

## Circuit-breaker, 4p, 3200 A, fixed

Powering Business Worldwide™

Part no. IZMX40H4-P32F Article no. 149947

Catalog No. RESC324B12QNMNN2MN1X

## **Delivery program**

belivery program			
Product range			Air circuit-breakers/switch-disconnectors
Product range			Open circuit-breakers
Current Range			Up to 4000 A
Protective function			Professional protection
Installation type			Fixed
Construction size			IZMX40
Release system			Electronic release
Standard/Approval			IEC
Number of poles			4 pole
Degree of Protection			IP20, IP55 with protective cover, IP41 door sealing frame
			suitable for zone selectivity suitable for communication with integrated system monitor with integrated test possibility with graphic LCD color display optionally fittable by user with comprehensive accessories
Rated current = rated uninterrupted current	$\boldsymbol{I}_n = \boldsymbol{I}_u$	Α	3200
up to 440 V 50/60 Hz	I <sub>cu</sub>	kA	105
up to 440 V 50/60 Hz	I <sub>cs</sub>	kA	105
Overload release, min.	I <sub>r</sub>	Α	1600
Overload release, max.	I <sub>r</sub>	Α	3200
Non-delayed	$I_i = I_n x \dots$		2 - 12, OFF
Delayed	$I_{sd} = I_r x \dots$		2 - 10

### **Technical data**

General			
Standards			IEC/EN 60947
Ambient temperature			
Storage	9	°C	-25 - +70 (device with LCD-display -20 - +70)
Operating (open)		°C	-25 - +70 (device with LCD-display -20 - +70)
Mounting position			30°   30°
			30° 30°
Utilization category			В
Degree of Protection			IP20, IP55 with protective cover, IP41 door sealing frame
Direction of incoming supply			as required
Main conducting paths			
Rated current = rated uninterrupted current	$I_n = I_u$	Α	3200
Rated uninterrupted current at 50 °C	lu	Α	3200
Rated uninterrupted current at 60 °C	lu	Α	3200

Detail and intermediate description and at 70 and		Δ.	75
Rated uninterrupted current at 70 °C	l <sub>u</sub>	A	75
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	12000
Rated operational voltage	U <sub>e</sub>	V AC	690
Use in IT electrical power networks up to U = 440 V	I <sub>IT</sub>	kA	57.6
Overvoltage category/pollution degree			III/3
Rated insulation voltage	Ui	V	1000
Switching capacity			
Rated short-circuit making capacity	I <sub>cm</sub>		
up to 440 V 50/60 Hz	I <sub>cm</sub>	kA	231
up to 690 V 50/60 Hz	I <sub>cm</sub>	kA	166
Rated short-time withstand current 50/60 Hz			
t = 1 s	I <sub>cw</sub>	kA	85
t=3s	I <sub>cw</sub>	kA	66
Rated short-circuit breaking capacity I <sub>cn</sub>	I <sub>cn</sub>		
IEC/EN 60947 operating sequence I <sub>cu</sub> 0-t-CO			
up to 240 V 50/60 Hz	I <sub>cu</sub>	kA	105
up to 440 V 50/60 Hz	I <sub>cu</sub>	kA	105
up to 690 V 50/60 Hz	I <sub>cu</sub>	kA	75
IEC/EN 60947 operating sequence I <sub>cs</sub> 0-t-C0-t-C0	cu		
up to 240 V 50/60 Hz	I <sub>cs</sub>	kA	105
up to 440 V 50/60 Hz	I <sub>cs</sub>	kA	105
up to 690 V 50/60 Hz	I <sub>cs</sub>	kA	75
Operating times			
Closing delay via spring release		ms	35
Total opening delay via shunt release		ms	22
Total opening delay via undervoltage release		ms	37
Total opening delay on non-delayed short-circuit release (up to complete arc quenching)		ms	45
Maximum operating frequency	Operations/h		60
Heat dissipation at rated current I <sub>n</sub>			
Fixed mounting		W	385
Weight			
Fixed mounting			
3-pole		kg	43
4-pole		kg	56
Terminal capacities			
Copper bar			
Fixed mounting			
Black		mm	3 x 80 x 10
			These are values used in separate switchgear. The actual values will depend on the temperature around the circuit-breaker, which is influenced by the ambient temperature, the degree of protection (IP), the mounting height, the partitions, and any external ventilation. Depending on the specific switchgear design, this may result in derating, which can then be compensated for by increasing the cross-sectional area. Temperature rise tests in the specific switchgear can provide specific and detailed information.
			Permissible continuous current for circuit-breakers operating in switchboards at various internal ambient temperatures. The switchboard's internal ambient temperature should be estimated using the calculation methods of IEC regulation.
Notes			IZMX-DTP-PTM external voltage measuring module required

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	3200
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	385
Operating ambient temperature min.		°C	-25

Operating ambient temperature max.	°C	70
IEC/EN 61439 design verification		
10.2 Strength of materials and parts		
10.2.2 Corrosion resistance		Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat		Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects		Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation		Meets the product standard's requirements.
10.2.5 Lifting		Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact		Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions		Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES		Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances		Meets the product standard's requirements.
10.5 Protection against electric shock		Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's responsibility.
10.8 Connections for external conductors		Is the panel builder's responsibility.
10.9 Insulation properties		
10.9.2 Power-frequency electric strength		Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage		Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material		Is the panel builder's responsibility.
10.10 Temperature rise		The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating		Is the panel builder's responsibility. The specifications for the switch gear must be observed. $\label{eq:constraint}$
10.12 Electromagnetic compatibility		Is the panel builder's responsibility. The specifications for the switch gear must be observed. $\label{eq:constraint}$
10.13 Mechanical function		The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

