DATASHEET - NS2-200-NA

Molded Case Switch, 3p, 200A

Part no.	**NS2-200-NA**
	102685
EL Number (Norway)	**4315509**

Powering Business Worldwide™

General specifications

Product name	Eaton Moeller series NZM molded case switch
Part no.	NS2-200-NA
EAN	4015081025459
Product Length/Depth	142 millimetre
Product height	185 millimetre
Product width	105 millimetre
Product weight	2.423 kilogram
Compliances	RoHS conform
Certifications	CSA (Class No. 4652-06) UL/CSA UL (Category Control Number WJAZ) Specially designed for North America CSA certified UL listed IEC 60947-2 UL (File No. E148671) CSA-C22.2 No. 5-09 CE marking CSA (File No. 22086) UL 489 IEC
Product Tradename	NZM
Product Type	Molded case switch
Product Sub Type	None

Delivery program

Application	Branch circuits, feeder circuits
Type	Switch-disconnector
Circuit breaker frame type	N2
Number of poles	Three-pole
Amperage Rating	200 A
Features	Motor drive optional Protection unit
Special features	IEC/EN 60947-2: circuit breakers without overcurrent (CBI-X) with main switch characteristics and isolating characteristics to IEC/EN 60204. Rated current = rated uninterrupted current: 200 A

Technical Data - Electrical

Voltage rating	690 V - 690 V
Rated operating voltage Ue (UL) - max	600 Y / 347 V
Rated insulation voltage (Ui)	1000 V AC
Rated impulse withstand voltage (Uimp) at auxiliary contacts	6000 V
Rated impulse withstand voltage (Uimp) at main contacts	8000 V
Current rating (Iu) (UL 489 csa 22.2 no. 5.1)	250 A
Rated current (Iu)	250 A
Instantaneous current setting (Ii) - min	2500 A
Instantaneous current setting (Ii) - max	2500 A
Overload current setting (Ir) - min	0 A
Overload current setting (Ir) - max	0 A
Short delay current setting (Isd) - min	0 A
Short delay current setting (Isd) - max	0 A
Short-circuit release non-delayed setting - min	2500 A
Short-circuit release non-delayed setting - max	2500 A
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz	150 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz	150 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz	130 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz	37.5 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	330 kA
Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz	330 kA
Rated short-circuit making capacity Icm at 440 V, 50/60 Hz	286 kA
Rated short-circuit making capacity Icm at 525 V, 50/60 Hz	105 kA
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	53 kA
Short-circuit total breaktime	< 10 ms
Electrical connection type of main circuit	Screw connection
Number of operations per hour - max	120
Handle type	Rocker lever
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	10000 operations at 400 V AC-1 6500 operations at 400 V AC-3 10000 operations at 415 V AC-1 6500 operations at 415 V AC-3 5000 operations at 690 V AC-3 7500 operations at 690 V AC-1
Direction of incoming supply	As required

Technical Data - Mechanical

Mounting Method	Built-in device fixed built-in technique DIN rail (top hat rail) mounting optional Fixed
Degree of protection	IP20 In the area of the HMI devices: IP20 (basic protection type)
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 band terminal) IP10 (tunnel terminal)
Number of auxiliary contacts (change-over contacts)	0
Number of auxiliary contacts (normally closed contacts)	0
Number of auxiliary contacts (normally open contacts)	0
Position of connection for main current circuit	Front side
Switch positions	I, +, 0
Special features	IEC/EN 60947-2: circuit breakers without overcurrent (CBI-X) with main switch characteristics and isolating characteristics to IEC/EN 60204. Rated current = rated uninterrupted current: 200 A
Lifespan, mechanical	20000 operations

Technical Data - Mechanical - Terminals

Standard terminals	Screw terminal
Optional terminals	Box terminal. Connection on rear. Tunnel terminal
Terminal capacity (aluminum solid conductor/cable)	10 mm^2 - 16 mm^2 (2x) direct at switch rear-side connection 10 mm^2 - 16 mm^2 (1x) direct at switch rear-side connection 16 mm^2 (1x) at tunnel terminal
Terminal capacity (aluminum stranded conductor/cable)	25 mm^2 - 35 mm^2 (2x) direct at switch rear-side connection 25 mm^2 - 35 mm^2 (1x) direct at switch rear-side connection 25 mm^2 - 185 mm^2 (1x) at 1-hole tunnel terminal
Terminal capacity (copper busbar)	Max. 24 mm x 8 mm direct at switch rear-side connection NA: max. 20 mm x 5 mm direct at switch rear-side connection NA: min. 16 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection NA: M8 at rear-side screw connection Min. 16 mm x 5 mm direct at switch rear-side connection
Terminal capacity (copper solid conductor/cable)	10 mm^2 - 16 mm^2 (1x) at box terminal 4 mm^2 - 16 mm^2 (2x) direct at switch rear-side connection 16 mm^2 (1x) at tunnel terminal NA: 12 - 6 AWG (1x) direct at switch rear-side connection 10 mm^2 - 16 mm^2 (1x) direct at switch rear-side connection 6 mm^2 - 16 mm^2 (2x) at box terminal NA: 12 - 6 AWG (1x) at box terminal NA: 6 AWG (1x) at tunnel terminal
Terminal capacity (copper stranded conductor/cable)	25 mm^2 - 185 mm^2 (1x) at box terminal 25 mm^2 - 70 mm^2 (2x) at box terminal 25 mm^2 - 70 mm^2 (2x) direct at switch rear-side connection NA: 4 - 350 AWG/kcmil (1x) at 1-hole tunnel terminal NA: 4 - 350 AWG/kcmil (1x) at box terminal 25 mm^2 - 185 mm^2 (1x) at 1-hole tunnel terminal

			25 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection
Terminal capacity (copper strip)			Max. 8 segments of 15.5 mm x 0.8 mm (2x) at terminal box Max. 10 segments of 16 mm x 0.8 mm at box terminal Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched) NA: min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 9 mm x 0.8 mm at box terminal Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched) NA: max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched)
Design verification as per IEC/EN 61439 - technical data			
Rated operational current for specified heat dissipation (In)			200 A
Equipment heat dissipation, current-dependent			38.04 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			Disconnectors/main switches

Technical data ETIM 9.0

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@ss13-27-37-04-09 [AJZ716018])

Rated permanent current Iu	A	200
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	150
Overload release current setting	A	0 - 0
Adjustment range short-term delayed short-circuit release	A	0 - 0
Adjustment range undelayed short-circuit release	A	2500 - 2500
Power loss	W	30.7
Device construction		Built-in device fixed built-in technique
Integrated earth fault protection		No
Type of electrical connection of main circuit		Screw connection
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	Yes
Degree of protection (IP)	IP20