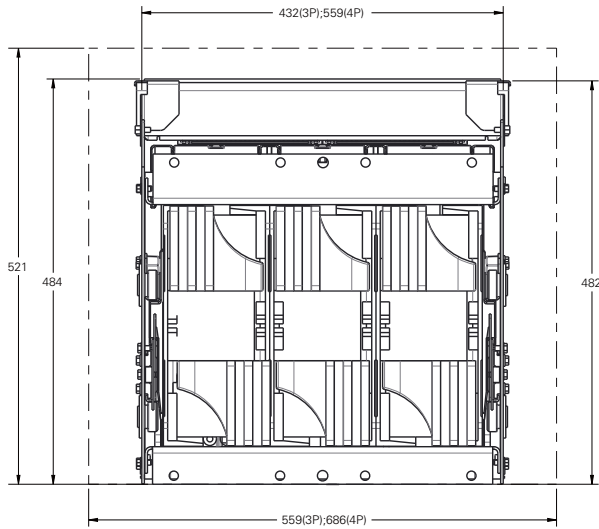


3 pole mounting locations

New Generation Air Circuit Breaker IZM9

Basic Device Dimensions

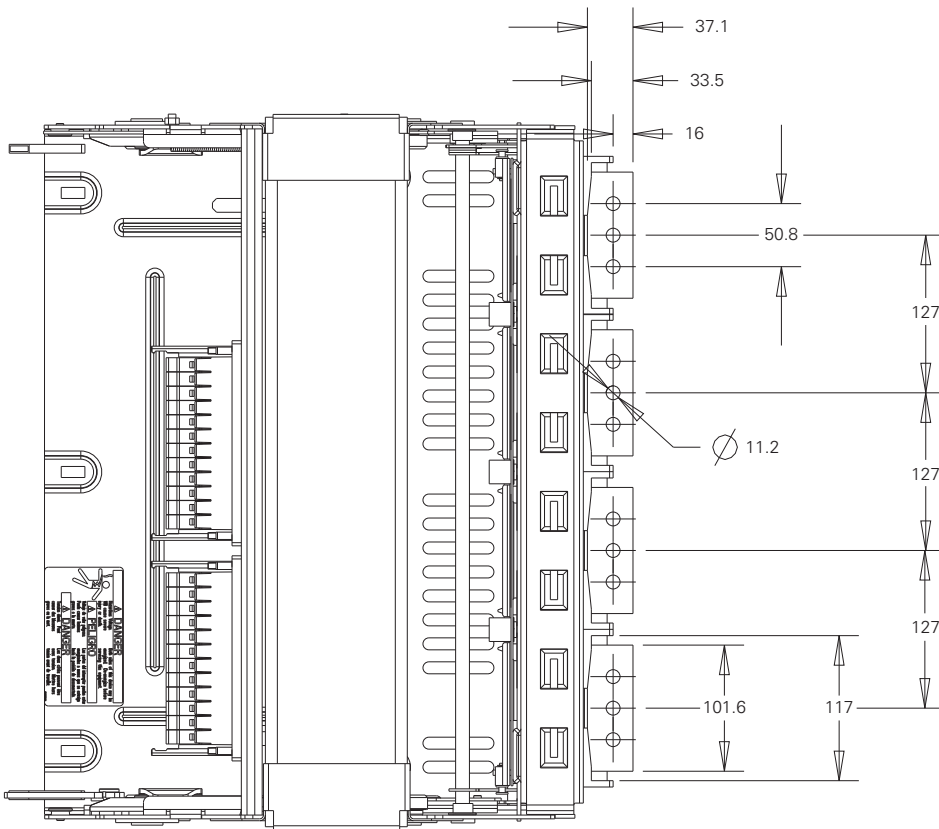
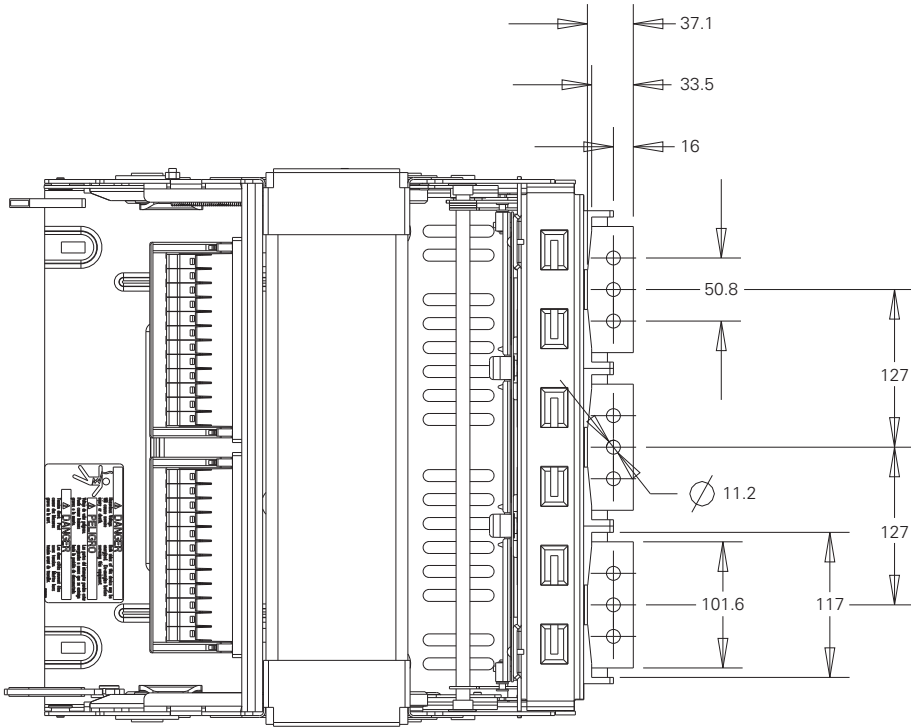
IZM97 Withdrawable Type Cassette Dimensions and Mounting Dimensions (3P and 4P, 4000A)



