







Circuit-breaker, 3p, 350A, motor protection, 1000 V

Part no. **NZMH3-ME350-S1**
 Catalog No. **119365**

Delivery program

| | | | |
|---|--------------------------|----|---|
| Product range | | | Circuit-breaker |
| Protective function | | | Motor protection |
| | | |  |
| Standard/Approval | | | IEC |
| Installation type | | | Fixed |
| Release system | | | Electronic release |
| Construction size | | | NZM3 |
| Description | | | Phase-failure sensitivity IEC/EN 60947-4-1, IEC/EN 60947-2 R.m.s. value measurement and "thermal memory" adjustable time delay setting to overcome current peaks tr: 2 – 20 s at 6 x I _r also infinity (without overload releases) NZM...S1 terminal type: NZM...XKSA cover required NZM4...S1 terminal type: Insulated busbar connection (NZM4-XKS screw connection) |
| Number of poles | | | 3 pole |
| Standard equipment | | | Screw connection |
| Rated current = rated uninterrupted current | $I_n = I_u$ | A | 350 |
| Switching capacity | | | |
| 1000 V 50/60 Hz | I_{cu} | kA | 15 |
| Setting range | | | |
| Overload trip | | | |
|  | I_r | A | 175 - 350 |
| Short-circuit releases | | | |
|  | | | |
| Non-delayed | $I_i = I_r \times \dots$ | | 2 - 14 |
|  | | | |

Technical data

Circuit-breakers

| | | | |
|---|-------------|------|-------------|
| Rated surge voltage invariability | U_{imp} | | |
| Main contacts | | V | 8000 |
| Auxiliary contacts | | V | 6000 |
| Rated operational voltage | U_e | V AC | 1000 |
| Rated current = rated uninterrupted current | $I_n = I_u$ | A | 350 |
| Overvoltage category/pollution degree | | | III/3 |
| Rated insulation voltage | U_i | V | 1000 |
| Utilization category | | | A |
| Ambient temperature | | | |
| Ambient temperature, storage | | °C | - 40 - + 70 |
| Operation | | °C | -25 - +70 |

Rated short-circuit making capacity

| | | | |
|--------------------|----------|----|-----|
| 240 V 50/60 Hz | I_{cm} | kA | 330 |
| 400/415 V 50/60 Hz | I_{cm} | kA | 330 |
| 440 V 50/60 Hz | I_{cm} | kA | 286 |
| 525 V 50/60 Hz | I_{cm} | kA | 143 |
| 690 V 50/60 H | I_c | kA | 74 |
| 1000 V 50/60 Hz | I_{cm} | kA | 17 |

Rated short-circuit breaking capacity I_{cn}

| | | | | |
|--|--|----------|----|-----|
| Icu to IEC/EN 60947 test cycle O-t-CO | | I_{cu} | kA | |
| 240 V 50/60 Hz | | I_{cu} | kA | 150 |
| 400/415 V 50 Hz | | I_{cu} | kA | 150 |
| 440 V 50/60 Hz | | I_{cu} | kA | 130 |
| 525 V 50/60 Hz | | I_{cu} | kA | 65 |
| 690 V 50/60 Hz | | I_{cu} | kA | 35 |
| 1000 V 50/60 Hz | | I_{cu} | kA | 15 |
| Ics to IEC/EN 60947 test cycle O-t-CO-t-CO | | I_{cs} | kA | |
| 230 V 50/60 Hz | | I_{cs} | kA | 150 |
| 400/415 V 50/60 Hz | | I_{cs} | kA | 150 |
| 440 V 50/60 Hz | | I_{cs} | kA | 130 |
| 525 V 50/60 Hz | | I_{cs} | kA | 33 |
| 690 V 50/60 Hz | | I_{cs} | kA | 9 |
| 1000 V AC | | I_{cs} | kA | 10 |

Rated short-time withstand current

| | | | |
|---|------------|-------|-------|
| t = 0.3 s | I_{cw} | kA | 3.3 |
| t = 1 s | I_{cw} | kA | 3.3 |
| Lifespan, mechanical | Operations | | 15000 |
| Max. operating frequency | | Ops/h | 60 |
| Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release | | | |

