

## Miniature Circuit Breakers FAZ

SG55812



### FAZ

- High-quality miniature circuit breakers for industrial applications and residential applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- Rated currents up to 63 A
- Tripping characteristics B, C, D, K, S, Z
- Rated breaking capacity up to 15 kA according to IEC/EN 60947-2

## FAZ Miniature Circuit Breakers (MCBs)

### Characteristic B

|               | Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to IEC/EN 60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|---------------|----------------------------|----------------------|-----------------------------------------------------|--------------------------------|---------------------------------------------|---------------------|-------------|-------------------------|
| <b>1-pole</b> |                            |                      |                                                     |                                |                                             |                     |             |                         |
| 1             | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B1/1            | 182114      | 12                      |
| 1.5           | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B1,5/1          | 182115      | 12                      |
| 1.6           | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B1,6/1          | 182116      | 12                      |
| 2             | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B2/1            | 182117      | 12                      |
| 3             | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B3/1            | 182119      | 12                      |
| 3.5           | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B3,5/1          | 182120      | 12                      |
| 4             | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B4/1            | 182121      | 12                      |
| 5             | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B5/1            | 182122      | 12                      |
| 6             | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B6/1            | 182123      | 12                      |
| 8             | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B8/1            | 182124      | 12                      |
| 10            | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B10/1           | 182125      | 12                      |
| 12            | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B12/1           | 182126      | 12                      |
| 13            | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B13/1           | 182127      | 12                      |
| 15            | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B15/1           | 182128      | 12                      |
| 16            | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B16/1           | 182129      | 12                      |
| 20            | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B20/1           | 182130      | 12                      |
| 25            | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B25/1           | 182131      | 12                      |
| 32            | 240/415                    | 15                   | 277                                                 | 10                             |                                             | FAZ-B32/1           | 182132      | 12                      |
| 40            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-B40/1           | 182133      | 12                      |
| 50            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-B50/1           | 182134      | 12                      |
| 63            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-B63/1           | 182135      | 12                      |

SG53112



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|                 |     |    |     |    |  |             |        |   |
|-----------------|-----|----|-----|----|--|-------------|--------|---|
| <b>1+N-pole</b> |     |    |     |    |  |             |        |   |
| 1               | 240 | 15 | 277 | 10 |  | FAZ-B1/1N   | 182136 | 6 |
| 1.5             | 240 | 15 | 277 | 10 |  | FAZ-B1,5/1N | 182137 | 6 |
| 1.6             | 240 | 15 | 277 | 10 |  | FAZ-B1,6/1N | 182138 | 6 |
| 2               | 240 | 15 | 277 | 10 |  | FAZ-B2/1N   | 182139 | 6 |
| 2.5             | 240 | 15 | 277 | 10 |  | FAZ-B2,5/1N | 182140 | 6 |
| 3               | 240 | 15 | 277 | 10 |  | FAZ-B3/1N   | 182141 | 6 |
| 3.5             | 240 | 15 | 277 | 10 |  | FAZ-B3,5/1N | 182142 | 6 |
| 4               | 240 | 15 | 277 | 10 |  | FAZ-B4/1N   | 182143 | 6 |
| 5               | 240 | 15 | 277 | 10 |  | FAZ-B5/1N   | 182144 | 6 |
| 6               | 240 | 15 | 277 | 10 |  | FAZ-B6/1N   | 182145 | 6 |
| 8               | 240 | 15 | 277 | 10 |  | FAZ-B8/1N   | 182146 | 6 |
| 10              | 240 | 15 | 277 | 10 |  | FAZ-B10/1N  | 182147 | 6 |
| 12              | 240 | 15 | 277 | 10 |  | FAZ-B12/1N  | 182148 | 6 |
| 13              | 240 | 15 | 277 | 10 |  | FAZ-B13/1N  | 182149 | 6 |
| 15              | 240 | 15 | 277 | 10 |  | FAZ-B15/1N  | 182150 | 6 |
| 16              | 240 | 15 | 277 | 10 |  | FAZ-B16/1N  | 182151 | 6 |
| 20              | 240 | 15 | 277 | 10 |  | FAZ-B20/1N  | 182152 | 6 |
| 25              | 240 | 15 | 277 | 10 |  | FAZ-B25/1N  | 182153 | 6 |
| 32              | 240 | 15 | 277 | 10 |  | FAZ-B32/1N  | 182154 | 6 |
| 40              | 240 | 15 | 277 | 5  |  | FAZ-B40/1N  | 182155 | 6 |
| 50              | 240 | 15 | 277 | 5  |  | FAZ-B50/1N  | 182156 | 6 |
| 63              | 240 | 15 | 277 | 5  |  | FAZ-B63/1N  | 182157 | 6 |

SG56112



## 2-pole

|     | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL1077<br>(V) | Breaking<br>capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|-----|-------------------------------|-------------------------|--------------------------------------------------------------|-----------------------------------|---------------------------------------------------|---------------------|-------------|-------------------------|
| 1   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1/2            | 182158      | 6                       |
| 1.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1,5/2          | 182159      | 6                       |
| 1.6 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1,6/2          | 182160      | 6                       |
| 2   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B2/2            | 182161      | 6                       |
| 2.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B2,5/2          | 182162      | 6                       |
| 3   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B3/2            | 182112      | 6                       |
| 3.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B3,5/2          | 182113      | 6                       |
| 4   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B4/2            | 182175      | 6                       |
| 5   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B5/2            | 182176      | 6                       |
| 6   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B6/2            | 182177      | 6                       |
| 7   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B7/2            | 182178      | 6                       |
| 8   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B8/2            | 182179      | 6                       |
| 10  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B10/2           | 182180      | 6                       |
| 12  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B12/2           | 182181      | 6                       |
| 13  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B13/2           | 182182      | 6                       |
| 15  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B15/2           | 182183      | 6                       |
| 16  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B16/2           | 182184      | 6                       |
| 20  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B20/2           | 182185      | 6                       |
| 25  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B25/2           | 182186      | 6                       |
| 32  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B32/2           | 182188      | 6                       |
| 40  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B40/2           | 182189      | 6                       |
| 50  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B50/2           | 182190      | 6                       |
| 63  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B63/2           | 182191      | 6                       |

SG53412



## 3-pole

|     | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL1077<br>(V) | Breaking<br>capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|-----|-------------------------------|-------------------------|--------------------------------------------------------------|-----------------------------------|---------------------------------------------------|---------------------|-------------|-------------------------|
| 1   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1/3            | 182192      | 4                       |
| 1.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1,5/3          | 182193      | 4                       |
| 1.6 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1,6/3          | 182194      | 4                       |
| 2   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B2/3            | 182195      | 4                       |
| 2.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B2,5/3          | 182196      | 4                       |
| 3   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B3/3            | 182197      | 4                       |
| 3.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B3,5/3          | 182198      | 4                       |
| 4   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B4/3            | 182199      | 4                       |
| 5   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B5/3            | 182200      | 4                       |
| 6   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B6/3            | 182201      | 4                       |
| 7   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B7/3            | 182202      | 4                       |
| 8   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B8/3            | 182203      | 4                       |
| 10  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B10/3           | 182204      | 4                       |
| 12  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B12/3           | 182205      | 4                       |
| 13  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B13/3           | 182206      | 4                       |
| 15  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B15/3           | 182207      | 4                       |
| 16  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B16/3           | 182208      | 4                       |
| 20  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B20/3           | 182209      | 4                       |
| 25  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B25/3           | 182210      | 4                       |
| 32  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B32/3           | 182212      | 4                       |
| 40  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B40/3           | 182213      | 4                       |
| 50  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B50/3           | 182214      | 4                       |
| 63  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B63/3           | 182215      | 4                       |

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## 3+N-pole

|     | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL1077<br>(V) | Breaking<br>capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|-----|-------------------------------|-------------------------|--------------------------------------------------------------|-----------------------------------|---------------------------------------------------|---------------------|-------------|-------------------------|
| 1   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1/3N           | 182216      | 3                       |
| 1.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1,5/3N         | 182217      | 3                       |
| 1.6 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1,6/3N         | 182218      | 3                       |
| 2   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B2/3N           | 182219      | 3                       |
| 2.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B2,5/3N         | 182220      | 3                       |
| 3   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B3/3N           | 182221      | 3                       |
| 3.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B3,5/3N         | 182222      | 3                       |
| 4   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B4/3N           | 182223      | 3                       |
| 5   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B5/3N           | 182224      | 3                       |
| 6   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B6/3N           | 182225      | 3                       |
| 8   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B8/3N           | 182226      | 3                       |
| 10  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B10/3N          | 182227      | 3                       |
| 12  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B12/3N          | 182228      | 3                       |
| 13  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B13/3N          | 182229      | 3                       |
| 15  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B15/3N          | 182230      | 3                       |
| 16  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B16/3N          | 182231      | 3                       |
| 20  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B20/3N          | 182232      | 3                       |
| 25  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B25/3N          | 182233      | 3                       |
| 32  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B32/3N          | 182234      | 3                       |
| 40  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B40/3N          | 182235      | 3                       |
| 50  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B50/3N          | 182236      | 3                       |
| 63  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B63/3N          | 182237      | 3                       |

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## 4-pole

|     | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL1077<br>(V) | Breaking<br>capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|-----|-------------------------------|-------------------------|--------------------------------------------------------------|-----------------------------------|---------------------------------------------------|---------------------|-------------|-------------------------|
| 1   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1/4            | 182238      | 3                       |
| 1.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1,5/4          | 182239      | 3                       |
| 1.6 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B1,6/4          | 182240      | 3                       |
| 2   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B2/4            | 182241      | 3                       |
| 2.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B2,5/4          | 182242      | 3                       |
| 3   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B3/4            | 182243      | 3                       |
| 3.5 | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B3,5/4          | 182244      | 3                       |
| 4   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B4/4            | 182245      | 3                       |
| 5   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B5/4            | 182246      | 3                       |
| 6   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B6/4            | 182247      | 3                       |
| 7   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B7/4            | 182248      | 3                       |
| 8   | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B8/4            | 182249      | 3                       |
| 10  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B10/4           | 182250      | 3                       |
| 12  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B12/4           | 182251      | 3                       |
| 13  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B13/4           | 182252      | 3                       |
| 15  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B15/4           | 182253      | 3                       |
| 16  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B16/4           | 182254      | 3                       |
| 20  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B20/4           | 182255      | 3                       |
| 25  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B25/4           | 182256      | 3                       |
| 32  | 415                           | 15                      | 480Y/277                                                     | 10                                |                                                   | FAZ-B32/4           | 182257      | 3                       |
| 40  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B40/4           | 182258      | 3                       |
| 50  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B50/4           | 182259      | 3                       |
| 63  | 415                           | 15                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-B63/4           | 182260      | 3                       |

## FAZ Miniature Circuit Breakers (MCBs)

### Characteristic C

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| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|

#### 1-pole

|      |         |    |     |    |             |        |    |
|------|---------|----|-----|----|-------------|--------|----|
| 0.16 | 240/415 | 15 | 277 | 5  | FAZ-C0,16/1 | 182261 | 12 |
| 0.25 | 240/415 | 15 | 277 | 5  | FAZ-C0,25/1 | 182262 | 12 |
| 0.5  | 240/415 | 15 | 277 | 10 | FAZ-C0,5/1  | 182263 | 12 |
| 0.75 | 240/415 | 15 | 277 | 10 | FAZ-C0,75/1 | 182264 | 12 |
| 1    | 240/415 | 15 | 277 | 10 | FAZ-C1/1    | 182265 | 12 |
| 1.5  | 240/415 | 15 | 277 | 10 | FAZ-C1,5/1  | 182266 | 12 |
| 1.6  | 240/415 | 15 | 277 | 10 | FAZ-C1,6/1  | 182267 | 12 |
| 2    | 240/415 | 15 | 277 | 10 | FAZ-C2/1    | 182268 | 12 |
| 2.5  | 240/415 | 15 | 277 | 10 | FAZ-C2,5/1  | 182269 | 12 |
| 3    | 240/415 | 15 | 277 | 10 | FAZ-C3/1    | 182270 | 12 |
| 3.5  | 240/415 | 15 | 277 | 10 | FAZ-C3,5/1  | 182271 | 12 |
| 4    | 240/415 | 15 | 277 | 10 | FAZ-C4/1    | 182272 | 12 |
| 5    | 240/415 | 15 | 277 | 10 | FAZ-C5/1    | 182273 | 12 |
| 6    | 240/415 | 15 | 277 | 10 | FAZ-C6/1    | 182274 | 12 |
| 8    | 240/415 | 15 | 277 | 10 | FAZ-C8/1    | 182275 | 12 |
| 10   | 240/415 | 15 | 277 | 10 | FAZ-C10/1   | 182276 | 12 |
| 12   | 240/415 | 15 | 277 | 10 | FAZ-C12/1   | 182277 | 12 |
| 13   | 240/415 | 15 | 277 | 10 | FAZ-C13/1   | 182278 | 12 |
| 15   | 240/415 | 15 | 277 | 10 | FAZ-C15/1   | 182279 | 12 |
| 16   | 240/415 | 15 | 277 | 10 | FAZ-C16/1   | 182280 | 12 |
| 20   | 240/415 | 15 | 277 | 10 | FAZ-C20/1   | 182281 | 12 |
| 25   | 240/415 | 15 | 277 | 10 | FAZ-C25/1   | 182282 | 12 |
| 32   | 240/415 | 15 | 277 | 10 | FAZ-C32/1   | 182283 | 12 |
| 40   | 240/415 | 15 | 277 | 5  | FAZ-C40/1   | 182284 | 12 |
| 50   | 240/415 | 15 | 277 | 5  | FAZ-C50/1   | 182285 | 12 |
| 63   | 240/415 | 15 | 277 | 5  | FAZ-C63/1   | 182286 | 12 |

SG55612



#### 1+N-pole

|      |     |    |     |    |              |        |   |
|------|-----|----|-----|----|--------------|--------|---|
| 0.16 | 240 | 15 | 277 | 5  | FAZ-C0,16/1N | 182287 | 6 |
| 0.25 | 240 | 15 | 277 | 5  | FAZ-C0,25/1N | 182288 | 6 |
| 0.5  | 240 | 15 | 277 | 10 | FAZ-C0,5/1N  | 182289 | 6 |
| 0.75 | 240 | 15 | 277 | 10 | FAZ-C0,75/1N | 182290 | 6 |
| 1    | 240 | 15 | 277 | 10 | FAZ-C1/1N    | 182291 | 6 |
| 1.5  | 240 | 15 | 277 | 10 | FAZ-C1,5/1N  | 182292 | 6 |
| 1.6  | 240 | 15 | 277 | 10 | FAZ-C1,6/1N  | 182293 | 6 |
| 2    | 240 | 15 | 277 | 10 | FAZ-C2/1N    | 182294 | 6 |
| 2.5  | 240 | 15 | 277 | 10 | FAZ-C2,5/1N  | 182295 | 6 |
| 3    | 240 | 15 | 277 | 10 | FAZ-C3/1N    | 182296 | 6 |
| 3.5  | 240 | 15 | 277 | 10 | FAZ-C3,5/1N  | 182297 | 6 |
| 4    | 240 | 15 | 277 | 10 | FAZ-C4/1N    | 182298 | 6 |
| 5    | 240 | 15 | 277 | 10 | FAZ-C5/1N    | 182299 | 6 |
| 6    | 240 | 15 | 277 | 10 | FAZ-C6/1N    | 182300 | 6 |
| 8    | 240 | 15 | 277 | 10 | FAZ-C8/1N    | 182301 | 6 |
| 10   | 240 | 15 | 277 | 10 | FAZ-C10/1N   | 182302 | 6 |
| 12   | 240 | 15 | 277 | 10 | FAZ-C12/1N   | 182303 | 6 |
| 13   | 240 | 15 | 277 | 10 | FAZ-C13/1N   | 182304 | 6 |
| 15   | 240 | 15 | 277 | 10 | FAZ-C15/1N   | 182305 | 6 |
| 16   | 240 | 15 | 277 | 10 | FAZ-C16/1N   | 182306 | 6 |
| 20   | 240 | 15 | 277 | 10 | FAZ-C20/1N   | 182307 | 6 |
| 25   | 240 | 15 | 277 | 10 | FAZ-C25/1N   | 182308 | 6 |
| 32   | 240 | 15 | 277 | 10 | FAZ-C32/1N   | 182309 | 6 |
| 40   | 240 | 15 | 277 | 5  | FAZ-C40/1N   | 182310 | 6 |
| 50   | 240 | 15 | 277 | 5  | FAZ-C50/1N   | 182311 | 6 |
| 63   | 240 | 15 | 277 | 5  | FAZ-C63/1N   | 182312 | 6 |

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| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| <b>2-pole</b>              |                      |                                                           |                                |                                                |                     |             |                         |
| 0.16                       | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C0,16/2         | 182313      | 6                       |
| 0.25                       | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C0,25/2         | 182314      | 6                       |
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C0,5/2          | 182315      | 6                       |
| 0.75                       | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C0,75/2         | 182316      | 6                       |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1/2            | 182317      | 6                       |
| 1.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1,5/2          | 182318      | 6                       |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1,6/2          | 182319      | 6                       |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C2/2            | 182320      | 6                       |
| 2.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C2,5/2          | 182321      | 6                       |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C3/2            | 182322      | 6                       |
| 3.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C3,5/2          | 182323      | 6                       |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C4/2            | 182324      | 6                       |
| 5                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C5/2            | 182325      | 6                       |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C6/2            | 182326      | 6                       |
| 7                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C7/2            | 182327      | 6                       |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C8/2            | 182328      | 6                       |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C10/2           | 182329      | 6                       |
| 12                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C12/2           | 182330      | 6                       |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C13/2           | 182331      | 6                       |
| 15                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C15/2           | 182332      | 6                       |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C16/2           | 182333      | 6                       |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C20/2           | 182334      | 6                       |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C25/2           | 182335      | 6                       |
| 30                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C30/2           | 182336      | 6                       |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C32/2           | 182337      | 6                       |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C40/2           | 182338      | 6                       |
| 50                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C50/2           | 182339      | 6                       |
| 63                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C63/2           | 182340      | 6                       |

SG53412



|               |     |    |          |    |             |        |   |
|---------------|-----|----|----------|----|-------------|--------|---|
| <b>3-pole</b> |     |    |          |    |             |        |   |
| 0.16          | 415 | 15 | 480Y/277 | 5  | FAZ-C0,16/3 | 182341 | 4 |
| 0.25          | 415 | 15 | 480Y/277 | 5  | FAZ-C0,25/3 | 182342 | 4 |
| 0.5           | 415 | 15 | 480Y/277 | 10 | FAZ-C0,5/3  | 182163 | 4 |
| 0.75          | 415 | 15 | 480Y/277 | 10 | FAZ-C0,75/3 | 182164 | 4 |
| 1             | 415 | 15 | 480Y/277 | 10 | FAZ-C1/3    | 182165 | 4 |
| 1.5           | 415 | 15 | 480Y/277 | 10 | FAZ-C1,5/3  | 182166 | 4 |
| 1.6           | 415 | 15 | 480Y/277 | 10 | FAZ-C1,6/3  | 182167 | 4 |
| 2             | 415 | 15 | 480Y/277 | 10 | FAZ-C2/3    | 182168 | 4 |
| 2.5           | 415 | 15 | 480Y/277 | 10 | FAZ-C2,5/3  | 182169 | 4 |
| 3             | 415 | 15 | 480Y/277 | 10 | FAZ-C3/3    | 182170 | 4 |
| 3.5           | 415 | 15 | 480Y/277 | 10 | FAZ-C3,5/3  | 182171 | 4 |
| 4             | 415 | 15 | 480Y/277 | 10 | FAZ-C4/3    | 182172 | 4 |
| 5             | 415 | 15 | 480Y/277 | 10 | FAZ-C5/3    | 182173 | 4 |
| 6             | 415 | 15 | 480Y/277 | 10 | FAZ-C6/3    | 182174 | 4 |
| 7             | 415 | 15 | 480Y/277 | 10 | FAZ-C7/3    | 181651 | 4 |
| 8             | 415 | 15 | 480Y/277 | 10 | FAZ-C8/3    | 181652 | 4 |
| 10            | 415 | 15 | 480Y/277 | 10 | FAZ-C10/3   | 181653 | 4 |
| 12            | 415 | 15 | 480Y/277 | 10 | FAZ-C12/3   | 181654 | 4 |
| 13            | 415 | 15 | 480Y/277 | 10 | FAZ-C13/3   | 181655 | 4 |
| 15            | 415 | 15 | 480Y/277 | 10 | FAZ-C15/3   | 181656 | 4 |
| 16            | 415 | 15 | 480Y/277 | 10 | FAZ-C16/3   | 181657 | 4 |
| 20            | 415 | 15 | 480Y/277 | 10 | FAZ-C20/3   | 181658 | 4 |
| 25            | 415 | 15 | 480Y/277 | 10 | FAZ-C25/3   | 181659 | 4 |
| 30            | 415 | 15 | 480Y/277 | 10 | FAZ-C30/3   | 181660 | 4 |
| 32            | 415 | 15 | 480Y/277 | 10 | FAZ-C32/3   | 181661 | 4 |
| 40            | 415 | 15 | 480Y/277 | 5  | FAZ-C40/3   | 181662 | 4 |
| 50            | 415 | 15 | 480Y/277 | 5  | FAZ-C50/3   | 181663 | 4 |
| 63            | 415 | 15 | 480Y/277 | 5  | FAZ-C63/3   | 181664 | 4 |

SG55712



## 3+N-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.16                       | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C0,16/3N        | 181665      | 3                       |
| 0.25                       | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C0,25/3N        | 181666      | 3                       |
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C0,5/3N         | 181667      | 3                       |
| 0.75                       | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C0,75/3N        | 181668      | 3                       |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1/3N           | 181669      | 3                       |
| 1.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1,5/3N         | 181670      | 3                       |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1,6/3N         | 181671      | 3                       |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C2/3N           | 181672      | 3                       |
| 2.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C2,5/3N         | 181673      | 3                       |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C3/3N           | 181674      | 3                       |
| 3.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C3,5/3N         | 181675      | 3                       |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C4/3N           | 181676      | 3                       |
| 5                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C5/3N           | 181677      | 3                       |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C6/3N           | 181678      | 3                       |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C8/3N           | 181679      | 3                       |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C10/3N          | 181680      | 3                       |
| 12                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C12/3N          | 181681      | 3                       |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C13/3N          | 181682      | 3                       |
| 15                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C15/3N          | 181683      | 3                       |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C16/3N          | 181684      | 3                       |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C20/3N          | 181685      | 3                       |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C25/3N          | 181686      | 3                       |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C32/3N          | 181687      | 3                       |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C40/3N          | 181688      | 3                       |
| 50                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C50/3N          | 181689      | 3                       |
| 63                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C63/3N          | 181690      | 3                       |

SG55812



## 4-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.16                       | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C0,16/4         | 181691      | 3                       |
| 0.25                       | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C0,25/4         | 181692      | 3                       |
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C0,5/4          | 181693      | 3                       |
| 0.75                       | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C0,75/4         | 181694      | 3                       |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1/4            | 181695      | 3                       |
| 1.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1,5/4          | 181696      | 3                       |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C1,6/4          | 181697      | 3                       |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C2/4            | 181698      | 3                       |
| 2.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C2,5/4          | 181699      | 3                       |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C3/4            | 181700      | 3                       |
| 3.5                        | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C3,5/4          | 181701      | 3                       |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C4/4            | 181702      | 3                       |
| 5                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C5/4            | 181703      | 3                       |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C6/4            | 181704      | 3                       |
| 7                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C7/4            | 181705      | 3                       |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C8/4            | 181706      | 3                       |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C10/4           | 181707      | 3                       |
| 12                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C12/4           | 181708      | 3                       |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C13/4           | 181709      | 3                       |
| 15                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C15/4           | 181710      | 3                       |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C16/4           | 181711      | 3                       |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C20/4           | 181712      | 3                       |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C25/4           | 181713      | 3                       |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 10                                             | FAZ-C32/4           | 181714      | 3                       |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C40/4           | 181715      | 3                       |
| 50                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C50/4           | 181716      | 3                       |
| 63                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-C63/4           | 181717      | 3                       |

## FAZ Miniature Circuit Breakers (MCBs)

### Characteristic D

SG53112



| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|

#### 1-pole

|     |         |    |     |   |            |        |    |
|-----|---------|----|-----|---|------------|--------|----|
| 0.5 | 240/415 | 15 | 277 | 5 | FAZ-D0,5/1 | 181718 | 12 |
| 1   | 240/415 | 15 | 277 | 5 | FAZ-D1/1   | 181719 | 12 |
| 1.5 | 240/415 | 15 | 277 | 5 | FAZ-D1,5/1 | 181720 | 12 |
| 1.6 | 240/415 | 15 | 277 | 5 | FAZ-D1,6/1 | 181721 | 12 |
| 2   | 240/415 | 15 | 277 | 5 | FAZ-D2/1   | 181722 | 12 |
| 2.5 | 240/415 | 15 | 277 | 5 | FAZ-D2,5/1 | 181723 | 12 |
| 3   | 240/415 | 15 | 277 | 5 | FAZ-D3/1   | 181724 | 12 |
| 3.5 | 240/415 | 15 | 277 | 5 | FAZ-D3,5/1 | 181725 | 12 |
| 4   | 240/415 | 15 | 277 | 5 | FAZ-D4/1   | 181726 | 12 |
| 5   | 240/415 | 15 | 277 | 5 | FAZ-D5/1   | 181727 | 12 |
| 6   | 240/415 | 15 | 277 | 5 | FAZ-D6/1   | 181728 | 12 |
| 8   | 240/415 | 15 | 277 | 5 | FAZ-D8/1   | 181729 | 12 |
| 10  | 240/415 | 15 | 277 | 5 | FAZ-D10/1  | 181730 | 12 |
| 12  | 240/415 | 15 | 277 | 5 | FAZ-D12/1  | 181731 | 12 |
| 13  | 240/415 | 15 | 277 | 5 | FAZ-D13/1  | 181732 | 12 |
| 15  | 240/415 | 15 | 277 | 5 | FAZ-D15/1  | 181733 | 12 |
| 16  | 240/415 | 15 | 277 | 5 | FAZ-D16/1  | 181734 | 12 |
| 20  | 240/415 | 15 | 277 | 5 | FAZ-D20/1  | 181735 | 12 |
| 25  | 240/415 | 15 | 277 | 5 | FAZ-D25/1  | 181736 | 12 |
| 32  | 240/415 | 15 | 277 | 5 | FAZ-D32/1  | 181737 | 12 |
| 40  | 240/415 | 15 | 277 | 5 | FAZ-D40/1  | 181738 | 12 |
| 50  | 240/415 | 10 | -   | - | FAZ-D50/1  | 181739 | 12 |
| 63  | 240/415 | 10 | -   | - | FAZ-D63/1  | 181740 | 12 |

SG56612



#### 1+N-pole

|     |     |    |     |   |             |        |   |
|-----|-----|----|-----|---|-------------|--------|---|
| 0.5 | 240 | 15 | 277 | 5 | FAZ-D0,5/1N | 181741 | 6 |
| 1   | 240 | 15 | 277 | 5 | FAZ-D1/1N   | 181742 | 6 |
| 1.5 | 240 | 15 | 277 | 5 | FAZ-D1,5/1N | 181743 | 6 |
| 1.6 | 240 | 15 | 277 | 5 | FAZ-D1,6/1N | 181744 | 6 |
| 2   | 240 | 15 | 277 | 5 | FAZ-D2/1N   | 181745 | 6 |
| 2.5 | 240 | 15 | 277 | 5 | FAZ-D2,5/1N | 181746 | 6 |
| 3   | 240 | 15 | 277 | 5 | FAZ-D3/1N   | 181747 | 6 |
| 3.5 | 240 | 15 | 277 | 5 | FAZ-D3,5/1N | 181748 | 6 |
| 4   | 240 | 15 | 277 | 5 | FAZ-D4/1N   | 181749 | 6 |
| 5   | 240 | 15 | 277 | 5 | FAZ-D5/1N   | 181750 | 6 |
| 6   | 240 | 15 | 277 | 5 | FAZ-D6/1N   | 181751 | 6 |
| 8   | 240 | 15 | 277 | 5 | FAZ-D8/1N   | 181752 | 6 |
| 10  | 240 | 15 | 277 | 5 | FAZ-D10/1N  | 181753 | 6 |
| 12  | 240 | 15 | 277 | 5 | FAZ-D12/1N  | 181754 | 6 |
| 13  | 240 | 15 | 277 | 5 | FAZ-D13/1N  | 181755 | 6 |
| 15  | 240 | 15 | 277 | 5 | FAZ-D15/1N  | 181756 | 6 |
| 16  | 240 | 15 | 277 | 5 | FAZ-D16/1N  | 181757 | 6 |
| 20  | 240 | 15 | 277 | 5 | FAZ-D20/1N  | 181758 | 6 |
| 25  | 240 | 15 | 277 | 5 | FAZ-D25/1N  | 181759 | 6 |
| 32  | 240 | 15 | 277 | 5 | FAZ-D32/1N  | 181760 | 6 |
| 40  | 240 | 15 | 277 | 5 | FAZ-D40/1N  | 181761 | 6 |
| 50  | 240 | 10 | -   | - | FAZ-D50/1N  | 181762 | 6 |
| 63  | 240 | 10 | -   | - | FAZ-D63/1N  | 181763 | 6 |



SG55112



## 2-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D0,5/2          | 181764      | 6                       |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1/2            | 181765      | 6                       |
| 1.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1,5/2          | 181766      | 6                       |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1,6/2          | 181767      | 6                       |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D2/2            | 181768      | 6                       |
| 2.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D2,5/2          | 181769      | 6                       |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D3/2            | 181770      | 6                       |
| 3.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D3,5/2          | 181771      | 6                       |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D4/2            | 181772      | 6                       |
| 5                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D5/2            | 181773      | 6                       |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D6/2            | 181774      | 6                       |
| 7                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D7/2            | 181775      | 6                       |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D8/2            | 181776      | 6                       |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D10/2           | 181777      | 6                       |
| 12                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D12/2           | 181778      | 6                       |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D13/2           | 181779      | 6                       |
| 15                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D15/2           | 181780      | 6                       |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D16/2           | 181781      | 6                       |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D20/2           | 181782      | 6                       |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D25/2           | 181783      | 6                       |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D32/2           | 181785      | 6                       |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D40/2           | 181786      | 6                       |
| 50                         | 415                  | 10                                                        | -                              | -                                              | FAZ-D50/2           | 181787      | 6                       |
| 63                         | 415                  | 10                                                        | -                              | -                                              | FAZ-D63/2           | 181788      | 6                       |

SG53412



## 3-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D0,5/3          | 181789      | 4                       |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1/3            | 181790      | 4                       |
| 1.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1,5/3          | 181791      | 4                       |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1,6/3          | 181792      | 4                       |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D2/3            | 181793      | 4                       |
| 2.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D2,5/3          | 181794      | 4                       |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D3/3            | 181795      | 4                       |
| 3.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D3,5/3          | 181796      | 4                       |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D4/3            | 181797      | 4                       |
| 5                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D5/3            | 181798      | 4                       |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D6/3            | 181799      | 4                       |
| 7                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D7/3            | 181800      | 4                       |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D8/3            | 181801      | 4                       |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D10/3           | 181802      | 4                       |
| 12                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D12/3           | 181803      | 4                       |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D13/3           | 181804      | 4                       |
| 15                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D15/3           | 181805      | 4                       |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D16/3           | 181806      | 4                       |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D20/3           | 181807      | 4                       |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D25/3           | 181808      | 4                       |
| 30                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D30/3           | 181809      | 4                       |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D32/3           | 181810      | 4                       |
| 40                         | 415                  | 10                                                        | 480Y/277                       | 5                                              | FAZ-D40/3           | 181811      | 4                       |
| 50                         | 415                  | 10                                                        | -                              | -                                              | FAZ-D50/3           | 181812      | 4                       |
| 63                         | 415                  | 10                                                        | -                              | -                                              | FAZ-D63/3           | 181813      | 4                       |

SG55712



## 3+N-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D0,5/3N         | 181814      | 3                       |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1/3N           | 181815      | 3                       |
| 1.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1,5/3N         | 181816      | 3                       |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1,6/3N         | 181817      | 3                       |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D2/3N           | 181818      | 3                       |
| 2.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D2,5/3N         | 181819      | 3                       |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D3/3N           | 181820      | 3                       |
| 3.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D3,5/3N         | 181821      | 3                       |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D4/3N           | 181822      | 3                       |
| 5                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D5/3N           | 181823      | 3                       |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D6/3N           | 181824      | 3                       |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D8/3N           | 181825      | 3                       |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D10/3N          | 181826      | 3                       |
| 12                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D12/3N          | 181827      | 3                       |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D13/3N          | 181828      | 3                       |
| 15                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D15/3N          | 181829      | 3                       |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D16/3N          | 181830      | 3                       |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D20/3N          | 181639      | 3                       |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D25/3N          | 181640      | 3                       |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D32/3N          | 181641      | 3                       |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D40/3N          | 181642      | 3                       |
| 50                         | 415                  | 10                                                        | -                              | -                                              | FAZ-D50/3N          | 181643      | 3                       |
| 63                         | 415                  | 10                                                        | -                              | -                                              | FAZ-D63/3N          | 181644      | 3                       |

SG55812



## 4-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D0,5/4          | 181645      | 3                       |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1/4            | 181646      | 3                       |
| 1.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1,5/4          | 181647      | 3                       |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D1,6/4          | 181648      | 3                       |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D2/4            | 181649      | 3                       |
| 2.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D2,5/4          | 181650      | 3                       |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D3/4            | 181843      | 3                       |
| 3.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D3,5/4          | 181844      | 3                       |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D4/4            | 181845      | 3                       |
| 5                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D5/4            | 181846      | 3                       |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D6/4            | 181847      | 3                       |
| 7                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D7/4            | 181848      | 3                       |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D8/4            | 181849      | 3                       |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D10/4           | 181850      | 3                       |
| 12                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D12/4           | 181851      | 3                       |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D13/4           | 181852      | 3                       |
| 15                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D15/4           | 181853      | 3                       |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D16/4           | 181854      | 3                       |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D20/4           | 181855      | 3                       |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D25/4           | 181856      | 3                       |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-D32/4           | 181857      | 3                       |
| 40                         | 415                  | 10                                                        | 480Y/277                       | 5                                              | FAZ-D40/4           | 181858      | 3                       |
| 50                         | 415                  | 10                                                        | -                              | -                                              | FAZ-D50/4           | 181859      | 3                       |
| 63                         | 415                  | 10                                                        | -                              | -                                              | FAZ-D63/4           | 181860      | 3                       |

## FAZ Miniature Circuit Breakers (MCBs)

### Characteristic K

|               | Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to IEC/EN 60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|---------------|----------------------------|----------------------|-----------------------------------------------------|--------------------------------|---------------------------------------------|---------------------|-------------|-------------------------|
| <b>1-pole</b> |                            |                      |                                                     |                                |                                             |                     |             |                         |
| 0.5           | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K0,5/1          | 278589      | 12/120                  |
| 1             | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K1/1            | 278590      | 12/120                  |
| 1.6           | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K1,6/1          | 278591      | 12/120                  |
| 2             | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K2/1            | 278592      | 12/120                  |
| 3             | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K3/1            | 278593      | 12/120                  |
| 4             | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K4/1            | 278594      | 12/120                  |
| 6             | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K6/1            | 278595      | 12/120                  |
| 8             | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K8/1            | 278596      | 12/120                  |
| 10            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K10/1           | 278597      | 12/120                  |
| 13            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K13/1           | 278598      | 12/120                  |
| 16            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K16/1           | 278599      | 12/120                  |
| 20            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K20/1           | 278600      | 12/120                  |
| 25            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K25/1           | 278601      | 12/120                  |
| 32            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K32/1           | 278602      | 12/120                  |
| 40            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K40/1           | 278603      | 12/120                  |
| 50            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K50/1           | 278604      | 12/120                  |
| 63            | 240/415                    | 15                   | 277                                                 | 5                              |                                             | FAZ-K63/1           | 278605      | 12/120                  |

SG53112



SG55612



### 1+N-pole

|     |     |    |     |   |  |             |        |      |
|-----|-----|----|-----|---|--|-------------|--------|------|
| 0.5 | 240 | 15 | 277 | 5 |  | FAZ-K0,5/1N | 278702 | 1/60 |
| 1   | 240 | 15 | 277 | 5 |  | FAZ-K1/1N   | 278703 | 1/60 |
| 1.6 | 240 | 15 | 277 | 5 |  | FAZ-K1,6/1N | 278704 | 1/60 |
| 2   | 240 | 15 | 277 | 5 |  | FAZ-K2/1N   | 278705 | 1/60 |
| 3   | 240 | 15 | 277 | 5 |  | FAZ-K3/1N   | 278706 | 1/60 |
| 4   | 240 | 15 | 277 | 5 |  | FAZ-K4/1N   | 278707 | 1/60 |
| 6   | 240 | 15 | 277 | 5 |  | FAZ-K6/1N   | 278708 | 1/60 |
| 8   | 240 | 15 | 277 | 5 |  | FAZ-K8/1N   | 278709 | 1/60 |
| 10  | 240 | 15 | 277 | 5 |  | FAZ-K10/1N  | 278710 | 1/60 |
| 13  | 240 | 15 | 277 | 5 |  | FAZ-K13/1N  | 278711 | 1/60 |
| 16  | 240 | 15 | 277 | 5 |  | FAZ-K16/1N  | 278712 | 1/60 |
| 20  | 240 | 15 | 277 | 5 |  | FAZ-K20/1N  | 278713 | 1/60 |
| 25  | 240 | 15 | 277 | 5 |  | FAZ-K25/1N  | 278714 | 1/60 |
| 32  | 240 | 15 | 277 | 5 |  | FAZ-K32/1N  | 278715 | 1/60 |
| 40  | 240 | 15 | 277 | 5 |  | FAZ-K40/1N  | 278716 | 1/60 |
| 50  | 240 | 15 | 277 | 5 |  | FAZ-K50/1N  | 278717 | 1/60 |
| 63  | 240 | 15 | 277 | 5 |  | FAZ-K63/1N  | 278718 | 1/60 |

SG56112



| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| <b>2-pole</b>              |                      |                                                           |                                |                                                |                     |             |                         |
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K0,5/2          | 278788      | 1/60                    |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K1/2            | 278789      | 1/60                    |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K1,6/2          | 278790      | 1/60                    |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K2/2            | 278791      | 1/60                    |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K3/2            | 278792      | 1/60                    |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K4/2            | 278793      | 1/60                    |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K6/2            | 278794      | 1/60                    |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K8/2            | 278795      | 1/60                    |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K10/2           | 278796      | 1/60                    |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K13/2           | 278797      | 1/60                    |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K16/2           | 278798      | 1/60                    |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K20/2           | 278799      | 1/60                    |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K25/2           | 278800      | 1/60                    |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K32/2           | 278801      | 1/60                    |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K40/2           | 278802      | 1/60                    |
| 50                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K50/2           | 278803      | 1/60                    |
| 63                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K63/2           | 278804      | 1/60                    |

SG53412



|               |     |    |          |   |            |        |      |
|---------------|-----|----|----------|---|------------|--------|------|
| <b>3-pole</b> |     |    |          |   |            |        |      |
| 0.5           | 415 | 15 | 480Y/277 | 5 | FAZ-K0,5/3 | 278901 | 1/40 |
| 1             | 415 | 15 | 480Y/277 | 5 | FAZ-K1/3   | 278902 | 1/40 |
| 1.6           | 415 | 15 | 480Y/277 | 5 | FAZ-K1,6/3 | 278903 | 1/40 |
| 2             | 415 | 15 | 480Y/277 | 5 | FAZ-K2/3   | 278904 | 1/40 |
| 3             | 415 | 15 | 480Y/277 | 5 | FAZ-K3/3   | 278905 | 1/40 |
| 4             | 415 | 15 | 480Y/277 | 5 | FAZ-K4/3   | 278906 | 1/40 |
| 6             | 415 | 15 | 480Y/277 | 5 | FAZ-K6/3   | 278907 | 1/40 |
| 8             | 415 | 15 | 480Y/277 | 5 | FAZ-K8/3   | 278908 | 1/40 |
| 10            | 415 | 15 | 480Y/277 | 5 | FAZ-K10/3  | 278909 | 1/40 |
| 13            | 415 | 15 | 480Y/277 | 5 | FAZ-K13/3  | 278910 | 1/40 |
| 16            | 415 | 15 | 480Y/277 | 5 | FAZ-K16/3  | 278911 | 1/40 |
| 20            | 415 | 15 | 480Y/277 | 5 | FAZ-K20/3  | 278912 | 1/40 |
| 25            | 415 | 15 | 480Y/277 | 5 | FAZ-K25/3  | 278913 | 1/40 |
| 32            | 415 | 15 | 480Y/277 | 5 | FAZ-K32/3  | 278914 | 1/40 |
| 40            | 415 | 15 | 480Y/277 | 5 | FAZ-K40/3  | 278915 | 1/40 |
| 50            | 415 | 15 | 480Y/277 | 5 | FAZ-K50/3  | 278916 | 1/40 |
| 63            | 415 | 15 | 480Y/277 | 5 | FAZ-K63/3  | 278917 | 1/40 |

SG56712



## 3+N-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K0,5/3N         | 279003      | 1/30                    |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K1/3N           | 279004      | 1/30                    |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K1,6/3N         | 279005      | 1/30                    |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K2/3N           | 279006      | 1/30                    |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K3/3N           | 279007      | 1/30                    |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K4/3N           | 279008      | 1/30                    |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K6/3N           | 279009      | 1/30                    |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K8/3N           | 279010      | 1/30                    |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K10/3N          | 279011      | 1/30                    |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K13/3N          | 279012      | 1/30                    |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K16/3N          | 279013      | 1/30                    |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K20/3N          | 279014      | 1/30                    |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K25/3N          | 279015      | 1/30                    |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K32/3N          | 279016      | 1/30                    |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K40/3N          | 279017      | 1/30                    |
| 50                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K50/3N          | 279018      | 1/30                    |
| 63                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K63/3N          | 279019      | 1/30                    |

SG56812



## 4-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K0,5/4          | 279089      | 1/30                    |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K1/4            | 279090      | 1/30                    |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K1,6/4          | 279091      | 1/30                    |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K2/4            | 279092      | 1/30                    |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K3/4            | 279093      | 1/30                    |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K4/4            | 279094      | 1/30                    |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K6/4            | 279095      | 1/30                    |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K8/4            | 279096      | 1/30                    |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K10/4           | 279097      | 1/30                    |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K13/4           | 279098      | 1/30                    |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K16/4           | 279099      | 1/30                    |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K20/4           | 279100      | 1/30                    |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K25/4           | 279101      | 1/30                    |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K32/4           | 279102      | 1/30                    |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K40/4           | 279103      | 1/30                    |
| 50                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K50/4           | 279104      | 1/30                    |
| 63                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-K63/4           | 279105      | 1/30                    |

## FAZ Miniature Circuit Breakers (MCBs) Characteristic S

|               | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL1077<br>(V) | Breaking<br>capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|---------------|-------------------------------|-------------------------|--------------------------------------------------------------|-----------------------------------|---------------------------------------------------|---------------------|-------------|-------------------------|
| <b>1-pole</b> |                               |                         |                                                              |                                   |                                                   |                     |             |                         |
| 1             | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S1/1            | 181861      | 12                      |
| 2             | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S2/1            | 181862      | 12                      |
| 3             | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S3/1            | 181863      | 12                      |
| 4             | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S4/1            | 181864      | 12                      |
| 6             | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S6/1            | 181865      | 12                      |
| 10            | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S10/1           | 181866      | 12                      |
| 16            | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S16/1           | 181867      | 12                      |
| 20            | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S20/1           | 181868      | 12                      |
| 25            | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S25/1           | 181869      | 12                      |
| 32            | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S32/1           | 181870      | 12                      |
| 40            | 240/415                       | 10                      | 277                                                          | 5                                 |                                                   | FAZ-S40/1           | 181871      | 12                      |
| <b>2-pole</b> |                               |                         |                                                              |                                   |                                                   |                     |             |                         |
| 1             | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S1/2            | 181872      | 6                       |
| 2             | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S2/2            | 181873      | 6                       |
| 3             | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S3/2            | 181874      | 6                       |
| 4             | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S4/2            | 181875      | 6                       |
| 6             | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S6/2            | 181876      | 6                       |
| 10            | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S10/2           | 181877      | 6                       |
| 16            | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S16/2           | 181878      | 6                       |
| 20            | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S20/2           | 181879      | 6                       |
| 25            | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S25/2           | 181880      | 6                       |
| 32            | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S32/2           | 181881      | 6                       |
| 40            | 415                           | 10                      | 480Y/277                                                     | 5                                 |                                                   | FAZ-S40/2           | 181882      | 6                       |

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## FAZ Miniature Circuit Breakers (MCBs) Characteristic Z

|               | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL1077<br>(V) | Breaking<br>capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|---------------|-------------------------------|-------------------------|--------------------------------------------------------------|-----------------------------------|---------------------------------------------------|---------------------|-------------|-------------------------|
| <b>1-pole</b> |                               |                         |                                                              |                                   |                                                   |                     |             |                         |
|               | 0,5                           | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z0,5/1          | 278617      | 12/120                  |
|               | 1                             | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z1/1            | 278618      | 12/120                  |
|               | 1.6                           | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z1,6/1          | 278619      | 12/120                  |
|               | 2                             | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z2/1            | 278620      | 12/120                  |
|               | 3                             | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z3/1            | 278621      | 12/120                  |
|               | 4                             | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z4/1            | 278622      | 12/120                  |
|               | 6                             | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z6/1            | 278623      | 12/120                  |
|               | 8                             | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z8/1            | 278624      | 12/120                  |
|               | 10                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z10/1           | 278625      | 12/120                  |
|               | 13                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z13/1           | 106020      | 12/120                  |
|               | 16                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z16/1           | 278626      | 12/120                  |
|               | 20                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z20/1           | 278627      | 12/120                  |
|               | 25                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z25/1           | 278628      | 12/120                  |
|               | 32                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z32/1           | 278629      | 12/120                  |
|               | 40                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z40/1           | 278630      | 12/120                  |
|               | 50                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z50/1           | 278631      | 12/120                  |
|               | 63                            | 240/415                 | 15                                                           | 277                               | 5                                                 | FAZ-Z63/1           | 278632      | 12/120                  |
| <b>2-pole</b> |                               |                         |                                                              |                                   |                                                   |                     |             |                         |
|               | 0.5                           | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z0,5/2          | 278816      | 1/60                    |
|               | 1                             | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z1/2            | 278817      | 1/60                    |
|               | 1.6                           | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z1,6/2          | 278818      | 1/60                    |
|               | 2                             | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z2/2            | 278819      | 1/60                    |
|               | 3                             | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z3/2            | 278820      | 1/60                    |
|               | 4                             | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z4/2            | 278821      | 1/60                    |
|               | 6                             | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z6/2            | 278822      | 1/60                    |
|               | 8                             | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z8/2            | 278823      | 1/60                    |
|               | 10                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z10/2           | 278824      | 1/60                    |
|               | 13                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z13/2           | 106021      | 1/60                    |
|               | 16                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z16/2           | 278825      | 1/60                    |
|               | 20                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z20/2           | 278826      | 1/60                    |
|               | 25                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z25/2           | 278827      | 1/60                    |
|               | 32                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z32/2           | 278828      | 1/60                    |
|               | 40                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z40/2           | 278829      | 1/60                    |
|               | 50                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z50/2           | 278830      | 1/60                    |
|               | 63                            | 415                     | 15                                                           | 480Y/277                          | 5                                                 | FAZ-Z63/2           | 278831      | 1/60                    |

