DATASHEET - NZMN2-ME200-NA

Circuit-breaker, 3p, 200A, motor protection

Part no. **NZMN2-ME200-NA**
118966

Powering Business Worldwide™

General specifications

Product name	Eaton Moeller series NZM molded case circuit breaker electronic
Part no.	NZMN2-ME200-NA
EAN	4015081170937
Product Length/Depth	149 millimetre
Product height	195 millimetre
Product width	105 millimetre
Product weight	2.557 kilogram
Compliances	RoHS conform
Certifications	CSA-C22.2 No. 5-09 CSA (Class No. 1432-01) CE marking UL (Category Control Number DIVQ) CSA (File No. 22086) IEC UL (File No. E31593) IEC/EN 60947 UL508 UL 489 UL/CSA CSA certified UL listed IEC 60947-2 Specially designed for North America
Product Tradename	NZM
Product Type	Molded case circuit breaker
Product Sub Type	Electronic

Delivery program

Application	Branch circuits, feeder circuits Use in unearthed supply systems at 690 V
Type	Circuit breaker
Circuit breaker frame type	NZM2
Number of poles	Three-pole
Amperage Rating	200 A
Release system	Electronic 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 Icn) Rated current = rated uninterrupted current: 200 A Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. 100% rated For use in motor circuits with contactor. Additional motor protective characteristics (calibration) to UL508, CSA-C22.2 No. 14-05. Adjustable overload releases Ir adjustable time delay setting to overcome current peaks tr: 2 – 20 s at 6 x Ir
Fitted with:	Thermal protection

Technical Data - Electrical

Voltage rating	690 V - 690 V
Rated operating voltage Ue (UL) - max	480 V
Rated insulation voltage (Ui)	1000 V
Rated impulse withstand voltage (Uimp) at auxiliary contacts	6000 V
Rated impulse withstand voltage (Uimp) at main contacts	8000 V
Rated operational current	200 A (690 V AC-1, making and breaking capacity) 300 A (415 V AC-1, making and breaking capacity) 300 A (400 V AC-1, making and breaking capacity) 200 A (660-690 V AC-3, making and breaking capacity)
Rated short-time withstand current (t = 0.3 s)	1.9 kA
Rated short-time withstand current (t = 1 s)	1.9 kA

Instantaneous current setting (Ii) - min	200 A
Instantaneous current setting (Ii) - max	2800 A
Overload current setting (Ir) - min	100 A
Overload current setting (Ir) - max	200 A
Short-circuit release non-delayed setting - min	400 A
Short-circuit release non-delayed setting - max	2800 A
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz	85 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz	35 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz	35 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz	25 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz	5 kA
Rated short-circuit making capacity Icm at 240 V, 50/60 Hz	187 kA
Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz	105 kA
Rated short-circuit making capacity Icm at 440 V, 50/60 Hz	74 kA
Rated short-circuit making capacity Icm at 525 V, 50/60 Hz	53 kA
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	40 kA
Motor power at 460/480 V (UL)	150 HP
Rated operating power at AC-3, 230 V	55 kW
Rated operating power at AC-3, 400 V	110 kW
Short-circuit total breaktime	< 10 ms
Low-voltage HBC fuse - max	355 A gG/gL
Electrical connection type of main circuit	Screw connection
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	III
Pollution degree	3
Lifespan, electrical	10000 operations at 400 V AC-1 7500 operations at 690 V AC-1 6500 operations at 400 V AC-3 5000 operations at 690 V AC-3 6500 operations at 415 V AC-3
Direction of incoming supply	As required

Technical Data - Mechanical

Mounting Method	Built-in device fixed built-in technique Fixed
Degree of protection	IP20 IP20 (basic degree of protection, in the operating controls area)
Degree of protection (IP), front side	IP66 (with door coupling rotary handle) IP40 (with insulating surround)
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	Electronic
Climatic proofing	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 Icn) Rated current = rated uninterrupted current: 200 A Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. 100% rated For use in motor circuits with contactor. Additional motor protective characteristics (calibration) to UL508, CSA-C22.2 No. 14-05. Adjustable overload releases Ir adjustable time delay setting to overcome current peaks tr: 2 – 20 s at 6 x Ir
Lifespan, mechanical	20000 operations

Technical Data - Mechanical - Terminals

Standard terminals	Screw terminal

Terminal capacity (control cable)			16 mm^2 - 18 mm^2 (2x) 14 mm^2 - 18 mm^2 (1x)
Terminal capacity (aluminum solid conductor/cable)			16 mm^2 (1x) at tunnel terminal
Terminal capacity (copper busbar)			M8 at rear-side screw connection Min. 16 mm x 5 mm direct at switch rear-side connection Max. 20 mm x 5 mm direct at switch rear-side connection
Terminal capacity (copper solid conductor/cable)			6 mm^2 - 12 mm^2 (1x) at box terminal 16 mm^2 (1x) at tunnel terminal 6 mm^2 - 11 mm^2 (1x) direct at switch rear-side connection
Terminal capacity (copper stranded conductor/cable)			4 mm^2 - 350 mm^2 (1x) at tunnel terminal 4 mm^2 - 3/0 mm^2 (1x) direct at switch rear-side connection 4 mm^2 - 350 mm^2 (1x) at box terminal
Terminal capacity (copper strip)			Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched) Max. 10 segments of 16 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)			200 A
Equipment heat dissipation, current-dependent			33 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 Current limiting circuit breaker

Technical data ETIM 9.0

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

Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss13-27-37-04-01 [AGZ529021])

Overload release current setting		A	100 - 200
Adjustment range undelayed short-circuit release		A	200 - 2800
With thermal overload protection			Yes
Phase failure sensitive			Yes

Switch off technique			Electronic
Rated operating voltage		V	690 - 690
Rated permanent current Iu		A	200
Rated operation power at AC-3, 230 V		kW	55
Rated operation power at AC-3, 400 V		kW	110
Power loss		W	33
Type of electrical connection of main circuit			Screw connection
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	35
Degree of protection (IP)			IP20
Height		mm	195
Width		mm	105
Depth		mm	149