Lifespan, electrical

| | | |
|-----------------|------------|------|
| 1000 V 50/60 Hz | Operations | 1000 |
|-----------------|------------|------|

Terminal capacity

| | | | |
|--|--|-----------------|---|
| Standard equipment | | | Screw connection |
| Round copper conductor | | | |
| Box terminal | | | |
| Solid | | mm ² | 2 x 16 |
| Stranded | | mm ² | 1 x (35 - 240) 2 x (25 - 120) |
| Tunnel terminal | | | |
| Stranded | | | |
| Stranded | | mm ² | 1 x (25 - 185) |
| Double hole | | mm ² | 1 x (50 - 240) 2 x (50 - 240) |
| Bolt terminal and rear-side connection | | | |
| Direct on the switch | | | |
| Solid | | mm ² | 1 x 16 2 x (10 - 16) |
| Stranded | | mm ² | 1 x (25 - 120) 2 x (25 - 120) |
| Al conductors, Cu cable | | | |
| Tunnel terminal | | | |
| Solid | | mm ² | 1 x 16 |
| Stranded | | | |
| Stranded | | mm ² | 1 x (25 - 185) ²⁾ |
| | | | ²⁾ Up to 240 mm ² can be connected depending on the cable manufacturer. |
| Double hole | | mm ² | 1 x (50 - 240) 2 x (50 - 240) |

| | | | |
|---|------|-----------------|---|
| Cu strip (number of segments x width x segment thickness) | | | |
| Box terminal | | | |
| | min. | mm | 6 x 16 x 0.8 |
| | max. | mm | 10 x 24 x 1.0 + 5 x 24 x 1.0 (2 x) 8 x 24 x 1.0 |
| Bolt terminal and rear-side connection | | | |
| Flat copper strip, with holes | min. | mm | 6 x 16 x 0.8 |
| Flat copper strip, with holes | max. | mm | 10 x 32 x 1.0 + 5 x 32 x 1.0 |
| Connection width extension | | mm | (2 x) 10 x 50 x 1.0 |
| Copper busbar (width x thickness) | | | |
| Bolt terminal and rear-side connection | | | |
| Screw connection | | | M10 |
| Direct on the switch | | | |
| | min. | mm | 20 x 5 |
| | max. | mm | 30 x 10 + 30 x 5 |
| Connection width extension | | mm | |
| Connection width extension | max. | mm | 2 x (10 x 50) |
| Control cables | | | |
| | | mm ² | 1 x (0.75 - 2.5) 2 x (0.75 - 1.5) |

