# DATASHEET - FAZ-C20/3



Similar to illustration

**Miniature circuit breaker (MCB), 20 A, 3p, characteristic: C**

| | |
|---|---|
| **Part no.** | **FAZ-C20/3** |
| **Catalog No.** | **278874** |
| **Alternate Catalog No.** | **FAZ-C20/3** |
| **EL-Nummer (Norway)** | **0001695183** |

Powering Business Worldwide™

## Delivery program

| | | | |
|---|---|---|---|
| Basic function | | | Miniature circuit-breakers |
| Number of poles | | | 3 pole |
| Tripping characteristic | | | C |
| Application | | | Switchgear for industrial and advanced commercial applications |
| Rated current | $I_n$ | A | 20 |
| Rated switching capacity acc. to IEC/EN 60947-2 | $I_{cu}$ | kA | 15 |
| Product range | | | FAZ |

## Technical data

### Electrical

| | | | |
|---|---|---|---|
| Standards | | | IEC/EN 60947-2<br>IEC/EN 60898 |
| Rated operational voltage | $U_e$ | V | |
| | $U_e$ | V AC | 240/415 |
| | | V DC | 60 (per pole) |
| Rated voltage according to UL | $U_n$ | V AC | 480Y/277 |
| Rated switching capacity acc. to IEC/EN 60947-2 | $I_{cu}$ | kA | 15 |
| Breaking capacity according to UL | | kA | 10 (UL1077) |
| Max operational voltage according to IEC/EN 60947-2 | | V AC | 440 |
| Rated switching capacity according to IEC/EN 60947-2 (max operational voltage) | $I_{cu}$ | kA | 10 |
| Rated service short-circuit breaking capacity according to IEC/EN 60947-2 (max operational voltage) | $I_{cs}$ | | 7,5 kA |
| Rated voltage according to IEC/EN 60898-1 | $U_n$ | V AC | 415 |
| Rated switching capacity according to IEC/EN 60898-1 | $I_{cn}$ | kA | 10 |
| Rated service short-circuit breaking capacity according to IEC/EN 60898-1 | $I_{cs}$ | | 7,5 kA |
| Operational switching capacity | | kA | 7.5 |
| Characteristic | | | B, C, D, K, S, Z |
| Max. back-up fuse | | A gL/gG | 125 |
| Selectivity Class | | | 3 |
| lifespan | | | |
| Lifespan | Operations | | > 10000 |
| Direction of incoming supply | | | as required |

### Mechanical

| | | | |
|---|---|---|---|
| Standard front dimension | | mm | 45 |
| Enclosure height | | mm | 80 |
| Mounting width per pole | | mm | 17.5 |
| Mounting | | | IEC/EN 60715 top-hat rail |
| Degree of Protection | | | IP20, IP40 (when fitted) |
| Terminals top and bottom | | | Twin-purpose terminals |
| Terminal protection | | | Finger and back-of-hand proof to BGV A2 |
| Terminal capacities | | $mm^2$ | |
| | | $mm^2$ | 1 x 25 |
| | | $mm^2$ | 2 x 10 |
| | | | |

| | | | |
|---|---|---|---|
| Thickness of busbar material | | mm | 0.8 … 2 |
| Mounting position | | | As required |