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## 3-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z0,5/3          | 278918      | 1/40                    |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z1/3            | 278919      | 1/40                    |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z1,6/3          | 278920      | 1/40                    |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z2/3            | 278921      | 1/40                    |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z3/3            | 278922      | 1/40                    |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z4/3            | 278923      | 1/40                    |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z6/3            | 278924      | 1/40                    |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z8/3            | 278925      | 1/40                    |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z10/3           | 278926      | 1/40                    |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z13/3           | 106022      | 1/40                    |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z16/3           | 278927      | 1/40                    |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z20/3           | 278928      | 1/40                    |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z25/3           | 278929      | 1/40                    |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z32/3           | 278930      | 1/40                    |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z40/3           | 278931      | 1/40                    |
| 50                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z50/3           | 278932      | 1/40                    |
| 63                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z63/3           | 278933      | 1/40                    |

SG55812



## 4-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL1077<br>(V) | Breaking capacity<br>acc. to<br>UL1077<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------|-----------------------------------------------------------|--------------------------------|------------------------------------------------|---------------------|-------------|-------------------------|
| 0.5                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z0,5/4          | 279106      | 1/60                    |
| 1                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z1/4            | 279107      | 1/60                    |
| 1.6                        | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z1,6/4          | 279108      | 1/60                    |
| 2                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z2/4            | 279109      | 1/60                    |
| 3                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z3/4            | 279110      | 1/60                    |
| 4                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z4/4            | 279111      | 1/60                    |
| 6                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z6/4            | 279112      | 1/60                    |
| 8                          | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z8/4            | 279113      | 1/60                    |
| 10                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z10/4           | 279114      | 1/60                    |
| 13                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z13/4           | 106023      | 1/60                    |
| 16                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z16/4           | 279115      | 1/60                    |
| 20                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z20/4           | 279116      | 1/60                    |
| 25                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z25/4           | 279117      | 1/60                    |
| 32                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z32/4           | 279118      | 1/60                    |
| 40                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z40/4           | 279119      | 1/60                    |
| 50                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z50/4           | 279120      | 1/60                    |
| 63                         | 415                  | 15                                                        | 480Y/277                       | 5                                              | FAZ-Z63/4           | 279121      | 1/60                    |



## Specifications FAZ

### Technical data

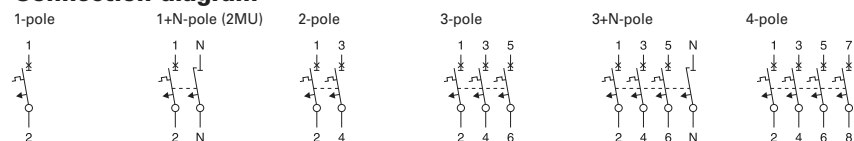
|                                                | B Curve                                                            | C Curve                                                         | D Curve                                                         |
|------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|
| <b>Electrical</b>                              |                                                                    |                                                                 |                                                                 |
| Approvals                                      | UR (UL 1077), CSA (CSA 22.2 No. 235), CE, CB (Not for D50 and D63) |                                                                 |                                                                 |
| Standards                                      | IEC/EN 60947-2                                                     |                                                                 |                                                                 |
| Short-circuit trip response                    | 3–5 $I_n$                                                          | 5–10 $I_n$                                                      | 10–20 $I_n$                                                     |
| <b>Supplementary Protectors—UL/CSA</b>         |                                                                    |                                                                 |                                                                 |
| Current range                                  | 1–63A                                                              | 0.5–63A                                                         | 0.5–40A                                                         |
| <b>Maximum voltage ratings—UL/CSA</b>          |                                                                    |                                                                 |                                                                 |
| Single-pole                                    | 277 Vac<br>48 Vdc                                                  | 277 Vac<br>48 Vdc                                               | 277 Vac<br>48 Vdc                                               |
| Two-, three-pole                               | 480Y/277 Vac                                                       | 480Y/277 Vac                                                    | 480Y/277 Vac                                                    |
| Two poles in series                            | 96 Vdc                                                             | 96 Vdc                                                          | 96 Vdc                                                          |
| <b>Thermal tripping characteristics</b>        |                                                                    |                                                                 |                                                                 |
| Single-pole                                    | < 1 hour @ 1.35 x $I_n$ @ 40°C                                     | < 1 hour @ 1.35 x $I_n$ @ 40°C                                  | < 1 hour @ 1.35 x $I_n$ @ 40°C                                  |
| Multi-pole                                     | < 1 hour @ 1.45 x $I_n$ @ 40°C                                     | < 1 hour @ 1.45 x $I_n$ @ 40°C                                  | < 1 hour @ 1.45 x $I_n$ @ 40°C                                  |
| <b>Short-circuit ratings (at max. voltage)</b> |                                                                    |                                                                 |                                                                 |
| Single-pole                                    | 10 kA (5 kA for 40–63A device)                                     | 10 kA (5 kA for 40–63A device)                                  | 5 kA                                                            |
| Two-, three-pole                               | 10 kA (5 kA for 40–63A device)                                     | 10 kA (5 kA for 40–63A device)                                  | 5 kA                                                            |
| Single-pole                                    | 10 kA @ 48 Vdc                                                     | 10 kA @ 48 Vdc                                                  | 10 kA @ 48 Vdc                                                  |
| Two poles in series                            | 10 kA @ 96 Vdc                                                     | 10 kA @ 96 Vdc                                                  | 10 kA @ 96 Vdc                                                  |
| <b>Miniature Circuit Breaker—IEC</b>           |                                                                    |                                                                 |                                                                 |
| Current range                                  | 1–63A                                                              | 0.5–63A                                                         | 0.5–63A                                                         |
| <b>Maximum voltage ratings—IEC 60947-2</b>     |                                                                    |                                                                 |                                                                 |
| Single-pole                                    | 230 Vac<br>60 Vdc                                                  | 230 Vac<br>60 Vdc                                               | 230 Vac<br>60 Vdc                                               |
| Two-, three-pole                               | 230/400 Vac                                                        | 230/400 Vac                                                     | 230/400 Vac                                                     |
| <b>Maximum Voltage Ratings—IEC 60898</b>       |                                                                    |                                                                 |                                                                 |
| Single-pole                                    | 240 Vac                                                            | 240 Vac                                                         | 240 Vac                                                         |
| Two-, three-pole                               | 240/415 Vac                                                        | 240/415 Vac                                                     | 240/415 Vac                                                     |
| <b>Thermal tripping characteristics</b>        |                                                                    |                                                                 |                                                                 |
|                                                | > 1 hour @ 1.05 x $I_n$ @ 40°C<br>< 1 hour @ 1.3 x $I_n$ @ 40°C    | > 1 hour @ 1.05 x $I_n$ @ 40°C<br>< 1 hour @ 1.3 x $I_n$ @ 40°C | > 1 hour @ 1.05 x $I_n$ @ 40°C<br>< 1 hour @ 1.3 x $I_n$ @ 40°C |
| <b>Interrupt ratings (at max. voltage)</b>     |                                                                    |                                                                 |                                                                 |
| IEC 60947-2                                    | 15 kA                                                              | 15 kA                                                           | 15 kA (type D50 and D63: 10kA)                                  |
| IEC 60898                                      | 10 kA                                                              | 10 kA                                                           | 10 kA (type D50 and D63: 6kA)                                   |
| Operational switching capacity                 | 7.5 kA                                                             | 7.5 kA                                                          | 7.5 kA (type D50 and D63: 6kA)                                  |
| Max. back-up fuse [gL/gG]                      | 125A                                                               | 125A                                                            | 125A                                                            |
| Rated impulse withstand— $U_{imp}$             | 4000 Vac                                                           | 4000 Vac                                                        | 4000 Vac                                                        |
| Rated insulation voltage— $U_i$                | 440 Vac                                                            | 440 Vac                                                         | 440 Vac                                                         |
| <b>Environmental/General</b>                   |                                                                    |                                                                 |                                                                 |
| Selectivity class                              | 3                                                                  | 3                                                               | 3                                                               |
| Lifespan (operations)                          | > 10000 (1 operation = ON/OFF)                                     | > 10000 (1 operation = ON/OFF)                                  | > 10000 (1 operation = ON/OFF)                                  |
| Shock (IEC 68-2-22)                            | 10g–120 ms                                                         | 10g–120 ms                                                      | 10g–120 ms                                                      |
| Operating temperature range                    | -40 to +75°C                                                       | -40 to +75°C                                                    | -40 to +75°C                                                    |
| <b>Mechanical</b>                              |                                                                    |                                                                 |                                                                 |
| Standard front dimension                       |                                                                    |                                                                 |                                                                 |
| Device height                                  | 80 mm                                                              | 80 mm                                                           | 80 mm                                                           |
| Terminal protection                            | Finger and back-of-hand proof                                      | Finger and back-of-hand proof                                   | Finger and back-of-hand proof                                   |
| Mounting width per pole                        | 17.5 mm                                                            | 17.5 mm                                                         | 17.5 mm                                                         |
| Mounting                                       | IEC/EN 60715 top-hat rail                                          | IEC/EN 60715 top-hat rail                                       | IEC/EN 60715 top-hat rail                                       |
| Degree of protection                           | IP20                                                               | IP20                                                            | IP20                                                            |
| Terminals top and bottom                       | Twin-purpose terminals                                             | Twin-purpose terminals                                          | Twin-purpose terminals                                          |
| Supply connection                              | Line or load side                                                  | Line or load side                                               | Line or load side                                               |
| Terminal capacity [mm <sup>2</sup> ]           | 1 x 25 / 2 x 10                                                    | 1 x 25 / 2 x 10                                                 | 1 x 25 / 2 x 10                                                 |
| Torque                                         | 2.4 Nm                                                             | 2.4 Nm                                                          | 2.4 Nm                                                          |
| Thickness of busbar material                   | 0.8–2 mm                                                           | 0.8–2 mm                                                        | 0.8–2 mm                                                        |
| Mounting position                              | As required                                                        | As required                                                     | As required                                                     |

## Specifications FAZ

### Technical Data (continued)

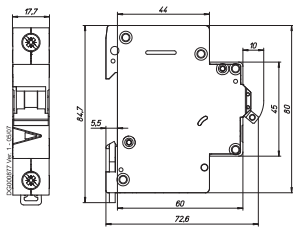
|                                                  | K Curve                                                                   | S Curve                                                                   | Z Curve                                                                   |
|--------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>Electrical</b>                                |                                                                           |                                                                           |                                                                           |
| Approvals                                        | UR (UL 1077), CE                                                          | UR (UL 1077), CSA (CSA 22.2 No. 235) for 1-16 A, CE, CB                   | UR (UL 1077), CE                                                          |
| Standards                                        | IEC/EN 60947-2                                                            |                                                                           |                                                                           |
| Short-circuit trip response                      | 8–12 $I_n$                                                                | 13–17 $I_n$                                                               | 2–3 $I_n$                                                                 |
| <b>Supplementary Protectors—UL/CSA</b>           |                                                                           |                                                                           |                                                                           |
| Current range                                    | 0.5–63A                                                                   | 0.5–40A                                                                   | 1–63A                                                                     |
| Maximum voltage ratings—UL/CSA                   |                                                                           |                                                                           |                                                                           |
| Single-pole, single-pole + neutral               | 277 Vac<br>48 Vdc                                                         | 277 Vac<br>48 Vdc                                                         | 277 Vac<br>48 Vdc                                                         |
| Two-, three-, four-pole and three-pole + neutral | 480Y/277 Vac                                                              | 480Y/277 Vac                                                              | 480Y/277 Vac                                                              |
| Two poles in series                              | 96 Vdc                                                                    | 96 Vdc                                                                    | 96 Vdc                                                                    |
| Thermal tripping characteristics                 |                                                                           |                                                                           |                                                                           |
| Single-pole                                      | < 1 hour @ $1.35 \times I_n$ @ 40°C                                       | < 1 hour @ $1.35 \times I_n$ @ 40°C                                       | < 1 hour @ $1.35 \times I_n$ @ 40°C                                       |
| Multi-pole                                       | < 1 hour @ $1.45 \times I_n$ @ 40°C                                       | < 1 hour @ $1.45 \times I_n$ @ 40°C                                       | < 1 hour @ $1.45 \times I_n$ @ 40°C                                       |
| Short-circuit ratings (at max. voltage)          |                                                                           |                                                                           |                                                                           |
| Single-pole                                      | 5 kA @ 277 Vac                                                            | 5 kA @ 277 Vac                                                            | 5 kA @ 277 Vac                                                            |
| Single-pole + neutral                            | 5 kA @ 277 Vac                                                            | 5 kA @ 277 Vac                                                            | 5 kA @ 277 Vac                                                            |
| Two-, three-, four-pole                          | 5 kA @ 480Y/277 Vac                                                       | 5 kA @ 480Y/277 Vac                                                       | 5 kA @ 480Y/277 Vac                                                       |
| <b>Miniature Circuit Breaker—IEC</b>             |                                                                           |                                                                           |                                                                           |
| Current range                                    | 0.5–63A                                                                   | 0.5–40A                                                                   | 1–63A                                                                     |
| Maximum voltage ratings—IEC 60947-2              |                                                                           |                                                                           |                                                                           |
| Single-pole, single-pole + neutral               | 240 Vac                                                                   | 240 Vac                                                                   | 240 Vac                                                                   |
| Single-pole                                      | 60 Vdc                                                                    | 60 Vdc                                                                    | 60 Vdc                                                                    |
| Two-, three-, four-pole, three-pole + neutral    | 240/415 Vac                                                               | 240/415 Vac                                                               | 240/415 Vac                                                               |
| Thermal tripping characteristics                 |                                                                           |                                                                           |                                                                           |
|                                                  | > 1 hour @ $1.05 \times I_n$ @ 30°C<br>< 1 hour @ $1.3 \times I_n$ @ 30°C | > 1 hour @ $1.05 \times I_n$ @ 30°C<br>< 1 hour @ $1.3 \times I_n$ @ 30°C | > 1 hour @ $1.05 \times I_n$ @ 30°C<br>< 1 hour @ $1.3 \times I_n$ @ 30°C |
| Interrupt ratings (at max. voltage)              |                                                                           |                                                                           |                                                                           |
| IEC 60947-2                                      | 15 kA                                                                     | 10 kA                                                                     | 10 kA                                                                     |
| Operational switching capacity                   | 7.5 kA                                                                    | 7.5 kA                                                                    | 7.5 kA                                                                    |
| Max. back-up fuse [gL/gG]                        | 125A                                                                      | 125A                                                                      | 125A                                                                      |
| Rated impulse withstand— $U_{imp}$               | 4000 Vac                                                                  | 4000 Vac                                                                  | 4000 Vac                                                                  |
| Rated insulation voltage— $U_i$                  | 440 Vac                                                                   | 440 Vac                                                                   | 440 Vac                                                                   |
| <b>Environmental/General</b>                     |                                                                           |                                                                           |                                                                           |
| Selectivity class                                | 3                                                                         | 3                                                                         | 3                                                                         |
| Lifespan (operations)                            | > 10000 (1 operation = ON/OFF)                                            | > 10000 (1 operation = ON/OFF)                                            | > 10000 (1 operation = ON/OFF)                                            |
| Shock (IEC 68-2-22)                              | 10g–120 ms                                                                | 10g–120 ms                                                                | 10g–120 ms                                                                |
| Operating temperature range                      | -40°C to +75°C                                                            | -40°C to +75°C                                                            | -40°C to +75°C                                                            |
| <b>Mechanical</b>                                |                                                                           |                                                                           |                                                                           |
| Standard front dimension                         |                                                                           |                                                                           |                                                                           |
| Device height                                    | 80 mm                                                                     | 80 mm                                                                     | 80 mm                                                                     |
| Terminal protection                              | Finger and back-of-hand proof                                             | Finger and back-of-hand proof                                             | Finger and back-of-hand proof                                             |
| Mounting width per pole                          | 17.5 mm                                                                   | 17.5 mm                                                                   | 17.5 mm                                                                   |
| Mounting                                         | IEC/EN 60715 top-hat rail                                                 | IEC/EN 60715 top-hat rail                                                 | IEC/EN 60715 top-hat rail                                                 |
| Degree of protection                             | IP20                                                                      | IP20                                                                      | IP20                                                                      |
| Terminals top and bottom                         | Twin-purpose terminals                                                    | Twin-purpose terminals                                                    | Twin-purpose terminals                                                    |
| Supply connection                                | Line or load side                                                         | Line or load side                                                         | Line or load side                                                         |
| Terminal capacity [mm <sup>2</sup> ]             | 1 x 25 / 2 x 10                                                           | 1 x 25 / 2 x 10                                                           | 1 x 25 / 2 x 10                                                           |
| Torque                                           | 2.4 Nm                                                                    | 2.4 Nm                                                                    | 2.4 Nm                                                                    |
| Thickness of busbar material                     | 0.8–2 mm                                                                  | 0.8–2 mm                                                                  | 0.8–2 mm                                                                  |
| Mounting position                                | As required                                                               | As required                                                               | As required                                                               |

### Connection diagram

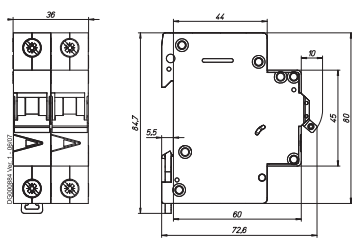


## Dimensions (mm) FAZ

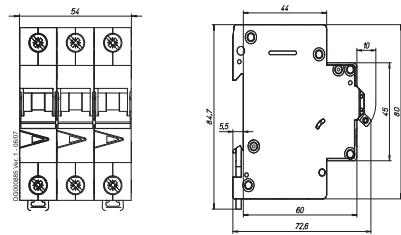
1-pole



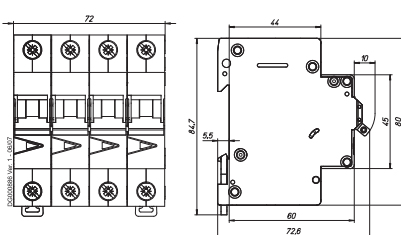
1+N-pole, 2-pole



3-pole

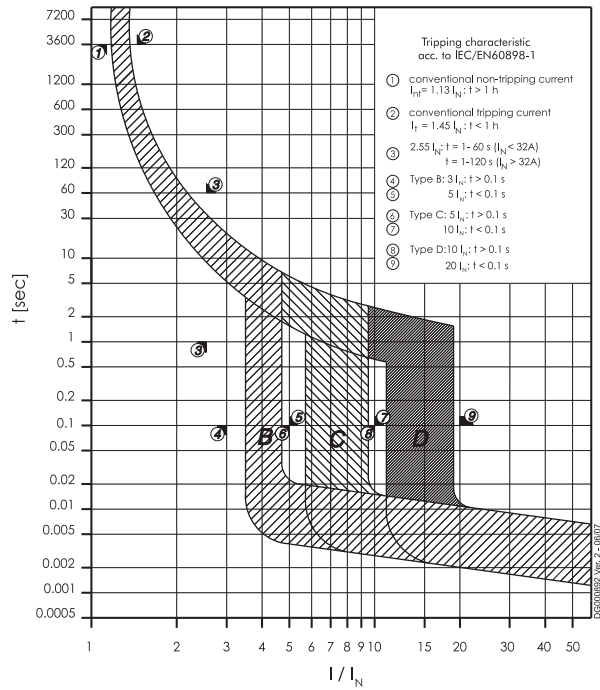


3+N-pole, 4-pole

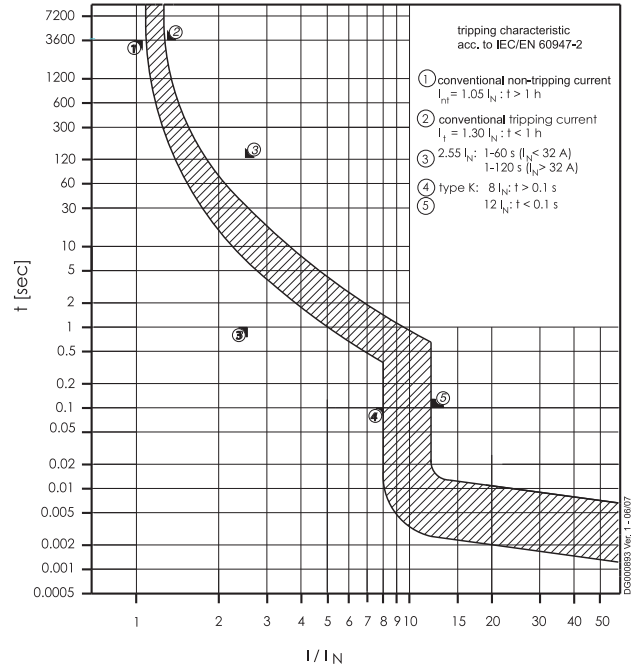


## Tripping Characteristic FAZ

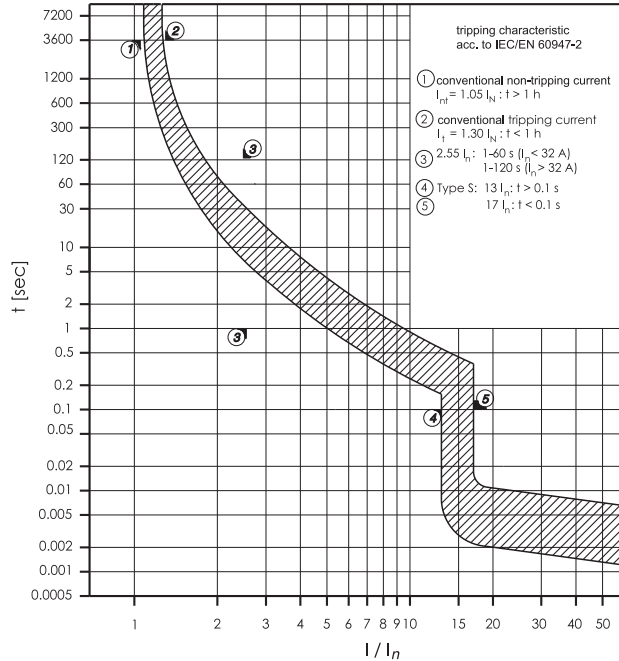
Characteristics B, C and D - IEC/EN60898-1



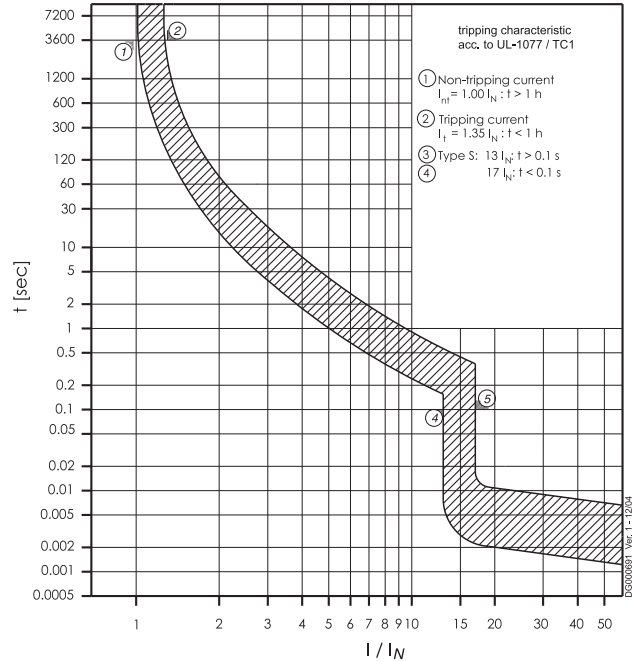
Characteristic K - IEC/EN 60947-2



Characteristic S - IEC/EN 60947-2

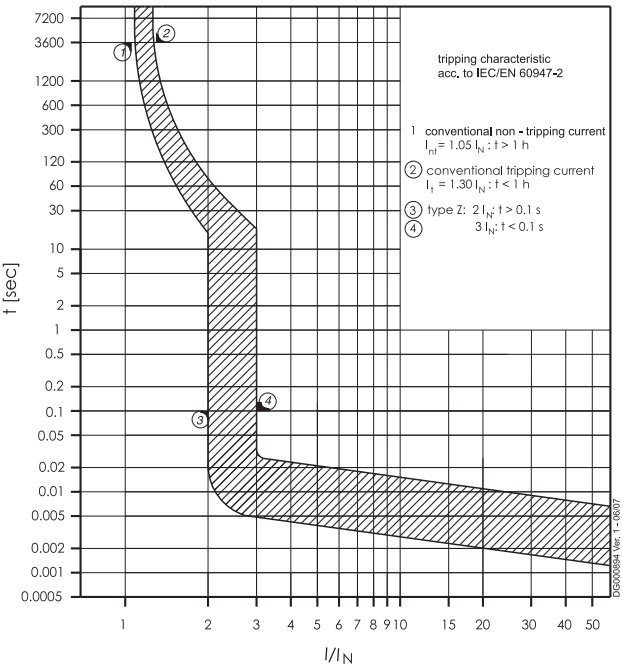


Characteristic S - UL1077

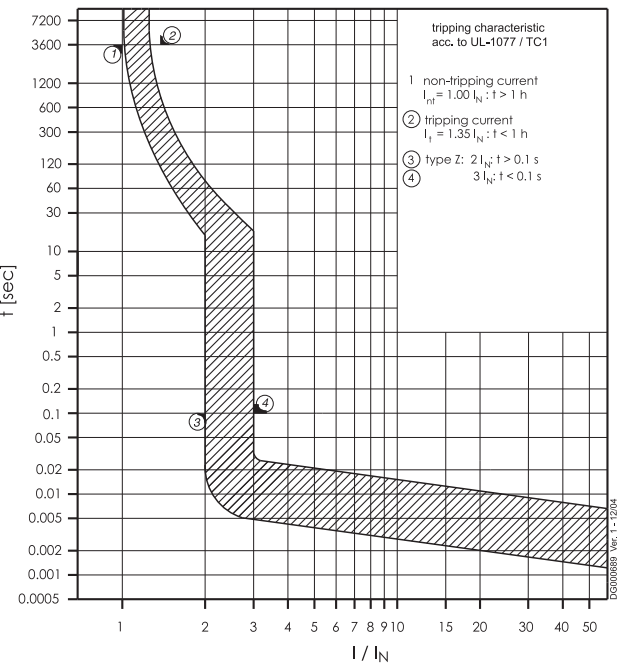


Tripping Characteristic FAZ

Characteristic Z - IEC/EN 60947-2



Characteristic Z - UL1077



## Internal Resistance FAZ

### Type B

At room temperature (single pole)

| In [A] | Z* [mΩ] | R [mΩ] |
|--------|---------|--------|
| 1      | 1120    | 1102   |
| 1.5    | 922     | 912    |
| 1.6    | 922     | 912    |
| 2      | 335     | 333    |
| 2.5    | 234     | 230    |
| 3      | 211     | 208    |
| 3.5    | 184     | 180    |
| 4      | 87.7    | 87.2   |
| 5      | 73.5    | 72.8   |
| 6      | 46.8    | 46.3   |
| 8      | 30.5    | 30.4   |
| 10     | 17.5    | 17.4   |
| 12     | 16.9    | 16.8   |
| 13     | 13.4    | 13.3   |
| 15     | 8.0     | 7.9    |
| 16     | 8.0     | 7.9    |
| 20     | 7.2     | 7.1    |
| 25     | 5.0     | 4.9    |
| 32     | 3.7     | 3.7    |
| 40     | 2.6     | 2.5    |
| 50     | 2.1     | 2.1    |
| 63     | 2.0     | 2.0    |

\* 50Hz

### Type C

At room temperature (single pole)

| In [A] | Z* [mΩ] | R [mΩ] |
|--------|---------|--------|
| 0.16   | 68500   | 68300  |
| 0.25   | 27500   | 27400  |
| 0.5    | 4680    | 4670   |
| 0.75   | 2280    | 2250   |
| 1      | 1120    | 1100   |
| 1.5    | 589     | 587    |
| 1.6    | 589     | 587    |
| 2      | 335     | 333    |
| 2.5    | 234     | 230    |
| 3      | 131     | 130    |
| 3.5    | 143     | 141    |
| 4      | 87.7    | 87.2   |
| 5      | 73.5    | 72.8   |
| 6      | 39.3    | 39.1   |
| 8      | 30.5    | 30.4   |
| 10     | 14.1    | 14.0   |
| 12     | 13.5    | 13.4   |
| 13     | 13.4    | 13.3   |
| 15     | 8.0     | 7.9    |
| 16     | 8.0     | 7.9    |
| 20     | 7.2     | 7.1    |
| 25     | 5.0     | 4.9    |
| 32     | 3.7     | 3.7    |
| 40     | 2.6     | 2.5    |
| 50     | 2.1     | 2.1    |
| 63     | 2.0     | 2.0    |

\* 50Hz

### Type D

At room temperature (single pole)

| In [A] | Z* [mΩ] | R [mΩ] |
|--------|---------|--------|
| 0.5    | 4680    | 4670   |
| 1      | 772     | 770    |
| 1.5    | 512     | 508    |
| 1.6    | 512     | 508    |
| 2      | 250     | 249    |
| 2.5    | 153     | 153    |
| 3      | 131     | 130    |
| 3.5    | 143     | 141    |
| 4      | 87.7    | 87.2   |
| 5      | 65.4    | 65.1   |
| 6      | 39.3    | 39.1   |
| 8      | 19.5    | 19.5   |
| 10     | 14.1    | 14.0   |
| 12     | 11.3    | 11.2   |
| 13     | 10.1    | 10.1   |
| 15     | 8.0     | 7.9    |
| 16     | 8.0     | 7.9    |
| 20     | 4.9     | 4.9    |
| 25     | 3.9     | 3.8    |
| 32     | 3.5     | 3.4    |
| 40     | 2.7     | 2.6    |

\* 50Hz

## Fault Loop Impedance FAZ

Max. allowed value for the Fault Loop Impedance  $Z_s$   
(acc. to DIN VDE 0100, part 410)

$U_0 = 230 \text{ V}$

| Tripping time | Type B         |                | Type C         |                | Type D         |                |
|---------------|----------------|----------------|----------------|----------------|----------------|----------------|
|               | 0,4s           | 5s             | 0,4s           | 5s             | 0,4s           | 5s             |
| $I_n/A$       | $Z_s (\Omega)$ | $Z_s (\Omega)$ | $Z_s (\Omega)$ | $Z_s (\Omega)$ | $Z_s (\Omega)$ | $Z_s (\Omega)$ |
| 1             | 40,4           | 40,4           | 24,3           | 40,4           | 12,4           | 40,4           |
| 1.5           | 26,9           | 26,9           | 16,2           | 26,9           | 8,3            | 26,9           |
| 2             | 20,2           | 20,2           | 12,2           | 20,2           | 6,2            | 20,2           |
| 2.5           | 16,1           | 16,1           | 9,7            | 16,1           | 5,0            | 16,1           |
| 3             | 13,5           | 13,5           | 8,1            | 13,5           | 4,1            | 13,5           |
| 3.5           | 11,5           | 11,5           | 7,0            | 11,5           | 3,6            | 11,5           |
| 4             | 10,1           | 10,1           | 6,1            | 10,1           | 3,1            | 10,1           |
| 5             | 8,1            | 8,1            | 4,9            | 8,1            | 2,5            | 8,1            |
| 6             | 6,7            | 6,7            | 4,1            | 6,7            | 2,1            | 6,7            |
| 8             | 5,0            | 5,0            | 3,0            | 5,0            | 1,6            | 5,0            |
| 10            | 4,0            | 4,0            | 2,4            | 4,0            | 1,2            | 4,0            |
| 12            | 3,4            | 3,4            | 2,0            | 3,4            | 1,0            | 3,4            |
| 13            | 3,1            | 3,1            | 1,9            | 3,1            | 1,0            | 3,1            |
| 15            | 2,7            | 2,7            | 1,6            | 2,7            | 0,8            | 2,7            |
| 16            | 2,5            | 2,5            | 1,5            | 2,5            | 0,8            | 2,5            |
| 20            | 2,0            | 2,0            | 1,2            | 2,0            | 0,6            | 2,0            |
| 25            | 1,6            | 1,6            | 1,0            | 1,6            | 0,5            | 1,6            |
| 32            | 1,3            | 1,3            | 0,8            | 1,3            | 0,4            | 1,3            |
| 40            | 1,0            | 1,0            | 0,6            | 1,0            | 0,3            | 1,0            |
| 50            | 0,8            | 0,8            | 0,5            | 0,8            | 0,2            | 0,8            |
| 63            | 0,6            | 0,6            | 0,4            | 0,6            | 0,2            | 0,6            |

$$Z_s = R_{M.C.B.} + R_{Loop}$$

Data/factors taken from the time-current characteristic FAZ

For other rated voltages  $U_0$ :

$U_0 = 240 \text{ V}$ :  $Z_s * 1,04$  applies

$U_0 = 127 \text{ V}$ :  $Z_s * 0,55$  applies

## Power Loss at $I_n$ FAZ

### Type B

| $I_n$ [A] | 1p<br>P [W] | 1pN<br>P [W] | 2p<br>P [W] | 3p<br>P [W] | 3pN*<br>P [W] |
|-----------|-------------|--------------|-------------|-------------|---------------|
| 1         | 1.6         | 1.7          | 3.1         | 4.7         | 4.8           |
| 1.5       | 2.3         | 2.5          | 4.6         | 6.9         | 7.2           |
| 1.6       | 2.5         | 2.7          | 4.9         | 7.4         | 7.6           |
| 2         | 1.4         | 1.5          | 2.8         | 4.1         | 4.3           |
| 2.5       | 1.5         | 1.7          | 3.1         | 4.6         | 4.7           |
| 3         | 2.5         | 2.7          | 5.0         | 7.6         | 7.8           |
| 3.5       | 2.5         | 2.8          | 5.1         | 7.8         | 8.0           |
| 4         | 1.4         | 1.6          | 2.9         | 4.4         | 4.5           |
| 5         | 1.9         | 2.1          | 3.8         | 5.8         | 6.0           |
| 6         | 1.8         | 2.0          | 3.6         | 5.5         | 5.6           |
| 8         | 2.1         | 2.3          | 4.1         | 6.3         | 6.5           |
| 10        | 1.9         | 2.1          | 3.9         | 5.9         | 6.1           |
| 12        | 2.8         | 3.2          | 5.9         | 8.7         | 9.0           |
| 13        | 2.5         | 2.9          | 5.3         | 7.8         | 8.1           |
| 15        | 2.1         | 2.4          | 4.4         | 6.5         | 6.7           |
| 16        | 2.2         | 2.6          | 4.7         | 6.9         | 7.2           |
| 20        | 3.2         | 3.6          | 6.6         | 9.8         | 10.1          |
| 25        | 3.0         | 3.5          | 6.4         | 9.4         | 9.7           |
| 32        | 3.7         | 4.4          | 8.1         | 12.1        | 12.5          |
| 40        | 3.4         | 4.1          | 7.5         | 11.2        | 11.5          |
| 50        | 4.5         | 5.4          | 9.9         | 14.9        | 15.3          |
| 63        | 5.2         | 6.3          | 11.5        | 17.2        | 17.7          |

\*symmetrical load

### Type C

| $I_n$ [A] | 1p<br>P [W] | 1pN<br>P [W] | 2p<br>P [W] | 3p<br>P [W] | 3pN*<br>P [W] |
|-----------|-------------|--------------|-------------|-------------|---------------|
| 0.16      | 2.2         | 2.4          | 4.4         | 6.7         | 6.9           |
| 0.25      | 2.0         | 2.2          | 4.0         | 6.1         | 6.3           |
| 0.5       | 1.2         | 1.3          | 2.4         | 3.5         | 3.7           |
| 0.75      | 1.3         | 1.4          | 2.6         | 3.9         | 4.1           |
| 1         | 1.6         | 1.7          | 3.1         | 4.7         | 4.8           |
| 1.5       | 1.5         | 1.6          | 2.9         | 4.4         | 4.6           |
| 1.6       | 1.6         | 1.7          | 3.1         | 4.7         | 4.9           |
| 2         | 1.4         | 1.5          | 2.8         | 4.1         | 4.3           |
| 2.5       | 1.5         | 1.7          | 3.1         | 4.6         | 4.7           |
| 3         | 1.2         | 1.3          | 2.4         | 3.6         | 3.7           |
| 3.5       | 1.3         | 1.4          | 2.6         | 3.9         | 4.0           |
| 4         | 1.4         | 1.6          | 2.9         | 4.4         | 4.5           |
| 5         | 1.9         | 2.1          | 3.8         | 5.8         | 6.0           |
| 6         | 1.5         | 1.6          | 2.9         | 4.4         | 4.6           |
| 8         | 2.1         | 2.3          | 4.1         | 6.3         | 6.5           |
| 10        | 1.5         | 1.7          | 3.0         | 4.6         | 4.7           |
| 12        | 2.1         | 2.4          | 4.4         | 6.5         | 6.8           |
| 13        | 2.5         | 2.9          | 5.3         | 7.8         | 8.1           |
| 15        | 2.1         | 2.4          | 4.4         | 6.5         | 6.7           |
| 16        | 2.2         | 2.6          | 4.7         | 6.9         | 7.2           |
| 20        | 3.2         | 3.6          | 6.6         | 9.8         | 10.1          |
| 25        | 3.0         | 3.5          | 6.4         | 9.4         | 9.7           |
| 32        | 3.7         | 4.4          | 8.1         | 12.1        | 12.5          |
| 40        | 3.4         | 4.1          | 7.5         | 11.2        | 11.5          |
| 50        | 4.5         | 5.4          | 9.9         | 14.9        | 15.3          |
| 63        | 5.2         | 6.3          | 11.5        | 17.2        | 17.7          |

\*symmetrical load

### Type D

| $I_n$ [A] | 1p<br>P [W] | 1pN<br>P [W] | 2p<br>P [W] | 3p<br>P [W] | 3pN*<br>P [W] |
|-----------|-------------|--------------|-------------|-------------|---------------|
| 0.5       | 1.2         | 1.3          | 2.4         | 3.5         | 3.7           |
| 1         | 0.8         | 0.9          | 1.6         | 2.4         | 2.5           |
| 1.5       | 1.2         | 1.3          | 2.3         | 3.5         | 3.6           |
| 1.6       | 1.3         | 1.4          | 2.5         | 3.8         | 3.9           |
| 2         | 1.0         | 1.1          | 2.0         | 3.0         | 3.1           |
| 2.5       | 1.0         | 1.1          | 1.9         | 2.9         | 3.0           |
| 3         | 1.2         | 1.3          | 2.4         | 3.6         | 3.7           |
| 3.5       | 1.3         | 1.4          | 2.6         | 3.9         | 4.0           |
| 4         | 1.4         | 1.6          | 2.9         | 4.4         | 4.5           |
| 5         | 1.7         | 1.8          | 3.3         | 5.1         | 5.3           |
| 6         | 1.5         | 1.6          | 2.9         | 4.4         | 4.6           |
| 8         | 1.3         | 1.5          | 2.6         | 4.0         | 4.2           |
| 10        | 1.5         | 1.7          | 3.0         | 4.6         | 4.7           |
| 12        | 1.7         | 2.0          | 3.6         | 5.3         | 5.4           |
| 13        | 1.9         | 2.2          | 4.0         | 5.9         | 6.1           |
| 15        | 2.1         | 2.4          | 4.4         | 6.5         | 6.7           |
| 16        | 2.2         | 2.6          | 4.7         | 6.9         | 7.2           |
| 20        | 2.0         | 2.2          | 4.1         | 6.1         | 6.2           |
| 25        | 2.5         | 2.9          | 5.2         | 7.7         | 7.9           |
| 32        | 3.4         | 4.0          | 7.4         | 11.1        | 11.4          |
| 40        | 3.2         | 3.8          | 7.0         | 10.4        | 10.7          |

\*symmetrical load



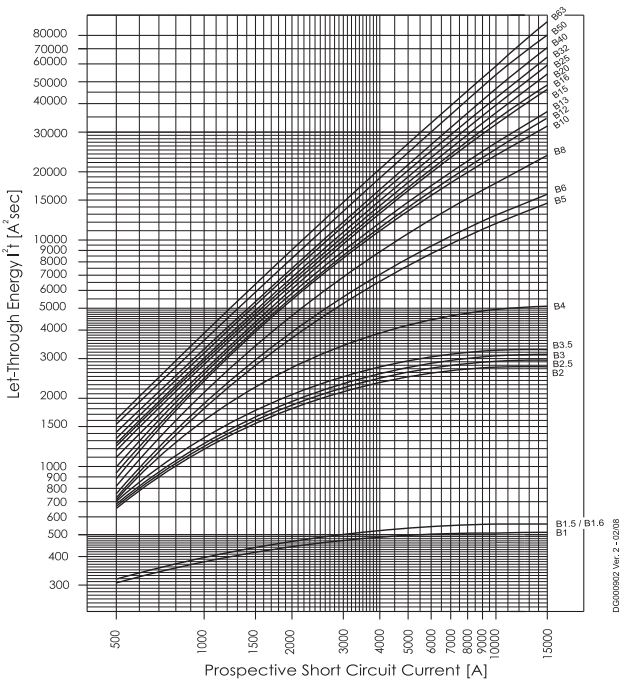
## Influence of Ambient Temperature FAZ

On Load Carrying Capacity (temperature derating)

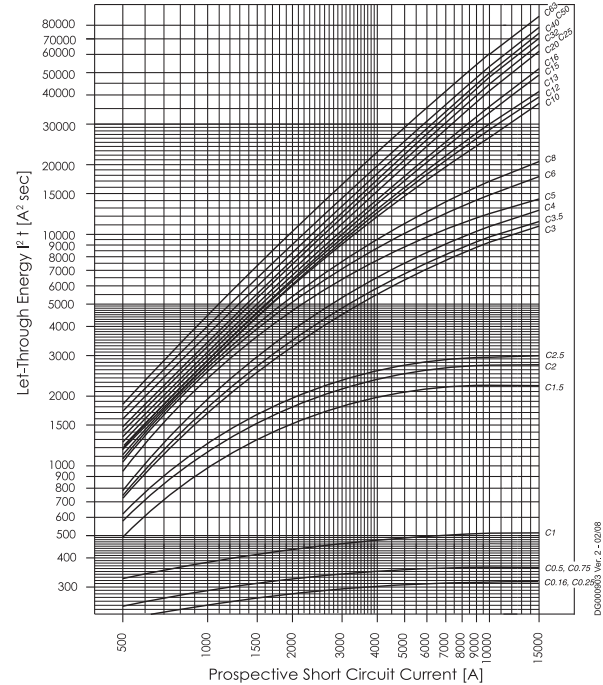
|                    | Ambient temperature T [°C] |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| I <sub>N</sub> [A] | -40                        | -30  | -20  | -10  | 0    | 10   | 20   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   |
| 0.16               | 0.2                        | 0.2  | 0.19 | 0.19 | 0.18 | 0.17 | 0.17 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.14 | 0.14 | 0.13 |
| 0.25               | 0.32                       | 0.31 | 0.3  | 0.29 | 0.28 | 0.27 | 0.26 | 0.25 | 0.25 | 0.24 | 0.24 | 0.23 | 0.23 | 0.22 | 0.22 | 0.21 | 0.21 |
| 0.5                | 0.64                       | 0.62 | 0.6  | 0.58 | 0.56 | 0.54 | 0.52 | 0.5  | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 |
| 0.75               | 0.96                       | 0.93 | 0.9  | 0.87 | 0.84 | 0.81 | 0.78 | 0.75 | 0.74 | 0.73 | 0.71 | 0.69 | 0.68 | 0.66 | 0.65 | 0.64 | 0.62 |
| 1                  | 1.3                        | 1.2  | 1.2  | 1.2  | 1.1  | 1.1  | 1    | 1    | 0.99 | 0.97 | 0.95 | 0.93 | 0.9  | 0.89 | 0.87 | 0.85 | 0.83 |
| 1.5                | 1.9                        | 1.9  | 1.8  | 1.7  | 1.7  | 1.6  | 1.6  | 1.5  | 1.5  | 1.5  | 1.4  | 1.4  | 1.4  | 1.3  | 1.3  | 1.3  | 1.2  |
| 1.6                | 2                          | 2    | 1.9  | 1.9  | 1.8  | 1.7  | 1.7  | 1.6  | 1.6  | 1.5  | 1.5  | 1.5  | 1.4  | 1.4  | 1.4  | 1.4  | 1.3  |
| 2                  | 2.6                        | 2.5  | 2.4  | 2.3  | 2.2  | 2.2  | 2.1  | 2    | 2    | 1.9  | 1.9  | 1.9  | 1.8  | 1.8  | 1.7  | 1.7  | 1.7  |
| 2.5                | 3.2                        | 3.1  | 3    | 2.9  | 2.8  | 2.7  | 2.6  | 2.5  | 2.5  | 2.4  | 2.4  | 2.3  | 2.3  | 2.2  | 2.2  | 2.1  | 2.1  |
| 3                  | 3.8                        | 3.7  | 3.6  | 3.5  | 3.4  | 3.3  | 3.1  | 3    | 3    | 2.9  | 2.8  | 2.8  | 2.7  | 2.7  | 2.6  | 2.5  | 2.5  |
| 3.5                | 4.5                        | 4.4  | 4.2  | 4.1  | 3.9  | 3.8  | 3.7  | 3.5  | 3.4  | 3.4  | 3.3  | 3.2  | 3.2  | 3.1  | 3    | 3    | 2.9  |
| 4                  | 5.1                        | 5    | 4.8  | 4.7  | 4.5  | 4.3  | 4.2  | 4    | 3.9  | 3.9  | 3.8  | 3.7  | 3.6  | 3.5  | 3.5  | 3.4  | 3.3  |
| 5                  | 6.4                        | 6.2  | 6    | 5.8  | 5.6  | 5.4  | 5.2  | 5    | 4.9  | 4.8  | 4.7  | 4.6  | 4.5  | 4.4  | 4.3  | 4.2  | 4.1  |
| 6                  | 7.7                        | 7.5  | 7.2  | 7    | 6.7  | 6.5  | 6.3  | 6    | 5.9  | 5.8  | 5.7  | 5.6  | 5.4  | 5.3  | 5.2  | 5.1  | 5    |
| 8                  | 10.2                       | 9.9  | 9.6  | 9.3  | 9    | 8.7  | 8.4  | 8    | 7.9  | 7.7  | 7.6  | 7.4  | 7.2  | 7.1  | 6.9  | 6.8  | 6.6  |
| 10                 | 13                         | 12   | 12   | 12   | 11   | 11   | 10   | 10   | 9.9  | 9.7  | 9.5  | 9.3  | 9    | 8.9  | 8.7  | 8.5  | 8.3  |
| 12                 | 15                         | 15   | 14   | 14   | 13   | 13   | 13   | 12   | 12   | 12   | 11   | 11   | 11   | 11   | 10   | 10   | 10   |
| 13                 | 17                         | 16   | 16   | 15   | 15   | 14   | 14   | 13   | 13   | 13   | 12   | 12   | 12   | 12   | 11   | 11   | 11   |
| 15                 | 19                         | 19   | 18   | 17   | 17   | 16   | 16   | 15   | 15   | 15   | 14   | 14   | 14   | 13   | 13   | 13   | 12   |
| 16                 | 20                         | 20   | 19   | 19   | 18   | 17   | 17   | 16   | 16   | 15   | 15   | 15   | 14   | 14   | 14   | 14   | 13   |
| 20                 | 26                         | 25   | 24   | 23   | 22   | 22   | 21   | 20   | 20   | 19   | 19   | 19   | 18   | 18   | 17   | 17   | 17   |
| 25                 | 32                         | 31   | 30   | 29   | 28   | 27   | 26   | 25   | 25   | 24   | 24   | 23   | 23   | 22   | 22   | 21   | 21   |
| 32                 | 41                         | 40   | 38   | 37   | 36   | 35   | 33   | 32   | 32   | 31   | 30   | 30   | 29   | 28   | 28   | 27   | 26   |
| 40                 | 51                         | 50   | 48   | 47   | 45   | 43   | 42   | 40   | 39   | 39   | 38   | 37   | 36   | 35   | 35   | 34   | 33   |
| 50                 | 64                         | 62   | 60   | 58   | 56   | 54   | 52   | 50   | 49   | 48   | 47   | 46   | 45   | 44   | 43   | 42   | 41   |
| 63                 | 81                         | 78   | 76   | 73   | 71   | 68   | 66   | 63   | 62   | 61   | 60   | 58   | 57   | 56   | 55   | 53   | 52   |

