



## xEnergy Low-voltage switchgear assemblies



ZHENJIANG DAQO EATON ELECTRICAL SYSTEMS CO.,LTD.



Automotive



Aerospace



Truck



Hydraulics



Electrical

# Powering business worldwide

Eaton delivers the power inside hundreds of products that are answering the demands of today's fast changing world.

We help our customers worldwide manage the power they need for buildings, aircraft, trucks, cars, machinery and entire businesses. And we do it in a way that consumes fewer resources.

## **Next generation transportation**

Eaton is driving the development of new technologies – from hybrid drivetrains and emission control systems to advanced engine components – that reduce fuel consumption and emissions in trucks and cars.

## **Higher expectations**

We continue to expand our aerospace solutions and services to meet the needs of new aviation platforms, including the high-flying light jet and very light jet markets.

## **Building on our strengths**

Our hydraulics business combines localized service and support with an innovative portfolio of fluid power solutions to answer the needs of global infrastructure projects, including locks, canals and dams.

## **Powering Greener Buildings and Businesses**

Eaton's Electrical Group is a leading provider of power quality, distribution and control solutions that increase energy efficiency and improve power quality, safety and reliability. Our solutions offer a growing portfolio of "green" products and services, such as energy audits and real-time energy consumption monitoring. Eaton's Uninterruptible Power Supplies (UPS), variable-speed drives and lighting controls help conserve energy and increase efficiency.



# Switchgear Technology is in our DNA

Eaton's knowledge and understanding of industries, applications, technology, and products enables us to offer customers safe, reliable, and high performance solutions.

We have always been part of the creation of new Low and Medium Voltage Switchgear technology, and that experience is in each and every one of us.

#### **Eaton's Low Voltage Systems can meet the needs of any installation**

Eaton Low Voltage Systems are designed to be as space and energy efficient as possible while maintaining easy access for installation, operation and maintenance. Low Voltage Systems from Eaton are highly standardized systems supported by quick configurations, quoting facilities, and fast deliveries.

Eaton's comprehensive low voltage system product portfolio has been specifically designed to meet the needs of all types of installations. The extensive portfolio includes: Power Supply and Control Assemblies, Package Substations, Main and Sub-Main Switchboards, Busbar Trunking, Motor Control Centres, Power Factor Correction, and Engineered Assemblies.

As might be expected from such a comprehensive portfolio, Eaton's low voltage power distribution and control systems have been used in applications, such as: Water industries, Pharmaceutical industries, Industrial facilities, Food & Beverage, Infrastructure projects, Mining & Steel industry and Commercial applications such as: Shops, Schools, Hospitals, Warehouses, Hotels, Prisons, Data centers, and Sport stadiums.

#### **Reliable, safe and standardized design**

Eaton's range of low voltage systems not only provides you with optimum power distribution and motor control functionalities, they meet your most demanding requirements for safety and flexibility. When it comes to safety, Eaton's low voltage systems offer the highest level of protection.



# xEnergy Low-voltage switchgear assemblies



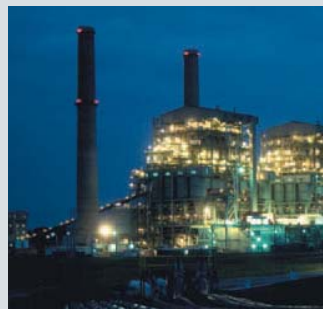
## Reliable quality built upon Eaton advanced technology and global expertise

xEnergy was built upon Eaton's 100 - years - long history and in - depth expertise in developing low voltage system. The xEnergy system consists of the-state-of-the-art power distribution components from a range of notable Eaton legacy brands, such as Culter-Hammer, Westinghouse, Holec, MEM and Moeller..etc., which ensures its high performance and reliability.

## Service advantage

- Customized solutions range from application consulting, engineering services to turnkey project management.
- Modular design enables easy installation and operation and shortened lead time.
- Quick-response after-service is guaranteed by Eaton's experienced after-service team which ensures in the case of product failure notification, response with 8 hours and on-site service within 12 hours.
- Regular stock of spare parts and key components remains in our warehouse to meet customer routine and urgent requirements.

The xEnergy is Eaton's latest low voltage switchgear system for applications up to 6,300A. The high quality and reliability of xEnergy system is verified by testing according to GB 7251 standards and other compulsory testing. It offers turnkey solutions in a variety of low voltage applications, such as utility, data center, mining, petrochemicals, commercial buildings and airports...etc.



# Features and Benefits

## Reliability

- Tested in compliance with GB7251.1 standard
- Tested in compliance with GB7251.1 standard:
  - Temperature limit
  - Short-circuit endurance capacity
  - Dielectrical property
  - Electric clearance and creepage distance
  - Protective circuit validity
  - Mechanical operation
  - Protection grade
- Manufactured by Eaton in accordance with ISO 9000-14000
- Comprised by Eaton's high-quality components to ensure the optimal operation

## Safety

- Main busbar rated current up to 6300A, rated short-circuit withstand current up to 100kA/s
- The interlocking mechanism ensures the safety of operating personnel. Automatic door interlocking of all outgoing feeder sections prevents access or removal when the switch is in the ON position

- Distribution busbars are protected to IP2X when the drawer is removed. An optional Automatic Shutter Mechanism can be mounted to provide additional safety
- Eaton's arc fault protection systems ARCON and ARMS are available as optional to provide the maximum safety
- Full internal separation of all functional units designed in accordance with Form 3b or 4b to ensure the personnel safety and prevent the expansion of the accidents.

## Flexibility

- Modular design. The drawers of the same units can be exchanged between different positions and the upright components can be commonly used to save the assembly time and cost.
- The special  $\Omega$  shape type materials used to build the xEnergy ensure the high strength, easy installation, large volume production of the system
- Compact size, small footprint with optimum space utilisation thanks to the high packing density. Max. 36 circuit units can be installed in one section.
- Easy to extend and upgrade. Can be extended to both sides as needed.
- Flexible cable connections. The incoming cables can be connected from side, top and bottom, and the outgoing cables can be connected from side and back.

