

## Circuit-breaker 4p, 1000A, fixed

Part no. IZMX16B4-U10F Article no. 123478



## **Delivery programme**

Delivery programme			
Product range			Air circuit-breakers/switch-disconnectors
Product range			Open circuit-breakers
Current Range			Up to 4000 A
Protective function			Universal protection
Installation type			Fixed
Construction size			IZMX16
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 integrated system monitor and 4-character display optionally fittable by user with comprehensive accessories
Rated current = rated uninterrupted current	$\boldsymbol{I}_n = \boldsymbol{I}_u$	Α	1000
Breaking capacity Icu = Ics to 440 V 50/60 Hz	I <sub>cu</sub>	kA	42
Breaking capacity Ics to 440 V 50/60 Hz	I <sub>cs</sub>	kA	42
Overload release, min.	I <sub>r</sub>	Α	500
Overload release, max.	I <sub>r</sub>	Α	1000
Non-delayed	$I_i = I_n \times \dots$		2 - 12, OFF
Delayed	$I_{sd} = I_r x \dots$		2 - 10
Notes			
Main terminals not included, need to be ordered separately.			

## **Technical data**

#### Conora

General			
Standards			IEC/EN 60947
Ambient temperature			
Storage	θ	°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	1000

Radia dispriancipated current at 10°C     Radia disprianciated valence     Radia disprianciated v	Rated uninterrupted current at 50 °C	I <sub>u</sub>	Α	1000
Read animenyaed current at 70°C   100°C   10	Rated uninterrupted current at 60 °C		Α	1000
Reces of parameter voltage         Ump         VAC         12000           Reces of parameters on part U + 40 V         17         A         25           Decemblage category/includion despite         0         V         100           Strate of action or voltage of actegory/includion despite         V         100           Strate of action or voltage of actegory/includion despite         V         A         80           Strate of action or max voltage of action of the parameter of action of ac			Α	1000
Name of the protectional voltage   Very				
December   Contemps		·		
December   Canagran y plantation degree   10.0				
Note   Part		111	KA.	
		11.	V	
Reder devict record making capacity   Fig.     1		o <sub>i</sub>	V	1000
up to 4 40 V 50 90 Nz   Va 50 N		I <sub>cm</sub>		
Name of Sales No Sa			kA	88
Rated short-time withstand current 50/90 ft   I				
Reder Short-circuit breaking capacity I <sub>co</sub> RECEN 80847 operating sequence I <sub>co</sub> 0-4-CO  #ECEN 80847 operating sequence I <sub>co</sub> 0-4-CO  ### ### ### ### ### #### #### ########		CIII		
Rated short-circuit breaking capacity I <sub>co</sub>   ECCR 60047 operating sequence I <sub>co</sub> 0+CO up to 240 V 5000 Hz   Let 0		l <sub>au</sub>	kΔ	42
Life span		·cn		
Up 10 480 V 5080 Hz			kΛ	12
Life Span   delay via spring release   Life Span   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Life Span   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring release   Switching cycles (Inv. OPF)     Life Span   delay via spring rel				
ECICFN 80847 operating sequence   cs O+CO-CO				
Up to 240 V 50/60 Hz		I <sub>cu</sub>	KA	42
up to 440 V 5080 Hz  up to 599 V 5080 Hz  Up to 599 V 5080 Hz  Closing dolay via spring rolease  Closing dolay via spring rolease  Total opening delay via undervoltage release  Total opening delay on non-delayed short-circuit release (up to complete arc quenching cycles (IIV)  Total opening delay on non-delayed short-circuit release (up to complete arc quenching cycles (IIV)  Total opening delay on non-delayed short-circuit release (up to complete arc quenching cycles (IIV)  Total opening delay on non-delayed short-circuit release (up to complete arc quenching cycles (IIV)  OFF  Lifespan, mechanical  Lifespan, mechanical  Lifespan, mechanical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical  With maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Lifespan, electrical with maintenance  Swritching cycles (IIV)  OFF  Divided Company cycles (IIV)  OFF  Divided Company cycles				
up to 890 V 50/60 Hz  Closing dalay via spring rolease Total opening delay via undervoltage release  Total opening delay via undervoltage release  Total opening delay via undervoltage release  Something cycles (ON) OFF)  Lifespan, mechanical  Lifespan, mechanical  Lifespan, mechanical  Lifespan, mechanical with maintenance  Switching cycles (ON) OFF)  Lifespan, electrical  Switching cycles (ON) OFF)  Lifespan, electrical with maintenance  Switching cycles (ON) OFF)  Dividence cycles (O		I <sub>cs</sub>		