Maximum Let-Through Energy FAZ

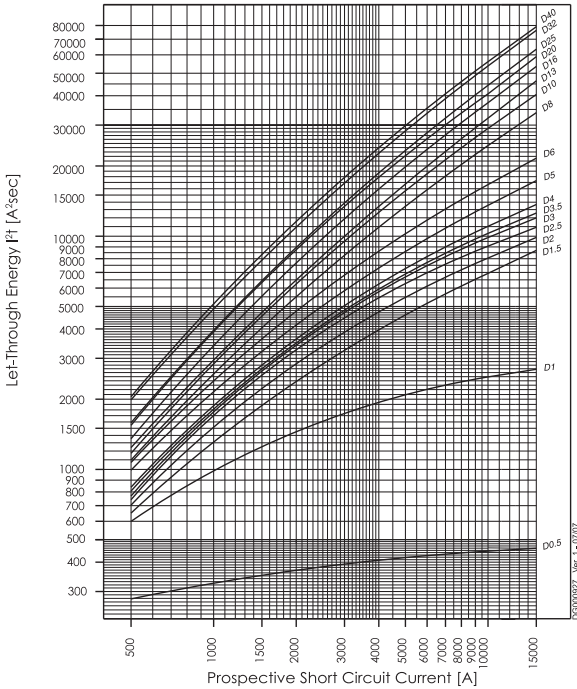
Type B (IEC/EN60947-2)



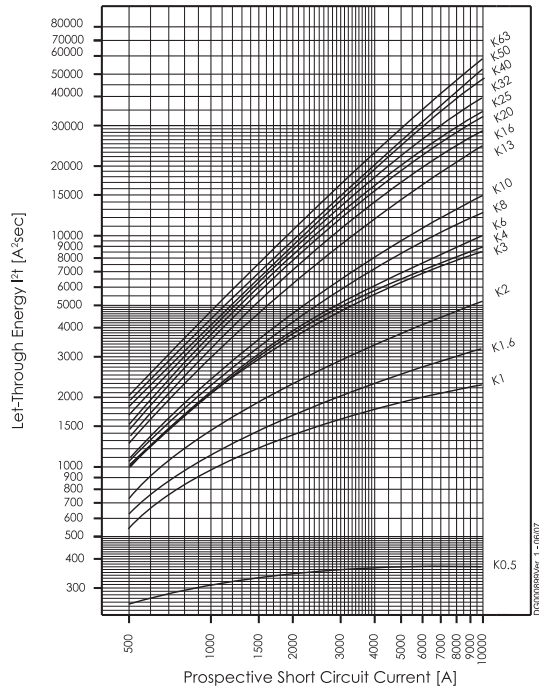
Type C (IEC/EN60947-2)



Type D (IEC/EN60947-2)



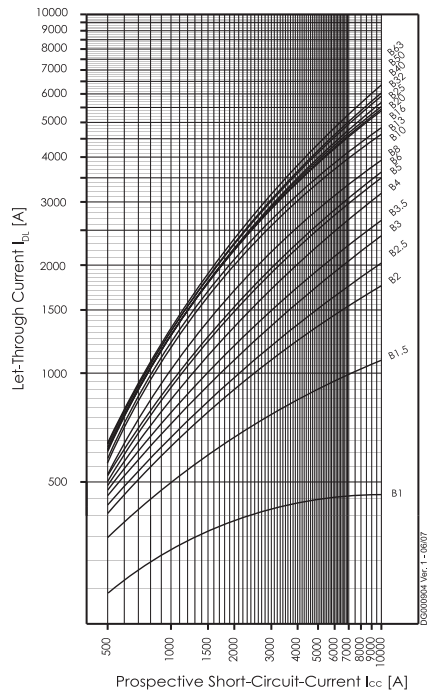
Type K



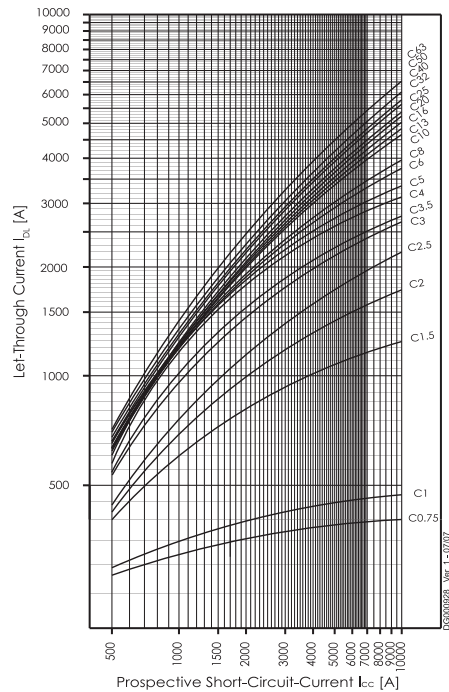


Maximum Let-Through Current FAZ

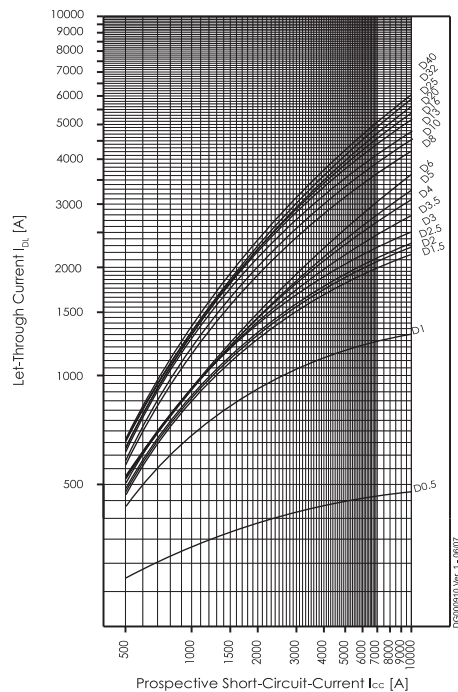
Type B (IEC/EN60898)



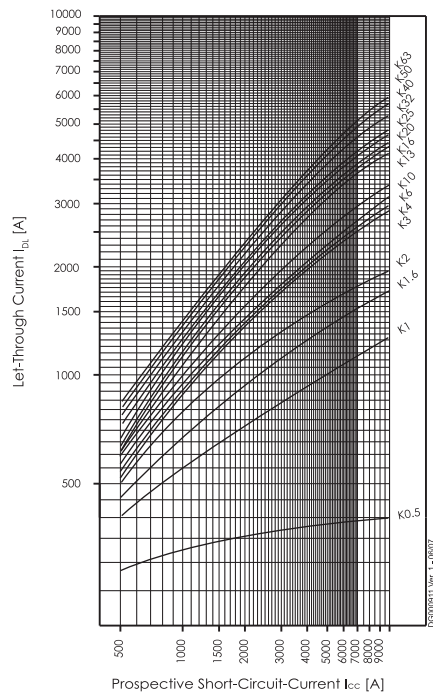
Type C (IEC/EN60898)



Type D (IEC/EN60898)

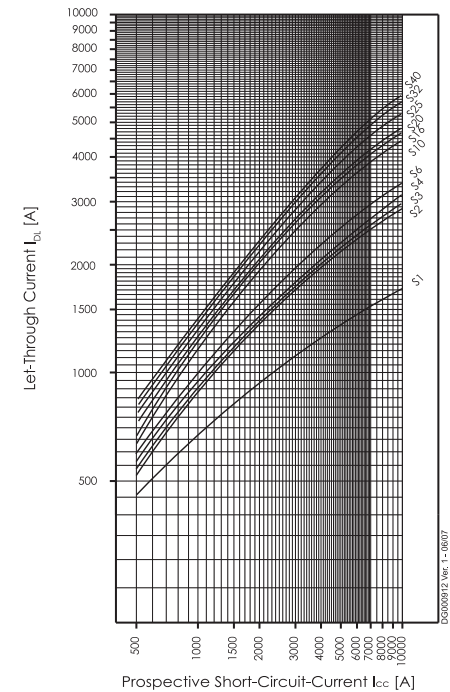


Type K

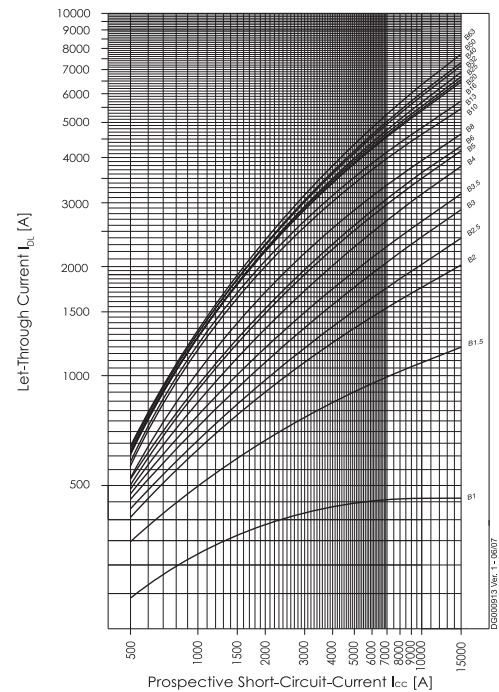


Maximum Let-Through Current FAZ

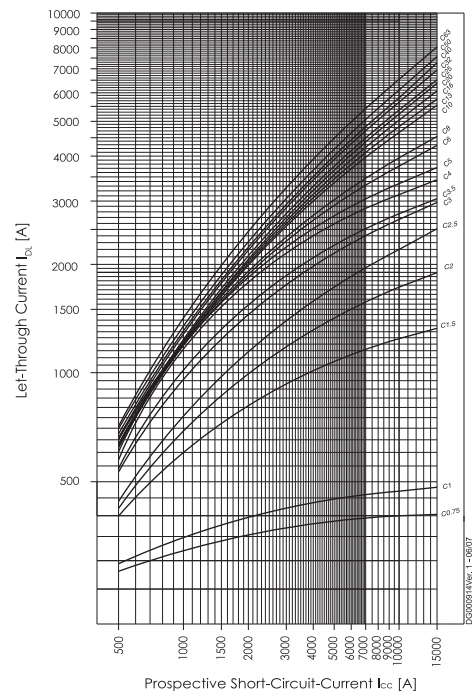
Type S



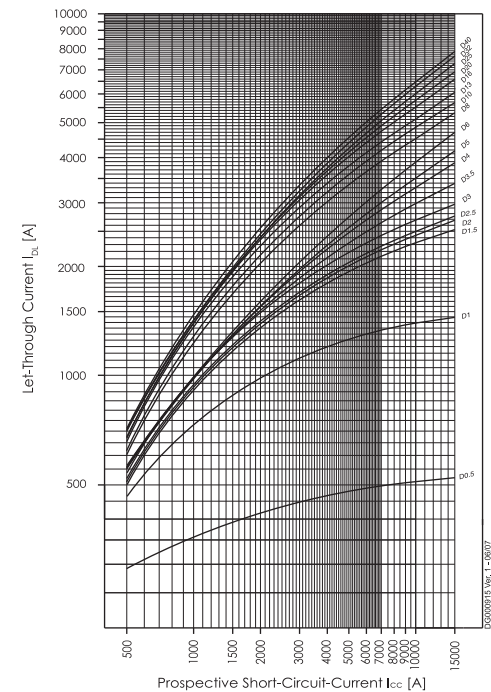
Type B (IEC/EN60947-2)



Type C (IEC/EN60947-2)



Type D (IEC/EN60947-2)



## Short Circuit Selectivity FAZ

In case of short circuit, there is selectivity between the miniature circuit breakers FAZ and the upstream protection devices up to the specified values of the selectivity limit current  $I_s$  [kA] (i. e. in case of short-circuit currents  $I_{ks}$  under  $I_s$ , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

\*) basically in accordance with EN 60898-1 D.5.2.b

### FAZ towards NH-00 Fuses

Short circuit selectivity **characteristic B** towards fuse link **NH-00\***)

| FAZ                | NH-00 gL/gG        |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 16                 | 20                 | 25                 | 32                 | 35                 | 40                 | 50                 | 63                 | 80                 | 100                | 125                | 160                |
| 1.0                | 0.9                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | 0.8                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | 0.5                | 1.0                | 2.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | 0.5                | 1.0                | 2.3                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | 0.5                | 0.9                | 2.1                | 8.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | 0.5                | 0.9                | 1.8                | 5.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.8                | 1.3                | 2.3                | 4.3                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.1                | 1.6                | 2.2                | 3.6                | 4.8                | 8.9                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.1                | 1.5                | 2.0                | 3.3                | 4.3                | 7.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 8                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.0                | 1.3                | 1.7                | 2.6                | 3.3                | 5.2                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 10                 |                    | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 1.2                | 1.5                | 2.2                | 2.7                | 4.0                | 9.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 13                 |                    | <0.5 <sup>1)</sup> | 0.6                | 0.8                | 1.1                | 1.4                | 2.1                | 2.6                | 3.8                | 7.9                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 16                 |                    |                    | 0.5                | 0.7                | 1.0                | 1.3                | 1.9                | 2.4                | 3.4                | 6.4                | 9.3                | 10.0 <sup>2)</sup> |
| 20                 |                    |                    |                    | 0.7                | 1.0                | 1.3                | 1.9                | 2.4                | 3.3                | 6.0                | 8.7                | 10.0 <sup>2)</sup> |
| 25                 |                    |                    |                    | 0.7                | 1.0                | 1.3                | 1.8                | 2.3                | 3.2                | 5.7                | 8.0                | 10.0 <sup>2)</sup> |
| 32                 |                    |                    |                    |                    | 0.9                | 1.2                | 1.7                | 2.2                | 3.1                | 5.4                | 7.6                | 10.0 <sup>2)</sup> |
| 40                 |                    |                    |                    |                    |                    |                    |                    | 2.1                | 3.0                | 5.1                | 7.2                | 10.0 <sup>2)</sup> |
| 50                 |                    |                    |                    |                    |                    |                    |                    | 1.9                | 2.8                | 4.7                | 6.6                | 9.5                |
| 63                 |                    |                    |                    |                    |                    |                    |                    |                    |                    | 4.4                | 6.3                | 8.6                |

Short circuit selectivity **characteristic C** towards fuse link **NH-00\***)

| FAZ                | NH-00 gL/gG        |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 16                 | 20                 | 25                 | 32                 | 35                 | 40                 | 50                 | 63                 | 80                 | 100                | 125                | 160                |
| 0.75               | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.0                | 0.9                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | <0.5 <sup>1)</sup> | 0.6                | 1.3                | 4.2                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | 0.6                | 1.0                | 2.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | 0.5                | 1.0                | 2.1                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.2                | 1.8                | 2.6                | 4.7                | 6.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.1                | 1.7                | 2.4                | 4.2                | 6.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.0                | 1.5                | 2.1                | 3.6                | 5.0                | 10.0               | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.8                | 1.2                | 1.7                | 2.8                | 3.8                | 8.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.8                | 1.2                | 1.5                | 2.5                | 3.3                | 5.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 8                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.8                | 1.1                | 1.5                | 2.3                | 2.9                | 4.9                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 10                 |                    |                    | 0.5                | 0.7                | 1.0                | 1.4                | 2.0                | 2.5                | 3.8                | 8.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 13                 |                    |                    |                    |                    | 1.0                | 1.3                | 1.9                | 2.4                | 3.6                | 7.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 16                 |                    |                    |                    |                    | 1.0                | 1.3                | 1.8                | 2.3                | 3.3                | 6.0                | 8.8                | 10.0 <sup>2)</sup> |
| 20                 |                    |                    |                    |                    | 1.0                | 1.2                | 1.7                | 2.2                | 3.2                | 5.5                | 7.7                | 10.0 <sup>2)</sup> |
| 25                 |                    |                    |                    |                    |                    |                    | 1.6                | 2.1                | 3.0                | 5.2                | 7.3                | 10.0 <sup>2)</sup> |
| 32                 |                    |                    |                    |                    |                    |                    |                    | 2.1                | 2.9                | 5.0                | 7.0                | 10.0 <sup>2)</sup> |
| 40                 |                    |                    |                    |                    |                    |                    |                    |                    | 2.8                | 4.8                | 6.7                | 10.0               |
| 50                 |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    | 4.5                | 6.3                |
| 63                 |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    | 5.9                |
|                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    | 8.4                |

Short circuit selectivity **characteristic D** towards fuse link **NH-00\***)

| FAZ                | NH-00 gL/gG        |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 16                 | 20                 | 25                 | 32                 | 35                 | 40                 | 50                 | 63                 | 80                 | 100                | 125                | 160                |
| 0.5                | 2.1                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.0                | <0.5 <sup>1)</sup> | 0,6                | 1.4                | 4.3                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.9                | 1.6                | 2.7                | 4.0                | 8.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.8                | 1.3                | 2.1                | 3.1                | 6.0                | 8.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.2                | 1.8                | 2.6                | 4.8                | 6.9                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.1                | 1.7                | 2.4                | 4.3                | 6.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.1                | 1.7                | 2.4                | 4.2                | 5.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.0                | 1.6                | 2.2                | 3.8                | 5.2                | 10.0               | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  |                    | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 1.4                | 1.9                | 3.2                | 4.1                | 7.1                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  |                    | <0.5 <sup>1)</sup> | 0.5                | 0.8                | 1.2                | 1.6                | 2.6                | 3.3                | 5.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 8                  |                    |                    | 0.5                | 0.8                | 1.1                | 1.5                | 2.2                | 2.7                | 4.1                | 8.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 10                 |                    |                    | 0.5                | 0.7                | 1.0                | 1.3                | 1.9                | 2.5                | 3.6                | 7.2                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 13                 |                    |                    |                    |                    | 1.0                | 1.3                | 1.9                | 2.3                | 3.4                | 6.5                | 9.5                | 10.0 <sup>2)</sup> |
| 16                 |                    |                    |                    |                    |                    | 1.1                | 1.6                | 2.0                | 3.0                | 5.5                | 8.0                | 10.0 <sup>2)</sup> |
| 20                 |                    |                    |                    |                    |                    |                    | 1.4                | 1.8                | 2.8                | 5.0                | 7.5                | 10.0 <sup>2)</sup> |
| 25                 |                    |                    |                    |                    |                    |                    |                    | 1.8                | 2.7                | 4.8                | 7.0                | 10.0 <sup>2)</sup> |
| 32                 |                    |                    |                    |                    |                    |                    |                    |                    | 2.4                | 4.1                | 6.2                | 9.3                |
| 40                 |                    |                    |                    |                    |                    |                    |                    |                    |                    | 4.0                | 6.0                | 9.0                |

1) Selectivity limit current  $I_s$  under 0.5 kA

2) Selectivity limit current  $I_s$  = rated breaking capacity  $I_{cn}$  of the MCB

Shaded fields: no selectivity



## FAZ towards D01-D03 fuse link

Short circuit selectivity **characteristic B** towards fuse link **D01-D03\***

| FAZ                | D01-D03 gL/gG      |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 10                 | 16                 | 20                 | 25                 | 35                 | 50                 | 63                 | 80                 | 100                |
| 1.0                | <0.5 <sup>1)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | <0.5 <sup>1)</sup> | 4.1                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 1.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.9                | 7.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.9                | 2.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  |                    | <0.5 <sup>1)</sup> | 0.5                | 0.8                | 1.7                | 4.0                | 7.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  |                    | <0.5 <sup>1)</sup> | 0.5                | 0.8                | 1.6                | 3.6                | 6.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 8                  |                    |                    | 0.5                | 0.8                | 1.4                | 2.8                | 4.3                | 8.2                | 10.0 <sup>2)</sup> |
| 10                 |                    |                    | 0.5                | 0.7                | 1.3                | 2.4                | 3.4                | 6.0                | 10.0 <sup>2)</sup> |
| 13                 |                    |                    | <0.5 <sup>1)</sup> | 0.7                | 1.2                | 2.3                | 3.2                | 5.3                | 10.0 <sup>2)</sup> |
| 16                 |                    |                    |                    | 0.6                | 1.1                | 2.2                | 2.9                | 4.6                | 10.0               |
| 20                 |                    |                    |                    |                    | 1.1                | 2.1                | 2.8                | 4.4                | 9.3                |
| 25                 |                    |                    |                    |                    | 1.1                | 2.0                | 2.7                | 4.2                | 8.7                |
| 32                 |                    |                    |                    |                    |                    | 2.0                | 2.6                | 4.0                | 8.0                |
| 40                 |                    |                    |                    |                    |                    |                    | 2.5                | 3.8                | 7.5                |
| 50                 |                    |                    |                    |                    |                    |                    | 2.3                | 3.4                | 6.7                |
| 63                 |                    |                    |                    |                    |                    |                    |                    |                    | 6.2                |

Short circuit selectivity **characteristic C** towards fuse link **D01-D03\***

| FAZ                | D01-D03 gL/gG      |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 10                 | 16                 | 20                 | 25                 | 35                 | 50                 | 63                 | 80                 | 100                |
| 0.75               | <0.5 <sup>1)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.0                | <0.5 <sup>1)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | <0.5 <sup>1)</sup> | 0.5                | 0.6                | 0.9                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.9                | 5.2                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.8                | 4.7                | 9.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.6                | 4.0                | 7.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  |                    | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 1.3                | 3.1                | 5.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  |                    | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 1.2                | 2.7                | 4.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 8                  |                    | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 1.2                | 2.5                | 4.0                | 8.6                | 10.0 <sup>2)</sup> |
| 10                 |                    |                    | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 1.2                | 2.3                | 3.1                | 5.4                | 10.0 <sup>2)</sup> |
| 13                 |                    |                    |                    |                    | 1.1                | 2.2                | 3.0                | 4.9                | 10.0 <sup>2)</sup> |
| 16                 |                    |                    |                    |                    | 1.1                | 2.1                | 2.8                | 4.4                | 9.5                |
| 20                 |                    |                    |                    |                    | 1.0                | 2.0                | 2.6                | 4.0                | 8.3                |
| 25                 |                    |                    |                    |                    |                    | 1.9                | 2.5                | 3.8                | 7.8                |
| 32                 |                    |                    |                    |                    |                    |                    | 2.5                | 3.7                | 7.3                |
| 40                 |                    |                    |                    |                    |                    |                    |                    | 3.5                | 7.0                |
| 50                 |                    |                    |                    |                    |                    |                    |                    |                    | 6.5                |
| 63                 |                    |                    |                    |                    |                    |                    |                    |                    |                    |

Short circuit selectivity **characteristic D** towards fuse link **D01-D03\***

| FAZ                | D01-D03 gL/gG      |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 10                 | 16                 | 20                 | 25                 | 35                 | 50                 | 63                 | 80                 | 100                |
| 0.5                | <0.5 <sup>1)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.3                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 2.8                | 9.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.8                | 2.2                | 6.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.7                | 1.9                | 5.4                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.7                | 1.8                | 4.8                | 9.3                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.5                | 0.7                | 1.7                | 4.7                | 8.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  |                    | <0.5 <sup>1)</sup> | 0.5                | 0.7                | 1.7                | 4.6                | 7.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  |                    | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.5                | 3.5                | 5.8                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  |                    |                    | <0.5 <sup>1)</sup> | 0.5                | 1.3                | 2.9                | 4.5                | 9.0                | 10.0 <sup>2)</sup> |
| 8                  |                    |                    | <0.5 <sup>1)</sup> | 0.5                | 1.2                | 2.4                | 3.5                | 6.0                | 10.0 <sup>2)</sup> |
| 10                 |                    |                    |                    | 0.5                | 1.1                | 2.2                | 3.0                | 5.0                | 10.0 <sup>2)</sup> |
| 13                 |                    |                    |                    |                    | 1.1                | 2.1                | 2.9                | 4.6                | 10.0 <sup>2)</sup> |
| 16                 |                    |                    |                    |                    |                    | 1.9                | 2.6                | 3.9                | 9.0                |
| 20                 |                    |                    |                    |                    |                    | 1.7                | 2.3                | 3.5                | 8.0                |
| 25                 |                    |                    |                    |                    |                    |                    | 2.2                | 3.4                | 7.5                |
| 32                 |                    |                    |                    |                    |                    |                    |                    | 2.9                | 6.0                |
| 40                 |                    |                    |                    |                    |                    |                    |                    |                    | 5.7                |

<sup>1)</sup> Selectivity limit current I<sub>s</sub> under 0.5 kA

<sup>2)</sup> Selectivity limit current I<sub>s</sub> = rated breaking capacity I<sub>cn</sub> of the MCB

Shaded fields: no selectivity

## FAZ towards DII-DIV fuse link

Short circuit selectivity **characteristic B** towards fuse link **DII-DIV\***)

| FAZ                | DII-DIV gL/gG      |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 10                 | 16                 | 20                 | 25                 | 35                 | 50                 | 63                 | 80                 | 100                |
| 1.0                | <0.5 <sup>1)</sup> | 1.2                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | <0.5 <sup>1)</sup> | 1.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.8                | 1.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.8                | 1.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.8                | 1.4                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.3                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.0                | 3.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 2.0                | 3.5                | 8.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  |                    | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 1.8                | 3.2                | 7.4                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 8                  |                    | <0.5 <sup>1)</sup> | 0.5                | 0.8                | 1.6                | 2.6                | 5.2                | 8.3                | 10.0 <sup>2)</sup> |
| 10                 |                    |                    | 0.5                | 0.8                | 1.4                | 2.2                | 3.9                | 6.0                | 10.0 <sup>2)</sup> |
| 13                 |                    |                    | 0.5                | 0.7                | 1.3                | 2.0                | 3.6                | 5.4                | 10.0 <sup>2)</sup> |
| 16                 |                    |                    |                    | 0.6                | 1.2                | 1.9                | 3.2                | 4.6                | 8.4                |
| 20                 |                    |                    |                    |                    | 1.2                | 1.8                | 3.1                | 4.4                | 7.8                |
| 25                 |                    |                    |                    |                    | 1.2                | 1.8                | 3.0                | 4.2                | 7.3                |
| 32                 |                    |                    |                    |                    |                    | 1.7                | 2.8                | 3.9                | 6.8                |
| 40                 |                    |                    |                    |                    |                    |                    | 2.7                | 3.8                | 6.5                |
| 50                 |                    |                    |                    |                    |                    |                    | 2.5                | 3.5                | 5.7                |
| 63                 |                    |                    |                    |                    |                    |                    |                    |                    | 5.3                |

Short circuit selectivity **characteristic C** towards fuse link **DII-DIV\***)

| FAZ                | DII-DIV gL/gG      |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 10                 | 16                 | 20                 | 25                 | 35                 | 50                 | 63                 | 80                 | 100                |
| 0.75               | 1.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.0                | <0.5 <sup>1)</sup> | 1.2                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 1.0                | 2.2                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.8                | 1.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.8                | 1.4                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.8                | 0.9                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 2.2                | 4.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.8                | 1.8                | 3.6                | 9.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.7                | 1.5                | 2.7                | 7.3                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  |                    | <0.5 <sup>1)</sup> | 0.5                | 0.6                | 1.4                | 2.4                | 5.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 8                  |                    | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.3                | 2.2                | 4.7                | 8.7                | 10.0 <sup>2)</sup> |
| 10                 |                    |                    | <0.5 <sup>1)</sup> | 0.6                | 1.3                | 2.0                | 3.6                | 5.4                | 10.0 <sup>2)</sup> |
| 13                 |                    |                    |                    |                    | 1.3                | 1.9                | 3.3                | 5.0                | 9.4                |
| 16                 |                    |                    |                    |                    | 1.2                | 1.8                | 3.2                | 4.4                | 8.0                |
| 20                 |                    |                    |                    |                    | 1.2                | 1.8                | 3.1                | 4.1                | 7.0                |
| 25                 |                    |                    |                    |                    |                    | 1.7                | 2.8                | 3.8                | 6.5                |
| 32                 |                    |                    |                    |                    |                    |                    | 2.7                | 3.7                | 6.2                |
| 40                 |                    |                    |                    |                    |                    |                    |                    | 3.5                | 5.9                |
| 50                 |                    |                    |                    |                    |                    |                    |                    |                    | 5.5                |
| 63                 |                    |                    |                    |                    |                    |                    |                    |                    |                    |

Short circuit selectivity **characteristic D** towards fuse link **DII-DIV\***)

| FAZ                | DII-DIV gL/gG      |                    |                    |                    |                    |                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| I <sub>n</sub> [A] | 10                 | 16                 | 20                 | 25                 | 35                 | 50                 | 63                 | 80                 | 100                |
| 0.5                | 0.5                | 3.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 1.0                | 2.4                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 1.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.7                | 1.2                | 3.5                | 7.7                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.0                | 2.8                | 5.8                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 2.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 1.4                | 2.3                | 4.6                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.0                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 2.3                | 4.3                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 3.5                | <0.5 <sup>1)</sup> | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 2.1                | 4.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 4                  |                    | <0.5 <sup>1)</sup> | 0.6                | 0.9                | 2.0                | 3.8                | 9.5                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 5                  |                    | <0.5 <sup>1)</sup> | 0.5                | 0.7                | 1.7                | 3.1                | 7.0                | 10.0 <sup>2)</sup> | 10.0 <sup>2)</sup> |
| 6                  |                    |                    | 0.5                | 0.7                | 1.5                | 2.6                | 5.3                | 9.1                | 10.0 <sup>2)</sup> |
| 8                  |                    |                    | <0.5 <sup>1)</sup> | 0.7                | 1.4                | 2.2                | 3.9                | 6.0                | 10.0 <sup>2)</sup> |
| 10                 |                    |                    |                    | 0.7                | 1.2                | 1.9                | 3.4                | 5.0                | 9.5                |
| 13                 |                    |                    |                    |                    | 1.2                | 1.8                | 3.2                | 4.6                | 8.6                |
| 16                 |                    |                    |                    |                    |                    | 1.6                | 2.7                | 4.0                | 7.4                |
| 20                 |                    |                    |                    |                    |                    | 1.5                | 2.5                | 3.5                | 6.7                |
| 25                 |                    |                    |                    |                    |                    |                    | 2.4                | 3.4                | 6.2                |
| 32                 |                    |                    |                    |                    |                    |                    |                    | 2.8                | 5.0                |
| 40                 |                    |                    |                    |                    |                    |                    |                    |                    | 4.8                |

<sup>1)</sup> Selectivity limit current I<sub>s</sub> under 0.5 kA

<sup>2)</sup> Selectivity limit current I<sub>s</sub> = rated breaking capacity I<sub>cn</sub> of the MCB

Shaded fields: no selectivity



## FAZ-B and NZM 1/2

Selectivity-limit current  $I_s$  [kA] for selectivity between FAZ-B and NZM (overload and short-circuit release unit NZM at max. value).

| $I_n$ [A] | NZM...1-A...                  |     |     |     |     |     | NZM...2-A...                            |     |     |     |     |     |     |     |     |
|-----------|-------------------------------|-----|-----|-----|-----|-----|-----------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | $I_{cu} = 25 (50) \text{ kA}$ |     |     |     |     |     | $I_{cu} = 25 (50)(100)(150) \text{ kA}$ |     |     |     |     |     |     |     |     |
| FAZ-B     | 40                            | 50  | 63  | 80  | 100 | 125 | 40                                      | 50  | 63  | 80  | 100 | 125 | 160 | 200 | 250 |
| 1         | 15                            | 15  | 15  | 15  | 15  | 15  | 15                                      | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |
| 2         | 2                             | 15  | 15  | 15  | 15  | 15  | 3                                       | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |
| 3         | 1.2                           | 2   | 3   | 3   | 10  | 15  | 1.5                                     | 1.5 | 3   | 5   | 15  | 15  | 15  | 15  | 15  |
| 4         | 1.2                           | 2   | 3   | 3   | 8   | 15  | 1.2                                     | 1.5 | 3   | 4   | 15  | 15  | 15  | 15  | 15  |
| 6         | 1.2                           | 2   | 2.5 | 3   | 5   | 10  | 1.2                                     | 1.5 | 2.5 | 3   | 15  | 15  | 15  | 15  | 15  |
| 10        | 1.2                           | 1.5 | 2   | 2   | 4   | 10  | 1                                       | 1.5 | 2.5 | 3   | 10  | 10  | 10  | 10  | 10  |
| 13        | 1                             | 1.5 | 2   | 2   | 4   | 10  | 1                                       | 1.2 | 2   | 3   | 10  | 10  | 10  | 10  | 10  |
| 16        | 1                             | 1.2 | 1.5 | 2   | 3   | 8   | 1                                       | 1.2 | 1.5 | 2.5 | 10  | 10  | 10  | 10  | 10  |
| 20        | 0.8                           | 1.2 | 1.5 | 1.5 | 3   | 8   | 1                                       | 1.2 | 1.5 | 1.5 | 10  | 10  | 10  | 10  | 10  |
| 25        | 0.7                           | 1.2 | 1.5 | 1.5 | 3   | 7   | 0.8                                     | 1   | 1.5 | 2   | 10  | 10  | 10  | 10  | 10  |
| 32        | -                             | 1.2 | 1   | 1.5 | 2   | 6   | -                                       | 1   | 1.5 | 2   | 8   | 8   | 8   | 8   | 10  |
| 40        | -                             | -   | 1   | 1.5 | 2   | 5   | -                                       | -   | 1.2 | 1.5 | 7   | 7   | 7   | 7   | 10  |
| 50        | -                             | -   | -   | 1.2 | 1.5 | 4   | -                                       | -   | -   | 1.5 | 6   | 6   | 6   | 6   | 10  |
| 63        | -                             | -   | -   | -   | 1.5 | 3   | -                                       | -   | -   | -   | 6   | 6   | 6   | 6   | 10  |

## FAZ-C and NZM 1/2

Selectivity-limit current  $I_s$  [kA] for selectivity between FAZ-C and NZM (overload and short-circuit release unit NZM at max. value).

| $I_n$ [A] | NZM...1-A...                  |     |     |     |     |     | NZM...2-A...                            |     |     |     |     |     |     |     |     |
|-----------|-------------------------------|-----|-----|-----|-----|-----|-----------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|           | $I_{cu} = 25 (50) \text{ kA}$ |     |     |     |     |     | $I_{cu} = 25 (50)(100)(150) \text{ kA}$ |     |     |     |     |     |     |     |     |
| FAZ-C     | 40                            | 50  | 63  | 80  | 100 | 125 | 40                                      | 50  | 63  | 80  | 100 | 125 | 160 | 200 | 250 |
| 0.5       | 15                            | 15  | 15  | 15  | 15  | 15  | 15                                      | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |
| 1         | 15                            | 15  | 15  | 15  | 15  | 15  | 15                                      | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |
| 2         | 2                             | 15  | 15  | 15  | 15  | 15  | 3                                       | 15  | 15  | 15  | 15  | 15  | 15  | 15  | 15  |
| 3         | 1.2                           | 2   | 3   | 3   | 10  | 15  | 1.5                                     | 1.5 | 3   | 5   | 15  | 15  | 15  | 15  | 15  |
| 4         | 1.2                           | 2   | 3   | 3   | 8   | 15  | 1.2                                     | 1.5 | 3   | 4   | 15  | 15  | 15  | 15  | 15  |
| 6         | 1.2                           | 2   | 2.5 | 3   | 5   | 10  | 1.2                                     | 1.5 | 2.5 | 3   | 15  | 15  | 15  | 15  | 15  |
| 10        | 1.2                           | 1.5 | 2   | 2   | 4   | 10  | 1                                       | 1.5 | 2.5 | 3   | 10  | 10  | 10  | 10  | 10  |
| 13        | 1                             | 1.5 | 2   | 2   | 4   | 10  | 1                                       | 1.2 | 2   | 3   | 10  | 10  | 10  | 10  | 10  |
| 16        | 1                             | 1.2 | 1.5 | 2   | 3   | 8   | 1                                       | 1.2 | 1.5 | 2.5 | 10  | 10  | 10  | 10  | 10  |
| 20        | 0.8                           | 1.2 | 1.5 | 1.5 | 3   | 8   | 1                                       | 1.2 | 1.5 | 1.5 | 10  | 10  | 10  | 10  | 10  |
| 25        | 0.7                           | 1.2 | 1.5 | 1.5 | 3   | 7   | 0.8                                     | 1   | 1.5 | 2   | 10  | 10  | 10  | 10  | 10  |
| 32        | -                             | 1.2 | 1   | 1.5 | 2   | 6   | -                                       | 1   | 1.5 | 2   | 8   | 8   | 8   | 8   | 10  |
| 40        | -                             | -   | 1   | 1.5 | 2   | 5   | -                                       | -   | 1.2 | 1.5 | 7   | 7   | 7   | 7   | 10  |
| 50        | -                             | -   | -   | 1.2 | 1.5 | 4   | -                                       | -   | -   | 1.5 | 6   | 6   | 6   | 6   | 10  |
| 63        | -                             | -   | -   | -   | 1.5 | 3   | -                                       | -   | -   | -   | 6   | 6   | 6   | 6   | 10  |

## FAZ-D and NZM 1/2

Selectivity-limit current  $I_g$  [kA] for selectivity between FAZ-D and NZM (overload and short-circuit release unit NZM at max. value).

| $I_n$ [A] | NZM...1-A...                  |     |      |      |      |     | NZM...2-A...                            |     |      |      |      |     |     |     |     |
|-----------|-------------------------------|-----|------|------|------|-----|-----------------------------------------|-----|------|------|------|-----|-----|-----|-----|
|           | $I_{cu} = 25 (50) \text{ kA}$ |     |      |      |      |     | $I_{cu} = 25 (50)(100)(150) \text{ kA}$ |     |      |      |      |     |     |     |     |
| FAZ-D     | 40                            | 50  | 63   | 80   | 100  | 125 | 40                                      | 50  | 63   | 80   | 100  | 125 | 160 | 200 | 250 |
| 0.5       | 9                             | 15  | 15   | 15   | 15   | 15  | 9                                       | 15  | 15   | 15   | 15   | 15  | 15  | 15  | 15  |
| 1         | 0.5                           | 0.7 | 1.1  | 1.9  | 4.2  | 15  | 0.5                                     | 0.7 | 1.1  | 1.9  | 4.2  | 15  | 15  | 15  | 15  |
| 1.5       | 0.3                           | 0.6 | 0.8  | 1.1  | 1.6  | 2.6 | 0.3                                     | 0.6 | 0.8  | 1.1  | 1.6  | 2.6 | 5   | 15  | 15  |
| 2         | 0.3                           | 0.5 | 0.75 | 0.95 | 1.4  | 2.4 | 0.3                                     | 0.5 | 0.75 | 0.95 | 1.4  | 2.4 | 4.5 | 10  | 15  |
| 2.5       | 0.3                           | 0.5 | 0.75 | 0.95 | 1.3  | 2.3 | 0.3                                     | 0.5 | 0.75 | 0.95 | 1.3  | 2.3 | 4.2 | 9   | 15  |
| 3         | 0.3                           | 0.5 | 0.7  | 0.9  | 1.3  | 2.1 | 0.3                                     | 0.5 | 0.7  | 0.9  | 1.3  | 2.1 | 3.6 | 7   | 15  |
| 3.5       | 0.3                           | 0.5 | 0.7  | 0.9  | 1.3  | 2   | 0.3                                     | 0.5 | 0.7  | 0.9  | 1.3  | 2   | 3.3 | 5.6 | 10  |
| 4         | 0.3                           | 0.5 | 0.7  | 0.9  | 1.3  | 1.9 | 0.3                                     | 0.5 | 0.7  | 0.9  | 1.3  | 1.9 | 3   | 4.7 | 8   |
| 5         | 0.3                           | 0.5 | 0.7  | 0.9  | 1.3  | 1.9 | 0.3                                     | 0.5 | 0.7  | 0.9  | 1.3  | 1.9 | 3   | 4.4 | 7   |
| 6         | 0.3                           | 0.5 | 0.6  | 0.9  | 1.3  | 1.8 | 0.3                                     | 0.5 | 0.6  | 0.9  | 1.3  | 1.8 | 2.8 | 4   | 6   |
| 8         | 0.3                           | 0.3 | 0.6  | 0.75 | 1    | 1.3 | 0.3                                     | 0.3 | 0.6  | 0.75 | 1    | 1.3 | 1.8 | 2.7 | 4   |
| 10        | 0.3                           | 0.3 | 0.6  | 0.75 | 0.95 | 1.2 | 0.3                                     | 0.3 | 0.6  | 0.75 | 0.95 | 1.2 | 1.7 | 2.4 | 3.6 |
| 13        | 0.3                           | 0.3 | 0.5  | 0.7  | 0.9  | 1.1 | 0.3                                     | 0.3 | 0.5  | 0.7  | 0.9  | 1.1 | 1.6 | 2.2 | 3.2 |
| 16        | -                             | 0.3 | 0.5  | 0.65 | 0.8  | 1.1 | -                                       | 0.3 | 0.5  | 0.65 | 0.8  | 1.1 | 1.5 | 2.1 | 3   |
| 20        | -                             | -   | 0.5  | 0.65 | 0.8  | 1.1 | -                                       | -   | 0.5  | 0.65 | 0.8  | 1.1 | 1.4 | 2.1 | 3   |
| 25        | -                             | -   | 0.5  | 0.65 | 0.8  | 1.1 | -                                       | -   | 0.5  | 0.65 | 0.8  | 1.1 | 1.4 | 1.9 | 2.7 |
| 32        | -                             | -   | -    | -    | 0.8  | 1.1 | -                                       | -   | -    | -    | 0.8  | 1.1 | 1.4 | 1.9 | 2.7 |
| 40        | -                             | -   | -    | -    | -    | 1   | -                                       | -   | -    | -    | -    | 1   | 1.4 | 1.8 | 2.6 |

## Back-up Protection FAZ

The up-stream protective devices will protect the down-stream FAZ up to the short-circuit current specified.