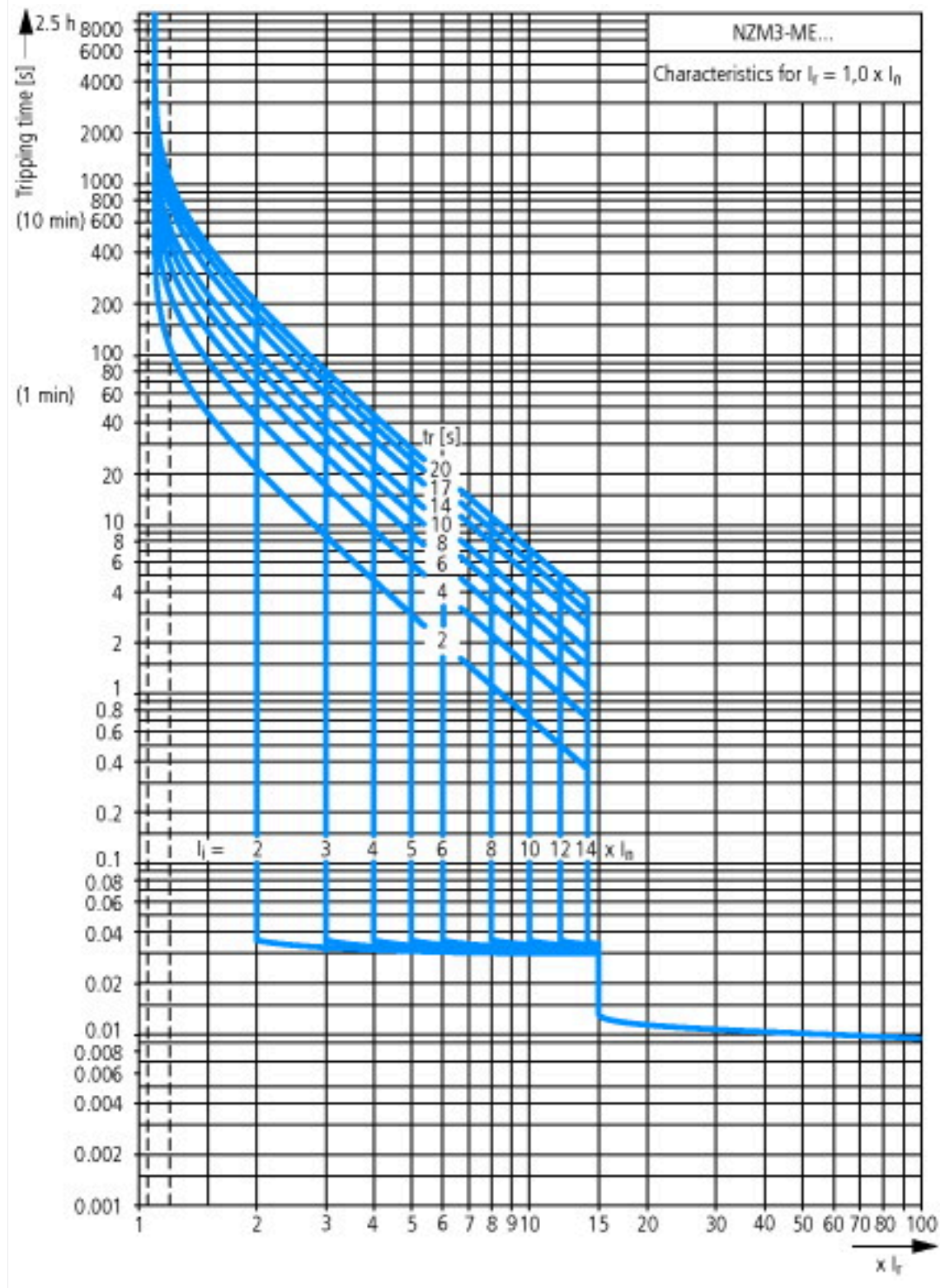
Design verification as per IEC/EN 61439

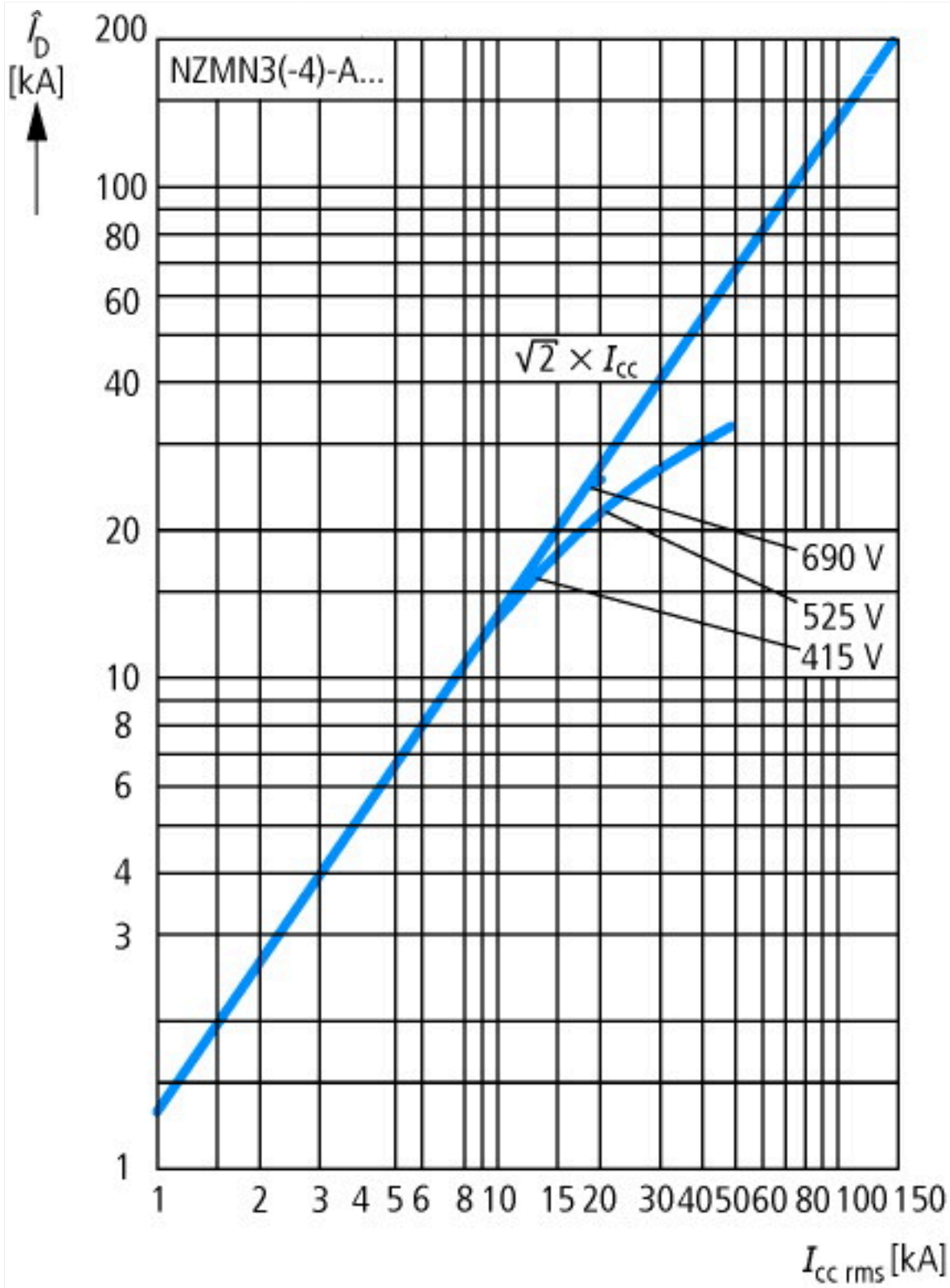
| | | | |
|--|------------------|----|--|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I _n | A | 350 |
| Equipment heat dissipation, current-dependent | P _{vid} | W | 36.75 |
| Operating ambient temperature min. | | °C | -25 |
| Operating 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 7.0

