







**Circuit-breaker, 3p, 350A**

**Part no. NZMH3-ME350**  
**Catalog No. 265790**

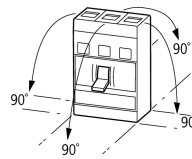
**EL-Nummer (Norway) 0004315571**

### Delivery program

|   |                          |    |  |   |
|---|--------------------------|----|--|---|
| Product range   |                          |    |  | Circuit-breaker   |
| Protective function   |                          |    |  | Motor protection  |
|   |                          |    |  |   |
| Standard/Approval   |                          |    |  | IEC   |
| Installation type   |                          |    |  | Fixed   |
| Release system  |                          |    |  | Electronic release  |
| Construction size   |                          |    |  | NZM3  |
| Description   |                          |    |  | IEC/EN 60947-4-1, IEC/EN 60947-2<br>The circuit-breaker fulfills all requirements for AC-3 switching category.<br>R.m.s. value measurement and "thermal memory"<br>Adjustable time delay setting to overcome current peaks $t_r$ at $6 \times I_r$ also infinity (without overload releases)<br>All AC-3 rating data applies to direct switching by the circuit-breaker under normal operating conditions. If, for example, a contactor takes over AC-3 switching under normal operating conditions, the full rated uninterrupted current applies to the circuit-breaker, $I_n = I_u$ . |
| Number of poles   |                          |    |  | 3 pole  |
| Standard equipment  |                          |    |  | Screw connection  |
| <b>Switching capacity</b>   |                          |    |  |   |
| 400/415 V 50 Hz   | $I_{cu}$                 | kA |  | 150   |
| Rated current = rated uninterrupted current   | $I_n = I_u$              | A  |  | 350   |
| <b>Setting range</b>  |                          |    |  |   |
| Overload trip   |                          |    |  |   |
|  | $I_r$                    | A  |  | 175 - 350   |
| Short-circuit releases  |                          |    |  |   |
|  |                          |    |  |   |
| Non-delayed   | $I_i = I_n \times \dots$ |    |  | 2 - 14  |
|  |                          |    |  |   |
| <b>Motor rating AC-3 50/60 Hz</b>   |                          |    |  |   |
| 380 V 400 V   | P                        | kW |  | 200   |
| 660 V 690 V   | P                        | kW |  | 315   |
| <b>Motor rating AC-3 50/60 Hz</b>   |                          |    |  |   |
| 400 V   | P                        | kW |  | 200   |
| 660 V 690 V   | P                        | kW |  | 315   |
| <b>Rated operational current AC-3 50/60 Hz</b>                                      |                          |    |  |   |
| 400 V   | $I_e$                    | A  |  | 349   |
| 690 V   |                          | A  |  | 316   |

### Technical data

|                |  |  |              |
|----------------|--|--|--------------|
| <b>General</b> |  |  |              |
| Standards      |  |  | IEC/EN 60947 |

|   |  |      |  |
|---|--|------|--|
| Protection against direct contact   |  |      | Finger and back of hand proof to VDE 0106 Part 100   |
| Climatic proofing   |  |      | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30   |
| Ambient temperature   |  |      |  |
| Ambient temperature, storage  |  | °C   | - 40 - + 70  |
| Operation   |  | °C   | -25 - +70  |
| Mechanical shock resistance (10 ms half-sinusoidal shock) according to IEC 60068-2-27 |  | g    | 20 (half-sinusoidal shock 20 ms)   |
| Safe isolation to EN 61140  |  |      |  |
| Between auxiliary contacts and main contacts  |  | V AC | 500  |
| between the auxiliary contacts  |  | V AC | 300  |
| Weight  |  | kg   | 6.34   |
| Mounting position   |  |      | Vertical and 90° in all directions<br><br>With XFI earth-fault release:<br>- NZM1, N1, NZM2, N2: vertical and 90° in all directions with plug-in unit<br>- NZM1, N1, NZM2, N2: vertical, 90° right/left with withdrawable unit:<br>- NZM3, N3: vertical, 90° right/left<br>- NZM4, N4: vertical with remote operator:<br>- NZM2, N(S)2, NZM3, N(S)3, NZM4, N(S)4: vertical and 90° in all directions |
| Direction of incoming supply  |  |      | as required  |
| Degree of protection  |  |      |  |
| Device  |  |      | In the operating controls area: IP20 (basic degree of protection)  |
| Enclosures  |  |      | With insulating surround: IP40<br>With door coupling rotary handle: IP66   |
| Terminations  |  |      | Tunnel terminal: IP10<br>Phase isolator and strip terminal: IP00   |
| Other technical data (sheet catalogue)  |  |      | Temperature dependency, Derating   |