### FAZ/C and AZ/C

| $I_n$ [A]                      | AZ/C      |           |           |           |           |           |           |            |            |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| FAZ/C                          | $I_n$ [A] |           |           |           |           |           |           |            |            |
|                                | <b>20</b> | <b>25</b> | <b>32</b> | <b>40</b> | <b>50</b> | <b>63</b> | <b>80</b> | <b>100</b> | <b>125</b> |
| 1                              | 25        | 25        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 2                              | 25        | 25        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 4                              | 25        | 25        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 6                              | 25        | 25        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 10                             | 25        | 25        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 13                             | 25        | 25        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 16                             | 25        | 25        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 20                             | 1)        | 25        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 25                             | 1)        | 1)        | 25        | 25        | 25        | 25        | 20        | 20         | 15 kA      |
| 32                             | 1)        | 1)        | 1)        | 25        | 25        | 25        | 20        | 20         | -          |
| 40                             | 1)        | 1)        | 1)        | 1)        | 25        | 25        | 20        | 20         | -          |
| 50                             | 1)        | 1)        | 1)        | 1)        | 1)        | 25        | 20        | 20         | -          |
| 63                             | 1)        | 1)        | 1)        | 1)        | 1)        | 1)        | -         | -          | -          |
| 1) $I_n$ (AZ) $\leq I_n$ (FAZ) |           |           |           |           |           |           |           |            |            |

### FAZ and CL-PKZ0

Back-up tests acc. to EN/IEC 60947-2, App. A:  $U = 1.05 U_e$ , (O - t - CO)

| $I_n$ [A] | FAZ- $I_n/1(2,3,4)/B(C) + CL-PKZ0$<br>$U_e = 230/400 V$ |
|-----------|---------------------------------------------------------|
| 0.16      | 65 kA                                                   |
| 0.25      | 65 kA                                                   |
| 0.5       | 65 kA                                                   |
| 0.75      | 65 kA                                                   |
| 1         | 65 kA                                                   |
| 1.5       | 65 kA                                                   |
| 2         | 65 kA                                                   |
| 2.5       | 65 kA                                                   |
| 3         | 65 kA                                                   |
| 3.5       | 65 kA                                                   |
| 4         | 65 kA                                                   |
| 5         | 45 kA                                                   |
| 6         | 45 kA                                                   |
| 8         | 45 kA                                                   |
| 10        | 45 kA                                                   |
| 12        | 45 kA                                                   |
| 13        | 45 kA                                                   |
| 15        | 45 kA                                                   |
| 16        | 45 kA                                                   |
| 20        | 45 kA                                                   |
| 25        | 45 kA                                                   |
| 32        | 45 kA                                                   |
| 40        | 25 kA                                                   |
| 50        | 25 kA                                                   |
| 63        | 25 kA                                                   |

### FAZ and NZM7

| $I_n$ [A] | FAZ- $I_n/1(2,3,4)/B(C) + NZM7-40(...100)$<br>$U_e = 230/400 V$ |
|-----------|-----------------------------------------------------------------|
| 0.16      | 25 kA                                                           |
| 0.25      | 25 kA                                                           |
| 0.5       | 25 kA                                                           |
| 0.75      | 25 kA                                                           |
| 1         | 25 kA                                                           |
| 1.5       | 25 kA                                                           |
| 2         | 25 kA                                                           |
| 2.5       | 25 kA                                                           |
| 3         | 25 kA                                                           |
| 3.5       | 25 kA                                                           |
| 4         | 25 kA                                                           |
| 5         | 20 kA                                                           |
| 6         | 20 kA                                                           |
| 8         | 20 kA                                                           |
| 10        | 20 kA                                                           |
| 12        | 20 kA                                                           |
| 13        | 20 kA                                                           |
| 15        | 20 kA                                                           |
| 16        | 20 kA                                                           |
| 20        | 18 kA                                                           |
| 25        | 18 kA                                                           |
| 32        | 18 kA                                                           |
| 40        | 18 kA                                                           |
| 50        | 15 kA                                                           |
| 63        | 15 kA                                                           |

## FAZ and NZMB1

$U_e = 230/400 \text{ V}$ :  $I_{cu}$  (FAZ) = 15 kA

$U_e = 230/400 \text{ V}$ :  $I_{cu}$  (NZMB1) = 25 kA

Back-up test acc. EN/IEC 60947-2, app. A:  $U = 1.05U_e$ , (O - t - CO)

(Settings NZMB1:  $I_r$ ,  $I_{rm}$  at max. volumes)

| $I_n$ [A] | <b>FAZ-<math>I_n/1(2,3,4)/B(C) + NZMB1</math></b><br>$U_e = 230/400 \text{ V}$ |
|-----------|--------------------------------------------------------------------------------|
| 0.16      | 25 kA                                                                          |
| 0.25      | 25 kA                                                                          |
| 0.5       | 25 kA                                                                          |
| 0.75      | 25 kA                                                                          |
| 1         | 25 kA                                                                          |
| 1.5       | 25 kA                                                                          |
| 2         | 25 kA                                                                          |
| 2.5       | 25 kA                                                                          |
| 3         | 25 kA                                                                          |
| 3.5       | 25 kA                                                                          |
| 4         | 25 kA                                                                          |
| 5         | 25 kA                                                                          |
| 6         | 25 kA                                                                          |
| 8         | 25 kA                                                                          |
| 10        | 25 kA                                                                          |
| 12        | 25 kA                                                                          |
| 13        | 25 kA                                                                          |
| 15        | 25 kA                                                                          |
| 16        | 25 kA                                                                          |
| 20        | 20 kA                                                                          |
| 25        | 20 kA                                                                          |
| 32        | 20 kA                                                                          |
| 40        | 20 kA                                                                          |
| 50        | 15 kA                                                                          |
| 63        | 15 kA                                                                          |

## FAZ and NZMN1

$U_e = 230/400 \text{ V}$ :  $I_{cu}$  (FAZ) = 15 kA

$U_e = 230/400 \text{ V}$ :  $I_{cu}$  (NZMN1) = 25 kA

Back-up test acc. EN/IEC 60947-2, app. A:  $U = 1.05U_e$ , (O - t - CO)

(Settings NZM at max. values)

| $I_n$ [A] | <b>FAZ-<math>I_n/1(2,3,4)/B(C) + NZMN1</math></b><br>$U_e = 230/400 \text{ V}$ |
|-----------|--------------------------------------------------------------------------------|
| 0.16      | 25 kA                                                                          |
| 0.25      | 25 kA                                                                          |
| 0.5       | 25 kA                                                                          |
| 0.75      | 25 kA                                                                          |
| 1         | 25 kA                                                                          |
| 1.5       | 25 kA                                                                          |
| 2         | 25 kA                                                                          |
| 2.5       | 25 kA                                                                          |
| 3         | 25 kA                                                                          |
| 3.5       | 25 kA                                                                          |
| 4         | 25 kA                                                                          |
| 5         | 25 kA                                                                          |
| 6         | 25 kA                                                                          |
| 8         | 25 kA                                                                          |
| 10        | 25 kA                                                                          |
| 12        | 25 kA                                                                          |
| 13        | 25 kA                                                                          |
| 15        | 25 kA                                                                          |
| 16        | 25 kA                                                                          |
| 20        | 20 kA                                                                          |
| 25        | 20 kA                                                                          |
| 32        | 20 kA                                                                          |
| 40        | 20 kA                                                                          |
| 50        | 15 kA                                                                          |
| 63        | 15 kA                                                                          |

## FAZ and NZMB2

$U_e = 230/400\text{ V}$ :  $I_{cu}$  (FAZ) = 15 kA

$U_e = 230/400\text{ V}$ :  $I_{cu}$  (NZMB2) = 25 kA

$U_e = 133/230\text{ V}$ :  $I_{cu}$  (FAZ) = 20 kA

$U_e = 133/230\text{ V}$ :  $I_{cu}$  (NZMB2) = 30 kA

Back-up test acc. EN/IEC 60947-2, app. A:  $U = 1.05U_{e'}$  (O - t - CO)

(Settings NZM at max. values)

| $I_n$ [A] | <b>FAZ-<math>I_n/1(2,3,4)/B(C)</math> + NZMB2</b> |                          |
|-----------|---------------------------------------------------|--------------------------|
|           | $U_e = 230/400\text{ V}$                          | $U_e = 133/230\text{ V}$ |
| 0.16      | 25 kA                                             | 30 kA                    |
| 0.25      | 25 kA                                             | 30 kA                    |
| 0.5       | 25 kA                                             | 30 kA                    |
| 0.75      | 25 kA                                             | 30 kA                    |
| 1         | 25 kA                                             | 30 kA                    |
| 1.5       | 25 kA                                             | 30 kA                    |
| 2         | 25 kA                                             | 30 kA                    |
| 2.5       | 25 kA                                             | 30 kA                    |
| 3         | 25 kA                                             | 30 kA                    |
| 3.5       | 25 kA                                             | 30 kA                    |
| 4         | 25 kA                                             | 30 kA                    |
| 5         | 25 kA                                             | 25 kA                    |
| 6         | 25 kA                                             | 25 kA                    |
| 8         | 25 kA                                             | 25 kA                    |
| 10        | 25 kA                                             | 25 kA                    |
| 12        | 20 kA                                             | 25 kA                    |
| 13        | 20 kA                                             | 25 kA                    |
| 15        | 20 kA                                             | 25 kA                    |
| 16        | 20 kA                                             | 25 kA                    |
| 20        | 20 kA                                             | 25 kA                    |
| 25        | 20 kA                                             | 25 kA                    |
| 32        | 20 kA                                             | 25 kA                    |
| 40        | 15 kA                                             | 20 kA                    |
| 50        | 15 kA                                             | 20 kA                    |
| 63        | 15 kA                                             | 20 kA                    |

## FAZ and NZMN2

$U_e = 230/400\text{ V}$ :  $I_{cu}$  (FAZ) = 15 kA

$U_e = 230/400\text{ V}$ :  $I_{cu}$  (NZMN2) = 50 kA

$U_e = 133/230\text{ V}$ :  $I_{cu}$  (FAZ) = 20 kA

$U_e = 133/230\text{ V}$ :  $I_{cu}$  (NZMN2) = 85 kA

Back-up test acc. EN/IEC 60947-2, app. A:  $U = 1.05U_{e'}$  (O - t - CO)

(Settings NZM at max. values)

| $I_n$ [A] | <b>FAZ-<math>I_n/1(2,3,4)/B(C)</math> + NZMN2</b> |                          |
|-----------|---------------------------------------------------|--------------------------|
|           | $U_e = 230/400\text{ V}$                          | $U_e = 133/230\text{ V}$ |
| 0.16      | 50 kA                                             | 85 kA                    |
| 0.25      | 50 kA                                             | 85 kA                    |
| 0.5       | 50 kA                                             | 85 kA                    |
| 0.75      | 50 kA                                             | 85 kA                    |
| 1         | 50 kA                                             | 85 kA                    |
| 1.5       | 50 kA                                             | 85 kA                    |
| 2         | 50 kA                                             | 85 kA                    |
| 2.5       | 50 kA                                             | 85 kA                    |
| 3         | 50 kA                                             | 85 kA                    |
| 3.5       | 50 kA                                             | 85 kA                    |
| 4         | 50 kA                                             | 85 kA                    |
| 5         | 50 kA                                             | 80 kA                    |
| 6         | 50 kA                                             | 80 kA                    |
| 8         | 50 kA                                             | 80 kA                    |
| 10        | 50 kA                                             | 80 kA                    |
| 12        | 30 kA                                             | 60 kA                    |
| 13        | 30 kA                                             | 60 kA                    |
| 15        | 30 kA                                             | 60 kA                    |
| 16        | 30 kA                                             | 60 kA                    |
| 20        | 30 kA                                             | 60 kA                    |
| 25        | 30 kA                                             | 60 kA                    |
| 32        | 30 kA                                             | 60 kA                    |
| 40        | 20 kA                                             | 40 kA                    |
| 50        | 20 kA                                             | 40 kA                    |
| 63        | 20 kA                                             | 40 kA                    |

## FAZ and NZMH2

$U_e = 230/400\text{ V}$ :  $I_{cu}$  (FAZ) = 15 kA

$U_e = 230/400\text{ V}$ :  $I_{cu}$  (NZMH2) = 150 kA

$U_e = 133/230\text{ V}$ :  $I_{cu}$  (FAZ) = 20 kA

$U_e = 133/230\text{ V}$ :  $I_{cu}$  (NZMH2) = 150 kA

Back-up test acc. EN/IEC 60947-2, app. A:  $U = 1.05U_{gr}$  (O - t - CO)

(Settings NZM at max. values)

| $I_n$ [A] | <b>FAZ-<math>I_n/1(2,3,4)/B(C)</math> + NZMH2</b> |                          |
|-----------|---------------------------------------------------|--------------------------|
|           | $U_e = 230/400\text{ V}$                          | $U_e = 133/230\text{ V}$ |
| 0.16      | 50 kA                                             | 85 kA                    |
| 0.25      | 50 kA                                             | 85 kA                    |
| 0.5       | 50 kA                                             | 85 kA                    |
| 0.75      | 50 kA                                             | 85 kA                    |
| 1         | 50 kA                                             | 85 kA                    |
| 1.5       | 50 kA                                             | 85 kA                    |
| 2         | 50 kA                                             | 85 kA                    |
| 2.5       | 50 kA                                             | 85 kA                    |
| 3         | 50 kA                                             | 85 kA                    |
| 3.5       | 50 kA                                             | 85 kA                    |
| 4         | 50 kA                                             | 85 kA                    |
| 5         | 50 kA                                             | 80 kA                    |
| 6         | 50 kA                                             | 80 kA                    |
| 8         | 50 kA                                             | 80 kA                    |
| 10        | 50 kA                                             | 80 kA                    |
| 12        | 30 kA                                             | 60 kA                    |
| 13        | 30 kA                                             | 60 kA                    |
| 15        | 30 kA                                             | 60 kA                    |
| 16        | 30 kA                                             | 60 kA                    |
| 20        | 30 kA                                             | 60 kA                    |
| 25        | 30 kA                                             | 60 kA                    |
| 32        | 30 kA                                             | 60 kA                    |
| 40        | 20 kA                                             | 40 kA                    |
| 50        | 20 kA                                             | 40 kA                    |
| 63        | 20 kA                                             | 40 kA                    |

## FAZ and NZML2

$U_e = 230/400\text{ V}$ :  $I_{cu}$  (FAZ) = 15 kA

$U_e = 230/400\text{ V}$ :  $I_{cu}$  (NZML2) = 150 kA

$U_e = 133/230\text{ V}$ :  $I_{cu}$  (FAZ) = 20 kA

$U_e = 133/230\text{ V}$ :  $I_{cu}$  (NZML2) = 150 kA

Back-up test acc. EN/IEC 60947-2, app. A:  $U = 1.05U_{gr}$  (O - t - CO)

(Settings NZM at max. values)

| $I_n$ [A] | <b>FAZ-<math>I_n/1(2,3,4)/B(C)</math> + NZML2</b> |                          |
|-----------|---------------------------------------------------|--------------------------|
|           | $U_e = 230/400\text{ V}$                          | $U_e = 133/230\text{ V}$ |
| 0.16      | 50 kA                                             | 85 kA                    |
| 0.25      | 50 kA                                             | 85 kA                    |
| 0.5       | 50 kA                                             | 85 kA                    |
| 0.75      | 50 kA                                             | 85 kA                    |
| 1         | 50 kA                                             | 85 kA                    |
| 1.5       | 50 kA                                             | 85 kA                    |
| 2         | 50 kA                                             | 85 kA                    |
| 2.5       | 50 kA                                             | 85 kA                    |
| 3         | 50 kA                                             | 85 kA                    |
| 3.5       | 50 kA                                             | 85 kA                    |
| 4         | 50 kA                                             | 85 kA                    |
| 5         | 50 kA                                             | 80 kA                    |
| 6         | 50 kA                                             | 80 kA                    |
| 8         | 50 kA                                             | 80 kA                    |
| 10        | 50 kA                                             | 80 kA                    |
| 12        | 30 kA                                             | 60 kA                    |
| 13        | 30 kA                                             | 60 kA                    |
| 15        | 30 kA                                             | 60 kA                    |
| 16        | 30 kA                                             | 60 kA                    |
| 20        | 30 kA                                             | 60 kA                    |
| 25        | 30 kA                                             | 60 kA                    |
| 32        | 30 kA                                             | 60 kA                    |
| 40        | 20 kA                                             | 40 kA                    |
| 50        | 20 kA                                             | 40 kA                    |
| 63        | 20 kA                                             | 40 kA                    |

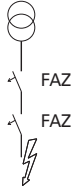
FAZ and NH

$U_e = 230\text{ V}$ :  $I_{cu}$  (FAZ) = 15 (10) kA (acc. to IEC/EN 60947)  
 $U_e = 500\text{ V}$ :  $I_{cu}$  (NH00 125 A gL / gG) = 120kA

|           | <b>FAZ-I<sub>n</sub>/B,(C),(D)... + NH00 125 A gL/gG</b> |
|-----------|----------------------------------------------------------|
| $I_n$ [A] | IT-system U = 230 V                                      |
| 0.5       | 50 kA                                                    |
| 1         | 50 kA                                                    |
| 2         | 50 kA                                                    |
| 3         | 50 kA                                                    |
| 4         | 50 kA                                                    |
| 6         | 50 kA                                                    |
| 10        | 50 kA                                                    |
| 13        | 50 kA                                                    |
| 16        | 50 kA                                                    |
| 20        | 50 kA                                                    |
| 25        | 50 kA                                                    |
| 32        | 50 kA                                                    |
| 40        | 50 kA                                                    |
| 50        | 50 kA                                                    |
| 63        | 50 kA                                                    |

## Overload Selectivity FAZ

### FAZ-B(C)(D) to FAZ-B



**Upstream side FAZ, Characteristic B**  
**Downstream side FAZ, Characteristic B, C, D**

x ... Selectivity range (i.e. only the downstream switch drops in case  $I < I_s$ )

| Upstream side →                         |    | FAZ Characteristic B |      |    |    |    |      |    |    |      |     |     |     |       |
|-----------------------------------------|----|----------------------|------|----|----|----|------|----|----|------|-----|-----|-----|-------|
| Type B rated current $I_n$ [A]          |    | 2                    | 3    | 4  | 6  | 10 | 13   | 16 | 20 | 25   | 32  | 40  | 50  | 63    |
| Selectivity limiting current $I_s$ [A]  |    | 7                    | 10.5 | 14 | 21 | 35 | 45.5 | 56 | 70 | 87.5 | 112 | 140 | 175 | 220.5 |
| Downstream side<br>FAZ Characteristic B | 2  |                      | x    | x  | x  | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 3  |                      |      | x  | x  | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 4  |                      |      |    | x  | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 6  |                      |      |    |    | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 10 |                      |      |    |    |    | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 13 |                      |      |    |    |    |      | x  | x  | x    | x   | x   | x   | x     |
|                                         | 16 |                      |      |    |    |    |      |    | x  | x    | x   | x   | x   | x     |
|                                         | 20 |                      |      |    |    |    |      |    |    | x    | x   | x   | x   | x     |
|                                         | 25 |                      |      |    |    |    |      |    |    |      | x   | x   | x   | x     |
|                                         | 32 |                      |      |    |    |    |      |    |    |      |     | x   | x   | x     |
|                                         | 40 |                      |      |    |    |    |      |    |    |      |     |     | x   | x     |
|                                         | 50 |                      |      |    |    |    |      |    |    |      |     |     |     | x     |
|                                         | 63 |                      |      |    |    |    |      |    |    |      |     |     |     |       |

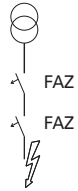
| Upstream side →                         |     | FAZ Characteristic B |      |    |    |    |      |    |    |      |     |     |     |       |
|-----------------------------------------|-----|----------------------|------|----|----|----|------|----|----|------|-----|-----|-----|-------|
| Type B rated current $I_n$ [A]          |     | 2                    | 3    | 4  | 6  | 10 | 13   | 16 | 20 | 25   | 32  | 40  | 50  | 63    |
| Selectivity limiting current $I_s$ [A]  |     | 7                    | 10.5 | 14 | 21 | 35 | 45.5 | 56 | 70 | 87.5 | 112 | 140 | 175 | 220.5 |
| Downstream side<br>FAZ Characteristic C | 0.5 | x                    | x    | x  | x  | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 1   | x                    | x    | x  | x  | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 2   |                      |      | x  | x  | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 3   |                      |      |    | x  | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 4   |                      |      |    |    | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 6   |                      |      |    |    |    | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 8   |                      |      |    |    |    |      | x  | x  | x    | x   | x   | x   | x     |
|                                         | 10  |                      |      |    |    |    |      |    | x  | x    | x   | x   | x   | x     |
|                                         | 13  |                      |      |    |    |    |      |    |    | x    | x   | x   | x   | x     |
|                                         | 16  |                      |      |    |    |    |      |    |    |      | x   | x   | x   | x     |
|                                         | 20  |                      |      |    |    |    |      |    |    |      |     | x   | x   | x     |
|                                         | 25  |                      |      |    |    |    |      |    |    |      |     |     | x   | x     |
|                                         | 32  |                      |      |    |    |    |      |    |    |      |     |     |     | x     |
|                                         | 40  |                      |      |    |    |    |      |    |    |      |     |     |     |       |
|                                         | 50  |                      |      |    |    |    |      |    |    |      |     |     |     |       |
|                                         | 63  |                      |      |    |    |    |      |    |    |      |     |     |     |       |

| Upstream side →                         |    | FAZ Characteristic B |      |    |    |    |      |    |    |      |     |     |     |       |
|-----------------------------------------|----|----------------------|------|----|----|----|------|----|----|------|-----|-----|-----|-------|
| Type B rated current $I_n$ [A]          |    | 2                    | 3    | 4  | 6  | 10 | 13   | 16 | 20 | 25   | 32  | 40  | 50  | 63    |
| Selectivity limiting current $I_s$ [A]  |    | 7                    | 10.5 | 14 | 21 | 35 | 45.5 | 56 | 70 | 87.5 | 112 | 140 | 175 | 220.5 |
| Downstream side<br>FAZ Characteristic D | 2  |                      |      |    |    | x  | x    | x  | x  | x    | x   | x   | x   | x     |
|                                         | 4  |                      |      |    |    |    |      | x  | x  | x    | x   | x   | x   | x     |
|                                         | 6  |                      |      |    |    |    |      |    | x  | x    | x   | x   | x   | x     |
|                                         | 10 |                      |      |    |    |    |      |    |    | x    | x   | x   | x   | x     |
|                                         | 13 |                      |      |    |    |    |      |    |    |      | x   | x   | x   | x     |
|                                         | 16 |                      |      |    |    |    |      |    |    |      |     | x   | x   | x     |
|                                         | 20 |                      |      |    |    |    |      |    |    |      |     |     | x   | x     |
|                                         | 25 |                      |      |    |    |    |      |    |    |      |     |     |     | x     |
|                                         | 32 |                      |      |    |    |    |      |    |    |      |     |     |     |       |
|                                         | 40 |                      |      |    |    |    |      |    |    |      |     |     |     |       |



## Overload Selectivity FAZ

### FAZ-B(C)(D) to FAZ-C



**Upstream side FAZ, Characteristic C**  
**Downstream side FAZ, Characteristic B, C, D**

x ... Selectivity range (i.e. only the downstream switch drops in case  $I < I_s$ )

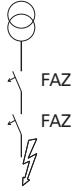
| Upstream side →                         |    | FAZ Characteristic C |     |      |      |      |      |      |    |      |      |     |       |       |     |     |       |
|-----------------------------------------|----|----------------------|-----|------|------|------|------|------|----|------|------|-----|-------|-------|-----|-----|-------|
| Type B rated current $I_n$ [A]          |    | 0.5                  | 1   | 2    | 3    | 4    | 6    | 8    | 10 | 13   | 16   | 20  | 25    | 32    | 40  | 50  | 63    |
| Selectivity limiting current $I_s$ [A]  |    | 2.85                 | 5.7 | 11.4 | 17.1 | 22.8 | 34.2 | 45.6 | 57 | 74.1 | 91.2 | 114 | 142.5 | 182.4 | 228 | 285 | 359.1 |
| Downstream side<br>FAZ Characteristic B | 2  |                      |     |      | x    | x    | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 3  |                      |     |      |      | x    | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 4  |                      |     |      |      |      | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 6  |                      |     |      |      |      |      | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 10 |                      |     |      |      |      |      |      |    | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 13 |                      |     |      |      |      |      |      |    |      | x    | x   | x     | x     | x   | x   | x     |
|                                         | 16 |                      |     |      |      |      |      |      |    |      |      | x   | x     | x     | x   | x   | x     |
|                                         | 20 |                      |     |      |      |      |      |      |    |      |      |     | x     | x     | x   | x   | x     |
|                                         | 25 |                      |     |      |      |      |      |      |    |      |      |     |       | x     | x   | x   | x     |
|                                         | 32 |                      |     |      |      |      |      |      |    |      |      |     |       |       | x   | x   | x     |
|                                         | 40 |                      |     |      |      |      |      |      |    |      |      |     |       |       |     | x   | x     |
|                                         | 50 |                      |     |      |      |      |      |      |    |      |      |     |       |       |     |     | x     |
|                                         | 63 |                      |     |      |      |      |      |      |    |      |      |     |       |       |     |     |       |

| Upstream side →                         |     | FAZ Characteristic C |     |      |      |      |      |      |    |      |      |     |       |       |     |     |       |
|-----------------------------------------|-----|----------------------|-----|------|------|------|------|------|----|------|------|-----|-------|-------|-----|-----|-------|
| Type B rated current $I_n$ [A]          |     | 0.5                  | 1   | 2    | 3    | 4    | 6    | 8    | 10 | 13   | 16   | 20  | 25    | 32    | 40  | 50  | 63    |
| Selectivity limiting current $I_s$ [A]  |     | 2.85                 | 5.7 | 11.4 | 17.1 | 22.8 | 34.2 | 45.6 | 57 | 74.1 | 91.2 | 114 | 142.5 | 182.4 | 228 | 285 | 359.1 |
| Downstream side<br>FAZ Characteristic C | 0.5 |                      | x   | x    | x    | x    | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 1   |                      |     | x    | x    | x    | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 2   |                      |     |      | x    | x    | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 3   |                      |     |      |      | x    | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 4   |                      |     |      |      |      | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 6   |                      |     |      |      |      |      | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 8   |                      |     |      |      |      |      |      | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 10  |                      |     |      |      |      |      |      |    | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 13  |                      |     |      |      |      |      |      |    |      | x    | x   | x     | x     | x   | x   | x     |
|                                         | 16  |                      |     |      |      |      |      |      |    |      |      | x   | x     | x     | x   | x   | x     |
|                                         | 20  |                      |     |      |      |      |      |      |    |      |      |     | x     | x     | x   | x   | x     |
|                                         | 25  |                      |     |      |      |      |      |      |    |      |      |     |       | x     | x   | x   | x     |
|                                         | 32  |                      |     |      |      |      |      |      |    |      |      |     |       |       | x   | x   | x     |
|                                         | 40  |                      |     |      |      |      |      |      |    |      |      |     |       |       |     | x   | x     |
|                                         | 50  |                      |     |      |      |      |      |      |    |      |      |     |       |       |     |     | x     |
|                                         | 63  |                      |     |      |      |      |      |      |    |      |      |     |       |       |     |     |       |

| Upstream side →                         |    | FAZ Characteristic C |     |      |      |      |      |      |    |      |      |     |       |       |     |     |       |
|-----------------------------------------|----|----------------------|-----|------|------|------|------|------|----|------|------|-----|-------|-------|-----|-----|-------|
| Type B rated current $I_n$ [A]          |    | 0.5                  | 1   | 2    | 3    | 4    | 6    | 8    | 10 | 13   | 16   | 20  | 25    | 32    | 40  | 50  | 63    |
| Selectivity limiting current $I_s$ [A]  |    | 2.85                 | 5.7 | 11.4 | 17.1 | 22.8 | 34.2 | 45.6 | 57 | 74.1 | 91.2 | 114 | 142.5 | 182.4 | 228 | 285 | 359.1 |
| Downstream side<br>FAZ Characteristic D | 2  |                      |     |      |      |      | x    | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 4  |                      |     |      |      |      |      | x    | x  | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 6  |                      |     |      |      |      |      |      |    | x    | x    | x   | x     | x     | x   | x   | x     |
|                                         | 10 |                      |     |      |      |      |      |      |    |      |      | x   | x     | x     | x   | x   | x     |
|                                         | 13 |                      |     |      |      |      |      |      |    |      |      |     | x     | x     | x   | x   | x     |
|                                         | 16 |                      |     |      |      |      |      |      |    |      |      |     |       | x     | x   | x   | x     |
|                                         | 20 |                      |     |      |      |      |      |      |    |      |      |     |       |       | x   | x   | x     |
|                                         | 25 |                      |     |      |      |      |      |      |    |      |      |     |       |       |     | x   | x     |
|                                         | 32 |                      |     |      |      |      |      |      |    |      |      |     |       |       |     |     |       |
|                                         | 40 |                      |     |      |      |      |      |      |    |      |      |     |       |       |     |     |       |

## Overload Selectivity FAZ

### FAZ-B(C)(D) to FAZ-D



Upstream side FAZ, Characteristic D  
Downstream side FAZ, Characteristic B, C, D

x ... Selectivity range (i.e. only the downstream switch drops in case  $I < I_s$ )

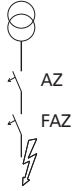
| Upstream side →                         |    | FAZ Characteristic D |    |    |     |       |     |     |       |     |     |
|-----------------------------------------|----|----------------------|----|----|-----|-------|-----|-----|-------|-----|-----|
| Type B rated current $I_n$ [A]          |    | 2                    | 4  | 6  | 10  | 13    | 16  | 20  | 25    | 32  | 40  |
| Selectivity limiting current $I_s$ [A]  |    | 21                   | 42 | 63 | 105 | 136.5 | 168 | 210 | 262.5 | 336 | 420 |
| Downstream side<br>FAZ Characteristic B | 2  |                      | x  | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 3  |                      | x  | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 4  |                      |    | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 6  |                      |    |    | x   | x     | x   | x   | x     | x   | x   |
|                                         | 10 |                      |    |    |     | x     | x   | x   | x     | x   | x   |
|                                         | 13 |                      |    |    |     |       | x   | x   | x     | x   | x   |
|                                         | 16 |                      |    |    |     |       |     | x   | x     | x   | x   |
|                                         | 20 |                      |    |    |     |       |     |     | x     | x   | x   |
|                                         | 25 |                      |    |    |     |       |     |     |       | x   | x   |
|                                         | 32 |                      |    |    |     |       |     |     |       |     | x   |
|                                         | 40 |                      |    |    |     |       |     |     |       |     |     |
|                                         | 50 |                      |    |    |     |       |     |     |       |     |     |
|                                         | 63 |                      |    |    |     |       |     |     |       |     |     |

| Upstream side →                         |     | FAZ Characteristic D |    |    |     |       |     |     |       |     |     |
|-----------------------------------------|-----|----------------------|----|----|-----|-------|-----|-----|-------|-----|-----|
| Type B rated current $I_n$ [A]          |     | 2                    | 4  | 6  | 10  | 13    | 16  | 20  | 25    | 32  | 40  |
| Selectivity limiting current $I_s$ [A]  |     | 21                   | 42 | 63 | 105 | 136.5 | 168 | 210 | 262.5 | 336 | 420 |
| Downstream side<br>FAZ Characteristic C | 0.5 | x                    | x  | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 1   | x                    | x  | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 2   |                      | x  | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 3   |                      | x  | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 4   |                      |    | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 6   |                      |    |    | x   | x     | x   | x   | x     | x   | x   |
|                                         | 8   |                      |    |    |     | x     | x   | x   | x     | x   | x   |
|                                         | 10  |                      |    |    |     |       | x   | x   | x     | x   | x   |
|                                         | 13  |                      |    |    |     |       |     | x   | x     | x   | x   |
|                                         | 16  |                      |    |    |     |       |     |     | x     | x   | x   |
|                                         | 20  |                      |    |    |     |       |     |     |       | x   | x   |
|                                         | 25  |                      |    |    |     |       |     |     |       |     | x   |
|                                         | 32  |                      |    |    |     |       |     |     |       |     |     |
|                                         | 40  |                      |    |    |     |       |     |     |       |     |     |
|                                         | 50  |                      |    |    |     |       |     |     |       |     |     |
|                                         | 63  |                      |    |    |     |       |     |     |       |     |     |

| Upstream side →                         |    | FAZ Characteristic D |    |    |     |       |     |     |       |     |     |
|-----------------------------------------|----|----------------------|----|----|-----|-------|-----|-----|-------|-----|-----|
| Type B rated current $I_n$ [A]          |    | 2                    | 4  | 6  | 10  | 13    | 16  | 20  | 25    | 32  | 40  |
| Selectivity limiting current $I_s$ [A]  |    | 21                   | 42 | 63 | 105 | 136.5 | 168 | 210 | 262.5 | 336 | 420 |
| Downstream side<br>FAZ Characteristic D | 2  |                      | x  | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 4  |                      |    | x  | x   | x     | x   | x   | x     | x   | x   |
|                                         | 6  |                      |    |    | x   | x     | x   | x   | x     | x   | x   |
|                                         | 10 |                      |    |    |     | x     | x   | x   | x     | x   | x   |
|                                         | 13 |                      |    |    |     |       | x   | x   | x     | x   | x   |
|                                         | 16 |                      |    |    |     |       |     | x   | x     | x   | x   |
|                                         | 20 |                      |    |    |     |       |     |     | x     | x   | x   |
|                                         | 25 |                      |    |    |     |       |     |     |       | x   | x   |
|                                         | 32 |                      |    |    |     |       |     |     |       |     | x   |
|                                         | 40 |                      |    |    |     |       |     |     |       |     |     |

## Overload Selectivity FAZ

### FAZ-B(C)(D) to AZ-C



Upstream side AZ, Characteristic C  
Downstream side FAZ, Characteristic B, C, D

x ... Selectivity range (i.e. only the downstream switch drops in case  $I < I_s$ )

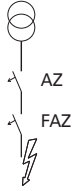
| Upstream side →                         |    | AZ Characteristic C |     |     |     |     |     |     |     |     |
|-----------------------------------------|----|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Type B rated current $I_n$ [A]          |    | 20                  | 25  | 32  | 40  | 50  | 63  | 80  | 100 | 125 |
| Selectivity limiting current $I_s$ [A]  |    | 130                 | 163 | 208 | 260 | 325 | 410 | 520 | 650 | 813 |
| Downstream side<br>FAZ Characteristic B | 2  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 3  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 4  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 6  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 10 | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 13 | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 16 | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 20 |                     | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 25 |                     |     | x   | x   | x   | x   | x   | x   | x   |
|                                         | 32 |                     |     |     | x   | x   | x   | x   | x   | x   |
|                                         | 40 |                     |     |     |     | x   | x   | x   | x   | x   |
|                                         | 50 |                     |     |     |     |     | x   | x   | x   | x   |
|                                         | 63 |                     |     |     |     |     |     | x   | x   | x   |

| Upstream side →                         |     | AZ Characteristic C |     |     |     |     |     |     |     |     |
|-----------------------------------------|-----|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Type B rated current $I_n$ [A]          |     | 20                  | 25  | 32  | 40  | 50  | 63  | 80  | 100 | 125 |
| Selectivity limiting current $I_s$ [A]  |     | 130                 | 163 | 208 | 260 | 325 | 410 | 520 | 650 | 813 |
| Downstream side<br>FAZ Characteristic C | 0.5 | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 1   | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 2   | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 3   | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 4   | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 6   | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 8   | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 10  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 13  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 16  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 20  |                     | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 25  |                     |     | x   | x   | x   | x   | x   | x   | x   |
|                                         | 32  |                     |     |     | x   | x   | x   | x   | x   | x   |
|                                         | 40  |                     |     |     |     | x   | x   | x   | x   | x   |
|                                         | 50  |                     |     |     |     |     | x   | x   | x   | x   |
|                                         | 63  |                     |     |     |     |     |     | x   | x   | x   |

| Upstream side →                         |    | AZ Characteristic C |     |     |     |     |     |     |     |     |
|-----------------------------------------|----|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Type B rated current $I_n$ [A]          |    | 20                  | 25  | 32  | 40  | 50  | 63  | 80  | 100 | 125 |
| Selectivity limiting current $I_s$ [A]  |    | 130                 | 163 | 208 | 260 | 325 | 410 | 520 | 650 | 813 |
| Downstream side<br>FAZ Characteristic D | 2  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 4  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 6  | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 10 | x                   | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 13 |                     | x   | x   | x   | x   | x   | x   | x   | x   |
|                                         | 16 |                     |     | x   | x   | x   | x   | x   | x   | x   |
|                                         | 20 |                     |     |     | x   | x   | x   | x   | x   | x   |
|                                         | 25 |                     |     |     |     | x   | x   | x   | x   | x   |
|                                         | 32 |                     |     |     |     |     | x   | x   | x   | x   |
|                                         | 40 |                     |     |     |     |     |     | x   | x   | x   |

## Overload Selectivity FAZ

### FAZ-B(C)(D) to AZ-D



Upstream side AZ, Characteristic D  
Downstream side FAZ, Characteristic B, C, D

x ... Selectivity range (i.e. only the downstream switch drops in case  $I < I_s$ )

| Upstream side →                         |    | AZ Characteristic D |     |     |     |     |     |     |      |
|-----------------------------------------|----|---------------------|-----|-----|-----|-----|-----|-----|------|
| Type B rated current $I_n$ [A]          |    | 20                  | 25  | 32  | 40  | 50  | 63  | 80  | 100  |
| Selectivity limiting current $I_s$ [A]  |    | 230                 | 285 | 365 | 450 | 550 | 680 | 850 | 1020 |
| Downstream side<br>FAZ Characteristic B | 2  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 3  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 4  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 6  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 10 | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 13 | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 16 | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 20 |                     | x   | x   | x   | x   | x   | x   | x    |
|                                         | 25 |                     |     | x   | x   | x   | x   | x   | x    |
|                                         | 32 |                     |     |     | x   | x   | x   | x   | x    |
|                                         | 40 |                     |     |     |     | x   | x   | x   | x    |
|                                         | 50 |                     |     |     |     |     | x   | x   | x    |
|                                         | 63 |                     |     |     |     |     |     | x   | x    |

| Upstream side →                         |     | AZ Characteristic D |     |     |     |     |     |     |      |
|-----------------------------------------|-----|---------------------|-----|-----|-----|-----|-----|-----|------|
| Type B rated current $I_n$ [A]          |     | 20                  | 25  | 32  | 40  | 50  | 63  | 80  | 100  |
| Selectivity limiting current $I_s$ [A]  |     | 230                 | 285 | 365 | 450 | 550 | 680 | 850 | 1020 |
| Downstream side<br>FAZ Characteristic C | 0.5 | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 1   | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 2   | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 3   | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 4   | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 6   | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 8   | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 10  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 13  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 16  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 20  |                     | x   | x   | x   | x   | x   | x   | x    |
|                                         | 25  |                     |     | x   | x   | x   | x   | x   | x    |
|                                         | 32  |                     |     |     | x   | x   | x   | x   | x    |
|                                         | 40  |                     |     |     |     | x   | x   | x   | x    |
|                                         | 50  |                     |     |     |     |     | x   | x   | x    |
|                                         | 63  |                     |     |     |     |     |     | x   | x    |

| Upstream side →                         |    | AZ Characteristic D |     |     |     |     |     |     |      |
|-----------------------------------------|----|---------------------|-----|-----|-----|-----|-----|-----|------|
| Type B rated current $I_n$ [A]          |    | 20                  | 25  | 32  | 40  | 50  | 63  | 80  | 100  |
| Selectivity limiting current $I_s$ [A]  |    | 230                 | 285 | 365 | 450 | 550 | 680 | 850 | 1020 |
| Downstream side<br>FAZ Characteristic D | 2  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 4  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 6  | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 10 | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 13 | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 16 | x                   | x   | x   | x   | x   | x   | x   | x    |
|                                         | 20 |                     | x   | x   | x   | x   | x   | x   | x    |
|                                         | 25 |                     |     | x   | x   | x   | x   | x   | x    |
|                                         | 32 |                     |     |     | x   | x   | x   | x   | x    |
|                                         | 40 |                     |     |     |     | x   | x   | x   | x    |

**Influence of the Line Frequency FAZ**

On the Instantaneous Tripping Current  $I_{MA}$

|                                     | Line Frequency f [Hz]          |     |     |     |     |     |     |
|-------------------------------------|--------------------------------|-----|-----|-----|-----|-----|-----|
|                                     | 16 <sup>2</sup> / <sub>3</sub> | 50  | 60  | 100 | 200 | 300 | 400 |
| $I_{MA}(f)/I_{MA}(50\text{Hz})$ [%] | 91                             | 100 | 101 | 106 | 115 | 134 | 141 |

## Miniature Circuit Breakers FAZ-DC

SGS3312



### FAZ-DC

- High-quality miniature circuit breakers for DC-applications
- Contact position indicator red - green
- Guide for secure terminal connection (not for FAZ-NA)
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- Rated currents up to 50 A
- Tripping characteristic C
- Rated breaking capacity 10 kA according to IEC/EN 60947-2
- Up to 250 V DC pro pole

## FAZ-....DC Miniature Circuit Breakers (MCBs)

### Characteristic C

|               | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>IEC/EN<br>60947-2<br>(V DC) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Type<br>Designation | Article No. | Units<br>per<br>package |
|---------------|-------------------------------|-------------------------------------------------|--------------------------------------------------------------|---------------------|-------------|-------------------------|
| <b>1-pole</b> |                               |                                                 |                                                              |                     |             |                         |
|               | 2                             | 220                                             | 10                                                           | FAZ-C2/1-DC         | 279122      | 12/120                  |
|               | 3                             | 250                                             | 10                                                           | FAZ-C3/1-DC         | 279123      | 12/120                  |
|               | 4                             | 250                                             | 10                                                           | FAZ-C4/1-DC         | 279124      | 12/120                  |
|               | 6                             | 250                                             | 10                                                           | FAZ-C6/1-DC         | 279125      | 12/120                  |
|               | 10                            | 250                                             | 10                                                           | FAZ-C10/1-DC        | 279126      | 12/120                  |
|               | 13                            | 250                                             | 10                                                           | FAZ-C13/1-DC        | 279127      | 12/120                  |
|               | 16                            | 250                                             | 10                                                           | FAZ-C16/1-DC        | 279128      | 12/120                  |
|               | 20                            | 250                                             | 10                                                           | FAZ-C20/1-DC        | 279129      | 12/120                  |
|               | 25                            | 250                                             | 10                                                           | FAZ-C25/1-DC        | 279130      | 12/120                  |
|               | 32                            | 250                                             | 10                                                           | FAZ-C32/1-DC        | 279131      | 12/120                  |
|               | 40                            | 250                                             | 10                                                           | FAZ-C40/1-DC        | 279132      | 12/120                  |
|               | 50                            | 250                                             | 10                                                           | FAZ-C50/1-DC        | 279133      | 12/120                  |
| <b>2-pole</b> |                               |                                                 |                                                              |                     |             |                         |
|               | 2                             | 440                                             | 10                                                           | FAZ-C2/2-DC         | 279134      | 1/60                    |
|               | 3                             | 500                                             | 10                                                           | FAZ-C3/2-DC         | 279135      | 1/60                    |
|               | 4                             | 500                                             | 10                                                           | FAZ-C4/2-DC         | 279136      | 1/60                    |
|               | 6                             | 500                                             | 10                                                           | FAZ-C6/2-DC         | 279137      | 1/60                    |
|               | 10                            | 500                                             | 10                                                           | FAZ-C10/2-DC        | 279138      | 1/60                    |
|               | 13                            | 500                                             | 10                                                           | FAZ-C13/2-DC        | 279139      | 1/60                    |
|               | 16                            | 500                                             | 10                                                           | FAZ-C16/2-DC        | 279140      | 1/60                    |
|               | 20                            | 500                                             | 10                                                           | FAZ-C20/2-DC        | 279141      | 1/60                    |
|               | 25                            | 500                                             | 10                                                           | FAZ-C25/2-DC        | 279142      | 1/60                    |
|               | 32                            | 500                                             | 10                                                           | FAZ-C32/2-DC        | 279143      | 1/60                    |
|               | 40                            | 500                                             | 10                                                           | FAZ-C40/2-DC        | 279144      | 1/60                    |
|               | 50                            | 500                                             | 10                                                           | FAZ-C50/2-DC        | 279145      | 1/60                    |

SG54512



SG53312



## Specifications FAZ-DC

### Technical data

|                 | FAZ-DC *)      |
|-----------------|----------------|
| Productstandard | IEC/EN 60947-2 |
| Number of poles | 1, 2           |

### Mechanical specifications

|                                             |                                                     |
|---------------------------------------------|-----------------------------------------------------|
| Device width                                | 17.7 mm (1p), 36 mm (2p)                            |
| Frame size                                  | 45 mm                                               |
| Socket size                                 | 80 mm                                               |
| Device depth                                | 60 mm                                               |
| Terminals                                   | lift terminal                                       |
| Terminal capacity rigid solid/stranded wire | 1-25 mm <sup>2</sup>                                |
| Terminal screw                              | M5 (with slotted screw acc. to EN ISO 4757-Z2, PZ2) |
| Terminal torque                             | max. 2.4 Nm                                         |
| Snap on fixing                              | tristable (on DIN rail acc. to EN 50022)            |
| Finger proof                                | acc. to VBG4, ÖVE EN-6                              |
| Degree of Protection (DIN VDE 0470)         |                                                     |
| Surface mounted                             | IP 20                                               |
| Built-in behind panel                       | IP 40                                               |
| Contact position indicator                  | red / green                                         |

### Electrical specifications

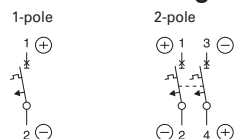
|                                 |           |                                                            |
|---------------------------------|-----------|------------------------------------------------------------|
| Rated voltage DC                | $U_n$     | 2 A type: 220V (per pole)<br>3-50 A types: 250V (per pole) |
| Rated current                   | $I_n$     | Type C: 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50 A       |
| Rated insulation voltage        | $U_i$     | 440 V                                                      |
| Rated impulse withstand voltage | $U_{imp}$ | 4 kV (1.2/50)µsec                                          |

### Tripping characteristic

|                                      |                                                                            |
|--------------------------------------|----------------------------------------------------------------------------|
| Conventional non-tripping current    | $I_{nt}=1.13 I_n$                                                          |
| Conventional tripping current        | $I_t=1.45 I_n$                                                             |
| Reference temperature                | 30 °C                                                                      |
| Temperature factor                   | 0.4% /K                                                                    |
| Instantaneous tripping current       | $I_{mt}$ type C: $7 I_n < I_{mt} = 15 I_n$ ; $t(I_{mt}) < 0.1 \text{ sec}$ |
| Rated short-circuit braking capacity | $I_{cu}$ 10 kA                                                             |
| Selectivity class                    | 3                                                                          |
| Number of electrical operations      | > 4000                                                                     |
| Number of mechanical operations      | > 20000                                                                    |
| Climatic conditions                  | acc. to IEC 68-2 (25..55°C / 90..95% RH)                                   |
| Operating temperature range          | -40°C to +75°C                                                             |

\*) not for PV string protection!

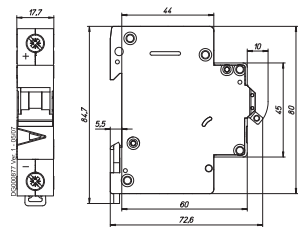
## Connection diagram



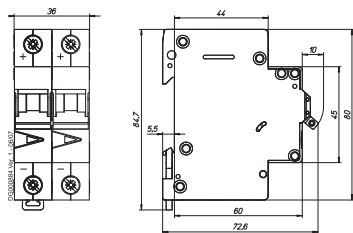


Dimensions (mm) FAZ-...-DC

1-pole

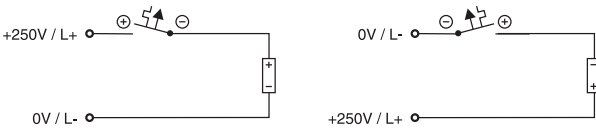


2-pole

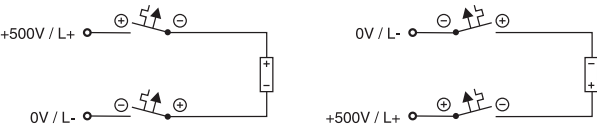


Connection examples FAZ-...-DC

Connection example at 250V=, 1-pole

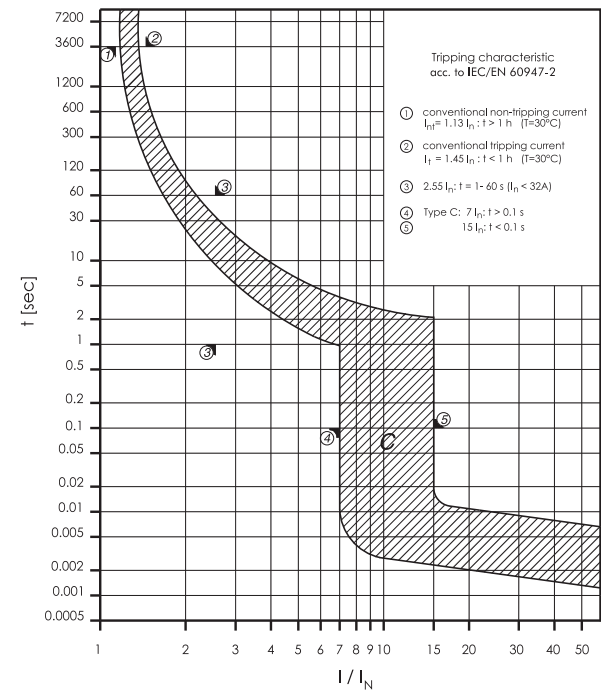


Connection example at 500V=, 2-pole



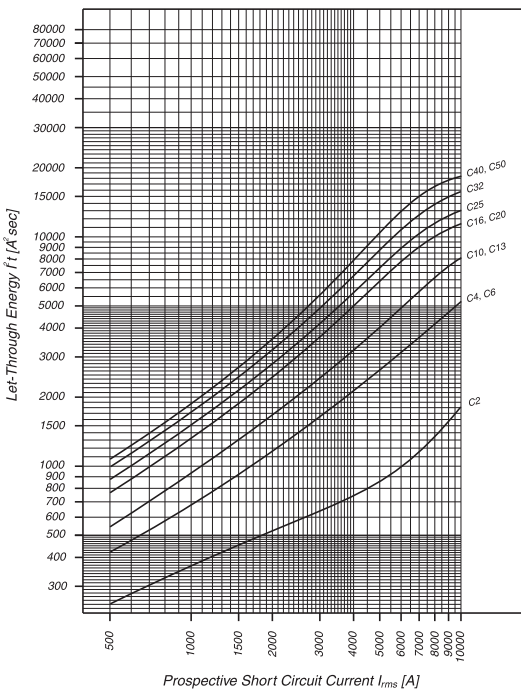
Tripping Characteristic FAZ-...-DC

Characteristics C - IEC/EN 60947-2



Maximum Let-Through Energy FAZ-...-DC

Type C



## Miniature Circuit Breakers FAZ-NA, FAZ-RT, FAZ-DU

SG56912



### **FAZ-NA/-RT/-DU**

- According to UL 489, CSA C22.2 No. 5 and also IEC 60947-2 standard
- For Applications, which are permitted for UL 1077 or CSA C22.2 No. 235
- Auxiliary switch and voltage trips suitable for subsequent installation
- Serie with removable terminal screws (Type FAZ-...-RT/-DU), for use with ring cable lug
- Contact position indicator red - green
- Easy mounting at DIN-rail

## FAZ-....NA Miniature Circuit Breakers (MCBs)

### Characteristic B

|               | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>IEC/EN<br>60947-2<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL489<br>(V) | Breaking<br>capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | Type<br>Designation | Article No. | Units<br>per<br>package |
|---------------|-------------------------------|----------------------------------------------|--------------------------------------------------------------|----------------------------------|--------------------------------------------------|-----|---------|---------------------|-------------|-------------------------|
| <b>1-pole</b> |                               |                                              |                                                              |                                  |                                                  |     |         |                     |             |                         |
| 1             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-B1/1-NA         | 132414      | 12/120                  |
| 1.5           | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-B1.5/1-NA       | 132415      | 12/120                  |
| 2             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-B2/1-NA         | 132416      | 12/120                  |
| 3             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-B3/1-NA         | 132417      | 12/120                  |
| 4             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-B4/1-NA         | 132418      | 12/120                  |
| 5             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-B5/1-NA         | 132419      | 12/120                  |
| 6             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-B6/1-NA         | 132680      | 12/120                  |
| 7             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-B7/1-NA         | 132681      | 12/120                  |
| 8             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 16  | FAZ-B8/1-NA         | 132682      | 12/120                  |
| 10            | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 16  | FAZ-B10/1-NA        | 132683      | 12/120                  |
| 13            | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD |         | FAZ-B13/1-NA        | 132684      | 12/120                  |
| 15            | 240/415                       | 15                                           | 277                                                          | 14                               | 14                                               | SWD |         | FAZ-B15/1-NA        | 132685      | 12/120                  |
| 16            | 240/415                       | 15                                           | 277                                                          | 14                               | 14                                               | SWD |         | FAZ-B16/1-NA        | 132686      | 12/120                  |
| 20            | 240/415                       | 15                                           | 277                                                          | 14                               | 14                                               | SWD |         | FAZ-B20/1-NA        | 132687      | 12/120                  |
| 25            | 240/415                       | 15                                           | 277                                                          | 14                               | 14                                               |     |         | FAZ-B25/1-NA        | 132688      | 12/120                  |
| 30            | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               |     |         | FAZ-B30/1-NA        | 132689      | 12/120                  |
| 32            | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               |     |         | FAZ-B32/1-NA        | 132690      | 12/120                  |
| 35            | 240/415                       | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-B35/1-NA        | 132691      | 12/120                  |
| 40            | 240/415                       | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-B40/1-NA        | 132692      | 12/120                  |
| <b>2-pole</b> |                               |                                              |                                                              |                                  |                                                  |     |         |                     |             |                         |
| 1             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B1/2-NA         | 132693      | 1/60                    |
| 1.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B1.5/2-NA       | 132694      | 1/60                    |
| 2             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B2/2-NA         | 132695      | 1/60                    |
| 3             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B3/2-NA         | 132696      | 1/60                    |
| 4             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B4/2-NA         | 132697      | 1/60                    |
| 5             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B5/2-NA         | 132698      | 1/60                    |
| 6             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B6/2-NA         | 132699      | 1/60                    |
| 7             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B7/2-NA         | 132700      | 1/60                    |
| 8             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 16  | FAZ-B8/2-NA         | 132701      | 1/60                    |
| 10            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 16  | FAZ-B10/2-NA        | 132702      | 1/60                    |
| 13            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD |         | FAZ-B13/2-NA        | 132703      | 1/60                    |
| 15            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-B15/2-NA        | 132704      | 1/60                    |
| 16            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-B16/2-NA        | 132705      | 1/60                    |
| 20            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-B20/2-NA        | 132706      | 1/60                    |
| 25            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               |     |         | FAZ-B25/2-NA        | 132707      | 1/60                    |
| 30            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-B30/2-NA        | 132708      | 1/60                    |
| 32            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-B32/2-NA        | 132709      | 1/60                    |
| 35            | 415                           | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-B35/2-NA        | 132710      | 1/60                    |
| 40            | 415                           | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-B40/2-NA        | 132711      | 1/60                    |
| <b>3-pole</b> |                               |                                              |                                                              |                                  |                                                  |     |         |                     |             |                         |
| 1             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B1/3-NA         | 132712      | 1/40                    |
| 1.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B1.5/3-NA       | 132713      | 1/40                    |
| 2             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B2/3-NA         | 132714      | 1/40                    |
| 3             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B3/3-NA         | 132715      | 1/40                    |
| 4             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B4/3-NA         | 132716      | 1/40                    |
| 5             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B5/3-NA         | 132717      | 1/40                    |
| 6             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B6/3-NA         | 132718      | 1/40                    |
| 7             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-B7/3-NA         | 132719      | 1/40                    |
| 8             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 16  | FAZ-B8/3-NA         | 132720      | 1/40                    |
| 10            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 16  | FAZ-B10/3-NA        | 132721      | 1/40                    |
| 13            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD |         | FAZ-B13/3-NA        | 132722      | 1/40                    |
| 15            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-B15/3-NA        | 132723      | 1/40                    |
| 16            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-B16/3-NA        | 132724      | 1/40                    |
| 20            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-B20/3-NA        | 132725      | 1/40                    |
| 25            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               |     |         | FAZ-B25/3-NA        | 132726      | 1/40                    |
| 30            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-B30/3-NA        | 132727      | 1/40                    |
| 32            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-B32/3-NA        | 132728      | 1/40                    |
| 35            | 415                           | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-B35/3-NA        | 132729      | 1/40                    |
| 40            | 415                           | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-B40/3-NA        | 132730      | 1/40                    |

