



**RCD/RCB combination switch, 13A, 30mA, miniature circuit-br. type C trip characteristic, 1-phase+N, residual current circuit-br. trip characteristic: A**

**Part no. FRBDM-C13/1N/003-G/A**  
**Article no. 168269**  
**Catalog No. PDC-TBD6501**

Similar to illustration

## Delivery program

|  |                |    |  |
|--|----------------|----|--|
| Basic function                                     |                |    | Combined RCD/RCB devices                                       |
| Number of poles                                    |                |    | 1 pole+N   |
| Tripping characteristic                            |                |    | C  |
| Application  |                |    | Switchgear for industrial and advanced commercial applications |
| Rated current                                      | $I_n$          | A  | 13   |
| Rated switching capacity according to IEC/EN 61009 |                | kA | 10   |
| Rated fault current                                | $I_{\Delta N}$ | A  | 0.03   |
| Tripping   |                | A  | Short time-delayed   |
| Product range                                      |                |    | FRBdM  |
| Sensitivity  |                |    | Pulse-current sensitive  |
| Impulse withstand current                          |                |    | Surge-proof, 3 kA  |
| Contact sequence                                   |                |    |  |

## Technical data

### Electrical

|                         |       |   |                         |
|-------------------------|-------|---|-------------------------|
| Sensitivity             |       |   | Pulse-current sensitive |
| Rated current           | $I_n$ | A | 13                      |
| Tripping characteristic |       |   | C                       |

## Design verification as per IEC/EN 61439

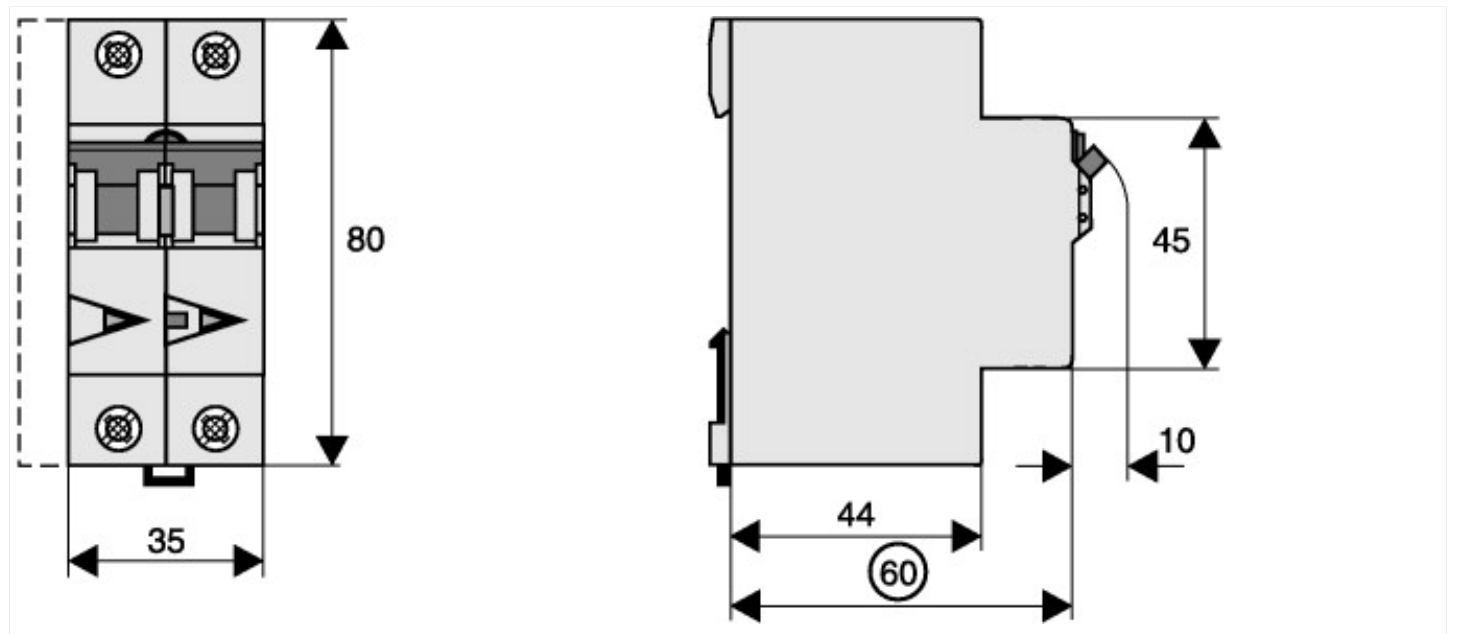
|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 13   |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 0  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 3.4  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 0  |
| Heat dissipation capacity  | $P_{diss}$ | W  | 0  |
| Operating ambient temperature min.   |            | °C | -25  |
| Operating ambient temperature max.   |            | °C | 40   |
|  |            |    | 0  |
| IEC/EN 61439 design verification   |            |    |  |
| 10.2 Strength of materials and parts   |            |    |  |
| 10.2.2 Corrosion resistance  |            |    |  |
| 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 6.0

|   |    |       |
|---|----|-------|
| Circuit breakers and fuses (EG000020) / Earth leakage circuit breaker (EC000905)  |    |       |
| Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system / MCB/RCCB combination (ecl@ss8.1-27-14-22-07 [AFZ810012]) |    |       |
| Number of poles (total)   |    | 2     |
| Number of protected poles   |    | 1     |
| Nominal rated voltage   | V  | 240   |
| Nominal rated current   | A  | 13    |
| Rated fault current   | A  | 0.03  |
| Leakage current type  |    | A     |
| Current limiting class  |    | 3     |
| Rated short-circuit breaking capacity EN 60898  | kA | 10    |
| Rated short-circuit breaking capacity IEC 60947-2   | kA | 0     |
| Frequency   |    | 50 Hz |
| Release characteristic  |    | C     |
| Concurrently switching N-neutral  |    | Yes   |
| Over voltage category   |    | 3     |
| Pollution degree  |    | 2     |
| Width in number of modular spacings   |    | 2     |
| Built-in depth  | mm | 70    |
| Suitable for flush-mounted installation   |    | No    |
| Degree of protection (IP)   |    | IP20  |
| Surge current capacity  | kA | 3     |
| Voltage type  |    | AC    |
| Antinuisance tripping version   |    | Yes   |

## Dimensions



## Additional product information (links)

Product overview (Web)

<http://www.eaton.eu/Europe/Electrical/ProductsServices/CircuitProtection/DigitalCircuitBreakers/index.htm>