

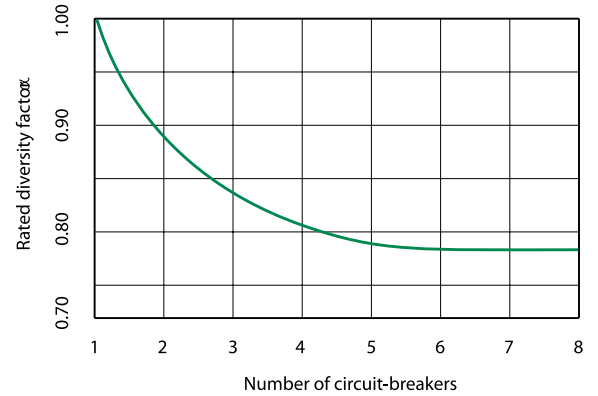
| | | B curve | C curve | D curve | K curve | S curve | Z curve |
|--|--------------------|--|-------------------|--------------------|-------------------|--------------------|------------------|
| Electrical | | | | | | | |
| Approvals Standards | | UR (UL 1077), CSA (CSA 22.2 No. 235), CE, VDE IEC/EN 60947-2 | | | | | |
| Short Circuit Trip Response | | $3 \times 5 I_n$ | $5 \times 10 I_n$ | $10 \times 20 I_n$ | $8 \times 12 I_n$ | $13 \times 17 I_n$ | $2 \times 3 I_n$ |
| Supplementary Protectors - UL / CSA | | | | | | | |
| Current Range | [A] | 6...63 | 0.5...63 | 6...40 | 0.5...63 | 0.5...63 | 1...40 |
| Maximum voltage ratings – UL / CSA | | | | | | | |
| 1 pole & 1 pole + neutral | [V AC] | 277 | 277 | 277 | 277 | 277 | 277 |
| | [V DC] | 48 | 48 | 48 | 48 | 48 | 48 |
| 2, 3, 4 pole & 3 pole + neutral | [V AC] | 480Y/277 | 480Y/277 | 480Y/277 | 480Y/277 | 480Y/277 | 480Y/277 |
| Thermal Tripping Characteristics | | | | | | | |
| Single Pole | | $1.35 \times I_n @ 40^\circ\text{C}$ | | | | | |
| Multi-pole | | $1.45 \times I_n @ 40^\circ\text{C}$ | | | | | |
| Short circuit ratings (at max. voltage) | | | | | | | |
| 1 pole | [kA] | 10 (5 for 40A device) | | | | 5 (10 @ 48V DC) | |
| 1 pole + neutral | [kA] | 10 (5 for 40A device) | | | | 5 (10 @ 48V DC) | |
| 2, 3 & 4 pole | [kA] | 10 (5 for 40A device) | | | | 5 (10 @ 48V DC) | |
| 3 pole + neutral | [kA] | 10 (5 for 40A device) | | | | 5 (10 @ 48V DC) | |
| 2 poles in series | [kA] | 10 @ 125V DC | | | | 10 @ 125V DC | |
| Miniature Circuit Breaker - IEC | | | | | | | |
| Current Range | [A] | 6...40 | 0.5...40 | 6...25 | 0.5...40 | 0.5...40 | 1...16 |
| Maximum voltage ratings – IEC | | | | | | | |
| 1 pole & 1 pole + neutral | [V AC] | 240 | 240 | 240 | 240 | 240 | 240 |
| | [V DC] | 48 | 48 | 48 | 48 | 48 | 48 |
| 2, 3, 4 pole & 3 pole + neutral | [V AC] | 240/415 | 240/415 | 240/415 | 240/415 | 240/415 | 240/415 |
| Thermal Tripping Characteristics | | | | | | | |
| Single Pole | | $> 1 \text{ hour} @ 1.05 \times I_n$ | | | | | |
| Multi-pole | | $< 1 \text{ hour} @ 1.3 \times I_n$ | | | | | |
| Interrupt ratings (at max. voltage) | [kA] | 15 | 15 | 15 | 15 | 10 | 10 |
| Operational switching capacity | [kA] | 7.5 | | | | | |
| Max. back-up fuse | [A gL/gG] | 125 | | | | | |
| Rated impulse withstand - U_{imp} | [V AC] | 4000 | | | | | |
| Rated insulation voltage - U_i | [V AC] | 440 | | | | | |
| Environmental / General | | | | | | | |
| Selectivity Class | | 3 | | | | | |
| Lifespan | [ops.] | > 10000 (1 operation = ON/OFF) | | | | | |
| Shock (IEC 68-2-22) | [g] | 10g - 120ms | | | | | |
| Operating Temperature Range | [°F] | $23 \dots +104$ ($-5 \dots +40^\circ\text{C}$) | | | | | |
| Shipment & short term storage | [°F] | $-40 \dots +185$ ($-40 \dots +85^\circ\text{C}$) | | | | | |
| Housing material | | Nylon | | | | | |
| Mechanical | | | | | | | |
| Standard front dimension | | | | | | | |
| Device height | [mm] | 80 | | | | | |
| Terminal protection | [mm] | Finger- and back-of-hand proof to IEC 536 | | | | | |
| Mounting width per pole | [mm] | 17.7 | | | | | |
| Mounting | | IEC/EN 60715 top-hat rail | | | | | |
| Degree of protection | | IP20 | | | | | |
| Terminals top and bottom | | Twin-purpose terminals | | | | | |
| Supply connection | | Line or load side | | | | | |
| Terminal capacity | [mm ²] | 1×25 (AWG 4...18) | | | | | |
| | [mm ²] | 2×10 (AWG 8...18) | | | | | |
| Torque | [nm] | 2.4 | | | | | |
| Thickness of busbar material | | 0.8 – 2 | | | | | |
| Mounting position | [mm] | As required | | | | | |