## Design verification as per IEC/EN 61439

| | | | |
|---|---|---|---|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | $I_n$ | A | 20 |
| Heat dissipation per pole, current-dependent | $P_{vid}$ | W | 0 |
| Equipment heat dissipation, current-dependent | $P_{vid}$ | W | 9.8 |
| Static heat dissipation, non-current-dependent | $P_{vs}$ | W | 0 |
| Heat dissipation capacity | $P_{diss}$ | W | 0 |
| Operating ambient temperature min. | | °C | -40 |
| Operating ambient temperature max. | | °C | 75 |
| | | | linear, per +1 °C, results in a 0.5% reduction of current carrying capacity |
| IEC/EN 61439 design verification | | | |
| 10.2 Strength of materials and parts | | | |
| 10.2.2 Corrosion resistance | | | Meets the product standard's requirements. |
| 10.2.3.1 Verification of thermal stability of enclosures | | | Meets the product standard's requirements. |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat | | | Meets the product standard's requirements. |
| 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects | | | Meets the product standard's requirements. |
| 10.2.4 Resistance to ultra-violet (UV) radiation | | | Meets the product standard's requirements. |
| 10.2.5 Lifting | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.6 Mechanical impact | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.7 Inscriptions | | | Meets the product standard's requirements. |
| 10.3 Degree of protection of ASSEMBLIES | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.4 Clearances and creepage distances | | | Meets the product standard's requirements. |
| 10.5 Protection against electric shock | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.6 Incorporation of switching devices and components | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.7 Internal electrical circuits and connections | | | Is the panel builder's responsibility. |
| 10.8 Connections for external conductors | | | Is the panel builder's responsibility. |
| 10.9 Insulation properties | | | |
| 10.9.2 Power-frequency electric strength | | | Is the panel builder's responsibility. |
| 10.9.3 Impulse withstand voltage | | | Is the panel builder's responsibility. |
| 10.9.4 Testing of enclosures made of insulating material | | | Is the panel builder's responsibility. |
| 10.10 Temperature rise | | | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| 10.11 Short-circuit rating | | | Is the panel builder's responsibility. The specifications for the switchgear must be observed. |
| 10.12 Electromagnetic compatibility | | | Is the panel builder's responsibility. The specifications for the switchgear must be observed. |
| 10.13 Mechanical function | | | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed. |

## Technical data ETIM 7.0

Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042)

Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB) (ecl@ss10.0.1-27-14-19-01 [AAB905014])