### Circuit-breakers

|   |             |      |            |
|---|-------------|------|------------|
| Rated current = rated uninterrupted current | $I_n = I_u$ | A    | 350        |
| Rated surge voltage invariability           | $U_{imp}$   |      |            |
| Main contacts                               |             | V    | 8000       |
| Auxiliary contacts                          |             | V    | 6000       |
| Rated operational voltage                   | $U_e$       | V AC | 690        |
| Overvoltage category/pollution degree       |             |      | III/3      |
| Rated insulation voltage                    | $U_i$       | V    | 1000       |
| Use in unearthed supply systems             |             | V    | $\leq 690$ |

### Switching capacity

|   |          |    |     |
|---|----------|----|-----|
| Rated short-circuit making capacity             | $I_{cm}$ |    |     |
| 240 V   | $I_{cm}$ | kA | 330 |
| 400/415 V                                       | $I_{cm}$ | 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  |
| Rated short-circuit breaking capacity $I_{cn}$  | $I_{cn}$ |    |     |
| $I_{cu}$ to IEC/EN 60947 test cycle O-t-CO      | $I_{cu}$ | kA |     |
| 240 V 50/60 Hz                                  | $I_{cu}$ | kA | 150 |
| 400/415 V 50/60 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  |
| $I_{cs}$ to IEC/EN 60947 test cycle O-t-CO-t-CO | $I_{cs}$ | kA |     |
| 240 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 <sub>cs</sub> | kA    | 33  |
| 690 V 50/60 Hz  | I <sub>cs</sub> | kA    | 9   |
| Rated short-time withstand current  |                 |       | Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker. |
| t = 0.3 s   | I <sub>cw</sub> | kA    | 3.3   |
| t = 1 s   | I <sub>cw</sub> | kA    | 3.3   |
| Utilization category to IEC/EN 60947-2                                      |                 |       | A   |
| Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) | Operations      |       | 15000   |
| Lifespan, electrical  |                 |       |   |
| AC-1  |                 |       |   |
| 400 V 50/60 Hz  | Operations      |       | 5000  |
| 415 V 50/60 Hz  | Operations      |       | 5000  |
| 690 V 50/60 Hz  | Operations      |       | 3000  |
| AC--3   |                 |       |   |
| 400 V 50/60 Hz  | Operations      |       | 2000  |
| 415 V 50/60 Hz  | Operations      |       | 2000  |
| 690 V 50/60 Hz  | Operations      |       | 2000  |
| Max. operating frequency  |                 | Ops/h | 60  |
| Total break time at short-circuit   |                 | ms    | < 10  |

