



**RCD/RCB combination, 10 A, 100 mA, MCB trip characteristic: B, 2p, RCD trip characteristic: LIA**

**Part no. FRBMM-B10/2/01-LIA  
170810**

Similar to illustration

| General specifications                              |  |  |
|---|--|--|
| Product name  |  | Eaton Moeller series xEffect - FRBm6/M RCBO - residual-current circuit breaker with overcurrent protection |
| Part no.  |  | FRBMM-B10/2/01-LIA   |
| EAN   |  | 4015081673797  |
| Product Length/Depth                                |  | 80 millimetre  |
| Product height                                      |  | 75.5 millimetre  |
| Product width                                       |  | 35 millimetre  |
| Product weight                                      |  | 0.25 kilogram  |
| Compliances   |  | RoHS conform<br>CE Marked  |
| Certifications                                      |  | CE<br>IEC 61373<br>EN45545-2   |
| Product Tradename                                   |  | xEffect - FRBm6/M  |
| 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                                       |  | FRBmM  |
| Basic function                                      |  | Combined RCD/RCB devices   |
| Number of poles                                     |  | Two-pole   |
| Number of poles (protected)                         |  | 2  |
| Number of poles (total)                             |  | 2  |
| Tripping characteristic                             |  | B  |
| Release characteristic                              |  | B  |
| Amperage Rating                                     |  | 10 A   |
| Rated current                                       |  | 10 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)                       |  | 500 V  |
| Rated impulse withstand voltage (Uimp)              |  | 4 kV   |
| Rated fault currents of product range               |  | 10, 30, 100, 300 MilliAmpere   |
| Impulse withstand current                           |  | Partly surge-proof, 250 A  |
| 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   |  | 0.25 kA  |
| Disconnection characteristic   |  | Short-time delayed   |
| Tripping   |  | Short time-delayed   |
| Pollution degree   |  | 2  |
| <b>Technical Data - Mechanical</b>   |  |  |
| Width in number of modular spacings  |  | 2  |
| Built-in depth   |  | 75.5 mm  |
| Degree of protection   |  | IP20   |
| Connectable conductor cross section (solid-core) - min                           |  | 1 mm <sup>2</sup>  |
| Connectable conductor cross section (solid-core) - max                           |  | 25 mm <sup>2</sup>   |
| Connectable conductor cross section (multi-wired) - min                          |  | 1 mm <sup>2</sup>  |
| Connectable conductor cross section (multi-wired) - max                          |  | 25 mm <sup>2</sup>   |
| <b>Design verification as per IEC/EN 61439 - technical data</b>                  |  |  |
| Rated operational current for specified heat dissipation (In)                    |  | 10 A   |
| Heat dissipation per pole, current-dependent                                     |  | 0 W  |
| Equipment heat dissipation, current-dependent                                    |  | 4.3 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   |
| <b>Design verification as per IEC/EN 61439</b>                                   |  |  |
| 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.                         |
| <b>Additional information</b>  |  |  |
| Current limiting class   |  | 3  |

## 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  |    | 2   |
| Rated voltage  | V  | 240 |
| Rated insulation voltage Ui  | V  | 500 |
| Rated impulse withstand voltage Uimp   | kV | 4   |
| Rated current  | A  | 10  |

|   |                 |                    |
|---|-----------------|--------------------|
| Rated fault current   | A               | 0.1                |
| Leakage current type  |                 | A                  |
| Current limiting class  |                 | 3                  |
| Power loss  | W               |                    |
| 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 I <sub>cn</sub> according to EN 61009-1 | kA              | 10                 |
| Disconnection characteristic  |                 | Short-time delayed |
| Surge current capacity  | kA              | 0.25               |
| Voltage type  |                 | AC                 |
| Frequency   |                 | 50 Hz              |
| Release characteristic  |                 | B                  |
| Concurrently switching neutral conductor                                      |                 | No                 |
| 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              | 75.5               |
| Flush-mounted installation  |                 | No                 |
| Anti-nuisance tripping version  |                 | No                 |
| Degree of protection (IP)   |                 | IP20               |
| Connectable conductor cross section solid-core                                | mm <sup>2</sup> | 1 - 25             |
| Connectable conductor cross section multi-wired                               | mm <sup>2</sup> | 1 - 25             |