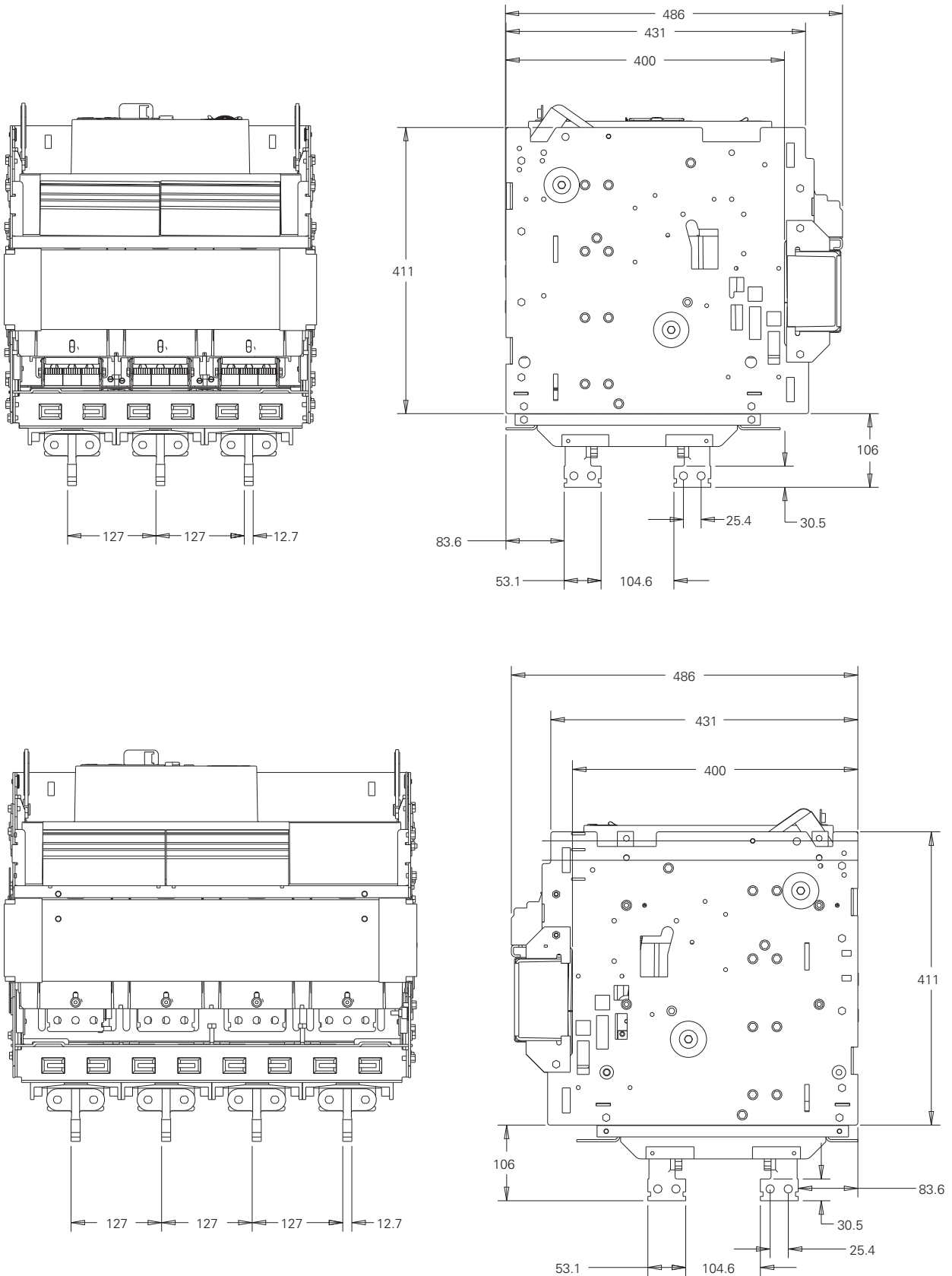
New Generation Air Circuit Breaker IZM9

Basic Device Dimensions

IZM97 Withdrawable Type Cassette Horizontal Board Wiring Dimensions (3P and 4P, 800~3200A)



