DATASHEET - NZMB1-M50

Circuit-breaker, 3p, 50A

Part no.	NZMB1-M50
	265711
EL Number	4315560
(Norway)	



ApplicationIse in unearthed supply systems at 440 VTypeCircuit breakerCircuit breaker frame typeCircuit breakerNumber of polesMeer poleAmperage RatingMeer Son ARelease systemFilter Son ASpecial featuresMaximum back-up fuse, if the expected short-circuit breaker (Rated short-circuit breaking capacity len)Special featuresMaximum back-up fuse, if the expected short-circuit breaker (Rated short-circuit breaking capacity len)Fitted with:Fitted with:Meer Son A	General specifications	
EAV 40562857116 Product Linght/Depth 80 allimetre Product Meight 80 allimetre Product Weight 150 allimetre Product Weight 152 allegran Product Todename 152 allegran Product Tome Todename 150 allegran Product Tome Todena	Product name	Eaton Moeller series NZM - Molded Case Circuit Breaker
Product Langtiv/Dayth Bit millimetre Product knight Similimetre Product vieldh Similimetre Product vieldh Similimetre Product vieldh Similimetre Campliances Molds Conform Cartifications Kolf Sconform Product Tradename Nolded Case Circuit Breaker Product Tradename Circuit breaker Product Tradename Circuit breaker Product Tradename Circuit breaker Number of point Circuit breaker Application Circuit breaker Number of point Circuit breaker Number of point So A Release system structure	Part no.	NZMB1-M50
Product weight If a millimetre Product weight If a millimetre Product weight If a millimetre Compliances Makif Scaring Compliances Relk Scaring Control compliances Relk Scaring Control compliances NZM Product Takaname NZM Product Sub Type None Relational None Application None Number of poles NZM Amber of poles NZM Release system Maximum back up fuse, if the expected short-circuit currents at the installation location exceed the sochthing capacity of the circuit breaker (Relate Short Circuit breaker, Withing Program) Field with: Maximum back up fuse, if the expected short-circuit currents at the installation location exceed the sochthing capacity of the circuit breaker (Relate Short Circuit breaker, Withing Program) Instantaneous Corrent Stating (Nine) Maximum back up fuse, if the expected short-circuit currents at the installation location exceed the sochred the sochthing capacity bin	EAN	4015082657116
Product widh Bindlimete Product weight 122 kliggram Compliances 122 kliggram Contrications ECK 00897 Product Tradename KIM Product Tradename Molder Case Circuit Breaker Product Sub Type Molder Case Circuit Breaker Product Sub Type Molder Case Circuit Breaker Product Sub Type Circuit breaker Product Sub Type Circuit breaker Product Sub Type Circuit breaker Circuit breaker frame type Circuit breaker Circuit breaker frame type Circuit breaker Release system So File Release system So File Special features Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker filted short-circuit breaker filted short-circuit currents at the installation location exceed the switching capacity of the circuit breaker filted short-circuit currents at the installation location exceed the switching capacity of the circuit breaker filted short-circuit breaker filted short-circuit currents of AC3 switching category. Filted wide: There pole Release system Gircuit breaker filted short-circuit currents of AC3 switching category. With planse-filter sectored short-circuit currents of AC3 switching category. There pole Release system Gircuit breaker Gir	Product Length/Depth	88 millimetre
Product weight 1d23 klogram Compliances ReHS canform Certifications ReHS canform Product Tradename KZM Product Tradename None Product Tradename None Product Type None Product Type None Delivery program Use in uncertified supply systems at 400 V Type Use in uncertified supply systems at 400 V Type Use in uncertified supply systems at 400 V Type Use in uncertified supply systems at 400 V Amporage Rating Use in uncertified supply systems at 400 V Amporage Rating Use in uncertified supply systems at 400 V Rubease system Maximum back-typ fusc, if the supperted short-circuit currents at the installation of poles Amporage Rating Sopeial features Special features Maximum back-typ fusc, if the supperted short-circuit currents at the installation of poles Fited with: Terminal capacity intru U to 95 mm² can be connected depending on the cable manufacturent. Voltage rating Maximum back-typ fusc, if the supperted short-circuit currents of the C3 sovitching category. Fited with: Terminal capacity intru U to 95 mm² can be connected depending on the cable manufacturent. Voltage rating Molece Categord the circuit Brack fittil at at requinements for AC-3 sovitching cat eagord the circuit Brack f	Product height	145 millimetre
