

IZMX Series Air Circuit Breakers

Small, flexible, efficient

Catalogue 2015

Air Circuit Breaker - IZMX series IZMX16/IZMX40

EATON

Powering Business Worldwide





Powering electrical systems worldwide

Buildings

- Residential
- Healthcare
- Education
- Commercial offices
- Retail
- Public sector
- Airports

- Electrical distribution solutions for safe and efficient power delivery
- Power quality systems for uptime and reliability
- Power metering and monitoring to add intelligence and save costs
- Industrial control products for HVAC applications

Information Technology

- Data centers
- Telecommunication
- Networks
- Computer rooms

- World's most efficient line of UPSs to reduce footprint and save energy
- Reliable power systems with inherent redundancy to improve availability
- Power metering and monitoring to diagnose problems and lower costs
- Local service and support for quick response



Public and private sectors

Buildings, Information Technology, Industrial & Machinery, Energy & Utilities
We provide reliable, efficient and safe power management.

Industrial & Machinery

- Machine building:
 - Food and packaging machines
 - Woodworking and processing machines
- Agriculture
- Construction
- Mining and metals
- Paper industry
- Chemical and pharmaceutical industry
- Automotive industry
- Logistics centers

- Electrical distribution equipment to deliver power throughout the enterprise
- Control & automation and power quality equipment for process control
- Power metering and monitoring to manage energy costs and uptime
- Power and motion control products to optimize productivity, reliability, safety and operator comfort

Energy & Utilities

- Renewable energy:
 - Solar
 - Wind
 - Hydropower
- Traditional energy:
 - Oil
 - Gas
- Smart grid
- Water and waste water

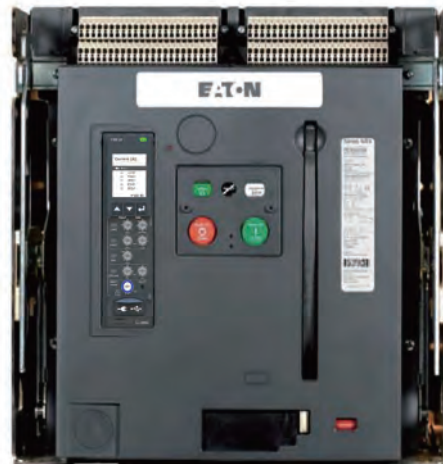
- Electrical balance of system and turnkey services for residential, utility and commercial solar installations
- Power distribution equipment, control components and system installations services
- Network power grid technology for intelligent data, lower costs and crew / public safety

Versatile circuit breakers up to 4000 A – for cost-effective, optimized solutions.



The **IZMX16** of the NRX series is the smallest air circuit-breaker (ACB) worldwide: With a volume of only 0.024 m³ and a front surface of only 0.092 m², it is just slightly bigger than the size of a A4 sheet of paper! And all this without any loss in terms of performance.

The innovative concept allows the user to install **two circuit breakers** side by side in withdrawable design, **in a 600 mm wide section**. This fact provides for a more cost-effective setup of the section and, in addition, it helps to save operating space. And where remote switching is required, this volume can even accommodate a motor for charging the stored-energy spring mechanism and releases for electrical operation. High performance combined with reduced space is exceptional value to customer.



The **IZMX40** of the NRX series is a circuit breaker for up to 4000 A with depth less than 400mm for the drawout version, without the need to install any additional “copper mines” in the connection area.

Tests to integrate it into Eaton switchgear systems, such as Modan, xEnergy, Power Xpert and Capitol 40 confirm its outstanding technical data and optimal compatibility thanks to the flexible connection system.

The modular structure, integrated solutions as well as a complete range of accessories and additional functions make it easy to adapt the circuit breaker to any of the required applications. Optionally it can be configured right at the factory – without any extra cost for additional installation work at the circuit breaker.



Horizontal Terminal



Vertical Terminal
(Available on B, N
and H type.
E type can be
configured as
horizontal terminal
only)

**IZMX Circuit Breakers,
INX Switch-disconnectors**



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IZMX Series Air Circuit Breakers

Technical Data



IZMX16



IZMX40

General		IZMX16			IZMX40						
Standards		IEC/EN 60947			IEC/EN 60947						
Ambient temperature	Storage	°C	-25 - 85		-25 - 85						
	Operating (open)	°C	-25 - 85		-25 - 85						
Mounting position											
Utilization category		B			B						
Protection type		IP20, IP55 device with protective cover, IP41 with door sealing frame			as required						
Direction of incoming supply		as required			as required						
Switching capacity		630A, 800A, 1000A, 1250A, 1600A			800A, 1000A, 1250A, 1600A, 2000A, 2500A, 3200A, 4000A						
Rated Current (I _n)											
Type of circuit breaker		B	N	H	B	N	H				
Rated impulse withstand voltage (U _{imp} , VAC)		12000	12000	12000	12000	12000	12000				
Rated insulation voltage (U _i , VAC)		1000	1000	1000	1000	1000	1000				
Rated operational voltage (U _e , VAC)		690	690	690	690	690	690				
Ultimate breaking capacity (I _{cu} , kA)	240V 50/60Hz	42	85	85	66	85	105				
	440V 50/60Hz	42	50	66	66	85	105				
	690V 50/60Hz	42	42	42	66	75	75				
Rated service breaking capacity (I _{cs} , kA)	240V 50/60Hz	42	50	65	66	85	105				
	440V 50/60Hz	42	50	50	66	85	105				
	690V 50/60Hz	42	42	42	66	75	75				
Rated short-time withstand current (I _{cw} , kA)	1s/3s	42/-	42/-	42/-	66/53	85 ¹⁾ /66	85 ¹⁾ /66				
Rated short-circuit making capacity (I _{cm} , kA)	440V 50/60Hz	88	105	145	145	187	231				
	690V 50/60Hz	88	88	88	145	165	165				
Operating delays (ms)	Closing delay	25			30						
	Closing delay electrical (via SR)	30			35						
	Opening delay electrical (via ST)	25			22						
	Opening delay electrical (via UVR)	50			37						
Maximum operating frequency (Operations/h)		60			60						
Durability and installation characteristics		630A-1600A			800A-1600A			2000A		2500A-4000A	
Lifespan	Mechanical, w/o maintenance	12500			12500			10000		10000	
	Mechanical, w/ maintenance	25000			25000			20000		20000	
	Electrical, w/o maintenance	10000			10000			8000 ²⁾		6000 ³⁾	
Dimensions (H × W × D, mm)	Fixed 3P	338 × 210 × 184			398 × 376 × 298						
	Fixed 4P	338 × 279 × 184			398 × 492 × 298						
	Withdrawable 3P	360 × 254 × 289			456 × 426 × 393						
	Withdrawable 4P	360 × 324 × 289			456 × 541 × 393						
Weight (kg)	Fixed 3P/4P	15/20			45/56						
	Withdrawable 3P/4P	39/47			98/121						

¹⁾ 75kA at 690VAC

²⁾ 6000 operations for B,N and H type at 690VAC, E type at 480VAC

³⁾ 2500 operations at 690VAC

Technical Data



V Type (PXR20)
IZMX-PXRV
IZMX16/40...V...



U Type (PXR25)
IZMX-PXRU
IZMX16/40...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
Voltage (%) L to L	–	$\pm 1\%$ of Reading ³⁾
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(IZMX-PXR-PTM-2) for voltage sensing input to trip unit

● Standard

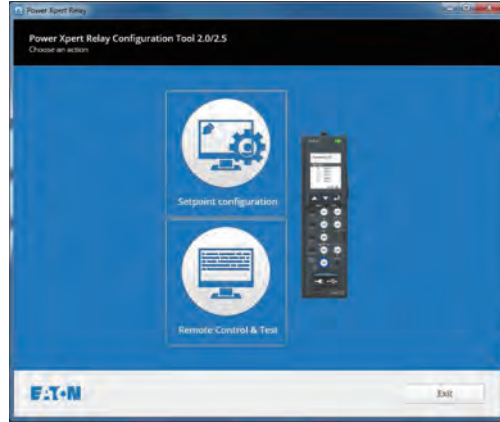
○ Optional

– not available

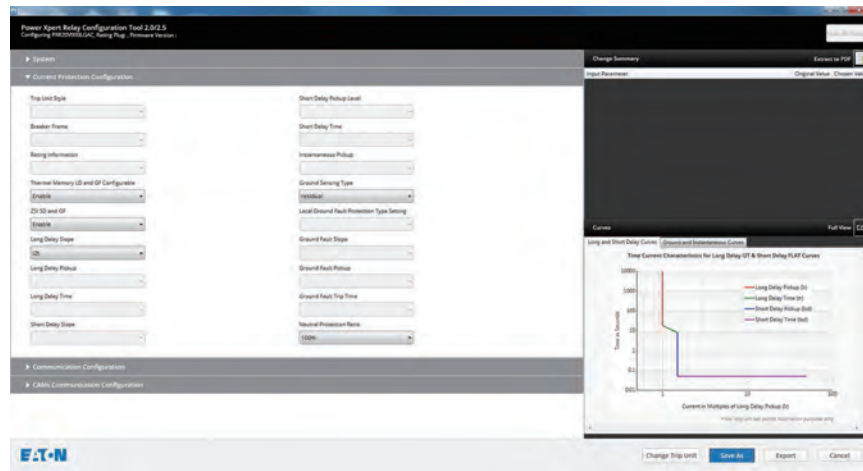
IZMX Series Air Circuit Breakers

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



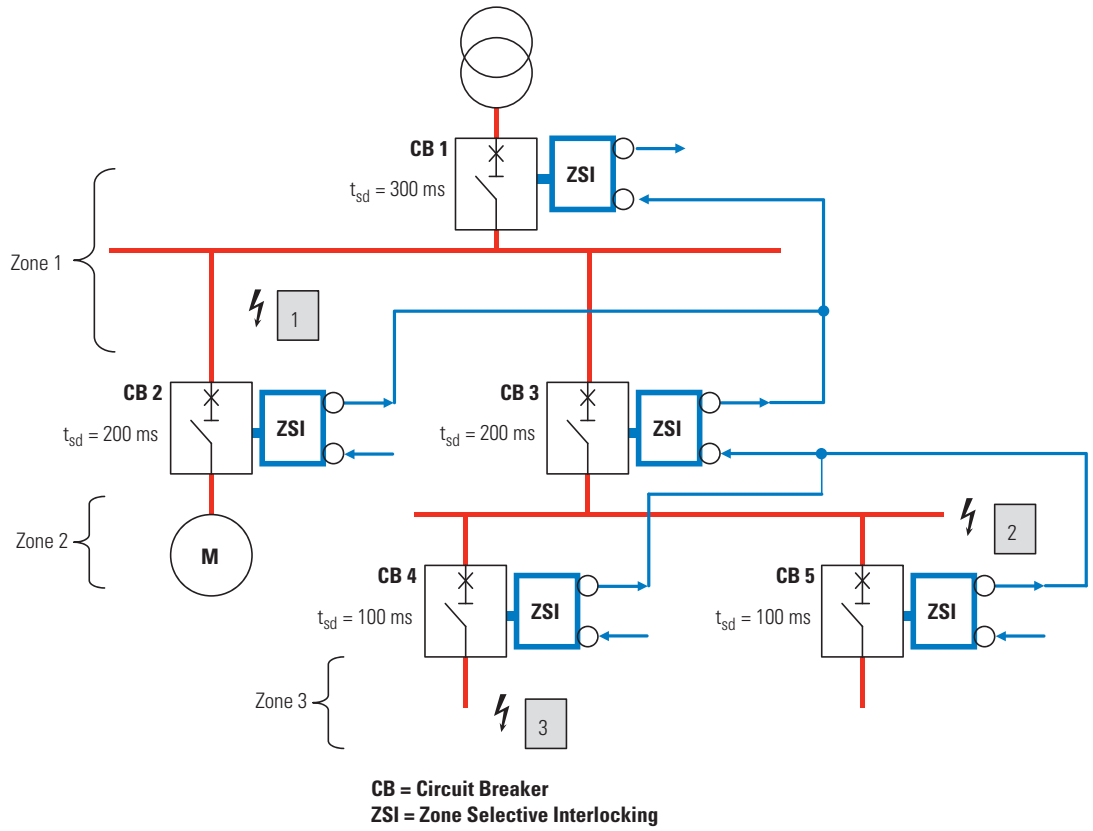
Arcflash Reduction Maintenance System™

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.



Zone Selective Interlocking

- Zone Selective Interlocking (ZSI) is described in the soon to be published standard IEC 61912-2 Low voltage switchgear and controlgear.
- The term zone selective interlocking is used to describe a method of controlling circuit breakers to provide selectivity with very short interruption times for the breaker closest to the fault.
- There are different levels (zones) of protection that isolate the fault in the distribution system.
- ZSI may be applied for faults between phases or earth-faults or both.
- ZSI is applied to the short time faults where time selectivity can be achieved with the breakers between the zones.
- Because ZSI does not require auxiliary power or additional modules to operate set up time is minimal and application is easy.

Zone Selective Interlocking Example

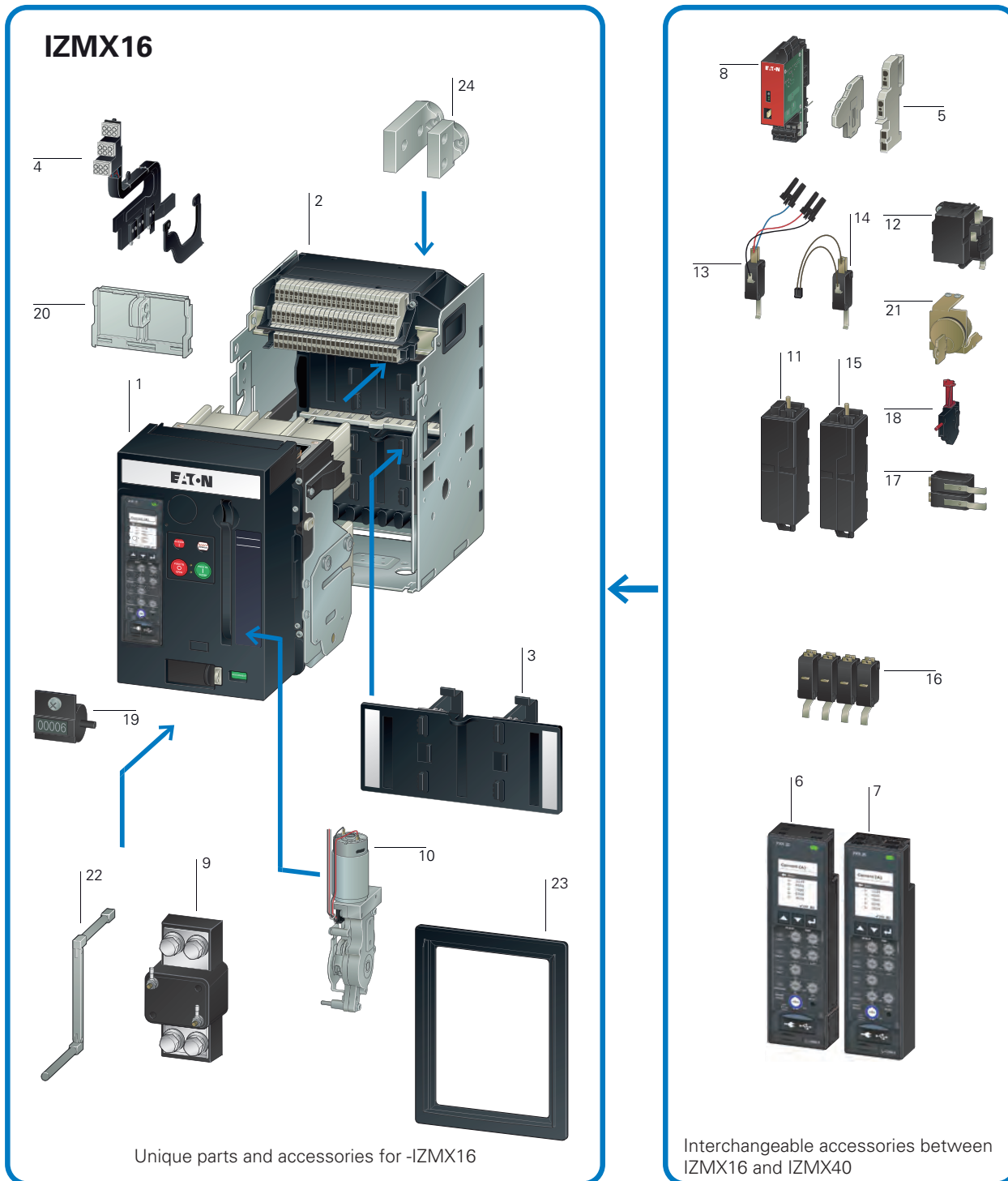
- Example A – Short-circuit at position 3**
- Circuit-breakers CB1, CB3, CB4 all see the short circuit current and register a short delay pick-up.
 - Circuit breaker CB4 sends a ZSI output blocking signal to CB3 ZSI input. CB3 sends a ZSI output blocking signal to CB1 ZSI input. CB1 sends a ZSI output 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 output 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.

IZMX Series Air Circuit Breakers

IZMX system overview



Unique parts and accessories for -IZMX16

Interchangeable accessories between IZMX16 and IZMX40

- 1 IZMX Circuit-breaker** P10
IZMX16: 630 - 1600A
IZMX40: 800 - 4000A

- 2 Cassette** P11
+IZMX-CAS163-1600 X16, 1600A, 3P
+IZMX-CAS164-1600 X16, 1600A, 4P
+IZMX-CAS403-2000 X40, 2000A, 3P
+IZMX-CAS404-2000 X40, 2000A, 4P
+IZMX-CAS403-2500 X40, 2500A, 3P
+IZMX-CAS404-2500 X40, 2500A, 4P
+IZMX-CAS403-3200 X40, 3200A, 3P
+IZMX-CAS404-3200 X40, 3200A, 4P
+IZMX-CAS403-4000 X40, 4000A, 3P
+IZMX-CAS404-4000 X40, 4000A, 4P

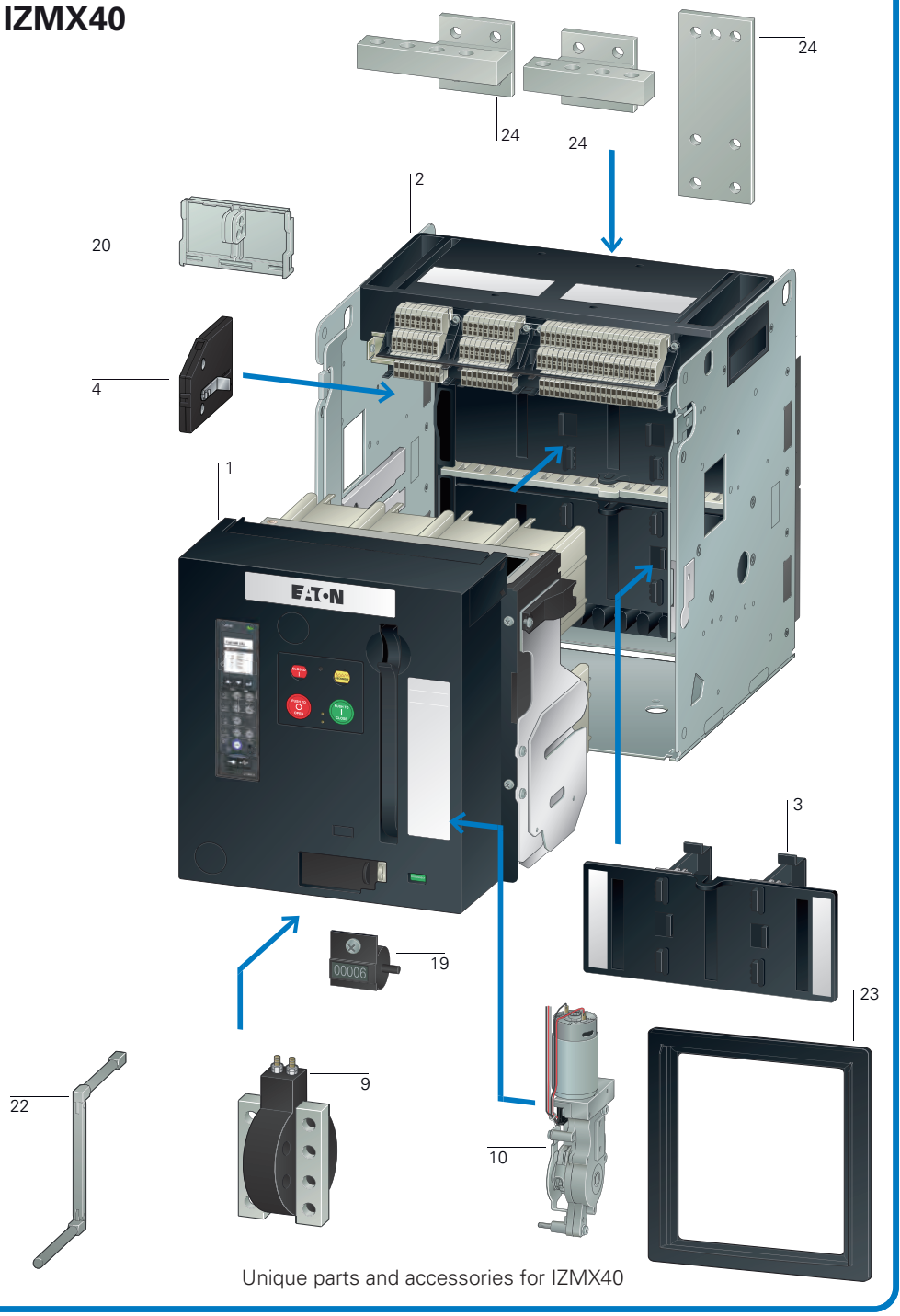
- 3 Safety Shutter** P12
+IZMX-SH163 X16, 3P
+IZMX-SH164 X16, 4P
+IZMX-SH403 X40, 3P
+IZMX-SH404 X40, 4P

- 4 Position cell switches** P12
Cell switch signals the position of the breaker inside of the cassette.
Connect, Test and Disconnect Position.
IZMX-CS16-1-2 X16
IZMX-CS40-L-2 X40, left
IZMX-CS40-R-2 X40, right

- 5 Control circuit terminal units** P12
Modular design

- 6 Trip unit** P13
PXR20, V-type, current metering
C - Onboard Modbus
G - Ground fault protection
M - Arcflash Reduction Maintenance System™
+IZMX-PXRV-C
+IZMX-PXRV-G
+IZMX-PXRV-GC
+IZMX-PXRV-GM
+IZMX-PXRV-GMC

IZMX40



Unique parts and accessories for IZMX40

- 7 Trip unit** P13
PXR25, U-type, power metering
+IZMX-PXRU-G
+IZMX-PXRU-M
+IZMX-PXRU-GM

- 8 Communication modules** P14
External modules
IZMX-MCAM-2 Modbus
IZMX-ECAM-2 Ethernet
IZMX-PCAM-2 Profibus DP

- 9 Current sensor for neutral conductor** P14
Current sensor for sensing the neutral-conductor current.
IZMX-CT16-N-2 X16
IZMX-CT40-N-2 X40

- 10 Motor operator** P15
Automatic charging of the spring force storage for remote or local operations
+IZMX-M16-24DC X16, 24VDC
+IZMX-M16-110AD X16, 110VAC/DC
+IZMX-M16-230AD X16, 220VAC/DC
+IZMX-M40-24DC X40, 24VDC
+IZMX-M40-110AD X40, 110VAC/DC
+IZMX-M40-230AD X40, 110VAC/DC

- 11 Shunt releases** P16
Opens the breaker by an electrical signal.
+IZMX-ST24DC 24VDC
+IZMX-ST110AD 110VAC/DC
+IZMX-ST230AD 220VAC/DC

- 12 Closing releases** P17
Closes the breaker by an electrical signal.
+IZMX-SR24DC 24VDC
+IZMX-SR110AD 110AC/DC
+IZMX-SR230AD 220AC/DC

- 13 Latch check switch** P17
For external application
Usage
+IZMX-LCS

- 14 Latch check switch** P17
For use with closing release.
+IZMX-LCS-SR

- 15 Undervoltage releases** P18
Opens the breaker by a voltage-drop in the control circuit.
+IZMX-UVR24DC 24VDC
+IZMX-UVR110AD 110VAC/DC
+IZMX-UVR220AD 220VAC/DC
+IZMX-UVR400AC 380VAC

- 16 Auxiliary contacts** P18
Signaling switch ON-OFF.
2a2b standard. 4a4b maximum for IZMX16 and 12a12b for IZMX40
+IZMX-AS22 X16/X40, add 2a2b
+IZMX-AS44 X40, add 4a4b
+IZMX-AS66 X40, add 6a6b
+IZMX-AS88 X40, add 8a8b
+IZMX-AS1010 X40, add 10a10b

- 17 Trip indicator switches** P19
Overcurrent trip switch (OTS) signals a trip by the trip unit.
+IZMX-OTS

- 18 Red-pop trip indicator** P19
Red-pop trip indicator signals a trip by the trip unit
Included in breaker with trip unit

- 19 Switching operations counters** P20
Counts the number of operations.
+IZMX-OC

- 20 Locking facilities** P20
Plastic or metal
IZMX-PLPC16-P-2 X16, plastic
IZMX-PLPC16-M-2 X16, metal
IZMX-PLPC40-P-2 X40, plastic
IZMX-PLPC40-M-2 X40, metal

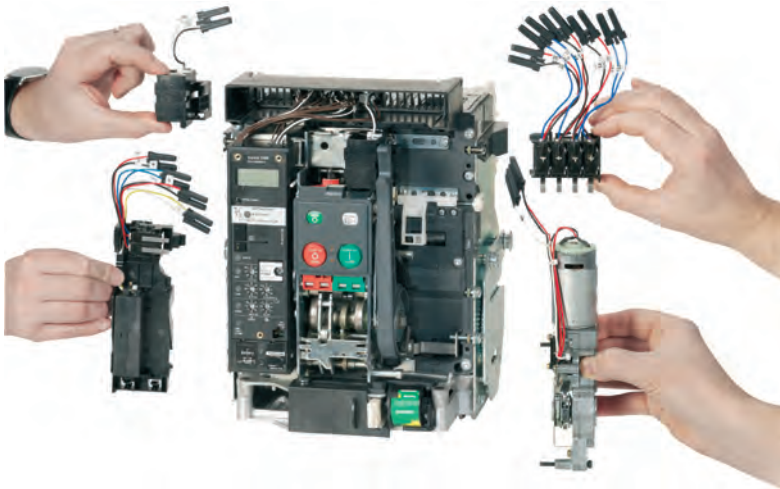
- 21 Key locking** P20
Locking of the breaker by a keylock.
IZMX-KLP-SO-CES-2
IZMX-KLP-SO-KIRK-2
IZMX-KLP-SO-RONIS-2
IZMX-KLP-SO-CASTELL-2

- 22 Levering tool** P23
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

- 23 Door escutcheon** P23
Closes the gap between Breaker and Switchgear-door.
IP41 included in breaker
For IP55:
IZMX-DC16-W-2 X16
IZMX-DC40-W-2 X40

- 24 Main terminal kits** P24
Universal terminals, 3- and 4-pole horizontal/vertical
IZMX-THV163-2 X16, 3P
IZMX-THV164-2 X16, 4P
IZMX-THV403-3200-2 X40, 3P, 3200A
IZMX-THV404-3200-2 X40, 4P, 3200A
IZMX-TH403-2 X40, 3P, 4000A, horizontal
IZMX-TV403-2 X40, 3P, 4000A, vertical
IZMX-TH404-2 X40, 4P, 4000A, horizontal
IZMX-TV404-2 X40, 4P, 4000A, vertical

IZMX Series Air Circuit Breakers



Breaker rear side (withdrawable breaker)

Space-saving circuit-breakers with useful accessories

Eaton Introduces IZMX Series

The new IZMX Series from Eaton is a new series of air circuit-breakers with an extensive range of accessories. The new range provides users with two compact frame sizes up to 4000A, modular design, common accessories, easy to integrate communications and a full range of trip units including the new powerful Power Xpert Release(PXR) trip unit with a LCD display. The innovative concept of the **IZMX16** makes it possible to install two withdrawable circuitbreakers in a 600 mm wide section. This enables more economical section design and also saves operating space. The compact modular design of the **IZMX40** offers customers a full range of high performance ratings in a single frame size simplifying the integration process into panel boards and switch boards. **IZMX Series**, a new generation and new standard in circuit protection.

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 control units.

Switches with closing release

They are particularly suitable for synchronization tasks.

Coupler switches

In addition to the circuit-breakers, switch-disconnectors are also available. These are used, for example, as coupler switches between different power supplies. The switch-disconnectors are used as coupler switches for different sections of a network in conjunction with our automatic network switching device.

Modular Design, Common Accessories

The retrofitting of accessories is made considerably easy thanks to the efficient "plug & work" technology. Accessory drawers and snap-fit mechanisms make it possible to fit the latest accessories with virtually no tools. This flexibility allows you to respond easily to changing requirements within your system. Most accessories for IZMX Series are common to both the compact and standard frame sizes.

Standard scope of delivery

- With the new IZMX Series range, you select a basic device that is already fitted with an electronic release.
- The standard mounting for both frames is on a horizontal mounting plate or on horizontal traverses in the switching cabinet. The IZMX16 can also be fastened to vertical mounting plates.
- 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 lock-out is reset by pressing the red mechanical trip indicator on the front of the circuit-breaker.
- A "remote-reset" feature and an "automatic reset" are offered as additional ordering options. The remote reset enables resetting the breaker after an over current trip via a control voltage. The automatic reset option enables the circuit breaker to be restored to normal operation immediately after an over current trip (i.e. there is no mechanical reclosing lockout). In these applications compulsory fault analysis is intentionally avoided.

- The number of secondary control cable terminals depends on the accessories fitted.
- If a cassette is ordered without the basic device, this can be already fitted with the maximum number of control cable terminals. For greater economy in large plants, the cassette is also offered without control circuit terminals so that fitting can be carried out later at the installation or when accessories are required at a later time.
- The withdrawable basic device includes the primary finger clusters and levering-in mechanism. NOTE: Some manufacturers mount the primary finger clusters inside the cassette cell, which requiring shutdown of the panel board for inspection and maintenance.
- 2 changeover contacts are provided as standard for ON/OFF status indication.
- A coding mechanism between the basic device and the cassette prevents impermissible combinations ("Rejection Interlock").
- The door escutcheon is always included in the scope of delivery. With withdrawable designs this is supplied with the cassette (withdrawable unit).
- 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.
- If a motor operator is ordered, the "Spring-operated stored energy mechanism tensioned" indicator switch is automatically provided.

Additional benefits IZMX Series

- The "universal" design of the main terminal offers maximum flexibility. The horizontal terminal can be rotated simply at the installation so that it can also be used as a vertical connection. With withdrawable units, additional terminal pieces can even be dispensed with. Both the IZMX Series breaker and the cassette offer an integrated flange terminal to which the system busbars can be connected directly.
- Thanks to the separate mounting position, a switching operations counter can now be used also independently of a motor operator.
- Withdrawable unit operation: The unit is actuated with a hand crank supplied as a standard feature and has a secure position in the basic device.

External 24 V supply

- The standard protection functions of IZMX Series operate 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 universal and power measurement release units with display can be fed with a 24 V DC supply so that the display function can be used without a load. An external 24 V DC power supply is needed if communication functions are required.

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 IZMX 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
- Other components of the ARCON arc fault protection system, in conjunction with Series NRX, enable an expansion of arc fault protection in stages. ARCON on the Internet: www.moeller.net/arcon

Selection criteria for circuit-breakers

Fundamental criteria for the selection of circuit-breakers:

- **Max short-circuit current I_k max** at 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_{cu} , 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 switch 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 4 pole.
- 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: This is determined by the selection of the respective overcurrent release.

For additional resources and tools for selecting Eaton Air Circuit Breakers please visit us at www.eaton.com/seriesnrx.

Communication Options for IZMX Series

With the respective communication module - PCAM, MCAM or ECAM (Profibus-DP / Modbus/ Ethernet Communications Adapter Module) - every circuit breaker of the NRX 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 IZMX-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 IZMX 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 IZMX-PCAM, a supply voltage of 24 V DC is required.
- The data connection to the circuitbreaker 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 IZMX-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 IZMX-MCAM, a supply voltage of 24 V DC is required.
- The data connection to the circuitbreaker 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 IZMX to be adapted to the Modbus architecture. This enables a simple means of implementing a data filter, which facilitates the integration of IZMX data in the control system.

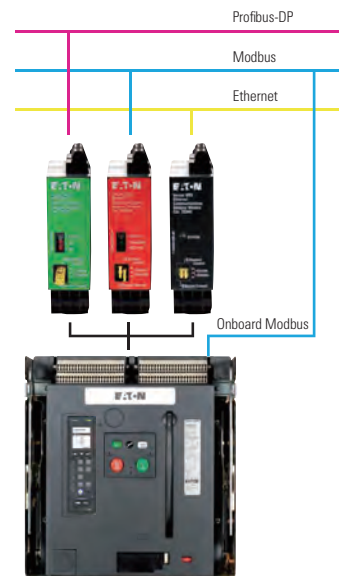
Ethernet configuration

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 circuitbreaker is implemented internally through a serial high speed data connection.
- To operate the IZMX-ECAM, a supply voltage of 24 V DC is required.

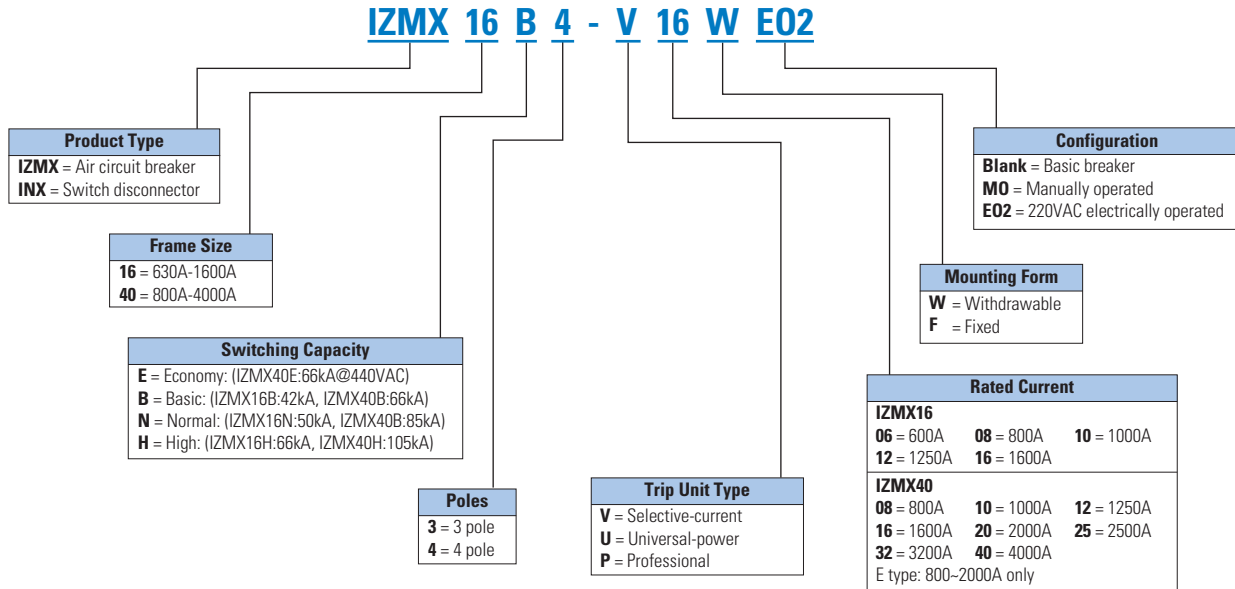
Data access via Ethernet

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 IZMX 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.



IZMX Series Air Circuit Breakers

IZMX Series Air Circuit Breakers Catalog Number



Recommended Selection Examples

IZMX40 fixed 220VAC electrically operated example (item 1~2 for manually operated MO):

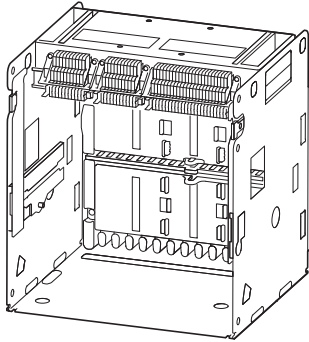
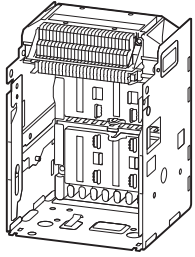
- ① IZMX40B3-V16F Fixed parent breaker, including 2a2b Aux contact
- ② IZMX-THV403-3200-2 Main terminal adapter – horizontal (3200A and below)
- ③ +IZMX-M40-230AD 220-240 VAC/DC Charging motor
- ④ +IZMX-ST230AD 220-240 VAC/DC Shunt trip
- ⑤ +IZMX-SR230AD 220-240 VAC/DC Closing spring release
- ⑥ +IZMX-AS22 Additional 2a2b Aux contact (4a4b total)
- ⑦ +IZMX-OTS Over current trip switch(OTS) 2CO
- ⑧ EASY400-POW External power module to converter 220VAC to 24VDC to power trip unit

IZMX40 withdrawable 220VAC electrically operated E02 example (item 1~4 for manually operated MO):

- ① IZMX40B3-U16W Withdrawable parent breaker, including 2a2b Aux contact
- ② +IZMX-CAS403-2000 Cassette(2000A and below)
- ③ +IZMX-SH403 Safety shutters
- ④ IZMX-THV403-3200-2 Main terminal adapter – horizontal (3200A and below)
- ⑤ +IZMX-M40-230AD 220-240 VAC/DC Charging motor
- ⑥ +IZMX-ST230AD 220-240 VAC/DC Shunt trip
- ⑦ +IZMX-SR230AD 220-240 VAC/DC Closing spring release
- ⑧ +IZMX-AS22 Additional 2a2b Aux contact (4a4b total)
- ⑨ +IZMX-OTS Over current trip switch(OTS) 2CO
- ⑩ EASY400-POW External power module to converter 220VAC to 24VDC to power trip unit

IZMX-CAS...

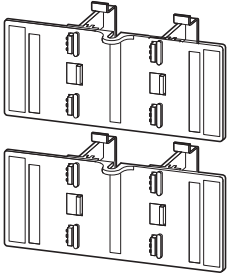


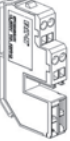

Pole-	For use with	Cat. No. Part no. Article no.	Instructions
Cassettes			
Equipment supplied: arcing chamber cover, Safety coding for basic device			
3	IZMX16...3-...W INX16...3-...W up to 1600 A	+IZMX-CAS163-1600 101536	With control circuit terminals according to ordered options.
3	IZMX16...3-...W INX16...3-...W up to 1600 A	IZMX-CAS163-1600-SEC-2 180198	With control conductor terminals fully fitted.
4	IZMX16...4-...W INX16...4-...W up to 1600 A	+IZMX-CAS164-1600 101538	With control circuit terminals according to ordered options.
4	IZMX16...4-...W INX16...4-...W up to 1600 A	IZMX-CAS164-1600-SEC-2 180135	With control conductor terminals fully fitted.
3	IZMX40...3-...W INX40...3-...W up to 2000 A	+IZMX-CAS403-2000 150067	With control circuit terminals according to ordered options.
3	IZMX40...3-...W INX40...3-...W up to 2000 A	IZMX-CAS403-2000-SEC-2 180329	With control conductor terminals fully fitted.
4	IZMX40...4-...W INX40...4-...W up to 2000 A	+IZMX-CAS404-2000 150086	With control circuit terminals according to ordered options.
4	IZMX40...4-...W INX40...4-...W up to 2000 A	IZMX-CAS404-2000-SEC-2 180331	With control conductor terminals fully fitted.
3	IZMX40...3-...W INX40...3-...W 2500 A	+IZMX-CAS403-2500 122787	With control circuit terminals according to ordered options.
3	IZMX40...3-...W INX40...3-...W 2500 A	IZMX-CAS403-2500-SEC-2 180158	With control conductor terminals fully fitted.
4	IZMX40...4-...W INX40...4-...W 2500 A	+IZMX-CAS404-2500 122890	With control circuit terminals according to ordered options.
4	IZMX40...4-...W INX40...4-...W 2500 A	IZMX-CAS404-2500-SEC-2 180166	With control conductor terminals fully fitted.
3	IZMX40...3-...W INX40...3-...W 3200 A	+IZMX-CAS403-3200 150061	With control circuit terminals according to ordered options.
3	IZMX40...3-...W INX40...3-...W 3200 A	IZMX-CAS403-3200-SEC-2 180325	With control conductor terminals fully fitted.
4	IZMX40...4-...W INX40...4-...W 3200 A	+IZMX-CAS404-3200 150064	With control circuit terminals according to ordered options.
4	IZMX40...4-...W INX40...4-...W 3200 A	IZMX-CAS404-3200-SEC-2 180327	With control conductor terminals fully fitted.
3	IZMX40...3-...W INX40...3-...W 4000 A	+IZMX-CAS403-4000 122886	With control circuit terminals according to ordered options.
3	IZMX40...3-...W INX40...3-...W 4000 A	IZMX-CAS403-4000-SEC-2 180160	With control conductor terminals fully fitted.
4	IZMX40...4-...W INX40...4-...W 4000 A	+IZMX-CAS404-4000 122900	With control circuit terminals according to ordered options.
4	IZMX40...4-...W INX40...4-...W 4000 A	IZMX-CAS404-4000-SEC-2 180168	With control conductor terminals fully fitted.



