



NZM3 PXR20 circuit breaker, 250A, 3p, Screw terminal, UL/CSA

Part no. **NZMN3-VX250-NA**  
 Catalog No. **192502**

### Delivery program

|                     |  |  |                                                                                                                                |
|---------------------|--|--|--------------------------------------------------------------------------------------------------------------------------------|
| Product range       |  |  | Circuit-breaker                                                                                                                |
| Protective function |  |  | Systems, cable, selectivity and generator protection                                                                           |
| Standard/Approval   |  |  | UL/CSA, IEC                                                                                                                    |
| Release system      |  |  | Electronic release                                                                                                             |
| Installation type   |  |  | Fixed                                                                                                                          |
| Description         |  |  | Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. |
| Frame size          |  |  | NZM3                                                                                                                           |
| Number of poles     |  |  | 3 pole                                                                                                                         |
| Standard equipment  |  |  | Screw connection                                                                                                               |





### Switching capacity

|                       |          |    |    |
|-----------------------|----------|----|----|
| SCCR 480Y/277 V 60 Hz | $I_{cu}$ | kA | 42 |
| SCCR 480 V 60 Hz      | $I_{cu}$ | kA | 42 |
| SCCR 600Y/347 V 60 Hz | $I_{cu}$ | kA | 35 |
| SCCR 600 V 60 Hz      | $I_{cu}$ | kA | 35 |

### Rated current = rated uninterrupted current

|                                             |             |   |     |
|---------------------------------------------|-------------|---|-----|
| Rated current = rated uninterrupted current | $I_n = I_u$ | A | 250 |
|---------------------------------------------|-------------|---|-----|

### Setting range

|                                                                                     |                             |   |           |
|-------------------------------------------------------------------------------------|-----------------------------|---|-----------|
| Overload trip                                                                       |                             |   |           |
|  | $I_r$                       | A | 100 - 250 |
| Short-circuit releases                                                              |                             |   |           |
|  |                             |   |           |
| Non-delayed                                                                         | $I_i = I_n \times \dots$    |   | 2 - 18    |
|  |                             |   |           |
| Delayed                                                                             | $I_{sd} = I_r \times \dots$ |   | 2 - 10    |
|  |                             |   |           |

### Technical data

#### General

|                                   |  |    |                                                    |
|-----------------------------------|--|----|----------------------------------------------------|
| Protection against direct contact |  |    | Finger and back of hand proof to VDE 0106 Part 100 |
| Ambient temperature               |  |    |                                                    |
| Ambient temperature, storage      |  | °C | - 40 - + 70                                        |
| Operation                         |  | °C | -25 - +70                                          |

#### Circuit-breakers

|                          |       |   |     |
|--------------------------|-------|---|-----|
| Rated insulation voltage | $U_i$ | V | 690 |
|--------------------------|-------|---|-----|

#### Switching capacity

|                                                                     |          |    |    |
|---------------------------------------------------------------------|----------|----|----|
| <b>Technical data that diverge from products for the IEC market</b> |          |    |    |
| Switching capacity of NA switches (UL489, CSA 22.2 No. 5.1)         |          |    |    |
| Short-circuit current rating SCCR                                   |          |    |    |
| SCCR 240 V 60 Hz                                                    | $I_{cu}$ | kA | 85 |
| SCCR 480Y/277 V 60 Hz                                               | $I_{cu}$ | kA | 42 |
| SCCR 480 V 60 Hz                                                    | $I_{cu}$ | kA | 42 |

|                       |                 |    |    |
|-----------------------|-----------------|----|----|
| SCCR 600V/347 V 60 Hz | I <sub>cu</sub> | kA | 35 |
| SCCR 600 V 60 Hz      | I <sub>cu</sub> | kA | 35 |

### Terminal capacity

|                    |  |                  |
|--------------------|--|------------------|
| Standard equipment |  | Screw connection |
|--------------------|--|------------------|

## Design verification as per IEC/EN 61439

| Technical data for design verification                                                                                           |                  |    |       |
|----------------------------------------------------------------------------------------------------------------------------------|------------------|----|-------|
| Rated operational current for specified heat dissipation                                                                         | I <sub>n</sub>   | A  | 250   |
| Equipment heat dissipation, current-dependent                                                                                    | P <sub>vid</sub> | W  | 18.75 |
| Operating ambient temperature min.                                                                                               |                  | °C | -25   |
| Operating ambient temperature max.                                                                                               |                  | °C | 70    |
| IEC/EN 61439 design verification                                                                                                 |                  |    |       |
| 10.2 Strength of materials and parts                                                                                             |                  |    |       |
| 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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties                                                                                                       |                  |    |       |
| 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.                         |                  |    |       |

## Technical data ETIM 8.0

| 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@ss10.0.1-27-37-04-09 [AJZ716013]) |  |    |                                          |
| Rated permanent current I <sub>u</sub>                                                                                                                                                                                                      |  | A  | 250                                      |
| Rated voltage                                                                                                                                                                                                                               |  | V  | 690 - 690                                |
| Rated short-circuit breaking capacity I <sub>cu</sub> at 400 V, 50 Hz                                                                                                                                                                       |  | kA | 50                                       |
| Overload release current setting                                                                                                                                                                                                            |  | A  | 100 - 250                                |
| Adjustment range short-term delayed short-circuit release                                                                                                                                                                                   |  | A  | 500 - 2500                               |
| Adjustment range undelayed short-circuit release                                                                                                                                                                                            |  | A  | 2 - 18                                   |
| Integrated earth fault protection                                                                                                                                                                                                           |  |    | No                                       |
| 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                                     |  | 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         |

## Approvals

|                                      |  |                                                     |
|--------------------------------------|--|-----------------------------------------------------|
| Product Standards                    |  | UL 489; CSA-C22.2 No. 5-09; IEC 60947-2; CE marking |
| UL File No.                          |  | E31593                                              |
| UL Category Control No.              |  | DIVQ                                                |
| CSA File No.                         |  | 022086                                              |
| CSA Class No.                        |  | 1432-01                                             |
| North America Certification          |  | UL listed, CSA certified                            |
| Specially designed for North America |  | Yes                                                 |
| Suitable for                         |  | Feeder circuits, branch circuits                    |
| Current Limiting Circuit-Breaker     |  | Yes                                                 |
| Max. Voltage Rating                  |  | 600 V                                               |
| Degree of Protection                 |  | IEC: IP20; UL/CSA Type: -                           |

## Additional product information (links)

|                                                       |                                                                                                                                                       |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| additional technical information for NZM power switch | <a href="https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf">https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf</a> |
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