Operating times     ms     30       Closing delay via spring release     ms     25       Total opening delay via undervoltage release     ms     50       Total opening delay on non-delayed short-circuit release (up to complete arc quenching)     ms     25       Lifespan, mechanical     Switching cycles (INV OFF)     12500       Lifespan, mechanical with maintenance     Switching cycles (INV OFF)     20000       Lifespan, electrical with maintenance     Switching cycles (INV OFF)     10000       Lifespan, electrical with maintenance     Switching cycles (INV OFF)     10000       Maximum operating frequency     Operations/h     60       Meximum operating frequency     Operations/h     60       Heat dissipation at rated current In     W     92       Fixed mounting     W     92       Weight       Torminal capacities       Fixed mounting     Mg     19       Fixed mounting     Mg     24       Fixed mounting     Mg     25       Black     mm     2x 5x 60       Withdrawable units     mm     2x 5x 60       These are values used in separate switchgear. The actual values will depend	up to 440 V 50/60 Hz	I <sub>cs</sub>	kA	42
Closing delay via spring release Total opening delay via shunt release Total opening delay via undervoltage release  Total opening delay on non-delayed short-circuit release (up to complete arc quenching)  Lifespan  Lifespan, mechanical  Lifespan, mechanical  Lifespan, mechanical with maintenance  Switching cycles (DN/ OFF)  Lifespan, electrical  Lifespan, electrical with maintenance  Switching cycles (DN/ OFF)  Electrical with maintenance  Sw	up to 690 V 50/60 Hz	I <sub>cs</sub>	kA	42
Total opening delay via shunt release  Total opening delay via undervoltage release  S  S  S  Lifespan  Lifespan, mechanical  Lifespan, mechanical with maintenance  Switching cycles (DN/ OFF)  Lifespan, electrical with maintenance  Lifespan, electrical with maintenance  Switching cycles (DN/ OFF)  Lifespan, electrical with maintenance  Switching cycles (DN/ OFF)  Lifespan electrical with maintenance  Switching cycles (DN/ OFF)  Lifespan electrical with maintenance  Switching cycles (DN/ OFF)  Fixed mounting frequency  Read dissipation at rated current I <sub>n</sub> Fixed mounting  3-pole  4-pole  Terminal capacities  Copper bar  Fixed mounting  Black  Withdrawabla units  Black  Minum 2x 5 x 60  These are values used in separate switchgear. The actual values will depend	Operating times			
Total opening delay via undervoltage release  Total opening delay on non-delayed short-circuit release (up to complete are quenching)  Lifespan  Lifespan, mechanical  Lifespan, mechanical with maintenance  Switching cycles (DN OFF)  Lifespan, electrical  Lifespan, electrical  Switching cycles (DN OFF)  Lifespan, electrical with maintenance  Switching cycles (DN OFF)  Lifespan, electrical with maintenance  Switching cycles (DN OFF)  Lifespan, electrical with maintenance  Witching cycles (DN OFF)  Lifespan, electrical with maintenance  Switching cycles (DN OFF)  Lifespan, electrical with maintenance  Switching cycles (DN OFF)  Lifespan, electrical with maintenance  Switching cycles (DN OFF)  Donococcurrent In to the special of the sp	Closing delay via spring release		ms	30
Total opening delay on non-delayed short-circuit release (up to complete arc queching)  Lifespan  Lifespan, mechanical  Lifespan, mechanical  Lifespan, mechanical  Lifespan, mechanical with maintenance  Switching cycles (DN) OFF)  Lifespan, electrical  Lifespan, electrical  Switching cycles (DN) OFF)  Lifespan, electrical with maintenance  Switching cycles (DN) OFF)  Lifespan, electrical with maintenance  Switching cycles (DN) OFF)  Lifespan, electrical with maintenance  Switching cycles (DN) OFF)  Maximum operating frequency  Maxim			ms	25
Lifespan Lifespan, mechanical Lifespan, mechanical with maintenance Lifespan, mechanical with maintenance Lifespan, electrical Lifespan, electrical Lifespan, electrical Switching cycles (ON/ OFF) OFF) Lifespan, electrical with maintenance Switching cycles (ON/ OFF)  Maximum operating frequency Operations/h Exed mounting W 92  Weight Fixed mounting W 92  Weight Fixed mounting Symbol Sy	Total opening delay via undervoltage release		ms	50
Lifespan, mechanical Switching cycles (ON/ OFF)  Lifespan, mechanical with maintenance Switching cycles (ON/ OFF)  Lifespan, electrical Switching cycles (ON/ OFF)  Lifespan, electrical Switching cycles (ON/ OFF)  Lifespan, electrical with maintenance Switching cycles (ON/ OFF)  Lifespan, electrical with maintenance Switching cycles (ON/ OFF)  Maximum operating frequency Operations/h 60  Heat dissipation at rated current In W 92  Weight  Fixed mounting W 92  Weight  Fixed mounting Baback Michael Space Spac			ms	25
cycles (OIV OFF)  Lifespan, mechanical with maintenance Switching cycles (OIV OFF)  Lifespan, electrical Switching cycles (OIV OFF)  Lifespan, electrical with maintenance Switching cycles (OIV OFF)  Lifespan, electrical with maintenance Switching cycles (OIV OFF)  Maximum operating frequency Operations/h 60  Heat dissipation at rated current In W 92  Weight  Fixed mounting W 92  Weight  Fixed mounting Apole Apole Apole Apole Apole Apole Apole Apole Maximum operating frequency Apole	Lifespan		S	
