



**Switch-disconnector 4p, 100A**

**Part no.** PN1-4-100  
**Catalog No.** 266000  
**EL-Nummer (Norway)** 4358828

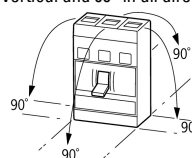
Similar to illustration

**Delivery program**

|  |             |      |  |
|--|-------------|------|--|
| Product range  |             |      | Switch-disconnectors   |
| Protective function                                  |             |      | Disconnectors/main switches  |
| Standard/Approval                                    |             |      | IEC  |
| Installation type                                    |             |      | Fixed  |
| Construction size                                    |             |      | PN1  |
| Description  |             |      | Main switch characteristics including positive drive to IEC/EN 60204 and VDE 0113. Isolating characteristics to IEC/EN 60947-3 and VDE 0660. Busbar tag shroud to VDE 0160 Part 100. |
| Number of poles                                      |             |      | 4 pole   |
| Standard equipment                                   |             |      | Box terminal   |
| Switch positions                                     |             |      | I, 0   |
| Rated current = rated uninterrupted current          | $I_n = I_u$ | A    | 100  |
| Short-circuit protection max. fuse gL-characteristic |             | A gL | 125  |

**Technical data**

**General**

|   |  |      |  |
|---|--|------|--|
| Standards   |  |      | IEC/EN 60947   |
| Protection against direct contact   |  |      | Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110  |
| 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  |
| Mounting position   |  |      |  |
| Mounting position   |  |      | Vertical and 90° in all directions<br><br>With residual-current release XFI:<br>- NZM1, N1, NZM2, N2: vertical and 90° in all directions<br>with plug-in adapter elements<br>- NZM1, N1, NZM2, N2: vertical, 90° right/left<br>with withdrawable unit:<br>- NZM3, N3: vertical, 90° left<br>- NZM4, N4: vertical<br>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 area of the HMI devices: IP20 (basic protection type)   |
| Enclosures  |  |      | With insulating surround: IP40<br>With door coupling rotary handle: IP66   |
| Terminations  |  |      | Tunnel terminal: IP10<br>Phase isolator and band terminal: IP00  |

**Switch-disconnectors**

|                                   |           |  |  |
|-----------------------------------|-----------|--|--|
| Rated surge voltage invariability | $U_{imp}$ |  |  |
|-----------------------------------|-----------|--|--|

|   |                                 |  |
|---|---------------------------------|--|
| Main contacts                               | V                               | 6000   |
| Auxiliary contacts                          | V                               | 6000   |
| Rated operational voltage                   | U <sub>e</sub>                  | V AC 690   |
| Rated operating frequency                   | f                               | Hz 50/60   |
| Rated current = rated uninterrupted current | I <sub>n</sub> = I <sub>u</sub> | A 100  |
| Overvoltage category/pollution degree       |                                 | III/3  |
| Rated insulation voltage                    | U <sub>i</sub>                  | V 690  |
| Use in unearthed supply systems             | V                               | ≤ 690  |
| Other technical data (sheet catalogue)      |                                 | Weight<br>Temperature dependency, Derating<br>Effective power loss |

### Rated short-circuit making capacity

|               |                |    |     |
|---------------|----------------|----|-----|
| 690 V 50/60 H | I <sub>c</sub> | kA | 2.8 |
|---------------|----------------|----|-----|

### Rated short-time withstand current

|           |                 |    |   |
|-----------|-----------------|----|---|
| t = 0.3 s | I <sub>cw</sub> | kA | 2 |
| t = 1 s   | I <sub>cw</sub> | kA | 2 |

### Rated conditional short-circuit current

|                      |  |         |            |
|----------------------|--|---------|------------|
| With back-up fuse    |  | A gG/gL | gG/gL: 100 |
| 400 ... 415 V        |  | kA      | 100        |
| 690 V                |  | kA      | 80         |
| With downstream fuse |  | A gG/gL | gG/gL: 100 |
| 400 ... 415 V        |  | kA      | 100        |
| 690 V                |  | kA      | 10         |

### Rated making and breaking capacity

|                           |                |       |       |
|---------------------------|----------------|-------|-------|
| Rated operational current | I <sub>e</sub> | A     |       |
| AC-22/23A                 |                |       |       |
| 415 V                     | I <sub>e</sub> | A     | 160   |
| 690 V                     | I <sub>e</sub> | A     | 160   |
| Lifespan, mechanical      | Operations     |       | 20000 |
| Max. operating frequency  |                | Ops/h | 120   |

