DATASHEET - NZMH3-AE630-S1

Circuit-breaker, 3p, 630A, 1000 V

Part no. NZMH3-AE630-S1
119363

EL Number (Norway) 4363152

Powering Business Worldwide™

General specifications

Product name	Eaton Moeller series NZM molded case circuit breaker electronic
Part no.	NZMH3-AE630-S1
EAN	4015081174997
Product Length/Depth	166 millimetre
Product height	275 millimetre
Product width	140 millimetre
Product weight	6.34 kilogram
Compliances	RoHS conform
Certifications	IEC
Product Tradename	NZM
Product Type	Molded case circuit breaker
Product Sub Type	Electronic

Delivery program

Type	Circuit breaker
Circuit breaker frame type	NZM3
Number of poles	Three-pole
Amperage Rating	630 A
Release system	Electronic release
Features	Motor drive optional Protection unit
Special features	Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release R.m.s. value measurement and “thermal memory” NZM...S1 terminal type: NZM...XKSA cover required Rated current = rated uninterrupted current: 630 A Terminal capacity hint: Up to 240 mm^2 can be connected depending on the cable manufacturer.

Technical Data - Electrical

Voltage rating	1000 V - 1000 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
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	0 A
Short delay current setting (Isd) - max	0 A
Short-circuit release non-delayed setting - min	1260 A
Short-circuit release non-delayed setting - max	5040 A
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz	150 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz	150 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz	130 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz	33 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz	9 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 1000 V, 50/60 Hz	10 kA
Rated short-circuit making capacity Icm at 240 V, 50/60 Hz	330 kA
Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz	330 kA

Rated short-circuit making capacity Icm at 440 V, 50/60 Hz	286 kA
Rated short-circuit making capacity Icm at 525 V, 50/60 Hz	143 kA
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	74 kA
Rated short-circuit making capacity Icm at 1000 V, 50/60 Hz	17 kA
Electrical connection type of main circuit	Screw connection
Number of operations per hour - max	60
Handle type	Rocker lever
Utilization category	A
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	1000 operations at 1000 V AC-1

Technical Data - Mechanical

Mounting Method	Built-in device fixed built-in technique Fixed
Degree of protection	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
Position of connection for main current circuit	Front side
Special features	Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release R.m.s. value measurement and “thermal memory” NZM...S1 terminal type: NZM...XKSA cover required Rated current = rated uninterrupted current: 630 A Terminal capacity hint: Up to 240 mm^2 can be connected depending on the cable manufacturer.
Lifespan, mechanical	15000 operations

Technical Data - Mechanical - Terminals

Standard terminals	Screw terminal
Terminal capacity (control cable)	0.75 mm^2 - 2.5 mm^2 (1x) 0.75 mm^2 - 1.5 mm^2 (2x)
Terminal capacity (aluminum solid conductor/cable)	16 mm^2 (1x) at tunnel terminal
Terminal capacity (aluminum stranded conductor/cable)	50 mm^2 - 240 mm^2 (1x) at 2-hole tunnel terminal 50 mm^2 - 240 mm^2 (2x) at 2-hole tunnel terminal 25 mm^2 - 185 mm^2 (1x) at 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)	10 mm^2 - 16 mm^2 (2x) direct at switch rear-side connection 16 mm^2 (1x) direct at switch rear-side connection 16 mm^2 (2x) at box terminal
Terminal capacity (copper stranded conductor/cable)	35 mm^2 - 240 mm^2 (1x) at box terminal 25 mm^2 - 120 mm^2 (2x) direct at switch rear-side connection 25 mm^2 - 120 mm^2 (2x) at box terminal 25 mm^2 - 185 mm^2 (1x) at tunnel terminal 25 mm^2 - 120 mm^2 (1x) direct at switch rear-side connection
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) Min. 6 segments of 16 mm x 0.8 mm at box terminal Max. 8 segments of 24 mm x 1 mm (2x) 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

Design verification as per IEC/EN 61439 - technical data

Rated operational current for specified heat dissipation (In)	630 A
Equipment heat dissipation, current-dependent	119.07 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			System and cable protection

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss13-27-37-04-09 [AJZ716018])		
Rated permanent current Iu	A	630
Rated voltage	V	1000 - 1000
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	150
Overload release current setting	A	315 - 630
Adjustment range short-term delayed short-circuit release	A	0 - 0
Adjustment range undelayed short-circuit release	A	1260 - 5040
Power loss	W	
Device construction		Built-in device fixed built-in technique
Integrated earth fault protection		No
Type of electrical connection of main circuit		Screw connection
Suitable for DIN rail (top hat rail) mounting		No
DIN rail (top hat rail) mounting optional		No
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
With switched-off indicator		No
With integrated under voltage release		No
Number of poles		3
Position of connection for main current circuit		Front side
Type of control element		Rocker lever
Complete device with protection unit		Yes
Motor drive integrated		No
Motor drive optional		Yes
Degree of protection (IP)		IP20