## FAZ-....NA Miniature Circuit Breakers (MCBs)

### Characteristic C

SG53012



#### 1-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>IEC/EN<br>60947-2<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL489<br>(V) | Breaking capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|-------------------------------------------|-----------------------------------------------------------|-------------------------------|-----------------------------------------------|-----|---------|---------------------|-------------|-------------------------|
| 0.5                        | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C0,5/1-NA       | 181883      | 12/120                  |
| 1                          | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C1/1-NA         | 181885      | 12/120                  |
| 1.5                        | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C1,5/1-NA       | 181887      | 12/120                  |
| 2                          | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C2/1-NA         | 181889      | 12/120                  |
| 3                          | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C3/1-NA         | 181891      | 12/120                  |
| 4                          | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C4/1-NA         | 181893      | 12/120                  |
| 5                          | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C5/1-NA         | 181895      | 12/120                  |
| 6                          | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C6/1-NA         | 181897      | 12/120                  |
| 7                          | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 18  | FAZ-C7/1-NA         | 181899      | 12/120                  |
| 8                          | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 16  | FAZ-C8/1-NA         | 181901      | 12/120                  |
| 10                         | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD | AWG 16  | FAZ-C10/1-NA        | 181903      | 12/120                  |
| 13                         | 240/415                                   | 15                                                        | 277                           | 10                                            | SWD |         | FAZ-C13/1-NA        | 181905      | 12/120                  |
| 15                         | 240/415                                   | 15                                                        | 277                           | 14                                            | SWD |         | FAZ-C15/1-NA        | 181907      | 12/120                  |
| 16                         | 240/415                                   | 15                                                        | 277                           | 14                                            | SWD |         | FAZ-C16/1-NA        | 181909      | 12/120                  |
| 20                         | 240/415                                   | 15                                                        | 277                           | 14                                            | SWD |         | FAZ-C20/1-NA        | 181911      | 12/120                  |
| 25                         | 240/415                                   | 15                                                        | 277                           | 14                                            |     |         | FAZ-C25/1-NA        | 181913      | 12/120                  |
| 30                         | 240/415                                   | 15                                                        | 277                           | 10                                            |     |         | FAZ-C30/1-NA        | 181915      | 12/120                  |
| 32                         | 240/415                                   | 15                                                        | 277                           | 10                                            |     |         | FAZ-C32/1-NA        | 181917      | 12/120                  |
| 35                         | 240/415                                   | 15                                                        | 240                           | 10                                            |     |         | FAZ-C35/1-NA        | 181919      | 12/120                  |
| 40                         | 240/415                                   | 15                                                        | 240                           | 10                                            |     |         | FAZ-C40/1-NA        | 181921      | 12/120                  |

SG56812



#### 2-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>IEC/EN<br>60947-2<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL489<br>(V) | Breaking capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|-------------------------------------------|-----------------------------------------------------------|-------------------------------|-----------------------------------------------|-----|---------|---------------------|-------------|-------------------------|
| 0.5                        | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C0,5/2-NA       | 181923      | 1/60                    |
| 1                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C1/2-NA         | 181925      | 1/60                    |
| 1.5                        | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C1,5/2-NA       | 181927      | 1/60                    |
| 2                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C2/2-NA         | 181929      | 1/60                    |
| 3                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C3/2-NA         | 181931      | 1/60                    |
| 4                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C4/2-NA         | 181933      | 1/60                    |
| 5                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C5/2-NA         | 181935      | 1/60                    |
| 6                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C6/2-NA         | 181937      | 1/60                    |
| 7                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C7/2-NA         | 181939      | 1/60                    |
| 8                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 16  | FAZ-C8/2-NA         | 181941      | 1/60                    |
| 10                         | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 16  | FAZ-C10/2-NA        | 181943      | 1/60                    |
| 13                         | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD |         | FAZ-C13/2-NA        | 181945      | 1/60                    |
| 15                         | 415                                       | 15                                                        | 480Y/277                      | 14                                            | SWD |         | FAZ-C15/2-NA        | 181947      | 1/60                    |
| 16                         | 415                                       | 15                                                        | 480Y/277                      | 14                                            | SWD |         | FAZ-C16/2-NA        | 181949      | 1/60                    |
| 20                         | 415                                       | 15                                                        | 480Y/277                      | 14                                            | SWD |         | FAZ-C20/2-NA        | 181951      | 1/60                    |
| 25                         | 415                                       | 15                                                        | 480Y/277                      | 14                                            |     |         | FAZ-C25/2-NA        | 181953      | 1/60                    |
| 30                         | 415                                       | 15                                                        | 480Y/277                      | 10                                            |     |         | FAZ-C30/2-NA        | 181955      | 1/60                    |
| 32                         | 415                                       | 15                                                        | 480Y/277                      | 10                                            |     |         | FAZ-C32/2-NA        | 181957      | 1/60                    |
| 35                         | 415                                       | 15                                                        | 240                           | 10                                            |     |         | FAZ-C35/2-NA        | 181959      | 1/60                    |
| 40                         | 415                                       | 15                                                        | 240                           | 10                                            |     |         | FAZ-C40/2-NA        | 181961      | 1/60                    |

SG56912



#### 3-pole

| Rated current<br>$I_n$ (A) | Rated voltage<br>IEC/EN<br>60947-2<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL489<br>(V) | Breaking capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|-------------------------------------------|-----------------------------------------------------------|-------------------------------|-----------------------------------------------|-----|---------|---------------------|-------------|-------------------------|
| 0.5                        | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C0,5/3-NA       | 181963      | 1/40                    |
| 1                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C1/3-NA         | 181965      | 1/40                    |
| 1.5                        | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C1,5/3-NA       | 181967      | 1/40                    |
| 2                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C2/3-NA         | 181969      | 1/40                    |
| 3                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C3/3-NA         | 181971      | 1/40                    |
| 4                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C4/3-NA         | 181973      | 1/40                    |
| 5                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C5/3-NA         | 181975      | 1/40                    |
| 6                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C6/3-NA         | 181977      | 1/40                    |
| 7                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 18  | FAZ-C7/3-NA         | 181979      | 1/40                    |
| 8                          | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 16  | FAZ-C8/3-NA         | 181981      | 1/40                    |
| 10                         | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD | AWG 16  | FAZ-C10/3-NA        | 181983      | 1/40                    |
| 13                         | 415                                       | 15                                                        | 480Y/277                      | 10                                            | SWD |         | FAZ-C13/3-NA        | 181985      | 1/40                    |
| 15                         | 415                                       | 15                                                        | 480Y/277                      | 14                                            | SWD |         | FAZ-C15/3-NA        | 181987      | 1/40                    |
| 16                         | 415                                       | 15                                                        | 480Y/277                      | 14                                            | SWD |         | FAZ-C16/3-NA        | 181989      | 1/40                    |
| 20                         | 415                                       | 15                                                        | 480Y/277                      | 14                                            | SWD |         | FAZ-C20/3-NA        | 181991      | 1/40                    |
| 25                         | 415                                       | 15                                                        | 480Y/277                      | 14                                            |     |         | FAZ-C25/3-NA        | 181993      | 1/40                    |
| 30                         | 415                                       | 15                                                        | 480Y/277                      | 10                                            |     |         | FAZ-C30/3-NA        | 181995      | 1/40                    |
| 32                         | 415                                       | 15                                                        | 480Y/277                      | 10                                            |     |         | FAZ-C32/3-NA        | 181997      | 1/40                    |
| 35                         | 415                                       | 15                                                        | 240                           | 10                                            |     |         | FAZ-C35/3-NA        | 181999      | 1/40                    |
| 40                         | 415                                       | 15                                                        | 240                           | 10                                            |     |         | FAZ-C40/3-NA        | 182001      | 1/40                    |

## FAZ-...-NA Miniature Circuit Breakers (MCBs)

### Characteristic D

SG53012



SG56812



SG56912



|               | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>IEC/EN<br>60947-2<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL489<br>(V) | Breaking<br>capacity<br>acc. to<br>UL489<br>(kA) | SWD    | NFPA 79       | Type<br>Designation | Article No. | Units<br>per<br>package |
|---------------|-------------------------------|----------------------------------------------|--------------------------------------------------------------|----------------------------------|--------------------------------------------------|--------|---------------|---------------------|-------------|-------------------------|
| <b>1-pole</b> |                               |                                              |                                                              |                                  |                                                  |        |               |                     |             |                         |
| 0.5           | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D0,5/1-NA | 182003              | 12/120      |                         |
| 1             | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D1/1-NA   | 182005              | 12/120      |                         |
| 1.5           | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D1,5/1-NA | 182007              | 12/120      |                         |
| 2             | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D2/1-NA   | 182009              | 12/120      |                         |
| 3             | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D3/1-NA   | 182011              | 12/120      |                         |
| 4             | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D4/1-NA   | 182013              | 12/120      |                         |
| 5             | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D5/1-NA   | 182015              | 12/120      |                         |
| 6             | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D6/1-NA   | 182017              | 12/120      |                         |
| 7             | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 18 | FAZ-D7/1-NA   | 182019              | 12/120      |                         |
| 8             | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 16 | FAZ-D8/1-NA   | 182021              | 12/120      |                         |
| 10            | 240/415                       | 15                                           | 277                                                          | 10                               | SWD                                              | AWG 16 | FAZ-D10/1-NA  | 181831              | 12/120      |                         |
| 13            | 240/415                       | 15                                           | 277                                                          | 14                               | SWD                                              |        | FAZ-D13/1-NA  | 181833              | 12/120      |                         |
| 15            | 240/415                       | 15                                           | 277                                                          | 14                               | SWD                                              |        | FAZ-D15/1-NA  | 181835              | 12/120      |                         |
| 16            | 240/415                       | 15                                           | 277                                                          | 14                               | SWD                                              |        | FAZ-D16/1-NA  | 181837              | 12/120      |                         |
| 20            | 240/415                       | 15                                           | 277                                                          | 14                               | SWD                                              |        | FAZ-D20/1-NA  | 181839              | 12/120      |                         |
| 25            | 240/415                       | 15                                           | 277                                                          | 10                               |                                                  |        | FAZ-D25/1-NA  | 181841              | 12/120      |                         |
| 30            | 240/415                       | 15                                           | 277                                                          | 10                               |                                                  |        | FAZ-D30/1-NA  | 182023              | 12/120      |                         |
| 32            | 240/415                       | 15                                           | 277                                                          | 10                               |                                                  |        | FAZ-D32/1-NA  | 182025              | 12/120      |                         |
| 35            | 240/415                       | 15                                           | 240                                                          | 10                               |                                                  |        | FAZ-D35/1-NA  | 182027              | 12/120      |                         |
| 40            | 240/415                       | 15                                           | 240                                                          | 10                               |                                                  |        | FAZ-D40/1-NA  | 182029              | 12/120      |                         |
| <b>2-pole</b> |                               |                                              |                                                              |                                  |                                                  |        |               |                     |             |                         |
| 0.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D0,5/2-NA | 182031              | 1/60        |                         |
| 1             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D1/2-NA   | 182033              | 1/60        |                         |
| 1.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D1,5/2-NA | 182035              | 1/60        |                         |
| 2             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D2/2-NA   | 182037              | 1/60        |                         |
| 3             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D3/2-NA   | 182039              | 1/60        |                         |
| 4             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D4/2-NA   | 182041              | 1/60        |                         |
| 5             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D5/2-NA   | 182043              | 1/60        |                         |
| 6             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D6/2-NA   | 182045              | 1/60        |                         |
| 7             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D7/2-NA   | 182047              | 1/60        |                         |
| 8             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 16 | FAZ-D8/2-NA   | 182049              | 1/60        |                         |
| 10            | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 16 | FAZ-D10/2-NA  | 182051              | 1/60        |                         |
| 13            | 415                           | 15                                           | 480Y/277                                                     | 14                               | SWD                                              |        | FAZ-D13/2-NA  | 182053              | 1/60        |                         |
| 15            | 415                           | 15                                           | 480Y/277                                                     | 14                               | SWD                                              |        | FAZ-D15/2-NA  | 182055              | 1/60        |                         |
| 16            | 415                           | 15                                           | 480Y/277                                                     | 14                               | SWD                                              |        | FAZ-D16/2-NA  | 182057              | 1/60        |                         |
| 20            | 415                           | 15                                           | 480Y/277                                                     | 14                               | SWD                                              |        | FAZ-D20/2-NA  | 182059              | 1/60        |                         |
| 25            | 415                           | 15                                           | 480Y/277                                                     | 10                               |                                                  |        | FAZ-D25/2-NA  | 182061              | 1/60        |                         |
| 30            | 415                           | 15                                           | 480Y/277                                                     | 10                               |                                                  |        | FAZ-D30/2-NA  | 182063              | 1/60        |                         |
| 32            | 415                           | 15                                           | 480Y/277                                                     | 10                               |                                                  |        | FAZ-D32/2-NA  | 182065              | 1/60        |                         |
| 35            | 415                           | 15                                           | 240                                                          | 10                               |                                                  |        | FAZ-D35/2-NA  | 182067              | 1/60        |                         |
| 40            | 415                           | 15                                           | 240                                                          | 10                               |                                                  |        | FAZ-D40/2-NA  | 182069              | 1/60        |                         |
| <b>3-pole</b> |                               |                                              |                                                              |                                  |                                                  |        |               |                     |             |                         |
| 0.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D0,5/3-NA | 182071              | 1/40        |                         |
| 1             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D1/3-NA   | 182073              | 1/40        |                         |
| 1.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D1,5/3-NA | 182075              | 1/40        |                         |
| 2             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D2/3-NA   | 182077              | 1/40        |                         |
| 3             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D3/3-NA   | 182079              | 1/40        |                         |
| 4             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D4/3-NA   | 182081              | 1/40        |                         |
| 5             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D5/3-NA   | 182083              | 1/40        |                         |
| 6             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D6/3-NA   | 182085              | 1/40        |                         |
| 7             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 18 | FAZ-D7/3-NA   | 182087              | 1/40        |                         |
| 8             | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 16 | FAZ-D8/3-NA   | 182089              | 1/40        |                         |
| 10            | 415                           | 15                                           | 480Y/277                                                     | 10                               | SWD                                              | AWG 16 | FAZ-D10/3-NA  | 182091              | 1/40        |                         |
| 13            | 415                           | 15                                           | 480Y/277                                                     | 14                               | SWD                                              |        | FAZ-D13/3-NA  | 182093              | 1/40        |                         |
| 15            | 415                           | 15                                           | 480Y/277                                                     | 14                               | SWD                                              |        | FAZ-D15/3-NA  | 182095              | 1/40        |                         |
| 16            | 415                           | 15                                           | 480Y/277                                                     | 14                               | SWD                                              |        | FAZ-D16/3-NA  | 182097              | 1/40        |                         |
| 20            | 415                           | 15                                           | 480Y/277                                                     | 14                               | SWD                                              |        | FAZ-D20/3-NA  | 182099              | 1/40        |                         |
| 25            | 415                           | 15                                           | 480Y/277                                                     | 10                               |                                                  |        | FAZ-D25/3-NA  | 182101              | 1/40        |                         |
| 30            | 415                           | 15                                           | 480Y/277                                                     | 10                               |                                                  |        | FAZ-D30/3-NA  | 182103              | 1/40        |                         |
| 32            | 415                           | 15                                           | 480Y/277                                                     | 10                               |                                                  |        | FAZ-D32/3-NA  | 182105              | 1/40        |                         |
| 35            | 415                           | 15                                           | 240                                                          | 10                               |                                                  |        | FAZ-D35/3-NA  | 182107              | 1/40        |                         |
| 40            | 415                           | 15                                           | 240                                                          | 10                               |                                                  |        | FAZ-D40/3-NA  | 182109              | 1/40        |                         |

## FAZ-....RT/-DU Miniature Circuit Breakers (MCBs) Characteristic B

|  | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>IEC/EN<br>60947-2<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL489<br>(V) | Breaking<br>capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | Type<br>Designation | Article No. | Units<br>per<br>package |
|--|-------------------------------|----------------------------------------------|--------------------------------------------------------------|----------------------------------|--------------------------------------------------|-----|---------|---------------------|-------------|-------------------------|
|--|-------------------------------|----------------------------------------------|--------------------------------------------------------------|----------------------------------|--------------------------------------------------|-----|---------|---------------------|-------------|-------------------------|



|        |         |    |     |    |     |        |               |        |        |  |
|--------|---------|----|-----|----|-----|--------|---------------|--------|--------|--|
| 1-pole |         |    |     |    |     |        |               |        |        |  |
| 1      | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-B1/1-RT   | 132731 | 12/120 |  |
| 1.5    | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-B1.5/1-RT | 132732 | 12/120 |  |
| 2      | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-B2/1-RT   | 132733 | 12/120 |  |
| 3      | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-B3/1-RT   | 132734 | 12/120 |  |
| 4      | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-B4/1-RT   | 132735 | 12/120 |  |
| 5      | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-B5/1-RT   | 132736 | 12/120 |  |
| 6      | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-B6/1-RT   | 132737 | 12/120 |  |
| 7      | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-B7/1-RT   | 132738 | 12/120 |  |
| 8      | 240/415 | 15 | 277 | 10 | SWD | AWG 16 | FAZ-B8/1-RT   | 132739 | 12/120 |  |
| 10     | 240/415 | 15 | 277 | 10 | SWD | AWG 16 | FAZ-B10/1-RT  | 132740 | 12/120 |  |
| 13     | 240/415 | 15 | 277 | 10 | SWD |        | FAZ-B13/1-RT  | 132741 | 12/120 |  |
| 15     | 240/415 | 15 | 277 | 14 | SWD |        | FAZ-B15/1-RT  | 132742 | 12/120 |  |
| 16     | 240/415 | 15 | 277 | 14 | SWD |        | FAZ-B16/1-RT  | 132743 | 12/120 |  |
| 20     | 240/415 | 15 | 277 | 14 | SWD |        | FAZ-B20/1-RT  | 132744 | 12/120 |  |
| 25     | 240/415 | 15 | 277 | 14 |     |        | FAZ-B25/1-RT  | 132745 | 12/120 |  |
| 30     | 240/415 | 15 | 277 | 10 |     |        | FAZ-B30/1-RT  | 132746 | 12/120 |  |
| 32     | 240/415 | 15 | 277 | 10 |     |        | FAZ-B32/1-RT  | 132747 | 12/120 |  |
| 35     | 240/415 | 15 | 240 | 10 |     |        | FAZ-B35/1-RT  | 132748 | 12/120 |  |
| 40     | 240/415 | 15 | 240 | 10 |     |        | FAZ-B40/1-RT  | 132749 | 12/120 |  |



|        |     |    |          |    |     |        |               |        |      |  |
|--------|-----|----|----------|----|-----|--------|---------------|--------|------|--|
| 2-pole |     |    |          |    |     |        |               |        |      |  |
| 1      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B1/2-RT   | 132750 | 1/60 |  |
| 1.5    | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B1.5/2-RT | 132751 | 1/60 |  |
| 2      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B2/2-RT   | 132752 | 1/60 |  |
| 3      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B3/2-RT   | 132753 | 1/60 |  |
| 4      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B4/2-RT   | 132754 | 1/60 |  |
| 5      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B5/2-RT   | 132755 | 1/60 |  |
| 6      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B6/2-RT   | 132756 | 1/60 |  |
| 7      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B7/2-RT   | 132757 | 1/60 |  |
| 8      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 16 | FAZ-B8/2-RT   | 132758 | 1/60 |  |
| 10     | 415 | 15 | 480Y/277 | 10 | SWD | AWG 16 | FAZ-B10/2-RT  | 132759 | 1/60 |  |
| 13     | 415 | 15 | 480Y/277 | 10 | SWD |        | FAZ-B13/2-RT  | 132760 | 1/60 |  |
| 15     | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-B15/2-RT  | 132761 | 1/60 |  |
| 16     | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-B16/2-RT  | 132762 | 1/60 |  |
| 20     | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-B20/2-RT  | 132763 | 1/60 |  |
| 25     | 415 | 15 | 480Y/277 | 14 |     |        | FAZ-B25/2-RT  | 132764 | 1/60 |  |
| 30     | 415 | 15 | 480Y/277 | 10 |     |        | FAZ-B30/2-RT  | 132765 | 1/60 |  |
| 32     | 415 | 15 | 480Y/277 | 10 |     |        | FAZ-B32/2-RT  | 132766 | 1/60 |  |
| 35     | 415 | 15 | 240      | 10 |     |        | FAZ-B35/2-RT  | 132767 | 1/60 |  |
| 40     | 415 | 15 | 240      | 10 |     |        | FAZ-B40/2-RT  | 132768 | 1/60 |  |



|        |     |    |          |    |     |        |               |        |      |  |
|--------|-----|----|----------|----|-----|--------|---------------|--------|------|--|
| 3-pole |     |    |          |    |     |        |               |        |      |  |
| 1      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B1/3-RT   | 132769 | 1/40 |  |
| 1.5    | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B1.5/3-RT | 132770 | 1/40 |  |
| 2      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B2/3-RT   | 132771 | 1/40 |  |
| 3      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B3/3-RT   | 132772 | 1/40 |  |
| 4      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B4/3-RT   | 132773 | 1/40 |  |
| 5      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B5/3-RT   | 132774 | 1/40 |  |
| 6      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B6/3-RT   | 132775 | 1/40 |  |
| 7      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-B7/3-RT   | 132776 | 1/40 |  |
| 8      | 415 | 15 | 480Y/277 | 10 | SWD | AWG 16 | FAZ-B8/3-RT   | 132777 | 1/40 |  |
| 10     | 415 | 15 | 480Y/277 | 10 | SWD | AWG 16 | FAZ-B10/3-RT  | 132778 | 1/40 |  |
| 13     | 415 | 15 | 480Y/277 | 10 | SWD |        | FAZ-B13/3-RT  | 132779 | 1/40 |  |
| 15     | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-B15/3-RT  | 132780 | 1/40 |  |
| 16     | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-B16/3-RT  | 132781 | 1/40 |  |
| 20     | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-B20/3-RT  | 132782 | 1/40 |  |
| 25     | 415 | 15 | 480Y/277 | 14 |     |        | FAZ-B25/3-RT  | 132783 | 1/40 |  |
| 30     | 415 | 15 | 480Y/277 | 10 |     |        | FAZ-B30/3-RT  | 132784 | 1/40 |  |
| 32     | 415 | 15 | 480Y/277 | 10 |     |        | FAZ-B32/3-RT  | 132785 | 1/40 |  |
| 35     | 415 | 15 | 240      | 10 |     |        | FAZ-B35/3-RT  | 132786 | 1/40 |  |
| 40     | 415 | 15 | 240      | 10 |     |        | FAZ-B40/3-RT  | 132787 | 1/40 |  |



## FAZ....RT/-DU Miniature Circuit Breakers (MCBs)

### Characteristic C



FAZ-RT has the plastic limiter at both terminals, as showed in red circle; While FAZ-DU doesn't have

SG56412



| Rated current<br>$I_n$ (A) | Rated voltage<br>IEC/EN<br>60947-2<br>(V) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL489<br>(V) | Breaking capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | RT Type<br>Designation | RT Article<br>No. | DU Type<br>Designation | DU Article<br>No. | Units<br>per<br>package |
|----------------------------|-------------------------------------------|-----------------------------------------------------------|-------------------------------|-----------------------------------------------|-----|---------|------------------------|-------------------|------------------------|-------------------|-------------------------|
|----------------------------|-------------------------------------------|-----------------------------------------------------------|-------------------------------|-----------------------------------------------|-----|---------|------------------------|-------------------|------------------------|-------------------|-------------------------|

#### 1-pole

|     |         |    |     |    |     |        |               |        |               |        |        |
|-----|---------|----|-----|----|-----|--------|---------------|--------|---------------|--------|--------|
| 0.5 | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C0,5/1-RT | 181884 | FAZ-C0,5/1-DU | 185095 | 12/120 |
| 1   | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C1/1-RT   | 181886 | FAZ-C1/1-DU   | 185096 | 12/120 |
| 1.5 | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C1,5/1-RT | 181888 | FAZ-C1,5/1-DU | 185097 | 12/120 |
| 2   | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C2/1-RT   | 181890 | FAZ-C2/1-DU   | 185098 | 12/120 |
| 3   | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C3/1-RT   | 181892 | FAZ-C3/1-DU   | 185099 | 12/120 |
| 4   | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C4/1-RT   | 181894 | FAZ-C4/1-DU   | 185100 | 12/120 |
| 5   | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C5/1-RT   | 181896 | FAZ-C5/1-DU   | 185101 | 12/120 |
| 6   | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C6/1-RT   | 181898 | FAZ-C6/1-DU   | 185102 | 12/120 |
| 7   | 240/415 | 15 | 277 | 10 | SWD | AWG 18 | FAZ-C7/1-RT   | 181900 | FAZ-C7/1-DU   | 185103 | 12/120 |
| 8   | 240/415 | 15 | 277 | 10 | SWD | AWG 16 | FAZ-C8/1-RT   | 181902 | FAZ-C8/1-DU   | 184990 | 12/120 |
| 10  | 240/415 | 15 | 277 | 10 | SWD | AWG 16 | FAZ-C10/1-RT  | 181904 | FAZ-C10/1-DU  | 184991 | 12/120 |
| 13  | 240/415 | 15 | 277 | 10 | SWD |        | FAZ-C13/1-RT  | 181906 | FAZ-C13/1-DU  | 184992 | 12/120 |
| 15  | 240/415 | 15 | 277 | 14 | SWD |        | FAZ-C15/1-RT  | 181908 | FAZ-C15/1-DU  | 184993 | 12/120 |
| 16  | 240/415 | 15 | 277 | 14 | SWD |        | FAZ-C16/1-RT  | 181910 | FAZ-C16/1-DU  | 184994 | 12/120 |
| 20  | 240/415 | 15 | 277 | 14 | SWD |        | FAZ-C20/1-RT  | 181912 | FAZ-C20/1-DU  | 184995 | 12/120 |
| 25  | 240/415 | 15 | 277 | 14 |     |        | FAZ-C25/1-RT  | 181914 | FAZ-C25/1-DU  | 184996 | 12/120 |
| 30  | 240/415 | 15 | 277 | 10 |     |        | FAZ-C30/1-RT  | 181916 | FAZ-C30/1-DU  | 184997 | 12/120 |
| 32  | 240/415 | 15 | 277 | 10 |     |        | FAZ-C32/1-RT  | 181918 | FAZ-C32/1-DU  | 184998 | 12/120 |
| 35  | 240/415 | 15 | 240 | 10 |     |        | FAZ-C35/1-RT  | 181920 | FAZ-C35/1-DU  | 184999 | 12/120 |
| 40  | 240/415 | 15 | 240 | 10 |     |        | FAZ-C40/1-RT  | 181922 | FAZ-C40/1-DU  | 185000 | 12/120 |

SG56712



#### 2-pole

|     |     |    |          |    |     |        |               |        |               |        |      |
|-----|-----|----|----------|----|-----|--------|---------------|--------|---------------|--------|------|
| 0.5 | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C0,5/2-RT | 181924 | FAZ-C0,5/2-DU | 185021 | 1/60 |
| 1   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C1/2-RT   | 181926 | FAZ-C1/2-DU   | 185022 | 1/60 |
| 1.5 | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C1,5/2-RT | 181928 | FAZ-C1,5/2-DU | 185023 | 1/60 |
| 2   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C2/2-RT   | 181930 | FAZ-C2/2-DU   | 185024 | 1/60 |
| 3   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C3/2-RT   | 181932 | FAZ-C3/2-DU   | 185025 | 1/60 |
| 4   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C4/2-RT   | 181934 | FAZ-C4/2-DU   | 185026 | 1/60 |
| 5   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C5/2-RT   | 181936 | FAZ-C5/2-DU   | 185027 | 1/60 |
| 6   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C6/2-RT   | 181938 | FAZ-C6/2-DU   | 185028 | 1/60 |
| 7   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C7/2-RT   | 181940 | FAZ-C7/2-DU   | 185029 | 1/60 |
| 8   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 16 | FAZ-C8/2-RT   | 181942 | FAZ-C8/2-DU   | 185030 | 1/60 |
| 10  | 415 | 15 | 480Y/277 | 10 | SWD | AWG 16 | FAZ-C10/2-RT  | 181944 | FAZ-C10/2-DU  | 185031 | 1/60 |
| 13  | 415 | 15 | 480Y/277 | 10 | SWD |        | FAZ-C13/2-RT  | 181946 | FAZ-C13/2-DU  | 185032 | 1/60 |
| 15  | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-C15/2-RT  | 181948 | FAZ-C15/2-DU  | 185033 | 1/60 |
| 16  | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-C16/2-RT  | 181950 | FAZ-C16/2-DU  | 185034 | 1/60 |
| 20  | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-C20/2-RT  | 181952 | FAZ-C20/2-DU  | 185035 | 1/60 |
| 25  | 415 | 15 | 480Y/277 | 14 |     |        | FAZ-C25/2-RT  | 181954 | FAZ-C25/2-DU  | 185036 | 1/60 |
| 30  | 415 | 15 | 480Y/277 | 10 |     |        | FAZ-C30/2-RT  | 181956 | FAZ-C30/2-DU  | 185037 | 1/60 |
| 32  | 415 | 15 | 480Y/277 | 10 |     |        | FAZ-C32/2-RT  | 181958 | FAZ-C32/2-DU  | 185038 | 1/60 |
| 35  | 415 | 15 | 240      | 10 |     |        | FAZ-C35/2-RT  | 181960 | FAZ-C35/2-DU  | 185039 | 1/60 |
| 40  | 415 | 15 | 240      | 10 |     |        | FAZ-C40/2-RT  | 181962 | FAZ-C40/2-DU  | 185040 | 1/60 |

SG57012



#### 3-pole

|     |     |    |          |    |     |        |               |        |               |        |      |
|-----|-----|----|----------|----|-----|--------|---------------|--------|---------------|--------|------|
| 0.5 | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C0,5/3-RT | 181964 | FAZ-C0,5/3-DU | 185061 | 1/40 |
| 1   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C1/3-RT   | 181966 | FAZ-C1/3-DU   | 185062 | 1/40 |
| 1.5 | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C1,5/3-RT | 181968 | FAZ-C1,5/3-DU | 185063 | 1/40 |
| 2   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C2/3-RT   | 181970 | FAZ-C2/3-DU   | 185064 | 1/40 |
| 3   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C3/3-RT   | 181972 | FAZ-C3/3-DU   | 185065 | 1/40 |
| 4   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C4/3-RT   | 181974 | FAZ-C4/3-DU   | 185066 | 1/40 |
| 5   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C5/3-RT   | 181976 | FAZ-C5/3-DU   | 185067 | 1/40 |
| 6   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C6/3-RT   | 181978 | FAZ-C6/3-DU   | 185068 | 1/40 |
| 7   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 18 | FAZ-C7/3-RT   | 181980 | FAZ-C7/3-DU   | 185069 | 1/40 |
| 8   | 415 | 15 | 480Y/277 | 10 | SWD | AWG 16 | FAZ-C8/3-RT   | 181982 | FAZ-C8/3-DU   | 185070 | 1/40 |
| 10  | 415 | 15 | 480Y/277 | 10 | SWD | AWG 16 | FAZ-C10/3-RT  | 181984 | FAZ-C10/3-DU  | 185071 | 1/40 |
| 13  | 415 | 15 | 480Y/277 | 10 | SWD |        | FAZ-C13/3-RT  | 181986 | FAZ-C13/3-DU  | 185072 | 1/40 |
| 15  | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-C15/3-RT  | 181988 | FAZ-C15/3-DU  | 185073 | 1/40 |
| 16  | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-C16/3-RT  | 181990 | FAZ-C16/3-DU  | 185074 | 1/40 |
| 20  | 415 | 15 | 480Y/277 | 14 | SWD |        | FAZ-C20/3-RT  | 181992 | FAZ-C20/3-DU  | 185075 | 1/40 |
| 25  | 415 | 15 | 480Y/277 | 14 |     |        | FAZ-C25/3-RT  | 181994 | FAZ-C25/3-DU  | 185076 | 1/40 |
| 30  | 415 | 15 | 480Y/277 | 10 |     |        | FAZ-C30/3-RT  | 181996 | FAZ-C30/3-DU  | 185077 | 1/40 |
| 32  | 415 | 15 | 480Y/277 | 10 |     |        | FAZ-C32/3-RT  | 181998 | FAZ-C32/3-DU  | 185078 | 1/40 |
| 35  | 415 | 15 | 240      | 10 |     |        | FAZ-C35/3-RT  | 182000 | FAZ-C35/3-DU  | 185079 | 1/40 |
| 40  | 415 | 15 | 240      | 10 |     |        | FAZ-C40/3-RT  | 182002 | FAZ-C40/3-DU  | 185080 | 1/40 |

## FAZ-....RT/-DU Miniature Circuit Breakers (MCBs)

### Characteristic D

|               | Rated<br>current<br>$I_n$ (A) | Rated<br>voltage<br>IEC/EN<br>60947-2<br>(V) | Breaking<br>capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated<br>voltage<br>UL489<br>(V) | Breaking<br>capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | RT Type<br>Designation | RT Article<br>No. | DU Type<br>Designation | DU Article<br>No. | Units<br>per<br>package |
|---------------|-------------------------------|----------------------------------------------|--------------------------------------------------------------|----------------------------------|--------------------------------------------------|-----|---------|------------------------|-------------------|------------------------|-------------------|-------------------------|
| <b>1-pole</b> |                               |                                              |                                                              |                                  |                                                  |     |         |                        |                   |                        |                   |                         |
| 0.5           | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D0,5/1-RT          | 182004            | FAZ-D0,5/1-DU          | 185001            | 12/120                  |
| 1             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D1/1-RT            | 182006            | FAZ-D1/1-DU            | 185002            | 12/120                  |
| 1.5           | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D1,5/1-RT          | 182008            | FAZ-D1,5/1-DU          | 185003            | 12/120                  |
| 2             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D2/1-RT            | 182010            | FAZ-D2/1-DU            | 185004            | 12/120                  |
| 3             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D3/1-RT            | 182012            | FAZ-D3/1-DU            | 185005            | 12/120                  |
| 4             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D4/1-RT            | 182014            | FAZ-D4/1-DU            | 185006            | 12/120                  |
| 5             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D5/1-RT            | 182016            | FAZ-D5/1-DU            | 185007            | 12/120                  |
| 6             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D6/1-RT            | 182018            | FAZ-D6/1-DU            | 185008            | 12/120                  |
| 7             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 18  | FAZ-D7/1-RT            | 182020            | FAZ-D7/1-DU            | 185009            | 12/120                  |
| 8             | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 16  | FAZ-D8/1-RT            | 182022            | FAZ-D8/1-DU            | 185010            | 12/120                  |
| 10            | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               | SWD | AWG 16  | FAZ-D10/1-RT           | 181832            | FAZ-D10/1-DU           | 185011            | 12/120                  |
| 13            | 240/415                       | 15                                           | 277                                                          | 14                               | 14                                               | SWD |         | FAZ-D13/1-RT           | 181834            | FAZ-D13/1-DU           | 185012            | 12/120                  |
| 15            | 240/415                       | 15                                           | 277                                                          | 14                               | 14                                               | SWD |         | FAZ-D15/1-RT           | 181836            | FAZ-D15/1-DU           | 185013            | 12/120                  |
| 16            | 240/415                       | 15                                           | 277                                                          | 14                               | 14                                               | SWD |         | FAZ-D16/1-RT           | 181838            | FAZ-D16/1-DU           | 185014            | 12/120                  |
| 20            | 240/415                       | 15                                           | 277                                                          | 14                               | 14                                               | SWD |         | FAZ-D20/1-RT           | 181840            | FAZ-D20/1-DU           | 185015            | 12/120                  |
| 25            | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               |     |         | FAZ-D25/1-RT           | 181842            | FAZ-D25/1-DU           | 185016            | 12/120                  |
| 30            | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               |     |         | FAZ-D30/1-RT           | 182024            | FAZ-D30/1-DU           | 185017            | 12/120                  |
| 32            | 240/415                       | 15                                           | 277                                                          | 10                               | 10                                               |     |         | FAZ-D32/1-RT           | 182026            | FAZ-D32/1-DU           | 185018            | 12/120                  |
| 35            | 240/415                       | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-D35/1-RT           | 182028            | FAZ-D35/1-DU           | 185019            | 12/120                  |
| 40            | 240/415                       | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-D40/1-RT           | 182030            | FAZ-D40/1-DU           | 185020            | 12/120                  |
| <b>2-pole</b> |                               |                                              |                                                              |                                  |                                                  |     |         |                        |                   |                        |                   |                         |
| 0.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D0,5/2-RT          | 182032            | FAZ-D0,5/2-DU          | 185041            | 1/60                    |
| 1             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D1/2-RT            | 182034            | FAZ-D1/2-DU            | 185042            | 1/60                    |
| 1.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D1,5/2-RT          | 182036            | FAZ-D1,5/2-DU          | 185043            | 1/60                    |
| 2             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D2/2-RT            | 182038            | FAZ-D2/2-DU            | 185044            | 1/60                    |
| 3             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D3/2-RT            | 182040            | FAZ-D3/2-DU            | 185045            | 1/60                    |
| 4             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D4/2-RT            | 182042            | FAZ-D4/2-DU            | 185046            | 1/60                    |
| 5             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D5/2-RT            | 182044            | FAZ-D5/2-DU            | 185047            | 1/60                    |
| 6             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D6/2-RT            | 182046            | FAZ-D6/2-DU            | 185048            | 1/60                    |
| 7             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D7/2-RT            | 182048            | FAZ-D7/2-DU            | 185049            | 1/60                    |
| 8             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 16  | FAZ-D8/2-RT            | 182050            | FAZ-D8/2-DU            | 185050            | 1/60                    |
| 10            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 16  | FAZ-D10/2-RT           | 182052            | FAZ-D10/2-DU           | 185051            | 1/60                    |
| 13            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-D13/2-RT           | 182054            | FAZ-D13/2-DU           | 185052            | 1/60                    |
| 15            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-D15/2-RT           | 182056            | FAZ-D15/2-DU           | 185053            | 1/60                    |
| 16            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-D16/2-RT           | 182058            | FAZ-D16/2-DU           | 185054            | 1/60                    |
| 20            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-D20/2-RT           | 182060            | FAZ-D20/2-DU           | 185055            | 1/60                    |
| 25            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-D25/2-RT           | 182062            | FAZ-D25/2-DU           | 185056            | 1/60                    |
| 30            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-D30/2-RT           | 182064            | FAZ-D30/2-DU           | 185057            | 1/60                    |
| 32            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-D32/2-RT           | 182066            | FAZ-D32/2-DU           | 185058            | 1/60                    |
| 35            | 415                           | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-D35/2-RT           | 182068            | FAZ-D35/2-DU           | 185059            | 1/60                    |
| 40            | 415                           | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-D40/2-RT           | 182070            | FAZ-D40/2-DU           | 185060            | 1/60                    |
| <b>3-pole</b> |                               |                                              |                                                              |                                  |                                                  |     |         |                        |                   |                        |                   |                         |
| 0.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D0,5/3-RT          | 182072            | FAZ-D0,5/3-DU          | 185081            | 1/40                    |
| 1             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D1/3-RT            | 182074            | FAZ-D1/3-DU            | 185082            | 1/40                    |
| 1.5           | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D1,5/3-RT          | 182076            | FAZ-D1,5/3-DU          | 185083            | 1/40                    |
| 2             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D2/3-RT            | 182078            | FAZ-D2/3-DU            | 185084            | 1/40                    |
| 3             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D3/3-RT            | 182080            | FAZ-D3/3-DU            | 185085            | 1/40                    |
| 4             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D4/3-RT            | 182082            | FAZ-D4/3-DU            | 185086            | 1/40                    |
| 5             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D5/3-RT            | 182084            | FAZ-D5/3-DU            | 185087            | 1/40                    |
| 6             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D6/3-RT            | 182086            | FAZ-D6/3-DU            | 185088            | 1/40                    |
| 7             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 18  | FAZ-D7/3-RT            | 182088            | FAZ-D7/3-DU            | 185089            | 1/40                    |
| 8             | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 16  | FAZ-D8/3-RT            | 182090            | FAZ-D8/3-DU            | 185090            | 1/40                    |
| 10            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               | SWD | AWG 16  | FAZ-D10/3-RT           | 182092            | FAZ-D10/3-DU           | 185091            | 1/40                    |
| 13            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-D13/3-RT           | 182094            | FAZ-D13/3-DU           | 185092            | 1/40                    |
| 15            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-D15/3-RT           | 182096            | FAZ-D15/3-DU           | 185093            | 1/40                    |
| 16            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-D16/3-RT           | 182098            | FAZ-D16/3-DU           | 185094            | 1/40                    |
| 20            | 415                           | 15                                           | 480Y/277                                                     | 14                               | 14                                               | SWD |         | FAZ-D20/3-RT           | 182100            | FAZ-D20/3-DU           | 184984            | 1/40                    |
| 25            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-D25/3-RT           | 182102            | FAZ-D25/3-DU           | 184985            | 1/40                    |
| 30            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-D30/3-RT           | 182104            | FAZ-D30/3-DU           | 184986            | 1/40                    |
| 32            | 415                           | 15                                           | 480Y/277                                                     | 10                               | 10                                               |     |         | FAZ-D32/3-RT           | 182106            | FAZ-D32/3-DU           | 184987            | 1/40                    |
| 35            | 415                           | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-D35/3-RT           | 182108            | FAZ-D35/3-DU           | 184988            | 1/40                    |
| 40            | 415                           | 15                                           | 240                                                          | 10                               | 10                                               |     |         | FAZ-D40/3-RT           | 182110            | FAZ-D40/3-DU           | 184989            | 1/40                    |



## FAZ-NA, -RT, -DU Miniature Circuit Breakers

### Accessories:

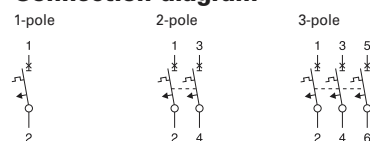
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|-----------------------------------------------------|----------------------|--------|
| Auxiliary switch for subsequent installation        | Z-IHK-NA             | 113895 |
| Tripping signal contact for subsequent installation | Z-NHK                | 248434 |
| Shunt trip release                                  | FAZ-XAA-NA12-110VAC  | 102037 |
|                                                     | FAZ-XAA-NA110-415VAC | 102036 |
| Switching interlock                                 | IS/SPE-1TE           | 101911 |
|                                                     | Z-IS/SPE-1TE         | 274418 |

## Specifications FAZ-NA, -RT, -DU

### Technical data IEC/EN

| FAZ-...-NA, -RT, -DU                        |                                                       |                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Productstandard                             | IEC/EN 60947-2                                        |                                                                                                                                                                                                                                                                                                                                                       |
| Number of poles                             | 1, 2, 3                                               |                                                                                                                                                                                                                                                                                                                                                       |
| Mechanical specifications                   |                                                       |                                                                                                                                                                                                                                                                                                                                                       |
| Device width                                | 17.7mm (1-pole), 35.4 mm (2-poles), 53.1 mm (3-poles) |                                                                                                                                                                                                                                                                                                                                                       |
| Frame size                                  | 45 mm                                                 |                                                                                                                                                                                                                                                                                                                                                       |
| Socket size                                 | 105 mm                                                |                                                                                                                                                                                                                                                                                                                                                       |
| Device depth                                | 60 mm                                                 |                                                                                                                                                                                                                                                                                                                                                       |
| Terminals                                   | lift terminal / ring-tongue                           |                                                                                                                                                                                                                                                                                                                                                       |
| Terminal capacity rigid solid/stranded wire | 1-25 mm²                                              |                                                                                                                                                                                                                                                                                                                                                       |
| Terminal screw                              | M5 (with slotted screw Pozidriv PZ2)                  |                                                                                                                                                                                                                                                                                                                                                       |
| Terminal torque                             | max. 2.4 Nm                                           |                                                                                                                                                                                                                                                                                                                                                       |
| Snap on fixing                              | tristable (on DIN Rail acc. to IEC/EN 60715)          |                                                                                                                                                                                                                                                                                                                                                       |
| Degree of Protection (DIN VDE 0470)         |                                                       |                                                                                                                                                                                                                                                                                                                                                       |
| Surface mounted                             | IP 20                                                 |                                                                                                                                                                                                                                                                                                                                                       |
| Built-in behind panel                       | IP 40                                                 |                                                                                                                                                                                                                                                                                                                                                       |
| Contact position indicator                  | red / green                                           |                                                                                                                                                                                                                                                                                                                                                       |
| Electrical specifications                   |                                                       |                                                                                                                                                                                                                                                                                                                                                       |
| Rated voltage                               | U <sub>n</sub>                                        | 240/415 V AC                                                                                                                                                                                                                                                                                                                                          |
| Rated current                               | I <sub>n</sub>                                        | 0.5, 1, 1.5, 2, 3, 4, 5, 6, 7, 8, 10, 13, 15, 16, 20, 25, 30, 32, 35, 40 A                                                                                                                                                                                                                                                                            |
| Rated insulation voltage                    | U <sub>i</sub>                                        | 440 V AC                                                                                                                                                                                                                                                                                                                                              |
| Rated impulse withstand voltage             | U <sub>imp</sub>                                      | 4 kV (1.2/50)µsec                                                                                                                                                                                                                                                                                                                                     |
| Tripping characteristic                     |                                                       |                                                                                                                                                                                                                                                                                                                                                       |
| Conventional non-tripping current           | I <sub>nt</sub>                                       | =1.05 I <sub>n</sub>                                                                                                                                                                                                                                                                                                                                  |
| Conventional tripping current               | I <sub>t</sub>                                        | =1.30 I <sub>n</sub>                                                                                                                                                                                                                                                                                                                                  |
| Reference temperature                       | 30 °C                                                 |                                                                                                                                                                                                                                                                                                                                                       |
| Temperature factor                          | 0.5% /K                                               |                                                                                                                                                                                                                                                                                                                                                       |
| Instantaneous tripping current              | I <sub>mt</sub>                                       | type B: 3 I <sub>n</sub> < I <sub>mt</sub> = 5 I <sub>n</sub> :t (I <sub>mt</sub> ) < 0.1 sec (IEC/EN 60898-1)<br>type C: 5 I <sub>n</sub> < I <sub>mt</sub> = 10 I <sub>n</sub> :t (I <sub>mt</sub> ) < 0.1 sec (IEC/EN 60898-1)<br>type D: 10 I <sub>n</sub> < I <sub>mt</sub> = 20 I <sub>n</sub> :t (I <sub>mt</sub> ) < 0.1 sec (IEC/EN 60898-1) |
| Rated short-circuit braking capacity        | I <sub>cu</sub>                                       | 15 kA                                                                                                                                                                                                                                                                                                                                                 |
| Service short circuit capacity              | I <sub>cs</sub>                                       | 7.5 kA                                                                                                                                                                                                                                                                                                                                                |
| Selectivity class                           | 3 (acc. to EN 60898)                                  |                                                                                                                                                                                                                                                                                                                                                       |
| Number of electrical operations             | > 1500                                                |                                                                                                                                                                                                                                                                                                                                                       |
| Number of mechanical operations             | > 10000                                               |                                                                                                                                                                                                                                                                                                                                                       |
| Climatic conditions                         | acc. to IEC 68-2 (25..55°C / 90..95% RH)              |                                                                                                                                                                                                                                                                                                                                                       |
| Operating temperature range                 | -40°C to +75°C                                        |                                                                                                                                                                                                                                                                                                                                                       |

