



## Miniature circuit breaker (MCB), 13A, 1Np, B-Char, AC

**Part no.** FAZ-B13/1N  
**Catalog No.** 278646  
**Eaton Catalog No.** FAZ-B13/1N  
**EL-Nummer** 0001695142  
**(Norway)**

Similar to illustration

## 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    | 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    | 254                            |
| 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    | 240                            |
| 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 <sup>2</sup> |                                         |
|                              |  | mm <sup>2</sup> | 1 x 25                                  |
|                              |  | mm <sup>2</sup> | 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 | 13  |
| Heat dissipation per pole, current-dependent             | $P_{vid}$ | W | 0   |
| Equipment heat dissipation, current-dependent            | $P_{vid}$ | W | 2.9 |
| Static heat dissipation, non-current-dependent           | $P_{vs}$  | W | 0   |

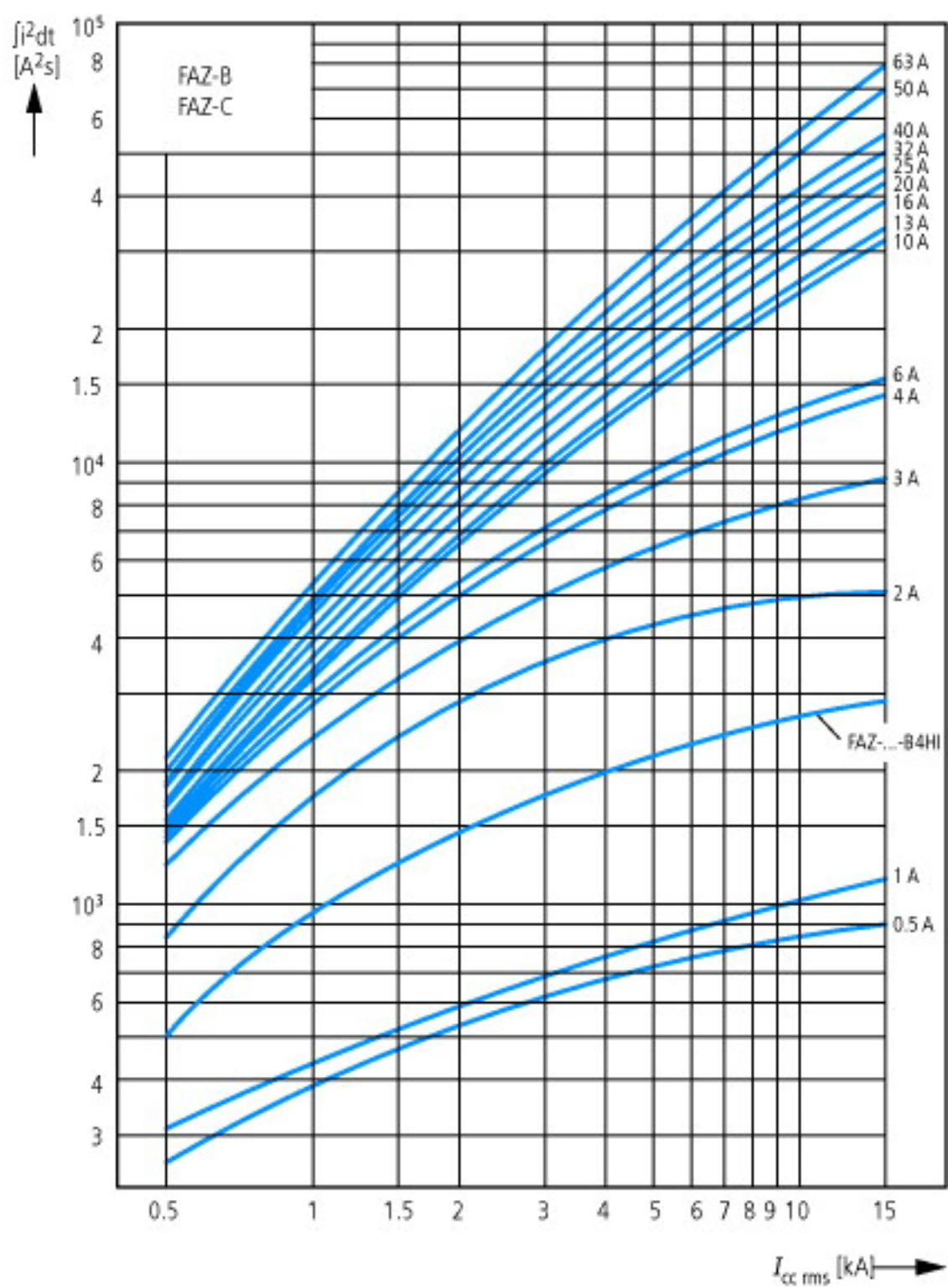
|                                                                                                                        |                   |    |                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------|-------------------|----|----------------------------------------------------------------------------------------------------------------------------------|
| 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                                                      |
| 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) (ecI@ss10.0.1-27-14-19-01 [AAB905014]) |  |    |         |
| Release characteristic                                                                                                                                                                                            |  |    | B       |
| Number of poles (total)                                                                                                                                                                                           |  |    | 2       |
| Number of protected poles                                                                                                                                                                                         |  |    | 1       |
| Rated current                                                                                                                                                                                                     |  | A  | 13      |
| Rated voltage                                                                                                                                                                                                     |  | V  | 230     |
| 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 | 10      |
| Rated short-circuit breaking capacity I <sub>cn</sub> EN 60898 at 400 V                                                                                                                                           |  | kA | 10      |
| 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                                                                                                                                                                                  |  |    | Yes     |
| 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 | mm² | 1 - 25   |
| Connectable conductor cross section solid-core  | mm² | 1 - 25   |

