



**Switch-disconnector, 4 p, 800A, frame size 4**

**Part no. LN4-4-800-I**  
**Catalog No. 112016**

Similar to illustration

**Delivery program**

|  |             |      |  |
|--|-------------|------|--|
| Product range  |             |      | Switch-disconnectors   |
| Protective function                                  |             |      | Disconnectors/main switches  |
| Standard/Approval                                    |             |      | IEC  |
| Installation type                                    |             |      | Fixed  |
| Construction size                                    |             |      | LN4  |
| 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                                   |             |      | Screw connection   |
| Switch positions                                     |             |      | I, +, 0  |
| Rated current = rated uninterrupted current          | $I_n = I_u$ | A    | 800  |
| Short-circuit protection max. fuse gL-characteristic |             | A gL | 1600   |

**Technical data**

**Switch-disconnectors**

|   |             |      |            |
|---|-------------|------|------------|
| Rated surge voltage invariability           | $U_{imp}$   |      |            |
| Main contacts                               |             | V    | 8000       |
| Auxiliary contacts                          |             | V    | 6000       |
| Rated operational voltage                   | $U_e$       | V AC | 690        |
| Rated operating frequency                   | f           | Hz   | 50/60      |
| Rated current = rated uninterrupted current | $I_n = I_u$ | A    | 800        |
| Overvoltage category/pollution degree       |             |      | III/3      |
| Rated insulation voltage                    | $U_i$       | V    | 1000       |
| Use in unearthed supply systems             |             | V    | $\leq 525$ |

**Rated short-circuit making capacity**

|               |       |    |    |
|---------------|-------|----|----|
| 690 V 50/60 H | $I_c$ | kA | 53 |
|---------------|-------|----|----|

**Rated short-time withstand current**

|           |          |    |    |
|-----------|----------|----|----|
| t = 0.3 s | $I_{cw}$ | kA | 25 |
| t = 1 s   | $I_{cw}$ | kA | 25 |

**Rated conditional short-circuit current**

|                      |  |         |                        |
|----------------------|--|---------|------------------------|
| With back-up fuse    |  | A gG/gL | N4-630...1600: 2 x 800 |
| 400 ... 415 V        |  | kA      | 100                    |
| 690 V                |  | kA      | 80                     |
| With downstream fuse |  | A gG/gL | N4-630...1600: 2 x 800 |
| 400 ... 415 V        |  | kA      | 100                    |
| 690 V                |  | kA      | 80                     |

**Rated making and breaking capacity**

|                           |            |       |       |
|---------------------------|------------|-------|-------|
| Rated operational current | $I_e$      | A     |       |
| 415 V                     | $I_e$      | A     | 1600  |
| 690 V                     | $I_e$      | A     | 1600  |
| 415 V                     | $I_e$      | A     | 1600  |
| 690 V                     | $I_e$      | A     | 1600  |
| Lifespan, mechanical      | Operations |       | 10000 |
| Max. operating frequency  |            | Ops/h | 60    |

## Lifespan, electrical

|                                   |            |    |      |
|-----------------------------------|------------|----|------|
| 400 V 50/60 Hz                    | Operations |    | 3000 |
| 415 V 50/60 Hz                    | Operations |    | 3000 |
| 690 V 50/60 Hz                    | Operations |    | 2000 |
| 400 V 50/60 Hz                    | Operations |    | 2000 |
| 415 V 50/60 Hz                    | Operations |    | 2000 |
| 690 V 50/60 Hz                    | Operations |    | 1000 |
| Total break time at short-circuit |            | ms | < 10 |