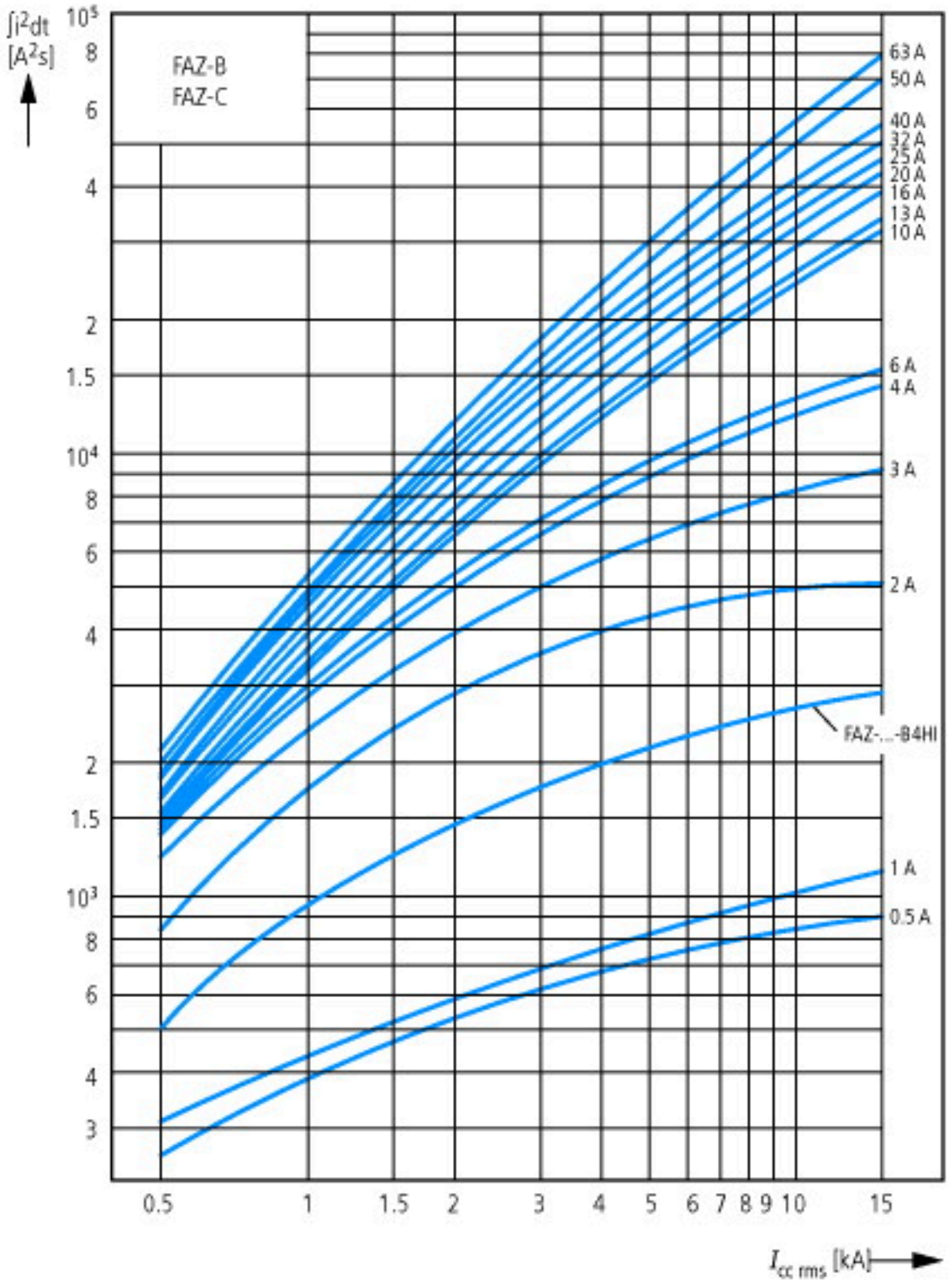
| | | | |
|---|---|---|---|
| Release characteristic | | | C |
| Number of poles (total) | | | 3 |
| Number of protected poles | | | 3 |
| Rated current | | A | 20 |
| Rated voltage | | V | 400 |
| Rated insulation voltage Ui | | V | 440 |
| Rated impulse withstand voltage Uimp | | kV | 4 |
| Rated short-circuit breaking capacity Icn EN 60898 at 230 V | | kA | 10 |
| Rated short-circuit breaking capacity Icn EN 60898 at 400 V | | kA | 10 |
| Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V | | kA | 15 |

| | | |
|---|---|---|
| Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V | kA | 15 |
| Voltage type | | AC |
| Frequency | Hz | 50 - 60 |
| Current limiting class | | 3 |
| Suitable for flush-mounted installation | | No |
| Concurrently switching N-neutral | | No |
| Over voltage category | | 3 |
| Pollution degree | | 2 |
| Additional equipment possible | | Yes |
| Width in number of modular spacings | | 3 |
| Built-in depth | mm | 70.5 |
| Degree of protection (IP) | | IP20 |
| Ambient temperature during operating | °C | -25 - 75 |
| Connectable conductor cross section multi-wired | $mm^2$ | 1 - 25 |
| Connectable conductor cross section solid-core | $mm^2$ | 1 - 25 |