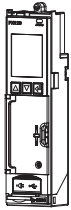
IZMX Series Air Circuit Breakers

Shutter, Cell Switch and Terminal Block

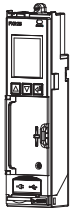
IZMX-SH..., IZMX-CS..., IZMX-SEC-TB...

	Pole-	For use with	Cat. No. Part no. Article no.	Instructions
Cassette safety shutters				
When the breaker is withdrawn from its connected position, the shutters automatically cover the cassette's live main terminals.				
	3	(+)IZMX-CAS163...	IZMX-SH163-2 180151	—
	3	(+)IZMX-CAS163...	+IZMX-SH163 101541	—
	4	(+)IZMX-CAS164...	IZMX-SH164-2 180152	—
	4	(+)IZMX-CAS164...	+IZMX-SH164 101543	—
	3	(+)IZMX-CAS403...	IZMX-SH403-2 180171	—
	3	(+)IZMX-CAS403...	+IZMX-SH403 122905	—
	4	(+)IZMX-CAS404...	IZMX-SH404-2 180174	—
	4	(+)IZMX-CAS404...	+IZMX-SH404 122908	—
Cell switches				
One changeover contact for position Disconnected, Test, Connected.				
	Installation on left in the cassette	(+)IZMX-CAS16...	IZMX-CS16-1-2 180153	—
	Installation on left in the cassette	(+)IZMX-CAS40...	IZMX-CS40-L-2 180143	—
	Installation on right in the cassette	(+)IZMX-CAS40...	IZMX-CS40-R-2 180144	—
Control circuit terminal block for withdrawable mounting				
IZMX16 has maximum 14 kits and IZMX40 has 24 maximum				
	Control circuit terminals, 8 units	(+)IZMX-CAS...	IZMX-SEC-TB8-W-2 180355	—
	Control circuit terminals, 20 units	(+)IZMX-CAS...	IZMX-SEC-TB20-W-2 180356	—
	Control circuit terminals, 30 units	(+)IZMX-CAS...	IZMX-SEC-TB30-W-2 180357	—
Control circuit terminal units for fixed mounting				
IZMX16 has maximum 14 kits and IZMX40 has 24 maximum				
	Control circuit terminals, 8 units	IZMX16..., INX16... IZMX40..., INX40...	IZMX-SEC-TB8-F-2 180358	—
	Control circuit terminals, 20 units	IZMX16..., INX16... IZMX40..., INX40...	IZMX-SEC-TB20-F-2 180359	—
	Control circuit terminals, 30 units	IZMX16..., INX16... IZMX40..., INX40...	IZMX-SEC-TB30-F-2 180360	—

IZMX-PXRV..., IZMX-PXRU



	For use with	Ground Earth-Fault Protection (G)	ARMS (M)	Onboard ModBUS Communication (C)	Cat. No. Part no. Article no.
Type V trip unit with current metering (PXR20)					
	–	–	–	–	IZMX-PXRV
Add-on functions for current metering Type V (PXR20)					
Add onboard Modbus	IZMX...V...	–	–	●	+IZMX-PXRV-C 180394
Add ground fault protection	IZMX...V...	●	–	–	+IZMX-PXRV-G 180386
Add ground fault protection and onboard Modbus	IZMX...V...	●	–	●	+IZMX-PXRV-GC 180396
Add ground fault protection and ARMs	IZMX...V...	●	●	–	+IZMX-PXRV-GM 180398
Add ground fault protection, onboard Modbus and ARMs	IZMX...V...	●	●	●	+IZMX-PXRV-GMC 180400



Type U Trip Unit with Power Metering (PXR25)					
Onboard ModBUS is standard on all PXR25 trip units	–	–	–	●	IZMX-PXRU
Add-on functions for power metering Type U (PXR25)					
Add ground fault protection	IZMX...U...	●	–	●	+IZMX-PXRU-G 180388
Add ARMs	IZMX...U...	–	●	●	+IZMX-PXRU-M 180390
Add ground fault protection and ARMs	IZMX...U...	●	●	●	+IZMX-PXRU-GM 180392

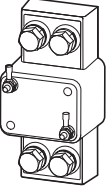
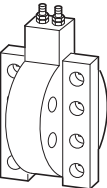
IZMX Series Air Circuit Breakers

Accessories for Electronic Releases, Current Sensors

Accessories for Electronic Releases

Description	For use with	Rated control voltage U_s V	Cat. No. Part no. Article no.	Note
Power supply				
External trip unit power adapter	IZMX16... IZMX40...	115/230VAC input 24VDC, 12.5A output	EASY400-POW 212319	DIN rail mount Order separately
Externally mounted voltage transformer to provide voltage sensing input to U type trip unit. One PT Module may connect up to 16 IZMX breakers, to a maximum of 75 meters distance	IZMX16... IZMX40...	–	IZMX-PXR-PTM-2 183125	DIN rail mount Order separately, not included in U type trip unit
Communication modules				
Communication module ETHERNET	– IZMX40...	–	IZMX-ECAM-2 180133	DIN rail mount Order separately
Communication module MODBUS	– IZMX40...	–	IZMX-MCAM-2 180161	DIN rail mount Order separately
Communication module PROFIBUS	– IZMX40...	–	IZMX-PCAM-2 180176	DIN rail mount Order separately

IZMX-CT...

		Rated current I_n A	For use with	Cat. No. Part no. Article no.
Current sensor for neutral conductor on 3-pole circuit-breakers				
	for IZMX16 Externally mounted neutral sensor for residual ground.	–	IZMX16...	IZMX-CT16-N-2 180138
	for IZMX40 Externally mounted neutral sensor for residual ground.	–	IZMX40...	IZMX-CT40-N-2 180381

IZMX-M...

Rated control voltage

For use with

Cat. No.
Part no.
Article no.

Instructions

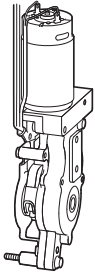
U_s
V

Motor operator

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

for IZMX16



24 V DC	IZMX16... INX16...	IZMX-M16-24DC-2 180182	For retrofitting, two additional control circuit terminal units are required. → page 12
24 V DC	IZMX16... INX16...	+IZMX-M16-24DC 123593	
48 V DC	IZMX16... INX16...	IZMX-M16-48DC-2 180183	
48 V DC	IZMX16... INX16...	+IZMX-M16-48DC 123595	
110 - 127 V AC 50/60 Hz 110 - 125 V DC	IZMX16... INX16...	IZMX-M16-110AD-2 180141	
110 - 127 V AC 50/60 Hz 110 - 125 V DC	IZMX16... INX16...	+IZMX-M16-110AD 124265	
220 - 240 V AC 50/60 Hz 110 - 125 V DC	IZMX16... INX16...	IZMX-M16-230AD-2 180142	
220 - 240 V AC 50/60 Hz 110 - 125 V DC	IZMX16... INX16...	+IZMX-M16-230AD 124267	

for IZMX40

24 V DC	IZMX40... INX40...	IZMX-M40-24DC-2 180091
24 V DC	IZMX40... INX40...	+IZMX-M40-24DC 124290
48 V DC	IZMX40... INX40...	IZMX-M40-48DC-2 180092
48 V DC	IZMX40... INX40...	+IZMX-M40-48DC 124292
110 - 127 V AC 50/60 Hz 110 - 125 V DC	IZMX40... INX40...	IZMX-M40-110AD-2 180094
110 - 127 V AC 50/60 Hz 110 - 125 V DC	IZMX40... INX40...	+IZMX-M40-110AD 124296
220 - 240 V AC 50/60 Hz 110 - 125 V DC	IZMX40... INX40...	IZMX-M40-230AD-2 180378
220 - 240 V AC 50/60 Hz 110 - 125 V DC	IZMX40... INX40...	+IZMX-M40-230AD 156647

IZMX Series Air Circuit Breakers

Releases

IZMX-ST..., IZMX-STs...

Rated control-voltage

For use with

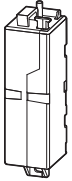
Cat. No.

Instructions

Part no.

Article no.

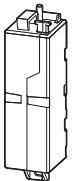
U_s
V



Shunt releases

Can be combined with an undervoltage release or a second shunt release.

24 V DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-ST24DC-2 180185	An additional control circuit terminal block is required for retrofitting. → page 12
24 V DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-ST24DC 123607	
48 V DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-ST48DC-2 180186	
48 V DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-ST48DC 123616	
110 - 125 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-ST110AD-2 180187	
110 - 125 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-ST110AD 123696	
220 - 240 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-ST230AD-2 180188	
220 - 240 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-ST230AD 123729	



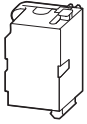
Second shunt release

Cannot be combined with an undervoltage release..

24 V DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-STs24DC 123731	An additional control circuit terminal block is required for retrofitting. → page 12
48 V DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-STs48DC 123732	
110 - 125 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-STs110AD 123733	
220 - 240 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-STs230AD 123734	

IZMX-SR..., IZMX-LCS...

Rated control-voltage	For use with	Cat. No.	Instructions
U_s		Part no.	
V		Article no.	



Closing releases

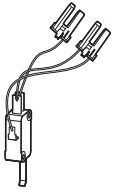
Without latch check switch.

24 V DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-SR24DC-2 180189	
24 V DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-SR24DC 123735	
48 V DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-SR48DC-2 180190	
48 V DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-SR48DC 123737	
110 - 125 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-SR110AD-2 180191	
110 - 125 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-SR110AD 123739	
220 - 240 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-SR230AD-2 180192	
220 - 240 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-SR230AD 123741	

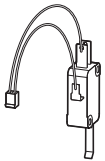
Latch check switches

1 changeover contact

Only in combination with closing release



-	IZMX16..., IZMX40... INX16..., INX40...	IZMX-LCS-2 180104	For external application
-	IZMX16..., IZMX40... INX16..., INX40...	IZMX-LCS40 124348	
-	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-LCS 124347	



Automatic closing after readiness for operation.

Only in combination with closing release.

-	IZMX16..., IZMX40... INX16..., INX40...	IZMX-LCS-SR-2 180113	For use with closing release IZMX-SR...
-	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-LCS-SR 124349	

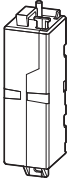
IZMX Series Air Circuit Breakers

Electrical Accessories

IZMX-UVR(-TD)..., IZMX-AS...

Rated control-voltage	For use with	Cat. No. Part no. Article no.	Instructions
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U_s
V



Undervoltage releases

Cannot be combined with a second shunt release.

24 V DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-UVR24DC-2 180193	An additional control circuit terminal block is required for retrofitting. → page 12
24 V DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-UVR24DC 123743	
48 V DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-UVR48DC-2 180194	
48 V DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-UVR48DC 123747	
380-415V AC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-UVR400AC-2 180197	
380-415V AC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-UVR400AC 123874	
110 - 125 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-UVR110AD-2 180195	
110 - 125 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-UVR110AD 123761	
220 - 240 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	IZMX-UVR220AD-2 180196	
220 - 240 V AC/DC	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-UVR220AD 123841	

Time delay modules

For combination with an undervoltage release.

Delay times: 0.1 s, 0.5 s, 1.0 s, 2.0 s.

120 V AC	IZMX16..., IZMX40... INX16..., INX40...	IZM-UVR-TD-120AC 122956	Only in combination with undervoltage release IZMX-UVR110AD.
230 V AC	IZMX16..., IZMX40... INX16..., INX40...	IZM-UVR-TD-230AC 122957	Only in combination with undervoltage release IZMX-UVR220AD.

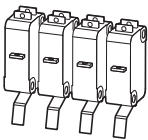
Auxiliary contacts

Standard auxiliary switch for On-Off signaling.

The basic device already contains two changeover contacts.

IZMX16 (NF): Two additional changeover contacts possible.

IZMX40 (RF): up to 10 additional changeover contacts possible.

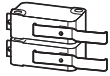


Additionally 2 NO / NC contacts	IZMX16... INX16...	IZMX-AS22-16-2 180361	–
Additionally 2 NO / NC contacts	IZMX40... INX40...	IZMX-AS22-40-2 180362	–
Additionally 2 NO / NC contacts	IZMX16..., IZMX40... INX16..., INX40...	+IZMX-AS22 123880	–
Additionally 4 NO / NC contacts	IZMX40... INX40...	+IZMX-AS44 123882	–
Additionally 6 NO / NC contacts	IZMX40... INX40...	+IZMX-AS66 124344	–
Additionally 8 NO / NC contacts	IZMX40... INX40...	+IZMX-AS88 124345	–
Additionally 10 NO / NC contacts	IZMX40... INX40...	+IZMX-AS1010 124346	–

IZMX-OTS..., IZMX-TI..., IZMX-RA..., IZMX-RR...

Rated control-voltage	For use with	Cat. No. Part no. Article no.	Instructions
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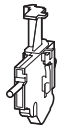
U_s
V



Overcurrent trip switches

Overcurrent trip switch (OTS) with two changeover contacts. Not available on INX switch disconnecter.

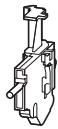
–	IZMX16...	IZMX-OTS16-2 180364	–
–	IZMX40...	IZMX-OTS40-2 180366	–
–	IZMX16..., IZMX40...	+IZMX-OTS 123888	–



Interlocked Trip Indicators

Can be used in combination with Overcurrent Trip Switches and Remote Reset function. Not available on INX switch disconnecter.

–	IZMX16...	IZMX-TI16 156634	Included in IZMX breaker
–	IZMX40...	IZMX-TI40 156600	Included in IZMX breaker



Non-Interlocked Trip Indicators

The switch does contain the mechanical trip-indicator (red pin). Does not interlock with mechanism, allowing for automatic reset of breaker. Can be used in combination with Overcurrent Trip Switches. Cannot be combined with remote reset. Not available on INX switch disconnecter.

–	IZMX16...	IZMX-RA16-2 180354	Instead of standard delivery.
–	IZMX40...	IZMX-RA40-2 180365	
–	IZMX16..., IZMX40...	+IZMX-RA 123897	

Remote reset

The breaker can be switched on after a trip as far the trip indicator is resetted manually. The remote reset allows resetting remotely by an electrical signal. Not available on INX switch disconnecter

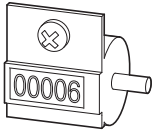
24 V DC	IZMX16...	IZMX-RR24DC-16-2 180095	–
24 V DC	IZMX40...	IZMX-RR24DC-40-2 180096	–
24 V DC	IZMX16..., IZMX40...	+IZMX-RR24DC 123890	–
110 - 125 V AC/DC	IZMX16...	IZMX-RR110AD-16-2 180097	–
110 - 125 V AC/DC	IZMX40...	IZMX-RR110AD-40-2 180098	–
110 - 125 V AC/DC	IZMX16..., IZMX40...	+IZMX-RR110AD 123892	–
220 - 240 V AC	IZMX16...	IZMX-RR230AD-16-2 180100	–
220 - 240 V AC	IZMX40...	IZMX-RR230AD-40-2 180101	–
220 - 240 V AC/DC	IZMX16..., IZMX40...	+IZMX-RR230AD 123895	–

IZMX Series Air Circuit Breakers

Mechanical Accessories

IZMX-OC..., IZMX-PLPC..., IZMX-KLP-SO...

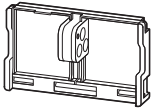
For use with
Cat. No.
Part no.
Article no.



Operation counters

Counts the number of ON-OFF operations. Can also be installed without motor operator.

IZMX16...	IZMX-OC16-2	
INX16...	180184	
IZMX40...	IZMX-OC40-2	
INX40...	180102	
IZMX16..., IZMX40...	+IZMX-OC	
INX16..., INX40...	124341	



Locking ON/OFF buttons

Padlockable front cover for ON-OFF pushbutton.

P = Insulated material	IZMX16...	IZMX-PLPC16-P-2	
		180379	
	IZMX40...	IZMX-PLPC40-P-2	
		180107	
	IZMX16..., IZMX40...	+IZMX-PLPC-P	
		124357	
M = Metal	IZMX16...	IZMX-PLPC16-M-2	
		180380	
	IZMX40...	IZMX-PLPC40-M-2	
		180105	
	IZMX16..., IZMX40...	+IZMX-PLPC-M	
		124352	
OFF = Safe OFF; then it is also impossible to switch on via the closing release	IZMX40...	IZMX-PLPC40-M-OFF-2	
		180106	
	IZMX16..., IZMX40...	+IZMX-PLPC-M-OFF	
		124355	



Safe OFF lock mechanism for cylinder locks

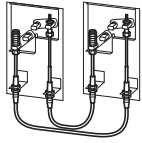
The "Safe OFF" interlock prevents switching on. Neither remote nor local switching on is possible.
For corresponding typ of lock cylinder see installation instructions.
Lock cylinder and key are required for installation..

CES installation kit without lock cylinder and key. Compatible CES cylinder #5256-LAG, key #90134.	IZMX16..., IZMX40... INX16..., INX40...	IZMX-KLP-SO-CES-2	180108	
Kirk installation kit without lock cylinder and key. Compatible Kirk Keylock #KC40.10.	IZMX16..., IZMX40... INX16..., INX40...	IZMX-KLP-SO-KIRK-2	180109	
Ronis installation kit without lock cylinder and key. Compatible Ronis lock 1351-10B (Dim A = 7 mm).	IZMX16..., IZMX40... INX16..., INX40...	IZMX-KLP-SO-RONIS-2	180111	
Castell installation kit without lock cylinder and key. Compatible Castell Cylinder #CL1019(modified to 90°), key #FKW6-NI	IZMX16..., IZMX40... INX16..., INX40...	IZMX-KLP-SO-CASTELL-2	180112	
Kirk installation kit without lock cylinder and key, A type	IZMX16..., IZMX40... INX16..., INX40...	IZMX-1L1K	90000019000039	
Kirk installation kit without lock cylinder and key, B type	IZMX16..., IZMX40... INX16..., INX40...	IZMX-1L1K-B	90000019000046	The key and lock cylinder of -B and -C are not interchangeable with IZMX-1L1K
Kirk installation kit without lock cylinder and key, C type	IZMX16..., IZMX40... INX16..., INX40...	IZMX-1L1K-C	90000019000047	The key and lock cylinder of -B and -C are not interchangeable with IZMX-1L1K

Notes:

It is recommended to request factory installation for IZMX-1L1K(-B/-C), with no additional installation charge. Service fee will be applied if requesting Eaton field installation service. Contact our sales specialists before ordering.

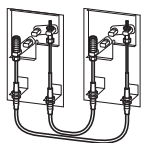
IZMX-MIL...W..., IZMX-MIL...F..., IZMX-MIL-CAB...



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

Cat. No.

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).

IZMX16...
IMX16...

IZMX-MIL2C-W16-2
180336

IZMX40...
IMX40...

IZMX-MIL2C-W40-2
180344

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.

IZMX16...
IMX16...

IZMX-MIL3133C-W16-2
183117

IZMX40...
IMX40...

IZMX-MIL3133C-W40-2
183119

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.

IZMX16...
IMX16...

IZMX-MIL32C-W16-2
180338

IZMX40...
IMX40...

IZMX-MIL32C-W40-2
180346

Mechanical interlock, fixed mounting

Type 2, for 2 circuit-breakers: A normal power supply (A) and an emergency network supply (B).

IZMX16..., INX16...

IZMX-MIL2C-F16-2
180332

IZMX40..., INX40...

IZMX-MIL2C-F40-2
180340

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.

IZMX16..., INX16...

IZMX-MIL3133C-F16-2
183118

IZMX40..., INX40...

IZMX-MIL3133C-F40-2
183120

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 circuit-breakers can be closed at the same time.

IZMX16..., INX16...

IZMX-MIL32C-F16-2
180334

IZMX40..., INX40...

IZMX-MIL32C-F40-2
180342

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

IZMX-MIL...C-F...
IZMX-MIL...C-W...

IZMX-MIL-CAB1520-2
180348

1830 mm long

IZMX-MIL...C-F...
IZMX-MIL...C-W...

IZMX-MIL-CAB1830-2
180349

2440 mm long

IZMX-MIL...C-F...
IZMX-MIL...C-W...

IZMX-MIL-CAB2440-2
180350

3050 mm long

IZMX-MIL...C-F...
IZMX-MIL...C-W...

IZMX-MIL-CAB3050-2
180351

Interlock among X16, X40, fixed or withdrawable:

Example: A type 33 configuration including 1 IZMX40 drawout, 1 IZMX40 fixed, and 1 IZMX16 drawout with 3050mm cables, order:

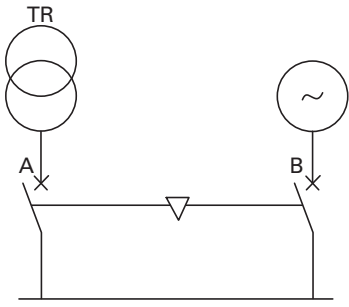
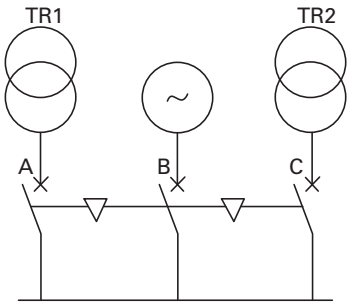
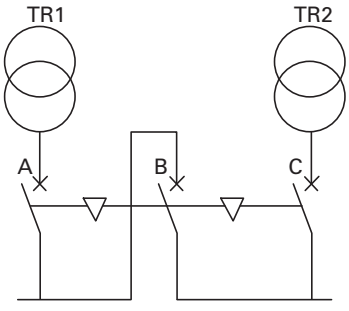
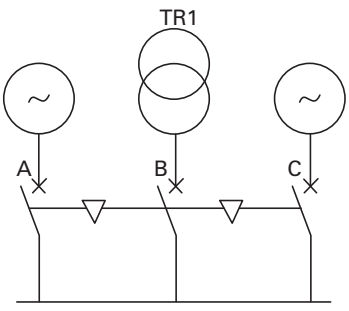
1. IZMX-MIL3133C-W40-2, QTY: 1, for 1 IZMX40 drawout
2. IZMX-MIL3133C-F40-2, QTY: 1, for 1 IZMX40 fixed
3. IZMX-MIL3133C-W16-2, QTY: 1, for 1 IZMX16 drawout
4. IZMX-MIL-CAB3050-2, QTY:3, for type 33 configuration

IZMX Series Air Circuit Breakers

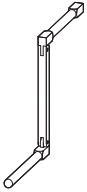
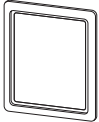
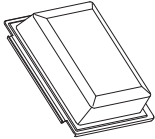
Mechanical Interlock Configurations

IZMX16, INX16, IZMX40, INX40

Mechanical Interlock configurations

Type	Type of interlock	Typical circuit	Interlocks possible																								
<p>Type 2</p>	<p>Across Two Circuit Breakers One normal power supply and one emergency power supply.</p>	 <p>Interlock: A against B</p>	<p>Circuit breaker A can only be closed if B is open and vice versa.</p> <p>A = Normal power supply B = Emergency power supply.</p> <table border="1" data-bbox="1208 544 1338 659"> <thead> <tr> <th>A</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>1</td> <td>0</td> </tr> <tr> <td>0</td> <td>1</td> </tr> </tbody> </table>	A	B	0	0	1	0	0	1																
A	B																										
0	0																										
1	0																										
0	1																										
<p>Type 31</p>	<p>Across Three Circuit Breakers Two normal power supplies and one emergency power supply.</p>	 <p>Interlock: A, C against B</p>	<p>Circuit breaker A and C can only be closed if B is open. B can only be closed when A and C are open.</p> <table border="1" data-bbox="1208 909 1403 1079"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	A	B	C	0	0	0	1	0	0	0	1	0	0	0	1	1	0	1						
A	B	C																									
0	0	0																									
1	0	0																									
0	1	0																									
0	0	1																									
1	0	1																									
<p>Type 32</p>	<p>Across Three Circuit Breakers The two half-bus bars can be powered by a single transformer (bustie closed) or by both at the same time (bus-tie open).</p>	 <p>Interlock: 2 against 1 or max. 2 of 3</p>	<p>One of two circuit breakers out of three can be closed at the same time.</p> <table border="1" data-bbox="1208 1229 1403 1464"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	A	B	C	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	1	1	1	0	1
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0	0	1																									
1	1	0																									
0	1	1																									
1	0	1																									
<p>Type 33</p>	<p>Across Three Circuit Breakers Three power supplies (generators or transformers) on the same bus bar, making operation in parallel impossible.</p>	 <p>Interlock: 1 against 2 or max. 1 of 3</p>	<p>Only one of three circuit breakers can be closed.</p> <table border="1" data-bbox="1208 1583 1403 1731"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	A	B	C	0	0	0	1	0	0	0	1	0	0	0	1									
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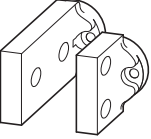
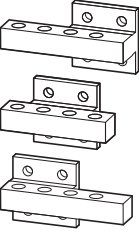
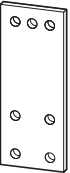
IZMX-LT..., IZMX-DEG..., IZMX-DC...

	For use with	Cat. No. Part no. Article no.	Instructions
Collapsible hand lever			
Standard Omega shaped handle is included in D/O breaker. Optional collapsible handle can be ordered separately	IZMX16...W INX16...W	IZMX-LT16-2 180134	—
	IZMX40...W INX40...W	IZMX-LT40-2 180206	—
			
Door gasket, IP41, for withdrawable breaker			
	IZMX16...W INX16...W	IZMX-DEG16-W-2 180110	Spare part; supplied as standard with every breaker.
	IZMX40...W INX40...W	IZMX-DEG40-W-2 180205	
Door cover, IP55, for withdrawable breaker			
The protective cover allows a higher protection type. IP55	IZMX16...W INX16...W	IZMX-DC16-W-2 180145	—
	IZMX40...W INX40...W	IZMX-DC40-W-2 180202	—
			
Door gasket, IP41, for fixed breaker			
	IZMX16...F INX16...F	IZMX-DEG16-F-2 180099	Spare part; supplied as standard with every breaker.
	IZMX40...F INX40...F	IZMX-DEG40-F-2 180204	
Door cover, IP55, for fixed breaker			
The protective cover allows a higher protection type. IP55	IZMX16...F INX16...F	IZMX-DC16-F-2 180146	—
	IZMX40...F INX40...F	IZMX-DC40-F-2 180203	—

IZMX Series Air Circuit Breakers

Terminals

IZMX-T(H)(F)(V)...

Connection	Rated current I_n A	Pole	For use with	Cat. No. Part no. Article no.	Note	
Main terminal component adapter						
Basic cassettes are delivered with flange terminals as standard. Following adapters are optional and for INX16, IZMX16 fixed version requested. Each set contains the connections for top and bottom. 3 pole = 6 off; 4 pole = 8 off						
	Universal connection horizontal, vertical	800 - 1600	3	IZMX16... INX16...	IZMX-THV163-2 180137	
	Universal connection horizontal, vertical	800 - 1600	4	IZMX16... INX16...	IZMX-THV163-2 180137	
	Universal connection horizontal, vertical, long	800 - 1600	3	IZMX16... INX16...	IZMX-THVL163-2 180139	Temp. N/A
	Universal connection horizontal, vertical, long	800 - 1600	4	IZMX16... INX16...	IZMX-THVL164-2 180140	Temp. N/A
	Universal connection horizontal, vertical	800 - 3200	3	IZMX16... INX16...	IZMX-THV403-3200-2 180175	
	Connection horizontal	4000	3	IZMX40... INX40...	IZMX-TH403-2 180177	
	Connection vertical	4000	3	IZMX40... INX40...	IZMX-TV403-2 180178	
	Universal connection horizontal, vertical	800 - 3200	4	IZMX40... INX40...	IZMX-THV404-3200-2 180179	
	Connection horizontal	4000	4	IZMX40... INX40...	IZMX-TH404-2 180180	
	Connection vertical	4000	4	IZMX40... INX40...	IZMX-TV404-2 180181	
	Connection front fixed breaker	800 - 1600	3	IZMX40...F INX40...F	IZMX-TF403-1600F 173363	Temp. N/A
		2000 - 2500	3	IZMX40...F INX40...F	IZMX-TF403-2500F 173367	Temp. N/A
		3200	3	IZMX40...F INX40...F	IZMX-TF403-3200F 173371	Temp. N/A
	Connection front withdrawable cassette	800 - 1600	4	IZMX40...W INX40...W	IZMX-TF404-1600W 173365	Temp. N/A
		2000 - 2500	4	IZMX40...W INX40...W	IZMX-TF404-2500W 173369	Temp. N/A
		3200	4	IZMX40...W INX40...W	IZMX-TF404-3200W 173373	Temp. N/A
		800 - 1600	3	IZMX40...W INX40...W	IZMX-TF403-1600W 173364	Temp. N/A
		2000 - 2500	3	IZMX40...W INX40...W	IZMX-TF403-2500W 173368	Temp. N/A
		3200	3	IZMX40...W INX40...W	IZMX-TF403-3200W 173372	Temp. N/A
	Connection front withdrawable cassette	800 - 1600	4	IZMX40...W INX40...W	IZMX-TF404-1600W 173366	Temp. N/A
		2000 - 2500	4	IZMX40...W INX40...W	IZMX-TF404-2500W 173370	Temp. N/A
		3200	4	IZMX40...W INX40...W	IZMX-TF404-3200W 173374	Temp. N/A

IZMX16 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	
-	-																											
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	
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	

- | | |
|--|---|
| <p>1, 2 - Shunt trip
 3, 4 - UVR/2nd shunt trip
 5~7 - Overload trip switch 1 (OTS)
 8~10 - Overload trip switch 2 (OTS)/ Remote reset
 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</p> | <p>25-28 - External CAM module
 29~32 - PT module
 33~35 - Onboard ModBus
 36 - ACCY4 (Reserved)
 37~39 - Latch check switch, LCC-COM, LCM-N.O., LCB-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.</p> |
|--|---|

IZMX40 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	
+	+																							
ST1	UV1	OT1C	OT1B	OT2C	N1	ALMC	ALM2	G1	+24V	ZIN	ZCOM	CMM1	CMM3	PTVA	PTVC	MODBA	MODBG	2CMM3	2CMM1	ARCON2	RR1			
-	-																							
ST2	UV2	OT1M	OT2B	OT2M	N2	ALM1	ALM3	G2	AGND	ARMSIN	ZOUT	CMM2	CMM4	PTVB	PTVN	MODBB	2CMM2	2CMM4	ARCON1	ARCON3	RR2			
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	

- | | |
|--|--|
| <p>1, 2 - Shunt trip
 3, 4 - UVR/2nd shunt trip
 5~7 - Overload trip switch 1 (OTS)
 8~10 - Overload trip switch 2 (OTS)
 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</p> | <p>20,22 - ARMs
 25-28 - External CAM module
 29~32 - PT module
 33~35 - Onboard ModBus
 36~39 - External CAM module (future)
 40~42 - ARCON
 43,44 - Remote reset
 45~48 - Reserved</p> |
|--|--|

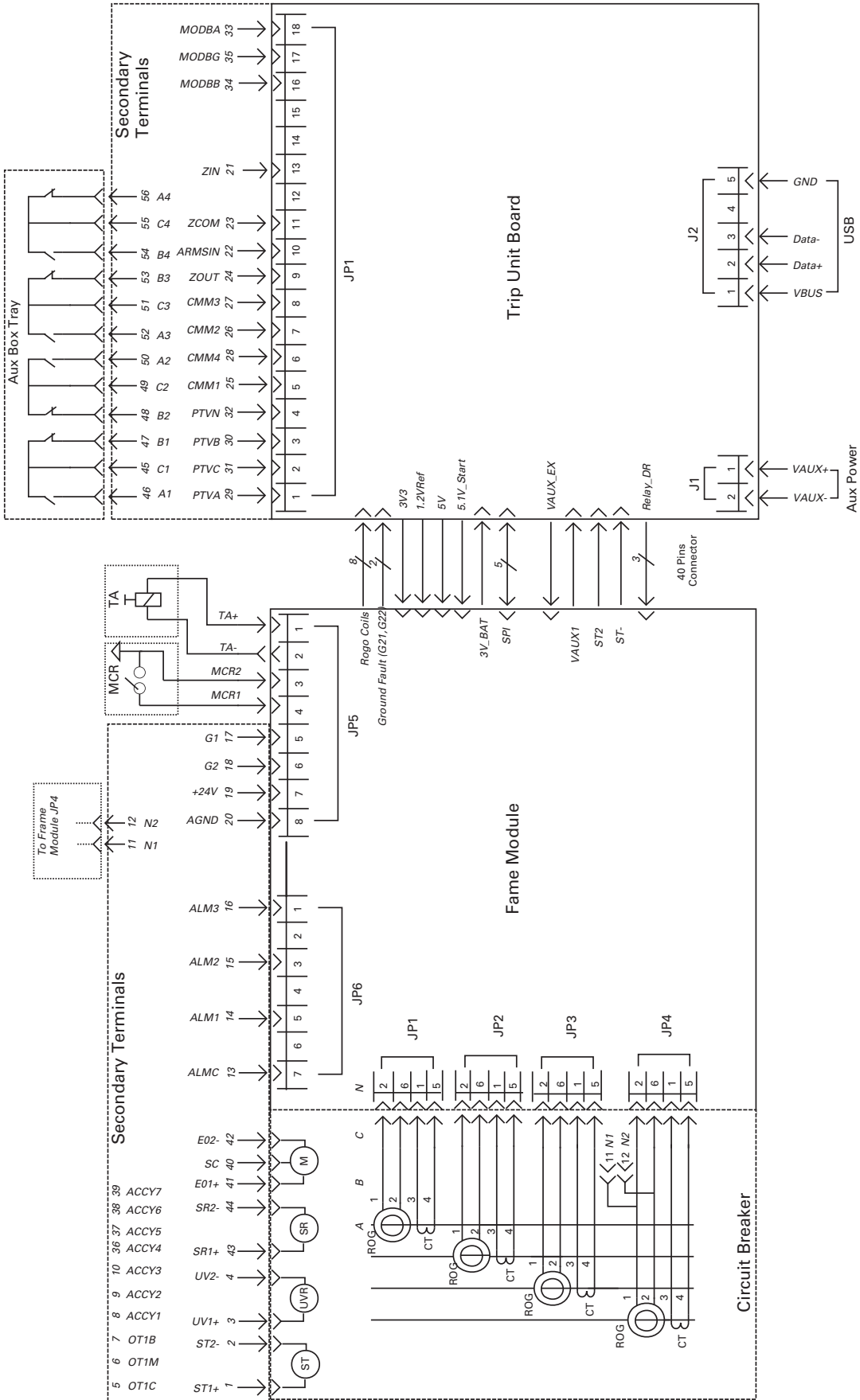
49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91	93	95
LCC	LCB	E01	SR1	C1	B1	C2	C3	B3	C4	C5	B5	C6	C7	B7	C8	C9	B9	C10	C11	B11	C12		
+																							
LCM	SC	E02	SR2	A1	B2	A2	A3	B4	A4	A5	B6	A6	A7	B8	A8	A9	B10	A10	A11	B12	A12		
50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96

- 49~51 Latch check switch, LCC-COM, LCM-N.O., LCB-N.C.
 52 - Message :Spring energy store tensioned
 53, 54 - Motor operator
 55~56 - Spring closing release
 57~92 - Auxiliary contact On/off, C-COM, A-N.O., B-N.C.

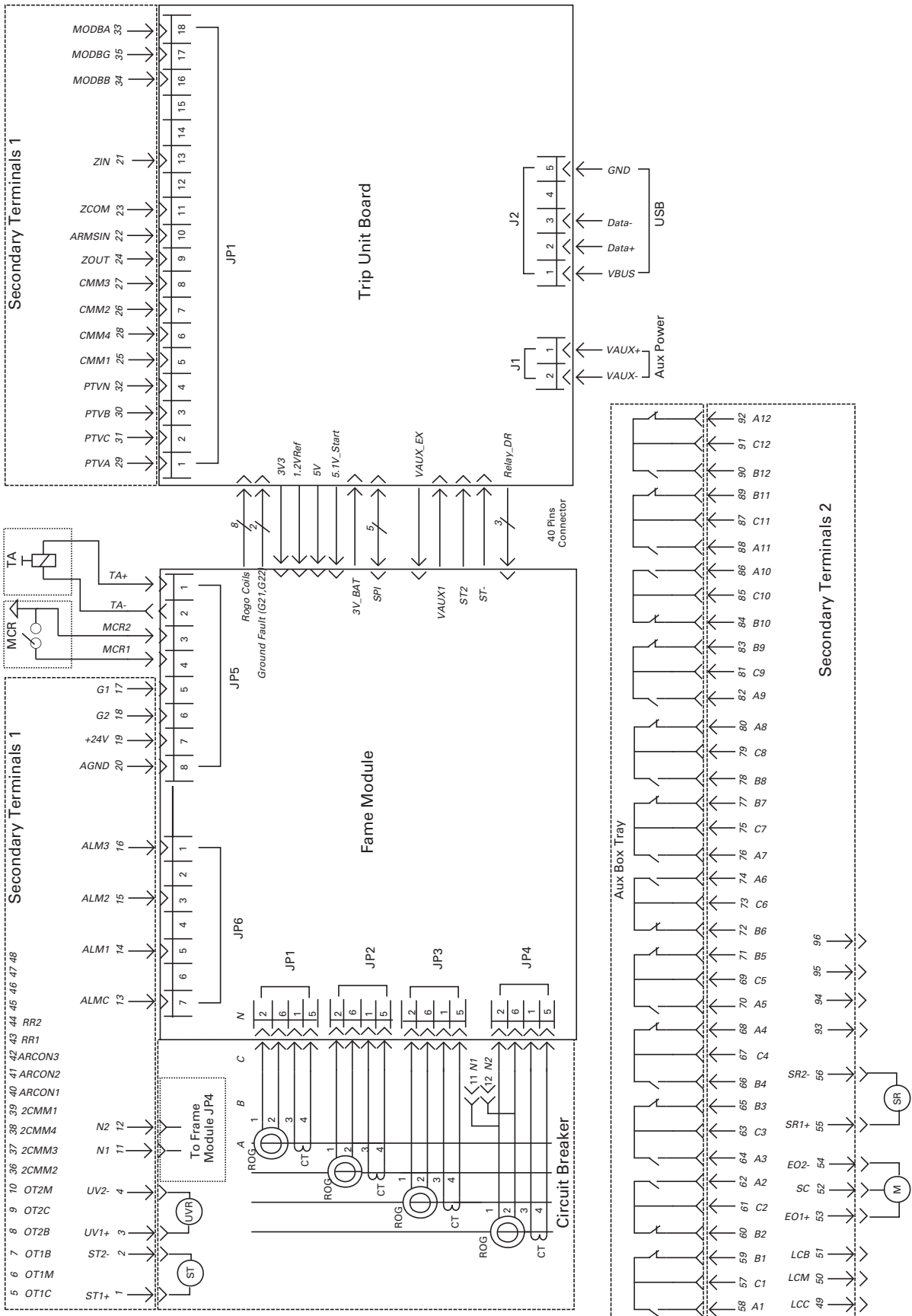
IZMX Series Air Circuit Breakers

Wiring Diagram

X16 Master connection diagram



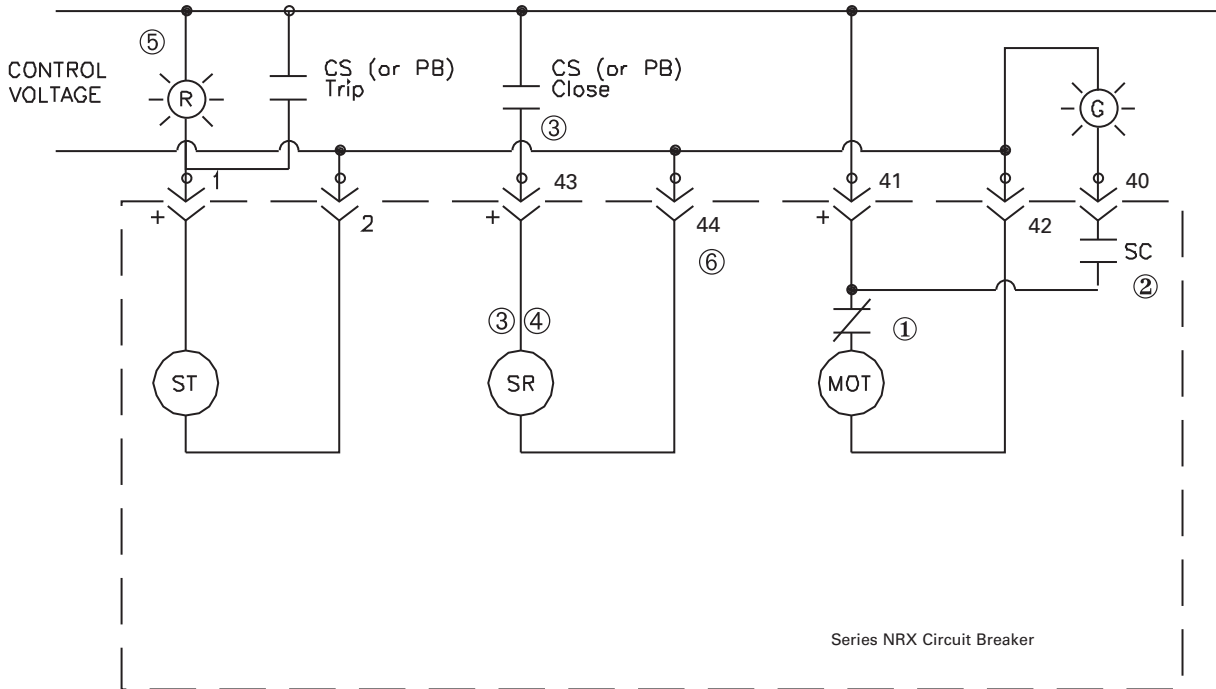
X40 Master connection diagram



IZMX Series Air Circuit Breakers

Wiring Diagram

X16 Circuit Breaker Control



Legend:

- MOT – Motor Operator for Charging Closing Spring
- ST – Shunt Trip
- SR – Spring Release

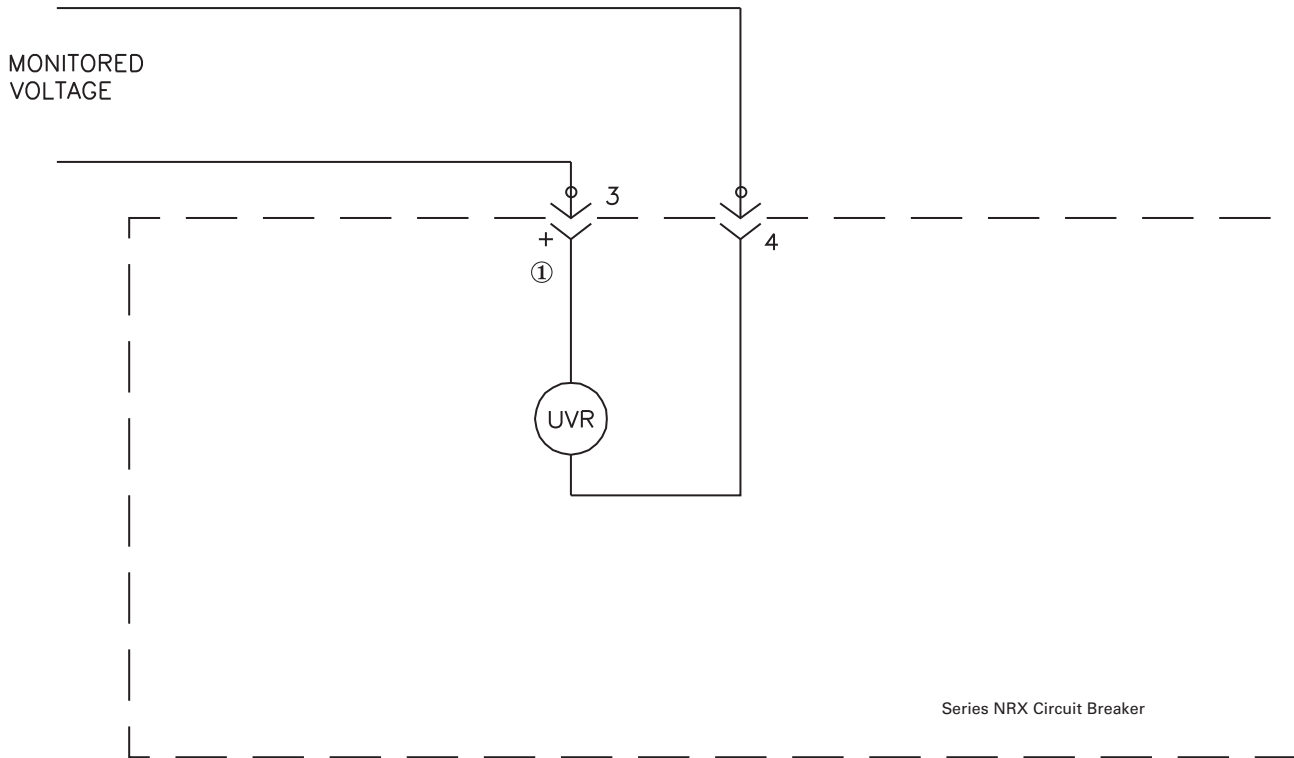
Description of Operation:

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 26 for internal circuit breaker wiring.