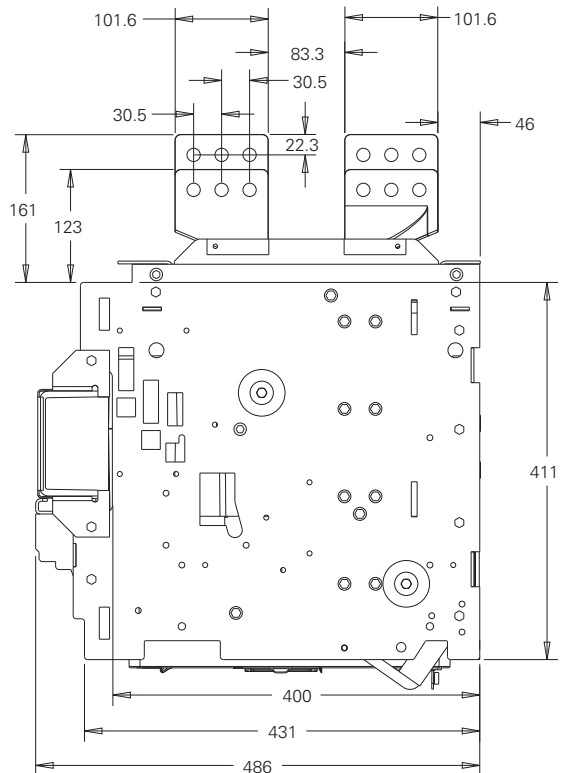
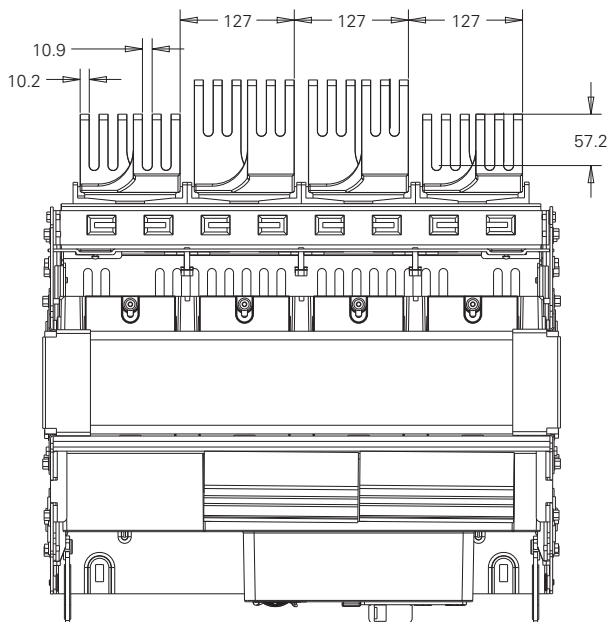
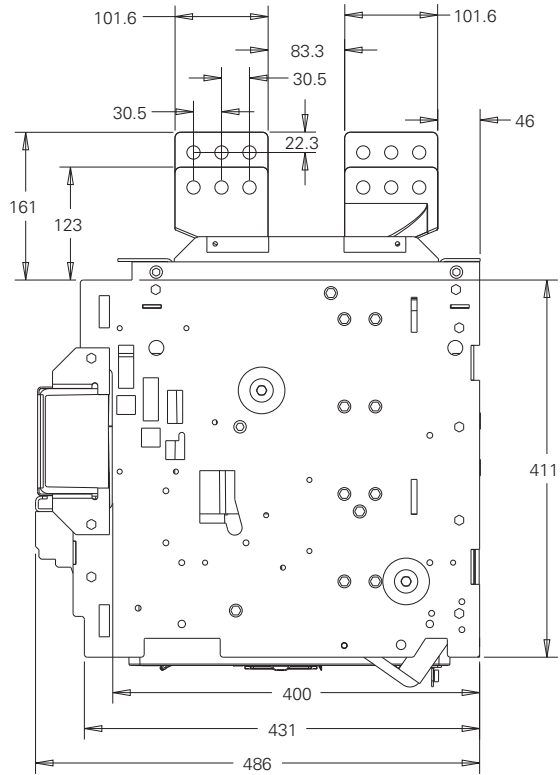
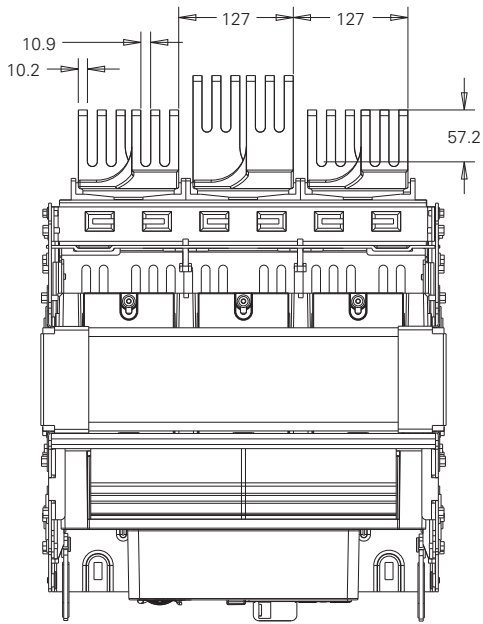
IZM97 Withdrawable Type Cassette Vertical Board Wiring Dimensions (3P and 4P 800~3200A)



