

Circuit-breaker, 3p, 4000 A, fixed

Part no. Article no. Catalog No. IZMX40H3-V40F 149740 RESC403B52RNMNN2MN1X



## **Delivery program**

Product range			Air circuit-breakers/switch-disconnectors
Product range			Open circuit-breakers
Current Range			Up to 4000 A
Protective function			Selective operation
Installation type			Fixed
			Main terminals must be separately ordered.
Construction size			IZMX40
Release system			Electronic release
Standard/Approval			IEC
Number of poles			3 pole
Degree of Protection			IP20, IP55 with protective cover, IP41 door sealing frame
			suitable for zone selectivity optionally fittable by user with comprehensive accessories
Rated current = rated uninterrupted current	$I_n = I_u$	А	4000
up to 440 V 50/60 Hz	l <sub>cu</sub>	kA	105
up to 440 V 50/60 Hz	I <sub>cs</sub>	kA	105
Overload release, min.	l <sub>r</sub>	А	2000
Overload release, max.	l <sub>r</sub>	А	4000
Non-delayed	l <sub>i</sub> = l <sub>n</sub> x		2 - 12, OFF
Delayed	I <sub>sd</sub> = I <sub>r</sub> x		2 - 10

## **Technical data**

General			
Standards			IEC/EN 60947
Ambient temperature			
Storage	θ	°C	-40 - +70
Ambient temperature		°C	-25 - +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	4000
Rated uninterrupted current at 50 °C	lu	А	4000
Rated uninterrupted current at 60 °C	lu	А	3650
Rated uninterrupted current at 70 °C	lu	А	3500

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		kA	57.6
Overvoltage category/pollution degree	IIT	NA	111/3
Rated insulation voltage	Ui	V	1000
Switching capacity	01	v	1000
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	· cm		
t=1s	I <sub>cw</sub>	kA	85
t=3 s		kA	66
	I <sub>cw</sub>	NA .	
Rated short-circuit breaking capacity I <sub>cn</sub>	I <sub>cn</sub>		
IEC/EN 60947 operating sequence I <sub>cu</sub> O-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 $\rm I_{\rm cs}$ 0-t-C0-t-C0			
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	600
Weight			
Fixed mounting			
3-pole		kg	43
4-pole Terminal capacities		kg	56
Copper bar			
Fixed mounting			
Black		mm	4 x 100 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. With vertical universal connection.

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	Α	4000
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	600
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70

10.2 Strength of materials and parts	
TO.2 OU ENGUI OF MALENDIS AND PAILS	
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 switchgear must observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction

## **Technical data ETIM 6.0**

 Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation prot. (EC00228)