## Terminal capacity

|   |      |                 |                                   |
|---|------|-----------------|-----------------------------------|
| Standard equipment  |      |                 | Screw connection                  |
| Round copper conductor                                    |      |                 |                                   |
| Tunnel terminal   |      |                 |                                   |
| Stranded  |      |                 |                                   |
| 4-hole  |      | mm <sup>2</sup> | 4 x (50 - 240)                    |
| Bolt terminal and rear-side connection                    |      |                 |                                   |
| Direct on the switch                                      |      |                 |                                   |
| Stranded  |      | mm <sup>2</sup> | 1 x (120 - 185)<br>4 x (50 - 185) |
| Module plate  |      |                 |                                   |
| Single hole   | min. | mm <sup>2</sup> | 1 x (120 - 300)                   |
| Single hole   | max. | mm <sup>2</sup> | 2 x (95 - 300)                    |
| Module plate  |      |                 |                                   |
| Double hole   | min. | mm <sup>2</sup> | 2 x (95 - 185)                    |
| Double hole   | max. | mm <sup>2</sup> | 4 x (35 - 185)                    |
| Connection width extension                                |      | mm <sup>2</sup> |                                   |
| Connection width extension                                |      | mm <sup>2</sup> | 4 x 300<br>6 x (95 - 240)         |
| Al conductors, Cu cable                                   |      |                 |                                   |
| Tunnel terminal   |      |                 |                                   |
| Stranded  |      |                 |                                   |
| 4-hole  |      | mm <sup>2</sup> | 4 x (50 - 240)                    |
| Bolt terminal and rear-side connection                    |      |                 |                                   |
| Flat copper strip, with holes                             | min. | mm              | (2 x) 10 x 50 x 1.0               |
| Flat copper strip, with holes                             | max. | mm              | (2 x) 10 x 50 x 1.0               |
| Connection width extension                                |      | mm              | (2 x) 10 x 80 x 1.0               |
| Cu strip (number of segments x width x segment thickness) |      |                 |                                   |
| Flat conductor terminal                                   |      |                 |                                   |
|   | min. | mm              | 6 x 16 x 0.8                      |
|   | max. | mm              | (2 x) 10 x 32 x 1.0               |
| Module plate  |      |                 |                                   |
| Single hole   |      | mm              | (2 x) 10 x 50 x 1.0               |
| Bolt terminal and rear-side connection                    |      |                 |                                   |
| Flat copper strip, with holes                             | min. | mm              | (2 x) 10 x 50 x 1.0               |
| Flat copper strip, with holes                             | max. | mm              | (2 x) 10 x 50 x 1.0               |
| Connection width extension                                |      | mm              | (2 x) 10 x 80 x 1.0               |
| Copper busbar (width x thickness)                         | mm   |                 |                                   |
| Bolt terminal and rear-side connection                    |      |                 |                                   |
| Screw connection  |      |                 | M10                               |
| Direct on the switch                                      |      |                 |                                   |
|   | min. | mm              | 25 x 5                            |
|   | max. | mm              | 2 x (50 x 10)<br>2 x (80 x 10)    |
| Module plate  |      |                 |                                   |
| Single hole   | min. | mm              | 25 x 5                            |
| Single hole   | max. | mm              | 2 x (50 x 10)                     |
| Module plate  |      |                 |                                   |

|                            |      |                 |                                      |
|----------------------------|------|-----------------|--------------------------------------|
| Double hole                |      | mm              | 2 x (50 x 10)                        |
| Connection width extension |      | mm              |                                      |
| Connection width extension | min. | mm              | 60 x 10                              |
| Connection width extension | max. | mm              | 2 x (80 x 10)                        |
| 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