### Connection diagram

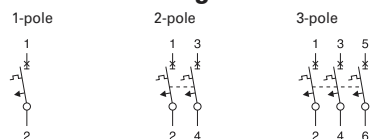


## Specifications FAZ-NA, -RT, -DU

### Technical data UL

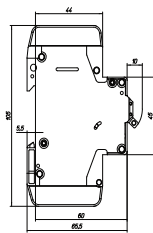
|                                        | FAZ-...-NA, -RT, -DU                                                                                                             |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Product standard                       | UL 489 CSA C22.2 No. 5-02                                                                                                        |
| Number of poles                        | 1, 2, 3                                                                                                                          |
| <b>Mechanical specifications</b>       |                                                                                                                                  |
| Device width                           | 0.697 in. (1-pole), 1.394 in. (2-poles), 2.090 in. (3-poles)                                                                     |
| Frame size                             | 1.772 in.                                                                                                                        |
| Socket size                            | 4.134 in.                                                                                                                        |
| Device depth                           | 2.362 in.                                                                                                                        |
| Terminals                              | lift terminal / ring-tongue                                                                                                      |
| Terminal capacity                      | 1 Wire: #18-6 AWG (Cu only)<br>2 Wires: #18-10 AWG (Cu only)                                                                     |
| Terminal screw                         | M5 (with slotted screw Pozidriv PZ2)                                                                                             |
| Terminal torque                        | #18-12 AWG: 21 lb-in<br>#10-8 AWG: 25 lb-in<br>#6 AWG: 36 lb-in                                                                  |
| Snap on fixing                         | tristable (on DIN Rail acc. to IEC/EN 60715)                                                                                     |
| Contact position indicator             | red / green                                                                                                                      |
| <b>Electrical specifications</b>       |                                                                                                                                  |
| Rated voltage                          | $U_n$ 0.5-32 A: 480Y/277 V AC, 35-40 A: 240 V AC                                                                                 |
| Rated current                          | $I_n$ 0.5, 1, 1.5, 2, 3, 4, 5, 6, 7, 8, 10, 13, 15, 16, 20, 25, 30, 32, 35, 40 A                                                 |
| <b>Tripping characteristic</b>         |                                                                                                                                  |
| Conventional non-tripping current      | $I_{nt}=1.00 I_n$                                                                                                                |
| Conventional tripping current          | $I_t=1.35 I_n$                                                                                                                   |
| Reference temperature                  | 40 °C                                                                                                                            |
| Temperature factor                     | 0.5% /K                                                                                                                          |
| Instantaneous tripping current         | $I_{mt}$ type C: $5 I_n < I_{mt} = 10 I_n$ ; $t(I_{mt}) < 0.1$ sec<br>type D: $10 I_n < I_{mt} = 20 I_n$ ; $t(I_{mt}) < 0.1$ sec |
| Current interrupting rating            | 10 kA, 14 kA (types D13, B/C/D15, 16, 20, B/C25 A)                                                                               |
| Current-Limiting at 240 V / 10 kA      | 1p, 2p, 3p to $I^2t = 43 \text{ kA}^2\text{s}$ and $I_{peak} = 6.2 \text{ kA}$                                                   |
| Current-Limiting at 480Y/277 V / 10 kA | 1p, 2p, 3p to $I^2t = 60 \text{ kA}^2\text{s}$ and $I_{peak} = 6.2 \text{ kA}$                                                   |
| Current-Limiting at 480Y/277 V / 14 kA | 1p, 2p, 3p to $I^2t = 65 \text{ kA}^2\text{s}$ and $I_{peak} = 7.5 \text{ kA}$                                                   |
| Selectivity class                      | 3 (acc. to EN 60898)                                                                                                             |
| Number of electrical operations        | 6000                                                                                                                             |
| Number of mechanical operations        | 10000                                                                                                                            |
| Climatic conditions                    | acc. to IEC 68-2 (25..55°C / 90..95% RH)                                                                                         |
| Operating temperature range            | -5°C to +40°C                                                                                                                    |

### Connection diagram

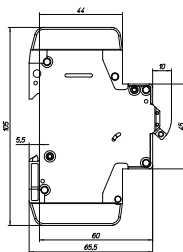
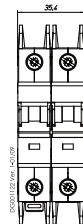


Dimensions (mm) FAZ-...-NA, -RT, -DU

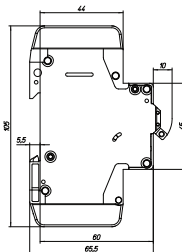
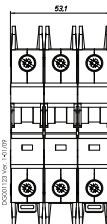
1-pole



2-pole

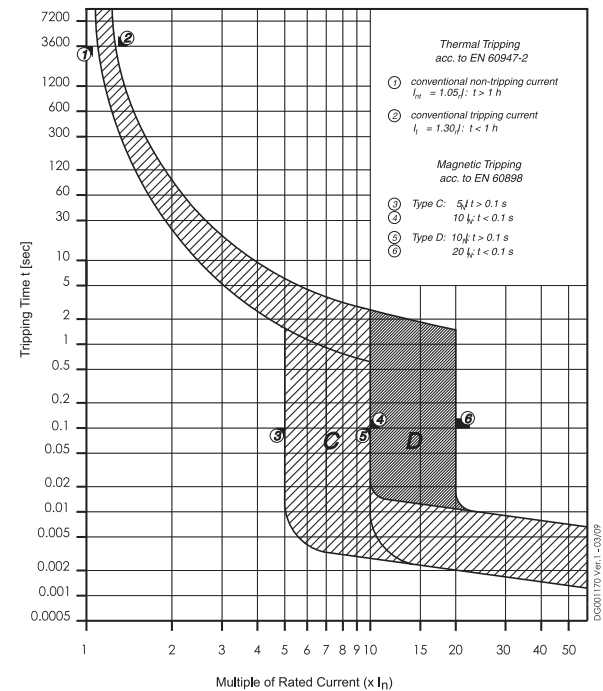


3-pole

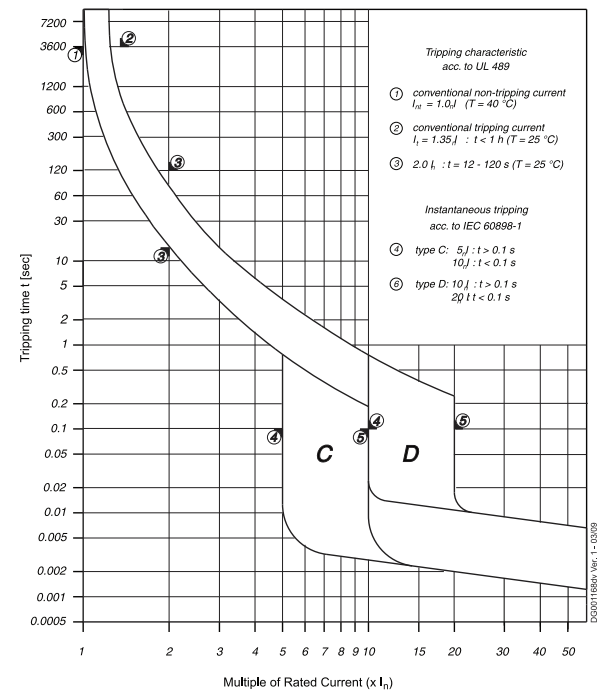


Tripping Characteristic FAZ-...-NA, -RT, -DU

Characteristics C and D - EN/IEC 60947-2



Characteristics C and D - UL 489



## Internal Resistance FAZ-...-NA, -RT, -DU

### Type C

At room temperature (single pole)

| $I_n$ [A] | $Z^*$ [m $\Omega$ ] | $R$ [m $\Omega$ ] |
|-----------|---------------------|-------------------|
| 0.5       | 6400                | 6300              |
| 1         | 1100                | 1080              |
| 1.5       | 560                 | 550               |
| 2         | 340                 | 330               |
| 3         | 132                 | 130               |
| 4         | 86                  | 85                |
| 5         | 70                  | 69                |
| 6         | 31                  | 30                |
| 7         | 28                  | 27                |
| 8         | 20                  | 19.6              |
| 10        | 15.8                | 15.5              |
| 13        | 12.3                | 12.1              |
| 15        | 7.1                 | 7.0               |
| 16        | 7.1                 | 7.0               |
| 20        | 6.0                 | 5.9               |
| 25        | 4.1                 | 4.0               |
| 30        | 2.8                 | 2.7               |
| 32        | 2.8                 | 2.7               |
| 35        | 2.5                 | 2.5               |
| 40        | 2.1                 | 2.1               |

\* 50Hz

### Type D

At room temperature (single pole)

| $I_n$ [A] | $Z^*$ [m $\Omega$ ] | $R$ [m $\Omega$ ] |
|-----------|---------------------|-------------------|
| 0.5       | 6400                | 6300              |
| 1         | 770                 | 755               |
| 1.5       | 460                 | 450               |
| 2         | 250                 | 245               |
| 3         | 132                 | 130               |
| 4         | 86                  | 85                |
| 5         | 57                  | 56                |
| 6         | 31                  | 30                |
| 7         | 28                  | 27                |
| 8         | 18                  | 17.6              |
| 10        | 13.5                | 13.2              |
| 13        | 10.5                | 10.3              |
| 15        | 5.9                 | 5.8               |
| 16        | 5.9                 | 5.8               |
| 20        | 4.0                 | 3.9               |
| 25        | 3.4                 | 3.3               |
| 30        | 2.5                 | 2.5               |
| 32        | 2.5                 | 2.5               |
| 35        | 2.5                 | 2.5               |
| 40        | 2.0                 | 2.0               |

\* 50Hz

## Power Loss at $I_n$ FAZ-...-NA, -RT, -DU

### Type C

| $I_n$ [A] | 1p        | 2p        | 3p        |
|-----------|-----------|-----------|-----------|
|           | $P^*$ [W] | $P^*$ [W] | $P^*$ [W] |
| 0.5       | 1.6       | 3.2       | 4.7       |
| 1         | 1.1       | 2.2       | 3.4       |
| 1.5       | 1.3       | 2.6       | 3.9       |
| 2         | 1.4       | 2.8       | 4.3       |
| 3         | 1.2       | 2.4       | 3.6       |
| 4         | 1.4       | 2.9       | 4.3       |
| 5         | 1.9       | 3.7       | 5.6       |
| 6         | 1.2       | 2.3       | 3.5       |
| 7         | 1.4       | 2.8       | 4.3       |
| 8         | 1.4       | 2.8       | 4.2       |
| 10        | 1.8       | 3.6       | 5.3       |
| 13        | 2.4       | 4.7       | 7.1       |
| 15        | 1.9       | 3.8       | 5.6       |
| 16        | 2.1       | 4.3       | 6.4       |
| 20        | 2.9       | 5.8       | 8.7       |
| 25        | 3.1       | 6.2       | 9.3       |
| 30        | 3.0       | 6.0       | 9.0       |
| 32        | 3.4       | 6.8       | 10.2      |
| 35        | 3.7       | 7.4       | 11.0      |
| 40        | 4.0       | 8.1       | 12.1      |

\*50Hz

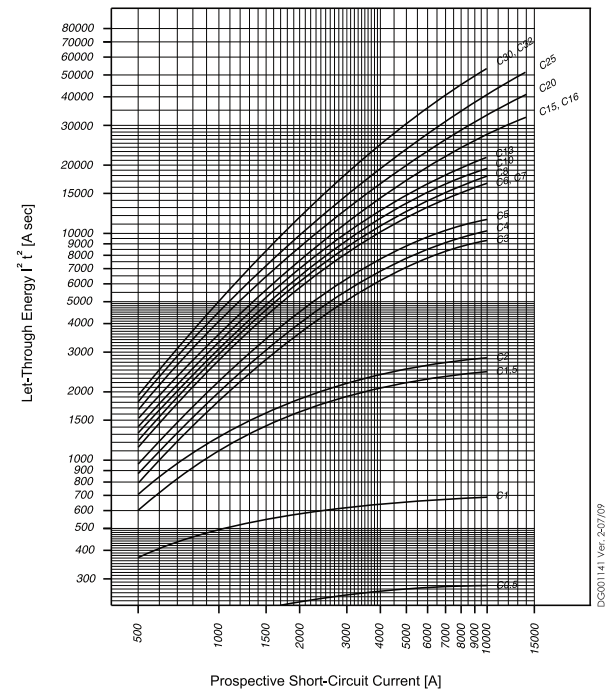
### Type D

| $I_n$ [A] | 1p        | 2p        | 3p        |
|-----------|-----------|-----------|-----------|
|           | $P^*$ [W] | $P^*$ [W] | $P^*$ [W] |
| 0.5       | 1.6       | 3.2       | 4.8       |
| 1         | 0.8       | 1.5       | 2.3       |
| 1.5       | 1.0       | 2.1       | 3.1       |
| 2         | 1.0       | 2.1       | 3.1       |
| 3         | 1.2       | 2.4       | 3.6       |
| 4         | 1.4       | 2.9       | 4.3       |
| 5         | 1.5       | 2.9       | 4.4       |
| 6         | 1.2       | 2.3       | 3.5       |
| 7         | 1.4       | 2.8       | 4.3       |
| 8         | 1.2       | 2.4       | 3.7       |
| 10        | 1.5       | 3.0       | 4.5       |
| 13        | 2.0       | 4.1       | 6.1       |
| 15        | 1.5       | 3.1       | 4.6       |
| 16        | 1.7       | 3.5       | 5.2       |
| 20        | 1.8       | 3.7       | 5.5       |
| 25        | 2.6       | 5.1       | 7.7       |
| 30        | 2.7       | 5.4       | 8.1       |
| 32        | 3.1       | 6.2       | 9.3       |
| 35        | 3.8       | 7.6       | 11.3      |
| 40        | 3.9       | 7.8       | 11.6      |

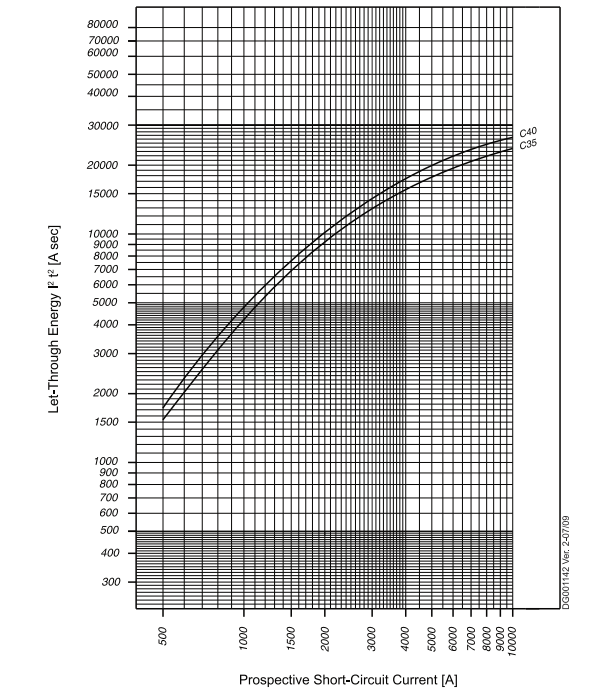
\*50Hz

Maximum Let-Through Energy FAZ-...-NA, -RT, -DU

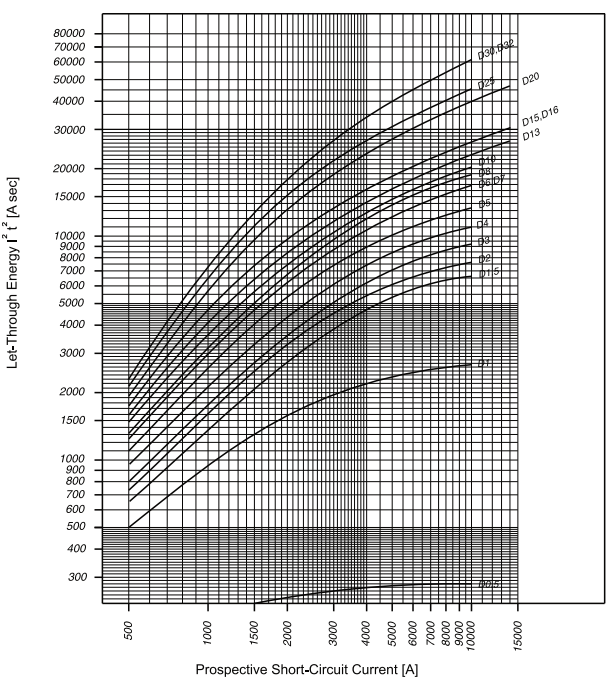
Type C (0.5 - 32 A), 277 V



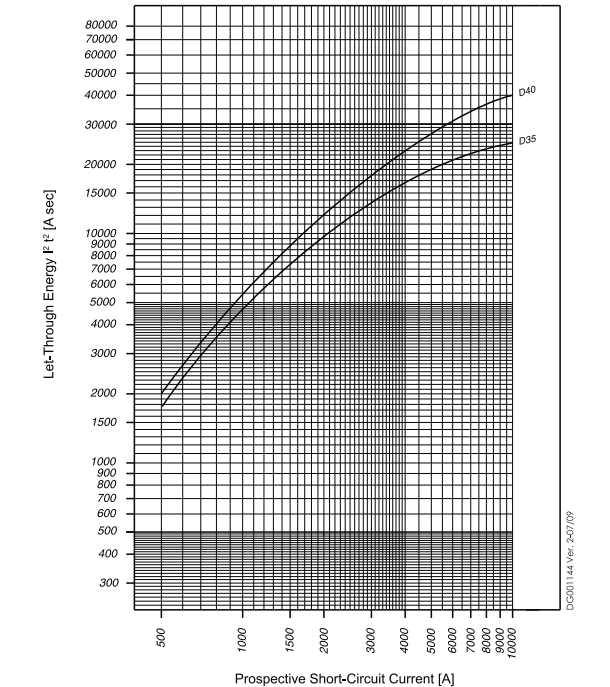
Type C (35 - 40 A), 240 V



Type D (0.5 - 32 A), 277 V

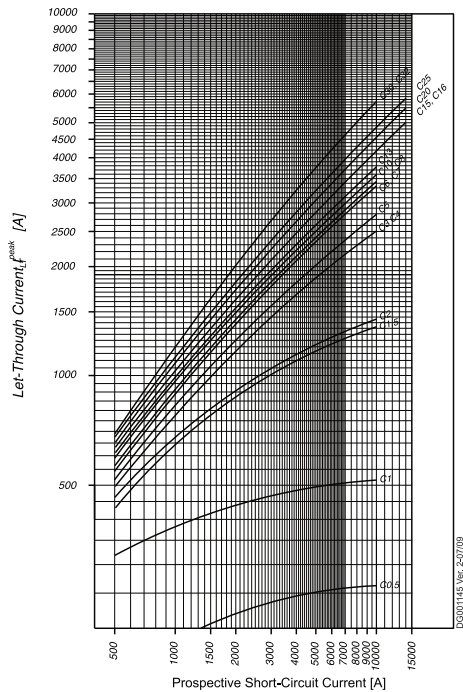


Type D (35 - 40 A), 240 V

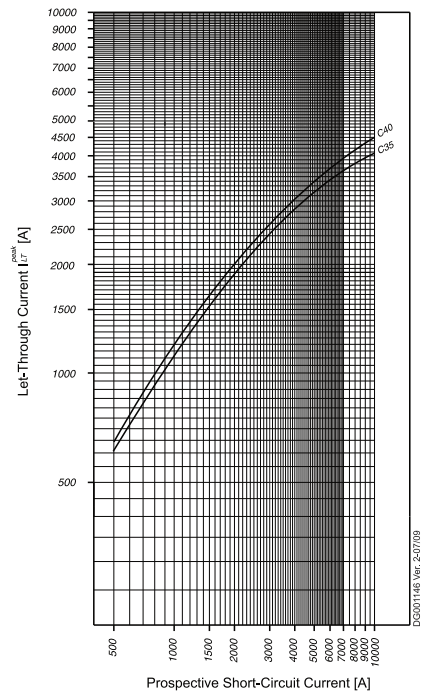


Maximum Let-Through Current FAZ-...-NA, -RT, -DU

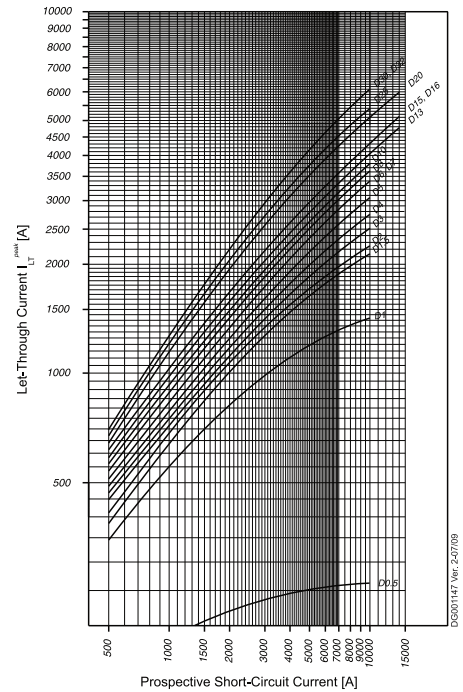
Type C (0.5 - 32 A), 277 V



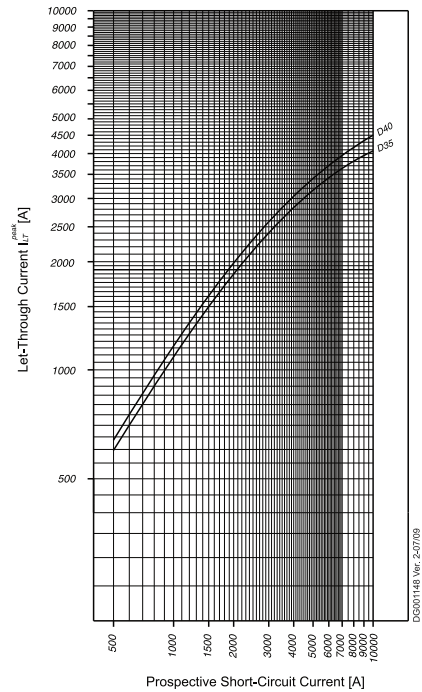
Type C (35 - 40 A), 240 V



Type D (0.5 - 32 A), 277 V



Type D (35 - 40 A), 240 V



## Miniature Circuit Breakers FAZ-NA-DC

SG56612



### FAZ-NA-DC

- High-quality miniature circuit breakers for DC-applications
- Contact position indicator red - green
- Guide for secure terminal connection (not for FAZ-NA)
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- Rated currents up to 40 A
- Tripping characteristic C
- Rated breaking capacity 10 kA according to IEC/EN 60947-2
- Up to 125 V DC per pole

## FAZ-...-NA-DC Miniature Circuit Breakers (MCBs)

### Characteristic C

SG56612



| Rated current<br>$I_n$ (A) | Rated voltage<br>IEC/EN<br>60947-2<br>(V DC) | Breaking capacity<br>acc. to<br>IEC/EN<br>60947-2<br>(kA) | Rated voltage<br>UL489<br>(V) | Breaking capacity<br>acc. to<br>UL489<br>(kA) | SWD | NFPA 79 | Type<br>Designation | Article No. | Units<br>per<br>package |
|----------------------------|----------------------------------------------|-----------------------------------------------------------|-------------------------------|-----------------------------------------------|-----|---------|---------------------|-------------|-------------------------|
|----------------------------|----------------------------------------------|-----------------------------------------------------------|-------------------------------|-----------------------------------------------|-----|---------|---------------------|-------------|-------------------------|

#### 1-pole

|    |     |    |     |    |  |  |                 |        |        |
|----|-----|----|-----|----|--|--|-----------------|--------|--------|
| 2  | 220 | 10 | 125 | 10 |  |  | FAZ-C2/1-NA-DC  | 113752 | 12/120 |
| 3  | 250 | 10 | 125 | 10 |  |  | FAZ-C3/1-NA-DC  | 113753 | 12/120 |
| 4  | 250 | 10 | 125 | 10 |  |  | FAZ-C4/1-NA-DC  | 113754 | 12/120 |
| 5  | 250 | 10 | 125 | 10 |  |  | FAZ-C5/1-NA-DC  | 113755 | 12/120 |
| 6  | 250 | 10 | 125 | 10 |  |  | FAZ-C6/1-NA-DC  | 113756 | 12/120 |
| 7  | 250 | 10 | 125 | 10 |  |  | FAZ-C7/1-NA-DC  | 113757 | 12/120 |
| 8  | 250 | 10 | 125 | 10 |  |  | FAZ-C8/1-NA-DC  | 113758 | 12/120 |
| 10 | 250 | 10 | 125 | 10 |  |  | FAZ-C10/1-NA-DC | 113759 | 12/120 |
| 13 | 250 | 10 | 125 | 10 |  |  | FAZ-C13/1-NA-DC | 113760 | 12/120 |
| 15 | 250 | 10 | 125 | 10 |  |  | FAZ-C15/1-NA-DC | 113761 | 12/120 |
| 16 | 250 | 10 | 125 | 10 |  |  | FAZ-C16/1-NA-DC | 113762 | 12/120 |
| 20 | 250 | 10 | 125 | 10 |  |  | FAZ-C20/1-NA-DC | 113763 | 12/120 |
| 25 | 250 | 10 | 125 | 10 |  |  | FAZ-C25/1-NA-DC | 113764 | 12/120 |
| 30 | 250 | 10 | 125 | 10 |  |  | FAZ-C30/1-NA-DC | 113765 | 12/120 |
| 32 | 250 | 10 | 125 | 10 |  |  | FAZ-C32/1-NA-DC | 113766 | 12/120 |
| 35 | 250 | 10 | 125 | 10 |  |  | FAZ-C35/1-NA-DC | 113767 | 12/120 |
| 40 | 250 | 10 | 125 | 10 |  |  | FAZ-C40/1-NA-DC | 113768 | 12/120 |

SG56612



#### 2-pole

|    |     |    |     |    |  |  |                 |        |      |
|----|-----|----|-----|----|--|--|-----------------|--------|------|
| 2  | 440 | 10 | 250 | 10 |  |  | FAZ-C2/2-NA-DC  | 137239 | 1/60 |
| 3  | 500 | 10 | 250 | 10 |  |  | FAZ-C3/2-NA-DC  | 137250 | 1/60 |
| 4  | 500 | 10 | 250 | 10 |  |  | FAZ-C4/2-NA-DC  | 137251 | 1/60 |
| 5  | 500 | 10 | 250 | 10 |  |  | FAZ-C5/2-NA-DC  | 137252 | 1/60 |
| 6  | 500 | 10 | 250 | 10 |  |  | FAZ-C6/2-NA-DC  | 120638 | 1/60 |
| 7  | 500 | 10 | 250 | 10 |  |  | FAZ-C7/2-NA-DC  | 120639 | 1/60 |
| 8  | 500 | 10 | 250 | 10 |  |  | FAZ-C8/2-NA-DC  | 120640 | 1/60 |
| 10 | 500 | 10 | 250 | 10 |  |  | FAZ-C10/2-NA-DC | 120641 | 1/60 |
| 13 | 500 | 10 | 250 | 10 |  |  | FAZ-C13/2-NA-DC | 120642 | 1/60 |
| 15 | 500 | 10 | 250 | 10 |  |  | FAZ-C15/2-NA-DC | 120643 | 1/60 |
| 16 | 500 | 10 | 250 | 10 |  |  | FAZ-C16/2-NA-DC | 120644 | 1/60 |
| 20 | 500 | 10 | 250 | 10 |  |  | FAZ-C20/2-NA-DC | 120645 | 1/60 |
| 25 | 500 | 10 | 250 | 10 |  |  | FAZ-C25/2-NA-DC | 120646 | 1/60 |
| 30 | 500 | 10 | 250 | 10 |  |  | FAZ-C30/2-NA-DC | 120647 | 1/60 |
| 32 | 500 | 10 | 250 | 10 |  |  | FAZ-C32/2-NA-DC | 120648 | 1/60 |
| 35 | 500 | 10 | 250 | 10 |  |  | FAZ-C35/2-NA-DC | 120649 | 1/60 |
| 40 | 500 | 10 | 250 | 10 |  |  | FAZ-C40/2-NA-DC | 120650 | 1/60 |



## Specifications FAZ-NA-DC

### Technical data

|                  | FAZ-NA-DC                 |
|------------------|---------------------------|
| Product standard | UL 489, CSA C22.2 No 5-02 |
| Number of poles  | 1, 2                      |

### Mechanical specifications

|                                             |                                                                 |
|---------------------------------------------|-----------------------------------------------------------------|
| Device width                                | 1 pole = 0.697 inch, 2 poles = 1.394 inch                       |
| Frame size                                  | 1.772 inch                                                      |
| Socket size                                 | 4.134 inch                                                      |
| Device depth                                | 2.362 inch                                                      |
| Terminals                                   | lift terminal / ring-tongue                                     |
| Terminal capacity rigid solid/stranded wire | 1 Wire: AWG 18-6 (Cu only)<br>2 Wires: AWG 18-10 (Cu only)      |
| Terminal screw                              | M5 (with slotted screw Pozidriv PZ2)                            |
| Terminal torque                             | #18-12 AWG: 21 lb-in<br>#10-8 AWG: 25 lb-in<br>#6 AWG: 36 lb-in |
| Snap on fixing                              | tristable (on DIN Rail acc. to IEC/EN 60715)                    |
| Finger proof                                | acc.to VBG4, ÖVE EN-6                                           |
| Contact position indicator                  | red / green                                                     |

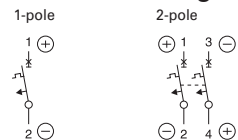
### Electrical specifications

|                                 |           |                                                               |
|---------------------------------|-----------|---------------------------------------------------------------|
| Rated voltage DC                | $U_n$     | 125 V d.c. (1p)<br>250 V d.c. (2p)                            |
| Rated current                   | $I_n$     | 2, 3, 4, 5, 6, 7, 8, 10, 13, 15, 16, 20, 25, 30, 32, 35, 40 A |
| Rated impulse withstand voltage | $U_{imp}$ | 4 kV (1.2/50)µsec                                             |

### Tripping characteristic

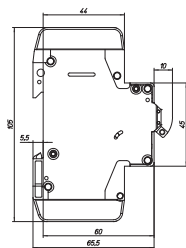
|                                       |                                                                         |
|---------------------------------------|-------------------------------------------------------------------------|
| Conventional non-tripping current     | $I_{nt}=1.0\ I_n$                                                       |
| Conventional tripping current         | $I_t=1.35\ I_n$                                                         |
| Reference temperature                 | 40 °C                                                                   |
| Temperature factor                    | 0.5% /K                                                                 |
| Instantaneous tripping current        | $I_{mt}\ 7\ I_n < I_{mt} = 15\ I_n \cdot t\ (I_{mt}) < 0.1\ \text{sec}$ |
| Current interrupting rating           | 10 kA                                                                   |
| Number of electrical operating cycles | 6000                                                                    |
| Number of mechanical operating cycles | 10000                                                                   |
| Climatic conditions                   | acc. to IEC 68-2 (25..55°C / 90..95% RH)                                |
| Operating temperature range           | -25°C to +55°C                                                          |

### Connection diagram

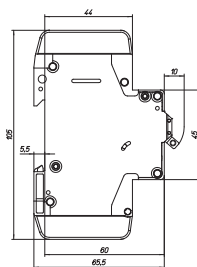


Dimensions (mm) FAZ-NA-DC

1-pole

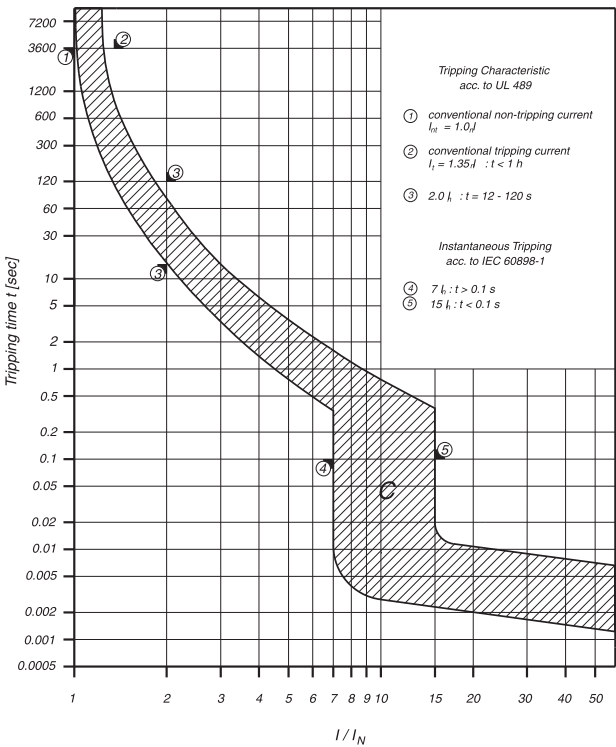


2-pole



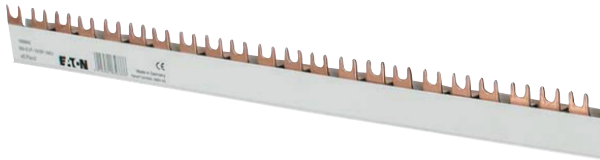
Tripping Characteristic FAZ-NA-DC

Characteristics C - UL 489



## Busbar System xEffect BB-EV

SG13113



### Busbar System xEffect at a glance:

- Yard goods can be cut
- No cutting back of copper required
- No deburring required
- Almost no waste during cutting
- End caps available with 1- to 4-poles, end caps can be broken out for further extensions
- 4-pole end cap molded in pairs (left and right)
- Overlapping rail extension possible
- Rails can be extended on demand by 1-pole rails (plug-in technology)
- All step distances
- 10 and 16 mm<sup>2</sup>
- Fork and stud
- Lugs can be broken out at any predetermined breaking point
- Self adhesive phase indication labels available
- Contact preventing caps (ZV-BS-G) can be used
- Simple, flexible handling
- All assembly requirements can be covered by the Busbar System xEffect
- Low storage space requirements due to modular system
- Less time consuming (no deburring, no cutting back)
- Individual and self configurable
- Fork-pin combination for 1+N application possible, feeding through rail (terminal clamp) not possible.
- Protected technology

Busbar System xEffect is the modular design system for busbars. xEffect busbars are available as yard goods with 1, 2 or 3 poles. Now, there is a special feature: each bar can easily be extended by one-pole bar as you like. The additional pole can be added completely without tools by easy clamping technique. The lugs or forks in the xEffect bars - available in 10 and 16 mm<sup>2</sup> and all common distances - can be broken out at a predetermined breaking point. There is actually no more flexibility available.

### Busbar System xEffect saves time and material

The yard good can be cut with a saw of course. However, there is no need neither for deburring nor for cutting the conductor. Just cut to the required dimension and close with the fitting end cap - ready! The end caps have also breakable edges, which enable further connecting of the Busbar System xEffect. By overlapping assembly, doubling the cross section can be achieved.

### Busbar System xEffect in use

Busbar System xEffect is especially well suited for solving flexible busbar applications rack-mounted models in series. Fork-pin combinations for 1+N applications can be realized by individual combinations - for this also the one-pole version with blue isolation is available besides the one with grey isolation. Even different cross sections can be combined in this case.

Accessories, such as feeder terminals and self adhesive phase marking labels will complete the comfortable total package. Existing contact prevention caps can be used.

| Description | Step Distance (mm) | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|--------------------|-----------|------------------|-------------|-------------------|
|-------------|--------------------|-----------|------------------|-------------|-------------------|

## xEffect busbar 1m 10mm<sup>2</sup>, 16mm<sup>2</sup> (Fork) BB-EVF

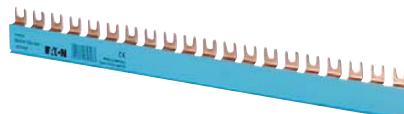
for MCBs, RCCBs, RCBOs, SPDs

- Delivered without end caps

SG13113



SG13413



SG13213



SG13613



### 10 mm<sup>2</sup>, Rated Current 63 A

|               |            |      |                      |        |    |
|---------------|------------|------|----------------------|--------|----|
| 1-phase       | 17.8       | 0.22 | BB-EVF-10/1P-1MU     | 168826 | 10 |
|               | 27         | 0.24 | BB-EVF-10/1P-2MU     | 168830 | 10 |
|               | 36         | 0.24 | BB-EVF-10/1P-3MU     | 168834 | 10 |
| 2-phase       | 17.8       | 0.31 | BB-EVF-10/2P-1MU     | 168838 | 10 |
|               | 27         | 0.36 | BB-EVF-10/2P-2MU     | 168840 | 10 |
| 3-phase       | 17.8       | 0.46 | BB-EVF-10/3P-1MU     | 168842 | 10 |
|               | 27         | 0.58 | BB-EVF-10/3P-2MU     | 168844 | 10 |
|               | 36         | 0.56 | BB-EVF-10/3P-3MU     | 168850 | 10 |
| 3-phase + AUX | 3x17.5+1x9 | 0.58 | BB-EVF-10/3P-1MU/AUX | 168846 | 10 |
|               | 3x17.5+2x9 | 0.57 | BB-EVF-10/3P-1MU2AUX | 168848 | 10 |
| Neutral       | 17.8       | 0.22 | BB-EVF-10/N-1MU      | 168828 | 10 |
|               | 27         | 0.24 | BB-EVF-10/N-2MU      | 168832 | 10 |
|               | 36         | 0.24 | BB-EVF-10/N-3MU      | 168836 | 10 |

### 16 mm<sup>2</sup>, Rated Current 80 A

|               |            |      |                      |        |    |
|---------------|------------|------|----------------------|--------|----|
| 1-phase       | 17.8       | 0.33 | BB-EVF-16/1P-1MU     | 168827 | 10 |
|               | 27         | 0.36 | BB-EVF-16/1P-2MU     | 168831 | 10 |
|               | 36         | 0.32 | BB-EVF-16/1P-3MU     | 168835 | 10 |
| 2-phase       | 17.8       | 0.46 | BB-EVF-16/2P-1MU     | 168839 | 10 |
|               | 27         | 0.54 | BB-EVF-16/2P-2MU     | 168841 | 10 |
| 3-phase       | 17.8       | 0.69 | BB-EVF-16/3P-1MU     | 168843 | 10 |
|               | 27         | 0.87 | BB-EVF-16/3P-2MU     | 168845 | 10 |
|               | 36         | 0.84 | BB-EVF-16/3P-3MU     | 168851 | 10 |
| 3-phase + AUX | 3x17.5+1x9 | 0.87 | BB-EVF-16/3P-1MU/AUX | 168847 | 10 |
|               | 3x17.5+2x9 | 0.86 | BB-EVF-16/3P-1MU2AUX | 168849 | 10 |
| Neutral       | 17.8       | 0.33 | BB-EVF-16/N-1MU      | 168829 | 10 |
|               | 27         | 0.36 | BB-EVF-16/N-2MU      | 168833 | 10 |
|               | 36         | 0.32 | BB-EVF-16/N-3MU      | 168837 | 10 |

| Description | Step Distance (mm) | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|--------------------|-----------|------------------|-------------|-------------------|
|-------------|--------------------|-----------|------------------|-------------|-------------------|

## xEffect busbar 1m 10mm<sup>2</sup>, 16mm<sup>2</sup> (Pin) BB-EVP

for MCBs, RCCBs, RCBOs, SPDs

- Delivered without end caps

SG13013



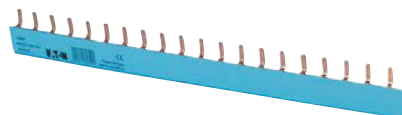
SG13513



SG12913



SG13313



### 10 mm<sup>2</sup>, Rated Current 63 A

|               |            |      |                      |        |    |
|---------------|------------|------|----------------------|--------|----|
| 1-phase       | 17.8       | 0.22 | BB-EVP-10/1P-1MU     | 168852 | 10 |
|               | 27         | 0.24 | BB-EVP-10/1P-2MU     | 168856 | 10 |
|               | 36         | 0.24 | BB-EVP-10/1P-3MU     | 168860 | 10 |
| 2-phase       | 17.8       | 0.31 | BB-EVP-10/2P-1MU     | 168864 | 10 |
|               | 27         | 0.36 | BB-EVP-10/2P-2MU     | 168866 | 10 |
| 3-phase       | 17.8       | 0.46 | BB-EVP-10/3P-1MU     | 168868 | 10 |
|               | 27         | 0.58 | BB-EVP-10/3P-2MU     | 168870 | 10 |
|               | 36         | 0.56 | BB-EVP-10/3P-3MU     | 168876 | 10 |
| 3-phase + AUX | 3x17.5+1x9 | 0.58 | BB-EVP-10/3P-1MU/AUX | 168872 | 10 |
|               | 3x17.5+2x9 | 0.57 | BB-EVP-10/3P-1MU2AUX | 168874 | 10 |
| Neutral       | 17.8       | 0.22 | BB-EVP-10/N-1MU      | 168854 | 10 |
|               | 27         | 0.24 | BB-EVP-10/N-2MU      | 168858 | 10 |
|               | 36         | 0.24 | BB-EVP-10/N-3MU      | 168862 | 10 |

### 16 mm<sup>2</sup>, Rated Current 80 A

|               |            |      |                      |        |    |
|---------------|------------|------|----------------------|--------|----|
| 1-phase       | 17.8       | 0.33 | BB-EVP-16/1P-1MU     | 168853 | 10 |
|               | 27         | 0.36 | BB-EVP-16/1P-2MU     | 168857 | 10 |
|               | 36         | 0.32 | BB-EVP-16/1P-3MU     | 168861 | 10 |
| 2-phase       | 17.8       | 0.46 | BB-EVP-16/2P-1MU     | 168865 | 10 |
|               | 27         | 0.54 | BB-EVP-16/2P-2MU     | 168867 | 10 |
| 3-phase       | 17.8       | 0.69 | BB-EVP-16/3P-1MU     | 168869 | 10 |
|               | 27         | 0.87 | BB-EVP-16/3P-2MU     | 168871 | 10 |
|               | 36         | 0.84 | BB-EVP-16/3P-3MU     | 168877 | 10 |
| 3-phase + AUX | 3x17.5+1x9 | 0.87 | BB-EVP-16/3P-1MU/AUX | 168873 | 10 |
|               | 3x17.5+2x9 | 0.86 | BB-EVP-16/3P-1MU2AUX | 168875 | 10 |
| Neutral       | 17.8       | 0.33 | BB-EVP-16/N-1MU      | 168855 | 10 |
|               | 27         | 0.36 | BB-EVP-16/N-2MU      | 168859 | 10 |
|               | 36         | 0.32 | BB-EVP-16/N-3MU      | 168863 | 10 |

| Description | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|-----------|------------------|-------------|-------------------|
|-------------|-----------|------------------|-------------|-------------------|

## Accessories

### End caps BB-EV-EC

wa\_eg05612



|           |   |               |        |    |
|-----------|---|---------------|--------|----|
| 1-phase   | - | BB-EV-EC/1P   | 168878 | 40 |
| 2+3-phase | - | BB-EV-EC/2-3P | 168823 | 40 |
| 4-phase   | - | BB-EV-EC/4P   | 168824 | 20 |
| Neutral   | - | BB-EV-EC/N    | 168879 | 20 |

### Terminal BB-EV-TE/35

wa\_eg05312



|  |      |             |        |   |
|--|------|-------------|--------|---|
|  | 0.04 | BB-EV-TE/35 | 168825 | 3 |
|--|------|-------------|--------|---|

### Sticker phase sequence

SG08713



|  |   |         |        |   |
|--|---|---------|--------|---|
|  | - | BB-S-PS | 169831 | 5 |
|--|---|---------|--------|---|

### Busbar Tag Shrouds ZV-BS-G

SG05705



|  |   |         |        |        |
|--|---|---------|--------|--------|
|  | - | ZV-BS-G | 104903 | 10/600 |
|--|---|---------|--------|--------|

## Technical Data

### General

|                             |                                                     |
|-----------------------------|-----------------------------------------------------|
| Heat deflection temperature | ≥80°C UL94 V0                                       |
| Standards                   | EN 60947-1:2007 / IEC 60947-1:2007 / IEC 60999:2000 |
| Climate stability           | according to DIN EN 60068                           |
| Insulation coordination     | Overvoltage category III / Degree of pollution 2    |

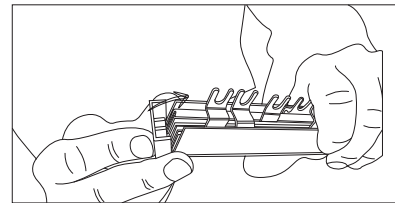
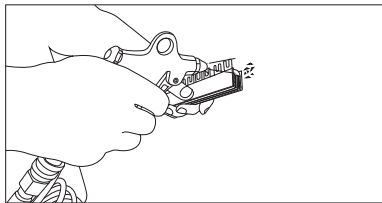
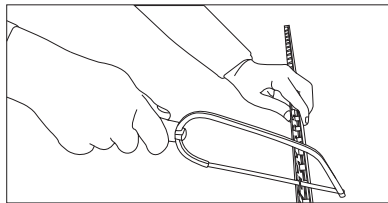
### Electrical

|                          |                                       |
|--------------------------|---------------------------------------|
| Impulse voltage strenght | ≥4.5 kV                               |
| Min. air distance        | >5.5 mm                               |
| Min. creeping distance   | >5 mm                                 |
| Max. operating voltage   | 690 V AC/DC<br>1,000 V DC 1-pole only |

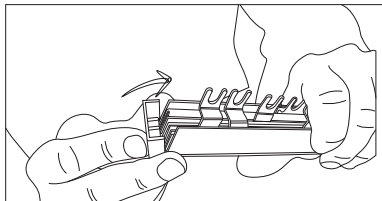
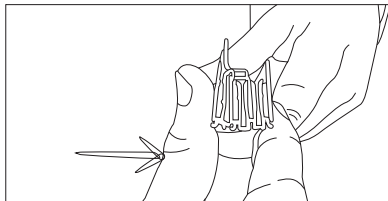
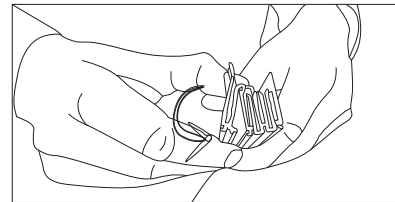
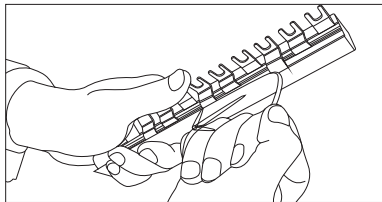
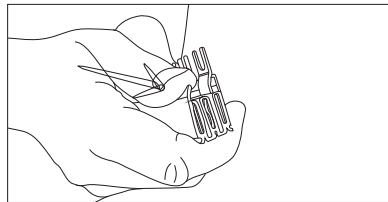
|                               |                              |
|-------------------------------|------------------------------|
| Max. current $I_s$ /Phase     |                              |
| 10 mm <sup>2</sup>            | 63 A                         |
| 16 mm <sup>2</sup>            | 80 A                         |
| Protection class              | IP20                         |
| Short circuit rating $I_{cc}$ | 25kA - NH3 355A<br>gC500V JM |
| Dielectric strenght           | PC - ABS >32 kV / mm         |

## Assembly instruction:

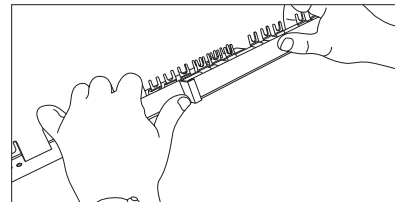
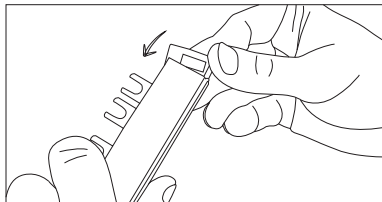
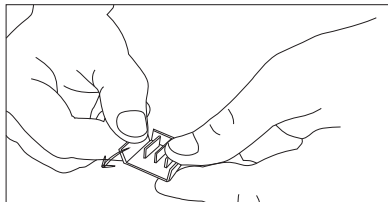
### Cutting



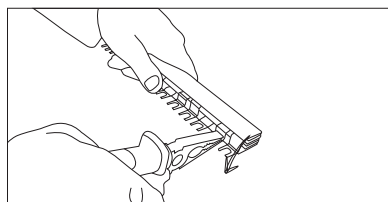
### Mounting of an extension busbar



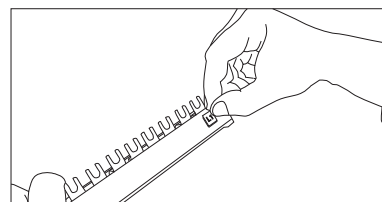
### Overlapping mounting or further connection, resp.