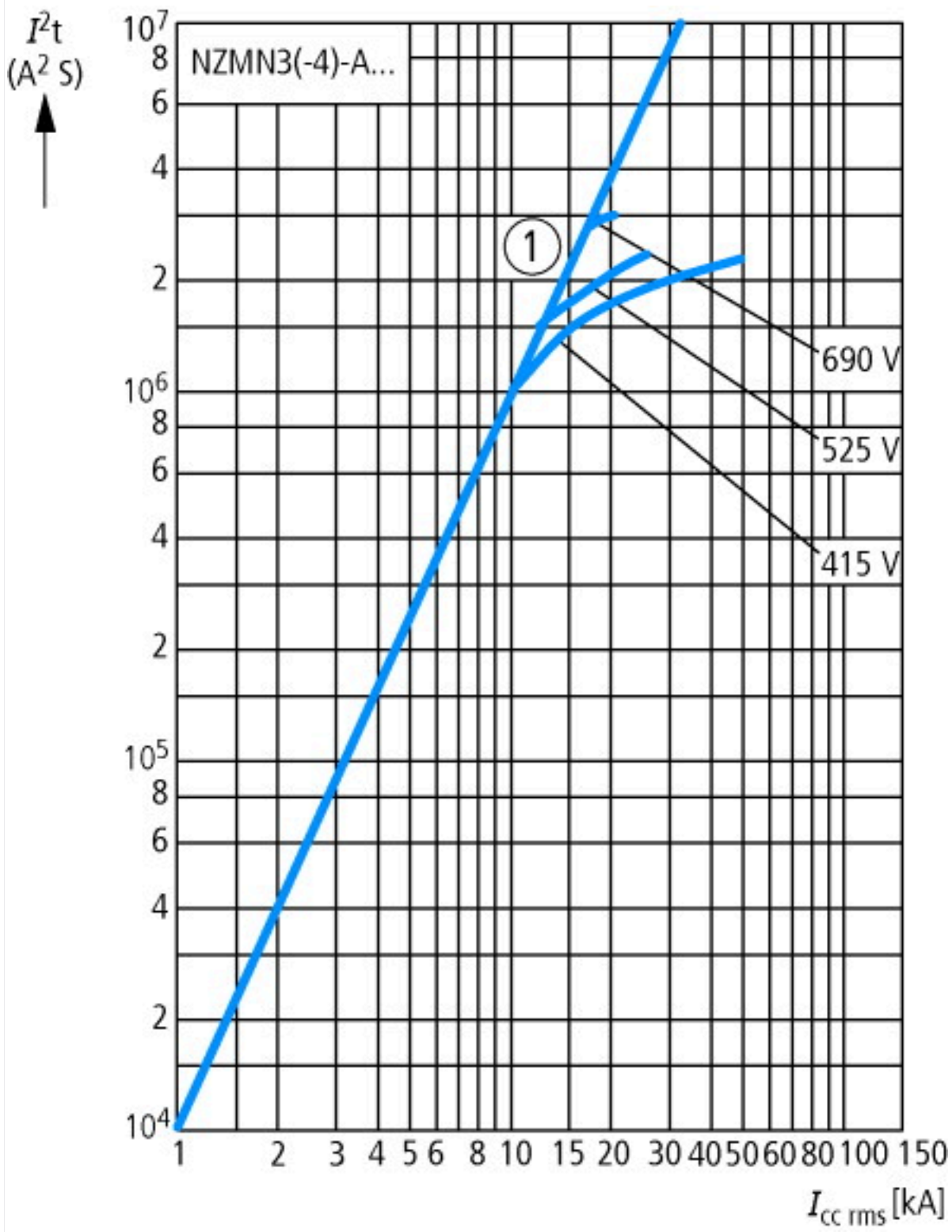
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|---|----|--|
| Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074) | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss10.0.1-27-37-04-01 [AGZ529016]) | | |
| Overload release current setting | A | 175 - 350 |
| Adjustment range undelayed short-circuit release | A | 350 - 4900 |
| With thermal protection | | Yes |
| Phase failure sensitive | | Yes |
| Switch off technique | | Electronic |
| Rated operating voltage | V | 1000 - 1000 |
| Rated permanent current I _u | A | 350 |
| Rated operation power at AC-3, 230 V | kW | 110 |
| Rated operation power at AC-3, 400 V | kW | 200 |
| Type of electrical connection of main circuit | | Screw connection |
| Type of control element | | Rocker lever |
| Device construction | | Built-in device fixed built-in technique |
| With integrated auxiliary switch | | No |
| With integrated under voltage release | | No |
| Number of poles | | 3 |
| Rated short-circuit breaking capacity I _{cu} at 400 V, AC | kA | 150 |
| Degree of protection (IP) | | IP20 |
| Height | mm | 275 |
| Width | mm | 140 |
| Depth | mm | 166 |