IZMX Series Air Circuit Breakers

Wiring Diagram

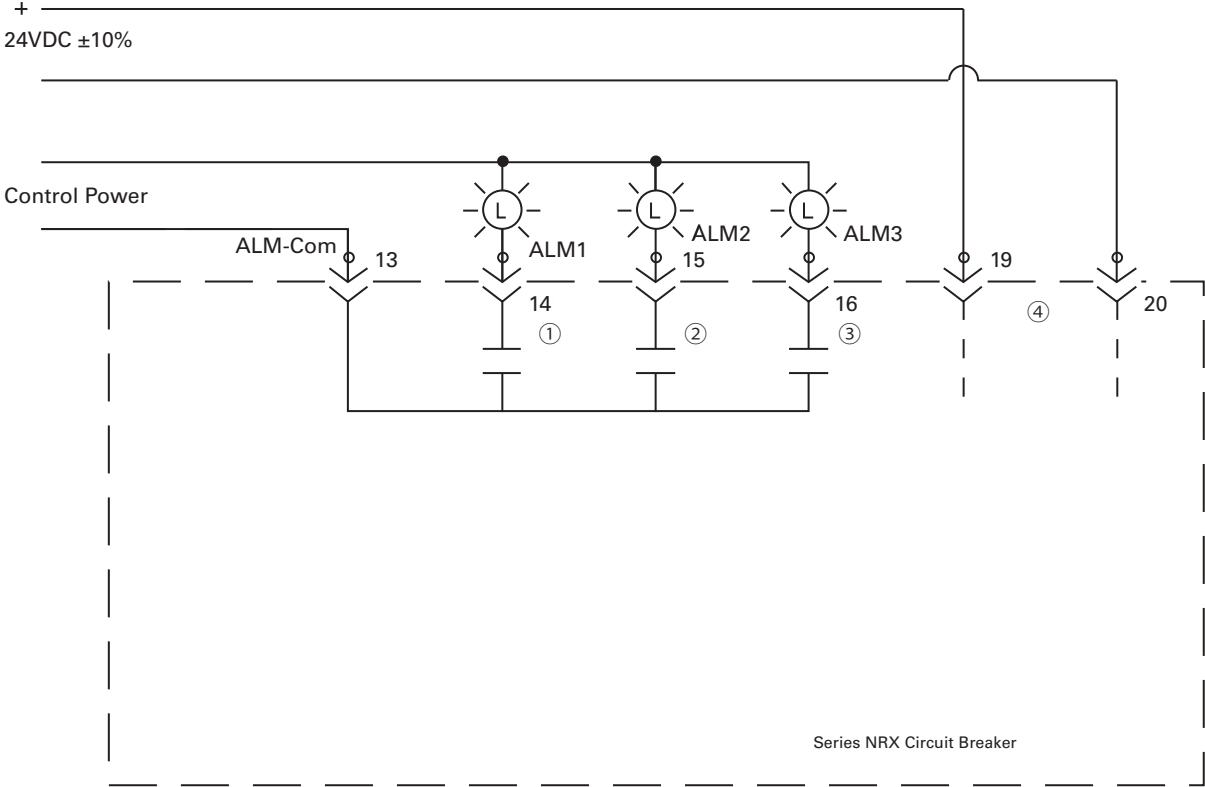
Under Voltage Release



Notes:

1. Treated as the positive voltage for DC ratings.

PXR Alarm Wiring



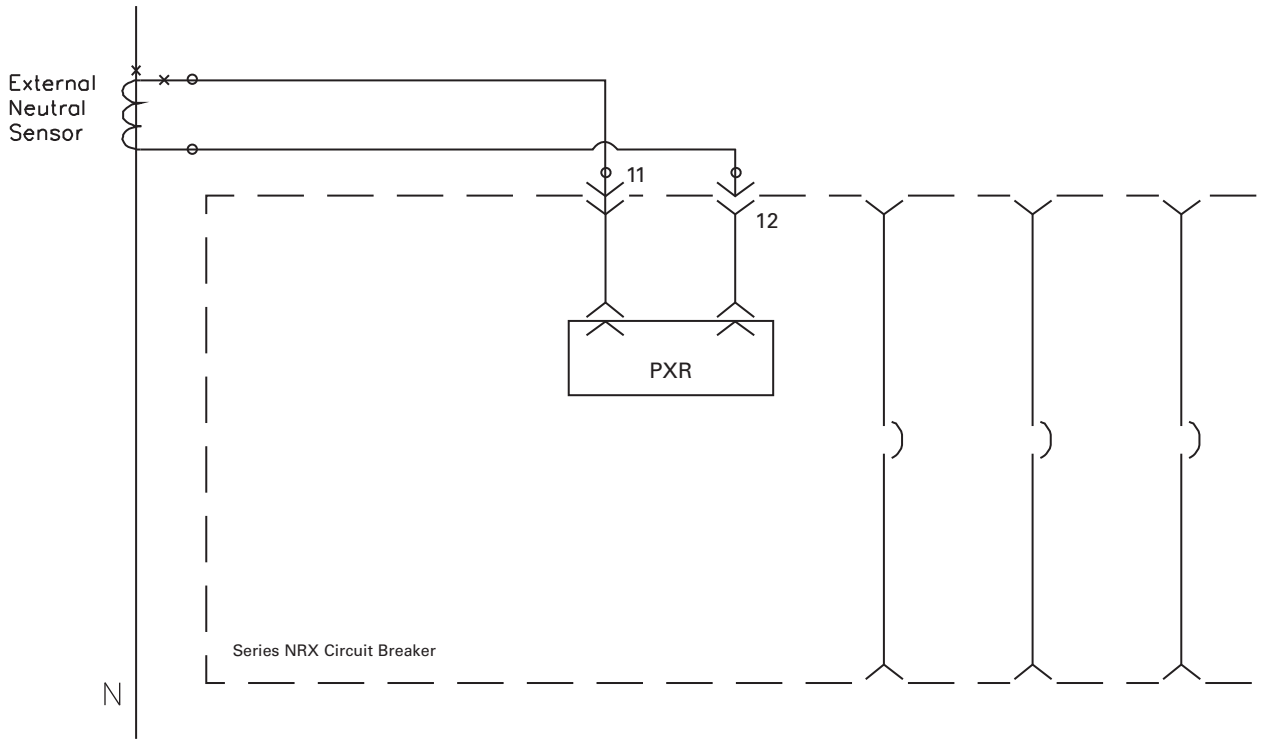
Notes:

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.

IZMX Series Air Circuit Breakers

Wiring Diagram

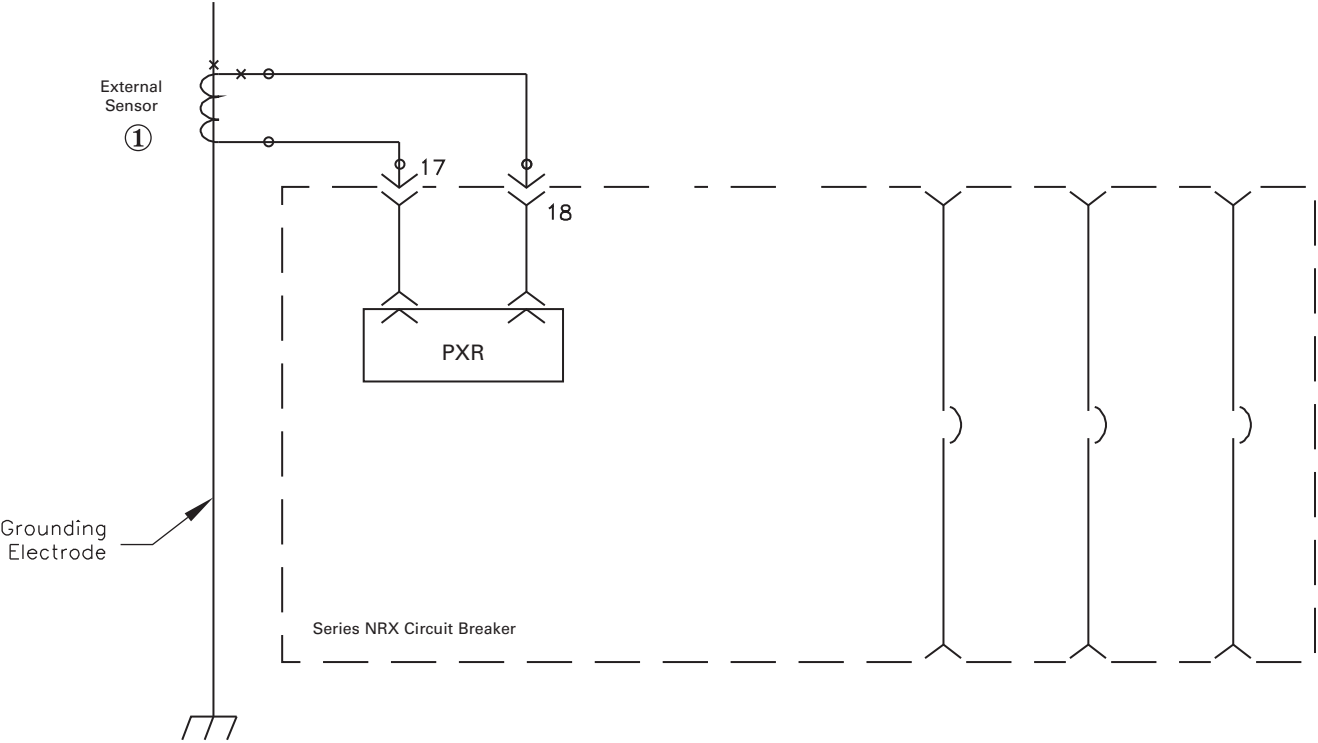
Ground Fault Residual 3-Phase, 4-Wire



Notes:

1. Sensor is customer wired to sense neutral currents. This is required for 3-phase, 4-wire Residual Ground Fault (applicable for trip units having G protection).

Source Ground Fault Sensing



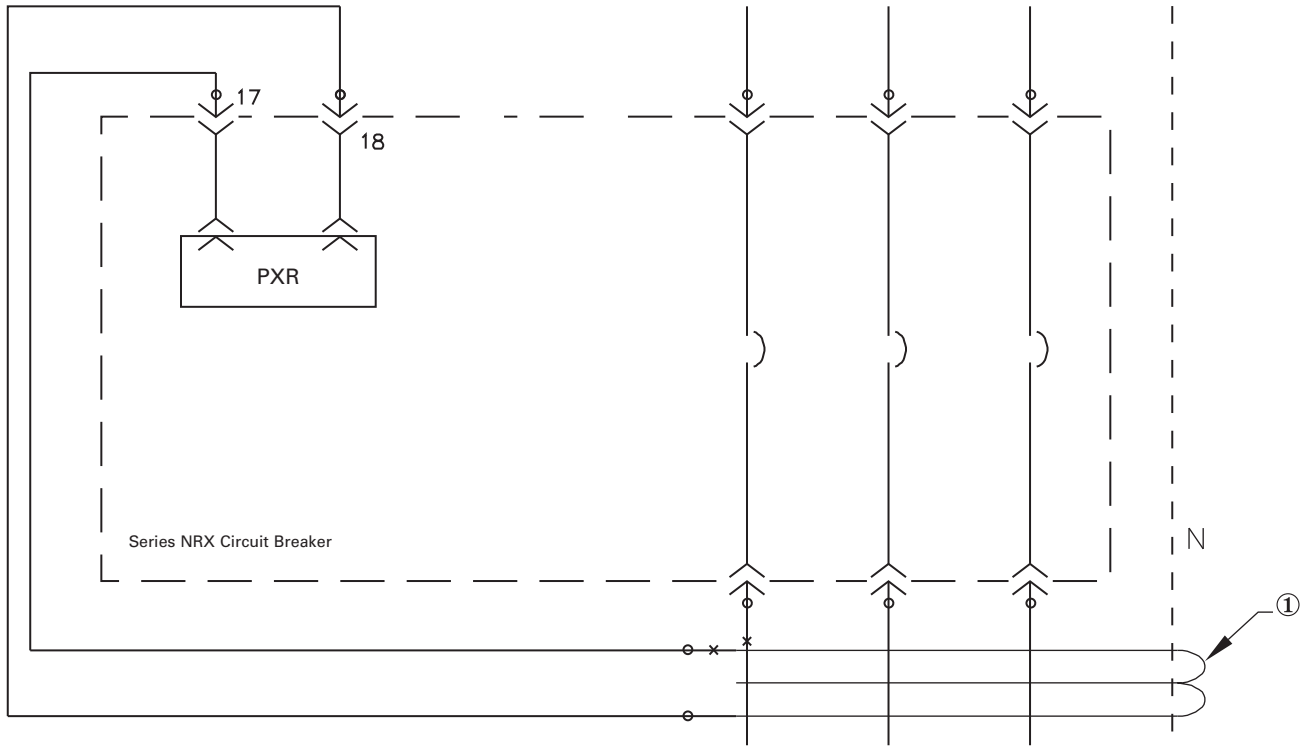
Notes:

- 1. Sensor NFGFSKIT (IZMX-EFS) is used to sense and detect Ground Fault currents. The Part number is 70C1527G04.

IZMX Series Air Circuit Breakers

Wiring Diagram

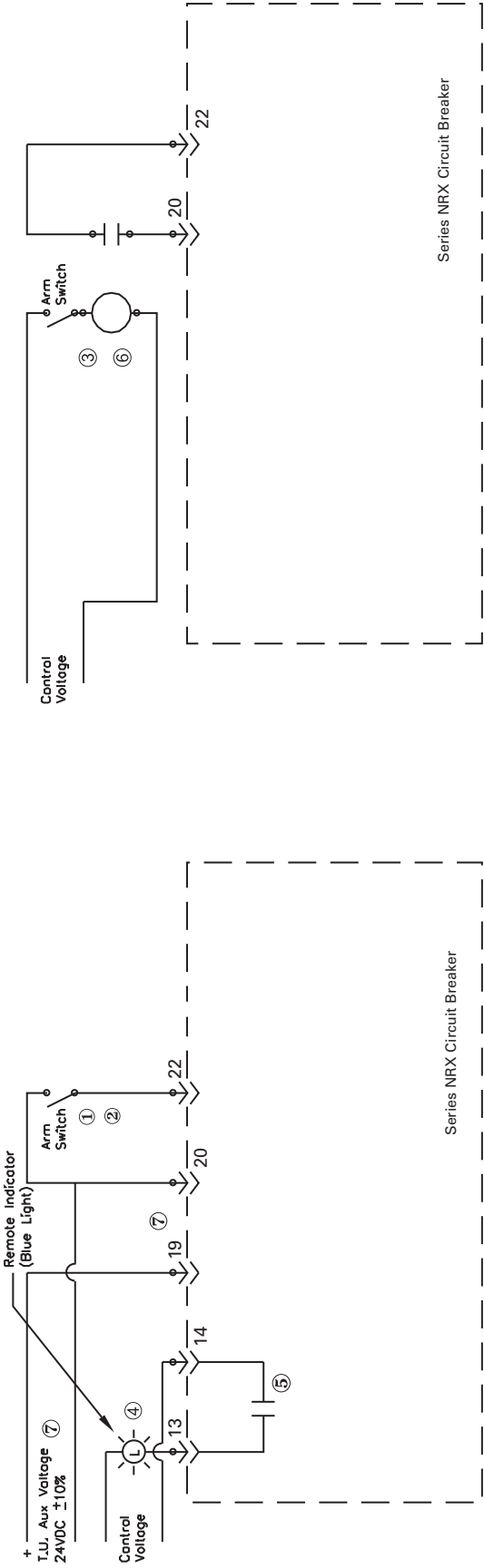
Zero Sequence Ground Fault Sensing



Notes:

1. Sensor NFGFSKIT (IZMX-EFS) is used to sense and detect Ground Fault currents of 3-wire or 4-wire. The Part number is 70C1527G04.

Maintenance Mode Wiring



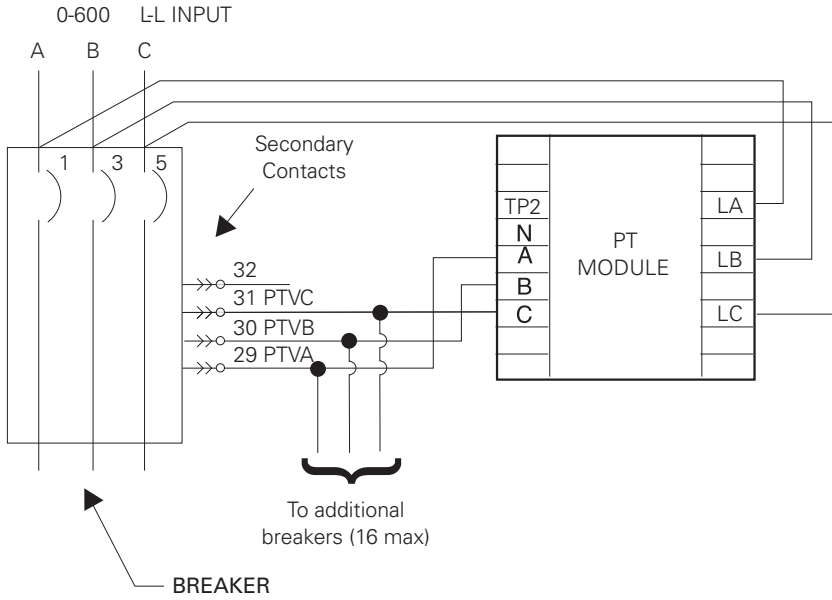
Notes:

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.

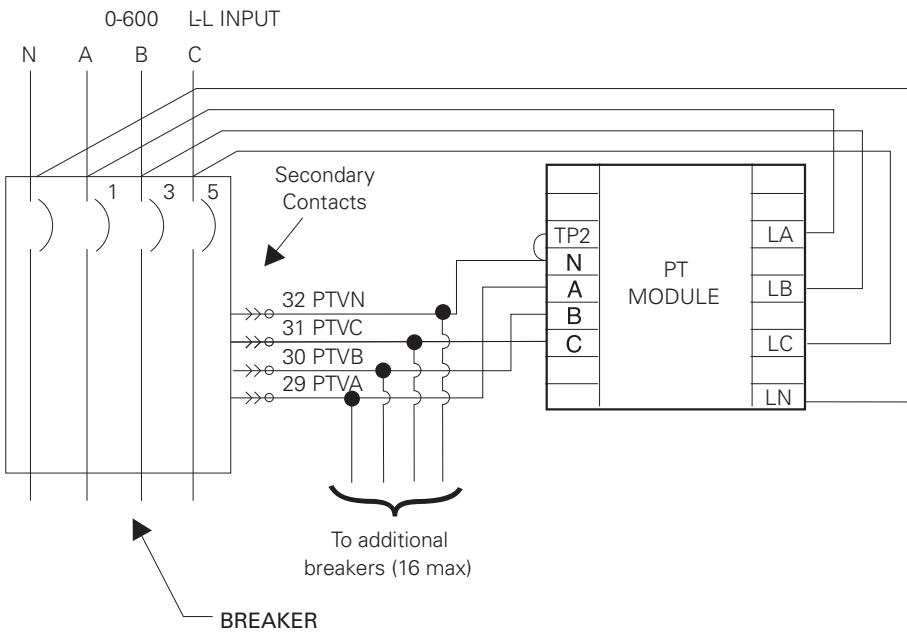
IZMX Series Air Circuit Breakers

Wiring Diagram

External PT Module for PXR25 U type trip unit

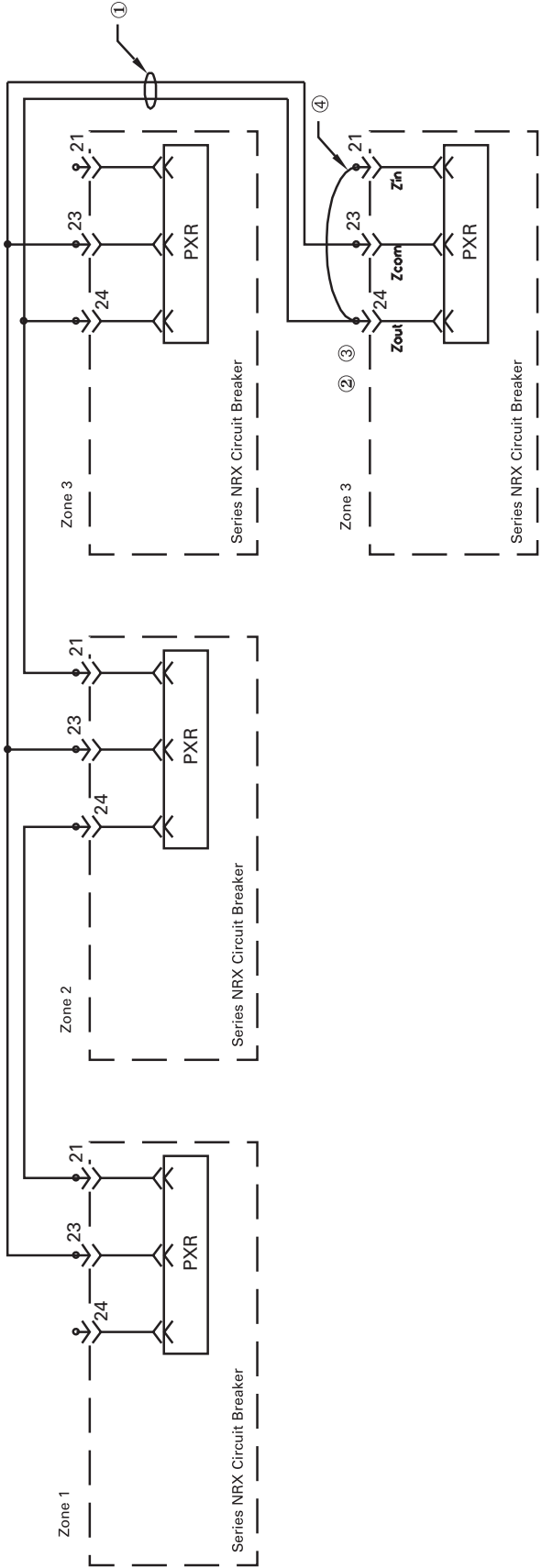


Series NRX Mounted Breakers - 3 pole - 3 wire



Series NRX Mounted Breakers - 3 pole or 4 pole - 4 wire

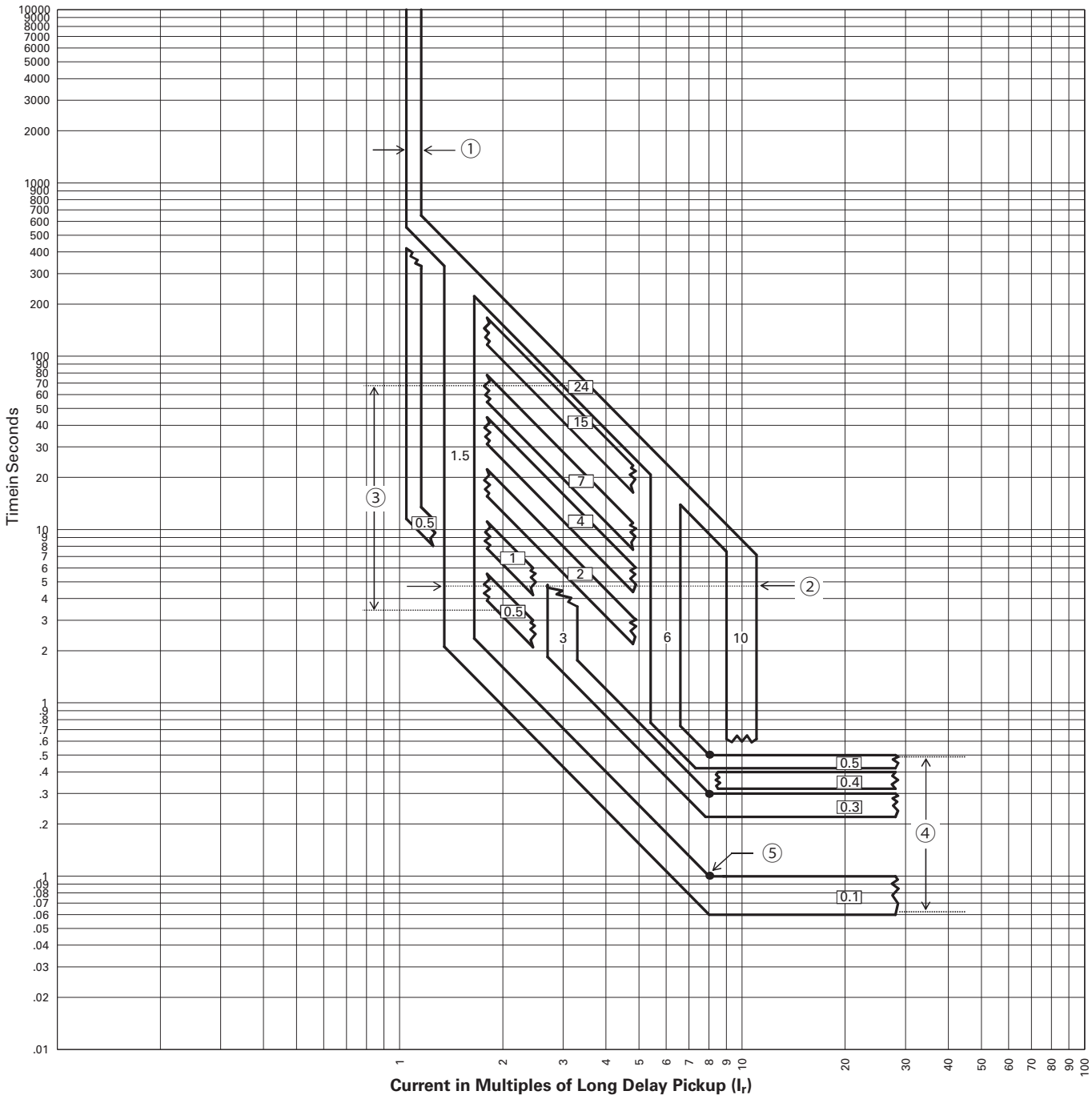
Zone Interlock Wiring



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.

IZMX16(40)... V(U)... PXR20/25 Long Delay(L) and Short Delay(S) Curves
S-Protection with: I_t-Characteristic curve ON



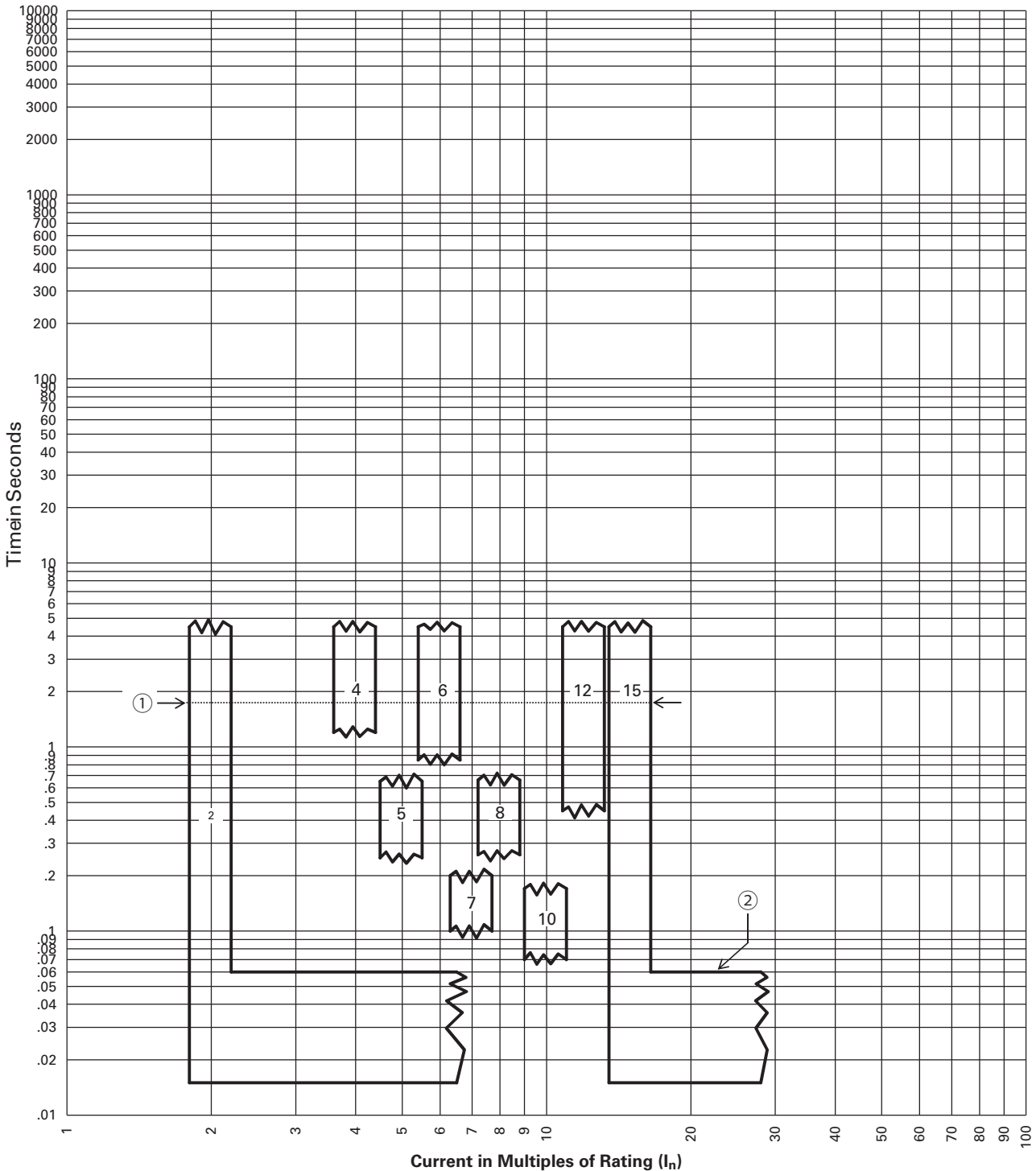
Notes:

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 ±5% tolerance.
2. SDPU = 1.5x to 10x of I_r, have 100% ± 10% tolerance.
3. LD Time = 0.5s to 24s, have 100% +0 / -30% tolerance.
4. SD Slope = I²T. The short pickup points have ±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 NRX NF&RF(IZMX16/40) circuit breakers including all frame sizes, ratings, and constructions.

IZMX Series Air Circuit Breakers

Tripping Characteristics

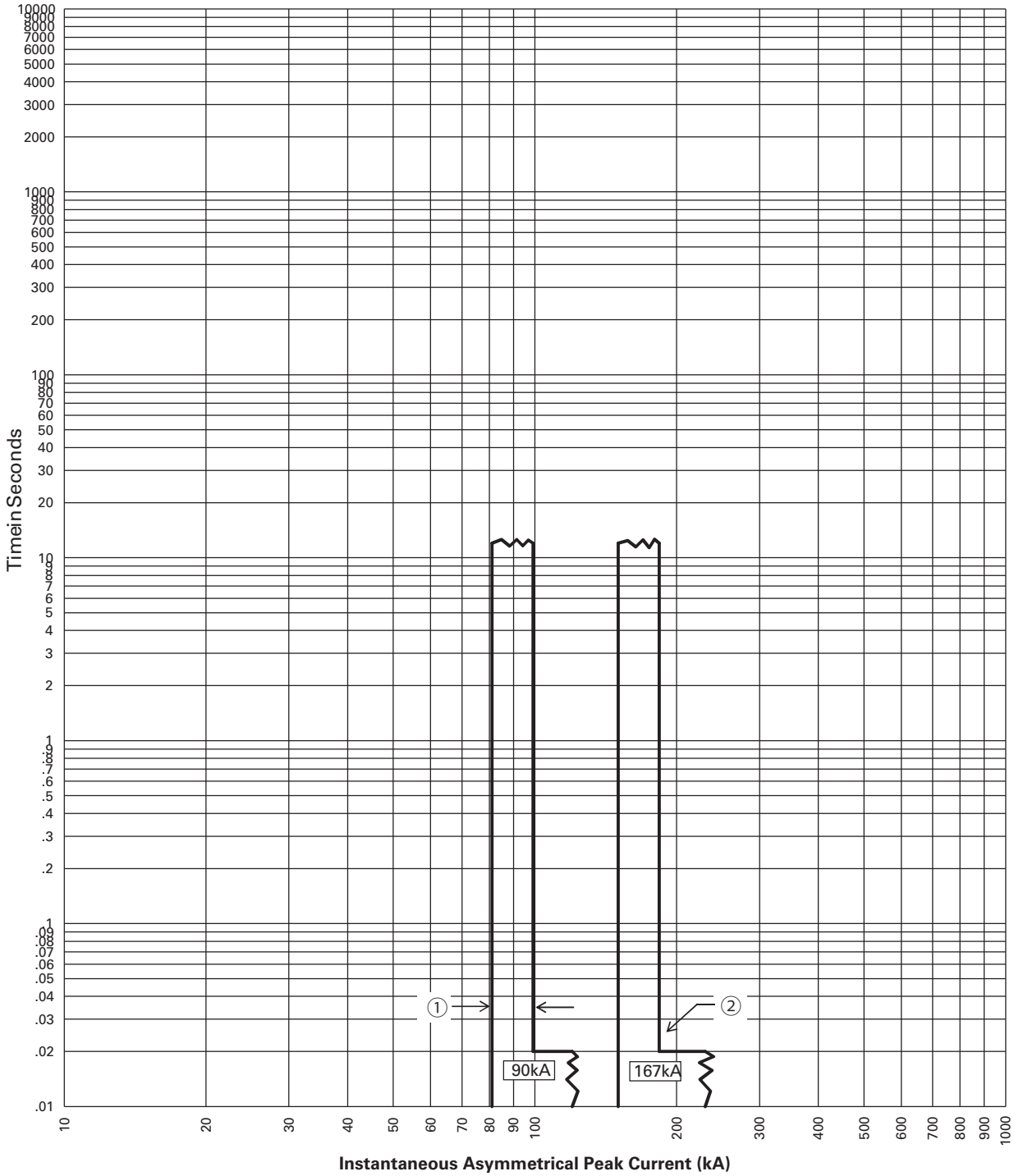
IZMX16(40)...V(U)... PXR20/25 Instantaneous(I) Curves I-Protection: Adjustable



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 NRX NF&RF(IZMX16/40) 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.