### Terminal capacity

|  |  |                 |   |
|--|--|-----------------|---|
| Standard equipment                     |  |                 | Screw connection  |
| Optional accessories                   |  |                 | Box terminal<br>Tunnel terminal<br>connection on rear   |
| Round copper conductor                 |  |                 |   |
| Box terminal                           |  |                 |   |
| Solid                                  |  | mm <sup>2</sup> | 2 x 16  |
| Stranded                               |  | mm <sup>2</sup> | 1 x (35 - 240)<br>2 x (25-120)  |
| Tunnel terminal                        |  |                 |   |
| Solid                                  |  | mm <sup>2</sup> | 1 x 16  |
| Stranded                               |  |                 |   |
| 1-hole                                 |  | mm <sup>2</sup> | 1 x (16 - 185)  |
| Double hole fitting                    |  | mm <sup>2</sup> | 2 x (50 - 240)  |
| Bolt terminal and rear-side connection |  |                 |   |
| Direct on the switch                   |  |                 |   |
| Solid                                  |  | mm <sup>2</sup> | 1 x 16<br>2 x 16  |
| Stranded                               |  | mm <sup>2</sup> | 1 x (25 - 240)<br>2 x (25 - 240)  |
| Connection width extension             |  | mm <sup>2</sup> |   |
| Connection width extension             |  | mm <sup>2</sup> | 2 x 300   |
| Al circular conductor                  |  |                 |   |
| Tunnel terminal                        |  |                 |   |
| Solid                                  |  | mm <sup>2</sup> | 1 x 16  |
| Stranded                               |  |                 |   |
| Stranded                               |  | mm <sup>2</sup> | 1 x (25 - 185) <sup>2)</sup>  |
| Double hole                            |  | mm <sup>2</sup> | 1 x (50 - 240)<br>2 x (50 - 240)  |
|  |  |                 | <sup>2)</sup> Up to 240 mm <sup>2</sup> can be connected depending on the cable manufacturer. |
| Bolt terminal and rear-side connection |  |                 |   |
| Direct on the switch                   |  |                 |   |
| Solid                                  |  | mm <sup>2</sup> | 1 x 16<br>2 x (10 - 16)   |
| Stranded                               |  | mm <sup>2</sup> | 1 x (25 - 120)<br>2 x (25 - 120)  |

|   |      |                 |   |
|---|------|-----------------|---|
| 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<br>+ 5 x 24 x 1.0<br>(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)                         |      | mm              |   |
| Bolt terminal and rear-side connection                    |      |                 |   |
| Screw connection  |      |                 | M10   |
| Direct on the switch                                      |      |                 |   |
|   | min. | mm              | 20 x 5  |
|   | max. | mm              | 30 x 10<br>+ 30 x 5                                   |
| Connection width extension                                |      | mm              |   |
| Connection width extension                                | max. | mm              | 2 x (10 x 50)   |
| Control cables  |      |                 |   |
|   |      | mm <sup>2</sup> | 1 x (0.75 - 2.5)<br>2 x (0.75 - 1.5)                  |