Compliance ReHS conform Compliances ECEN 60047 Contrictorions ECEN 60047 Product Tradename NZM Product Sub Type None Delivery program None Application Version unarthed supply systems at 440 V Type Use in uncarthed supply systems at 440 V Circuit breaker frame type Version Circuit breaker frame type Version Relies system Three-pole Relies system Three-pole Relies system Three-pole Special features Three-pole Special features Three-pole Relies system Three-pole Terminal cradecity level Three-pole Relies system Three-pole Special features Three-pole Relies system Three-pole Terminal cradecity level Terminal cradecity level Relies system Terminal cradecity level Relies system Stort framinal cradecity level Relies system Storestrestem stricting Circuity terestem	Product width	90 millimetre
Certifications ECK N 80847 Product Tradename X2M Product Tradename X2M Product Type None Product Sub Type None Delivery program Circuit Dreaker Application Circuit Dreaker Type Circuit Dreaker Circuit Dreaker frame type Circuit Dreaker Circuit Dreaker frame type S0 A Circuit Dreaker frame type S0 A Release system S0 A Rel	Product weight	1.023 kilogram
Pick Tradename FC K2M Product Tradename K2M K2M Product Type Moled Case Circuit Breaker Moled Case Circuit Breaker Product Sub Type K K Delivery program K K Application K K Type Circuit breaker frame type K K Circuit breaker frame type K K K Amperage Rating K K K K Release system K	Compliances	RoHS conform
Product Type Moded Case Circuit Breaker Product Sub Type None Oblivery program Use in unearthed supply systems at 440 V Application Use in unearthed supply systems at 440 V Type Circuit breaker frame type Oricuit breaker frame type None Amparage Rating So A Release system So A Release system So A Special features So A Special features So A Number of poles So A Release system So A Release system So A Release system So A Voltage rating So A Reted insultation voltage (Uin) Thermonagnetic release Voltage rating For and correct of the swylchold short-circuit breaker (Rated short-circui	Certifications	
Product Sur Type None Product Sur Type Use in unearthed supply systems at 440 V Type Circuit breaker Circuit breaker frame type Sold Outmoer of polos None Amprage Rating Three-pole Release system SolA Special features Maximum back-up fuse, if the expected short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit currents at the installation location acceed the switching capacity of the circuit breaker (Rated short-circuit with the shoet current struthe installation	Product Tradename	NZM
Delivery program Image: state st	Product Type	Molded Case Circuit Breaker
ApplicationImage: Second S	Product Sub Type	None
TypeCircuit breakerCircuit breakerCircuit breaker frame typeMMBer of polesNZMINumber of polesThree-poleAmperage RatingSOARelease systemSo ASpecial featuresThermomagnetic releaseNumber of polesNamerage RatingRelease systemNamerage RatingSpecial featuresNamerage Rating capacity of the circuit breaker (Rated short-circuit currents at the installation to treate uninterrupted current: 50 AReted current - rated uninterrupted current: 50 ATerminal capacity Init: Up to 95 mm* can be connected depending on the cable mainfacturer. With phase-failure sensitivity Tripping class 10 A IEC/EN 60947-4-1, IEC/EN 60947-2. The circuit-breaker fulfills all requirements for AC-3 switching category.Notage ratingMAU V - 440 VRated inpulse withstand voltage (Ump) at auxiliary contactsMONRated inpulse withstand voltage (Ump) at auxiliary contactsMONRated operational currentMONInstantaneous current setting (ii) - minMONInstantaneous current setting (ii) - minMONOverload current setting (ii) - minMONMathameous current	Delivery program	