# xEnergy System Electrical Parameters

## Main Technical Data

Item	Unit	Value
Standard		GB 7251.1/IEC60439
Ambient temperature	°C	-5 C to +40 C
Rated insulation voltage	V	1000V
Rated operation voltage	V	400V/690V (1000V)
Rated frequency	Hz	50Hz/60Hz
Main busbar rated current	A	up to 6300A
Main busbar rated withstand current (short-time)	kA	up to 100kA(1s)
Main busbar rated withstand current (peak)	kA	up to 220kA
Vertical distribution busbar rated current	A	up to 1800A
Protection grade		IP4X / IP55*
Form of internal separation		Form1 to Form4b
Form of distribution system		TN-C, TN-C-S, TN-S, TT, IT
Material grade		IIIa
Overvoltage category		III or IV
Dimension	mm	height: 2200 Depth: 600, 800, 1000, 1200 Width: 600/650/800/1000/1200/1400
Exterior color		RAL7035 (Please contact us for color options)



# xEnergy Product Types



## XP power sections

### Applications:

- Incoming
- Board frame feed
- Parallel busbar routing
- In-line busbar routing

### Key Components:

- Air Circuit Breaker: IZM91/97/99 series (up to 6300A)
- Molded Case Circuit Breaker: NZM series (up to 1600A)

### Installation:

- Fixed mounted and withdrawable units
- 1800mm totally available room, up to 75 modulus of 25mm
- 300mm height of the main busbar compartment, incoming cable can be connected from side, top and bottom
- Cable and busbar can be connected from top or bottom
- Circuit breaker is installed in a separated room with a private door.
- Can be placed adjacent to the wall or in the middle of switching room.
- Width of the Cabinet: 600mm/800mm/1000mm 1200mm/1400mm.

## XF fixed mounted sections

### Applications:

- Distribution feeder
- Direct-on-line engine
- Reversible start engine
- Star-delta starting engine

### Key Components:

- Motor protective circuit breakers PKZ series (0.16 ~ 32A)
- Moulded case circuit breaker LZM series (up to 630A), NZM series (up to 1600A);
- Low power contactor DILM series (7~170A), large power contactor DILM series (185~1600A);
- Thermal relay ZB series.

### Installation:

- Mounted baseplates on the circuit breakers is available. Support hot-plug, easy to maintain;
- Each circuit unit has a small independent door;
- Interlocking operating handles and unit doors enable door open only after the main switch is off.
- 1800mm totally available room. For 250A and lower, the dimension of each compartment is 200mm high, 600mm wide. For 250A to 630A, the dimension of each compartment is 250mm high, 800mm wide.
- The max. current of vertical busbars is up to 1800A;

## XW withdrawable sections

### Applications:

- Distribution feeder
- Direct-on-line engine
- Reversible start engine
- Star-delta starting engine

### Key Components:

- Motor protective circuit breakers PKZ series (0.16~32A)
- Moulded case circuit breaker LZM series (up to 630A), NZM series (up to 1600A);
- Low power contactor DILM series (7~170A);
- Thermal relay ZB series.

### Installation:

- Up to 36 units can be installed in one section. The current of ¼ drawer is 0-32A, the current of ½ drawer is 32-63A, the current of one drawer is 63-250A. The height of each drawer is 200mm.
- Interlocking operating handles and unit doors enable door open only after the main switch is off.
- The maximum current of vertical busbars up to 1800A;
- The width of rear outgoing cable compartment: 650mm;
- The width of side outgoing cable compartment: 1000mm;
- Units can be easily exchanged without disconnecting the power or control cabling.

## XG freely configurable sections

### Applications:

- Reactive Compensation
- Frequency Conversion panel
- Soft starter panel

### Key Components:

- Private contactor of thyristor switched capacitor(MSC)
- Frequency converter SLX (1-30kW) SVX (0.75-560kW) SPX (0.75-2000kW)
- Soft starter S801/S811 (37-1000A)

### Installation:

- Larger mounting space and design flexibility;
- Suitable for guide installation.

# Basic Design



## Panel structure

1. Main incoming frame breakers;
2. Withdrawable unit;
3. Main busbar exhaust plenum;
4. Air vent;
5. Flushed key lockable door handles;
6. Power Meter.

# Panel Frames

The xEnergy system is modular in construction, comprising 25mm modular structure profiles. It is a self supporting structure by the base (top) plate welded by crossbeam, carling and wiring board. Easy to socket and put into mass production.

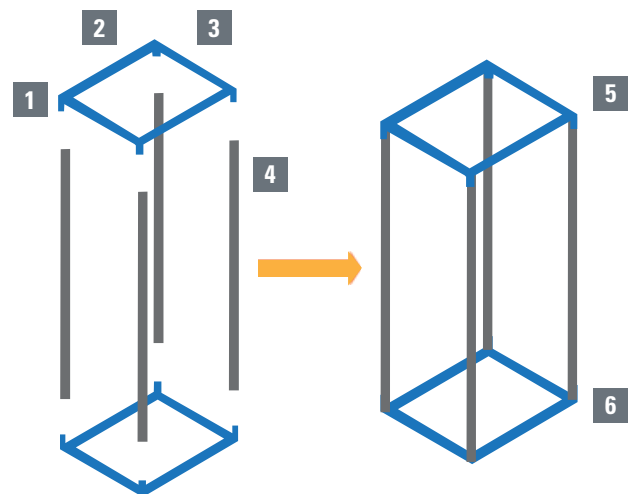
## Depth and Width

The xEnergy system can be assembled to various width or depth through different combination of basic frames.

Basic frames - depth  
 600mm  
 800mm  
 1000mm  
 1200mm

## The width of basic frame

- 600mm (XP Cabinet type)
- 650mm (XW/XF Cabinet type of rear outgoing cable)
- 800mm (XP Cabinet type)
- 1000mm (XP Cabinet type, XW/XF Cabinet type of rear outgoing cable)
- 1200mm (XP Cabinet type)
- 1400mm (XP Cabinet type)



- |                 |                     |
|-----------------|---------------------|
| 1. Wiring board | 4. Ω shape backbone |
| 2. Carling      | 5. Top plate        |
| 3. Crossbeam    | 6. Base plate       |

# Internal Compartments

The xEnergy system comprises three major fully separated areas

## Busbar section:



The main busbar up to 5000A is located at the rear-upper side of the structure, the main busbar of 6300A is located at the rear-lower side of the structure, the vertical busbar is located at the rear of the structure.

## Cabling section



The cable wiring is located in a fully segregated cable chamber housing. For the feeder unit, the cable chamber housing can be located at the rear of the structure (rear outgoing line) or at the side of the structure (side outgoing line).

## Functional unit section

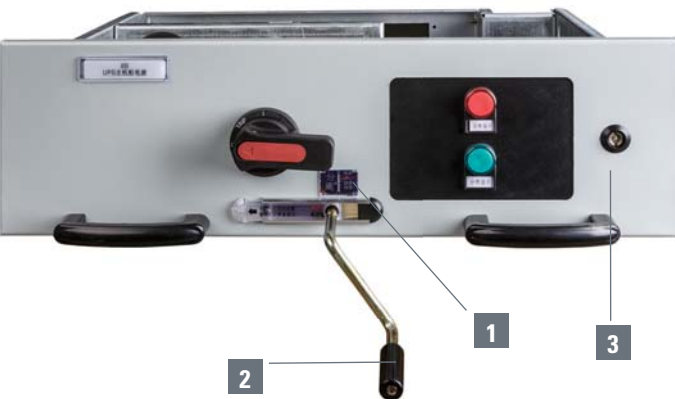


Located at the front where the withdrawable functional units are fitted, such as MCCB, drives, capacitors.