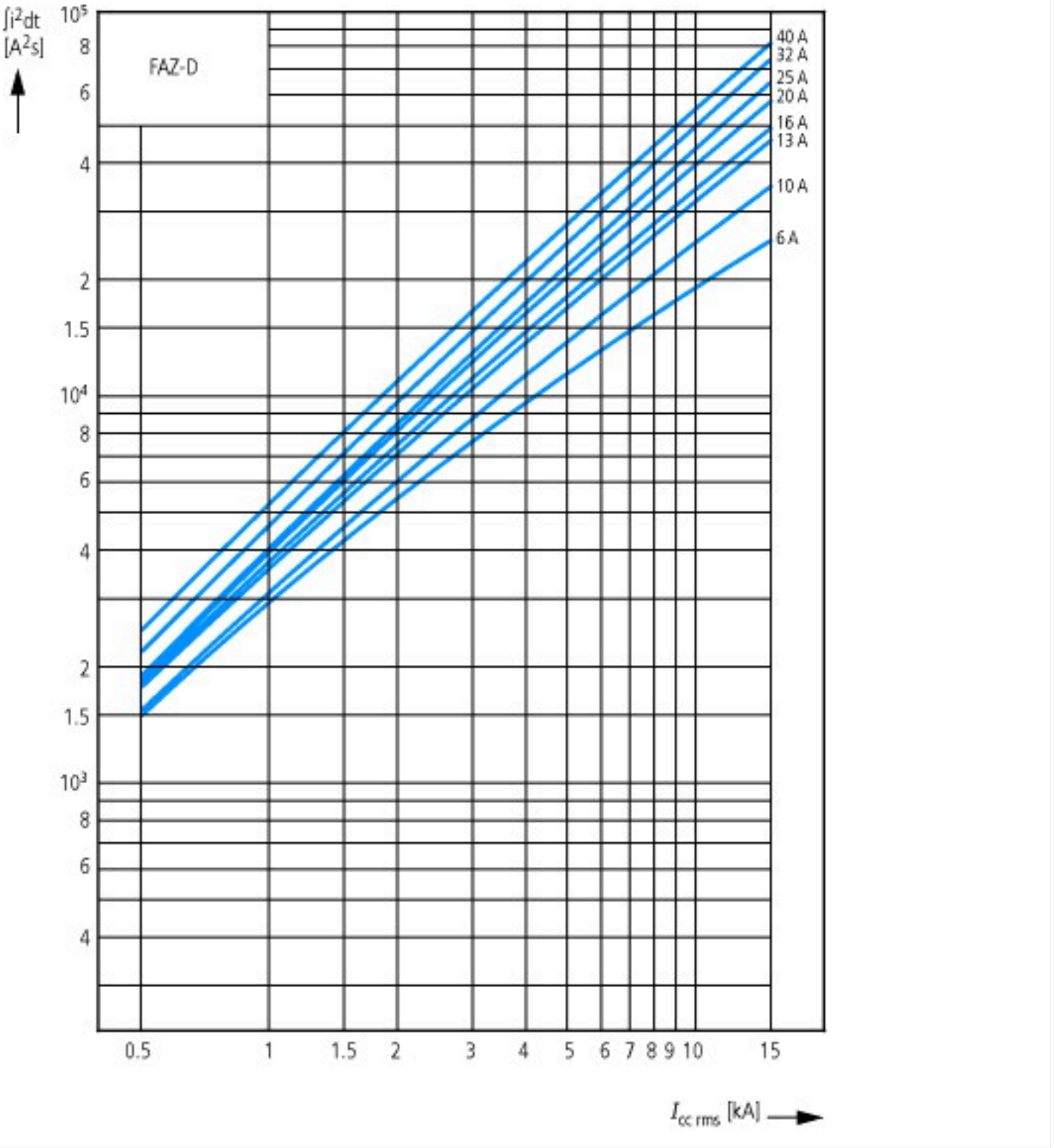
## Approvals

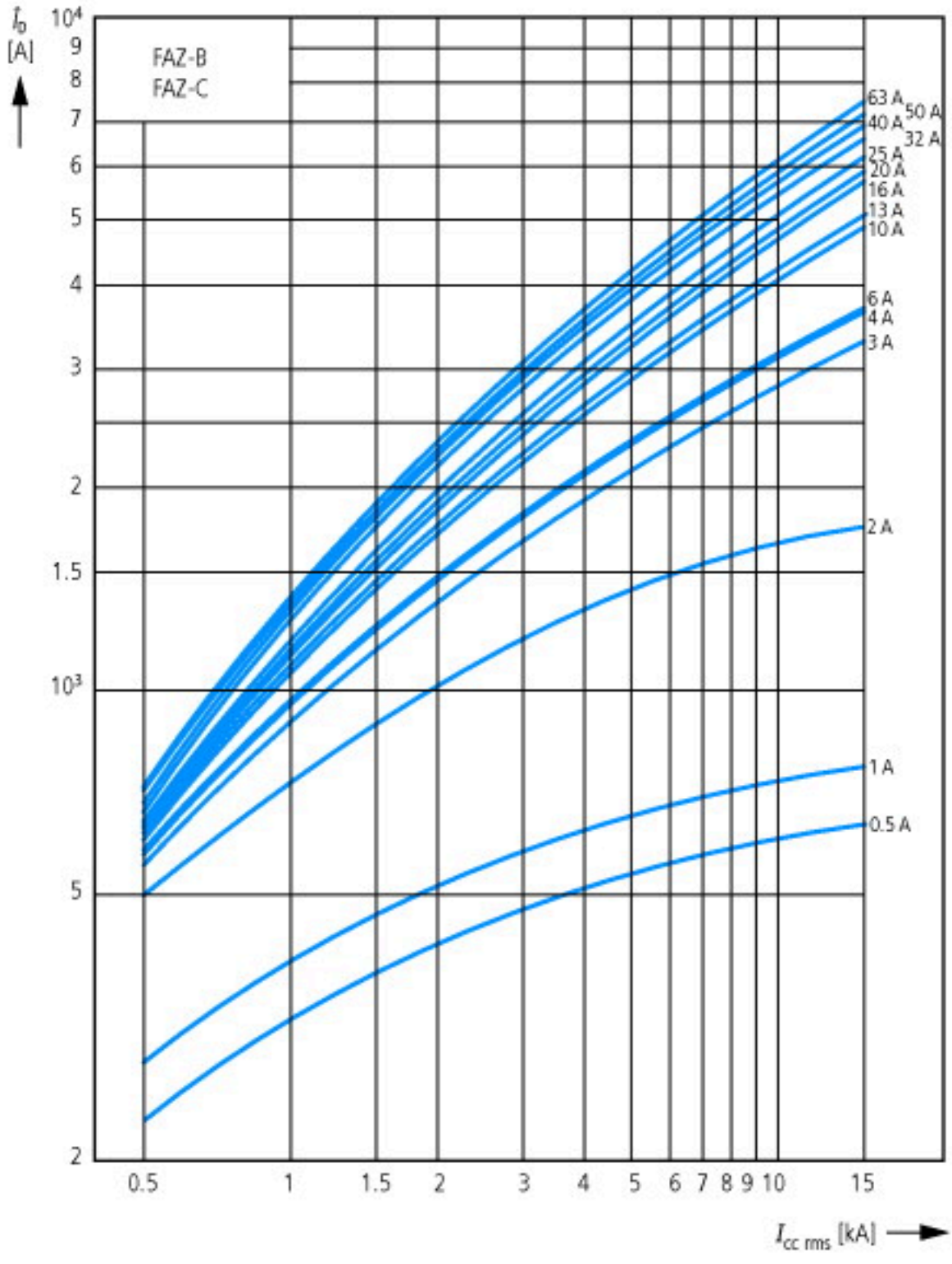
| | | |
|---|---|---|
| Product Standards | | IEC/EN 60947-2; IEC/EN 60898; UL 1077; CSA-C22.2 No. 235; CE marking |
| UL File No. | | E177451 |
| UL Category Control No. | | QVNU2, QVNU8 |
| CSA File No. | | 204453 |
| CSA Class No. | | 3215-30 |
| North America Certification | | UL recognized, CSA certified |
| Conditions of Acceptability | | Supplementary Protector only |
| Suitable for | | Branch Circuits; not as BCPD |
| Current Limiting Circuit-Breaker | | No |
| Max. Voltage Rating | | 480Y/277 VAC |
| Degree of Protection | | IEC: IP20; UL/CSA Type: - |