## **Technical data ETIM 6.0**

Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation prot. (EC000228)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss8.1-27-37-04-09 [AJZ716010])

Switched-off indicator available  With under voltage release  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Yes  Yes  No  No  No  No  No  No  No  No  No  N	protection (ecl@ss8.1-27-37-04-09 [AJZ716010])		
Rated short-circuit breaking capacity lou at 400 V, 50 Hz         kA         105           Overload release current setting         A         1600 - 2200           Adjustment range short-term delayed short-circuit release         A         6400 - 22000           Adjustment range undelayed short-circuit release         A         6400 - 38400           Integrated earth fault protection         No         Rail connection           Type of electrical connection of main circuit         Built-in device fixed built-in technique           Suitable for DIN rail (top hat rail) mounting         No         No           DIN rail (top hat rail) mounting optional         No         No           Number of auxiliary contacts as normally closed contact         0         0           Number of auxiliary contacts as change-over contact         2         2           Switched-off indicator available         Yes         No           With under voltage release         No         A           Number of poles         4         4           Position of connection for main current circuit         Back side           Type of control element         Push button           Complete device with protection unit         Yes           Motor drive integrated         No           Motor drive optional         No <td>Rated permanent current lu</td> <td>Α</td> <td>3200</td>	Rated permanent current lu	Α	3200
Overload release current setting         A         1600 - 3200           Adjustment range short-term delayed short-circuit release         A         6400 - 32000           Adjustment range undelayed short-circuit release         A         6400 - 38400           Integrated earth fault protection         Built of 6400 - 38400           Type of electrical connection of main circuit         Built in device fixed built-in technique           Device construction         Built-in device fixed built-in technique           Suitable for DIN rail (top hat rail) mounting         No           Number of auxiliary contacts as normally closed contact         No           Number of auxiliary contacts as normally open contact         9           Switched-off indicator available         Yes           With under voltage release         No           Number of poles         4           Position of connection for main current circuit         Yes           Type of control element         Push button           Complete device with protection unit         Yes           Motor drive integrated         Yes           Motor drive optional         Yes	Rated voltage	V	690 - 690
Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release Adjustment range undelayed short-circuit release Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as schange-over contact Switched-off indicator available With under voltage release Number of poles Number of poles Number of poles Number of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive integrated Motor drive optional	Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	105
Adjustment range undelayed short-circuit release Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting SUIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally pen contact Number of auxiliary contacts as schange-over contact Suitable for findicator available Number of poles Number of po	Overload release current setting	Α	1600 - 3200
Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Switched-off indicator available With under voltage release Number of poles Number of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional  No Rail connection Rai	Adjustment range short-term delayed short-circuit release	Α	6400 - 32000
Type of electrical connection of main circuit  Device construction  Device construction  Suitable for DIN rail (top hat rail) mounting  DIN rail (top hat rail) mounting optional  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Switched-off indicator available  With under voltage release  With under voltage release  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Motor drive optional  Rail connection  Built-in device fixed built-in technique  Built-in device fixed built-in technique  No  No  No  No  Suitable for DIN rail (top hat rail) mounting  Position of connection of main current circuit  Push button  Yes  No  No  Yes	Adjustment range undelayed short-circuit release	Α	6400 - 38400
Device construction  Suitable for DIN rail (top hat rail) mounting  DIN rail (top hat rail) mounting optional  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of poles  No  No  No  No  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Motor drive optional	Integrated earth fault protection		No
Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of pindicator available No	Type of electrical connection of main circuit		Rail connection
DIN rail (top hat rail) mounting optional  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Switched-off indicator available  With under voltage release  With under voltage release  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Motor drive optional	Device construction		Built-in device fixed built-in technique
Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Switched-off indicator available  With under voltage release  With under voltage release  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Motor drive optional  O  O  O  O  O  O  O  O  O  O  O  O  O	Suitable for DIN rail (top hat rail) mounting		No
Number of auxiliary contacts as normally open contact0Number of auxiliary contacts as change-over contact2Switched-off indicator availableYesWith under voltage releaseNoNumber of poles4Position of connection for main current circuitBack sideType of control elementPush buttonComplete device with protection unitYesMotor drive integratedNoMotor drive optionalYes	DIN rail (top hat rail) mounting optional		No
Number of auxiliary contacts as change-over contact  Switched-off indicator available  With under voltage release  With under voltage release  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive optional  2  Yes  No  No  No  No  No  No  No  No  No  N	Number of auxiliary contacts as normally closed contact		0
Switched-off indicator available  With under voltage release  With under of poles  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Motor drive optional  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Number of auxiliary contacts as normally open contact		0
With under voltage release  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive optional  No  No  No  No  No  No  No  No  No  N	Number of auxiliary contacts as change-over contact		2
Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive optional  A 4  Back side  Push button  Yes  No  No  Yes  Motor drive optional	Switched-off indicator available		Yes
Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive optional  Back side  Push button  Yes  No  Yes  Yes	With under voltage release		No
Type of control element Complete device with protection unit Motor drive optional  Push button Yes  No Yes	Number of poles		4
Complete device with protection unit  Yes  Motor drive integrated  Motor drive optional  Yes  Yes	Position of connection for main current circuit		Back side
Motor drive integrated No Yes	Type of control element		Push button
Motor drive optional Yes	Complete device with protection unit		Yes
	Motor drive integrated		No
Degree of protection (IP)	Motor drive optional		Yes
	Degree of protection (IP)		IP20