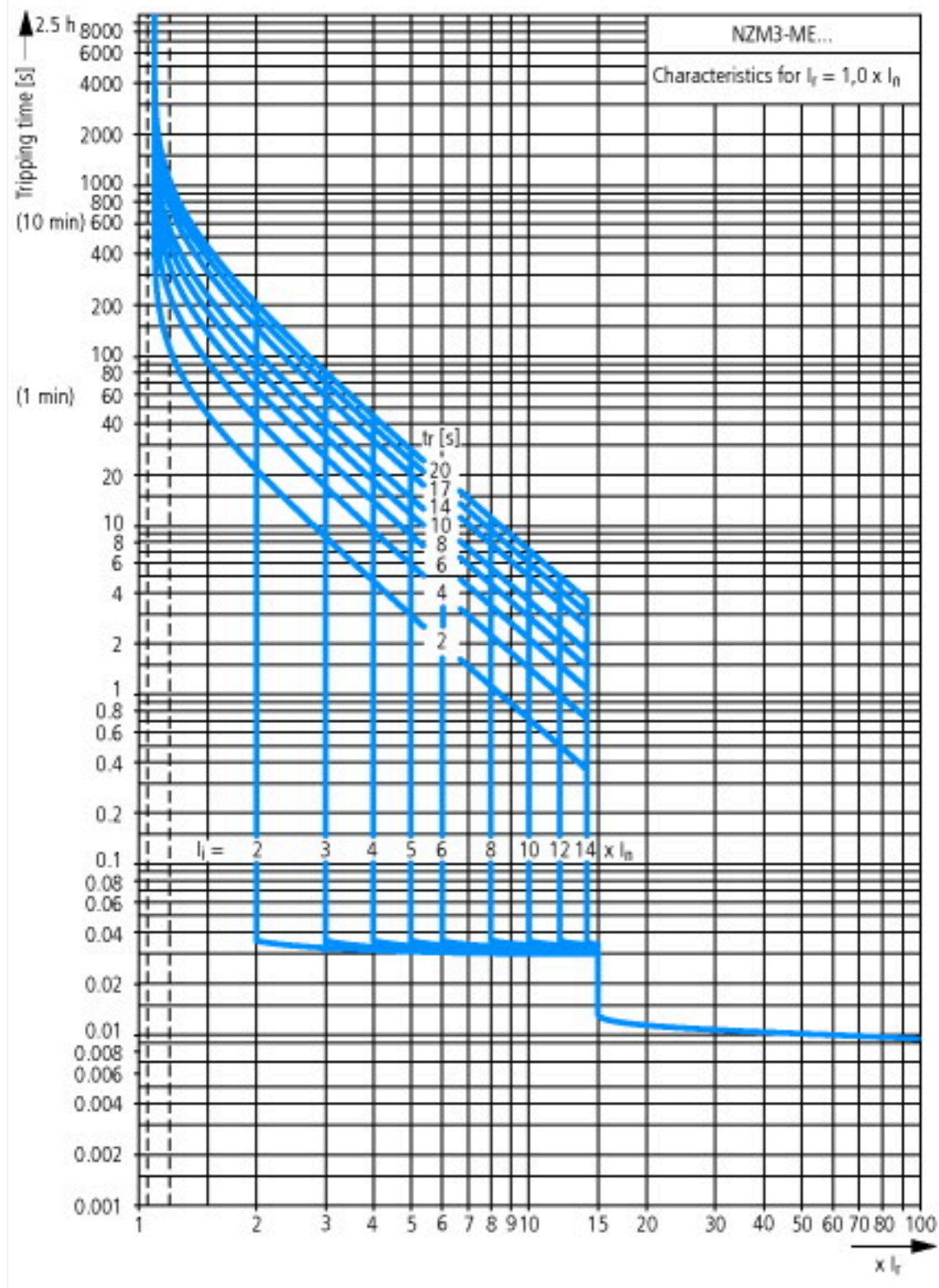
## Design verification as per IEC/EN 61439

