

NZM4 PXR20 circuit breaker, 1000A, 4p, Screw terminal, earth-fault protection



**Part no. NZMN4-4-VX1000-T
193321**

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| Product name | Eaton Moeller series NZM molded case circuit breaker electronic |
| Part no. | NZMN4-4-VX1000-T |
| EAN | 9010238016668 |
| Product Length/Depth | 375 millimetre |
| Product height | 170 millimetre |
| Product width | 280 millimetre |
| Product weight | 25.5 kilogram |
| Compliances | RoHS conform |
| Certifications | IEC IEC/EN 60947 |
| Product Tradename | NZM |
| Product Type | Molded case circuit breaker |
| Product Sub Type | Electronic |
| Globally Marketable | Yes |
| Application | Use in unearthed supply systems at 525 V |
| Type | Circuit breaker |
| Circuit breaker frame type | NZM4 |
| Number of poles | Four-pole |
| Amperage Rating | 1000 A |
| Release system | Electronic release |
| Features | Motor drive optional Protection unit |
| Special features | LSI overload protection and delayed and non-delayed short-circuit protective device R.m.s. value measurement and "thermal memory" USB interface for configuration and test function with Power Xpert Protection Manager software Optionally communication-capable with interface module and internal Modbus RTU module or CAM 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) Rated current = rated uninterrupted current: 1000 A |
| Voltage rating | 690 V - 690 V |
| Rated insulation voltage (Ui) | 690 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 | 200% of phase conductor |
| Rated short-time withstand current (t = 0.3 s) | 12 kA |
| Rated short-time withstand current (t = 1 s) | 12 kA |
| Earth-fault current setting (I _g) - min | 200 x I _n |
| Earth-fault current setting (I _g) - max | 1000 x I _n |
| Instantaneous current setting (I _i) - min | 2 A |
| Instantaneous current setting (I _i) - max | 18 A |
| Overload current setting (I _r) - min | 400 A |
| Overload current setting (I _r) - max | 1000 A |
| Short delay current setting (I _{sd}) - min | 2 A |
| Short delay current setting (I _{sd}) - max | 10 A |
| Short-circuit release delayed setting - min | 800 A |
| Short-circuit release delayed setting - max | 10000 A |
| Short-circuit release non-delayed setting - min | 2000 A |
| Short-circuit release non-delayed setting - max | 12000 A |

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| Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz | | 37 kA |
| Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz | | 37 kA |
| Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz | | 26 kA |
| Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz | | 19 kA |
| Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz | | 15 kA |
| Rated short-circuit making capacity Icm at 240 V, 50/60 Hz | | 105 kA |
| Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz | | 105 kA |
| Rated short-circuit making capacity Icm at 440 V, 50/60 Hz | | 74 kA |
| Rated short-circuit making capacity Icm at 525 V, 50/60 Hz | | 53 kA |
| Rated short-circuit making capacity Icm at 690 V, 50/60 Hz | | 40 kA |
| Short-circuit total breaktime | | < 25 ms (\leq 415 V); < 35 ms (> 415 V) |
| Electrical connection type of main circuit | | Screw connection |
| Isolation | | 300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts) |
| Number of operations per hour - max | | 60 |
| Handle type | | Rocker lever |
| Utilization category | | B (2000A: A, IEC/EN 60947-2) |
| Overvoltage category | | III |
| Pollution degree | | 3 |
| Lifespan, electrical | | 1000 operations at 690 V AC-3 2000 operations at 415 V AC-3 3000 operations at 415 V AC-1 3000 operations at 400 V AC-1 2000 operations at 400 V AC-3 2000 operations at 690 V AC-1 |
| Direction of incoming supply | | As required |
| Mounting Method | | Built-in device fixed built-in technique Fixed |
| Degree of protection | | IP20 IP20 (basic degree of protection, in the operating controls area) |
| Degree of protection (IP), front side | | IP66 (with door coupling rotary handle) IP40 (with insulating surround) |
| Degree of protection (terminations) | | IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal) |
| Protection against direct contact | | Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110 |
| Shock resistance | | 15 g (half-sinusoidal shock 11 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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30 |
| Special features | | LSI overload protection and delayed and non-delayed short-circuit protective device R.m.s. value measurement and "thermal memory" USB interface for configuration and test function with Power Xpert Protection Manager software Optionally communication-capable with interface module and internal Modbus RTU module or CAM 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) Rated current = rated uninterrupted current: 1000 A |
| Lifespan, mechanical | | 10000 operations |
| Standard terminals | | Screw terminal |
| Optional terminals | | Connection on rear. Strip terminal. Tunnel 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 stranded conductor/cable) | | 50 mm ² - 240 mm ² (4x) at 4-hole tunnel terminal |
| Terminal capacity (copper busbar) | | Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate Min. 60 mm x 10 mm at rear-side width extension 50 mm x 10 mm (2x) at rear-side 2-hole module plate Max. 50 mm x 10 mm (2x) direct at switch rear-side connection Min. 25 mm x 5 mm direct at switch rear-side connection M10 at rear-side screw connection Max. 80 mm x 10 mm (2x) at rear-side width extension Min. 25 mm x 5 mm at rear-side 1-hole module plate |

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| Terminal capacity (copper solid conductor/cable) | | 120 mm ² - 300 mm ² (1x) at rear-side 1-hole module plate 50 mm ² - 240 mm ² (4x) at 4-hole tunnel terminal 95 mm ² - 185 mm ² (2x) at rear-side 2-hole module plate 300 mm ² (4x) at rear-side width extension 95 mm ² - 240 mm ² (6x) at rear-side width extension 35 mm ² - 185 mm ² (4x) at rear-side 2-hole module plate 95 mm ² - 300 mm ² (2x) at rear-side 1-hole module plate |
| Terminal capacity (copper stranded conductor/cable) | | 50 mm ² - 185 mm ² (4x) direct at switch rear-side connection 120 mm ² - 185 mm ² (1x) direct at switch rear-side connection |
| Terminal capacity (copper strip) | | 10 segments of 80 mm x 1 mm (2x) at rear-side width extension Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) Min. 5 segments of 25 mm x 1 mm at rear-side connection (punched) 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal |
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| Rated operational current for specified heat dissipation (In) | | 1000 A |
| Equipment heat dissipation, current-dependent | | 165 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 |
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| 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. |
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| Functions | | Earth-fault protection Systems, cable, selectivity and generator protection Integrated earth fault protection |

Technical data ETIM 8.0

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| 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@ss10.0.1-27-37-04-09 [AJZ716013]) | | |
| Rated permanent current Iu | A | 1,000 |
| Rated voltage | V | 690 - 690 |
| Rated short-circuit breaking capacity Icu at 400 V, 50 Hz | kA | 37 |
| Overload release current setting | A | 400 - 1,000 |
| Adjustment range short-term delayed short-circuit release | A | 2 - 10 |
| Adjustment range undelayed short-circuit release | A | 2 - 18 |

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| Integrated earth fault protection | | | Yes |
| Type of electrical connection of main circuit | | | Screw connection |
| Device construction | | | Built-in device fixed built-in technique |
| 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 | | | 4 |
| 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 |