# Draw Out Units

xEnergy system has the highest density of withdrawable circuit units, and up to 36 withdrawable current loop can be installed in one panel. The outgoing units are available in the following heights based on a 25mm height pitch:

Feeder current	Withdrawable Units
0-32A	1/4drawer ( 200mm )
32-63A	1/2drawer ( 200mm )
63-250A	1unit drawer ( 200mm )
250-630A	2unit drawer ( 400mm )



- 1, The drawer has three indications which precisely display "SEPARATE", "TEST", and "CONNECT" status.
- 2, All drawers are equipped with manual operating handle which promises labor-saving and personnel safety. To avoid live line working, the manual operating handle cannot be plugged in unless operating handle is in "OFF" position.



- 3, The keyhole of withdrawable door is equipped with reliable mechanical interlocks to ensure the personnel safety by avoiding opening the withdrawable door when the operating handle is in "ON" position.
- 4, The anti-fall mechanism can avoid the drawer falling down if the operator gives a tug.
- 5, The shutter mechanism can protect operators from touching the charged body accidentally when pulling out the drawer. The shielding can separate the busbar automatically.

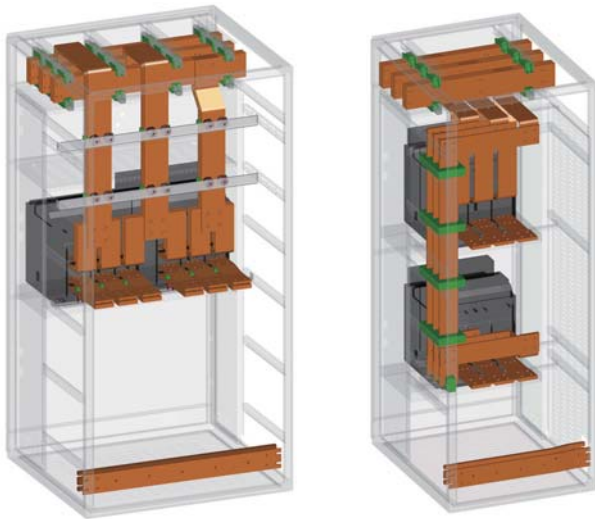


# Main Busbar System

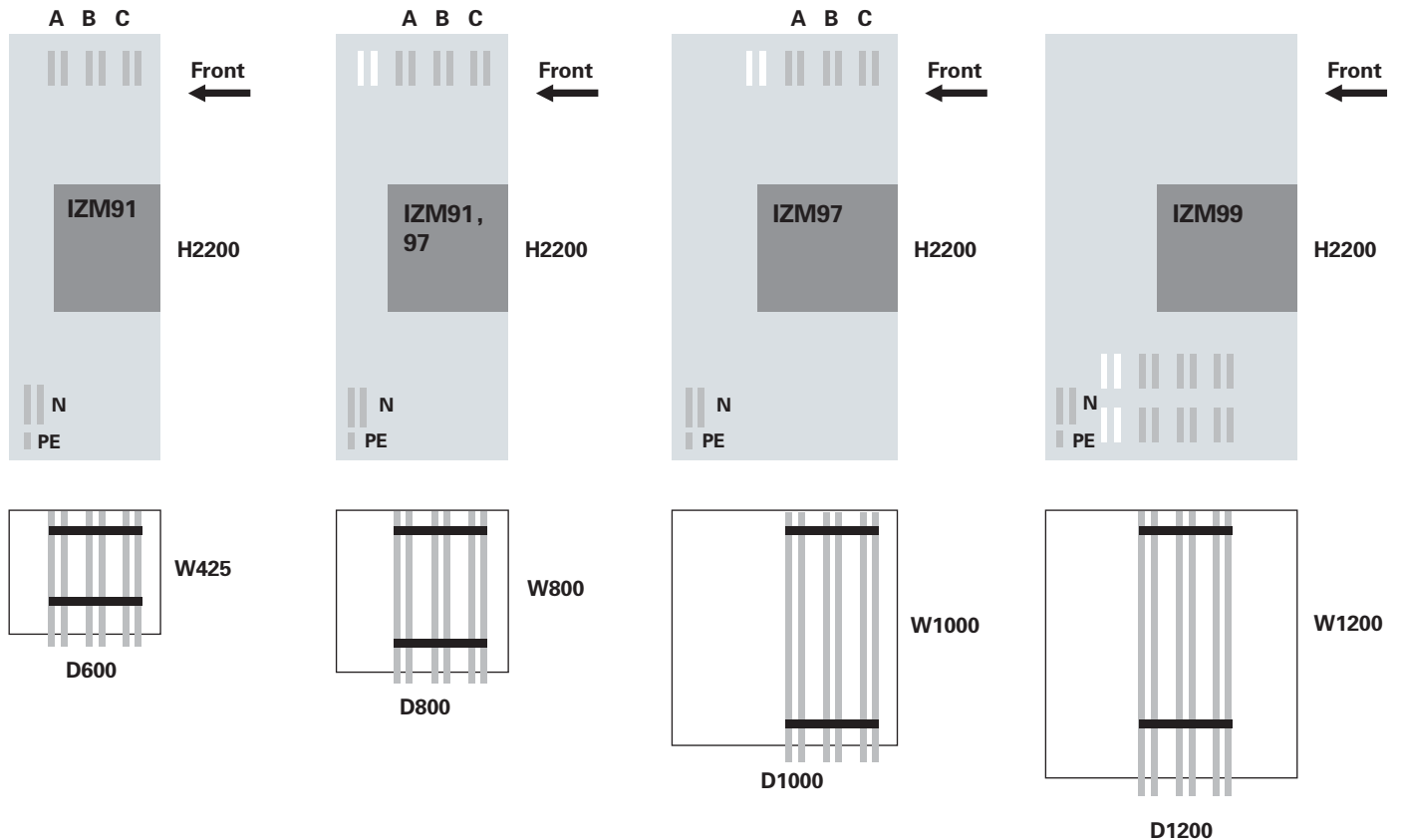
xEnergy main busbars are located in a separate compartment in the rear of panel to maximize the safety distance between the busbars and the operators. The busbar is covered with tin to enhance its electrical conductivity.