### Lifespan, electrical

|                |            |  |       |
|----------------|------------|--|-------|
| AC-1           |            |  |       |
| 400 V 50/60 Hz | Operations |  | 10000 |
| 415 V 50/60 Hz | Operations |  | 10000 |
| 690 V 50/60 Hz | Operations |  | 7500  |
| AC-23A         |            |  |       |
| 400 V 50/60 Hz | Operations |  | 1000  |
| 415 V 50/60 Hz | Operations |  | 1000  |
| 690 V 50/60 Hz | Operations |  | 1000  |

### Terminal capacity

|  |  |                 |  |
|--|--|-----------------|--|
| Standard equipment                     |  |                 | Box terminal   |
| Optional accessories                   |  |                 | Screw connection<br>Tunnel terminal<br>connection on rear                                    |
| Copper conductors and cables           |  |                 |  |
| Box terminal                           |  |                 |  |
| Solid                                  |  | mm <sup>2</sup> | 1 x (10 - 16)<br>2 x (6 - 16)  |
| Stranded                               |  | mm <sup>2</sup> | 1 x (10 - 70) <sup>3)</sup><br>2 x (6 - 25)  |
|  |  |                 | <sup>3)</sup> Up to 95 mm <sup>2</sup> can be connected depending on the cable manufacturer. |
| Tunnel terminal                        |  |                 |  |
| Solid                                  |  | mm <sup>2</sup> | 1 x 16   |
| Stranded                               |  |                 |  |
| 1-hole                                 |  | mm <sup>2</sup> | 1 x (25 - 95)  |
| Bolt terminal and rear-side connection |  |                 |  |
| Direct on the switch                   |  |                 |  |
| Solid                                  |  | mm <sup>2</sup> | 1 x (10 - 16)  |

|   |      |                 |  |
|---|------|-----------------|--|
|   |      |                 | 2 x (6 - 16)   |
| Stranded  |      | mm <sup>2</sup> | 1 x (25 - 70) <sup>3)</sup><br>2 x 25  |
|   |      |                 | <sup>3)</sup> Up to 95 mm <sup>2</sup> can be connected depending on the cable manufacturer. |
| Al conductors, Al cable                                   |      |                 |  |
| Tunnel terminal   |      |                 |  |
| Solid   |      | mm <sup>2</sup> | 1 x 16   |
| Stranded  |      |                 |  |
| 1-hole  |      | mm <sup>2</sup> | 1 x (25 - 95)  |
| Bolt terminal and rear-side connection                    |      |                 |  |
| Direct on the switch                                      |      |                 |  |
| Solid   |      | mm <sup>2</sup> | 1 x (10 - 16)<br>2 x (10 - 16)   |
| Stranded  |      | mm <sup>2</sup> | 1 x (25 - 70) <sup>3)</sup><br>2 x 25  |
| Cu strip (number of segments x width x segment thickness) |      |                 |  |
| Box terminal  |      |                 |  |
|   | min. | mm              | 2 x 9 x 0.8  |
|   | max. | mm              | 9 x 9 x 0.8  |
| Copper busbar (width x thickness)                         |      |                 |  |
| Bolt terminal and rear-side connection                    |      |                 |  |
| Screw connection  |      |                 | M6   |
| Direct on the switch                                      |      |                 |  |
|   | min. | mm              | 12 x 5   |
|   | max. | mm              | 16 x 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  | 100  |
| Equipment heat dissipation, current-dependent  | P <sub>vid</sub> | W  | 11.4   |
| 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. |