Characteristics



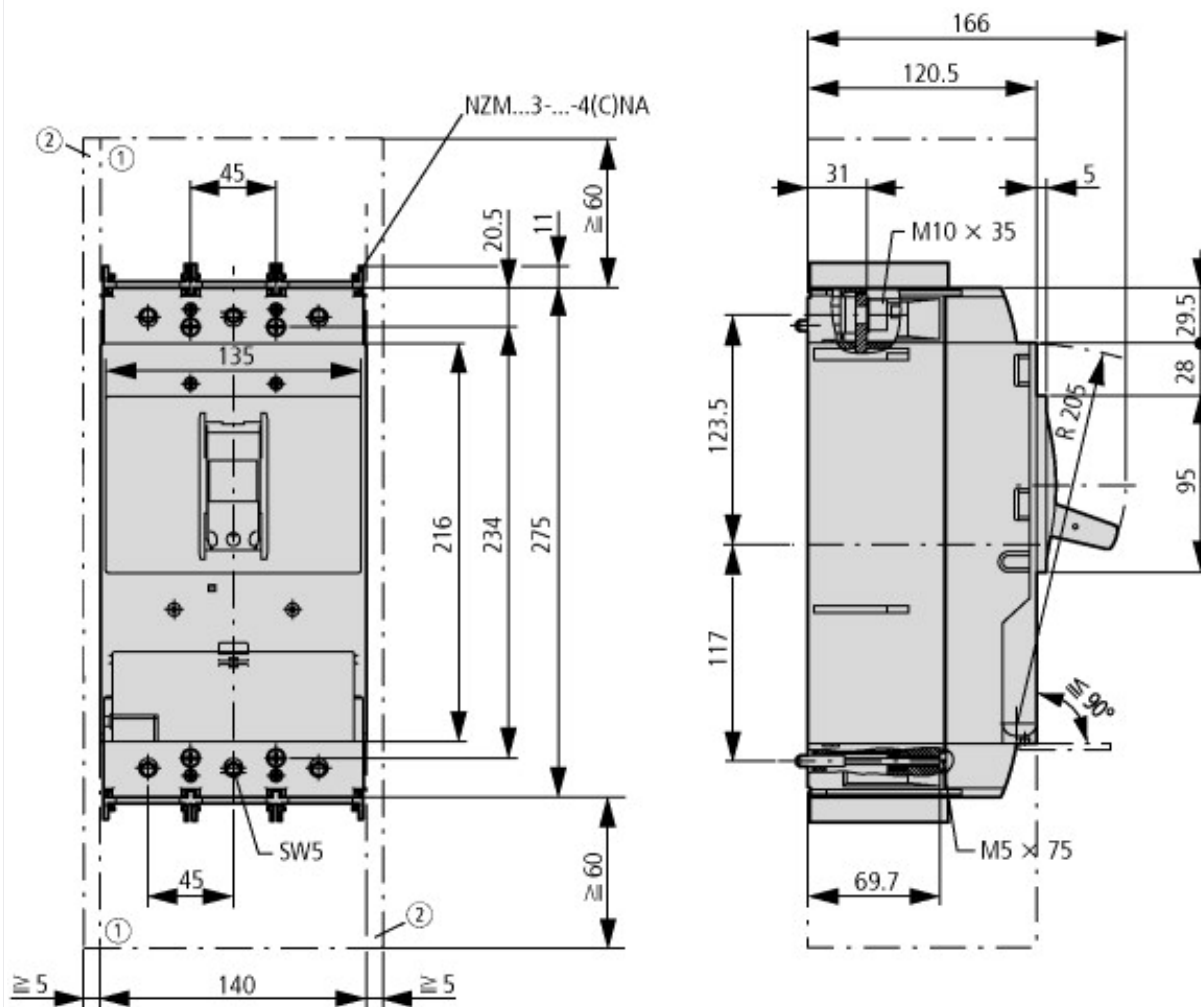


Let-through current

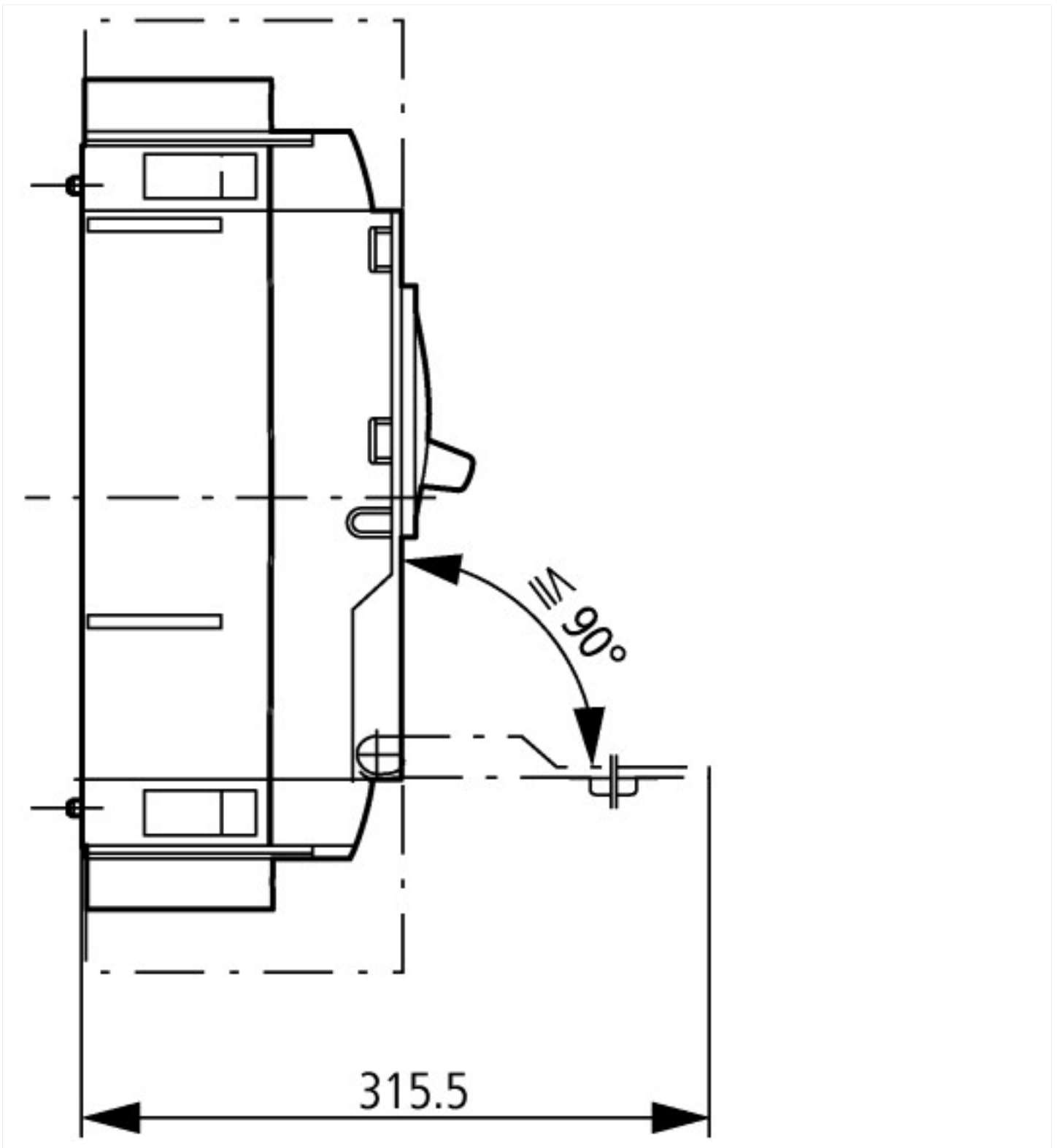


Let-through energy

Dimensions



- ① Blow out area, minimum clearance to adjacent parts
- ② Minimum clearance to adjacent parts



Additional product information (links)

IL01208009Z (AWA1230-1992) Circuit-Breaker, basic unit

| | |
|---|---|
| IL01208009Z (AWA1230-1992) Circuit-Breaker, basic unit | ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01208009Z2018_11.pdf |
| Weight | http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.171 |
| Temperature dependency, Derating | http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.172 |
| Effective power loss | http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.174 |
| Selectivity, Back Up Protection and Coordination Guide | http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_1198913.pdf |
| Setting-Specific Representation of Tripping Characteristics and Competent Assessment of their Interaction | http://www.moeller.net/binary/ver_techpapers/ver943en.pdf |
| Busbar Component Adapters for modern Industrial control panels | http://www.moeller.net/binary/ver_techpapers/ver960en.pdf |
| CurveSelect characteristics program | http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm |

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|---|---|
| Eaton configurator | http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/ConfiguratorCircuitBreaker/index.htm |
| additional technical information for NZM power switch | ftp://ftp.moeller.net/DOCUMENTATION/PDF/nzm_technic_de_en.pdf |