



**Miniature circuit breaker (MCB), 40A, 2p, D-Char, AC**

**Part no.** FAZ-D40/2-NA  
**Catalog No.** 102196  
**Alternate Catalog No.** FAZ-D40/2-NA  
**EL-Nummer (Norway)** 0001691661

Similar to illustration

**Delivery program**

|   |          |    |  |
|---|----------|----|--|
| Basic function                                  |          |    | Miniature circuit-breakers                         |
| Number of poles                                 |          |    | 2 pole   |
| Tripping characteristic                         |          |    | D  |
| Application                                     |          |    | Switchgear for export to North America (UL-listed) |
| Rated current                                   | $I_n$    | A  | 40   |
| Rated switching capacity acc. to IEC/EN 60947-2 | $I_{cu}$ | kA | 15   |
| Product range                                   |          |    | FAZ-NA   |

**Technical data**

**Electrical**

|   |            |      |  |
|---|------------|------|--|
| Standards                                       |            |      | UL 489, CSA C22.2 No. 5<br>IEC 60947-2 |
| Rated operational voltage                       | $U_e$      | V    |  |
|   | $U_e$      | V AC | 240                                    |
|   |            | V DC | 60                                     |
| Rated voltage according to IEC/EN 60947-2       | $U_n$      | V AC | 415                                    |
| Rated voltage according to UL                   | $U_n$      | V AC | 240                                    |
| Rated switching capacity acc. to IEC/EN 60947-2 | $I_{cu}$   | kA   | 15                                     |
| Characteristic                                  |            |      | B, C, D                                |
| Selectivity Class                               |            |      | 3                                      |
| lifespan  |            |      |  |
| Lifespan  | Operations |      | > 20000                                |
| Direction of incoming supply                    |            |      | as required                            |

**Mechanical**

|                                    |  |     |   |
|------------------------------------|--|-----|---|
| Standard front dimension           |  | mm  | 45  |
| Enclosure height                   |  | mm  | 105   |
| Mounting width per pole            |  | mm  | 17.7  |
| 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   |
| Tightening torque of fixing screws |  | N/m | max. 2.4<br>UL:<br>#18-12 AWG: 2.4 Nm (21 lb-in)<br>#10-8 AWG: 2.8 Nm (25 lb-in)<br>#6 AWG: 4 Nm (36 lb-in) |
| 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 | 40  |
| Heat dissipation per pole, current-dependent             | $P_{vid}$ | W | 0   |
| Equipment heat dissipation, current-dependent            | $P_{vid}$ | W | 7.8 |
| Static heat dissipation, non-current-dependent           | $P_{vs}$  | W | 0   |

|  |                   |    |  |
|--|-------------------|----|--|
| Heat dissipation capacity  | P <sub>diss</sub> | W  | 0  |
| Operating ambient temperature min.   |                   | °C | -25  |
| 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

