

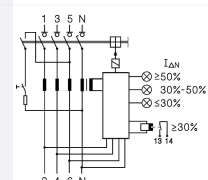


**Digital residual current circuit-breaker, 63A, 4p, 300mA, type G/BFQ**

**Part no.** FRCDM-63/4/03-G/BFQ  
**Catalog No.** 167906  
**Alternate Catalog No.** FRCDM-63/4/03-G/BFQ  
**EL-Nummer (Norway)** 0001664183

Similar to illustration

**Delivery program**

|                              |                |      |   |
|------------------------------|----------------|------|---|
| Basic function               |                |      | Residual current circuit-breakers , digital   |
| Number of poles              |                |      | 4 pole  |
| Application                  |                |      | Residual current circuit-breaker - frequency converter-proof                        |
| Rated current                | $I_n$          | A    | 63  |
| Rated short-circuit strength | $I_{cn}$       | kA   | 10  |
| Rated fault current          | $I_{\Delta N}$ | A    | 0.3   |
| Type                         |                |      | Type G/Bfq (ÖVE E 8601)   |
| Tripping                     |                | s... | Short time-delayed  |
| Product range                |                |      | FRCDM   |
| Sensitivity                  |                |      | All current sensitive - frequency converter-proof                                   |
| Impulse withstand current    |                |      | Surge-proof, 3 kA   |
| Contact sequence             |                |      |  |

**Technical data**

**Electrical**

|  |                      |      |   |
|--|----------------------|------|---|
| Types conform to   |                      |      | IEC/EN 61008<br>IEC/EN 62423                      |
| Current test marks   |                      |      | As per inscription                                |
| Tripping   |                      | s... | 10 ms delayed                                     |
| Rated voltage according to IEC/EN 60947-2  | $U_n$                | V AC | 240/415   |
| Rated frequency  | f                    | Hz   | 50/60   |
| Limit values of the operating voltage  |                      |      |   |
| electronic   |                      | V AC | 50 - 456  |
| Test circuit   |                      | V AC | 184 - 440   |
| Rated fault current  | $I_{\Delta n}$       | mA   | 300   |
| Sensitivity  |                      |      | All current sensitive - frequency converter-proof |
| Enhanced sensitivity   |                      |      | Suitable for variable frequency drives            |
| Rated insulation voltage   | $U_i$                | V    | 440   |
| Rated impulse withstand voltage  | $U_{imp}$            | kV   | 4   |
| Rated short-circuit strength   | $I_{cn}$             | kA   | 10  |
| Impulse withstand current  |                      |      | 3 kA (8/20 $\mu$ s) surge-proof                   |
| Max. admissible back-up fuse   |                      |      |   |
| Short-circuit  | gG/gL                | A    | 63  |
| Overload   | gG/gL                | A    | 63  |
| Rated making and breaking capacity / Rated residual making and breaking capacity | $I_m / I_{\Delta m}$ | A    | 630   |
| lifespan   |                      |      |   |
| Electrical   | Operations           |      | $\geq 4000$                                       |
| Mechanical   | Operations           |      | $\geq 20000$                                      |

## Dry auxiliary contact

|  |                 |  |                      |
|--|-----------------|--|----------------------|
| Rated switching capacity   |                 |  |                      |
| 30 VDC (resistive load)  | A               |  | 2                    |
| 240 VAC (resistive load)   | A               |  | 0.25                 |
| Max. switching duty (resistive load)   | W               |  | 60                   |
| Max. switching voltage AC  | V               |  | 240                  |
| Max. switching voltage DC  | V               |  | 220                  |
| Maximum switching current  | A               |  | 2                    |
| Min. switching capacity (reference value)                                    |                 |  | 10 µA, 10 mV DC      |
| lifespan   |                 |  |                      |
| Electrical (at 20 switching operations per minute) 2 A 30 VDC resistive load | Operations      |  | $\geq 10^5$          |
| Electrical (at 20 switching operations per minute) 1 A 30 VDC resistive load | Operations      |  | $\geq 5 \times 10^5$ |
| Terminal capacity  | mm <sup>2</sup> |  | 0.25 - 1.5           |