cycles (ON/ OFF)  Lifespan, electrical  Switching cycles (ON/ OFF)  Lifespan, electrical with maintenance  Switching cycles (ON/ OFF)  Maximum operating frequency  Meat dissipation at rated current In  Fixed mounting  Wy 92  Weight  Fixed mounting  3-pole 4-pole 4-pole 4-pole 5-pole 4-pole 5-pole 6-pole 7-pole 7-pole 8-pole 9-pole 9-pol	Lifespan, mechanical	cycles (ON/		12500
Cycles (ON/ OFF)  Lifespan, electrical with maintenance Switching cycles (ON/ OFF)  Maximum operating frequency Operations/h Heat dissipation at rated current In  Fixed mounting W 92  Weight  Fixed mounting  3-pole kg 19  4-pole kg 24  Terminal capacities  Copper bar  Fixed mounting  Black mm 2 x 5 x 60  Withdrawable units  Black mm 2 x 5 x 60  These are values used in separate switchgear. The actual values will depend	Lifespan, mechanical with maintenance	cycles (ON/		20000
cycles (ON/ OFF)  Maximum operating frequency  Heat dissipation at rated current In  Fixed mounting  W 92  Weight  Fixed mounting  3-pole 4-pole 4-pole 4-pole 5copper bar Fixed mounting  Black Withdrawable units  Black Mithdrawable units  Black These are values used in separate switchgear. The actual values will depend	Lifespan, electrical	cycles (ON/		10000
Heat dissipation at rated current In  Fixed mounting  Weight  Fixed mounting  3-pole kg 19 4-pole kg 24  Terminal capacities  Copper bar  Fixed mounting  Black mm 2x5x60  Withdrawable units  Black mm 2x5x60  These are values used in separate switchgear. The actual values will depend	Lifespan, electrical with maintenance	cycles (ON/		10000
Fixed mounting  Weight  Fixed mounting  3-pole kg 19  4-pole kg 24  Terminal capacities  Copper bar  Fixed mounting  Black mm 2 x 5 x 60  Withdrawable units  Black mm 2 x 5 x 60  These are values used in separate switchgear. The actual values will depend	Maximum operating frequency	Operations/h		60
Weight Fixed mounting 3-pole kg 19 4-pole kg 24  Terminal capacities Copper bar Fixed mounting Black mm 2x5x60 Withdrawable units Black mm 2x5x60 These are values used in separate switchgear. The actual values will depend	Heat dissipation at rated current $I_n$			
Fixed mounting  3-pole  kg 19  4-pole  Rg 24  Terminal capacities  Copper bar  Fixed mounting  Black  Withdrawable units  Black  mm 2x5x60  These are values used in separate switchgear. The actual values will depend			W	92
3-pole kg 19 4-pole kg 24  Terminal capacities  Copper bar  Fixed mounting	_			
4-pole kg 24  Terminal capacities  Copper bar  Fixed mounting  Black mm 2 x 5 x 60  Withdrawable units  Black mm 2 x 5 x 60  These are values used in separate switchgear. The actual values will depend			les.	10
Terminal capacities  Copper bar  Fixed mounting  Black  Withdrawable units  Black  mm 2x5x60  These are values used in separate switchgear. The actual values will depend			-	
Copper bar  Fixed mounting  Black  mm 2 x 5 x 60  Withdrawable units  Black  mm 2 x 5 x 60  These are values used in separate switchgear. The actual values will depend			ку	<u> </u>
Fixed mounting  Black mm 2 x 5 x 60  Withdrawable units  Black mm 2 x 5 x 60  These are values used in separate switchgear. The actual values will depend				
Black mm 2 x 5 x 60  Withdrawable units  Black mm 2 x 5 x 60  These are values used in separate switchgear. The actual values will depend				
Black mm 2 x 5 x 60  These are values used in separate switchgear. The actual values will depend			mm	2 x 5 x 60
These are values used in separate switchgear. The actual values will depend	Withdrawable units			
	Black		mm	2 x 5 x 60
				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 crosssectional 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.

# Design verification as per IEC/EN 61439

2001gii 1011110441011 40 por 120, 211 01 100			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	1000
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	92
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 switchgear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switchgear must be 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])	3,,,	, , , , , , , , , , , , , , , , , , ,
Rated permanent current lu	Α	1000
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	42
Overload release current setting	Α	500 - 1000
Adjustment range short-term delayed short-circuit release	Α	2000 - 10000
Adjustment range undelayed short-circuit release	Α	2000 - 12000
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

# **Dimensions**