The main busbar up to 5000A is located at the rear-upper side of the structure, the main busbar of 6300A is located at the rear-lower side of the structure, the vertical busbar is located at the rear of the structure. Phases A/B/C are in alternating position to limit the electrodynamic force. The rated short circuit withstand current of the main busbars is up to 100kA/s.

The modular busbar clamp is easy to set up. It can provide a flexible combination according to different busbar size and system requirement.



## Main Busbar Position





# Form Of Internal Separation

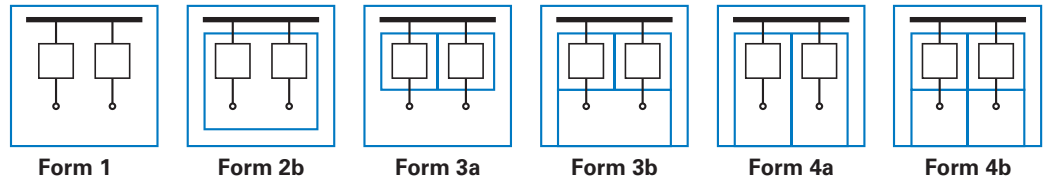
GB Standards define the various forms of internal separation. The form of internal separation determines how busbars, functional units and terminals are separated from each other. xEnergy system provides separation in both Form 3b and 4b solutions.

Form 3b solution is defined as: the separation of terminals for external conductors from the functional units, but not from those of other functional units.

Form 4b solution is defined as: the separation of the terminals for external conductors associated with a functional unit from those of any other functional unit and the busbars.



## Internal separation in accordance with GB7251



	Form 1	Form 2b	Form 3a	Form 3b	Form 4a	Form 4b
Busbars (main + distribution) are separated from functional units	✓	✓	✓	✓	✓	✓
Functional units are separated from other functional units			✓	✓	✓	✓
Terminals are external to functional units			✓	✓		✓
Terminators of functional units are separated from each other			✓		✓	✓
Terminals are separated from the busbars	✓			✓	✓	✓
<b>xEnergy supported forms of separation</b>				✓		✓

The difference between Form 3b and Form 4b is whether the terminals for outgoing conductors are separated from each other.

xEnergy in Form 4b, terminators are separated from each other by the glass shield in purpose of:

- 1, Guaranteed safety in the maintenance operation.
- 2, High visibility of connection status of the cable outgoing line terminations through the transparent mask.
- 3, Guaranteed safety because outgoing cables coming out from the side of the transparent task are tied to the side of the cabinet so as to ensure tidiness of cabling.

# Arcflash Reduction Maintenance System™

A circuit breaker equipped with an Arcflash Reduction Maintenance System™ (ARMS) can improve safety by providing a simple and reliable method to reduce fault clearing time. The ARMS unit uses a separate analog trip circuit that provides faster interruption times than the standard (digital) “instantaneous” protection. Work locations downstream of a circuit breaker with an ARMS unit can have a significantly lower incident energy level, thus protecting operating personnel.



## Benefits of Arcflash Reduction Maintenance System™ are:

- Increased personnel safety by limiting the available arc flash energy.
- Enabled with the circuit breaker door closed by a door mounted lockable switch or through communication to the breakers trip unit.
- Enabled only for the time required to perform the work.
- Preserves overcurrent coordination under normal conditions.

# ARCON® Arc Fault Protection System

Eaton's patented Arc Fault Protection System ARCON provides the highest level of safety for personnel and system.

## Reaction faster than lightning

Arc fault protection system ARCON® uses unique sensors to detect arc. When sensors react to the arc, an electronics analysis unit will give the trip-free command to arc control device and incoming circuit breaker.

ARCON® system react faster than lightning. It can extinguish the arc within 5ms so as to prevent the serious consequences.

ARCON® system equipped with sensors and analysis unit (excluding the arc control device) can also extinguish a certain magnitude by enabling the incoming circuit breaker to trip.

## Avoid damage

ARCON® system effectively limits the arc energy and discharges accidental arcing in less than 2ms. After remedying errors and replacing the discharge device, the system is ready for continued service.

ARCON® system can control both primary arc caused by short-circuit current and secondary arc caused by overcurrent. As a result, the production downtime and financial loss will be significantly reduced.



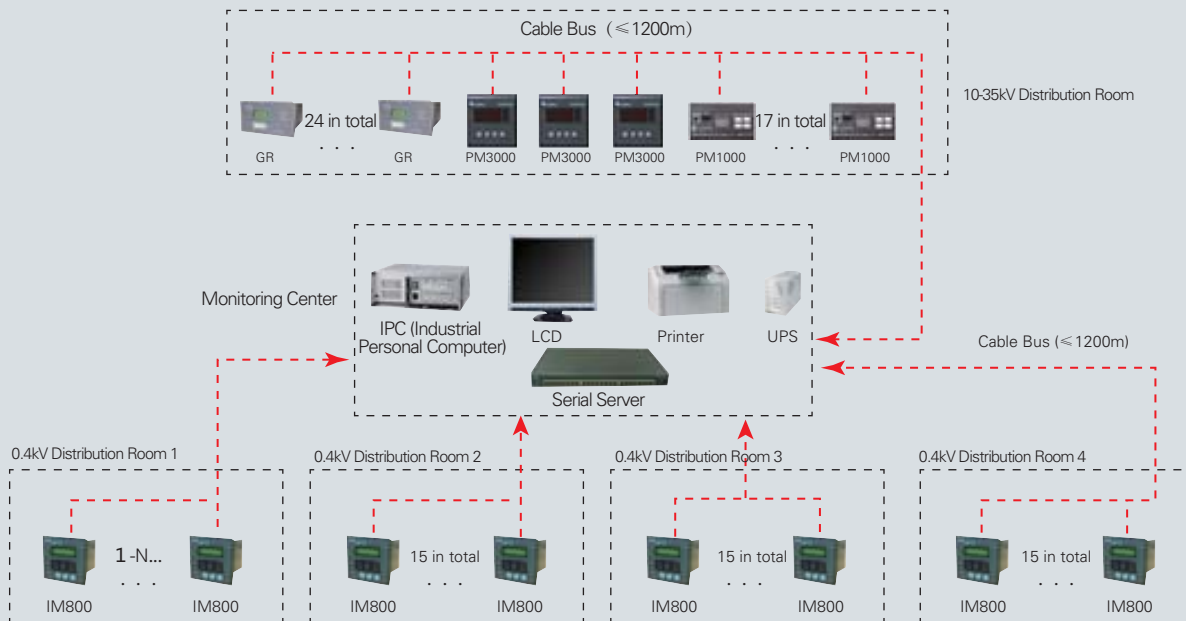
1. Light sensor  
3. Arc quenching device

