DATASHEET - N4-4-1100-S1-PV-NA

Molded Case Switch 4p 1100A 1000VDC UL

Part no. **N4-4-1100-S1-PV-NA**
179591

Powering Business Worldwide

General specifications

Product name	Eaton Moeller series NZM switch-disconnector
Part no.	N4-4-1100-S1-PV-NA
EAN	4015081746774
Product Length/Depth	401 millimetre
Product height	207 millimetre
Product width	280 millimetre
Product weight	22 kilogram
Compliances	RoHS conform
Certifications	CE UL 489B UL489B IEC 60947-3 UL (File No. E471671) CCC CE marking UL listed
Product Tradename	NZM
Product Type	Switch-disconnector
Product Sub Type	None

Delivery program

Application	Branch circuits, feeder circuits Open areas Utility buildings
Type	DC switch-disconnector Switch-disconnector
Circuit breaker frame type	N4
Number of poles	Four-pole
Amperage Rating	1100 A
Features	Version as main switch Optionally with XR remote operator. Can be optionally controlled remotely with XU/ XA shunt release. Version as maintenance-/service switch Version as emergency stop installation Motor drive optional
Special features	Max. 50 % trip by shunt/undervoltage release of mechanical life span Main switch characteristics including positive drive to IEC/EN 60204, 0113. Isolating characteristics to IEC/EN 60947-3, 0660. N switch-disconnectors can be combined with NZM...-XU, NZM...-XA shunt releases, auxiliary contacts and NZM...-XR... remote operator. For DC switching, all 4 contacts must be connected in series -see information on jumper kit accessories Operating with ungrounded systems (e.g., IT), the installation must prevent a double ground fault Switch can not be combined with plug-in/withdrawable units and/or connection on rea, neither with connection width extensions, module plates, or band terminals in UL489B applications N4-4-...-S15-DC feeder unit and outgoer from the bottom only. Suitable for 100%-rated application with enclosure minimum WxHxD of 1200 x 600 x 275 mm Does not provide any overcurrent protection. Rated current = rated uninterrupted current: 1100 A include jumpers at 65 °C

Technical Data - Electrical

Voltage rating	1000 V - 1000 V
Rated operating voltage (Ue) at AC - max	0 V
Rated operating voltage Ue (UL) - max	1000 V DC
Rated insulation voltage (Ui)	1250 V
Current rating (Iu) at 40°C with terminal jumpers	1100 A
Current rating (Iu) at 65°C with terminal jumpers	1100 A
Rated conditional short-circuit current (Iq)	0 kA
Rated operational current	1100 A (DC 22-A)
Rated permanent current at AC-21, 400 V	0 A
Rated permanent current at AC-23, 400 V	0 A
Rated short-time withstand current (Icw)	34 kA
Rated short-time withstand current (t = 0.1 s)	34 kA

Rated operating power at AC-3, 400 V	0 kW
Rated operating power at AC-23, 400 V	0 kW
Switching power at 400 V	0 kW
Electrical connection type of main circuit	Screw connection
Number of operations per hour - max	60
Handle type	Rocker lever
Utilization category	DC-22 A
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	500 operations

Technical Data - Mechanical

Mounting Method	Fixed Ground mounting Distribution board installation Built-in device fixed built-in technique Intermediate mounting
Degree of protection	IP20
Degree of protection (IP), front side	IP20
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
Handle color	Black
Switch positions	I, +, 0
Special features	Max. 50 % trip by shunt/undervoltage release of mechanical life span Main switch characteristics including positive drive to IEC/EN 60204, 0113. Isolating characteristics to IEC/EN 60947-3, 0660. N switch-disconnectors can be combined with NZM...-XU, NZM...-XA shunt releases, auxiliary contacts and NZM...-XR... remote operator. For DC switching, all 4 contacts must be connected in series -see information on jumper kit accessories Operating with ungrounded systems (e.g., IT), the installation must prevent a double ground fault Switch can not be combined with plug-in/withdrawable units and/or connection on rea, neither with connection width extensions, module plates, or band terminals in UL489B applications N4-4-...-S15-DC feeder unit and outgoer from the bottom only. Suitable for 100%-rated application with enclosure minimum WxHxD of 1200 x 600 x 275 mm Does not provide any overcurrent protection. Rated current = rated uninterrupted current: 1100 A include jumpers at 65 °C
Lifespan, mechanical	10000 operations