### Breacking out of connection lugs



### Sticking on phase marking



## Busbar UL489 Z-BB/UL

SG13713



- For MCB FAZ-NA/RT/DU
- Sliceable
- 18 and 25 mm<sup>2</sup>
- Pin busbar
- Accessories available:
  - End cap
  - Terminal
  - Busbar tag shrouds
- Length 1 m

| Description | Step Distance (mm) | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|--------------------|-----------|------------------|-------------|-------------------|
|-------------|--------------------|-----------|------------------|-------------|-------------------|

## Busbar UL489 sliceable 1m 18mm<sup>2</sup>, 25mm<sup>2</sup> (Pin), Z-BB/UL

for FAZ-NA/RT/DU

- Delivered without end caps

SG13713



### 18 mm<sup>2</sup>, Rated Current 80 A

|                  |                |       |                          |        |    |
|------------------|----------------|-------|--------------------------|--------|----|
| 1-phase          | 17.6           | 0.39  | Z-BB/UL18/1P1MU/57       | 171128 | 10 |
| 1-phase + AUX    | 26.4           | 0.378 | Z-BB/UL18/1P1MU+AUX/37   | 171134 | 10 |
| 2x 1-phase + AUX | 26.4           | 0.56  | Z-BB/UL18/2X1P1MU+AUX/38 | 171142 | 10 |
| 3x 1-phase + AUX | 26.4           | 0.945 | Z-BB/UL18/3X1P1MU+AUX/39 | 171140 | 10 |
| 2-phase          | 17.6           | 0.625 | Z-BB/UL18/2P1MU/56       | 171129 | 10 |
| 2-phase + AUX    | 17.6 + 26.4    | 0.625 | Z-BB/UL18/2P1MU+AUX/46   | 171135 | 10 |
| 3-phase          | 17.6           | 0.95  | Z-BB/UL18/3P1MU/57       | 171130 | 10 |
| 3-phase + AUX    | 2x 17.6 + 26.4 | 0.93  | Z-BB/UL18/3P1MU+AUX/48   | 171136 | 10 |

SG14213



### 25 mm<sup>2</sup>, Rated Current 100 A

|                  |                |       |                          |        |    |
|------------------|----------------|-------|--------------------------|--------|----|
| 1-phase          | 17.6           | 0.535 | Z-BB/UL25/1P1MU/57       | 171131 | 10 |
| 1-phase + AUX    | 26.4           | 0.745 | Z-BB/UL25/1P1MU+AUX/37   | 171137 | 10 |
| 2x 1-phase + AUX | 26.4           | 0.78  | Z-BB/UL25/2X1P1MU+AUX/38 | 171143 | 10 |
| 3x 1-phase + AUX | 26.4           | 1.315 | Z-BB/UL25/3X1P1MU+AUX/39 | 171141 | 10 |
| 2-phase          | 17.6           | 0.888 | Z-BB/UL25/2P1MU/56       | 171132 | 10 |
| 2-phase + AUX    | 17.6 + 26.4    | 0.87  | Z-BB/UL25/2P1MU+AUX/46   | 171138 | 10 |
| 3-phase          | 17.6           | 1.31  | Z-BB/UL25/3P1MU/57       | 171133 | 10 |
| 3-phase + AUX    | 2x 17.6 + 26.4 | 1.28  | Z-BB/UL25/3P1MU+AUX/48   | 171139 | 10 |

| Description | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|-----------|------------------|-------------|-------------------|
|-------------|-----------|------------------|-------------|-------------------|

## Accessories

### End cap Z-ECUL

|   |        |        |    |
|---|--------|--------|----|
| - | Z-ECUL | 171145 | 10 |
|---|--------|--------|----|

### Terminal Z-TEUL35

|       |          |        |    |
|-------|----------|--------|----|
| 0,038 | Z-TEUL35 | 171144 | 10 |
|-------|----------|--------|----|

### Busbar Tag Shrouds Z-FPUL

SG08613



|   |        |        |    |
|---|--------|--------|----|
| - | Z-FPUL | 171146 | 10 |
|---|--------|--------|----|



## Description of the Busbar UL489, Z-BB/UL for FAZ-NA, -RT, -DU

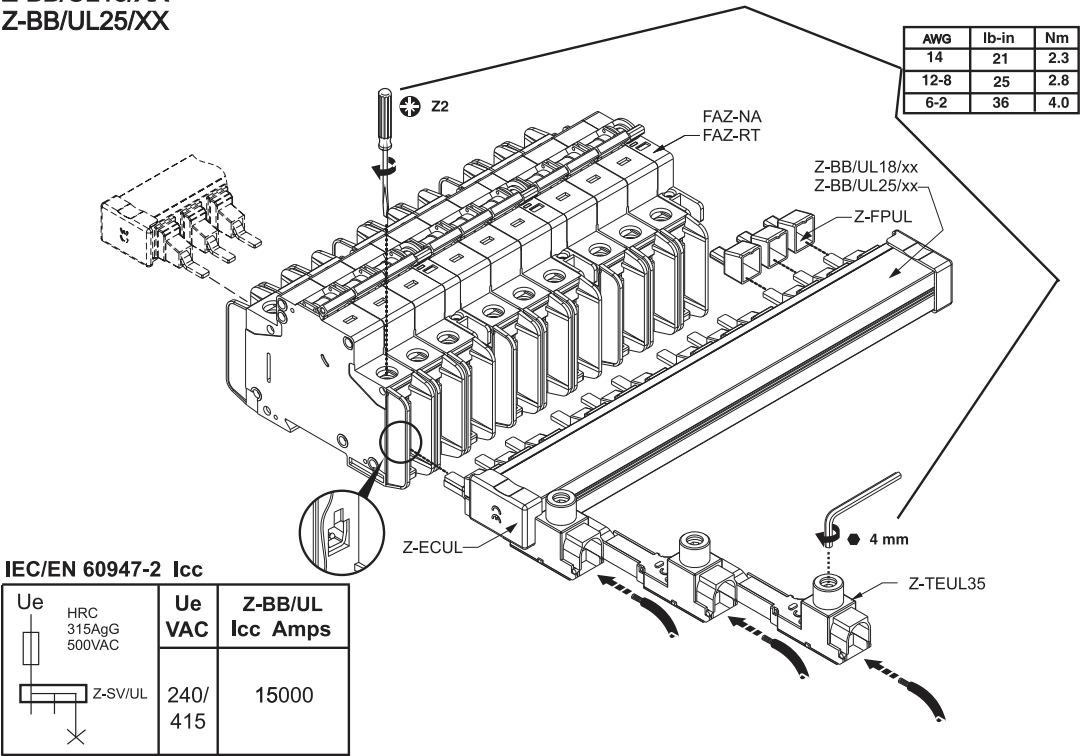
|                        |        |  |  |  |  |  |  |  |  |
|------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Z-BB/UL18/1P1MU/57     | 171128 | 57                                                                                | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL18/2P1MU/56     | 171129 | -                                                                                 | 56                                                                                | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL18/3P1MU/57     | 171130 | -                                                                                 | -                                                                                 | 57                                                                                | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL25/1P1MU/57     | 171131 | 57                                                                                | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL25/2P1MU/56     | 171132 | -                                                                                 | 56                                                                                | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL25/3P1MU/57     | 171133 | -                                                                                 | -                                                                                 | 57                                                                                | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL18/1P1MU+AUX/37 | 171134 | -                                                                                 | -                                                                                 | -                                                                                 | 37                                                                                | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL18/2P1MU+AUX/46 | 171135 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | 46                                                                                  | -                                                                                   |
| Z-BB/UL18/3P1MU+AUX/48 | 171136 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | 48                                                                                  |
| Z-BB/UL25/1P1MU+AUX/37 | 171137 | -                                                                                 | -                                                                                 | -                                                                                 | 37                                                                                | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL25/2P1MU+AUX/46 | 171138 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | 46                                                                                  | -                                                                                   |
| Z-BB/UL25/3P1MU+AUX/48 | 171139 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | 48                                                                                  |
| Z-BB/UL18/3X1MU+AUX/39 | 171140 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 39                                                                                 | -                                                                                   | -                                                                                   |
| Z-BB/UL25/3X1MU+AUX/39 | 171141 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 39                                                                                 | -                                                                                   | -                                                                                   |
| Z-BB/UL18/2X1MU+AUX/38 | 171142 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 38                                                                                | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-BB/UL25/2X1MU+AUX/38 | 171143 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | 38                                                                                | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-TEUL35               | 171144 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-ECUL                 | 171145 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| Z-FPUL                 | 171146 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |

## Technical Data

| Z-BB/UL                              |                                                  |
|--------------------------------------|--------------------------------------------------|
| <b>General</b>                       |                                                  |
| Heat deflection temperature          | >100°C - UL94 V0                                 |
| Standards                            | UL489, EN 60947-1, IEC 60947-1:2004              |
| Climate stability                    | according to DIN EN 60068                        |
| Insulation coordination              | Overvoltage category III / Degree of pollution 2 |
| <b>Electrical</b>                    |                                                  |
| Impulse voltage strenght             | ≥10 kV                                           |
| Min. air distance                    | ≥1" ext.                                         |
| Min. creeping distance               | ≥2" ext.                                         |
| Max. operating voltage               |                                                  |
| 1-pole                               | 1,000 V AC/DC                                    |
| 2-, 3-pole                           | 600 V AC/DC                                      |
| Max. current I <sub>s</sub> /Phase   |                                                  |
| 18 mm <sup>2</sup>                   | 80 A                                             |
| 25 mm <sup>2</sup>                   | 100 A                                            |
| Protection class                     | IP20                                             |
| Short circuit rating I <sub>CC</sub> | 10 kA                                            |
| Dielectric strenght                  | PA66-V0, >35 kV                                  |

Mounting example of busbar UL489, Z-BB/UL for FAZ-NA, -RT, -DU

Z-BB/UL18/XX  
Z-BB/UL25/XX



IEC/EN 60947-2 Icc

|         |                         |             |                     |
|---------|-------------------------|-------------|---------------------|
| Ue      | HRC<br>315AgG<br>500VAC | Ue<br>VAC   | Z-BB/UL<br>Icc Amps |
| Z-SV/UL |                         | 240/<br>415 | 15000               |

UL SCCR

|         |                                |              |                                 |
|---------|--------------------------------|--------------|---------------------------------|
| Ue      | FAZ-NA<br>FAZ-RT<br>In<br>Amps | Ue<br>VAC    | Z-BB/UL<br>SCCR RMS<br>Sym Amps |
| Z-SV/UL | 0.5-32                         | 480Y/<br>277 | 10000                           |
|         | 35-40                          | 240          | 10000                           |

## Busbar UL508 BB/UL

- For MCB FAZ
- Sliceable
- 18 and 25 mm<sup>2</sup>
- Pin busbar
- Accessories available:
  - End caps
  - Terminals
  - Busbar tag shrouds
- Length 1 m

| Description | Step Distance (mm) | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|--------------------|-----------|------------------|-------------|-------------------|
|-------------|--------------------|-----------|------------------|-------------|-------------------|

## Busbar UL508 sliceable 1m 18mm<sup>2</sup>, 25mm<sup>2</sup> (Pin), BB/UL

for FAZ

- Delivered without end caps

### 18 mm<sup>2</sup>, Rated Current 80 A

|               |                |       |                        |        |    |
|---------------|----------------|-------|------------------------|--------|----|
| 1-phase       | 17.8           | 0.33  | BB-UL-18/1P-1M/57      | 121981 | 10 |
| 2-phase       | 17.8           | 0.508 | BB-UL-18/2P-2M/56      | 121982 | 10 |
| 3-phase       | 17.8           | 0.8   | BB-UL-18/3P-3M/57      | 121983 | 10 |
| 1-phase + AUX | 27             | 0.33  | BB-UL-18/1P-1,5M/37    | 121984 | 10 |
| 2-phase + AUX | 17.8 + 26.7    | 0.52  | BB-UL-18/2P+AS-2,5M/46 | 121987 | 10 |
| 3-phase + AUX | 2x 17.8 + 26.7 | 0.8   | BB-UL-18/3P+AS-3,5M/48 | 121988 | 10 |

### 25 mm<sup>2</sup>, Rated Current 100 A

|               |                |      |                        |        |    |
|---------------|----------------|------|------------------------|--------|----|
| 1-phase       | 17.8           | 0.45 | BB-UL-25/1P-1M/57      | 121989 | 10 |
| 2-phase       | 17.8           | 0.68 | BB-UL-25/2P-2M/56      | 121990 | 10 |
| 3-phase       | 17.8           | 1.07 | BB-UL-25/3P-3M/57      | 121991 | 10 |
| 1-phase + AUX | 27             | 0.45 | BB-UL-25/1P-1,5M/37    | 121992 | 10 |
| 2-phase + AUX | 17.8 + 26.7    | 0.69 | BB-UL-25/2P+AS-2,5M/46 | 121995 | 10 |
| 3-phase + AUX | 2x 17.8 + 26.7 | 1.03 | BB-UL-25/3P+AS-3,5M/48 | 121996 | 10 |

| Description | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|-----------|------------------|-------------|-------------------|
|-------------|-----------|------------------|-------------|-------------------|

## Accessories

### End caps BB-UL-EC

|           |   |            |        |    |
|-----------|---|------------|--------|----|
| 1-phasing | - | BB-UL-EC/1 | 122000 | 10 |
| 3-phasing | - | BB-UL-EC/3 | 122001 | 10 |

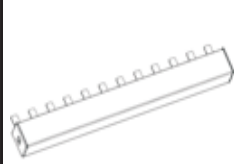
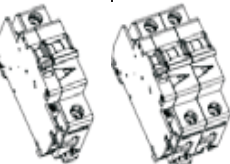
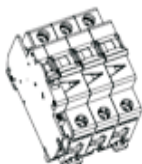
### Terminals BB-UL-TE

|                                               |       |               |        |    |
|-----------------------------------------------|-------|---------------|--------|----|
| 6 - 35mm <sup>2</sup> (single and multi wire) | 0,035 | BB-UL-TEP/35  | 121997 | 10 |
| 6 - 50mm <sup>2</sup>                         | 0,038 | BB-UL-TEPA/35 | 169823 | 10 |
| 6 - 50mm <sup>2</sup> (single and multi wire) | 0,038 | BB-UL-TE/50   | 121998 | 10 |

### Busbar Tag Shrouds BB-IP/5

|            |   |         |        |    |
|------------|---|---------|--------|----|
| for 5 pins | - | BB-IP/5 | 121999 | 10 |
|------------|---|---------|--------|----|

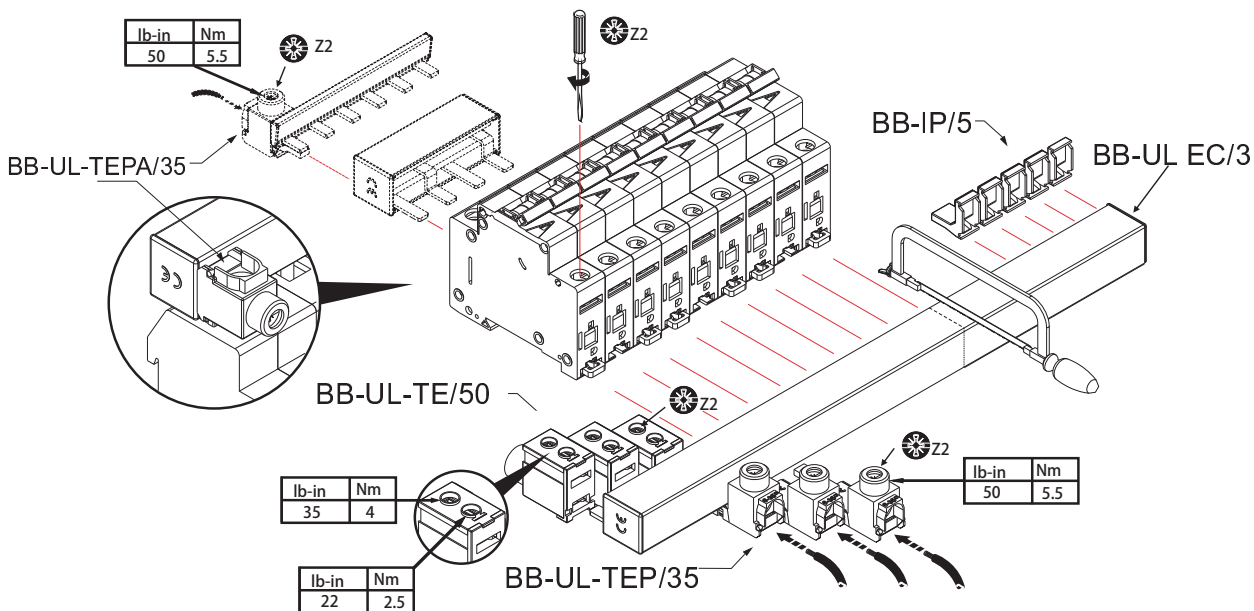
## Description of the Busbar UL508, BB/UL for FAZ

| Article No. |                        |  |  |  |  |  |  |
|-------------|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 121981      | BB-UL-18/1P-1M/57      | 57                                                                                | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 121982      | BB-UL-18/2P-2M/56      | -                                                                                 | 28                                                                                | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 121983      | BB-UL-18/3P-3M/57      | -                                                                                 | -                                                                                 | 19                                                                                | -                                                                                  | -                                                                                   | -                                                                                   |
| 121984      | BB-UL-18/1P-1,5M/37    | -                                                                                 | -                                                                                 | -                                                                                 | 37                                                                                 | -                                                                                   | -                                                                                   |
| 121987      | BB-UL-18/2P+AS-2,5M/46 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | 23                                                                                  | -                                                                                   |
| 121988      | BB-UL-18/3P+AS-3,5M/48 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | 16                                                                                  |
| 121989      | BB-UL-25/1P-1M/57      | 57                                                                                | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 121990      | BB-UL-25/2P-2M/56      | -                                                                                 | 28                                                                                | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 121991      | BB-UL-25/3P-3M/57      | -                                                                                 | -                                                                                 | 19                                                                                | -                                                                                  | -                                                                                   | -                                                                                   |
| 121992      | BB-UL-25/1P-1,5M/37    | -                                                                                 | -                                                                                 | -                                                                                 | 37                                                                                 | -                                                                                   | -                                                                                   |
| 121995      | BB-UL-25/2P+AS-2,5M/46 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | 23                                                                                  | -                                                                                   |
| 121996      | BB-UL-25/3P+AS-3,5M/48 | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | 16                                                                                  |
| 121997      | BB-UL-TEP/35           | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 169823      | BB-UL-TEPA/35          | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 121998      | BB-UL-TE/50            | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 121999      | BB-IP/5                | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 122000      | BB-UL-EC/1             | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |
| 122001      | BB-UL-EC/3             | -                                                                                 | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   |

## Technical Data

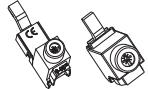
| Z-BB/UL                            |                                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------|
| <b>General</b>                     |                                                                                             |
| Heat deflection temperature        | 125°C - UL94 V0                                                                             |
| Standards                          | DIN EN 60947-2, VDE 0660 - 101 = IEC 60947-2, IEC 60999:2000, UL508, UL486A, CSA C22.2      |
| Climate stability                  | according to DIN EN 60068                                                                   |
| Insulation coordination            | Overvoltage category III / Degree of pollution 2                                            |
| <b>Electrical</b>                  |                                                                                             |
| Impulse voltage strenght           | ≥9.5 kV                                                                                     |
| Min. air distance                  | >9.5 mm                                                                                     |
| Min. creeping distance             | >12.7 mm                                                                                    |
| Max. operating voltage             |                                                                                             |
| 1-pole                             | 1,000 V AC/DC                                                                               |
| 2-, 3-pole                         | IEC/EN 690 V AC/DC<br>600 V AC/DC UL Fuse<br>480 V AC/DC UL-SP                              |
| Terminals                          | 1, 000 V AC/DC                                                                              |
| Max. current I <sub>g</sub> /Phase |                                                                                             |
| 18 mm <sup>2</sup>                 | 80 A (feed in the center: 160 A)                                                            |
| 25 mm <sup>2</sup>                 | 100 A (feed in the center: 200 A)                                                           |
| Protection class                   | IP20                                                                                        |
| Short circuit rating               | 10kA 3 cycles@480V / 100 kA Fuse Class J<br>175A@18mm <sup>2</sup> - 200A@25mm <sup>2</sup> |
| Dielectric strenght                | >32 kV/mm                                                                                   |

Mounting example of busbar UL508, BB/UL for FAZ



| BB-UL-TE/50                                                                         |                          |                                |
|-------------------------------------------------------------------------------------|--------------------------|--------------------------------|
|  | UL508                    | EN/IEC 60947-2                 |
| U <sub>e</sub>                                                                      | 480 V AC                 | 240/690V AC                    |
| f                                                                                   | 50/60 Hz                 | 50/60 Hz                       |
| I <sub>e</sub>                                                                      | 115 A @ 40° C            | 160 A @ 30° C                  |
|  | #1-14 AWG<br>60/75° C Cu | 1.5 – 50 mm <sup>2</sup><br>Cu |
|  | 0.56 in                  | 14 mm                          |

| BB-UL                                                                               |                   |                   |
|-------------------------------------------------------------------------------------|-------------------|-------------------|
|  | UL508             | EN/IEC 60947-2    |
| U <sub>e</sub>                                                                      | 480 V AC          | 690V AC           |
| f                                                                                   | 50/60 Hz          |                   |
| I <sub>pk</sub>                                                                     | 10kA              | 15kA              |
| I <sub>e</sub>                                                                      | 18mm <sup>2</sup> | 25mm <sup>2</sup> |
| Infeed at the start of the busbar                                                   | 80A@40° C         | 100A@30° C        |
| Infeed at the center of the busbar                                                  | 160A@40° C        | 200A@30° C        |

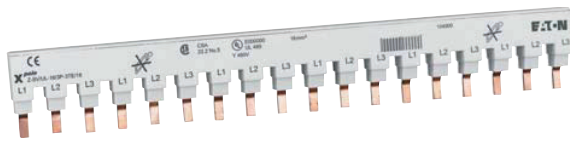
| BB-UL-TEP/35 / BB-UL-TEPA/35                                                        |                          |                                |
|-------------------------------------------------------------------------------------|--------------------------|--------------------------------|
|  | UL508                    | EN/IEC 60947-2                 |
| U <sub>e</sub>                                                                      | 480 V AC                 | 240/690V AC                    |
| f                                                                                   | 50/60 Hz                 | 50/60 Hz                       |
| I <sub>e</sub>                                                                      | 115 A@40° C              | 80 A@30° C                     |
|  | #2-14 AWG<br>60/75° C Cu | 2.5 – 35 mm <sup>2</sup><br>Cu |
|  | 0.56 in                  | 14 mm                          |

\*-UL508 SHORT CIRCUIT RATINGS

- SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN 10,000 RMS SYMETRICAL AMPERES, 600 VOLTS MAXIMUM.
- SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN 100,000 RMS SYMETRICAL AMPERES, 600 VOLTS MAXIMUM WHEN PROTECTED BY A CLASS J FUSE RATED 175A.

## Busbar UL489 Z-SV/UL16

wa\_sg03511



- For MCB FAZ-NA/RT/DU
- 16 mm<sup>2</sup>
- Pin busbar
- Accessories available:
  - Terminals
  - Busbar tag shrouds
- Several length

| Description | Step Distance (mm) | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|--------------------|-----------|------------------|-------------|-------------------|
|-------------|--------------------|-----------|------------------|-------------|-------------------|

## Busbar UL489 16mm<sup>2</sup> (Pin), Z-SV/UL16

for FAZ-NA/RT/DU, not sliceable!!

- Delivered with end caps

wa\_sg03511



### 16 mm<sup>2</sup>, Rated Current 80 A

|               |      |       |                      |        |    |
|---------------|------|-------|----------------------|--------|----|
| 1-phase, 6MU  | 17.6 | 0.035 | Z-SV/UL-16/1P-1MU/6  | 104892 | 10 |
| 1-phase, 12MU | 17.6 | 0.07  | Z-SV/UL-16/1P-1MU/12 | 104893 | 10 |
| 1-phase, 18MU | 17.6 | 0.105 | Z-SV/UL-16/1P-1MU/18 | 104894 | 10 |
| 2-phase, 6MU  | 17.6 | 0.07  | Z-SV/UL-16/2P-2MU/6  | 104895 | 10 |
| 2-phase, 12MU | 17.6 | 0.14  | Z-SV/UL-16/2P-2MU/12 | 104896 | 10 |
| 2-phase, 18MU | 17.6 | 0.21  | Z-SV/UL-16/2P-2MU/18 | 104897 | 10 |
| 3-phase, 6MU  | 17.6 | 0.14  | Z-SV/UL-16/3P-3MU/6  | 104898 | 10 |
| 3-phase, 12MU | 17.6 | 0.221 | Z-SV/UL-16/3P-3MU/12 | 104899 | 10 |
| 3-phase, 18MU | 17.6 | 0.332 | Z-SV/UL-16/3P-3MU/18 | 104900 | 10 |

| Description | Cu-factor | Type Designation | Article No. | Units per package |
|-------------|-----------|------------------|-------------|-------------------|
|-------------|-----------|------------------|-------------|-------------------|

## Accessories

### Terminals Z-TEUL35

SG07506



|                         |       |            |        |   |
|-------------------------|-------|------------|--------|---|
| 2.5 - 35mm <sup>2</sup> | 0.035 | Z-EK/35/UL | 104901 | 3 |
| 1.5 - 50mm <sup>2</sup> | 0.038 | Z-EB/50/UL | 104902 | 3 |

### Busbar Tag Shrouds Z-FPUL

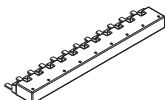
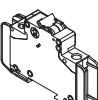
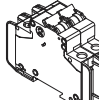
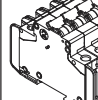
SG07706



|            |   |          |        |    |
|------------|---|----------|--------|----|
| for 3 pins | - | ZV-BS-UL | 104904 | 10 |
|------------|---|----------|--------|----|



## Description of the Busbar UL489, Z-SV/UL-16 for FAZ-NA/RT/DU

| Article No. |  |  |  |  |
|-------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 104892      | Z-SV/UL-16/1P-1TE/6                                                               | 6                                                                                 | -                                                                                 | -                                                                                 |
| 104893      | Z-SV/UL-16/1P-1TE/12                                                              | 12                                                                                | -                                                                                 | -                                                                                 |
| 104894      | Z-SV/UL-16/1P-1TE/18                                                              | 18                                                                                | -                                                                                 | -                                                                                 |
| 104895      | Z-SV/UL-16/2P-2TE/6                                                               | -                                                                                 | 3                                                                                 | -                                                                                 |
| 104896      | Z-SV/UL-16/2P-2TE/12                                                              | -                                                                                 | 6                                                                                 | -                                                                                 |
| 104897      | Z-SV/UL-16/2P-2TE/18                                                              | -                                                                                 | 9                                                                                 | -                                                                                 |
| 104898      | Z-SV/UL-16/3P-3TE/6                                                               | -                                                                                 | -                                                                                 | 2                                                                                 |
| 104899      | Z-SV/UL-16/3P-3TE/12                                                              | -                                                                                 | -                                                                                 | 4                                                                                 |
| 104900      | Z-SV/UL-16/3P-3TE/18                                                              | -                                                                                 | -                                                                                 | 6                                                                                 |
| 104901      | Z-EK/35/UL                                                                        | -                                                                                 | -                                                                                 | -                                                                                 |
| 104902      | Z-EB/50/UL                                                                        | -                                                                                 | -                                                                                 | -                                                                                 |
| 104904      | ZV-BS-UL                                                                          | -                                                                                 | -                                                                                 | -                                                                                 |

## Technical Data

| Z-SV/UL16                          |                                                                               |
|------------------------------------|-------------------------------------------------------------------------------|
| <b>General</b>                     |                                                                               |
| Heat deflection temperature        | 125°C - UL94 V0                                                               |
| Standards                          |                                                                               |
| Busbar                             | UL489, DIN EN 60947-1, VDE 0660 part 100 = IEC 60947-1:2004, IEC 60947-2:2003 |
| Terminal                           | IEC 60999:2000, UL489, UL486A, CSA C22.2                                      |
| Climate stability                  | according to DIN EN 60068                                                     |
| Insulation coordination            | Overvoltage category III / Degree of pollution 2                              |
| <b>Electrical</b>                  |                                                                               |
| Impulse voltage strenght           | ≥9.5 kV (1kV / mmLS)                                                          |
| Min. air distance                  | >9.5mm/25.4mm (intern/external)                                               |
| Min. creeping distance             | >12.7mm/50.8mm (intern/external)                                              |
| Max. operating voltage             |                                                                               |
| 1-, 3-phase                        | 690 V IEC<br>480Y/277V & 240V AC                                              |
| Terminals                          | 1,000 V AC/DC                                                                 |
| Max. current I <sub>s</sub> /Phase | 80 A                                                                          |
| Protection class                   | IP20                                                                          |
| Short circuit rating               | 15kA with NH3 355 A gL 500V JM / 7.5kA 3 cycles @ 600V                        |
| Dielectric strenght                | >30 kV/mm                                                                     |

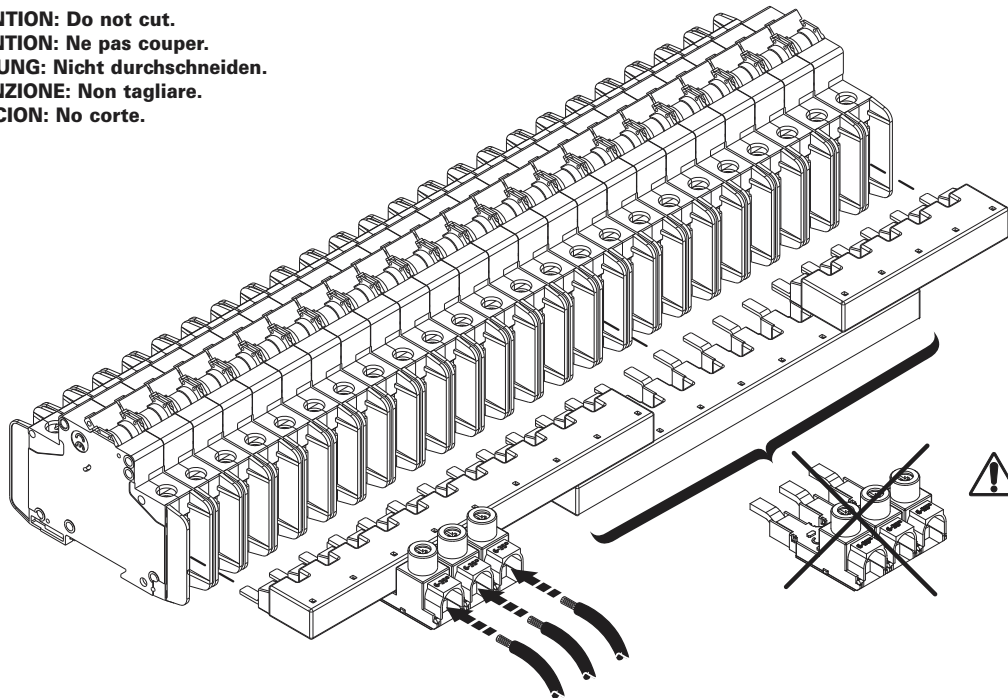
## Mounting example of busbar UL489, Z-SV/UL-16 for FAZ-NA, -RT, -DU

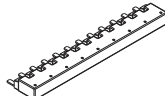


**ATTENTION:** Maximum of 3 commoning links allowed. Any combination of same pole configuration.  
**ATTENTION:** 3 liaisons communes autorisées au maximum. Toute combinaison de configurations de polarité identiques.  
**ACHTUNG:** Maximal 3 Schienenblöcke. Beliebige Kombination gleichpoliger Konfigurationen.  
**ATTENZIONE:** Sono consentiti al massimo 3 pettini di collegamento in qualsiasi combinazione della stessa configurazione di poli.  
**ATENCION:** Se permite un máximo de 3 enlaces comunes. Cualquier combinación del mismo tipo de configuración de polo

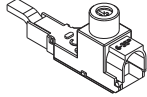


**ATTENTION:** Do not cut.  
**ATTENTION:** Ne pas couper.  
**ACHTUNG:** Nicht durchschneiden.  
**ATTENZIONE:** Non tagliare.  
**ATENCION:** No corte.

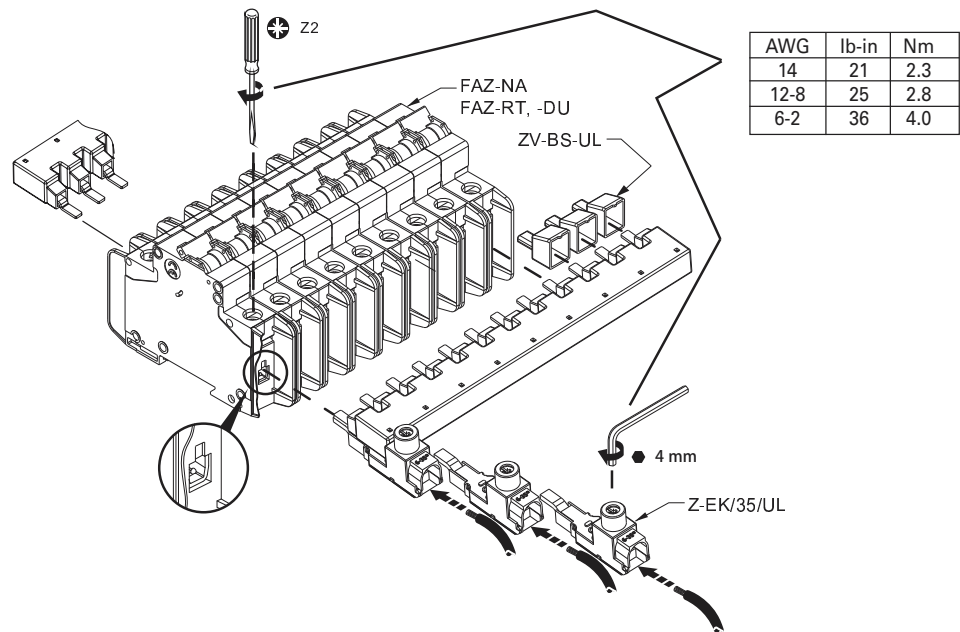


|                                                                                     |             |         |                    |
|-------------------------------------------------------------------------------------|-------------|---------|--------------------|
|  | UL489       |         | EN/IEC 00947-2     |
| $U_e$                                                                               | 480 V AC    | 96 V DC | 240/415 V AC       |
| $f$                                                                                 | 50/60 Hz    | -----   | 50/60 Hz           |
| $U_{imp}$                                                                           | -----       |         | 9.5 kV             |
| $I_e$                                                                               | 80 A @ 40°C |         | 80 A @ 30°C        |
| Cross section                                                                       | -----       |         | 16 mm <sup>2</sup> |

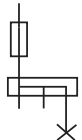
|                                                                                     |                         |         |                              |
|-------------------------------------------------------------------------------------|-------------------------|---------|------------------------------|
|  | UL489                   |         | EN/IEC 00947-2               |
| $U_e$                                                                               | 480 V AC                | 96 V DC | 240/415 V AC                 |
| $f$                                                                                 | 50/60 Hz                | -----   | 50/60 Hz                     |
| $U_{imp}$                                                                           | -----                   |         | 9.5 kV                       |
|  | #1-14 AWG<br>60/75°C Cu |         | 1.5-50 mm <sup>2</sup><br>Cu |
|  | 0.56 in                 |         | 14 mm                        |

|                                                                                      |                         |         |                              |
|--------------------------------------------------------------------------------------|-------------------------|---------|------------------------------|
|  | UL489                   |         | EN/IEC 00947-2               |
| $U_e$                                                                                | 480 V AC                | 96 V DC | 240/415 V AC                 |
| $f$                                                                                  | 50/60 Hz                | -----   | 50/60 Hz                     |
| $U_{imp}$                                                                            | -----                   |         | 9.5 kV                       |
| $I_e$                                                                                | 80 A @ 40°C             |         | 80 A @ 30°C                  |
|  | #2-14 AWG<br>60/75°C Cu |         | 2.5-35 mm <sup>2</sup><br>Cu |
|  | 0.56 in                 |         | 14 mm                        |

Mounting example of busbar UL489, Z-SV/UL-16 for FAZ-NA, -RT, -DU



IEC/EN 60947-2 lcc

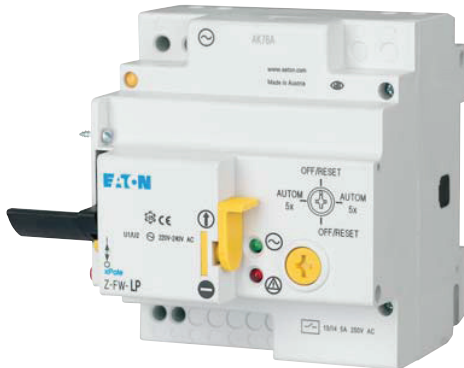
|                                                                                    |             |                     |
|------------------------------------------------------------------------------------|-------------|---------------------|
|  | Ue<br>VAC   | Z-SV/UL<br>lcc Amps |
|                                                                                    | 240/<br>415 | 15000               |

UL SCCR

|                                                                                     |                                    |              |                                 |
|-------------------------------------------------------------------------------------|------------------------------------|--------------|---------------------------------|
|  | FAZ-NA<br>FAZ-RT/-DU<br>In<br>Amps | Ue<br>VAC    | Z-SV/UL<br>SCCR RMS<br>Sym Amps |
|                                                                                     | 0.5-32                             | 480Y/<br>277 | 10000                           |
|                                                                                     | 35-40                              | 240          | 10000                           |

## Accessories for RCDs, MCBs, Combined RCD/MCB Devices

SG30811



- Auxiliary Switch
- RCD-Tripping Module
- Shunt Trip Release
- Undervoltage Release
- Remote Control and Automatic Switching Device
- Switching Interlocks
- Terminal Covers

SG60811



## Auxiliary Switch Z-HK, Z-AHK, Z-HD; Tripping Signal Switch Z-NHK

Design: for screwing

|                                                                                                        | For Protective Device / Function | Type Designation | Article No. | Units per package |
|--------------------------------------------------------------------------------------------------------|----------------------------------|------------------|-------------|-------------------|
| <div>SG34812</div>    | RCCB / 1NO+1NC                   | Z-HK             | 248432      | 4/120             |
| <div>SG60911</div>    | MCB, RCBO, RCCB / 1NO+1NC        | Z-AHK            | 248433      | 4/120             |
| <div>SG61011</div>   | MCB, RCBO, RCCB / 2CO            | Z-NHK            | 248434      | 4/120             |
| <div>SG34412</div>  | RCCB / 1CO+1NC                   | Z-HD             | 265620      | 1                 |

## Specifications | Auxiliary Switch Z-HK, Z-AHK; Tripping Signal Switch Z-NHK

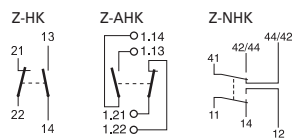
### Description

- Design according to IEC/EN 60947-5-1, IEC/EN 62019
- Can be mounted subsequently (screws) onto FRCmM, FRCdM
- The specified minimum voltages are per contact.  
Take into account particularly in case of series connection!
- **Z-AHK, Z-NHK:** Contact function with relative movement (self-cleaning contacts)
- Contact material and design particularly suitable for extra low voltage
- **Z-NHK:** The function of one of the two change-over contacts can be switched from “auxiliary switch” to “tripping signal switch”
- Tripping signal contact transmits message of electric tripping, not mechanical switch-off
- Test key for contact function “electrical tripping”

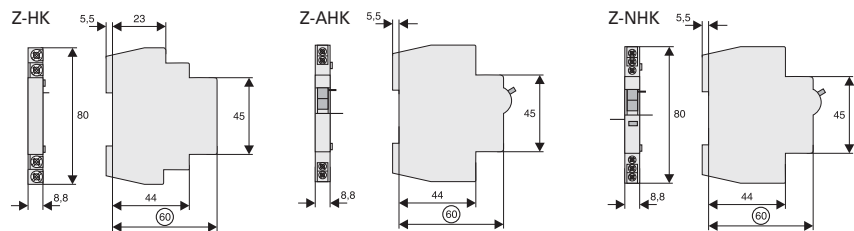
## Technical Data

|                                               |                     | Z-HK                                                     | Z-AHK                   | Z-NHK                   |
|-----------------------------------------------|---------------------|----------------------------------------------------------|-------------------------|-------------------------|
| <b>Electrical</b>                             |                     |                                                          |                         |                         |
| Contact function                              |                     | 1NO + 1NC                                                | 1NO + 1NC               | 2CO                     |
| Rated voltage                                 |                     | 250 V                                                    | 250 V                   | 250 V                   |
| Frequency                                     |                     | 50/60 Hz                                                 | 50/60 Hz                | 50/60 Hz                |
| Rated current                                 |                     | 8 A                                                      | 4 A                     | 4 A                     |
| Rated thermal current                         | $I_{th}$            | 8 A                                                      | 4 A                     | 4 A                     |
| Utilisation category AC13                     |                     |                                                          |                         |                         |
| Rated operational current                     | $I_e$               | 6A/250V AC<br>2A/440V AC                                 | 3A/250V AC<br>–         | 3A/250V AC<br>–         |
| Utilisation category AC15                     |                     |                                                          |                         |                         |
| Rated operational current                     | $I_e$               | –                                                        | 2A/250V AC              | 2A/250V AC              |
| Utilisation category DC12                     |                     |                                                          |                         |                         |
| Rated operational current                     | $I_e$               | –                                                        | 0.5A/110V DC            | 0.5A/110V DC            |
| Utilisation category DC13                     |                     |                                                          |                         |                         |
| Rated operational current                     | $I_e$               | 0.5A/230V DC<br>2A/110V DC<br>4A/60V DC                  | –<br>–<br>–             | –<br>–<br>–             |
| Rated insulation voltage                      | $U_i$               | 250 V AC                                                 | 250 V AC                | 250 V AC                |
| Minimum operational voltage per contact       | $U_{min}$           | 24 V AC/DC                                               | 5 V DC                  | 5 V DC                  |
| Minimum operational current                   | $I_{min}$           | 50 mA AC/DC                                              | 10 mA DC                | 10 mA DC                |
| Rated peak withstand voltage                  | $U_{imp}$ (1.2/50µ) | 2.5 kV                                                   | 2.5 kV                  | 2.5 kV                  |
| Conditional short circuit current             | $I_k$               |                                                          |                         |                         |
| with back-up fuse 6A or FAZ-B4-HS             |                     | 1 kA                                                     | 1 kA                    | 1 kA                    |
| Max. back-up fuse, overload and short circuit |                     | 6 A gL / FAZ-4/..B-HS                                    | 4 A gL / FAZ-4/..B-HS   | 4 A gL / FAZ-4/..B-HS   |
| <b>Mechanical</b>                             |                     |                                                          |                         |                         |
| Can be mounted from the left onto             |                     | RCCB                                                     | MCB, RCBO               | MCB, RCBO               |
| Can be mounted from the right onto            |                     | –                                                        | –                       | RCCB                    |
| Tripping indicator "electrical tripping"      |                     | –                                                        | –                       | blue/white              |
| Frame size                                    |                     | 45 mm                                                    | 45 mm                   | 45 mm                   |
| Device height                                 |                     | 80 mm                                                    | 80 mm                   | 80 mm                   |
| Device width                                  |                     | 8.8 mm (0.5MU)                                           | 8.8 mm (0.5MU)          | 8.8 mm (0.5MU)          |
| Mounting                                      |                     | onto switching device                                    | onto switching device   | onto switching device   |
| Degree of protection, built-in                |                     | IP40                                                     | IP40                    | IP40                    |
| Terminal protection                           |                     | finger and hand touch safe according to BGV A3, ÖVE-EN 6 |                         |                         |
| Terminals                                     |                     | lift terminals                                           | lift terminals          | lift terminals          |
| Terminal capacity                             |                     | 0.5-2.5 mm <sup>2</sup>                                  | 0.5-2.5 mm <sup>2</sup> | 0.5-2.5 mm <sup>2</sup> |
| Terminal screws                               |                     | M3 (Pozidrive Z0)                                        | M3 (Pozidrive Z0)       | M3 (Pozidrive Z0)       |
| Fastening torque of terminal screws           |                     | max. 0.8-1.0 Nm                                          | max.0.8-1.0 Nm          | max. 0.8-1.0 Nm         |

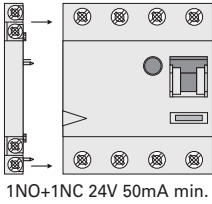
## Connection diagram



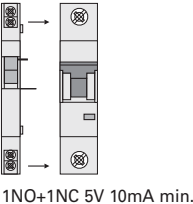
## Dimensions (mm)



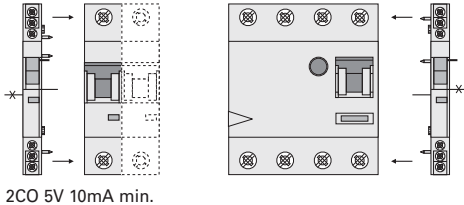
Example: Z-HK+RCCB



Example: Z-AHK+MCB

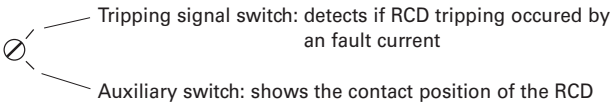


Example: Z-NHK+MCB RCCB+Z-NHK



Specifications | Auxiliary Switch Z-HD

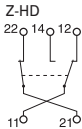
Function Auxiliary Switch Z-HD



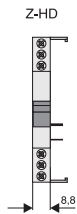
Technical Data

| Z-HD                                     |                           |
|------------------------------------------|---------------------------|
| <b>Electrical</b>                        |                           |
| Subsequent installation to the left onto | FRCmM-125A                |
| Contacts                                 | 1CO + 1NC                 |
| Load rating                              |                           |
| AC11                                     | 6 A / 230 V AC            |
| DC11                                     | 1 A / 230 V DC            |
| <b>Mechanical</b>                        |                           |
| Terminal capacity                        | up to 2.5 mm <sup>2</sup> |

Connection diagram



Dimensions (mm)





## Auxiliary Switch ZP-AHK, ZP-IHK, ZP-WHK; Tripping Signal Switch ZP-NHK

### Design: for snapping

|                                                                                                   | For Protective Device / Function | Type Designation | Article No. | Units per package |
|---------------------------------------------------------------------------------------------------|----------------------------------|------------------|-------------|-------------------|
|  <p>SG60811</p>  | MCB, RCBO / 1NO+1NC              | ZP-IHK           | 286052      | 4/120             |
|  <p>SG34612</p>  | MCB, RCBO / 1CO                  | ZP-WHK           | 286053      | 4/120             |
|  <p>SG34512</p> | MCB, RCBO / 2CO                  | ZP-NHK           | 248437      | 4/120             |

## Specifications | Auxiliary Switch ZP-IHK, ZP-WHK; Tripping Signal Switch ZP-NHK

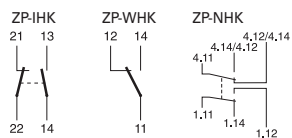
### Description

- Design according to IEC/EN 62019
- No screws required. Can be snapped onto FAZ and FRBM-1N subsequently
- **ZP-IHK, ZP-WHK:** Can be snapped on additionally 1 time onto itself
- The specified minimum voltages are per contact. Take into account particularly in case of series connection!
- Contact material and design particularly suitable for extra low voltage.
- Contact function with relative movement (self-cleaning contacts)
- **ZP-NHK:** The function of one of the two change-over contacts can be switched from "auxiliary switch" to "tripping signal switch"
- Tripping signal contact transmits message of electric tripping, not mechanical switch-off
- **ZP-NHK:** The "Service button" is used to check whether or not the auxiliary switch is correctly wired in the tripping-signal-switch position. Activating the "service button" will mechanically simulate an electrical switch-off, so the mechanism for the electrical switch-off will disengage and can be checked. The main switchgear (MCB or combined MCB/RCD) connected to the ZP-NHK auxiliary switch does not need to trip as well during an inspection through the service button.