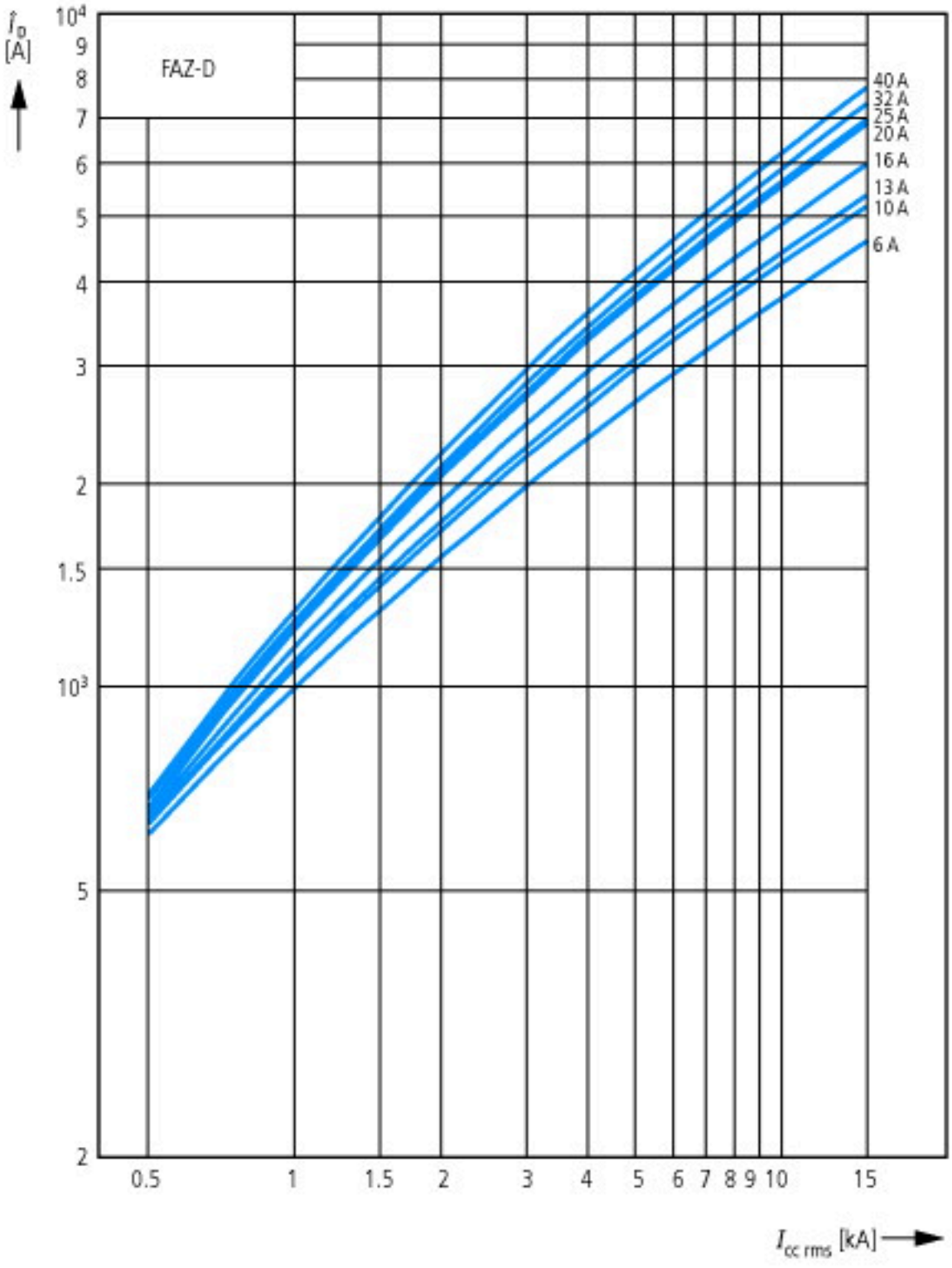
## Characteristics




Let-through energy $I^2t$
According to IEC/EN 60898


∫i²dt
[A²s]
FAZ-D
40 A
32 A
25 A
20 A
16 A
13 A
10 A
6 A
0.5
1
1.5
2
3
4
5
6
7
8
9
10
15
I cc rms [kA]


