

**Circuit-breaker, 3p, 400A**

Part no. **NZMH3-AE400**
259117
EL Number **4358793**
(Norway)

General specifications

| | |
|----------------------|---|
| Product name | Eaton Moeller series NZM molded case circuit breaker electronic |
| Part no. | NZMH3-AE400 |
| EAN | 4015082591175 |
| Product Length/Depth | 166 millimetre |
| Product height | 275 millimetre |
| Product width | 140 millimetre |
| Product weight | 6.966 kilogram |
| Compliances | RoHS conform |
| Certifications | IEC/EN 60947 IEC |
| Product Tradename | NZM |
| Product Type | Molded case circuit breaker |
| Product Sub Type | Electronic |

Delivery program

| | |
|----------------------------|--|
| Application | Use in unearthed supply systems at 690 V |
| Type | Circuit breaker |
| Circuit breaker frame type | NZM3 |
| Connection | Screw |
| Number of poles | Three-pole |
| Amperage Rating | 400 A |
| Release system | Electronic release |
| Features | Motor drive optional Protection unit |
| Special features | 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" Rated current = rated uninterrupted current: 400 A Terminal capacity hint: Up to 240 mm ² can be connected depending on the cable manufacturer. |
| Used with | NZM1(-4), PN1(-4), N(S)1(-4), NZM2(-4), PN2(-4), N(S)2(-4), NZM3(-4), PN3(-4), N(S)3(-4), NZM4(-4), N(S)4(-4) |

Technical Data - Electrical

| | |
|---|---------------|
| 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 |
| 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 | 800 A |
| Instantaneous current setting (Ii) - max | 4400 A |
| Overload current setting (Ir) - min | 200 A |
| Overload current setting (Ir) - max | 400 A |
| Short delay current setting (Isd) - min | 0 A |
| Short delay current setting (Isd) - max | 0 A |
| Short-circuit release non-delayed setting - min | 800 A |
| Short-circuit release non-delayed setting - max | 4400 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 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 |
| 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 2000 operations at 415 V AC-3 2000 operations at 690 V AC-3 5000 operations at 400 V AC-1 3000 operations at 690 V AC-1 5000 operations at 415 V AC-1 |
| Direction of incoming supply | | | As required |
| Technical Data - Mechanical | | | |
| Mounting Method | | | Built-in device fixed built-in technique Fixed |
| Degree of protection | | | IP20 (basic degree of protection, in the operating controls area) IP20 |
| Degree of protection (IP), front side | | | IP66 (with door coupling rotary handle) IP40 (with insulating surround) |
| 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 DIN EN 50274/VDE 0106 part 110 |
| 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 | | | Front side |
| Climatic proofing | | | Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78 |
| Special features | | | 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” Rated current = rated uninterrupted current: 400 A Terminal capacity hint: Up to 240 mm² can be connected depending on the cable manufacturer. |
| Lifespan, mechanical | | | 15000 operations |
| Technical Data - Mechanical - Terminals | | | |
| Standard terminals | | | Screw terminal |
| Optional terminals | | | Box terminal. Connection on rear. Tunnel terminal |
| Terminal capacity (control cable) | | | 0.75 mm² - 2.5 mm² (1x) 0.75 mm² - 1.5 mm² (2x) |
| Terminal capacity (aluminum solid conductor/cable) | | | 10 mm² - 16 mm² (2x) direct at switch rear-side connection 16 mm² (1x) at tunnel terminal 16 mm² (1x) direct at switch rear-side connection |
| Terminal capacity (aluminum stranded conductor/cable) | | | 25 mm² - 120 mm² (1x) direct at switch rear-side connection 50 mm² - 240 mm² (2x) at 2-hole tunnel terminal 25 mm² - 120 mm² (2x) direct at switch rear-side connection 50 mm² - 240 mm² (1x) at 2-hole tunnel terminal 25 mm² - 185 mm² (1x) at tunnel terminal |
| Terminal capacity (copper busbar) | | | 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 Min. 20 mm x 5 mm direct at switch rear-side connection M10 at rear-side screw connection |
| Terminal capacity (copper solid conductor/cable) | | | 300 mm² (2x) at rear-side width extension 16 mm² (1x) at tunnel terminal |

| | | | |
|--|--|--|--|
| | | | 16 mm ² (2x) at box terminal 16 mm ² (1x) direct at switch rear-side connection 16 mm ² (2x) direct at switch rear-side connection |
| Terminal capacity (copper stranded conductor/cable) | | | 25 mm ² - 240 mm ² (2x) direct at switch rear-side connection 50 mm ² - 240 mm ² (2x) at 2-hole tunnel terminal 35 mm ² - 240 mm ² (1x) at box terminal 16 mm ² - 185 mm ² (1x) at 1-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 |
| Terminal capacity (copper strip) | | | Min. 6 segments of 16 mm x 0.8 mm at rear-side connection (punched) 10 segments of 50 mm x 1 mm (2x) at rear-side width extension 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) Max. 8 segments of 24 mm x 1 mm (2x) at box terminal Min. 6 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) | | | 400 A |
| Equipment heat dissipation, current-dependent | | | 48 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 | | 400 |
| Rated voltage | V | | 690 - 690 |
| Rated short-circuit breaking capacity Icu at 400 V, 50 Hz | kA | | 150 |
| Overload release current setting | A | | 200 - 400 |
| Adjustment range short-term delayed short-circuit release | A | | 0 - 0 |
| Adjustment range undelayed short-circuit release | A | | 800 - 4400 |

| | | | |
|---|--|---|--|
| 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 |