

Circuit-breaker, 3p, 32A



Powering Business Worldwide™

Part no.	NZMB1-A32
Catalog No.	280989
EL-Nummer (Norway)	4358977

Similar to illustration

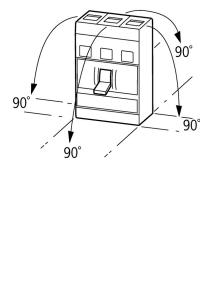
Delivery program

Product range	Circuit-breaker			
Protective function	System and cable protection			
Standard/Approval	IEC			
Installation type	Fixed			
Release system	Thermomagnetic release			
Construction size	NZM1			
Number of poles	3 pole			
Standard equipment	Box terminal			
Switching capacity				
400/415 V 50 Hz	I_{cu}	kA	25	
Rated current = rated uninterrupted current				
Rated current = rated uninterrupted current	$I_n = I_u$	A	32	
Setting range				
Overload trip		I_r	A	25 - 32
Short-circuit releases				
Non-delayed		$I_i = I_n \times \dots$	350 A fixed	
Short-circuit releases				
min.		A	350	

Technical data

General			
Standards	IEC/EN 60947		
Protection against direct contact	Finger and back of hand proof to VDE 0106 Part 100		
Climatic proofing	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30		
Ambient temperature			
Ambient temperature, storage	$^{\circ}\text{C}$	-40 - +70	
Operation	$^{\circ}\text{C}$	-25 - +70	
Mechanical shock resistance (10 ms half-sinusoidal shock) according to IEC 60068-2-27	g	20 (half-sinusoidal shock 20 ms)	
Safe isolation to EN 61140			
Between auxiliary contacts and main contacts	V AC	500	
between the auxiliary contacts	V AC	300	
Mounting position	Vertical and 90° in all directions		

Direction of incoming supply	as required
Degree of protection	
Device	In the operating controls area: IP20 (basic degree of protection)
Enclosures	With insulating surround: IP40 With door coupling rotary handle: IP66
Terminations	Tunnel terminal: IP10 Phase isolator and strip terminal: IP00
Other technical data (sheet catalogue)	Temperature dependency, Derating



With XFI earth-fault release:
 - NZM1, N1, NZM2, N2: vertical and 90° in all directions with plug-in unit
 - NZM1, N1, NZM2, N2: vertical, 90° right/left with withdrawable unit:
 - NZM3, N3: vertical, 90° right/left
 - NZM4, N4: vertical with remote operator:
 - NZM2, N(S)2, NZM3, N(S)3, NZM4, N(S)4: vertical and 90° in all directions

Circuit-breakers

Rated current = rated uninterrupted current

Rated surge voltage invariability

Main contacts

Auxiliary contacts

Rated operational voltage

Overtoltage category/pollution degree

Rated insulation voltage

Use in unearthing supply systems

$I_n = I_u$ A 32

U_{imp}

V 6000

V 6000

U_e V AC 440

III/3

U_i V 690

V ≤ 440

Switching capacity

Rated short-circuit making capacity

240 V

400/415 V

440 V 50/60 Hz

I_{cm}

I_{cm} kA 63

I_{cm} kA 53

I_{cm} kA 53

Rated short-circuit breaking capacity I_{cn}

I_{cn}

I_{cu} kA

240 V 50/60 Hz I_{cu} kA 30

400/415 V 50/60 Hz I_{cu} kA 25

440 V 50/60 Hz I_{cu} kA 25

I_{cs} kA

240 V 50/60 Hz I_{cs} kA 30

400/415 V 50/60 Hz I_{cs} kA 25

440 V 50/60 Hz I_{cs} kA 18.5

Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.

Utilization category to IEC/EN 60947-2

Lifespan, mechanical (of which max. 50 % trip by shunt/undervoltage release)

Operations

20000

Lifespan, electrical

AC-1

400 V 50/60 Hz Operations 7500

415 V 50/60 Hz Operations 7500

Max. operating frequency Ops/h 120

Total break time at short-circuit

ms

< 10

Terminal capacity

Standard equipment

Box terminal

Optional accessories

Screw connection

Round copper conductor

Tunnel terminal

connection on rear

Box terminal

Solid

mm²

1 x (10 - 16)

			2 x (6 - 16)
Stranded	mm ²	1 x (10 - 70) ³⁾ 2 x (6-25)	
			³⁾ Up to 95 mm ² can be connected depending on the cable manufacturer.
Tunnel terminal			
Solid	mm ²	1 x 16	
Stranded			
1-hole	mm ²	1 x (25 - 95)	
Bolt terminal and rear-side connection			
Direct on the switch			
Solid	mm ²	1 x (10 - 16) 2 x (6 - 16)	
Stranded	mm ²	1 x (10 - 70) ³⁾ 2 x 25	
			³⁾ Up to 95 mm ² can be connected depending on the cable manufacturer.
Al circular conductor			
Tunnel terminal			
Solid	mm ²	1 x 16	
Stranded			
Stranded	mm ²	1 x (25 - 95)	
Bolt terminal and rear-side connection			
Direct on the switch			
Solid	mm ²	1 x (10 - 16) 2 x (10 - 16)	
Stranded	mm ²	1 x (25 - 35) 2 x (25 - 35)	
Cu strip (number of segments x width x segment thickness)			
Box terminal	min.	mm	2 x 9 x 0.8
	max.	mm	9 x 9 x 0.8
Copper busbar (width x thickness)	mm		
Bolt terminal and rear-side connection			
Screw connection			M6
Direct on the switch			
	min.	mm	12 x 5
	max.	mm	16 x 5
Control cables			
	mm ²		1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	A	32
Equipment heat dissipation, current-dependent	P _{vid}	W	9.31
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 8.0

Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (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@ss10.0.1-27-37-04-09 [AJZ716013])

Rated permanent current I_p	A	32
Rated voltage	V	440 - 440
Rated short-circuit breaking capacity I_{cu} at 400 V, 50 Hz	kA	25
Overload release current setting	A	25 - 32
Adjustment range short-term delayed short-circuit release	A	0 - 0
Adjustment range undelayed short-circuit release	A	350 - 350
Integrated earth fault protection		No
Type of electrical connection of main circuit		Frame clamp
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		Yes
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		0
With switched-off indicator		No
With integrated under voltage release		No
Number of poles		3
Position of connection for main current circuit		Front side
Type of control element		Rocker lever
Complete device with protection unit		Yes
Motor drive integrated		No
Motor drive optional		No
Degree of protection (IP)		IP20