## Mechanical

|  |                 |  |   |
|--|-----------------|--|---|
| Standard front dimension                       | mm              |  | 45  |
| Device height                                  | mm              |  | 80  |
| Built-in width                                 | mm              |  | 70 (4TE)  |
| Mounting                                       |                 |  | Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715         |
| Degree of Protection                           |                 |  | IP40, IP54 (with moisture-proof enclosure)                                |
| Terminals top and bottom                       |                 |  | Twin-purpose terminals  |
| Terminal protection                            |                 |  | finger and hand touch safe, DGUV VS3, EN 50274                            |
| Terminal cross-section                         |                 |  |   |
| Solid  | mm <sup>2</sup> |  | 1.5 - 35  |
| Stranded                                       | mm <sup>2</sup> |  | 2 x 16  |
| Terminal cross-section                         |                 |  | M5 (with cross-recessed screw as defined in EN ISO 4757-Z2, Pozidriv PZ2) |
| Tightening torque of fixing screws             | N/m             |  | 2 - 2.4   |
| Thickness of busbar material                   | mm              |  | 0.8 - 2   |
| Admissible ambient temperature range           | °C              |  | -25 - +40   |
| Permissible storage and transport temperatures | °C              |  | -35 - +60   |
| Climatic proofing                              |                 |  | 25-55°C/90-95% relative humidity according to IEC 60068-2                 |
| Mounting position                              |                 |  | As required   |
| Contact position indicator                     |                 |  | red / green   |
| Trip indication                                |                 |  | white / blue  |

## Design verification as per IEC/EN 61439

|  |                   |    |   |
|--|-------------------|----|---|
| Technical data for design verification   |                   |    |   |
| Rated operational current for specified heat dissipation   | I <sub>n</sub>    | A  | 63  |
| Heat dissipation per pole, current-dependent   | P <sub>vid</sub>  | W  | 2.5   |
| Equipment heat dissipation, current-dependent  | P <sub>vid</sub>  | W  | 10  |
| Static heat dissipation, non-current-dependent   | P <sub>vs</sub>   | W  | 0   |
| Heat dissipation capacity  | P <sub>diss</sub> | W  | 0   |
| Operating ambient temperature min.   |                   | °C | -25   |
| Operating ambient temperature max.   |                   | °C | 40  |
|  |                   |    | Maximum operating temperature is 60 °C in accordance with the de-rating table |
| 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.                         |