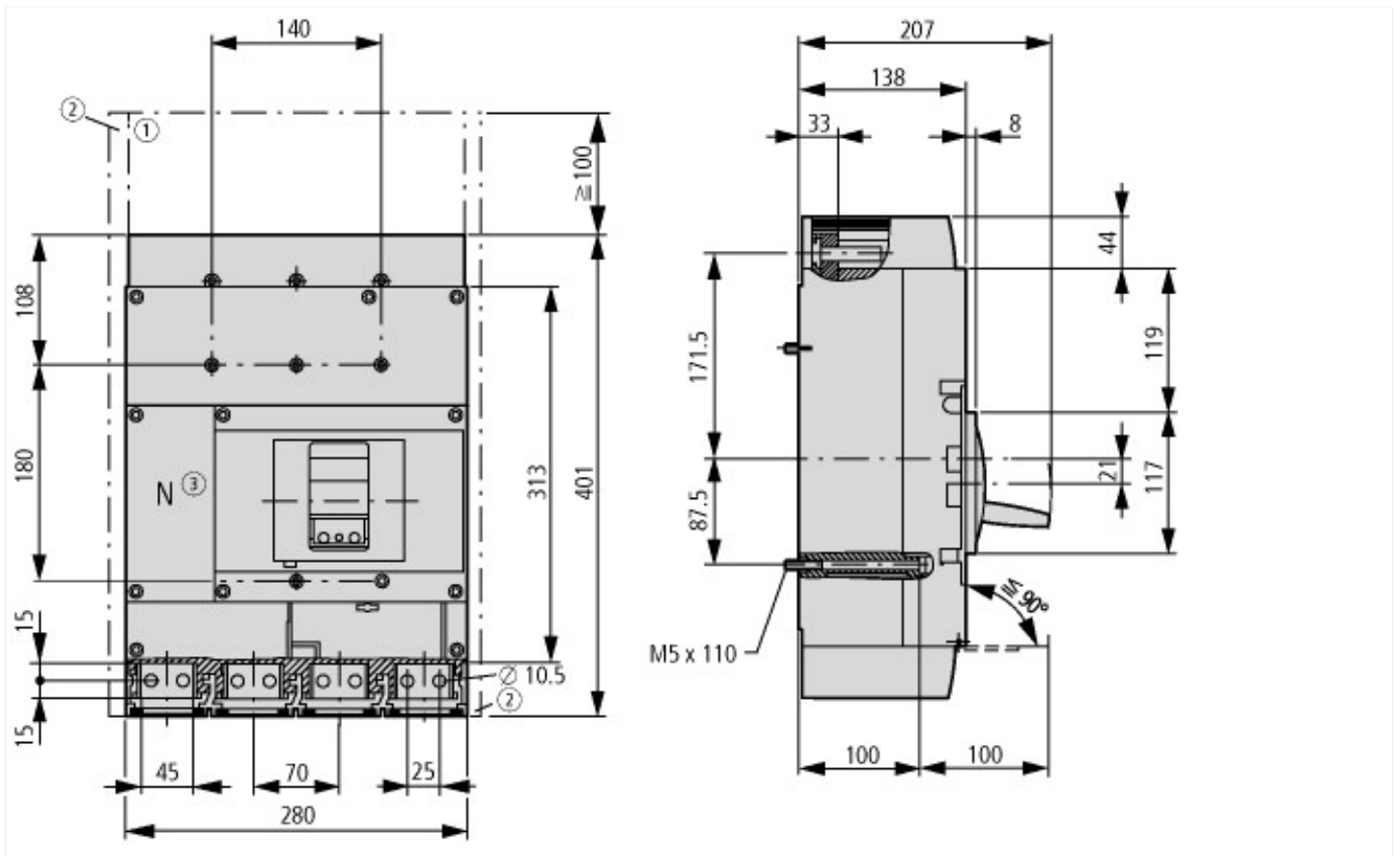
|  |                  |   |  |
|--|------------------|---|--|
| Technical data for design verification   |                  |   |  |
| Rated operational current for specified heat dissipation   | I <sub>n</sub>   | A | 800  |
| Equipment heat dissipation, current-dependent  | P <sub>vid</sub> | W | 71.04  |
| 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 (ecl@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  |  |    |           |
| Max. rated operation voltage U <sub>e</sub> AC  |  | V  | 400       |
| Rated operating voltage   |  | V  | 690 - 690 |
| Rated permanent current I <sub>u</sub>  |  | A  | 800       |
| Rated permanent current at AC-23, 400 V   |  | A  |           |
| 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 $I_{cw}$             | kA | 25                                       |
| Rated operation power at AC-23, 400 V                   | kW | 450                                      |
| Switching power at 400 V                                | kW | 0  |
| Conditioned rated short-circuit current $I_q$           | kA | 100                                      |
| 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                                    |    | Yes                                      |
| Motor drive integrated                                  |    | No                                       |
| Voltage release optional                                |    | Yes                                      |
| 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                                  |    | Grey                                     |
| Type of control element                                 |    | Rocker lever                             |
| Interlockable   |    | Yes                                      |
| Type of electrical connection of main circuit           |    | Bolt connection                          |
| Degree of protection (IP), front side                   |    | IP20                                     |
| Degree of protection (NEMA)                             |    |  |

## Dimensions



① Blow out area, minimum clearance to other parts:

$U_i \leq 690$  V: 100 mm

$U_i \leq 1500$  V: 200 mm

② Minimum clearance to adjacent parts:

$U_i \leq 1500$  V: 70 mm

## Additional product information (links)

IL01210018Z circuit-breaker LZM4, switch-disconnector LN4

