

Specifications



Photo is representative

Eaton 142268

Eaton Moeller series NZM - Molded Case Circuit Breaker. Switch-disconnector 4p 500A 1000VDC

General specifications

PRODUCT NAME	Eaton Moeller series NZM switch-disconnector
CATALOG NUMBER	142268
MODEL CODE	N3-4-500-S1-DC
EAN	4015081389988
PRODUCT LENGTH/DEPTH	166 mm
PRODUCT HEIGHT	275 mm
PRODUCT WIDTH	185 mm
PRODUCT WEIGHT	7.3 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC

Additional information

FUNCTIONS

Voltage release optional
Interlockable
Photovoltaic applications
Disconnectors/main
switches

Delivery programme

AMPERAGE RATING 500 A

APPLICATION

- Open areas
- Utility buildings

CIRCUIT BREAKER FRAME TYPE N3

FEATURES

Version as maintenance-
/service switch
Motor drive optional
Version as emergency stop
installation
Remote operation with
shunt releases / remote
operator
Version as main switch

NUMBER OF POLES Four-pole

SPECIAL FEATURES

- IEC/EN 60947-3
- CCC China
Compulsory
Certificate
- Main switch
characteristics
including positive
drive to IEC/EN
60204 and VDE
0113.
- Isolating
characteristics to
IEC/EN 60947-3 and
VDE 0660.
- N switch-
disconnectors can
be combined with
NZM...-XU, NZM...-
XA shunt releases
and auxiliary
contacts as well as
with NZM...-XR...
remote operator.
- For DC switching,
all 4 contacts must
be connected in
series. Refer to the
information on
jumper kit
accessories.
- Supplied as
standard: Screw
connection
- box terminal
optional.
- When working with
ungrounded
systems (e.g., IT),

the installation must ensure that a double ground fault will be impossible.

- Switch can not be combined with plug-in/withdrawable units and/or connection on rear.
- N4-4-...-S15-DC feeder unit and outgoer from the bottom only.
- Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release
- Rated current = rated uninterrupted current: 500 A
- Values for rated uninterrupted current at 65 °C include jumpers.

TYPE

DC switch-disconnector

Design verification to IEC/EN 61439

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.
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	Does not apply, since the

Design verification to IEC/EN 61439 - technical data

AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	150 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	500 A

AGAINST ELECTRIC SHOCK	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.

Technical data - electrical

AMPERAGE RATING	500 A
CURRENT RATING (IU) AT 40°C WITH TERMINAL JUMPERS	500 A
CURRENT RATING (IU) AT 65°C WITH TERMINAL JUMPERS	500 A
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
HANDLE TYPE	Rocker lever
NUMBER OF OPERATIONS PER HOUR - MAX	60
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
RATED CONDITIONAL SHORT-CIRCUIT CURRENT WITH BACK-UP FUSE	15 kA at 1000 V 2 x 250 AgR
RATED INSULATION VOLTAGE (UI)	1250 V
RATED OPERATIONAL CURRENT	500 A (DC 22-A)
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	6.6 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	6.6 kA
SHORT-CIRCUIT PROTECTIVE DEVICE FUSES - MAX	2 x 250 A gR
UTILIZATION CATEGORY	DC-22 A
VOLTAGE RATING	1000 V - 1000 V

Technical data - mechanical

DEGREE OF PROTECTION	Other
DEGREE OF PROTECTION (IP), FRONT SIDE	IP20
HANDLE COLOR	Black
LIFESPAN, MECHANICAL	15000 operations
MOUNTING METHOD	Fixed Built-in device fixed built-in technique Distribution board installation Ground mounting Intermediate mounting
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
NUMBER OF SWITCHES	1
SPECIAL FEATURES	• IEC/EN 60947-3 • CCC China Compulsory Certificate • Main switch characteristics including positive drive to IEC/EN 60204 and VDE 0113. • Isolating characteristics to IEC/EN 60947-3 and VDE 0660. • N switch-disconnectors can be combined with NZM...-XU, NZM...-XA shunt releases and auxiliary contacts as well as with NZM...-XR... remote operator. • For DC switching, all 4 contacts must be connected in series. Refer to the information on jumper kit accessories. • Supplied as

standard: Screw connection

- box terminal optional.
- When working with ungrounded systems (e.g., IT), the installation must ensure that a double ground fault will be impossible.
- Switch can not be combined with plug-in/withdrawable units and/or connection on rear.
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SWITCH POSITIONS

I, +, 0

Technical data - mechanical - terminals

STANDARD TERMINALS	Screw terminal
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	25 mm ² - 185 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER BUSBAR)	Max. 30 mm x 10 mm + 30 mm x 5 mm direct at switch rear-side connection M10 at rear-side screw connection Max. 10 mm x 50 mm (2x) at rear-side width extension Min. 20 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	16 mm ² (2x) direct at switch rear-side connection 16 mm ² (2x) at box terminal 16 mm ² (1x) direct at switch rear-side connection
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	35 mm ² - 240 mm ² (1x) at box terminal 25 mm ² - 240 mm ² (1x) direct at switch rear-side connection 50 mm ² - 240 mm ² (1x) at 2-hole tunnel terminal 25 mm ² - 240 mm ² (2x) direct at switch rear-side connection 50 mm ² - 240 mm ² (2x) at 2-hole tunnel terminal 25 mm ² - 120 mm ² (2x) at box terminal 25 mm ² - 185 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER STRIP)	10 segments of 50 mm x 1 mm (2x) at rear-side width extension Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched) Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm Min. 6 segments of 16 mm

Resources

BROCHURES	eaton-digital-nzm-brochure-br013003en-en-us.pdf eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf
CATALOGUES	eaton-digital-nzm-catalog-ca013003en-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-switch-disconnector-declaration-of-conformity-eu250130en.pdf
DRAWINGS	eaton-circuit-breaker-switch-nzm-mccb-dimensions-016.eps eaton-circuit-breaker-nzm-mccb-dimensions-021.eps eaton-circuit-breaker-nzm-switch-disconnector-3d-drawing-002.eps eaton-circuit-breaker-terminals-nzm-switch-disconnector-3d-drawing-003.eps eaton-circuit-breaker-nzm-switch-disconnector-3d-drawing.eps eaton-circuit-breaker-terminals-nzm-switch-disconnector-3d-drawing-002.eps eaton-circuit-breaker-nzm-switch-disconnector-3d-drawing-003.eps eaton-circuit-breaker-terminals-nzm-switch-disconnector-3d-drawing.eps eaton-circuit-breaker-cable-nzm-mccb-3d-drawing-003.eps
ECAD MODEL	DA-CE-ETN.N3-4-500-S1-DC
INSTALLATION INSTRUCTIONS	eaton-circuit-breaker-n3-4-s1-15-dc-il01208012z.pdf
INSTALLATION VIDEOS	Introduction of the new digital circuit breaker NZM

x 0.8 mm at rear-side
connection (punched)
Max. 8 segments of 24
mm x 1 mm (2x) at box
terminal
Min. 6 segments of 16 mm
x 0.8 mm at box terminal

[The new digital NZM
Range](#)

MCAD MODEL

[eaton-molded-case-
switches-mcad-drawings-
nzm3-4p.dwg](#)

[DA-CS-nzm3_4p](#)

[DA-CD-nzm3_4p](#)

[eaton-molded-case-
switches-mcad-3d-models-
nzm3-4p.stp](#)

PEP ECO-PASSPORT

[eaton-switch-
disconnectors-pep-eato-
00199-v0101-en.pdf](#)

TECHNICAL DATA SHEETS

[eaton-nzm-technical-
information-sheet](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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