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

 Rated permanent current lu
 A
 4000

 Rated voltage
 V
 690 - 690

 Rated short-circuit breaking capacity Icu at 400 V, 50 Hz
 kA
 105

Overload release current setting         A         2000 - 4000           Adjustment range short-terruit release         A         8000 - 40000           Adjustment range undelayed short-circuit release         A         8000 - 40000           Integrated earth fault protection         A         8000 - 40000           Type of electrical connection of main circuit         A         No           Divice construction         A         No           Stable for DIN rail top hat rail mounting optional         A         No           Number of auxiliary contacts as normally closed contact         A         No           Number of auxiliary contacts as change-over contact         A         No           Number of auxiliary contact mounting         A         No           Number of auxiliary contact as change-over contact         A         No           Number of auxiliary contact as change-over contact         A         No           Number of auxiliary contact as change-over contact         A         No           Number of auxiliary contact as change-over contact         A         No           Number of auxiliary contact as change-over contact         A         No           Number of auxiliary contact as change-over contact         B         No           Number of auxiliary contact as change-over contact	Rated short-circuit dreaking capacity icu at 400 V, 50 Hz	КА	105
Adjustment ange undelayed short-circuit release       A       8000 - 48000         Integrated earth fault protection       No       Rail connection         Type of electrical connection of main circuit       Rail connection       Rail connection         Device construction       Suitable for DIN rail (top hat rail) mounting optional       No         DIN rail (top hat rail) mounting optional       Mo       No         Number of auxiliary contacts as normally closed contact       Mo       No         Number of auxiliary contacts as normally closed contact       Mo       No         Number of auxiliary contacts as change-over contact       Mo       No         Number of poles       No       No       No         Number of poles       Mo       No       No         Number of poles       No       No       No         Number of poles       No       No       No         Notor direi orient circuit       Mo       No       No         Notor direi orient circuit       No       No       No         No contaction orient circuit <td< td=""><td>Overload release current setting</td><td>А</td><td>2000 - 4000</td></td<>	Overload release current setting	А	2000 - 4000
Integrate earth fault protectionNoType of electrical connection of main circuitRail connectionDevice constructionBuilt-in device fixed built-in techniqueSuitable for DIN rail (top hat rail) mountingNoDIN rail (top hat rail) mounting optionalNoNumber of auxiliary contacts as normally closed contactNoNumber of auxiliary contacts as normally closed contactONumber of auxiliary contacts as normally closed contactONumber of auxiliary contacts as change-over contactSecteeNumber of auxiliary contacts as change-over contactSecteeNumber of plesNoNumber of plesNoNumber of polesSecteeNumber of control elementSecteeNumber of control elementSecteeNumber of polesSecteeNumber of control elementSecteeNumber of outrin unitSecteeNumber of polesSecteeNumber of poleSecteeNumber of pole<	Adjustment range short-term delayed short-circuit release	А	8000 - 40000
Type of electrical connection of main circuit         Page of electrical connection of element         Page of electrical connection circuit         Page of electrical connection on electrical connection element         Page of electrical connection connection element         Page of electrical connection element         Page of electrical connection element         Page of electrical connelectrical connection element         Page of el	Adjustment range undelayed short-circuit release	А	8000 - 48000
Device construction         Built-in device fixed built-in technique           Suitable for DIN rail (top hat rail) mounting         No           DIN rail (top hat rail) mounting optional         No           Number of auxiliary contacts as normally closed contact         No           Number of auxiliary contacts as normally open contact         O           Number of auxiliary contacts as change-over contact         O           Number of auxiliary contacts as change-over contact         Sector           Number of poles         No           Number of poles         No           Number of poles         Sector           Position of connection formain current circuit         Sector           Type of control element         Push button           Kotor drive optional         Sector           Motor drive optional         Sector	Integrated earth fault protection		No
Suitable for DIN rail (top hat rail) mounting       Image: Comparison of the com	Type of electrical connection of main circuit		Rail connection
DIN rail (top hat rail) mounting optional         No           Number of auxiliary contacts as normally closed contact         0           Number of auxiliary contacts as normally open contact         0           Number of auxiliary contacts as normally open contact         0           Number of auxiliary contacts as change-over contact         2           Number of auxiliary contacts as change-over contact         Yes           With under voltage release         No           Number of poles         3           Position of connection for main current circuit         Back side           Type of control element         Yes           Complete device with protection unit         Yes           Motor drive optional         Yes	Device construction		Built-in device fixed built-in technique
Number of auxiliary contacts as normally closed contact       0         Number of auxiliary contacts as normally open contact       0         Number of auxiliary contacts as change-over contact       2         Switched-off indicator available       Yes         Vith under voltage release       No         Number of poles       3         Position of connection for main current circuit       Set of the set of t	Suitable for DIN rail (top hat rail) mounting		No
Number of auxiliary contacts as normally open contact       0         Number of auxiliary contacts as change-over contact       2         Switched-off indicator available       Yes         With under voltage release       No         Number of poles       3         Position of connection for main current circuit       Yes         Type of control element       Yes         Complete device with protection unit       Yes         Motor drive integrated       Yes         Motor drive optional       Yes	DIN rail (top hat rail) mounting optional		No
Number of auxiliary contacts as change-over contact       2         Switched-off indicator available       Yes         With under voltage release       No         Number of poles       3         Position of connection for main current circuit       See         Type of control element       See         Complete device with protection unit       See         Motor drive integrated       See         Motor drive optional       See	Number of auxiliary contacts as normally closed contact		0
Switched-off indicator available       Image: Subscript of the subsc	Number of auxiliary contacts as normally open contact		0
With under voltage releaseNoNumber of poles3Position of connection for main current circuitMoType of control elementBack sideComplete device with protection unitYesMotor drive integratedNoMotor drive optionalSee See See See See See See See See See	Number of auxiliary contacts as change-over contact		2
Number of poles     3       Position of connection for main current circuit     Image: Sector Secto	Switched-off indicator available		Yes
Position of connection for main current circuit     Position       Type of control element     Push button       Complete device with protection unit     Yes       Motor drive optional     Image: State Sta	With under voltage release		No
Type of control element     Push button       Complete device with protection unit     Yes       Motor drive integrated     No       Motor drive optional     Yes	Number of poles		3
Complete device with protection unit     Mode     Yes       Motor drive integrated     Mode     No       Motor drive optional     Mode     Yes	Position of connection for main current circuit		Back side
Motor drive optional     Motor	Type of control element		Push button
Motor drive optional Yes	Complete device with protection unit		Yes
	Motor drive integrated		No
Degree of protection (IP) IP20	Motor drive optional		Yes
	Degree of protection (IP)		IP20