



**Miniature circuit breaker (MCB), 20 A, 1p+N, characteristic: D**

**Part no.** FAZT-D20/1N  
**Catalog No.** 142513  
**Alternate Catalog No.** FAZT-D20/1N  
**EL-Nummer (Norway)** 1666069

Similar to illustration

**Delivery program**

|   |          |    |  |
|---|----------|----|--|
| Basic function                                  |          |    | Miniature circuit-breakers                                     |
| Number of poles                                 |          |    | 1 pole+N   |
| Tripping characteristic                         |          |    | D  |
| 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 | 20   |
| Product range                                   |          |    | FAZ-T  |

**Technical data**

**Electrical**

|   |            |      |   |
|---|------------|------|---|
| Standards                                       |            |      | IEC/EN 60947-2<br>EN 45545-2; IEC 61373 |
| Rated voltage according to IEC/EN 60947-2       | $U_n$      | V AC | 240/415                                 |
| Rated switching capacity acc. to IEC/EN 60947-2 | $I_{cu}$   | kA   | 20                                      |
| Rated insulation voltage                        | $U_i$      | V    | 440                                     |
| Rated frequency                                 | f          | Hz   | 50/60                                   |
| Characteristic                                  |            |      | B, C, D                                 |
| Direction of incoming supply                    |            |      | as required                             |
| lifespan  |            |      |   |
| Electrical                                      | Operations |      | ≥ 4000                                  |
| Mechanical                                      | Operations |      | ≥ 10000                                 |

**Mechanical**

|                                    |  |                 |   |
|------------------------------------|--|-----------------|---|
| Standard front dimension           |  | mm              | 45  |
| Enclosure height                   |  | mm              | 80  |
| Mounting width per pole            |  | mm              | 17.5  |
| Mounting                           |  |                 | Quick attachment with 3 latch positions for top-hat rail IEC/EN 60715 |
| Degree of Protection               |  |                 | IP20  |
| Terminals top and bottom           |  |                 | Twin-purpose terminals  |
| Terminal protection                |  |                 | Finger- and back-of-hand proof according to BGV A3 and ÖVE-EN 6       |
| Terminal capacities                |  | mm <sup>2</sup> | 1 - 25  |
| Tightening torque of fixing screws |  | N/m             | max. 2.4  |
| Thickness of busbar material       |  | mm              | 0.8 (except N 0.5 SU)   |
| Mounting position                  |  |                 | As required   |