2. Analytical unit  
4. Circuit breaker

# Intelligent Switchgear

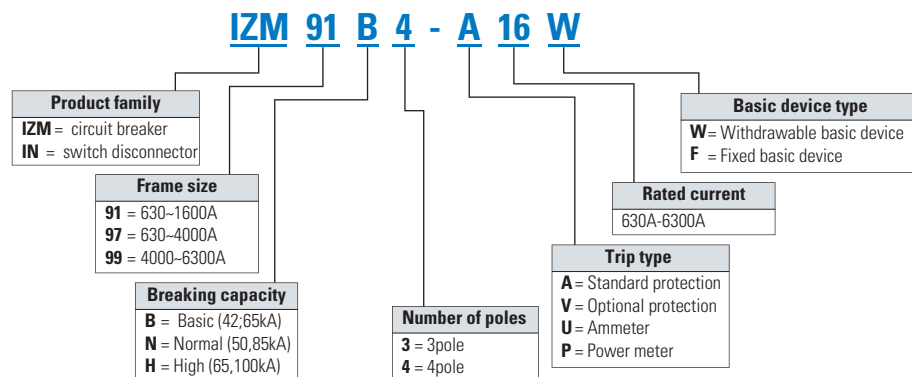
With Eaton's Power Xpert Power Management Solutions, xEnergy switchgear system can achieve energy management, data monitoring and safety more effectively.

Eaton's proven components and devices, such as the intelligent trip unit of IZM and NZM circuit breakers, Power Xpert 3000 series and IQ series metering devices which provide real-time status display of each live unit, tender illustration and event recording, works together as an intelligent power management solution.

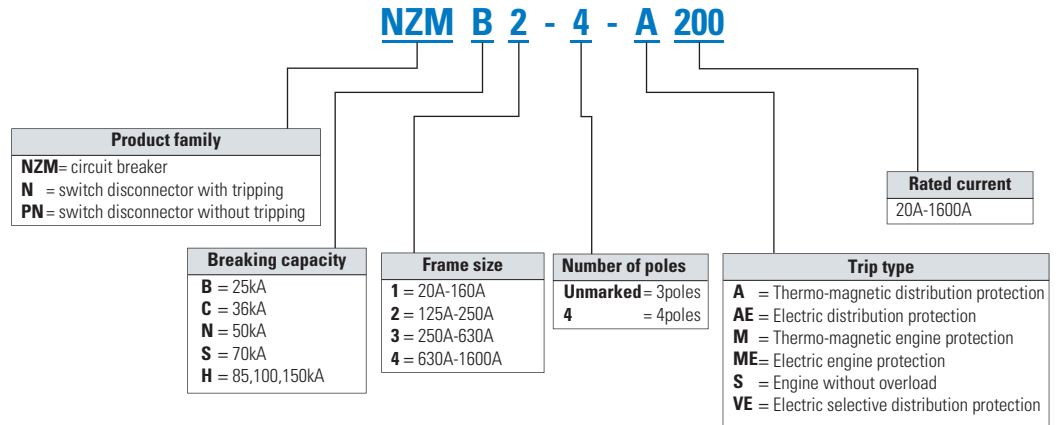


# Low voltage Power Distribution Component Selection Guide

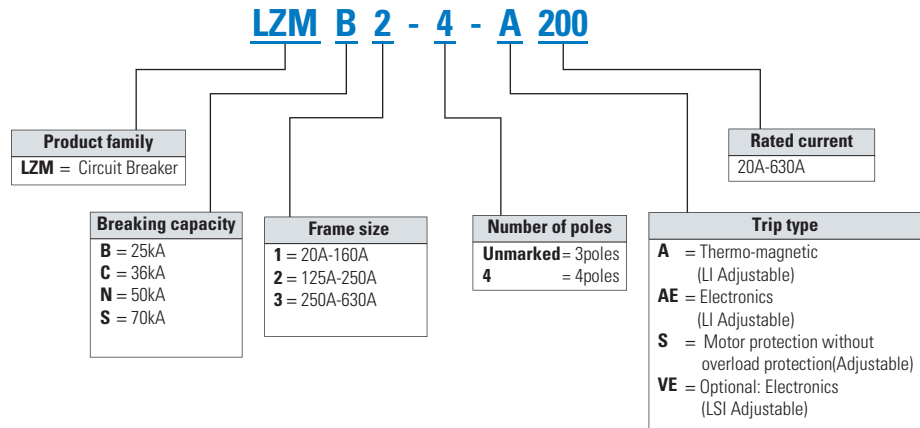
## Air Circuit Breaker IZM



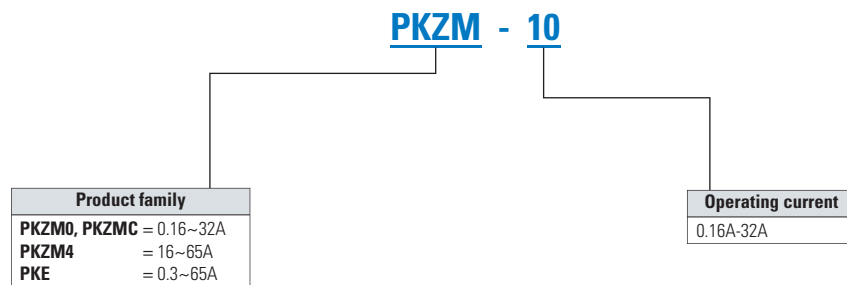
## Molded case circuit breaker NZM



## Molded case circuit breaker LZM



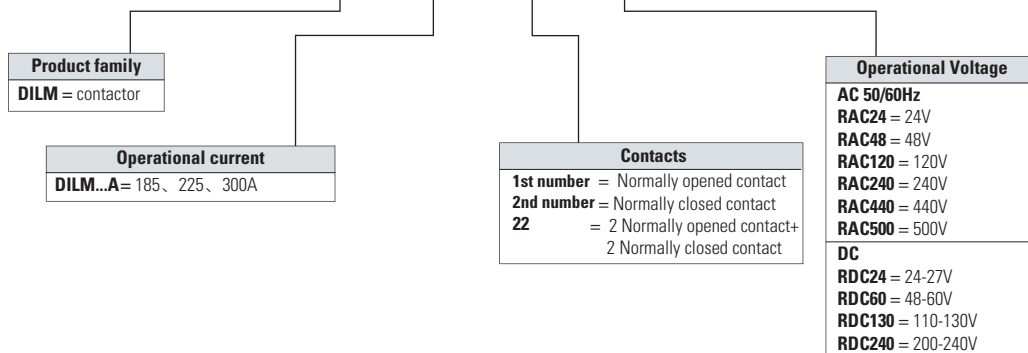
## Motor-protective circuit-breakers PKZ