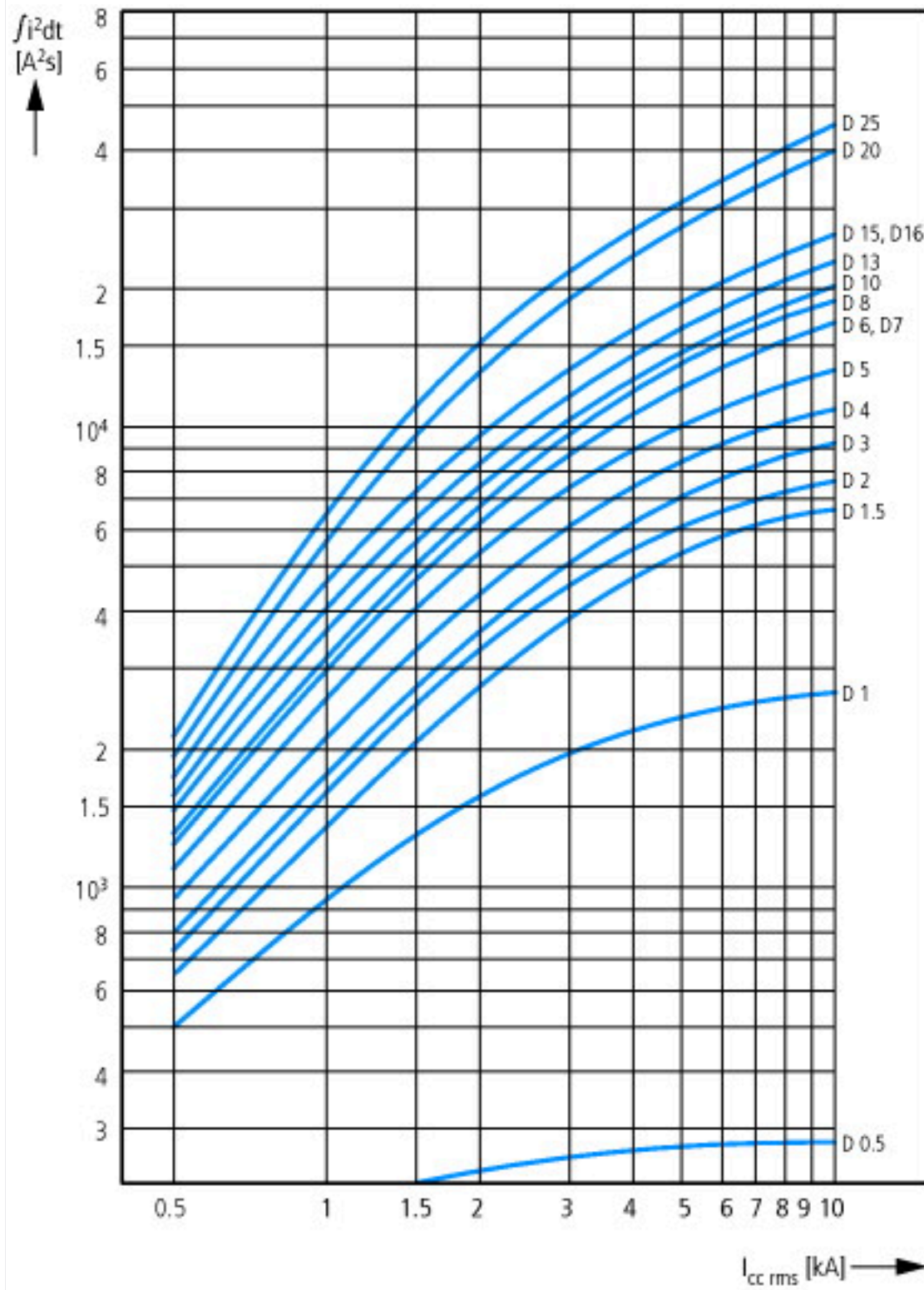
|   |  |    |         |
|---|--|----|---------|
| Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042)  |  |    |         |
| Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB) (ec1@ss10.0.1-27-14-19-01 [AAB905014]) |  |    |         |
| Release characteristic  |  |    | D       |
| Number of poles (total)   |  |    | 2       |
| Number of protected poles   |  |    | 2       |
| Rated current   |  | A  | 40      |
| Rated voltage   |  | V  | 415     |
| Rated insulation voltage U <sub>i</sub>   |  | V  | 440     |
| Rated impulse withstand voltage U <sub>imp</sub>  |  | kV | 4       |
| Rated short-circuit breaking capacity I <sub>cn</sub> EN 60898 at 230 V   |  | kA | 0       |
| Rated short-circuit breaking capacity I <sub>cn</sub> EN 60898 at 400 V   |  | kA | 0       |
| Rated short-circuit breaking capacity I <sub>cu</sub> IEC 60947-2 at 230 V  |  | kA | 15      |
| Rated short-circuit breaking capacity I <sub>cu</sub> 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   |  |    | 2       |

|   |                 |          |
|---|-----------------|----------|
| 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   |
| Connectable conductor cross section solid-core  | mm <sup>2</sup> | 1 - 25   |

## Approvals

|                                      |  |  |
|--------------------------------------|--|--|
| Product Standards                    |  | IEC/EN 60947-2; UL 489; CSA-C22.2 No. 5-09; CE marking |
| UL File No.                          |  | E235139  |
| UL Category Control No.              |  | DIVQ   |
| CSA File No.                         |  | 204453   |
| CSA Class No.                        |  | 1432-01  |
| North America Certification          |  | UL listed, CSA certified                               |
| Specially designed for North America |  | Yes, suitable as BCPD                                  |
| Suitable for                         |  | Feeder circuits, branch circuits                       |
| Current Limiting Circuit-Breaker     |  | Yes  |
| Max. Voltage Rating                  |  | > 32 A   |
| Degree of Protection                 |  | IEC: IP20, UL/CSA Type: -                              |

## Characteristics



Let-through energy  $\int i^2 t$   
 Characteristic D (0.5 - 20 A), 277 V



Characteristic D (25 - 40 A), 240 V

### Additional product information (links)

Temperature dependency, derating

<https://www.eaton.com/content/dam/eaton/technicaldocumentation/technical-data-tables/Derating table FAZ-NA-RT.pdf>