New Generation Air Circuit Breaker IZM9

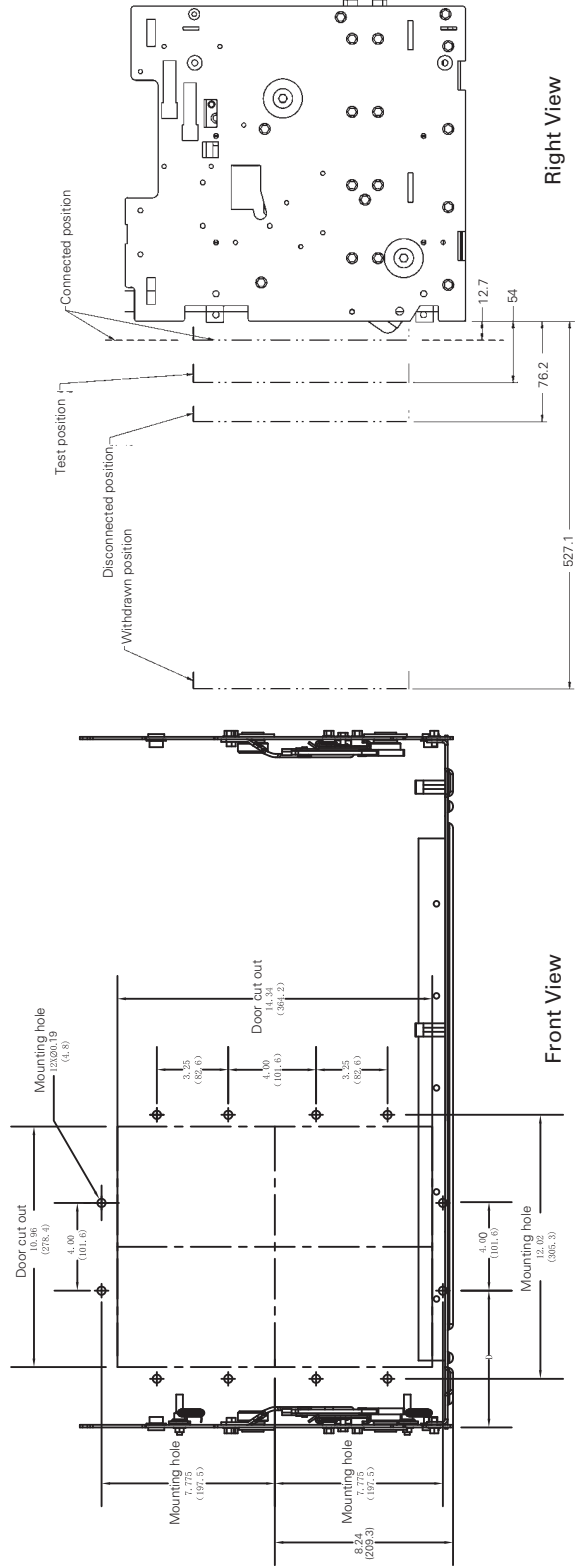
Basic Device Dimensions

IZM97 Withdrawable Type Cassette Vertical Board Wiring Dimensions (3P and 4P, 4000A)



IZM99 Withdrawable Type Panel Cutout Dimensions (3P and 4P, 4000~6300A)

ITEM	D
3 POLE	6.85 [168.10]
4 POLE	11.80 [299.10]