## High Capacity Contactors DILM (185 ~ 300A)



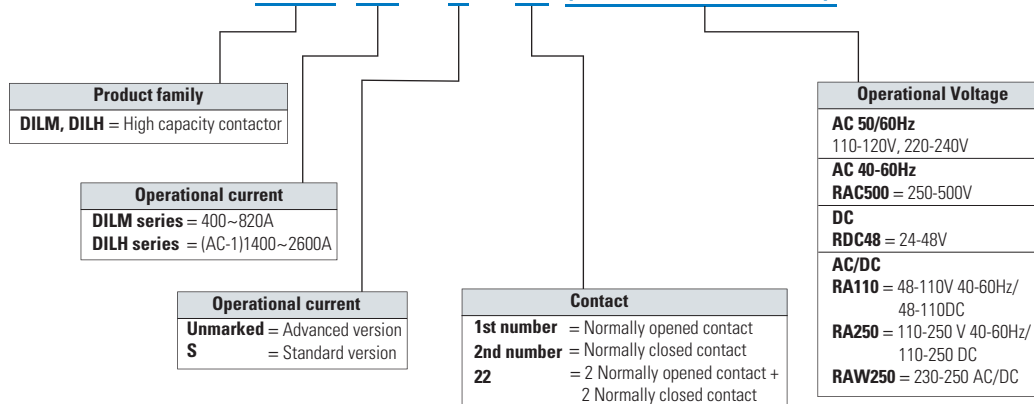
### DILM 185A / 22 (RAC24)



## High Capacity Contactors DILM



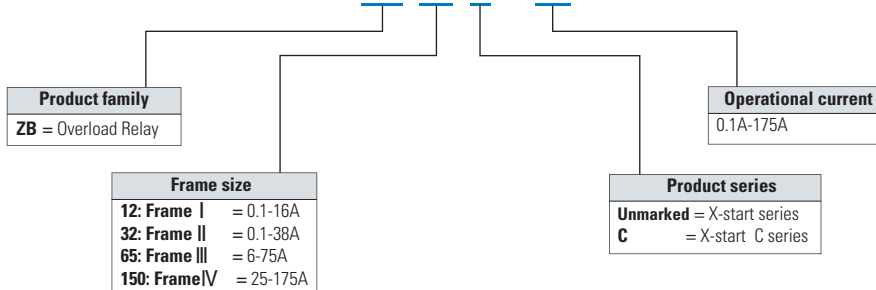
### DILM 400 - S / 22 (110-120V50/60Hz)



## Overload Relay ZB

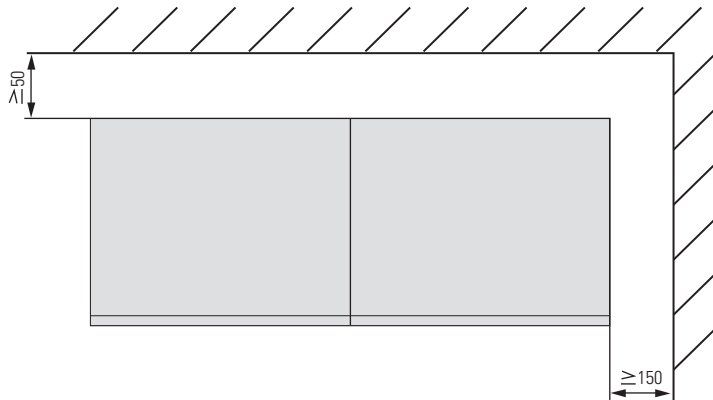


### ZB 12 C - 10

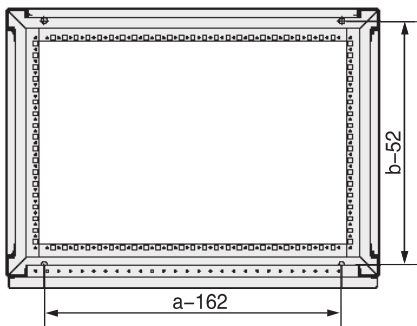


# xEnergy Mounting Diagram

Mounting floor plan (Rear  $\geq 50\text{mm}$ , Side  $\geq 150\text{mm}$ )



## Plinth Planform



Mounting Size: Width  $a-162$ ;

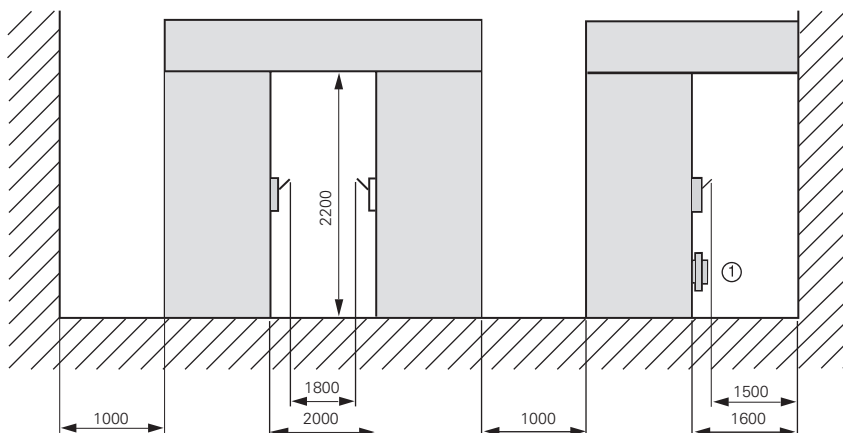
Depth  $b-52$

Mounting Hole:  $4-\Phi 12$

Depth  $a$ : 600, 650, 800, 1000, 1200, 1400

Width  $b$ : 600, 800, 1000, 1200

## Operation and maintenance space



# Options (Single/Board Frame Feed, busbar trunking)

## Option 1

1A 1B 1C 1D 1E 1F 1G 1H 1I 1J 1K

Option 1

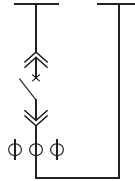


Application		Single/Board Frame Feed										
Rated Current (A)		630	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Breaking Capacity (kA)	IzM91(B/N/H)	42/50/65	42/50/65	42/50/65	42/50/65	42/50/65						
	IzM97(B/N/H)		65/85/100	65/85/100	65/85/100	65/85/100	65/85/100	65/85/100	65/85/100	65/85/100		
	IzM99(N/H)									85/100	85/100	85/100
Main components	IzM91-630	1										
	IzM91/97-800		1									
	IzM91/97-1000			1								
	IzM91/97-1250				1							
	IzM91/97-1600					1						
	IzM97-2000						1					
	IzM97-2500							1				
	IzM97-3200								1			
	IzM97/99-4000									1		
	IzM99-5000										1	
IzM99-6300											1	
Height module of room (1HU=25mm)												
Width of panel (mm)	3poles	600	600	600	600	600	800	800	1000	1000	1200	1200
	4poles	600	600	600	600	600	800	800	1000	1000	1400	1400

