DATASHEET - NZMS3-4-VE630-AVE

Circuit-breaker 4-pole 630A, selective protect, withdrawable unit

Part no. **NZMS3-4-VE630-AVE**
113563

Powering Business Worldwide™

Product name	Eaton Moeller series NZM molded case circuit breaker electronic
Part no.	NZMS3-4-VE630-AVE
EAN	4015081130887
Product Length/Depth	346 millimetre
Product height	260 millimetre
Product width	230 millimetre
Product weight	14 kilogram
Compliances	RoHS conform
Certifications	IEC/EN 60947 IEC
Product Tradename	NZM
Product Type	Molded case circuit breaker
Product Sub Type	Electronic
Application	690 V
Type	Circuit breaker
Circuit breaker frame type	NZM3
Accessories required	NZM3-4-XAVS
Number of poles	Four-pole
Amperage Rating	630 A
Release system	Electronic release
Features	Motor drive optional Protection unit
Special features	2) Up to 240 mm² can be connected depending on the cable manufacturer. Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity Icn) R.m.s. value measurement and “thermal memory” Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases) Adjustable delay time tsd i^2t constant function: switchable Rated current = rated uninterrupted current: 630 A
Voltage rating	690 V - 690 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 of neutral conductor	100% of phase conductor
Rated short-time withstand current (t = 0.3 s)	3.3 kA
Rated short-time withstand current (t = 1 s)	3.3 kA
Instantaneous current setting (Ii) - min	1260 A
Instantaneous current setting (Ii) - max	5040 A
Overload current setting (Ir) - min	315 A
Overload current setting (Ir) - max	630 A
Short delay current setting (Isd) - min	945 A
Short delay current setting (Isd) - max	4410 A
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz	100 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz	70 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz	65 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz	18 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz	6 kA
Rated short-circuit making capacity Icm at 240 V, 50/60 Hz	220 kA
Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz	154 kA

Rated short-circuit making capacity Icm at 440 V, 50/60 Hz	143 kA
Rated short-circuit making capacity Icm at 525 V, 50/60 Hz	80 kA
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	50 kA
Short-circuit total breaktime	< 10 ms
Electrical connection type of main circuit	Screw connection
Isolation	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
Number of operations per hour - max	60
Handle type	Rocker lever
Utilization category	A (IEC/EN 60947-2)
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	2000 operations at 400 V AC-3 5000 operations at 400 V AC-1 2000 operations at 415 V AC-1 1000 operations at 690 V AC-3 2000 operations at 415 V AC-3 3000 operations at 690 V AC-1
Direction of incoming supply	As required
Mounting Method	Built-in device slide-in technique (withdrawable) Withdrawable
Degree of protection	IP20 (basic degree of protection, in the operating controls area) IP20
Degree of protection (IP), front side	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
Degree of protection (terminations)	IP10 (tunnel terminal) IP00 (terminations, phase isolator and strip terminal)
Protection against direct contact	Finger and back-of-hand proof to VDE 0106 part 100
Shock resistance	20 g (half-sinusoidal shock 20 ms)
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	Back side
Climatic proofing	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
Special features	2) Up to 240 mm^2 can be connected depending on the cable manufacturer. Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity Icn) R.m.s. value measurement and “thermal memory” Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases) Adjustable delay time tsd i^2t constant function: switchable Rated current = rated uninterrupted current: 630 A
Lifespan, mechanical	15000 operations
Standard terminals	Screw connection
Optional terminals	Box terminal. Connection on rear. Tunnel terminal
Terminal capacity (control cable)	0.75 mm^2 - 1.5 mm^2 (2x) 0.75 mm^2 - 2.5 mm^2 (1x)
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 50 mm^2 - 240 mm^2 (2x) at 2-hole tunnel terminal 50 mm^2 - 240 mm^2 (1x) at 2-hole tunnel terminal
Terminal capacity (copper busbar)	Min. 20 mm x 5 mm direct at switch rear-side connection Max. 30 mm x 10 mm + 30 mm x 5 mm direct at switch rear-side connection Max. 10 mm x 50 mm (2x) at rear-side width extension M10 at rear-side screw connection
Terminal capacity (copper solid conductor/cable)	16 mm^2 (2x) at box terminal 16 mm^2 (1x) at tunnel terminal 16 mm^2 (1x) direct at switch rear-side connection 16 mm^2 (2x) direct at switch rear-side connection 300 mm^2 (2x) at rear-side width extension
Terminal capacity (copper stranded conductor/cable)	16 mm^2 - 185 mm^2 (1x) at 1-hole tunnel terminal 25 mm^2 - 240 mm^2 (1x) direct at switch rear-side connection 35 mm^2 - 240 mm^2 (1x) at box terminal 25 mm^2 - 240 mm^2 (2x) direct at switch rear-side connection 25 mm^2 - 120 mm^2 (2x) at box 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 at box terminal

	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 box terminal Min. 6 segments of 16 mm x 0.8 mm at rear-side connection (punched) Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched)
Rated operational current for specified heat dissipation (In)	630 A
Equipment heat dissipation, current-dependent	178.61 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
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.
Functions	Systems, cable, selectivity and generator protection