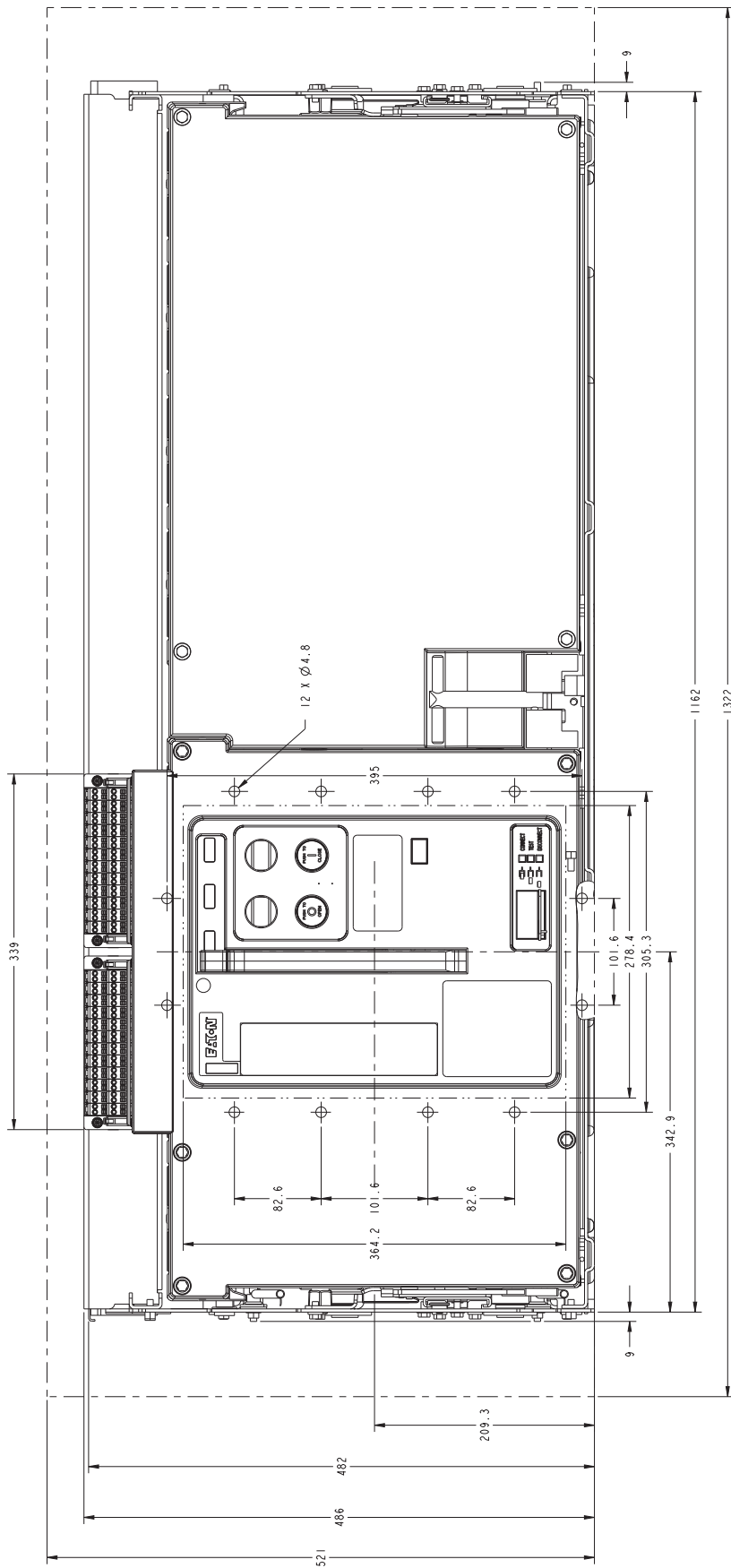


Panel cutout size and circuit breaker position

- Note:**
1. Imperial dimensions are inches on top metric dimensions are [mm] bottom.
 2. All dimensions are reference only