## Option 1

2A 2B 2C 2D 2E 2F 2G 2H 2I 2J 2K

Option 2



Application		Busbar trunking										
Rated Current (A)		630	800	1000	1250	1600	2000	2500	3200	4000	5000	6300
Breaking Capacity (kA)	IzM91(B/N/H)	42/50/65	42/50/65	42/50/65	42/50/65	42/50/65						
	IzM97(B/N/H)		65/85/100	65/85/100	65/85/100	65/85/100	65/85/100	65/85/100	65/85/100	65/85/100		
	IzM99(N/H)									85/100	85/100	85/100
Main components	IzM91-630	1										
	IzM91/97-800		1									
	IzM91/97-1000			1								
	IzM91/97-1250				1							
	IzM91/97-1600					1						
	IzM97-2000						1					
	IzM97-2500							1				
	IzM97-3200								1			
	IzM97/99-4000									1		
	IzM99-5000										1	
IzM99-6300											1	
Height module of room (1HU=25mm)												
Width of panel (mm)	3poles	800	800	800	800	800	1000	1000	1000	1200	1400	1400
	4poles	800	800	800	800	800	1000	1000	1000	1200	1400	1400

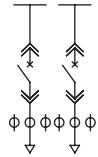


# Options (Double/triple Frame Feeds)

## Option 1

3A 3B 3C 3D 3E 3F 3G

Option 1

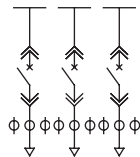


Application	Double frame feeds							
Rated Current (A)	630	800	1000	1250	1600	2000	2500	
Breaking Capacity (kA)	I ZM91(B/N/H)	42/50/65	42/50/65	42/50/65	42/50/65	42/50/65		
	I ZM97(B/N/H)		65/85/100	65/85/100	65/85/100	65/85/100	65/85/100	
	I ZM99(N/H)							
Main components	I ZM91-630	2						
	I ZM91/97-800		2					
	I ZM91/97-1000			2				
	I ZM91/97-1250				2			
	I ZM91/97-1600					2		
	I ZM97-2000						2	
	I ZM97-2500							2
	I ZM97-3200							
	I ZM97/99-4000							
	I ZM99-5000							
I ZM99-6300								
Height module of room (1HU=25mm)								
Width of panel (mm)	3poles	800	800	800	800	800	1000	1000
	4poles	800	800	800	800	800	1000	1000

## Option 1

4A 4B 4C 4D 4E

Option 2

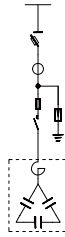


Application	Triple frame feeds					
Rated Current (A)	630	800	1000	1250	1600	
Breaking Capacity (kA)	I ZM91(B/N/H)	42/50/65	42/50/65	42/50/65	42/50/65	
	I ZM91-630	3				
	I ZM91-800		3			
Main components	I ZM91-1000		3			
	I ZM91-1250			3		
	I ZM91-1600				3	
Height module of room (1HU=25mm)						
Width of panel (mm)	3poles	800	800	800	800	800
	4poles	800	800	800	800	800

# Primary system recommended option (Capacitor Box, Feed-XF)

## Option 1

5A 5B 5C 5D 5E 5F



Option 1

Application		Reactive Compensation					
Compensation Capacity(kvar)		150	200	250	300	350	400
Main components	QSA-300/400/500/630/800	1	1	1	1	1	1
	DILK25	6					
	DILK50		4	5	6	7	8
	Capacitor 25kvar	6					
	Capacitor 50kvar		4	5	6	7	8
Height module of room ( 1HU=25MM )							
Width of panel (mm)		800	800	800	1000	1000	1000

## Option 2

6A 6B 6C 6D 6E 6F 6G 6H 6I 6J 6K 6L 6M



Option 2

Application		Pluggable Feed											
Rated Current (A)		0.16-4	6.3-16	20-32	32-63	80	100	125	160	200	250	400	630
Breaking Capacity (kA)	PKZMC	65	16	12									
	L(N)ZM1				25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100			
	L(N)ZM2										25/36/50/70/150	25/36/50/70/150	
	L(N)ZM3												25/36/50/70/150 25/36/50/70/150
Main components	PKZMC	1	1	1									
	L(N)ZM1				1	1							
	L(N)ZM1-80					1							
	L(N)ZM1-100						1						
	L(N)ZM1-125							1					
	L(N)ZM2-160								1				
	L(N)ZM2-200									1			
	L(N)ZM3-250										1		
	L(N)ZM3-400											1	
L(N)ZM3-630												1	
Height module of room (1HU=25mm)		8	8	8	8	8	8	8	8	8	8	10	10
Width of compartment	3 poles	650	650	650	650	650	650	650	650	650	650	650	650
	rear outgoing	650	650	650	650	650	650	650	650	650	650	650	650
Width of panel(mm)	side outgoing	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

# Options (Direct-on-line Motor Starter -XF, Reversible Motor Starter - XF)

## Option 1

7A 7B 7C 7D 7E 7F 7G 7H 7I 7J 7K 7L 7M 7N 7O 7P 7Q

Option 1

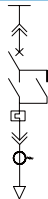


Application	Direct-on-line motor starter																
Motor Power (kW)	0.06-4	5.5-7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	250
Breaking Capacity (kA)	PKZMC	16/65	16	12	12												
	PKZM4					50/150	50/150	50/150									
	L(N)ZM1								25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100					
	L(N)ZM2												25/36/50/70/150				
Main components	PKZMC	1	1	1	1												
	PKZM4					1	1	1									
	L(N)ZM1								1	1	1	1					
	L(N)ZM2												1				
	DIL... ZB...	DILM9C ZB12C	DILM17C ZB32C	DILM25C ZB32C	DILM32C ZB32C	DILM40C ZB65C	DILM50C ZB65C	DILM65C ZB65C	DILM80C ZB150C	DILM95C ZB150C	DILM115C ZB150C	DILM150C ZB150C	DILM170C ZB150C	DILM225	DILM250	DILM300	DILM400
Height model of room (1HU=25mm)	8	8	8	8	8	8	8	8	8	8	8	10					
Width of compartment (mm)	3 poles	650	650	650	650	650	650	650	650	650	650	650	650				
Width of panel (mm)	rear outgoing	650	650	650	650	650	650	650	650	650	650	650	650				
	side outgoing	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000				