**IZMX16(40)...V(U)... PXR20/25 Instantaneous(I) Curves
 Instantaneous Trip at High Fault Currents**



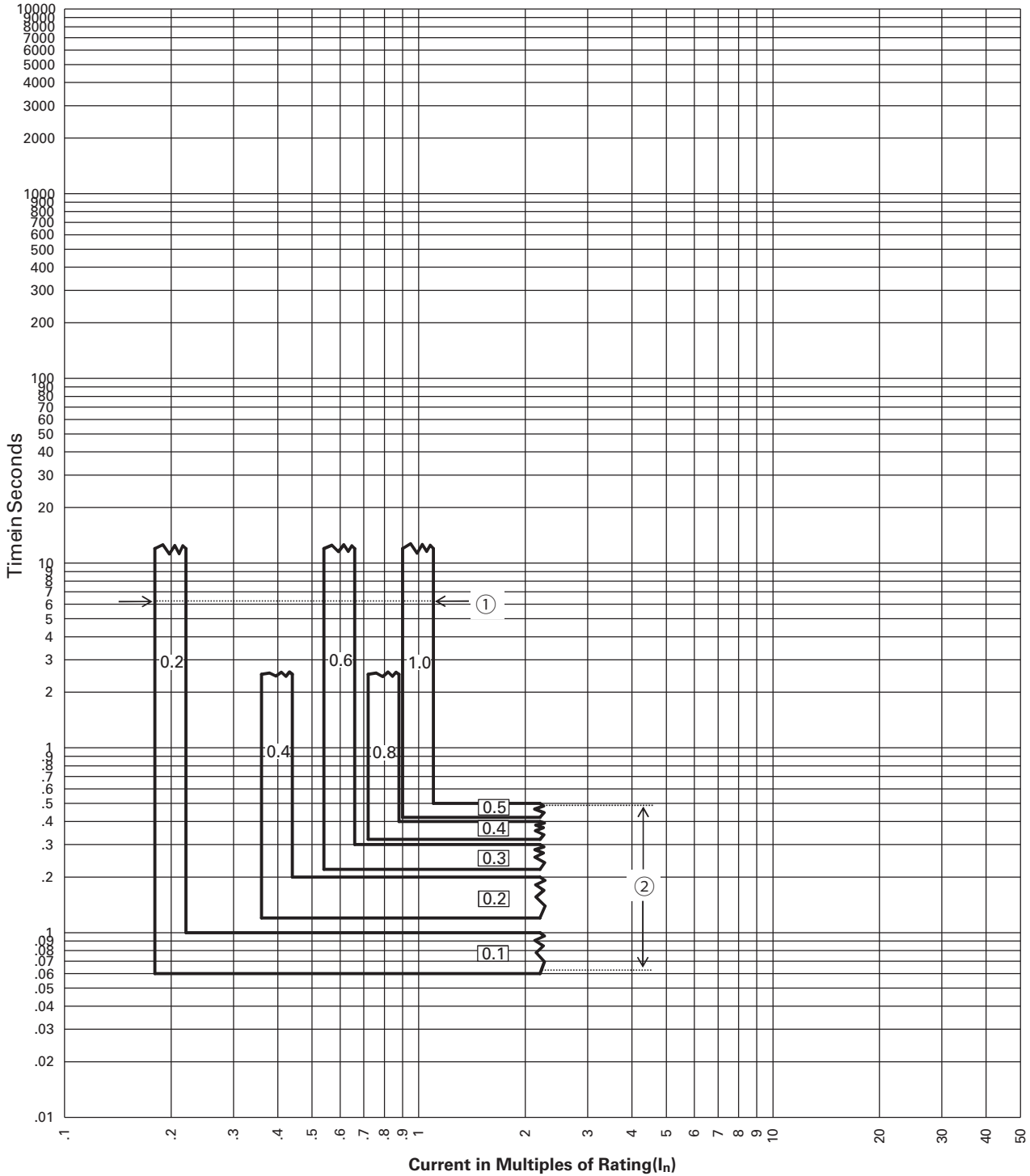
- Notes:**
1. Fixed High Instantaneous Trip function is provided in the circuit breaker for Series NRX - Type NF(IZMX16) set to pickup at 90kA. Instantaneous peak current level. The tolerance is 100% ±10% as the pickup points.
 2. The peak current level setting for NRX - Type RF(IZMX40) is fixed at 167kA.
 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.

IZMX Series Air Circuit Breakers

Tripping Characteristics

IZMX16(40)...V(U)... PXR20/25 Ground(G) Curves

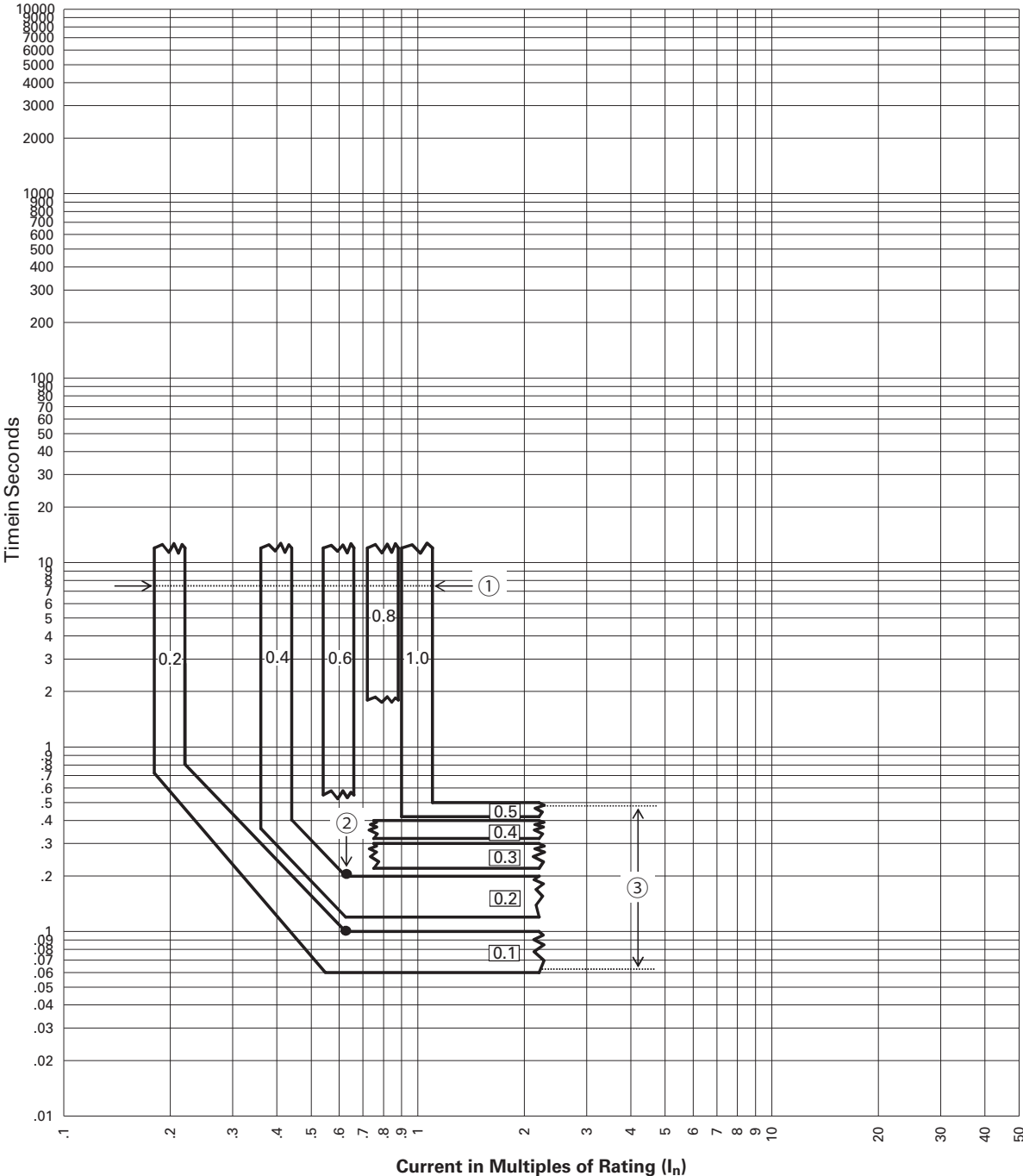
G: Ground fault protection - Flat characteristic curve



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 $+0 / -80\text{ms}$ 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 $+50^\circ\text{C}$ ambient. Temperatures above $+85^\circ\text{C}$ will cause over temperature trip.
7. This curve is for 50Hz, 60Hz applications.
8. These curves are comprehensive for series NRX NF&RF(IZMX16/40) 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.

IZMX16(40)...V(U)... PXR20/25 Ground(G) Curves
G: Ground fault protection-I²t-Characteristic curve ON



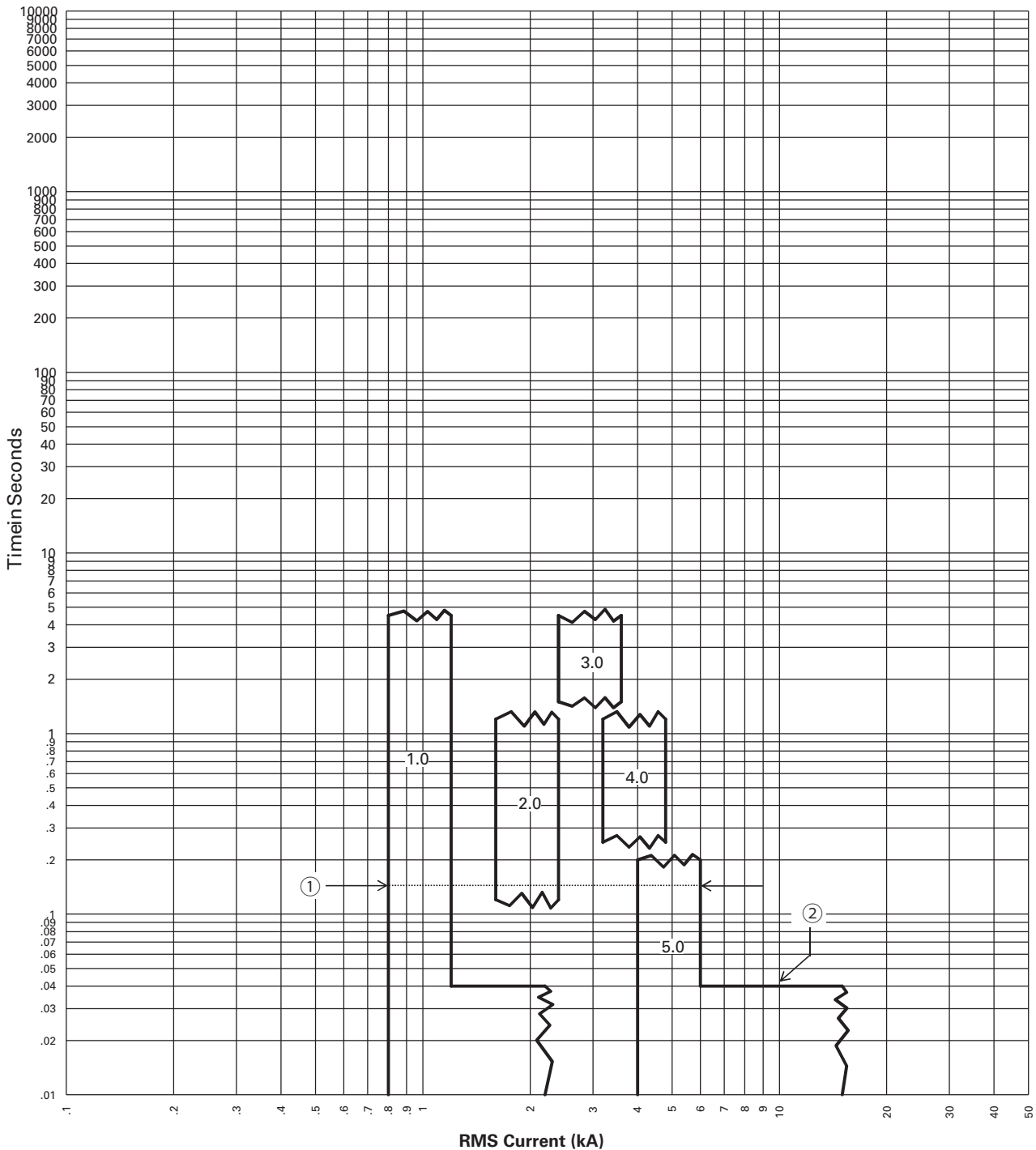
Notes:

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 NRX NF&RF(IZMX16/40) 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.

IZMX Series Air Circuit Breakers

Tripping Characteristics

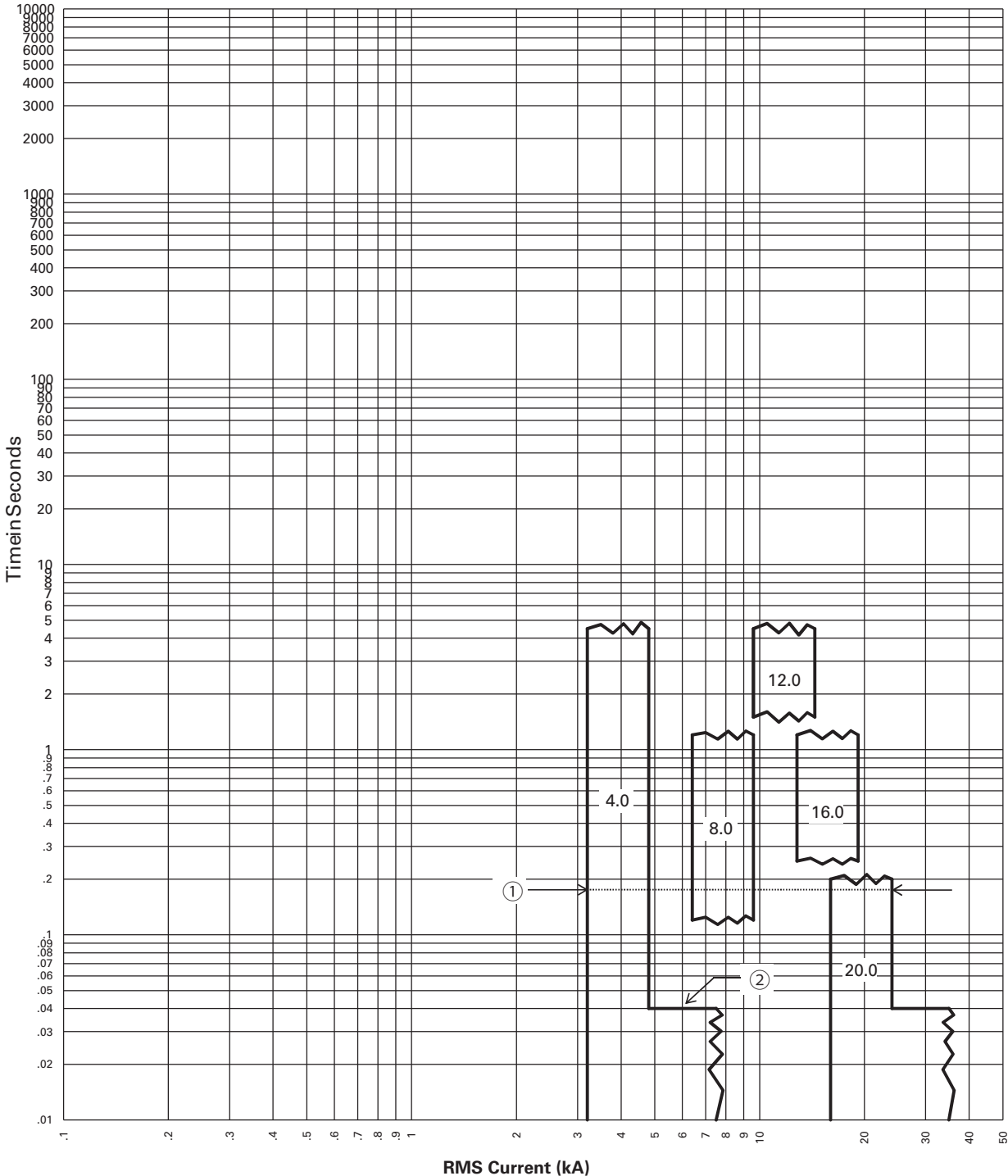
IZMX16...V(U)... PXR20/25 Maintenance Mode Curve Arc-flash Reduction Maintenance Mode for IZMX16 up to 1600A



Notes:

1. Nominal reduction values have a tolerance of $\pm 20\%$.
2. The nominal ARMs trip time is 40ms with auxiliary power supply.
3. 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.
4. The PXR will light the Instantaneous LED for a Maintenance Mode Trip.
5. The end of the curve is determined by the interrupting rating of the circuit breaker.
6. Curves applies from $-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ambient. Temperatures above $+85\text{ }^{\circ}\text{C}$ will cause over temperature trip.
7. This curve is for 50Hz, 60Hz applications.
8. These curves are comprehensive for series NRX NF(IZMX16) 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.

IZMX40...V(U)... PXR20/25 Maintenance Mode Curve
Arc-flash Reduction Maintenance Mode for IZMX40 up to 4000A



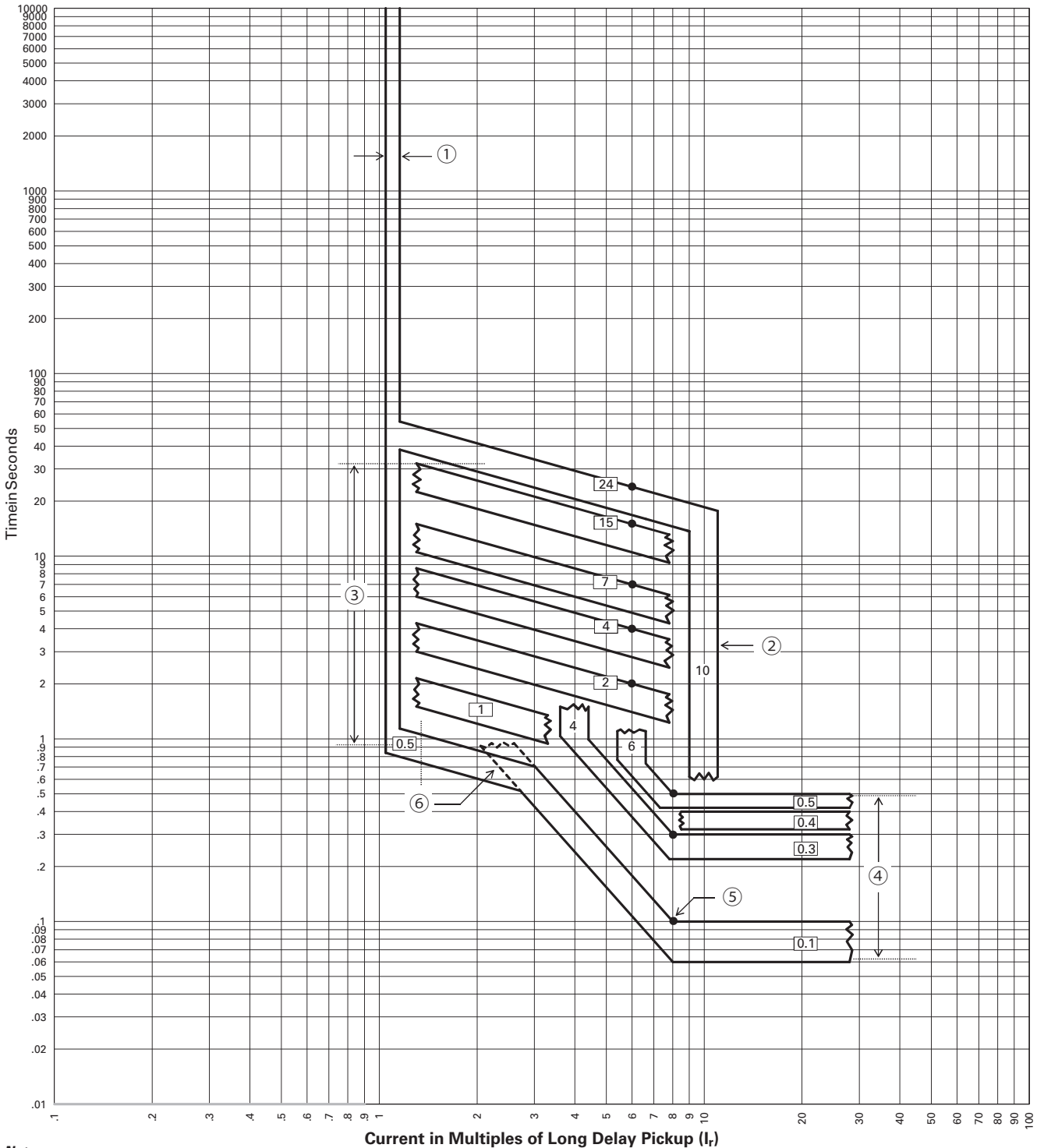
Notes:

1. Nominal reduction values have a tolerance of $\pm 20\%$.
2. The nominal ARMs trip time is 40ms with auxiliary power supply.
3. 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.
4. The PXR will light the Instantaneous LED for a Maintenance Mode Trip.
5. The end of the curve is determined by the interrupting rating of the circuit breaker.
6. Curves applies from $-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ambient. Temperatures above $+85\text{ }^{\circ}\text{C}$ will cause over temperature trip.
7. This curve is for 50Hz, 60Hz applications.
8. These curves are comprehensive for series NRX RF(IZMX40) 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.

IZMX Series Air Circuit Breakers

Tripping Characteristics

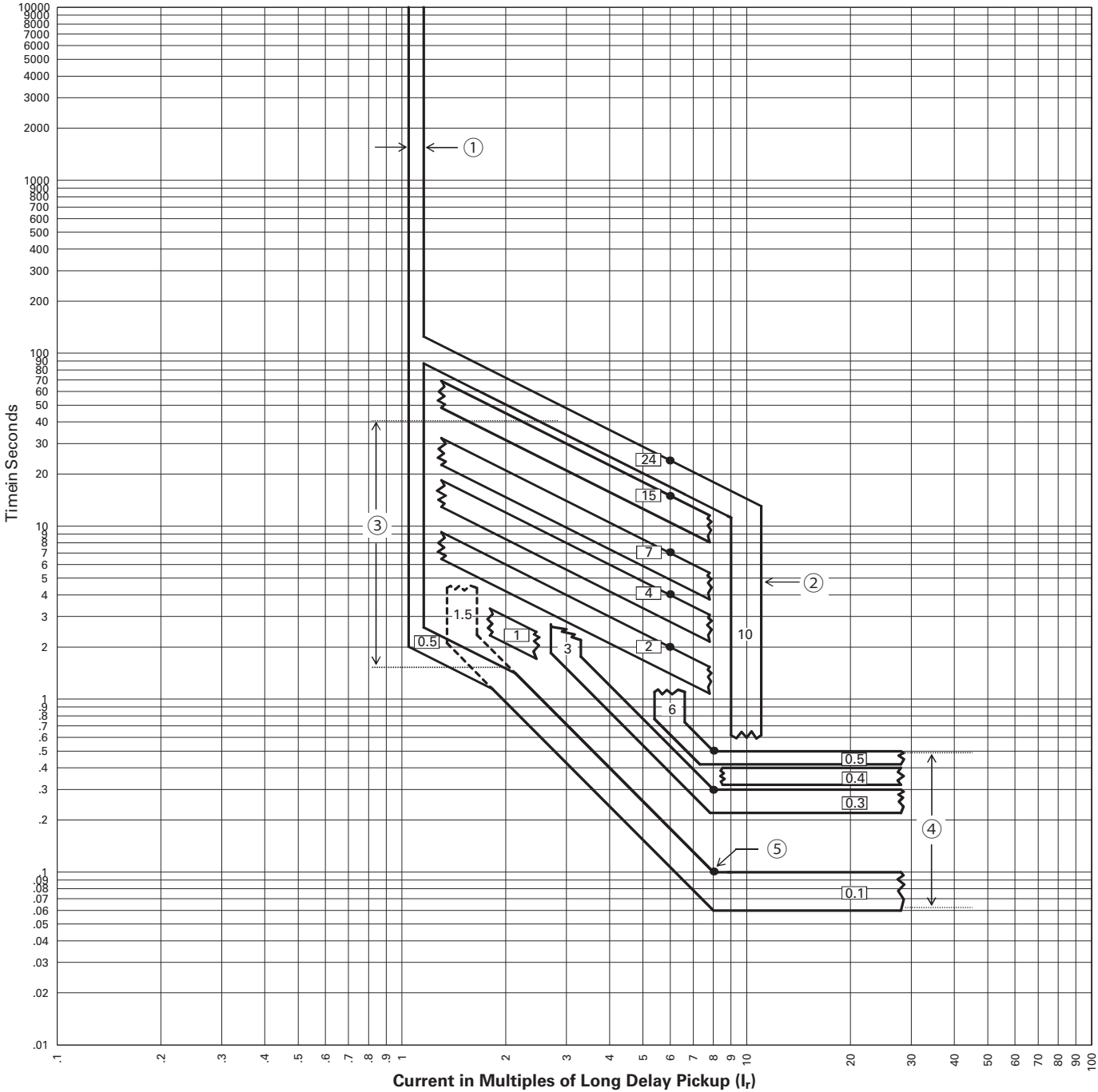
IZMX16(40)...V(U)... PXR20/25 Long Delay(L) Curves L-Protection: $I^{0.5}t$ -Characteristic curve



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^T . 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^T 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^T 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°C ambient. Temperatures above +85°C will cause over temperature trip. 9. This curve is for 50Hz, 60Hz applications.
10. These curves are comprehensive for series NRX NF&RF(IZMX16/40) 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.

IZMX16(40)...V(U)... PXR20/25 Long Delay(L) Curves
L-Protection: I²t-Characteristic curve

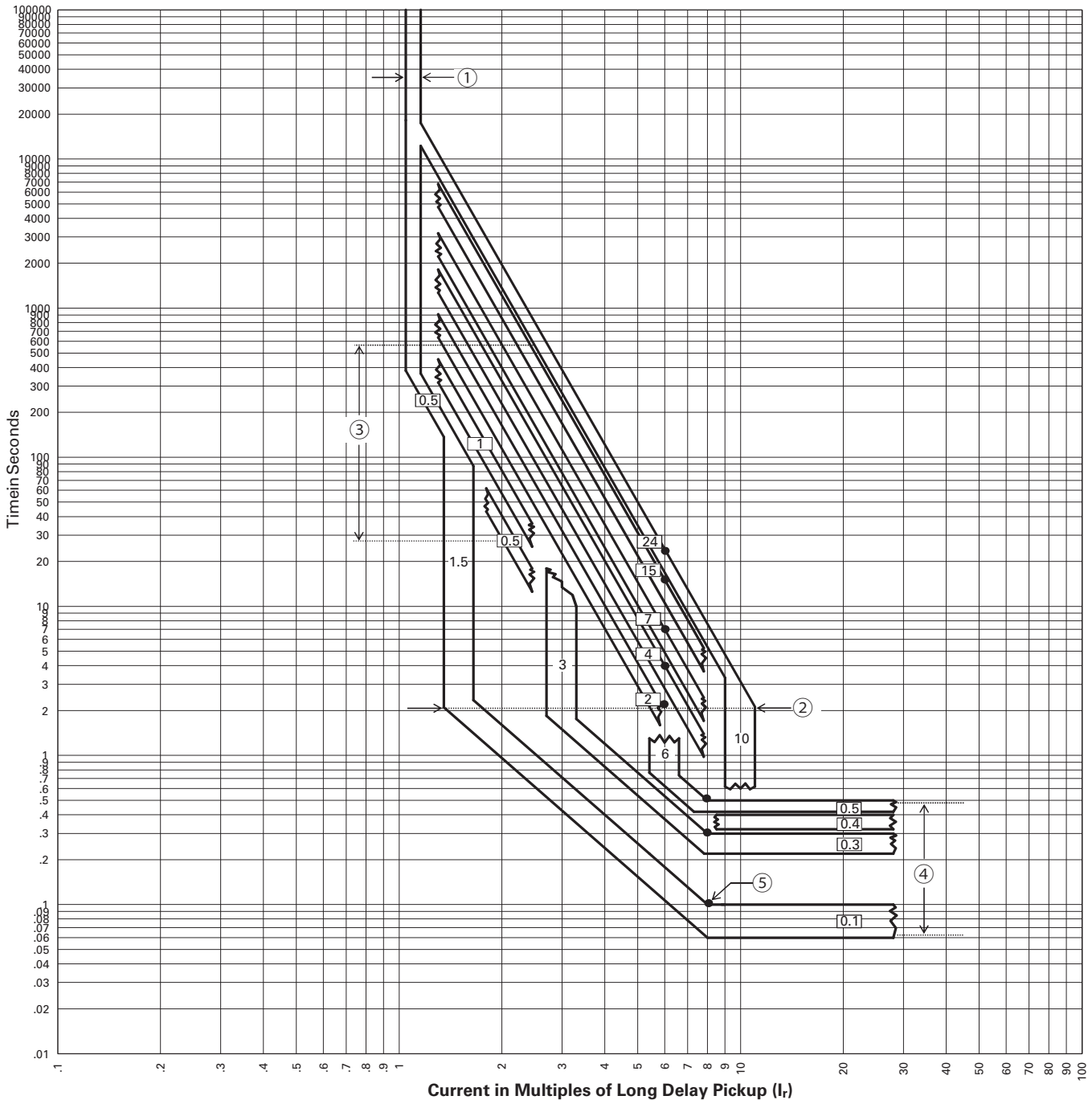


- Notes:**
1. This curve shown as a multiple of the LONG PU setting(I_r). The actual pickup point occurs at 110% of the I_r, with ±5% tolerance.
 2. SDPU = 1.5x to 10x of I_r, have 100% ± 10% tolerance.
 3. LD Time = 0.5s to 24s, have 100% +0 / -30% tolerance.
 4. SD Slope = I²T. The short pickup points have ±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 NRX NF&RF(IZMX16/40) circuit breakers including all frame sizes, ratings, and constructions.

IZMX Series Air Circuit Breakers

Tripping Characteristics

IZMX16(40)...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 NRX NF&RF(IZMX16/40) 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.

IZMX-AS22, IZMX-OTS...

		Signalling switch ON-OFF IZMX-AS...	Tripped signalling contact IZMX-OTS...	Latch Check Switch IZMX-LCS...(SR)	Cell switch IZMX-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

IZMX-S...

			Shunt releases		Closing releases					
			IZMX-ST(S)24DC	IZMX-ST(S)48DC	IZMX-ST(S)110AD	IZMX-ST(S)230AD	IZMX-SR24DC	IZMX-SR48DC	IZMX-SR110AD	IZMX-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)	–	–	–	(750 pick-up)	(800 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)	(750 pick-up)	(800 pick-up)	(800 pick-up)
Circuit-breaker response time at U_s	ms	25	25	25	25	25	25	25	25	25
Operating range										
Drop-out voltage										
AC operated, 50/60 Hz, pick-up	Drop-out	x U _c	–	–	–	–	–	–	–	–
Pick-up voltage	Pick-up	x 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

IZMX-U...

			Undervoltage releases				
			IZMX-UVR24DC	IZMX-UVR48DC	IZMX-UVR110AD	IZMX-UVR220AD	IZMX-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 (890 pick-up)	5 (910 pick-up)	5 (960 pick-up)
DC	W	5 (500 pick-up)	5 (850 pick-up)	5 (890 pick-up)	5 (910 pick-up)	–	–
Circuit-breaker response time at U_s	ms	50	50	50	50	50	50
Operating range							
Drop-out voltage							
AC operated, 50/60 Hz, pick-up	Drop-out	x 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	x U _c	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1	0.85 - 1.1

IZMX Series Air Circuit Breakers

Motor Operators

IZMX-M16...

			Motor operators			
			IZMX-M16-24DC	IZMX-M16-48DC	IZMX-M16-110AD	IZMX-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
Necessary time required for charging the spring-operated stored energy mechanism at $1 \times U_s$			4 s	3 s	3 s	4 s
Rated operational 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

IZMX-M40...

			Motor operators			
			IZMX-M40-24DC	IZMX-M40-48DC	IZMX-M40-110AD	IZMX-M40-230AD
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
Necessary time required for charging the spring-operated stored energy mechanism at $1 \times U_s$ DC			6 s	6 s	6 s	6 s
Rated operational current	I_n	A	7 A DC	3 A DC	3 A AC 50/60 Hz 2 A DC	1.5 A AC 50/60 Hz 1 A DC
Starting current		A	25 A DC	14 A DC	9 A AC 50/60 Hz 5 A DC	5 A AC 50/60 Hz 4 A DC
Power consumption			200 W	175 W	425 VA AC 50/60 Hz 275 W DC	400 VA AC 50/60 Hz 250 W DC

Technical Data

		IZMX-PCAM-2	IZMX-MCAM-2	IZMX-ECAM-2
General				
Dimensions (W x H x D)	mm	24 x 105 x 802	4 x 105 x 802	4 x 105 x 80
Mounting		35mm DIN rail	35mm DIN rail	35mm DIN rail
Protection type		IP20	IP20	IP20
Power supply	V DC	24 V DC	24 V DC	24 V DC
LED display		Status	Status	Status
		SF	Transmit	
		BF	Receive	
Network				
Ethernet		–	–	RJ45, socket
PROFIBUS		SUB-D 9 pole, socket	–	–
Modbus		–	Plug-in screw terminals	–
Function		Slave	Slave	TCP/IP user
Interfaces		RS485	RS485	Ethernet
Protocol		PROFIBUS DP	Modbus-RTU	Modbus TCP, http(s), SMTP
Baud Rates		automatic search up to 12 MBit/s	1200/4800/9600/19200 Bit/s, adjustable via Digitrip	automatic search up to 100 MBit/s
Bus terminating resistors		In plug as required	120 Ω external	–
Bus addresses		1 - 127, can be set via Digitrip	1 - 247, can be set via Digitrip	IP, can be set via Digitrip
Maximum distance		2.4 km	1.2 km	100 m
Supported functions		Cyclical data transfer	Function: 03 = read register 04 = read word variables 08 = connection test 16 = write register	Webserver on board

IZMX Series Air Circuit Breakers

Temperature and Altitude Derating Factors

Temperature Derating

IZMX16

Rated Current	630A	800A	1000A	1250A	1600A
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

IZMX40

Rated Current	800A	1000A	1250A	1600A	2000A	2500A	3200A	4000A
40°C [A]	800	1000	1250	1600	2000	2500	3200	4000
50°C [A]	800	1000	1250	1600	2000	2500	3200	4000 ¹⁾
60°C [A]	800	1000	1250	1600	2000	2500	3200	3650 ¹⁾
70°C [A]	800	1000	1250	1600	2000	2280	3200	3500 ¹⁾

¹⁾ Rated continuous current stated applies only with 4 × 120 × 10mm vertical terminal rails painted black.
The values are reduced by 100A each with 4 × 100 × 10mm

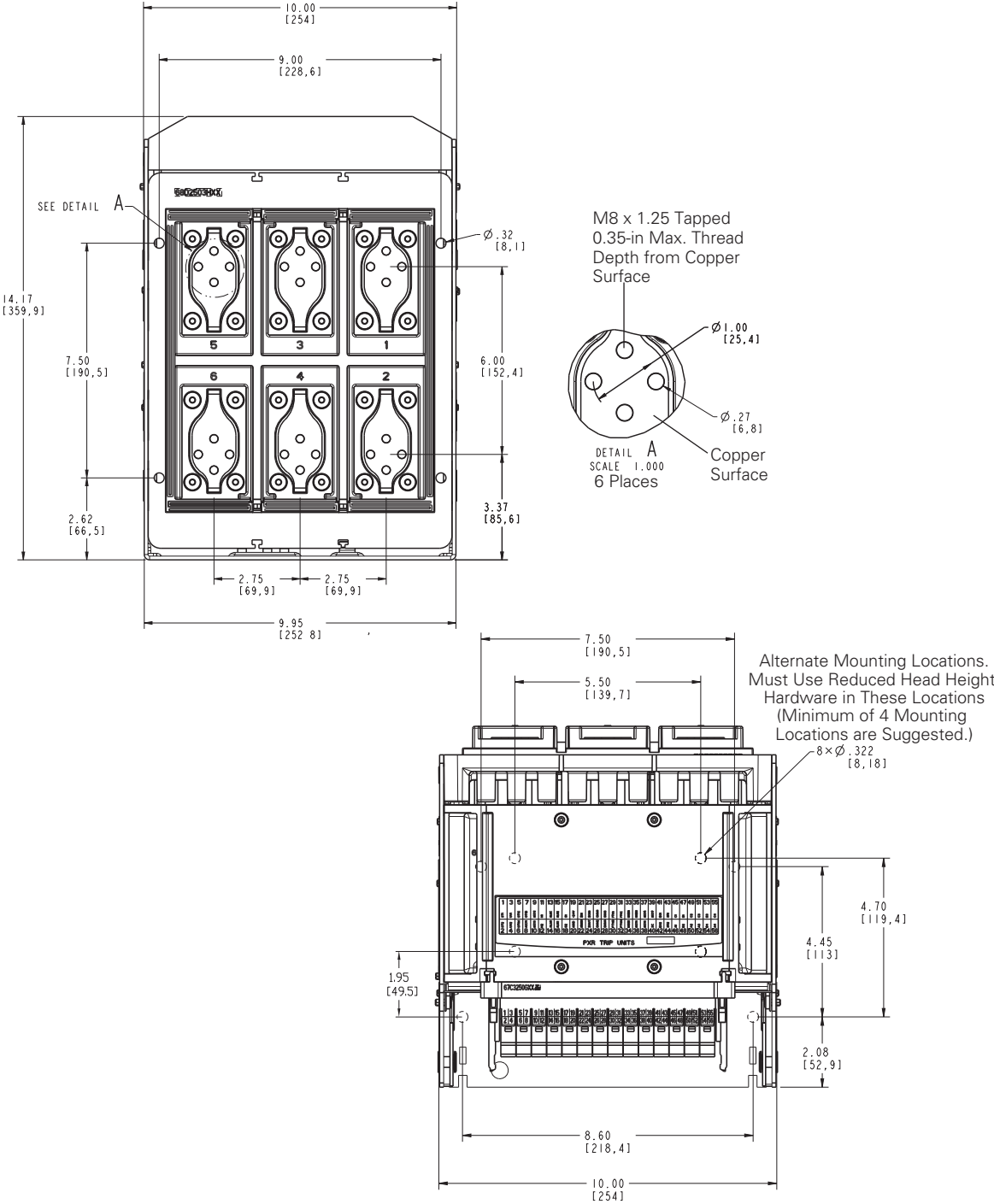
Altitude Derating Factors

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

Series NRX (IZMX) 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.

Three-pole Drawout Cassette - Rear/Top Views in. Inches (mm)

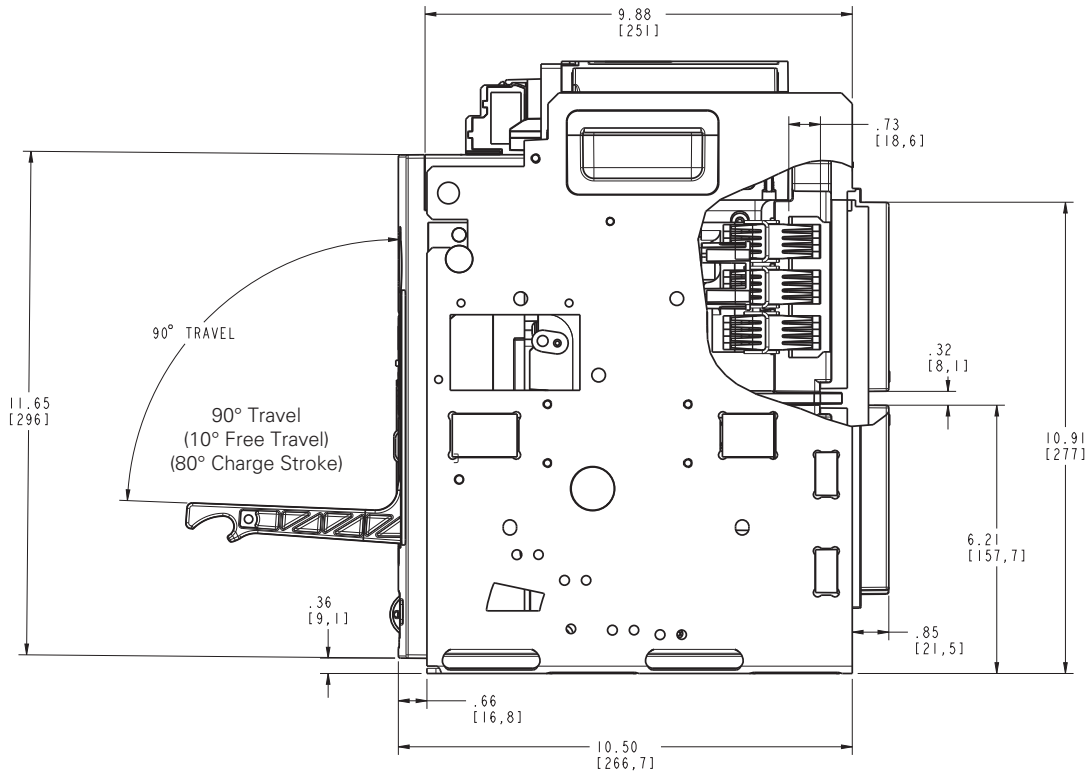


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

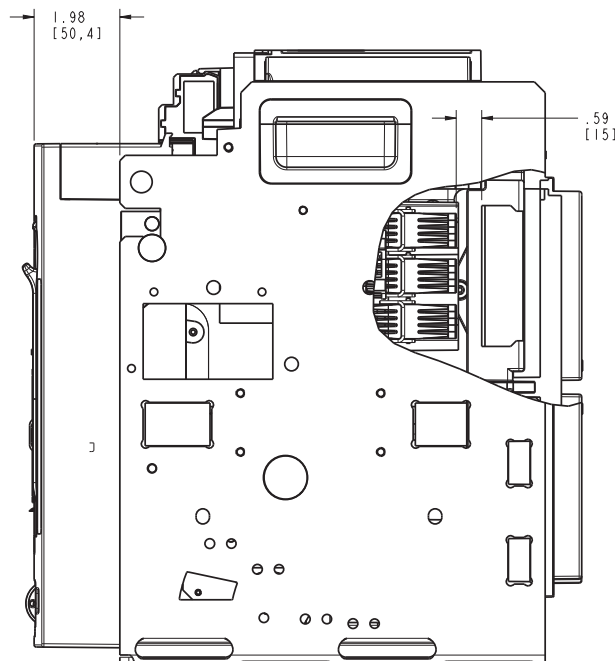
IZMX Series Air Circuit Breakers

X16 Drawout Dimensions

Three-pole Drawout Cassette - Side Views CONNECTED and TEST Positions in Inches (mm).



