



Switch-disconnector, 4 p, 160A, frame size 2

Part no. **LN2-4-160-I**
Catalog No. **112005**

Similar to illustration

Delivery program

| | | | |
|--|-------------|------|--|
| Product range | | | Switch-disconnectors |
| Protective function | | | Disconnectors/main switches |
| Standard/Approval | | | IEC |
| Installation type | | | Fixed |
| Construction size | | | LN2 |
| 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 | 160 |
| Short-circuit protection max. fuse gL-characteristic | | A gL | 250 |

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 | 160 |
| Overvoltage category/pollution degree | | | III/3 |
| Rated insulation voltage | U_i | V | 690 |
| Use in unearthed supply systems | | V | ≤ 690 |

Rated short-circuit making capacity

| | | | |
|---------------|-------|----|-----|
| 690 V 50/60 H | I_c | kA | 5.5 |
|---------------|-------|----|-----|

Rated short-time withstand current

| | | | |
|-----------|----------|----|-----|
| t = 0.3 s | I_{cw} | kA | 3.5 |
| t = 1 s | I_{cw} | kA | 3.5 |

Rated conditional short-circuit current

| | | | |
|----------------------|--|---------|------------------------|
| With back-up fuse | | A gG/gL | PN2(N2)-160...250: 250 |
| 400 ... 415 V | | kA | 100 |
| 690 V | | kA | 80 |
| With downstream fuse | | A gG/gL | PN2(N2)-160...250: 250 |
| 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 | 250 |
| 690 V | I_e | A | 250 |
| 415 V | I_e | A | 250 |
| 690 V | I_e | A | 250 |
| Lifespan, mechanical | Operations | | 20000 |
| Max. operating frequency | | Ops/h | 120 |

Lifespan, electrical

| | | | |
|-----------------------------------|------------|----|------|
| 400 V 50/60 Hz | Operations | | 7500 |
| 415 V 50/60 Hz | Operations | | 7500 |
| 690 V 50/60 Hz | Operations | | 5000 |
| 400 V 50/60 Hz | Operations | | 6000 |
| 415 V 50/60 Hz | Operations | | 6000 |
| 690 V 50/60 Hz | Operations | | 4000 |
| Total break time at short-circuit | | ms | < 10 |

Terminal capacity

| | | | |
|---|------|-----------------|--------------------------------------|
| Standard equipment | | | Screw connection |
| Round copper conductor | | | |
| Box terminal | | | |
| Solid | | mm ² | 1 x (4 - 16) 2 x (4 - 16) |
| Stranded | | mm ² | 1 x (25 - 185) 2 x (25 - 70) |
| Tunnel terminal | | | |
| Solid | | mm ² | 1 x (16 - 185) |
| Stranded | | | |
| Stranded | | mm ² | 1 x (25 - 185) |
| Bolt terminal and rear-side connection | | | |
| Direct on the switch | | | |
| Solid | | mm ² | 1 x (4 - 16) 2 x (4 - 16) |
| Stranded | | mm ² | 1 x (25 - 185) 2 x (25 - 70) |
| Al conductors, Cu cable | | | |
| Tunnel terminal | | | |
| Solid | | mm ² | 1 x 16 |
| Stranded | | | |
| Stranded | | mm ² | 1 x (25 - 185) |
| Bolt terminal and rear-side connection | | | |
| Flat copper strip, with holes | min. | mm | 2 x 16 x 0.8 |
| Flat copper strip, with holes | max. | mm | 10 x 16 x 0.8 |
| Cu strip (number of segments x width x segment thickness) | | | |
| Box terminal | | | |
| | min. | mm | 2 x 9 x 0.8 |
| | max. | mm | 10 x 16 x 0.8 |
| Bolt terminal and rear-side connection | | | |
| Flat copper strip, with holes | min. | mm | 2 x 16 x 0.8 |
| Flat copper strip, with holes | max. | mm | 10 x 16 x 0.8 |
| Copper busbar (width x thickness) | mm | | |
| Bolt terminal and rear-side connection | | | |
| Screw connection | | | M8 |
| Direct on the switch | | | |
| | min. | mm | 16 x 5 |
| | max. | mm | 20 x 5 |
| Control cables | | | |
| | | mm ² | 1 x (0.75 - 2.5) 2 x (0.75 - 1.5) |

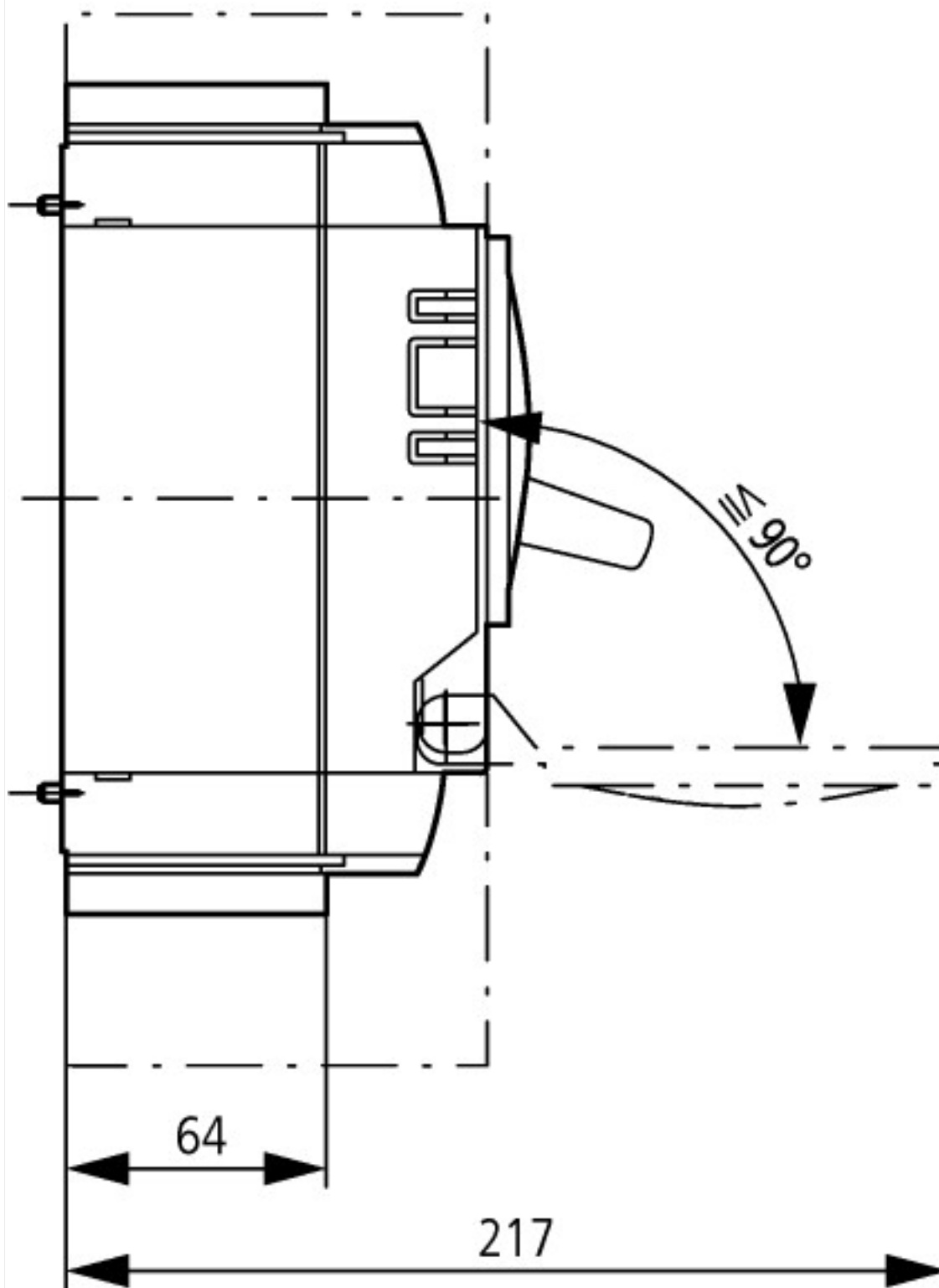
Design verification as per IEC/EN 61439

| | | | |
|--|------------------|---|---------|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I _n | A | 160 |
| Equipment heat dissipation, current-dependent | P _{vid} | W | 19.6608 |
| 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 (ecI@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 Ue AC | | V | 400 |
| Rated operating voltage | | V | 690 - 690 |
| Rated permanent current Iu | | A | 160 |
| 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 Icw | | kA | 3.5 |
| Rated operation power at AC-23, 400 V | | kW | 90 |
| Switching power at 400 V | | kW | 0 |
| Conditioned rated short-circuit current Iq | | 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 |



Additional product information (links)

IL01206012Z circuit-breaker LZMB2, switch-disconnector LN2

IL01206012Z circuit-breaker LZMB2, switch-disconnector LN2

ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01206012Z2017_05.pdf