Influence of the ambient temperature on the thermal tripping behavior

Corrected values of the rated current dependent on the ambient temperature

| I_n [A] | Ambient Temperature T [°C] | | | | | | | | | | | | |
|-----------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | -25 | -20 | -10 | 0 | 10 | 20 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| 0.16 | 0.20 | 0.19 | 0.19 | 0.18 | 0.17 | 0.17 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 |
| 0.25 | 0.31 | 0.30 | 0.29 | 0.28 | 0.27 | 0.26 | 0.25 | 0.25 | 0.24 | 0.24 | 0.23 | 0.23 | 0.22 |
| 0.5 | 0.61 | 0.60 | 0.58 | 0.56 | 0.54 | 0.52 | 0.50 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 |
| 0.75 | 0.92 | 0.90 | 0.87 | 0.84 | 0.81 | 0.78 | 0.75 | 0.74 | 0.73 | 0.71 | 0.69 | 0.68 | 0.66 |
| 1 | 1.2 | 1.2 | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 | 0.99 | 0.97 | 0.95 | 0.93 | 0.90 | 0.89 |
| 1.5 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.3 |
| 1.6 | 2.0 | 1.9 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 |
| 2 | 2.4 | 2.4 | 2.3 | 2.2 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 |
| 2.5 | 3.1 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 | 2.5 | 2.4 | 2.4 | 2.3 | 2.3 | 2.2 |
| 3 | 3.7 | 3.6 | 3.5 | 3.4 | 3.3 | 3.1 | 3.0 | 3.0 | 2.9 | 2.8 | 2.8 | 2.7 | 2.7 |
| 3.5 | 4.3 | 4.2 | 4.1 | 3.9 | 3.8 | 3.7 | 3.5 | 3.4 | 3.4 | 3.3 | 3.2 | 3.2 | 3.1 |
| 4 | 4.9 | 4.8 | 4.7 | 4.5 | 4.3 | 4.2 | 4.0 | 3.9 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 |
| 5 | 6.1 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 | 5.0 | 4.9 | 4.8 | 4.7 | 4.6 | 4.5 | 4.4 |
| 6 | 7.3 | 7.2 | 7.0 | 6.7 | 6.5 | 6.3 | 6.0 | 5.9 | 5.8 | 5.7 | 5.6 | 5.4 | 5.3 |
| 8 | 9.8 | 9.6 | 9.3 | 9.0 | 8.7 | 8.4 | 8.0 | 7.9 | 7.7 | 7.6 | 7.4 | 7.2 | 7.1 |
| 10 | 12 | 12 | 12 | 11 | 11 | 10 | 10 | 9.9 | 9.7 | 9.5 | 9.3 | 9.0 | 8.9 |
| 12 | 15 | 14 | 14 | 13 | 13 | 13 | 12 | 12 | 12 | 11 | 11 | 11 | 11 |
| 13 | 16 | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 13 | 12 | 12 | 12 | 12 |
| 15 | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 15 | 14 | 14 | 14 | 13 |
| 16 | 20 | 19 | 19 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 15 | 14 | 14 |
| 20 | 24 | 24 | 23 | 22 | 22 | 21 | 20 | 20 | 19 | 19 | 19 | 18 | 18 |
| 25 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 |
| 32 | 39 | 38 | 37 | 36 | 35 | 33 | 32 | 32 | 31 | 30 | 30 | 29 | 28 |
| 40 | 49 | 48 | 47 | 45 | 43 | 42 | 40 | 39 | 39 | 38 | 37 | 36 | 35 |
| 50 | 61 | 60 | 58 | 56 | 54 | 52 | 50 | 49 | 48 | 47 | 46 | 45 | 44 |
| 63 | 77 | 76 | 73 | 71 | 68 | 66 | 63 | 62 | 61 | 60 | 58 | 57 | 56 |

