# DATASHEET - FRBDM-C16/1N/01-G/A

**Electronic RCD/MCB combination, 16 A, 100 mA, MCB trip characteristic: C, 1p+N, RCD trip characteristic: A**

**Part no.** **FRBDM-C16/1N/01-G/A**
**168285**

Similar to illustration

| | |
|---|---|
| **General specifications** | |
| Product name | Eaton Moeller series xEffect - FRBdM RCBO - residual-current circuit breaker with overcurrent protection |
| Part no. | FRBDM-C16/1N/01-G/A |
| EAN | 4015081648634 |
| Product Length/Depth | 86 millimetre |
| Product height | 75 millimetre |
| Product width | 37 millimetre |
| Product weight | 0.25 kilogram |
| Compliances | RoHS conform |
| Certifications | CE |
| Product Tradename | xEffect - FRBdM |
| Product Type | RCBO - Residual-current circuit breaker with overcurrent protection |
| Product Sub Type | None |
| **Delivery program** | |
| Application | Switchgear for industrial and advanced commercial applications |
| Product range | FRBdM |
| Basic function | Combined RCD/MCB devices |
| Number of poles | Single-pole + N |
| Number of poles (protected) | 1 |
| Number of poles (total) | 2 |
| Tripping characteristic | C |
| Release characteristic | C |
| Amperage Rating | 16 A |
| Rated current | 16 A |
| Fault current rating | 0.1 A |
| Sensitivity type | Pulse-current sensitive |
| Type | RCBO |
| **Technical Data - Electrical** | |
| Voltage type | AC |
| Voltage rating | 240 V - 240 V |
| Rated operational voltage (Ue) - max | 240 V |
| Rated insulation voltage (Ui) | 250 V |
| Rated impulse withstand voltage (Uimp) | 4 kV |
| Rated fault currents of product range | 10, 30, 100 MilliAmpere |
| Impulse withstand current | Surge-proof, 3 kA |
| Frequency rating | 50 Hz |
| Leakage current type | A |
| Rated switching capacity | 10 kA |
| Rated switching capacity (IEC/EN 61009) | 10 kA |
| Rated short-circuit breaking capacity (EN 60947-2) | 0 kA |
| Rated short-circuit breaking capacity (EN 61009) | 10 kA |
| Rated short-circuit breaking capacity (EN 61009-1) | 10 kA |
| Rated short-circuit breaking capacity (IEC 60947-2) | 0 kA |
| Surge current capacity | 3 kA |
| Disconnection characteristic | Short-time delayed |

| | | | |
|---|---|---|---|
| Tripping | | | Short time-delayed |
| Pollution degree | | | 2 |

## Technical Data - Mechanical

| | | | |
|---|---|---|---|
| Width in number of modular spacings | | | 2 |
| Built-in depth | | | 70 mm |
| Degree of protection | | | IP20 |
| Connectable conductor cross section (solid-core) - min | | | 1 $mm^2$ |
| Connectable conductor cross section (solid-core) - max | | | 25 $mm^2$ |
| Connectable conductor cross section (multi-wired) - min | | | 1 $mm^2$ |
| Connectable conductor cross section (multi-wired) - max | | | 25 $mm^2$ |

## Design verification as per IEC/EN 61439 - technical data

| | | | |
|---|---|---|---|
| Rated operational current for specified heat dissipation (In) | | | 16 A |
| Heat dissipation per pole, current-dependent | | | 0 W |
| Equipment heat dissipation, current-dependent | | | 3.9 W |
| Static heat dissipation, non-current-dependent | | | 0 W |
| Heat dissipation capacity | | | 0 W |
| Ambient operating temperature - max | | | 40 °C |
| Ambient operating temperature - min | | | -25 °C |

## Design verification as per IEC/EN 61439

| | | | |
|---|---|---|---|
| 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. |
| 10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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. |
| 10.6 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. |
| 10.9.2 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. |

## Additional information

| | | | |
|---|---|---|---|
| Current limiting class | | | 3 |
| Features | | | Anti-nuisance tripping version<br>Concurrently switching N-neutral |

# Technical data ETIM 9.0

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@ss13-27-14-22-07 [AFZ810020])

| | | | |
|---|---|---|---|
| Number of poles (total) | | | 2 |
| Number of protected poles | | | 1 |
| Rated voltage | | V | 240 |
| Rated insulation voltage Ui | | V | 250 |
| Rated impulse withstand voltage Uimp | | kV | 4 |
| Rated current | | A | 16 |
| Rated fault current | | A | 0.1 |

| | | | |
|---|---|---|---|
| Leakage current type | | | A |
| Current limiting class | | | 3 |
| Power loss | | W | 4.3 |
| Rated short-circuit breaking capacity according to EN 61009 | | kA | 10 |
| Rated short-circuit breaking capacity according to IEC 60947-2 | | kA | 0 |
| Rated short-circuit breaking capacity Icn according to EN 61009-1 | | kA | 10 |
| Disconnection characteristic | | | Short-time delayed |
| Surge current capacity | | kA | 3 |
| Voltage type | | | AC |
| Frequency | | | 50 Hz |
| Release characteristic | | | C |
| Concurrently switching neutral conductor | | | Yes |
| With interlocking device | | | No |
| Over voltage category | | | 3 |
| Pollution degree | | | 2 |
| Ambient temperature during operating | | °C | -25 - 40 |
| Width in number of modular spacings | | | 2 |
| Built-in depth | | mm | 70 |
| Flush-mounted installation | | | No |
| Anti-nuisance tripping version | | | Yes |
| Degree of protection (IP) | | | IP20 |
| Connectable conductor cross section solid-core | | $mm^2$ | 1 - 25 |
| Connectable conductor cross section multi-wired | | $mm^2$ | 1 - 25 |


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