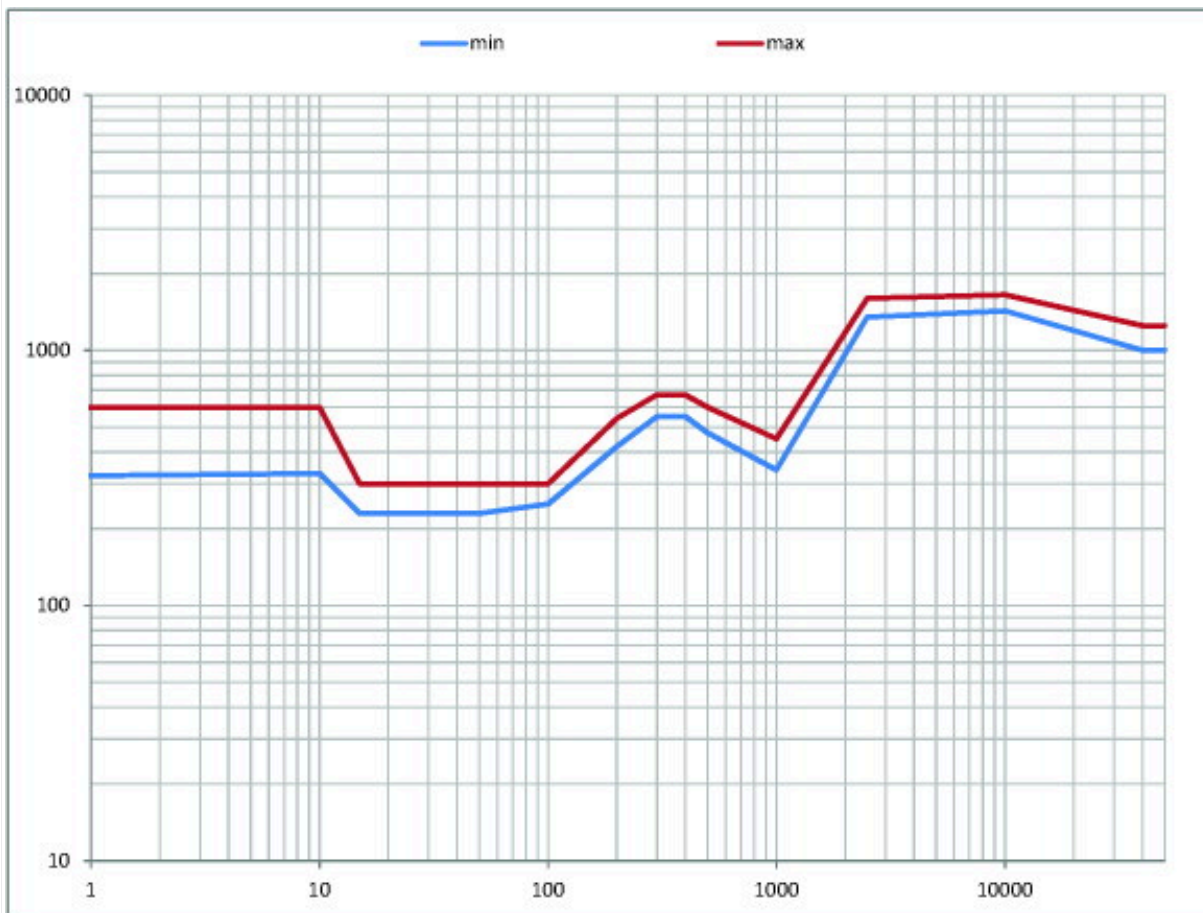
## Technical data ETIM 7.0

Circuit breakers and fuses (EG000020) / Residual current circuit breaker (RCCB) (EC000003)

Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system / Residual current circuit breaker (RCCB) (ecl@ss10.0.1-27-14-22-01 [AAB906014])

|  |                 |          |
|--|-----------------|----------|
| Number of poles                                    |                 | 4        |
| Rated voltage                                      | V               | 415      |
| Rated current                                      | A               | 63       |
| Rated fault current                                | mA              | 300      |
| Rated insulation voltage $U_i$                     | V               | 440      |
| Rated impulse withstand voltage $U_{imp}$          | kV              | 4        |
| Mounting method                                    |                 | DIN rail |
| Leakage current type                               |                 | B        |
| Selective protection                               |                 | No       |
| Short-time delayed tripping                        |                 | Yes      |
| Short-circuit breaking capacity (I <sub>cw</sub> ) | kA              | 10       |
| Surge current capacity                             | kA              | 3        |
| Frequency  |                 | 50/60 Hz |
| Additional equipment possible                      |                 | Yes      |
| With interlocking device                           |                 | Yes      |
| Degree of protection (IP)                          |                 | IP20     |
| Width in number of modular spacings                |                 | 4        |
| Built-in depth                                     | mm              | 70.5     |
| Ambient temperature during operating               | °C              | -25 - 40 |
| Pollution degree                                   |                 | 2        |
| Connectable conductor cross section multi-wired    | mm <sup>2</sup> | 1.5 - 16 |
| Connectable conductor cross section solid-core     | mm <sup>2</sup> | 1.5 - 35 |

## Characteristics



Tripping current frequency range: | FRCdM, 300 mA, type Bfq

# Influence of the ambient temperature to the maximum continuous current (A)

| Range               | <b>FRCdM type B, Bfq, B+</b> |                    |                    |
|---------------------|------------------------------|--------------------|--------------------|
| Ambient temperature | Amperage                     |                    |                    |
|                     | RCCB rating<br>25A           | RCCB rating<br>40A | RCCB rating<br>63A |
|                     | 40°                          | 25                 | 40                 |
| 45°                 | 25                           | 40                 | 56                 |
| 50°                 | 25                           | 40                 | 50                 |
| 55°                 | 25                           | 35                 | 45                 |
| 60°                 | 25                           | 30                 | 40                 |

Derating - table FRCdM\_B

## Dimensions