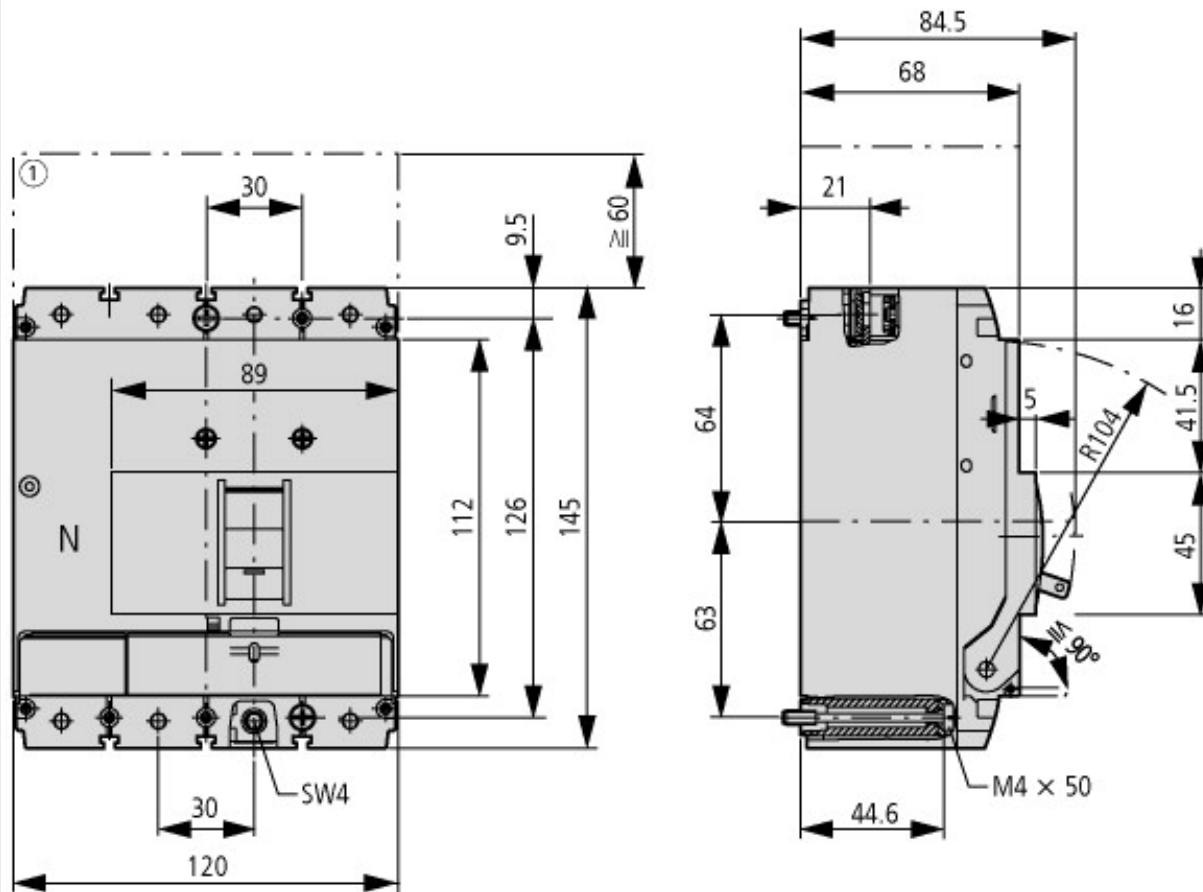
## Technical data ETIM 7.0

Low-voltage industrial components (EG000017) / Switch disconnecter (EC000216)

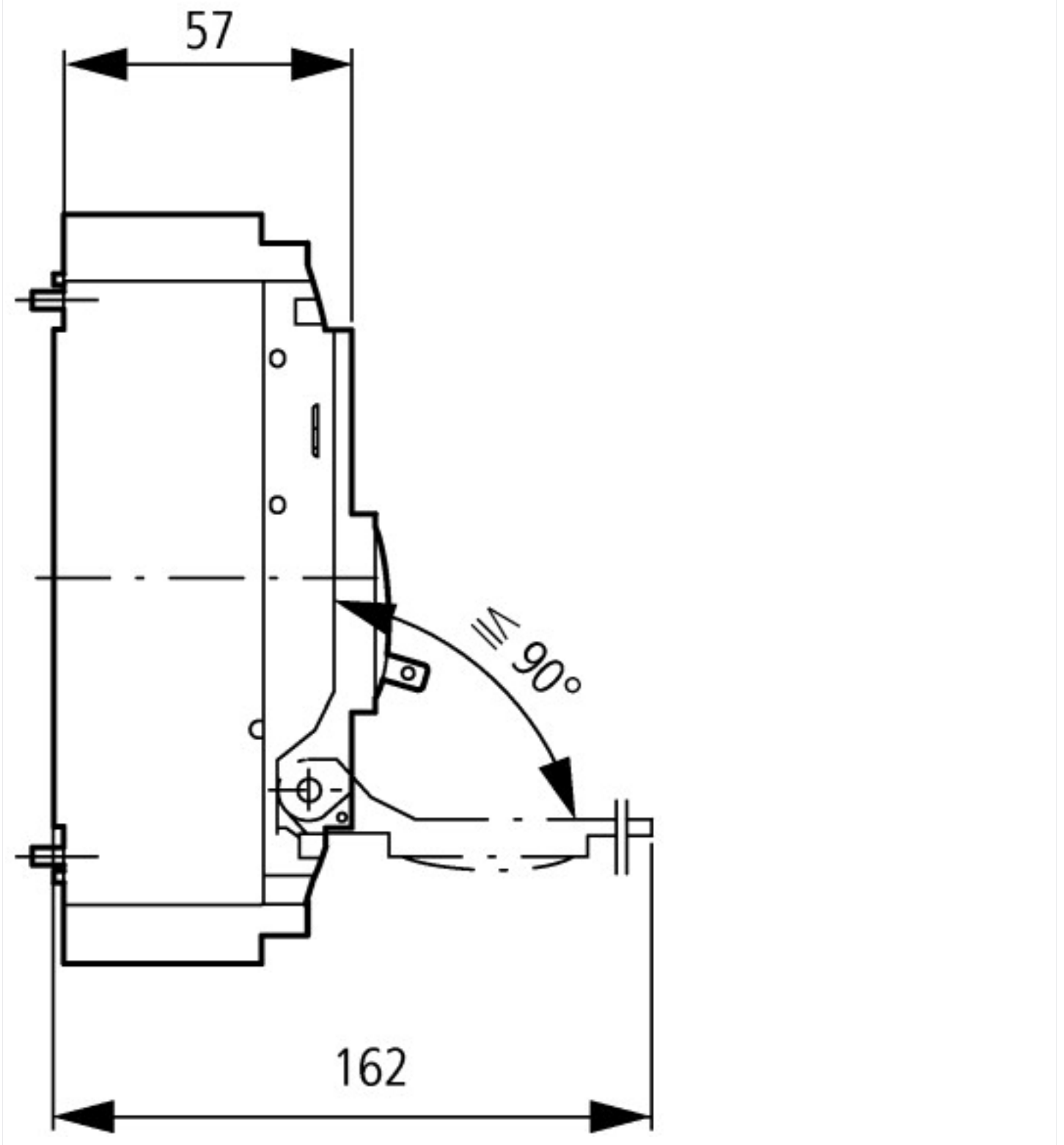
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (ec@ss10.0.1-27-37-14-03 [AKF060013])

