

# Circuit-breaker, 4p, 1250 A, fixed

Powering Business Worldwide™

Part no. IZMX40H4-V12F Article no. 149927

Catalog No. RESC134B52-NMNN2MN1X

# **Delivery program**

zonro., 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			4 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	$I_n = I_u$	Α	1250
up to 440 V 50/60 Hz	I <sub>cu</sub>	kA	105
up to 440 V 50/60 Hz	Ics	kA	105
Overload release, min.	I <sub>r</sub>	Α	625
Overload release, max.	I <sub>r</sub>	Α	1250
Non-delayed	I <sub>i</sub> = I <sub>n</sub> x		2 - 12, OFF
Delayed X >	$I_{sd} = I_r x \dots$		2 - 10

### **Technical data**

Rated uninterrupted current at 70 °C

General				
Standards			IEC/EN 60947	
Ambient temperature				
Storage	8	°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	1250	
Rated uninterrupted current at 50 °C	I <sub>u</sub>	Α	1250	
Rated uninterrupted current at 60 °C	Iu	Α	1250	

1250

Name of persistand voltage	Decediments with standards and		V AC	10000
Use in IT electrical power restorators up to U = 480 V	Rated impulse withstand voltage	U <sub>imp</sub>	V AC	12000
Devant   Page		U <sub>e</sub>	V AC	690
Risted insulation voltage  Virte insulation systems capacity  Up 1 0440 V 5000 Hz  Up 1 0440 V 5000 Hz  Up 1 0440 V 5000 Hz  1 1 2 3  Risted district dissing capacity (un  Up 1 0440 V 5000 Hz  1 2 3  Risted district dissing capacity (un  Up 1 0440 V 5000 Hz  Up	Use in IT electrical power networks up to $U = 440 \text{ V}$	I <sub>IT</sub>	kA	57.6
	Overvoltage category/pollution degree			111/3
Rate of short-circuit making capacity	Rated insulation voltage	Ui	V	1000
up to 440 V 5000 Hz up to 800 V 5000 Hz up to 800 V 5000 Hz lead short-time withstand curront 5000 Hz t = 1 s t = 3 s t = 3 s t = 3 s t = 3 s t = 3 s t = 3 s t = 3 s t = 3 s t = 3 s t = 3 s t = 4 s t = 5 s t = 4 s t = 5 s t = 4 s t = 5 s	Switching capacity			
State about-time withstand current \$Q80 Hz	Rated short-circuit making capacity	I <sub>cm</sub>		
Rated short-sine withstand current \$0,60 Hz  1 = 1 s	up to 440 V 50/60 Hz	I <sub>cm</sub>	kA	231
t = 1 s	up to 690 V 50/60 Hz	I <sub>cm</sub>	kA	166
I	Rated short-time withstand current 50/60 Hz			
Rated short-circuit breaking capacity I <sub>co</sub>   IEC/EN 60947 operating sequence I <sub>cu</sub> 0+CO    up to 240 V 50800 Hz   u	t = 1 s	I <sub>cw</sub>	kA	85
IEC/EN 80947 operating sequence   co O+CO     up to 240 V 5080 Hz   lou   kA   105     up to 490 V 5080 Hz   lou   kA   105     up to 980 V 5080 Hz   lou   kA   105     Up to 980 V 5080 Hz   lou   kA   105     IEC/EN 80947 operating sequence   co O+CO+CO     up to 980 V 5080 Hz   los   kA   105     up to 490 V 5080 Hz   los   kA   105     up to 490 V 5080 Hz   los   kA   105     up to 890 V 5080 Hz	t = 3 s	I <sub>cw</sub>	kA	66
up to 240 V 50/60 Hz  up to 480 V 50/60 Hz  up to 480 V 50/60 Hz  up to 480 V 50/60 Hz  le up to 880 V 50/60 Hz  le up to 480 V 50/60 Hz  le up to	Rated short-circuit breaking capacity $\mathbf{I}_{cn}$	I <sub>cn</sub>		
up to 460 V 50/60 Hz  up to 680 V 50/60 Hz  up to 260 V 50/60 Hz  up to 240 V 50/60 Hz  up to 240 V 50/60 Hz  up to 240 V 50/60 Hz  up to 340 V 50/60 Hz  up to 860 V 50/60 Hz  up to 860 V 50/60 Hz  les kA 105  Closing delay via spring release  Closing delay via spring release  Total opening delay via shunt release  Total opening delay via undervoltage release  Total opening delay via undervoltage release  Total opening delay via undervoltage release  Total opening delay via non-delayed short-circuit release (up to completo arc quenching)  Maximum operating frequency  Operations/h  Fixed mounting  3-pole  4-pole  4-pole  4-pole  5-you show show show show show show show show	IEC/EN 60947 operating sequence I <sub>cu</sub> O-t-CO			
up to 680 V 50/600 Hz  IEC/EN 80947 operating sequence I <sub>cs</sub> 0-t-CO-t-CO  up to 280 V 50/600 Hz  up to 480 V 50/600 Hz  up to 680 V 50/60	up to 240 V 50/60 Hz	I <sub>cu</sub>	kA	105
EE/EN 60947 operating sequence   cs 0-t-CO-t-CO   up to 24Q V 50/60 Hz   lcs   kA   105	up to 440 V 50/60 Hz	I <sub>cu</sub>	kA	105
IEC/EN 60947 operating sequence I <sub>cs</sub> 0+CO-t-CO  up to 240 V 50/60 Hz  up to 440 V 50/60 Hz  les  kA  105  Operating times  Closing delay via spring release  Total opening delay via suntur release Total opening delay on non-delayed short-circuit release (up to complete arc quenching)  Maximum operating frequency  Insurance of the desired current In  Fixed mounting  3-pole 4-pole 4-pole  Fixed mounting  Black  Minuma Bl	up to 690 V 50/60 Hz	I <sub>cu</sub>	kA	75