$I_b$ [A]
$10^4$
9
8
7
6
5
4
3
2
1.5
$10^3$
5
2
FAZ-B
FAZ-C
63 A
50 A
40 A
32 A
25 A
20 A
16 A
13 A
10 A
6 A
4 A
3 A
2 A
1 A
0.5 A
0.5
1
1.5
2
3
4
5
6
7
8
9
10
15
$I_{cc\ rms}$ [kA]


$I_o$ [A]
FAZ-D
40 A
32 A
25 A
20 A
16 A
13 A
10 A
6 A
$10^4$
9
8
7
6
5
4
3
2
1.5
$10^3$
5
2
0.5
1
1.5
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4
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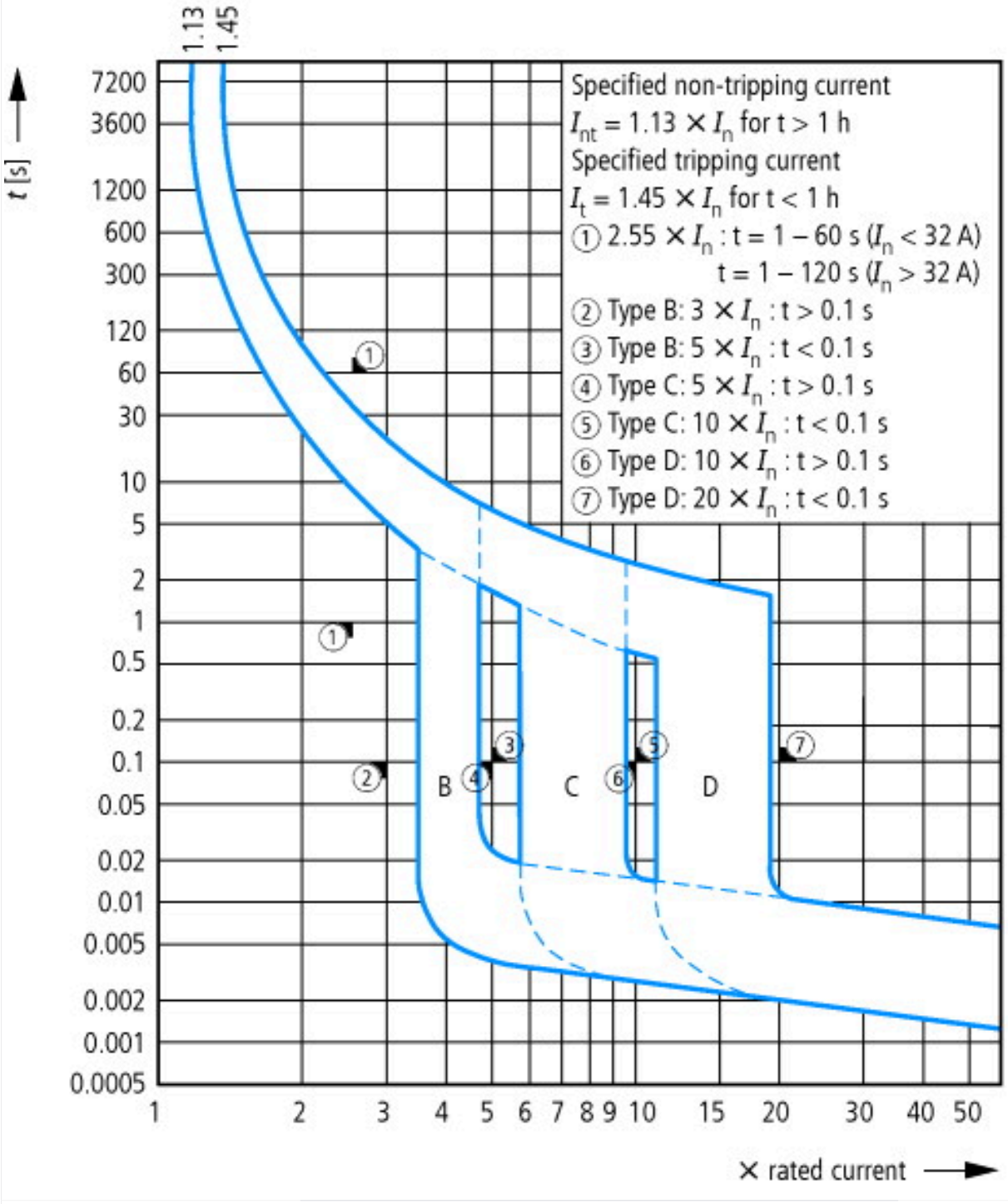