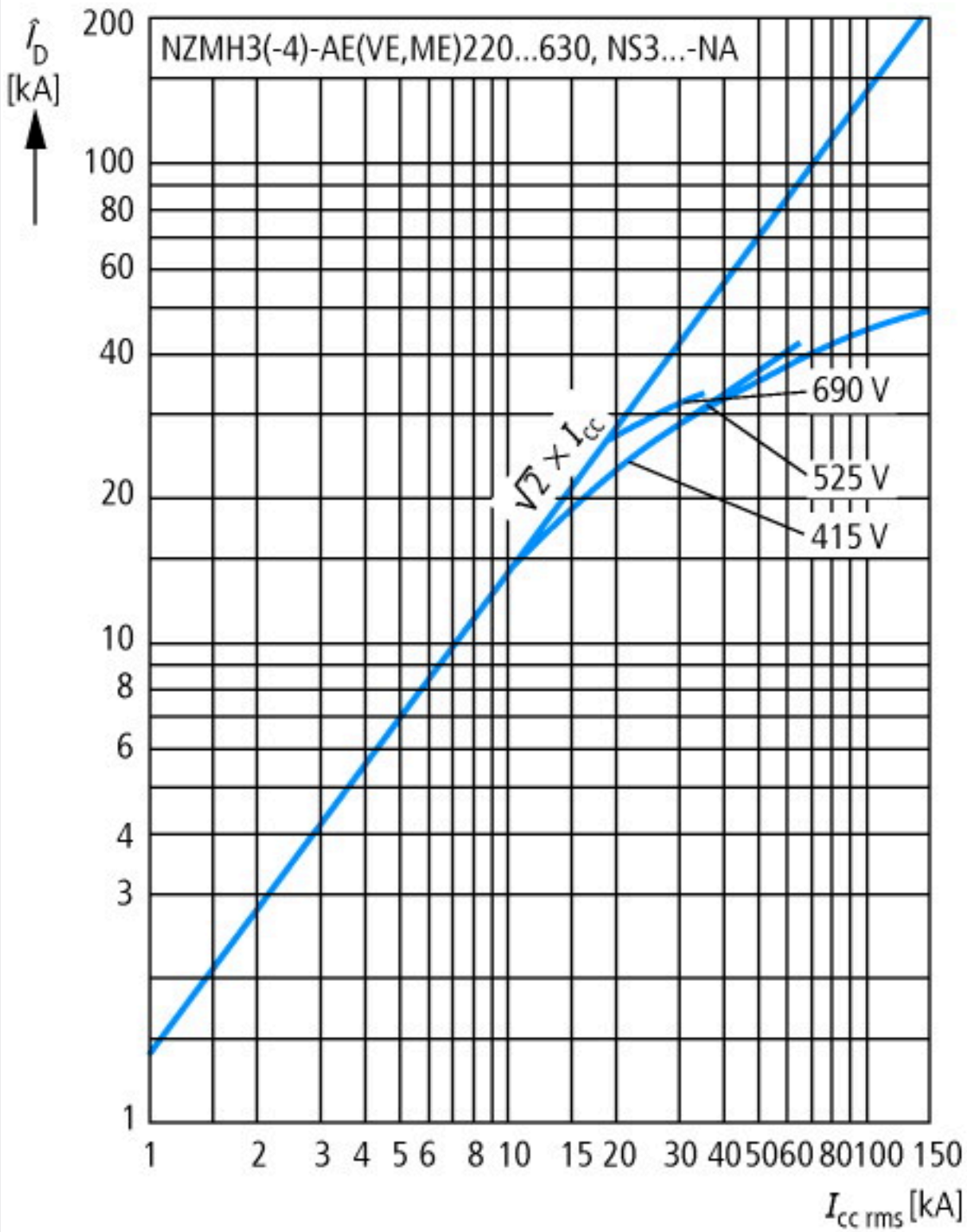
|  |                  |    |  |
|--|------------------|----|--|
| Technical data for design verification   |                  |    |  |
| Rated operational current for specified heat dissipation   | I <sub>n</sub>   | A  | 350  |
| Equipment heat dissipation, current-dependent  | P <sub>vid</sub> | W  | 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