 3. Tolerance range is shown as follow:

0 ~ 5mm	±0.1mm
5 ~ 10mm	±0.2mm
10 ~ 50mm	±0.5mm
50 ~ 200mm	±3.0mm

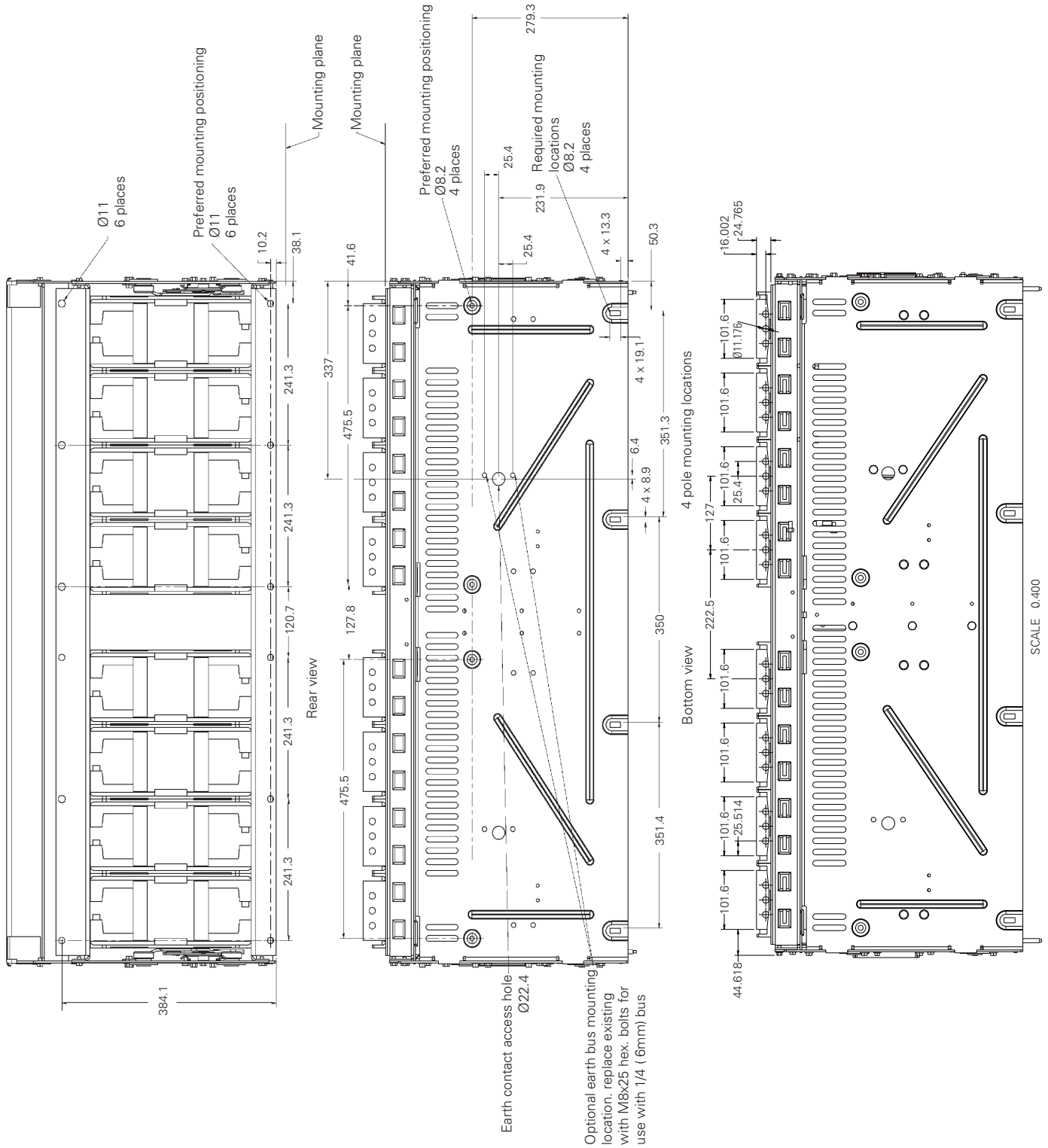
IZM9 Withdrawable Type Cassette Dimensions and Mounting Dimensions (4P, 4000~6300A)