Current setting (i) - min Maximum back-up fuse NZM1 Number of poles Three-pole So A Amperage Rating So A Immomagnetic release Release system Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaker (Rated short-cir	Application	Use in unearthed supply systems at 440 V
Number of poles Three-pole Amperage Rating 50 A Release system Fhermomagnetic release Special features Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaker (Rated short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaker (Rated sho	Туре	Circuit breaker
Amperage Rating 50 A Release system Thermonagnetic release Special features Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaker (Rated current stort)) (No) Fitted with: Fitted with: Fitted with: Fitted with: Voltager ating Fitted with: Fitted with: Fitted with: Rated insulation voltage (Uin) Rated current stort (Rated short-circuit breaker (Rated short-circuit breaker (Rated short-circuit breaker (Rated short-ci	Circuit breaker frame type	NZM1
Release system Thermomagnetic release Special features Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity (Int) Rated insultation voltage (Uinp) at auxiliary contacts Naximum back-up fuse, if the expected short-circuit breaking capacity (Int) Rated insultation voltage (Uinp) at auxiliary contacts National content Rated insultation voltage (Uinp) at auxiliary contacts National content Rated appearational current Spool Rated operational current Instantaneous current setting (I) - min Antonal content Rated operational current MoXimum back-up fuse, if the expected short-circuit provide setting (I) - max Maximum back-up fuse, if the expected short-circuit provide setting (I) - max Overload current setting (I) - min Maximum back-up fuse, if the expected short-circuit provide setting (I) - min Maximum back-up fuse, if the expected short-circuit breaker (Rated short-circuit provide setting (I) - min	Number of poles	Three-pole
Special features Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaker), and the circuit breaker (Rated short-circuit breaker fulfils all requirements for AC-3 switching category. Fitted with: Thermal protection Technical Data - Electrical Maximum back-up fuse, and the circuit breaker fulfils all requirements for AC-3 switching category. Rated insulation voltage (Uinp) at axiliary contacts Maximum back-up fuse, and the circuit breaker fulfils all requirements for AC-3 switching category. Rated insulation voltage (Uinp) at axiliary contacts Maximum back-up fuse, and the circuit breaker fulfils all requirements for AC-3 switching category. Rated insulation voltage (Uinp) at axixiti and voltage (Uin	Amperage Rating	50 A
Fitted with: Image: Contract of the circuit breaker (Rated short-circuit breaker) (Rated short-circuit breaker	Release system	Thermomagnetic release
Technical Data - ElectricalMathematical StreamVoltage rating40 V - 440 VRated insulation voltage (Uin)600 VRated impulse withstand voltage (Uimp) at auxiliary contacts6000 VRated impulse withstand voltage (Uimp) at main contacts6000 VRated operational current11 A (400 V AC-3)Instantaneous current setting (Ii) - max700 AOverload current setting (Ir) - min600 NInstantaneous current setting (Ii) - max600 NOverload current setting (Ir) - min600 NInstantaneous current setting (Ii) - max600 NInstantaneous curr	Special reatures	location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity Icn) Rated current = rated uninterrupted current: 50 A Terminal capacity hint: Up to 95 mm ² can be connected depending on the cable manufacturer. With phase-failure sensitivity Tripping class 10 A IEC/EN 60947-4-1, IEC/EN 60947-2
Voltage rating440 V - 440 VRated insulation voltage (Ui)600 VRated impulse withstand voltage (Uimp) at auxiliary contacts6000 VRated impulse withstand voltage (Uimp) at main contacts6000 VRated operational current6000 VInstantaneous current setting (Ii) - min41 A (400 V AC-3)Instantaneous current setting (Ii) - max700 AOverload current setting (Ir) - min40 A	Fitted with:	Thermal protection
