DATASHEET - N3-4-550-S15-DC

Switch-disconnector, 4p, 550A, 1500 V DC

Part no. **N3-4-550-S15-DC**
168568

General specifications	
Product name	Eaton Moeller series NZM switch-disconnector
Part no.	N3-4-550-S15-DC
EAN	4015081650545
Product Length/Depth	166 millimetre
Product height	275 millimetre
Product width	185 millimetre
Product weight	7.3 kilogram
Compliances	RoHS conform
Certifications	IEC
Product Tradename	NZM
Product Type	Switch-disconnector
Product Sub Type	None
Delivery program	
Application	Open areas Utility buildings
Type	DC switch-disconnector Switch-disconnector
Circuit breaker frame type	N3
Number of poles	Four-pole
Amperage Rating	550 A
Features	Motor drive optional Remote operation with shunt releases / remote operator Version as maintenance-/service switch Version as emergency stop installation Version as main switch
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, in addition, 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. Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release Rated current = rated uninterrupted current: 550 A Values for rated uninterrupted current at 65 °C include jumpers.
Technical Data - Electrical	
Voltage rating	1500 V - 1500 V
Rated operating voltage (Ue) at AC - max	0 V
Rated insulation voltage (Ui)	1500 V
Current rating (Iu) at 40°C with terminal jumpers	550 A
Current rating (Iu) at 65°C with terminal jumpers	550 A
Rated conditional short-circuit current (Iq)	0 kA
Rated operational current	550 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)	6.6 kA
Rated short-time withstand current (t = 1 s)	6.6 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	2

Technical Data - Mechanical

Mounting Method	Fixed Built-in device fixed built-in technique Intermediate mounting Distribution board installation Ground 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	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, in addition, 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. Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release Rated current = rated uninterrupted current: 550 A Values for rated uninterrupted current at 65 °C include jumpers.
Lifespan, mechanical	15000 operations

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)	M10 at rear-side screw connection Min. 20 mm x 5 mm direct at switch rear-side connection Max. 10 mm x 50 mm (2x) at rear-side width extension Max. 30 mm x 10 mm + 30 mm x 5 mm direct at switch rear-side connection
Terminal capacity (copper solid conductor/cable)	16 mm^2 (1x) direct at switch rear-side connection 16 mm^2 (2x) direct at switch rear-side connection 16 mm^2 (2x) at box terminal
Terminal capacity (copper stranded conductor/cable)	25 mm^2 - 240 mm^2 (2x) direct at switch rear-side connection 35 mm^2 - 240 mm^2 (1x) at box terminal 25 mm^2 - 185 mm^2 (1x) at tunnel terminal 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 - 240 mm^2 (1x) direct at switch rear-side connection 50 mm^2 - 240 mm^2 (1x) at 2-hole tunnel terminal
Terminal capacity (copper strip)	Max. 8 segments of 24 mm x 1 mm (2x) at box terminal Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm Min. 6 segments of 16 mm x 0.8 mm at box terminal Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched) 10 segments of 50 mm x 1 mm (2x) at rear-side width extension Min. 6 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)	550 A
Equipment heat dissipation, current-dependent	182 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		Interlockable Voltage release optional 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	1500 - 1500
Rated permanent current Iu	A	
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	6.6
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	185
Height		mm	275
Depth		mm	166
Width in number of modular spacings			

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