Technical Data - Mechanical - Terminals

Standard terminals	Screw connection,Optional:Tunnel terminal,Rear-side connection,Strip connection
Terminal capacity (aluminum stranded conductor/cable)	NA: aluminum conductor not applicable 70 mm^2 - 240 mm^2 (6x) at rear-side width extension 240 mm^2 (2x) at rear-side width extension 50 mm^2 (4x) at rear-side 2-hole module plate Max. 70 mm^2 - 185 mm^2 (2x) at rear-side 1-hole module plate Min. 185 mm^2 - 240 mm^2 (1x) at rear-side 1-hole module plate
Terminal capacity (copper busbar)	NA: same as for IEC Max. 80 mm x 10 mm (2x) at rear-side width extension Min. 60 mm x 10 mm at rear-side width extension 50 mm x 10 mm (2x) at rear-side 2-hole module plate Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate Min. 25 mm x 5 mm at rear-side 1-hole module plate Max. 50 mm x 10 mm (2x) direct at switch rear-side connection Min. 25 mm x 5 mm direct at switch rear-side connection M10 at rear-side screw connection
Terminal capacity (copper stranded conductor/cable)	NA: AWG 3/0 - kcmil 500 (6x) at rear-side width extension NA: kcmil 600 mm^2 (4x) at rear-side width extension NA: AWG 0- kcmil 500 (4x) at 4-hole tunnel terminal NA: max. AWG 2 - kcmil 350 (4x) at rear-side 2-hole module plate NA: min. AWG 3/0 - kcmil 350 (2x) at rear-side 2-hole module plate NA: max. AWG 3/0 - kcmil 600 (2x) at rear-side 1-hole module plate NA: min. kcmil 250 - kcmil 600 (1x) at rear-side 1-hole module plate NA: AWG 0 - kcmil 350 (4x) direct at switch rear-side connection NA: kcmil 250 - kcmil 350 (1x) direct at switch rear-side connection 95 mm^2 - 240 mm^2 (6x) at rear-side width extension 300 mm^2 (4x) at rear-side width extension 50 mm^2 - 240 mm^2 (4x) at 4-hole tunnel terminal Max. 35 mm^2 - 185 mm^2 (4x) at rear-side 2-hole module plate Min. 95 mm^2 - 185 mm^2 (2x) at rear-side 2-hole module plate Max. 95 mm^2 - 300 mm^2 (2x) at rear-side 1-hole module plate Min. 120 mm^2 - 300 mm^2 (1x) at rear-side 1-hole module plate 50 mm^2 - 185 mm^2 (4x) direct at switch rear-side connection 126 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection
Terminal capacity (copper strip)	NA: same as for IEC 10 segments of 80 mm x 1 mm (2x) at rear-side width extension

			Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) Min. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal
Design verification as per IEC/EN 61439 - technical data			
Rated operational current for specified heat dissipation (In)			1100 A
Equipment heat dissipation, current-dependent			213 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			Voltage release optional Interlockable Disconnectors/main switches Photovoltaic applications

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Switch disconnector (low voltage) (EC000216)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss13-27-37-14-03 [AKF060018])

Version as main switch			Yes
Version as maintenance-/service switch			Yes
Version as safety switch			No
Version as emergency stop installation			Yes
Version as reversing switch			No
Number of switches			1
Max. rated operation voltage Ue AC		V	0
Rated operating voltage		V	1000 - 1000
Rated permanent current Iu		A	1100
Rated permanent current at AC-23, 400 V		A	0
Rated permanent current at AC-21, 400 V		A	0
Rated operation power at AC-3, 400 V		kW	0

Rated short-time withstand current Icw		kA	34
Rated operation power at AC-23, 400 V		kW	0
Switching power at 400 V		kW	0
Conditioned rated short-circuit current Iq		kA	0
Number of poles			4
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
Motor drive optional			Yes
Motor drive integrated			No
Voltage release optional			Yes
Device construction			Built-in device fixed built-in technique
Suitable for floor mounting			Yes
Suitable for front mounting 4-hole			No
Suitable for front mounting centre			No
Suitable for distribution board installation			Yes
Suitable for intermediate mounting			Yes
Colour control element			Black
Type of control element			Rocker lever
Interlockable			Yes
Type of electrical connection of main circuit			Screw connection
With pre-assembled cabling			No
Degree of protection (IP), front side			IP20
Degree of protection (NEMA)			Other
Width		mm	280
Height		mm	207
Depth		mm	401
Width in number of modular spacings			

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