up to 240 V 50/60 Hz  up to 440 V 50/60 Hz  lcs kA  105  Up to 690 V 50/60 Hz  lcs kA  75  Derating times  Closing delay via spring release Closing delay via undervoltage release Total opening delay on non-delayed short-circuit release (up to complete arc quenching)  Maximum operating frequency  Fixed mounting  W  60  Weight  Fixed mounting  Apole Ag 43  4-pole 5-  Fixed mounting  Black These are values used in esparate switchgear. The actual values will depend on the temperature, are under leafy, this may result in derating, which can their design, this may result in derating, which can their design, this may result in derating, which can their be compensated for ty increasing the cross-sectional area. Temperature, in set tests in the pecific switchgear design, this may result in derating, which can their be compensated for ty increasing the cross-sectional area. Temperature around the circuit-breaker, which is influenced by the ambient temperature around the circuit-breaker, which is influenced by the ambient temperature, the pecific switchgear are provide specific avertisperatic feaging, this may result in derating, which can their temperature around the circuit-breaker, which is enfluenced by the ambient temperature around the circuit-breaker, which is influenced by the ambient temperature around the circuit-breaker, which is influenced by the ambient temperature. The switchboard's internal ambient temperature. The switchboard's internal ambient's internal ambient temperature. The switchboard's internal ambient temperature. The switchboard's internal ambient's internal ambient temperature. The switchboard's internal ambient's internal ambient's internal ambient's internal ambient's internal ambient	IEC/EN 60947 operating sequence I <sub>cs</sub> 0-t-C0-t-C0			
up to 440 V 50/60 Hz    cs   kA   105  up to 690 V 50/60 Hz    cs   kA   75  Operating times  Closing delay via spring release Closing delay via spring release Total opening delay via undervoltage release   ms   35  Total opening delay via undervoltage release   ms   37  Total opening delay via undervoltage release   ms   37  Total opening delay via undervoltage release (up to complete arc quenching)  Maximum operating frequency   Operations/h   60  Heat dissipation at rated current In   w   60  Weight  Fixed mounting   w   60  Weight  Fixed mounting   spring release   spring r		Ics	kA	105
up to 690 V 50/60 Hz  Operating times  Closing delay via spring release  Total opening delay via shunt release  Total opening delay via undervoltage release  Total opening delay via undervoltage release  Total opening delay on non-delayed short-circuit release (up to complete arc quenching)  Maximum operating frequency  Heat dissipation at rated current In  Fixed mounting  Weight  Fixed mounting  3-pole  4-pole  4-pole  4-pole  5-pode mounting  Black  Minimum operating frequency  Maximum operating freque	up to 440 V 50/60 Hz		kA	105
Closing delay via spring release				
Closing delay via spring release ms 35  Total opening delay via shunt release ms 37  Total opening delay via undervoltage release ms 37  Total opening delay on non-delayed short-circuit release (up to complete arc quenching)  Maximum operating frequency		·cs	10.1	
Total opening delay via shunt release ms 37  Total opening delay on non-delayed short-circuit release (up to complete arc quenching)  Maximum operating frequency Heat dissipation at rated current In  Fixed mounting  W 60  Weight  Fixed mounting  3-pole kg 43 4-pole kg 56  Torminal capacities  Copper bar  Fixed mounting  Black muniting  Black muniting  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 around the circuit-breaker, which is influenced by the ambient temperature around the circuit-breaker, which is influenced by the ambient temperature around the circuit-breaker, which is influenced by the ambient and any external vanilus sectional parature rise tests in the specific switchgear can provide specific and detailed information.  Permissible continuous current for circuit-breakers operating in switchboard's internal ambient temperatures. The switchboard's internal ambient			ms	35