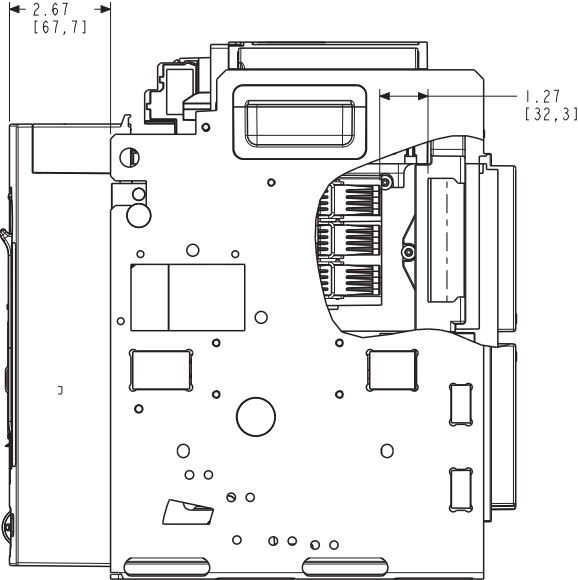
CONNECTED Position



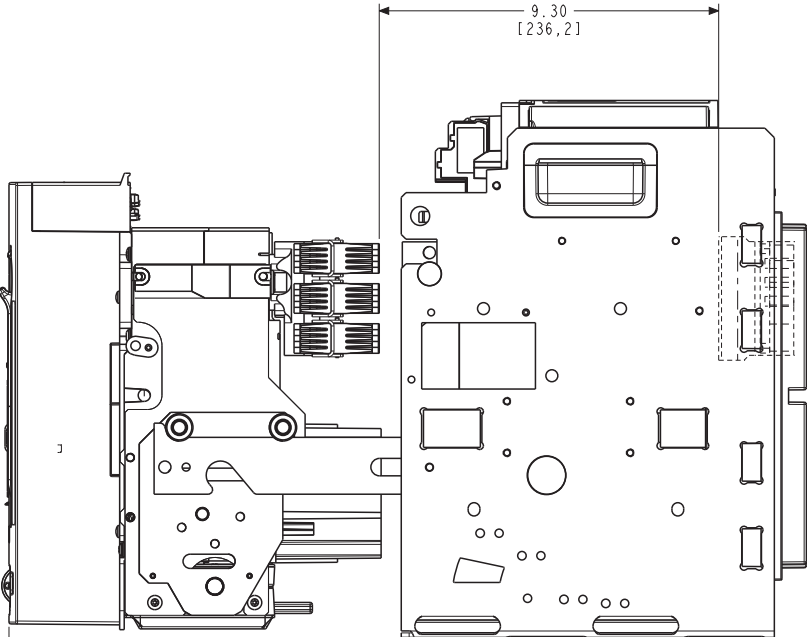
TEST Position

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Drawout Cassette - Side Views DISCONNECTED and WITHDRAWN Positions in Inches (mm).



DISCONNECTED Position



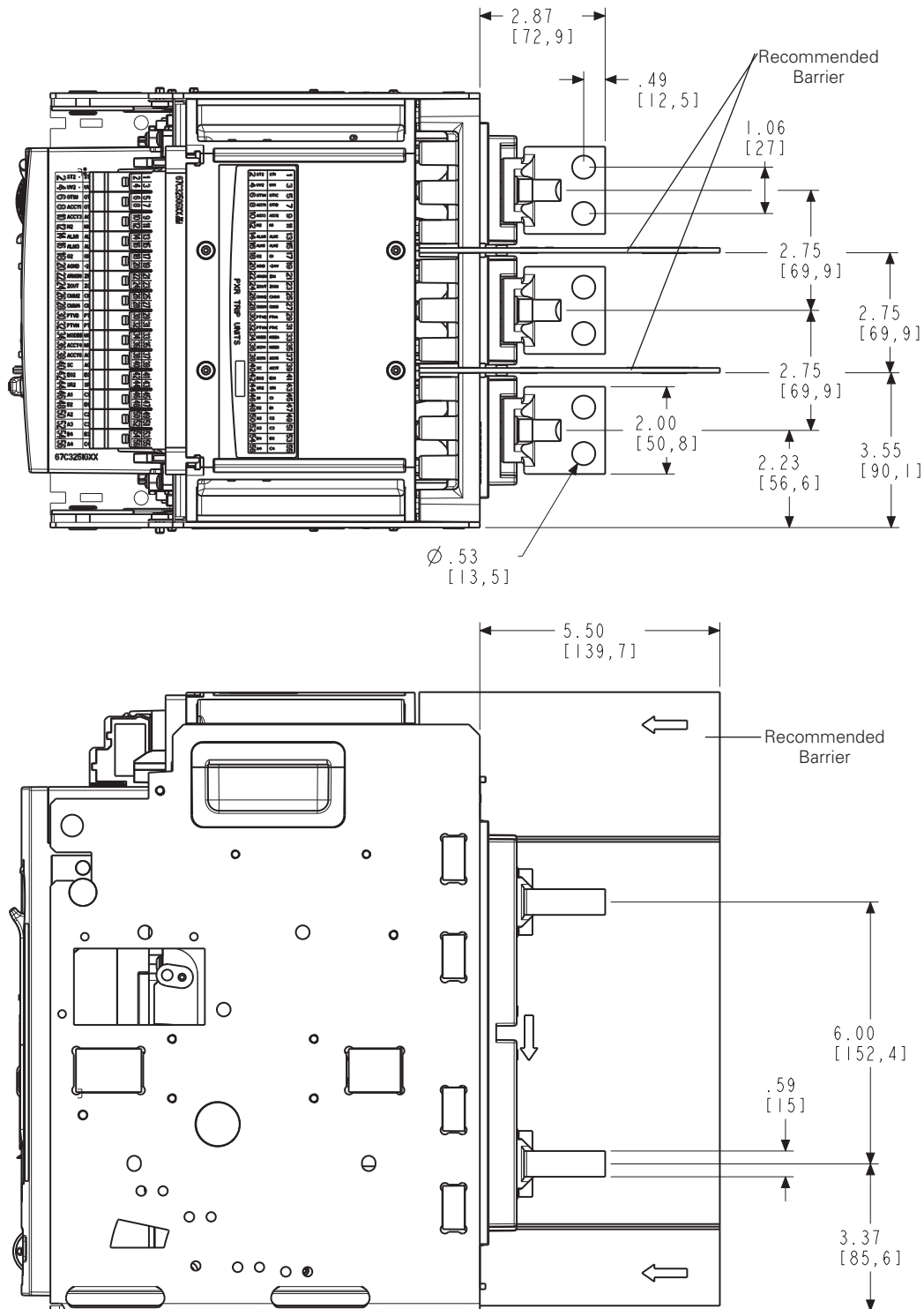
WITHDRAWN Position

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

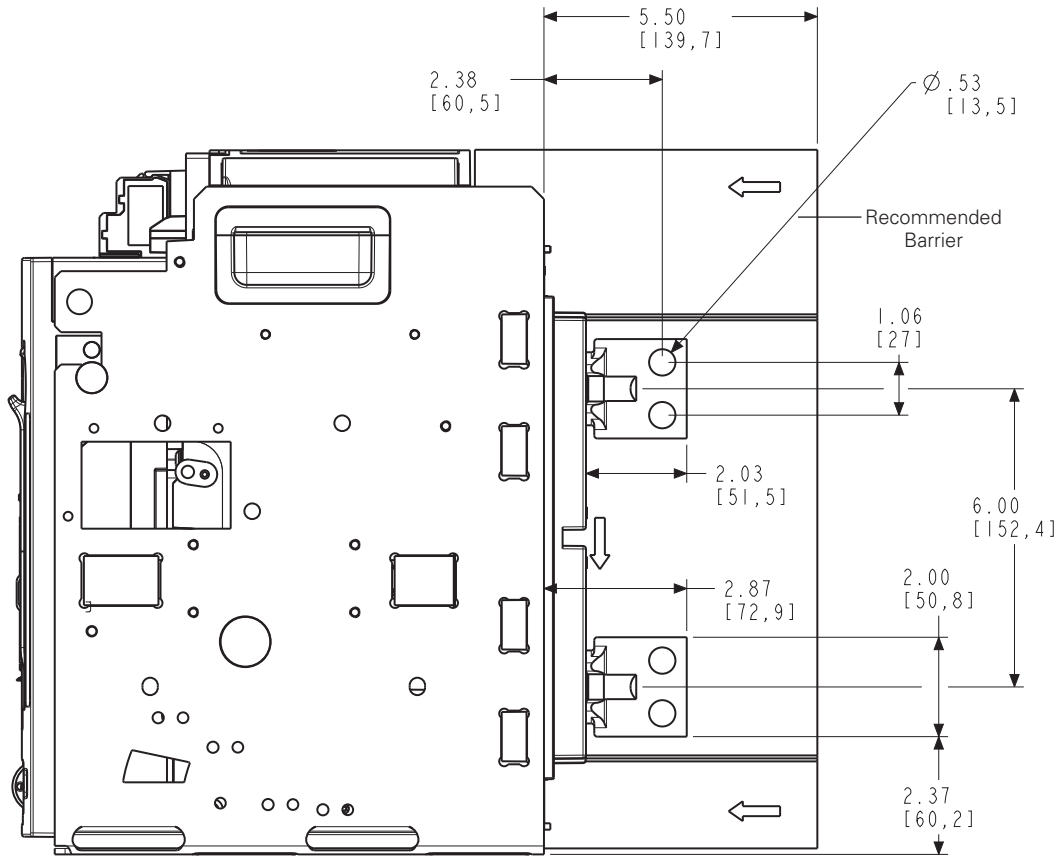
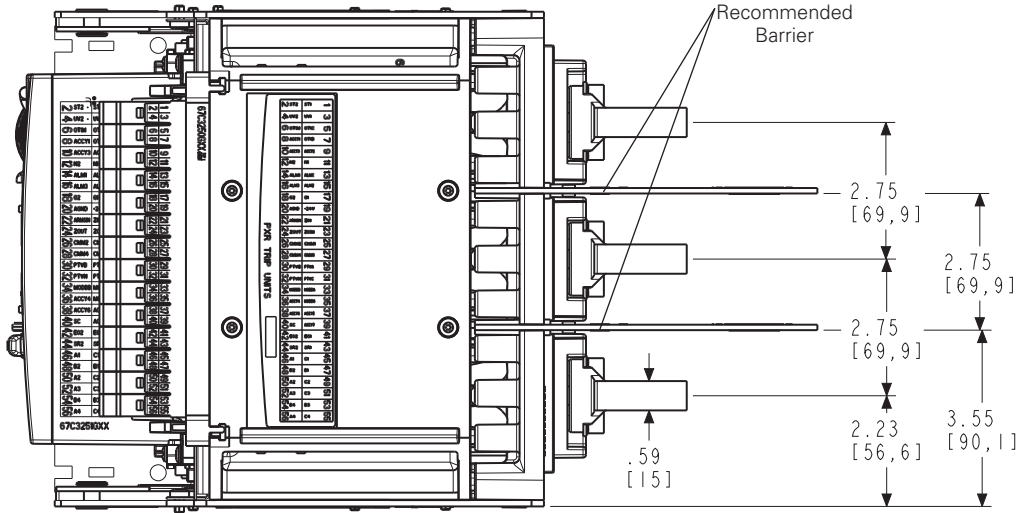
X16 Drawout Dimensions

Three-pole Drawout Cassette—Top/Side Views with Horizontal Universal Bus Adapters in Inches (mm).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Drawout Cassette - Top/Side Views with Vertical Universal Bus Adapters in Inches (mm).

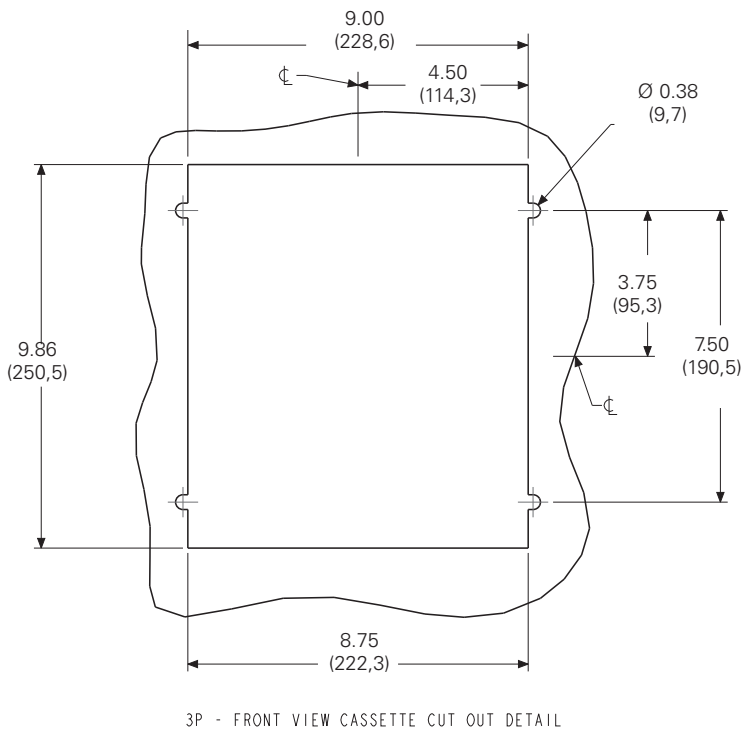
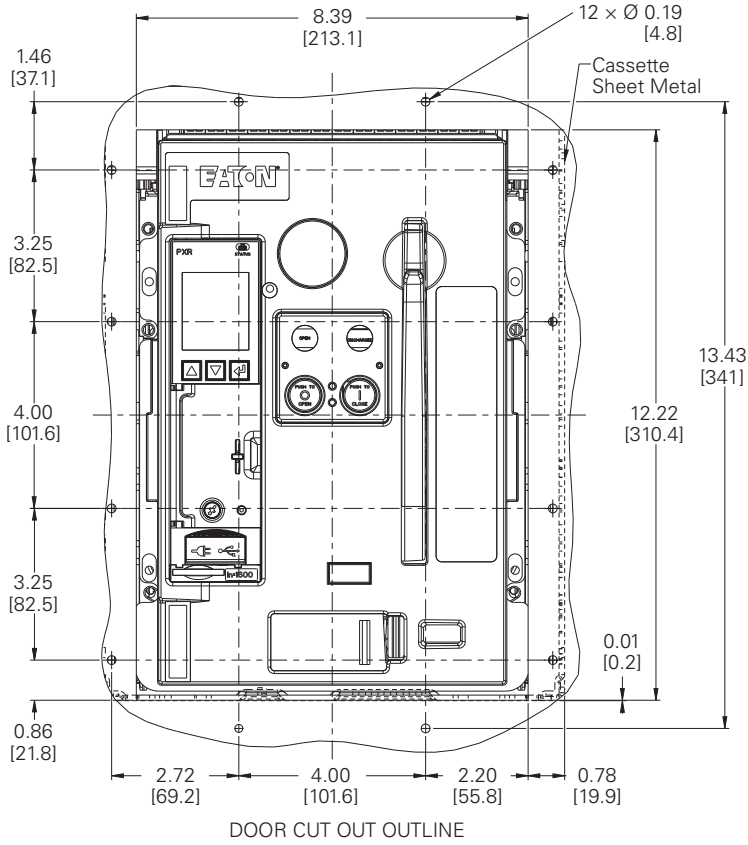


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

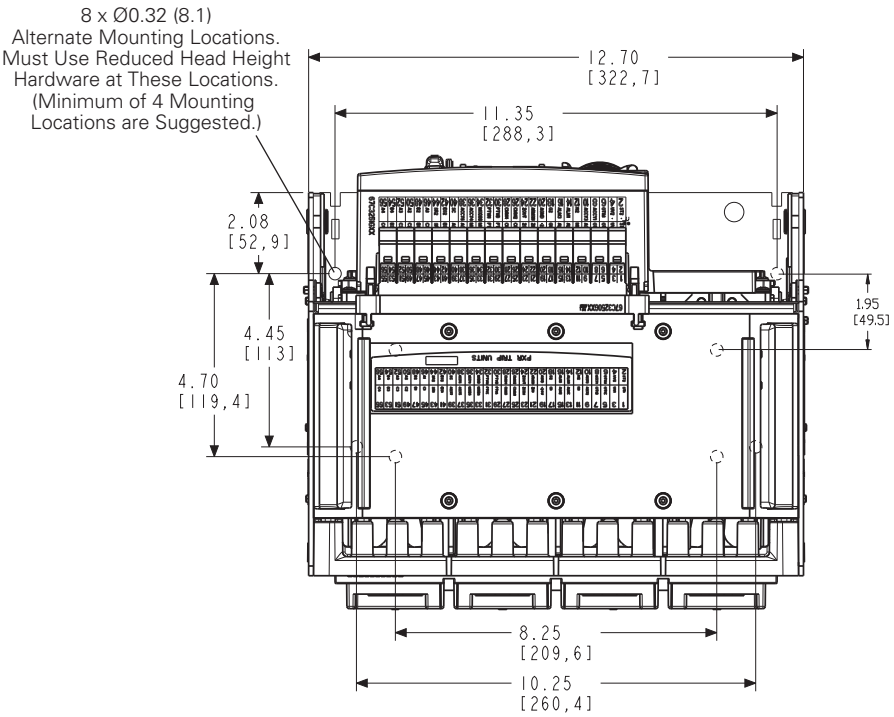
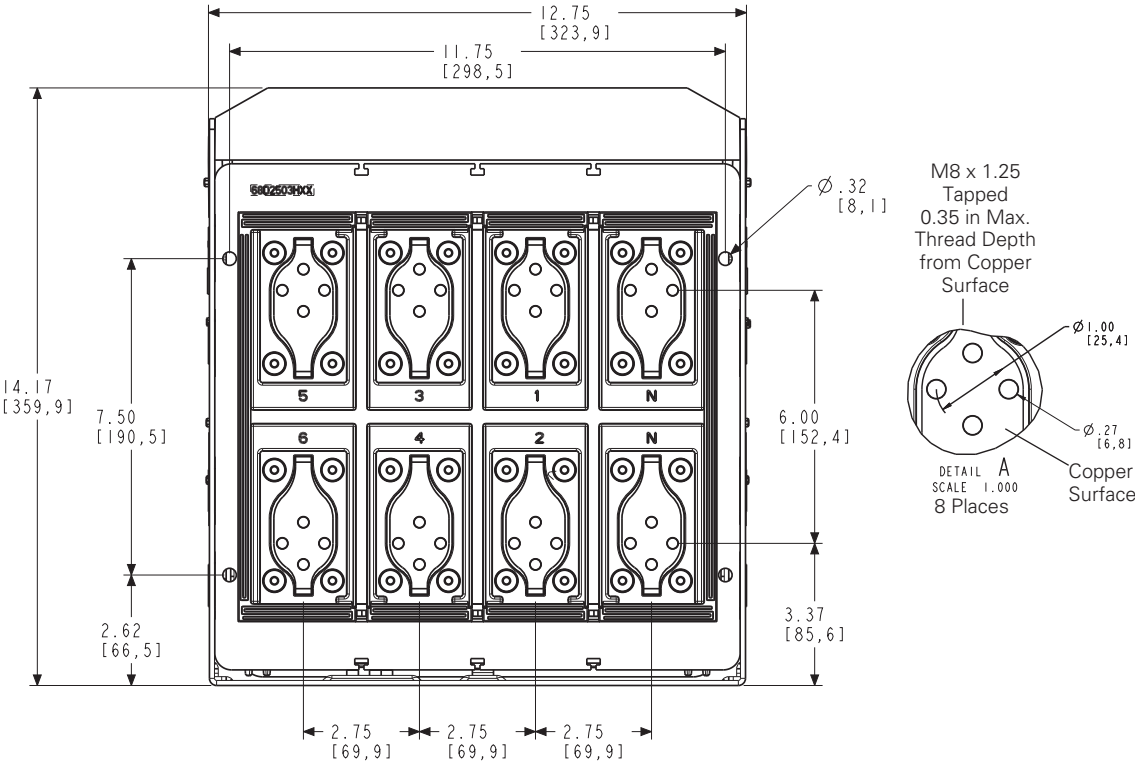
X16 Drawout Dimensions

Three-pole Drawout Cassette—Front View Door and Cassette Cutout Details in Inches (mm).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Four-pole Drawout Cassette—Rear/Top Views in Inches (mm).

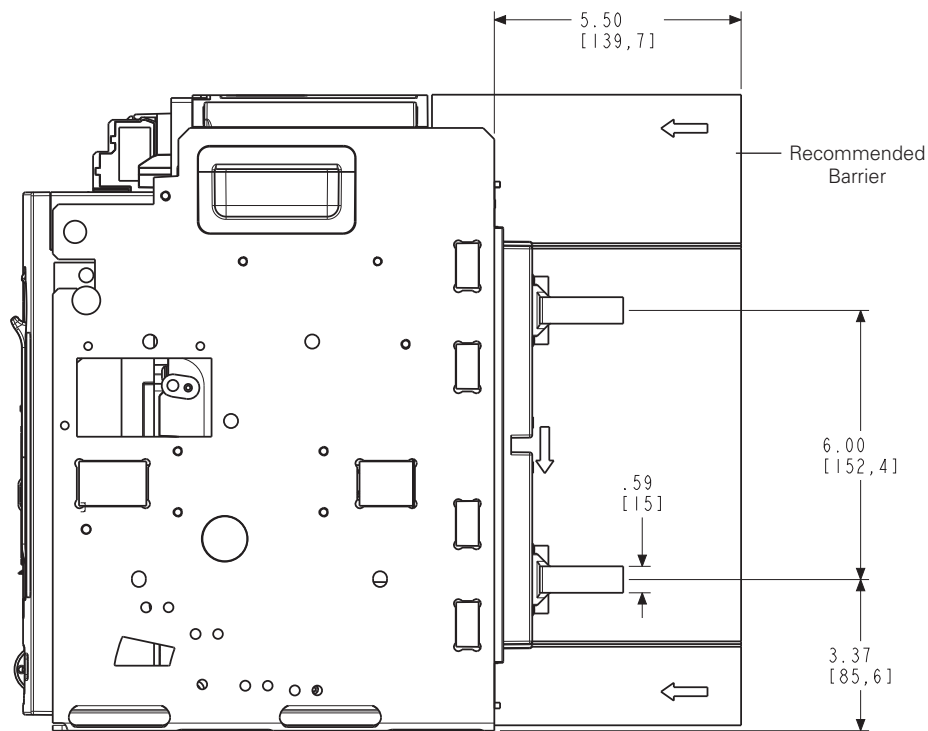
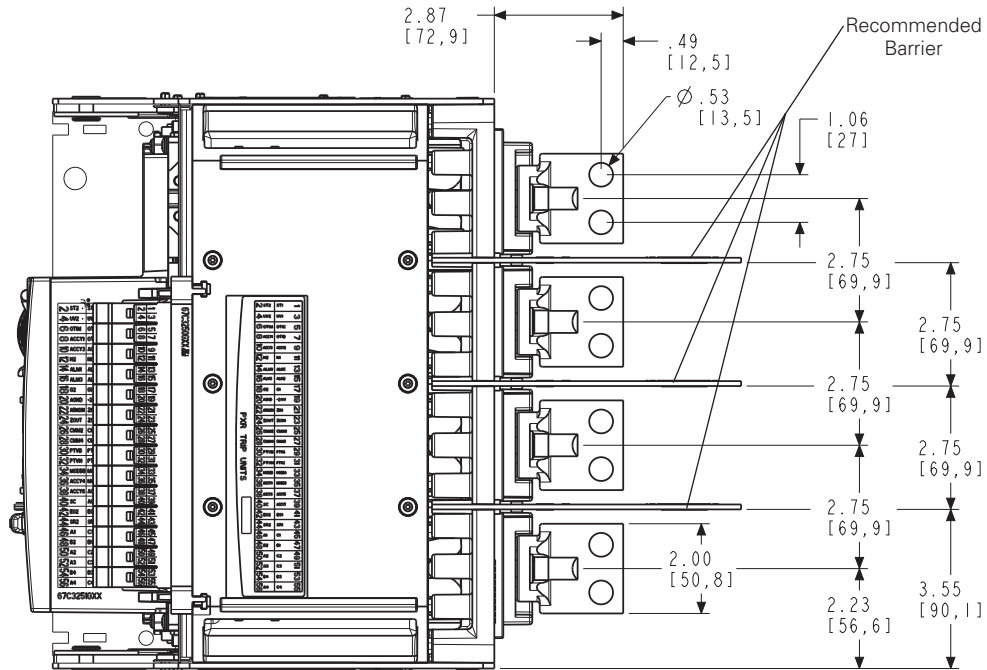


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Drawout Dimensions

Four-pole Drawout Cassette—Top/Side Views with Horizontal Universal Bus Adapters in Inches (mm).

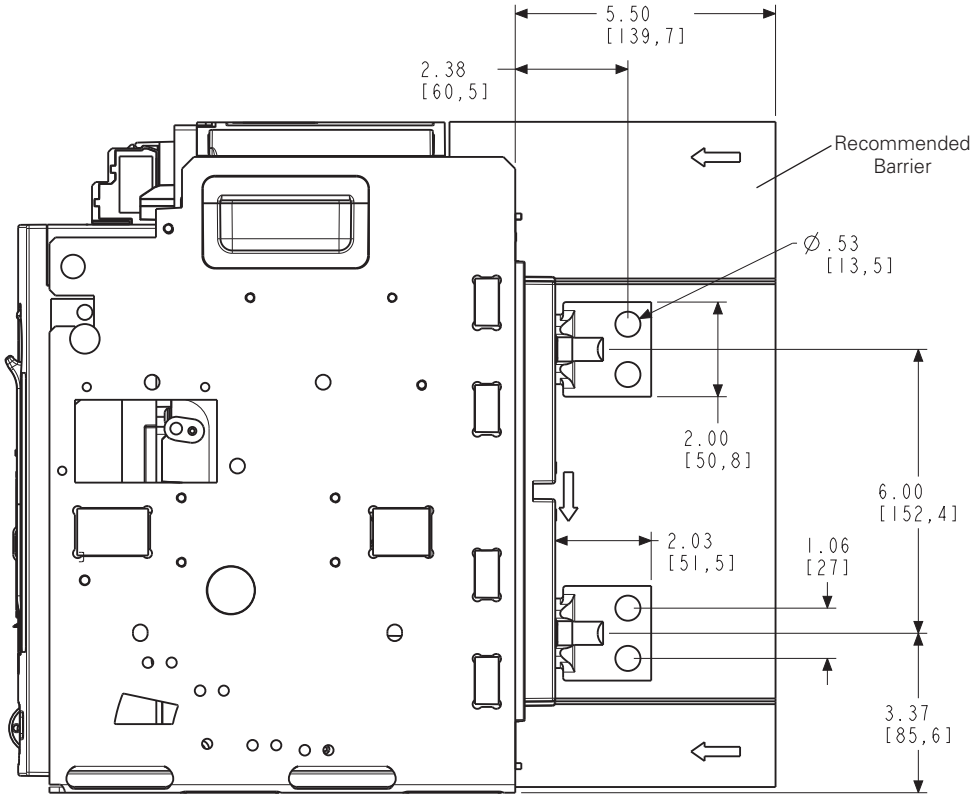
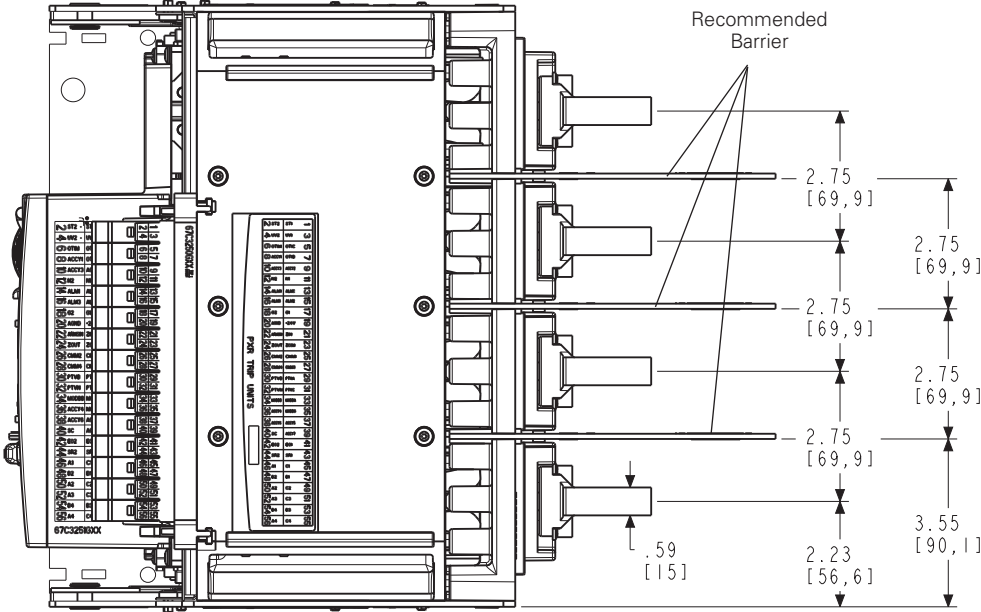


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Drawout Dimensions

Four-pole Drawout Cassette—Top/Side Views with Vertical Universal Bus Adapters in Inches (mm).

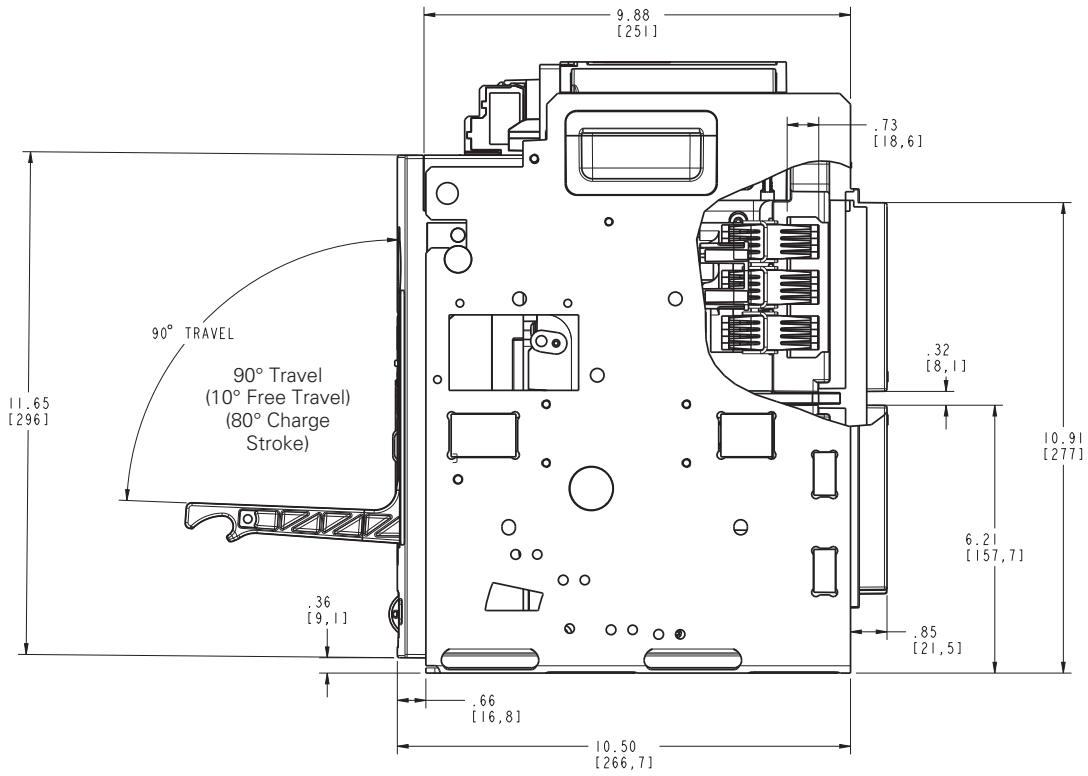


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

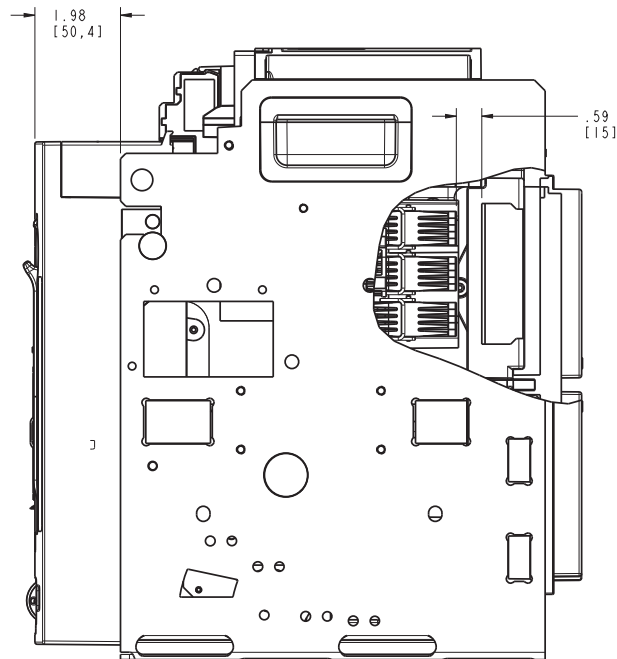
IZMX Series Air Circuit Breakers

X16 Drawout Dimensions

Four-Pole Drawout Cassette—Side Views CONNECTED and TEST Positions in Inches (mm).



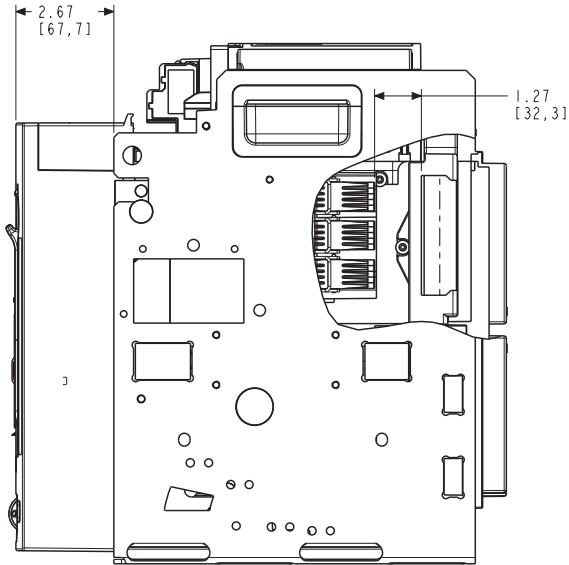
CONNECTED Position



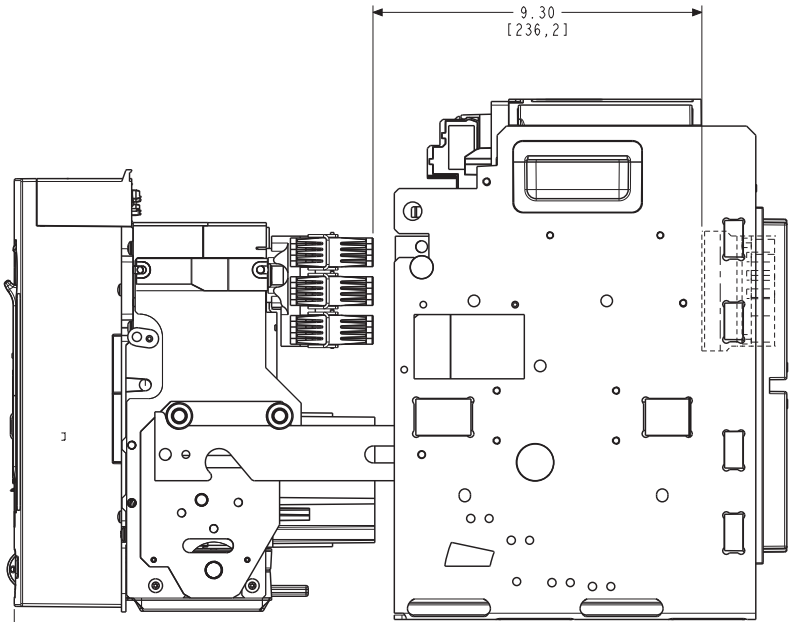
TEST Position

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Four-pole Drawout Cassette - Side Views DISCONNECTED and WITHDRAWN Positions in Inches and (mm).



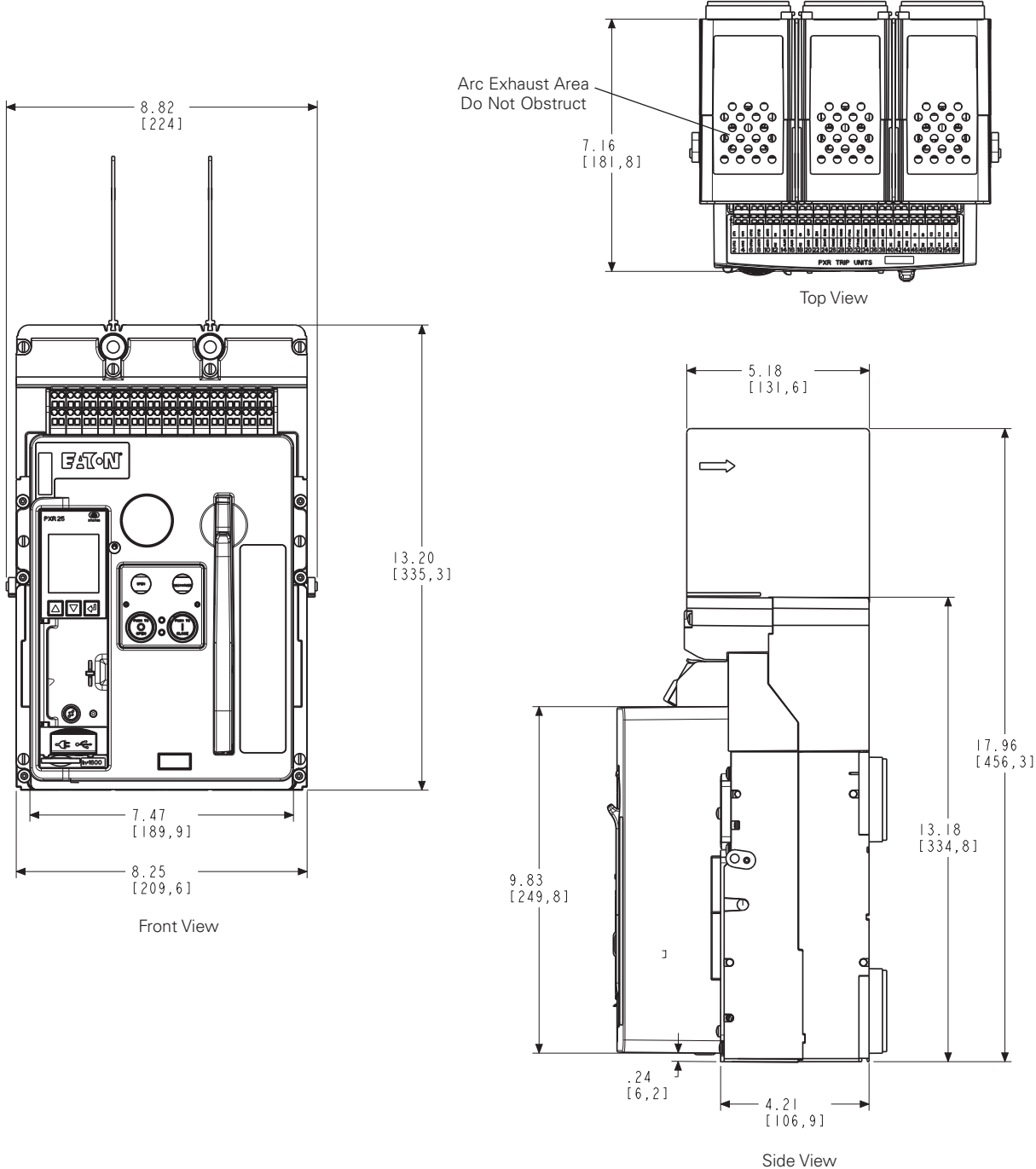
DISCONNECTED Position



WITHDRAWN Position

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Fixed Breaker Overall Views and Dimensions in Inches (mm) (UL 800-1200 A/IEC 630-1600 A).