New Generation Air Circuit Breaker IZM9

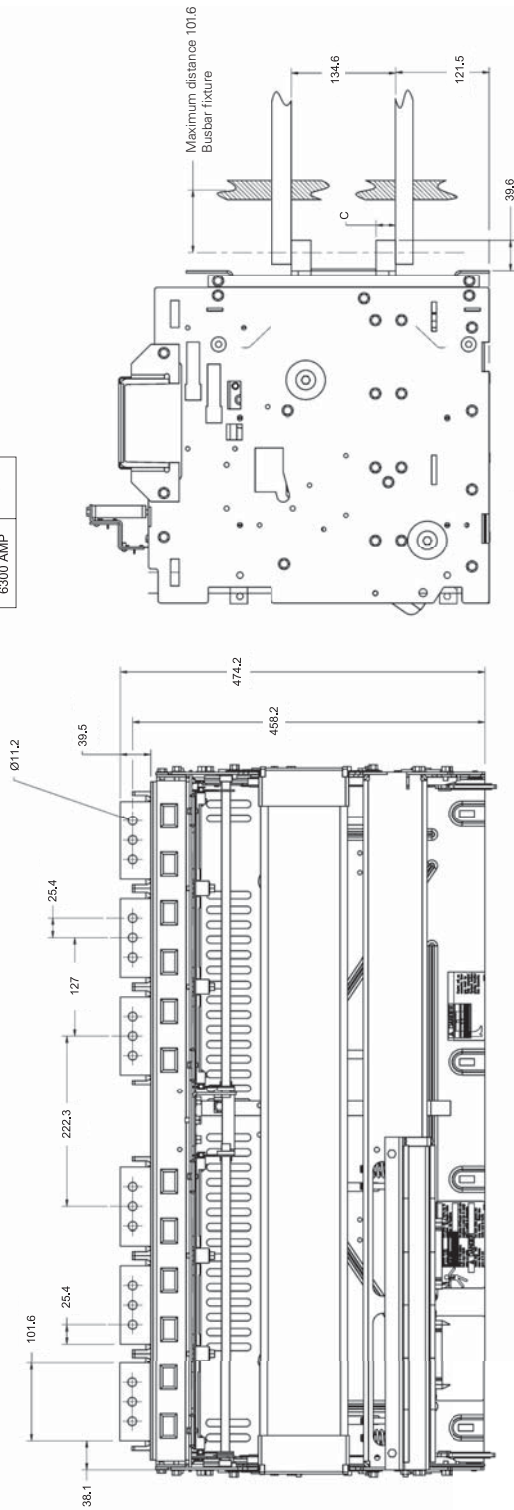
Basic Device Dimensions

IZM9 Withdrawable Type Cassette Dimensions and Mounting Dimensions (4P, 4000-6300A)



