

Circuit-breaker, 4p, 2500 A, fixed

Powering Business Worldwide*

Part no. IZMX40N4-U25F Article no. 149906

Catalog No. RES8254BM2NNMNN2MN1X

Delivery program

Don'tory program			
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			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 integrated system monitor and 4-character display optionally fittable by user with comprehensive accessories
Rated current = rated uninterrupted current	$I_n = I_u$	Α	2500
Bemessungsgrenzkurzschlussausschaltvermögen bis 440V/690V 42/42	I _{cu}	kA	85
Bemessungsbetriebskurzschlussausschaltvermögen bis 440V/690V 42/42	I _{cs}	kA	85
Overload release, min.	Ir	Α	1250
Overload release, max.	Ir	Α	2500
Non-delayed	$I_i = I_n x \dots$		2 - 12, OFF
Delayed >	$I_{sd} = I_r x \dots$		2 - 10
Notes			
Main terminals not included, need to be ordered separately.			

Technical data

Genera

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	2500	
Rated uninterrupted current at 50 °C	I _u	Α	2500	

Rated uninterrupted current at 60 °C	I _u	Α	2500
Rated uninterrupted current at 70 °C	I _u	Α	2500
Rated impulse withstand voltage	U _{imp}	V AC	12000
Rated operational voltage	U _e	V AC	690
Use in IT electrical power networks up to U = 440 V	I _{IT}	kA	57.6
Overvoltage category/pollution degree			III/3
Rated insulation voltage	Ui	٧	1000
Switching capacity	·		
Rated short-circuit making capacity	I _{cm}		
up to 440 V 50/60 Hz	I _{cm}	kA	187
up to 690 V 50/60 Hz	I _{cm}	kA	166
Rated short-time withstand current 50/60 Hz			
t=1s	I _{cw}	kA	85
t = 3 s		kA	66
	I _{cw}	IVA	
Rated short-circuit breaking capacity I _{cn}	I _{cn}		
IEC/EN 60947 operating sequence I _{cu} 0-t-C0			
up to 240 V 50/60 Hz	I _{cu}	kA	85
up to 440 V 50/60 Hz	I _{cu}	kA	85
up to 690 V 50/60 Hz	I _{cu}	kA	75
IEC/EN 60947 operating sequence I _{cs} 0-t-C0-t-C0			
up to 240 V 50/60 Hz	I _{cs}	kA	85
up to 440 V 50/60 Hz	I _{cs}	kA	85
up to 690 V 50/60 Hz	I _{cs}	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 _n			
Fixed mounting		W	235
Weight			
Fixed mounting			
3-pole		kg	43
4-pole		kg	56
Terminal capacities			
Copper bar			
Fixed mounting			
Black		mm	2 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.

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	2500
Equipment heat dissipation, current-dependent	P_{vid}	W	235
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 85 Overload release current setting A 1250 - 2500 Adjustment range short-term delayed short-circuit release A 5000 - 25000 Adjustment range undelayed short-circuit release A 5000 - 30000 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>2500</td>	Rated permanent current lu	Α	2500
Overload release current setting A 1250 - 2500 Adjustment range short-term delayed short-circuit release A 5000 - 25000 Adjustment range undelayed short-circuit release A 5000 - 30000 Integrated earth fault protection Built sind evice fixed built-in technique Type of electrical connection of main circuit 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 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 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 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 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 integrated No No No No No No No No No N	Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	85
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 With under voltage release Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive	Overload release current setting	Α	1250 - 2500
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	Adjustment range short-term delayed short-circuit release	Α	5000 - 25000
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	5000 - 30000
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 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 puxiliary contacts as change-over contact Number of puxiliary contacts as change-over contact Number of indicator available No Notor drive integrated 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