Rated insulation voltage (Ui)600 VRated impulse withstand voltage (Uimp) at auxiliary contacts6000 VRated impulse withstand voltage (Uimp) at main contacts6000 VRated operational current41 A (400 V AC-3)Instantaneous current setting (Ii) - minx600 VOverload current setting (Ir) - min600 VInstantaneous current setting (Ir) - min600 V <tr< td=""><td>Technical Data - Electrical</td><td></td></tr<>	Technical Data - Electrical	
Rated impulse withstand voltage (Uimp) at auxiliary contacts 6000 V Rated impulse withstand voltage (Uimp) at main contacts 6000 V Rated operational current 41 A (400 V AC-3) Instantaneous current setting (Ii) - min 600 A Instantaneous current setting (Ii) - max 600 C Overload current setting (Ir) - min 600 A	Voltage rating	440 V - 440 V
Rated impulse withstand voltage (Uimp) at main contacts 6000 V Rated operational current 41 A (400 V AC-3) Instantaneous current setting (Ii) - min 400 A Instantaneous current setting (Ii) - max 700 A Overload current setting (Ir) - min 400 A	Rated insulation voltage (Ui)	690 V
Rated operational current41 A (400 V AC-3)Instantaneous current setting (li) - min400 AInstantaneous current setting (li) - max700 AOverload current setting (lr) - min40 A	Rated impulse withstand voltage (Uimp) at auxiliary contacts	6000 V
Instantaneous current setting (li) - min400 AInstantaneous current setting (li) - max700 AOverload current setting (lr) - min40 A	Rated impulse withstand voltage (Uimp) at main contacts	6000 V
Instantaneous current setting (li) - max 700 A Overload current setting (lr) - min 40 A	Rated operational current	41 A (400 V AC-3)
Overload current setting (Ir) - min 40 A	Instantaneous current setting (li) - min	400 A
	Instantaneous current setting (li) - max	700 A
Overload current setting (Ir) - max 50 A	Overload current setting (Ir) - min	40 A
	Overload current setting (Ir) - max	50 A
Short-circuit release non-delayed setting - min 400 A	Short-circuit release non-delayed setting - min	400 A
Short-circuit release non-delayed setting - max 700 A	Short-circuit release non-delayed setting - max	700 A
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz 30 kA	Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz	30 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz	Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz	18.5 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz 18.5 kA	Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz	18.5 kA
Rated short-circuit making capacity Icm at 240 V, 50/60 Hz 63 kA	Rated short-circuit making capacity Icm at 240 V, 50/60 Hz	63 kA
Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz 53 kA	Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz	53 kA
Rated short-circuit making capacity Icm at 440 V, 50/60 Hz 53 kA	Rated short-circuit making capacity Icm at 440 V, 50/60 Hz	53 kA
Rated operating power at AC-3, 230 V 15 kW	Rated operating power at AC-3, 230 V	15 kW
Rated operating power at AC-3, 400 V 22 kW	Rated operating power at AC-3, 400 V	22 kW

Short-circuit total breaktime	< 10 ms
Electrical connection type of main circuit	Other
Isolation	300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts)
Number of operations per hour - max	120
Handle type	Rocker lever
Utilization category	A (IEC/EN 60947-2)
Overvoltage category	
Pollution degree	3
Lifespan, electrical	7500 operations at 415 V AC-1 7500 operations at 400 V AC-1
Direction of incoming supply	As required
Fechnical Data - Mechanical	
Mounting Method	Built-in device fixed built-in technique Fixed
Degree of protection	IP20 (basic degree of protection, in the operating controls area) IP20
Degree of protection (IP), front side	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
Degree of protection (terminations)	IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal)
Protection against direct contact	Finger and back-of-hand proof to VDE 0106 part 100
Shock resistance	20 g (half-sinusoidal shock 20 ms)
Switch off technique Climatic proofing	Thermomagnetic Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Special features	Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity lcn) Rated current = rated uninterrupted current: 50 A Terminal capacity hint: Up to 95 mm ² can be connected depending on the cable manufacturer. With phase-failure sensitivity Tripping class 10 A IEC/EN 60947-4-1, IEC/EN 60947-2 The circuit-breaker fulfills all requirements for AC-3 switching category.