IZM9 Withdrawable Type Cassette Horizontal Board Wiring Dimensions (3P - 4000~6300A)

Item	C
4000 AMP	9.7
5000, 6300 AMP	25.4



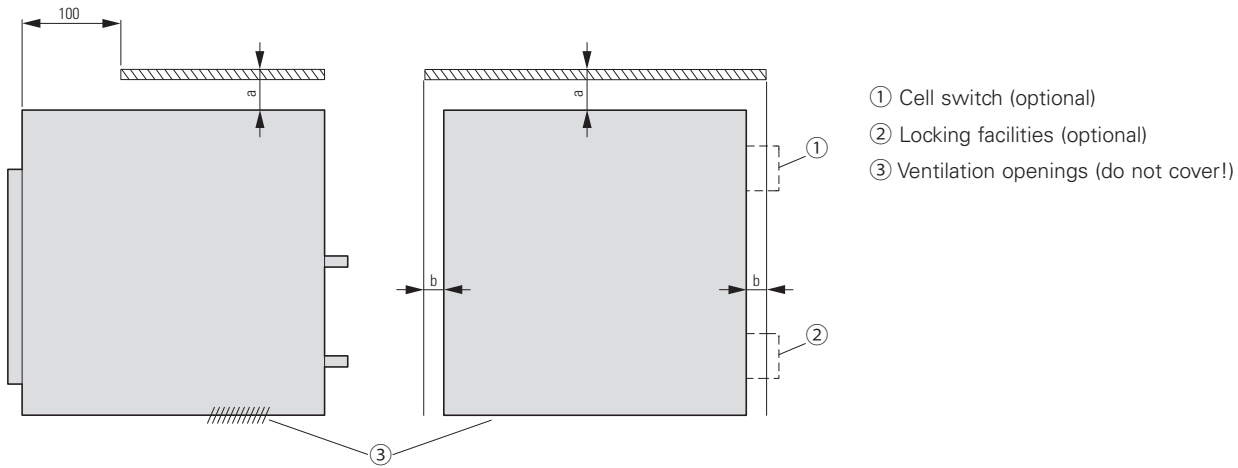
3P

New Generation Air Circuit Breaker IZM9

Minimum Clearances

Recommended safety clearances

The following information about safety distances is intended to provide a guideline for the installation of circuit-breakers in an enclosure.



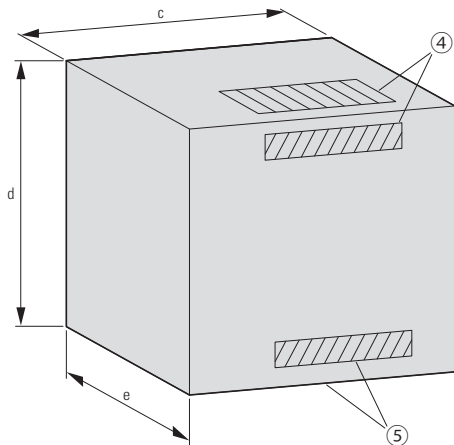
	Enclosure clearance	To insulated surface	To grounded metal surface	With cell switch or locking facilities
		mm	mm	mm
Withdrawable	a	0	0	0
	b	25	25	25/75
Fixed	a	150	250	–
	b	30	70	–

Recommended enclosure clearance and ventilation

The illustration shows a typical enclosure.

The table below lists the associated minimum distances between enclosures and ventilation openings.

This information is intended as a guideline for constructing a suitable circuit-breaker enclosure. Ensure the integration complies with IEC 61439.



c	Width of cassette + 75 mm
d	550 mm
e	450 mm (front control panel bay)
Ventilation holes	160 cm ² (800 - 3200 A) 320 cm ² (4000 A) } Top and bottom

- ④ Top or rear vent
- ⑤ Rear or lower vent



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