

Specifications



Photo is representative

Eaton 154940

Eaton Moeller series NZM - Molded Case Circuit Breaker. Switch-disconnector N 2, IEC, 4p, in=250A, screw, fixed mounted design

General specifications

PRODUCT NAME	Eaton Moeller series NZM switch-disconnector
CATALOG NUMBER	154940
MODEL CODE	N2-4-250-S1-DC
EAN	4015081516780
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	184 mm
PRODUCT WIDTH	140 mm
PRODUCT WEIGHT	3.5 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC

Additional information

FUNCTIONS

Interlockable
Disconnectors/main
switches
Photovoltaic applications
Voltage release optional

Delivery programme

AMPERAGE RATING 250 A

APPLICATION

- Open areas
- Utility buildings

CIRCUIT BREAKER FRAME TYPE N2

FEATURES

Version as main switch
Motor drive optional
Remote operation with
shunt releases / remote
operator
Version as emergency stop
installation
Version as maintenance-
/service 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: 250 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	66 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	250 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	250 A
CURRENT RATING (IU) AT 40°C WITH TERMINAL JUMPERS	250 A
CURRENT RATING (IU) AT 65°C WITH TERMINAL JUMPERS	200 A
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
HANDLE TYPE	Rocker lever
NUMBER OF OPERATIONS PER HOUR - MAX	120
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
RATED CONDITIONAL SHORT-CIRCUIT CURRENT WITH BACK-UP FUSE	15 kA at 1000 V
RATED INSULATION VOLTAGE (UI)	1250 V
RATED OPERATIONAL CURRENT	250 A (DC 22-A)
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	3.6 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	3.6 kA
SHORT-CIRCUIT PROTECTIVE DEVICE FUSES - MAX	200 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	20000 operations
MOUNTING METHOD	Ground mounting Distribution board installation Intermediate mounting Built-in device fixed built-in technique Fixed
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.
- N4-4-...-S15-DC feeder unit and outgoer from the bottom only.
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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)	Min. 16 mm x 5 mm direct at switch rear-side connection Max. 24 mm x 8 mm direct at switch rear-side connection M8 at rear-side screw connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	4 mm ² - 16 mm ² (1x) at box terminal 16 mm ² (1x) at tunnel terminal 4 mm ² - 16 mm ² (2x) direct at switch rear-side connection 4 mm ² - 16 mm ² (2x) at box terminal 10 mm ² - 16 mm ² (1x) direct at switch rear-side connection
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	25 mm ² - 70 mm ² (2x) at box terminal 25 mm ² - 185 mm ² (1x) at box terminal 25 mm ² - 185 mm ² (1x) at tunnel terminal 25 mm ² - 185 mm ² (1x) direct at switch rear-side connection 25 mm ² - 70 mm ² (2x) direct at switch rear-side connection
TERMINAL CAPACITY (COPPER STRIP)	Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched) Max. 10 segments of 16 mm x 0.8 mm at box terminal Max. 8 segments of 15.5 mm x 0.8 mm (2x) at box terminal Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched)

Resources

BROCHURES	eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf eaton-digital-nzm-brochure-br013003en-en-us.pdf
CATALOGUES	eaton-digital-nzm-catalog-ca013003en-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-switch-disconnector-declaration-of-conformity-eu250129en.pdf
DRAWINGS	eaton-circuit-breaker-nzm-mccb-dimensions-035.eps eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps eaton-circuit-breaker-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-terminals-nzm-switch-disconnector-3d-drawing.eps eaton-circuit-breaker-cable-nzm-mccb-3d-drawing-002.eps eaton-circuit-breaker-terminals-nzm-switch-disconnector-3d-drawing-003.eps eaton-circuit-breaker-nzm-switch-disconnector-3d-drawing-002.eps
INSTALLATION INSTRUCTIONS	eaton-circuit-breaker-n2-4-s1-15-dc-il01207001z.pdf
INSTALLATION VIDEOS	The new digital NZM Range Introduction of the new digital circuit breaker NZM
MCAD MODEL	DA-CD-nzm2_4p

	DA-CS-nzm2_4p
PEP ECO-PASSPORT	eaton-switch-disconnectors-pep-eato-00241-v0101-en.pdf
TECHNICAL DATA SHEETS	eaton-nzm-technical-information-sheet

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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