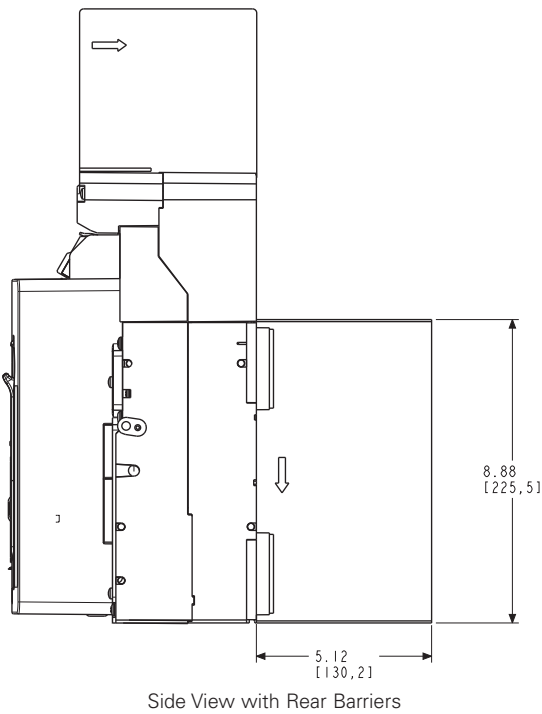
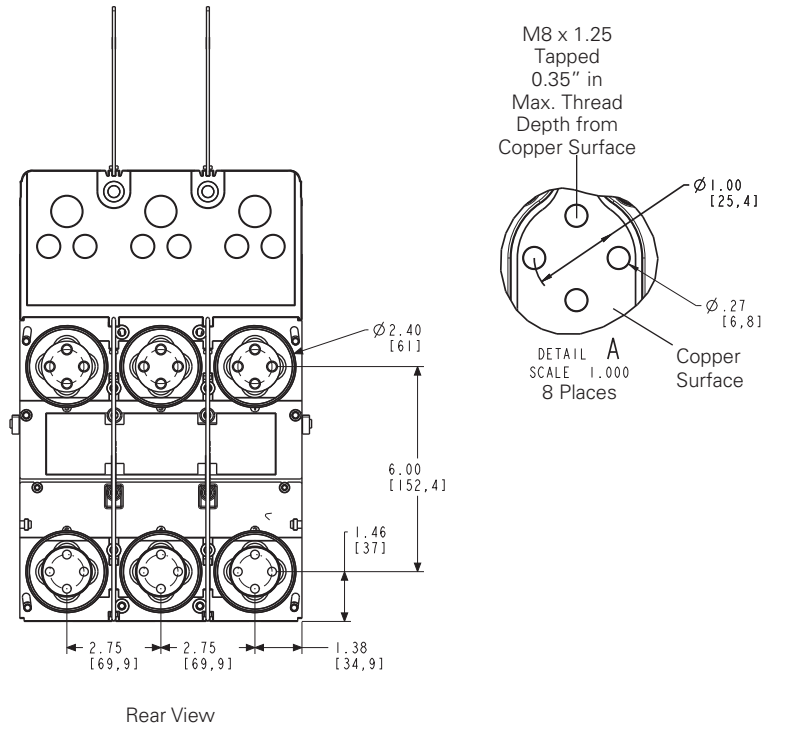


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

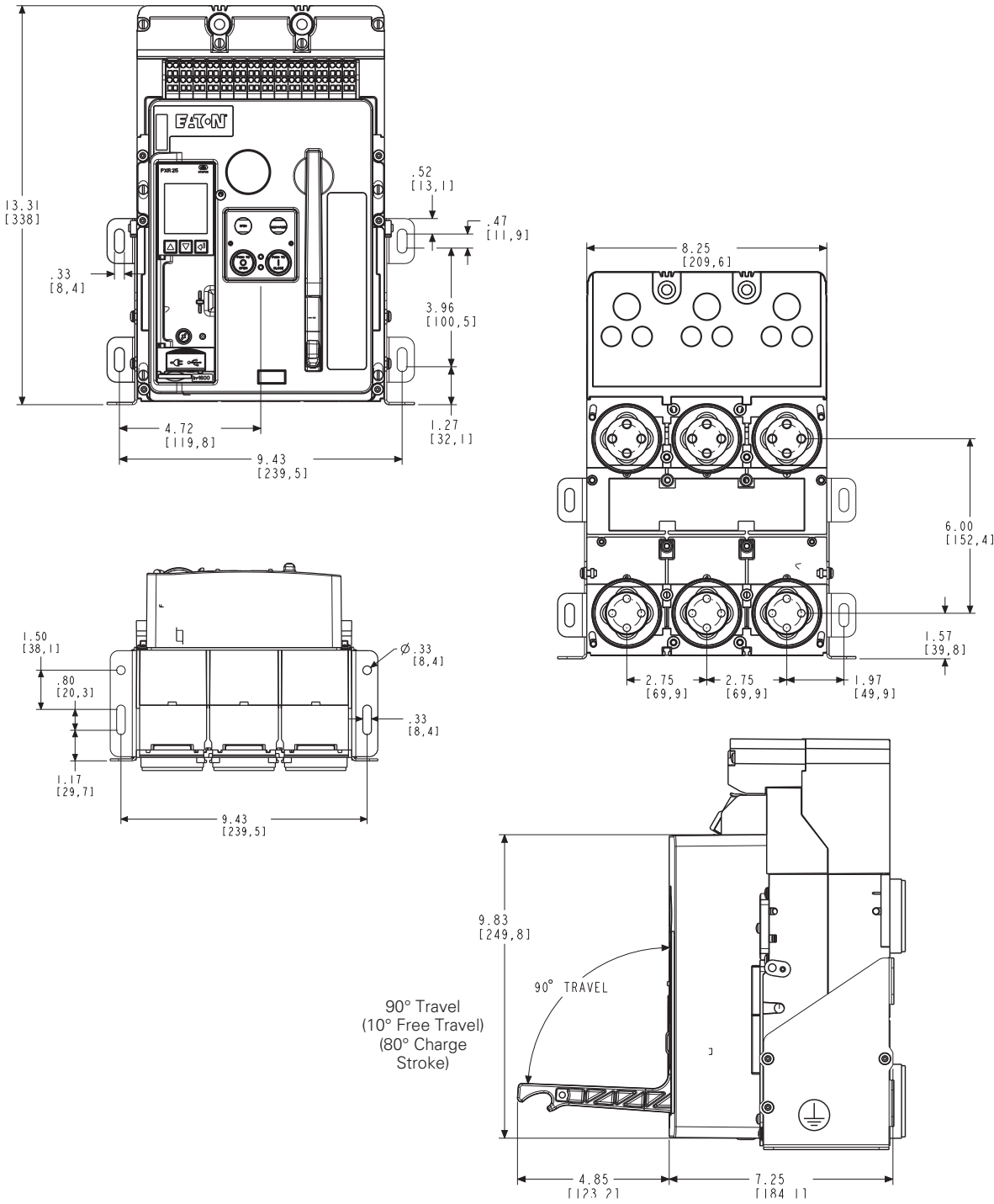
X16 Fixed Dimensions

Three-pole Fixed Breaker Overall Views and Dimensions in Inches (mm) (UL 800-1200 A/IEC 630-1600 A).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Fixed Breaker Foot Mount Dimensions in Inches (mm) (UL 800–1200 A/IEC 630–1600 A).

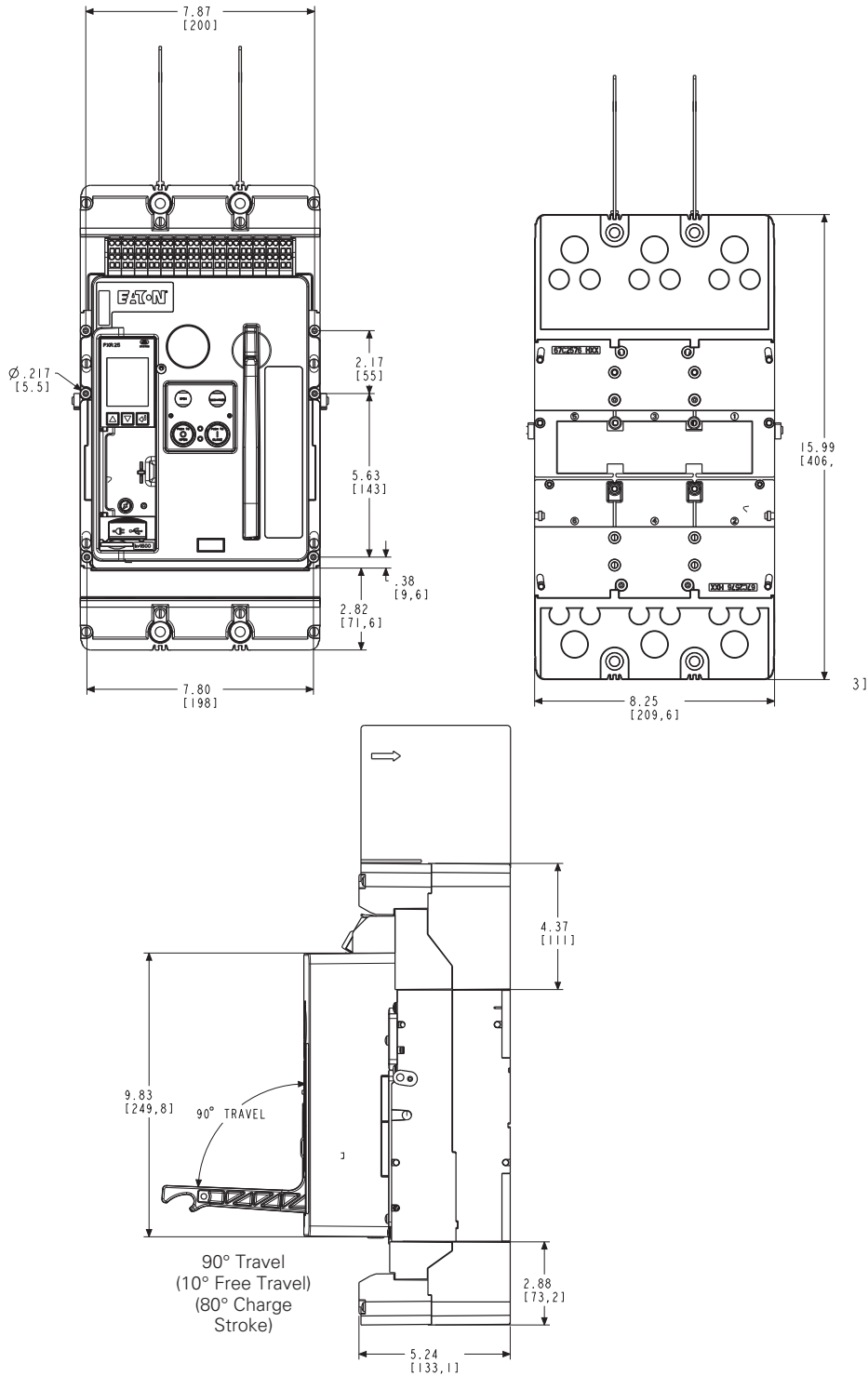


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Fixed Dimensions

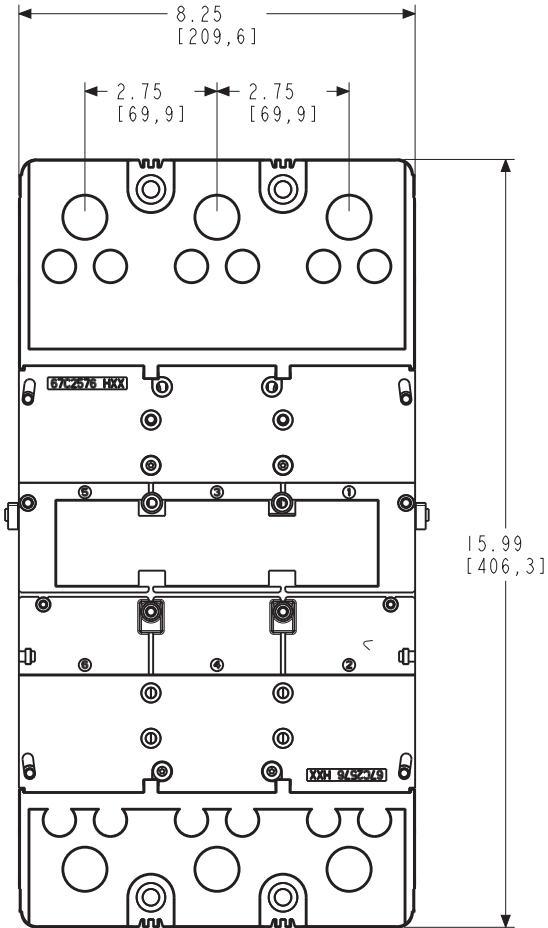
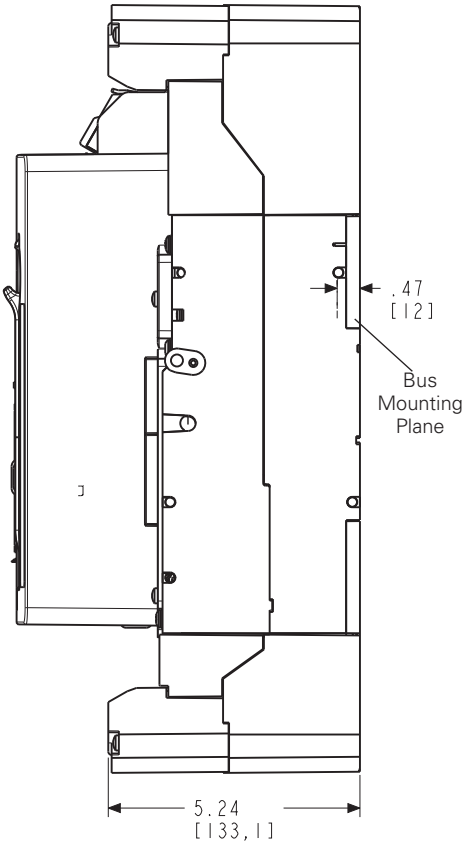
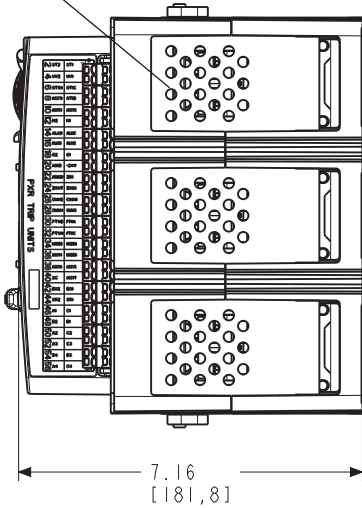
Three-pole Fixed Breaker Surface Mount, Cable Connect Dimensions in Inches (mm)
 (UL 800–1200 A/IEC 630–1600 A, 800 MCM, 750 MCM, and 500 MCM Lugs).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Fixed Breaker Parallel Bus Mounting Dimensions in Inches (mm) (UL 800–1200 A/IEC 630–1600 A).

Arc Exhaust Area
Do Not Obstruct

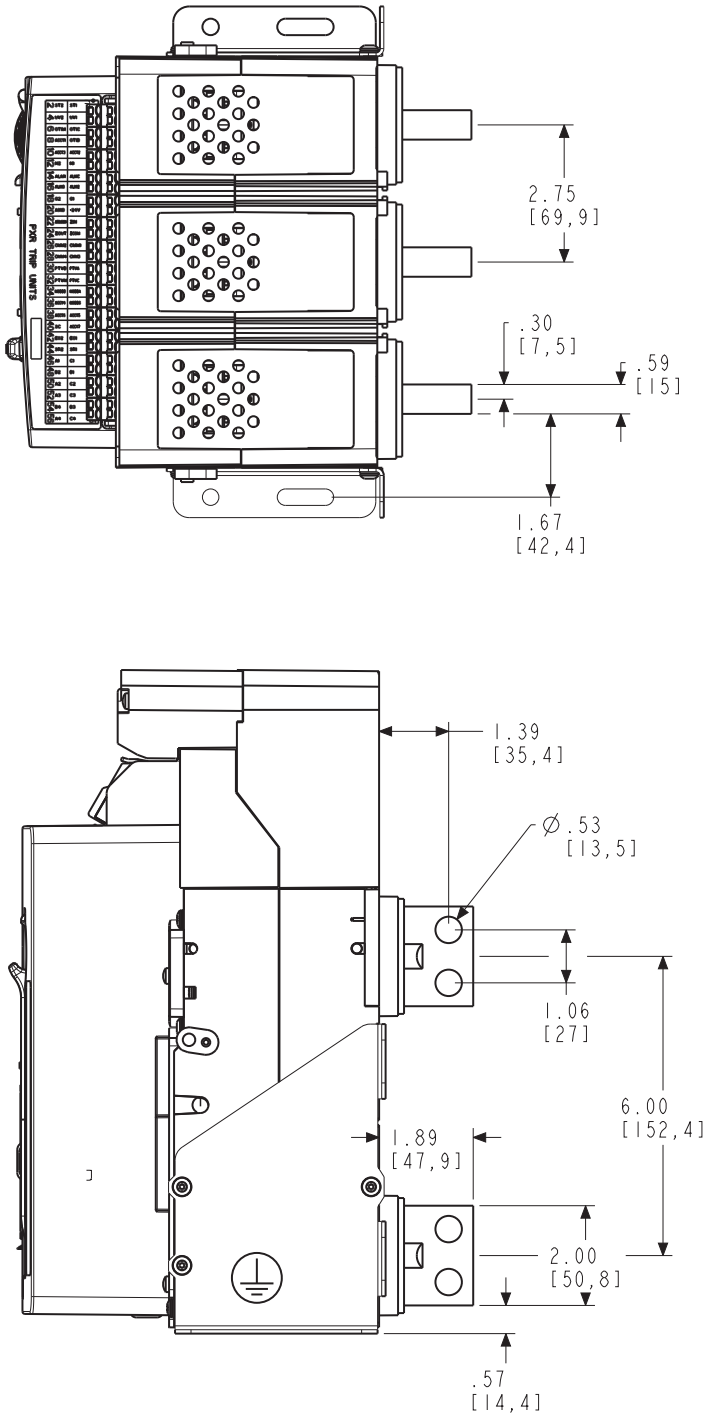


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Fixed Dimensions

Three-pole Fixed Breaker Vertical Universal Bus Adapters Dimensions in Inches (mm) (UL 800-1200 A/IEC 630-1600 A).

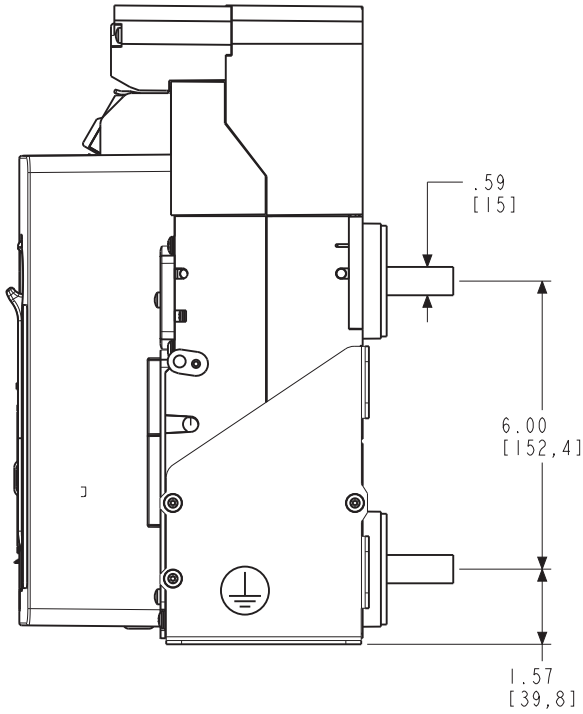
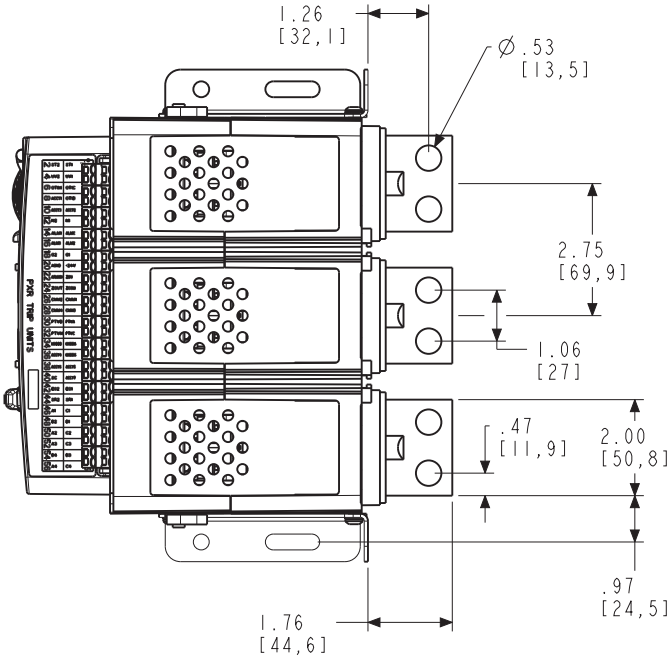


Note: Views shown with mounting feet option installed.

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Fixed Breaker Horizontal Universal Bus Adapter Dimensions in Inches (mm)

(UL 800–1200 A/IEC 630–1600 A).



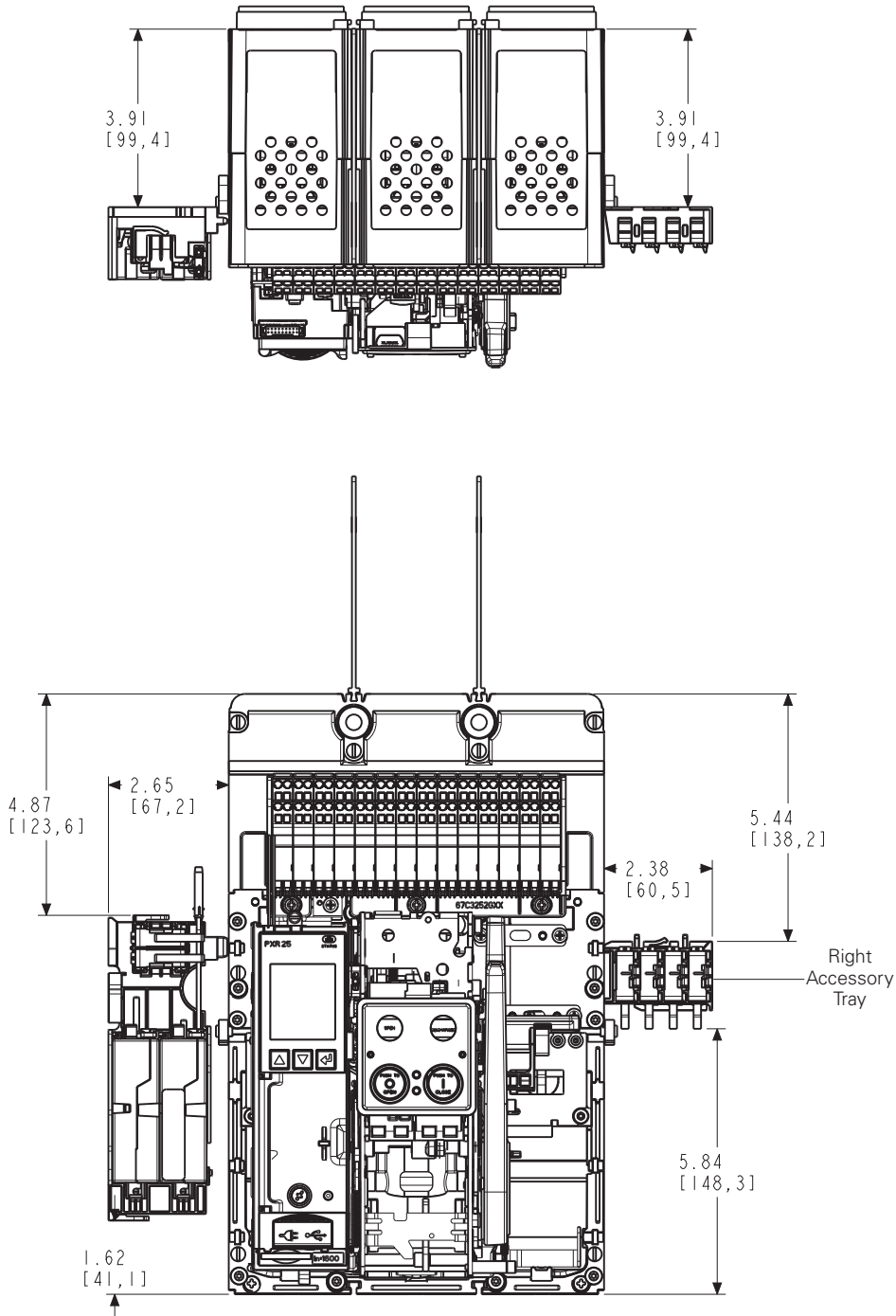
Note: Views shown with mounting feet option installed.

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Fixed Dimensions

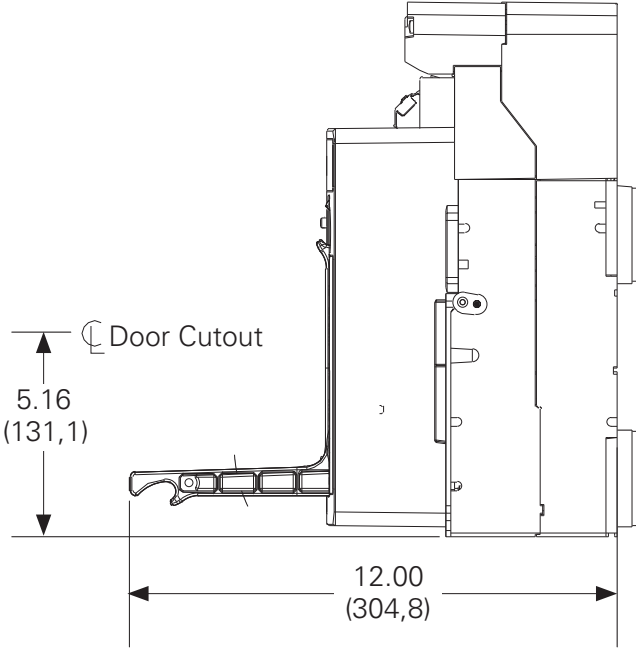
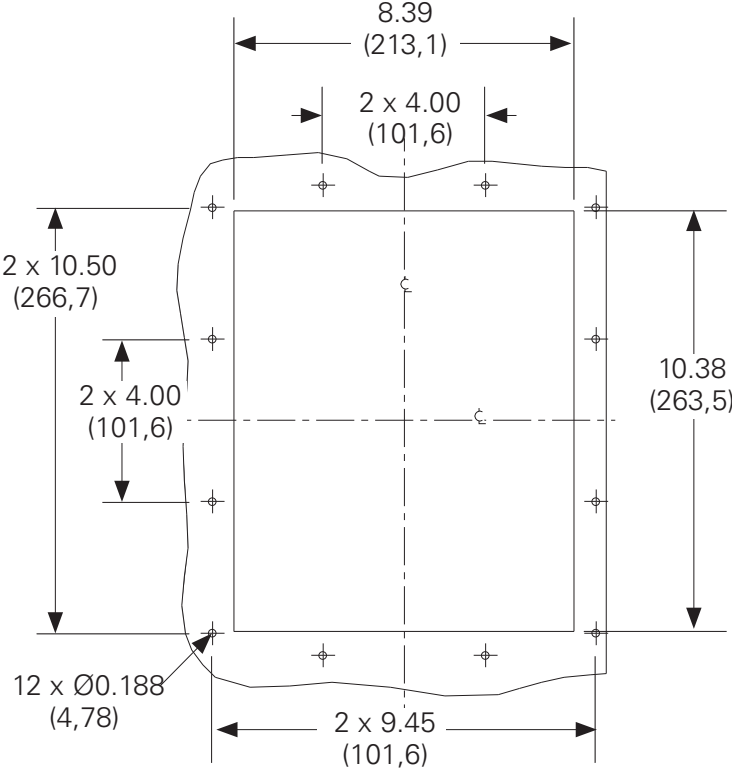
Three-pole Fixed Breaker Accessory Tray Installation and Removal Clearance Dimensions in Inches (mm).



Note: A minimum of 2-inches (50.8 mm) of side clearance is required.

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Fixed Breaker—Front View Door Cutout Detail Dimensions in Inches (mm).

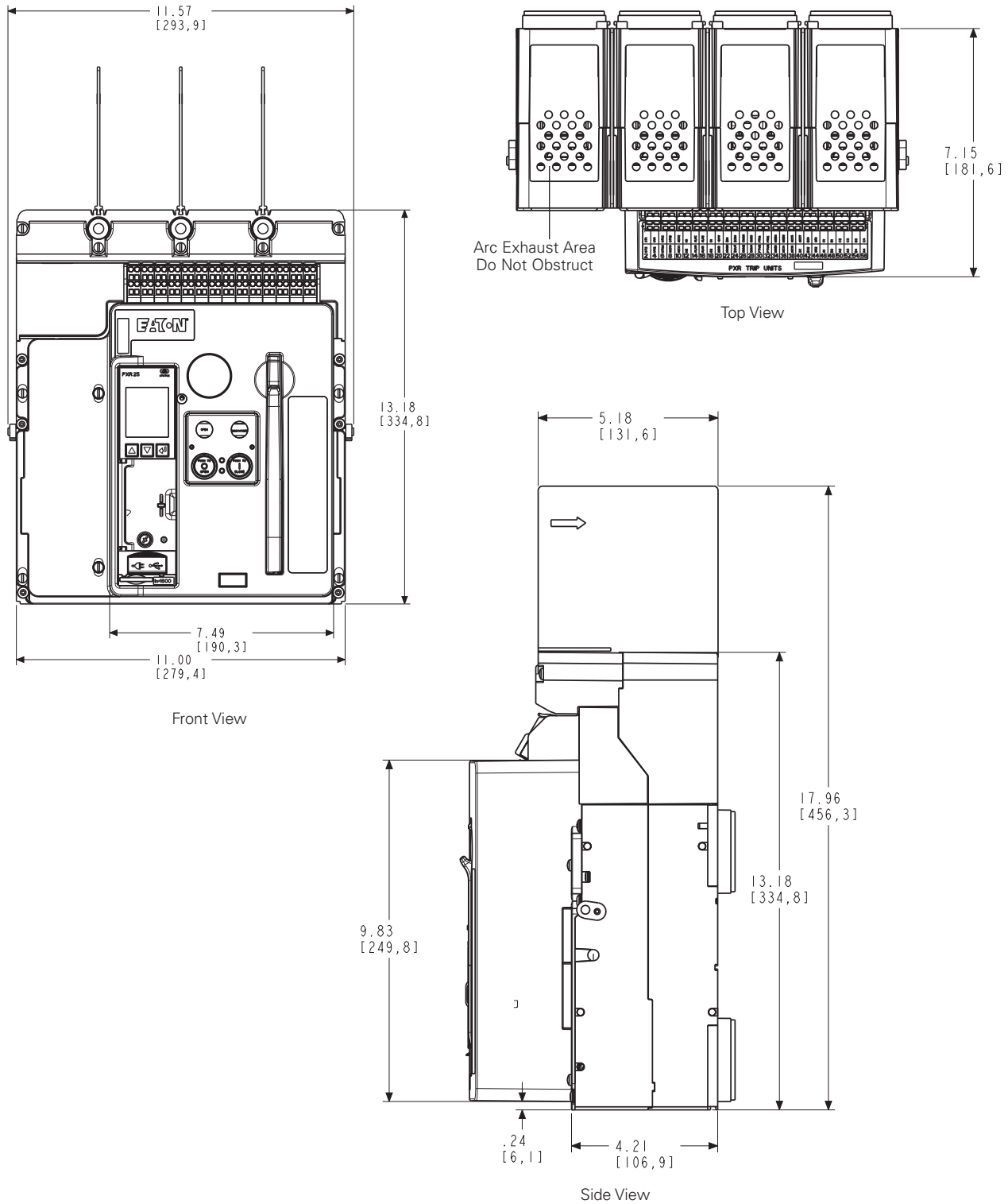


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Fixed Dimensions

Four-pole Fixed Breaker Overall Views and Dimensions in Inches (mm) (UL 800–1200 A/IEC 630–1600 A).

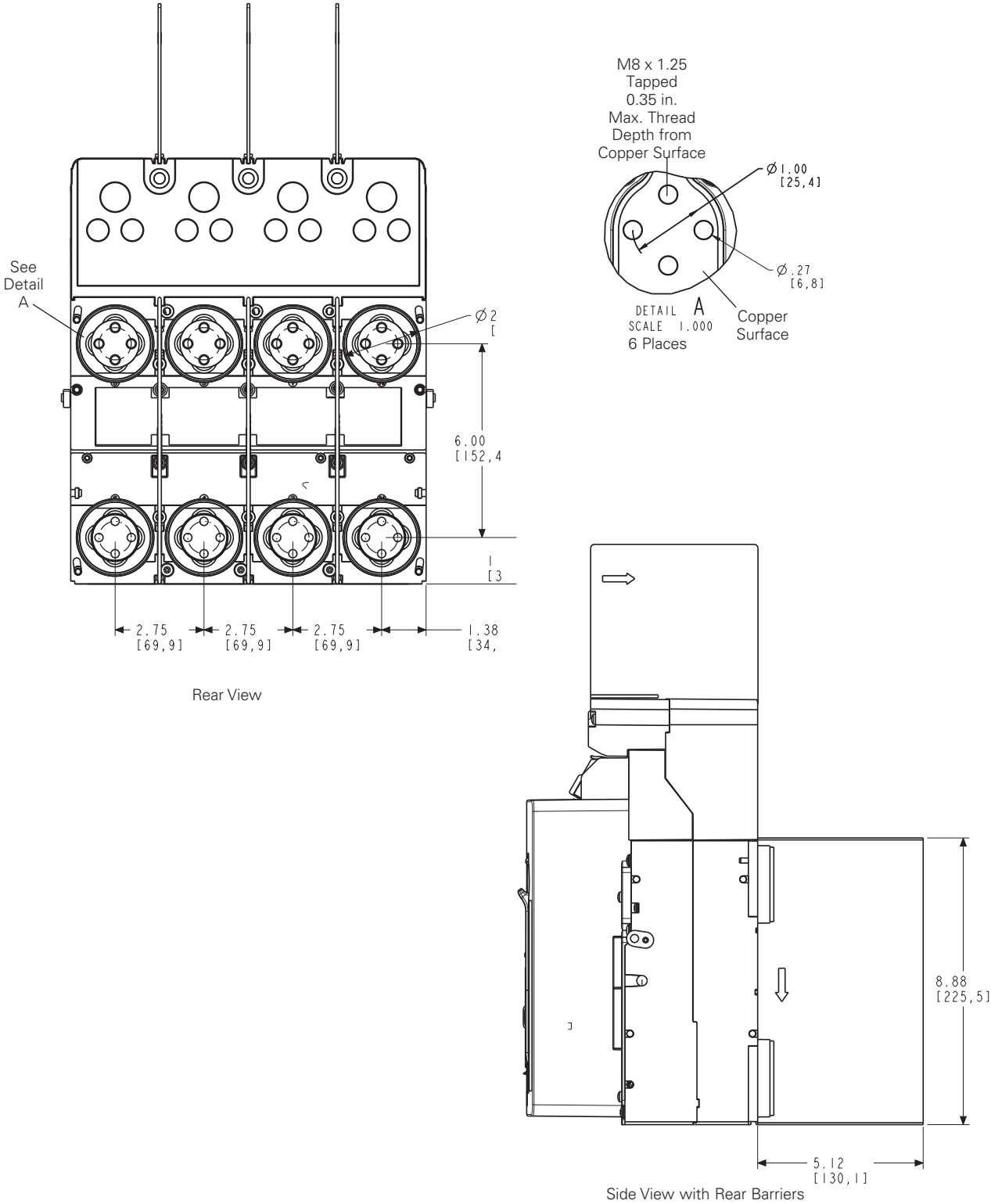


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Fixed Dimensions

Four-pole Fixed Breaker Overall Views and Dimensions in Inches (mm) (UL 800–1200 A/IEC 630–1600 A).