Total opening delay via undervoltage release  Total opening delay on non-delayed short-circuit release (up to complete arc quenching)  Maximum operating frequency  Heat dissipation at rated current In  Fixed mounting  Weight  Fixed mounting  3-pole 4-pole 4-pole 5-comper bar  Fixed mounting  Black  Minum 1 x 60 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 can provide specific and detailed information.  Permissible continuous current for circuit-breakers operating in switchboard's at various internal ambient temperatures. The switchboard's internal ambient				
Total opening delay on non-delayed short-circuit release (up to complete arc quenching)  Maximum operating frequency  Metal dissipation at rated current In  Fixed mounting  Weight  Fixed mounting  3-pole				
Maximum operating frequency  Maximum operating frequency  Pixed mounting  W 60  Weight  Fixed mounting  3-pole  4-pole  5-pole  7-pole  8-pole  8-pole  9-portions/h  8-pole  1-terminal capacities  Copper bar  Fixed mounting  Black  mm 1 x 60 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 vanifiation. 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 switchboard's internal ambient temperatures. The switchboard's internal ambient temperatures.	iotal oponing coal, the allocationage totales			
Heat dissipation at rated current In  Fixed mounting  Weight  Fixed mounting  3-pole kg 43  4-pole kg 56  Terminal capacities  Copper bar  Fixed mounting  Black mm 1 x 60 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 switchboard's at various internal ambient temperatures. The switchboard's internal ambient			ms	45
Fixed mounting  3-pole kg 43 4-pole g6  Terminal capacities  Copper bar  Fixed mounting  Black mm 1 x 60 x 10  These are values used in separate switchgear. The actual values will depend on 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 switchboard's at various internal ambient temperatures. The switchboard's internal ambient	Maximum operating frequency	Operations/h		60
Weight Fixed mounting  3-pole kg 43  4-pole kg 56  Terminal capacities  Copper bar  Fixed mounting  Black mm 1 x 60 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 switchboard's at various internal ambient temperatures. The switchboard's internal ambient	Heat dissipation at rated current $I_n$			
Fixed mounting  3-pole  kg 43  4-pole  kg 56  Terminal capacities  Copper bar  Fixed mounting  Black  mm 1 x 60 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 switchboard's internal ambient temperatures. The switchboard's internal ambient	Fixed mounting		W	60
3-pole kg 43  4-pole g	Weight			
4-pole kg 56  Terminal capacities  Copper bar  Fixed mounting  Black mm 1 x 60 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	Fixed mounting			
Fixed mounting  Black  mm 1 x 60 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	3-pole		kg	43
Fixed mounting  Black  mm 1 x 60 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			kg	56
Black  mm 1 x 60 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	-			
Black  mm 1 x 60 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				
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at various internal ambient temperatures. The switchboard's internal ambient	ыаск		mm	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

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	1250
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	60
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
EC/EN 61439 design verification			

0.2 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 w provide heat dissipation data for the devices.
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear mu observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear mu observed.
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])

protostion (societies: 2, or or or protostion)		
Rated permanent current lu	Α	1250
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	105
Overload release current setting	А	625 - 1250
Adjustment range short-term delayed short-circuit release	А	2500 - 12500
Adjustment range undelayed short-circuit release	Α	2500 - 15000
Integrated earth fault protection		No
Type of electrical connection of main circuit		Rail connection
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		0
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		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		Yes
Degree of protection (IP)		IP20