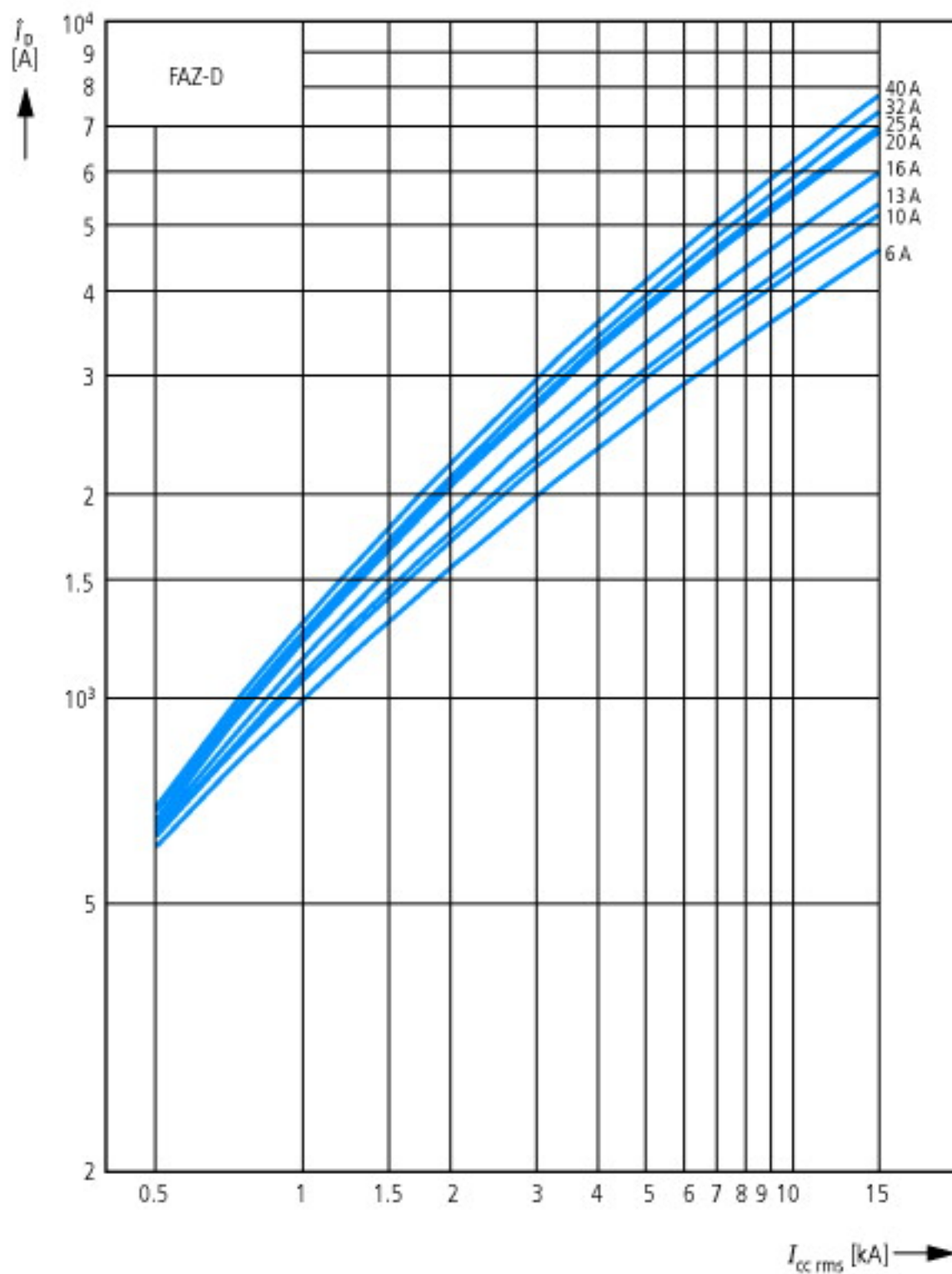
Characteristics



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









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

## Dimensions