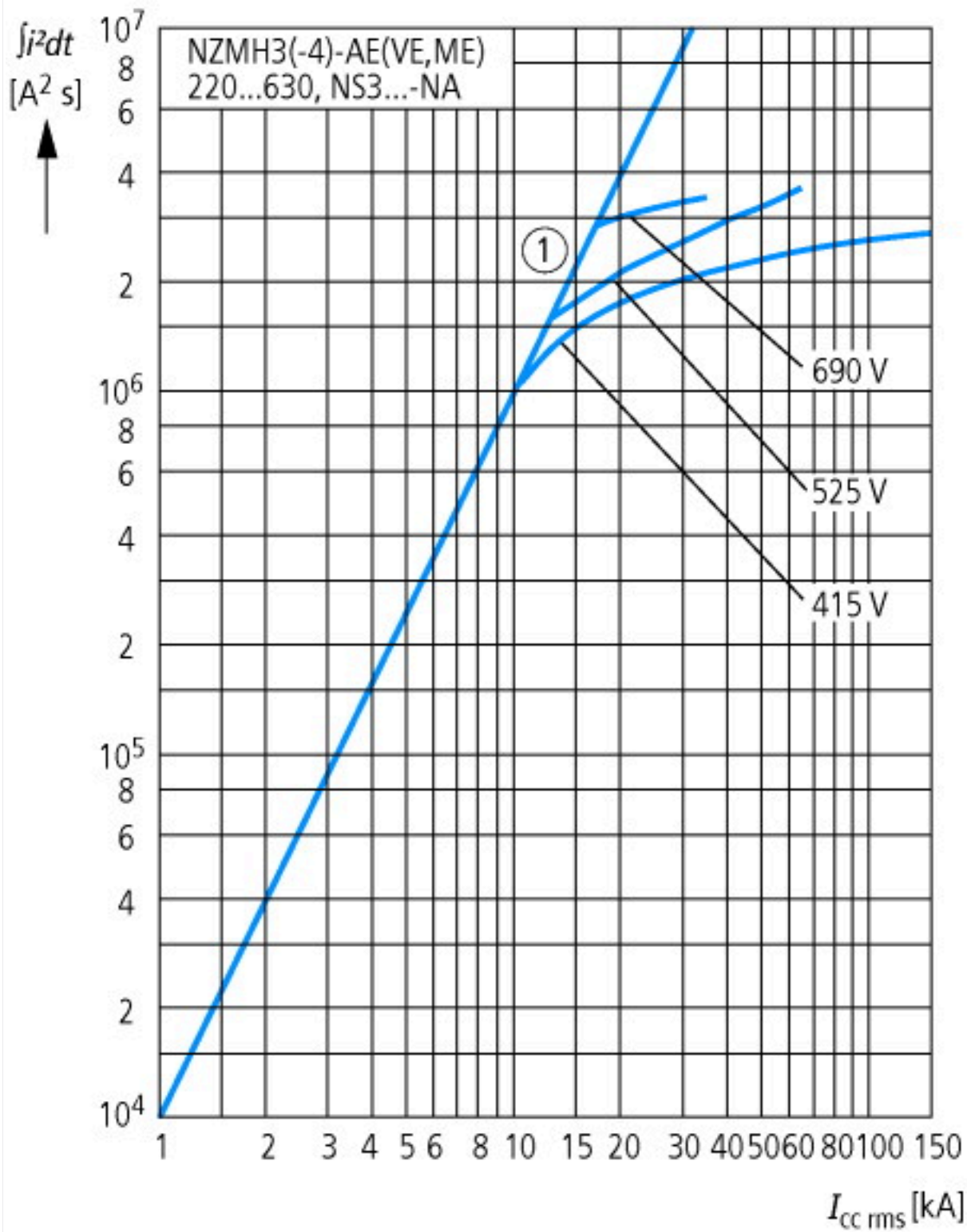
| Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)  |    |  |
|---|----|--|
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss10.0.1-27-37-04-01 [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  | 690 - 690                                |
| Rated permanent current I <sub>u</sub>  | 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 <sub>cu</sub> at 400 V, AC  | kA | 150                                      |
| Degree of protection (IP)   |    | IP20                                     |
| Height  | mm | 275                                      |
| Width   | mm | 140                                      |
| Depth   | mm | 166                                      |