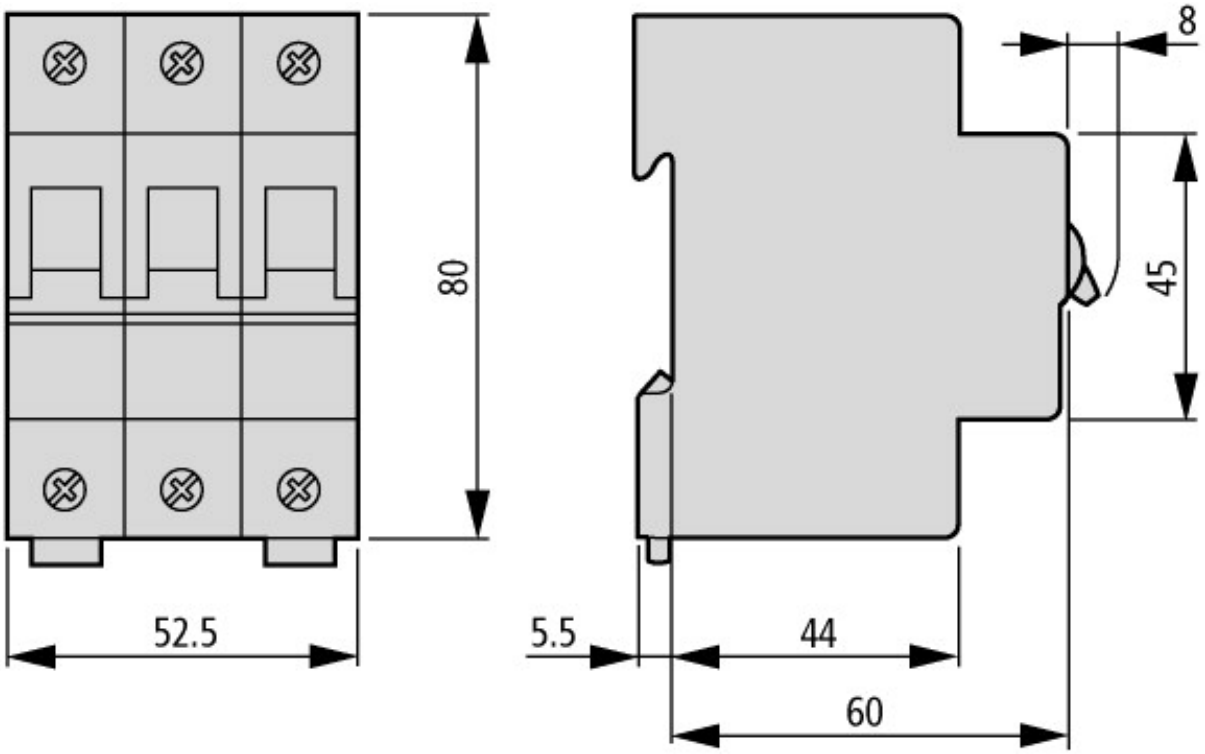
10
15
$I_{cc\ rms}$ [kA]




Tripping characteristic at 30 °C:
B, C, D to IEC/EN 60898

## Dimensions




## Additional product information (links)

| | |
|---|---|
| Temperature dependency, derating | https://www.eaton.com/content/dam/eaton/technicaldocumentation/technical-data-tables/Derating table FAZ.pdf |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