Lifespan, mechanical	20000 operations
Technical Data - Mechanical - Terminals	
Standard terminals	Box terminal
Optional terminals	Connection on rear. Screw terminal. Tunnel terminal
Terminal capacity (control cable)	0.75 mm² - 1.5 mm² (2x) 0.75 mm² - 2.5 mm² (1x)
Terminal capacity (aluminum solid conductor/cable)	16 mm² (1x) at tunnel terminal 10 mm² - 16 mm² (2x) direct at switch rear-side connection 10 mm² - 16 mm² (1x) direct at switch rear-side connection
Terminal capacity (aluminum stranded conductor/cable)	25 mm² - 35 mm² (1x) direct at switch rear-side connection 25 mm² - 35 mm² (2x) direct at switch rear-side connection 25 mm² - 95 mm² (1x) at tunnel terminal
Terminal capacity (copper busbar)	Min. 12 mm x 5 mm direct at switch rear-side connection Max. 16 mm x 5 mm direct at switch rear-side connection M6 at rear-side screw connection
Terminal capacity (copper solid conductor/cable)	10 mm ² - 16 mm ² (1x) direct at switch rear-side connection 6 mm ² - 16 mm ² (2x) direct at switch rear-side connection 10 mm ² - 16 mm ² (1x) at box terminal 16 mm ² (1x) at tunnel terminal 6 mm ² - 16 mm ² (2x) at box terminal
Terminal capacity (copper stranded conductor/cable)	10 mm ² - 70 mm ² (1x) at box terminal 25 mm ² (2x) direct at switch rear-side connection 10 mm ² - 70 mm ² (1x) direct at switch rear-side connection 25 mm ² - 95 mm ² (1x) at 1-hole tunnel terminal 6 mm ² - 25 mm ² (2x) at box terminal
Terminal capacity (copper strip)	Max. 9 segments of 9 mm x 0.8 mm at box terminal Min. 2 segments of 9 mm x 0.8 mm at box terminal
Design verification as per IEC/EN 61439 - technical data	
Rated operational current for specified heat dissipation (In)	50 A
Equipment heat dissipation, current-dependent	14.1 W
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	70 °C

Ambient storage temperature - min	40 °C
Ambient storage temperature - max	70 °C
Design verification as per IEC/EN 61439	
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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.
Additional information	
Functions	Motor protection Phase failure sensitive

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)

Electric engineering, automation, process control engineering / Low-voltage switch [AGZ529021])	i technology / Circuit br	eaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss13-27-37-04-01			
Overload release current setting	А	40 - 50			
Adjustment range undelayed short-circuit release	А	400 - 700			
With thermal overload protection		Yes			
Phase failure sensitive		Yes			
Switch off technique		Thermomagnetic			
Rated operating voltage	V	440 - 440			
Rated permanent current lu	А	50			
Rated operation power at AC-3, 230 V	kW	15			
Rated operation power at AC-3, 400 V	kW	22			
Power loss	W	14.1			
Type of electrical connection of main circuit		Other			
Type of control element		Rocker lever			
Device construction		Built-in device fixed built-in technique			
With integrated auxiliary switch		No			
With integrated under voltage release		No			
Number of poles		3			
Rated short-circuit breaking capacity Icu at 400 V, AC	kA	18.5			
Degree of protection (IP)		IP20			
Height	mm	145			
Width	mm	90			
Depth	mm	88			