Circuit-breaker, 3p, 80A 1000V

Part no. NZMH2-A80-S1

290361

EL Number 4359037

(Norway)



(Norway) General specifications	
	Faton Moollar carios N7M molded agas sirguit breaker therms manager
Product name	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
Part no.	NZMH2-A80-S1
EAN	4015082903619
Product Length/Depth	149 millimetre
Product height	184 millimetre
Product width	105 millimetre
Product weight	2.345 kilogram
Compliances	RoHS conform
Certifications	IEC
Product Tradename	NZM
Product Type	Molded case circuit breaker
Product Sub Type	Thermo-magnetic
Delivery program	
Туре	Circuit breaker
Circuit breaker frame type	NZM2
Number of poles	Three-pole
Amperage Rating	80 A
Release system	Thermomagnetic release
Features	Motor drive optional Protection unit
Special features	Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release NZMS1 terminal type: NZMXKSA cover required Rated current = rated uninterrupted current: 80 A Terminal capacity hint: Up to 240 mm² 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)	1.9 kA
Rated short-time withstand current (t = 1 s)	1.9 kA
Instantaneous current setting (li) - min	480 A
Instantaneous current setting (li) - max	800 A
Overload current setting (Ir) - min	63 A
Overload current setting (Ir) - max	80 A
Short delay current setting (Isd) - min	0 A
Short delay current setting (Isd) - max	0 A
Short-circuit release non-delayed setting - min	480 A
Short-circuit release non-delayed setting - max	800 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	37.5 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz	5 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 1000 V, 50/60 Hz	3 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	105 kA
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	40 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	120
Handle type	Rocker lever
Utilization category	A
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	3000 operations at 1000 V AC-1
Technical Data - Mechanical	
Mounting Method	Fixed DIN rail (top hat rail) mounting optional Built-in device fixed built-in technique
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 NZMS1 terminal type: NZMXKSA cover required Rated current = rated uninterrupted current: 80 A Terminal capacity hint: Up to 240 mm² can be connected depending on the cable manufacturer.
Lifespan, mechanical	20000 operations
Technical Data - Mechanical - Terminals	
Standard terminals	Screw 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 mm² (1x) at tunnel terminal
Terminal capacity (aluminum stranded conductor/cable)	25 mm ² - 185 mm ² (1x) at tunnel terminal
Terminal capacity (copper busbar)	Max. 24 mm x 8 mm direct at switch rear-side connection Min. 16 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection
Terminal capacity (copper solid conductor/cable)	$6~\text{mm}^2$ - $16~\text{mm}^2$ (2x) at box terminal $10~\text{mm}^2$ - $16~\text{mm}^2$ (1x) direct at switch rear-side connection $10~\text{mm}^2$ - $16~\text{mm}^2$ (1x) at box terminal $10~\text{mm}^2$ - $16~\text{mm}^2$ (2x) direct at switch rear-side connection $16~\text{mm}^2$ (1x) at tunnel terminal
Terminal capacity (copper stranded conductor/cable)	25 mm² - 70 mm² (2x) at box terminal 25 mm² - 185 mm² (1x) at box terminal 25 mm² - 185 mm² (1x) at tunnel terminal 25 mm² - 50 mm² (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. 8 segments of 24 mm x 1 mm (2x) at box terminal Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched) Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched) Max. 10 segments of 16 mm x 0.8 mm at box terminal
Design verification as per IEC/EN 61439 - technical data	
Rated operational current for specified heat dissipation (In)	80 A
Equipment heat dissipation, current-dependent	20.54 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 voltage Rated voltage Rated short-circuit breaking capacity lcu at 400 V, 50 Hz A	protection (eci@ss13-27-37-04-09 [AJZ/16018])		
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz KA 150 Overload release current setting A 63 - 80 Adjustment range short-term delayed short-circuit release A 0 - 0 Adjustment range undelayed short-circuit release A 80 - 800 Power loss W 20.5 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 Number of auxiliary contacts as normally closed contact 9 Number of auxiliary contacts as normally open contact 9 With switched-off indicator 9 With switched-off indicator 9 With integrated under voltage release 9 Number of poles 3 Position of connection for main current circuit 7 Type of control element 8 Complete device with protection unit 9 Motor drive integrated 9 Motor drive optional 9	Rated permanent current lu	Α	80
Overload release current setting A 63 - 80 Adjustment range short-term delayed short-circuit release A 0 - 0 Adjustment range undelayed short-circuit release A 480 - 800 Power loss W 20.5 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 Number of auxiliary contacts as normally closed contact Ves Number of auxiliary contacts as normally open 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 integrated No	Rated voltage	V	1000 - 1000
Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release Built-in device fixed built-in technique Adjustment range undelayed short-circuit release Adjustment release Adjustment release Adjustment release under underelia built-in technique Andource fixed built-in te	Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	150
Adjustment range undelayed short-circuit release A 480 - 800 Power loss Device construction Integrated earth fault protection Type of electrical connection of main circuit Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact With switched-off indicator With integrated under voltage release Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive integrated Motor drive optional	Overload release current setting	Α	63 - 80
Power loss Device construction Integrated earth fault protection Type of electrical connection of main circuit Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact Number of paukiliary contacts as normally open contact Number of control element Number of poles No	Adjustment range short-term delayed short-circuit release	Α	0 - 0
Device construction Integrated earth fault protection Type of electrical connection of main circuit Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact Number of poles Number of poles Number of poles Number of connection for main current circuit Type of control element Complete device with protection unit Number of device integrated Motor drive integrated Motor drive optional	Adjustment range undelayed short-circuit release	Α	480 - 800
Integrated earth fault protection Type of electrical connection of main circuit Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact No	Power loss	W	20.5
Type of electrical connection of main circuit Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact No With switched-off indicator No No With integrated under voltage release No No No No No No No No No N	Device construction		Built-in device fixed built-in technique
Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of pidicator No No No Number of pides No No No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Notor drive integrated No	Integrated earth fault protection		No
DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact No With switched-off indicator With integrated under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional Yes Yes No No No No No No No No No N	Type of electrical connection of main circuit		Screw connection
Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact No With switched-off indicator With integrated under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional O O O No No No Rocker lever No No Yes	Suitable for DIN rail (top hat rail) mounting		No
Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact No With switched-off indicator With integrated under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional O O O O O O O O O O O O O	DIN rail (top hat rail) mounting optional		Yes
Number of auxiliary contacts as change-over contact With switched-off indicator With integrated under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional O No No O O O O O O O O O O O O O	Number of auxiliary contacts as normally closed contact		0
With switched-off indicator With switched-off indicator With integrated under voltage release No Number of poles Societion of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional No No No No No No No Yes	Number of auxiliary contacts as normally open contact		0
With integrated under voltage release No Number of poles 3 Position of connection for main current circuit Type of control element Complete device with protection unit Wotor drive optional No	Number of auxiliary contacts as change-over contact		0
Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive optional 3 Front side Rocker lever Rocker lever Yes No Yes	With switched-off indicator		No
Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive optional Front side Rocker lever Yes No Yes	With integrated under voltage release		No
Type of control element Complete device with protection unit Motor drive optional Rocker lever Yes No Yes	Number of poles		3
Complete device with protection unit Yes Motor drive integrated Motor drive optional Yes Yes	Position of connection for main current circuit		Front side
Motor drive integrated No Motor drive optional Yes	Type of control element		Rocker lever
Motor drive optional Yes	Complete device with protection unit		Yes
·	Motor drive integrated		No
Degree of protection (IP) IP20	Motor drive optional		Yes
	Degree of protection (IP)		IP20