# Characteristics





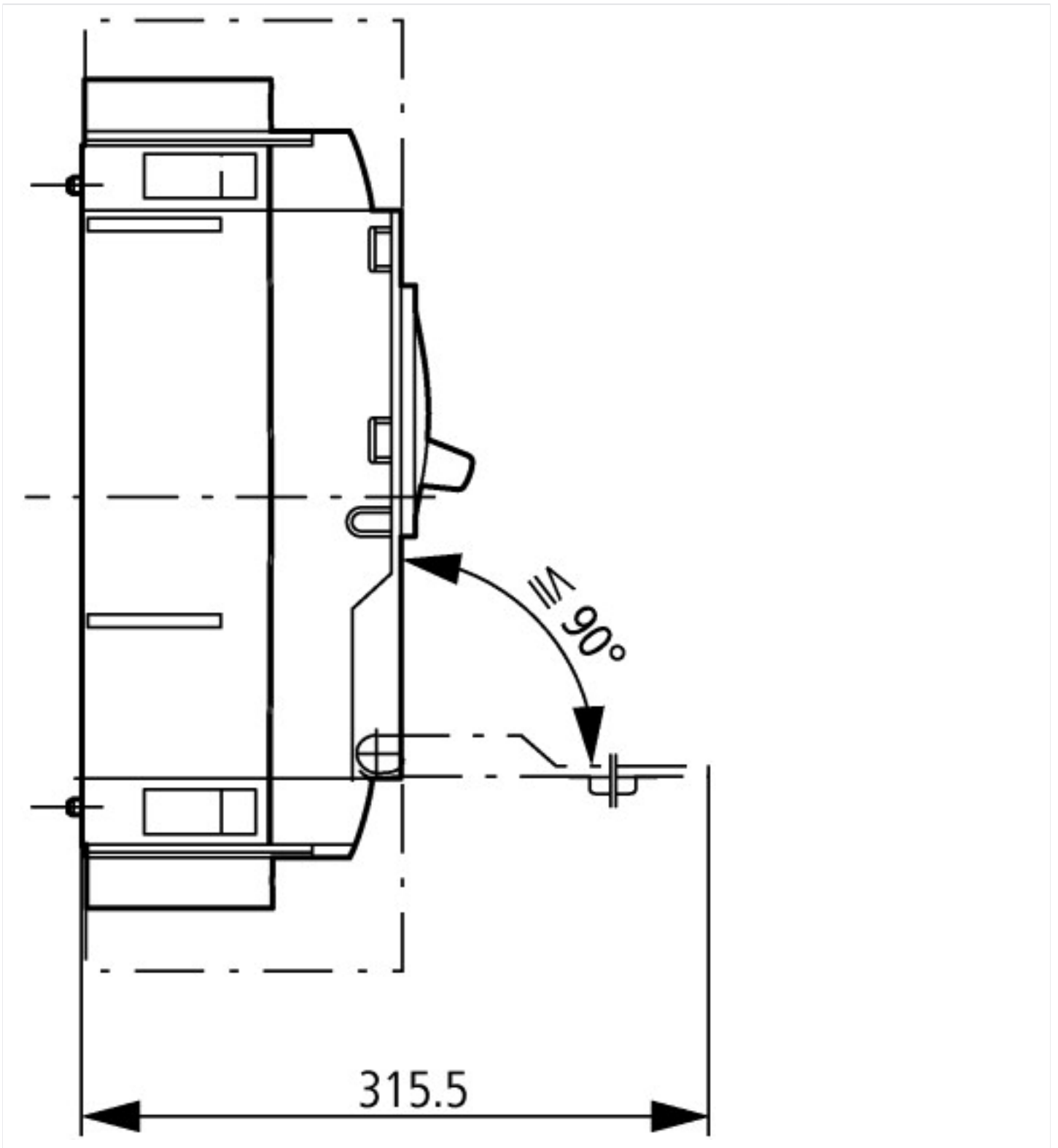
Let-through current



Let-through energy







### Additional product information (links)

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

IL01208009Z (AWA1230-1992) Circuit-Breaker, basic unit [https://es-assets.eaton.com/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL01208009Z2018\\_11.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL01208009Z2018_11.pdf)

Temperature dependency, Derating <http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.172>

additional technical information for NZM power switch [https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm\\_technic\\_de\\_en.pdf](https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf)