

## LZM1-4 circuit-breaker series up to 1600 A

# Circuit breaker LZM



*Powering Business Worldwide*

# Circuit-breakers LzM

Circuit-breakers LzM1, 2, 3, 4 up to 1600 A

Reliably and safely controlling, switching and managing power, in industry, in buildings and in machine construction. Enabled by innovative protection concepts.

## Circuit-breaker series LzM1 to LzM4

- just 4 compact frame sizes
- available as 3 and 4-pole device
- now also up to 1600 A
- flexible mounting using modular function groups
- full rated current at 50 °C ambient temperature
- switch suitable for world-wide use



Page 6

## Standard/trip-indicating auxiliary contact from the Titan range

- reduced number of variants and stockholding requirement
- simple front installation at the same position
- simple clip-on feature saves mounting costs
- attractively priced identical parts from the control circuit device range



Page 42

## Door coupling rotary handles

- identical drilling template for all variants
- innovative automatic centring
- axis support for long-term reliable operation
- side-wall operation ensuring space-saving main switch installation



Page 54

## Remote operators

- common functional concept of all variants
- low closing delays 60 ms to 100 ms
- locking and sealing features provide security



Page 64

## Circuit-breakers L2M



## System overview

|                  |   |
|------------------|---|
| Circuit-breakers | 2 |
|------------------|---|

## Technical overview

|  |   |
|--|---|
|  | 4 |
|--|---|

## Ordering

|                                                          |    |
|----------------------------------------------------------|----|
| Circuit-breaker thermo-magnetic release, 3 pole          | 6  |
| Circuit-breaker, magnetic short-circuit releases, 3 pole | 8  |
| Circuit-breaker, electronic releases, 3 pole             | 10 |
| Circuit-breaker thermo-magnetic release, 4 pole          | 12 |
| Circuit-breakers, electronic releases, 4 pole            | 16 |
| Connection types                                         | 20 |
| Plug-in units                                            | 40 |
| Withdrawable units                                       | 41 |
| Auxiliary contact with screw terminals                   | 42 |
| Undervoltage release with screw terminals                | 44 |
| Undervoltage release, off-delayed                        | 49 |
| Shunt release with screw terminals                       | 50 |
| Door coupling rotary handles                             | 54 |
| Rotary handles                                           | 56 |
| Rotary handles with door interlock                       | 57 |
| Main switch assembly kit                                 | 58 |
| Accessories                                              | 60 |
| Mechanical interlock                                     | 62 |
| Multi-function device adapter                            | 63 |
| Accessories                                              | 64 |
| Insulated enclosures                                     | 66 |
| Residual-current release frequency response              | 68 |

## Engineering

|                                                                  |    |
|------------------------------------------------------------------|----|
| Selectivity: incoming circuit-breaker, outgoing circuit-breaker  | 70 |
| MCB, backup protection                                           | 74 |
| Direction of blow-out, minimum clearances, tube cable lugs       | 75 |
| Auxiliary switches, trip-indicating auxiliary contacts           | 76 |
| Mechanical interlock for (door-coupling) rotary handle           | 77 |
| Mechanical interlock for remote operator, residual-current relay | 78 |
| Sizes 1, 2: tripping characteristics                             | 79 |
| Sizes 2, 3: tripping characteristics                             | 80 |
| Sizes 3, 4: tripping characteristics                             | 81 |
| Frame size 1: let-through characteristics                        | 82 |
| Frame size 2: let-through characteristics                        | 83 |
| Sizes 1, 3: let-through characteristics                          | 84 |
| Sizes 2, 3: let-through characteristics                          | 85 |
| Frame size 2: residual-current release frequency response        | 86 |

## Technical data

|                                                     |     |
|-----------------------------------------------------|-----|
| Circuit-breakers                                    | 88  |
| Temperature influence                               | 92  |
| Effective power loss                                | 94  |
| Terminal capacities                                 | 96  |
| Auxiliary contact                                   | 98  |
| Equipping with auxiliary contacts, time differences | 99  |
| Undervoltage release, shunt release                 | 100 |
| Remote operator, capacitor unit                     | 101 |
| Residual current relay                              | 102 |
| Residual current release                            | 104 |

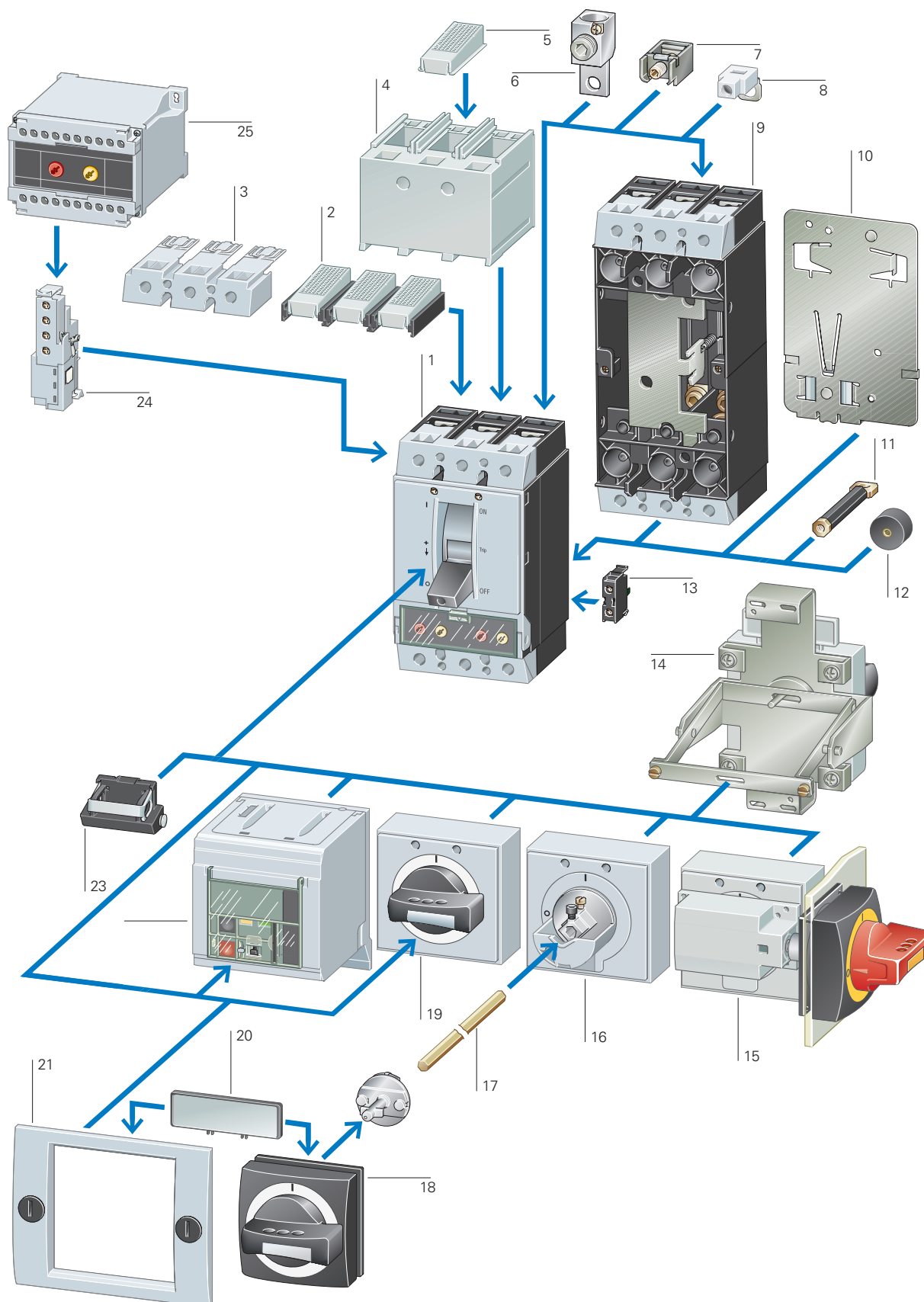
## Dimensions

|                     |     |
|---------------------|-----|
| Size 1: basic units | 106 |
| Size 1: accessories | 107 |
| Size 2: basic units | 115 |
| Size 2: accessories | 116 |
| Size 3: basic units | 127 |
| Size 3: accessories | 128 |
| Size 4: basic units | 137 |
| Size 4: accessories | 138 |

# Circuit-breakers LZM

System overview

## Circuit-breakers LZM



### Circuit-breakers L2M

#### Basic units

|                                                    |   |
|----------------------------------------------------|---|
| <b>Circuit-breaker</b>                             | 1 |
| Rated uninterrupted current up to 1600 A           |   |
| Switching capacity 25, 36, 50, 70 kA at 415 V      |   |
| Adjustable releases for overload and short-circuit |   |
| Adjustable time selectivity                        |   |
| Earth-fault protection                             |   |
| Protection of systems, cables, motors, generators  |   |
| 3 and 4 pole versions, IEC/EN 60947, CCC           |   |
| → page 6                                           |   |

#### Add-on functions

|                                                                                                                                               |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Standard auxiliary contact (HIN)</b>                                                                                                       | 13     |
| Switching with the main contacts. Used for indication and interlock functions.                                                                |        |
| → page 42                                                                                                                                     |        |
| <b>Trip-indicating auxiliary contact (HIA)</b>                                                                                                | 13     |
| General trip indication '+', when tripped by voltage release, overload release or short-circuit release                                       |        |
| → page 42                                                                                                                                     |        |
| <b>Early-make auxiliary contacts</b>                                                                                                          | 24     |
| For interlocking and load shedding circuits, as well as for early make of the undervoltage release in main switch/Emergency-stop applications |        |
| → page 42                                                                                                                                     |        |
| <b>Voltage release</b>                                                                                                                        | 24     |
| Undervoltage release                                                                                                                          |        |
| Non-delayed                                                                                                                                   |        |
| OFF-delayed                                                                                                                                   |        |
| Shunt release                                                                                                                                 |        |
| → page 44                                                                                                                                     |        |
| <b>Delay unit for under voltage release</b>                                                                                                   | 25     |
| → page 49                                                                                                                                     |        |
| <b>Rear drive</b>                                                                                                                             | 14     |
| → page 60                                                                                                                                     |        |
| <b>Door coupling rotary handle</b>                                                                                                            | 16, 18 |
| Lockable                                                                                                                                      |        |
| With door interlock                                                                                                                           |        |
| → page 54                                                                                                                                     |        |
| <b>Main switch rotary handle for side panel mounting</b>                                                                                      | 15     |
| → page 58                                                                                                                                     |        |
| <b>Extension shaft</b>                                                                                                                        | 17     |
| Can be cut to required length.                                                                                                                |        |
| → page 54                                                                                                                                     |        |
| <b>Rotary handle</b>                                                                                                                          | 19     |
| Lockable                                                                                                                                      |        |
| → page 56                                                                                                                                     |        |
| <b>Remote operator</b>                                                                                                                        | 22     |
| For remote switching of circuit-breakers and switch-disconnectors                                                                             |        |
| → page 64                                                                                                                                     |        |
| <b>Toggle lever interlock device</b>                                                                                                          | 23     |
| → page 61                                                                                                                                     |        |

#### Mounting accessories

|                                                                                           |    |
|-------------------------------------------------------------------------------------------|----|
| <b>Control circuit terminal</b>                                                           | 8  |
| For two terminals at top or bottom                                                        |    |
| L2M1 → page 23                                                                            |    |
| L2M2 → page 27                                                                            |    |
| L2M3 → page 31                                                                            |    |
| L2M4 → page 39                                                                            |    |
| <b>Tunnel terminals for Al and Cu cable</b>                                               | 6  |
| Standard with control circuit terminal                                                    |    |
| L2M1 → page 21                                                                            |    |
| L2M2 → page 25                                                                            |    |
| L2M3 → page 31                                                                            |    |
| L2M4 → page 37                                                                            |    |
| <b>Box terminals</b>                                                                      | 7  |
| Standard version of frame size 1 assembled within the circuit-breaker enclosure           |    |
| L2M1 → page 21                                                                            |    |
| L2M2 → page 25                                                                            |    |
| L2M3 → page 29                                                                            |    |
| <b>Terminal cover</b>                                                                     | 4  |
| Protection against direct contact where cable lugs, busbars or tunnel terminals are used  |    |
| L2M1 → page 23                                                                            |    |
| L2M2 → page 27                                                                            |    |
| L2M3 → page 32                                                                            |    |
| L2M4 → page 39                                                                            |    |
| <b>Terminal cover, knockout</b>                                                           | 3  |
| L2M1 → page 23                                                                            |    |
| L2M2 → page 27                                                                            |    |
| L2M3 → page 32                                                                            |    |
| L2M4 → page 39                                                                            |    |
| <b>Clip plate</b>                                                                         | 10 |
| N2M1-XC35 for 35 mm top-hat rail                                                          |    |
| N2M2-XC75 for 75 mm top-hat rail                                                          |    |
| → page 61                                                                                 |    |
| <b>Rear connection</b>                                                                    | 11 |
| L2M1 → page 21                                                                            |    |
| L2M2 → page 25                                                                            |    |
| L2M3 → page 31                                                                            |    |
| L2M4 → page 37                                                                            |    |
| <b>Plug-in and withdrawable unit</b>                                                      | 9  |
| → page 40                                                                                 |    |
| <b>Insulating surround</b>                                                                | 21 |
| For use with toggle lever, rotary drive and remote operator protruding from the enclosure |    |
| → page 61                                                                                 |    |
| <b>External warning plate/designation label</b>                                           | 20 |
| → page 60                                                                                 |    |
| <b>Spacer</b>                                                                             | 12 |
| → page 61                                                                                 |    |
| <b>IP2X protection against contact with a finger</b>                                      | 2  |
| For box terminals                                                                         |    |
| L2M1 → page 23                                                                            |    |
| L2M2 → page 27                                                                            |    |
| L2M3 → page 32                                                                            |    |
| <b>IP2X protection against contact with a finger</b>                                      | 5  |
| For barrier                                                                               |    |
| L2M1 → page 23                                                                            |    |
| L2M2 → page 27                                                                            |    |
| L2M3 → page 32                                                                            |    |

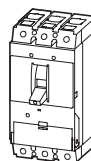
# Circuit-breakers L2M

## Technical overview

### Circuit-breaker, 3/4 pole L2M1, L2M2, L2M3, L2M4

#### Circuit-breaker

With main switch characteristics to IEC/EN 60204 and isolating characteristics to IEC/EN 60947, CCC



Rated uninterrupted current  $I_u$  = Rated current  $I_n$

Adjustable overload release  $I_r$

Adjustable short-circuit release  $I_i$

Delayed short-circuit release  $I_{sd}$

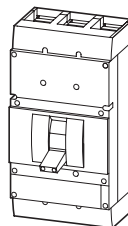
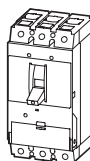
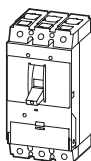
#### Thermomagnetic releases

#### System and cable protection

|                                                             |                  | $I_u$<br>A        | $I_u$<br>A | $I_r$<br>A           | $I_i$<br>A                                 |
|-------------------------------------------------------------|------------------|-------------------|------------|----------------------|--------------------------------------------|
| Ambient temperature at 100% $I_u$<br>min./max. -25 / +50 °C |                  | 20                | 20         | $0.8 - 1 \times I_n$ | 350                                        |
|                                                             |                  | 25                | 25         | $0.8 - 1 \times I_n$ | 350                                        |
|                                                             |                  | 32                | 32         | $0.8 - 1 \times I_n$ | 350                                        |
|                                                             |                  | 40                | 40         | $0.8 - 1 \times I_n$ | $8 - 10 \times I_n$                        |
|                                                             |                  | 50                | 50         | $0.8 - 1 \times I_n$ | $6 - 10 \times I_n$                        |
|                                                             |                  | 63                | 63         | $0.8 - 1 \times I_n$ | $6 - 10 \times I_n$                        |
|                                                             |                  | 80                | 80         | $0.8 - 1 \times I_n$ | $6 - 10 \times I_n$                        |
|                                                             |                  | 100               | 100        | $0.8 - 1 \times I_n$ | $6 - 10 \times I_n$                        |
|                                                             |                  | 125               | 125 250    | $0.8 - 1 \times I_n$ | $6 - 10 \times I_n$                        |
|                                                             |                  | 160               | 160 320    | $0.8 - 1 \times I_n$ | L2M1: $8 \times I_n$ , $6 - 10 \times I_n$ |
|                                                             |                  | 160               | 200 400    | $0.8 - 1 \times I_n$ | L2M1: $8 \times I_n$ , $6 - 10 \times I_n$ |
|                                                             |                  | 160               | 250 500    | $0.8 - 1 \times I_n$ | L2M1: $8 \times I_n$ , $6 - 10 \times I_n$ |
|                                                             |                  | 160               | 300        | $0.8 - 1 \times I_n$ | L2M1: $8 \times I_n$ , $6 - 10 \times I_n$ |
| <b>Basic switching capacity</b>                             |                  | <b>L2MB1-A...</b> |            | <b>L2MB2-A...</b>    |                                            |
| 400/415 V                                                   | kA/cos $\varphi$ | 25                | 0.25       | 25                   | 0.25                                       |
| 440 V                                                       | kA/cos $\varphi$ | 25                | 0.25       | 25                   | 0.25                                       |
| <b>Comfort switching capacity</b>                           |                  | <b>L2MC1-A...</b> |            | <b>L2MC2-A...</b>    | <b>L2MC3-A...</b>                          |
| 400/415 V                                                   | kA/cos $\varphi$ | 36                | 0.25       | 36                   | 0.25                                       |
| 440 V                                                       | kA/cos $\varphi$ | 30                | 0.25       | 30                   | 0.25                                       |
| 525 V                                                       | kA/cos $\varphi$ | 12                | 0.5        | 12                   | 0.5                                        |
| 690 V                                                       | kA/cos $\varphi$ | 8                 | 0.5        | 8                    | 0.5                                        |
| <b>Normal switching capacity</b>                            |                  | <b>L2MN1-A...</b> |            | <b>L2MN2-A...</b>    | <b>L2MN3-A...</b>                          |
| 400/415 V                                                   | kA/cos $\varphi$ | 50                | 0.25       | 50                   | 0.25                                       |
| 440 V                                                       | kA/cos $\varphi$ | 35                | 0.25       | 35                   | 0.25                                       |
| 525 V                                                       | kA/cos $\varphi$ | 20                | 0.30       | 25                   | 0.25                                       |
| 690 V                                                       | kA/cos $\varphi$ | 10                | 0.50       | 20                   | 0.30                                       |
| <b>Strong switching capacity</b>                            |                  | <b>L2MS1-A...</b> |            | <b>L2MS2-A...</b>    | <b>L2MS3-A...</b>                          |
| 400/415 V                                                   | kA/cos $\varphi$ | 70                | 0.20       | 70                   | 0.20                                       |
| 440 V                                                       | kA/cos $\varphi$ | 35                | 0.25       | 65                   | 0.20                                       |
| 525 V                                                       | kA/cos $\varphi$ | 20                | 0.30       | 36                   | 0.25                                       |
| 690 V                                                       | kA/cos $\varphi$ | 10                | 0.50       | 20                   | 0.30                                       |

#### Notes

The stated switching capacity values are rated ultimate short-circuit breaking capacities ( $I_{cu}$ )



### Magnetic short-circuit release Motor protection

| $I_u$<br>A | $I_u$<br>A | $I_u$<br>A | $I_i$<br>A          |
|------------|------------|------------|---------------------|
|            |            |            |                     |
|            |            |            |                     |
| 40         |            |            | $8 - 14 \times I_n$ |
| 50         |            |            | $8 - 14 \times I_n$ |
| 63         |            |            | $8 - 14 \times I_n$ |
| 80         |            |            | $8 - 14 \times I_n$ |
| 100        |            |            |                     |
| 100        | 125        | 250        |                     |
| 100        | 160        | 320        |                     |
| 100        | 200        | 400        |                     |
| 100        |            | 500        |                     |
| 100        |            |            |                     |

### LZMB1-S... LZMB2-S...

|    |      |    |      |
|----|------|----|------|
| 25 | 0.25 | 25 | 0.25 |
| 25 | 0.25 | 25 | 0.25 |

### LZMC1-S... LZMC2-S... LZMC3-S...

|    |      |    |      |    |      |
|----|------|----|------|----|------|
| 36 | 0.25 | 36 | 0.25 | 36 | 0.25 |
| 30 | 0.25 | 30 | 0.25 | 30 | 0.25 |
| 12 | 0.50 | 12 | 0.25 | 12 | 0.25 |
| 8  | 0.50 | 8  | 0.50 | 8  | 0.50 |

### LZMN1-S... LZMN2-S... LZMN3-S...

|    |      |    |      |    |      |
|----|------|----|------|----|------|
| 50 | 0.25 | 50 | 0.25 | 50 | 0.25 |
| 35 | 0.25 | 35 | 0.25 | 35 | 0.25 |
| 20 | 0.30 | 25 | 0.25 | 25 | 0.25 |
| 10 | 0.50 | 20 | 0.30 | 20 | 0.30 |

### LZMS1-S... LZMS2-S... LZMS3-S...

|    |      |    |      |    |      |
|----|------|----|------|----|------|
| 70 | 0.20 | 70 | 0.20 | 70 | 0.20 |
| 35 | 0.25 | 65 | 0.20 | 65 | 0.20 |
| 20 | 0.30 | 36 | 0.25 | 36 | 0.25 |
| 10 | 0.50 | 20 | 0.30 | 25 | 0.30 |

### Electronic releases Systems, cable, selectivity and generator protection

| $I_u$<br>A | $I_u$<br>A | $I_r$<br>A           | $I_{sd}$<br>A       | $I_i$<br>A          |
|------------|------------|----------------------|---------------------|---------------------|
|            |            | $0.5 - 1 \times I_n$ | $2 - 10 \times I_r$ | $2 - 12 \times I_n$ |
| 400        | 800        | $0.5 - 1 \times I_n$ | $2 - 10 \times I_r$ | $2 - 12 \times I_n$ |
| 630        | 1000       | $0.5 - 1 \times I_n$ | $2 - 10 \times I_r$ | $2 - 12 \times I_n$ |
| 630        | 1250       | $0.5 - 1 \times I_n$ | $2 - 10 \times I_r$ | $2 - 12 \times I_n$ |
| 630        | 1600       | $0.5 - 1 \times I_n$ | $2 - 10 \times I_r$ | $2 - 12 \times I_n$ |
| 630        |            |                      | $2 - 6 \times I_r$  | $2 - 8 \times I_r$  |
| 630        |            |                      |                     |                     |

### LZMN3-...E... LZMN4-...E...

|    |      |    |      |
|----|------|----|------|
| 50 | 0.25 | 50 | 0.25 |
| 35 | 0.25 | 35 | 0.25 |
| 25 | 0.25 | 25 | 0.25 |
| 20 | 0.30 | 20 | 0.30 |

### LZMS3-...E... LZMS4-...E...

|    |      |    |      |
|----|------|----|------|
| 70 | 0.20 | 70 | 0.20 |
| 65 | 0.20 | 65 | 0.20 |
| 36 | 0.25 | 36 | 0.25 |
| 25 | 0.30 | 35 | 0.25 |

# Circuit-breakers LZM

## Ordering

### Circuit-breaker, thermo-magnetic release, 3 pole LZM...1, LZM...2, LZM...3

Basic switching capacity **25 kA**  
at 415 V 50/60 Hz

Comfort switching capacity **36 kA**  
at 415 V 50/60 Hz

Rated current =  
rated uninterrupted  
current

#### Setting range

Overload releases

Short-circuit releases

$I_n = I_u$

$I_r$

$I_i$

A

A

A



**Part no.**  
Article no.

**Price**  
see price  
list

**Part no.**  
Article no.

**Price**  
see price  
list

#### Protection of systems and cables

3 pole

Terminals standard, terminal  
screws as accessories



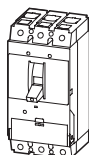
|     |           |            |                             |                             |
|-----|-----------|------------|-----------------------------|-----------------------------|
| 20  | 15...20   | 350        | <b>LZMB1-A20</b><br>109232  | <b>LZMC1-A20</b><br>109432  |
| 25  | 20...25   | 350        | <b>LZMB1-A25</b><br>109233  | <b>LZMC1-A25</b><br>109433  |
| 32  | 25...32   | 350        | <b>LZMB1-A32</b><br>109234  | <b>LZMC1-A32</b><br>109434  |
| 40  | 32...40   | 320...400  | <b>LZMB1-A40</b><br>109235  | <b>LZMC1-A40</b><br>109435  |
| 50  | 40...50   | 300...500  | <b>LZMB1-A50</b><br>109236  | <b>LZMC1-A50</b><br>109436  |
| 63  | 50...63   | 380...630  | <b>LZMB1-A63</b><br>109237  | <b>LZMC1-A63</b><br>109437  |
| 80  | 63...80   | 480...800  | <b>LZMB1-A80</b><br>109238  | <b>LZMC1-A80</b><br>109438  |
| 100 | 80...100  | 600...1000 | <b>LZMB1-A100</b><br>109239 | <b>LZMC1-A100</b><br>109439 |
| 125 | 100...125 | 750...1250 | <b>LZMB1-A125</b><br>109430 | <b>LZMC1-A125</b><br>109440 |
| 160 | 125...160 | 1280       | <b>LZMB1-A160</b><br>109431 | <b>LZMC1-A160</b><br>109441 |

Terminal screws standard,  
terminals as accessories



|     |           |             |                             |                             |
|-----|-----------|-------------|-----------------------------|-----------------------------|
| 20  | 15...20   | 350         |                             |                             |
| 25  | 20...25   | 350         |                             |                             |
| 32  | 25...32   | 350         |                             |                             |
| 40  | 32...40   | 320...400   |                             |                             |
| 50  | 40...50   | 300...500   |                             |                             |
| 63  | 50...63   | 380...630   |                             |                             |
| 80  | 63...80   | 480...800   |                             |                             |
| 100 | 80...100  | 600...1000  |                             |                             |
| 125 | 100...125 | 750...1250  |                             |                             |
| 160 | 125...160 | 960...1600  | <b>LZMB2-A160</b><br>109522 | <b>LZMC2-A160</b><br>109526 |
| 200 | 160...200 | 1200...2000 | <b>LZMB2-A200</b><br>109523 | <b>LZMC2-A200</b><br>109527 |
| 250 | 200...250 | 1500...2500 | <b>LZMB2-A250</b><br>109524 | <b>LZMC2-A250</b><br>109528 |
| 300 | 240...300 | 1500...2500 | <b>LZMB2-A300</b><br>109525 | <b>LZMC2-A300</b><br>109529 |
| 250 | 200...250 | 1500...2500 |                             | <b>LZMC3-A250</b><br>109597 |
| 320 | 250...320 | 1920...3200 |                             | <b>LZMC3-A320</b><br>109598 |
| 400 | 320...400 | 2400...4000 |                             | <b>LZMC3-A400</b><br>109599 |
| 500 | 400...500 | 3000...5000 |                             | <b>LZMC3-A500</b><br>109600 |

Terminal screws standard,  
terminals as accessories



#### Notes

Notes for terminals → 21

Normal switching capacity **50 kA**  
at 415 V 50/60 Hz

Strong switching capacity **70 kA**  
at 415 V 50/60 Hz

| Part no.<br>Article no.     | Price<br>see price list | Part no.<br>Article no.     | Price<br>see price list | Std. pack | Notes                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|-------------------------|-----------------------------|-------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LZMN1-A20</b><br>109442  |                         | <b>LZMS1-A20</b><br>109452  |                         | 1 off     | IEC/EN 60947-2<br>Adjustable overload releases $I_r$<br>• $0.8 - 1 \times I_n$ (ex-works $0.8 \times I_n$ )<br>Adjustable short-circuit releases $I_i$<br>• $6 - 10 \times I_n$ (ex-works $6 \times I_n$ )<br>– LZM...-A40: $8 - 10 \times I_n$ (ex-works $8 \times I_n$ )<br>Fixed short-circuit release $I_i$<br>• 350 A at $I_n = 20 - 32$ A<br>• 1280 A at $I_n = 160$ A (LZM1) |
| <b>LZMN1-A25</b><br>109443  |                         | <b>LZMS1-A25</b><br>109453  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN1-A32</b><br>109444  |                         | <b>LZMS1-A32</b><br>109454  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN1-A40</b><br>109445  |                         | <b>LZMS1-A40</b><br>109455  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN1-A50</b><br>109446  |                         | <b>LZMS1-A50</b><br>109456  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN1-A63</b><br>109447  |                         | <b>LZMS1-A63</b><br>109457  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN1-A80</b><br>109448  |                         | <b>LZMS1-A80</b><br>109458  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN1-A100</b><br>109449 |                         | <b>LZMS1-A100</b><br>109459 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN1-A125</b><br>109450 |                         | <b>LZMS1-A125</b><br>109460 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN1-A160</b><br>109451 |                         | <b>LZMS1-A160</b><br>109461 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A20</b><br>109534  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A25</b><br>109535  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A32</b><br>109536  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A40</b><br>109537  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A50</b><br>109538  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A63</b><br>109539  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A80</b><br>109540  |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A100</b><br>109541 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
|                             |                         | <b>LZMS2-A125</b><br>109542 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN2-A160</b><br>109530 |                         | <b>LZMS2-A160</b><br>109543 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN2-A200</b><br>109531 |                         | <b>LZMS2-A200</b><br>109544 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN2-A250</b><br>109532 |                         | <b>LZMS2-A250</b><br>109545 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN2-A300</b><br>109533 |                         | <b>LZMS2-A300</b><br>109546 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN3-A250</b><br>109601 |                         | <b>LZMS3-A250</b><br>109605 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN3-A320</b><br>109602 |                         | <b>LZMS3-A320</b><br>109606 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN3-A400</b><br>109603 |                         | <b>LZMS3-A400</b><br>109607 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>LZMN3-A500</b><br>109604 |                         | <b>LZMS3-A500</b><br>109608 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                     |

# Circuit-breakers LZM

## Ordering

### Circuit-breaker, magnetic short-circuit releases, 3 pole LZM...1, LZM...2, LZM...3

| Rated current =<br>rated uninterrupted<br>current | Setting range<br>Short-circuit<br>releases | Motor rating<br>AC-3 at 400 V<br>50/60 Hz | Rated<br>operational<br>current AC-3<br>at 400 V<br>50/60 Hz | Basic switching capacity<br><b>25 kA</b> at 415 V 50/60 Hz<br><b>Part no.</b><br>Article no. | Price<br>see price<br>list | Comfort switching capacity<br><b>36 kA</b> at 415 V 50/60 Hz<br><b>Part no.</b><br>Article no. | Price<br>see price<br>list |
|---------------------------------------------------|--------------------------------------------|-------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------|----------------------------|
| $I_n = I_u$                                       | $I_i$                                      | $P$                                       | $I_e$                                                        |                                                                                              |                            |                                                                                                |                            |
| A                                                 | A                                          | kW                                        | A                                                            |                                                                                              |                            |                                                                                                |                            |



#### Short-circuit protection

##### Motor protection in conjunction with overload relay

- With short-circuit release
- Without overload release

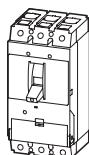
Terminals standard,  
terminal screws as  
accessories



Terminal screws  
standard, terminals  
as accessories



Terminal screws  
standard, terminals  
as accessories



|        |             |      |     |                             |  |                             |  |
|--------|-------------|------|-----|-----------------------------|--|-----------------------------|--|
| 3 pole |             |      |     |                             |  |                             |  |
| 40     | 320...560   | 18.5 | 36  | <b>LZMB1-S40</b><br>109462  |  | <b>LZMC1-S40</b><br>109467  |  |
| 50     | 400...700   | 22   | 41  | <b>LZMB1-S50</b><br>109463  |  | <b>LZMC1-S50</b><br>109468  |  |
| 63     | 504...882   | 30   | 55  | <b>LZMB1-S63</b><br>109464  |  | <b>LZMC1-S63</b><br>109469  |  |
| 80     | 640...1120  | 37   | 68  | <b>LZMB1-S80</b><br>109465  |  | <b>LZMC1-S80</b><br>109470  |  |
| 100    | 800...1250  | 55   | 99  | <b>LZMB1-S100</b><br>109466 |  | <b>LZMC1-S100</b><br>109471 |  |
| 40     | 320...560   | 18.5 | 36  |                             |  |                             |  |
| 50     | 400...700   | 22   | 41  |                             |  |                             |  |
| 63     | 504...882   | 30   | 55  |                             |  |                             |  |
| 80     | 640...1120  | 37   | 68  |                             |  |                             |  |
| 100    | 800...1400  | 55   | 99  |                             |  |                             |  |
| 125    | 1000...1750 | 55   | 99  | <b>LZMB2-S125</b><br>109547 |  | <b>LZMC2-S125</b><br>109550 |  |
| 160    | 1280...2240 | 75   | 134 | <b>LZMB2-S160</b><br>109548 |  | <b>LZMC2-S160</b><br>109551 |  |
| 200    | 1600...2500 | 110  | 196 | <b>LZMB2-S200</b><br>109549 |  | <b>LZMC2-S200</b><br>109552 |  |
| 250    | 2000...3500 |      | 250 |                             |  | <b>LZMC3-S250</b><br>109609 |  |
| 320    | 2560...4480 |      | 320 |                             |  | <b>LZMC3-S320</b><br>109610 |  |
| 400    | 2800...5000 |      | 400 |                             |  | <b>LZMC3-S400</b><br>109611 |  |
| 500    | 3000...5000 |      | 450 |                             |  | <b>LZMC3-S500</b><br>109612 |  |

#### Notes

Notes for terminals → 21

Normal switching capacity  
**50 kA** at 415 V 50/60 Hz

**Part no.**      **Price**  
Article no.      see price  
list

Strong switching capacity  
**70 kA** at 415 V 50/60 Hz

**Part no.**      **Price**  
Article no.      see price  
list

Std. pack      **Notes**

|                             |                             |       |
|-----------------------------|-----------------------------|-------|
| <b>LZMN1-S40</b><br>109472  | <b>LZMS1-S40</b><br>109477  | 1 off |
| <b>LZMN1-S50</b><br>109473  | <b>LZMS1-S50</b><br>109478  | 1 off |
| <b>LZMN1-S63</b><br>109474  | <b>LZMS1-S63</b><br>109479  | 1 off |
| <b>LZMN1-S80</b><br>109475  | <b>LZMS1-S80</b><br>109480  | 1 off |
| <b>LZMN1-S100</b><br>109476 | <b>LZMS1-S100</b><br>109481 | 1 off |
|                             | <b>LZMS2-S40</b><br>109556  | 1 off |
|                             | <b>LZMS2-S50</b><br>109557  | 1 off |
|                             | <b>LZMS2-S63</b><br>109558  | 1 off |
|                             | <b>LZMS2-S80</b><br>109559  | 1 off |
|                             | <b>LZMS2-S100</b><br>109560 | 1 off |
| <b>LZMN2-S125</b><br>109553 | <b>LZMS2-S125</b><br>109561 | 1 off |
| <b>LZMN2-S160</b><br>109554 | <b>LZMS2-S160</b><br>109562 | 1 off |
| <b>LZMN2-S200</b><br>109555 | <b>LZMS2-S200</b><br>109563 | 1 off |
| <b>LZMN3-S250</b><br>109613 | <b>LZMS3-S250</b><br>109617 | 1 off |
| <b>LZMN3-S320</b><br>109614 | <b>LZMS3-S320</b><br>109618 | 1 off |
| <b>LZMN3-S400</b><br>109615 | <b>LZMS3-S400</b><br>109619 | 1 off |
| <b>LZMN3-S500</b><br>109616 | <b>LZMS3-S500</b><br>109620 | 1 off |

IEC/EN 60947-4-1 and IEC/EN 60947-2  
The circuit-breaker fulfills all requirements for AC-3 switching category.  
Adjustable short-circuit releases  $I_i$   
•  $8 - 14 \times I_n$  (ex-works  $12 \times I_n$ )  
– LZM...1-S100, LZM...2-S200:  $8 - 12.5 \times I_n$  (ex-works  $12 \times I_n$ )  
Without overload release  $I_r$   
– LZM...3-S400:  $7 - 12.5 \times I_n$   
– LZM...3-S500:  $6 - 10 \times I_n$

#### Selection

of circuit-breakers without overload release when combining with ZEV electronic motor-protective relay:

The tripping response of the ZEV motor-protective relay is matched by setting of the tripping class (CLASS), to the starting behaviour of the motor to be protected.

|              | $I_n$ in A | Maximum permissible tripping class CLASS |
|--------------|------------|------------------------------------------|
| LZM...1-S... | 40         | 30                                       |
|              | 50         | 30                                       |
|              | 63         | 30                                       |
|              | 80         | 20                                       |
|              | 100        | 15                                       |
| LZM...2-S... | 40         | 30                                       |
|              | 50         | 30                                       |
|              | 63         | 30                                       |
|              | 80         | 30                                       |
|              | 100        | 30                                       |
| LZM...3-S... | 125        | 30                                       |
|              | 160        | 20                                       |
|              | 200        | 10                                       |
|              | 250        | 30                                       |
|              | 320        | 30                                       |
|              | 400        | 30                                       |
|              | 500        | 20                                       |

| Tripping class | Tripping time $T_p$ with load on all poles of 7.2 times current setting value |
|----------------|-------------------------------------------------------------------------------|
| 10 A           | $2 \text{ s} < T_p \leq 10 \text{ s}$                                         |
| 10             | $4 \text{ s} < T_p \leq 10 \text{ s}$                                         |
| 20             | $6 \text{ s} < T_p \leq 20 \text{ s}$                                         |
| 30             | $9 \text{ s} < T_p \leq 30 \text{ s}$                                         |

Motor-starter combination of classification types 1 and 2 can be found in the "Fuseless motor-starter combinations" section of the Main Catalogue.

# Circuit-breakers LZM

## Ordering

### Electronic releases, 3 pole LZM...3, LZM...4

Normal switching capacity **50 kA**  
at 415 V 50/60 Hz

**Part no.**  
Article no.

**Price**  
see price list

Rated current = rated  
uninterrupted current

#### Setting range

Overload  
releases

Short-circuit releases

Non-delayed

Delayed short-  
circuit release

$I_n = I_u$   
A

$I_r$   
A

$I_i$   
A

$I_{sd}$   
A



#### Protection of systems and cables

3 pole

|     |           |            |                              |
|-----|-----------|------------|------------------------------|
| 400 | 200...400 | 800...4400 | <b>LZMN3-AE400</b><br>109639 |
|-----|-----------|------------|------------------------------|

|     |           |             |                              |
|-----|-----------|-------------|------------------------------|
| 630 | 315...630 | 1260...5040 | <b>LZMN3-AE630</b><br>109640 |
|-----|-----------|-------------|------------------------------|

|     |           |             |                              |
|-----|-----------|-------------|------------------------------|
| 800 | 400...800 | 1600...9600 | <b>LZMN4-AE800</b><br>110942 |
|-----|-----------|-------------|------------------------------|

|      |            |              |                               |
|------|------------|--------------|-------------------------------|
| 1000 | 500...1000 | 2000...12000 | <b>LZMN4-AE1000</b><br>110943 |
|------|------------|--------------|-------------------------------|

|      |            |              |                               |
|------|------------|--------------|-------------------------------|
| 1250 | 630...1250 | 2500...15000 | <b>LZMN4-AE1250</b><br>110944 |
|------|------------|--------------|-------------------------------|

|      |            |              |                               |
|------|------------|--------------|-------------------------------|
| 1600 | 800...1600 | 3200...19200 | <b>LZMN4-AE1600</b><br>110945 |
|------|------------|--------------|-------------------------------|

#### Systems and cable protection, selectivity and generator protection

3 pole

|     |           |            |            |                              |
|-----|-----------|------------|------------|------------------------------|
| 400 | 200...400 | 800...4400 | 400...4000 | <b>LZMN3-VE400</b><br>109651 |
|-----|-----------|------------|------------|------------------------------|

|     |           |             |            |                              |
|-----|-----------|-------------|------------|------------------------------|
| 630 | 315...630 | 1260...5040 | 472...4410 | <b>LZMN3-VE630</b><br>109652 |
|-----|-----------|-------------|------------|------------------------------|

|     |           |             |            |                              |
|-----|-----------|-------------|------------|------------------------------|
| 800 | 400...800 | 1600...9600 | 800...8000 | <b>LZMN4-VE800</b><br>110960 |
|-----|-----------|-------------|------------|------------------------------|

|      |            |              |              |                               |
|------|------------|--------------|--------------|-------------------------------|
| 1000 | 500...1000 | 2000...12000 | 1000...10000 | <b>LZMN4-VE1000</b><br>110961 |
|------|------------|--------------|--------------|-------------------------------|

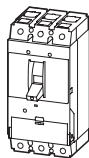
|      |            |              |              |                               |
|------|------------|--------------|--------------|-------------------------------|
| 1250 | 630...1250 | 2500...15000 | 1250...12500 | <b>LZMN4-VE1250</b><br>110962 |
|------|------------|--------------|--------------|-------------------------------|

|      |            |              |              |                               |
|------|------------|--------------|--------------|-------------------------------|
| 1600 | 800...1600 | 3200...19200 | 1600...16000 | <b>LZMN4-VE1600</b><br>110963 |
|------|------------|--------------|--------------|-------------------------------|

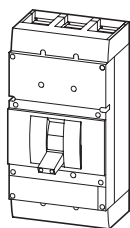
#### Notes

Notes for terminals → 29

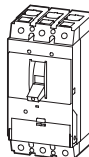
Terminal screws standard,  
terminals as accessories



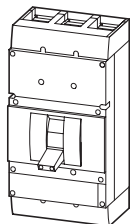
Terminal screws standard,  
terminals as accessories



Terminal screws standard,  
terminals as accessories



Terminal screws standard,  
terminals as accessories



Strong switching capacity **70 kA**  
at 415 V 50/60 Hz

| Part no.<br>Article no. | Price<br>see price list | Std. pack | Notes |
|-------------------------|-------------------------|-----------|-------|
|-------------------------|-------------------------|-----------|-------|

|                               |       |                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LZMS3-AE400</b><br>109641  | 1 off | IEC/EN 60947-2                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>LZMS3-AE630</b><br>109642  | 1 off | Adjustable overload releases $I_r$<br>• $0.5 - 1 \times I_n$ (ex-works $0.8 \times I_n$ )<br><br>R.m.s. value measurement and "thermal memory"<br><br>Adjustable short-circuit releases $I_i$<br>• LZM...3-AE400: $2 - 11 \times I_n$ (ex-works $6 \times I_n$ )<br>• LZM...3-AE630: $2 - 8 \times I_n$ (ex-works $6 \times I_n$ )<br>• LZM...4-AE...: $2 - 12 \times I_n$ (ex-works $6 \times I_n$ ) |
| <b>LZMS4-AE800</b><br>110946  | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>LZMS4-AE1000</b><br>110947 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>LZMS4-AE1250</b><br>110948 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>LZMS4-AE1600</b><br>110949 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>LZMS3-VE400</b><br>109653  | 1 off | IEC/EN 60947-2                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>LZMS3-VE630</b><br>109654  | 1 off | Adjustable overload releases $I_r$<br>• $0.5 - 1 \times I_n$ (ex-works $0.8 \times I_n$ )<br><br>R.m.s. value measurement and "thermal memory"<br><br>Adjustable time delay setting to overcome current peaks $t_r$<br>• $2 \dots 20$ s with $6 \times I_r$ as well as infinity (without overload release) (ex-factory 10 s)                                                                          |
| <b>LZMS4-VE800</b><br>110964  | 1 off | Adjustable delayed short-circuit releases $I_{sd}$<br>• $2 - 10 \times I_r$ (ex-works $6 \times I_r$ )<br>– LZM...3-VE630: $1.5 - 7 \times I_r$ (ex-works $6 \times I_r$ )                                                                                                                                                                                                                            |
| <b>LZMS4-VE1000</b><br>110965 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>LZMS4-VE1250</b><br>110966 | 1 off | Adjustable delay time $t_{sd}$<br>• Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms (ex-works 0 ms)                                                                                                                                                                                                                                                                                                |
| <b>LZMS4-VE1600</b><br>110967 | 1 off | Adjustable non-delayed short-circuit releases $I_i$<br>• LZM...3-VE400: $2 - 11 \times I_n$ (ex-works $6 \times I_n$ )<br>• LZM...3-VE630: $2 - 8 \times I_n$ (ex-works $6 \times I_n$ )<br>• LZM...4-VE...: $2 - 12 \times I_n$ (ex-works $12 \times I_n$ )<br>$i^2t$ constant function<br>• LZM3, LZM4 switched (ex-works OFF)                                                                      |

# Circuit-breakers L2M

## Ordering

Terminals standard,  
terminal screws as  
accessories



### Thermomagnetic release, 4 pole L2M...1

Rated current =  
rated uninterrupted  
current

#### Setting range

Overload releases

Short-circuit  
releases

$I_n = I_u$

Main pole

Neutral  
conductor

$I_r$

$I_r$

$I_i$

A

A

A

A



Basic switching capacity **25 kA** at  
415 V 50/60 Hz

Comfort switching capacity  
**36 kA** at 415 V 50/60 Hz

**Part no.**  
Article no.

**Price**  
see price list

**Part no.**  
Article no.

**Price**  
see price list

#### Protection of systems and cables

4 pole

|     |           |           |            |                               |                               |
|-----|-----------|-----------|------------|-------------------------------|-------------------------------|
| 20  | 15...20   | 15...20   | 350        | <b>LZMB1-4-A20</b><br>109482  | <b>LZMC1-4-A20</b><br>109492  |
| 25  | 20...25   | 20...25   | 350        | <b>LZMB1-4-A25</b><br>109483  | <b>LZMC1-4-A25</b><br>109493  |
| 32  | 25...32   | 25...32   | 350        | <b>LZMB1-4-A32</b><br>109484  | <b>LZMC1-4-A32</b><br>109494  |
| 40  | 32...40   | 32...40   | 320...400  | <b>LZMB1-4-A40</b><br>109485  | <b>LZMC1-4-A40</b><br>109495  |
| 50  | 40...50   | 40...50   | 300...500  | <b>LZMB1-4-A50</b><br>109486  | <b>LZMC1-4-A50</b><br>109496  |
| 63  | 50...63   | 50...63   | 380...630  | <b>LZMB1-4-A63</b><br>109487  | <b>LZMC1-4-A63</b><br>109497  |
| 80  | 63...80   | 63...80   | 480...800  | <b>LZMB1-4-A80</b><br>109488  | <b>LZMC1-4-A80</b><br>109498  |
| 100 | 80...100  | 80...100  | 600...1000 | <b>LZMB1-4-A100</b><br>109489 | <b>LZMC1-4-A100</b><br>109499 |
| 125 | 100...125 | 100...125 | 750...1250 | <b>LZMB1-4-A125</b><br>109490 | <b>LZMC1-4-A125</b><br>109500 |
| 160 | 125...160 | 125...160 | 1280       | <b>LZMB1-4-A160</b><br>109491 | <b>LZMC1-4-A160</b><br>109501 |

#### Notes

Notes for terminals → 21

Normal switching capacity **50 kA**  
at 415 V 50/60 Hz

Strong switching capacity **70 kA**  
at 415 V 50/60 Hz

| Part no.    | Price          | Part no.    | Price          | Std. pack | Notes |
|-------------|----------------|-------------|----------------|-----------|-------|
| Article no. | see price list | Article no. | see price list |           |       |

|                               |                               |       |                                                                                                                                                                |
|-------------------------------|-------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LZMN1-4-A20</b><br>109502  | <b>LZMS1-4-A20</b><br>109512  | 1 off | IEC/EN 60947-2                                                                                                                                                 |
| <b>LZMN1-4-A25</b><br>109503  | <b>LZMS1-4-A25</b><br>109513  | 1 off | Adjustable overload releases $I_r$<br>• $0.8 - 1 \times I_n$ (ex-works $0.8 \times I_n$ )                                                                      |
| <b>LZMN1-4-A32</b><br>109504  | <b>LZMS1-4-A32</b><br>109514  | 1 off | Setting on neutral pole implemented via the main pole setting $I_r$ of the main pole.                                                                          |
| <b>LZMN1-4-A40</b><br>109505  | <b>LZMS1-4-A40</b><br>109515  | 1 off | Adjustable short-circuit releases $I_i$<br>• $6 - 10 \times I_n$ (ex-works $6 \times I_n$ )<br>– LZM...1-4-A40: $8 - 10 \times I_n$ (ex-works $8 \times I_n$ ) |
| <b>LZMN1-4-A50</b><br>109506  | <b>LZMS1-4-A50</b><br>109516  | 1 off | Fixed short-circuit release $I_i$<br>• 350 A at $I_n = 20 - 32$ A<br>• 1280 A at $I_n = 160$ A ( $8 \times I_n$ )                                              |
| <b>LZMN1-4-A63</b><br>109507  | <b>LZMS1-4-A63</b><br>109517  | 1 off | LZM..1-4-A...                                                                                                                                                  |
| <b>LZMN1-4-A80</b><br>109508  | <b>LZMS1-4-A80</b><br>109518  | 1 off | • With 100 % overload and short-circuit protection in 4th pole                                                                                                 |
| <b>LZMN1-4-A100</b><br>109509 | <b>LZMS1-4-A100</b><br>109519 | 1 off |                                                                                                                                                                |
| <b>LZMN1-4-A125</b><br>109510 | <b>LZMS1-4-A125</b><br>109520 | 1 off |                                                                                                                                                                |
| <b>LZMN1-4-A160</b><br>109511 | <b>LZMS1-4-A160</b><br>109521 | 1 off |                                                                                                                                                                |

# Circuit-breakers LZM

## Ordering

### Thermomagnetic release, 4 pole LZM...2, LZM...3

Basic switching capacity **25 kA**  
at 415 V 50/60 Hz

Comfort switching capacity **36 kA**  
at 415 V 50/60 Hz

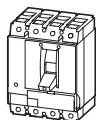
| Rated current =<br>rated uninterrupted<br>current | Setting range                                                                     |                                                                                   | Short-circuit<br>releases                                                         | Part no.<br>Article no. | Price<br>see price<br>list | Part no.<br>Article no. | Price<br>see price<br>list |
|---------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------|----------------------------|-------------------------|----------------------------|
|                                                   | Overload releases                                                                 |                                                                                   |                                                                                   |                         |                            |                         |                            |
|                                                   | Main pole                                                                         | Neutral<br>conductor                                                              |                                                                                   |                         |                            |                         |                            |
| $I_n = I_u$                                       | $I_r$                                                                             | $I_r$                                                                             | $I_i$                                                                             |                         |                            |                         |                            |
| A                                                 | A                                                                                 | A                                                                                 | A                                                                                 |                         |                            |                         |                            |
|                                                   |  |  |  |                         |                            |                         |                            |

#### Protection of systems and cables

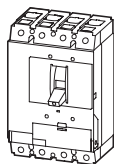
|        |           |           |             |                                   |  |                                   |  |
|--------|-----------|-----------|-------------|-----------------------------------|--|-----------------------------------|--|
| 4 pole |           |           |             |                                   |  |                                   |  |
| 20     | 15...20   | 15...20   | 350         |                                   |  |                                   |  |
| 25     | 20...25   | 20...25   | 350         |                                   |  |                                   |  |
| 32     | 25...32   | 25...32   | 350         |                                   |  |                                   |  |
| 40     | 32...40   | 32...40   | 320...400   |                                   |  |                                   |  |
| 50     | 40...50   | 40...50   | 300...500   |                                   |  |                                   |  |
| 63     | 50...63   | 50...63   | 380...630   |                                   |  |                                   |  |
| 80     | 63...80   | 63...80   | 480...800   |                                   |  |                                   |  |
| 100    | 80...100  | 80...100  | 600...1000  |                                   |  |                                   |  |
| 125    | 100...125 | 100...125 | 750...1250  |                                   |  |                                   |  |
| 160    | 125...160 | 125...160 | 960...1600  | <b>LZMB2-4-A160</b><br>109564     |  | <b>LZMC2-4-A160</b><br>109570     |  |
| 160    | 125...160 | 80...100  | 960...1600  | <b>LZMB2-4-A160/100</b><br>109565 |  | <b>LZMC2-4-A160/100</b><br>109571 |  |
| 200    | 160...200 | 160...200 | 1200...2000 | <b>LZMB2-4-A200</b><br>109566     |  | <b>LZMC2-4-A200</b><br>109572     |  |
| 200    | 160...200 | 100...125 | 1200...2000 | <b>LZMB2-4-A200/125</b><br>109567 |  | <b>LZMC2-4-A200/125</b><br>109573 |  |
| 250    | 200...250 | 200...250 | 1500...2500 | <b>LZMB2-4-A250</b><br>109568     |  | <b>LZMC2-4-A250</b><br>109574     |  |
| 250    | 200...250 | 125...160 | 1500...2500 | <b>LZMB2-4-A250/160</b><br>109569 |  | <b>LZMC2-4-A250/160</b><br>109575 |  |
| 320    | 250...320 | 250...320 | 1920...3200 |                                   |  | <b>LZMC3-4-A320</b><br>109621     |  |
| 320    | 250...320 | 160...200 | 1920...3200 |                                   |  | <b>LZMC3-4-A320/200</b><br>109622 |  |
| 400    | 320...400 | 320...400 | 2400...4000 |                                   |  | <b>LZMC3-4-A400</b><br>109623     |  |
| 400    | 320...400 | 200...250 | 2400...4000 |                                   |  | <b>LZMC3-4-A400/250</b><br>109624 |  |
| 500    | 400...500 | 400...500 | 3000...5000 |                                   |  | <b>LZMC3-4-A500</b><br>109625     |  |
| 500    | 400...500 | 250...320 | 3000...5000 |                                   |  | <b>LZMC3-4-A500/320</b><br>109626 |  |

**Notes** Notes for terminals → 25

Terminal screws  
standard, terminals  
as accessories



Terminal screws  
standard, terminals  
as accessories



Normal switching capacity **50 kA**  
at 415 V 50/60 Hz

**Part no.**  
Article no.

**Price**  
see price  
list

Strong switching capacity **70 kA**  
at 415 V 50/60 Hz

**Part no.**  
Article no.

**Price**  
see price  
list

Std.  
pack

**Notes**

|                                   |                                   |       |                                                                                             |
|-----------------------------------|-----------------------------------|-------|---------------------------------------------------------------------------------------------|
|                                   | <b>LZMS2-4-A20</b><br>109582      | 1 off | IEC/EN 60947-2                                                                              |
|                                   | <b>LZMS2-4-A25</b><br>109583      | 1 off | Adjustable overload releases $I_r$<br>• $0.8 - 1 \times I_n$ (ex-works $0.8 \times I_n$ )   |
|                                   | <b>LZMS2-4-A32</b><br>109584      | 1 off | Setting on neutral pole implemented via the main pole setting $I_r$ of the main pole.       |
|                                   | <b>LZMS2-4-A40</b><br>109585      | 1 off | Adjustable short-circuit releases $I_i$<br>• $6 - 10 \times I_n$ (ex-works $6 \times I_n$ ) |
|                                   | <b>LZMS2-4-A50</b><br>109586      | 1 off | Fixed short-circuit release $I_i$<br>• 350 A at $I_n = 20 - 32$ A                           |
|                                   | <b>LZMS2-4-A63</b><br>109587      | 1 off | LZM..2/3-4-A...                                                                             |
|                                   | <b>LZMS2-4-A80</b><br>109588      | 1 off | • With 100 % overload and short-circuit protection in 4th pole<br>LZM..2/3-4-A.../60        |
|                                   | <b>LZMS2-4-A100</b><br>109589     | 1 off | • With 60 % overload and short-circuit protection in 4th pole                               |
|                                   | <b>LZMS2-4-A125</b><br>109590     | 1 off |                                                                                             |
| <b>LZMN2-4-A160</b><br>109576     | <b>LZMS2-4-A160</b><br>109591     | 1 off |                                                                                             |
| <b>LZMN2-4-A160/100</b><br>109577 | <b>LZMS2-4-A160/100</b><br>109592 | 1 off |                                                                                             |
| <b>LZMN2-4-A200</b><br>109578     | <b>LZMS2-4-A200</b><br>109593     | 1 off |                                                                                             |
| <b>LZMN2-4-A200/125</b><br>109579 | <b>LZMS2-4-A200/125</b><br>109594 | 1 off |                                                                                             |
| <b>LZMN2-4-A250</b><br>109580     | <b>LZMS2-4-A250</b><br>109595     | 1 off |                                                                                             |
| <b>LZMN2-4-A250/160</b><br>109581 | <b>LZMS2-4-A250/160</b><br>109596 | 1 off |                                                                                             |
| <b>LZMN3-4-A320</b><br>109627     | <b>LZMS3-4-A320</b><br>109633     |       |                                                                                             |
| <b>LZMN3-4-A320/200</b><br>109628 | <b>LZMS3-4-A320/200</b><br>109634 |       |                                                                                             |
| <b>LZMN3-4-A400</b><br>109629     | <b>LZMS3-4-A400</b><br>109635     |       |                                                                                             |
| <b>LZMN3-4-A400/250</b><br>109630 | <b>LZMS3-4-A400/250</b><br>109636 |       |                                                                                             |
| <b>LZMN3-4-A500</b><br>109631     | <b>LZMS3-4-A500</b><br>109637     |       |                                                                                             |
| <b>LZMN3-4-A500/320</b><br>109632 | <b>LZMS3-4-A500/320</b><br>109638 |       |                                                                                             |

# Circuit-breakers LZW

## Ordering

### Circuit-breakers, electronic releases, 4 pole LZW...3, LZW...4

Normal switching capacity **50 kA**  
at 415 V 50/60 Hz

| Rated current = rated<br>uninterrupted current | Setting range                                                                     |                                                                                   | Short-circuit releases                                                             | Part no.<br>Article no. | Price<br>see price list |
|------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------|-------------------------|
|                                                | Overload releases                                                                 |                                                                                   |                                                                                    |                         |                         |
|                                                | Main pole                                                                         | Neutral<br>conductor                                                              |                                                                                    |                         |                         |
| $I_n = I_u$                                    | $I_r$                                                                             | $I_r$                                                                             | $I_i$                                                                              |                         |                         |
| A                                              | A                                                                                 | A                                                                                 | A                                                                                  |                         |                         |
|                                                |  |  |  |                         |                         |

#### Protection of systems and cables

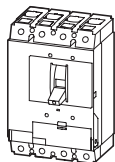
4 pole

|      |            |            |              |                                      |
|------|------------|------------|--------------|--------------------------------------|
| 400  | 200...400  | 200...400  | 800...4400   | <b>LZMN3-4-AE400</b><br>109643       |
| 400  | 200...400  | 125...250  | 800...4400   | <b>LZMN3-4-AE400/250</b><br>109644   |
| 630  | 315...630  | 315...630  | 1260...5040  | <b>LZMN3-4-AE630</b><br>109645       |
| 630  | 315...630  | 200...400  | 1260...5040  | <b>LZMN3-4-AE630/400</b><br>109646   |
| 800  | 400...800  | 400...800  | 1600...9600  | <b>LZMN4-4-AE800</b><br>110968       |
| 800  | 400...800  | 250...500  | 1600...9600  | <b>LZMN4-4-AE800/500</b><br>110969   |
| 1000 | 500...1000 | 500...1000 | 2000...12000 | <b>LZMN4-4-AE1000</b><br>110970      |
| 1000 | 500...1000 | 315...630  | 2000...12000 | <b>LZMN4-4-AE1000/630</b><br>110971  |
| 1250 | 630...1250 | 630...1250 | 2500...15000 | <b>LZMN4-4-AE1250</b><br>110972      |
| 1250 | 630...1250 | 400...800  | 2500...15000 | <b>LZMN4-4-AE1250/800</b><br>110973  |
| 1600 | 800...1600 | 800...1600 | 3200...19200 | <b>LZMN4-4-AE1600</b><br>110974      |
| 1600 | 800...1600 | 500...1000 | 3200...19200 | <b>LZMN4-4-AE1600/1000</b><br>110975 |

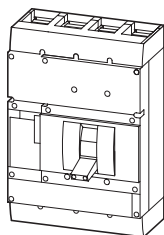
#### Notes

Notes for terminals → 29

Terminal screws standard,  
terminals as accessories



Terminal screws standard,  
terminals as accessories



Strong switching capacity **70 kA**  
at 415 V 50/60 Hz

| Part no.<br>Article no. | Price<br>see price list | Std. pack | Notes |
|-------------------------|-------------------------|-----------|-------|
|-------------------------|-------------------------|-----------|-------|

|                                      |       |                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LZMS3-4-AE400</b><br>109647       | 1 off | IEC/EN 60947-2<br>Adjustable overload releases $I_r$                                                                                                                                                                                                                                                                                                                            |
| <b>LZMS3-4-AE400/250</b><br>109648   | 1 off | <ul style="list-style-type: none"> <li>• <math>0.5 - 1 \times I_n</math> (ex-works <math>0.8 \times I_n</math>)</li> </ul> Setting on neutral pole implemented via the main pole setting $I_r$ of the main pole.                                                                                                                                                                |
| <b>LZMS3-4-AE630</b><br>109649       | 1 off | R.m.s. value measurement and "thermal memory"                                                                                                                                                                                                                                                                                                                                   |
| <b>LZMS3-4-AE630/400</b><br>109650   | 1 off | Adjustable short-circuit releases $I_i$ <ul style="list-style-type: none"> <li>• LZM...3-4-AE400: <math>2 - 11 \times I_n</math> (ex-works <math>6 \times I_n</math>)</li> <li>• LZM...3-4-AE630: <math>2 - 8 \times I_n</math> (ex-works <math>6 \times I_n</math>)</li> <li>• LZM...4-4-AE...: <math>2 - 12 \times I_n</math> (ex-works <math>6 \times I_n</math>)</li> </ul> |
| <b>LZMS4-4-AE800</b><br>110976       | 1 off | LZM...-4-AE...                                                                                                                                                                                                                                                                                                                                                                  |
| <b>LZMS4-4-AE800/500</b><br>110977   | 1 off | <ul style="list-style-type: none"> <li>• With 100 % overload and short-circuit protection in 4th pole</li> </ul> LZM...-4-AE.../...                                                                                                                                                                                                                                             |
| <b>LZMS4-4-AE1000</b><br>110978      | 1 off | <ul style="list-style-type: none"> <li>• With 60 % overload and short-circuit protection in 4th pole</li> </ul>                                                                                                                                                                                                                                                                 |
| <b>LZMS4-4-AE1000/630</b><br>110979  | 1 off |                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>LZMS4-4-AE1250</b><br>110980      | 1 off |                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>LZMS4-4-AE1250/800</b><br>110981  | 1 off |                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>LZMS4-4-AE1600</b><br>110982      | 1 off |                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>LZMS4-4-AE1600/1000</b><br>110983 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                 |

# Circuit-breakers LZW

Ordering

## Circuit-breakers, electronic releases, 4 pole LZW...3, LZW...4

Normal switching capacity **50 kA**  
at 415 V 50/60 Hz

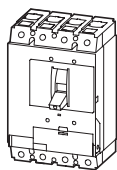
| Rated current =<br>rated uninterrupted<br>current | Setting range                                                                     |                                                                                   | Short-circuit releases                                                            |                                                                                    | Part no.<br>Article no. | Price<br>see price list |
|---------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------|-------------------------|
|                                                   | Overload releases                                                                 |                                                                                   |                                                                                   |                                                                                    |                         |                         |
|                                                   | Main pole                                                                         | Neutral<br>conductor                                                              | Non-delayed                                                                       | Delayed short-<br>circuit release                                                  |                         |                         |
| $I_n = I_u$<br>A                                  | $I_r$<br>A                                                                        | $I_r$<br>A                                                                        | $I_i$<br>A                                                                        | $I_{sd}$<br>A                                                                      |                         |                         |
|                                                   |  |  |  |  |                         |                         |

### Systems and cable protection, selectivity and generator protection

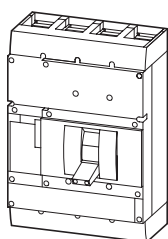
4 pole

|      |            |            |              |              |                                      |
|------|------------|------------|--------------|--------------|--------------------------------------|
| 400  | 200...400  | 200...400  | 800...4400   | 400...4000   | <b>LZMN3-4-VE400</b><br>109655       |
| 400  | 200...400  | 125...250  | 800...4400   | 400...4000   | <b>LZMN3-4-VE400/250</b><br>109656   |
| 630  | 315...630  | 315...630  | 1260...5040  | 472...4410   | <b>LZMN3-4-VE630</b><br>109657       |
| 630  | 315...630  | 200...400  | 1260...5040  | 472...4410   | <b>LZMN3-4-VE630/400</b><br>109658   |
| 800  | 400...800  | 400...800  | 1600...9600  | 800...8000   | <b>LZMN4-4-VE800</b><br>110984       |
| 800  | 400...800  | 250...500  | 1600...9600  | 800...8000   | <b>LZMN4-4-VE800/500</b><br>110985   |
| 1000 | 500...1000 | 500...1000 | 2000...12000 | 1000...10000 | <b>LZMN4-4-VE1000</b><br>110986      |
| 1000 | 500...1000 | 315...630  | 2000...12000 | 1000...10000 | <b>LZMN4-4-VE1000/630</b><br>110987  |
| 1250 | 630...1250 | 630...1250 | 2500...15000 | 1250...12500 | <b>LZMN4-4-VE1250</b><br>110988      |
| 1250 | 630...1250 | 400...800  | 2500...15000 | 1250...12500 | <b>LZMN4-4-VE1250/800</b><br>110989  |
| 1600 | 800...1600 | 800...1600 | 3200...19200 | 1600...16000 | <b>LZMN4-4-VE1600</b><br>110990      |
| 1600 | 800...1600 | 500...1000 | 3200...19200 | 1600...16000 | <b>LZMN4-4-VE1600/1000</b><br>110991 |

Terminal screws standard,  
terminals as accessories



Terminal screws standard,  
terminals as accessories



Notes

Notes for terminals → 29

Strong switching capacity **70 kA**  
at 415 V 50/60 Hz

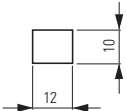
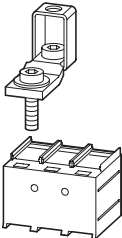
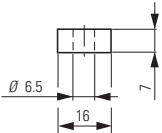
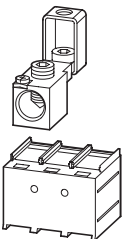
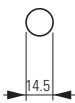
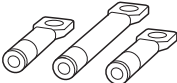
| Part no.<br>Article no. | Price<br>see price list | Std. pack | Notes |
|-------------------------|-------------------------|-----------|-------|
|-------------------------|-------------------------|-----------|-------|

|                                      |       |                                                                                                                                                                                                                                                                    |
|--------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LZMS3-4-VE400</b><br>109659       | 1 off | IEC/EN 60947-2                                                                                                                                                                                                                                                     |
| <b>LZMS3-4-VE400/250</b><br>109660   | 1 off | Adjustable overload releases $I_r$<br>• $0.5 - 1 \times I_n$ (ex-works $0.8 \times I_n$ )                                                                                                                                                                          |
| <b>LZMS3-4-VE630</b><br>109661       | 1 off | Setting on neutral pole implemented via the main pole setting $I_r$ of the main pole.                                                                                                                                                                              |
| <b>LZMS3-4-VE630/400</b><br>109662   | 1 off | R.m.s. value measurement and "thermal memory"                                                                                                                                                                                                                      |
| <b>LZMS4-4-VE800</b><br>110992       | 1 off | Adjustable time delay setting to overcome current peaks $t_r$<br>• $2 \dots 20$ s with $6 \times I_r$ as well as infinity (without overload release) (ex-factory 10 s)<br>– LZM...3-4-VE630: $2 - 14$ s at $6 \times I_r$ also infinity (without overload release) |
| <b>LZMS4-4-VE800/500</b><br>110993   | 1 off | Adjustable delayed short-circuit releases $I_{sd}$<br>• $2 - 10 \times I_r$ (ex-works $6 \times I_r$ )<br>– LZM...3-4-VE630: $1.5 - 7 \times I_r$ (ex-works $6 \times I_r$ )                                                                                       |
| <b>LZMS4-4-VE1000</b><br>110994      | 1 off | Adjustable delay time $t_{sd}$<br>• Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms (ex-works 0 ms)                                                                                                                                                             |
| <b>LZMS4-4-VE1250</b><br>110996      | 1 off | Adjustable non-delayed short-circuit releases $I_i$<br>• LZM...3-4-VE400: $2 - 11 \times I_n$ (ex-works $6 \times I_n$ )<br>• LZM...3-4-VE630: $2 - 8 \times I_n$ (ex-works $6 \times I_n$ )<br>• LZM...4-4-VE...: $2 - 12 \times I_n$ (ex-works $12 \times I_n$ ) |
| <b>LZMS4-4-VE1250/800</b><br>110997  | 1 off |                                                                                                                                                                                                                                                                    |
| <b>LZMS4-4-VE1600</b><br>110998      | 1 off | $i^2t$ constant function (ex-works OFF)<br>• LZM3, LZM4 switched (ex-works OFF)                                                                                                                                                                                    |
| <b>LZMS4-4-VE1600/1000</b><br>110999 | 1 off | LZM...-4-VE...<br>• With 100 % overload and short-circuit protection in 4th pole<br>LZM...-4-VE.../...<br>• With 60 % overload and short-circuit protection in 4th pole                                                                                            |

# Circuit-breakers LZM

## Ordering

### Connection types LZM1

|                                                                                                                                      | Max. cable connection area                                                         | For use with | Terminal capacities  | Type of conductor   | mm <sup>2</sup>              | AWG/kcmil                           |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------|----------------------|---------------------|------------------------------|-------------------------------------|
| <b>Box terminal</b><br><b>Standard equipment</b><br> |   | LZM1(-4)     | Three- and four-pole | Cu cable            | 1 × 10 – 70 <sup>1)</sup>    | 1 × 8 – 2/0                         |
|                                                                                                                                      |                                                                                    |              |                      |                     | 2 × 6 – 25                   | 2 × 9 – 4                           |
| <b>Screw connection</b><br>                          |   | LZM1(-4)     | Three- and four-pole | Copper cable lugs   | 1 × 10 – 70                  | 1 × 8 – 2/0                         |
|                                                                                                                                      |                                                                                    |              |                      | Aluminium cable lug | 1 × 10 – 35<br>2 × 10 – 35   | 2 × 8 – 4<br>1 × 8 – 2<br>2 × 8 – 2 |
| <b>Tunnel terminal</b><br>                         |  | LZM1(-4)     | Three- and four-pole | Copper cable        | 1 × 16 – 95                  | 1 × 6 – 3/0                         |
|                                                                                                                                      |                                                                                    |              |                      | Al cable            |                              | –                                   |
| <b>Connection on rear</b><br>                      | –                                                                                  | LZM1(-4)     | Three- and four-pole | Copper cable lugs   | 1 × 2.5 – 25<br>2 × 2.5 – 25 |                                     |
|                                                                                                                                      |                                                                                    |              |                      | Aluminium cable lug | 1 × 10 – 35<br>2 × 10 – 35   |                                     |

#### Notes

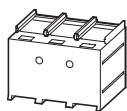
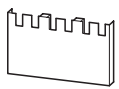
<sup>1)</sup> Up to 240 mm<sup>2</sup> can be connected depending on the cable manufacturer.

| Terminal capacities<br>Cu strip (number of segments<br>x width x segment<br>thickness) | Copper busbar width x<br>thickness | Part no.<br>Article no. when<br>ordered separately | Std. pack | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mm                                                                                     | mm                                 |                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2 × 9 × 0.8<br>9 × 9 × 0.8                                                             |                                    | <b>NZM1-XKC</b><br>260015                          | 1 off     | Standard connection with all switches LZW1.<br>Conversion kit for circuit-breaker with screw connection.                                                                                                                                                                                                                                                                                                                               |
|                                                                                        |                                    | <b>NZM1-4-XKC</b><br>267075                        | 1 off     | Type contains parts for a 3 or 4-pole switch side.<br>Fitted within the switch housing                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                        | min. 12 × 5<br>max. 16 × 5         | <b>NZM1-XKS</b><br>260019                          | 1 off     | Type contains parts for a terminal located at top or<br>bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                                                       |
|                                                                                        | min. 12 × 5<br>max. 16 × 5         | <b>NZM1-4-XKS</b><br>266725                        | 1 off     | Fitted outside the switch housing<br>Mounting of the cover NZM1(-4)-XKSA obligatory<br>(supplied).                                                                                                                                                                                                                                                                                                                                     |
|                                                                                        |                                    | <b>NZM1-XKA</b><br>266730                          | 1 off     | Type contains parts for a terminal located at top or<br>bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                                                       |
|                                                                                        |                                    | <b>NZM1-4-XKA</b><br>266731                        | 1 off     | A standard with control circuit terminal for 1 × 0.75 – 2.5<br>mm <sup>2</sup> (18 – 14 AWG) or 2 × 0.75 – 1.5 mm <sup>2</sup> (18 – 14<br>AWG) copper conductors.<br>Fitted outside the switch housing<br>Use with flexible and highly flexible conductors ferrules.<br>Maximum specified cross-section can only be connected<br>when stranded and without ferrules.<br>Mounting of the cover NZM1(-4)-XKSA obligatory<br>(supplied). |
|                                                                                        | ≧ 12 × 5<br>≧ 16 × 5               | <b>NZM1-XKR</b><br>266734                          | 1 off     | Type contains parts for a terminal located at top or<br>bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                                                       |
|                                                                                        |                                    | <b>NZM1-4-XKR</b><br>266737                        | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                        |

# Circuit-breakers LZM

## Ordering

### Connection types LZM1

|                                                                                                                      | Max. cable connection area | For use with | Terminal capacities<br>Type of conductor | mm <sup>2</sup>  | AWG/kcmil                                                                                  |
|----------------------------------------------------------------------------------------------------------------------|----------------------------|--------------|------------------------------------------|------------------|--------------------------------------------------------------------------------------------|
| <b>Control circuit terminal</b><br>  | –                          | LZM1(-4)     | Three- and four-pole                     | Screw connection | $1 \times 0.75 - 2.5$<br>$2 \times 0.75 - 1.5$<br>$1 \times 18 - 14$<br>$2 \times 18 - 16$ |
| <b>Control circuit terminal</b><br>  | –                          | LZM1(-4)     | Three- and four-pole                     | Box terminal     | $1 \times 0.75 - 2.5$<br>$2 \times 0.75 - 1.5$<br>$1 \times 18 - 14$<br>$2 \times 18 - 16$ |
| <b>Cover</b><br>                     | –                          | LZM1(-4)     | 3 pole                                   |                  |                                                                                            |
|                                                                                                                      | –                          | LZM1(-4)     | 4 pole                                   |                  |                                                                                            |
| <b>For box terminals</b><br>         |                            |              |                                          |                  |                                                                                            |
|                                                                                                                      |                            |              |                                          |                  |                                                                                            |
| <b>For box terminals</b><br>       |                            |              |                                          |                  |                                                                                            |
|                                                                                                                      |                            |              |                                          |                  |                                                                                            |
| <b>For cover NZM1(-4)-XKSA</b><br> |                            |              |                                          |                  |                                                                                            |
|                                                                                                                      |                            |              |                                          |                  |                                                                                            |

**Part no.**Article no. when  
ordered separately

Std. pack

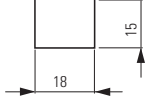
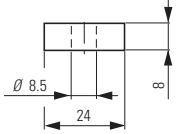
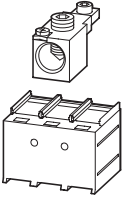
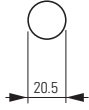
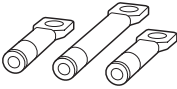
**Notes**

|                               |       |                                                                                                                                                                                           |
|-------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NZM1-XSTS</b><br>260150    | 1 off | Type contains parts for two terminal locations located at top or bottom for 3 or 4 pole circuit-breakers.<br>Included as standard with tunnel terminal<br>Degree of protection IP1X       |
| <b>NZM-XSTK</b><br>266739     | 1 off | NZM-XSTK cannot be combined with NZM1(-4)-XIPK IP2X protection against contact with a finger.<br>Height or thickness of the control terminals:<br>NZM-XSTK = 2 mm<br>NZM-XSTS = 2 mm      |
| <b>NZM1-XKSA</b><br>260021    | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Protection against direct contact where cable lugs, busbars or tunnel terminals are used |
| <b>NZM1-4-XKSA</b><br>266741  | 1 off | Contained in kit with tunnel terminals or screw connection terminals.<br>Degree of protection IP1X on the connection side when using insulated conductor material.                        |
| <b>NZM1-XKSFA</b><br>100780   | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Enhancement of the protection against direct contact (simple finger protection).         |
| <b>NZM1-4-XKSFA</b><br>100781 | 1 off |                                                                                                                                                                                           |
| <b>NZM1-XIPK</b><br>266744    | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Enhancement of the protection against direct contact to IP2X.                            |
| <b>NZM1-4-XIPK</b><br>266745  | 1 off | Protection when reaching into the cable connection area with the connection of cables in the box terminal.<br>Cannot be combined with NZM-XSTK control circuit terminal.                  |
| <b>NZM1-XIPA</b><br>266748    | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Enhancement of the protection against direct contact to IP2X.                            |
| <b>NZM1-4-XIPA</b><br>266749  | 1 off |                                                                                                                                                                                           |

# Circuit-breakers LZM

## Ordering

### Connection types LZM2

|                                                                                                                                           | Max. cable connection area                                                                              | For use with         | Terminal capacities  | Type of conductor             | Terminal capacities                      |                                      | Terminal capacities<br>Cu strip (number of segments × width × segment thickness) |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------|----------------------|-------------------------------|------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------|
|                                                                                                                                           |                                                                                                         |                      |                      |                               | mm <sup>2</sup>                          | AWG/kcmil                            |                                                                                  |
| <b>Box terminal</b><br>                                   |                        | LZM2(-4)             | Three- and four-pole | Copper conductors<br>Cu cable | 1 × 4 – 185                              | 1 × 11 – 350                         | ≧ 2 × 9 × 0.8                                                                    |
|                                                                                                                                           |                                                                                                         |                      |                      |                               | 2 × 4 – 70                               | 2 × 12 – 2/0                         |                                                                                  |
| <b>Screw connection</b><br><b>Standard equipment</b><br> |                       | LZM2(-4)             | Three- and four-pole | Copper cable lugs             | 1 × 4 – 185                              | 1 × 11 – 3/0                         | ≧ 2 × 16 × 0.8                                                                   |
|                                                                                                                                           |                                                                                                         |                      |                      | Aluminium cable lug           | 2 × 4 – 70<br>1 × 10 – 50<br>2 × 10 – 50 | 2 × 12<br>1 × 8 – 1/0<br>2 × 8 – 1/0 |                                                                                  |
| <b>Tunnel terminal</b><br>                              |                      | LZM2(-4)             | Three- and four-pole | Copper cable<br>Al cable      | 1 × 16 ... 185<br>1 × 16 ... 185         | 1 × 6 – 350<br>–                     |                                                                                  |
| <b>Connection on rear</b><br>                           | <b>Connection on rear</b><br>When using cable lugs without NZM3(-4)-XKSA cover, they must be insulated. |                      |                      |                               |                                          |                                      |                                                                                  |
|                                                                                                                                           | LZM2(-4)                                                                                                | Three- and four-pole | Copper cable lugs    | 1 × 4 – 185                   | ≧ 2 × 16 × 0.8                           | ≧ 6 × 24 × 0.5                       |                                                                                  |
|                                                                                                                                           |                                                                                                         |                      |                      | 2 × 4 – 70                    |                                          |                                      |                                                                                  |
|                                                                                                                                           | LZM2(-4)                                                                                                | Three- and four-pole | Aluminium cable lug  | 1 × 10 – 50                   | ≧ 2 × 16 × 0.8                           | ≧ 6 × 24 × 0.5                       |                                                                                  |
|                                                                                                                                           |                                                                                                         |                      |                      | 2 × 10 – 50                   |                                          |                                      |                                                                                  |

#### Notes

<sup>1)</sup> Up to 240 mm<sup>2</sup> can be connected depending on the cable manufacturer.

| Copper busbar<br>width ×<br>thickness    | Part no.<br>Article no. when ordered<br>with basic unit | Part no.<br>Article no. when ordered<br>separately | Std.<br>pack | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------|---------------------------------------------------------|----------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mm                                       |                                                         |                                                    |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-160-XKCO</b><br>262218                         | <b>NZM2-160-XKC</b><br>262240                      | 1 off        | Type suffix and type contain parts for a circuit-breaker side at top or bottom for 3 or 4 pole circuit-breakers.<br>Conversion kit for circuit-breaker with screw connection.<br>Fitted within the switch housing<br>O = for fitting at the top<br>U = for fitting at the bottom<br>$U_e \geq 525$ V AC:<br>• Use cover NZM2(4)-XKSA.<br>Use ferrules with flexible and highly flexible conductors.<br>Max. cross section shown can only be connected when flexible and without ferrules.                                                |
|                                          | <b>+NZM2-160-XKCU</b><br>262223                         |                                                    | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-250-XKCO</b><br>262242                         | <b>NZM2-250-XKC</b><br>262244                      | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-250-XKCU</b><br>262243                         |                                                    | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-4-160-XKCO</b><br>266751                       | <b>NZM2-4-160-XKC</b><br>266755                    | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-4-160-XKCU</b><br>266753                       |                                                    | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-4-250-XKCO</b><br>266752                       | <b>NZM2-4-250-XKC</b><br>266756                    | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-4-250-XKCU</b><br>266754                       |                                                    | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| $\geq 16 \times 5$                       |                                                         | <b>NZM2-XKS</b><br>260030                          | 1 off        | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Standard connection with all L2M2 circuit-breakers.<br>Conversion kit for circuit-breaker with box terminal.<br>Use special cable lug narrow version, → 27<br>Fitted within the switch housing<br>If a busbar is used, insulation (400 mm) e.g. sleeving and a NZM2(4)-XKSA cover are required.<br>$U_e \geq 525$ V AC:<br>• For all other connection material a NZM2(4)-XKSA shroud must be used.                                      |
|                                          |                                                         | <b>NZM2-4-XKS</b><br>266750                        | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          |                                                         | <b>NZM2-XKA</b><br>271457                          | 1 off        | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>A standard with control circuit terminal for $1 \times 0.75 - 2.5$ mm <sup>2</sup> (18 – 14 AWG) or $2 \times 0.75 - 1.5$ mm <sup>2</sup> (18 – 16 AWG) copper conductors.<br>Fitted outside the switch housing<br>Use with flexible and highly flexible conductors ferrules.<br>Maximum specified cross-section can only be connected when stranded and without ferrules.<br>Mounting of the cover NZM2(4)-XKSA obligatory (supplied). |
|                                          |                                                         | <b>NZM2-4-XKA</b><br>271458                        | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| $\geq 16 \times 5$<br>$\geq 20 \times 5$ | <b>+NZM2-XKRO</b><br>266763                             | <b>NZM2-XKR</b><br>266765                          | 1 off        | Type suffix and type contain parts for a circuit-breaker side at top or bottom for 3 or 4 pole circuit-breakers.<br>O = for fitting at the top<br>U = for fitting at the bottom                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-XKRU</b><br>266764                             | <b>NZM2-4-XKR</b><br>266768                        | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-4-XKRO</b><br>266766                           |                                                    | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                          | <b>+NZM2-4-XKRU</b><br>266767                           |                                                    | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

# Circuit-breakers L2M

## Ordering

### Connection types L2M2

Max. cable connection  
area

For use with

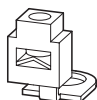
Terminal capacities

Type of conductor

Terminal capacities

AWG/kcmil

#### Control circuit terminal



L2M2(-4)

Three- and four-  
pole

Screw connection

mm<sup>2</sup>

2 × 0.75 – 2.5  
2 × 0.75 – 1.5

1 × 18 – 14  
2 × 18 – 16

#### Control circuit terminal



L2M3(-4)

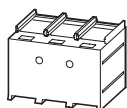
Three- and four-  
pole

Box terminal

1 × 0.75 – 2.5  
2 × 0.75 – 1.5

1 × 18 – 14  
2 × 18 – 16

#### Cover



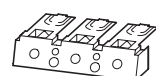
L2M2

3 pole

L2M2(-4)

4 pole

#### Connection cover, knockout



L2M2

3 pole

L2M2(-4)

4 pole

#### IP2X protection against contact with a finger

#### For box terminals



L2M2

3 pole

L2M2(-4)

4 pole

#### For covers N2M2(-4)-XKSA or N2M2(-4)



L2M2

3 pole

L2M2(-4)

4 pole

#### Copper cable lug



#### Copper cable lug

When using cable lugs without N2M2(-4)-XKSA cover, they must be insulated.

95 mm<sup>2</sup>

L2M2(-4)

Three- and four-  
pole

120 mm<sup>2</sup>

L2M2(-4)

Three- and four-  
pole

150 mm<sup>2</sup>

L2M2(-4)

Three- and four-  
pole

185 mm<sup>2</sup>

L2M2(-4)

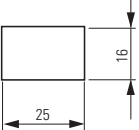
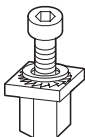
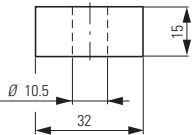
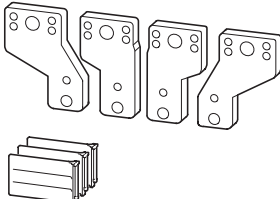
Three- and four-  
pole

| Copper busbar<br>width ×<br>thickness<br>mm | Part no.<br>Article no. when ordered<br>separately | Std.<br>pack | Notes                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------|----------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                             | <b>NZM2-XSTS</b><br>260156                         | 1 off        | Type contains parts for two terminal locations located at top or bottom for 3 or 4 pole circuit-breakers.<br>Included as standard with tunnel terminal<br>Degree of protection IP1X<br>NZM-XSTK cannot be combined with NZM2(-4)-XIPK IP2X protection against contact with a finger.<br>Height or thickness of the control circuit terminals:<br>NZM-XSTK = 2 mm<br>NZM-XSTS = 2 mm |
|                                             | <b>NZM-XSTK</b><br>266739                          | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                     |
|                                             | <b>NZM2-XKSA</b><br>260038                         | 1 off        | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Protection against direct contact where cable lugs, busbars or tunnel terminals are used                                                                                                                                                                                           |
|                                             | <b>NZM2-4-XKSA</b><br>266770                       | 1 off        | Degree of protection IP1X on the connection side when using insulated conductor material.                                                                                                                                                                                                                                                                                           |
|                                             | <b>NZM2-XKSFA</b><br>104640                        | 1 off        | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Enhancement of the protection against direct contact (simplified protection against contact with a finger).                                                                                                                                                                        |
|                                             | <b>NZM2-4-XKSFA</b><br>104641                      | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                     |
|                                             | <b>NZM2-XIPK</b><br>266773                         | 1 off        | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Enhancement of the protection against direct contact to IP2X.                                                                                                                                                                                                                      |
|                                             | <b>NZM2-4-XIPK</b><br>266774                       | 1 off        | Protection when reaching into the cable connection area with the connection of cables in the box terminal.<br>With 2 conductors minimum cross-section 25 mm <sup>2</sup> .<br>Cannot be combined with NZM-XSTK control circuit terminal.                                                                                                                                            |
|                                             | <b>NZM2-XIPA</b><br>266777                         | 1 off        | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Enhancement of the protection against direct contact to IP2X.                                                                                                                                                                                                                      |
|                                             | <b>NZM2-4-XIPA</b><br>266778                       | 1 off        |                                                                                                                                                                                                                                                                                                                                                                                     |
|                                             | <b>KS95-NZM7</b><br>059775                         | 3 off        | Type contains a cable lug for 3 pole or 4 pole switches.<br>Special cable lug, narrow style                                                                                                                                                                                                                                                                                         |
|                                             | <b>KS120-NZM7</b><br>059776                        | 3 off        |                                                                                                                                                                                                                                                                                                                                                                                     |
|                                             | <b>KS150-NZM7</b><br>059777                        | 3 off        |                                                                                                                                                                                                                                                                                                                                                                                     |
|                                             | <b>NZM2-XKS185</b><br>260032                       | 3 off        |                                                                                                                                                                                                                                                                                                                                                                                     |

# Circuit-breakers LZW

## Ordering

### Connection types LZW3

|                                                                                    | Max. cable connection area                                                        | Rated current <sup>1)</sup><br><i>I<sub>n</sub></i> | For use with | Terminal capacities  |                                              |                                                              |                        |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------|--------------|----------------------|----------------------------------------------|--------------------------------------------------------------|------------------------|
|                                                                                    |                                                                                   | A                                                   |              | Type of conductor    | Terminal capacities<br>mm <sup>2</sup>       | AWG/kcmil                                                    |                        |
| <b>Box terminal</b>                                                                |                                                                                   |                                                     |              |                      |                                              |                                                              |                        |
|    |  | max. 500<br>400 UL/CSA                              | LZM3(-4)     | Three- and four-pole | Copper conductors<br>Cu cable                | 1 × 35 – 240<br>2 × 16 – 120                                 | 1 × 2 – 500            |
|                                                                                    |                                                                                   | 630                                                 | LZM3(-4)     | Three- and four-pole | Copper conductors<br>Cu cable                | 1 × 35 – 240<br>2 × 16 – 120                                 | 1 × 2 – 500            |
| <b>Screw connection</b>                                                            |                                                                                   |                                                     |              |                      |                                              |                                                              |                        |
|    |  | 630<br>max. 400                                     | LZM3(-4)     | Three- and four-pole | Copper cable lugs<br><br>Aluminium cable lug | 1 × 16 – 240<br>2 × 16 – 240<br>1 × 10 – 120<br>2 × 10 – 120 | 1 × 4 – 350<br>2 × 350 |
| <b>Connection width extension</b>                                                  |                                                                                   |                                                     |              |                      |                                              |                                                              |                        |
|  |                                                                                   | 630                                                 | LZM3(-4)     | Three- and four-pole | Copper cable lugs<br><br>Aluminium cable lug | 2 × 300                                                      | 2 × 500                |

#### Notes

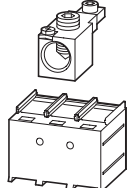
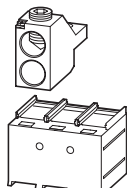
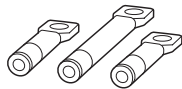
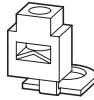
<sup>1)</sup> The following applies for the rated current: The values have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation.

| Terminal capacities                                                   |                                             | Part no.<br>Article no. when<br>ordered with<br>basic unit | Part no.<br>Article no. when<br>ordered<br>separately | Std. pack | Notes                                                                                                                                                          |
|-----------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------|-------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cu strip (number of<br>segments × width ×<br>segment thickness)<br>mm | Copper busbar<br>width ×<br>thickness<br>mm |                                                            |                                                       |           |                                                                                                                                                                |
| min. 6 × 16 × 0.8<br>max. 20 × 24 × 0.5<br>or<br>max. 11 × 21 × 1     |                                             | <b>+NZM3-XKCO</b><br>262246                                | <b>NZM3-XKC</b><br>260042                             | 1 off     | Type suffix and type contain parts for a circuit-breaker side at top or bottom for 3 or 4 pole circuit-breakers.                                               |
|                                                                       |                                             | <b>+NZM3-XKCU</b><br>262245                                |                                                       | 1 off     | Conversion kit for circuit-breaker with screw connection.                                                                                                      |
| min. 6 × 16 × 0.8<br>max. 20 × 24 × 0.5<br>or<br>max. 11 × 21 × 1     |                                             | <b>+NZM3-4-XKCO</b><br>266781                              | <b>NZM3-4-XKC</b><br>266783                           | 1 off     | Fitted within the switch housing<br>O = for fitting at the top<br>U = for fitting at the bottom<br>$U_e \geq 525 \text{ V AC}$ :<br>• Use NZM3(-4)-XKSA cover. |
|                                                                       |                                             | <b>+NZM3-4-XKCU</b><br>266782                              |                                                       | 1 off     | Use with flexible and highly flexible conductors ferrules, note the max. terminal capacity when using ferrules.                                                |
| 10 × 32 × 1.0<br>+ 5 × 32 × 1.0                                       | 30 × 10<br>+ 30 × 5                         |                                                            | <b>NZM3-XKS</b><br>260039                             | 1 off     | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                  |
|                                                                       |                                             |                                                            | <b>NZM3-4-XKS</b><br>266780                           | 1 off     | Standard connection with all LZW3 circuit-breakers.                                                                                                            |
|                                                                       |                                             |                                                            |                                                       |           | Conversion kit for circuit-breaker with box terminal.                                                                                                          |
|                                                                       |                                             |                                                            |                                                       |           | Use special cable lugs narrow version, → 32                                                                                                                    |
|                                                                       |                                             |                                                            |                                                       |           | Fitted within the switch housing                                                                                                                               |
|                                                                       |                                             |                                                            |                                                       |           | When a busbar is used insulation is required (400 mm) e.g. using heat shrink and a shroud NZM3(-4)-XKSA.                                                       |
|                                                                       |                                             |                                                            |                                                       |           | $U_e \geq 525 \text{ V AC}$ :<br>A shroud NZM3(-4)-XKSA must be used with all other connection types.                                                          |
| (2 × ) 10 × 50 × 1..0                                                 | (2 × ) 10 × 50                              |                                                            | <b>NZM3-XKV70</b><br>100514                           | 1 off     | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                  |
|                                                                       |                                             |                                                            | <b>NZM3-4-XKV70</b><br>100515                         | 1 off     | Central drill holes, e.g. for up to 2 cable lugs per phase.                                                                                                    |
|                                                                       |                                             |                                                            |                                                       |           | Can be fitted to circuit-breaker with screw termination                                                                                                        |
|                                                                       |                                             |                                                            |                                                       |           | Phase isolator supplied.                                                                                                                                       |
|                                                                       |                                             |                                                            |                                                       |           | Distance between pole centres with NZM3(-4)-XKV70: 70 mm                                                                                                       |
|                                                                       |                                             |                                                            |                                                       |           | Drill hole available for control cable.                                                                                                                        |
|                                                                       |                                             |                                                            |                                                       |           | Connection terminals NZM3(-4)-XK300 and NZM3(-4)-XK22X21 can be installed.                                                                                     |

# Circuit-breakers LZM

## Ordering

### Connection types LZM3

|                                                                                                                                     | Max. cable connection area | Rated current <sup>1)</sup><br>$I_n$<br>A | For use with         | Terminal capacities                                        |                                        |                            |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------|----------------------|------------------------------------------------------------|----------------------------------------|----------------------------|
|                                                                                                                                     |                            |                                           |                      | Type of conductor                                          | Terminal capacities<br>mm <sup>2</sup> | AWG/kcmil                  |
| <b>Terminals for connection width extension</b><br> | max. 500                   | LZM3                                      | 3 pole               | Cu cable                                                   | 1 × 120 – 300                          |                            |
|                                                                                                                                     | max. 500                   | LZM3(-4)                                  | 4 pole               | Cu cable                                                   | 1 × 120 – 300                          |                            |
| <b>Terminals for connection width extension</b><br> | 630                        | LZM3                                      | 3 pole               |                                                            |                                        |                            |
|                                                                                                                                     | 630                        | LZM3(-4)                                  | 4 pole               |                                                            |                                        |                            |
| <b>Tunnel terminal</b><br>                          | max. 350                   | LZM3(-4)                                  | Three- and four-pole | Copper conductors<br>Cu cable<br>Al conductors<br>Al cable | 1 × 16 – 185 <sup>2)</sup>             | 1 × 6 – 350<br>–           |
|                                                                                                                                     | max. 350                   | LZM3(-4)                                  |                      |                                                            |                                        |                            |
| <b>Tunnel terminal</b><br>                        | max. 630                   | LZM3(-4)                                  | Three- and four-pole | Copper conductors<br>Cu cable<br>Al conductors<br>Al cable | 1 × 50 – 240<br>2 × 50 – 240           | 1 × 0 – 500<br>2 × 0 – 500 |
|                                                                                                                                     | max. 630                   | LZM3(-4)                                  |                      |                                                            |                                        |                            |
| <b>Connection on rear not UL/CSA approved</b><br> | max. 630                   | LZM3(-4)                                  | Three- and four-pole | Copper cables<br>Cu cable                                  | 1 × 16 – 240<br>2 × 16 – 240           |                            |
|                                                                                                                                     | max. 500                   | –                                         | –                    |                                                            | 1 × 10 – 120<br>2 × 10 – 120           |                            |
| <b>Control circuit terminal</b><br>               | –                          | LZM3(-4)                                  | Three- and four-pole | Screw connection                                           | 1 × 0.75 – 2.5<br>2 × 0.75 – 1.5       | 1 × 18 – 14<br>2 × 18 – 16 |
| <b>Control circuit terminal</b><br>               | –                          | LZM3(-4)                                  | Three- and four-pole | Box terminal                                               | 1 × 0.75 – 2.5<br>2 × 0.75 – 1.5       | 1 × 18 – 14<br>2 × 18 – 16 |

#### Notes

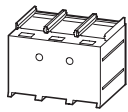
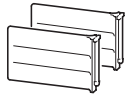
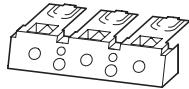
<sup>1)</sup> The following applies for the rated current: The values have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation.  
The engineering standards which apply in each case must be observed.

| Terminal capacities                                       |                                 | Part no.                                 | Part no.                            | Std.  | Notes                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------|---------------------------------|------------------------------------------|-------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cu strip (number of segments × width × segment thickness) | Copper busbar width × thickness | Article no. when ordered with basic unit | Article no. when ordered separately | pack  |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| mm                                                        | mm                              |                                          |                                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                           |                                 |                                          | <b>NZM3-XK300</b><br>100782         | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                                           |
|                                                           |                                 |                                          | <b>NZM3-4-XK300</b><br>100783       | 1 off | Only in conjunction with connection width extension NZM3(-4)-XKV70.<br>Use with flexible and highly flexible conductors ferrules.                                                                                                                                                                                                                                                                                       |
| (2 ×) 11 × 21 × 1..0                                      |                                 |                                          | <b>NZM3-XK22X21</b><br>100784       | 1 off | Standard with control circuit terminal for 1 × 0.75 – 2.5 mm <sup>2</sup> or 2 × 0.75 – 1.5 mm <sup>2</sup> copper conductors.                                                                                                                                                                                                                                                                                          |
| (2 ×) 11 × 21 × 1..0                                      |                                 |                                          | <b>NZM3-4-XK22X21</b><br>100785     | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                           |                                 |                                          | <b>NZM3-XKA1</b><br>271459          | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                                           |
|                                                           |                                 |                                          | <b>NZM3-4-XKA1</b><br>271460        | 1 off | A standard with control circuit terminal for 1 × 0.75 – 2.5 mm <sup>2</sup> (18 – 14 AWG) or 2 × 0.75 – 1.5 mm <sup>2</sup> (18 – 16 AWG) copper conductors.<br>Fitted outside the switch housing<br>Use with flexible and highly flexible conductors ferrules. Maximum specified cross-section can only be connected when stranded and without ferrules.<br>Mounting of the cover NZM3(-4)-XKSA obligatory (supplied). |
|                                                           |                                 |                                          | <b>NZM3-XKA2</b><br>271461          | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                           |                                 |                                          | <b>NZM3-4-XKA2</b><br>271462        | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                           |                                 | <b>+NZM3-XKRO</b><br>266790              | <b>NZM3-XKR</b><br>266792           | 1 off | Type suffix and type c contain parts for a circuit-breaker side at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                      |
|                                                           |                                 | <b>+NZM3-XKRU</b><br>266791              | <b>NZM3-4-XKR</b><br>266795         | 1 off | O = for fitting at the top<br>U = for fitting at the bottom                                                                                                                                                                                                                                                                                                                                                             |
|                                                           |                                 | <b>+NZM3-4-XKRO</b><br>266793            |                                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                           |                                 | <b>+NZM3-4-XKRU</b><br>266794            |                                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| min. 6 × 16 × 0.8<br>mix. 10 × 32 × 1.0                   | Min. 20 × 5<br>Max. 30 × 10     |                                          | <b>NZM3/4-XSTS</b><br>266797        | 1 off | Type contains parts for two terminal locations located at top or bottom for 3 or 4 pole circuit-breakers.<br>Included as standard with tunnel terminal<br>Degree of protection IP1X<br>Height or thickness of the control circuit terminals<br>NZM-XSTS = 2 mm                                                                                                                                                          |
|                                                           |                                 |                                          | <b>NZM-XSTK</b><br>266739           | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                         |

# Circuit-breakers LZM

## Ordering

### Connection types LZM3

|                                                                                                                                          | Max. cable connection area                                                                            | For use with         |              | Part no.<br>Article no. when ordered separately |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------|--------------|-------------------------------------------------|
| <b>Cover</b><br>                                         | —                                                                                                     | LZM3(-4)             | 3 pole       | <b>NZM3-XKSA</b><br>260045                      |
|                                                                                                                                          | —                                                                                                     |                      | 4 pole       | <b>NZM3-4-XKSA</b><br>266801                    |
| <b>Phase isolator</b><br>                                | —                                                                                                     | LZM3(-4)             | 3 pole       | <b>NZM3-XKP</b><br>100512                       |
|                                                                                                                                          | —                                                                                                     |                      | 4 pole       | <b>NZM3-4-XKP</b><br>100513                     |
| <b>Connection cover, knockout</b><br>                    | —                                                                                                     | LZM3(-4)             | 3 pole       | <b>NZM3-XKSFA</b><br>104642                     |
|                                                                                                                                          | —                                                                                                     |                      | 4 pole       | <b>NZM3-4-XKSFA</b><br>104643                   |
| <b>IP2X protection against contact with a finger</b><br> | —                                                                                                     | LZM3(-4)             | 3 pole       | <b>NZM3-XIPK</b><br>266804                      |
|                                                                                                                                          |                                                                                                       |                      | 4 pole       | <b>NZM3-4-XIPK</b><br>266805                    |
| <b>For cover NZM3(-4)-XKSA</b><br>                     | —                                                                                                     | LZM3(-4)             | 3 pole       | <b>NZM3-XIPA</b><br>266808                      |
|                                                                                                                                          | —                                                                                                     |                      | 4 pole       | <b>NZM3-4-XIPA</b><br>266809                    |
| <b>Copper cable lug</b><br>                            | <b>Copper cable lug</b><br>When using cable lugs without NZM3(-4)-XKSA cover, they must be insulated. |                      |              |                                                 |
|                                                                                                                                          | 185 mm <sup>2</sup>                                                                                   | LZM3(-4)<br>LZM4(-4) | 3 and 4 pole | <b>NZM3-XKS185</b><br>260040                    |
|                                                                                                                                          | 900 mm <sup>2</sup>                                                                                   |                      | 3 and 4 pole | <b>NZM3-XKS240</b><br>260041                    |

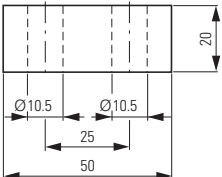
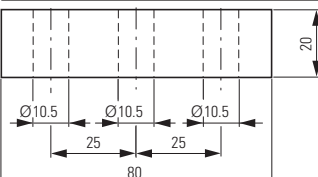
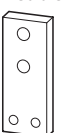
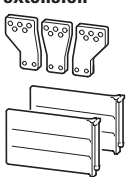
Std. pack **Notes**

|       |                                                                                                                |
|-------|----------------------------------------------------------------------------------------------------------------|
| 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                  |
| 1 off | Insulation/protection against direct contact where cable lugs, busbars or tunnel terminals are used.           |
| 1 off | Included in set with tunnel terminals                                                                          |
| 1 off | Degree of protection IP1X on the connection side when using insulated conductor material.                      |
| 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                  |
| 1 off | Included with the connection width extension.                                                                  |
| 1 off | Cannot be combined with the NZM3(-4)-XKA tunnel terminal, NZM3(-4)-XKR connection on rear.                     |
| 1 off | Insulation protection with connection of cable lugs, busbars or braid.                                         |
| 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                  |
| 1 off | Enhancement of the protection against direct contact to (simplified protection against contact with a finger). |
| 1 off |                                                                                                                |
| 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                  |
| 1 off | Enhancement of the protection against direct contact to IP2X.                                                  |
| 1 off | Protection when reaching into the cable connection area with the connection of cables in the box terminal.     |
| 1 off | With 2 conductors minimum cross-section 70 mm <sup>2</sup> .                                                   |
| 1 off | Cannot be combined with NZM-XSTK control circuit terminal.                                                     |
| 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                  |
| 1 off | Enhancement of the protection against direct contact to IP2X.                                                  |
| 3 off | Type contains a cable lug for 3-pole or 4 pole switches.                                                       |
| 3 off | Special cable lug, narrow style                                                                                |

# Circuit-breakers LzM

## Ordering

### Connection types LzM4

|                                   | Max. cable connection area                                                                                                         | Rated current <sup>1)</sup><br><br>$I_n$<br><br>A | For use with | Terminal capacities  |                                                    |                                |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------|----------------------|----------------------------------------------------|--------------------------------|
|                                   |                                                                                                                                    |                                                   |              | Type of conductor    | Terminal capacities<br><br>mm <sup>2</sup>         | AWG/kcmil                      |
| <b>2-hole</b>                     | <b>Screw connection</b><br>Standard equipment<br> | max. 1250                                         | LZM4(-4)     | Three- and four-pole | Cu cable lugs<br>1 × 120 – 185<br>4 × 50 – 185     | 1 × 250 – 350<br>4 × 0 – 350   |
|                                   |                                                                                                                                    | 1600                                              | LZM4(-4)     | Three- and four-pole |                                                    |                                |
| <b>3-hole</b>                     |                                                   | 2000                                              | LZM4         | 3 pole               | Cu cable lugs                                      |                                |
| <b>Single hole</b>                |                                                  | max. 1250                                         | LZM4         | 3 pole               | Copper cable lugs<br>1 × 120 – 300<br>2 × 95 – 300 | 1 × 250 – 600<br>2 × 000 – 600 |
|                                   |                                                                                                                                    | max. 1250                                         | LZM4-4       | 4 pole               | Copper cable lugs<br>1 × 120 – 300<br>2 × 95 – 300 | 1 × 250 – 600<br>2 × 000 – 600 |
| <b>Double hole</b>                |                                                  | max. 1400                                         | LZM4         | 3 pole               | Copper cable lugs<br>2 × 95 – 185<br>4 × 35 – 185  | 2 × 000 – 350<br>4 × 2 – 350   |
|                                   |                                                                                                                                    | max. 1400                                         | LZM4-4       | 4 pole               | Copper cable lugs<br>4 × 50                        |                                |
| <b>Double hole</b>                |                                                  | max. 1250                                         | LZM4         | 3 pole               | Copper cable lugs<br>2 × 95 – 300                  | 2 × 000 – 600                  |
|                                   |                                                                                                                                    | max. 1250                                         | LZM4-4       | 4 pole               | Copper cable lugs<br>2 × 95 – 300                  | 2 × 000 – 600                  |
|                                   |                                                                                                                                    | max. 1600                                         | LZM4         | 3 pole               | Copper cable lugs<br>2 × 95 – 300                  | 2 × 000 – 500                  |
|                                   |                                                                                                                                    | max. 1600                                         | LZM4-4       | 4 pole               | Copper cable lugs<br>2 × 95 – 300                  | 2 × 000 – 500                  |
| <b>Connection width extension</b> |                                                  | max. 1600                                         | LZM4         | 3 pole               | Cu cable lugs<br>4 × 300<br>6 × 95 – 240           | 4 × 600<br>6 × 000 – 500       |
|                                   |                                                                                                                                    | max. 1600                                         | LZM4         | 3 pole               | Cu cable lugs<br>4 × 300<br>6 × 95 – 240           | 4 × 600<br>6 × 000 – 500       |
|                                   |                                                                                                                                    | max. 1600                                         | LZM4-4       | 4 pole               | Cu cable lugs<br>4 × 300<br>6 × 95 – 240           | 4 × 600<br>6 × 000 – 500       |
|                                   |                                                                                                                                    | max. 1600                                         | LZM4-4       | 4 pole               | Cu cable lugs<br>4 × 300<br>6 × 95 – 240           | 4 × 600<br>6 × 000 – 500       |

#### Notes

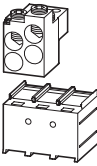
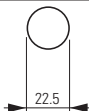
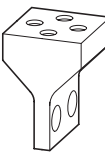
<sup>1)</sup> The following applies for the rated current: The values have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation.

| Terminal capacities                                             |                                    | Part no.<br>Article no. when<br>ordered separately | Std. pack | Notes                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------|------------------------------------|----------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cu strip (number of<br>segments × width ×<br>segment thickness) | Copper busbar width<br>× thickness |                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                        |
| mm                                                              | mm                                 |                                                    |           |                                                                                                                                                                                                                                                                                                                                                                                        |
| (2 × ) 10 × 50 × 1.0                                            | (2 × ) 50 × 10                     |                                                    | 1 off     | Double hole fitting for M10 screws with 25 mm clearance.<br>Use special cable lug narrow version.<br>$U_0 \geq 525$ V or cross-section > 185 mm <sup>2</sup> : Use of shroud NZM4(-4)-XKSA required.                                                                                                                                                                                   |
| (2 × ) 10 × 50 × 1.0                                            | (2 × ) 50 × 10                     |                                                    | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                                 | (2 × ) 80 × 10                     |                                                    | 1 off     | Triple hole fitting for M10 screws with 25 mm pitch.<br>Phase divider for insulation above is supplied.                                                                                                                                                                                                                                                                                |
| (2 × ) 10 × 40 × 1.0<br>(2 × ) 10 × 50 × 1.0                    | (2 × ) 40 × 10<br>(2 × ) 50 × 10   | <b>NZM4-XKM1</b><br>266814                         | 1 off     | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                          |
| (2 × ) 10 × 40 × 1.0<br>(2 × ) 10 × 50 × 1.0                    | (2 × ) 40 × 10<br>(2 × ) 50 × 10   | <b>NZM4-4-XKM1</b><br>266815                       | 1 off     | For M10 screws. Can be enlarged for M12 screws.<br>Use special cable lug narrow version.<br>Can be fitted to circuit-breaker with screw termination<br>Insulation through NZM4(-4)-XKSA cover or NZM4(-4)-XKP phase separator necessary                                                                                                                                                |
| (2 × ) 10 × 40 × 1.0<br>(2 × ) 10 × 50 × 1.0                    | (2 × ) 40 × 10<br>(2 × ) 50 × 10   | <b>NZM4-XKM2</b><br>266820                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                        |
| (2 × ) 10 × 40 × 1.0<br>(2 × ) 10 × 50 × 1.0                    | (2 × ) 40 × 10<br>(2 × ) 50 × 10   | <b>NZM4-4-XKM2</b><br>266821                       | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                        |
| (2 × ) 10 × 40 × 1.0<br>(2 × ) 10 × 50 × 1.0                    | (2 × ) 40 × 10<br>(2 × ) 50 × 10   | <b>NZM4-XKM2S-1250</b><br>284471                   | 1 off     | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                          |
| (2 × ) 10 × 40 × 1.0<br>(2 × ) 10 × 50 × 1.0                    | (2 × ) 40 × 10<br>(2 × ) 50 × 10   | <b>NZM4-4-XKM2S-1250</b><br>284472                 | 1 off     | Insulation through cover NZM4(-4)-XKSA or phase isolator<br>NZM4(4)-XKP necessary.                                                                                                                                                                                                                                                                                                     |
| (2 × ) 10 × 40 × 1.0<br>(2 × ) 10 × 50 × 1.0                    | (2 × ) 40 × 10<br>(2 × ) 50 × 10   | <b>NZM4-XKM2S-1600</b><br>284473                   | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                        |
| (2 × ) 10 × 40 × 1.0<br>(2 × ) 10 × 50 × 1.0                    | (2 × ) 40 × 10<br>(2 × ) 50 × 10   | <b>NZM4-4-XKM2S-1600</b><br>284474                 | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                        |
| min. 10 × 50 × 1.0                                              | min. (2 × ) 80 × 10                | <b>NZM4-XKV95</b><br>281591                        | 1 off     | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                          |
| min. 10 × 50 × 1.0                                              | min. (2 × ) 80 × 10                | <b>NZM4-XKV110</b><br>281593                       | 1 off     | Five way holes, e.g. for up to 9 cable lugs per phase.<br>Can be fitted to circuit-breaker with screw termination<br>Phase isolator supplied.                                                                                                                                                                                                                                          |
| min. 10 × 50 × 1.0                                              | min. (2 × ) 80 × 10                | <b>NZM4-4-XKV95</b><br>281592                      | 1 off     | Distance between pole centres with NZM4(-4)-XKV95: 95 mm<br>Installation conditions for current transformer up to 130 mm width<br>with 80 mm busbar width.                                                                                                                                                                                                                             |
| min. 10 × 50 × 1.0                                              | min. (2 × ) 80 × 10                | <b>NZM4-4-XKV120</b><br>281594                     | 1 off     | Distance between pole centres with NZM4-XKV110: 107.5 mm<br>Installation conditions for current transformer up to 135 mm width<br>with 80 mm busbar width.<br>Distance between pole centres with NZM4-4-XKV120: 122 mm<br>Installation conditions for current transformer up to 164 mm width<br>with 80 mm busbar width.<br>4 mm drilled holes for control circuit terminal available. |

# Circuit-breakers LZW

## Ordering

### Connection types LZW4

|                                                                                                                | Max. cable connection area                                                        | Rated current <sup>1)</sup> | For use with |                      | Terminal capacities |                     |             |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------|--------------|----------------------|---------------------|---------------------|-------------|
|                                                                                                                |                                                                                   | $I_n$                       |              |                      | Type of conductor   | Terminal capacities | AWG/kcmil   |
|                                                                                                                |                                                                                   | A                           |              |                      |                     | mm <sup>2</sup>     |             |
| <b>Flat cable terminal</b><br> | —                                                                                 | max. 1100                   | LZW4         | 3 pole               |                     |                     |             |
|                                                                                                                | —                                                                                 | max. 1100                   | LZW4-4       | 4 pole               |                     |                     |             |
| <b>Tunnel terminal</b><br>     | —                                                                                 | max. 1400                   | LZW4         | 3 pole               | Copper conductors   | 1 × 50 – 240        | 1 × 0 – 500 |
|                                                                                                                |                                                                                   |                             |              |                      |                     | 4 × 50 – 240        | 4 × 0 – 500 |
|                                                                                                                | —                                                                                 | max. 1400                   | LZW4-4       | 4 pole               | Cu cable            | 1 × 50 – 240        | 1 × 0 – 500 |
|                                                                                                                |  |                             |              |                      | Al conductors       | 4 × 50 – 240        | 4 × 0 – 500 |
| <b>Connection on rear</b><br> | —                                                                                 | max. 1250                   | LZW4(-4)     | Three- and four-pole | Copper cable lugs   | 1 × 120 – 185       |             |
|                                                                                                                |                                                                                   |                             |              |                      |                     | 2 × 95 – 185        |             |
|                                                                                                                |                                                                                   |                             |              |                      |                     | 4 × 35 – 185        |             |
|                                                                                                                |                                                                                   |                             |              |                      |                     | 1 × 185             |             |
|                                                                                                                |                                                                                   |                             |              |                      | Aluminium cable lug | 2 × 70 – 185        |             |
|                                                                                                                |                                                                                   |                             |              |                      |                     | 4 × 50 – 185        |             |
|                                                                                                                | —                                                                                 | 1600                        | LZW4(-4)     | —                    |                     |                     |             |

#### Notes

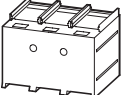
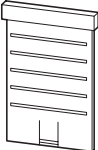
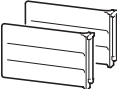
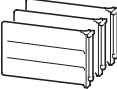
<sup>1)</sup> The following applies for the rated current: The values have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation.

| Terminal capacities                                       |                                 | Part no.                            | Std. pack | Notes                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------|---------------------------------|-------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cu strip (number of segments × width × segment thickness) | Copper busbar width × thickness | Article no. when ordered separately |           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mm                                                        | mm                              |                                     |           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| min. 6 × 16 × 0.8<br>max. (2 ×) 10 × 32 × 1.0             |                                 | <b>NZM4-XKB</b><br>266829           | 1 off     | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                                                     |
| min. 6 × 16 × 0.8<br>max. (2 ×) 10 × 32 × 1.0             |                                 | <b>NZM4-4-XKB</b><br>266831         | 1 off     | Conversion kit for circuit-breaker with screw connection. Insulation through cover NZM4(-4)-XKSA or phase isolator NZM4(4)-XKP necessary. With switch mounting on conductive mounting plates use of the shroud NZM4(-4)-XKSA necessary (supplied item).                                                                                                                                                                           |
|                                                           |                                 | <b>NZM4-XKA</b><br>266836           | 1 off     | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                                                     |
|                                                           |                                 | <b>NZM4-4-XKA</b><br>266837         | 1 off     | A standard with control circuit terminal for 1 × 0.75 ... 2.5 mm <sup>2</sup> (18 ... 14 AWG) or 2 × 0.75 ... 1.5 mm <sup>2</sup> (18 ... 16 AWG) copper conductors. Can be fitted to circuit-breaker with screw termination. Use ferrules with flexible and highly flexible conductors. Max. cross section shown can only be connected when flexible and without ferrules. Use of the NZM4(-4)-XKSA cover obligatory (supplied). |
| (2 ×) 10 × 50 × 1.0                                       | (2 ×) 50 × 10                   | <b>NZM4-XKR</b><br>266842           | 1 off     | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.                                                                                                                                                                                                                                                                                                                                     |
| (2 ×) 10 × 50 × 1.0                                       | (2 ×) 50 × 10                   | <b>NZM4-4-XKR</b><br>266843         | 1 off     | Can also be retrofitted:<br>NZM4...-XKM... module plate or NZM4...-XKV... connection width extension                                                                                                                                                                                                                                                                                                                              |
| (2 ×) 10 × 50 × 1.0                                       | (2 ×) 50 × 10                   |                                     | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                   |

# Circuit-breakers LZW

## Ordering

### Connection types LZW4

|                                                                                                                       | Max. cable<br>connection area | For use with         | Terminal capacities     | Type of conductor | Terminal<br>capacities           | AWG/kcmil                  |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------|-------------------------|-------------------|----------------------------------|----------------------------|
|                                                                                                                       |                               |                      |                         |                   | mm <sup>2</sup>                  |                            |
| <b>Control circuit terminal</b><br>   | –                             | LZW3(-4)             | Three- and<br>four-pole | Screw connection  | 1 × 0.75 – 2.5<br>2 × 0.75 – 1.5 | 1 × 18 – 14<br>2 × 18 – 16 |
| <b>Cover</b><br>                      | –                             | LZW4                 | 3 pole                  |                   |                                  |                            |
|                                                                                                                       | –                             | LZW4-4               | 4 pole                  |                   |                                  |                            |
| <b>Connection cover, knockout</b><br> | –                             | LZW4                 | 3 pole                  |                   |                                  |                            |
|                                                                                                                       | –                             | LZW4-4               | 4 pole                  |                   |                                  |                            |
| <b>Phase isolators</b><br>          | –                             | LZW4                 | 3 pole                  |                   |                                  |                            |
| <b>Phase isolators</b><br>          | –                             | LZW4-4               | 4 pole                  |                   |                                  |                            |
| <b>Cable lug</b><br>                | 185 mm <sup>2</sup>           | LZW3(-4)<br>LZW4(-4) | 3 and 4 pole            |                   |                                  |                            |
|                                                                                                                       | 900 mm <sup>2</sup>           | LZW3(-4)<br>LZW4(-4) | 3 and 4 pole            |                   |                                  |                            |

**Part no.**

Article no. when ordered separately

**Std. pack****Notes**

|                               |       |                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NZM3/4-XSTS</b><br>266797  | 1 off | Type contains parts for two terminal locations located at top or bottom for 3 or 4 pole circuit-breakers.<br>Included as standard with tunnel terminal<br>Degree of protection IP1X<br>Height or thickness of the control circuit terminals<br>NZM-XSTS = 2 mm                                                                               |
| <b>NZM4-XKSA</b><br>266846    | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Protection against direct contact where cable lugs, busbars, flat cable terminals or tunnel terminals are used.                                                                                                                             |
| <b>NZM4-4-XKSA</b><br>266847  | 1 off | With module plates, flat braid terminals and tunnel terminals included in the kit.<br>When using insulated conductor material to degree of protection: IP1X.                                                                                                                                                                                 |
| <b>NZM4-XKSFA</b><br>292193   | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Enhancement of the protection against direct contact to (simplified protection against contact with a finger).                                                                                                                              |
| <b>NZM4-4-XKSFA</b><br>292194 | 1 off |                                                                                                                                                                                                                                                                                                                                              |
| <b>NZM4-XKP</b><br>281595     | 1 off | Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.<br>Included with the connection width extension.<br>Cannot be combined with the tunnel terminal NZM4(-4)-XKA, connection NZM4-XKR on rear.<br>Insulation protection where cable lugs, busbars, module plates or flat cable terminals are used. |
| <b>NZM4-4-XKP</b><br>281596   | 1 off |                                                                                                                                                                                                                                                                                                                                              |
| <b>NZM3-XKS185</b><br>260040  | 3 off | Type contains a cable lug for 3-pole or 4 pole switches.<br>Special cable lug, narrow style                                                                                                                                                                                                                                                  |
| <b>NZM3-XKS240</b><br>260041  | 3 off |                                                                                                                                                                                                                                                                                                                                              |

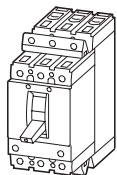
# Circuit-breakers LZW

## Ordering

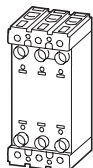
### Plug-in units NZM2-XSV...

| For use with                                       | Number of poles                                         | Part no.<br>Article no. when<br>ordered with<br>basic unit | Price<br>see price<br>list | Part no.<br>Article no. when<br>ordered<br>separately | Price<br>see price<br>list | Std.<br>pack | Notes                                                                                                                                                                        |  |
|----------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------|----------------------------|-------------------------------------------------------|----------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Plug-in and withdrawable units                     |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| For circuit-breakers LZM                           |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| Plug-in adapter elements                           |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| Complete                                           |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| Only in combination with circuit-breaker           |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| Terminal screws standard, terminals as accessories |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| LZM2-4                                             | 4 pole                                                  | +NZM2-4-XSV<br>266698                                      |                            |                                                       |                            | 1 off        | I <sub>nmax</sub> at:<br>20 °C: 250 A<br>40 °C: 230 A (LZM...2-...)<br>Mounting position: vertical,<br>90° right, 90° left<br>Order control circuit plug unit<br>separately! |  |
| LZM2                                               | 3 pole                                                  | +NZM2-XSV<br>266697                                        |                            |                                                       |                            | 1 off        |                                                                                                                                                                              |  |
| Sockets                                            |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| e.g. for reserved slots                            |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| Retrofit of circuit-breaker with plug-in module.   |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| Terminal screws standard, terminals as accessories |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| LZM2                                               | 3 pole                                                  |                                                            |                            | NZM2-XSVS<br>266699                                   |                            | 1 off        |                                                                                                                                                                              |  |
| LZM2-4                                             | 4 pole                                                  |                                                            |                            | NZM2-4-XSVS<br>266700                                 |                            | 1 off        |                                                                                                                                                                              |  |
| Removable module                                   |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| Fits socket base                                   |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| Only in combination with circuit-breaker           |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| LZM2                                               | 3 pole                                                  | +NZM2-XSVE<br>266701                                       |                            |                                                       |                            | 1 off        |                                                                                                                                                                              |  |
| LZM2-4                                             | 4 pole                                                  | +NZM2-4-XSVE<br>266702                                     |                            |                                                       |                            | 1 off        |                                                                                                                                                                              |  |
| Control circuit plug unit                          |                                                         |                                                            |                            |                                                       |                            |              |                                                                                                                                                                              |  |
| LZM2(-4)                                           | for auxiliary contact,<br>shunt/undervoltage<br>release |                                                            |                            | NZM2-XSVHI<br>266705                                  |                            | 1 off        | —                                                                                                                                                                            |  |
| LZM2(-4)                                           | for remote operator                                     |                                                            |                            | NZM2-XSVR<br>266706                                   |                            | 1 off        | —                                                                                                                                                                            |  |

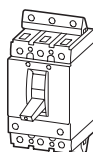
#### Plug-in adapter elements



#### Sockets



#### Removable module



#### Control circuit plug unit



## Withdrawable units NZM3-XAV...

| For use with | Number of poles | Part no.<br>Article no. when ordered with basic unit | Price<br>see price list | Part no.<br>Article no. when ordered separately | Price<br>see price list | Std. pack | Notes |
|--------------|-----------------|------------------------------------------------------|-------------------------|-------------------------------------------------|-------------------------|-----------|-------|
|--------------|-----------------|------------------------------------------------------|-------------------------|-------------------------------------------------|-------------------------|-----------|-------|

## Withdrawable unit with control circuit plug unit

For circuit-breakers L2M

Withdrawable unit with auxiliary plug-in adapter

Complete

Only in combination with circuit-breaker

Terminal screws standard, terminals as accessories

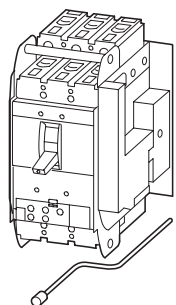
|        |        |                              |  |  |  |       |                                                                                            |
|--------|--------|------------------------------|--|--|--|-------|--------------------------------------------------------------------------------------------|
| L2M3   | 3 pole | <b>+NZM3-XAV</b><br>266707   |  |  |  | 1 off | $I_{nmax}$ at:<br>20 °C: 605 A (L2M3), 1600 A (L2M4)<br>40 °C: 550 A (L2M3), 1500 A (L2M4) |
| L2M3-4 | 4 pole | <b>+NZM3-4-XAV</b><br>266708 |  |  |  | 1 off |                                                                                            |
| L2M4   | 3 pole | <b>+NZM4-XAV</b><br>266709   |  |  |  | 1 off | Mounting position<br>L2M3: vertical, 90° left<br>L2M4: vertical                            |
| L2M4-4 | 4 pole | <b>+NZM4-4-XAV</b><br>266710 |  |  |  | 1 off |                                                                                            |

3 positions  
Connected, test, disconnected  
The 3 positions are indicated mechanically.

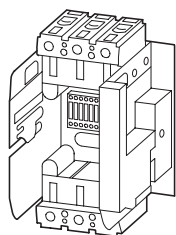
Additionally, auxiliary contacts are used for remote signalling. An optional M22-(C)K01 normally closed contact or M22-(C)K10 normally open contact per position  
Also see the RMQ-Titan control circuit device range in the Main Catalogue

All connections of auxiliary switches (HIA, HIN, HIV) and voltage releases to the control circuit plug units are already present.

## Withdrawable unit with auxiliary plug-in adapter



## Socket base



Socket base

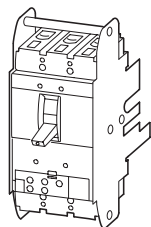
e.g. for reserved slots

Retrofit of circuit-breaker with withdrawable carrier.

Terminal screws standard, terminals as accessories

|        |        |  |                              |  |  |       |  |
|--------|--------|--|------------------------------|--|--|-------|--|
| L2M3   | 3 pole |  | <b>NZM3-XAVS</b><br>266711   |  |  | 1 off |  |
| L2M3-4 | 4 pole |  | <b>NZM3-4-XAVS</b><br>266712 |  |  | 1 off |  |
| L2M4   | 3 pole |  | <b>NZM4-XAVS</b><br>266713   |  |  | 1 off |  |
| L2M4-4 | 4 pole |  | <b>NZM4-4-XAVS</b><br>266714 |  |  | 1 off |  |

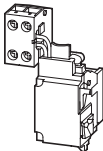
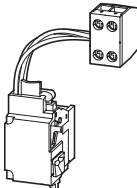
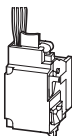
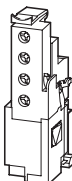
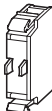
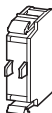
## Withdrawable carrier



Withdrawable carrier

|        |        |                               |  |  |  |       |  |
|--------|--------|-------------------------------|--|--|--|-------|--|
| L2M3   | 3 pole | <b>+NZM3-XAVE</b><br>266715   |  |  |  | 1 off |  |
| L2M3-4 | 4 pole | <b>+NZM3-4-XAVE</b><br>266716 |  |  |  | 1 off |  |
| L2M4   | 3 pole | <b>+NZM4-XAVE</b><br>266717   |  |  |  | 1 off |  |
| L2M4-4 | 4 pole | <b>+NZM4-4-XAVE</b><br>266718 |  |  |  | 1 off |  |

### Auxiliary contact with screw terminals L2M, M22-...

|                                                                                                                                                                                                                       | For use with                                                                             | Auxiliary contacts: ☹ = safety function, by positive opening to IEC/EN 60947-5-1<br>N/O = Normally open    N/C = Normally closed |         | Contact sequence                                                                      | Part no.<br>Article no. when ordered separately | Price<br>see price list |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------|
| <b>Auxiliary contacts</b>                                                                                                                                                                                             |                                                                                          |                                                                                                                                  |         |                                                                                       |                                                 |                         |
| Standard auxiliary contact (HIN)<br>Switching with the main contacts<br>Used for indicating and interlocking tasks                                                                                                    |                                                                                          |                                                                                                                                  |         |                                                                                       |                                                 |                         |
|                                                                                                                                       | LZM1(-4), 2(-4), 3(-4), 4(-4)                                                            | 1 N/O                                                                                                                            |         |    | <b>M22-K10</b><br>216376                        |                         |
|                                                                                                                                                                                                                       |                                                                                          |                                                                                                                                  | 1 N/C ☹ |    | <b>M22-K01</b><br>216378                        |                         |
|                                                                                                                                       | With 3 m connection cable instead of screw termination.<br>LZM1(-4), 2(-4), 3(-4), 4(-4) | 1 N/O                                                                                                                            | 1 N/C ☹ |    |                                                 |                         |
|                                                                                                                                                                                                                       |                                                                                          | 2 N/O                                                                                                                            |         |    |                                                 |                         |
|                                                                                                                                                                                                                       |                                                                                          |                                                                                                                                  | 2 N/C ☹ |    |                                                 |                         |
| Early-make auxiliary contact<br>For interlocking and load shedding circuits, as well as for early make of the undervoltage release in main switch/Emergency-Stop applications                                         |                                                                                          |                                                                                                                                  |         |                                                                                       |                                                 |                         |
|                                                                                                                                      | With clamp terminal on the left-hand switch side.<br>LZM1(-4)                            | 2 N/O                                                                                                                            |         |    | <b>NZM1-XHIV</b><br>259426                      |                         |
|                                                                                                                                                                                                                       |                                                                                          |                                                                                                                                  |         |                                                                                       |                                                 |                         |
|                                                                                                                                     | With clamp terminal on the right-hand switch side.<br>LZM1(-4)                           | 2 N/O                                                                                                                            |         |  | <b>NZM1-XHIVR</b><br>292195                     |                         |
|                                                                                                                                                                                                                       |                                                                                          |                                                                                                                                  |         |                                                                                       |                                                 |                         |
|                                                                                                                                     | With 3 m connection cable instead of screw termination.<br>LZM1(-4)                      | 2 N/O                                                                                                                            |         |  | <b>NZM1-XHIVL</b><br>259432                     |                         |
|                                                                                                                                                                                                                       |                                                                                          |                                                                                                                                  |         |                                                                                       |                                                 |                         |
|                                                                                                                                     | LZM2(-4), 3(-4)                                                                          | 2 N/O                                                                                                                            |         |  | <b>NZM2/3-XHIV</b><br>259430                    |                         |
|                                                                                                                                                                                                                       | LZM4(-4)                                                                                 | 2 N/O                                                                                                                            |         |  | <b>NZM4-XHIV</b><br>266172                      |                         |
| Trip indicating auxiliary contact (HIA), (HIAFI)<br>General trip indication '+', when tripped by voltage release, overload release, short-circuit release or by the residual-current release due to residual-current. |                                                                                          |                                                                                                                                  |         |                                                                                       |                                                 |                         |
|                                                                                                                                     | LZM1(-4), 2(-4), 3(-4), 4(-4)                                                            | 1 N/O                                                                                                                            |         |  | <b>M22-K10</b><br>216376                        |                         |
|                                                                                                                                                                                                                       |                                                                                          |                                                                                                                                  | 1 N/C ☹ |  | <b>M22-K01</b><br>216378                        |                         |
|                                                                                                                                     | With 3 m connection cable instead of screw termination.<br>LZM1(-4), 2(-4), 3(-4), 4(-4) | 1 N/O                                                                                                                            | 1 N/C ☹ |  |                                                 |                         |
|                                                                                                                                                                                                                       |                                                                                          | 2 N/O                                                                                                                            |         |  |                                                 |                         |
|                                                                                                                                                                                                                       |                                                                                          |                                                                                                                                  | 2 N/C ☹ |  |                                                 |                         |

|                                                                                     | Part no.<br>Article no.<br>when<br>ordered<br>separately | Price<br>see price list | Std. pack | Notes                                                 | Notes                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------|-----------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>M22-CK10</b><br>216384                                |                         | 20 off    | For Std. pack:<br>M22-(C)K... :<br>Std. pack = 20 off | The following can be clipped into the switches:<br>• L2M1 - one standard auxiliary contact<br>• L2M2 - up to 2 standard auxiliary contacts M22-(C)K...<br>• L2M3 and L2M4 - up to 3 standard auxiliary contacts M22-(C)K...<br>Any combinations of the auxiliary contact types is possible.<br>Marking on switch: HIN                                                                                                     |
|                                                                                     | <b>M22-CK01</b><br>216385                                |                         | 20 off    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     | <b>M22-CK11</b><br>107940                                |                         | 20 off    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     | <b>M22-CK20</b><br>107898                                |                         | 20 off    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     | <b>M22-CK02</b><br>107899                                |                         | 20 off    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     |                                                          |                         | 1 off     |                                                       | Not in conjunction with NZM...-XU... undervoltage release or NZM...-XA... shunt release<br>Early make with switch on and switch off (manual actuation): approx. 20 ms                                                                                                                                                                                                                                                     |
|                                                                                     |                                                          |                         | 1 off     |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     |                                                          |                         | 1 off     |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     |                                                          |                         | 1 off     |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     |                                                          |                         | 1 off     |                                                       | Not in conjunction with undervoltage release NZM...-XU, shunt release NZM...-XA... or remote operator NZM...-XR...<br>Early make with switch on (manual actuation): approx. 90 ms                                                                                                                                                                                                                                         |
|  | <b>M22-CK10</b><br>216384                                |                         | 20 off    | For Std. pack:<br>M22-(C)K... :<br>Std. pack = 20 off | The following can be clipped into the switches:<br>• L2M1 - one trip-indicating auxiliary switch<br>• L2M2 - one M22-(C)K... trip-indicating auxiliary switch<br>• L2M3 - one M22-(C)K... trip-indicating auxiliary switch<br>• L2M4 - up to two M22-(C)K... trip-indicating auxiliary switches<br>Any combinations of the auxiliary contact types is possible.<br>Marking on switch: HIA<br>Labeling in FI-Block: HIAFI. |
|                                                                                     | <b>M22-CK01</b><br>216385                                |                         | 20 off    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     | <b>M22-CK11</b><br>107940                                |                         | 20 off    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     | <b>M22-CK20</b><br>107898                                |                         | 20 off    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     | <b>M22-CK02</b><br>107899                                |                         | 20 off    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                     |                                                          |                         |           |                                                       | If the trip-indicating auxiliary contact in the fault-current block is used, the N/C contacts operates as a N/O contact and the N/C contact operates as an N/O contact (circuit symbol)                                                                                                                                                                                                                                   |

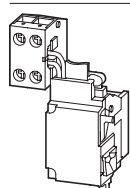
### Undervoltage release with screw terminal LZM1

For use with      Rated control voltage      **Part no.**      **Price**      Std. pack      **Notes**  
 $U_s$       Article no. when ordered separately      see price list

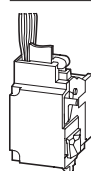
V

#### Undervoltage releases

Without auxiliary contact  
 Non-delayed disconnection of LZM circuit-breakers when the control voltage sinks below 35 – 70%  $U_s$ .  
 For use with Emergency-Stop devices in conjunction with Emergency-Stop button.



|                                                         |          |                        |                                    |       |                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------|----------|------------------------|------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| With clamp terminal on the left-hand switch side.       | LZM1(-4) | 24 V 50/60 Hz          | <b>NZM1-XU24AC</b><br>259434       | 1 off | When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on, is safely prevented .<br><br>Undervoltage release cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release. |
|                                                         |          | 110 V – 130 V 50/60 Hz | <b>NZM1-XU110-130AC</b><br>259440  | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 208 V 240 V 50/60 Hz   | <b>NZM1-XU208-240AC</b><br>259442  | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 380 V – 440 V 50/60 Hz | <b>NZM1-XU380-440AC</b><br>259444  | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 480 V – 525 V 50/60 Hz | <b>NZM1-XU480-525AC</b><br>259446  | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 600 V 50/60 Hz         | <b>NZM1-XU600AC</b><br>259448      | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 12 V DC                | <b>NZM1-XU12DC</b><br>259450       | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 24 V DC                | <b>NZM1-XU24DC</b><br>259452       | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 110 V – 130 V DC       | <b>NZM1-XU110-130DC</b><br>259458  | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 220 V – 250 V DC       | <b>NZM1-XU220-250DC</b><br>259460  | 1 off |                                                                                                                                                                                                                                                                                                           |
| With 3 m connection cable instead of screw termination. | LZM1(-4) | 24 V 50/60 Hz          | <b>NZM1-XUL24AC</b><br>259462      | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 110 V – 130 V 50/60 Hz | <b>NZM1-XUL110-130AC</b><br>259468 | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 208 V 240 V 50/60 Hz   | <b>NZM1-XUL208-240AC</b><br>259471 | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 380 V – 440 V 50/60 Hz | <b>NZM1-XUL380-440AC</b><br>259473 | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 480 V – 525 V 50/60 Hz | <b>NZM1-XUL480-525AC</b><br>259475 | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 600 V 50/60 Hz         | <b>NZM1-XUL600AC</b><br>259477     | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 12 V DC                | <b>NZM1-XUL12DC</b><br>259479      | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 24 V DC                | <b>NZM1-XUL24DC</b><br>259481      | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 110 V 130 V DC         | <b>NZM1-XUL110-130DC</b><br>259487 | 1 off |                                                                                                                                                                                                                                                                                                           |
|                                                         |          | 220 V – 250 V DC       | <b>NZM1-XUL220-250DC</b><br>259489 | 1 off |                                                                                                                                                                                                                                                                                                           |



## Undervoltage release with screw terminal LZM2/3..., LZM4

| For use with | Rated control voltage | Part no.<br>Article no. when ordered separately | Price<br>see price list | Std. pack | Notes |
|--------------|-----------------------|-------------------------------------------------|-------------------------|-----------|-------|
|              | $U_s$                 |                                                 |                         |           |       |

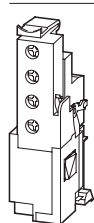
V

## Undervoltage releases

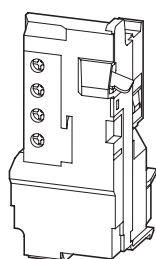
Without auxiliary contact

Non-delayed disconnection of LZM circuit-breakers when the control voltage sinks below 35 – 70%  $U_s$ .

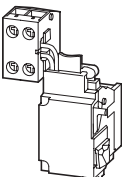
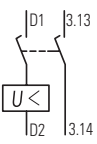
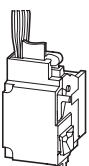
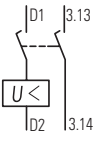
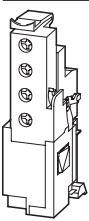
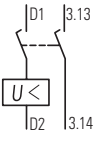
For use with Emergency-Stop devices in conjunction with Emergency-Stop button.

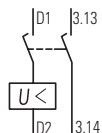
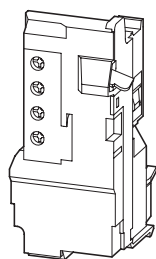


|          |                        |                                     |       |                                                                                                                                                            |
|----------|------------------------|-------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LZM2(-4) | 24 V 50/60 Hz          | <b>NZM2/3-XU24AC</b><br>259491      | 1 off | When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on, is safely prevented . |
| LZM3(-4) | 110 V – 130 V 50/60 Hz | <b>NZM2/3-XU110-130AC</b><br>259497 | 1 off |                                                                                                                                                            |
|          | 208 V – 240 V 50/60 Hz | <b>NZM2/3-XU208-240AC</b><br>259499 | 1 off |                                                                                                                                                            |
|          | 380 V – 440 V 50/60 Hz | <b>NZM2/3-XU380-440AC</b><br>259501 | 1 off |                                                                                                                                                            |
|          | 480 V – 525 V 50/60 Hz | <b>NZM2/3-XU480-525AC</b><br>259503 | 1 off |                                                                                                                                                            |
|          | 600 V 50/60 Hz         | <b>NZM2/3-XU600AC</b><br>259505     | 1 off |                                                                                                                                                            |
|          | 12 V DC                | <b>NZM2/3-XU12DC</b><br>259507      | 1 off |                                                                                                                                                            |
|          | 24 V DC                | <b>NZM2/3-XU24DC</b><br>259509      | 1 off |                                                                                                                                                            |
|          | 110 V – 130 V DC       | <b>NZM2/3-XU110-130DC</b><br>259515 | 1 off |                                                                                                                                                            |
|          | 220 V – 250 V DC       | <b>NZM2/3-XU220-250DC</b><br>259517 | 1 off |                                                                                                                                                            |
| LZM4(-4) | 24 V 50/60 Hz          | <b>NZM4-XU24AC</b><br>266189        | 1 off | Undervoltage release cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release.                    |
|          | 110 V – 130 V 50/60 Hz | <b>NZM4-XU110-130AC</b><br>266192   | 1 off |                                                                                                                                                            |
|          | 208 V – 240 V 50/60 Hz | <b>NZM4-XU208-240AC</b><br>266193   | 1 off |                                                                                                                                                            |
|          | 380 V – 440 V 50/60 Hz | <b>NZM4-XU380-440AC</b><br>266194   | 1 off |                                                                                                                                                            |
|          | 480 V – 525 V 50/60 Hz | <b>NZM4-XU480-525AC</b><br>266195   | 1 off |                                                                                                                                                            |
|          | 600 V 50/60 Hz         | <b>NZM4-XU600AC</b><br>266196       | 1 off |                                                                                                                                                            |
|          | 12 V DC                | <b>NZM4-XU12DC</b><br>266203        | 1 off |                                                                                                                                                            |
|          | 24 V DC                | <b>NZM4-XU24DC</b><br>266204        | 1 off |                                                                                                                                                            |
|          | 110 V – 130 V DC       | <b>NZM4-XU110-130DC</b><br>266207   | 1 off |                                                                                                                                                            |
|          | 220 V – 250 V DC       | <b>NZM4-XU220-250DC</b><br>266208   | 1 off |                                                                                                                                                            |



### Undervoltage release with screw terminal LZM1, LZM2/3

|                                                                                                                                                                           | For use with         | Rated control voltage<br>$U_s$<br>V | Part no.<br>Article no. when ordered separately | Price<br>see price list | Std. pack | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------|-------------------------------------------------|-------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Undervoltage releases</b>                                                                                                                                              |                      |                                     |                                                 |                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| With two early-make auxiliary contacts<br>For interlocking and load-shedding circuits, as well as for early-make of the undervoltage release in main-switch applications. |                      |                                     |                                                 |                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <br>      | LZM1(-4)             | 24 V 50/60 Hz                       | <b>NZM1-XUHIV24AC</b><br>259531                 |                         | 1 off     | When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms. Undervoltage releases cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release.                                                                  |
|                                                                                                                                                                           |                      | 110 V – 130 V 50/60 Hz              | <b>NZM1-XUHIV110-130AC</b><br>259537            |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 208 V – 240 V 50/60 Hz              | <b>NZM1-XUHIV208-240AC</b><br>259539            |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 380 V – 440 V 50/60 Hz              | <b>NZM1-XUHIV380-440AC</b><br>259541            |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 480 V – 525 V 50/60 Hz              | <b>NZM1-XUHIV480-525AC</b><br>259543            |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 12 V DC                             | <b>NZM1-XUHIV12DC</b><br>259545                 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 24 V DC                             | <b>NZM1-XUHIV24DC</b><br>259547                 |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 110 V – 130 V DC                    | <b>NZM1-XUHIV110-130DC</b><br>259553            |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 220 V – 250 V DC                    | <b>NZM1-XUHIV220-250DC</b><br>259555            |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <br>  | LZM1(-4)             | 24 V 50/60 Hz                       | <b>NZM1-XUHIVL24AC</b><br>259557                |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 110 V – 130 V 50/60 Hz              | <b>NZM1-XUHIVL110-130AC</b><br>259563           |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 208 V – 240 V 50/60 Hz              | <b>NZM1-XUHIVL208-240AC</b><br>259565           |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 380 V – 440 V 50/60 Hz              | <b>NZM1-XUHIVL380-440AC</b><br>259567           |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 480 V – 525 V 50/60 Hz              | <b>NZM1-XUHIVL480-525AC</b><br>259569           |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 12 V DC                             | <b>NZM1-XUHIVL12DC</b><br>259571                |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 24 V DC                             | <b>NZM1-XUHIVL24DC</b><br>259573                |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 110 V – 130 V DC                    | <b>NZM1-XUHIVL110-130DC</b><br>259579           |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 220 V – 250 V DC                    | <b>NZM1-XUHIVL220-250DC</b><br>259581           |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <br>  | LZM2(-4)<br>LZM3(-4) | 24 V 50/60 Hz                       | <b>NZM2/3-XUHIV24AC</b><br>259583               |                         | 1 off     | When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms. Cannot be used in conjunction with NZM...-XR... remote operator. Undervoltage releases cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release. |
|                                                                                                                                                                           |                      | 110 V – 130 V 50/60 Hz              | <b>NZM2/3-XUHIV110-130AC</b><br>259589          |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 208 V – 240 V 50/60 Hz              | <b>NZM2/3-XUHIV208-240AC</b><br>259591          |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 380 V – 440 V 50/60 Hz              | <b>NZM2/3-XUHIV380-440AC</b><br>259594          |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 480 V – 525 V 50/60 Hz              | <b>NZM2/3-XUHIV480-525AC</b><br>259598          |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 12 V DC                             | <b>NZM2/3-XUHIV12DC</b><br>259600               |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 24 V DC                             | <b>NZM2/3-XUHIV24DC</b><br>259602               |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 110 V – 130 V DC                    | <b>NZM2/3-XUHIV110-130DC</b><br>259608          |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                           |                      | 220 V – 250 V DC                    | <b>NZM2/3-XUHIV220-250DC</b><br>259610          |                         | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



### Undervoltage release with screw terminal LZW1, LZW2/3..., LZW4

| For use with | Rated control voltage | Part no.<br>Article no. when ordered<br>separately | Price<br>see price<br>list | Std. pack | Notes |
|--------------|-----------------------|----------------------------------------------------|----------------------------|-----------|-------|
|              | $U_s$<br>V            |                                                    |                            |           |       |

#### Undervoltage releases

##### With two early-make auxiliary contacts

For interlocking and load-shedding circuits, as well as for early-make of the undervoltage release in main-switch applications.

|          |                        |                                      |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|------------------------|--------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LZW4(-4) | 24 V 50/60 Hz          | <b>NZW4-XUHIV24AC</b><br>266217      | 1 off | When the undervoltage release is de-energized, accidental contact with the main switches of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contacts with switch on (manual operation): approx. 90 ms. Cannot be used in conjunction with NZM...-XR... remote operator. Undervoltage releases cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release. |
|          | 110 V – 130 V 50/60 Hz | <b>NZW4-XUHIV110-130AC</b><br>266220 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|          | 208 V – 240 V 50/60 Hz | <b>NZW4-XUHIV208-240AC</b><br>266221 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|          | 380 V – 440 V 50/60 Hz | <b>NZW4-XUHIV380-440AC</b><br>266222 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|          | 480 V – 525 V 50/60 Hz | <b>NZW4-XUHIV480-525AC</b><br>266223 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|          | 12 V DC                | <b>NZW4-XUHIV12DC</b><br>266231      | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|          | 24 V DC                | <b>NZW4-XUHIV24DC</b><br>266232      | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|          | 110 V – 130 V DC       | <b>NZW4-XUHIV110-130DC</b><br>266235 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|          | 220 V – 250 V DC       | <b>NZW4-XUHIV220-250DC</b><br>266236 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

### Undervoltage release with screw terminal LZW1, LZW2/3..., LZW4

For use with

Rated control voltage

Part no.

Article no. when ordered separately

Price

see price list

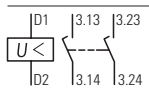
Std. pack

$U_s$   
V

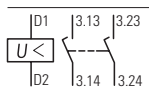
#### Undervoltage releases

With two separate early-make auxiliary contacts

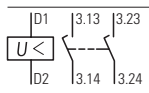
Coil connection wired to clamp terminal, auxiliary switch connections wired with 3 m loose connection cables

|                                                                                   |          |                        |                                          |       |
|-----------------------------------------------------------------------------------|----------|------------------------|------------------------------------------|-------|
|  | LZW1(-4) | 24 V 50/60 Hz          | <b>NZW1-XUHIV20KL24AC</b><br>284388      | 1 off |
|                                                                                   |          | 110 V – 130 V 50/60 Hz | <b>NZW1-XUHIV20KL110-130AC</b><br>284389 | 1 off |
|                                                                                   |          | 208 V – 240 V 50/60 Hz | <b>NZW1-XUHIV20KL208-240AC</b><br>284400 | 1 off |
|                                                                                   |          | 24 V DC                | <b>NZW1-XUHIV20KL24DC</b><br>284387      | 1 off |

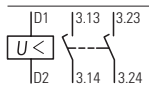
Coil connection with 3 m loose connection cables, auxiliary switch connections wired to clamp terminal

|                                                                                   |          |                          |                                          |       |
|-----------------------------------------------------------------------------------|----------|--------------------------|------------------------------------------|-------|
|  | LZW1(-4) | 24 V 50/60 Hz            | <b>NZW1-XUHIV20LK24AC</b><br>284402      | 1 off |
|                                                                                   |          | 110 V – 130 V 50/60 Hz   | <b>NZW1-XUHIV20LK110-130AC</b><br>284403 | 1 off |
|                                                                                   |          | 208 V ... 240 V 50/60 Hz | <b>NZW1-XUHIV20LK208-240AC</b><br>284404 | 1 off |
|                                                                                   |          | 24 V DC                  | <b>NZW1-XUHIV20LK24DC</b><br>284401      | 1 off |

Coil connection with 3 m loose connection cables, auxiliary switch connections wired to clamp terminal

|                                                                                     |                      |                        |                                            |       |
|-------------------------------------------------------------------------------------|----------------------|------------------------|--------------------------------------------|-------|
|  | LZW2(-4)<br>LZW3(-4) | 24 V 50/60 Hz          | <b>NZW2/3-XUHIV20LK24AC</b><br>285291      | 1 off |
|                                                                                     |                      | 110 V – 130 V 50/60 Hz | <b>NZW2/3-XUHIV20LK110-130AC</b><br>284407 | 1 off |
|                                                                                     |                      | 208 V – 240 V 50/60 Hz | <b>NZW2/3-XUHIV20LK208-240AC</b><br>284408 | 1 off |
|                                                                                     |                      | 24 V DC                | <b>NZW2/3-XUHIV20LK24DC</b><br>284405      | 1 off |

Contacts 3.23 and 3.24 with separate 3 m connection cables.

|                                                                                     |          |                        |                                        |       |
|-------------------------------------------------------------------------------------|----------|------------------------|----------------------------------------|-------|
|  | LZW4(-4) | 24 V 50/60 Hz          | <b>NZW4-XUHIV2024AC</b><br>266244      | 1 off |
|                                                                                     |          | 110 V – 130 V 50/60 Hz | <b>NZW4-XUHIV20110-130AC</b><br>266247 | 1 off |
|                                                                                     |          | 208 V 240 V 50/60 Hz   | <b>NZW4-XUHIV20208-240AC</b><br>266248 | 1 off |
|                                                                                     |          | 380 V – 440 V 50/60 Hz | <b>NZW4-XUHIV20380-440AC</b><br>266249 | 1 off |
|                                                                                     |          | 24 V DC                | <b>NZW4-XUHIV2024DC</b><br>266258      | 1 off |

#### Notes

When the undervoltage release is de-energized, accidental contact with the main switches of the switch during attempts to switch on is safely prevented.

Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms.

Cannot be used in conjunction with NZM...-XR... remote operator.

Undervoltage releases cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release.

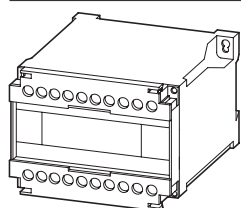
## Undervoltage releases, off-delayed LZW1, LZW2/3..., LZW4

For use with

Part no.  
Article no. when  
ordered separatelyPrice  
see price  
list

Std. pack

Notes

**Undervoltage releases, off-delayed**

Combination of separate delay unit and special tripping device.

Delay unit

Voltage dips of less than the setting between 0.06 – 16 s do not cause disconnection of the NZM circuit-breaker or N switch-disconnector.

LZW1(-4), 2(-4), 3(-4), 4(-4)

**UVU-NZM**  
260154

1 off

Adjustable delay time 70 ms – 4 s.  
With additional capacitor up to 16 s.  
A special tripping device is required.  
Cannot be installed simultaneously with NZM...-XHIV... or NZM...-XA... shunt release.  
Delay unit for separate installation (Fixing: top-hat rail or screws).  
For other operating voltages use control transformer.50/60 Hz  
220 V – 240 V  
380 V – 440 V  
480 V – 550 VDC/AC  
24 V

Special tripping device

For combination with separate delay unit

Without auxiliary contacts

NZM1-X... with 3 m separate connection cables instead of screw terminal, NZM2, 3, 4 with screw terminal

LZW1(-4)

**NZM1-XUVL**  
271607

1 off

UVU-NZM delay unit is additionally required.  
Cannot be installed simultaneously with separate NZM...-XHIV early-make auxiliary contact or NZM...-XA... shunt release.

LZW2(-4)

**NZM2/3-XUV**  
259527

1 off

LZW3(-4)

LZW4(-4)

**NZM4-XUV**  
266588

1 off

With 2 early-make auxiliary contacts

NZM1-X... with 3 m separate connection cables instead of screw terminal, NZM2, 3, 4 with screw terminal

LZW1(-4)

**NZM1-XUVHIVL**  
271608

1 off

Cannot be used in conjunction with NZM...-XR... remote operator.

LZW2(-4)

**NZM2/3-XUVHIV**  
259684

1 off

LZW3(-4)

LZW4(-4)

**NZM4-XUVHIV**  
266596

1 off

UVU-NZM delay unit is additionally required.  
Cannot be installed simultaneously with separate NZM...-XHIV early-make auxiliary contact or NZM...-XA... shunt release.  
LZW1, 2, 3: Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms.  
LZW4: Early-make of the auxiliary contacts with switch on (manual operation): approx. 90 ms.

With 2 separately operating early-make auxiliary contacts

NZM1-X... with 3 m separate connection cables instead of screw terminal, NZM2(3)(4)-X... with screw terminal, contact 3.23 and 3.24 with 3 m separate connection cables.

LZW1(-4)

**NZM1-XUVHIV20L**  
271609

1 off

Cannot be used in conjunction with NZM...-XR... remote operator.

LZW2(-4)

**NZM2/3-XUVHIV20**  
259688

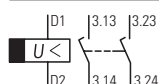
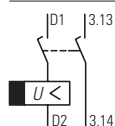
1 off

LZW3(-4)

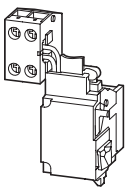
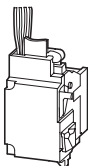
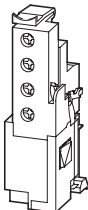
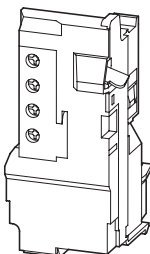
LZW4(-4)

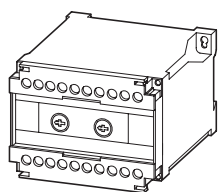
**NZM4-XUVHIV20**  
266604

1 off

UVU-NZM delay unit is additionally required.  
Cannot be installed simultaneously with separate NZM...-XHIV early-make auxiliary contact or NZM...-XA... shunt release.  
LZW1, 2, 3: Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms.  
LZW4: Early-make of the auxiliary contacts with switch on (manual operation): approx. 90 ms.

### Shunt releases with screw terminal L2M1, L2M2/3, L2M4

|                                                                                                                                                                          | For use with         | Rated control voltage | Part no.<br>Article no. when ordered separately | Price<br>see price list | Std. pack | Notes                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------|-------------------------------------------------|-------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                          |                      | $U_s$<br>V            |                                                 |                         |           |                                                                                                                                                                                                                                                                                                          |
| <b>Shunt releases</b>                                                                                                                                                    |                      |                       |                                                 |                         |           |                                                                                                                                                                                                                                                                                                          |
| Without auxiliary contact<br>Switches are tripped by a voltage pulse or by the application of uninterrupted voltage.                                                     |                      |                       |                                                 |                         |           |                                                                                                                                                                                                                                                                                                          |
| <br>     | LZM1(-4)             | 12 V AC/DC            | <b>NZM1-XA12AC/DC</b><br>259706                 |                         | 1 off     | When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on, is safely prevented.<br><br>Shunt release cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XU... undervoltage release. |
|                                                                                                                                                                          |                      | 24 V AC/DC            | <b>NZM1-XA24AC/DC</b><br>259708                 |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 110 V – 130 V AC/DC   | <b>NZM1-XA110-130AC/DC</b><br>259724            |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 208 V – 250 V AC/DC   | <b>NZM1-XA208-250AC/DC</b><br>259726            |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 380 V – 440 V AC/DC   | <b>NZM1-XA380-440AC/DC</b><br>259728            |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
| <br>  | LZM1(-4)             | 12 V AC/DC            | <b>NZM1-XAL12AC/DC</b><br>259734                |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 24 V AC/DC            | <b>NZM1-XAL24AC/DC</b><br>259736                |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 110 V – 130 V AC/DC   | <b>NZM1-XAL110-130AC/DC</b><br>259742           |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 208 V – 250 V AC/DC   | <b>NZM1-XAL208-250AC/DC</b><br>259744           |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 380 V – 440 V AC/DC   | <b>NZM1-XAL380-440AC/DC</b><br>259746           |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
| Without auxiliary contact<br>Switches are tripped by a voltage pulse or by the application of uninterrupted voltage.                                                     |                      |                       |                                                 |                         |           |                                                                                                                                                                                                                                                                                                          |
| <br> | LZM2(-4)<br>LZM3(-4) | 12 V AC/DC            | <b>NZM2/3-XA12AC/DC</b><br>259752               |                         | 1 off     | When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on, is safely prevented.<br><br>Shunt release cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XU... undervoltage release. |
|                                                                                                                                                                          |                      | 24 V AC/DC            | <b>NZM2/3-XA24AC/DC</b><br>259754               |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 110 V – 130 V AC/DC   | <b>NZM2/3-XA110-130AC/DC</b><br>259760          |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 208 V – 250 V AC/DC   | <b>NZM2/3-XA208-250AC/DC</b><br>259763          |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 380 V – 440 V AC/DC   | <b>NZM2/3-XA380-440AC/DC</b><br>259766          |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
| <br> | LZM4(-4)             | 12 V AC/DC            | <b>NZM4-XA12AC/DC</b><br>266446                 |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 24 V AC/DC            | <b>NZM4-XA24AC/DC</b><br>266447                 |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 110 V – 130 V AC/DC   | <b>NZM4-XA110-130AC/DC</b><br>266450            |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 208 V – 250 V AC/DC   | <b>NZM4-XA208-250AC/DC</b><br>266451            |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                          |                      | 380 V – 440 V AC/DC   | <b>NZM4-XA380-440AC/DC</b><br>266452            |                         | 1 off     |                                                                                                                                                                                                                                                                                                          |



## Shunt releases with screw terminal LZW...-X...

| For use with | Part no.<br>Article no. when<br>ordered<br>separately | Price<br>see price<br>list | Std. pack | Notes |
|--------------|-------------------------------------------------------|----------------------------|-----------|-------|
|--------------|-------------------------------------------------------|----------------------------|-----------|-------|

### Shunt releases

Capacitor unit 230 V 50/60 Hz  
in conjunction with NZM...-XA2082-50AC/DC  
shunt release  
Enclosure: degree of protection IP20

|                                              |                          |       |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------|--------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LZW1(-4)<br>LZW2(-4)<br>LZW3(-4)<br>LZW4(-4) | <b>NZM-XCM</b><br>229413 | 1 off | Enables the safe use of circuit-breakers as mesh network circuit-breakers in the range from 0 ... 110 % $U_n$ with constant switch-off time of 40 ms. If the mains voltage is absent, the installed capacitor supplies power for actuating the shunt release for at least 12 hours. The configuration of the capacitor unit is undertaken independently of the circuit-breaker. Connect NZM-XCM to the power feed side. |
|----------------------------------------------|--------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

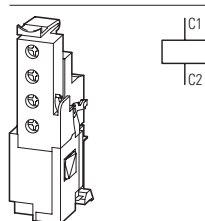
Design note:  
Connect a standard auxiliary contact as N/O in series with the shunt release!  
Standard auxiliary contact not included as standard.

## Shunt releases with screw terminal LZW...-X...

| For use with | Rated control<br>voltage<br>$U_s$<br>V | Part no.<br>Article no. when ordered<br>separately | Price<br>see price<br>list | Std.<br>pack | Notes |
|--------------|----------------------------------------|----------------------------------------------------|----------------------------|--------------|-------|
|--------------|----------------------------------------|----------------------------------------------------|----------------------------|--------------|-------|

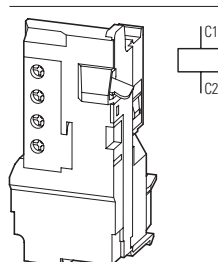
### Shunt releases

Without auxiliary contacts  
For mesh-network circuit-breakers  
For intermittent operation  
Maximum on time = 1 s  
Operating range 10 – 110 %  $U_s$

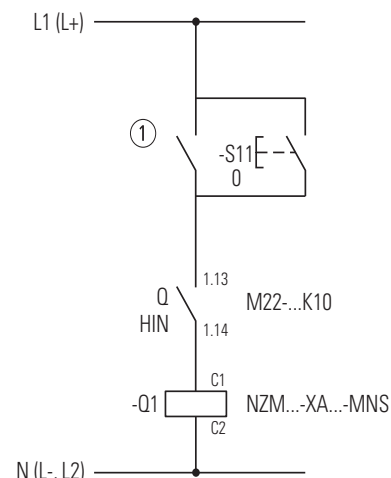


|          |          |                                    |       |                                                                                                                           |
|----------|----------|------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------|
| LZW3(-4) | 230 V AC | <b>NZM3-XA-230AC-MNS</b><br>274097 | 1 off | Cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XU... undervoltage release. |
|----------|----------|------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------|

Intermittent operation guaranteed by series connection of an M22-(C)K10 make contact. The maximum operating time of the shunt release for mesh network circuit-breaker is 1 s.

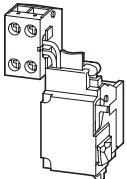
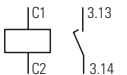
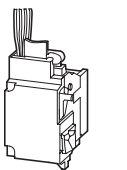
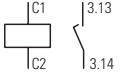
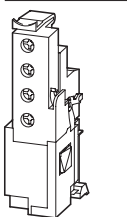
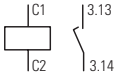
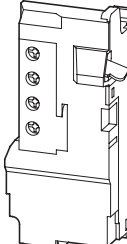
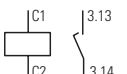


|          |          |                                    |       |  |
|----------|----------|------------------------------------|-------|--|
| LZW4(-4) | 230 V AC | <b>NZM4-XA-230AC-MNS</b><br>274138 | 1 off |  |
|----------|----------|------------------------------------|-------|--|

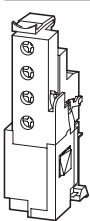
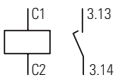
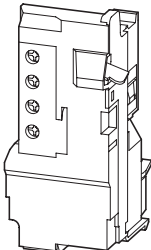
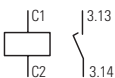


- ① Reverse-power relay contact
- S11 Remote off
- Q Standard auxiliary contact
- Q1 Shunt release

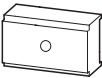
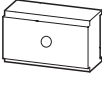
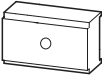
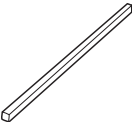
### Shunt releases with screw terminal LZW1, LZW2/3, LZW4

|                                                                                                                                                                          | For use with         | Rated control voltage | Part no.                                  | Price          | Std.  | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------|-------------------------------------------|----------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                          |                      | $U_s$                 | Article no. when ordered separately       | see price list | pack  |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | V                     |                                           |                |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Shunt releases</b>                                                                                                                                                    |                      |                       |                                           |                |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| With early-make auxiliary contact<br>Not in combination with remote operator.                                                                                            |                      |                       |                                           |                |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <br>     | LZM1(-4)             | 12 V AC/DC            | <b>NZM1-XAHIV12AC/DC</b><br>259772        |                | 1 off | When the shunt release is energized, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contact with on and off switching (manual operation): approx. 20 ms. Shunt release cannot be installed simultaneously with NZM...-XHIV.. early-make auxiliary contact or NZM...-XU... undervoltage release.                                                                  |
|                                                                                                                                                                          |                      | 24 V AC/DC            | <b>NZM1-XAHIV24AC/DC</b><br>259774        |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 110 V – 130 V AC/DC   | <b>NZM1-XAHIV110-130AC/DC</b><br>259780   |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 208 V – 250 V AC/DC   | <b>NZM1-XAHIV208-250AC/DC</b><br>259782   |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 380 V – 440 V AC/DC   | <b>NZM1-XAHIV380-440AC/DC</b><br>259784   |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <br>    | LZM1(-4)             | 12 V AC/DC            | <b>NZM1-XAHIVL12AC/DC</b><br>259790       |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 24 V AC/DC            | <b>NZM1-XAHIVL24AC/DC</b><br>259792       |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 110 V – 130 V AC/DC   | <b>NZM1-XAHIVL110-130AC/DC</b><br>259798  |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 208 V – 250 V AC/DC   | <b>NZM1-XAHIVL208-250AC/DC</b><br>259800  |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 380 V – 440 V AC/DC   | <b>NZM1-XAHIVL380-440AC/DC</b><br>259802  |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| With early-make auxiliary contact                                                                                                                                        |                      |                       |                                           |                |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <br> | LZM2(-4)<br>LZM3(-4) | 12 V AC/DC            | <b>NZM2/3-XAHIV12AC/DC</b><br>259808      |                | 1 off | When the shunt release is energized, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contact with on and off switching (manual operation): approx. 20 ms. Cannot be used in conjunction with NZM...-XR... remote operator. Shunt release cannot be installed simultaneously with NZM...-XHIV.. early-make auxiliary contact or NZM...-XU... undervoltage release. |
|                                                                                                                                                                          |                      | 24 V AC/DC            | <b>NZM2/3-XAHIV24AC/DC</b><br>259810      |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 110 V – 130 V AC/DC   | <b>NZM2/3-XAHIV110-130AC/DC</b><br>259816 |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 208 V – 250 V AC/DC   | <b>NZM2/3-XAHIV208-250AC/DC</b><br>259818 |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 380 V – 440 V AC/DC   | <b>NZM2/3-XAHIV380-440AC/DC</b><br>259820 |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <br> | LZM4(-4)             | 12 V AC/DC            | <b>NZM4-XAHIV12AC/DC</b><br>266470        |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 24 V AC/DC            | <b>NZM4-XAHIV24AC/DC</b><br>266471        |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 110 V – 130 V AC/DC   | <b>NZM4-XAHIV110-130AC/DC</b><br>266474   |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 208 V – 250 V AC/DC   | <b>NZM4-XAHIV208-250AC/DC</b><br>266475   |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                          |                      | 380 V – 440 V AC/DC   | <b>NZM4-XAHIV380-440AC/DC</b><br>266476   |                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

Shunt releases with screw terminal NZM...-XAHIV-...

|                                                                                                                                                                           | For use with                      | Rated control voltage<br>$U_s$ | Part no.<br>Article no. when ordered separately | Price<br>see price list               | Std. pack | Notes                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|-------------------------------------------------|---------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                           |                                   | V                              |                                                 |                                       |           |                                                                                                                                                                                                           |
| <b>Shunt releases</b>                                                                                                                                                     |                                   |                                |                                                 |                                       |           |                                                                                                                                                                                                           |
| For mesh-network circuit-breakers<br>For intermittent operation<br>Maximum on time = 1 s<br>Operating range 10 – 110 % $U_s$                                              |                                   |                                |                                                 |                                       |           |                                                                                                                                                                                                           |
| <br>    | With early-make auxiliary contact | LZM3(-4)                       | 230 V AC                                        | <b>NZM3-XAHIV-230AC-MNS</b><br>274141 | 1 off     | Cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XU... undervoltage release.<br>Cannot be used in conjunction with NZM...-XR... remote operator.             |
|                                                                                                                                                                           |                                   |                                |                                                 |                                       |           | Intermittent operation guaranteed by series connection of a N/O contact M22-(C)K10 (standard auxiliary contact). The maximum operating time of the shunt release for mesh network circuit-breaker is 1 s. |
| <br> | With early-make auxiliary contact | LZM3(-4)                       | 230 V AC                                        | <b>NZM4-XAHIV-230AC-MNS</b><br>274143 | 1 off     | LZM3: Early-make of the auxiliary contact with on and off switching (manual operation): approx.20ms.<br>LZM4: Early-make of the auxiliary contact with switch on (manual operation): approx.90ms.         |
|                                                                                                                                                                           |                                   |                                |                                                 |                                       |           |                                                                                                                                                                                                           |

### Door coupling rotary handles L2M1, L2M2, L2M3, L2M4

|                                                                                                                                                                        | For use with                                                                                                                                                                                           | Part no.<br>Article no. | Price<br>see price<br>list   | Std. pack | Notes                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Door coupling rotary handle</b>                                                                                                                                     |                                                                                                                                                                                                        |                         |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |
| Complete including rotary drive and coupling parts<br>An additional extension shaft is necessary with the NZM...-XT(V)D(V)(R)(-60) types.<br>Degree of protection IP66 |                                                                                                                                                                                                        |                         |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |
| Standard, black/grey                                                                                                                                                   |                                                                                                                                                                                                        |                         |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |
|       | Lockable on the 0 position on the handle using up to 3 padlocks. With door interlock                                                                                                                   | LZM1(-4)                | <b>NZM1-XTVD</b><br>260166   | 1 off     | Door interlock <ul style="list-style-type: none"><li>• Not defeated in the locked OFF and ON positions</li><li>• Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position.</li><li>• Door can be opened in OFF NZM...-XTVD(V)</li><li>• External warning plate/ designation label can be clipped on</li></ul> |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM2(-4)                | <b>NZM2-XTVD</b><br>260168   | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM3(-4)                | <b>NZM3-XTVD</b><br>260170   | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM4(-4)                | <b>NZM4-XTVD</b><br>266614   | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|       | Lockable on the handle on the switch using up to 3 padlocks. Can be locked in 0 position on the handle, with adequate modification also in I position. With door interlock. Lockable in the 0 position | LZM1(-4)                | <b>NZM1-XTVDV</b><br>260172  | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM2(-4)                | <b>NZM2-XTVDV</b><br>260174  | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM3(-4)                | <b>NZM3-XTVDV</b><br>260176  | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM4(-4)                | <b>NZM4-XTVDV</b><br>266616  | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
| Red-yellow for Emergency-Stop                                                                                                                                          |                                                                                                                                                                                                        |                         |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |
|   | Lockable on the handle on the switch using up to 3 padlocks. Lockable in 0 position on handle. With door interlock. Lockable in the 0 position                                                         | LZM1(-4)                | <b>NZM1-XTVDVR</b><br>260178 | 1 off     | Door interlock <ul style="list-style-type: none"><li>• Not defeatable in the locked OFF position.</li><li>• Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position.</li><li>• Door can be opened in OFF NZM...-XTVDVR</li><li>• External warning plate/ designation label can be clipped on</li></ul>       |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM2(-4)                | <b>NZM2-XTVDVR</b><br>260180 | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM3(-4)                | <b>NZM3-XTVDVR</b><br>260182 | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM4(-4)                | <b>NZM4-XTVDVR</b><br>266618 | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Extension shaft</b>                                                                                                                                                 |                                                                                                                                                                                                        |                         |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                      | Max. mounting depth: 400 mm                                                                                                                                                                            | LZM1(-4)                | <b>NZM1/2-XV4</b><br>261232  | 1 off     | Can be cut to required length                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM2(-4)                |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM3(-4)                | <b>NZM3/4-XV4</b><br>261234  | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM4(-4)                |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        | Max. mounting depth: 600 mm                                                                                                                                                                            | LZM1(-4)                | <b>NZM1/2-XV6</b><br>260191  | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM2(-4)                |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM3(-4)                | <b>NZM3/4-XV6</b><br>260193  | 1 off     |                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                        |                                                                                                                                                                                                        | LZM4(-4)                |                              |           |                                                                                                                                                                                                                                                                                                                                                                                |

**Notes** Circuit-breaker can also be installed in a lying position 90 ° left/right, with the handle still in the same position.

For a max. shaft length of 60 mm

| Part no.<br>Article no. | Price<br>see price<br>list | Std. pack | Notes |
|-------------------------|----------------------------|-----------|-------|
|-------------------------|----------------------------|-----------|-------|

Extremely narrow fittings

| Part no.<br>Article no. | Price<br>see price<br>list | Std. pack | Notes |
|-------------------------|----------------------------|-----------|-------|
|-------------------------|----------------------------|-----------|-------|

|                                |       |                                                                                                                                                                                                                                       |
|--------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NZM1-XTVD-60</b><br>271504  | 1 off | Door interlock                                                                                                                                                                                                                        |
| <b>NZM2-XTVD-60</b><br>271505  | 1 off | <ul style="list-style-type: none"> <li>Not defeated in the locked OFF and ON positions</li> <li>Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position.</li> </ul> |
| <b>NZM3-XTVD-60</b><br>271506  | 1 off | <ul style="list-style-type: none"> <li>Door can be opened in OFF position.</li> </ul>                                                                                                                                                 |
| <b>NZM4-XTVD-60</b><br>271507  | 1 off | <ul style="list-style-type: none"> <li>Door can be opened in OFF position.</li> </ul>                                                                                                                                                 |
| <b>NZM1-XTVDV-60</b><br>271508 | 1 off | <ul style="list-style-type: none"> <li>For maximum shaft length 60 mm</li> <li>Without shaft support</li> </ul>                                                                                                                       |
| <b>NZM2-XTVDV-60</b><br>271509 | 1 off | <ul style="list-style-type: none"> <li>Cannot be combined with NZM...-XDZ additional handle</li> </ul>                                                                                                                                |
| <b>NZM3-XTVDV-60</b><br>271510 | 1 off | <ul style="list-style-type: none"> <li>External warning plate/ designation label can be clipped on</li> </ul>                                                                                                                         |
| <b>NZM4-XTVDV-60</b><br>271511 | 1 off |                                                                                                                                                                                                                                       |

|                               |       |                                                                                                                                                                                                                                       |
|-------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NZM1-XTVD-0</b><br>279392  | 1 off | Door interlock                                                                                                                                                                                                                        |
| <b>NZM2-XTVD-0</b><br>279393  | 1 off | <ul style="list-style-type: none"> <li>Not defeated in the locked OFF and ON positions</li> <li>Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position.</li> </ul> |
| <b>NZM3-XTVD-0</b><br>279394  | 1 off | <ul style="list-style-type: none"> <li>Door can be opened in OFF position.</li> </ul>                                                                                                                                                 |
| <b>NZM4-XTVD-0</b><br>279395  | 1 off | <ul style="list-style-type: none"> <li>Door can be opened in OFF position.</li> </ul>                                                                                                                                                 |
| <b>NZM1-XTVDV-0</b><br>279396 | 1 off | <ul style="list-style-type: none"> <li>For extremely narrow fittings</li> <li>With special short extension shaft</li> </ul>                                                                                                           |
| <b>NZM2-XTVDV-0</b><br>279397 | 1 off | <ul style="list-style-type: none"> <li>Cannot be combined with NZM...-XDZ additional handle</li> </ul>                                                                                                                                |
| <b>NZM3-XTVDV-0</b><br>279398 | 1 off | <ul style="list-style-type: none"> <li>External warning plate/ designation label can be clipped on</li> </ul>                                                                                                                         |
| <b>NZM4-XTVDV-0</b><br>279399 | 1 off |                                                                                                                                                                                                                                       |

|                                 |       |                                                                                                                                                                                                                                                    |
|---------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NZM1-XTVDVR-60</b><br>271512 | 1 off | Door interlock                                                                                                                                                                                                                                     |
| <b>NZM2-XTVDVR-60</b><br>271513 | 1 off | <ul style="list-style-type: none"> <li>Not defeatable in the locked OFF position.</li> <li>Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position.</li> </ul>                   |
| <b>NZM3-XTVDVR-60</b><br>271514 | 1 off | <ul style="list-style-type: none"> <li>Door can be opened in OFF position.</li> </ul>                                                                                                                                                              |
| <b>NZM4-XTVDVR-60</b><br>271515 | 1 off | <ul style="list-style-type: none"> <li>Door can be opened in OFF position.</li> </ul>                                                                                                                                                              |
|                                 |       | <ul style="list-style-type: none"> <li>For maximum shaft length 60 mm</li> <li>Without shaft support</li> <li>Cannot be combined with NZM...-XDZ additional handle</li> <li>External warning plate/ designation label can be clipped on</li> </ul> |

|                                |       |                                                                                                                                                                                                                                                                |
|--------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NZM1-XTVDVR-0</b><br>279400 | 1 off | Door interlock                                                                                                                                                                                                                                                 |
| <b>NZM2-XTVDVR-0</b><br>279401 | 1 off | <ul style="list-style-type: none"> <li>Not defeatable in the locked OFF position.</li> <li>Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position.</li> </ul>                               |
| <b>NZM3-XTVDVR-0</b><br>279402 | 1 off | <ul style="list-style-type: none"> <li>Door can be opened in OFF position.</li> </ul>                                                                                                                                                                          |
| <b>NZM4-XTVDVR-0</b><br>279403 | 1 off | <ul style="list-style-type: none"> <li>Door can be opened in OFF position.</li> </ul>                                                                                                                                                                          |
|                                |       | <ul style="list-style-type: none"> <li>For extremely narrow fittings</li> <li>With special short extension shaft</li> <li>Cannot be combined with NZM...-XDZ additional handle</li> <li>External warning plate/ designation label can be clipped on</li> </ul> |

# Circuit-breakers LZM

## Ordering

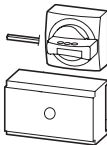
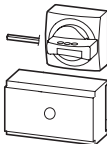
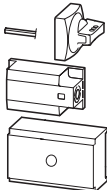
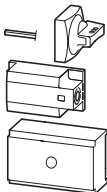
### Rotary handles NZM...-XDV...

|                                                                                                                                    | For use with                                                           | Part no.<br>Article no. when<br>ordered separately | Price<br>see price<br>list | Std.<br>pack | Notes                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------|----------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary handle on circuit-breaker                                                                                                   |                                                                        |                                                    |                            |              |                                                                                                                                              |
| Complete with rotary drive                                                                                                         |                                                                        |                                                    |                            |              |                                                                                                                                              |
| Standard, black/grey                                                                                                               |                                                                        |                                                    |                            |              |                                                                                                                                              |
|                                                    | Lockable on the 0 position<br>on the switch using up to 3<br>padlocks. | LZM1(-4)                                           | NZM1-XDV<br>260125         | 1 off        | NZM1(2)(3)-X...: Can also be<br>combined with insulating surround.<br>MODAN handle position detection by<br>wire release can be retrofitted. |
|                                                    |                                                                        | LZM2(-4)                                           | NZM2-XDV<br>260127         | 1 off        |                                                                                                                                              |
|                                                    |                                                                        | LZM3(-4)                                           | NZM3-XDV<br>260129         | 1 off        |                                                                                                                                              |
|                                                    |                                                                        | LZM4(-4)                                           | NZM4-XDV<br>266608         | 1 off        |                                                                                                                                              |
|                                                    | Lockable on the 0 position<br>on the handle using up to 3<br>padlocks. | LZM1(-4)                                           | NZM1-XDVG<br>285247        | 1 off        | Can also be combined with insulating<br>surround.                                                                                            |
|                                                    |                                                                        | LZM2(-4)                                           | NZM2-XDVG<br>285248        | 1 off        |                                                                                                                                              |
| Red-yellow for Emergency-Stop                                                                                                      |                                                                        |                                                    |                            |              |                                                                                                                                              |
|                                                  | Lockable on the 0 position<br>on the switch using up to 3<br>padlocks. | LZM1(-4)                                           | NZM1-XDVR<br>260135        | 1 off        | NZM1(2)(3)-X...: Can also be<br>combined with insulating surround.<br>MODAN handle position detection by<br>wire release can be retrofitted. |
|                                                  |                                                                        | LZM2(-4)                                           | NZM2-XDVR<br>260137        | 1 off        |                                                                                                                                              |
|                                                  |                                                                        | LZM3(-4)                                           | NZM3-XDVR<br>260140        | 1 off        |                                                                                                                                              |
|                                                  |                                                                        | LZM4(-4)                                           | NZM4-XDVR<br>266610        | 1 off        |                                                                                                                                              |
|                                                  | Lockable on the 0 position<br>on the handle using up to 3<br>padlocks. | LZM1(-4)                                           | NZM1-XDVGR<br>285249       | 1 off        | Can also be combined with insulating<br>surround.                                                                                            |
|                                                  |                                                                        | LZM2(-4)                                           | NZM2-XDVGR<br>285280       | 1 off        |                                                                                                                                              |
| Notes      Circuit-breaker can also be installed in a lying position 90 ° left/right, stalled in a lying position 90 ° left/right, |                                                                        |                                                    |                            |              |                                                                                                                                              |

## Rotary handles with door interlock NZM...-XDTV...

|                                                                                                                                     | For use with                                                                                                                                                                    | Part no.<br>Article no. when<br>ordered separately | Price<br>see price<br>list   | Std.<br>pack | Notes                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Rotary handle on switch with door interlock</b>                                                                                  |                                                                                                                                                                                 |                                                    |                              |              |                                                                                                                                                                                                                                                                                                |
| Complete with rotary drive and insulating surround                                                                                  |                                                                                                                                                                                 |                                                    |                              |              |                                                                                                                                                                                                                                                                                                |
| Standard, black/grey                                                                                                                |                                                                                                                                                                                 |                                                    |                              |              |                                                                                                                                                                                                                                                                                                |
|                                                    | Lockable on the 0 position on the handle using up to 3 padlocks, can also be modified for the I position. Also available with door interlock e.g. for MCC service distribution. | LZM1(-4)                                           | <b>NZM1-XDTV</b><br>260131   | 1 off        | Door interlock <ul style="list-style-type: none"><li>• In the ON position, can be defeated from the outside using a 1 mm pin</li><li>• Not defeated in the locked OFF and ON positions</li><li>• Door can be opened in OFF</li><li>• Can only be switched ON when the door is closed</li></ul> |
|                                                    |                                                                                                                                                                                 | LZM2(-4)                                           | <b>NZM2-XDTV</b><br>260133   | 1 off        |                                                                                                                                                                                                                                                                                                |
| Red-yellow for Emergency-Stop                                                                                                       |                                                                                                                                                                                 |                                                    |                              |              |                                                                                                                                                                                                                                                                                                |
|                                                    | Lockable on the 0 position on the handle using up to 3 padlocks. Also available with door interlock e.g. for MCC service distribution                                           | LZM1(-4)                                           | <b>NZM1-XDTV R</b><br>260142 | 1 off        |                                                                                                                                                                                                                                                                                                |
|                                                    |                                                                                                                                                                                 | LZM2(-4)                                           | <b>NZM2-XDTV R</b><br>260144 | 1 off        |                                                                                                                                                                                                                                                                                                |
| <b>Notes</b> Circuit-breaker can also be installed in a lying position 90 ° left/right, with the handle still in the same position. |                                                                                                                                                                                 |                                                    |                              |              |                                                                                                                                                                                                                                                                                                |

### Main switch assembly kit NZM...-XHB..., NZM...-XS...

|                                                                                                                                                                                                                          | Type                                                                                                                                                     | For use with               | Part no.<br>Article no. when<br>ordered separately | Price<br>see price list     | Std. pack |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------|-----------------------------|-----------|
| <b>Main switch assembly kit</b>                                                                                                                                                                                          |                                                                                                                                                          |                            |                                                    |                             |           |
| Equipment supplied:                                                                                                                                                                                                      |                                                                                                                                                          |                            |                                                    |                             |           |
| <ul style="list-style-type: none"><li>• Rotary door-coupling handle</li><li>• NZM...-XV4 extension shaft</li><li>• External warning plate/designation label in German/English</li><li>• Black and yellow flash</li></ul> |                                                                                                                                                          |                            |                                                    |                             |           |
| For enhanced protection against direct contact on the incomer side, IP2X protection against contact with a finger can be ordered → 23                                                                                    |                                                                                                                                                          |                            |                                                    |                             |           |
| Other external warning plates/designation labels can be clipped on.                                                                                                                                                      |                                                                                                                                                          |                            |                                                    |                             |           |
|                                                                                                                                          | With black door coupling rotary handle                                                                                                                   |                            |                                                    |                             |           |
|                                                                                                                                                                                                                          | Lockable on the 0 position on the handle using up to 3 padlocks, can also be modified for the I position. With door interlock.                           | LZM1(-4)                   | <b>NZM1-XHB</b><br>266626                          |                             | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          | LZM2(-4)                   | <b>NZM2-XHB</b><br>266627                          |                             | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          | LZM3(-4)                   | <b>NZM3-XHB</b><br>266628                          |                             | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          | LZM4(-4)                   | <b>NZM4-XHB</b><br>271779                          |                             | 1 off     |
|                                                                                                                                          | With red door coupling rotary handle for using switch as Emergency-Stop device according to IEC/EN 602041                                                |                            |                                                    |                             |           |
|                                                                                                                                                                                                                          | Lockable on the 0 position on the handle using up to 3 padlocks. Lockable door as additional feature, locking facility on circuit-breaker in 0 position. | LZM1(-4)                   | <b>NZM1-XHBR</b><br>266632                         |                             | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          | LZM2(-4)                   | <b>NZM2-XHBR</b><br>266633                         |                             | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          | LZM3(-4)                   | <b>NZM3-XHBR</b><br>266634                         |                             | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          | LZM4(-4)                   | <b>NZM4-XHBR</b><br>271842                         |                             | 1 off     |
| <b>Main switch assembly kit for side panel mounting</b>                                                                                                                                                                  |                                                                                                                                                          |                            |                                                    |                             |           |
| <b>Actuation of the switch on the control panel side wall</b>                                                                                                                                                            |                                                                                                                                                          |                            |                                                    |                             |           |
| <b>Switch mounting on mounting plate</b>                                                                                                                                                                                 |                                                                                                                                                          |                            |                                                    |                             |           |
| Equipment supplied:                                                                                                                                                                                                      |                                                                                                                                                          |                            |                                                    |                             |           |
| <ul style="list-style-type: none"><li>• Door coupling rotary handle</li><li>• NZM...-XV4 extension shaft</li><li>• External warning plate/designation label in German/English</li><li>• Black and yellow flash</li></ul> |                                                                                                                                                          |                            |                                                    |                             |           |
| For enhanced protection against direct contact on the incomer side, IP2X protection against contact with a finger can be ordered → 23                                                                                    |                                                                                                                                                          |                            |                                                    |                             |           |
| Other external warning plates/designation labels can be clipped on.                                                                                                                                                      |                                                                                                                                                          |                            |                                                    |                             |           |
|                                                                                                                                        | Standard, black/grey                                                                                                                                     |                            |                                                    |                             |           |
|                                                                                                                                                                                                                          | Lockable on the 0 position on the handle using up to 3 padlocks, can also be modified for the I position.                                                | For operation on the left  | LZM1(-4)                                           | <b>NZM1-XS-L</b><br>266641  | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM2(-4)                                           | <b>NZM2-XS-L</b><br>266642  | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM3(-4)                                           | <b>NZM3-XS-L</b><br>266643  | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM4(-4)                                           | <b>NZM4-XS-L</b><br>289806  | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          | For operation on the right | LZM1(-4)                                           | <b>NZM1-XS-R</b><br>266644  | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM2(-4)                                           | <b>NZM2-XS-R</b><br>266645  | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM3(-4)                                           | <b>NZM3-XS-R</b><br>266646  | 1 off     |
| LZM4(-4)                                                                                                                                                                                                                 |                                                                                                                                                          |                            | <b>NZM4-XS-R</b><br>289807                         | 1 off                       |           |
|                                                                                                                                        | Red-yellow for Emergency-Stop                                                                                                                            |                            |                                                    |                             |           |
|                                                                                                                                                                                                                          | Lockable on the 0 position on the handle using up to 3 padlocks.                                                                                         | For operation on the left  | LZM1(-4)                                           | <b>NZM1-XSR-L</b><br>266653 | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM2(-4)                                           | <b>NZM2-XSR-L</b><br>266654 | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM3(-4)                                           | <b>NZM3-XSR-L</b><br>266655 | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM4(-4)                                           | <b>NZM4-XSR-L</b><br>289808 | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          | For operation on the right | LZM1(-4)                                           | <b>NZM1-XSR-R</b><br>266656 | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM2(-4)                                           | <b>NZM2-XSR-R</b><br>266657 | 1 off     |
|                                                                                                                                                                                                                          |                                                                                                                                                          |                            | LZM3(-4)                                           | <b>NZM3-XSR-R</b><br>266658 | 1 off     |
| LZM4(-4)                                                                                                                                                                                                                 |                                                                                                                                                          |                            | <b>NZM4-XSR-R</b><br>289809                        | 1 off                       |           |

## Main switch assembly kit NZM...XS(R)M...

Type

For use with

Part no.

Article no. when  
ordered  
separately

Price

see price  
listStd.  
pack

## Main switch assembly kit for side panel mounting with mounting bracket

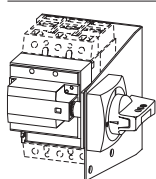
For direct mounting of circuit-breaker and handle in the side wall of the control cabinet

Equipment supplied:

- Door coupling rotary handle
- Mounting bracket
- Special short extension shaft
- External warning plate/designation label in German/English
- Black and yellow flash

For enhanced protection against direct contact on the incoming side, IP2X protection against contact with a finger can be ordered → 23

Other external warning plates/designation labels can also be clipped on.



Standard, black/grey

Can be locked in 0 position, with adequate modification also in I position. Narrowest minimum clearance between enclosure side plates of control panel and circuit-breaker is defined by mounting bracket. Extensions cannot be used.

For operation on the  
left

LZM1(-4)

**NZM1-XSM-L**  
266663

1 off

For operation on the  
left

LZM2(-4)

**NZM2-XSM-L**  
266664

1 off

For operation on the  
right

LZM1(-4)

**NZM1-XSM-R**  
266665

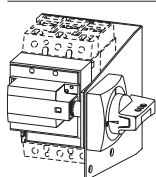
1 off

For operation on the  
right

LZM2(-4)

**NZM2-XSM-R**  
266666

1 off



Red-yellow for Emergency-Stop

Lockable in 0 position on handle. Narrowest minimum clearance between enclosure side plates of control panel and circuit-breaker is defined by mounting bracket. Extensions cannot be used.

For operation on the  
left

LZM1(-4)

**NZM1-XSRM-L**  
266671

1 off

For operation on the  
left

LZM2(-4)

**NZM2-XSRM-L**  
266672

1 off

For operation on the  
right

LZM1(-4)

**NZM1-XSRM-R**  
266673

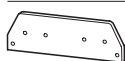
1 off

For operation on the  
right

LZM2(-4)

**NZM2-XSRM-R**  
266674

1 off



## Add-on plate

For fitting to the mounting bracket when using N conductor or PE conductor terminals K25, K50, K95 or K150.

LZM1(-4)

**NZM1/2-XZB**

1 off

LZM2(-4)

266676

Additional terminal arrangement for side wall operator with mounting bracket

NZM1-XS(R)M-..., NZM2-XS(R)M-...

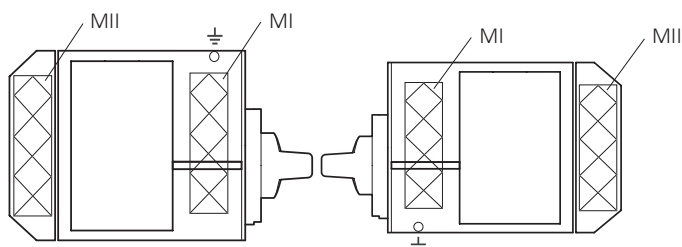
Additional terminals K25, K50, K95, K150 → 66

Actuation:

3 pole

For operation on the right

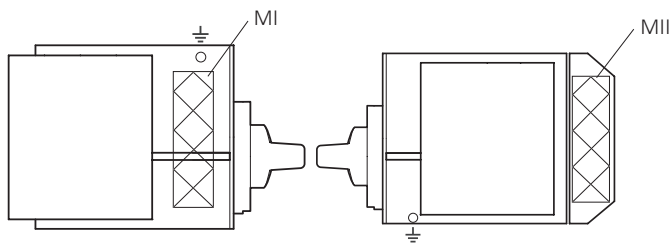
For operation on the left



4 pole

For operation on the right

For operation on the left



Mounting areas

Variation options

Maximum number of additional  
terminals

MI

V1

V2

V3

V4

MII

V1

V2

K25

2 ×

—

—

—

—

—

K50

—

2 ×

—

—

—

—

K95

—

—

1 ×

—

1 ×

—

K150

—

—

—

1 ×

—

1 ×

Example: In mounting area MI, variation option 1 allows the K25 additional terminal to be mounted twice.

# Circuit-breakers LZM

## Ordering

### Accessories NZM...-XRAV..., ZFS..., BPF...

For use with

**Part no.**  
Article no. when  
ordered separately

**Price**  
see price list

Std. pack

**Notes**

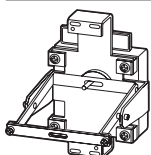
#### Rear drive

For direct rear connection of the switch to the side of the control panel or control panel door. Switch actuation on rear through side plate or control panel door.

For switch with toggle lever.

For enhanced protection against direct contact on the incomer side, IP2X protection against contact with a finger can be ordered → 21

Degree of protection IP66, UL/CSA Type 4X



Standard, black/grey

Lockable on the 0 position on the handle using up to 3 padlocks.

LZM1

**NZM1-XRAV**  
107245

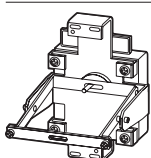
1 off

External warning plate can be clipped on

LZM2

**NZM2-XRAV**  
107247

1 off



Red-yellow for Emergency-Stop

Lockable on the 0 position on the handle using up to 3 padlocks.

LZM1

**NZM1-XRAVR**  
107249

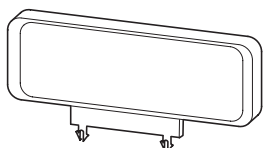
1 off

LZM2

**NZM2-XRAVR**  
107261

1 off

#### External warning plate/designation label



German/English

LZM1(-4)  
LZM2(-4)

**ZFS61/62-NZM7**  
272525

1 off

German

LZM3(-4)  
LZM4(-4)

**ZFS61-NZM7**  
051089

1 off

English

**ZFS62-NZM7**  
065957

1 off

French

**ZFS63-NZM7**  
065958

1 off

Blank (for engraving or printing)

**ZFS60-NZM7**  
065896

1 off

Further languages

**ZFS\*-NZM7**  
999978

1 off

External warning plates are available in the following languages:

|               |                   |
|---------------|-------------------|
| 64 Bulgarian  | 73 Romanian       |
| 65 Danish     | 74 Russian        |
| 66 Finnish    | 75 Swedish        |
| 67 Dutch      | 76 Serbo-Croatian |
| 68 Italian    | 77 Spanish        |
| 69 Greek      | 78 Czech          |
| 70 Norwegian  | 79 Turkish        |
| 71 Polish     | 80 Hungarian      |
| 72 Portuguese | 81 Afrikaans      |

To obtain the order number, insert the language code number into the type reference required.

Ordering example  
External warning plate in Finnish:  
ZFS66-NZM7

#### Lightning symbol

Including terminal marking for main switch

Small



|   |   |   |   |   |   |    |
|---|---|---|---|---|---|----|
| U | X | 1 | 1 | 1 | N | PE |
| V | Y | 1 | 2 | 1 | 2 | PE |
| W | Z | 1 | 3 | 1 | 3 | PE |

LZM1(-4)  
LZM2(-4)

**BPF-NZM7**  
217294

10 off

Included as standard in main switch assembly kit

Large



|   |   |   |   |   |   |    |
|---|---|---|---|---|---|----|
| U | X | 1 | 1 | 1 | N | PE |
| V | Y | 1 | 2 | 1 | 2 | PE |
| W | Z | 1 | 3 | 1 | 3 | PE |

LZM3(-4)  
LZM4(-4)

**BPF-NZM10**  
231363

10 off

## Accessories NZM...-XDZ, NZM...-XBR, NZM...-X...

For use with

Part no.  
Article no. when  
ordered separatelyPrice  
see price list

Std. pack

Notes

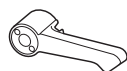
## Add-on handle

Enables switching when the control panel door is open



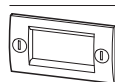
|          |                   |       |
|----------|-------------------|-------|
| L2M1(-4) | <b>NZM1/2-XDZ</b> | 1 off |
| L2M2(-4) | 266621            |       |

Push-fits on to the extension shaft  
100 mm free extension shaft required.  
Cannot be combined with NZM...-XT...-60  
door coupling rotary handles as well as  
NZM...-XT...-0.



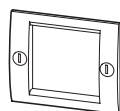
|          |                   |       |
|----------|-------------------|-------|
| L2M3(-4) | <b>NZM3/4-XDZ</b> | 1 off |
| L2M4(-4) | 266622            |       |

## Insulating surrounds

For toggle lever, rotary handle with rotary drive and remote operator.  
Degree of protection IP40

|          |                 |       |
|----------|-----------------|-------|
| L2M1(-4) | <b>NZM1-XBR</b> | 1 off |
|          | 260195          |       |

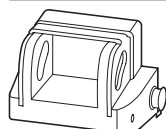
For oblong cut-out on doors and  
enclosures with material thicknesses of  
1.5 – 5 mm.  
External warning plate/designation label  
can be clipped on  
NZM4-XBR cannot be combined with  
rotary handle with rotary drive.



|          |                 |       |
|----------|-----------------|-------|
| L2M2(-4) | <b>NZM2-XBR</b> | 1 off |
|          | 260197          |       |

|          |                 |       |
|----------|-----------------|-------|
| L2M3(-4) | <b>NZM3-XBR</b> | 1 off |
|          | 284645          |       |

|          |                 |       |
|----------|-----------------|-------|
| L2M4(-4) | <b>NZM4-XBR</b> | 1 off |
|          | 284646          |       |



## Toggle lever locking device

Off position lockable using up to 3 padlocks (hasp thickness 4 – 8 mm)

|          |                  |       |
|----------|------------------|-------|
| L2M1(-4) | <b>NZM1-XKAV</b> | 1 off |
|          | 260199           |       |

Cannot be combined with insulating  
surround.

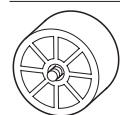
|          |                    |       |
|----------|--------------------|-------|
| L2M2(-4) | <b>NZM2/3-XKAV</b> | 1 off |
| L2M3(-4) | 260201             |       |

## Spacers

Enables fast and low-priced adjustment of differing frame sizes with/  
without rotary handle to the same front depth

|          |                   |       |
|----------|-------------------|-------|
| L2M1(-4) | <b>NZM1/2-XAB</b> | 1 set |
| L2M2(-4) | 260203            |       |

Grid depth 17.5 mm, M4 thread  
Type contains 4 off spacer  
Maximum component capacity:  
L2M1: 4 units per fixing screw,  
L2M2: 2 units per fixing screw  
2 (L2M1) or 4 (L2M2) fixing screws  
contained per circuit-breaker

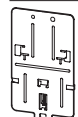


|          |                 |       |
|----------|-----------------|-------|
| L2M3(-4) | <b>NZM3-XAB</b> | 1 set |
| L2M4(-4) | 260211          |       |

Grid depth 17.5 mm, M5 thread  
One set contains 4 spacers  
L2M3, L2M4: 1 off per fixing screw  
4 fixing screws per switch included

## Clip plate

Enables snap-fit of the circuit-breaker to a DIN rail



|          |                  |       |
|----------|------------------|-------|
| L2M1(-4) | <b>NZM1-XC35</b> | 1 off |
|          | 260213           |       |

For top-hat rail 35 mm



|      |                  |       |
|------|------------------|-------|
| L2M2 | <b>NZM2-XC75</b> | 1 off |
|      | 260215           |       |

For top-hat rail 75 mm  
Not suitable for circuit-breakers with  
remote operator.

### Mechanical interlock NZM...XMV(R)(L), NZM-XBZ...

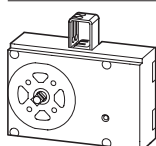
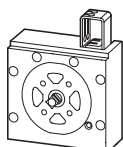
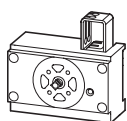
For use with

**Part no.**  
Article no. when  
ordered separately

**Price**  
see price  
list

Std. pack

**Notes**



#### Mechanical interlocking of (door coupling) rotary handles

|          |                           |       |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LZM1(-4) | <b>NZM1-XMV</b><br>281581 | 1 off | Rotary handles on switches or door coupling rotary handles are additionally required.<br>Cannot be combined with paralleling mechanisms, side wall operators and remote operator as well as NZM4-XBR insulating surrounds.<br>In order to establish a mechanical interlock at least 2 interlock modules are required.<br>Possible combinations and interlock variants<br>→ engineering<br>Order Bowden cable separately |
| LZM2(-4) | <b>NZM2-XMV</b><br>281582 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LZM3(-4) | <b>NZM3-XMV</b><br>281583 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LZM4(-4) | <b>NZM4-XMV</b><br>281584 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                         |

#### Bowden cables

For mechanical interlocking of (door coupling) rotary handles

|          |                              |       |
|----------|------------------------------|-------|
| LZM1(-4) | <b>NZM-XBZ225</b><br>281585  | 1 off |
| LZM2(-4) | <b>NZM-XBZ600</b><br>281586  | 1 off |
| LZM3(-4) | <b>NZM-XBZ1000</b><br>281587 | 1 off |

#### Mechanical interlock for remote operator

For 2 switches of the same or next frame size with each other.  
Mounting beside one another.

|           |                              |       |                                                                                                                                                                                                                                    |
|-----------|------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LZM2(-4)  | <b>NZM2-XMVR</b><br>104543   | 1 off | Type contains parts for both switches.<br>Remote operator also required.<br>Maximum switching distance<br>→ engineering<br>Cannot be combined with rotary handles, door coupling rotary handles and early-make auxiliary contacts. |
| +LZM2(-4) | <b>NZM2/3-XMVR</b><br>104544 | 1 off |                                                                                                                                                                                                                                    |
| LZM3(-4)  | <b>NZM3-XMVR</b><br>104545   | 1 off |                                                                                                                                                                                                                                    |
| +LZM3(-4) | <b>NZM3/4-XMVR</b><br>104546 | 1 off |                                                                                                                                                                                                                                    |
| LZM4(-4)  | <b>NZM4-XMVR</b><br>104547   | 1 off |                                                                                                                                                                                                                                    |

For 2 switches of the same or different type with opposed operation.  
Extra long Bowden cable for mounting one above the other or in adjacent enclosures.

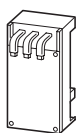
|           |                               |       |                                                                                                                                                                                                                                    |
|-----------|-------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LZM2(-4)  | <b>NZM2-XMVRL</b><br>104548   | 1 off | Type contains parts for both switches.<br>Remote operator also required.<br>Maximum switching distance<br>→ engineering<br>Cannot be combined with rotary handles, door coupling rotary handles and early-make auxiliary contacts. |
| +LZM2(-4) | <b>NZM2/3-XMVRL</b><br>104549 | 1 off |                                                                                                                                                                                                                                    |
| LZM3(-4)  | <b>NZM3-XMVRL</b><br>104550   | 1 off |                                                                                                                                                                                                                                    |
| +LZM3(-4) | <b>NZM3/4-XMVRL</b><br>104551 | 1 off |                                                                                                                                                                                                                                    |
| LZM4(-4)  | <b>NZM4-XMVRL</b><br>104552   | 1 off |                                                                                                                                                                                                                                    |

| For use with | Rated current | <b>Part no.</b><br>Article no. when<br>ordered<br>separately | <b>Price</b><br>see price<br>list | Std. pack | <b>Notes</b> |
|--------------|---------------|--------------------------------------------------------------|-----------------------------------|-----------|--------------|
|--------------|---------------|--------------------------------------------------------------|-----------------------------------|-----------|--------------|

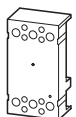
$$I_e$$

For installation on flat copper busbars 12 ... 30 x 5 ... 10, double T and triple T profile  
Rated operational voltage  $U_0$ : 690 V

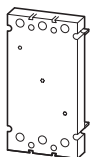
- Halogen free
- Temperature resistant to 120 °C
- Self-extinguishing to UL 94
- Approved for feeder branch circuits to UL508A up to 600 V
- 3 pole



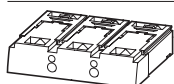
|      |     |                              |       |                                                                                                                                                                                                                                                                                           |
|------|-----|------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LZM1 | 160 | <b>NZM1-XAD160</b><br>104554 | 1 off | For breakers with box terminal as standard connection<br>Connection to system at top using the supplied connection cable<br>In conjunction with IP2X protection against contact with a finger<br>Enhancement of the protection against direct contact on the switch outdoor side possible |
|------|-----|------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



|      |     |                              |       |                                                                                                                                     |
|------|-----|------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------|
| LZM2 | 250 | <b>NZM2-XAD250</b><br>104555 | 1 off | Connection to the system possible at top or bottom via connection on rear (+)NZM2-XKR4...<br>Mounting using clamp and screw fixing. |
|------|-----|------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------|



|      |     |                              |       |                                                                                                                           |
|------|-----|------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------|
| LZM3 | 550 | <b>NZM3-XAD550</b><br>104556 | 1 off | Connection to the system possible at top via connection on rear (+)NZM3-XK13...<br>Mounting using clamp and screw fixing. |
|------|-----|------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------|



| For use with | Rated current | <b>Part no. suffix</b><br>Article no. when ordered<br>with basic unit | <b>Price</b><br>see price<br>list | <b>Part no.</b><br>Article no. when ordered<br>separately | <b>Price</b><br>see price<br>list | Std. pack |
|--------------|---------------|-----------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------|-----------------------------------|-----------|
|--------------|---------------|-----------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------|-----------------------------------|-----------|

$$I_e$$

For component adapters for LZM2, LZM3

|      |     |                               |                             |       |
|------|-----|-------------------------------|-----------------------------|-------|
| LZM2 | 250 | <b>+NZM2-XKR40</b><br>281664  | <b>NZM2-XKR4</b><br>281666  | 1 off |
| LZM2 | 250 | <b>+NZM2-XKR4U</b><br>281665  | <b>NZM3-XKR13</b><br>281668 | 1 off |
| LZM3 | 550 | <b>+NZM3-XKR130</b><br>281667 |                             | 1 off |

Part no. and part no. suffix include parts for one switch side at top or bottom (with LZM3 top only). Required with component adapter and switch with connection on rear, see for example component adapter 104555 and 104556.  
O = for fitting at the top  
U = for fitting at the bottom

# Circuit-breakers L2M

## Ordering

### Accessories L2M2, L2M3, L2M4

| For use with | Rated control voltage | Part no.<br>Article no. when ordered<br>separately | Price<br>see price list | Std. pack |
|--------------|-----------------------|----------------------------------------------------|-------------------------|-----------|
|              | $U_s$<br>V            |                                                    |                         |           |



#### Remote operator

For remote switching of circuit-breakers and switch-disconnectors.  
ON and OFF switching and resetting by means of 2-wire or 3-wire control.  
Can be synchronized.  
Local switching by hand possible  
Lockable in the 0 position of the remote operator with up to 3 padlocks (hasp thickness: 4 – 8 mm)

|          |                      |                                                 |       |
|----------|----------------------|-------------------------------------------------|-------|
| L2M2(-4) | 110 – 130 V 50/60 Hz | <b>N2M2-XR110-130AC</b><br>259830               | 1 off |
|          | 208 – 240 V 50/60 Hz | <b>N2M2-XR208-240AC</b><br>259832               | 1 off |
|          | 380 – 440 V 50/60 Hz | <b>N2M2-XR380-440AC</b> <sup>1)</sup><br>259834 | 1 off |
|          | 24 – 30 V DC         | <b>N2M2-XR24-30DC</b><br>259836                 | 1 off |
|          | 110 – 130 V DC       | <b>N2M2-XR110-130DC</b><br>259840               | 1 off |
|          | 220 – 250 V DC       | <b>N2M2-XR220-250DC</b><br>259842               | 1 off |
| L2M3(-4) | 110 – 130 V 50/60 Hz | <b>N2M3-XR110-130AC</b><br>259848               | 1 off |
|          | 208 – 240 V 50/60 Hz | <b>N2M3-XR208-240AC</b><br>259850               | 1 off |
|          | 380 – 440 V 50/60 Hz | <b>N2M3-XR380-440AC</b> <sup>1)</sup><br>259852 | 1 off |
|          | 24 – 30 V DC         | <b>N2M3-XR24-30DC</b><br>259854                 | 1 off |
|          | 110 – 130 V DC       | <b>N2M3-XR110-130DC</b><br>259858               | 1 off |
|          | 220 – 250 V DC       | <b>N2M3-XR220-250DC</b><br>259860               | 1 off |
| L2M4(-4) | 110 – 130 V 50/60 Hz | <b>N2M4-XR110-130AC</b><br>266684               | 1 off |
|          | 208 – 240 V 50/60 Hz | <b>N2M4-XR208-240AC</b><br>266685               | 1 off |
|          | 380 – 440 V 50/60 Hz | <b>N2M4-XR380-440AC</b> <sup>1)</sup><br>266686 | 1 off |
|          | 24 – 30 V DC         | <b>N2M4-XR24-30DC</b><br>266691                 | 1 off |
|          | 110 – 130 V DC       | <b>N2M4-XR110-130DC</b><br>266693               | 1 off |
|          | 220 – 250 V DC       | <b>N2M4-XR220-250DC</b><br>266694               | 1 off |

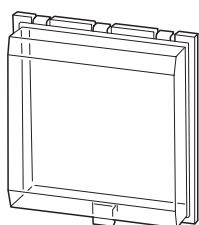
Shroud for 4th pole

Additional shroud for mounting the N2M2-XR... and N2M3-XR... on a 4 pole switch.

|        |                             |       |
|--------|-----------------------------|-------|
| L2M2-4 | <b>N2M2-XAVPR</b><br>266677 | 1 off |
| L2M3-4 | <b>N2M3-XAVPR</b><br>266678 | 1 off |

Clamp terminal springloaded clamp  
Control circuit terminal springloaded terminals

|              |                          |       |
|--------------|--------------------------|-------|
| N2M...-XR... | <b>N2M-XRC</b><br>266696 | 1 off |
|--------------|--------------------------|-------|



Protective cover for door cutout

Transparent protective shroud to increase the degree of protection to IP54

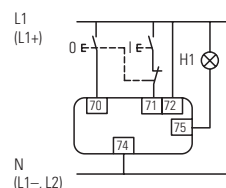
|   |                            |       |
|---|----------------------------|-------|
| – | <b>R2R-N2M10</b><br>034825 | 1 off |
|---|----------------------------|-------|

## Notes

A standard auxiliary contact (HIN) for the switch position detection is supplied.

When installing the NZM2-XR... and NZM3-XR... remote operators on 4 pole switches, an additional 4 pole NZM2-XAVPR or NZM3-XAVPR shroud is necessary.

### 3-wire control



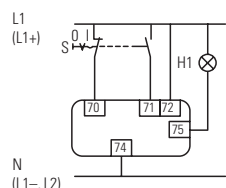
Terminal 70/71:

Please note during engineering:

Full current flows through the contact during make and break!

RMQ series contact elements can be used for the NZM2(3,4)-XR... remote operators.

### 2-wire control



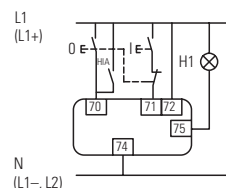
Terminal 75:

Operational readiness signal when the cover is closed, and not locked.

AC-15: 400 V; 2 A

DC-13: 220 V; 0.2 A

### 3-wire control with automatic reset to the 0 position after the switch has tripped



Switching cycle:

NZM2-XR



NZM3-XR



NZM4-XR



The time interval between OFF and ON is 3 seconds.

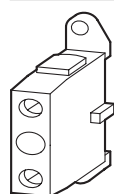
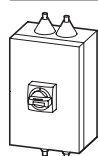
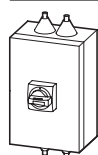
On commands received during the time interval are ignored within the first 3 seconds after switch off.

Electrical remote switching and manual tripping (push to trip) are still possible.

# Circuit-breakers LZM

## Ordering

### Insulated enclosures NZM...-XCI...



Max. rated  
uninterrupted  
current

$I_u$   
A

For use with

**Part no.**  
Article no. when ordered  
separately

**Price**  
see price list

Std. pack

#### Insulated enclosures

With door coupling rotary handle  
Complete incl. all necessary functional parts  
Degree of protection IP65  
not UL/CSA approved

Standard, black/grey

Lockable on the 0 position on the  
handle using up to 3 padlocks.  
Additionally with cover interlock.

|         |          |                                   |       |
|---------|----------|-----------------------------------|-------|
| ≅ 63 A  | NZM1     | <b>NZM1-XCI23-TVD</b><br>271522   | 1 off |
| ≅ 125 A | NZM1(-4) | <b>NZM1-XCI43-TVD</b><br>271523   | 1 off |
| ≅ 160 A | NZM1(-4) | <b>NZM1-XCI43/2-TVD</b><br>104645 | 1 off |
| ≅ 200 A | NZM2(-4) | <b>NZM2-XCI43-TVD</b><br>271524   | 1 off |
| ≅ 250 A | NZM2(-4) | <b>NZM2-XCI45-TVD</b><br>280418   | 1 off |
| ≅ 400 A | NZM3(-4) | <b>NZM3-XCI48-TVD</b><br>271525   | 1 off |

Red-yellow for Emergency-Stop

Lockable on the handle and on the  
switch using up to 3 padlocks each.  
Lockable in 0 position on handle.  
Cover interlock as additional feature,  
locking facility on circuit-breaker in  
0 position.

|         |          |                                     |       |
|---------|----------|-------------------------------------|-------|
| ≅ 63 A  | NZM1     | <b>NZM1-XCI23-TVDVR</b><br>271527   | 1 off |
| ≅ 125 A | NZM1(-4) | <b>NZM1-XCI43-TVDVR</b><br>271528   | 1 off |
| ≅ 160 A | NZM1(-4) | <b>NZM1-XCI43/2-TVDVR</b><br>104646 | 1 off |
| ≅ 200 A | NZM2(-4) | <b>NZM2-XCI43-TVDVR</b><br>271529   | 1 off |
| ≅ 250 A | NZM2(-4) | <b>NZM2-XCI45-TVDVR</b><br>279356   | 1 off |
| ≅ 400 A | NZM3(-4) | <b>NZM3-XCI48-TVDVR</b><br>271530   | 1 off |

#### Additional insulated terminals

Rated  
uninterrupted  
current

$I_u$

A

Terminal capacities

mm<sup>2</sup>

**Part no.**  
Article no. when ordered  
separately

**Price**  
see price list

Std. pack

#### Additional insulated terminals

For looping through the neutral and protective conductor  
1-pole

|     |                                                  |                              |        |
|-----|--------------------------------------------------|------------------------------|--------|
| 32  | Flexible, 1 × (1.5 – 6)                          | <b>K10/1</b><br>093827       | 10 off |
| 63  | Flexible, 1 × (6 – 16), stranded, 1 × (16 – 25)  | <b>K25/1</b><br>096200       | 10 off |
| 100 | Flexible, 1 × (10 – 35), stranded, 1 × (16 – 50) | <b>K50/1</b><br>098573       | 10 off |
| 160 | Stranded, 1 × (16 – 95)                          | <b>K95/1N/BR</b><br>012336   | 1 off  |
| 250 | Stranded, 1 × (35 – 150), 2 × (16 – 70)          | <b>K150/1/BR</b><br>014709   | 1 off  |
| 400 | Stranded, 1 × (50 – 240), 2 × (25 – 120)         | <b>K240/1/BR</b><br>017082   | 1 off  |
| 630 | Stranded, 1 × (240 – 300), 2 × (50 – 240)        | <b>K2X240/1/BR</b><br>019455 | 1 off  |

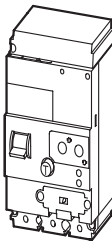
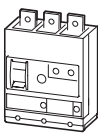
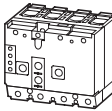
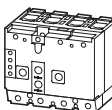
Insulated enclosure  
description

Retrofit terminals with 3 pole switches: for 4th and 5th (if  
required) conductor (N, PE-conductor), with 4 pole  
switches: for 5th conductor (PE conductor)

#### Notes

|          |                                                      |                                                                                                                                                                                                                                               |
|----------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CI23-150 | K10/1, K25/1                                         | Suitable for installation of circuit-breakers and switch-disconnectorsEnclosure<br>for separate mounting with top and bottom cable entry.<br>Include fixing straps for wall mounting.<br>Short-circuit resistance at 415 V 50/60 Hz to 10 kA. |
| CI43-150 | K10/1, K25/1, K50/1, K95/1N/BR                       |                                                                                                                                                                                                                                               |
| CI43-200 | K10/1, K25/1, K50/1, K95/1N/BR                       |                                                                                                                                                                                                                                               |
| CI43-200 | K10/1, K25/1, K50/1, K95/1N/BR, K150/1/BR, K240/1/BR | Cannot be used in combination with NZM...-XR... remote operator...,<br>NZM...-XSV plug-in unit or NZM...-XAV withdrawable unit.<br>Insulated additional terminal for 4th or 5th pole should be ordered separately.                            |
| CI45-200 | K10/1, K25/1, K50/1, K95/1N/BR, K150/1/BR, K240/1/BR | CI23 enclosure with flanges<br>CI43, CI45 and CI48 feature gland plates.                                                                                                                                                                      |
| CI48-250 | K95/1N/BR, K150/1/BR, K240/1/BR, K2X240/1/BR         | <b>Only for switches with tunnel clamps for direct connection of cables.</b>                                                                                                                                                                  |
| CI23-150 | K10/1, K25/1                                         |                                                                                                                                                                                                                                               |
| CI43-150 | K10/1, K25/1, K50/1, K95/1N/BR                       |                                                                                                                                                                                                                                               |
| CI43-200 | K10/1, K25/1, K50/1, K95/1N/BR                       |                                                                                                                                                                                                                                               |
| CI43-200 | K10/1, K25/1, K50/1, K95/1N/BR, K150/1/BR, K240/1/BR |                                                                                                                                                                                                                                               |
| CI45-200 | K10/1, K25/1, K50/1, K95/1N/BR, K150/1/BR, K240/1/BR |                                                                                                                                                                                                                                               |
| CI48-250 | K95/1N/BR, K150/1/BR, K240/1/BR, K2X240/1/BR         |                                                                                                                                                                                                                                               |

### Residual-current release frequency response NZM...XFI...

|                                                                                                                          | For use with                                                                                                                                                        | Part no.<br>Order number for<br>separate orders | Price<br>see price<br>list   | Std.<br>pack                               | Notes |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------------|--------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Earth-fault release</b>                                                                                               |                                                                                                                                                                     |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Suitable for use in three- and single-phase systems                                                                      |                                                                                                                                                                     |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                         | Pulse current sensitive according to core-balance principle                                                                                                         |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                          | For 3- and 4 pole LZM1(-4) circuit-breakers<br>dependant on mains power $U_e = 200 \dots 415 \text{ V } 50/60 \text{ Hz}$ ,                                         |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} = 0.03 \text{ A}$                                                                                                              | NZM1                                            | 3 pole                       | <b>NZM1-XFI30R</b><br>104603               | 1 off | IEC/EN 60947-2<br>With $I_{\Delta n} = 0.03 \text{ A}$ : delay time $t_v$ always<br>fixed settings at 10 ms.<br>Alarm message > 30 % $I_{\Delta n}$ via yellow<br>LED.<br>Trip indication max. 2 auxiliary contacts<br>(HIAFI) can be fitted by user: N/O =<br>M22-K01, N/C = M22-K10 are reset via<br>the reset toggle lever.<br>If the trip-indicating auxiliary contact in<br>the fault current block is used, the N/C<br>contacts operates as a N/O contact and<br>the N/C contact operates as an N/O<br>contact (see HIAFI marking).<br>Not in combination with insulated<br>enclosure or main switch assembly kit<br>for side panel mounting with mounting<br>bracket<br>NZM1-XFI...U not in combination with<br>shunt or undervoltage release.<br>Rated ultimate short-circuit breaking<br>capacity is determined by the fitted<br>LZM1. |
|                                                                                                                          |                                                                                                                                                                     | NZM1-4                                          | 4 pole                       | <b>NZM1-4-XFI30R</b><br>104606             | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} = 0.3 \text{ A}$                                                                                                               | NZM1                                            | 3 pole                       | <b>NZM1-XFI300R</b><br>104604              | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          |                                                                                                                                                                     | NZM1-4                                          | 4 pole                       | <b>NZM1-4-XFI300R</b><br>104607            | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} = 0.03 - 0.1 - 0.3 - 0.5 - 1 - 3 \text{ A}$ ,<br>delay time<br>$t_v = 10 - 60 - 150 - 300 - 450 \text{ ms}$ .                  | NZM1                                            | 3 pole                       | <b>NZM1-XFIR</b><br>104605                 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | NZM1-4                                                                                                                                                              | 4 pole                                          | <b>NZM1-4-XFIR</b><br>104608 | 1 off                                      |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                         | Bottom mounting up to 100 A                                                                                                                                         |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} = 0.03 \text{ A}$                                                                                                              | NZM1                                            | 3 pole                       | <b>NZM1-XFI30U</b> <sup>1)</sup><br>104609 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          |                                                                                                                                                                     | NZM1-4                                          | 4 pole                       | <b>NZM1-4-XFI30U</b><br>104612             | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} = 0.3 \text{ A}$                                                                                                               | NZM1                                            | 3 pole                       | <b>NZM1-XFI300U</b><br>104610              | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          |                                                                                                                                                                     | NZM1-4                                          | 4 pole                       | <b>NZM1-4-XFI300U</b><br>104613            | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} = 0.03 - 0.1 - 0.3 - 0.5 - 1 - 3 \text{ A}$ ,<br>delay time<br>$t_v = 10 - 60 - 150 - 300 - 450 \text{ ms}$ .                  | NZM1                                            | 3 pole                       | <b>NZM1-XFIU</b><br>104611                 | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | NZM1-4                                                                                                                                                              | 4 pole                                          | <b>NZM1-4-XFIU</b><br>104614 | 1 off                                      |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                       | Pulse current sensitive according to core-balance principle                                                                                                         |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                        | For 4 pole circuit-breaker LZM2-4<br>independent of mains voltage $U_e = 280 - 690 \text{ V } 50/60 \text{ Hz}$<br>bottom mounting up to 250 A                      |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} = 0.03 \text{ A}$                                                                                                              | NZM2-4                                          | 4 pole                       | <b>NZM2-4-XFI30</b><br>292343              | 1 off | IEC/EN 60947-2<br>Auxiliary contacts (1 N/O, 1N/C<br>integrated) are reset via the reset button.<br>Not in combination with plug-in units,<br>insulated enclosure or main switch<br>assembly kit for side panel mounting<br>with mounting bracket.<br>Rated ultimate short-circuit breaking<br>capacity is determined by the fitted LZM2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} 0.1 - 0.3 - 1 - 3 \text{ A}$ ,<br>delay time<br>$t_v = 60 - 150 - 300 - 450 \text{ ms}$                                        | NZM2-4                                          | 4 pole                       | <b>NZM2-4-XFI</b><br>292344                | 1 off |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                        |  Core-balance principle with AC/DC current sensitivity (in<br>range 0 - 100 kHz) |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | For 4 pole LZM2-4 circuit-breakers<br>internal power supply $U_e = 50 \dots 400 \text{ V}$ ,<br>bottom mounting up to 250 A                                         |                                                 |                              |                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                          | Rated fault current<br>$I_{\Delta n} = 0.03 \text{ A}$                                                                                                              | NZM2-4                                          | 4 pole                       | <b>NZM2-4-XFIA30</b><br>292345             | 1 off | IEC/EN 60947-2<br>Observe response threshold<br>dependence on frequency!<br>See "Frequency response"<br>characteristic curve<br>Auxiliary contacts (1 N/O, 1N/C<br>integrated) are reset via the reset button.<br>Not in combination with plug-in units,<br>insulated enclosure or main switch<br>assembly kit for side panel mounting<br>with mounting bracket.<br>Rated ultimate short-circuit breaking<br>capacity is determined by the fitted LZM2.                                                                                                                                                                                                                                                                                                                                                                                         |
| Rated fault current<br>$I_{\Delta n} 0.1 - 0.3 - 1 \text{ A}$ ,<br>delay time<br>$t_v = 60 - 150 - 300 - 450 \text{ ms}$ | NZM2-4                                                                                                                                                              | 4 pole                                          | <b>NZM2-4-XFIA</b><br>292346 | 1 off                                      |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

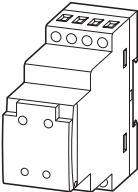
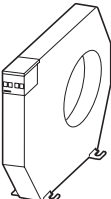
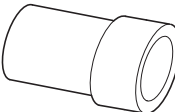
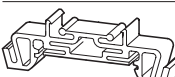
#### Notes

<sup>1)</sup> Suitable for use in three-phase systems

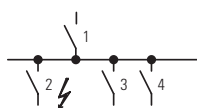
## Residual-current release frequency response NZM3, NZM4

|                                                                                                                                                                                 | For use with | Part no.<br>Article no. when<br>ordered with<br>basic unit | Price<br>see price list | Std. pack | Notes                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------|-------------------------|-----------|----------------------------------------------------------------------------------------|
| <b>Earth-fault release, 3-pole, 4-pole</b>                                                                                                                                      |              |                                                            |                         |           |                                                                                        |
| Not dependent on mains and control voltages<br>$I_g = 0.35 - 0.4 - 0.5 - 0.6 - 0.7 - 0.8 - 0.9 - 1.0 \times I_n$<br>$t_g = 0 - 20 - 60 - 100 - 200 - 300 - 500 - 750 - 1000$ ms | LZM3         | <b>+NZM3-XT</b><br>260756                                  |                         | 1 off     | Only suitable for use in conjunction with circuit-breakers having electronic releases. |
|                                                                                                                                                                                 | LZM3-4       | <b>+NZM3-4-XT</b><br>260757                                |                         | 1 off     |                                                                                        |
|                                                                                                                                                                                 | LZM4         | <b>+NZM4-XT</b><br>266721                                  |                         | 1 off     |                                                                                        |
|                                                                                                                                                                                 | LZM4-4       | <b>+NZM4-4-XT</b><br>266722                                |                         | 1 off     |                                                                                        |

## Residual-current release frequency response PFR-...

|                                                                                     | Description                                                                                                                                                               | Part no.<br>Article no.      | Price<br>see price list | Std. pack | Notes                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>Residual current relay</b>                                                                                                                                             |                              |                         |           |                                                                                                                                                                                                                               |
|                                                                                     | Pulse-current sensitive<br>Rated control supply voltage: $U_s = 230$ V AC (50/60Hz)<br>Integrated auxiliary contact (1 C/O)<br>Ring-type transformer must also be ordered |                              |                         |           |                                                                                                                                                                                                                               |
|                                                                                     | Rated fault current $I_{\Delta N} = 0.03$ A                                                                                                                               | <b>PFR-003</b><br>285555     |                         | 1 off     |                                                                                                                                                                                                                               |
|                                                                                     | Rated fault current $I_{\Delta N} = 0.3$ A                                                                                                                                | <b>PFR-03</b><br>285556      |                         | 1 off     |                                                                                                                                                                                                                               |
|  | Rated fault current $I_{\Delta N} = 0.03 - 5$ A<br>Adjustable fault current and delay time<br>Fault current early warning by flashing, red LED                            | <b>PFR-5</b><br>285557       |                         | 1 off     | Adjustable fault current: 0.03, 0.1, 0.3, 0.5, 1, 3, 5 A<br>Adjustable delay time: 0.02, 0.1, 0.3, 0.5, 1, 3, 5 A                                                                                                             |
|                                                                                     | <b>Ring-type transformer</b>                                                                                                                                              |                              |                         |           |                                                                                                                                                                                                                               |
|                                                                                     | Rated operational voltage: 690 V (50/60 Hz)                                                                                                                               |                              |                         |           |                                                                                                                                                                                                                               |
|                                                                                     | Internal diameter: 20 mm                                                                                                                                                  | <b>PFR-W-20</b><br>285558    |                         | 1 off     | incl. fixing clip for DIN rail mounting                                                                                                                                                                                       |
|  | Internal diameter: 30 mm                                                                                                                                                  | <b>PFR-W-30</b><br>285559    |                         | 1 off     |                                                                                                                                                                                                                               |
|                                                                                     | Internal diameter: 35 mm                                                                                                                                                  | <b>PFR-W-35</b><br>285600    |                         | 1 off     | incl. screw fixing<br>Alternative: fixing clip for DIN mounting rail<br><b>Design note:</b><br>The current transformer diameter must be selected 1.5 times larger than the envelope diameter of the passed through conductor. |
|                                                                                     | Internal diameter: 70 mm                                                                                                                                                  | <b>PFR-W-70</b><br>285601    |                         | 1 off     |                                                                                                                                                                                                                               |
|                                                                                     | Internal diameter: 105 mm                                                                                                                                                 | <b>PFR-W-105</b><br>285602   |                         | 1 off     |                                                                                                                                                                                                                               |
|                                                                                     | Internal diameter: 140 mm                                                                                                                                                 | <b>PFR-W-140</b><br>285603   |                         | 1 off     |                                                                                                                                                                                                                               |
|                                                                                     | Internal diameter: 210 mm                                                                                                                                                 | <b>PFR-W-210</b><br>285604   |                         | 1 off     |                                                                                                                                                                                                                               |
| <b>Magnetic shielding</b>                                                           |                                                                                                                                                                           |                              |                         |           |                                                                                                                                                                                                                               |
|  | PFR-W-35                                                                                                                                                                  | <b>PFR-WMA-35</b><br>286001  |                         | 1 off     | Necessary for a load circuit with high inrush currents $> 4 \times I_n$ , such as for example motors and                                                                                                                      |
|                                                                                     | PFR-W-70                                                                                                                                                                  | <b>PFR-WMA-70</b><br>286002  |                         | 1 off     |                                                                                                                                                                                                                               |
|                                                                                     | PFR-W-105                                                                                                                                                                 | <b>PFR-WMA-105</b><br>286003 |                         | 1 off     |                                                                                                                                                                                                                               |
|                                                                                     | PFR-W-140                                                                                                                                                                 | <b>PFR-WMA-140</b><br>286004 |                         | 1 off     |                                                                                                                                                                                                                               |
|                                                                                     | PFR-W-210                                                                                                                                                                 | <b>PFR-WMA-210</b><br>286005 |                         | 1 off     |                                                                                                                                                                                                                               |
| <b>Fixing clip</b>                                                                  |                                                                                                                                                                           |                              |                         |           |                                                                                                                                                                                                                               |
|  | for the DIN rail mounting of the PFR-W-35 current transformer and all larger                                                                                              | <b>PFR-WC</b><br>286006      |                         | 1 off     | 1 set = 2 pieces                                                                                                                                                                                                              |

## Selectivity: incoming circuit-breaker, outgoing circuit-breaker LZW, FAZ-B(C), PKZ



Incoming  
circuit-breaker

Outgoing  
circuit-breaker

### Selectivity 415 V AC

between circuit-breakers enables separate shut-down of faulty system sections.

Selectivity (discrimination) exists between incoming breaker 1 and outgoing breaker 2 if, **only** outgoing breaker 2 trips at position 2 during a short-circuit. System sections 3 and 4 continue to operate.

### Incoming circuit-breaker (S1)

#### LZW...1-A...

#### LZW...2-A...

|                                           |      | LZW...1-A...   |                     |                                                                                                                          |     |     |     |     |     | LZW...2-A...   |     |     |     |     |
|-------------------------------------------|------|----------------|---------------------|--------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|----------------|-----|-----|-----|-----|
|                                           |      | 25(36)(50)(70) |                     |                                                                                                                          |     |     |     |     |     | 25(36)(50)(70) |     |     |     |     |
|                                           |      | $I_{cu}$ [kA]  | 20...40             | 50                                                                                                                       | 63  | 80  | 100 | 125 | 160 | 20...40        | 50  | 63  | 80  | 100 |
|                                           |      | $I_n$ [A]      |                     |                                                                                                                          |     |     |     |     |     |                |     |     |     |     |
|                                           |      | $I_n$ [A]      | $I_{cu(415V)}$ [kA] | Selectivity threshold $I_s$ [kA] for selectivity between S2 and S1, overload and short-circuit release set to max. value |     |     |     |     |     |                |     |     |     |     |
| Outgoing circuit-breaker (S2)<br>FAZ-B(C) | 0.5  | 15             | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 1    | 15             | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 2    | 15             | 2                   | T                                                                                                                        | T   | T   | T   | T   | T   | 3              | T   | T   | T   | T   |
|                                           | 3    | 15             | 1.2                 | 2                                                                                                                        | 3   | 3   | 10  | T   | T   | 1.5            | 1.5 | 3   | 5   | T   |
|                                           | 4    | 15             | 1.2                 | 2                                                                                                                        | 3   | 3   | 8   | T   | T   | 1.2            | 1.5 | 3   | 4   | T   |
|                                           | 6    | 15             | 1.2                 | 2                                                                                                                        | 2.5 | 3   | 5   | 10  | 10  | 1.2            | 1.5 | 2.5 | 3   | T   |
|                                           | 10   | 15             | 1.2                 | 1.5                                                                                                                      | 2   | 2   | 4   | 10  | 10  | 1              | 1.5 | 2.5 | 3   | 10  |
|                                           | 13   | 15             | 1                   | 1.5                                                                                                                      | 2   | 2   | 4   | 10  | 10  | 1              | 1.2 | 2   | 3   | 10  |
|                                           | 16   | 15             | 1                   | 1.2                                                                                                                      | 1.5 | 2   | 3   | 8   | 8   | 1              | 1.2 | 1.5 | 2.5 | 10  |
|                                           | 20   | 15             | 0.8                 | 1.2                                                                                                                      | 1.5 | 1.5 | 3   | 8   | 8   | 1              | 1.2 | 1.5 | 2.5 | 10  |
|                                           | 25   | 15             | 0.7                 | 1.2                                                                                                                      | 1.5 | 1.5 | 3   | 7   | 7   | 0.8            | 1   | 1.5 | 2   | 10  |
|                                           | 32   | 15             | —                   | 1.2                                                                                                                      | 1   | 1.5 | 2   | 6   | 6   | —              | 1   | 1.5 | 2   | 8   |
|                                           | 40   | 15             | —                   | —                                                                                                                        | 1   | 1.5 | 2   | 5   | 5   | —              | —   | 1.2 | 1.5 | 7   |
|                                           | 50   | 15             | —                   | —                                                                                                                        | —   | 1.2 | 1.5 | 4   | 4   | —              | —   | —   | 1.5 | 6   |
| PKZMO-...                                 | 63   | 15             | —                   | —                                                                                                                        | —   | —   | 1.5 | 3   | 3   | —              | —   | —   | —   | 6   |
|                                           | 0.16 | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 0.25 | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 0.4  | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 0.63 | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 1    | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 1.6  | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 2.5  | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 4    | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 6.3  | 100            | 4                   | 5                                                                                                                        | 5   | T   | T   | T   | T   | 2              | 3   | 4   | 5   | T   |
|                                           | 10   | 100            | 3                   | 4                                                                                                                        | 5   | 6   | 25  | T   | T   | 1.5            | 2.5 | 4   | 4   | T   |
|                                           | 12   | 50             | 3                   | 4                                                                                                                        | 5   | 6   | 25  | T   | T   | 1.5            | 2.5 | 4   | 4   | T   |
|                                           | 16   | 50             | 1.5                 | 1.5                                                                                                                      | 2   | 3   | 5   | 7   | T   | 1              | 1.6 | 2   | 2.5 | T   |
|                                           | 20   | 50             | 0.8                 | 1.5                                                                                                                      | 1.5 | 2   | 3   | 5   | T   | 0.8            | 1.2 | 1.5 | 2   | T   |
| PKZ2/ZM-...                               | 25   | 50             | —                   | 1                                                                                                                        | 1.5 | 1.5 | 2.5 | 4   | T   | —              | 1   | 1.5 | 2   | 10  |
|                                           | 32   | 50             | —                   | —                                                                                                                        | 1   | 1   | 2   | 3.5 | T   | —              | —   | 1   | 1.5 | 8   |
|                                           | 0.6  | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 1.0  | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 1.6  | 100            | T                   | T                                                                                                                        | T   | T   | T   | T   | T   | T              | T   | T   | T   | T   |
|                                           | 2.4  | 100            | 1.2                 | 2                                                                                                                        | 2.5 | 10  | T   | T   | T   | 1.2            | 2   | 2.5 | 10  | T   |
|                                           | 4    | 100            | 1                   | 1.5                                                                                                                      | 2   | 2.5 | 2.5 | 4   | 10  | 1              | 1.5 | 2   | 2.5 | 2.5 |
|                                           | 6    | 100            | 0.6                 | 0.8                                                                                                                      | 1   | 1.2 | 2   | 3   | 8   | 0.6            | 0.8 | 1   | 1.2 | 2   |
|                                           | 10   | 100            | 0.5                 | 0.7                                                                                                                      | 0.8 | 1   | 1.2 | 2   | 4   | 0.5            | 0.7 | 0.8 | 1   | 1.2 |
|                                           | 16   | 100            | 0.5                 | 0.6                                                                                                                      | 0.7 | 0.8 | 1.2 | 1.5 | 3   | 0.5            | 0.6 | 0.7 | 0.8 | 1.2 |
|                                           | 25   | 30             | —                   | 0.6                                                                                                                      | 0.7 | 0.7 | 1.2 | 1.5 | 2   | —              | 0.6 | 0.7 | 0.7 | 1.2 |
|                                           | 32   | 30             | —                   | —                                                                                                                        | 0.6 | 0.7 | 1.2 | 1.5 | 2   | —              | —   | 0.6 | 0.7 | 1.2 |
|                                           | 40   | 30             | —                   | —                                                                                                                        | 0.6 | 0.7 | 1   | 1.5 | 2   | —              | —   | 0.6 | 0.7 | 1   |
| PKZM4                                     | 16   | 100            | 0.5                 | 0.8                                                                                                                      | 0.8 | 0.8 | 2   | 5   | 5   | 0.5            | 0.8 | 0.8 | 0.8 | 2   |
|                                           | 25   | 100            | —                   | 0.7                                                                                                                      | 0.8 | 0.8 | 1.5 | 5   | 5   | —              | 0.7 | 0.8 | 0.8 | 1.5 |
|                                           | 32   | 50             | —                   | —                                                                                                                        | 0.8 | 0.8 | 1.5 | 4   | 4   | —              | —   | 0.8 | 0.8 | 1.5 |
|                                           | 40   | 50             | —                   | —                                                                                                                        | —   | 0.8 | 1.5 | 3   | 3   | —              | —   | —   | 0.8 | 1.5 |
|                                           | 50   | 50             | —                   | —                                                                                                                        | —   | —   | 1   | 2.5 | 2.5 | —              | —   | —   | —   | 1   |
|                                           | 58   | 50             | —                   | —                                                                                                                        | —   | —   | —   | 2.5 | 2.5 | —              | —   | —   | —   | —   |
|                                           | 63   | 50             | —                   | —                                                                                                                        | —   | —   | —   | 2   | 2   | —              | —   | —   | —   | —   |

Notes T: full selectivity

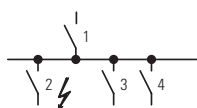
## Incoming circuit-breaker (S1)

| L2M...2-A...   |     |     |     |     | L2M...3-AE... |     | L2M...3-VE... |     | L2M...4-AE... |      |      |      | L2M...4-VE... |      |      |      |
|----------------|-----|-----|-----|-----|---------------|-----|---------------|-----|---------------|------|------|------|---------------|------|------|------|
| 25(36)(50)(70) |     |     |     |     | 50(70)        |     | 50(70)        |     | 50(70)        |      |      |      | 50(70)        |      |      |      |
| 125            | 160 | 200 | 250 | 300 | 400           | 630 | 400           | 630 | 800           | 1000 | 1250 | 1600 | 800           | 1000 | 1250 | 1600 |

Selectivity threshold  $I_s$  [kA] for selectivity between S2 and S1, overload and short-circuit release set to max. value

|     |     |     |     |     |     |    |     |    |    |    |   |   |    |    |   |   |
|-----|-----|-----|-----|-----|-----|----|-----|----|----|----|---|---|----|----|---|---|
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 10  | 10  | 10  | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 10  | 10  | 10  | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 10  | 10  | 10  | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 10  | 10  | 10  | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 10  | 10  | 10  | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 8   | 8   | 8   | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 7   | 7   | 7   | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 6   | 6   | 6   | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 6   | 6   | 6   | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 40  | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| T   | T   | T   | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 10  | 10  | 10  | T   | T   | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 8   | 8   | 8   | 10  | 10  | T   | T  | T   | T  | T  | T  | T | T | T  | T  | T | T |
| 4   | 4   | 4   | 5   | 5   | 13  | T  | 13  | T  | T  | T  | T | T | T  | T  | T | T |
| 3   | 3   | 3   | 4   | 4   | 7   | T  | 7   | T  | T  | T  | T | T | T  | T  | T | T |
| 2   | 2   | 2   | 3   | 3   | 5   | 20 | 5   | 20 | T  | T  | T | T | T  | T  | T | T |
| 2   | 2   | 2   | 3   | 3   | 3.5 | 15 | 3.5 | 15 | T  | T  | T | T | T  | T  | T | T |
| 2   | 2   | 2   | 2   | 2   | 3.5 | 15 | 3.5 | 15 | T  | T  | T | T | T  | T  | T | T |
| 5   | 5   | 5   | 5   | 5   | 16  | 45 | 16  | 45 | T  | T  | T | T | T  | T  | T | T |
| 5   | 5   | 5   | 5   | 5   | 10  | 25 | 10  | 25 | 42 | T  | T | T | 42 | T  | T | T |
| 4   | 4   | 4   | 4   | 4   | 8   | 18 | 8   | 18 | 30 | 45 | T | T | 30 | 45 | T | T |
| 3   | 3   | 3   | 3   | 3   | 8   | 18 | 8   | 18 | 30 | 45 | T | T | 30 | 45 | T | T |
| 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 8   | 18 | 8   | 18 | 30 | 45 | T | T | 30 | 45 | T | T |
| 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 6.5 | 15 | 6.5 | 15 | 25 | 40 | T | T | 25 | 40 | T | T |
| 2   | 2   | 2   | 2   | 2   | 6.5 | 15 | 6.5 | 15 | 25 | 40 | T | T | 25 | 40 | T | T |

## Selectivity: incoming circuit-breaker, outgoing circuit-breaker LZM



Incoming  
circuit-breaker

Outgoing  
circuit-breaker

### Selectivity 415 V AC

between circuit-breakers enables separate shut-down of faulty system sections. Selectivity (discrimination) exists between incoming breaker 1 and outgoing breaker 2 if, **only** outgoing breaker 2 trips at position 2 during a short-circuit. System sections 3 and 4 continue to be operational.

### Incoming circuit-breaker (S1)

#### LZM...1-A...

#### LZM...2-A...

|                               |           | 25(36)(50)(70)      |                                                                                                                                       |    |     |     |     |     |     | 25(36)(50)(70) |               |     |     |     |
|-------------------------------|-----------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------|----|-----|-----|-----|-----|-----|----------------|---------------|-----|-----|-----|
|                               |           | $I_{cu}$ [kA]       |                                                                                                                                       |    |     |     |     |     |     |                | $I_{cu}$ [kA] |     |     |     |
|                               |           | $I_n$ [A]           | 20...40                                                                                                                               | 50 | 63  | 80  | 100 | 125 | 160 | 20...40        | 50            | 63  | 80  | 100 |
| Outgoing circuit-breaker (S2) | $I_n$ [A] | $I_{cu}(415V)$ [kA] | Prospective short-circuit current (kA). Set the overload and short-circuit release of the incoming circuit-breaker to the max. value. |    |     |     |     |     |     |                |               |     |     |     |
|                               |           |                     |                                                                                                                                       |    |     |     |     |     |     |                |               |     |     |     |
| LZM...1-A...                  | 20...40   | 25...100            | —                                                                                                                                     | —  | 0.5 | 0.7 | 0.8 | 1.5 | 1.5 | —              | —             | 0.6 | 0.8 | 1.5 |
|                               | 50        | 25...100            | —                                                                                                                                     | —  | —   | 0.6 | 0.8 | 1.5 | 1.5 | —              | —             | —   | 0.8 | 1.5 |
|                               | 63        | 25...100            | —                                                                                                                                     | —  | —   | —   | 0.8 | 1.5 | 1.5 | —              | —             | —   | —   | 1.5 |
|                               | 80        | 25...100            | —                                                                                                                                     | —  | —   | —   | —   | 1.5 | 1.5 | —              | —             | —   | —   | —   |
|                               | 100       | 25...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | 1.5 | —              | —             | —   | —   | —   |
|                               | 125       | 25...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 160       | 25...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
| LZM...2-A...                  | 20...40   | 25...150            | —                                                                                                                                     | —  | 0.5 | 0.6 | 0.8 | 1   | 1   | —              | —             | 0.5 | 0.6 | 0.8 |
|                               | 50        | 25...150            | —                                                                                                                                     | —  | —   | 0.6 | 0.8 | 1   | 1   | —              | —             | —   | 0.6 | 0.8 |
|                               | 63        | 25...150            | —                                                                                                                                     | —  | —   | —   | 0.8 | 1   | 1   | —              | —             | —   | —   | 0.8 |
|                               | 80        | 25...150            | —                                                                                                                                     | —  | —   | —   | —   | 1   | 1   | —              | —             | —   | —   | —   |
|                               | 100       | 25...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | 1   | —              | —             | —   | —   | —   |
|                               | 125       | 25...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 160       | 25...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
| LZM...2-VE...                 | 250       | 25...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 100       | 50...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 160       | 50...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
| LZM...3-AE...                 | 250       | 50...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 400       | 50...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 630       | 50...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
| LZM...3-VE...                 | 250       | 50...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 400       | 50...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 630       | 50...150            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
| LZM...4-AE...                 | 630       | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 800       | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 1000      | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 1250      | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 1600      | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
| LZM...4-VE...                 | 630       | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 800       | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 1000      | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 1250      | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |
|                               | 1600      | 50...100            | —                                                                                                                                     | —  | —   | —   | —   | —   | —   | —              | —             | —   | —   | —   |

**Notes** T: total selectivity

## Incoming circuit-breaker (S1)

| L2M...2-A...   |     |     |     |     | L2M...3-AE... |     | L2M...3-VE... |     | L2M...4-AE... |      |      |      | L2M...4-VE... |      |      |      |
|----------------|-----|-----|-----|-----|---------------|-----|---------------|-----|---------------|------|------|------|---------------|------|------|------|
| 25(36)(50)(70) |     |     |     |     | 50(70)        |     | 50(70)        |     | 50(70)        |      |      |      | 50(70)        |      |      |      |
| 125            | 160 | 200 | 250 | 300 | 400           | 630 | 400           | 630 | 800           | 1000 | 1250 | 1600 | 800           | 1000 | 1250 | 1600 |

Prospective short-circuit current (kA). Set the overload and short-circuit release of the incoming circuit-breaker to the max. value.

|     |     |     |   |   |     |     |    |    |      |      |      |      |      |      |      |      |
|-----|-----|-----|---|---|-----|-----|----|----|------|------|------|------|------|------|------|------|
| 1.5 | 1.5 | 2   | 3 | 3 | 20  | 20  | 25 | 25 | T    | T    | T    | T    | T    | T    | T    | T    |
| 1.5 | 1.5 | 2   | 3 | 3 | 20  | 20  | 25 | 25 | T    | T    | T    | T    | T    | T    | T    | T    |
| 1.5 | 1.5 | 2   | 3 | 3 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| 1.5 | 1.5 | 2   | 3 | 3 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | 1.5 | 2   | 3 | 3 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | –   | 2   | 3 | 3 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | –   | 2   | 3 | 3 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| 1   | 1.2 | 1.6 | 2 | 2 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| 1   | 1.2 | 1.6 | 2 | 2 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| 1   | 1.2 | 1.6 | 2 | 2 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | 1.2 | 1.6 | 2 | 2 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | –   | 1.6 | 2 | 2 | 15  | 15  | 20 | 20 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | –   | –   | 2 | 2 | 10  | 10  | 15 | 15 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | –   | –   | – | – | 10  | 10  | 15 | 15 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | –   | –   | – | – | 10  | 10  | 15 | 15 | T    | T    | T    | T    | T    | T    | T    | T    |
| –   | 1.2 | 1.6 | 2 | 2 | 7   | 10  | 8  | 11 | 20   | 50   | T    | T    | 20   | 50   | T    | T    |
| –   | –   | –   | – | – | 7   | 10  | 8  | 11 | 20   | 50   | T    | T    | 20   | 50   | T    | T    |
| –   | –   | –   | – | – | 7   | 10  | 8  | 11 | 20   | 50   | T    | T    | 20   | 50   | T    | T    |
| –   | –   | –   | – | – | 5   | 7.5 | 10 | 12 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 |
| –   | –   | –   | – | – | –   | 7.5 | –  | 12 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 |
| –   | –   | –   | – | – | –   | –   | –  | –  | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 |
| –   | –   | –   | – | – | 3.5 | 4   | 10 | 12 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 |
| –   | –   | –   | – | – | –   | 4   | –  | 12 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 |
| –   | –   | –   | – | – | –   | –   | –  | –  | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 | T/80 |
| –   | –   | –   | – | – | –   | –   | –  | –  | 10   | 15   | 20   | 20   | 10   | 15   | 20   | 20   |
| –   | –   | –   | – | – | –   | –   | –  | –  | –    | –    | 20   | 20   | –    | –    | 20   | 20   |
| –   | –   | –   | – | – | –   | –   | –  | –  | –    | –    | 20   | 20   | –    | –    | 20   | 20   |
| –   | –   | –   | – | – | –   | –   | –  | –  | –    | –    | –    | 20   | –    | –    | –    | 20   |
| –   | –   | –   | – | – | –   | –   | –  | –  | –    | –    | –    | –    | –    | –    | –    | –    |
| –   | –   | –   | – | – | –   | –   | –  | –  | 10   | 15   | 20   | 20   | 10   | 15   | 20   | 20   |
| –   | –   | –   | – | – | –   | –   | –  | –  | –    | –    | 20   | 20   | –    | –    | 20   | 20   |
| –   | –   | –   | – | – | –   | –   | –  | –  | –    | –    | 20   | 20   | –    | –    | 20   | 20   |
| –   | –   | –   | – | – | –   | –   | –  | –  | –    | –    | –    | 20   | –    | –    | –    | 20   |
| –   | –   | –   | – | – | –   | –   | –  | –  | –    | –    | –    | –    | –    | –    | –    | –    |

### MCB, back-up protection LZM1, LZM2, LZM3

#### Protection of PVC insulated cables against thermal overload with short-circuits

According to VDE 0100 part 430 cables and conductors must be protected against short-circuit and overload. The overload protection is obtained by using LZM circuit-breakers with settable, current-dependent, delayed overload release.

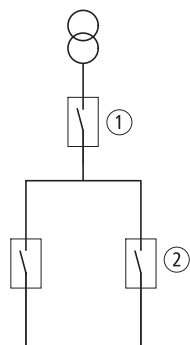
Short-circuit protection is provided by adjustable instantaneous releases, which open the main contacts in less than 25ms. The short-circuit total opening time restricts the temperature rise of the cable to a minimum.

The tables indicate the minimum conductor cross-section reliably protected by circuit-breakers during a short-circuit. (Operating voltage  $U_N = 415$  V)

|                             | Min. protected cross-section mm <sup>2</sup> copper |
|-----------------------------|-----------------------------------------------------|
| LZM...1(-4)-...20           | 6                                                   |
| LZM...1(-4)-...25 ... 160   | 10                                                  |
| LZM...2(-4)-...20 ... 300   | 10                                                  |
| LZM...3(-4)-...250 ... 630  | 16                                                  |
| LZM...4(-4)-...630 ... 1600 | 95                                                  |

#### Back-up protection

between LZM(N)(S) incoming circuit-breaker and LZMB(C)(N)(S) outgoing circuit-breaker



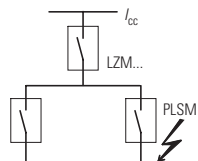
| Outgoing circuit-breaker ② |       |             | Incoming circuit-breaker ① |       |       |       |             |       |       |       |             |       |
|----------------------------|-------|-------------|----------------------------|-------|-------|-------|-------------|-------|-------|-------|-------------|-------|
|                            |       |             | LZM1                       |       |       |       | LZM2        |       |       |       | LZM3        |       |
|                            |       |             | up to 160 A                |       |       |       | up to 300 A |       |       |       | up to 630 A |       |
| $I_{cu}(415\text{ V})$     | $I_n$ |             | 25 kA                      | 36 kA | 50 kA | 70 kA | 25 kA       | 36 kA | 50 kA | 70 kA | 50 kA       | 70 kA |
| LZMB1                      | 25 kA | up to 160 A | 25                         | 36    | 50    | 70    | 25          | 36    | 50    | 70    | 50          | 70    |
| LZMC1                      | 36 kA | up to 160 A | —                          | 36    | 50    | 70    |             | 36    | 50    | 70    | 50          | 70    |
| LZMN1                      | 50 kA | up to 160 A | —                          | —     | 50    | 70    | —           | —     | 50    | 70    | 50          | 70    |
| LZMS1                      | 70 kA | up to 160 A | —                          | —     | —     | 70    | —           | —     | —     | 70    | —           | 70    |
| LZMB2                      | 25 kA | up to 300 A | 25                         | 36    | 50    | 70    | 25          | 36    | 50    | 70    | 50          | 70    |
| LZMC2                      | 36 kA | up to 300 A | —                          | 36    | 50    | 70    | —           | 36    | 50    | 70    | 50          | 70    |
| LZMN2                      | 50 kA | up to 300 A | —                          | —     | 50    | 70    | —           | —     | 50    | 70    | 50          | 70    |
| LZMS2                      | 70 kA | up to 300 A | —                          | —     | —     | —     | —           | —     | —     | 70    | —           | 70    |
| LZMN3                      | 50 kA | up to 630 A | —                          | —     | —     | —     | —           | —     | —     | —     | 50          | 70    |
| LZMS3                      | 70 kA | up to 630 A | —                          | —     | —     | —     | —           | —     | —     | —     | —           | 70    |

Where the prospective fault current at the point of installation of circuit-breakers is very high, it is conventional to use LZMN(S) current-limiting circuit-breakers. An attractively priced alternative is to fit a LZMN(S) current-limiting circuit-breaker upstream of LZMB(C)(N) standard circuit-breakers, if the fault level is too high for LZMB(C)(N) switches.

The table shows which current-limiting circuit-breaker LZMN(S) in combination with LZMB(C)(N) are to be used to provide protection at the network locations with high short-circuit capacities.

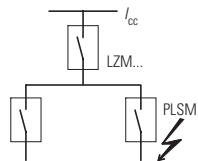
The selectivity limit is determined by the response current of the non-delayed short-circuit release in the upstream incoming circuit-breaker. In many applications this is sufficient.

#### between LZM...1-A... incoming circuit-breaker and FAZ-B(C)/PLSM-B(C)... outgoing circuit-breaker



| Outgoing circuit-breaker | Outgoing circuit-breaker LZM(B)(C)2-A... | LZMC(N)(S)1-A... |
|--------------------------|------------------------------------------|------------------|
| FAZ-B(C)...              |                                          |                  |
| 0,5 – 16                 | 25 kA                                    | 30 kA            |
| 20 – 40                  | 20 kA                                    | 20 kA            |
| 50, 63                   | 15 kA                                    | 15 kA            |
| PLSM-B(C)...(/...)       |                                          |                  |
| 0,5 – 16                 | 25 kA                                    | 30 kA            |
| 20 – 40                  | 20 kA                                    | 20 kA            |
| 50, 63                   | 15 kA                                    | 15 kA            |

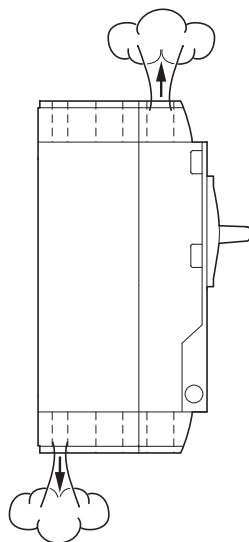
#### between LZM...2-A... incoming circuit-breaker and FAZ-B(C)/PLSM-B(C)... outgoing circuit-breaker



| Outgoing circuit-breaker | Incoming circuit-breaker LZMB(C)2-A... | LZMN(S)2-A... |
|--------------------------|----------------------------------------|---------------|
| FAZ-B(C)...              |                                        |               |
| 0,5 – 10                 | 25 kA                                  | 50 kA         |
| 13 – 32                  | 25 kA                                  | 30 kA         |
| 40 – 63                  | 20 kA                                  | 20 kA         |
| PLSM-B(C)...(/...)       |                                        |               |
| 0,5 – 10                 | 25 kA                                  | 50 kA         |
| 13 – 32                  | 25 kA                                  | 30 kA         |
| 40 – 63                  | 20 kA                                  | 20 kA         |

## Direction of blow-out, minimum clearances, tube cable lugs LZM1, LZM2, LZM3, LZM4

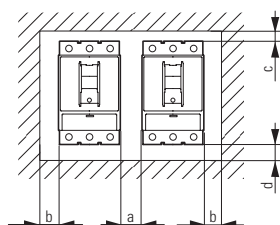
Direction of blow-out



|                          | Top, front | Bottom, rear |
|--------------------------|------------|--------------|
| <b>LZM1</b>              | X          | —            |
| <b>LZM2<sup>1)</sup></b> | X          | X            |
| <b>LZM3</b>              | X          | X            |
| <b>LZM4</b>              | X          | —            |

<sup>1)</sup> LZM2B(C) – A ... as LZM1

Minimum clearances



between two adjacently mounted switches

Minimum clearance a in mm

|                          | LZM1 | LZM2 | LZM3 | LZM4 |
|--------------------------|------|------|------|------|
| <b>LZM1</b>              | 0    | 5    | 5    | 15   |
| <b>LZM2<sup>1)</sup></b> | 5    | 5    | 5    | 15   |
| <b>LZM3</b>              | 5    | 5    | 5    | 15   |
| <b>LZM4</b>              | 15   | 15   | 15   | 15   |

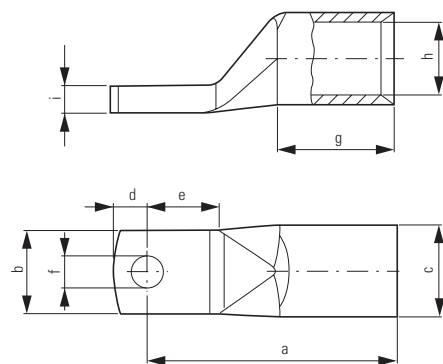
between switch and other parts

Minimum clearances in mm

|                          | b<br>≤ 690 V | 1000 V | c<br>≤ 690 V | 1000 V | d<br>≤ 690 V | 1000 V |
|--------------------------|--------------|--------|--------------|--------|--------------|--------|
| <b>LZM1</b>              | 0            | —      | 60           | —      | 0            | —      |
| <b>LZM2<sup>1)</sup></b> | 5            | 5      | 35           | 35     | 35           | 35     |
| <b>LZM3</b>              | 5            | 5      | 60           | 60     | 60           | 60     |
| <b>LZM4</b>              | 15           | 15     | 100          | 200    | 0            | 0      |

<sup>1)</sup> LZM2B(C) – A ... C= 60 mm, d = 0 mm

Dimensions



For pressing the cable lugs a press tool K22, HK60/22 or EK22 from the company Klauke is necessary with the following press inserts:

R22/95 for 95 mm<sup>2</sup>  
R22/120 for 120 mm<sup>2</sup>  
R22/150 for 150 mm<sup>2</sup>  
R22/185 for 185 mm<sup>2</sup>  
R22/240 for 240 mm<sup>2</sup>

Cable lug

For use with

Rated cross section  
mm<sup>2</sup>

Terminal bolt  
Ø

Dimensions in mm

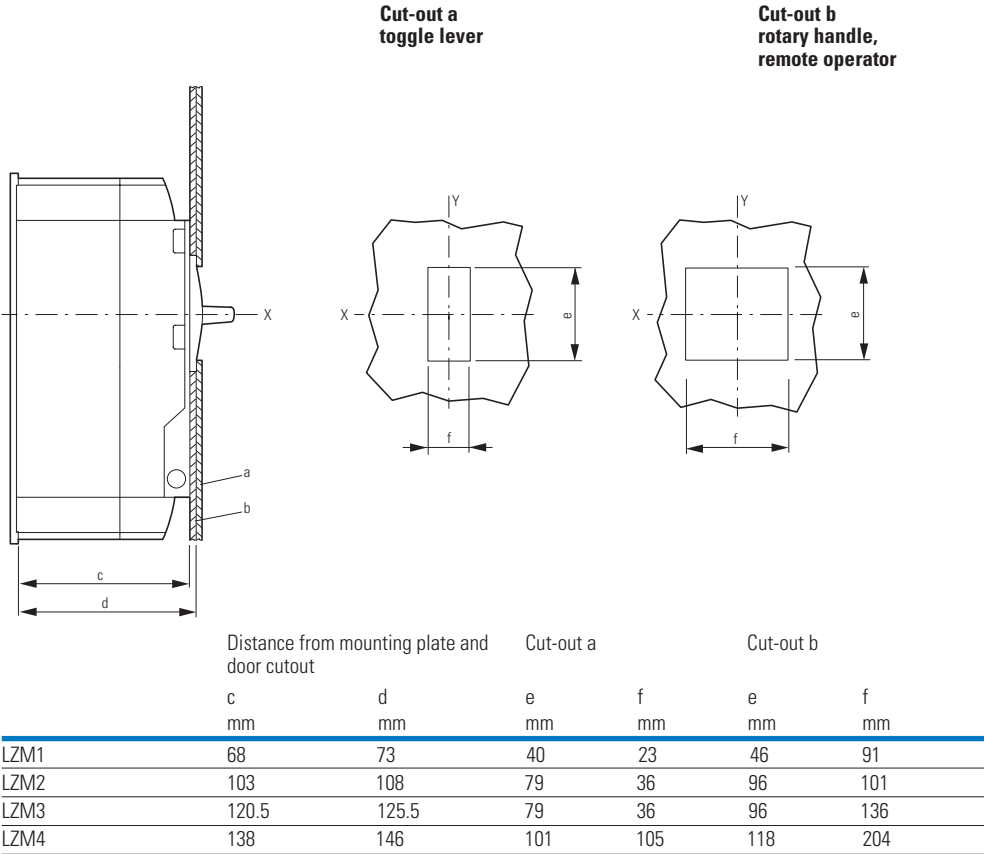
|                    |            |     |     | a      | b      | c        | d                               | e                                  | f                                    | g    | h      | i       |
|--------------------|------------|-----|-----|--------|--------|----------|---------------------------------|------------------------------------|--------------------------------------|------|--------|---------|
| <b>KS95-NZM7</b>   | LZM2       | 95  | M8  | 53±2   | 23±0.5 | 18±0.2   | 10±1                            | 19                                 | 8,5                                  | 25   | 13,5   | 4,4     |
| <b>KS120-NZM7</b>  | LZM2       | 120 | M8  | 56±2   | 23±0.5 | 19.5±0.2 | 10±1                            | 19                                 | 8,5                                  | 26   | 15     | 4,4     |
| <b>KS150-NZM7</b>  | LZM2       | 150 | M8  | 61±2   | 23±0.5 | 21±0.2   | 10±1                            | 19                                 | 8,5                                  | 30   | 16,5   | 4,4     |
| <b>NZM2-XKS185</b> | LZM2       | 185 | M8  | 65±1.5 | 22±1   | 24±0.3   | 9 <sup>+1</sup> <sub>-0.5</sub> | 19 <sup>+2.5</sup> <sub>-0.5</sub> | 8.5 <sup>+0.05</sup> <sub>-0.1</sub> | 30±2 | 19±0.4 | 7       |
| <b>NZM3-XKS185</b> | LZM3, LZM4 | 185 | M10 | 65     | 24,5   | 24       | 11,5                            | 18                                 | 10,5                                 | 30   | 19     | 7.0±0.8 |
| <b>NZM3-XKS240</b> | LZM3, LZM4 | 240 | M10 | 72     | 31     | 26       | 11,5                            | 19                                 | 10,5                                 | 35   | 21     | 5.0±0.8 |

# Circuit-breakers LZM

Engineering

## Auxiliary switches, trip-indicating auxiliary contacts LZM1, LZM2, LZM3, LZM4

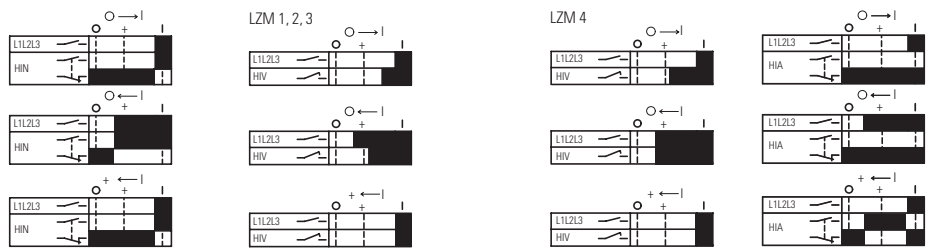
Front cut-out



Standard auxiliary contact (HIN)

Early-make auxiliary contact (HIV)

Trip-indicating auxiliary contact (HIA)



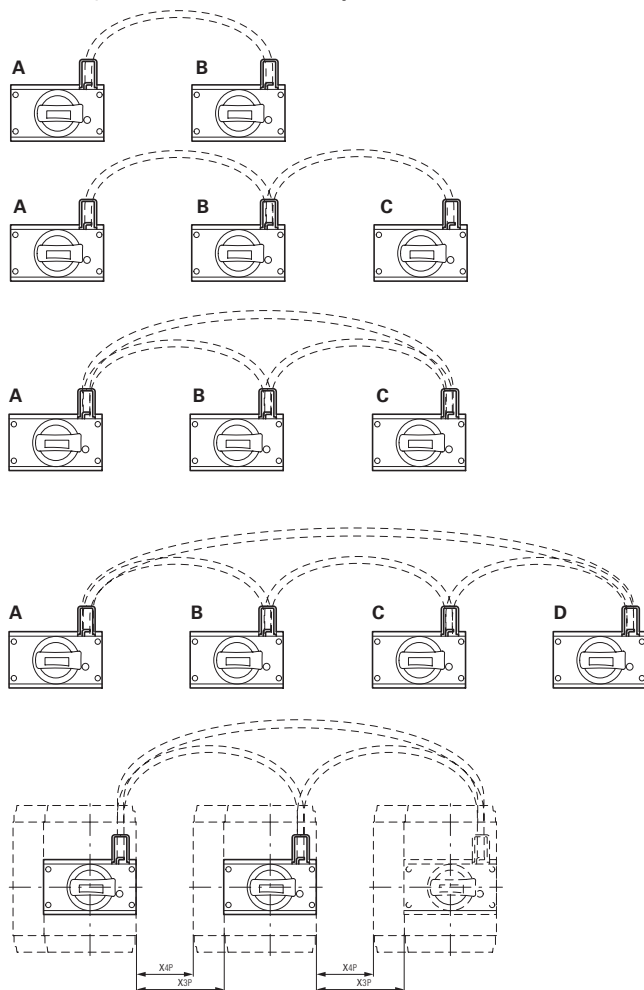
- 0 → I    Switching on
- 0 ← I    Switching off
- + ← I    Trip

- Contact closed
- Contact open

**Notes** If early-make contacts are required in combination with shunt or undervoltage releases, please select the combination type in the “Release” section.

## Mechanical interlock for (door-coupling) rotary handles LZW, NZM...-XBZ...

Interlocking variants and combination options



| A             | B             |
|---------------|---------------|
| OFF           | OFF           |
| ON/TRIP       | <del>ON</del> |
| <del>ON</del> | ON/TRIP       |

| A             | B             | C             |
|---------------|---------------|---------------|
| OFF           | OFF           | OFF           |
| <del>ON</del> | ON/TRIP       | <del>ON</del> |
| ON/TRIP       | <del>ON</del> | ON/TRIP       |

| A             | B             | C             |
|---------------|---------------|---------------|
| OFF           | OFF           | OFF           |
| ON/TRIP       | <del>ON</del> | <del>ON</del> |
| <del>ON</del> | ON/TRIP       | <del>ON</del> |
| <del>ON</del> | <del>ON</del> | ON/TRIP       |

| A             | B             | C             | D             |
|---------------|---------------|---------------|---------------|
| OFF           | OFF           | OFF           | OFF           |
| ON/TRIP       | <del>ON</del> | ON/TRIP       | <del>ON</del> |
| <del>ON</del> | ON/TRIP       | <del>ON</del> | ON/TRIP       |

= Switch clearance 3 pole  
= Switch clearance 4 pole

### NZM-XBZ225

| max. switch clearance |          | LZM1            |                 | LZM2            |                 | right switch LZM3 |                 | LZM4            |                 |
|-----------------------|----------|-----------------|-----------------|-----------------|-----------------|-------------------|-----------------|-----------------|-----------------|
|                       |          | X <sub>3P</sub> | X <sub>4P</sub> | X <sub>3P</sub> | X <sub>4P</sub> | X <sub>3P</sub>   | X <sub>4P</sub> | X <sub>3P</sub> | X <sub>4P</sub> |
| left switch           |          | mm              | mm              | mm              | mm              | mm                | mm              | mm              | mm              |
| LZM1                  | 3/4 pole | 135             | 105             | 120             | 85              | 135               | 90              | 125             | 80              |
| LZM2                  | 3/4 pole | 135             | 105             | 120             | 85              | 135               | 90              | 125             | 80              |
| LZM3                  | 3/4 pole | 90              | 75              | 75              | 35              | 85                | 40              | 80              | 45              |
| LZM4                  | 3/4 pole | 50              | 35              | 40              | 15              | 25                | —               | 15              | —               |

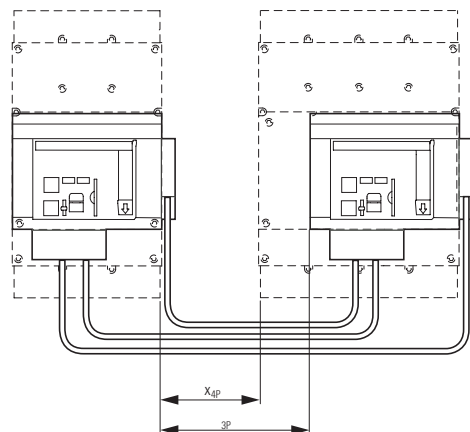
### NZM-XBZ600

| max. switch clearance |          | LZM1            |                 | LZM2            |                 | right switch LZM3 |                 | LZM4            |                 |
|-----------------------|----------|-----------------|-----------------|-----------------|-----------------|-------------------|-----------------|-----------------|-----------------|
|                       |          | X <sub>3P</sub> | X <sub>4P</sub> | X <sub>3P</sub> | X <sub>4P</sub> | X <sub>3P</sub>   | X <sub>4P</sub> | X <sub>3P</sub> | X <sub>4P</sub> |
| left switch           |          | mm              | mm              | mm              | mm              | mm                | mm              | mm              | mm              |
| LZM1                  | 3/4 pole | 510             | 480             | 495             | 460             | 510               | 465             | 475             | 405             |
| LZM2                  | 3/4 pole | 510             | 480             | 495             | 460             | 510               | 465             | 475             | 405             |
| LZM3                  | 3/4 pole | 460             | 430             | 450             | 410             | 460               | 415             | 460             | 390             |
| LZM4                  | 3/4 pole | 400             | 370             | 380             | 340             | 400               | 375             | 390             | 320             |

### NZM-XBZ1000

| max. switch clearance |          | LZM1            |                 | LZM2            |                 | right switch LZM3 |                 | LZM4            |                 |
|-----------------------|----------|-----------------|-----------------|-----------------|-----------------|-------------------|-----------------|-----------------|-----------------|
|                       |          | X <sub>3P</sub> | X <sub>4P</sub> | X <sub>3P</sub> | X <sub>4P</sub> | X <sub>3P</sub>   | X <sub>4P</sub> | X <sub>3P</sub> | X <sub>4P</sub> |
| left switch           |          | mm              | mm              | mm              | mm              | mm                | mm              | mm              | mm              |
| LZM1                  | 3/4 pole | 910             | 880             | 895             | 860             | 910               | 865             | 865             | 795             |
| LZM2                  | 3/4 pole | 910             | 880             | 895             | 860             | 910               | 865             | 865             | 795             |
| LZM3                  | 3/4 pole | 820             | 790             | 850             | 810             | 860               | 815             | 860             | 790             |
| LZM4                  | 3/4 pole | 750             | 720             | 730             | 700             | 800               | 775             | 790             | 720             |

## Mechanical interlock for remote operator, residual-current relay NZM...-XMVR(L)



$X_{3p}$  = max. switch clearance 3 pole

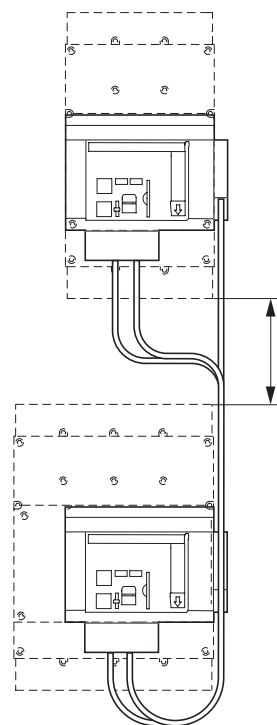
$X_{4p}$  = max. switch clearance 4 pole

### XMVR mechanical interlock (Mounting adjacent)

#### NZM...-XMVR

##### Max. switch clearance

|             |          | LZM2           |                | right switch<br>LZM3 |                | LZM4           |                |
|-------------|----------|----------------|----------------|----------------------|----------------|----------------|----------------|
|             |          | $X_{3p}$<br>mm | $X_{4p}$<br>mm | $X_{3p}$<br>mm       | $X_{4p}$<br>mm | $X_{3p}$<br>mm | $X_{4p}$<br>mm |
| left switch |          |                |                |                      |                |                |                |
| LZM2        | 3/4 pole | 130            | 95             | 95                   | 50             | —              | —              |
| LZM3        | 3/4 pole | —              | —              | 135                  | 90             | 155            | 85             |
| LZM4        | 3/4 pole | —              | —              | —                    | —              | 120            | 50             |



### XMVRL mechanical interlock Mounting in adjacent enclosures

#### NZM...-XMVRL

##### Max. switch clearance

|             |          | LZM2           |                | right switch<br>LZM3 |                | LZM4           |                |
|-------------|----------|----------------|----------------|----------------------|----------------|----------------|----------------|
|             |          | $X_{3p}$<br>mm | $X_{4p}$<br>mm | $X_{3p}$<br>mm       | $X_{4p}$<br>mm | $X_{3p}$<br>mm | $X_{4p}$<br>mm |
| left switch |          |                |                |                      |                |                |                |
| LZM2        | 3/4 pole | 350            | 315            | 420                  | 385            | —              | —              |
| LZM3        | 3/4 pole | —              | —              | 400                  | 365            | 460            | 390            |
| LZM4        | 3/4 pole | —              | —              | —                    | —              | 420            | 350            |

### XMVRL mechanical interlock (Mounting one above the other)

#### NZM...-XMVRL

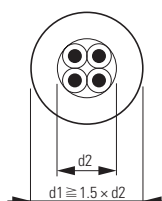
##### Max. switch clearance

|               |          | Switch top |      |      |
|---------------|----------|------------|------|------|
|               |          | LZM2       | LZM3 | LZM4 |
|               | 3/4 pole | Y          | Y    | Y    |
| Switch bottom |          | mm         | mm   | mm   |
| LZM2          | 3/4 pole | 220        | 225  | —    |
| LZM3          | 3/4 pole | —          | 220  | 230  |
| LZM4          | 3/4 pole | —          | —    | 230  |

Y = max. switch clearance

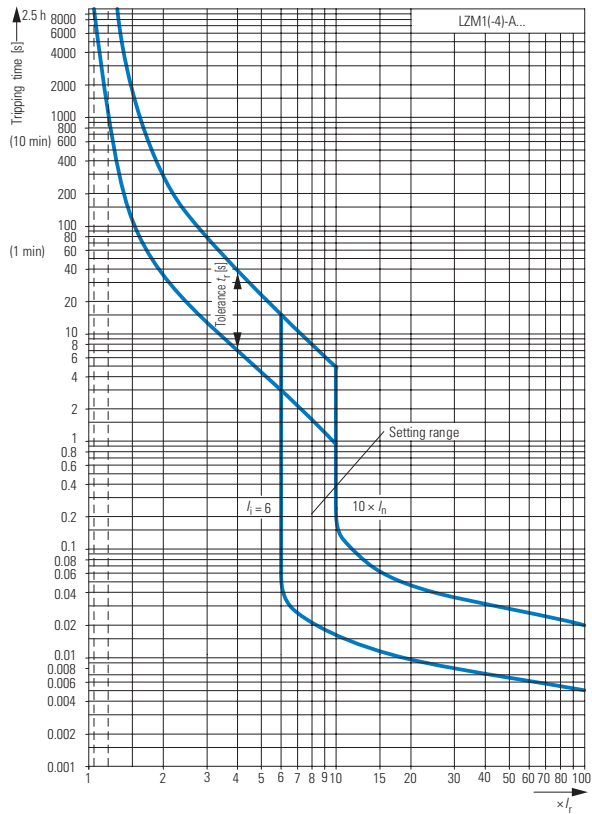
## Ring-type transformer

| Maximum rated current [A] |                 | Diameter                          |                                      |
|---------------------------|-----------------|-----------------------------------|--------------------------------------|
| Power distribution        | Motor/capacitor | Transformer part no. PFR-W-... d1 | Max. conductor circumference (mm) d2 |
| 50                        | 50              | 20                                | 13                                   |
| 150                       | 100             | 30                                | 20                                   |
| 150                       | 100             | 35                                | 23                                   |
| 400                       | 200             | 70                                | 47                                   |
| 600                       | 250             | 105                               | 70                                   |
| 1200                      | 630             | 140                               | 93                                   |
| 1800                      | 800             | 210                               | 140                                  |

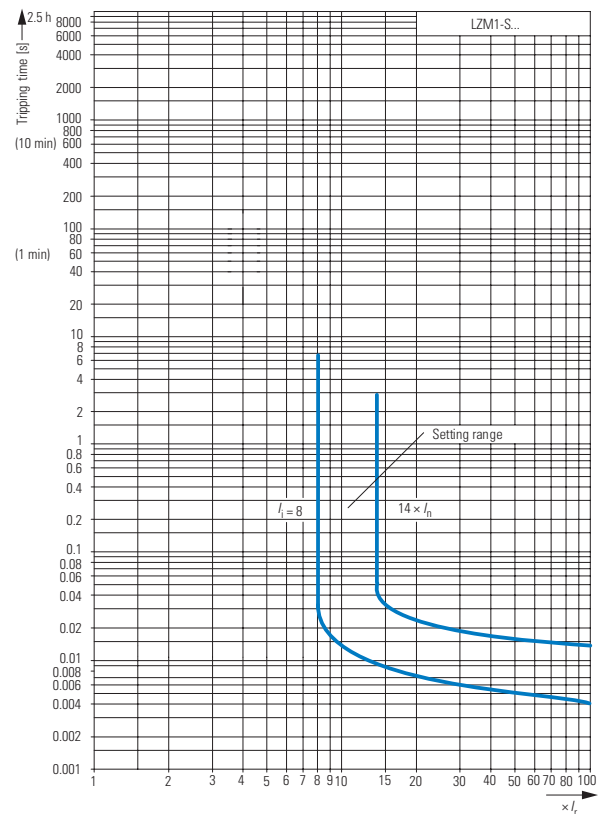


## Sizes 1, 2: tripping characteristics LZM1, LZM2

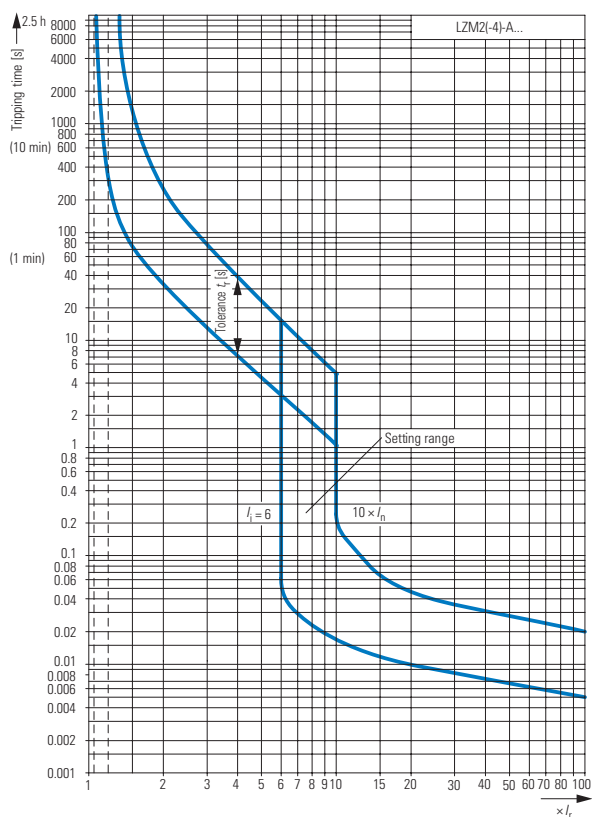
System and line protection with LZM1



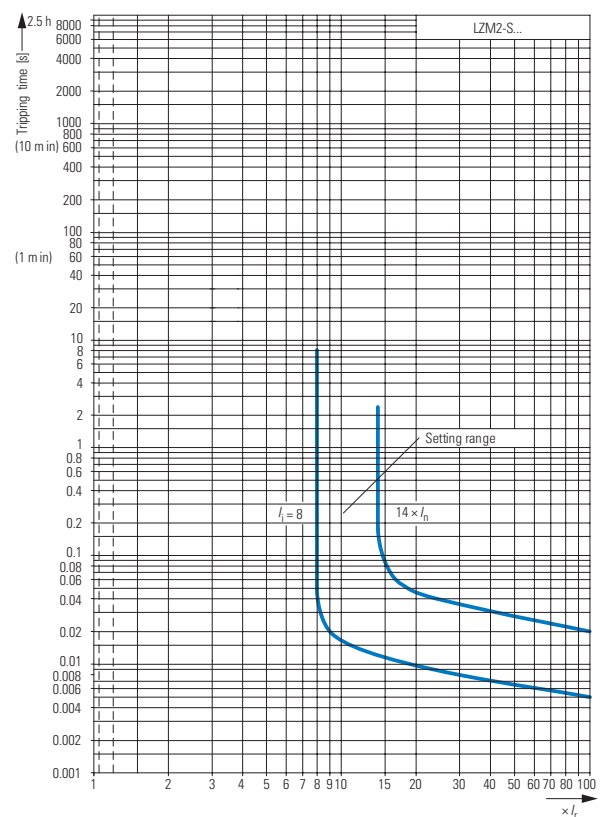
Motor protection with LZM1



System and line protection with LZM2

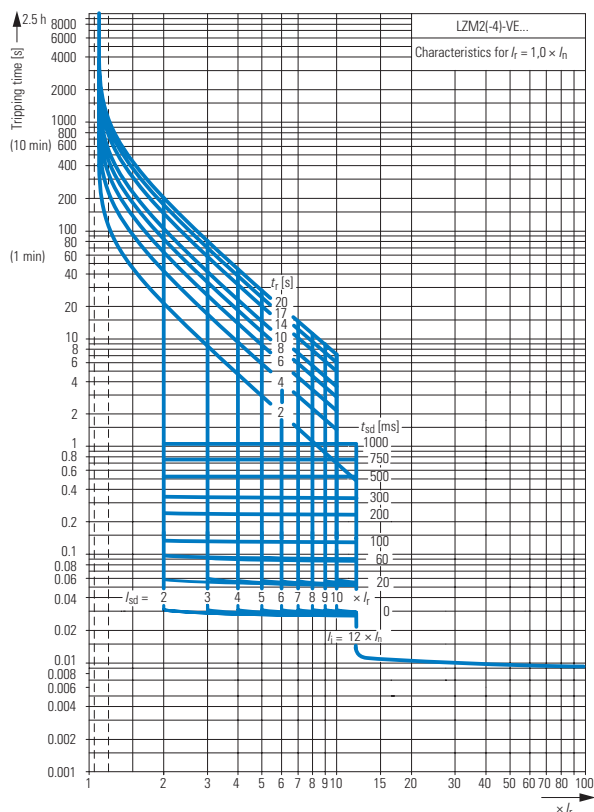


Motor protection with LZM2

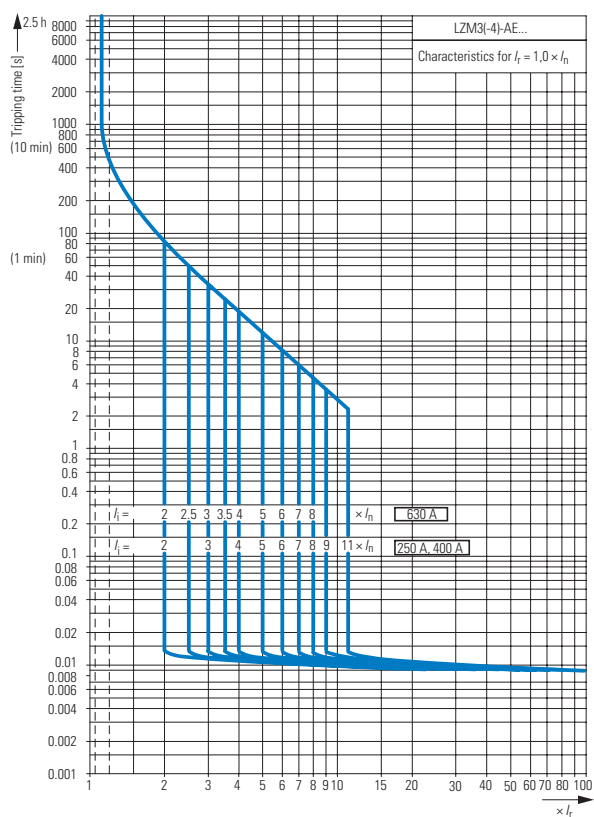


### Sizes 2, 3: tripping characteristics LZW2, LZW3

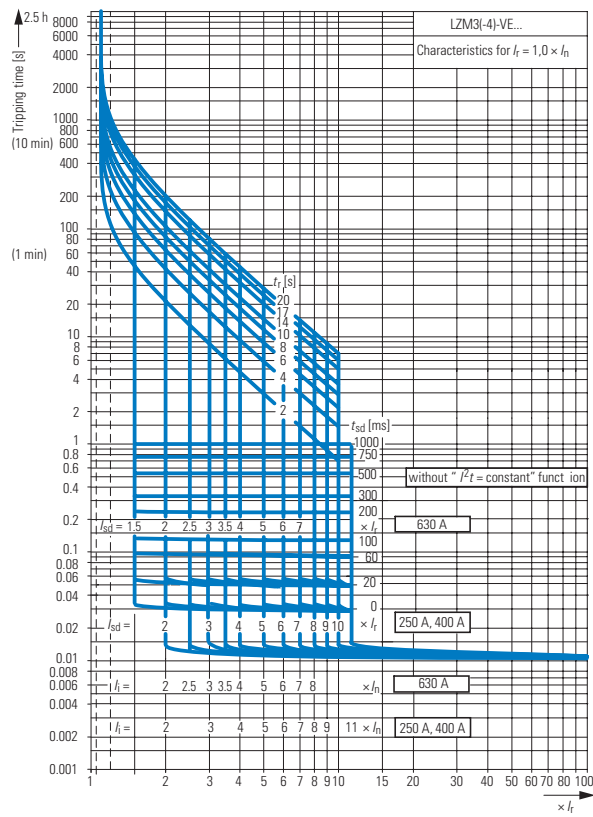
Systems, cable, selectivity and generator protection with LZW2



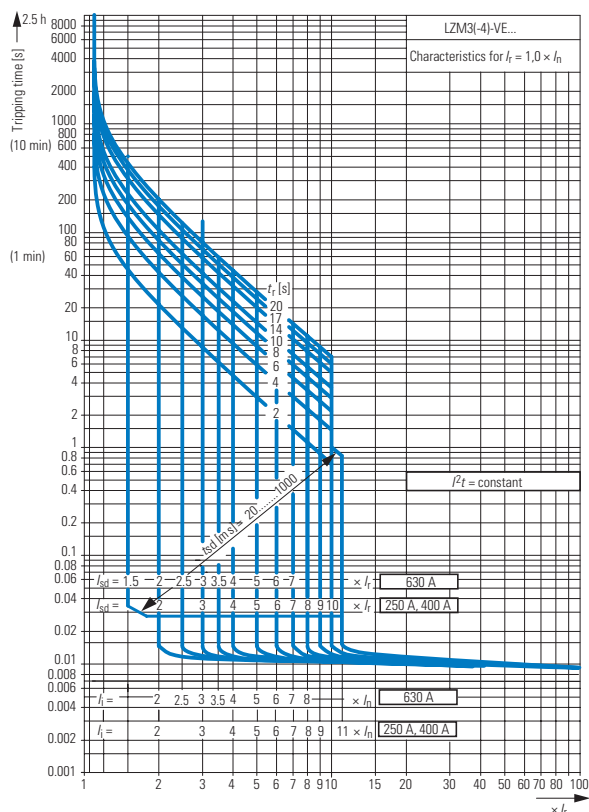
System and line protection with LZW3



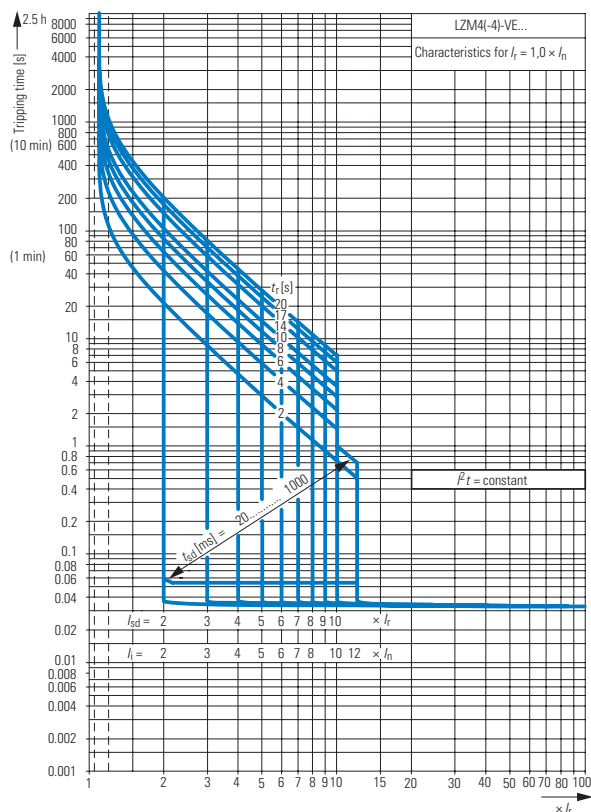
Systems, cable, selectivity and generator protection with LZW3



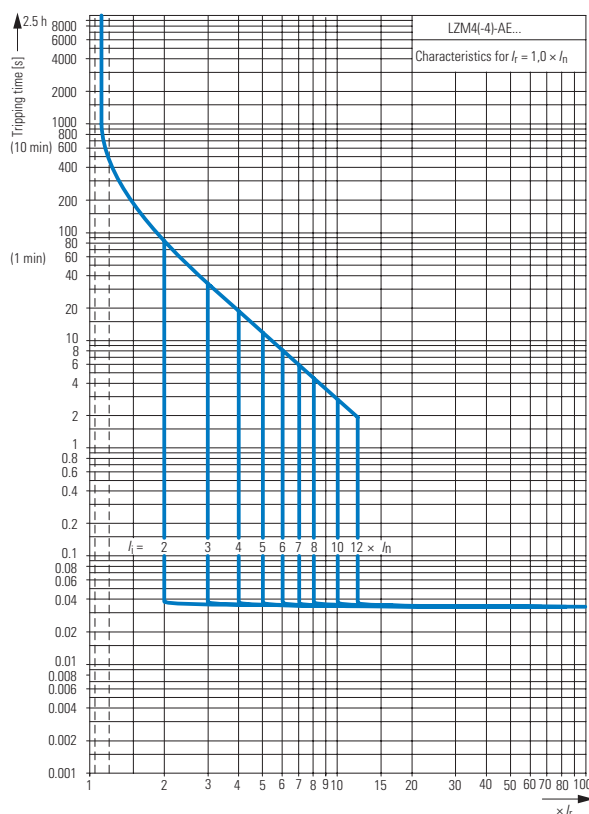
## Systems, cable, selectivity and generator protection with LZM3



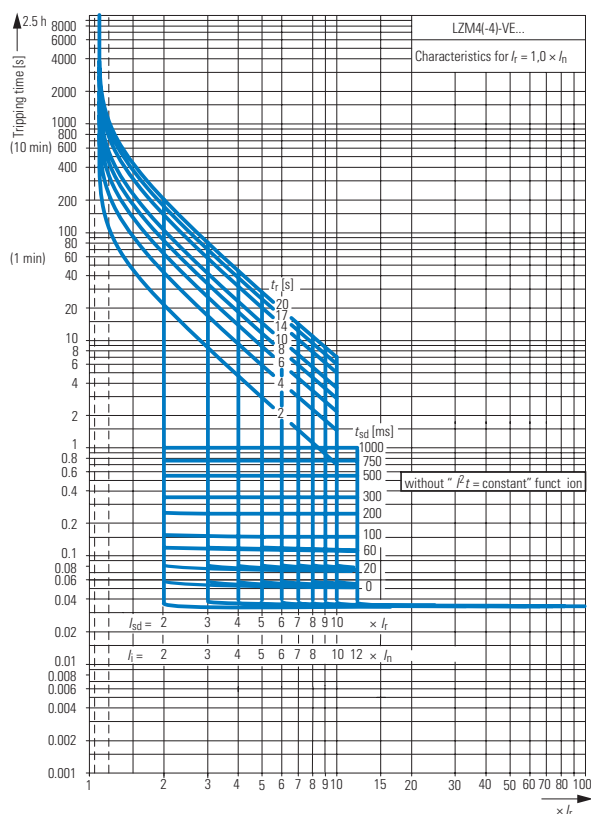
## Systems, cable, selectivity and generator protection with NZM4



## System and line protection with LZM4

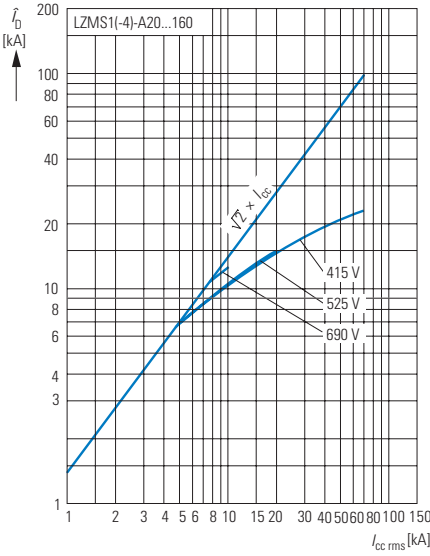
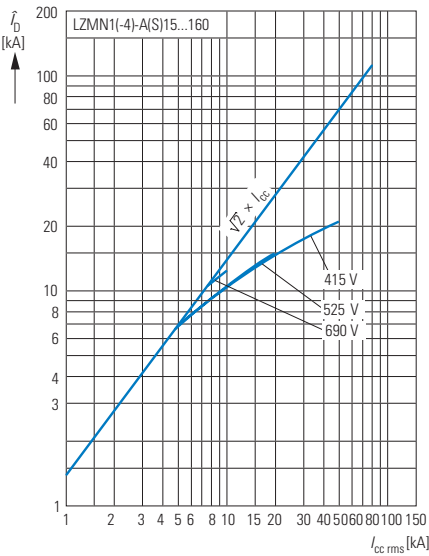
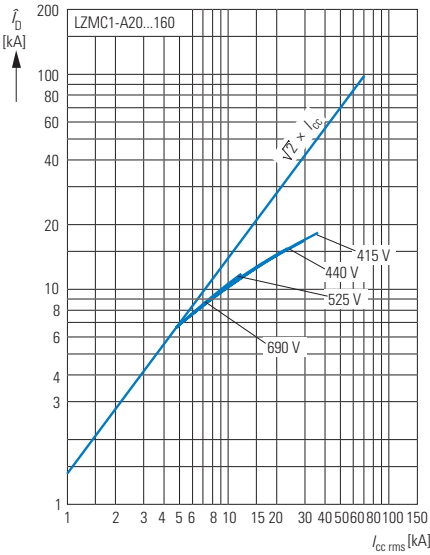
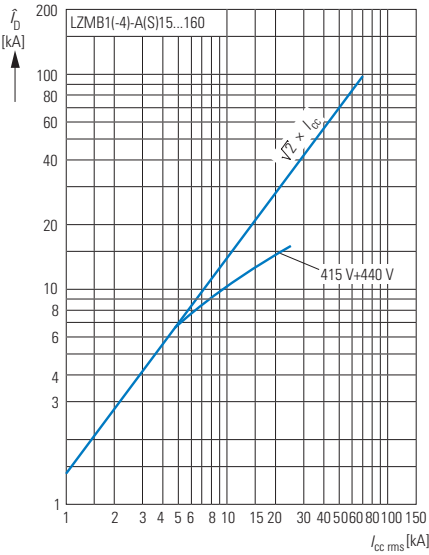


## Systems, cable, selectivity and generator protection with LZM4



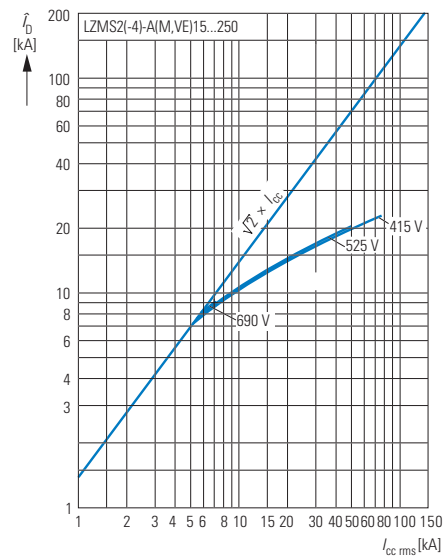
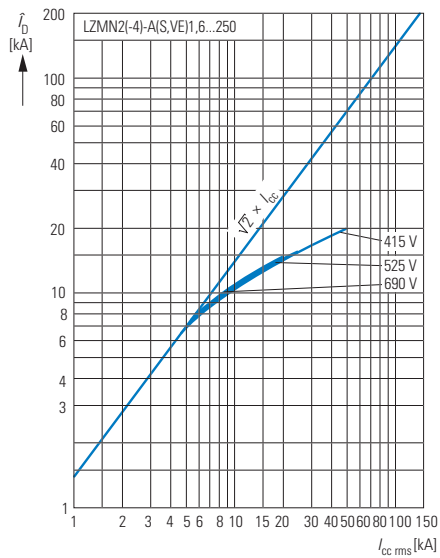
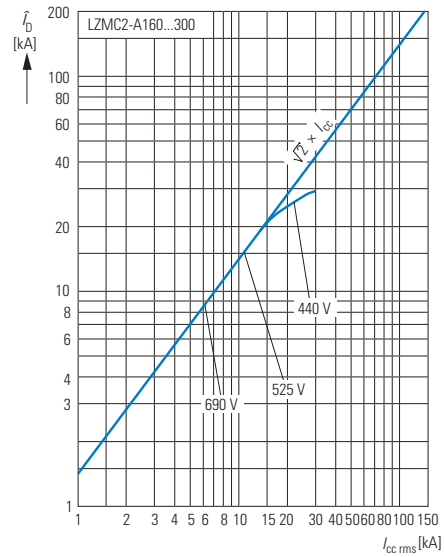
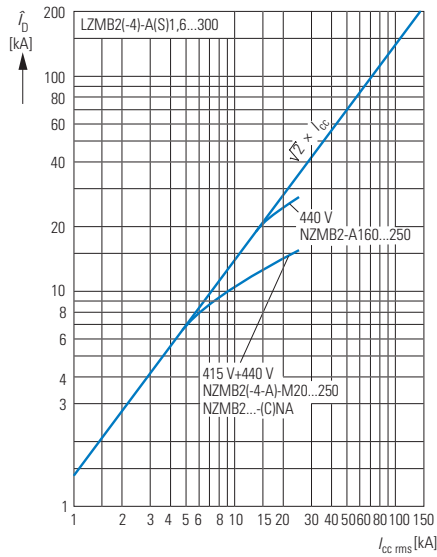
Frame size 1: let-through characteristics LZM1

Let-through current  $\hat{I}_D$



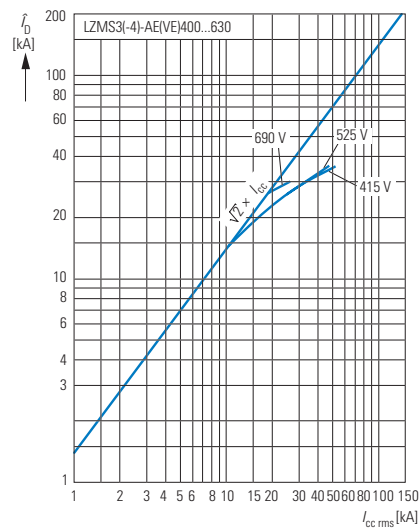
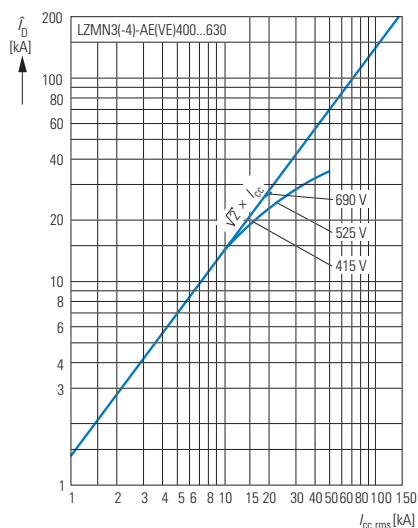
## Frame size 2: let-through characteristics LZW2

Let-through current  $\hat{I}_D$

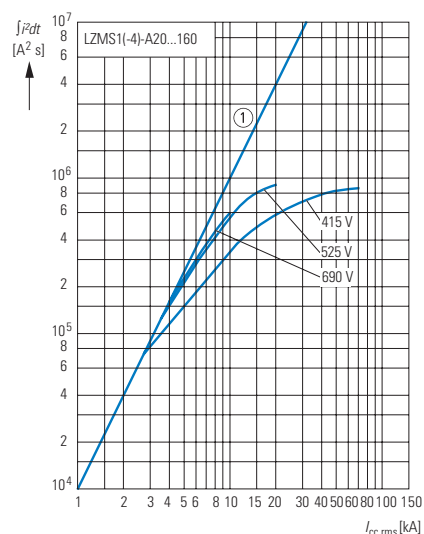
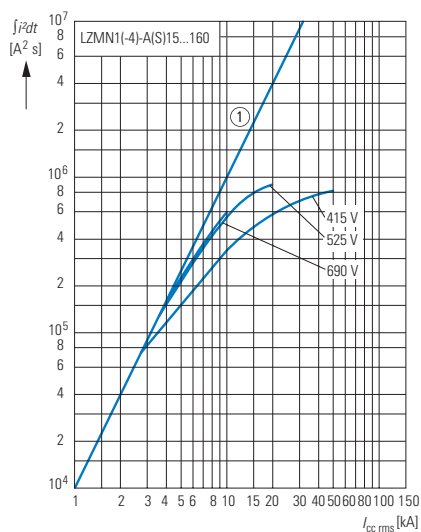
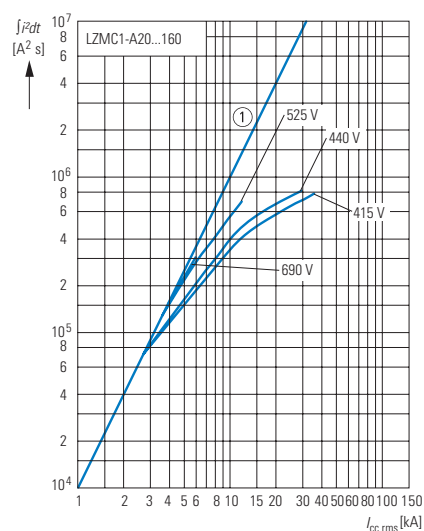
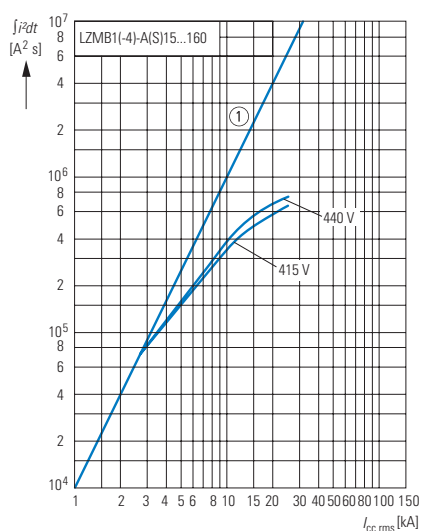


### Sizes 1, 3: let-through characteristics LZM1, LZM3

Let-through current  $\hat{I}_D$



Let-through energy  $I^2t$

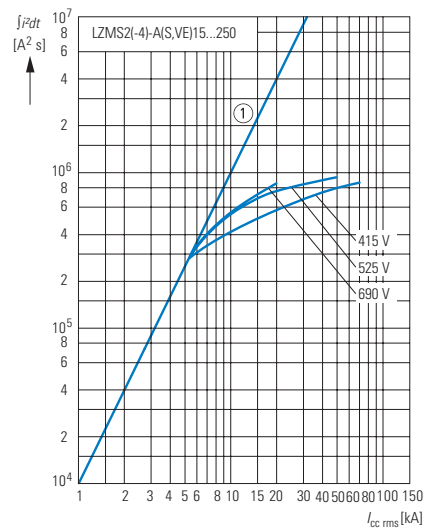
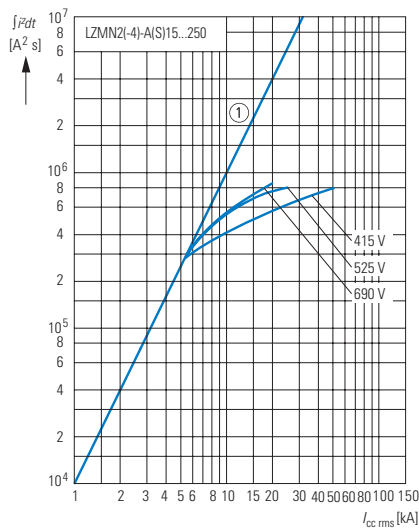
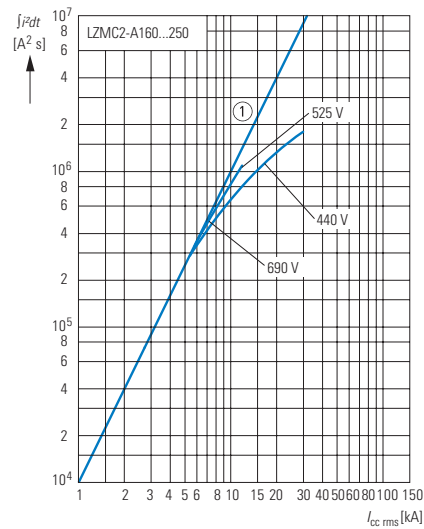
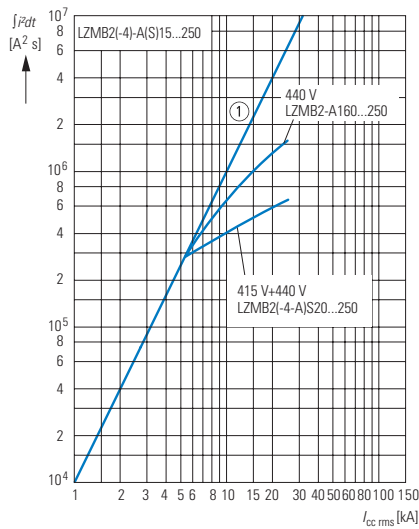


① 1 half-cycle

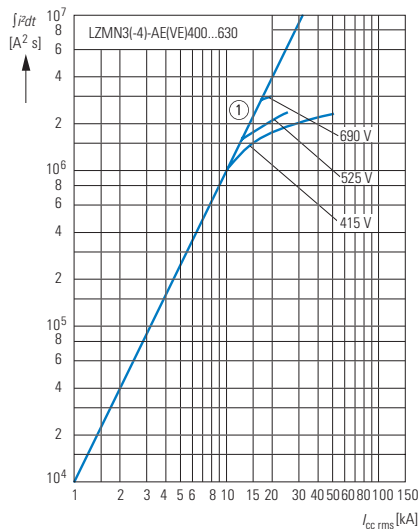
① 1 half-cycle

## Sizes 2, 3: let-through characteristics LZM2, LZM3

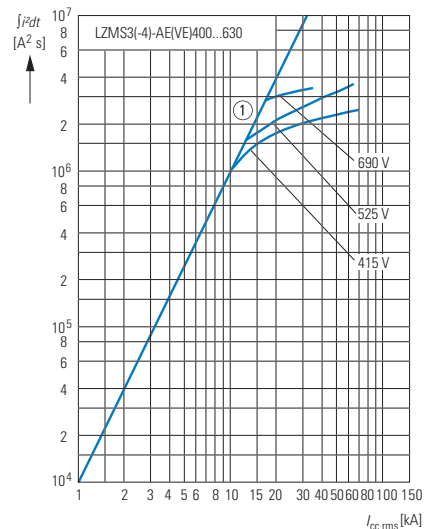
Let-through energy  $I^2t$



① 1 half-cycle



① 1 half-cycle



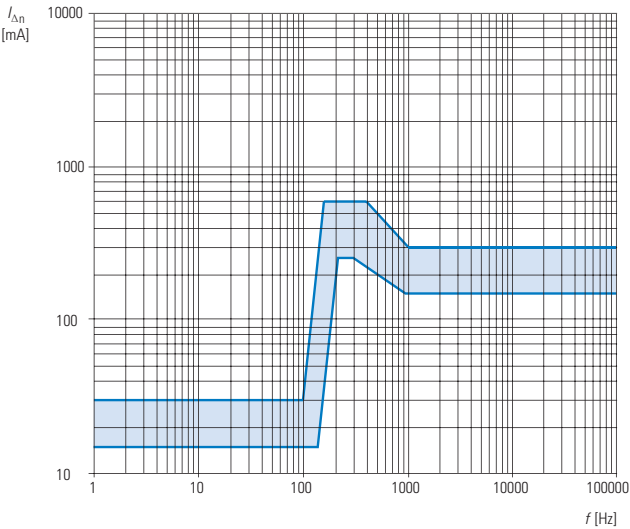
① 1 half-cycle

Frame size 2: residual-current release frequency response NZM2-4-XFIA

Frequency response

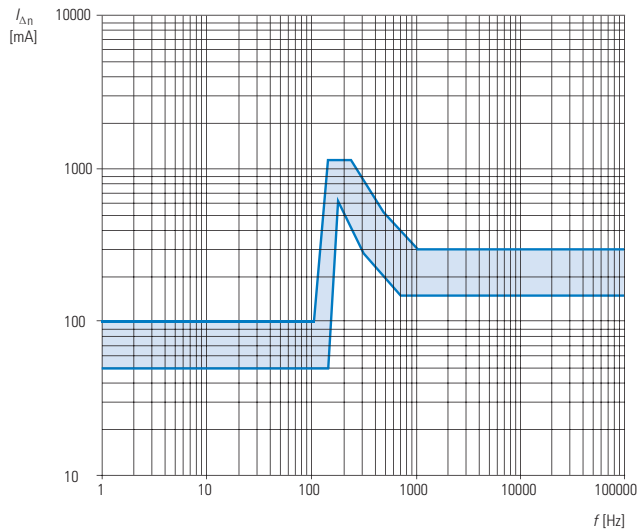
NZM2-4-XFIA30

30 mA



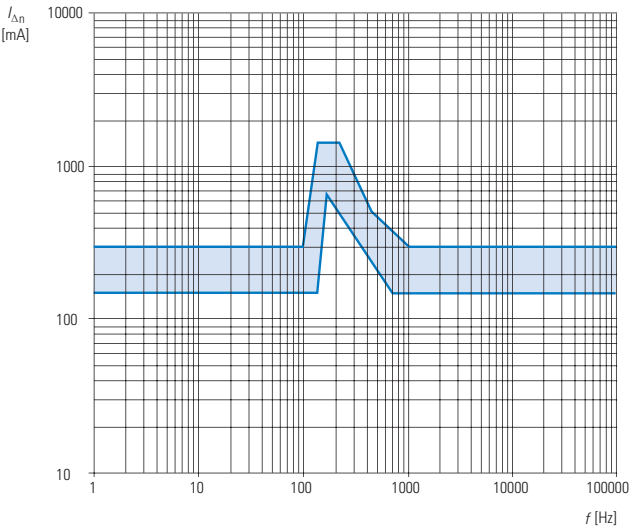
NZM2-4-XFIA

100 mA

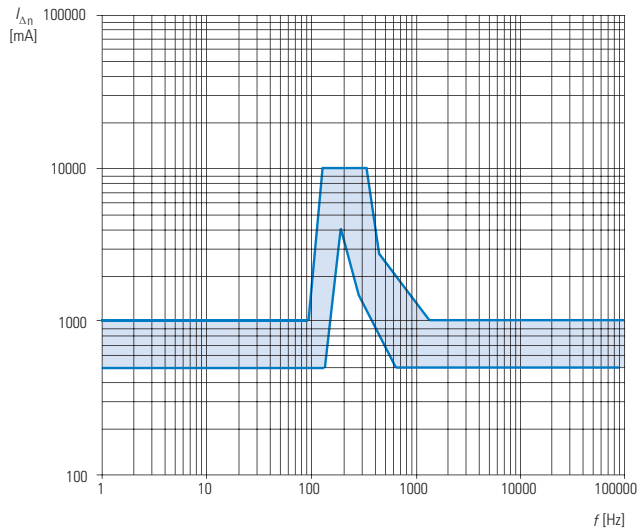


NZM2-4-XFIA

300 mA



1000 mA





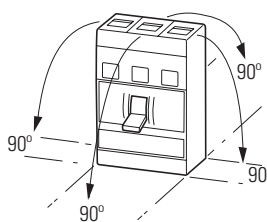
# Circuit-breakers LZM

## Technical data

### Circuit-breakers LZM...1, LZM...2, LZM...3, LZM...4

**Rated uninterrupted current  
max. 160 A**

**LZMB1      LZMC1      LZMN1      LZMS1**

| General                                             |       |                                                                                                                                                                                      |       |       |       |       |
|-----------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|
| Standards                                           |       | IEC/EN 60947, CCC                                                                                                                                                                    |       |       |       |       |
| Protection against direct contact                   |       | Finger and back of hand proof to VDE 0106 Part 100                                                                                                                                   |       |       |       |       |
| Climatic proofing                                   |       | Damp heat, constant, according to IEC 60068-2-78<br>Damp heat, cyclical to IEC 60068-2-30                                                                                            |       |       |       |       |
| Ambient temperature                                 |       |                                                                                                                                                                                      |       |       |       |       |
| Storage                                             | °C    | −25...+70                                                                                                                                                                            |       |       |       |       |
| Operation                                           | °C    | −25...+70                                                                                                                                                                            |       |       |       |       |
| Mechanical shock resistance (IEC/EN 60068-2-27)     |       | 20 (half-sinusoidal shock 20 ms)                                                                                                                                                     |       |       |       |       |
| Safe isolation to VDE 0106 Part 101 and Part 101/A1 |       |                                                                                                                                                                                      |       |       |       |       |
| Between auxiliary contacts and main contacts        | V AC  | 500                                                                                                                                                                                  |       |       |       |       |
| between the auxiliary contacts                      | V AC  | 300                                                                                                                                                                                  |       |       |       |       |
| Mounting position                                   |       | Vertical and 90° in all directions                                                                                                                                                   |       |       |       |       |
|                                                     |       | <div></div> <div>With residual-current release<br/>LZM1: Vertical and 90° in all directions</div> |       |       |       |       |
| 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, with door coupling rotary handle: IP66                                                                                                               |       |       |       |       |
| Terminals                                           |       | Tunnel terminal: IP10<br>Phase isolator and strip terminal: IP00                                                                                                                     |       |       |       |       |
| Circuit-breakers                                    |       |                                                                                                                                                                                      |       |       |       |       |
| Rated impulse withstand voltage $U_{imp}$           |       |                                                                                                                                                                                      |       |       |       |       |
| Main contacts                                       | V     | 6000                                                                                                                                                                                 | 6000  | 6000  | 6000  |       |
| Auxiliary contacts                                  | V     | 6000                                                                                                                                                                                 | 6000  | 6000  | 6000  |       |
| Rated operational voltage                           | $U_e$ | V AC                                                                                                                                                                                 | 690   | 690   | 690   | 690   |
| Overvoltage category/pollution degree               |       |                                                                                                                                                                                      | III/3 | III/3 | III/3 | III/3 |
| Rated insulation voltage                            | $U_i$ | V                                                                                                                                                                                    | 690   | 690   | 690   | 690   |
| For use in IT electrical power networks             |       | V                                                                                                                                                                                    | 440   | 690   | 690   | 690   |

**Rated uninterrupted current  
max. 300 A****LZMB2****LZMC2****LZMN2****LZMS2****Rated uninterrupted current  
max. 630 A****LZMC3****LZMN3****LZMS3****Rated uninterrupted current  
max. 1600 A****LZMN4****LZMS4**

IEC/EN 60947, CCC

Finger and back of hand proof to VDE 0106 Part 100

Damp heat, constant, according to IEC 60068-2-78

Damp heat, cyclical to IEC 60068-2-30

-25...+70

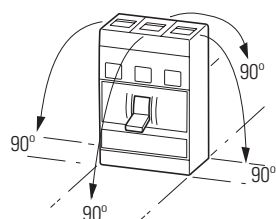
-25...+70

20 (half-sinusoidal shock 20 ms) NZM4: (half-sinusoidal shock 11 ms)

500

300

Vertical and 90° in all directions

With plug-in adapter LZM2:  
vertical, 90° right/leftwith residual current release, LZM2: vertical and 90°  
to all directionsWith withdrawable unit, LZM3: vertical, 90°  
left, LZM4: vertical, with remote operator:  
LZM2, LZM3, LZM4: vertical and 90° to all  
directions

As required

In the operating controls area: IP20 (basic degree of protection)

With insulating surround: IP40, with door coupling rotary handle: IP66

Tunnel terminal: IP10

Phase isolator and strip terminal: IP00

|       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  | 8000  |
| 6000  | 6000  | 6000  | 6000  | 6000  | 6000  | 6000  | 6000  | 6000  |
| 440   | 690   | 690   | 690   | 690   | 690   | 690   | 690   | 690   |
| III/3 | III/3 | III/3 | III/3 | III/3 | III/3 | III/3 | III/3 | III/3 |
| 690   | 690   | 1000  | 690   | 690   | 1000  | 1000  | 1000  | 1000  |
| 440   | 690   | 690   | 690   | 690   | 690   | 690   | 525   | 525   |

# Circuit-breakers LZM

## Technical data

### Circuit-breakers LZM...1, LZM...2, LZM...3, LZM...4

|                                                         |                    |                    |            |                                                  | Rated uninterrupted current max. 160 A |       |       |       |
|---------------------------------------------------------|--------------------|--------------------|------------|--------------------------------------------------|----------------------------------------|-------|-------|-------|
|                                                         |                    |                    |            |                                                  | LZMB1                                  | LZMC1 | LZMN1 | LZMS1 |
| Switching capacity                                      |                    |                    |            |                                                  |                                        |       |       |       |
| Rated short-circuit making capacity                     |                    |                    |            |                                                  |                                        |       |       |       |
| 240 V                                                   |                    | $I_{cm}$           | kA         | 63                                               | 121                                    | 187   | 220   |       |
| 400/415 V                                               |                    | $I_{cm}$           | kA         | 53                                               | 76                                     | 105   | 220   |       |
| 440 V                                                   |                    | $I_{cm}$           | kA         | 53                                               | 63                                     | 74    | 74    |       |
| 525 V                                                   |                    | $I_{cm}$           | kA         | —                                                | 24                                     | 40    | 40    |       |
| 690 V                                                   |                    | $I_{cm}$           | kA         | —                                                | 14                                     | 17    | 17    |       |
| Rated short-circuit breaking capacity $I_{cn}$          |                    |                    |            |                                                  |                                        |       |       |       |
| $I_{cu}$ to IEC/EN 60947 operating sequence O-t-CO      | 240 V 50/60 Hz     | $I_{cu}$           | kA         | 30                                               | 55                                     | 85    | 100   |       |
|                                                         | 400/415 V 50/60 Hz | $I_{cu}$           | kA         | 25                                               | 36                                     | 50    | 100   |       |
|                                                         | 440 V 50/60 Hz     | $I_{cu}$           | kA         | 25                                               | 30                                     | 35    | 35    |       |
|                                                         | 525 V 50/60 Hz     | $I_{cu}$           | kA         | —                                                | 12                                     | 20    | 20    |       |
|                                                         | 690 V 50/60 Hz     | $I_{cu}$           | kA         | —                                                | 8                                      | 10    | 10    |       |
| $I_{cs}$ to IEC/EN 60947 operating sequence O-t-CO-t-CO | 240 V 50/60 Hz     | $I_{cs}$           | kA         | 30                                               | 55                                     | 85    | 100   |       |
|                                                         | 400/415 V 50/60 Hz | $I_{cs}$           | kA         | 25                                               | 36                                     | 50    | 50    |       |
|                                                         | 440 V 50/60 Hz     | $I_{cs}$           | kA         | 18.5                                             | 22.5                                   | 35    | 35    |       |
|                                                         | 525 V 50/60 Hz     | $I_{cs}$           | kA         | —                                                | 6                                      | 10    | 10    |       |
|                                                         | 690 V 50/60 Hz     | $I_{cs}$           | kA         | —                                                | 4                                      | 7.5   | 7.5   |       |
| Maximum low-voltage h.b.c. fuse <sup>9)</sup>           |                    |                    | A gG/gL    | LZM.1-...20...100: 200<br>LZM.1-...125, 160: 315 |                                        |       |       |       |
| Utilization category to IEC/EN 60947-2                  |                    |                    |            | A                                                | A                                      | A     | A     |       |
| Rated short-time withstand current                      |                    |                    |            |                                                  |                                        |       |       |       |
| t = 0.3 s                                               |                    | $I_{cw}$           | kA         | —                                                | —                                      | —     | —     |       |
| t = 1 s                                                 |                    | $I_{cw}$           | kA         | —                                                | —                                      | —     | —     |       |
| Rated making and breaking capacity                      |                    |                    |            |                                                  |                                        |       |       |       |
| Rated operational curr                                  | AC-1               | 400/415 V 50/60 Hz | $I_e$      | A                                                | 160                                    | 160   | 160   | 160   |
|                                                         |                    | 690 V 50/60 Hz     | $I_e$      | A                                                | 160                                    | 160   | 160   | 160   |
|                                                         | AC-3               | 400/415 V 50/60 Hz | $I_e$      | A                                                | 160                                    | 160   | 160   | 160   |
|                                                         |                    | 690 V 50/60 Hz     | $I_e$      | A                                                | 160                                    | 160   | 160   | 160   |
| Lifespan, mechanical                                    |                    |                    |            | Operations                                       | 20000                                  | 20000 | 20000 | 20000 |
| Maximum operating frequency                             |                    |                    |            |                                                  |                                        |       |       |       |
| Max. operating frequency                                |                    |                    | Ops/h      | 120                                              | 120                                    | 120   | 120   |       |
| Lifespan, electrical                                    |                    |                    |            |                                                  |                                        |       |       |       |
|                                                         | AC-1               | 400/415 V 50/60 Hz | Operations | 10000 <sup>8)</sup>                              | 10000                                  | 10000 | 10000 |       |
|                                                         |                    | 690 V 50/60 Hz     | Operations | —                                                | 7500                                   | 7500  | 7500  |       |
|                                                         | AC-3 <sup>4)</sup> | 400/415 V 50/60 Hz | Operations | —                                                | —                                      | 7500  | 7500  |       |
|                                                         |                    | 690 V 50/60 Hz     | Operations | —                                                | —                                      | 5000  | 5000  |       |
| Current heat loss per pole at $I_b$ <sup>6)</sup>       |                    |                    | W          | 16.7                                             | 16.7                                   | 16.7  | 16.7  |       |
| Total opening delay at short-circuit                    |                    |                    | ms         | < 10                                             | < 10                                   | < 10  | < 10  |       |

#### Notes

<sup>2)</sup> For AC-3 rated operational current with LZM4 the following applies: 400 V: max. 650 kW; 690 V: max. 600 kW

<sup>4)</sup> For 3-pole system protection circuit-breaker the AC-3 specification is not applicable

<sup>6)</sup> For current heat loss per pole the specification refers to the maximum nominal current of the frame size.

<sup>7)</sup> For 3-pole system protection circuit-breaker the following applies: 400/415 V 7500 switching operations

<sup>8)</sup> Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.

<sup>9)</sup>  $\leq 1600$  A

| Rated uninterrupted current max. 300 A |       |       |       | Rated uninterrupted current max. 630 A |       |       | Rated uninterrupted current max. 1600 A                |                            |
|----------------------------------------|-------|-------|-------|----------------------------------------|-------|-------|--------------------------------------------------------|----------------------------|
| LZMB2                                  | LZMC2 | LZMN2 | LZMS2 | LZMC3                                  | LZMN3 | LZMS3 | LZMN4                                                  | LZMS4                      |
|                                        |       |       |       |                                        |       |       |                                                        |                            |
| 63                                     | 121   | 187   | 220   | 121                                    | 187   | 220   | 105                                                    | 275                        |
| 53                                     | 76    | 105   | 154   | 76                                     | 105   | 154   | 105                                                    | 187                        |
| 53                                     | 63    | 74    | 143   | 63                                     | 74    | 143   | 74                                                     | 187                        |
| —                                      | 24    | 53    | 76    | 24                                     | 53    | 76    | 53                                                     | 143                        |
| —                                      | 9     | 40    | 53    | 14                                     | 40    | 53    | 40                                                     | 105                        |
|                                        |       |       |       |                                        |       |       |                                                        |                            |
| 30                                     | 55    | 85    | 100   | 55                                     | 85    | 100   | 50                                                     | 125                        |
| 25                                     | 36    | 50    | 70    | 36                                     | 50    | 70    | 50                                                     | 85                         |
| 25                                     | 30    | 35    | 65    | 30                                     | 35    | 65    | 35                                                     | 85                         |
| —                                      | 12    | 25    | 35    | 12                                     | 25    | 35    | 25                                                     | 65                         |
| —                                      | 8     | 20    | 20    | 8                                      | 20    | 25    | 20                                                     | 50                         |
| 30                                     | 55    | 85    | 100   | 55                                     | 85    | 100   | 37                                                     | 63                         |
| 25                                     | 36    | 50    | 70    | 36                                     | 50    | 70    | 37                                                     | 43                         |
| 18.5                                   | 22.5  | 35    | 65    | 22.5                                   | 35    | 65    | 26                                                     | 43                         |
| —                                      | 6     | 25    | 36    | 9                                      | 13    | 18    | 19                                                     | 49                         |
| —                                      | 4     | 5     | 5     | 4                                      | 5     | 6     | 15                                                     | 37                         |
| 355                                    | 355   | 355   | 355   | LZMN3-...400: 400<br>LZMN3-...630: 630 |       |       | LZMN4-...800...1250: 2 × 630<br>LZMN4-...1600: 2 × 800 |                            |
| A                                      | A     | A     | A     | A                                      | A     | A     | B                                                      | B                          |
|                                        |       |       |       |                                        |       |       |                                                        |                            |
| —                                      | —     | 1.9   | 1.9   | 3.3                                    | 3.3   | 3.3   | 19.2                                                   | 19.2                       |
| —                                      | —     | 1.9   | 1.9   | 3.3                                    | 3.3   | 3.3   | 19.2                                                   | 19.2                       |
|                                        |       |       |       |                                        |       |       |                                                        |                            |
| 250                                    | 250   | 250   | 250   | 500                                    | 630   | 630   | 2000                                                   | 2000                       |
| 250                                    | 250   | 250   | 250   | 500                                    | 630   | 630   | 2000                                                   | 2000                       |
| 250                                    | 250   | 250   | 250   | 500                                    | 630   | 630   | 1600 <sup>2)</sup>                                     | 1600 <sup>2)</sup>         |
| 250                                    | 250   | 250   | 250   | 500                                    | 630   | 630   | 1600 <sup>2)</sup>                                     | 1600 <sup>2)</sup>         |
| 20000                                  | 20000 | 20000 | 20000 | 15000                                  | 15000 | 15000 | 10000                                                  | 10000                      |
|                                        |       |       |       |                                        |       |       |                                                        |                            |
| 120                                    | 120   | 120   | 120   | 60                                     | 60    | 60    | 60                                                     | 60                         |
|                                        |       |       |       |                                        |       |       |                                                        |                            |
| 10000 <sup>8)</sup>                    | 10000 | 10000 | 10000 | 5000                                   | 5000  | 5000  | 3000                                                   | 3000                       |
| —                                      | 7500  | 7500  | 7500  | 3000                                   | 3000  | 3000  | 2000                                                   | 2000                       |
| 6500 <sup>4)</sup>                     | —     | 6500  | 6500  | 2000                                   | 2000  | 2000  | 2000                                                   | 2000                       |
| —                                      | 5000  | 5000  | 5000  | 2000                                   | 2000  | 2000  | 1000                                                   | 1000                       |
| 19                                     | 19    | 19    | 19    | 31                                     | 40    | 40    | 97                                                     | 97                         |
| < 10                                   | < 10  | < 10  | < 10  | < 10                                   | < 10  | < 10  | < 25 ≙ 415 V; < 35 > 415 V                             | < 25 ≙ 415 V; < 35 > 415 V |

# Circuit-breakers LZM

## Technical data

### Temperature influence

| Device Type                        | Release type | Response values of the overload release at temperatures deviating from the reference temperatures |       |       |       |       |       |       |
|------------------------------------|--------------|---------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|
|                                    |              | Temperature compensation coefficient                                                              |       |       |       |       |       |       |
|                                    |              | 20 °C                                                                                             | 30 °C | 40 °C | 50 °C | 60 °C | 65 °C | 70 °C |
| <b>Thermomagnetic release (TM)</b> |              |                                                                                                   |       |       |       |       |       |       |
| System protection                  |              | Protection of systems (reference temperature 40 °C)                                               |       |       |       |       |       |       |
| LZM...1(-4)-A15...80               | TM           | 1.14                                                                                              | 1.07  | 1     | 0.93  | 0.86  | 0.83  | 0.79  |
| LZM...1(-4)-A90...125              | TM           | 1.14                                                                                              | 1.07  | 1     | 0.93  | 0.86  | 0.83  | 0.79  |
| LZM...1(-4)-A160                   | TM           | 1.08                                                                                              | 1.04  | 1     | 0.96  | 0.92  | 0.90  | 0.88  |
| LZM...2(-4)-A15...200              | TM           | 1.04                                                                                              | 1.02  | 1     | 0.98  | 0.96  | 0.95  | 0.94  |
| LZM...2(-4)-A250                   | TM           | 1.04                                                                                              | 1.02  | 1     | 0.98  | 0.96  | 0.95  | 0.94  |
| LZM...2(-4)-A20...200 +XSV         | TM with XSV  | 1.04                                                                                              | 1.02  | 1     | 0.98  | 0.96  | 0.95  | 0.94  |
| LZM...2(-4)-A250 + XSV             | TM with XSV  | 1.04                                                                                              | 1.02  | 1     | 0.98  | 0.96  | 0.95  | 0.94  |
| Short-circuit / motor protection   |              | Motor protection (reference temperature 20 °C)                                                    |       |       |       |       |       |       |
| LZM...1-S40...80                   | TM           | 1                                                                                                 | 0.98  | 0.95  | 0.93  | 0.90  | 0.89  | 0.88  |
| LZM...1-S100                       | TM           | 1                                                                                                 | 0.98  | 0.95  | 0.93  | 0.90  | 0.89  | 0.88  |
| LZM...2-S20...200                  | TM           | 1                                                                                                 | 0.98  | 0.96  | 0.94  | 0.92  | 0.91  | 0.90  |
| LZM...2-S20...200 +XSV             | TM with XSV  | 1                                                                                                 | 0.98  | 0.96  | 0.94  | 0.92  | 0.91  | 0.90  |

**Notes** With temperatures which deviate from the reference temperature, a slight change of the overload protection properties occurs. In order to determine the release time using the tripping characteristics the temperature compensation coefficient in accordance with the table must be considered.  
 Example: An LZM1-A100 is calibrated for a reference temperature of 40 °C.  
 What happens when it is operated at an ambient temperature of 60 °C?  
 At 60 °C, the temperature compensation coefficient of 0.86 results in a reduced operating current of  $I_r = 100 \text{ A} \times 0.86 = 86 \text{ A}$ . In other words at an ambient temperature of 60 °C the LZM1-A100 trips as if it were set to 86 A.

### Temperature influence

| Device Type                        | Release type | Reduction of the rated operational current (derating) under particular ambient conditions (according to IEC 947) |       |       |       |       |       |       |
|------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|
|                                    |              | Derating coefficient                                                                                             |       |       |       |       |       |       |
|                                    |              | 20 °C                                                                                                            | 30 °C | 40 °C | 50 °C | 60 °C | 65 °C | 70 °C |
| <b>Thermomagnetic release (TM)</b> |              |                                                                                                                  |       |       |       |       |       |       |
| System protection                  |              | Protection of systems (reference temperature 40 °C)                                                              |       |       |       |       |       |       |
| LZM...1(-4)-A15...80               | TM           | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZM...1(-4)-A90...125              | TM           | 1                                                                                                                | 1     | 1     | 1     | 0.86  | 0.83  | 0.8   |
| LZM...1(-4)-A160                   | TM           | 1                                                                                                                | 1     | 1     | 0.95  | 0.9   | 0.85  | 0.8   |
| LZM...2(-4)-A15...200              | TM           | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZM...2(-4)-A250                   | TM           | 1                                                                                                                | 1     | 1     | 1     | 0.9   | 0.85  | 0.8   |
| LZM...2(-4)-A20...200 +XSV         | TM with XSV  | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZM...2(-4)-A250 + XSV             | TM with XSV  | 1                                                                                                                | 0.97  | 0.92  | 0.87  | 0.81  | —     | —     |
| Short-circuit / motor protection   |              | Motor protection (reference temperature 20 °C)                                                                   |       |       |       |       |       |       |
| LZM...1-S40...80                   | TM           | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZM...1-S100                       | TM           | 1                                                                                                                | 1     | 1     | 1     | 0.86  | 0.83  | 0.8   |
| LZM...2-S20...200                  | TM           | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZM...2-S20...200 +XSV             | TM with XSV  | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |

**Notes** The derating coefficient must be considered in accordance with the following table in order to determine the maximum permissible current loading at different ambient temperatures.  
 Example: An LZM2-A250 should be operated at an ambient temperature of 65 °C.  
 How high is the permissible rated operational current  $I_b$ ?  
 At 65 °C the derating coefficient is 0.85, this means  $I_b = 250 \text{ A} \times 0.85 = 212.5 \text{ A}$ .  
 The LZM2-A250 may be operated at an ambient temperature of 65 °C with a maximum  $I_b = 212.5 \text{ A}$ .

| Part no.        | Weight kg | Part no.                 | Weight kg |
|-----------------|-----------|--------------------------|-----------|
| Circuit-breaker |           | Plug-in adapter elements |           |
| LZM...1-...     | 1.046     | + NZM2-XSV               | 4.7       |
| LZM...1-4-...   | 1.325     | + NZM2-4-XSV             | 5.9       |
| LZM...2-...     | 2.345     | Withdrawable unit        |           |
| LZM...2-4-...   | 3.5       | + NZM3-XAV               | 21        |
| LZM...3-...     | 6.34      | + NZM3-4-XAV             | 27        |
| LZM...3-4-...   | 8.4       | + NZM4-XAV               | 52        |
| LZM...4-...     | 21        | + NZM4-4-XAV             | 65        |
| LZM...4-4-...   | 27        |                          |           |

## Temperature influence

| Device Type                                                                | Release type | Reduction of the rated operational current (derating) under particular ambient conditions (according to IEC 947) |       |       |       |       |       |       |
|----------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|
|                                                                            |              | Derating coefficient                                                                                             |       |       |       |       |       |       |
|                                                                            |              | 20 °C                                                                                                            | 30 °C | 40 °C | 50 °C | 60 °C | 65 °C | 70 °C |
| <b>Electronic release (E)</b>                                              |              |                                                                                                                  |       |       |       |       |       |       |
| System protection                                                          |              |                                                                                                                  |       |       |       |       |       |       |
| LZW...3(-4)-AE400...500                                                    | E            | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZW...3(-4)-AE550...630                                                    | E            | 1                                                                                                                | 1     | 1     | 1     | 0.9   | 0.85  | 0.8   |
| LZW...3(-4)-AE400 + XAV                                                    | E with XAV   | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZW...3(-4)-AE630 + XAV                                                    | E with XAV   | 0.96                                                                                                             | 0.92  | 0.87  | 0.83  | 0.78  | 0.75  | 0.73  |
| LZW...4(-4)-AE600...1250                                                   | E            | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZW...4(-4)-AE1600                                                         | E            | 1                                                                                                                | 1     | 1     | 1     | 0.87  | 0.85  | 0.82  |
| LZW...4(-4)-AE800...1250 + XAV                                             | E with XAV   | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZW...4(-4)-AE1600 + XAV                                                   | E with XAV   | 1                                                                                                                | 0.98  | 0.93  | 0.89  | 0.85  | 0.83  | 0.8   |
| Systems protection, cable protection, selectivity and generator protection |              |                                                                                                                  |       |       |       |       |       |       |
| LZW...3(-4)-VE400...500                                                    | E            | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZW...3(-4)-VE550...630                                                    | E            | 1                                                                                                                | 1     | 1     | 1     | 0.9   | 0.85  | 0.8   |
| LZW...3(-4)-VE400 + XAV                                                    | E with XAV   | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZW...3(-4)-VE630 + XAV                                                    | E with XAV   | 0.96                                                                                                             | 0.92  | 0.87  | 0.83  | 0.78  | 0.75  | 0.73  |
| LZW...4(-4)-VE600...1250                                                   | E            | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZW...4(-4)-VE1600                                                         | E            | 1                                                                                                                | 1     | 1     | 1     | 0.87  | 0.85  | 0.82  |
| LZW...4(-4)-VE630...1250 + XAV                                             | E with XAV   | 1                                                                                                                | 1     | 1     | 1     | 1     | 1     | 1     |
| LZW...4(-4)-VE1600 + XAV                                                   | E with XAV   | 1                                                                                                                | 0.98  | 0.93  | 0.89  | 0.85  | 0.83  | 0.8   |

**Notes** The derating coefficient must be considered in accordance with the following table in order to determine the maximum permissible current loading at different ambient temperatures.

Example: An LZW3-VE630 should be operated at an ambient temperature of 65 °C.

How high is the permissible rated operational current  $I_o$ ?

At 65 °C the derating coefficient is 0.85, this means  $I_o = 630 \text{ A} \times 0.85 = 535.5 \text{ A}$ .

The LZW3-VE630 may be operated at an ambient temperature of 65 °C with a maximum  $I_o = 535.5 \text{ A}$ .

# Circuit-breakers LZM

## Technical data

### Effective power loss LZM1, LZM2

LZM up to 250 A with thermomagnetic release (3 and 4 pole)

| $I_n$ [A] | Fixed mounting   |             |                  |             | Fixed mounting   |             |                  |             |
|-----------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|
|           | LZM1-            |             | S...             |             | LZM2-            |             | S...             |             |
|           | A...<br>P<br>[W] | R<br>[μOhm] | S...<br>P<br>[W] | R<br>[μOhm] | A...<br>P<br>[W] | R<br>[μOhm] | S...<br>P<br>[W] | R<br>[μOhm] |
| 1.2       | —                | —           | —                | —           | —                | —           | —                | —           |
| 1.6       | —                | —           | —                | —           | —                | —           | —                | —           |
| 2         | —                | —           | —                | —           | —                | —           | —                | —           |
| 2.4       | —                | —           | —                | —           | —                | —           | —                | —           |
| 3         | —                | —           | —                | —           | —                | —           | —                | —           |
| 5         | —                | —           | —                | —           | —                | —           | —                | —           |
| 8         | —                | —           | —                | —           | —                | —           | —                | —           |
| 12        | —                | —           | —                | —           | —                | —           | —                | —           |
| 15        | —                | —           | —                | —           | —                | —           | —                | —           |
| 18        | —                | —           | —                | —           | —                | —           | —                | —           |
| 20        | 9.8              | 8180        | —                | —           | 5.1              | 4250        | 5.1              | 4250        |
| 25        | 8.8              | 4680        | —                | —           | 8                | 4250        | 8                | 4250        |
| 26        | —                | —           | —                | —           | —                | —           | —                | —           |
| 30        | —                | —           | —                | —           | —                | —           | —                | —           |
| 32        | 9.1              | 3030        | —                | —           | 10               | 3140        | 10               | 3140        |
| 33        | —                | —           | —                | —           | —                | —           | —                | —           |
| 35        | —                | —           | —                | —           | —                | —           | —                | —           |
| 40        | 11               | 2220        | 13.5             | 2810        | 13               | 2800        | 13               | 2800        |
| 45        | —                | —           | —                | —           | —                | —           | —                | —           |
| 50        | 13.5             | 1760        | 15               | 1880        | 18               | 2270        | 18               | 2270        |
| 60        | —                | —           | —                | —           | —                | —           | —                | —           |
| 63        | 14               | 1190        | 16.7             | 1250        | 20               | 1700        | 20               | 1700        |
| 70        | —                | —           | —                | —           | —                | —           | —                | —           |
| 80        | 15.5             | 850         | 21.1             | 1085        | 22               | 1070        | 22               | 1070        |
| 90        | —                | —           | —                | —           | —                | —           | —                | —           |
| 100       | 24               | 730         | 25               | 795         | 28               | 855         | 28               | 855         |
| 110       | —                | —           | —                | —           | —                | —           | —                | —           |
| 125       | 38               | 570         | —                | —           | 29               | 589         | 29               | 589         |
| 150       | —                | —           | —                | —           | —                | —           | —                | —           |
| 160       | 50               | 460         | —                | —           | 40               | 427         | 40               | 427         |
| 175       | —                | —           | —                | —           | —                | —           | —                | —           |
| 200       | —                | —           | —                | —           | 48               | 332         | 48               | 332         |
| 225       | —                | —           | —                | —           | —                | —           | —                | —           |
| 250       | —                | —           | —                | —           | 57               | 310         | —                | —           |

**Note:** The values stated in the table apply for 3 and 4 pole fixed mounted devices with an equal load distribution.  
On 4 pole devices the current in the N-conductor is equal to zero.  
The total resistive load is the measured value for a 3 pole or a 4 pole switch.  
The total heat dissipation is the value measured at  $I_n$ , 50/60Hz for a 3 pole or 4 pole switch.  
The heat dissipation can be calculated with the formula:  $P = 3 \times R \times I^2$

### Effective power loss LZM1, LZM2

LZM up to 1600 A with electronic release (3 and 4 pole)

| Fixed mounting<br>LZM2- | Supplementary<br>Plug-in units | Fixed mounting<br>LZM3 | Supplementary<br>Withdrawable units | Fixed mounting<br>LZM4 | Supplementary<br>Withdrawable units |
|-------------------------|--------------------------------|------------------------|-------------------------------------|------------------------|-------------------------------------|
| R<br>[μOhm]             | R<br>[μOhm]                    | R<br>[μOhm]            | R<br>[μOhm]                         | R<br>[μOhm]            | R<br>[μOhm]                         |
| 275                     | 100                            | 100                    | 70                                  | 37                     | 10                                  |

**Note:** The values stated in the table apply for 3 and 4 pole devices with an equal load distribution.  
On 4 pole devices the current in the N-conductor is equal to zero.  
The total resistive load is the measured value for a 3 pole or a 4 pole switch (independent of  $I_n$  and the type of release).  
The total resistive load for a plug-in or withdrawable switch results from:  
the resistive value for fixed mounted + resistive value for plug-in or withdrawable.  
The heat dissipation can be calculated with the formula:  $P = 3 \times R \times I^2$



# Circuit-breakers L2M

## Technical data

### Terminal capacities L2M

|                                                           |             |                     |                 | LZM1<br>160 A                                             | /n <sup>1)</sup><br>A | LZM2<br>300 A                                         | /n <sup>1)</sup><br>A |
|-----------------------------------------------------------|-------------|---------------------|-----------------|-----------------------------------------------------------|-----------------------|-------------------------------------------------------|-----------------------|
| Terminal capacities                                       |             |                     |                 |                                                           |                       |                                                       |                       |
| Standard equipment                                        |             |                     |                 | Box terminal                                              |                       | Screw terminal                                        |                       |
| Accessories                                               |             |                     |                 | Screw connection<br>Tunnel terminal<br>Connection on rear |                       | Box terminal<br>Tunnel terminal<br>Connection on rear |                       |
| Rated power of coil                                       |             |                     |                 |                                                           |                       |                                                       |                       |
| Box terminal                                              | Solid       |                     | mm <sup>2</sup> | 1 × (10 – 16)<br>2 × (6 – 16)                             | 160                   | 1 × (4 – 16)<br>2 × (4 – 16)                          | 250                   |
|                                                           | Stranded    |                     | mm <sup>2</sup> | 1 × (25 – 70)<br>2 × 25                                   | 160                   | 1 × (25 – 185)<br>2 × (25 – 70)                       | 250                   |
| Tunnel terminal                                           | Solid       |                     | mm <sup>2</sup> | 1 × 16                                                    | 160                   | 1 × 16                                                | 250                   |
|                                                           | Stranded    | Single hole         | mm <sup>2</sup> | 1 × (25 – 95)                                             | 160                   | 1 × (25 – 185)                                        | 250                   |
|                                                           |             | Double hole fitting | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
|                                                           |             | 4 hole              | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
| Bolt terminal and rear-side connection                    |             |                     |                 |                                                           |                       |                                                       |                       |
| Direct on the switch                                      | Solid       |                     | mm <sup>2</sup> | 1 × (10 – 16)<br>2 × (6 – 16)                             | 160                   | 1 × (4 – 16)<br>2 × (4 – 16)                          | 250                   |
|                                                           | Stranded    |                     | mm <sup>2</sup> | 1 × (25 – 70) <sup>3)</sup><br>2 × 25                     | 160                   | 1 × (25 – 185)<br>2 × (25 – 70)                       | 250                   |
| Module plate                                              | Single hole | min.                | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
|                                                           |             | max.                | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
| Module plate                                              | Double hole | min.                | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
|                                                           |             | max.                | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
| Connection width extension                                |             |                     | mm <sup>2</sup> |                                                           |                       |                                                       |                       |
| Al conductors, Al cable                                   |             |                     |                 |                                                           |                       |                                                       |                       |
| Tunnel terminal                                           | Solid       |                     | mm <sup>2</sup> | 1 × 16                                                    | 160                   | 1 × 16                                                | 250                   |
|                                                           | Stranded    | Single hole         | mm <sup>2</sup> | 1 × (25 – 95)                                             | 160                   | 1 × (25 – 185) <sup>2)</sup>                          | 250                   |
|                                                           |             | Double hole fitting | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
|                                                           |             | 4-hole              | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
| Bolt terminal and rear-side connection                    |             |                     |                 |                                                           |                       |                                                       |                       |
| Direct on the switch                                      | Solid       |                     | mm <sup>2</sup> | 1 × (10 – 16)<br>2 × (10 – 16)                            | 160                   | 1 × (10 – 16)<br>2 × (10 – 16)                        | 250                   |
|                                                           | Stranded    |                     | mm <sup>2</sup> | 1 × (25 – 35)<br>2 × (25 – 35)                            | 160                   | 1 × (25 – 50)<br>2 × (25 – 50)                        | 250                   |
| Module plate                                              | Single hole | min.                | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
|                                                           | Single hole | max.                | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
| Module plate                                              | Double hole |                     | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
| Connection width extension                                |             |                     | mm <sup>2</sup> |                                                           |                       |                                                       |                       |
| Cu strip (number of segments x width x segment thickness) |             |                     |                 |                                                           |                       |                                                       |                       |
| Box terminal                                              |             | min.                | mm              | 2 × 9 × 0.8                                               | 160                   | 2 × 9 × 0.8                                           | 250                   |
|                                                           |             | max.                | mm              | 9 × 9 × 0.8                                               | 160                   | 10 × 16 × 0.8                                         | 250                   |
| Flat conductor terminal                                   |             | min.                | mm              |                                                           |                       |                                                       |                       |
|                                                           |             | max.                | mm              |                                                           |                       |                                                       |                       |
| Module plate                                              | Single hole |                     | mm              | –                                                         | –                     | –                                                     | –                     |
| Bolt terminal and rear-side connection                    |             |                     |                 |                                                           |                       |                                                       |                       |
| Flat copper strip, with holes                             |             | min.                | mm              |                                                           |                       | 2 × 16 × 0.8                                          | 250                   |
| Flat copper strip, with holes                             |             | max.                | mm              |                                                           |                       | 10 × 16 × 0.8                                         | 250                   |
| Connection width extension                                |             |                     | mm <sup>2</sup> | –                                                         | –                     | –                                                     | –                     |
| Copper busbar (width × thickness)                         |             |                     |                 |                                                           |                       |                                                       |                       |
| Bolt terminal and rear-side connection                    |             |                     |                 |                                                           |                       |                                                       |                       |
| Screw connection                                          |             |                     |                 | M6                                                        |                       | M8                                                    |                       |
| Direct on the switch                                      |             | min.                | mm              | 12 × 5                                                    | 160                   | 16 × 5                                                | 250                   |
|                                                           |             | max.                | mm              | 16 × 5                                                    | 160                   | 20 × 5                                                | 250                   |
| Module plate                                              | Single hole | min.                | mm              | –                                                         | –                     | –                                                     | –                     |
|                                                           |             | max.                | mm              | –                                                         | –                     | –                                                     | –                     |
| Module plate                                              | Double hole |                     | mm              | –                                                         | –                     | –                                                     | –                     |
| Connection width extension                                |             | min.                | mm              | –                                                         | –                     | –                                                     | –                     |
|                                                           |             | max.                | mm              | –                                                         | –                     | –                                                     | –                     |

- Notes**
- <sup>1)</sup> The rated currents  $I_n$  have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation. The engineering standards which apply in each case must be observed.
  - <sup>2)</sup> depending on the cable manufacturer up to 240 mm<sup>2</sup> can be connected.
  - <sup>3)</sup> depending on the cable manufacturer up to 95 mm<sup>2</sup> can be connected.

| <b>LZW3</b><br><b>630 A</b>  | <b>/n<sup>1)</sup></b><br><b>A</b> | <b>LZW4</b><br><b>1600 A</b> | <b>/n<sup>1)</sup></b><br><b>A</b> |
|------------------------------|------------------------------------|------------------------------|------------------------------------|
| Screw terminal               |                                    | Screw terminal               |                                    |
| Box terminal                 |                                    | Tunnel terminal              |                                    |
| Tunnel terminal              |                                    | Connection on rear           |                                    |
| Connection on rear           |                                    | Strip terminal               |                                    |
| 2 × 16                       | 500                                |                              |                                    |
| 1 × (35 – 240)               | 500                                |                              |                                    |
| 2 × (25 – 120)               |                                    |                              |                                    |
| 1 × (25 – 185)               | 350                                |                              |                                    |
| 1 × (50 – 240)               | 630                                | –                            | –                                  |
| 2 × (50 – 240)               | 2 × 185                            |                              |                                    |
| –                            | –                                  | 4 × (50 – 240)               | 1400                               |
| 1 × 16                       | 630                                |                              |                                    |
| 2 × 16                       | 2 × 185                            |                              |                                    |
| 1 × (25 – 240)               | 630                                | 1 × (120 ... 16)             | 1250                               |
| 2 × (25 – 240)               | 2 × 185                            | 4 × (50 ... 185)             |                                    |
| –                            | –                                  | 1 × (120 – 300)              | 1000                               |
| –                            | –                                  | 2 × (95 – 300)               |                                    |
| –                            | –                                  | 2 × (95 – 185)               | 1400                               |
| –                            | –                                  | 4 × (35 – 185)               |                                    |
| 2 × 300                      | 630                                | 4 × 300                      | 1600                               |
|                              | 2 × 185                            | 6 × (95 – 240)               | 4 × 240                            |
| 1 × 16                       | 350                                | –                            | –                                  |
| 1 × (25 – 185) <sup>2)</sup> | 350                                | –                            | –                                  |
| 1 × (50 – 240)               | 630                                | –                            | –                                  |
| 2 × (50 – 240)               |                                    |                              |                                    |
| –                            | –                                  | 4 × (50 – 240)               | 1400                               |
| 1 × 16                       | 400                                | –                            | –                                  |
| 2 × (10 – 16)                |                                    |                              |                                    |
| 1 × (25 – 120)               | 400                                | –                            | –                                  |
| 2 × (25 – 120)               |                                    |                              |                                    |
| –                            | –                                  | 1 × (185 – 240)              | pleaes inquire                     |
| –                            | –                                  | 2 × (70 – 185)               | pleaes inquire                     |
| –                            | –                                  | 4 × 50                       | –                                  |
|                              |                                    | 2 × 240                      | pleaes inquire                     |
|                              |                                    | 6 × (70 – 240)               |                                    |
| 6 × 16 × 0.8                 | 630                                | –                            | –                                  |
| 10 × 24 × 1.0                | 630                                | –                            | –                                  |
| + 5 × 24 × 1.0               |                                    |                              |                                    |
| (2 ×) 8 × 24 × 1.0           |                                    | 6 × 16 × 0.8                 | 1100                               |
|                              |                                    | (2 ×) 10 × 32 × 1.0          |                                    |
| –                            | –                                  | (2 ×) 10 × 50 × 1.0          | 1250                               |
|                              |                                    |                              | (2 ×) 10 × 40 × 1.0                |
| 6 × 16 × 0.8                 | 630                                | (2 ×) 10 × 50 × 1.0          | 1600                               |
| 10 × 32 × 1.0                | 630                                | (2 ×) 10 × 50 × 1.0          | 1600                               |
| + 5 × 32 × 1.0               |                                    |                              |                                    |
| (2 ×) 10 × 50 × 1.0          | 630                                | (2 ×) 10 × 80 × 1.0          | 1600                               |
|                              |                                    |                              | 2 × (10 × 50 × 1.0)                |
| M10                          |                                    | M10                          |                                    |
| 20 × 5                       | 630                                | 25 × 5                       | 1600                               |
| 30 × 10                      | 630                                | 2 × (50 × 10)                | 2000                               |
| + 30 × 5                     |                                    | 2 × (80 × 10)                |                                    |
| –                            | –                                  | 25 × 5                       | 1250                               |
| –                            | –                                  | 2 × (50 × 10)                | 2 × (40 × 10)                      |
| –                            | –                                  | 2 × (50 × 10)                | 1500                               |
| –                            | 630                                | 60 × 10                      | 1600                               |
| 2 × (10 × 50)                | 10 × 40                            | 2 × (80 × 10)                | 2 × (50 × 10)                      |

# Circuit-breakers LZM

## Technical data

### Auxiliary contacts M22-K..., XHI(V)

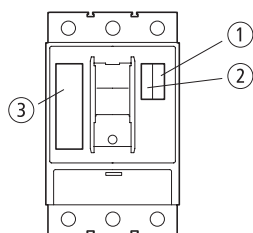
|                                                                                                                |       |                | at AC = 50/60 Hz | M22-K...                                                                                                                              | NZM-XHIV                             | NZM-XHI                              |
|----------------------------------------------------------------------------------------------------------------|-------|----------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|
| Auxiliary contacts                                                                                             |       |                |                  |                                                                                                                                       |                                      |                                      |
| Rated operational voltage                                                                                      |       |                |                  |                                                                                                                                       |                                      |                                      |
| AC                                                                                                             |       | $U_e$          | V AC             | 500                                                                                                                                   | 500                                  | 500                                  |
| DC                                                                                                             |       | $U_e$          | V DC             | 220                                                                                                                                   | 220                                  | 220                                  |
| Conventional thermal current                                                                                   |       | $I_{th} = I_e$ | A                | 4                                                                                                                                     | 4                                    | 4                                    |
| Rated operational current                                                                                      |       |                |                  |                                                                                                                                       |                                      |                                      |
| AC-15                                                                                                          | 115 V | $I_e$          | A                | 4                                                                                                                                     | 4                                    | 4                                    |
|                                                                                                                | 230 V | $I_e$          | A                | 4                                                                                                                                     | 4                                    | 4                                    |
|                                                                                                                | 400 V | $I_e$          | A                | 2                                                                                                                                     | 2                                    | 2                                    |
|                                                                                                                | 500 V | $I_e$          | A                | 1                                                                                                                                     | 1                                    | 1                                    |
| DC-13                                                                                                          | 24 V  | $I_e$          | A                | 3                                                                                                                                     | 3                                    | 3                                    |
|                                                                                                                | 42 V  | $I_e$          | A                | 1.7                                                                                                                                   | 1.5                                  | —                                    |
|                                                                                                                | 60 V  | $I_e$          | A                | 1.2                                                                                                                                   | 0.8                                  | 1.2                                  |
|                                                                                                                | 110 V | $I_e$          | A                | 0.8                                                                                                                                   | 0.5                                  | 0.5                                  |
|                                                                                                                | 220 V | $I_e$          | A                | 0.3                                                                                                                                   | 0.2                                  | 0.2                                  |
| Short-circuit protection                                                                                       |       |                |                  |                                                                                                                                       |                                      |                                      |
| max. fuse                                                                                                      |       |                | A gG/gL          | 10                                                                                                                                    | 10                                   | 10                                   |
| Max. miniature circuit-breaker                                                                                 |       |                | A                | PKZM0-10/FAZ-B6                                                                                                                       | FAZ-B6                               | FAZ-B6                               |
| Early-make time compared to the main contacts during switch on and off (switching times with manual operation) |       |                | ms               | LZM1: approx. 20<br>LZM2: approx. 20<br>LZM3: approx. 20<br>LZM4: approx. 90<br>With LZM4/N(S)4 the HIV does not feature early break. |                                      |                                      |
| Terminal capacities                                                                                            |       |                |                  |                                                                                                                                       |                                      |                                      |
| Solid or flexible conductor with ferrule                                                                       |       |                | mm <sup>2</sup>  | 1 × (0.75 – 2.5)<br>2 × (0.75 – 2.5)                                                                                                  | 1 × (0.75 – 2.5)<br>2 × (0.75 – 2.5) | 1 × (0.75 – 2.5)<br>2 × (0.75 – 2.5) |
|                                                                                                                |       |                | AWG              | 1 × (18 – 14)<br>2 × (18 – 14)                                                                                                        | 1 × (18 – 14)<br>2 × (18 – 14)       | 1 × (18 – 14)<br>2 × (18 – 14)       |

## Equipping with auxiliary contacts, time differences LZM...

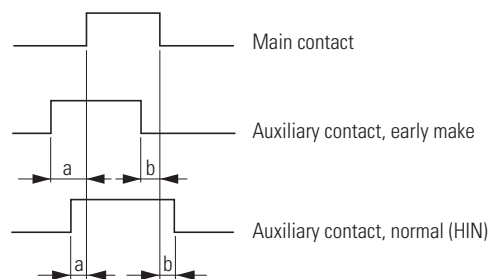
### Maximum equipment and position of the internal accessories

|      | ③<br>-XHIV(2S)<br>or -XA<br>or -XU | ②<br>HIA | ①<br>HIN | Contacts per slot with<br>HIA and HIN |
|------|------------------------------------|----------|----------|---------------------------------------|
| LZM1 | 1                                  | 1        | 1        | 1 N/O                                 |
| LZM2 | 1                                  | 1        | 2        | 1 N/C                                 |
| LZM3 | 1                                  | 1        | 3        | 2 N/O                                 |
| LZM4 | 1                                  | 2        | 3        | 2 N/C                                 |

N/O = normally open contact  
N/C = normally closed contact



### Time differences ON-OFF



|      | Time difference a (ms) |     |     |                 |            |            | Time difference b (ms) |     |     |                 |            |            |
|------|------------------------|-----|-----|-----------------|------------|------------|------------------------|-----|-----|-----------------|------------|------------|
|      | Manual operation       |     |     | Motor operators |            |            | Manual operation       |     |     | Motor operators |            |            |
|      | HIV                    | HIN |     | HIV             | HIN        |            | HIV                    | HIN |     | HIV             | HIN        |            |
|      |                        | K10 | K01 |                 | K10        | K01        |                        | K10 | K01 |                 | K10        | K01        |
| LZM1 | 20 <sup>2)</sup>       | 0   | 2.5 | —               | —          | —          | 20 <sup>2)</sup>       | 0   | 2.5 | —               | —          | —          |
| LZM2 | 20 <sup>2)</sup>       | 3.5 | 6.5 | Not permissible | 2.5        | 4.5        | 20 <sup>2)</sup>       | 3   | 4.5 | Not permissible | 3          | 4          |
| LZM3 | 20 <sup>2)</sup>       | 4   | 8   | Not permissible | 2          | 4          | 20 <sup>2)</sup>       | 3.5 | 8   | Not permissible | 3          | 6.5        |
| LZM4 | 90 <sup>2)</sup>       | 7   | 11  | Not permissible | on request | on request | 0 <sup>1)2)</sup>      | 12  | 15  | Not permissible | on request | on request |

**Notes**

<sup>1)</sup> With LZM4/N(S)4 the HIV does

<sup>2)</sup> Minimum value, as it is dependent on the switching speed

# Circuit-breakers L2M

## Technical data

### Undervoltage releases NZM...-XU

|                                                                 |       |                 | NZM1(2/3)-XU...                          | NZM4-XU...                               |
|-----------------------------------------------------------------|-------|-----------------|------------------------------------------|------------------------------------------|
| <b>Undervoltage release</b>                                     |       |                 |                                          |                                          |
| Rated control voltage                                           |       |                 |                                          |                                          |
| Alternating voltage at 50/60 Hz                                 | $U_s$ | V AC            | 24...600                                 | 24...600                                 |
| DC                                                              | $U_s$ | V DC            | 12...250                                 | 12...250                                 |
| Operating range                                                 |       |                 |                                          |                                          |
| Drop-out voltage                                                |       | $\times U_s$    | 0.35 – 0.7                               | 0.35 – 0.7                               |
| Pick-up voltage                                                 |       | $\times U_s$    | 0.85 – 1.1                               | 0.85 – 1.1                               |
| Power consumption                                               |       |                 |                                          |                                          |
| AC                                                              |       |                 |                                          |                                          |
| Pick-up AC                                                      |       | VA              | 1.5                                      | 3.6                                      |
| Sealing AC                                                      |       | VA              | 1.5                                      | 3.6                                      |
| DC                                                              |       |                 |                                          |                                          |
| Pick-up DC                                                      |       | W               | 0.8                                      | 2.5                                      |
| Sealing DC                                                      |       | W               | 0.8                                      | 2.5                                      |
| Max. opening delay (response time until the main circuits open) |       | ms              | 19                                       | 23                                       |
| Minimum command time                                            |       | ms              | 10 – 15                                  | 10 ... 15                                |
| Terminal capacities                                             |       |                 |                                          |                                          |
| Solid or flexible conductor with ferrule                        |       | mm <sup>2</sup> | 1 × (0.75 ... 2.5)<br>2 × (0.75 ... 2.5) | 1 × (0.75 ... 2.5)<br>2 × (0.75 ... 2.5) |
|                                                                 |       | AWG             | 1 × (18 ... 14)<br>2 × (18 ... 14)       | 1 × (18 ... 14)<br>2 × (18 ... 14)       |

### Undervoltage releases, off-delayed UVU-NZM

|                                                           |          |                 | UVU-NZM                            |
|-----------------------------------------------------------|----------|-----------------|------------------------------------|
| <b>Undervoltage releases, off-delayed</b>                 |          |                 |                                    |
| Rated operational voltage                                 |          |                 |                                    |
| Alternating voltage at 50/60 Hz                           | $U_e$    | V AC            | 24, 220 – 550                      |
| DC                                                        | $U_e$    | V DC            | 24                                 |
| Inrush current (peak value)                               | $I_e$    | mA              | < 500                              |
| Power consumption                                         |          | VA              | 50                                 |
| Delay time                                                | $t_{sd}$ | ms              | 70 – 4000                          |
| With additional external capacitor, 90.000 µF $\geq$ 35 V |          | s               | To 16                              |
| With additional external capacitor, 30.000 µF $\geq$ 35V  |          | s               | To 8                               |
| Terminal capacities                                       |          |                 |                                    |
| Solid or flexible conductor with ferrule                  |          | mm <sup>2</sup> | 1 × (0.5 – 2.5)<br>2 × (0.5 – 1.5) |

### Shunt releases NZM...-XA...

|                                                                 |       |                 | NZM1(2/3)-XA...                          | NZM4-XA...                               | NZM2/3-XA...-MNS                         | NZM4-XA...-MNS                           |
|-----------------------------------------------------------------|-------|-----------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| <b>Shunt release</b>                                            |       |                 |                                          |                                          |                                          |                                          |
| Rated control voltage                                           |       |                 |                                          |                                          |                                          |                                          |
| AC                                                              | $U_s$ | V AC            | 12...440                                 | 12...440                                 | 230                                      | 230                                      |
| DC                                                              | $U_s$ | V DC            | 12...440                                 | 12...440                                 |                                          |                                          |
| Frequency range                                                 |       | Hz              | 0 – 400                                  | 0 – 400                                  | 50/60                                    | 50/60                                    |
| Operating range                                                 |       |                 |                                          |                                          |                                          |                                          |
| AC                                                              |       | $\times U_s$    | 0.7...1.1                                | 0.7...1.1                                | 0.1...1.1                                | 0.1...1.1                                |
| DC                                                              |       | $\times U_s$    | 0.7...1.1                                | 0.7...1.1                                |                                          |                                          |
| Power consumption                                               |       |                 |                                          |                                          |                                          |                                          |
| Pick-up AC/DC                                                   |       | VA/W            | 2.5                                      | 2.5                                      | –                                        | –                                        |
| Sealing AC/DC                                                   |       | VA/W            | 2.5                                      | 2.5                                      | –                                        | –                                        |
| Maximum current consumption at 110% $U_s$ (230 V 50 Hz)         |       | A               | –                                        | –                                        | 0.5                                      | 1                                        |
| Max. opening delay (response time until the main circuits open) |       | ms              | 20                                       | 22                                       | 20                                       | 22                                       |
| Duty factor                                                     |       | ms              | $\infty$                                 | $\infty$                                 | 1000 ms                                  | 1000 ms                                  |
| Minimum command time                                            |       | ms              | 10 ... 15                                | 10 ... 15                                | 10 ... 15                                | 10 ... 15                                |
| Terminal capacities                                             |       |                 |                                          |                                          |                                          |                                          |
| Solid or flexible conductor with ferrule                        |       | mm <sup>2</sup> | 1 × (0.75 ... 2.5)<br>2 × (0.75 ... 2.5) | 1 × (0.75 ... 2.5)<br>2 × (0.75 ... 2.5) | 1 × (0.75 ... 2.5)<br>2 × (0.75 ... 2.5) | 1 × (0.75 ... 2.5)<br>2 × (0.75 ... 2.5) |
|                                                                 |       | AWG             | 1 × (18 ... 14)<br>2 × (18 ... 14)       | 1 × (18 ... 14)<br>2 × (18 ... 14)       | 1 × (18 ... 14)<br>2 × (18 ... 14)       | 1 × (18 ... 14)<br>2 × (18 ... 14)       |

## Capacitor units NZM-XCM

| NZM-XCM                                  |                 |      |                                    |
|------------------------------------------|-----------------|------|------------------------------------|
| <b>Capacitor unit for shunt release</b>  |                 |      |                                    |
| Rated operational voltage                | $U_e$           | V AC | 230                                |
| Rated operational current                | $I_e$           | mA   | < 10                               |
| Inrush current (peak value)              | $I_e$           | A    | 3                                  |
| Terminal capacities                      |                 |      |                                    |
| Solid or flexible conductor with ferrule | mm <sup>2</sup> |      | 1 × (0.5 – 2.5)<br>2 × (0.5 – 1.5) |
|                                          | AWG             |      | 1 × (20 – 14)<br>2 × (20 – 16)     |

## Remote operator NZM...-XR...

|                                          |                    | NZM2-XR...      |              | NZM3-XR...   | NZM4-XR...   |
|------------------------------------------|--------------------|-----------------|--------------|--------------|--------------|
| Remote operator                          |                    |                 |              |              |              |
| Rated control voltage                    |                    |                 |              |              |              |
| AC                                       |                    | $U_s$ V AC      | 110...440    | 110...440    | 110...440    |
| DC                                       |                    | $U_s$ V DC      | 24...250     | 24...250     | 24...250     |
| Operating range                          |                    |                 |              |              |              |
| AC                                       |                    | $U_s$           | 0.85...1.1   | 0.85...1.1   | 0.85...1.1   |
| DC                                       |                    | $U_s$           | 0.85...1.1   | 0.85...1.1   | 0.85...1.1   |
| Motor rating                             |                    |                 |              |              |              |
| AC                                       | 110 ... 130 V AC   | VA              | 350          | 350          | 350          |
|                                          | 208 ... 240 V AC   | VA              | 350          | 350          | 350          |
|                                          | 380 ... 440 V AC   | VA              | 350          | 350          | 350          |
| DC                                       | 24 ... 30 V DC     | W               | 250          | 250          | 250          |
|                                          | 110 ... 130 V DC   | W               | 250          | 250          | 250          |
|                                          | 220 ... 250 V DC   | W               | 250          | 250          | 250          |
| Rated power of coil                      |                    |                 |              |              |              |
| AC                                       | 110 ... 130 V AC   | VA              | 270          | 270          | 270          |
|                                          | 208 ... 240 V AC   | VA              | 270          | 270          | 270          |
|                                          | 380 V ... 440 V AC | VA              | 270          | 270          | 270          |
| DC                                       | 24 ... 30 V DC     | W               | 210          | 210          | 210          |
|                                          | 100 ... 130 V DC   | W               | 210          | 210          | 210          |
|                                          | 220 ... 250 V DC   | W               | 210          | 210          | 210          |
| Total make time                          |                    | ms              | 60           | 80           | 100          |
| Total opening delay                      |                    | ms              | 300          | 1000         | 3000         |
| Minimum signal duration                  |                    |                 |              |              |              |
| with switch on                           |                    | ms              | 30           | 30           | 30           |
| with switch off                          |                    | ms              | 150          | 250          | 500          |
| Lifespan, mechanical                     |                    | Operations      | 20000        | 15000        | 10000        |
| Maximum operating frequency              |                    | Ops./h          | 120          | 60           | 20           |
| Terminal capacities                      |                    |                 |              |              |              |
| Solid or flexible conductor with ferrule |                    | mm <sup>2</sup> | 0.75 ... 2.5 | 0.75 ... 2.5 | 0.75 ... 2.5 |
|                                          |                    | AWG             | 18 ... 14    | 18 ... 14    | 18 ... 14    |

### Residual-current relay PFR-...

|                                    |                 |                 | PFR-003                                                     | PFR-03                          | PFR-5                                                                                              |
|------------------------------------|-----------------|-----------------|-------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Electrical</b>                  |                 |                 |                                                             |                                 |                                                                                                    |
| Standards                          |                 |                 | IEC/EN 60947-2, IEC 755, IEC 1008, IEC 1009                 |                                 |                                                                                                    |
| Sensitivity                        |                 |                 | Pulse current sensitive, type A                             |                                 |                                                                                                    |
| Rated control voltage              | U <sub>s</sub>  | V AC            | 230 ±20 % (50/60 Hz)                                        |                                 |                                                                                                    |
| Motor rating                       | P <sub>e</sub>  | W               | 3                                                           | 3                               | 3                                                                                                  |
| Rated fault currents               | I <sub>Δn</sub> | mA              | 0.03                                                        | 0.3                             | 0.03, 0.1, 0.3, 0.5, 1, 3, 5                                                                       |
| Delay time                         | t <sub>v</sub>  | s               | 0.02 (non-delayed)                                          | 0.02 (non-delayed)              | 0.02, 0.1, 0.3, 0.5, 1, 3, 5                                                                       |
| Relay contacts                     |                 |                 | 1 integrated changeover contact                             | 1 integrated changeover contact | 1 integrated changeover contact                                                                    |
| Rated voltage of the relay contact |                 | V AC/DC         | 250/100                                                     | 250/100                         | 250/100                                                                                            |
| Rated current of the relay contact |                 | A               | 6                                                           | 6                               | 6                                                                                                  |
| Fault current warning              |                 | Hz              | —                                                           | —                               | 0.5 = 25% – 50% I <sub>Δn</sub><br>1 = 50% – 75% I <sub>Δn</sub><br>2 = 75% – 100% I <sub>Δn</sub> |
| <b>Mechanical</b>                  |                 |                 |                                                             |                                 |                                                                                                    |
| Standard front dimension           |                 | mm              | 45                                                          | 45                              | 45                                                                                                 |
| Device height                      |                 | mm              | 85                                                          | 85                              | 85                                                                                                 |
| Device width                       |                 | mm              | 45                                                          | 45                              | 45                                                                                                 |
| Mounting                           |                 |                 | Snap fixing, top-hat rail DIN 46277, IEC/EN 60715           |                                 |                                                                                                    |
| Terminals top and bottom           |                 |                 | Box terminals                                               |                                 |                                                                                                    |
| Terminal protection                |                 |                 | Finger/back-of-hand proof to BGV A2, VDE 106 part 100       |                                 |                                                                                                    |
| Terminal capacities                |                 | mm <sup>2</sup> | 2 × 0.75 – 2.5 solid, 2 × 0.75 – 1.5 flexible/with ferrules |                                 |                                                                                                    |
| Sealability                        |                 |                 | — yes                                                       |                                 |                                                                                                    |



# Circuit-breakers LZM

## Technical data

### Residual-current releases NZM...-XFI...

|                                                                                                  |                |      | NZM1(-4)-XFI30R                                             | NZM1(-4)-XFI300R                  | NZM1(-4)-XFIR                      | NZM1(-4)-XFI30U                   |
|--------------------------------------------------------------------------------------------------|----------------|------|-------------------------------------------------------------|-----------------------------------|------------------------------------|-----------------------------------|
| <b>Electrical</b>                                                                                |                |      |                                                             |                                   |                                    |                                   |
| Standards                                                                                        |                |      | IEC/EN 60947-2                                              | IEC/EN 60947-2                    | IEC/EN 60947-2                     | IEC/EN 60947-2                    |
| Sensitivity                                                                                      |                |      | Pulse current sensitive according to core-balance principle |                                   |                                    |                                   |
| Min. operating voltage                                                                           |                |      |                                                             |                                   |                                    |                                   |
| or detection of fault currents type A/AC                                                         |                |      | 80 V (dependent on mains voltage)                           | 80 V (dependent on mains voltage) | 80 V (dependent on mains voltage)  | 80 V (dependent on mains voltage) |
| or detection of fault currents type B                                                            |                |      |                                                             |                                   |                                    |                                   |
| Suitability for the application                                                                  |                |      | In three- and single-phase systems                          |                                   |                                    | In single-phase                   |
| Rated operational voltage                                                                        | $U_e$          | V AC | 200...415 (3~)                                              | 200...415 (3~)                    | 200...415 (3~)                     | 200...415 (3~)                    |
| Rated frequency                                                                                  | f              | Hz   | 50/60                                                       | 50/60                             | 50/60                              | 50/60                             |
| Number of poles                                                                                  |                |      | 3/4                                                         | 3/4                               | 3/4                                | 3/4                               |
| Rated current range                                                                              | $I_n$          | A    | 15...125                                                    | 15...125                          | 15...125                           | 15...100                          |
| Rated fault currents                                                                             | $I_{\Delta n}$ | A    | 0.03                                                        | 0.3                               | 0.03...0.1...0.3...<br>0.5...1...3 | 0.03                              |
| Detection range of the fault current                                                             |                |      | 50/60 Hz                                                    | 50/60 Hz                          | 50/60 Hz                           | 50/60 Hz                          |
| Rated ultimate short-circuit making capacity and -rated ultimate short-circuit breaking capacity |                |      | $I_{\Delta m}$                                              | A                                 | = $I_{CU}$                         | = $I_{CU}$                        |
| Fault current warning                                                                            |                |      | $\geq 0.3 \times I_{\Delta n}$                              |                                   | $\geq 0.3 \times I_{\Delta n}$     | $\geq 0.3 \times I_{\Delta n}$    |
| Mechanical shock resistance (IEC 60068-2-27)                                                     |                |      | 20 (half-sinusoidal shock 20 ms)                            |                                   |                                    |                                   |
| Lifespan, mechanical (50 % with fault current)                                                   | Operations     |      | 20000                                                       | 20000                             | 20000                              | 20000                             |
| <b>Mechanical</b>                                                                                |                |      |                                                             |                                   |                                    |                                   |
| Standard front dimension                                                                         |                | mm   | 45                                                          | 45                                | 45                                 | 45                                |
| Mounting                                                                                         |                |      | on the right side                                           | sidewise on the right             | Bottom                             | Bottom                            |
| Mounting position                                                                                |                |      | Vertical and 90° in all directions                          |                                   |                                    |                                   |
| Supply                                                                                           |                |      | LZM1 from above                                             | LZM1 from above                   | LZM1 from above                    | LZM1 from above                   |
| Degree of protection                                                                             |                |      | IP20 in the operating component area                        |                                   |                                    |                                   |
| Ambient temperature                                                                              |                | °C   | -5...+40                                                    | -5...+40                          | -5...+40                           | -5...+40                          |
| Sealability                                                                                      |                |      | yes, setting buttons                                        |                                   |                                    |                                   |
| Terminal capacity                                                                                |                |      |                                                             |                                   |                                    |                                   |
| Flexible without ferrule                                                                         |                | mm²  | such as LZM1 standard terminal                              |                                   |                                    |                                   |
| flexible with ferrules                                                                           |                | mm²  | such as LZM1 standard terminal                              |                                   |                                    |                                   |

| NZM1(-4)-XFI300U                                            | NZM1(-4)-XFIU                      | +NZM2-4-XFI30                                               | +NZM2-4-XFI                                                 | +NZM2-4-XFIA30                                                      | +NZM2-4-XFIA                                                          |
|-------------------------------------------------------------|------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------|
| IEC/EN 60947-2                                              | IEC/EN 60947-2                     | IEC/EN 60947-2                                              | IEC/EN 60947-2                                              | IEC/EN 60947-2                                                      | IEC/EN 60947-2                                                        |
| Pulse current sensitive according to core-balance principle |                                    | Pulse current sensitive according to core-balance principle | Pulse current sensitive according to core-balance principle | Sensitive to AC/DC (type B)                                         | Sensitive to AC/DC (type B)                                           |
| 80 V (dependent on mains voltage)                           | 80 V (dependent on mains voltage)  | independent of mains voltage                                | independent of mains voltage                                | 0 V independent of mains voltage<br>50 V (dependent on mains power) | 0 V independent of mains voltage<br>50 V (dependent on mains voltage) |
| In single-phase                                             |                                    | In three- and single-phase systems                          |                                                             |                                                                     |                                                                       |
| 200...415 (3~)                                              | 200...415 (3~)                     | 280...690                                                   | 280...690                                                   | 50...400 (3~)                                                       | 50...400 (3~)                                                         |
| 50/60                                                       | 50/60                              | 50/60                                                       | 50/60                                                       | 50/60                                                               | 50/60                                                                 |
| 3/4                                                         | 3/4                                | 4                                                           | 4                                                           | 4 pole                                                              | 4 pole                                                                |
| 15...100                                                    | 15...100                           | 15...250                                                    | 15...250                                                    | 15...250                                                            | 15...250                                                              |
| 0.3                                                         | 0.03...0.1...0.3...<br>0.5...1...3 | 0.03                                                        | 0.1...0.3...1...3                                           | 0.03                                                                | 0.1...0.3...1                                                         |
| 50/60 Hz                                                    | 50/60 Hz                           | 50/60 Hz                                                    | 50/60 Hz                                                    | with AC voltage: 0 – 100 kHz<br>with pulsed DC voltage: 50 Hz       | with AC voltage: 0 – 100 kHz<br>with pulsed DC voltage: 50 Hz         |
| = $I_{CU}$                                                  | = $I_{CU}$                         | = $I_{CU}$                                                  | = $I_{CU}$                                                  | = $I_{CU}$                                                          | = $I_{CU}$                                                            |
| $\geq 0.3 \times I_{\Delta n}$                              | $\geq 0.3 \times I_{\Delta n}$     | –                                                           | –                                                           | –                                                                   | –                                                                     |
| 20 (half-sinusoidal shock 20 ms)                            |                                    |                                                             |                                                             |                                                                     |                                                                       |
| 20000                                                       | 20000                              | $\geq 2000$                                                 | $\geq 2000$                                                 | $\geq 2000$                                                         | $\geq 2000$                                                           |
| 45                                                          | 45                                 | 96                                                          | 96                                                          | 96                                                                  | 96                                                                    |
| Bottom                                                      | Bottom                             | Bottom                                                      | Bottom                                                      | Bottom                                                              | Bottom                                                                |
| Vertical and 90° in all directions                          |                                    |                                                             |                                                             |                                                                     |                                                                       |
| LZM1 from above                                             | LZM1 from above                    | As required                                                 | As required                                                 | Bottom                                                              | Bottom                                                                |
| IP20 in the operating component area                        |                                    |                                                             |                                                             |                                                                     |                                                                       |
| –5...+40                                                    | –5...+40                           | –25...+70                                                   | –25...+70                                                   | –25...+70                                                           | –25...+70                                                             |
|                                                             | yes, setting buttons               |                                                             |                                                             | yes, setting buttons                                                | yes, setting buttons                                                  |
| such as LZM1 standard terminal                              |                                    | with LZM2 standard connection                               |                                                             |                                                                     |                                                                       |
| such as LZM1 standard terminal                              |                                    | with LZM2 standard connection                               |                                                             |                                                                     |                                                                       |

# Circuit-breakers LZM

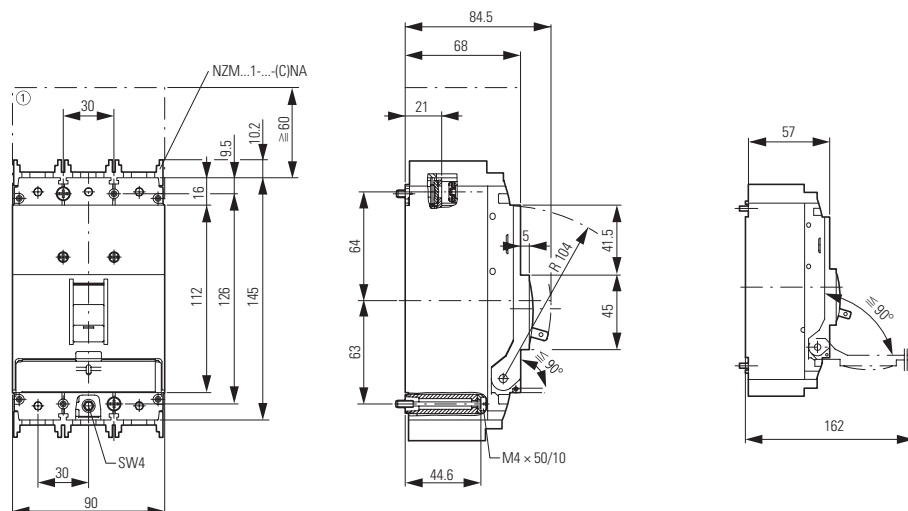
## Dimensions

### Size 1: basic units LZM1

#### Circuit-breaker

##### 3 pole

LZMB1  
LZMC1  
LZMN1  
LZMS1

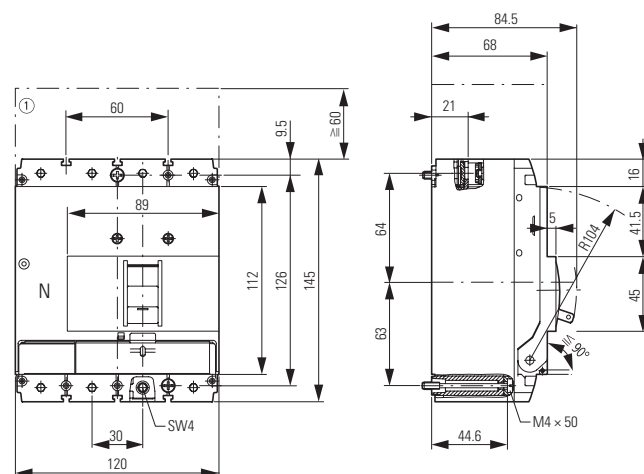


① Blow out area, minimum clearance to other parts  $\geq 60$  mm

#### Circuit-breaker

##### 4 pole

LZMB1-4  
LZMC1-4  
LZMN1-4  
LZMH1-4



① Blow out area, minimum clearance to other parts  $\geq 60$  mm

#### Covers

NZM1(-4)-XKSA

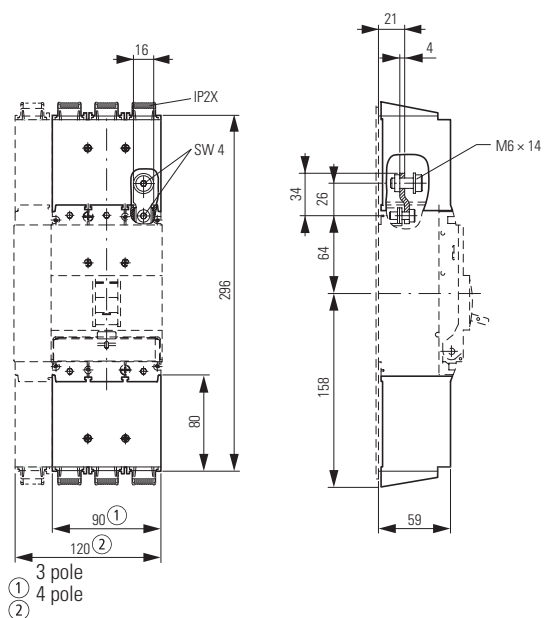
#### Screw connection

NZM1(-4)-XKS

**IP2X protection against contact with a finger for shroud**

NZM1(-4)-XIPA

Screw connection

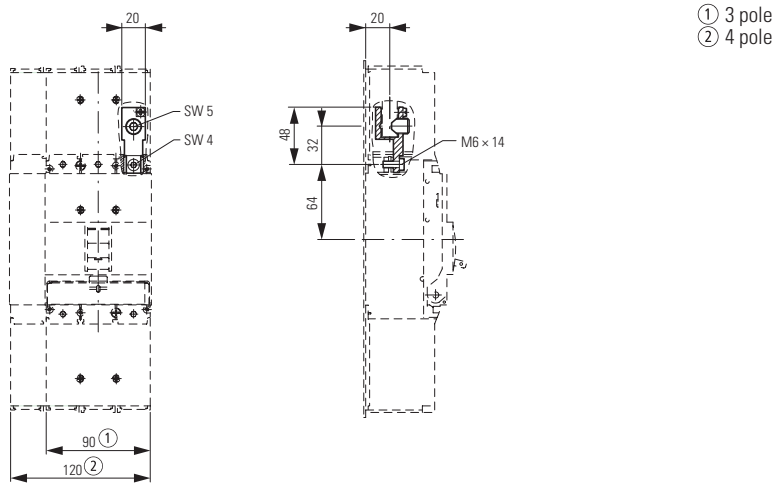


① 3 pole  
② 4 pole

## Size 1: accessories NZM1...-XK..., NZM1...XIPK, NZM-XSTK

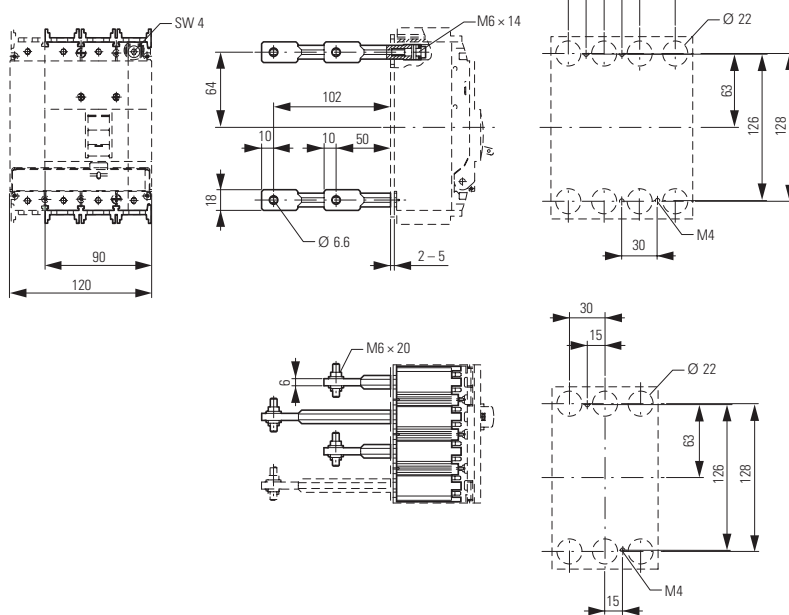
### Tunnel terminal

NZM1(-4)-XKA



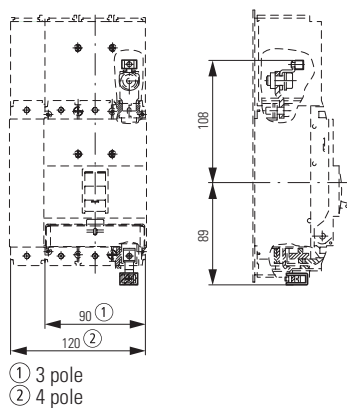
### Connection on rear

NZM1(4)-XKR



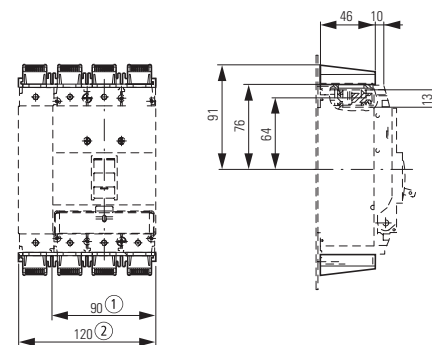
### Control circuit terminal

NZM1-XIPK, NZM-XSTK



### IP2X protection against contact with a finger

NZM1(-4)-XIPK



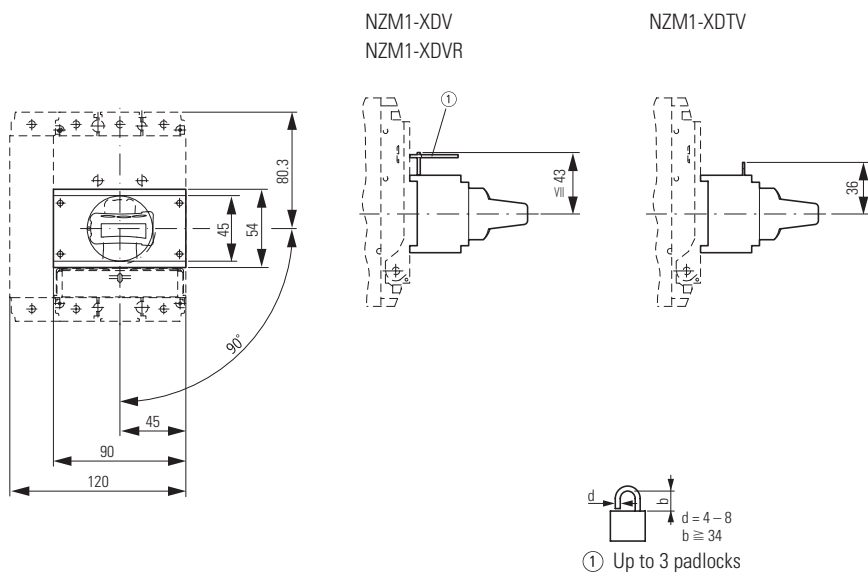
# Circuit-breakers LZM

## Dimensions

### Size 1: accessories NZM1-XDV..., NZM1-XTVD...

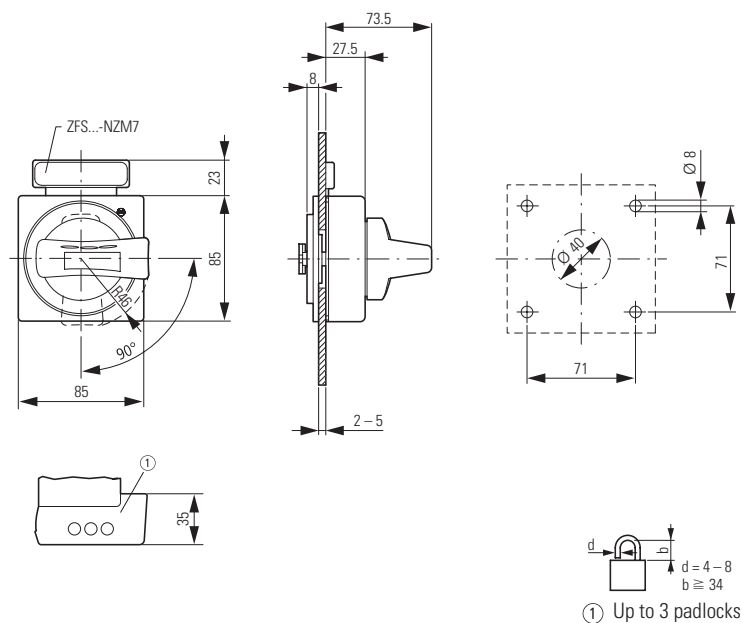
#### Rotary drive

#### Rotary handle on circuit-breaker



#### Door coupling rotary handle

#### NZM1-XTVD(V)(R)

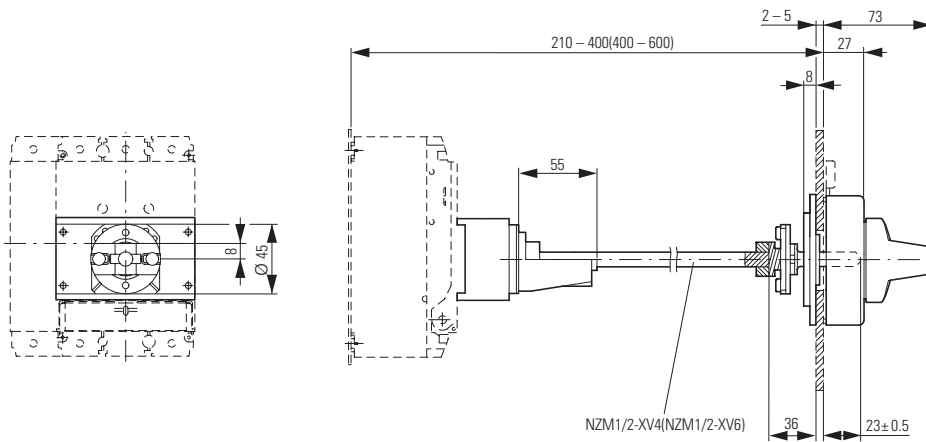


### Size 1: accessories NZM1-XTVD...

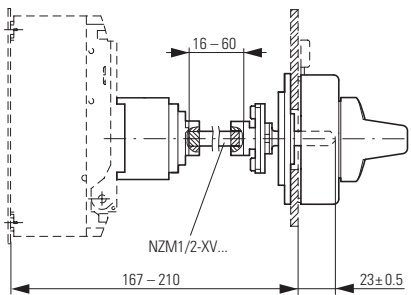
#### Door coupling rotary handle with extension shaft

NZM1-XTVD(V)(R)

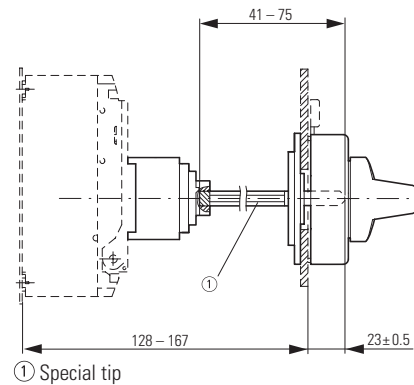
NZM1/2-XV4(6)



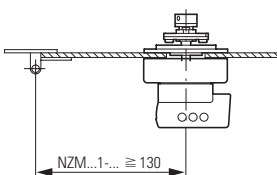
NZM1-XTVD(V)(R)-60



NZM1-XTVD(V)(R)-0



#### Minimum door coupling rotary handle clearance from door pivot point



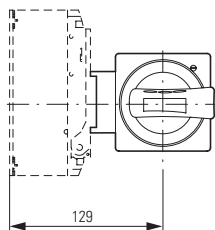
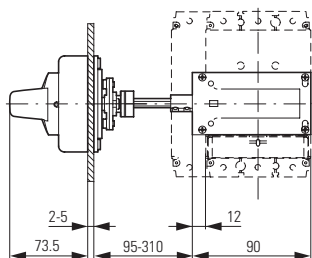
# Circuit-breakers LZM

## Dimensions

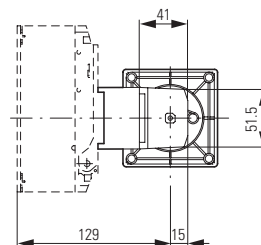
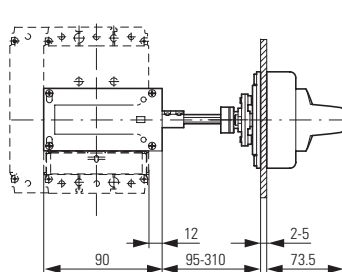
### Size 1: accessories NZM1-XS, NZM1...HIV

#### Main switch assembly kit for side panel mounting

NZM1-XS(R)-L

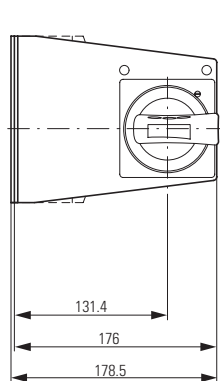
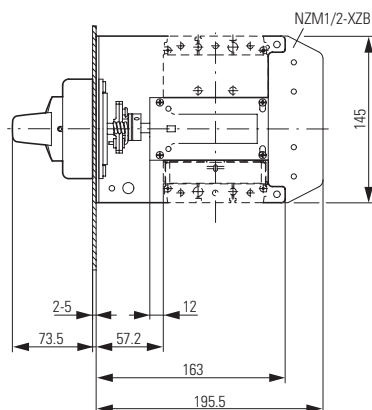


NZM1-XS(R)-R

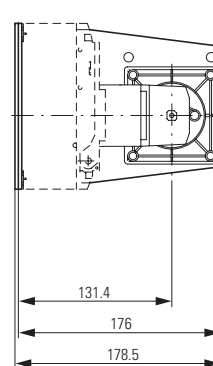
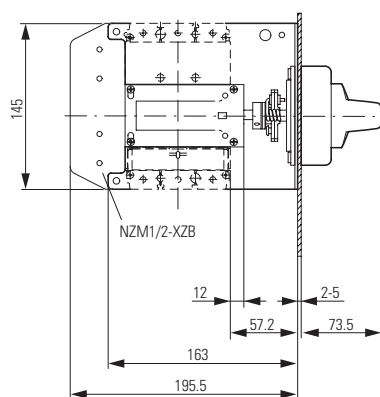


#### Main switch assembly kit for side panel mounting with mounting bracket

NZM1-XS(R)M-L



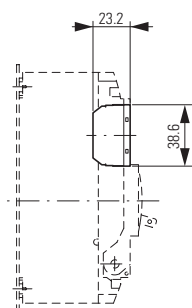
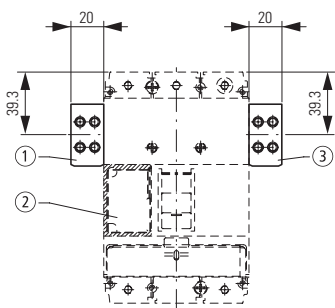
NZM1-XS(R)M-R



#### Undervoltage release

#### Shunt release

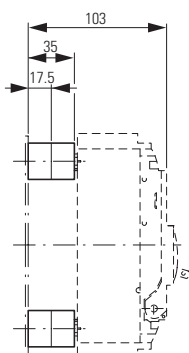
#### Early-make auxiliary contacts



- ① NZM1-XA(HIV)  
NZM1-XU(HIV)(20)  
NZM1-XHIV
- ② NZM1-XA(HIV)(L)  
NZM1-XU(V)(HIV)(L)(20)  
NZM1-XHIV(L)
- ③ NZM1-XHIVR

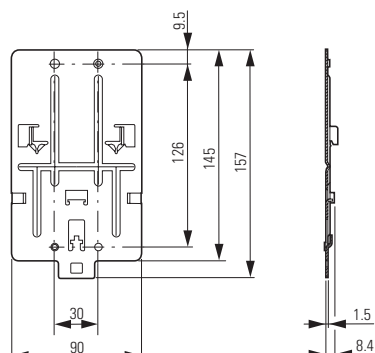
#### Spacers

NZM1/2-XAB



#### Clip plate

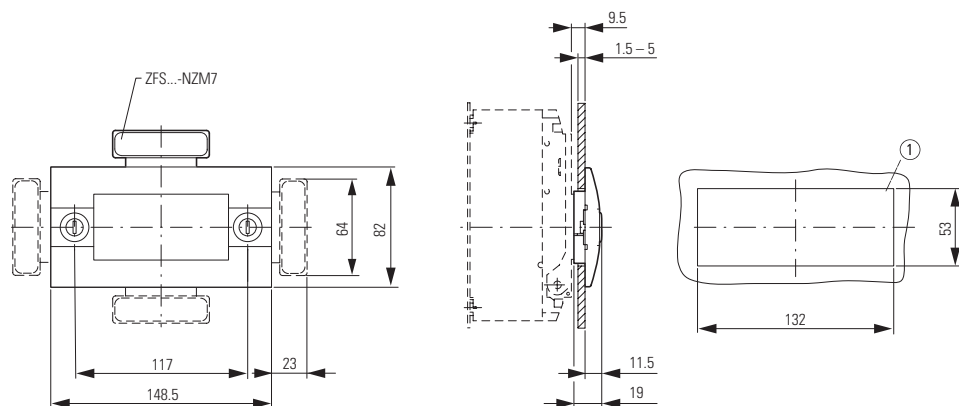
NZM1-XC35



## Size 1: accessories NZM...-X...

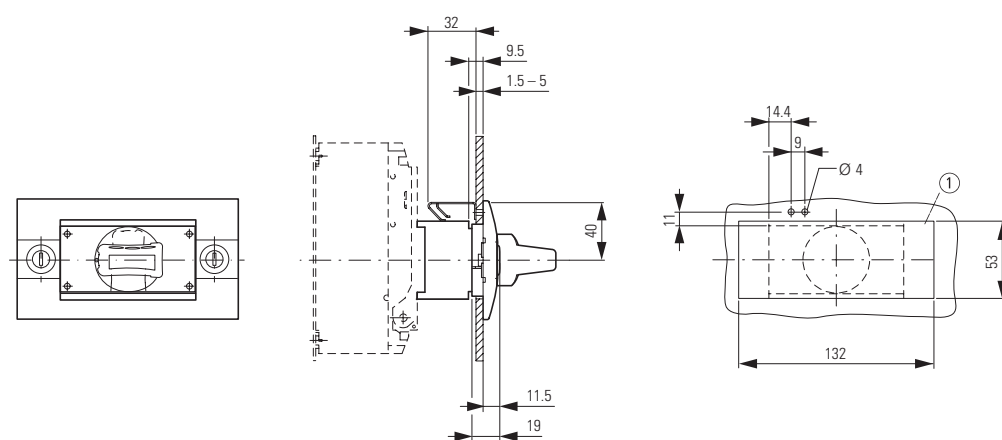
### Insulating surrounds

NZM1-XBR



### Rotary handle on switch with door interlock

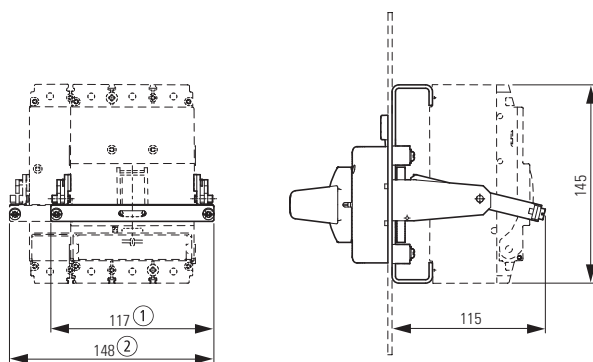
NZM1-XDTV(R)



### Rear drive

NZM1-XRAV(R)

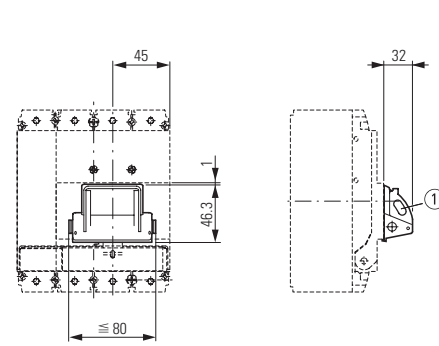
NZM1-4-XRAV(R)



- ① NZM1-XRAV(R)
- ② NZM1-4-XRAV(R)

### Toggle lever locking device

NZM-XKAV



- ① Up to 3 padlocks

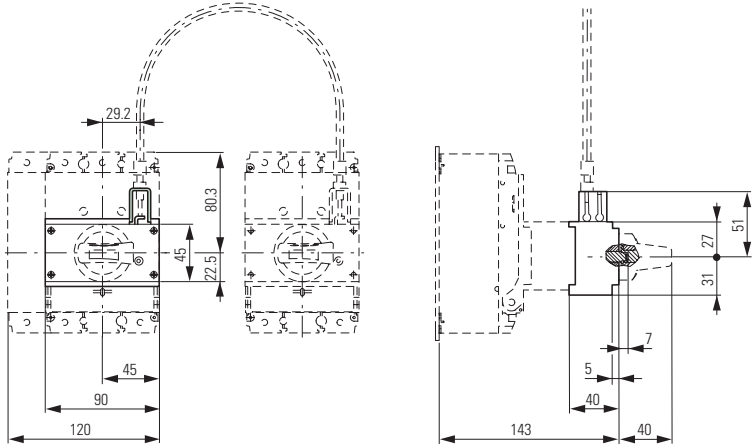
# Circuit-breakers LZM

## Dimensions

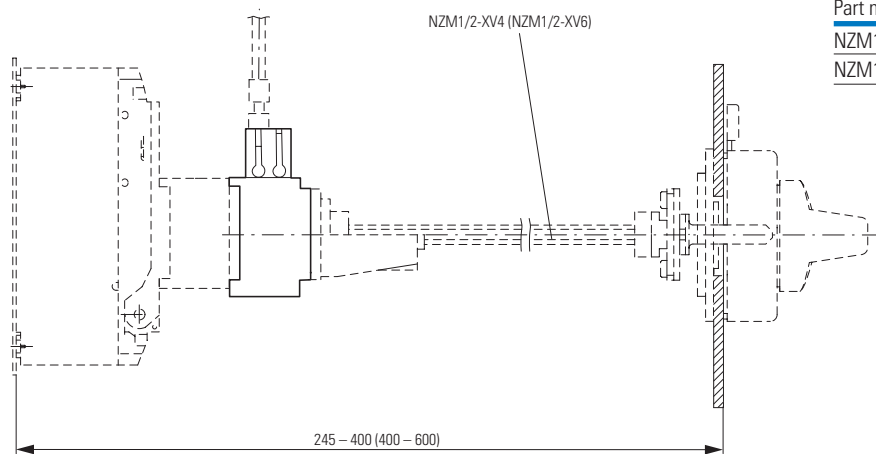
### Size 1: accessories NZM1-XMV, NZM1-XTV...

#### Mechanical interlock

NZM1-XMV + NZM1-XDV(R)

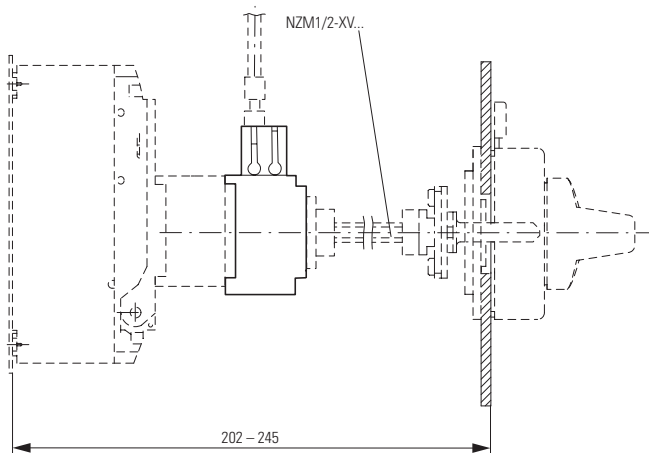


NZM1-XMV + NZM1-XTVD(V)(R)

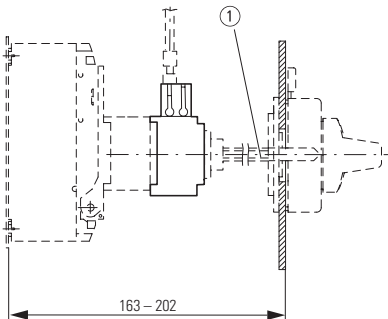


| Part no.   | x         |
|------------|-----------|
| NZM1/2-XV4 | 245 – 400 |
| NZM1/2-XV6 | 400 – 600 |

NZM1-XMV + NZM1-XTVD(V)(R)-60



NZM1-XMV + NZM1-XTVD(V)(R)-0

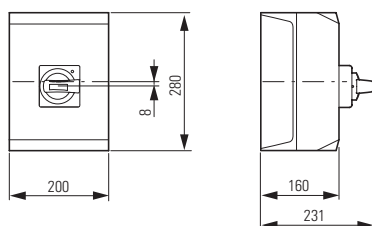


① Special tip

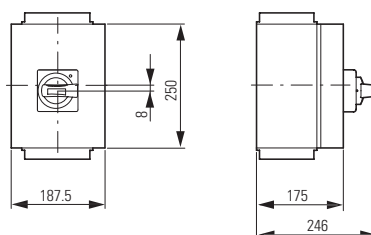
### Size 1: accessories NZM1-XCI..., NZM1-XAD

#### Insulated enclosures

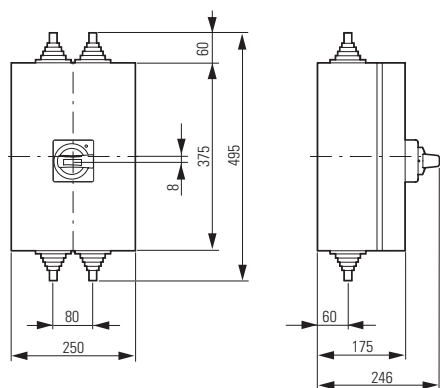
NZM1-XCIK5-T...



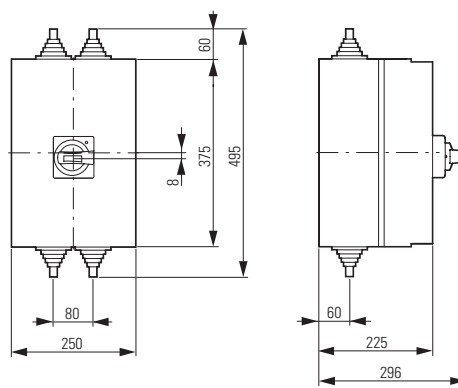
NZM1-XCI23-T...



NZM1-XCI43-T...

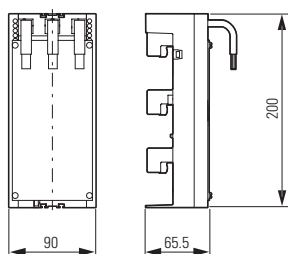


NZM1-XCI43/2-T...



#### Component adapter

NZM1-XAD160



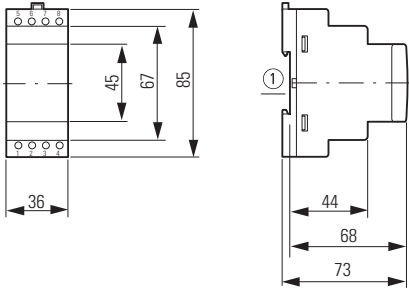
# Circuit-breakers LZM

## Dimensions

### Size 1: accessories NZM1...-XFI..., PFR-...

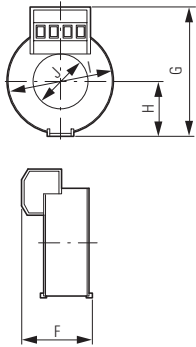
#### Residual-current relay

PFR-003  
PFR-03  
PFR-5

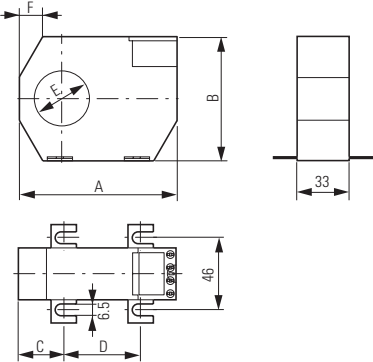


#### Current transformer

PFR-W-20...30



PFR-W-35...210

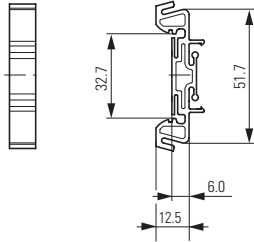


| Part no.  | A   | B   | C    | D    | E   | F   |
|-----------|-----|-----|------|------|-----|-----|
| PFR-W-35  | 100 | 79  | 26   | 48.5 | 35  | 35  |
| PFR-W-70  | 130 | 110 | 32   | 66   | 70  | 52  |
| PFR-W-105 | 170 | 146 | 38   | 94   | 105 | 72  |
| PFR-W-140 | 220 | 196 | 48.5 | 123  | 140 | 97  |
| PFR-W-210 | 299 | 284 | 69   | 161  | 210 | 141 |

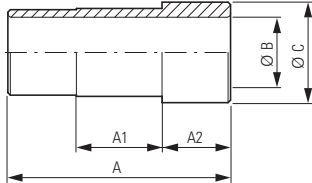
| Part no. | F  | G  | H  | I  | J  |
|----------|----|----|----|----|----|
| PFR-W-20 | 32 | 60 | 24 | 46 | 21 |
| PFR-W-30 | 32 | 70 | 30 | 59 | 30 |

#### Fixing clip

PFR-WC



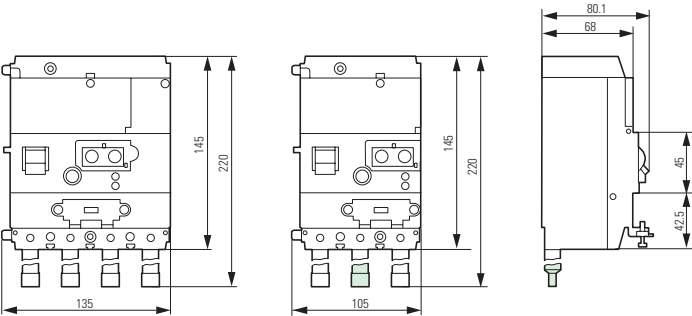
PFR-WMA



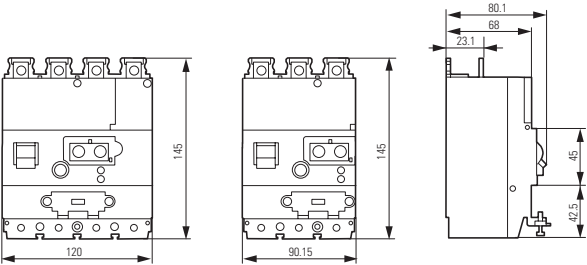
| Part no.    | A   | ØB  | ØC  | A1 | A2 |
|-------------|-----|-----|-----|----|----|
| PFR-WMA-35  | 91  | 28  | 40  | 35 | 28 |
| PFR-WMA-70  | 105 | 62  | 75  | 35 | 35 |
| PFR-WMA-105 | 153 | 98  | 110 | 35 | 60 |
| PFR-WMA-140 | 153 | 133 | 145 | 35 | 60 |
| PFR-WMA-210 | 153 | 203 | 215 | 35 | 60 |

#### Residual-current release

NZM1(-4)-XFI...R



NZM1(-4)-XFI...U





# Circuit-breakers LZM

## Dimensions

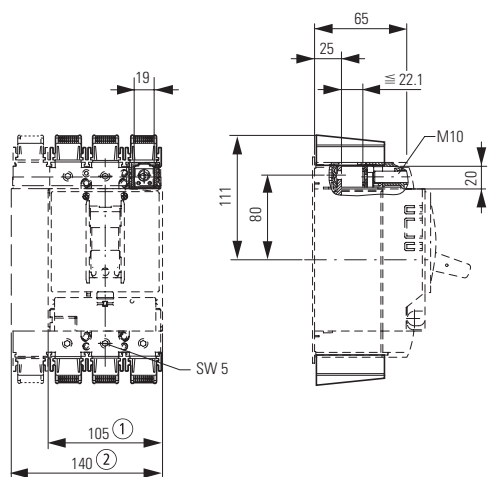
### Size 2: accessories NZM2...-XK..., NZM2...-XIP..., NZM2-XST...

#### Box terminal

(+ )NZM2(-4)-...-XKC(O)(U)

#### IP2X protection against contact with a finger

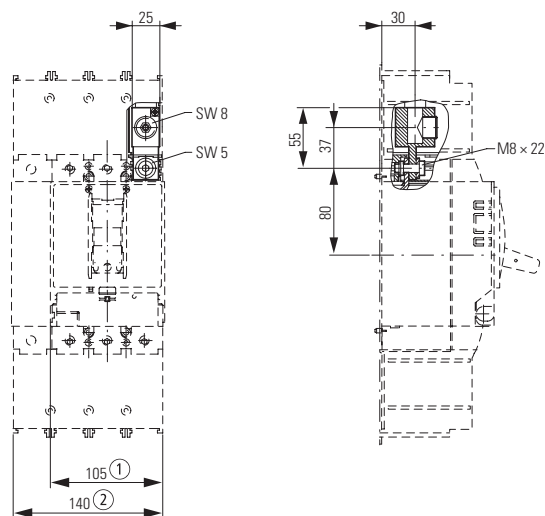
NZM2(-4)-XIPK



- ① 3 pole
- ② 4 pole

#### Tunnel terminal

NZM2(-4)-XKA



#### Covers

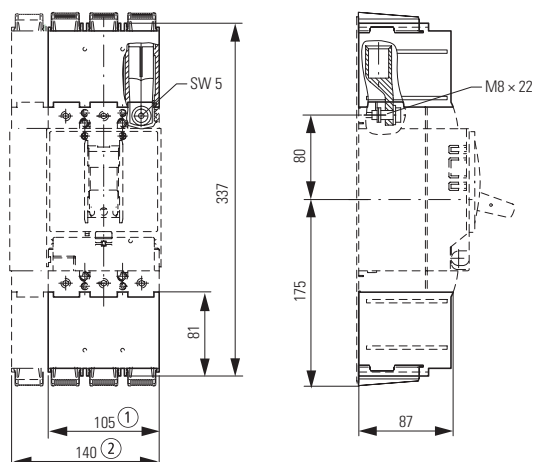
NZM2(-4)-XKSA

#### Cable lug

NZM2-XKS185

#### IP2X protection against contact with a finger for shroud

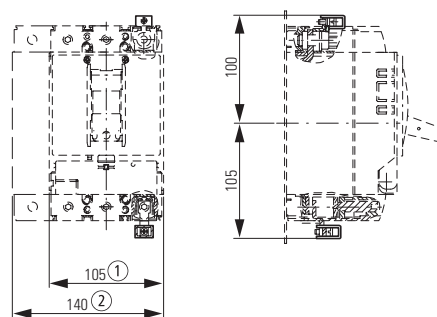
NZM2(-4)-XIPA



#### Control circuit terminal

NZM2-XSTS

NZM-XSTK

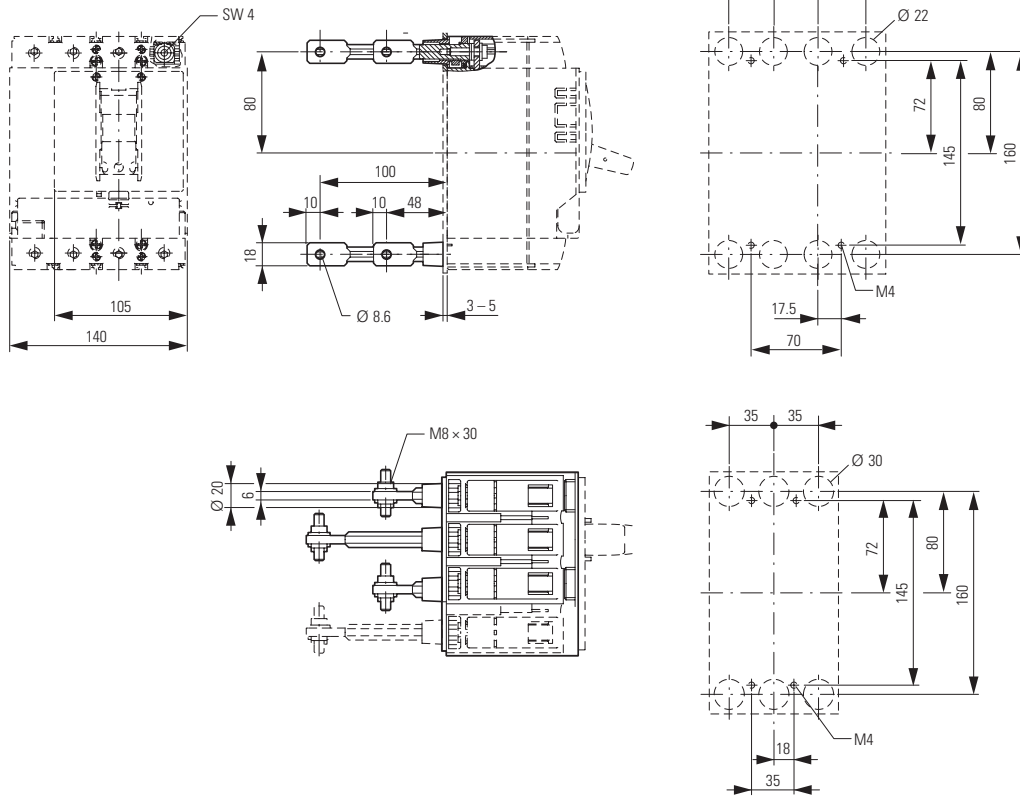


- ① 3 pole
- ② 4 pole

### Size 2: accessories NZM2...-XKR..., NZM2-XDV..., NZM2-XDTV...

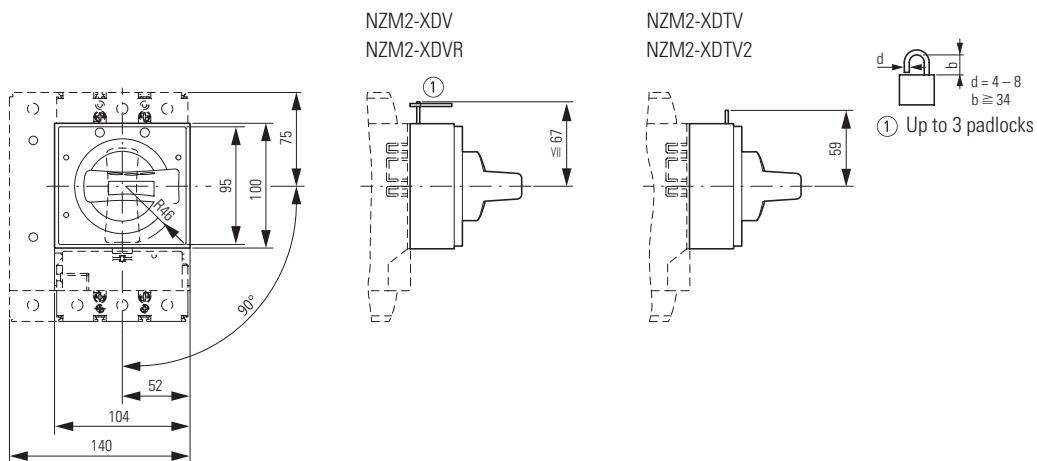
#### Connection on rear

(+ )NZM2(-4)-XKR(O)(U)



#### Rotary drive

#### Rotary handle on circuit-breaker



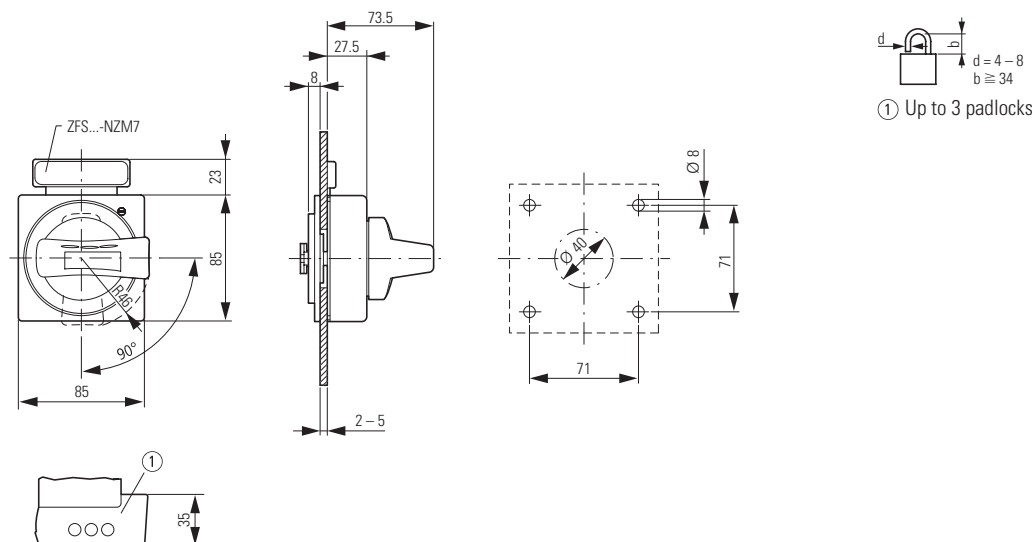
# Circuit-breakers LZM

## Dimensions

### Size 2: accessories NZM2-XTV..., NZM1/2-XV4(6)

#### Door coupling rotary handle

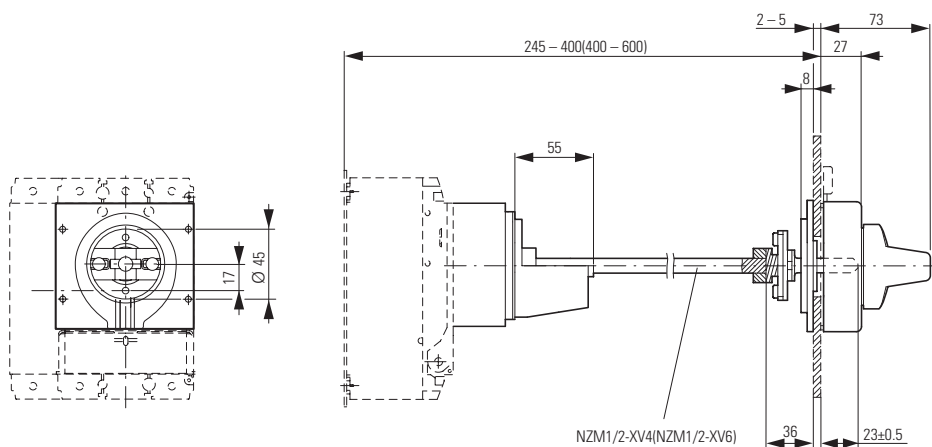
NZM2-XTVD(V)(R)...



#### Door coupling rotary handle with extension shaft

NZM2-XTVD(V)(R)

NZM1/2-XV4(6)



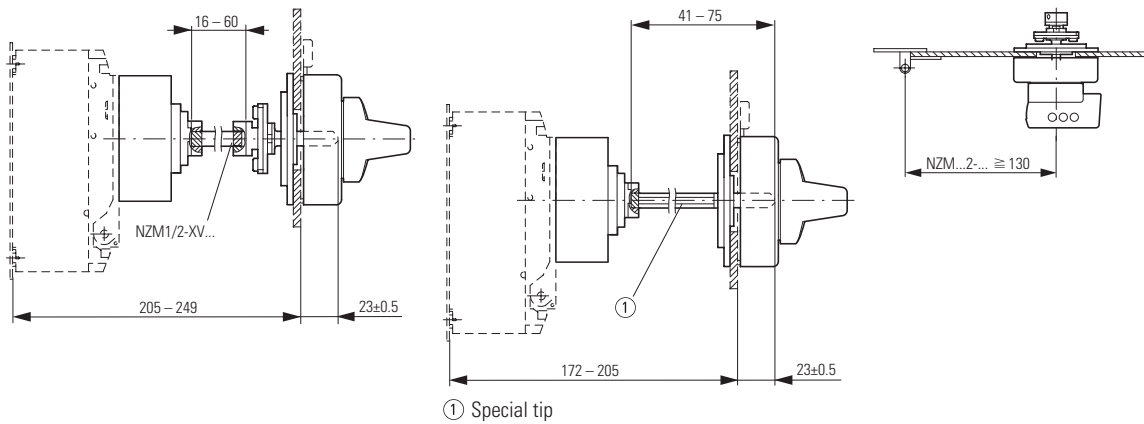
### Size 2: accessories NZM2-XTVD..., NZM2-XS...

#### Door coupling rotary handle with extension shaft

NZM2-XTVD(V)(R)-60

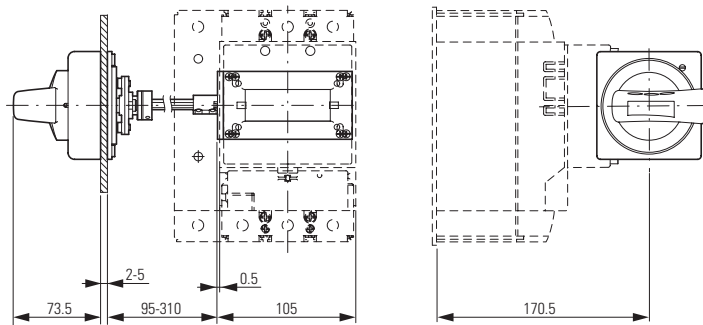
NZM2-XTVD(V)(R)-0

Minimum door coupling rotary handle clearance from door pivot point

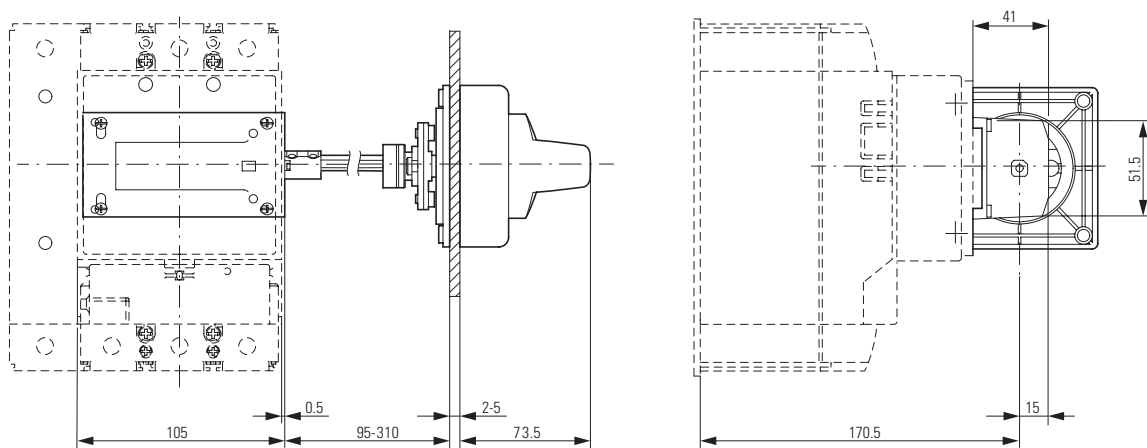


#### Main switch assembly kit for side panel mounting

NZM2-XS(R)-L



NZM2-XS(R)-R



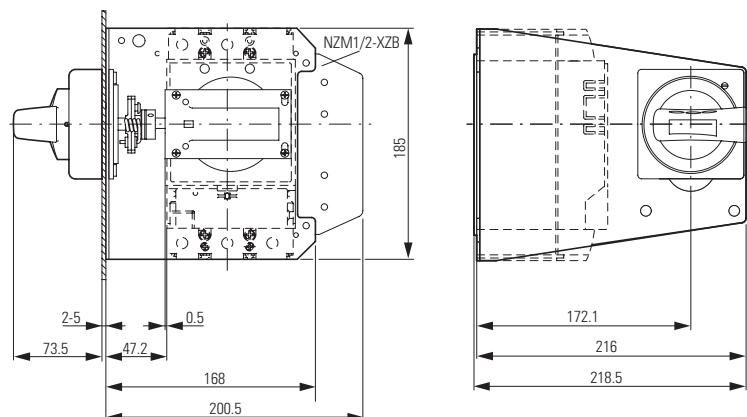
# Circuit-breakers LZM

## Dimensions

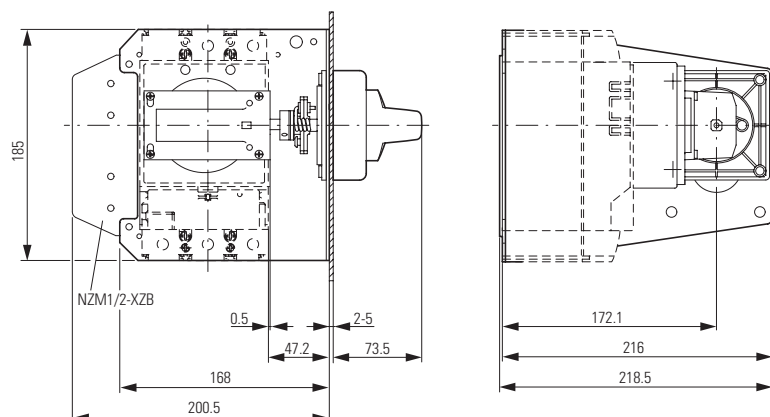
### Size 2: accessories NZM2-XS..., NZM2...-XRAV...

#### Main switch assembly kit for side panel mounting with mounting bracket

NZM2-XS(R)M-L

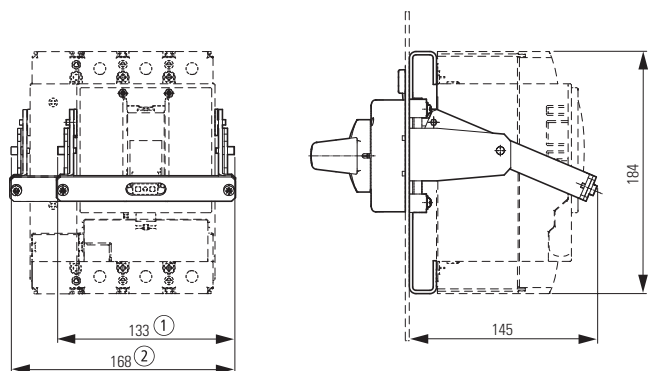


NZM2-XS(R)M-R



#### Rear drive

NZM2-XRAV

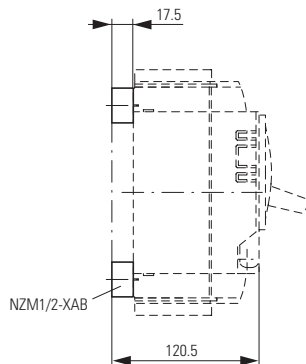


- ① NZM2-XRAV(R)
- ② NZM2-4-XRAV(R)

## Size 2: accessories NZM...-XAB, NZM2-XBR, NZM2-XDTV...

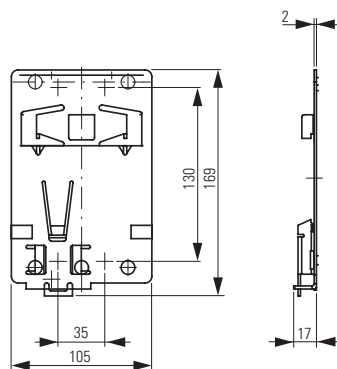
### Spacers

NZM1/2-XAB



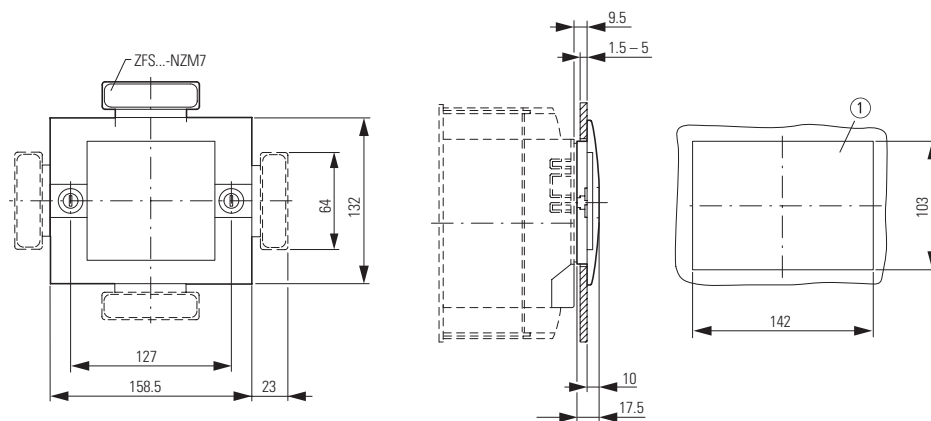
### Clip plate

NZM2-XC75



### Insulating surrounds

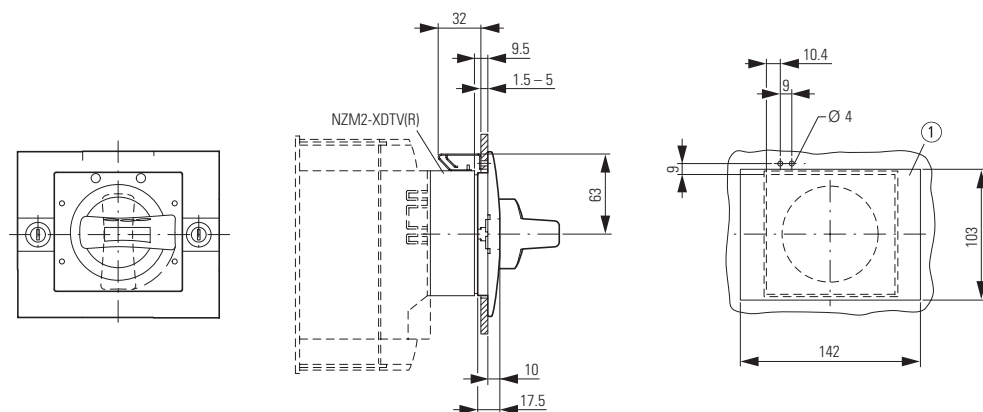
NZM2-XBR



① Mounting aperture

### Rotary handle on switch with door interlock

NZM2-XDTV(R)



① Mounting aperture

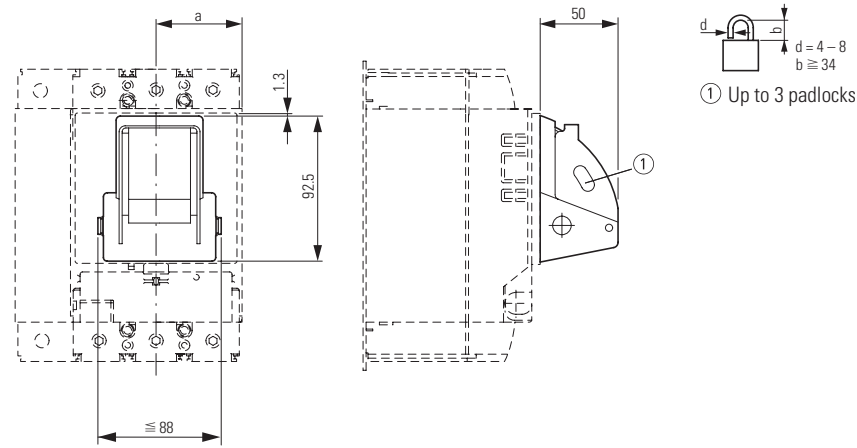
# Circuit-breakers L2M

## Dimensions

### Size 2: accessories NZM2...-XKAV

#### Toggle lever locking device

NZM2/3-XKAV

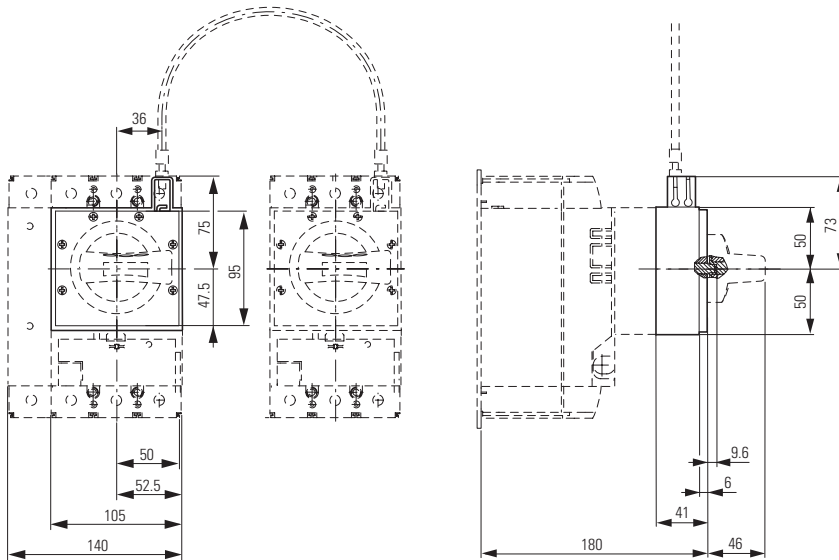


| Part no. | a    |
|----------|------|
| L2M2     | 52.5 |
| L2M3     | 70   |

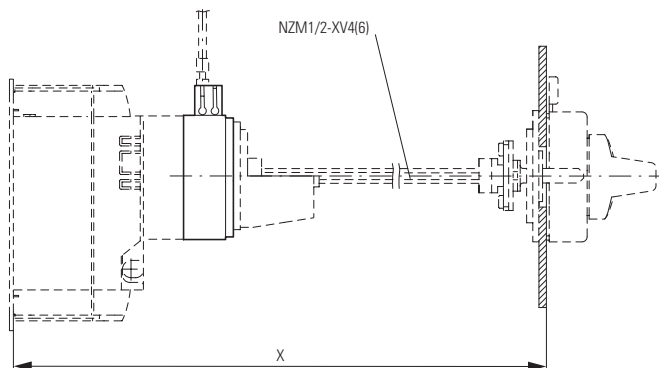
## Size 2: accessories NZM2-XMV, NZM2-XTVD..., NZM2-XD

### Mechanical interlock

NZM2-XMV + NZM2-XD

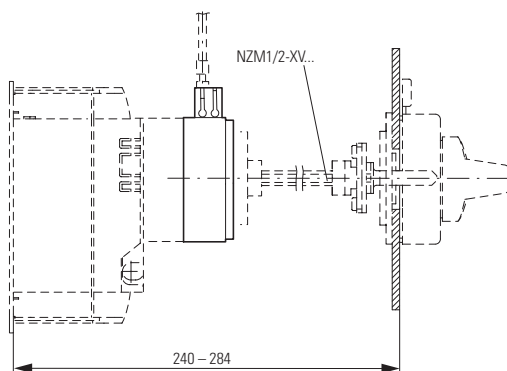


NZM2-XMV + NZM2-XTVD(V)(R)

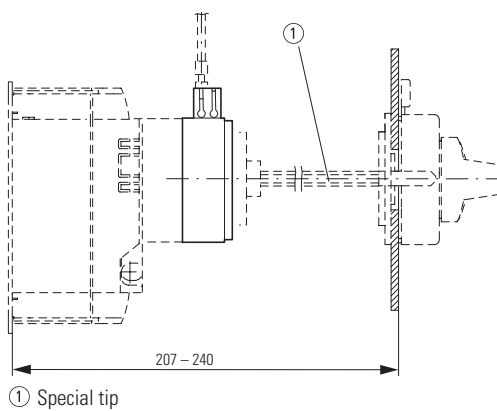


### Mechanical interlock

NZM2-XMV + NZM2-XTVD(V)(R)-60



NZM2-XMV + NZM2-XT(V)D(V)(R)-0



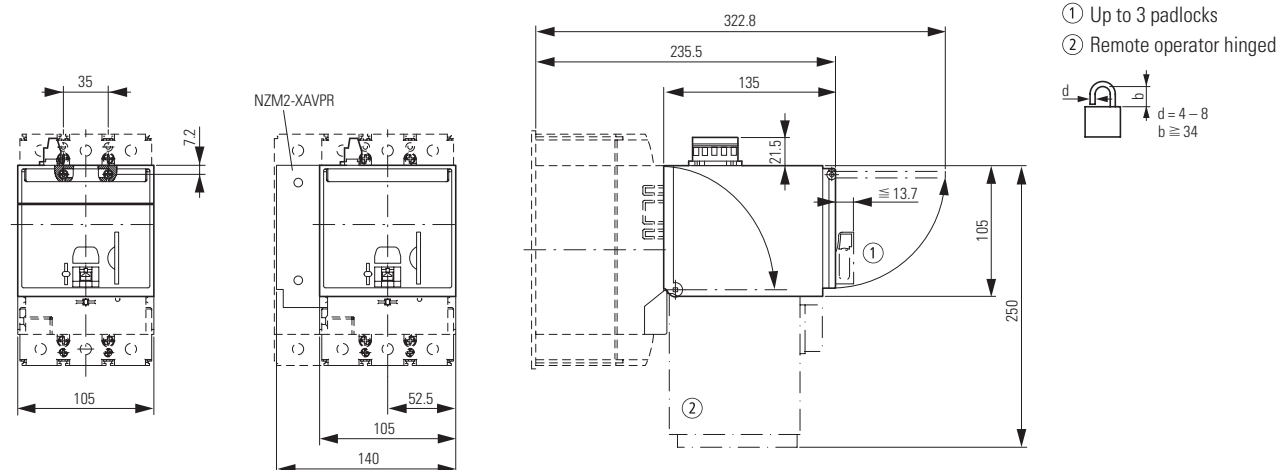
# Circuit-breakers LZM

## Dimensions

### Size 2: accessories NZM2-XR...

#### Remote operator

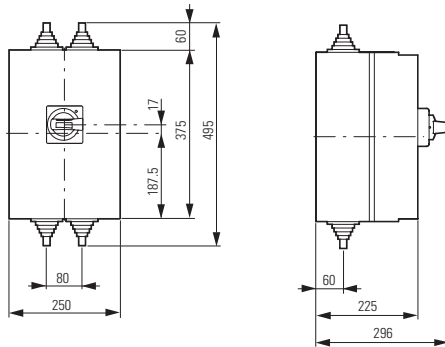
NZM2-XR...



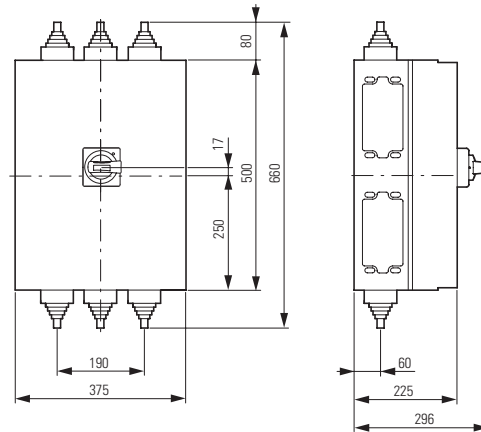
## Size 2: accessories NZM2-XCI..., NZM2-XAD, NZM2...-XSV

### Insulated enclosures

NZM2-XCI43-T...

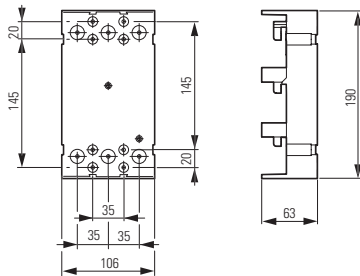


NZM2-XCI45-T...



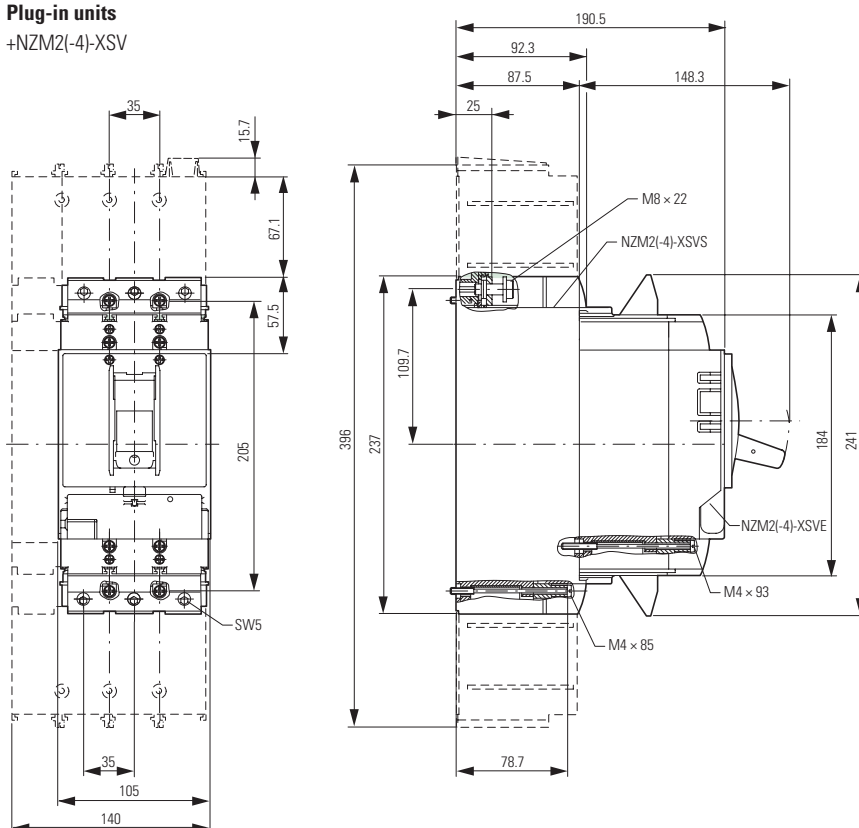
### Component adapter

NZM2-XAD250



### Plug-in units

+NZM2(-4)-XSV



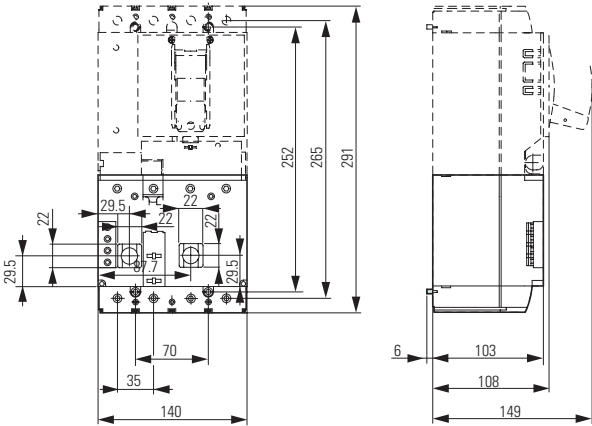
# Circuit-breakers L2M

## Dimensions

### Size 2: accessories NZM2(-4)-XFI, NZM-XDMI..., UVU-NZM

#### Residual-current release

NZM2(-4)-XFI...

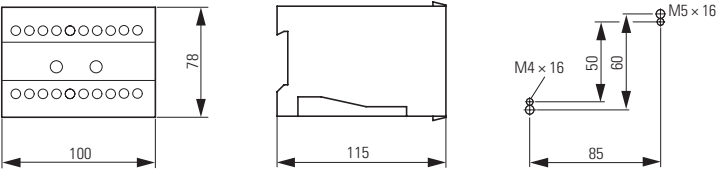


#### Undervoltage releases, off-delayed

UVU-NZM

#### Capacitor unit

NZM-XCM





# Circuit-breakers LZM

## Dimensions

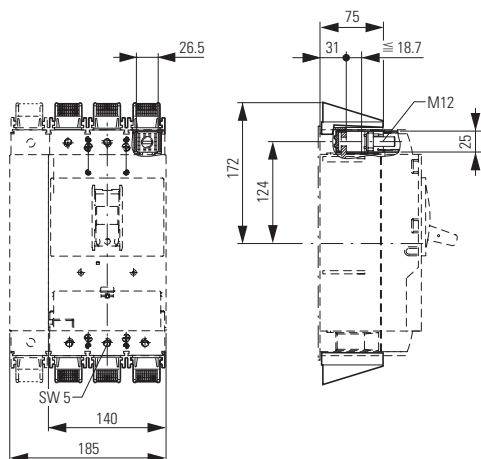
### Size 3: accessories NZM3...-XK, NZM3...-XIP..., NZM3-XST...

#### Box terminal

(+NZM3(-4)-XKC(O)(U)

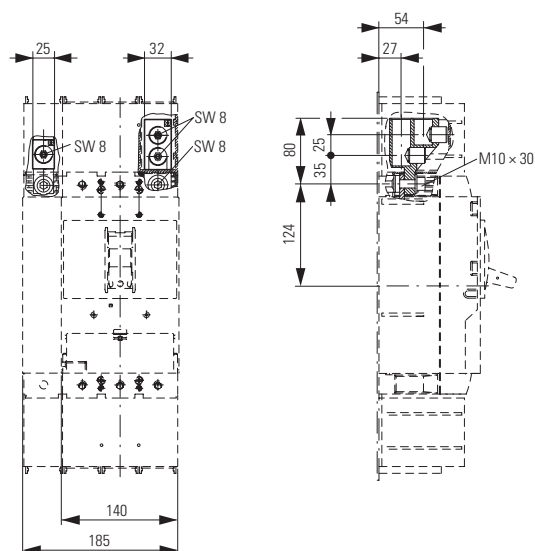
#### IP2X protection against contact with a finger

NZM3(-4)-XIPK



#### Tunnel terminal

NZM3(-4)-XKA1(2)



#### Covers

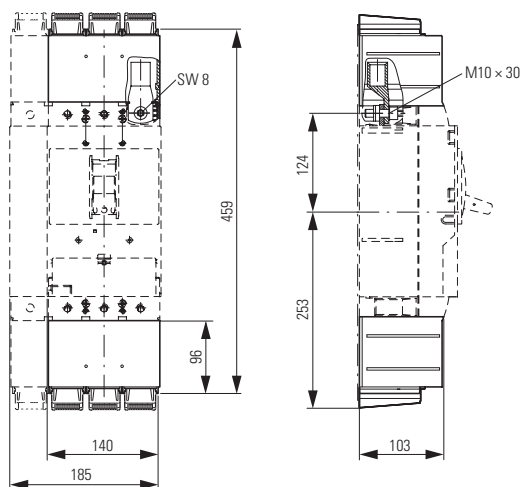
NZM3(-4)-XKSA

#### Cable lug

NZM3-XKS185

#### IP2X protection against contact with a finger

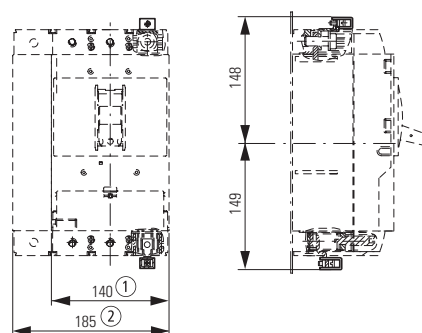
NZM3(-4)-XIPA



#### Control circuit terminal

NZM3/4-XSTS

NZM-XSTK



- ① 3 pole
- ② 4 pole



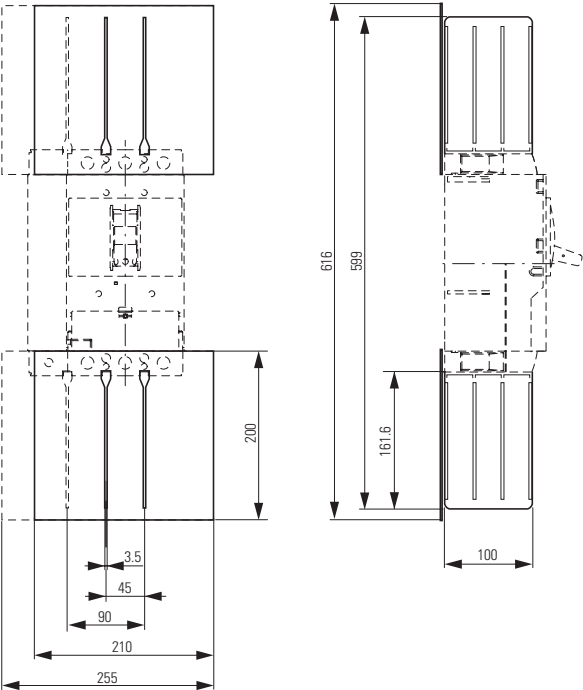
# Circuit-breakers LzM

## Dimensions

### Size 3: accessories NZM3...-XKP, NZM3-XAB, NZM3-XBR

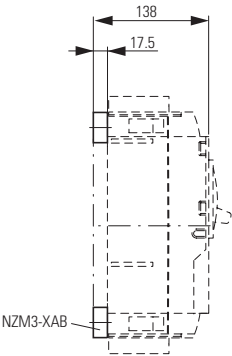
#### Phase isolators

NZM3-4-XKP



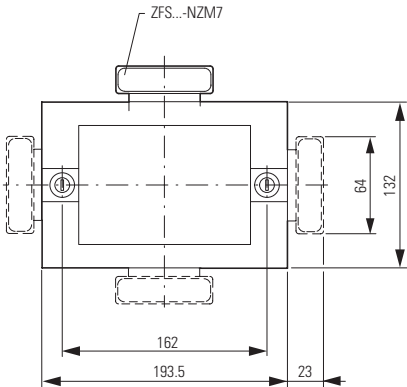
#### Spacers

NZM3-XAB

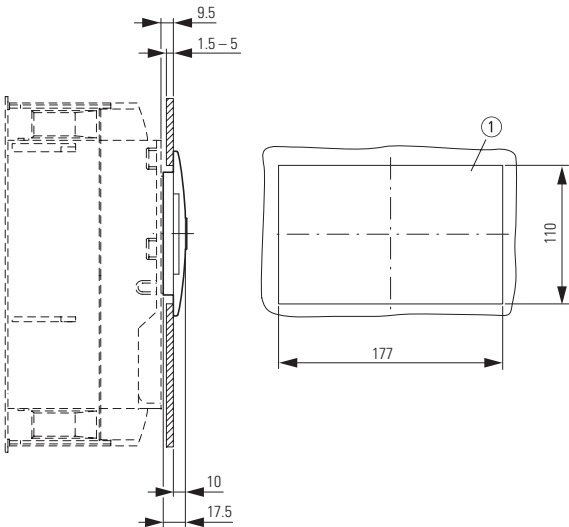


#### Insulating surrounds

NZM3-XBR



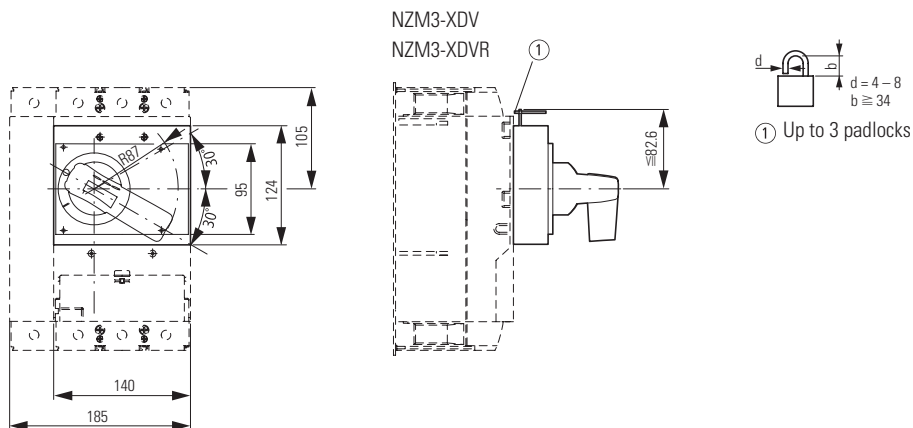
① Mounting aperture



## Size 3: accessories NZM3-XDV..., NZM3-XTVD...

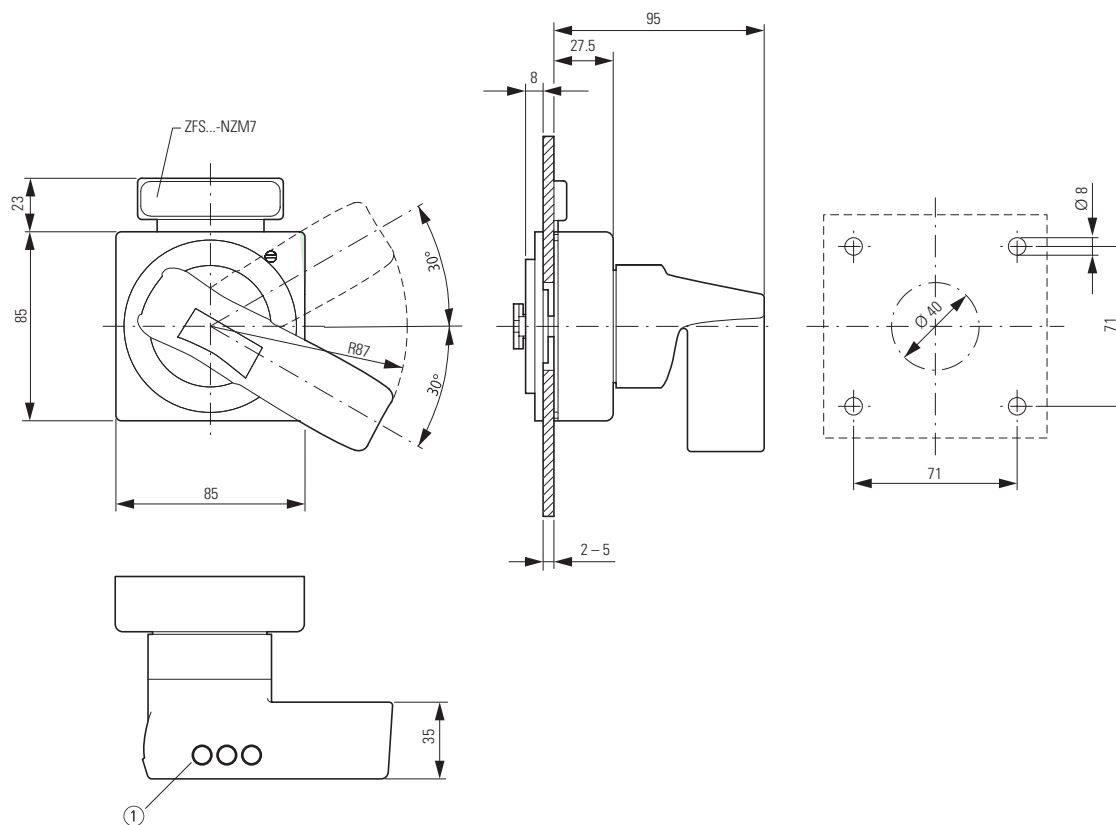
### Rotary drive

#### Rotary handle on circuit-breaker



### Door coupling rotary handle

#### NZM3-XTVD(V)(R)...



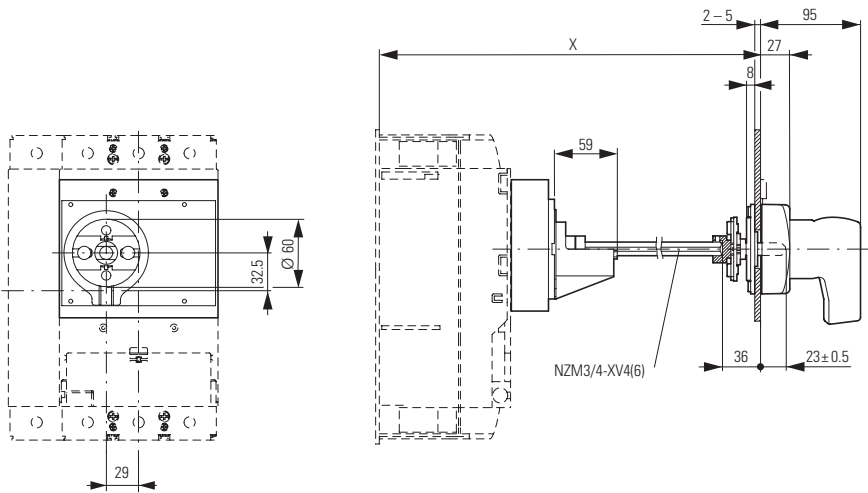
# Circuit-breakers L2M

## Dimensions

### Size 3: accessories NZM3-XTVD...

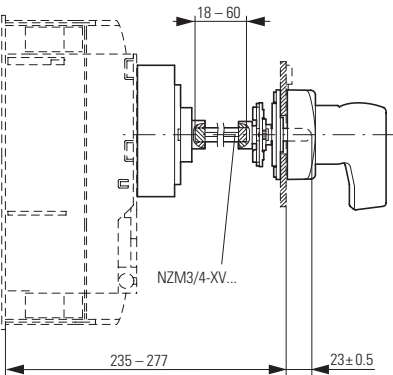
#### Door coupling rotary handle with extension shaft

NZM3-XTVD(V)(R)  
NZM3/4-XV4(6)

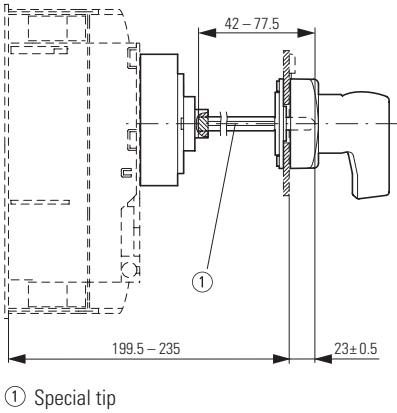


| Part no.   | x         |
|------------|-----------|
| NZM3/4-XV4 | 270 – 400 |
| NZM3/4-XV6 | 400 – 600 |

NZM3-XTVD(V)(R)-60

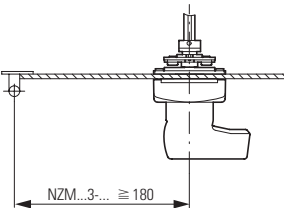


NZM3-XTVD(V)(R)-0



① Special tip

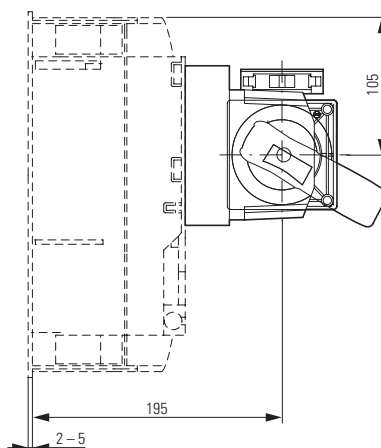
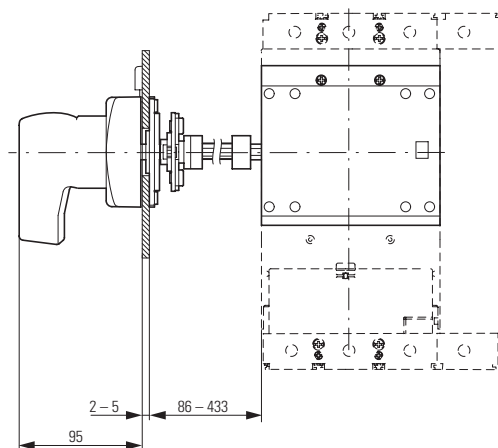
#### Minimum door coupling rotary handle clearance from door pivot point



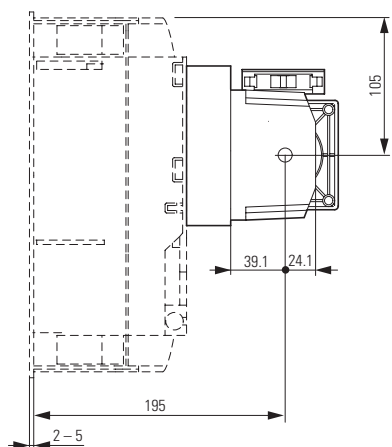
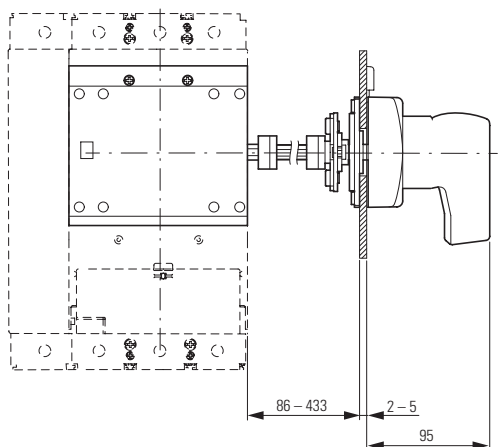
### Size 3: accessories NZM3-XS...

#### Main switch assembly kit for side panel mounting

NZM3-XS(R)-L



NZM3-XS(R)-R



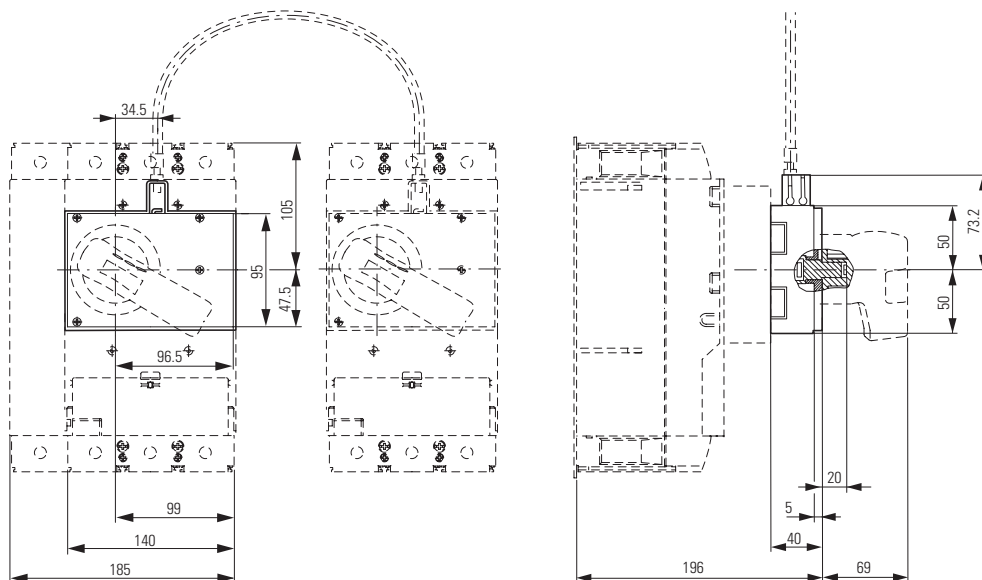
# Circuit-breakers LZM

## Dimensions

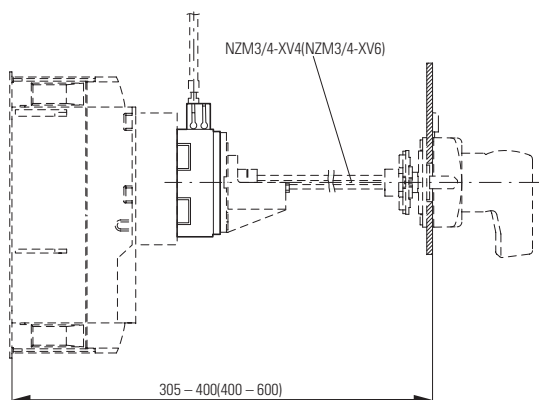
### Size 3: accessories NZM3-XMV, NZM3-XTVD..., NZM3-XDV

#### Mechanical interlock

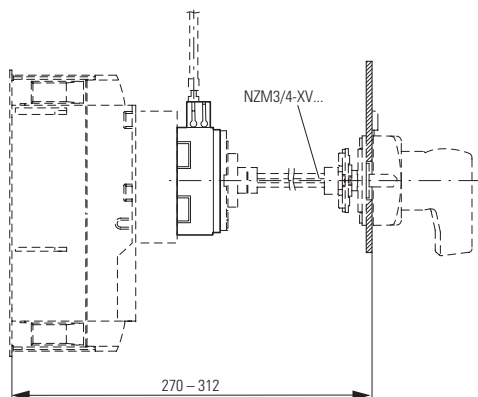
NZM3-XMV + NZM3-XDV(R)



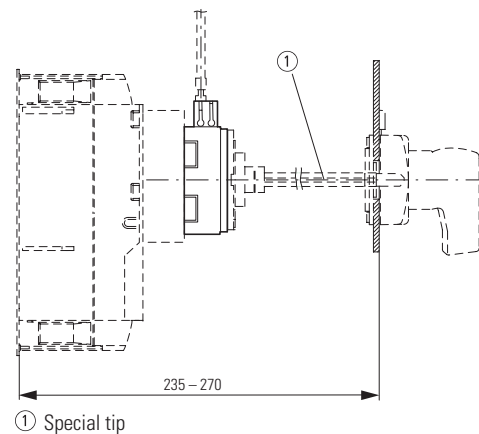
NZM3-XMV + NZM3-XTVD(V)(R)



NZM3-XMV + NZM3-XTVD(V)(R)-60



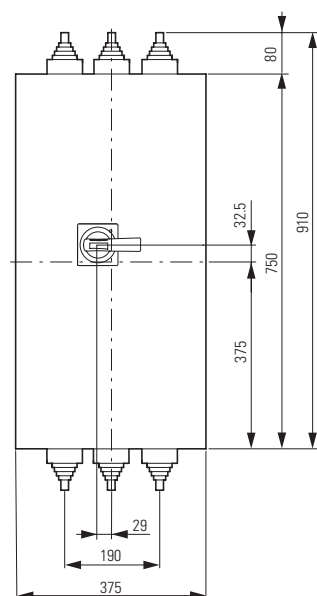
NZM3-XMV + NZM3-XTVD(V)(R)-0



## Size 3: accessories NZM3-XCI..., NZM3-XAD...

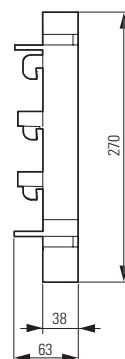
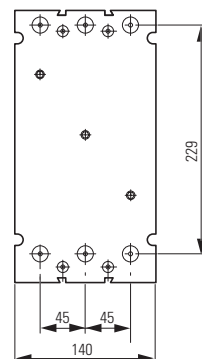
### Insulated enclosures

NZM3-XCI48-TD



### Component adapter

NZM3-XAD550

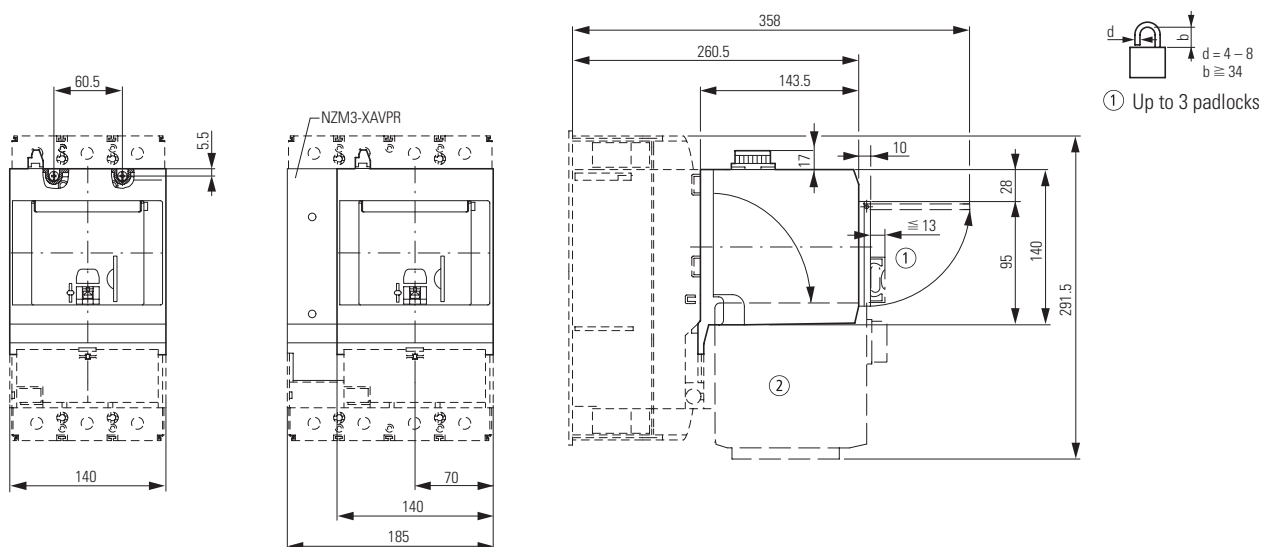


## Dimensions

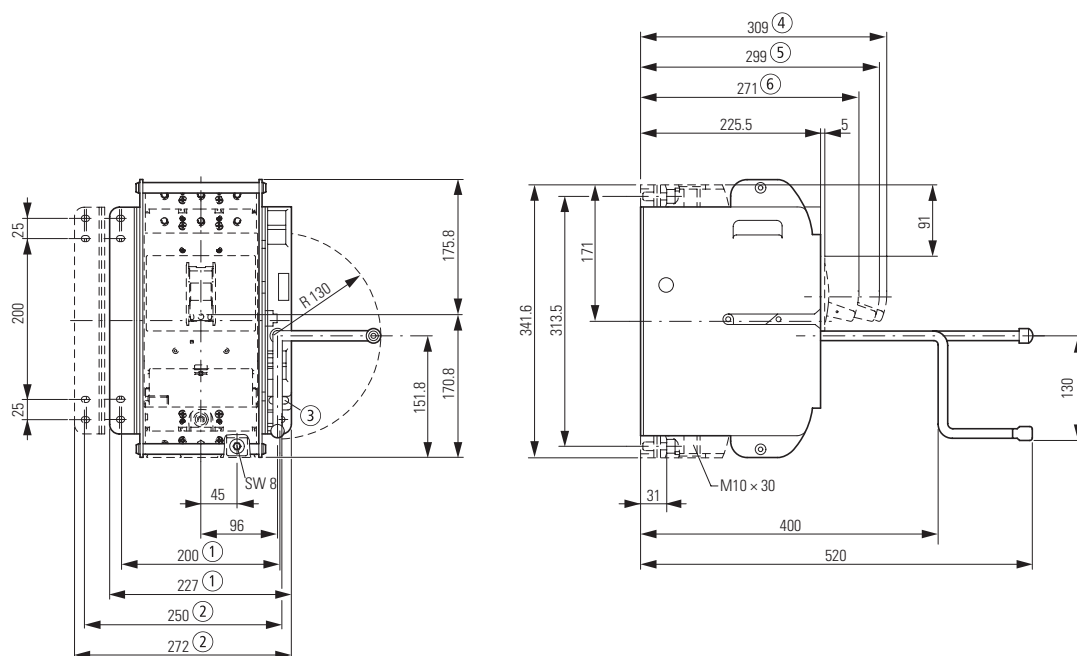
### Size 3: accessories NZM3-X...

### Remote operator

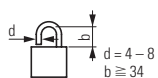
NZM3-XR...

**Withdrawable unit**

+NZM3(-4)-XAV



- ① 3-pole  
② 4-pole



- ③ Up to 3 padlocks

- ④ withdrawn  
⑤ test  
⑥ connected



# Circuit-breakers LZM

## Dimensions

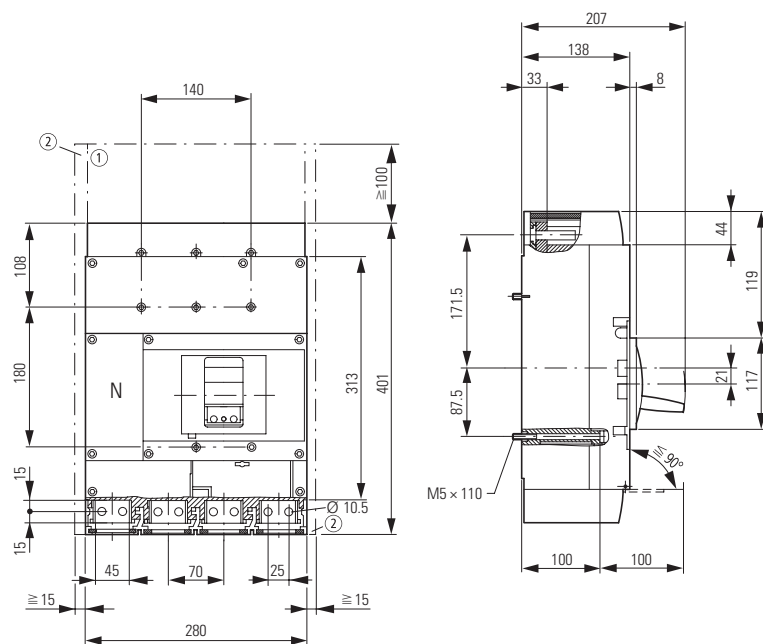
### Size 4: accessories LZM4, LZM4...-XK

#### Circuit-breaker

##### 4 pole

LZMN4-4

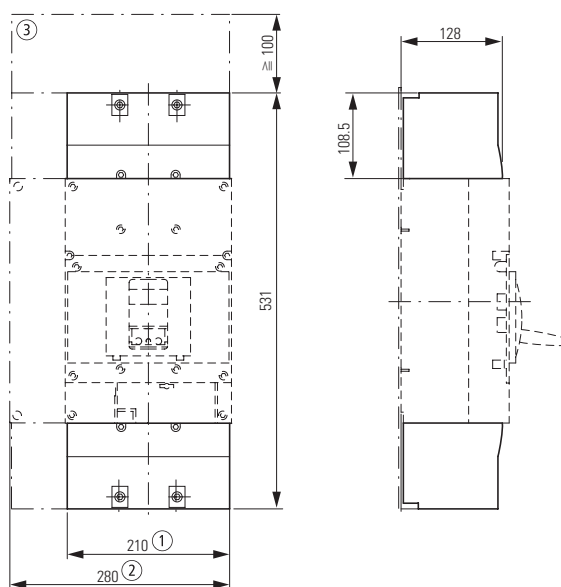
LZMS4-4



- ① Blow out area, minimum distance to other parts  $\geq 100$  mm up to 690 V
- ② Minimum distance to adjacent parts  $\geq 15$  mm

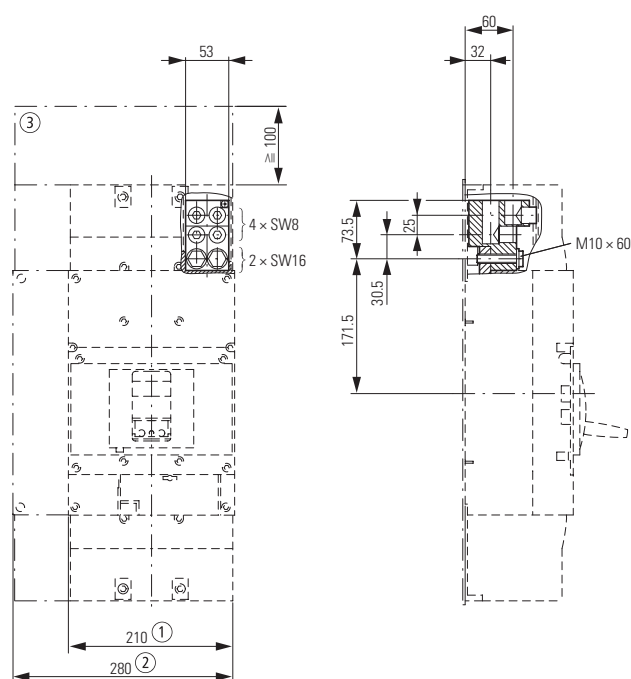
#### Covers

NZM4(-4)-XKSA



#### Tunnel terminal

NZM4-4-XKA



- ① 3 pole
- ② 4 pole
- ③ Clearance from conductive parts  $\geq 100$  mm up to 690 V

### Size 4: accessories NZM4...-XKM

#### Screw connection

**Module plate** **Flat cable terminal**

**Single hole** NZM4(-4)-XKB

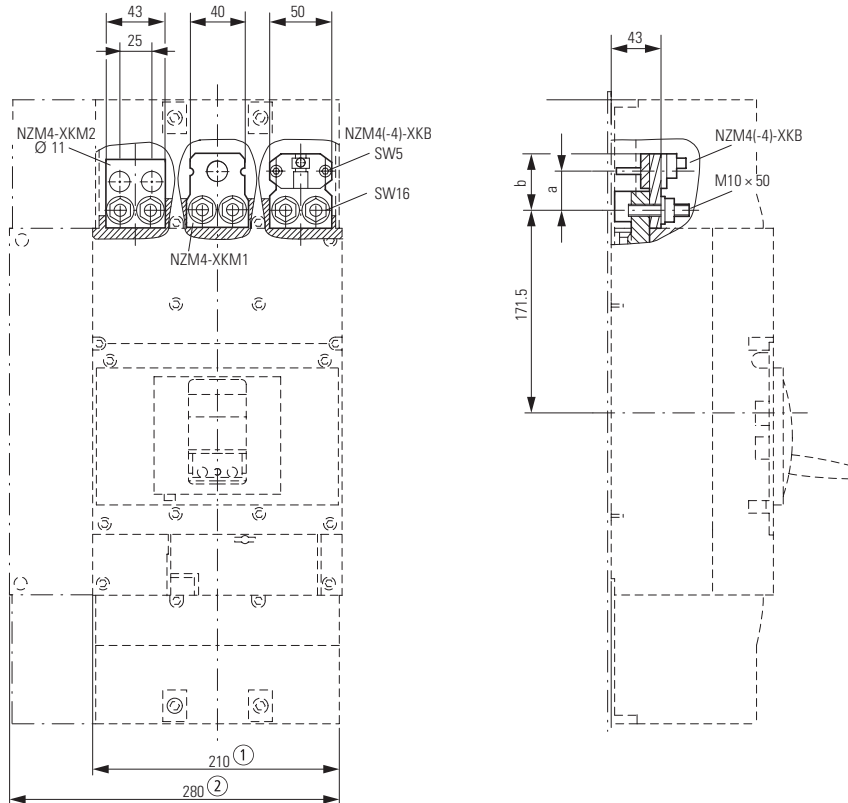
NZM4(-4)-XKM1

**2-hole**

NZM4(-4)-XKM2

| Part no.      | a  | b  |
|---------------|----|----|
| NZM4(-4)-XKM1 | 36 | 47 |
| NZM4(-4)-XKM2 | 32 | 40 |
| NZM4(-4)-XKB  | —  | 47 |

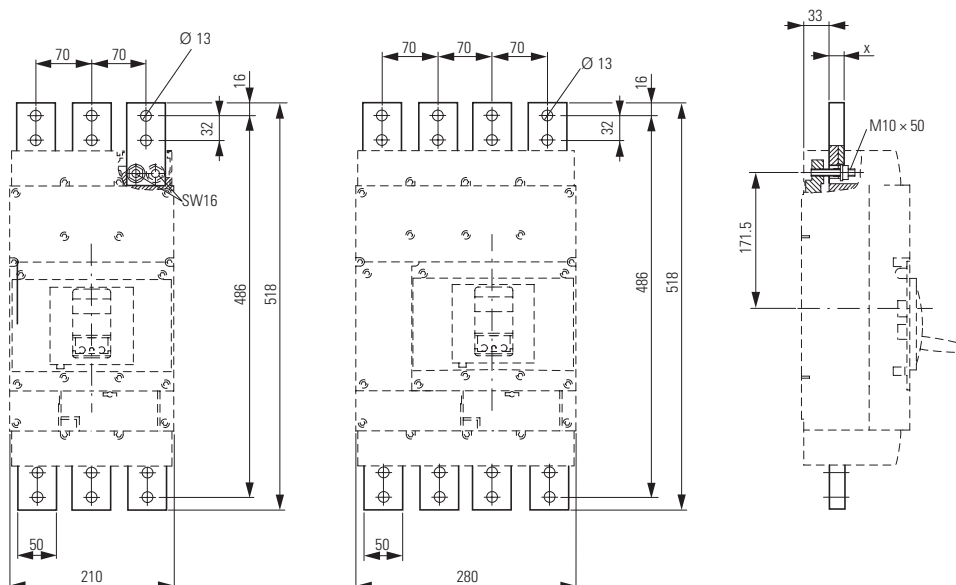
- ① 3 pole
- ② 4 pole
- ③ Clearance from conductive parts  $\geq 100$  mm up to 690 V



#### Module plate

**2 holes, vertical**

NZM4(-4)-XKM2S...



| Part no.            | x  |
|---------------------|----|
| NZM4(-4)-XKM2S-1250 | 12 |
| NZM4(-4)-XKM2S-1600 | 20 |

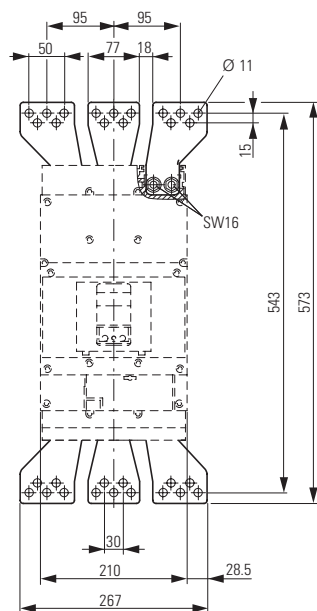
# Circuit-breakers LZM

## Dimensions

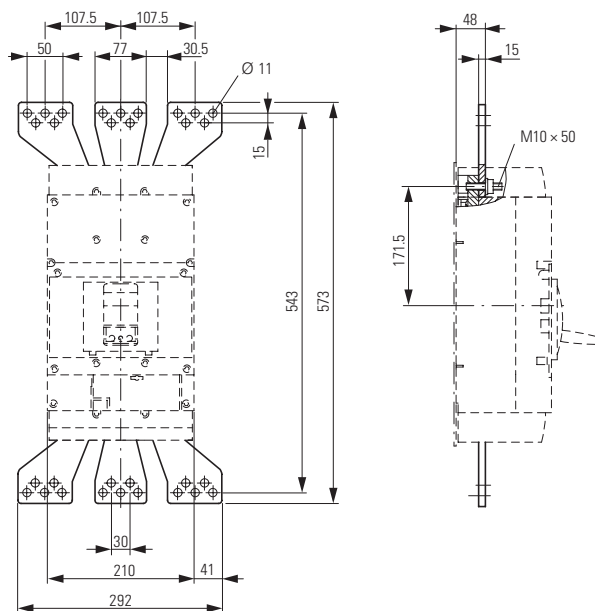
### Size 4: accessories NZM4-XKV...

#### Connection width extension

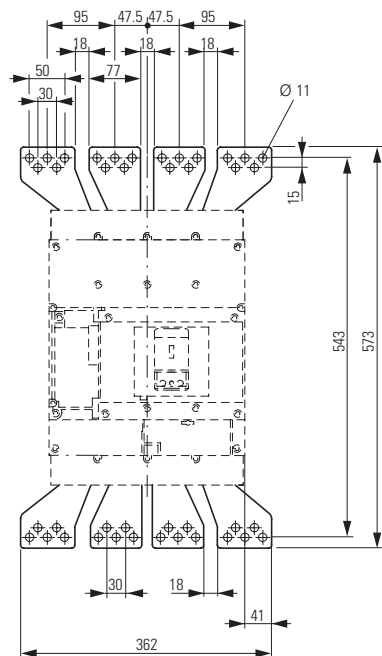
NZM4-XKV95



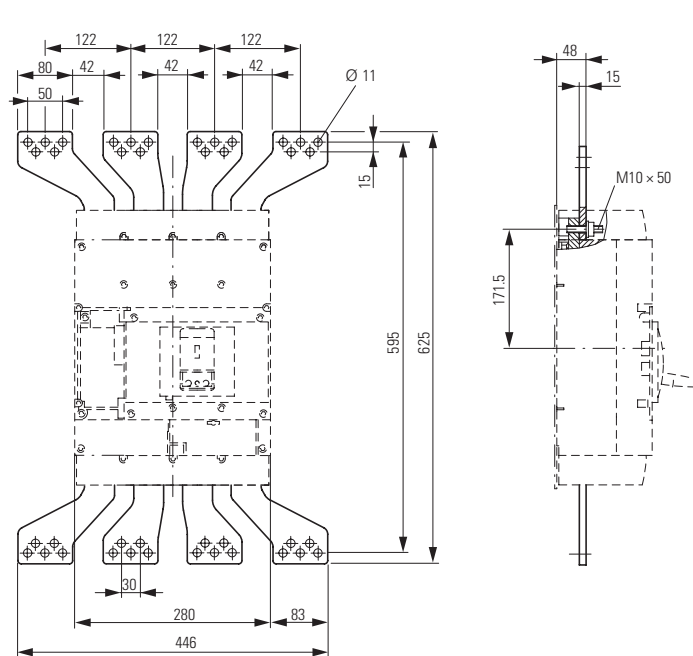
NZM4-XKV110



NZM4-4-XKV95



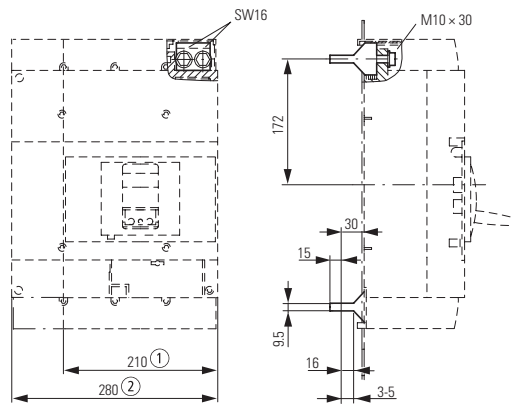
NZM4-4-XKV120



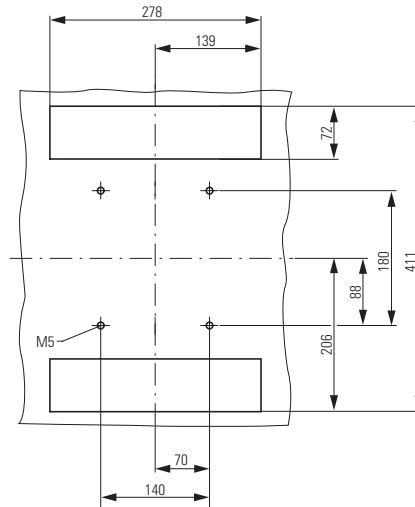
### Size 4: accessories NZM4(-4)-XKP, NZM4(-4)-XKR

#### Connection on rear

NZM4(-4)-XKR

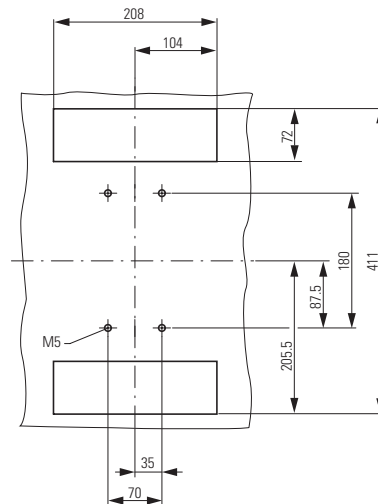
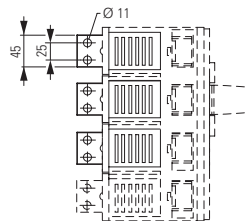


#### Fitting on mounting plate



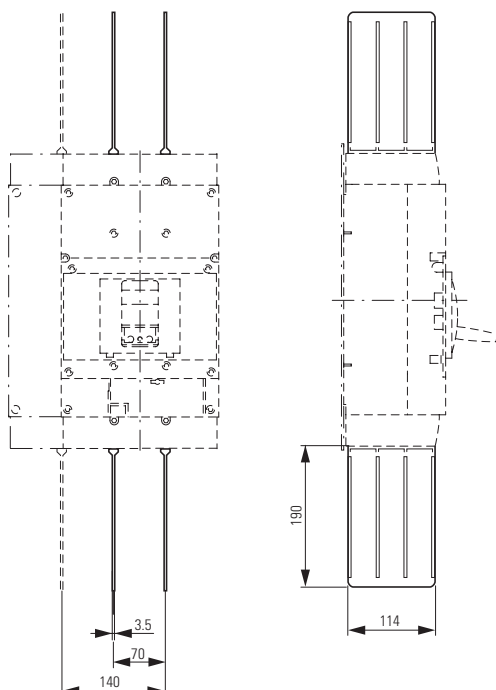
Rear connection possible also with rotation by 90°.

- ① 3 pole
- ② 4 pole



#### Phase isolators

NZM4-4-XKP



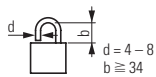
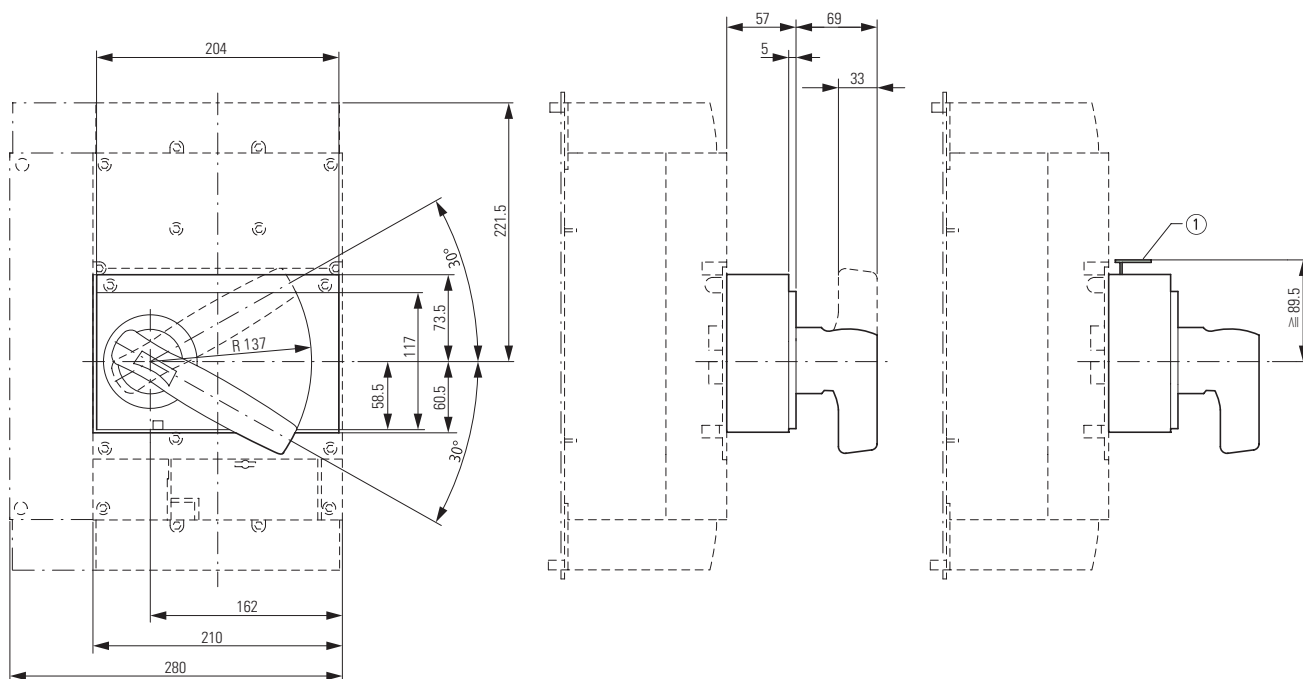
# Circuit-breakers LZM

## Dimensions

### Size 4: accessories NZM4-XDV..., NZM4-XTVD...

#### Rotary handle on circuit-breaker

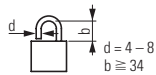
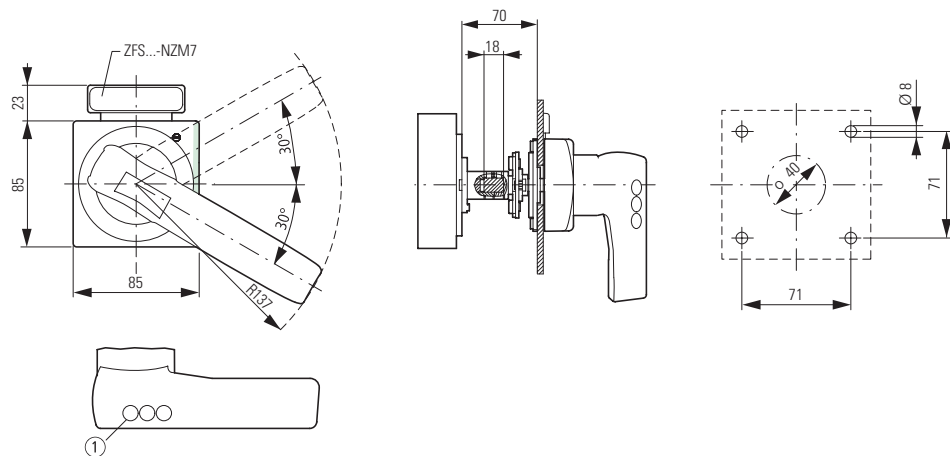
NZM4-XDV(R)



① Up to 3 padlocks

#### Door coupling rotary handle

NZM4-XTVD(V)(R)...

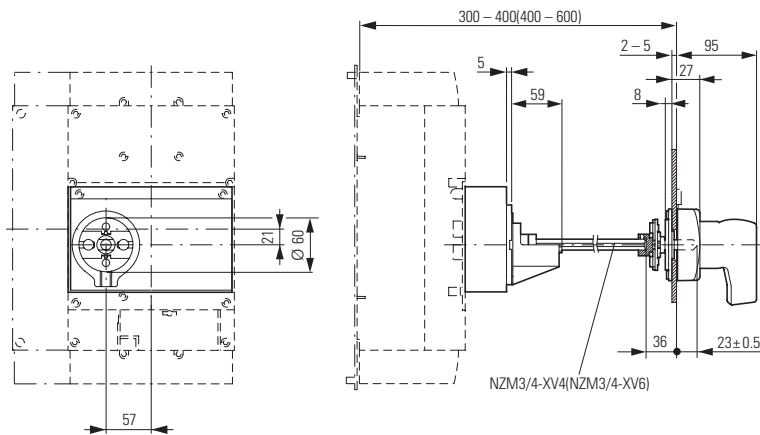


① Up to 3 padlocks

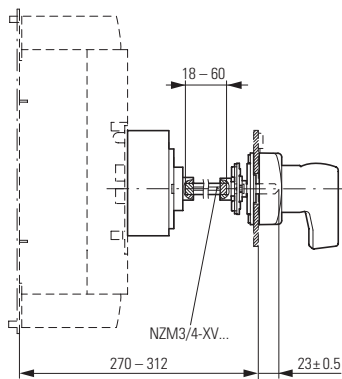
### Size 4: accessories NZM4-XTVD..., NZM4...-XV, NZM4-XS...

#### Door coupling rotary handle with extension shaft

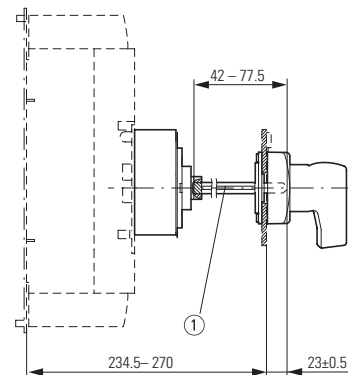
NZM4-XTVD(V)(R)  
NZM3/4-XV4(6)



NZM4-XTVD(V)(R)-60

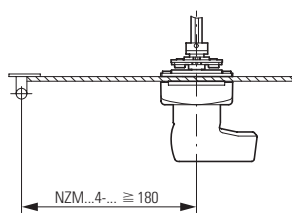


NZM4-XTVD(V)(R)-0



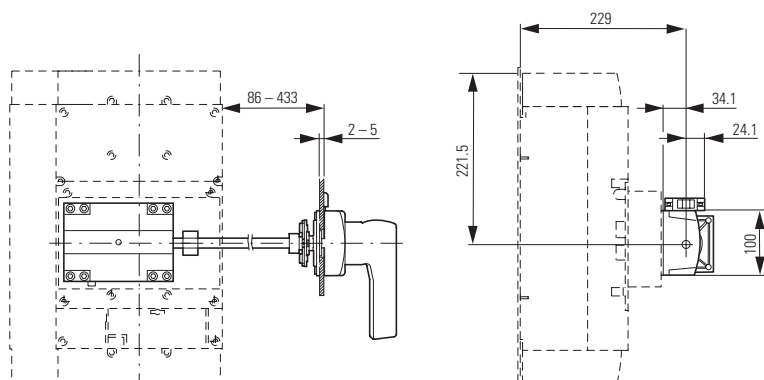
① Special tip

#### Minimum door coupling rotary handle clearance from door pivot point



#### Main switch mounting kits for side-wall mounting

NZM4-XS(R)-L  
NZM4-XS(R)-R



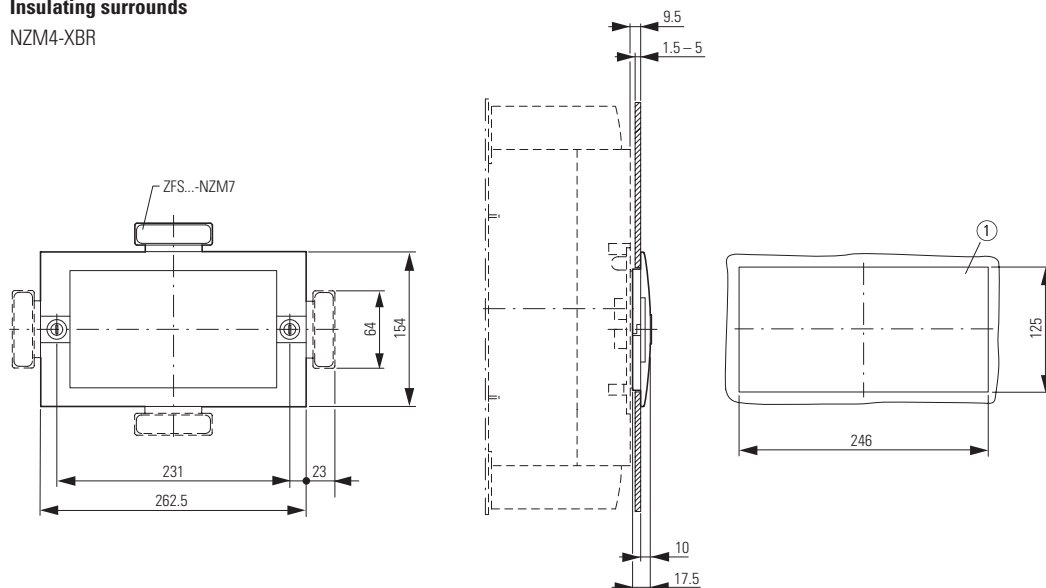
# Circuit-breakers LZM

## Dimensions

### Size 4: accessories NZM4-XBR, NZM4-XMV, NZM4-X...

#### Insulating surrounds

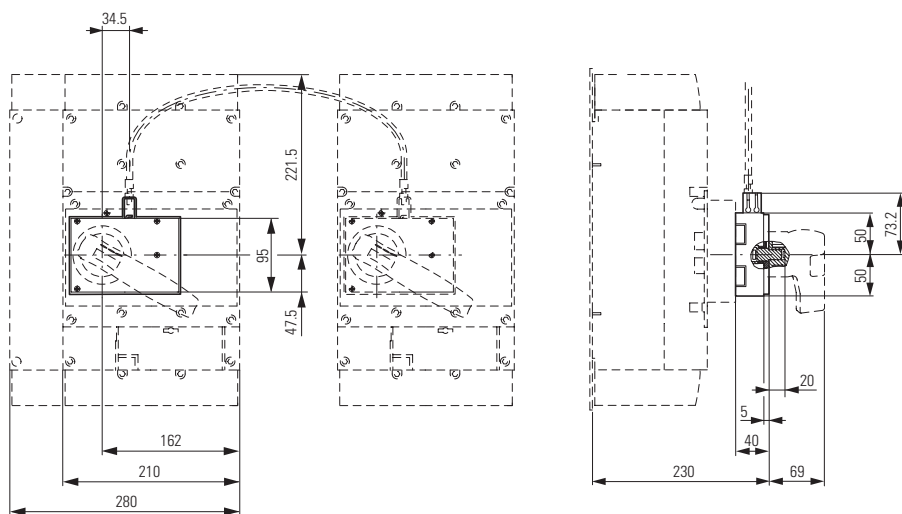
NZM4-XBR



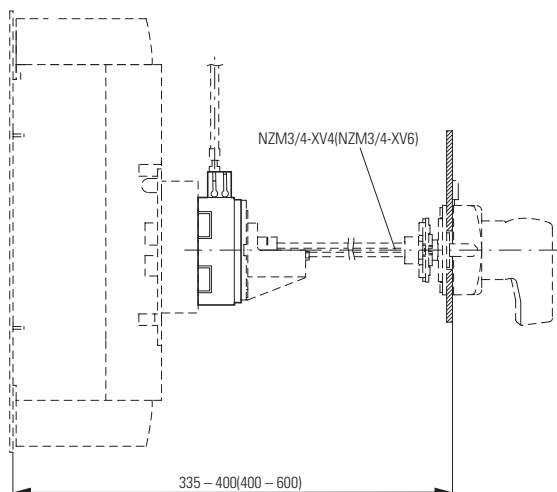
① Mounting aperture

#### Mechanical interlock

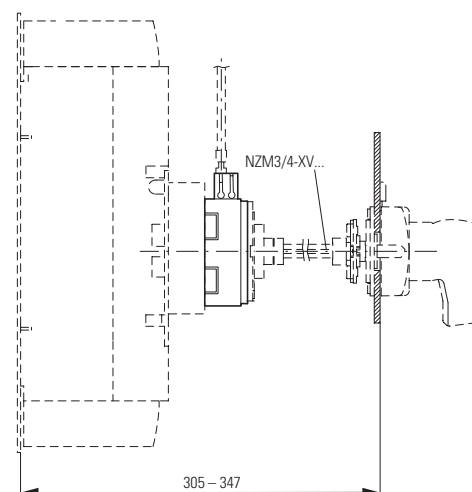
NZM4-XMV + NZM4-XDV(R)



NZM4-XMV + NZM4-XTVD(V)(R)



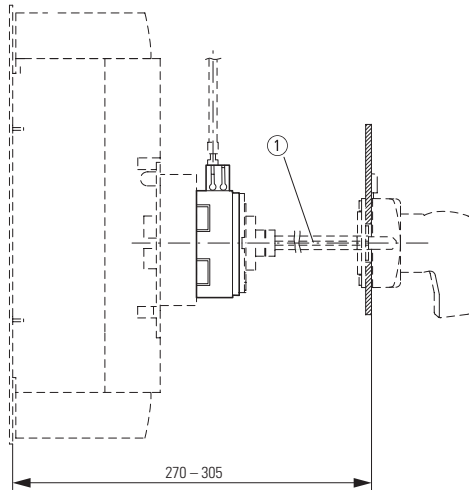
NZM4-XMV + NZM4-XTVD(V)(R)-60



### Size 4: accessories NZM4-XMV, NZM4-X...

#### Mechanical interlock

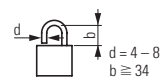
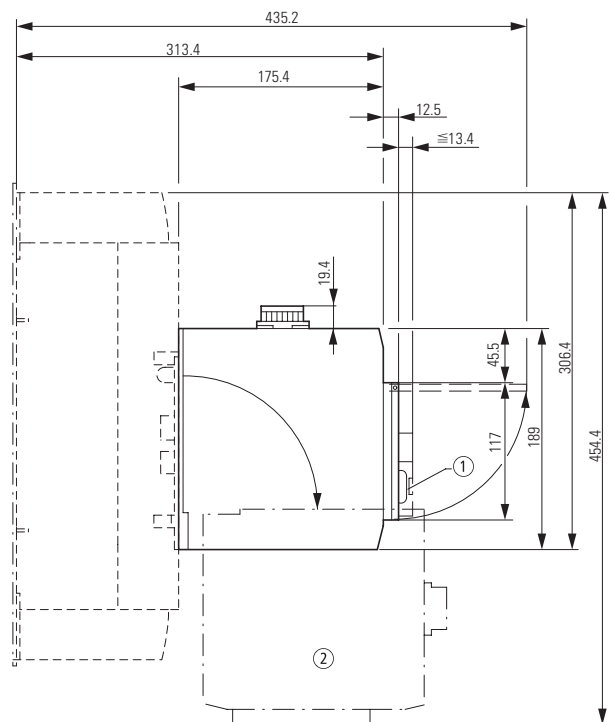
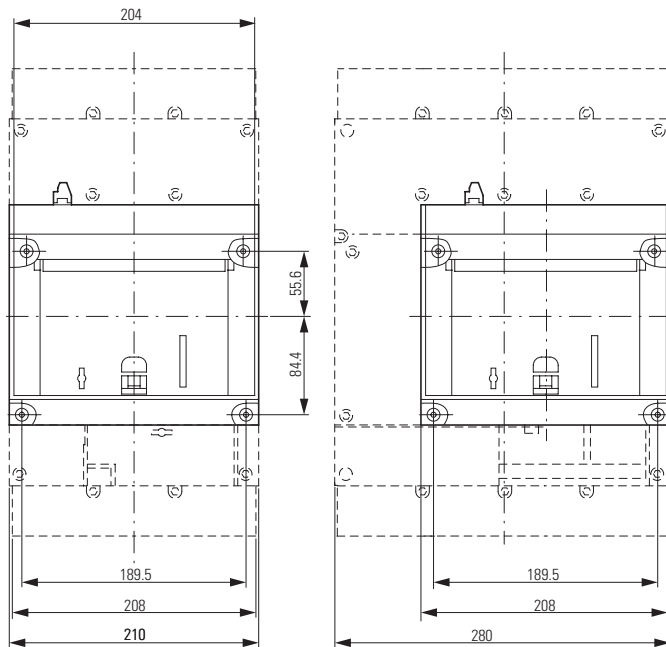
NZM4-XMV + NZM4-XTVD(V)(R)-0



① Special tip

#### Remote operator

NZM4-XR...



① Up to 3 padlocks  
Remote operator folded

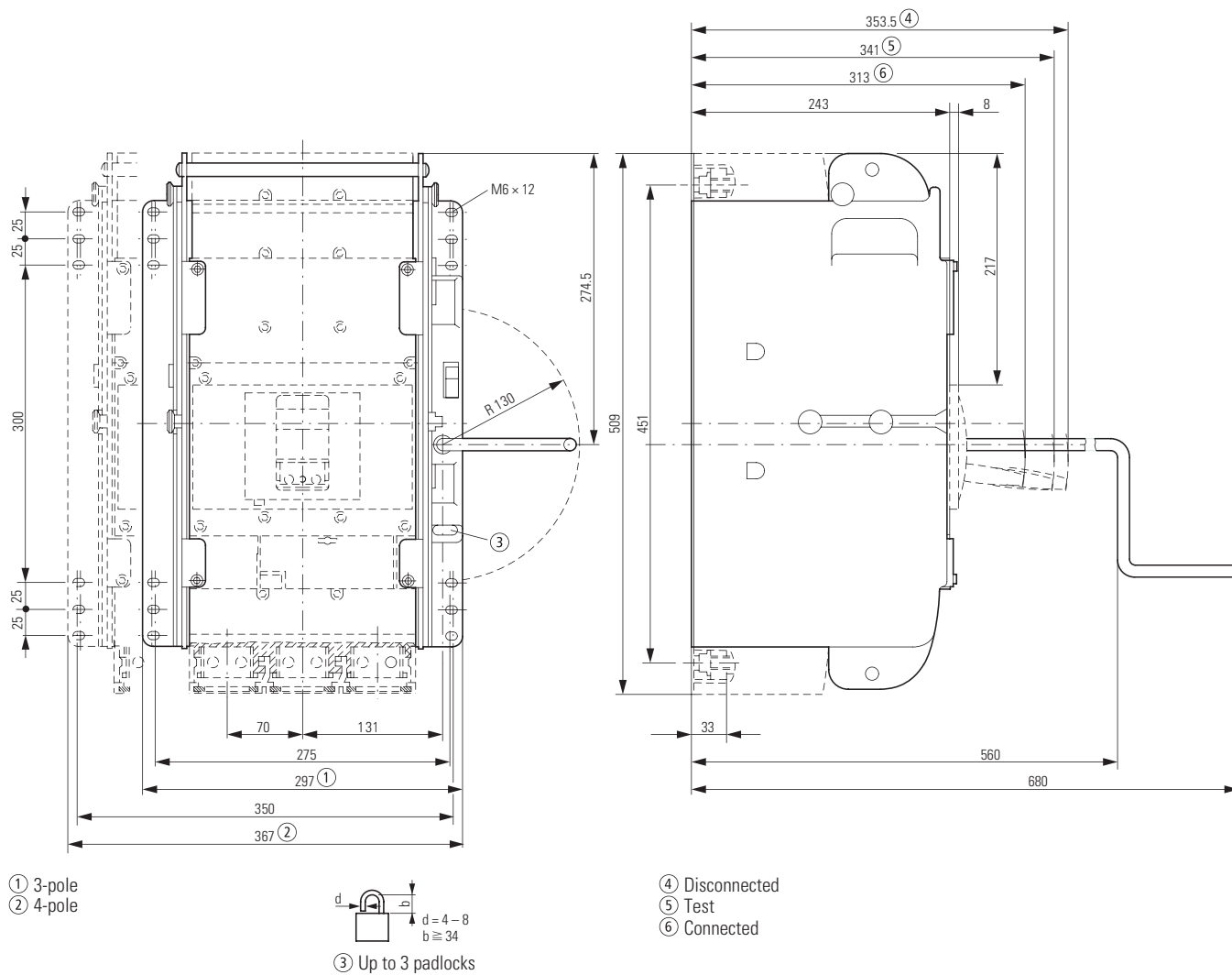
# Circuit-breakers LZM

## Dimensions

### Size 4: accessories NZM4...-XAV

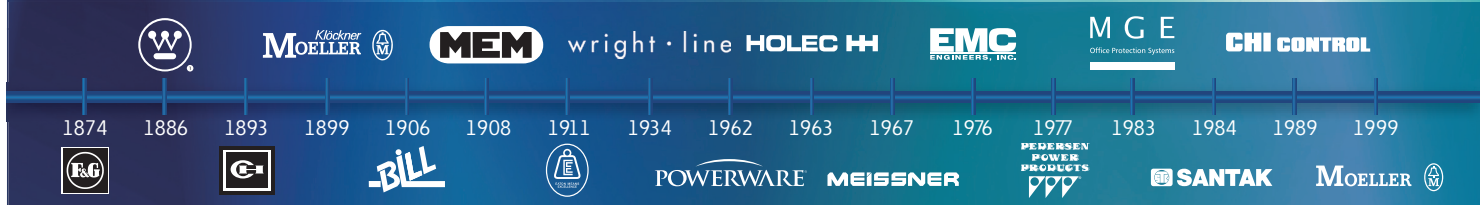
#### Withdrawable unit

+NZM4-4-XAV



# EAT•N

## The power of fusion.



**EAT•N**  
Powering Business Worldwide

There's a certain energy at Eaton. It's the power of uniting some of the world's most respected names to build a brand you can trust to meet every power management need. The energy created supports our commitment to powering business worldwide.

Eaton is dedicated to ensuring that reliable, efficient and safe power is available when it's needed most. With unparalleled knowledge of electrical power management across industries, experts at Eaton deliver customized, integrated solutions to solve our customers' most critical challenges. [Eaton.com/Electrical](http://Eaton.com/Electrical).

All of the above are trademarks of Eaton Corporation or its affiliates. Eaton has a license to use the Westinghouse brand name in Asia Pacific. ©2012 Eaton Corporation.

Eaton is dedicated to ensuring that reliable, efficient and safe power is available when it's needed most. With unparalleled knowledge of electrical power management across industries, experts at Eaton deliver customized, integrated solutions to solve our customers' most critical challenges.

Our focus is on delivering the right solution for the application. But, decision makers demand more than just innovative products. They turn to Eaton for an unwavering commitment to personal support that makes customer success a top priority. For more information, **visit [www.eaton.com/electrical](http://www.eaton.com/electrical)**.

**Electrical Sector Asia Pacific**

No.3, Lane 280, Linhong Road,  
Changning District, Shanghai

Eaton Industries Pte Ltd  
Electrical Sector  
4 Loyang Lane #04-01/02  
Singapore 508914  
[Eaton.com](http://Eaton.com)

© 2012 Eaton Corporation  
All Rights Reserved  
Printed in Singapore  
Publication No. SEABR0102002  
August 2012

Eaton is a registered trademark  
of Eaton Corporation.

All other trademarks are property  
of their respective owners.



*Powering Business Worldwide*