**Design verification as per IEC/EN 61439**

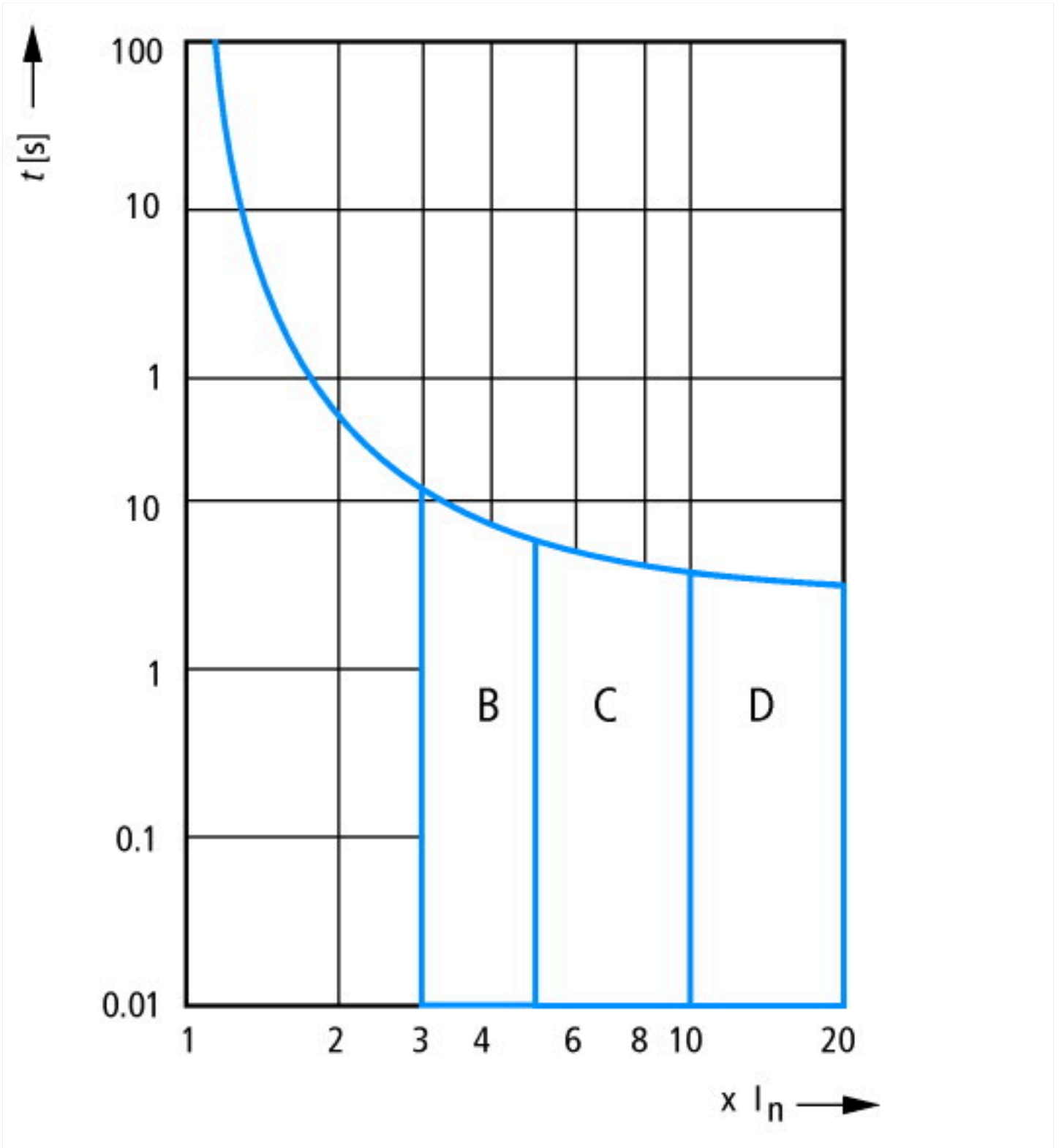
|   |            |    |     |
|---|------------|----|-----|
| Technical data for design verification                                      |            |    |     |
| Rated operational current for specified heat dissipation                    | $I_n$      | A  | 20  |
| Heat dissipation per pole, current-dependent                                | $P_{vid}$  | W  | 0   |
| Equipment heat dissipation, current-dependent                               | $P_{vid}$  | W  | 2.2 |
| 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  |                 | D        |
| Number of poles (total)   |                 | 2        |
| Number of protected poles   |                 | 1        |
| Rated current   | A               | 20       |
| Rated voltage   | V               | 230      |
| Rated insulation voltage $U_i$  | V               | 440      |
| Rated impulse withstand voltage $U_{imp}$   | kV              | 4        |
| Rated short-circuit breaking capacity $I_{cn}$ EN 60898 at 230 V  | kA              | 15       |
| Rated short-circuit breaking capacity $I_{cn}$ EN 60898 at 400 V  | kA              | 15       |
| Rated short-circuit breaking capacity $I_{cu}$ IEC 60947-2 at 230 V   | kA              | 20       |
| Rated short-circuit breaking capacity $I_{cu}$ IEC 60947-2 at 400 V   | kA              | 20       |
| Voltage type  |                 | AC       |
| Frequency   | Hz              | 50 - 60  |
| Current limiting class  |                 | 3        |
| Suitable for flush-mounted installation   |                 | No       |
| Concurrently switching N-neutral  |                 | Yes      |
| Over voltage category   |                 | 3        |
| Pollution degree  |                 | 2        |
| Additional equipment possible   |                 | Yes      |
| Width in number of modular spacings   |                 | 1.5      |
| 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 <sup>2</sup> | 1 - 25   |

## Characteristics



## Dimensions



## Additional product information (links)

Temperature dependency, derating

[https://www.eaton.com/content/dam/eaton/technicaldocumentation/technical-data-tables/Derating table FAZ\\_T.pdf](https://www.eaton.com/content/dam/eaton/technicaldocumentation/technical-data-tables/Derating table FAZ_T.pdf)