## DATASHEET - FAZT-C20/3N



Miniature circuit breaker (MCB), 20A, 3Np, C-Char, AC



| Part no.          | FAZT-C20/3N |
|-------------------|-------------|
| Catalog No.       | 241170      |
| Alternate Catalog | FAZT-C20/3N |
| No.               |             |
| EL-Nummer         | 1605699     |
| (Norway)          |             |
|                   |             |

Similar to illustration

#### **Delivery program**

| Basic function                                  |                 |    | Miniature circuit-breakers                                     |
|---|-----------------|----|--|
| Number of poles                                 |                 |    | 3 pole+N   |
| Tripping characteristic                         |                 |    | C  |
| Application                                     |                 |    | Switchgear for industrial and advanced commercial applications |
| Rated current                                   | In              | А  | 20   |
| Rated switching capacity acc. to IEC/EN 60947-2 | I <sub>cu</sub> | kA | 25   |
| Product range                                   |                 |    | FAZ-T  |

#### **Technical data**

| Electrical  |                 |                 |   |
|---|-----------------|-----------------|---|
| Standards   |                 |                 | IEC/EN 60947-2  |
| Rated voltage according to IEC/EN 60947-2   | Un              | V AC            | 415   |
| Rated switching capacity acc. to IEC/EN 60947-2   | I <sub>cu</sub> | kA              | 25  |
| Rated service short-circuit breaking capacity according to IEC/EN 60947-2                           | I <sub>cs</sub> |                 | 12,5 kA   |
| Max operational voltage according to IEC/EN 60947-2   |                 | V AC            | 440   |
| Rated switching capacity according to IEC/EN 60947-2 (max operational voltage)                      | l <sub>cu</sub> | kA              | 15  |
| Rated service short-circuit breaking capacity according to IEC/EN 60947-2 (max operational voltage) | I <sub>cs</sub> |                 | 7,5 kA  |
| Max operational voltage DC according to IEC/EN 60947-2  |                 | V DC            | 60/pole   |
| Rated voltage according to IEC/EN 60898-1   | Un              | V AC            | 415   |
| Rated switching capacity according to IEC/EN 60898-1  | I <sub>cn</sub> | kA              | 15  |
| Rated service short-circuit breaking capacity according to IEC/EN 60898-1                           | I <sub>cs</sub> |                 | 7,5 kA  |
| Rated insulation voltage  | Ui              | 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 (exept N 0.5 SU)  |
| Mounting position   |                 |                 | As required   |

# Design verification as per IEC/EN 61439

Technical data for design verification

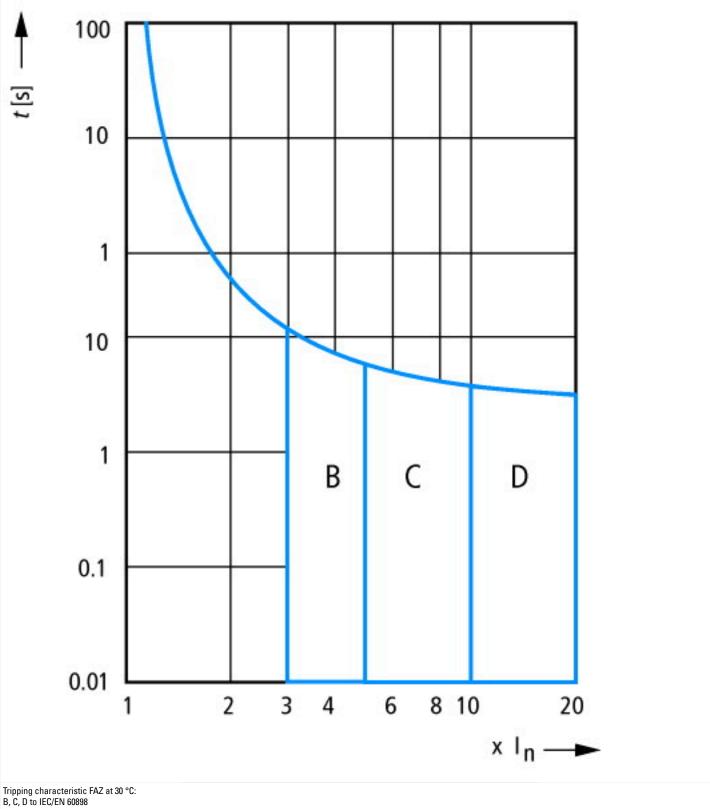
| Rated operational current for specified heat dissipation   | I <sub>n</sub>    | А  | 20   |
|--|-------------------|----|--|
| Heat dissipation per pole, current-dependent   | P <sub>vid</sub>  | W  | 0  |
| Equipment heat dissipation, current-dependent  | P <sub>vid</sub>  | W  | 10.1   |
| Static heat dissipation, non-current-dependent   | P <sub>vs</sub>   | W  | 0  |
| Heat dissipation capacity  | P <sub>diss</sub> | 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  |
| EC/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**

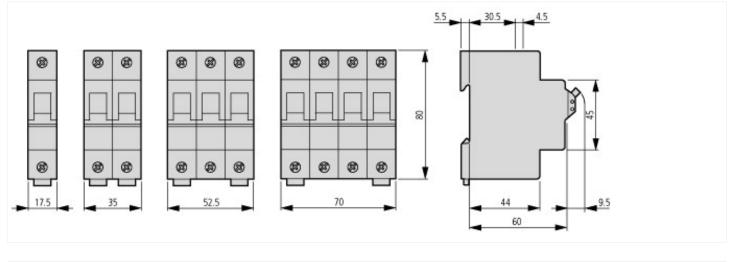
| Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042   | 2)                         |  |
|---|----------------------------|--|
| Electric engineering, automation, process control engineering / Electrical installat (ecl@ss10.0.1-27-14-19-01 [AAB905014]) | tion, device / Miniature o | circuit breaker system (MCB) / Miniature circuit breaker (MCB) |
| Release characteristic  |                            | C  |
| Number of poles (total)   |                            | 4  |
| Number of protected poles   |                            | 3  |
| Rated current   | А                          | 20   |
| Rated voltage   | V                          | 230  |
| 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                         | 15   |
| Rated short-circuit breaking capacity Icn EN 60898 at 400 V   | kA                         | 15   |
| Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V  | kA                         | 20   |
| Rated short-circuit breaking capacity Icu 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             |     | 4        |
| Built-in depth                                  | mm  | 70.5     |
| Degree of protection (IP)                       |     | IP20     |
| Ambient temperature during operating            | °C  | -25 - 75 |
| Connectable conductor cross section multi-wired | mm² | 1 - 25   |
| Connectable conductor cross section solid-core  | mm² | 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