## Technical Data

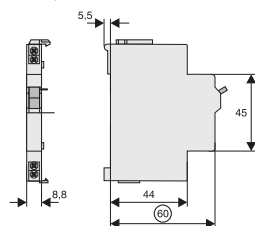
|                                               |                     | ZP-IHK                                                   | ZP-WHK                  | ZP-NHK                  |
|-----------------------------------------------|---------------------|----------------------------------------------------------|-------------------------|-------------------------|
| <b>Electrical</b>                             |                     |                                                          |                         |                         |
| Contact function                              |                     | 1NO + 1NC                                                | 1CO                     | 2CO                     |
| Rated voltage                                 |                     | 250 V                                                    | 250 V                   | 250 V                   |
| Frequency                                     |                     | 50/60 Hz                                                 | 50/60 Hz                | 50/60 Hz                |
| Rated current                                 |                     | 6 A                                                      | 6 A                     | 4 A                     |
| Rated thermal current                         | $I_{th}$            | 6 A                                                      | 6 A                     | 4 A                     |
| Utilisation category AC13                     |                     |                                                          |                         |                         |
| Rated operational current                     | $I_e$               | 3A/250V AC                                               | 3A/250V AC              | 3A/250V AC              |
| Utilisation category AC15                     |                     |                                                          |                         |                         |
| Rated operational current                     | $I_e$               | 2A/250V AC                                               | 2A/250V AC              | 2A/250V AC              |
| Utilisation category DC12                     |                     |                                                          |                         |                         |
| Rated operational current                     | $I_e$               | 0.5A/110V DC                                             | 0.5A/110V DC            | 0.5A/110V DC            |
| Rated insulation voltage                      | $U_i$               | 250 V AC                                                 | 250 V AC                | 250 V AC                |
| Minimum operational voltage per contact       | $U_{min}$           | 5 V DC                                                   | 5 V DC                  | 5 V DC                  |
| Minimum operational current                   | $I_{min}$           | 10 mA DC                                                 | 10 mA DC                | 10 mA DC                |
| Rated peak withstand voltage                  | $U_{imp}$ (1.2/50µ) | 2.5 kV                                                   | 2.5 kV                  | 2.5 kV                  |
| Conditional short circuit current             | $I_k$               |                                                          |                         |                         |
| with back-up fuse 6A or PLSM-B4-HS            |                     | 1 kA                                                     | 1 kA                    | 1 kA                    |
| Max. back-up fuse, overload and short circuit |                     | 6 A gL / FAZ-B4-HS                                       | 6 A gL / FAZ-B4-HS      | 6 A gL / FAZ-B4-HS      |
| <b>Mechanical</b>                             |                     |                                                          |                         |                         |
| Can be mounted from the left onto             |                     | MCB, RCBO                                                | MCB, RCBO               | MCB, RCBO               |
| Accessories:                                  |                     | ZP-ASA                                                   | ZP-ASA                  | ZP-ASA                  |
| Tripping indicator "electrical tripping"      |                     | –                                                        | –                       | blue/white              |
| Frame size                                    |                     | 45 mm                                                    | 45 mm                   | 45 mm                   |
| Device height                                 |                     | 80 mm                                                    | 80 mm                   | 80 mm                   |
| Device width                                  |                     | 8.8 mm (0.5MU)                                           | 8.8 mm (0.5MU)          | 8.8 mm (0.5MU)          |
| Degree of protection, built-in                |                     | IP40                                                     | IP40                    | IP40                    |
| Terminal protection                           |                     | finger and hand touch safe according to BGV A3, ÖVE-EN 6 |                         |                         |
| Terminals                                     |                     | lift terminals                                           | lift terminals          | lift terminals          |
| Terminal capacity                             |                     | 0.5-2.5 mm <sup>2</sup>                                  | 0.5-2.5 mm <sup>2</sup> | 0.5-2.5 mm <sup>2</sup> |
| Terminal screws                               |                     | M4 (Pozidrive Z2)                                        | M4 (Pozidrive Z2)       | M3 (Pozidrive Z0)       |
| Fastening torque of terminal screws           |                     | max. 1.2 Nm                                              | max. 1.2 Nm             | max. 0.8-1.0 Nm         |

## Connection diagram

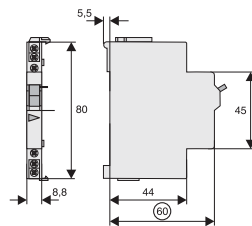


## Dimensions (mm)

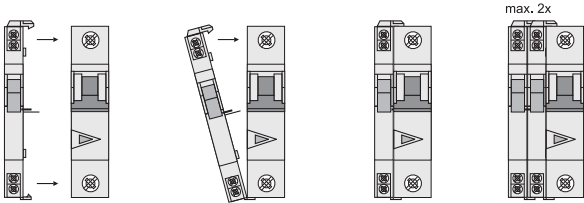
ZP-IHK, ZP-WHK



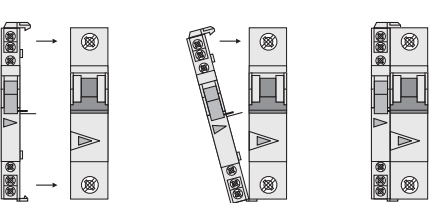
ZP-NHK



Example: ZP-IHK/(ZP-WHK)+MCB



Example: ZP-NHK+MCB



## RCCB-Tripping Module Z-AM

|                                                                                                  | For Protective Device | Type Designation | Article No. | Units per package |
|--------------------------------------------------------------------------------------------------|-----------------------|------------------|-------------|-------------------|
|  <p>SG16011</p> | RCCB                  | Z-FAM            | 248293      | 1/60              |
|                                                                                                  |                       |                  |             |                   |
|  <p>SG16211</p> | RCBO                  | Z-KAM            | 248294      | 1/60              |
|                                                                                                  |                       |                  |             |                   |

## Specifications | RCCB Tripping Module Z-FAM, Z-KAM

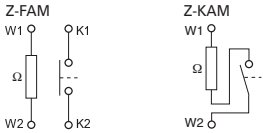
### Description

- For remote switch-off of RCCBs, standard and electronic combined RCD/MCB devices
- Remote switch-off by one or several parallel potential-free contacts, e.g. pushbutton max. rated current 3 A at 250 V, take into account maximum pushbutton voltage
- Remote tripping test by means of remote testing module Z-FW
- Can be mounted subsequently, to be wired according to connection diagram with the respective terminals of the RCCB
- No undesired voltage rise in the consumer system during remote switch-off thanks to integrated breaker contact K1-K2

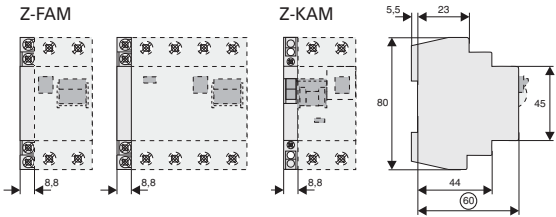
### Technical Data

|                                | Z-FAM                                                     | Z-KAM                     |
|--------------------------------|-----------------------------------------------------------|---------------------------|
| <b>Electrical</b>              |                                                           |                           |
| Rated voltage                  | 230(400) V AC                                             | 230(400) V AC             |
| Frequency                      | 50-60 Hz                                                  | 50-60 Hz                  |
| Rated tripping current         | $I_{\Delta n}$ 0.01 - 0.3 A                               | 0.01 - 0.3 A              |
| Function                       | 1NO                                                       | 1NO                       |
| <b>Mechanical</b>              |                                                           |                           |
| Tripping module for            | RCCB                                                      | RCBO                      |
| Frame size                     | 45 mm                                                     | 45 mm                     |
| Device height                  | 80 mm                                                     | 80 mm                     |
| Device width                   | 8.8 mm (0.5MU)                                            | 8.8 mm (0.5MU)            |
| Degree of protection, built-in | IP40                                                      | IP40                      |
| Terminal capacity              | 1 - 2x2.5 mm <sup>2</sup>                                 | 1 - 2x2.5 mm <sup>2</sup> |
| Terminal protection            | finger and hand touch safe, according to BGV A3, ÖVE-EN 6 |                           |

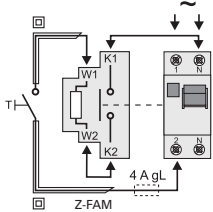
Connection diagram



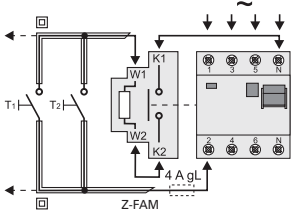
Dimensions (mm)



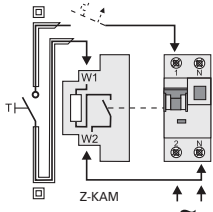
Connection examples Lay lines to the switching devices with double insulation **and** overload protection, e.g. 4A gL or CLS6-4...HS



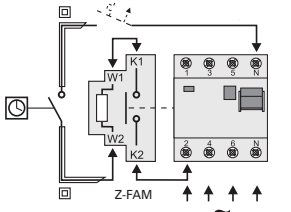
Connection diagram:  
RCCB-2p, RCCB feed above



Connection diagram:  
RCCB-4p, RCCB feed above



Connection diagram:  
RCBO-2p, RCBO feed below



Connection diagram:  
RCCB-4p, RCCB feed below

## Shunt Trip Release Z-ASA, ZP-ASA

SG00712



SG00212



| Operational voltage range (V~) | Type Designation | Article No. | Units per package |
|--------------------------------|------------------|-------------|-------------------|
|--------------------------------|------------------|-------------|-------------------|

### To be glued on

|         |           |        |      |
|---------|-----------|--------|------|
| 12-110  | Z-ASA/24  | 248286 | 1/60 |
| 110-415 | Z-ASA/230 | 248287 | 1/60 |

### To be snapped on

|         |            |        |      |
|---------|------------|--------|------|
| 12-110  | ZP-ASA/24  | 248438 | 1/60 |
| 110-415 | ZP-ASA/230 | 248439 | 1/60 |

## Specifications | Shunt Trip Release Z-ASA, ZP-ASA

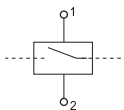
### Description

- Remote release for subsequent mounting onto FAZ, FRBmM-1N, Z-MS
- Module width 1MU
- Additional installation of standard auxiliary switch is possible
- Position indicator red - green
- Type ZP-ASA for snap-on mounting

### Technical Data

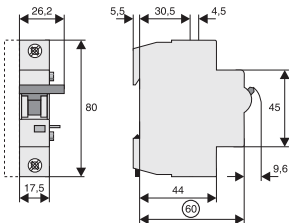
|                                               | Z-ASA24                                                                                         | Z-ASA230             | ZP-ASA24                     | ZP-ASA230                    |       |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------|------------------------------|------------------------------|-------|
| <b>Electrical</b>                             |                                                                                                 |                      |                              |                              |       |
| Minimum pulse duration                        | 15 ms                                                                                           | 10 ms                | 15 ms                        | 10 ms                        |       |
| Internal resistance                           | 2.2 Ω                                                                                           | 215 Ω                | 2.2 Ω                        | 215 Ω                        |       |
| Duty cycle                                    | 100%                                                                                            | 100%                 | 100%                         | 100%                         |       |
| Tripping time                                 | < 20 ms                                                                                         | < 20 ms              | < 20 ms                      | < 20 ms                      |       |
| Rated peak withstand voltage (1.2/50μs)       | 2.5 kV                                                                                          | 2.5 kV               | 2.5 kV                       | 2.5 kV                       |       |
| Endurance                                     | > 4000 operating cycles > 4000 operating cycles > 4000 operating cycles > 4000 operating cycles |                      |                              |                              |       |
| <b>AC voltage range</b>                       |                                                                                                 |                      |                              |                              |       |
| Operating limit                               | 10 V                                                                                            | 60 V                 | 10 V                         | 60 V                         |       |
| Operational voltage range                     | 12-110 V                                                                                        | 110-415 V            | 12-110 V                     | 110-415 V                    |       |
| Maximum current consumption during switch-on  | 15 A                                                                                            |                      | 2.1 A                        | 15 A                         | 2.1 A |
| Current flow time at max. current consumption | 10 ms                                                                                           |                      | 10 ms                        | 10 ms                        | 10 ms |
| <b>DC voltage range</b>                       |                                                                                                 |                      |                              |                              |       |
| Operating limit                               | 9 V                                                                                             | 72 V                 | 9 V                          | 72 V                         |       |
| Operational voltage range                     | 10-60 V                                                                                         | 110-220 V            | 10-60 V                      | 110-220 V                    |       |
| Maximum current consumption during switch-on  | 21 A                                                                                            |                      | 1 A                          | 21 A                         | 1 A   |
| Current flow time at max. current consumption | 2 ms                                                                                            |                      | 2 ms                         | 2 ms                         | 2 ms  |
| <b>Mechanical</b>                             |                                                                                                 |                      |                              |                              |       |
| Frame size                                    | 45 mm                                                                                           | 45 mm                | 45 mm                        | 45 mm                        |       |
| Device height                                 | 80 mm                                                                                           | 80 mm                | 80 mm                        | 80 mm                        |       |
| Device width                                  | 17.5 mm (1MU)                                                                                   | 17.5 mm (1MU)        | 17.5 mm (1MU)                | 17.5 mm (1MU)                |       |
| Mounting                                      | bonding                                                                                         | bonding              | to snap on                   | to snap on                   |       |
| Degree of protection, built-in                | IP40                                                                                            | IP40                 | IP40                         | IP40                         |       |
| Terminals above/below                         | open mouthed/lift                                                                               | open mouthed/lift    | open mouthed/lift with guide | open mouthed/lift with guide |       |
| Klemmquerschnitt                              | 1-25 mm <sup>2</sup>                                                                            | 1-25 mm <sup>2</sup> | 1-25 mm <sup>2</sup>         | 1-25 mm <sup>2</sup>         |       |
| Fastening torque of terminal screws           | max. 2.4 Nm                                                                                     | max. 2.4 Nm          | max. 2.4 Nm                  | max. 2.4 Nm                  |       |

Connection diagram

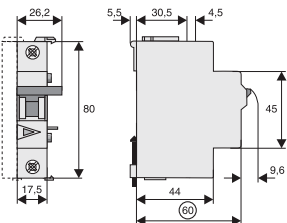


Dimensions (mm)

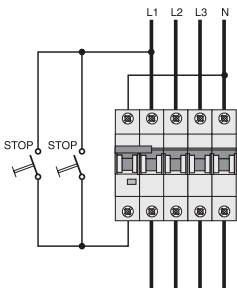
Z-ASA



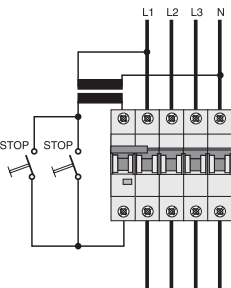
ZP-ASA



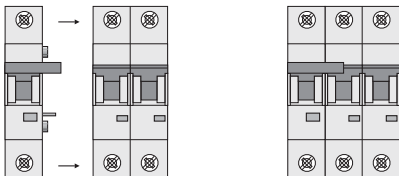
Connection Example 230 V



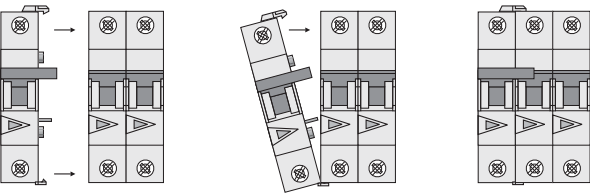
Connection Example 24 V



Example: Z-ASA + MCB



Example: ZP-ASA + MCB



## Undervoltage Release Z-USA, Z-USD

SG78811



| Operational voltage range (V~) / Function | Type Designation | Article No. | Units per package |
|-------------------------------------------|------------------|-------------|-------------------|
|-------------------------------------------|------------------|-------------|-------------------|

### To be screwed on

|                    |           |        |      |
|--------------------|-----------|--------|------|
| 115 / undelayed    | Z-USA/115 | 248288 | 1/60 |
| 230 / undelayed    | Z-USA/230 | 248289 | 1/60 |
| 400 / undelayed    | Z-USA/400 | 248290 | 1/60 |
| 115 / delayed 0.4s | Z-USD/115 | 248292 | 1/60 |
| 230 / delayed 0.4s | Z-USD/230 | 248291 | 1/60 |

## Specifications | Undervoltage Release Z-USA, Z-USD

### Description

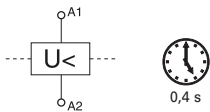
- Tripping:  
Instantaneous Z-USA  
Delayed Z-USD, typ. 0,4 s
- Voltage control indicator blue/white
- Service key for zero voltage switch-on for testing purposes
- Can be used with FAZ

### Technical Data

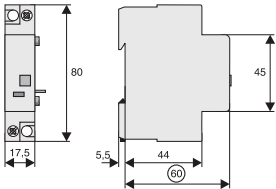
|                                | Z-US./115                                                 | Z-US./230                 | Z-US./400                 |
|--------------------------------|-----------------------------------------------------------|---------------------------|---------------------------|
| <b>Electrical</b>              |                                                           |                           |                           |
| Rated voltage                  | $U_n$ 115 V AC                                            | 230 V AC                  | 400 V AC                  |
| Frequency                      | 50-60 Hz                                                  | 50-60 Hz                  | 50-60 Hz                  |
| Making threshold               | 80% of $U_n$                                              | 80% of $U_n$              | 80% of $U_n$              |
| Tripping threshold             | 50% of $U_n$                                              | 50% of $U_n$              | 50% of $U_n$              |
| <b>Mechanical</b>              |                                                           |                           |                           |
| Frame size                     | 45 mm                                                     | 45 mm                     | 45 mm                     |
| Device height                  | 80 mm                                                     | 80 mm                     | 80 mm                     |
| Device width                   | 17.5 mm (1MU)                                             | 17.5 mm (1MU)             | 17.5 mm (1MU)             |
| Mounting                       | quick fastening on DIN rail IEC/EN 60715                  |                           |                           |
| Degree of protection, built-in | IP40                                                      | IP40                      | IP40                      |
| Terminals                      | open mouthed/lift                                         | open mouthed/lift         | open mouthed/lift         |
| Terminal capacity              | 1 - 2x2.5 mm <sup>2</sup>                                 | 1 - 2x2.5 mm <sup>2</sup> | 1 - 2x2.5 mm <sup>2</sup> |
| Terminal protection            | finger and hand touch safe, according to BGV A3, ÖVE-EN 6 |                           |                           |



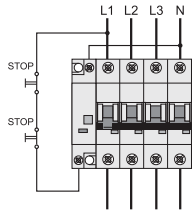
Connection diagram



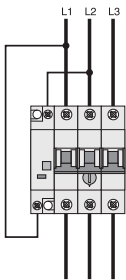
Dimensions (mm)



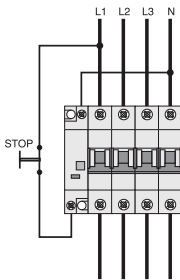
Connection Example Release



Connection Examples 400V and 230V



Connection example  
Z-USA/400 + Z-MS



Connection example  
Z-USA/230 + MCB

## Switching interlocks IS/SPE-1TE, Z-IS/SPE-1TE

|                                                                                   | Description                                                                  | Type Designation | Article No. | Units per package |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------|-------------|-------------------|
|  | Switching interlock without lock for Isolators, RCDs, combined RCD/MCBs, ... | IS/SPE-1TE       | 101911      | 5/30              |
|                                                                                   | Switching interlock without lock for MCBs and Circuit Breaker ZP-A           | Z-IS/SPE-1TE     | 274418      | 5/30              |

## Specifications | Switching interlocks IS/SPE-1TE, Z-IS/SPE-1TE

### Description

- Without lock

#### Type IS/SPE-1TE:

- for Isolators, RCDs, combined RCD/MCBs, ...

#### Type Z-IS/SPE-1TE:

- for MCB



## Accessories for Add-on Residual Current Protection Unit FBHmV

### Shunt Trip Release Kit Z-BHASA

SG09411



| Operational voltage range V~ | Type Designation | Article No. | Units per package |
|------------------------------|------------------|-------------|-------------------|
| 110-415                      | Z-BHASA/230      | 248445      | 8                 |
| 12-60                        | Z-BHASA/24       | 248444      | 8                 |

## Specifications | Shunt Trip Release Kit Z-BHASA

### Description

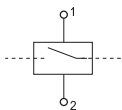
- Can be mounted subsequently
- Contact position indicator red - green
- Wide operational voltage range
- Sufficient power of extra low voltage source must be ensured  
FBHmV-ASA/24: min. 90 VA
- Screws for mounting included FBHmV => BHASA => AZ

## Accessories for Add-on Residual Current Protection Unit FBHmV

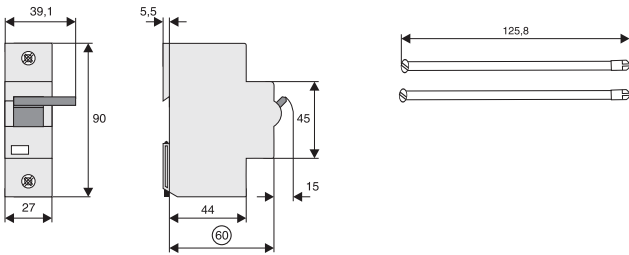
### Technical Data

|                                               | Z-BHASA/24                               | Z-BHASA/230             |
|-----------------------------------------------|------------------------------------------|-------------------------|
| <b>Electrical</b>                             |                                          |                         |
| Minimum pulse duration                        | 15 ms                                    | 10 ms                   |
| Internal resistance                           | 2 W                                      | 130 W                   |
| Duty                                          | 100%                                     | 100%                    |
| Tripping time                                 | < 20 ms                                  | < 20 ms                 |
| Peak withstand voltage (1.2/50µs)             | 2 kV                                     | 2 kV                    |
| Endurance                                     | >4,000 operating cycles                  | >4,000 operating cycles |
| <b>AC voltage range:</b>                      |                                          |                         |
| Responding limit                              | 8 V                                      | 70 V                    |
| Operational voltage range                     | 12-60 V                                  | 110-415 V               |
| Maximum current consumption during switch-on  | 14 A                                     | 3.4 A                   |
| Current flow time at max. current consumption | 4.0 ms                                   | 4.5 ms                  |
| <b>DC voltage range:</b>                      |                                          |                         |
| Responding limit                              | 11 V                                     | 90 V                    |
| Operational voltage range                     | 12-60 V                                  | 110-230 V               |
| Maximum current consumption during switch-on  | 23.5 A typ.                              | 1.7 A typ.              |
| Current flow time at max. current consumption | 2 ms                                     | 4 ms                    |
| <b>Mechanical</b>                             |                                          |                         |
| Frame size                                    | 45 mm                                    | 45 mm                   |
| Device height                                 | 90 mm                                    | 90 mm                   |
| Device width                                  | 27 mm                                    | 27 mm                   |
| Mounting                                      | quick fastening on DIN rail IEC/EN 60715 |                         |
| Degree of protection, built-in                | IP40                                     | IP40                    |
| Upper and lower terminal screws               | lift terminals                           | lift terminals          |
| Terminal capacity                             | 2.5-30 mm <sup>2</sup>                   | 2.5-30 mm <sup>2</sup>  |
| Fastening torque of terminal screws           | 4 Nm                                     | 4 Nm                    |

Connection diagram



Dimensions (mm)



## Accessories for Miniature Circuit Breakers AZ

### Shunt Trip Release Z-LHASA

|                                                                                   | Operational voltage range V~ | Type Designation | Article No. | Units per package |
|-----------------------------------------------------------------------------------|------------------------------|------------------|-------------|-------------------|
|  | 110-415                      | Z-LHASA/230      | 248442      | 8                 |
|                                                                                   | 12-60                        | Z-LHASA/24       | 248441      | 8                 |

## Specifications | Shunt Trip Release Z-LHASA

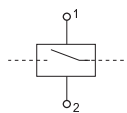
### Description

- Can be mounted subsequently
- Contact position indicator red - green
- Wide operational voltage range
- Sufficient power of extra low voltage source must be ensured  
Z-LHASA/24: min. 90 VA

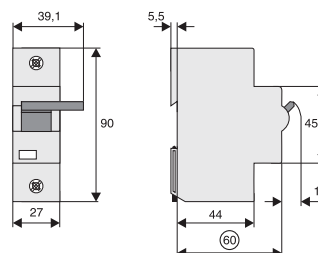
### Technical Data

|                                               | Z-LHASA/24                               | Z-LHASA/230             |
|-----------------------------------------------|------------------------------------------|-------------------------|
| <b>Electrical</b>                             |                                          |                         |
| Minimum pulse duration                        | 15 ms                                    | 10 ms                   |
| Internal resistance                           | 2 W                                      | 130 W                   |
| Duty                                          | 100%                                     | 100%                    |
| Tripping time                                 | < 20 ms                                  | < 20 ms                 |
| Peak withstand voltage (1.2/50µs)             | 2 kV                                     | 2 kV                    |
| Endurance                                     | >4,000 operating cycles                  | >4,000 operating cycles |
| <b>AC voltage range:</b>                      |                                          |                         |
| Responding limit                              | 8 V                                      | 70 V                    |
| Operational voltage range                     | 12-60 V                                  | 110-415 V               |
| Maximum current consumption during switch-on  | 14 A                                     | 3.4 A                   |
| Current flow time at max. current consumption | 4.0 ms                                   | 4.5 ms                  |
| <b>DC voltage range:</b>                      |                                          |                         |
| Responding limit                              | 11 V                                     | 90 V                    |
| Operational voltage range                     | 12-60 V                                  | 110-230 V               |
| Maximum current consumption during switch-on  | 23.5 A typ.                              | 1.7 A typ.              |
| Current flow time at max. current consumption | 2 ms                                     | 4 ms                    |
| <b>Mechanical</b>                             |                                          |                         |
| Frame size                                    | 45 mm                                    | 45 mm                   |
| Device height                                 | 90 mm                                    | 90 mm                   |
| Device width                                  | 27 mm                                    | 27 mm                   |
| Mounting                                      | quick fastening on DIN rail IEC/EN 60715 |                         |
| Degree of protection, built-in                | IP40                                     | IP40                    |
| Upper and lower terminal screws               | lift terminals                           | lift terminals          |
| Terminal capacity                             | 2.5-30 mm <sup>2</sup>                   | 2.5-30 mm <sup>2</sup>  |
| Fastening torque of terminal screws           | 4 Nm                                     | 4 Nm                    |

### Connection diagram



### Dimensions (mm)



## Accessories for Miniature Circuit Breakers AZ

### Auxiliary Switch Z-LHK

SG16111



| Function | Type Designation | Article No. | Units per package |
|----------|------------------|-------------|-------------------|
| 1NO+1NC  | Z-LHK            | 248440      | 10/100            |

## Specifications | Auxiliary Switch Z-LHK

### Description

- Auxiliary switch according to IEC 947-5-1
- Can be mounted subsequently

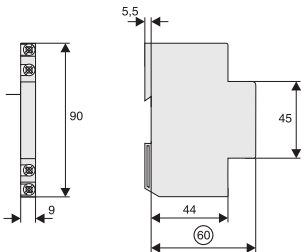
### Technical Data

| Z-LHK                                         |                                                          |
|-----------------------------------------------|----------------------------------------------------------|
| <b>Electrical</b>                             |                                                          |
| Contact function                              | 1NO + 1NC                                                |
| Rated voltage                                 | 250 V                                                    |
| Frequency                                     | 50/60 Hz                                                 |
| Rated current                                 | 8 A                                                      |
| Rated thermal current                         | $I_{th}$ 8 A                                             |
| Utilisation category AC13                     |                                                          |
| Rated operational current                     | $I_e$ 6A/250V AC<br>2A/440V AC                           |
| Utilisation category AC15                     |                                                          |
| Rated operational current                     | $I_e$ –                                                  |
| Utilisation category DC12                     |                                                          |
| Rated operational current                     | $I_e$ –                                                  |
| Utilisation category DC13                     |                                                          |
| Rated operational current                     | $I_e$ 0.5A/230V DC<br>2A/110V DC<br>4A/60V DC            |
| Rated insulation voltage                      | $U_i$ 250 V AC                                           |
| Minimum operational voltage per contact       | $U_{min}$ 24 V AC/DC                                     |
| Minimum operational current                   | $I_{min}$ 50 mA AC/DC                                    |
| Rated peak withstand voltage                  | $U_{imp}$ (1.2/50 $\mu$ ) 2.5 kV                         |
| Conditional short circuit current             | $I_k$                                                    |
| with back-up fuse 6A or FAZ-B4-HS             | 1 kA                                                     |
| Max. back-up fuse, overload and short circuit | 6 A gL / FAZ-4/.../B-HS                                  |
| <b>Mechanical</b>                             |                                                          |
| Can be mounted from the left onto             | AZ                                                       |
| Can be mounted from the right onto            | –                                                        |
| Tripping indicator “electrical tripping”      | –                                                        |
| Frame size                                    | 45 mm                                                    |
| Device height                                 | 80 mm                                                    |
| Device width                                  | 8.8 mm (0.5MU)                                           |
| Mounting                                      | onto switching device                                    |
| Degree of protection, built-in                | IP40                                                     |
| Terminal protection                           | finger and hand touch safe according to BGV A3, ÖVE-EN 6 |
| Terminals                                     | lift terminals                                           |
| Terminal capacity                             | 0.5-2.5 mm <sup>2</sup>                                  |
| Terminal screws                               | M3 (Pozidrive Z0)                                        |
| Fastening torque of terminal screws           | max. 0.8-1.0 Nm                                          |

Connection diagram



Dimensions (mm)



Accessories for Miniature Circuit Breakers AZ

Interlocks LH-SP

| Function            | Type<br>Designation | Article No. | Units<br>per<br>package |
|---------------------|---------------------|-------------|-------------------------|
| Tripping interlock  | LH-SPL              | 285752      | 1                       |
| Tripping interlock  | LH-SPE              | 215999      | 1                       |
| Switchoff interlock | LH-SPA              | 216000      | 1                       |

Specifications | Anti-Tamper Device LH-SPE, LH-SPL

Description

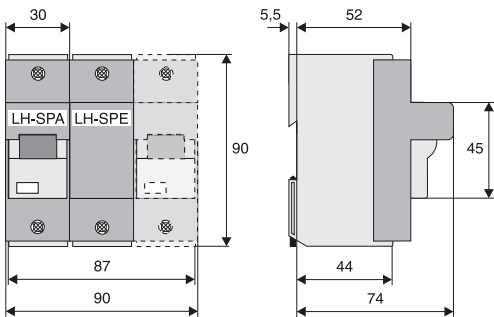
- Prevents undesired switching ON or OFF

Specifications | Switchoff Interlock LH-SPA

Description

- Prevents undesired switch-OFF

Dimensions (mm)





## Accessories for Miniature Circuit Breaker FAZ-...-NA, -RT, -DU

## Auxiliary Contact Z-IHK-NA

SG60711



| Operational Voltage Range | Type Designation | Article No. | Units per package |
|---------------------------|------------------|-------------|-------------------|
| 250 VAC                   | Z-IHK-NA         | 113895      | 1                 |

## Specifications | Auxiliary Contact Z-IHK-NA

## Description

- Design according to IEC/EN 60947-5-1, IEC/EN 62019
- Field installable
- The specified minimum voltages are per contact—take into account particularly in case of series connection
- Self-cleaning contacts
- Contact material and design particularly suitable for extra low voltage
- Tripping signal contact transmits message of electric tripping, not mechanical switch-off
- Test key for contact function “electrical tripping”
- Will allow for > 480Y/277 VAC rating

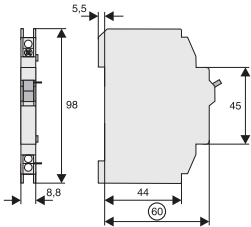
## Technical Data

| Z-IHK-NA                                      |                                                          |
|-----------------------------------------------|----------------------------------------------------------|
| <b>Electrical</b>                             |                                                          |
| Contact function                              | 1NO + 1NC                                                |
| Rated voltage                                 | 250V                                                     |
| Rated current                                 | 6A                                                       |
| Rated thermal current                         | $I_{th}$ 6A                                              |
| Utilization category AC13                     |                                                          |
| Rated operational current                     | $I_e$ 3A/250 Vac                                         |
| Utilization category AC15                     |                                                          |
| Rated operational current                     | $I_e$ 2A/250 Vac                                         |
| Utilization category DC12                     |                                                          |
| Rated operational current                     | $I_e$ 0.5A/110 Vdc                                       |
| Rated insulation voltage                      | $U_i$ 250 Vac                                            |
| Minimum operational voltage per contact       | $U_{min}$ 5 Vdc                                          |
| Minimum operational current                   | $I_{min}$ 10 mA AC/DC                                    |
| Rated peak withstand voltage                  | $U_{imp}$ (1.2/50 $\mu$ ) 4 kV                           |
| Conditional short circuit current             | $I_k$                                                    |
| with Back-Up Fuse 6A                          | 1 kA                                                     |
| Max. back-up fuse, overload and short circuit | 6 A gL / FAZ-4/.../B-HS                                  |
| <b>Mechanical</b>                             |                                                          |
| Tripping indicator “electrical tripping”      | —                                                        |
| Frame size                                    | 45 mm                                                    |
| Device height                                 | 80 mm                                                    |
| Device width                                  | 8.8 mm (0.5MU)                                           |
| Mounting                                      | —                                                        |
| Degree of protection, built-in                | IP40                                                     |
| Terminal protection                           | Finger and hand touch safe according to BGV A3, ÖVE-EN 6 |
| Terminals                                     | Lift terminals                                           |
| Terminal capacity                             | 0.5–2.5 mm <sup>2</sup>                                  |
| Terminal screws                               | M3 (Pozidrive Z2)                                        |
| Tightening torque of terminal screws          | max. 1.2 Nm                                              |

Connection diagram



Dimensions (mm)



## Accessories for Miniature Circuit Breaker FAZ-...-NA, -RT, -DU

### Shunt Trip FAZ-XAA-NA

SG13511



| Operational Voltage Range | Type Designation     | Article No. | Units per package |
|---------------------------|----------------------|-------------|-------------------|
| 12–110 VAC                | FAZ-XAA-NA12-110VAC  | 102037      | 1                 |
| 12–60 VDC                 |                      |             |                   |
| 110–415 VAC               | FAZ-XAA-NA110-415VAC | 102036      | 1                 |
| 110–230 VDC               |                      |             |                   |

## Specifications | Shunt Trip FAZ-XAA-NA

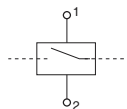
### Description

- Remote release for subsequent mounting onto FAZ-NA
- Additional installation of standard auxiliary switch is possible
- Position indicator red–green

### Technical Data

|                                      | FAZ-XAA-NA12-110VAC                                      | FAZ-XAA-NA110-415VAC                                     |
|--------------------------------------|----------------------------------------------------------|----------------------------------------------------------|
| <b>Electrical</b>                    |                                                          |                                                          |
| Can be mounted onto                  | FAZ-NA / FAZ-NA-DC / FAZ-RT/-DU                          | FAZ-NA / FAZ-NA-DC / FAZ-RT/-DU                          |
| Operational voltage range            | 12–110 Vac<br>12–60 Vdc                                  | 110–415 Vac<br>110–230 Vdc                               |
| Frequency                            | 50/60 Hz                                                 | 50/60 Hz                                                 |
| <b>Mechanical</b>                    |                                                          |                                                          |
| Frame size                           | 45 mm                                                    | 45 mm                                                    |
| Device height                        | 105 mm                                                   | 105 mm                                                   |
| Device width                         | 17.5 mm                                                  | 17.5 mm                                                  |
| Mounting                             | Quick fastening with two lock-in positions on EN 50022   |                                                          |
| Degree of protection, built-in       | IP40                                                     | IP40                                                     |
| Terminal protection                  | Finger and hand touch safe according to BGV A3, ÖVE-EN 6 | Finger and hand touch safe according to BGV A3, ÖVE-EN 6 |
| Terminals                            | Open mouthed/lift                                        | Open mouthed/lift                                        |
| Terminal capacity, one and two wires | 18–10 AWG                                                | 18–10 AWG                                                |

### Connection diagram



## Terminal Covers

| Description | Type<br>Designation | Article No. | Units<br>per<br>package |
|-------------|---------------------|-------------|-------------------------|
|-------------|---------------------|-------------|-------------------------|

### Terminal Covers for RCDs

|        |             |        |    |
|--------|-------------|--------|----|
| 2-pole | Z-RC/AK-2TE | 285385 | 10 |
| 4-pole | Z-RC/AK-4TE | 101062 | 10 |

### Terminal Covers for Add-on Device

|          |              |           |    |
|----------|--------------|-----------|----|
| 2-pole   | Z-CV/AO-2P   | 221957600 | 10 |
| 3+4-pole | Z-CV/AO-3-4P | 221957500 | 10 |

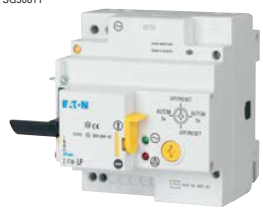
### Terminal Covers for MCB, RCBO

|        |            |           |    |
|--------|------------|-----------|----|
| 2-pole | Z-CV/SD-2P | 221954800 | 10 |
| 3-pole | Z-CV/SD-3P | 221954900 | 10 |
| 4-pole | Z-CV/SD-4P | 221953900 | 10 |

### Terminal Cover for MCB

|        |           |           |    |
|--------|-----------|-----------|----|
| 1-pole | Z7-AK-1TE | 750754200 | 10 |
|--------|-----------|-----------|----|

## Remote Control and Automatic Switching Device Z-ZW

|                                                                                   | Function                                                                                            | Type Designation | Article No. | Units per package |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------|-------------|-------------------|
|  | Automatic restarting 230VAC                                                                         | Z-FW-LP          | 248296      | 1/20              |
|                                                                                   | Automatic restarting 24-48VDC                                                                       | Z-FW-LPD         | 265244      | 1/20              |
|  | + Remote control<br>ON/OFF/TEST<br>(only in connection with Z-FW-LP, -LPD from delivery date 2006!) | Z-FW-MO          | 284730      | 1                 |

## Pre-mounted sets Z-FW

|                                                                                    | Operational voltage range | Type Designation | Article No. | Units per package |
|------------------------------------------------------------------------------------|---------------------------|------------------|-------------|-------------------|
|  | 230 VAC                   | Z-FW-LP/MO       | 290171      | 1/12              |
|                                                                                    | 24-48 VDC                 | Z-FW-LPD/MO      | 290172      | 1/12              |

## Remote Testing Module Z-FW (for Z-FW-LP/MO set use only)

|                                                                                     | Operational voltage range | Type Designation | Article No. | Units per package |
|-------------------------------------------------------------------------------------|---------------------------|------------------|-------------|-------------------|
|  | 0.01 A                    | Z-FW/001         | 248297      | 4/120             |
|                                                                                     | 0.03 A                    | Z-FW/003         | 248298      | 4/120             |
|                                                                                     | 0.1 A                     | Z-FW/010         | 248299      | 4/120             |
|                                                                                     | 0.3 A                     | Z-FW/030         | 248300      | 4/120             |
|                                                                                     | 0.5 A                     | Z-FW/050         | 248301      | 4/120             |

## Specifications | Remote Control and Automatic Switching Z-FW

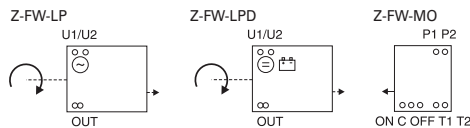
### Description

- Shape compatible switching device suitable for subsequent installation for automatic re-setting and remote control of CLS6, PFIM, PFHM-4p, dRCM, Z-A40, PFR, Z-MS
- Mechanical interlock, can be sealed with leads
- Mechanical switching capability up to max. PFIM-100/4p, CLS6-100/4p
- Operating and alarm display by green and red LED
- Function extension with Switching Modul Z-FW-MO  
Operating and trouble display by LED pre-assembled only with Z-FW...

## Technical Data

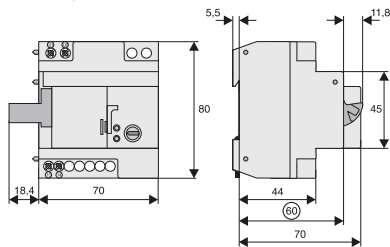
|                                                          | Z-FW-LP                                                              | Z-FW-LPD                                              | Z-FW-MO                                               |
|----------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|
| <b>Electrical</b>                                        |                                                                      |                                                       |                                                       |
| Possible operating voltages                              | 220-240 V AC                                                         | 24-48 V DC                                            | –                                                     |
| Frequency                                                | 50/60 Hz                                                             | –                                                     | –                                                     |
| Testing module (0.5MU) for remote testing of RCDs        | Z-FW...                                                              | Z-FW...                                               | –                                                     |
| Control voltage for remote control                       | –                                                                    | –                                                     | 24-230 V AC/DC                                        |
| Relay output for tripping test with Z-FW                 | –                                                                    | –                                                     | 400 V AC max.                                         |
| Relay output for alarm, potential-free                   | 5A/250V AC                                                           | 5A/250V AC                                            | –                                                     |
| Functions                                                | automatic restarting                                                 | automatic restarting                                  | +ON/OFF/TEST                                          |
| Function selector                                        | Automatic 5x,<br>OFF/RESET                                           | Automatic 5x,<br>OFF/RESET                            | ON, OFF/RESET                                         |
| Remote control function via telephone with Telecommander | –                                                                    | –                                                     | –                                                     |
| <b>Mechanical</b>                                        |                                                                      |                                                       |                                                       |
| Frame size                                               | 45 mm                                                                | 45 mm                                                 | 45 mm                                                 |
| Device height                                            | 80 mm                                                                | 80 mm                                                 | 80 mm                                                 |
| Device width                                             | 70 mm                                                                | 70 mm                                                 | 35 mm                                                 |
| Mounting                                                 | quick fastening with 2 lock-in positions<br>on DIN rail IEC/EN 60715 |                                                       | –                                                     |
| Degree of protection, built-in                           | IP40                                                                 | IP40                                                  | IP40                                                  |
| Terminal protection                                      | finger and hand touch safe according to BGV A3, ÖVE-EN 6             |                                                       |                                                       |
| Terminals                                                | lift terminals                                                       | lift terminals                                        | lift terminals                                        |
| Terminal capacity                                        | 2 x 1.5 mm <sup>2</sup> or<br>1 x 2.5 mm <sup>2</sup>                | 2 x 1.5 mm <sup>2</sup> or<br>1 x 2.5 mm <sup>2</sup> | 4 x 1.5 mm <sup>2</sup> or<br>2 x 2.5 mm <sup>2</sup> |
| Scope of delivery                                        | –                                                                    | –                                                     | Coupling plug                                         |

## Connection diagram

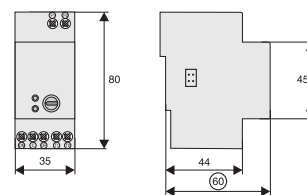


## Dimensions (mm)

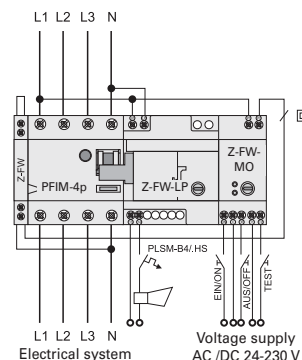
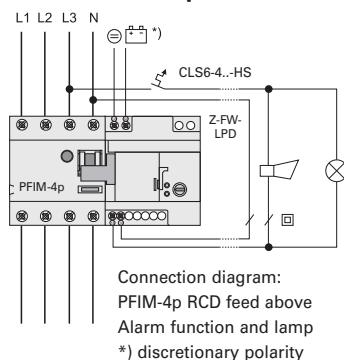
Z-FW-LP, -LPD



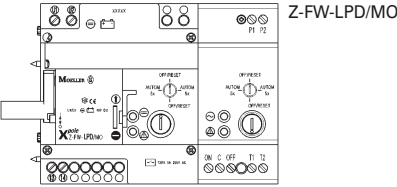
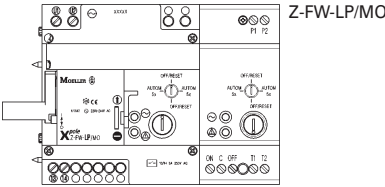
Z-FW-MO



## Connection example



Pre-mounted Sets

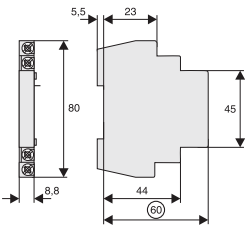


Specifications | Remote Testing Module Z-FW (for Z-FW-LP)

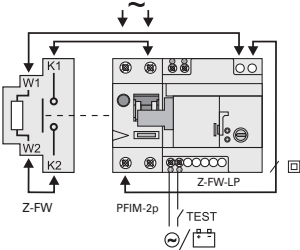
Description

- External testing module with testing resistor for RCDs
- Proper "external" test key function according to the applicable rules thanks to design adapted to the rated tripping current
- For remote testing with remote control and automatic switching device Z-FW-LP
- No undesired voltage rise in the consumer system during remote switch-off thanks to integrated breaker contact K1-K2
- Can also be used as a remote tripping module for PFIM, PFHM

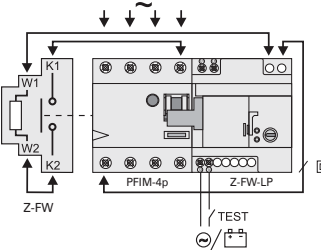
Dimensions (mm)



Connection examples



Connection diagram:  
PFIM-2p, RCD feed above



Connection diagram:  
PFIM-4p, RCD feed above