## Option 2

8A 8B 8C 8D 8E 8F 8G 8H 8I 8J 8K 8L 8M 8N 8O 8P 8Q

Option 2



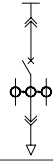
Application	Reversible motor starter																
Motor Power (kW)	0.06-4	5.5-7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	250
Breaking Capacity (kA)	PKZMC	16/65	16	12	12												
	PKZM4					50/150	50/150	50/150									
	L(N)ZM1								25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100					
	L(N)ZM2												25/36/50/70/150				
Main components	PKZMC	1	1	1	1												
	PKZM4					1	1	1									
	L(N)ZM1								1	1	1	1					
	L(N)ZM2												1				
	DIL... ZB...	DILM9C ZB12C	DILM17C ZB32C	DILM25C ZB32C	DILM32C ZB32C	DILM40C ZB65C	DILM50C ZB65C	DILM65C ZB65C	DILM80C ZB150C	DILM95C ZB150C	DILM115C ZB150C	DILM150C ZB150C	DILM170C ZB150C	DILM225	DILM250	DILM300	DILM400
Height model of room (1HU=25mm)	8	8	8	8	8	8	8	10	10	8	10	12					
Width of compartment (mm)	3 poles	650	650	650	650	650	650	650	650	650	650	650	650				
Width of panel (mm)	rear outgoing	650	650	650	650	650	650	650	650	650	650	650	650				
	side outgoing	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000				

# Options (Feed FE-XW, Direct-on-line Motor Starter DOL-XW)

## Option 1

9A 9B 9C 9D 9E 9F 9G 9H 9I 9J 9K 9L 9M

Option 1



Application	Feed													
Rated current (A)	0.16-4	6.3-16	20-32	32-63	80	100	125	160	200	250	400	630		
Breaking capacity (kA)	PKZMC	65	16	12										
	L(N)ZM1				25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100				
	L(N)ZM2									25/36/50/70/150	25/36/50/70/150			
Main components	PKZMC	1	1	1										
	L(N)ZM1													
	L(N)ZM1				1	1								
	L(N)ZM1-80						1							
	L(N)ZM1-100							1						
	L(N)ZM1-125								1					
	L(N)ZM2-160									1				
	L(N)ZM2-200										1			
	L(N)ZM3-250											1		
	L(N)ZM3-400												1	
L(N)ZM3-630													1	
Height model of room (1HU=25mm)	8	8	8	8	8	8	8	8	8	8	8	16	16	
Width of compartment (mm)	3 poles	150	150	150	8	600	600	600	600	600	600	600	600	600
	rear outgoing	650	650	650	300	650	650	650	650	650	650	650	650	650
Width of panel (mm)	side outgoing	1000	1000	1000	650	1000	1000	1000	1000	1000	1000	1000	1000	1000

## Option 2

10A 10B 10C 10D 10E 10F 10G 10H 10I 10J 10K 10L 10M 10N 10O 10P 10Q

Option 2



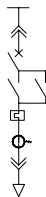
Application	Direct-on-line motor starter																	
Motor Power (kW)	0.06-4	5.5-7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	250	
Breaking Capacity (kA)	PKZMC	16/65	16	12	12													
	PKZM4					50/150	50/150	50/150										
	L(N)ZM1								25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100						
Main components	L(N)ZM2																25/36/50/70/150	
	PKZMC	1	1	1	1													
	PKZM4					1	1	1										
	L(N)ZM1								1	1	1	1						
	L(N)ZM2																1	
	DIL...	DILM9C	DILM17C	DILM25C	DILM32C	DILM40C	DILM50C	DILM65C	DILM80C	DILM95C	DILM115C	DILM150C	DILM170C	DILM225	DILM250	DILM300	DILM400	DILM500
	ZB...	ZB12C	ZB32C	ZB32C	ZB32C	ZB65C	ZB65C	ZB65C	ZB150C	ZB150C	ZB150C	ZB150C	ZB150C	ZB150C				
	Height model of room (1HU=25mm)	8	8	8	8	8	8	8	8	8	8	8	8	8				
	Width of compartment (mm)	3 poles	150	150	150	150	300	300	300	600	600	600	600	600				
		rear outgoing	650	650	650	650	650	650	650	650	650	650	650	650				
Width of panel (mm)	side outgoing	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000					

# Options (Reversible Motor Starter FR-XW)

## Option 1

11A 11B 11C 11D 11E 11F 11G 11H 11I 11J 11K 11L 11M 11N 11O 11P 11Q

Option 1



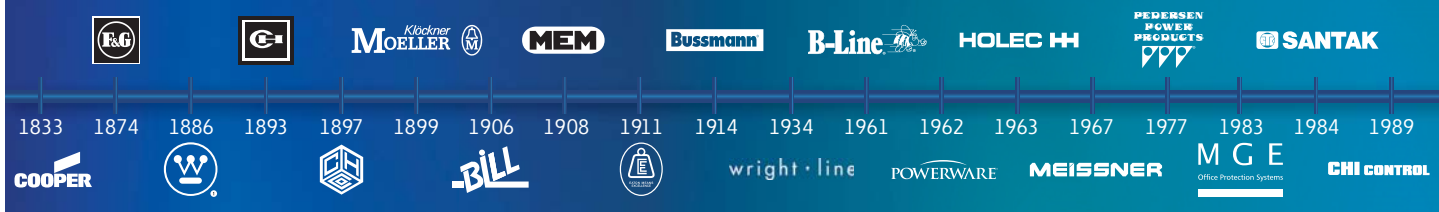
Application	Reversible engine																
Motor Power (kW)	0.06-4	5.5-7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	250
Breaking Capacity (kA)	PKZMC	16/65	16	12	12												
	PKZM4						50/150	50/150	50/150								
	L(N)ZM1									25/36/50/70/100	25/36/50/70/100	25/36/50/70/100	25/36/50/70/100				
	L(N)ZM2																25/36/50/70/150
Main components	PKZMC	1	1	1	1												
	PKZM4					1	1	1									
	L(N)ZM1								1	1	1	1					
	L(N)ZM2																1
	DIL...	DILM9C	DILM17C	DILM25C	DILM32C	DILM40C	DILM50C	DILM65C	DILM80C	DILM95C	DILM115C	DILM150C	DILM170C	DILM225	DILM250	DILM300	DILM400
ZB...	ZB12C	ZB32C	ZB32C	ZB32C	ZB65C	ZB65C	ZB65C	ZB150C	ZB150C	ZB150C	ZB150C	ZB150C	ZB150C				
Height model of room (1HU=25mm)	8	8	8	8	8	8	8	8	8	8	8	8					
Width of compartment (mm)	3 poles	300	300	300	300	300	300	300	600	600	600	600	600				
	rear outgoing	650	650	650	650	650	650	650	650	650	650	650	650				
Width of panel (mm)	side outgoing	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000				



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