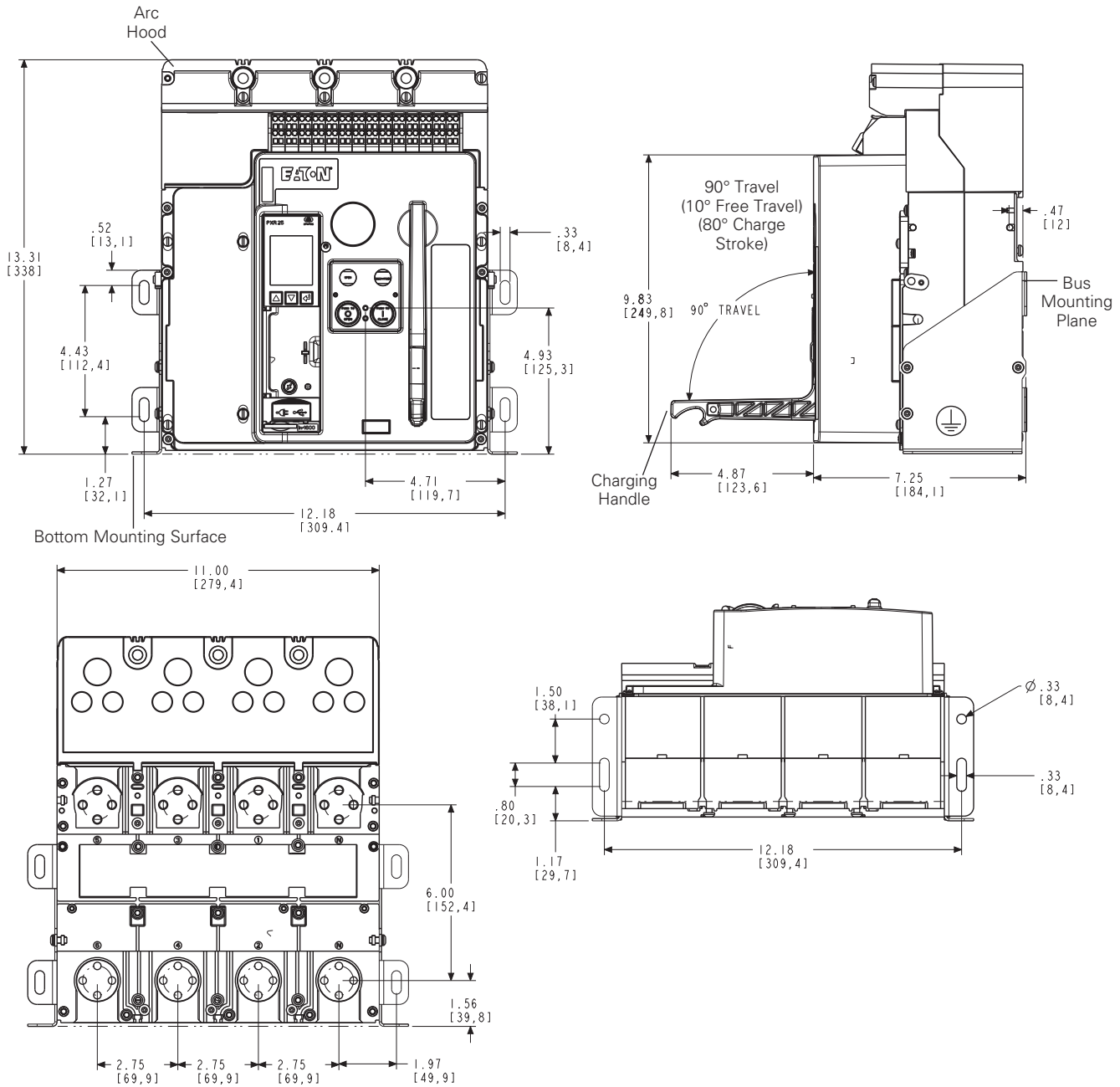


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

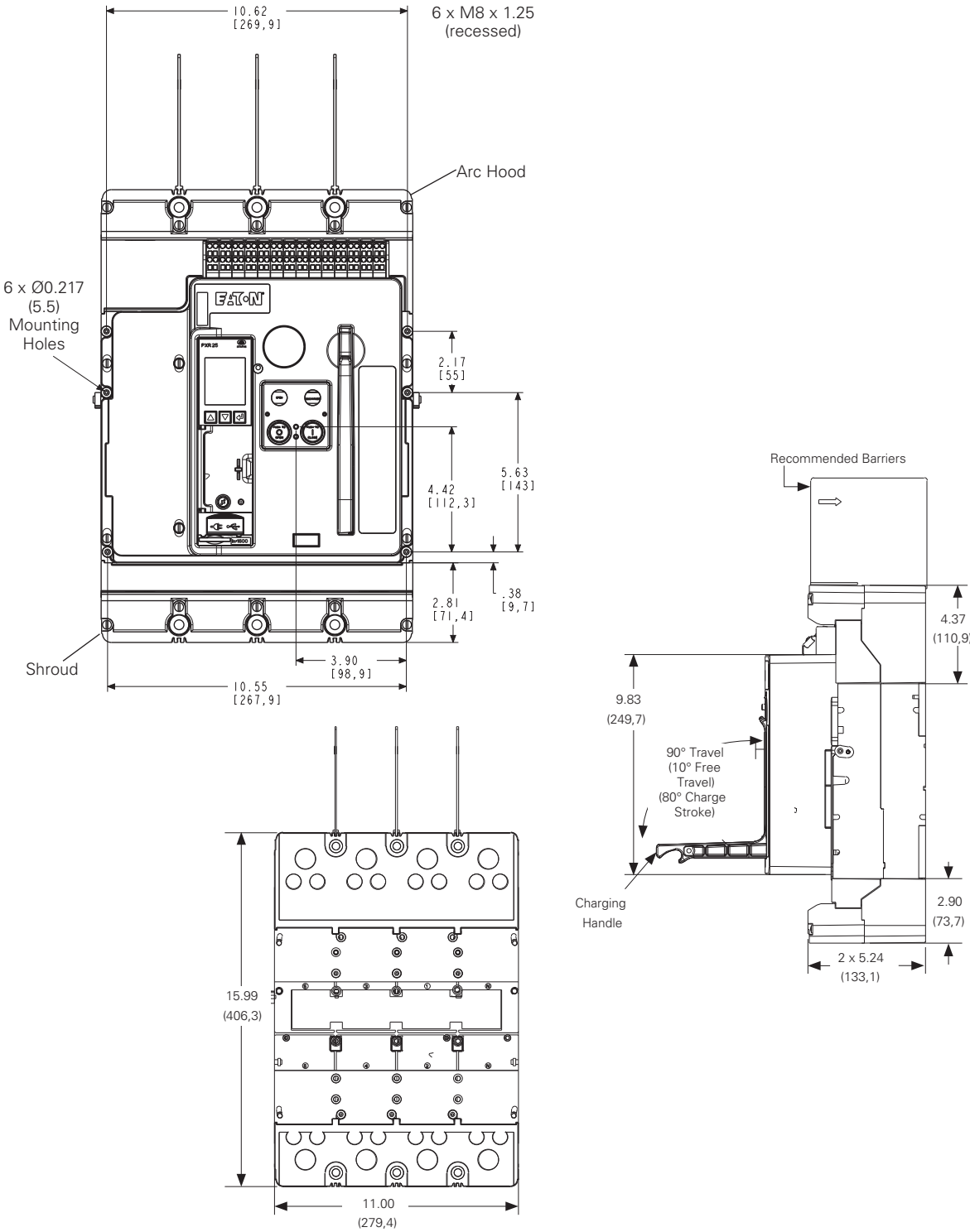
X16 Fixed Dimensions

Four-pole Fixed Breaker Foot Mount Dimensions in Inches (mm) (UL 800–1200 A/IEC 630–1600 A).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

**Four-pole Fixed Breaker Surface Mount, Cable Connect Dimensions in Inches (mm)
(UL 800–1200 A/IEC 630–1600 A, 800 MCM, 750 MCM, and 600 MCM Lugs).**

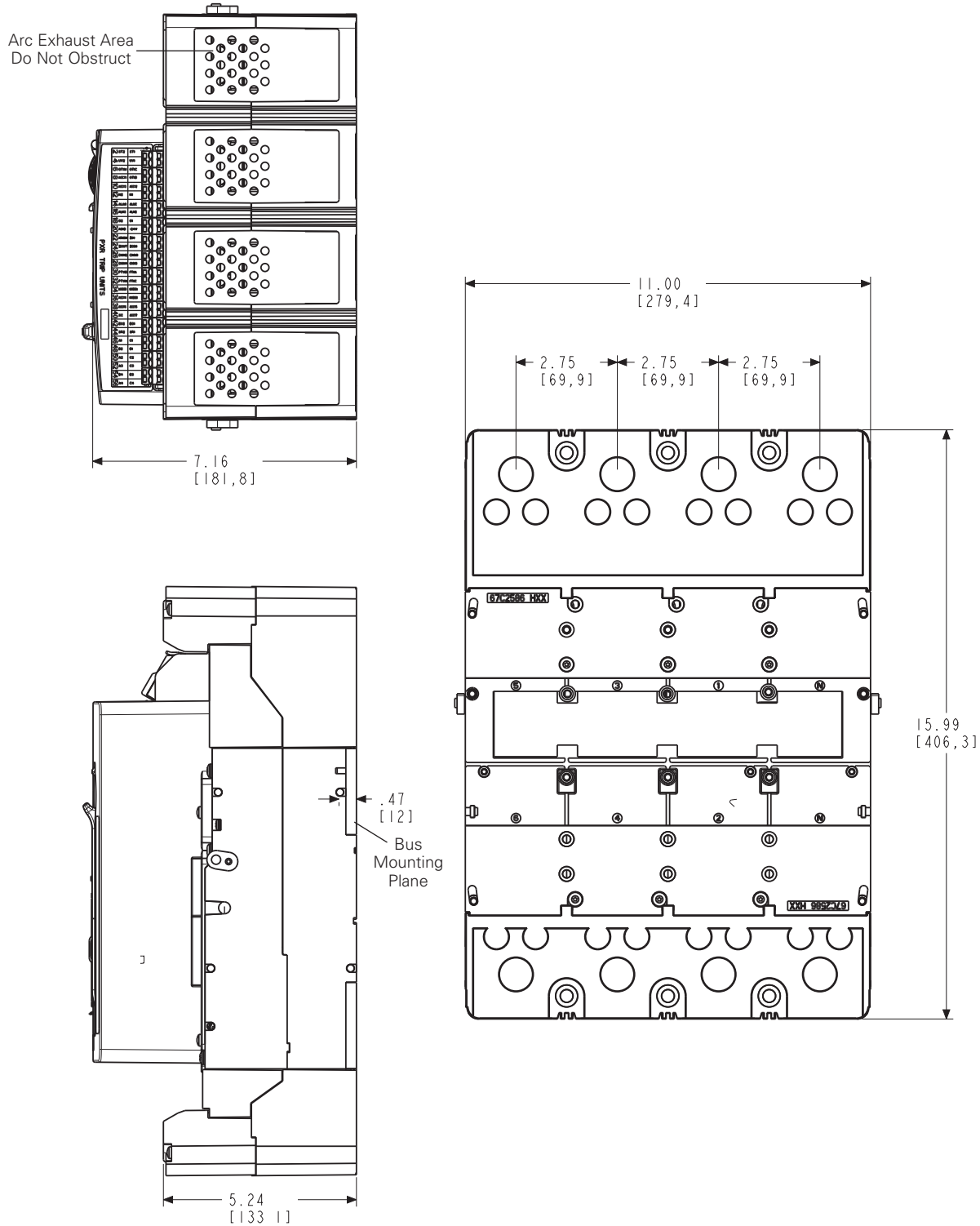


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Fixed Dimensions

Four-pole Fixed Breaker Parallel Bus Mounting Dimensions in Inches (mm) (UL 800-1200 A/IEC 630-1600 A).

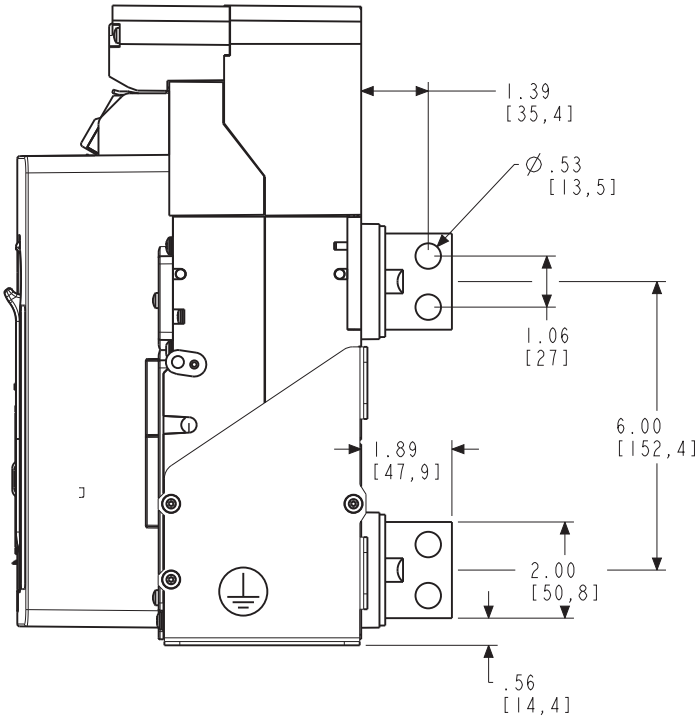
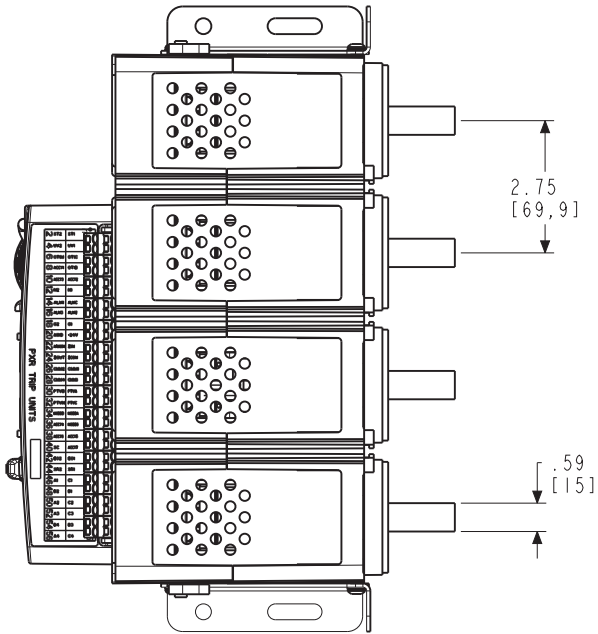


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Fixed Dimensions

**Four-pole Fixed Breaker Universal Bus Adapters Vertical Dimensions in Inches (mm)
(UL 800-1200 A/IEC 630-1600 A) .**



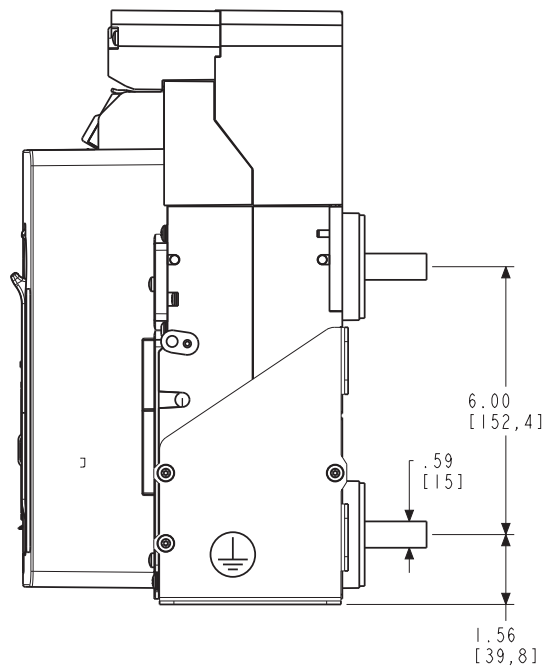
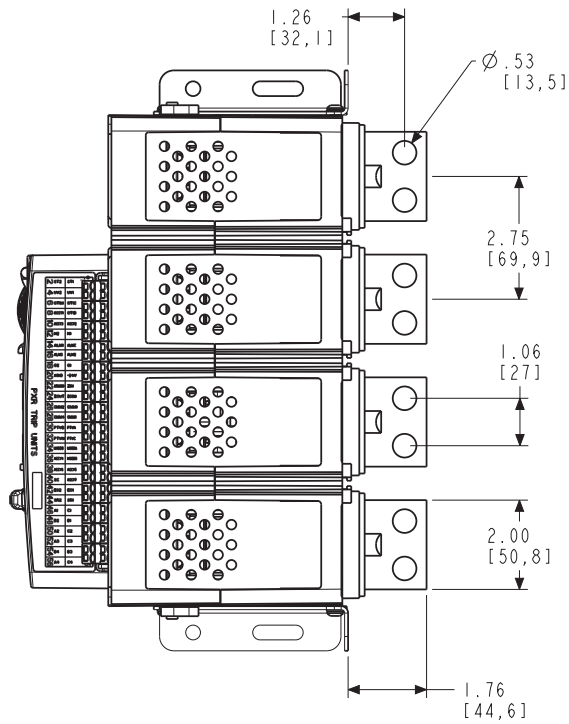
Note: Versions shown with mounting feet option installed.

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X16 Fixed Dimensions

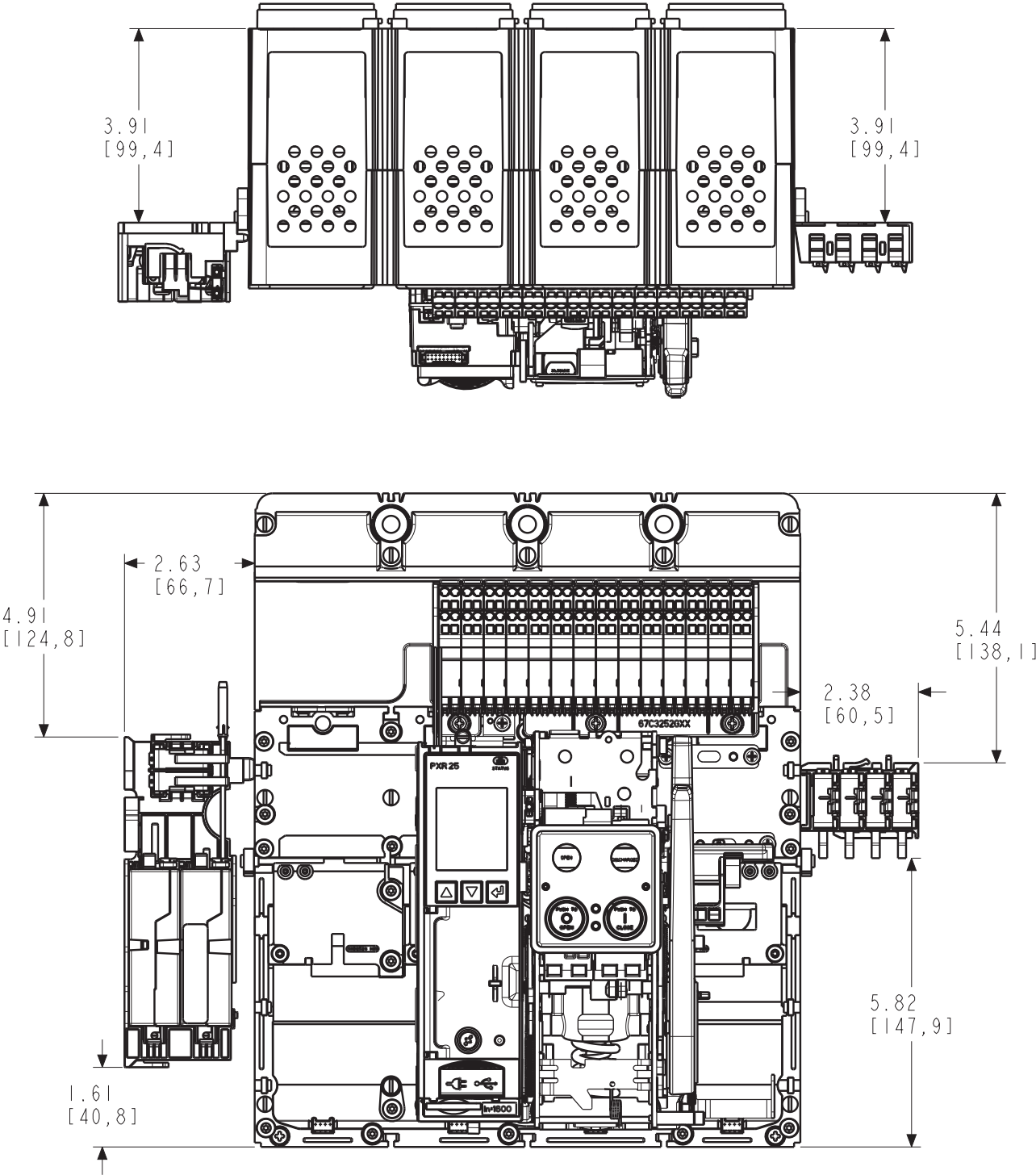
Four-pole Fixed Breaker Universal Bus Adapters Horizontal Dimensions in Inches (mm) (UL 800-1200 A/IEC 630-1600 A).



Note: Views shown with mounting feet option installed.

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Four-pole Fixed Breaker Accessory Tray Installation and Removal Clearance Dimensions in Inches (mm).



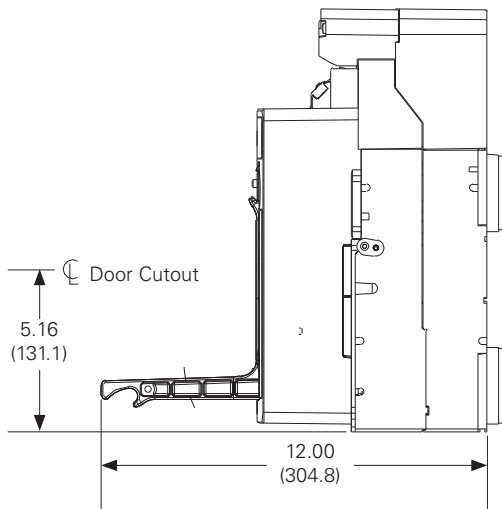
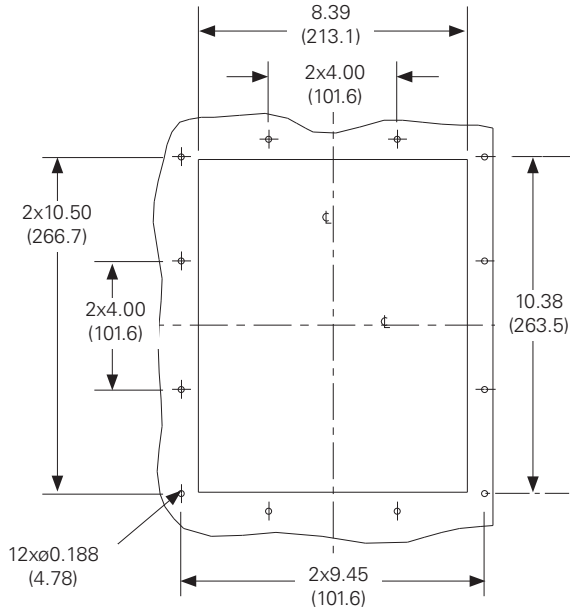
Note: A minimum of 2-inches (50.8 mm) of side clearance is required.

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

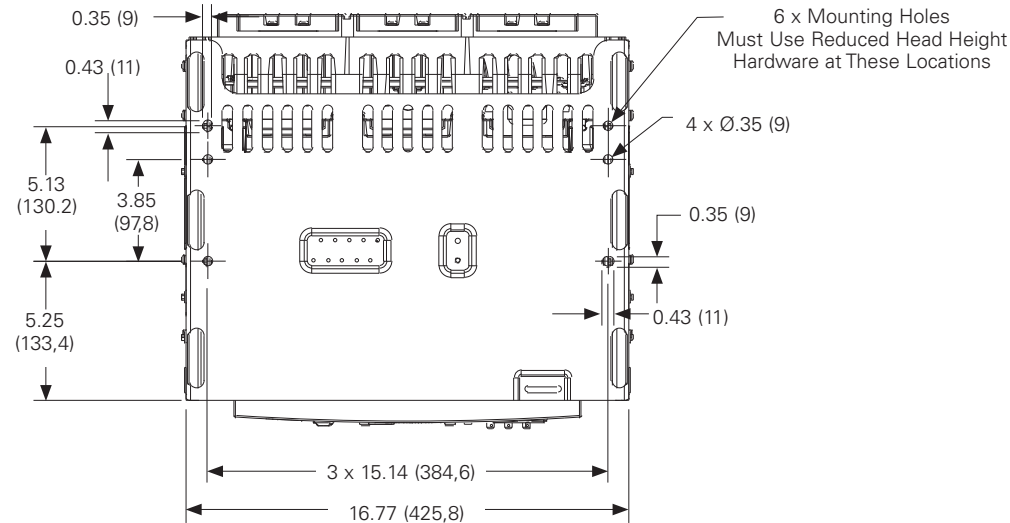
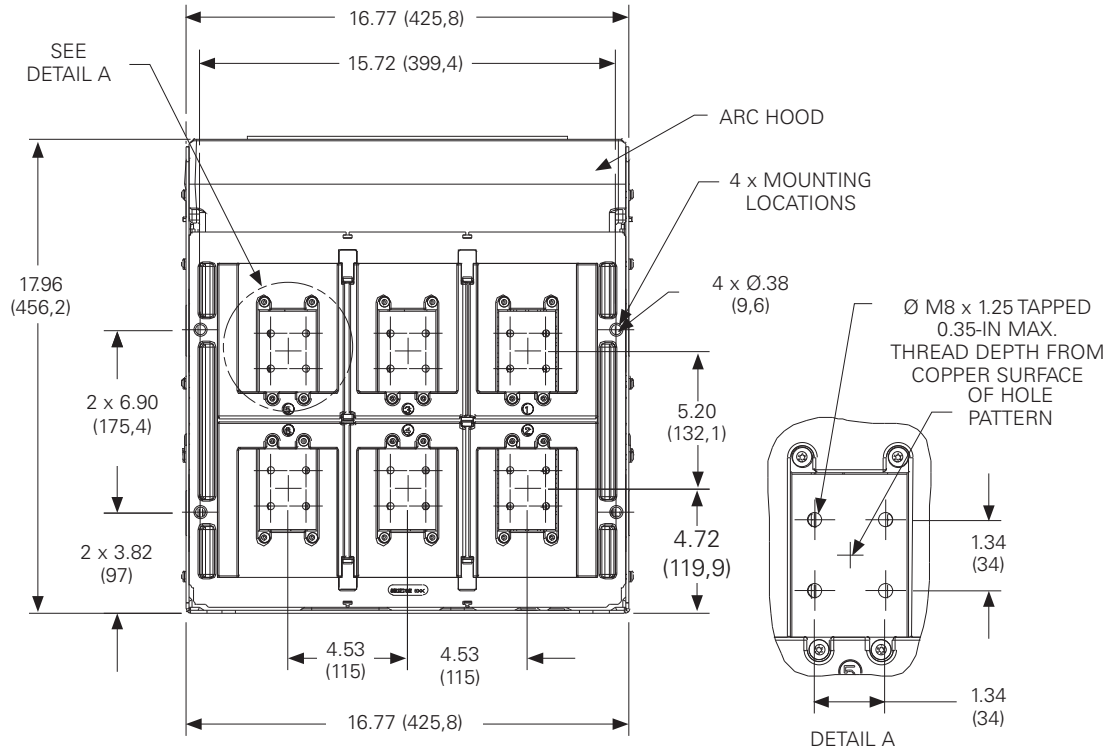
X16 Fixed Dimensions

Four-pole Fixed Breaker—Front View Door Cutout Detail Dimensions in Inches (mm).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Drawout Cassette - Rear/Bottom Views in Inches (mm).

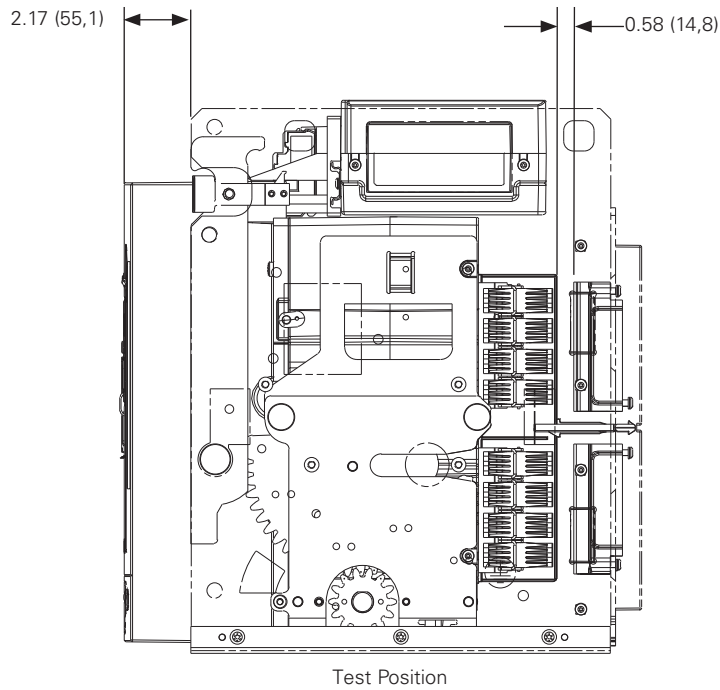
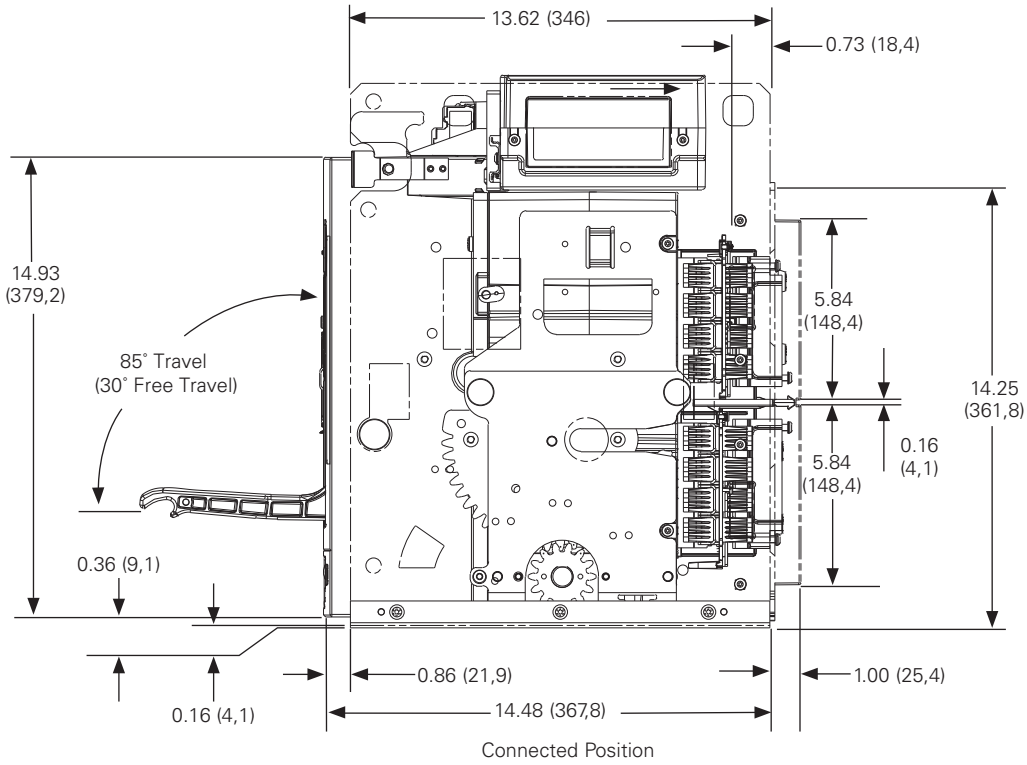


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

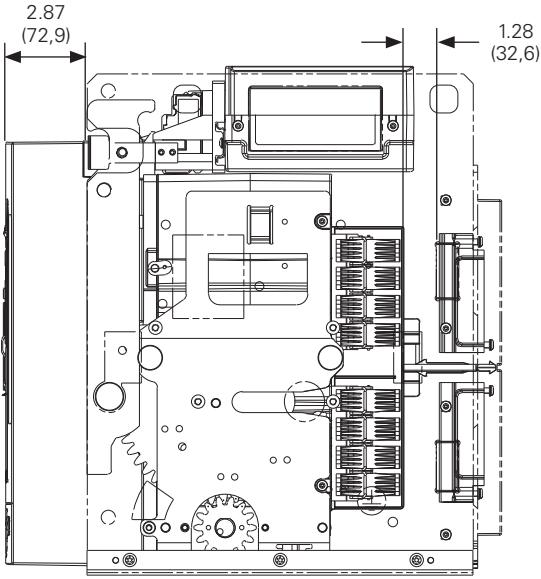
X40 Drawout Dimensions

Three-pole Drawout Cassette - Side Views CONNECTED and TEST Positions in Inches (mm).

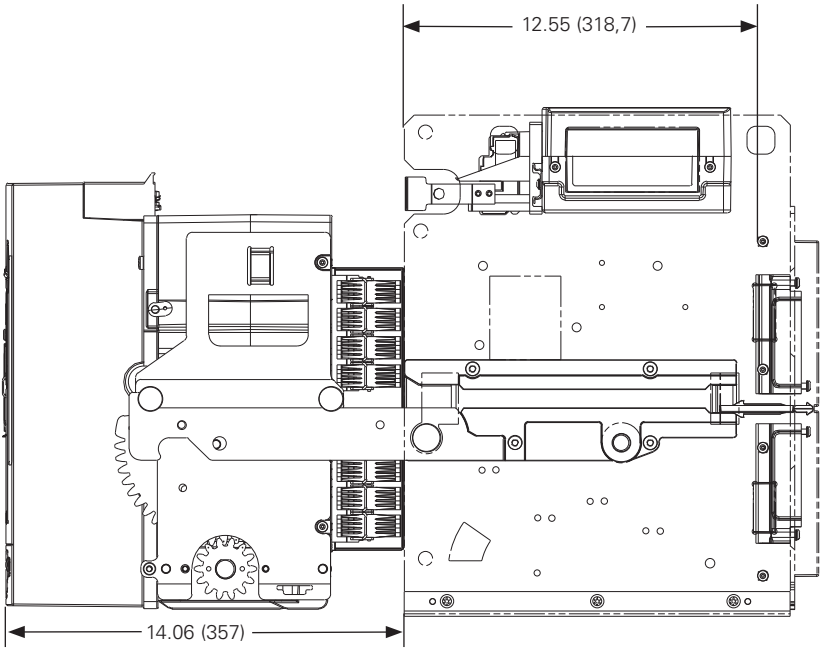


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Drawout Cassette - Side Views DISCONNECTED and WITHDRAWN Positions in Inches (mm).



Disconnected Position



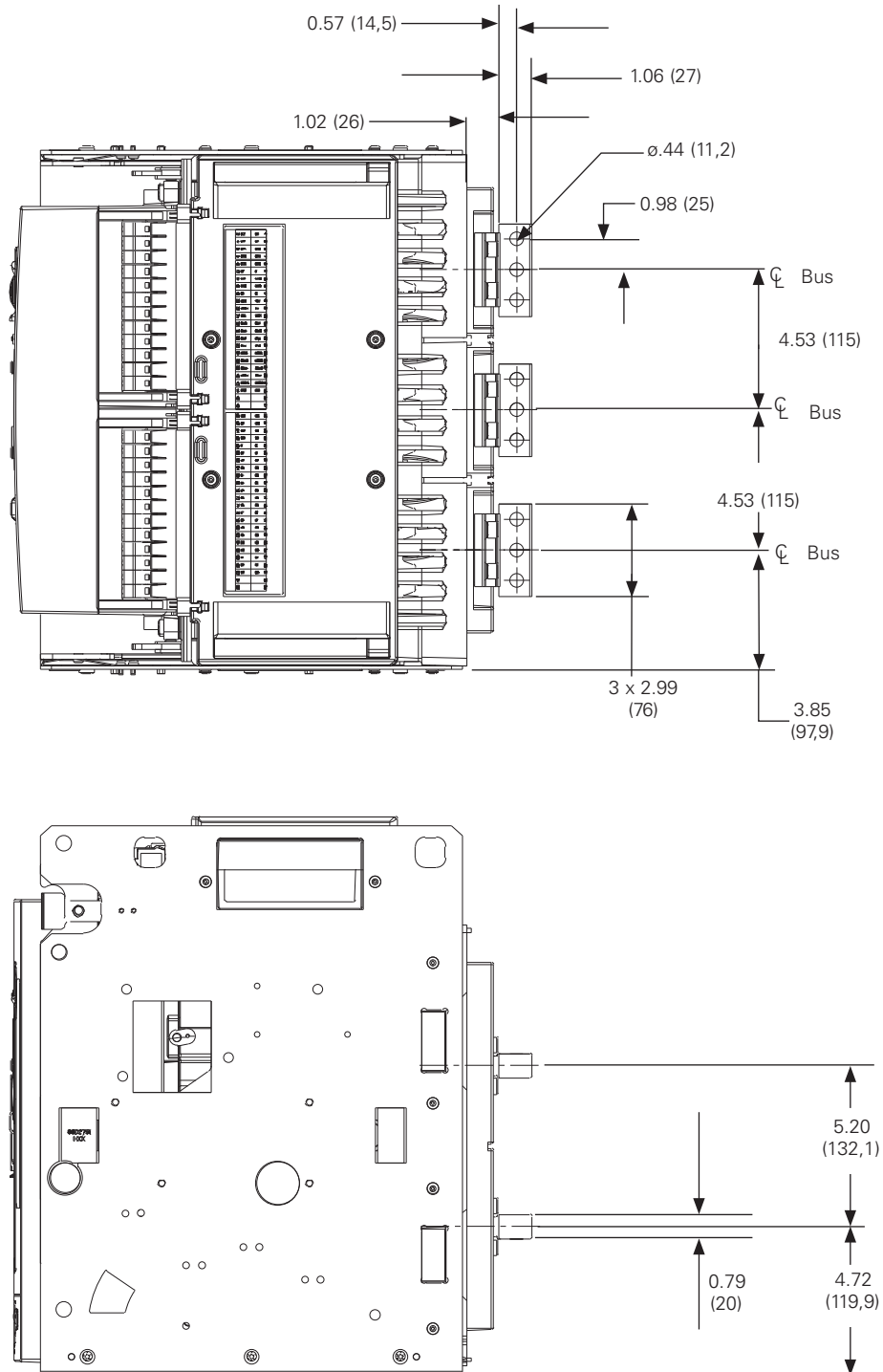
Withdrawn Position

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

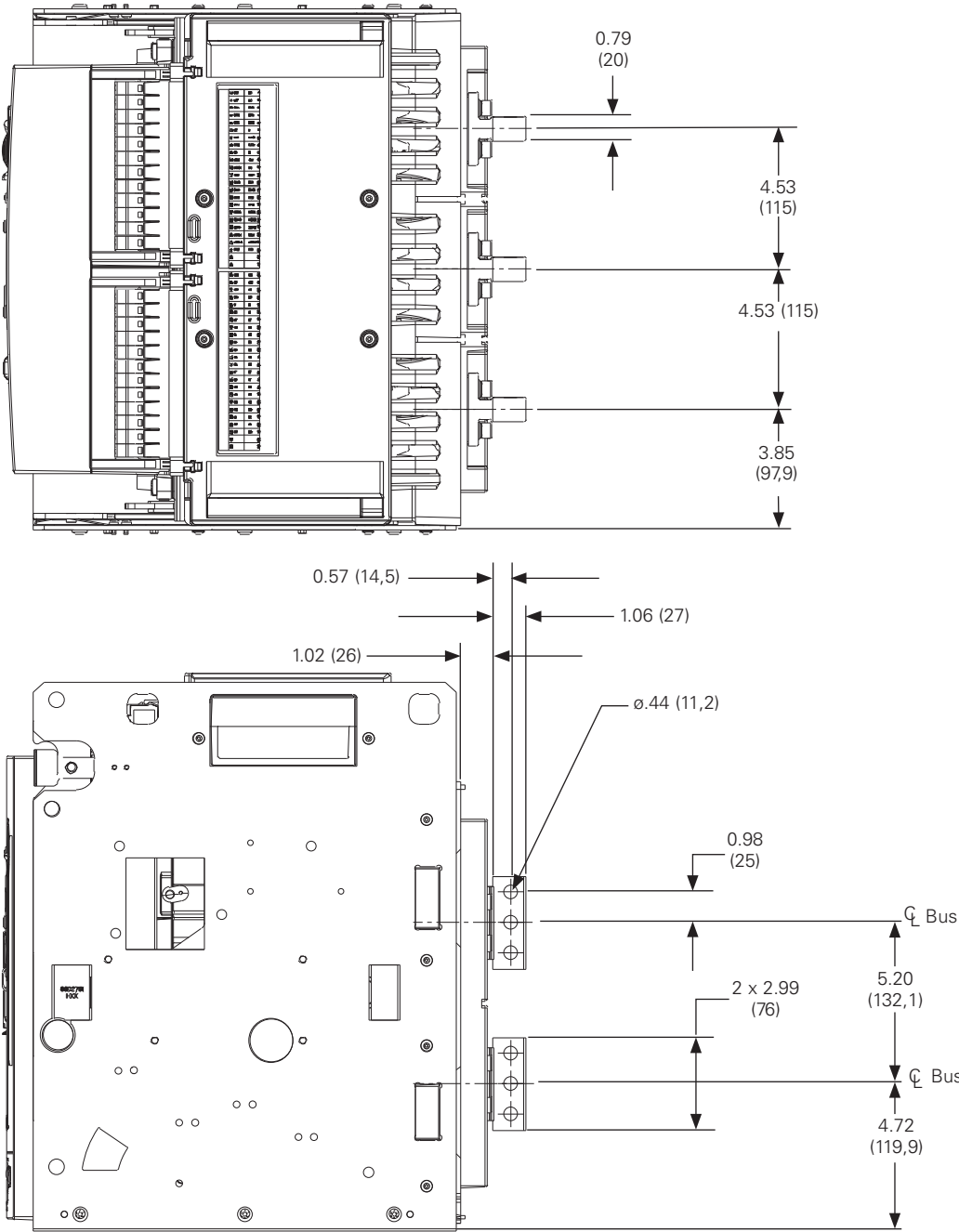
X40 Drawout Dimensions

Three-pole Drawout Cassette - Top/Side Views with 800-3200 A Horizontal Bus Adapters in Inches (mm).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Drawout Cassette - Top/Side Views with 800-3200 A Vertical Bus Adapters in Inches (mm).