Load carrying capacity of adjoining miniature circuit-breakers



Influence of the mains frequency

Influence of the mains frequency on the tripping behavior I_{MA} of the instantaneous release

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

| | | | FAZ-XHI11 Auxiliary FAZ-XAM002 Aux/Trip Indication | FAZ-XAA-C... Shunt Trip | FAZ-XUA... Undervoltage Trip |
|--|-------------|--------------------|--|--|--|
| Electrical | | | | | |
| Contact function | | | 1M + 1B 2 C/O | – | – |
| Rated operational voltage | Un | [V AC] | 250 | – | 115 230 400 |
| Voltage range | | [V AC] | | 12 – 110 110 – 415 | |
| | | [V DC] | – | 110 - 230 12 - 60 | – |
| Closing threshold | | [x U_n] | – | – | 0.8 |
| Tripping threshold | | [x U_n] | – | – | 0.5 |
| Rated frequency | f | [Hz] | 50/60 | 50/60 | 50/60 |
| General use (UL / CSA) | | | | | |
| AC | 230/240V AC | [A] | 2 / 2 | – | – |
| DC | 110/120V DC | [A] | 0.5 / 0.5 | – | – |
| Pilot Duty | | | A600 / Q600 | – | – |
| Conventional free air thermal current | I_{th} | [A] | 4 | | |
| Rated operational current | | | | | |
| AC-13 | I_e | [A] | 3 (250 V AC) | – | – |
| AC-15 | I_e | [A] | 2 (250 V AC) | – | – |
| DC-13 | I_e | [A] | 0.5 (110 V DC) | – | – |
| Rated insulation voltage | U_i | [V AC] | 250 | – | – |
| Minimum operating voltage per contract | U_{min} | [V DC] | 5 | – | – |
| Rated impulse withstand voltage (1.2/50μ) | U_{imp} | [kV] | 2.5 | – | – |
| Rated conditional short-circuit current with 6A back-up fuse | I_{sc} | [kA] | 1 | – | – |
| Max. admissible back-up fuse | | [A gL] | 4 | – | – |
| Mechanical | | | | | |
| Standard front dimension | | [mm] | 45 | 45 | 45 |
| Device height | | [mm] | 80 | 80 | 80 |
| Mounting width | | [mm] | 8.8 | 17.6 | 17.8 |
| Mounting | | | On MCB | IEC/EN 60715 top-hat rail | IEC/EN 60715 top-hat rail |
| Degree of protection | | | | | |
| Enclosed | | | IP40 | IP40 | IP40 |
| Terminal protection | | | | | |
| Terminals | | | Protection against electric shock to IEC 536 Lift terminals | Protection against electric shock to IEC 536 Twin-purpose terminals | Protection against electric shock to IEC 536 Twin-purpose terminals |
| Terminal capacity | | | | | |
| Solid | | [mm ²] | 0.5 – 2.5 | 1 – 2.5 | 2 x (1 – 2.5) |
| Flexible | | [mm ²] | 0.5 – 2.5 | 1 – 2.5 | 2 x (1 – 2.5) |
| Tightening torque of terminal screws | | [Nm] | 0.8 – 1.0 | 2.4 | 0.8 |