|   |  |    |  |
|---|--|----|--|
| Version as main switch                                  |  |    | Yes                                      |
| Version as maintenance-/service switch                  |  |    | Yes                                      |
| Version as safety switch                                |  |    | No                                       |
| Version as emergency stop installation                  |  |    | Yes                                      |
| Version as reversing switch                             |  |    | No                                       |
| Number of switches                                      |  |    | 1  |
| Max. rated operation voltage Ue AC                      |  | V  | 690                                      |
| Rated operating voltage                                 |  | V  | 690 - 690                                |
| Rated permanent current Iu                              |  | A  | 100                                      |
| Rated permanent current at AC-23, 400 V                 |  | A  | 0  |
| Rated permanent current at AC-21, 400 V                 |  | A  | 0  |
| Rated operation power at AC-3, 400 V                    |  | kW | 0  |
| Rated short-time withstand current Icw                  |  | kA | 2  |
| Rated operation power at AC-23, 400 V                   |  | kW | 55                                       |
| Switching power at 400 V                                |  | kW | 0  |
| Conditioned rated short-circuit current Iq              |  | kA | 0  |
| Number of poles   |  |    | 4  |
| 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  |
| Motor drive optional                                    |  |    | No                                       |
| Motor drive integrated                                  |  |    | No                                       |
| Voltage release optional                                |  |    | No                                       |
| Device construction                                     |  |    | Built-in device fixed built-in technique |
| Suitable for ground mounting                            |  |    | Yes                                      |
| Suitable for front mounting 4-hole                      |  |    | No                                       |
| Suitable for front mounting centre                      |  |    | No                                       |
| Suitable for distribution board installation            |  |    | Yes                                      |
| Suitable for intermediate mounting                      |  |    | Yes                                      |
| Colour control element                                  |  |    | Black                                    |
| Type of control element                                 |  |    | Rocker lever                             |
| Interlockable   |  |    | Yes                                      |
| Type of electrical connection of main circuit           |  |    | Frame clamp                              |
| Degree of protection (IP), front side                   |  |    | IP20                                     |
| Degree of protection (NEMA)                             |  |    |  |

## Dimensions



① Blow out area, minimum clearance to adjacent parts



### Additional product information (links)

|   |   |
|---|---|
| Weight  | <a href="http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.171">http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.171</a>   |
| Temperature dependency, Derating                      | <a href="http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.172">http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.172</a>   |
| Effective power loss                                  | <a href="http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.174">http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.174</a>   |
| CurveSelect characteristics program                   | <a href="http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm">http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm</a>         |
| Eaton configurator                                    | <a href="http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/ConfiguratorCircuitBreaker/index.htm">http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/ConfiguratorCircuitBreaker/index.htm</a> |
| 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>   |