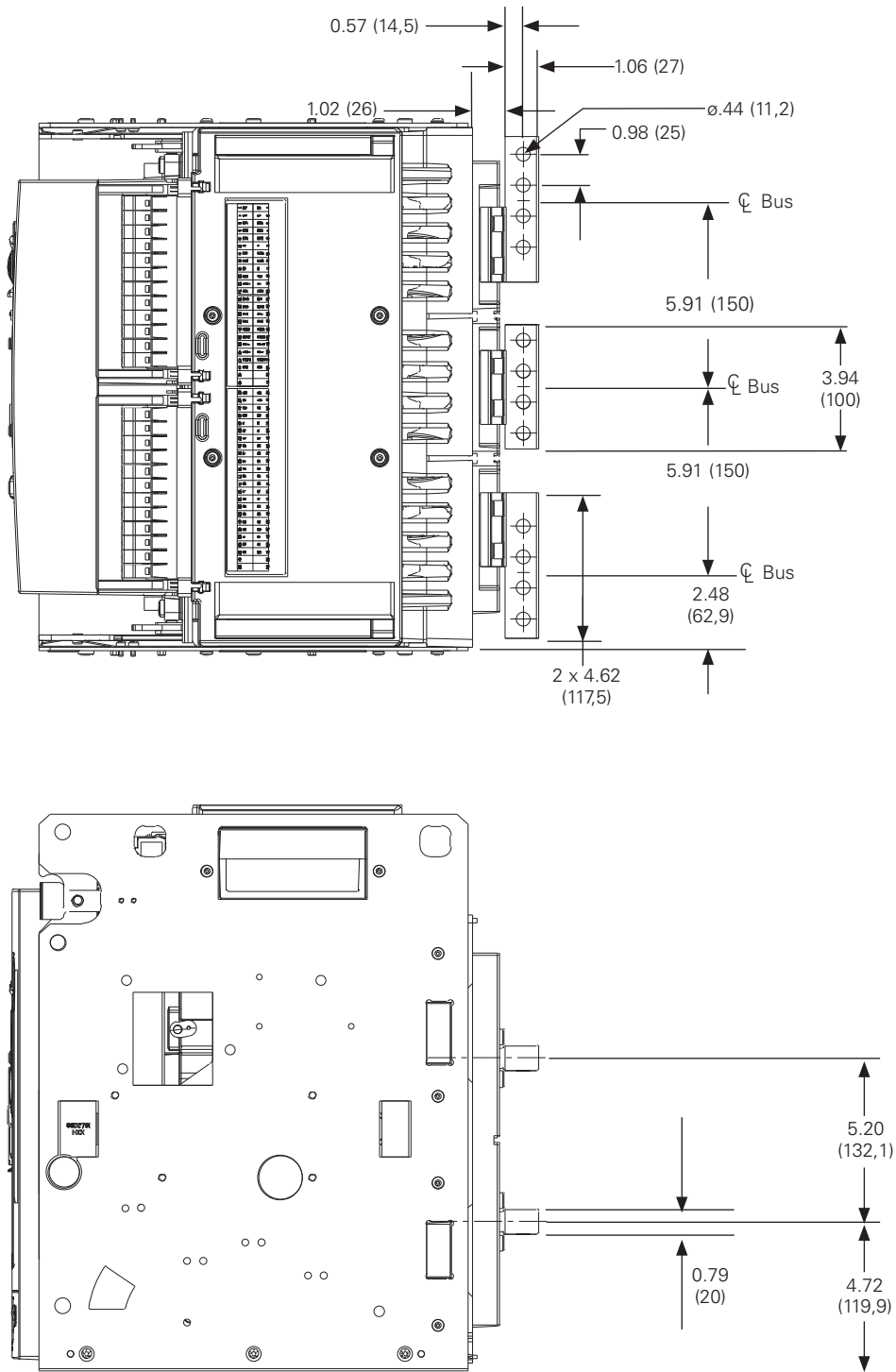


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

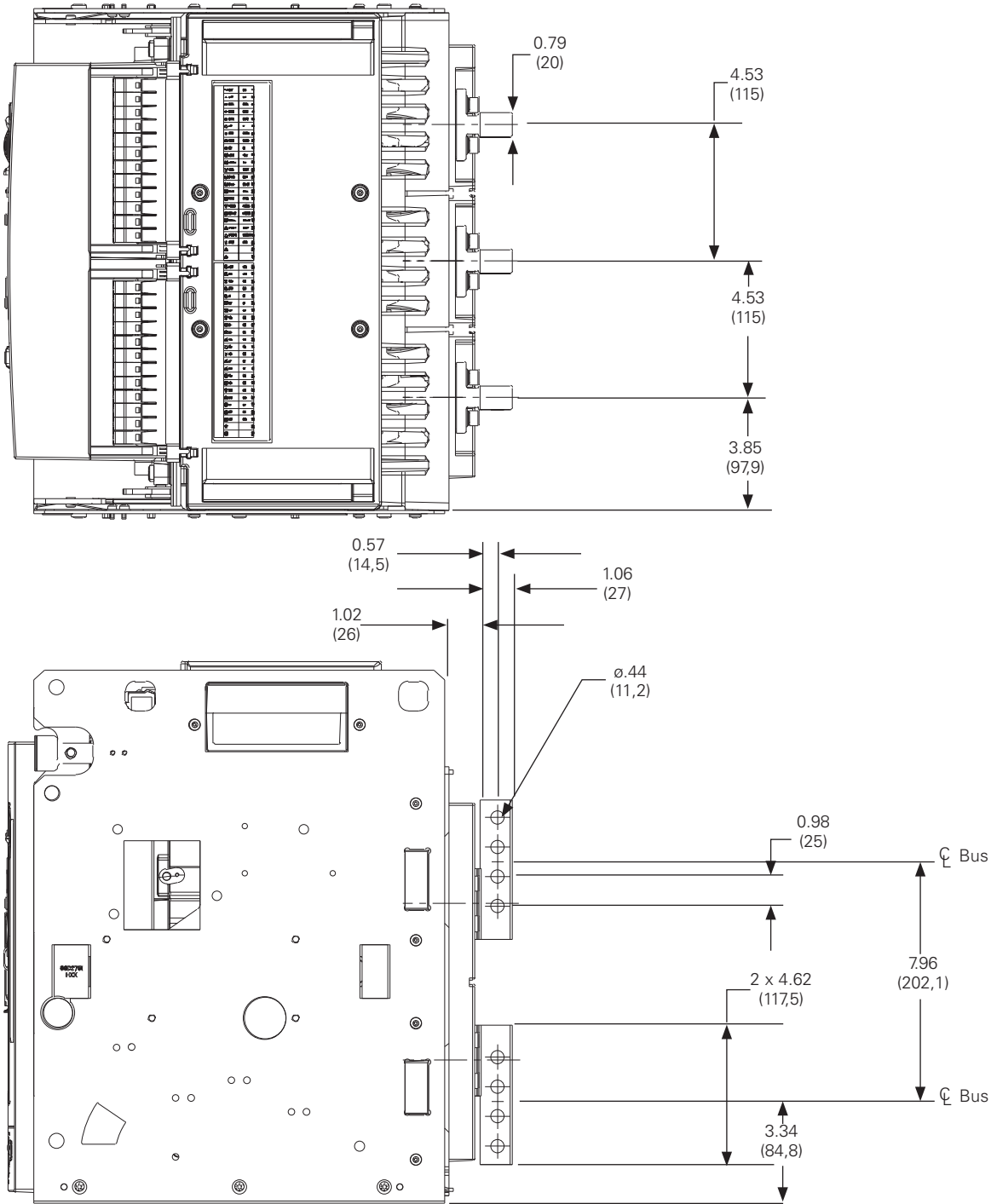
X40 Drawout Dimensions

Three-pole Drawout Cassette - Top/Side Views with 4000 A Horizontal Bus Adapters in Inches (mm).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Three-pole Drawout Cassette - Top/Side Views with 4000 A Vertical Bus Adapters in Inches (mm).

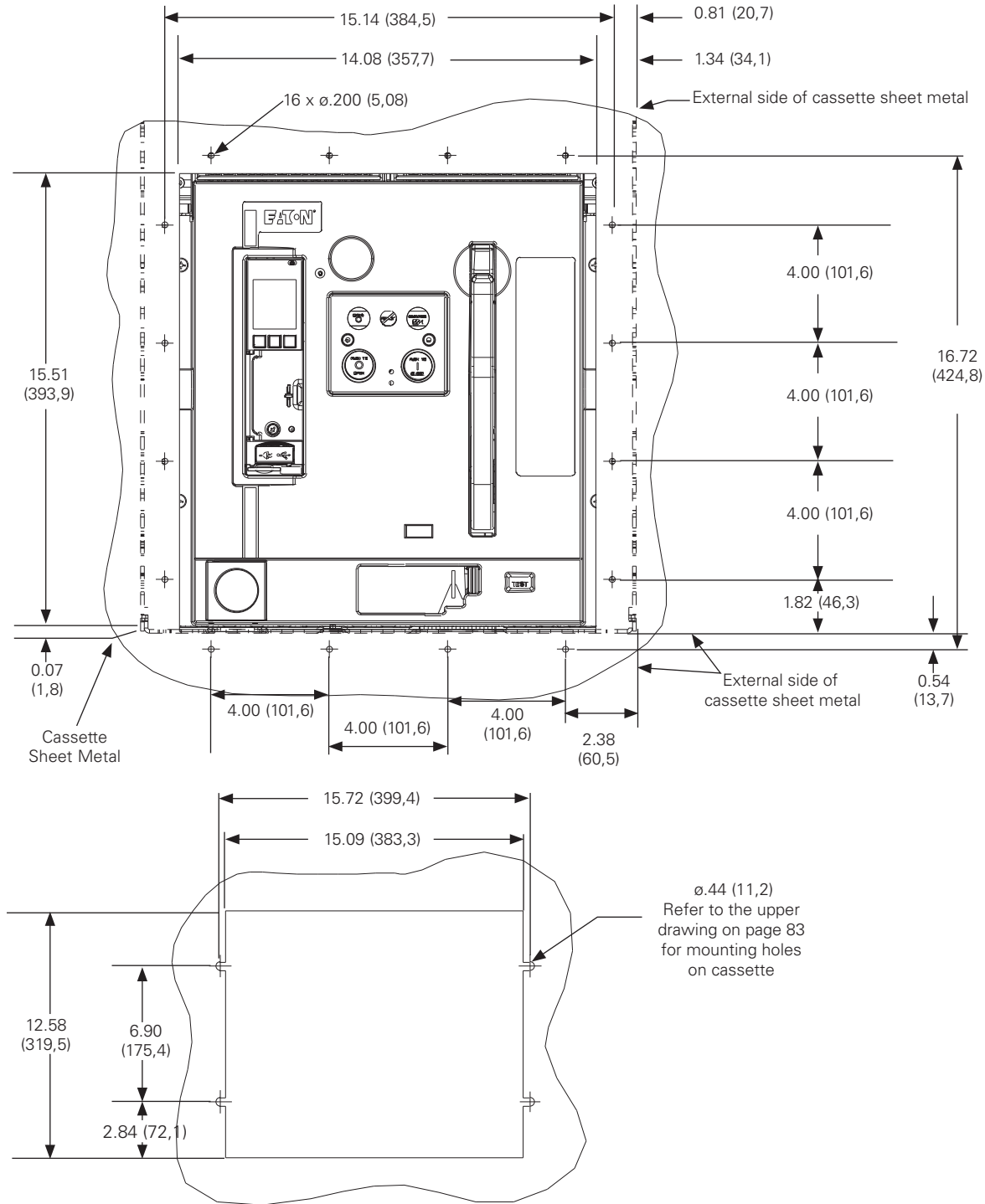


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X40 Drawout Dimensions

Three-pole Drawout Cassette - Front View Door Cutout Details in Inches (mm).

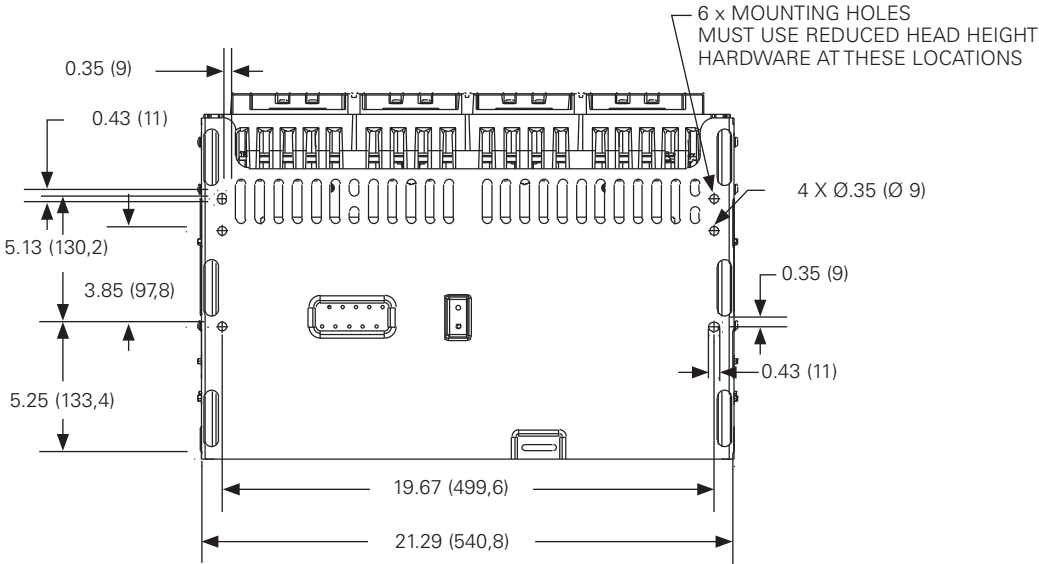
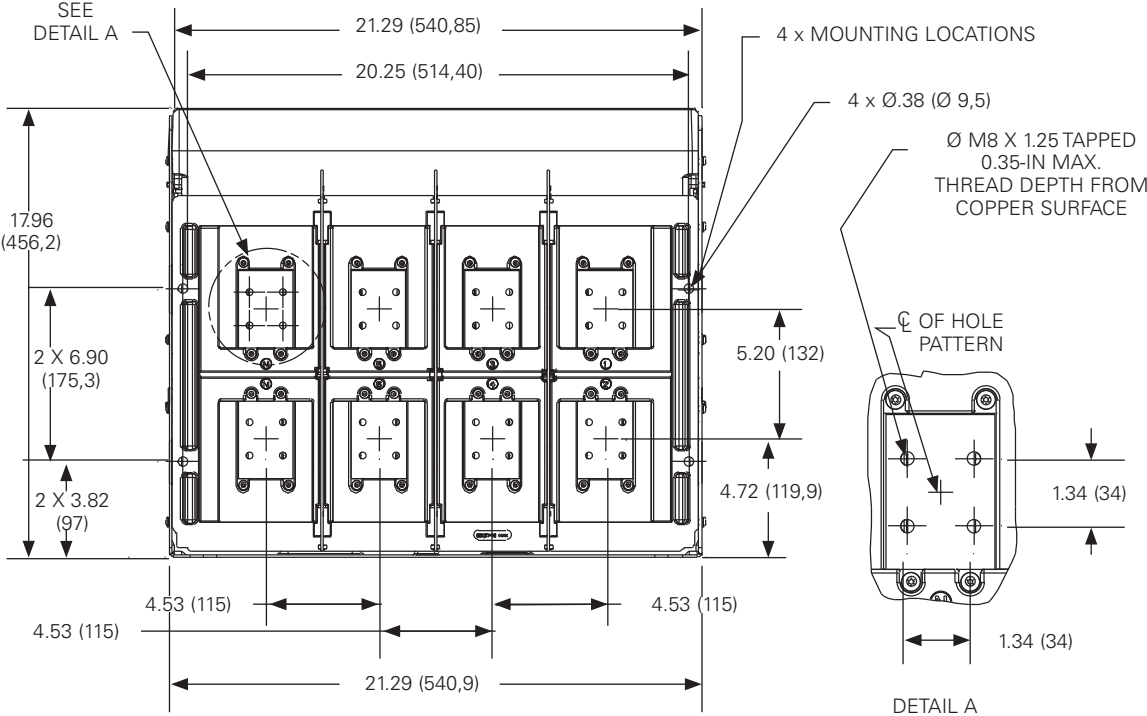


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X40 Drawout Dimensions

Four-pole Drawout Cassette - Rear/Bottom Views in Inches (mm).

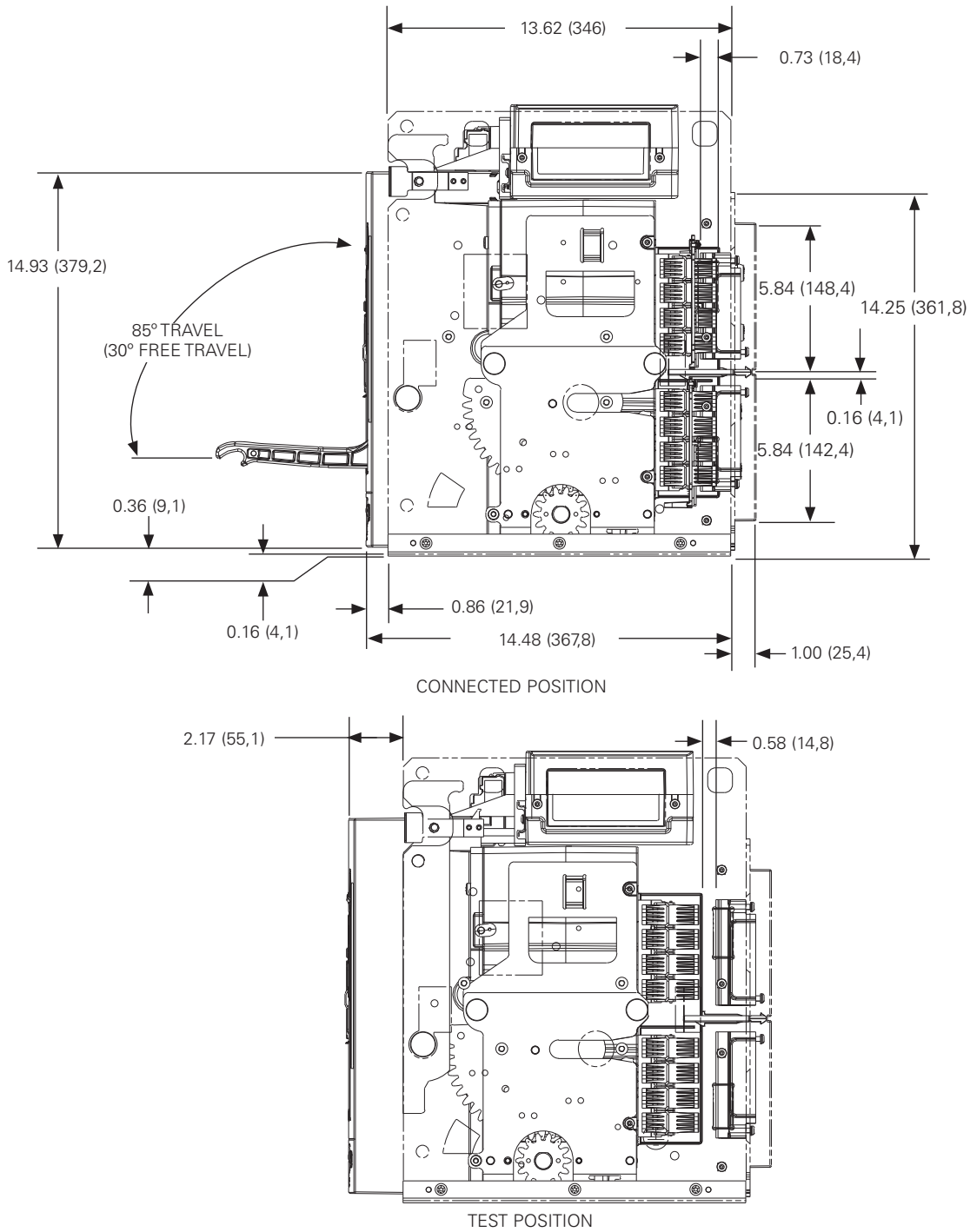


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

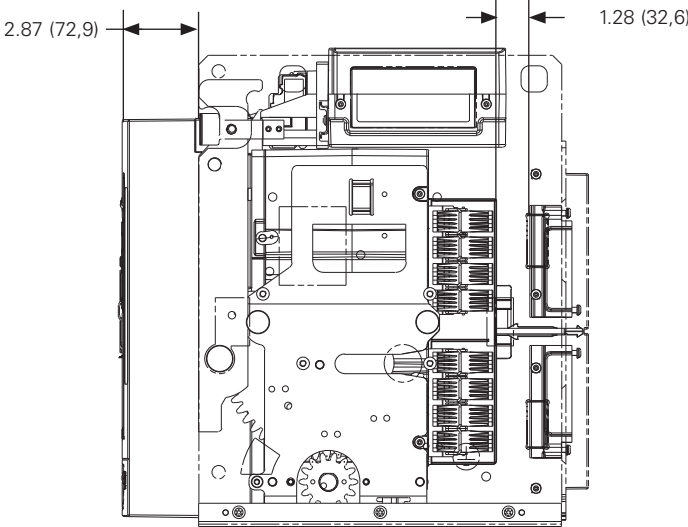
X40 Drawout Dimensions

Four-pole Drawout Cassette - Side Views DISCONNECTED and TEST Positions in Inches and (mm).

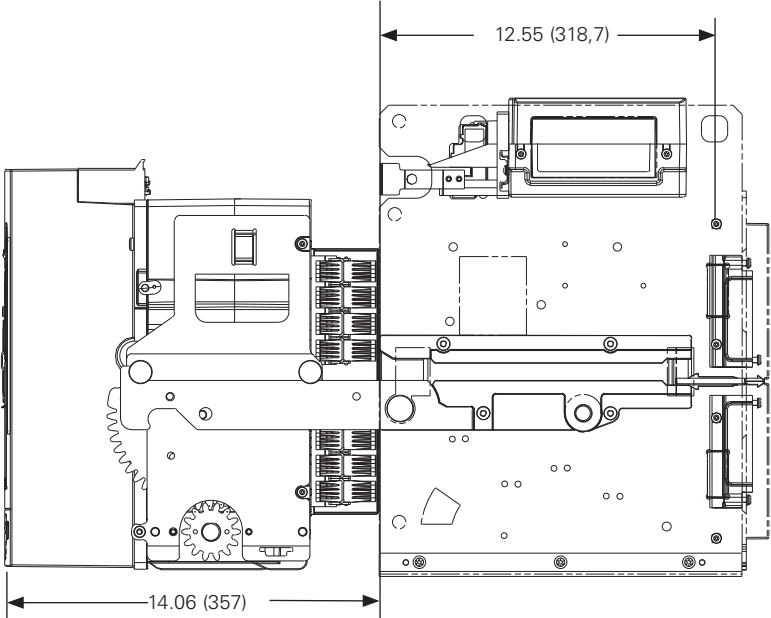


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Four-pole Drawout Cassette - Side Views DISCONNECTED and WITHDRAWN Positions in Inches and (mm).



DISCONNECTED POSITION



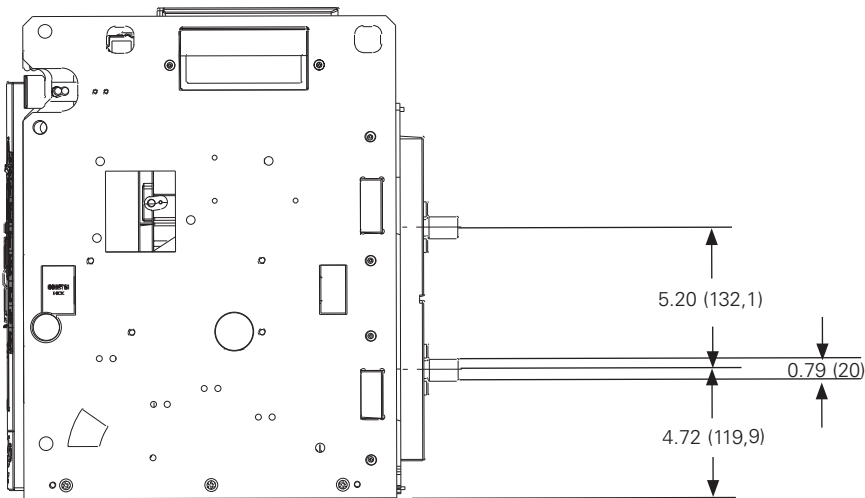
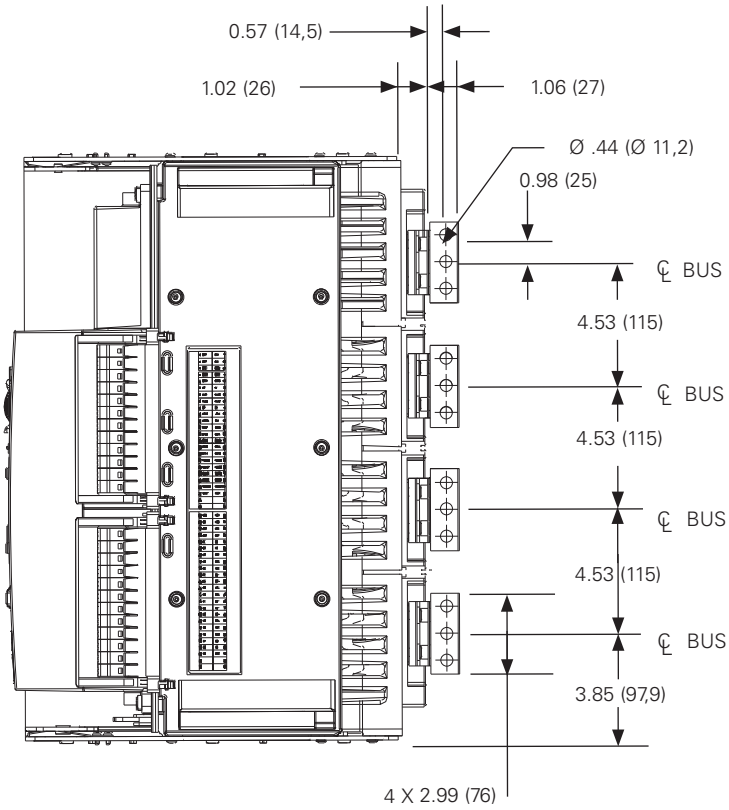
WITHDRAWN POSITION

2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

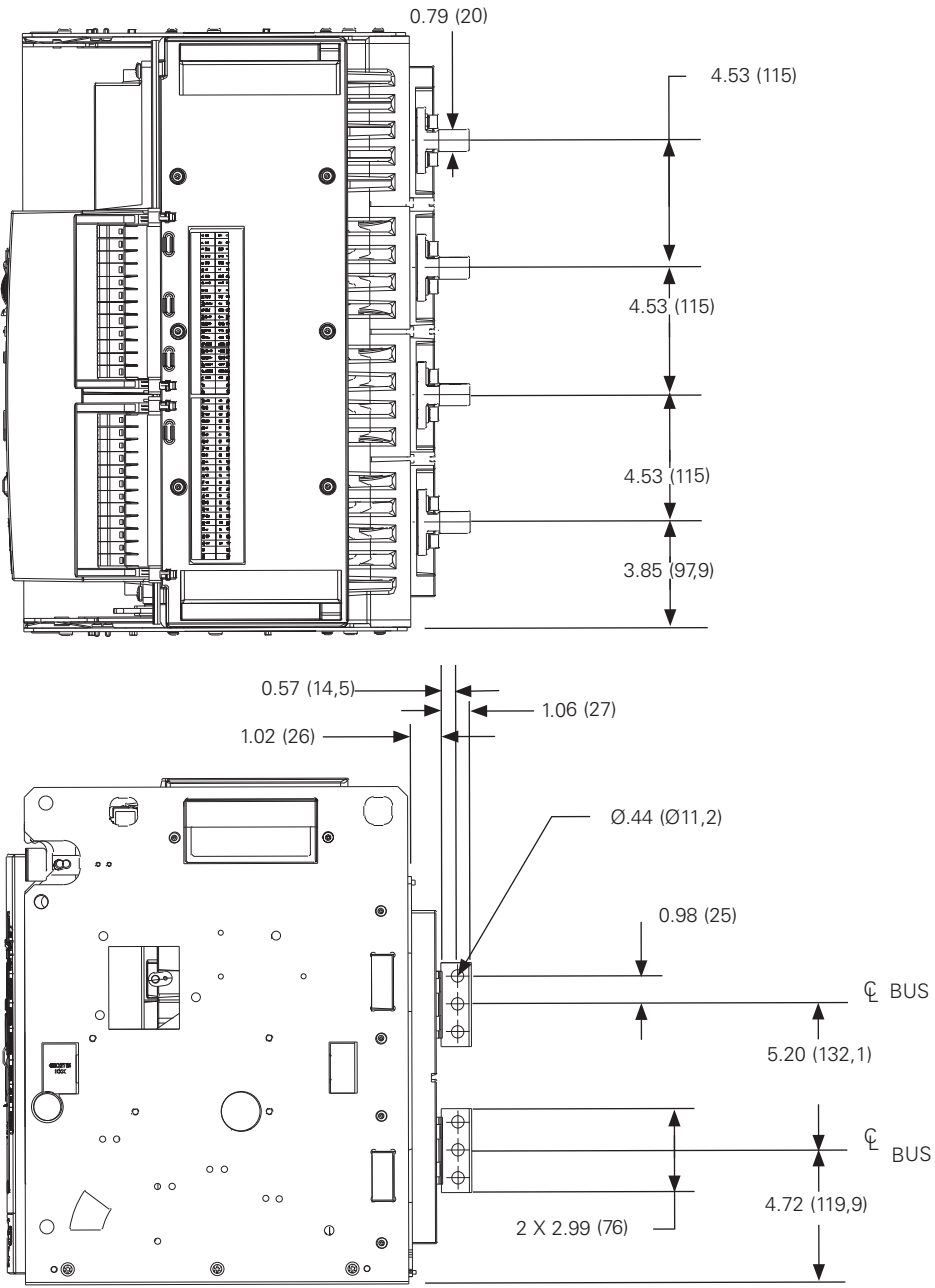
X40 Drawout Dimensions

Four-pole Drawout Cassette - Top/Side Views with 800-3200 A Horizontal Bus Adapters in Inches (mm).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Four-pole Drawout Cassette-Top/Side Views with 800-3200 A Vertical Bus Adapters in Inches (mm).

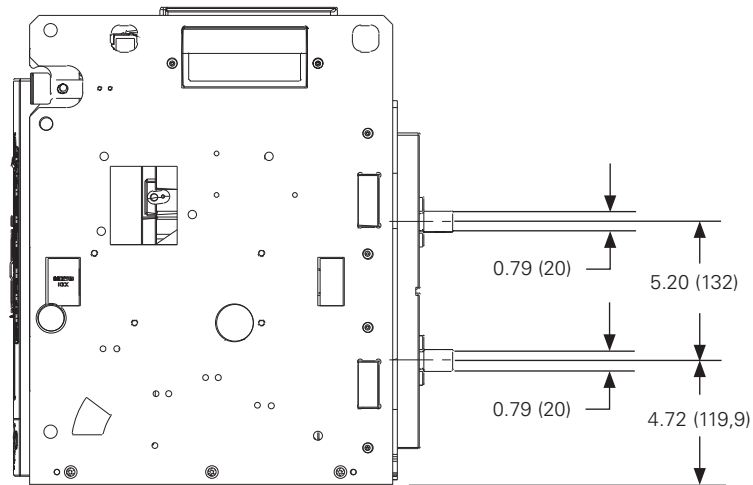
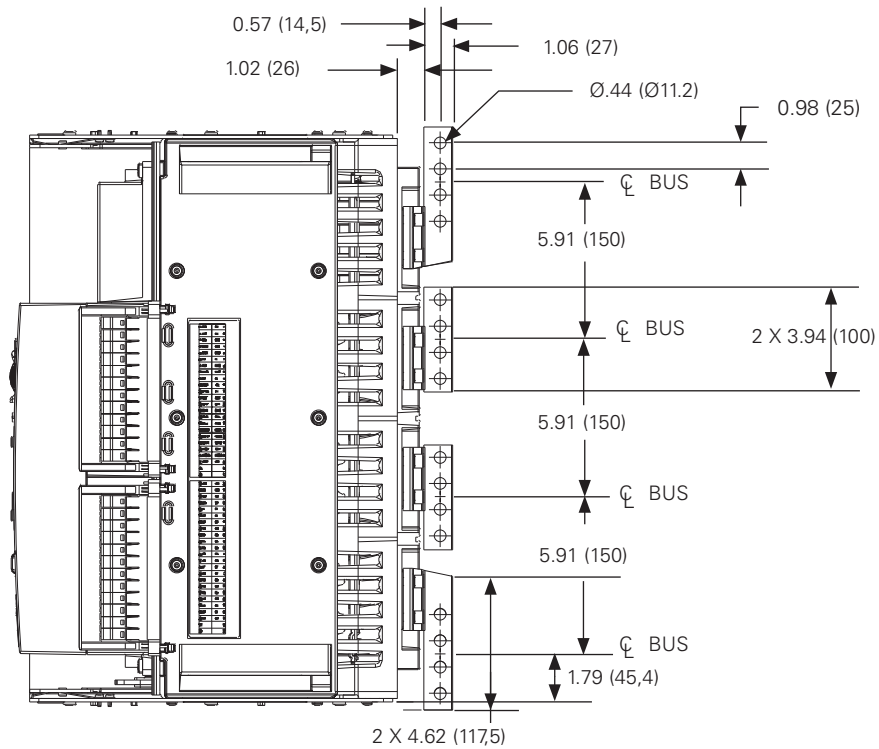


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

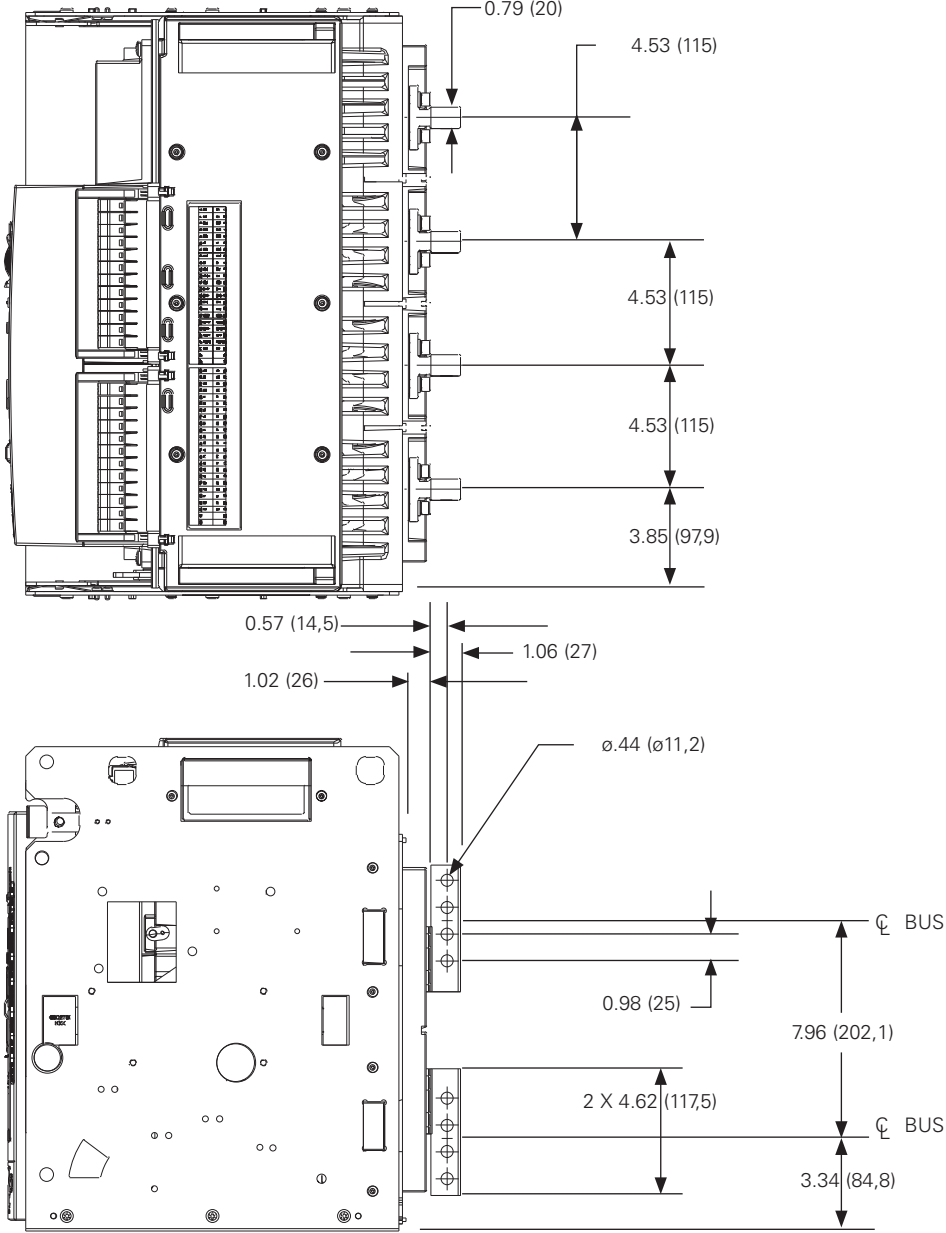
X40 Drawout Dimensions

Four-pole Drawout Cassette- Top/Side Views with 4000 A Horizontal Bus Adapters in Inches (mm).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Four-pole Drawout Cassette - Top/Side Views with 4000 A Vertical Bus Adapters in Inches (mm).

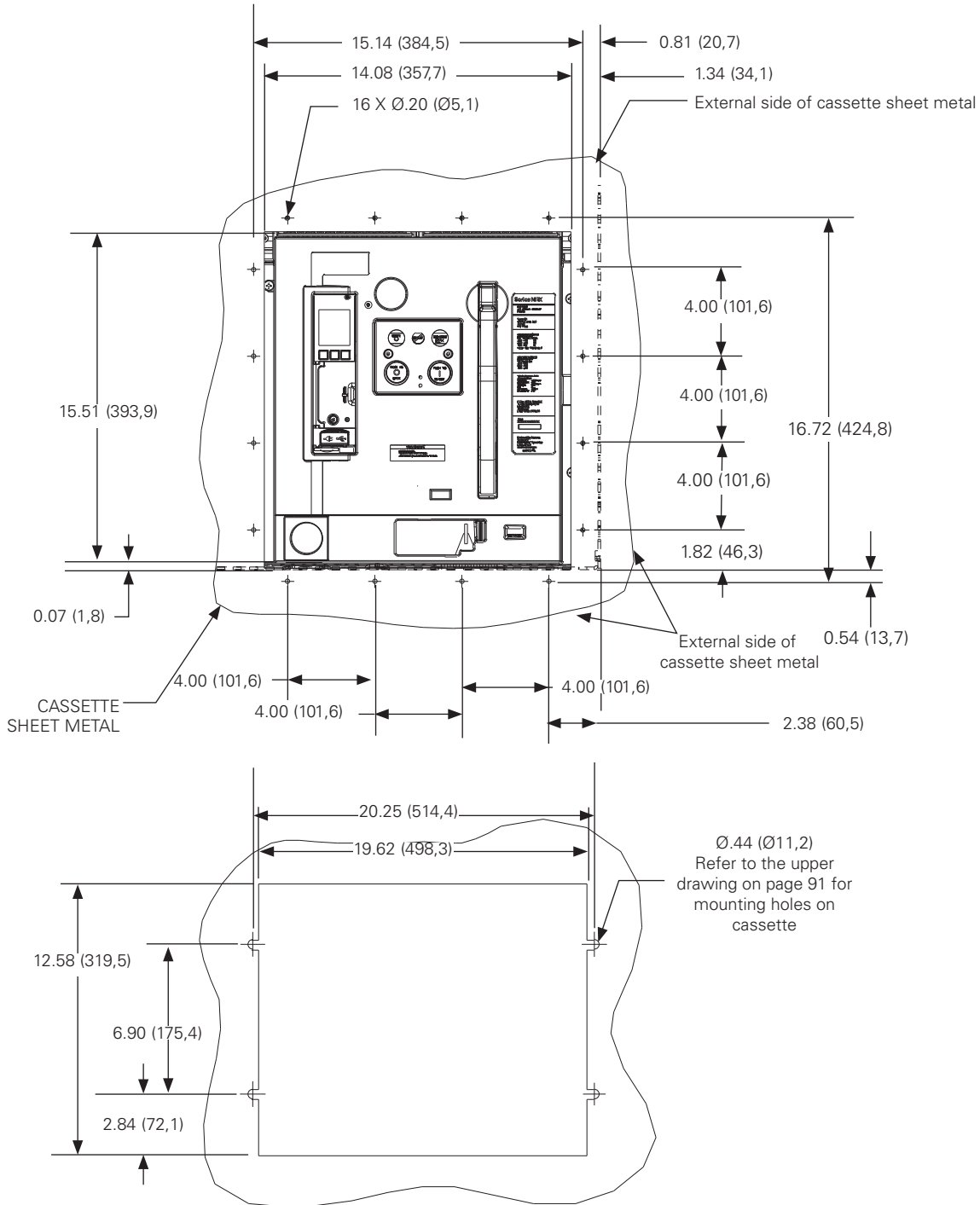


2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

IZMX Series Air Circuit Breakers

X40 Drawout Dimensions

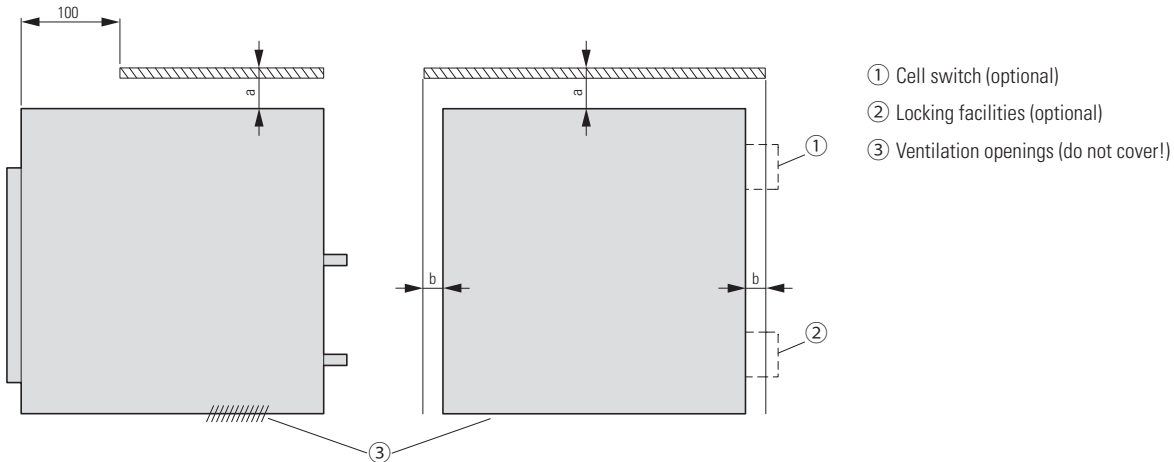
Four-pole Drawout Cassette - Front View Door Cutout Details in Inches (mm).



2D DWG and 3D STP drawings are available from www.eaton.com/izmx-ea

Recommended safety clearances

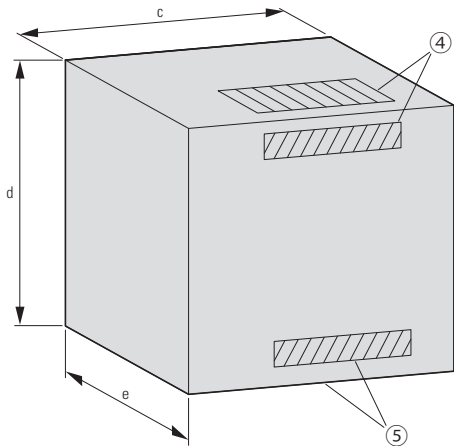
The following information about safety distances is intended to provide a guideline for the installation of circuit-breakers in an enclosure.



	Enclosure clearance	To insulated surface mm	To grounded metal surface mm	With cell switch or locking facilities 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) } Top and bottom 320 cm ² (4000 A)

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

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