


**Digital residual current circuit-breaker, 63A, 4p, 30mA, type G/A**


**Part no.** FRCDM-63/4/003-G/A  
**Catalog No.** 168650  
**Alternate Catalog No.** FRCDM-63/4/003-G/A  
**EL-Nummer (Norway)** 1666202

Similar to illustration

**Delivery program**

|                              |                |      |                                                                |
|------------------------------|----------------|------|----------------------------------------------------------------|
| Basic function               |                |      | Residual current circuit-breakers , digital                    |
| Number of poles              |                |      | 4 pole                                                         |
| Application                  |                |      | Switchgear for industrial and advanced commercial applications |
| Rated current                | $I_n$          | A    | 63                                                             |
| Rated short-circuit strength | $I_{cn}$       | kA   | 10                                                             |
| Rated fault current          | $I_{\Delta N}$ | A    | 0.03                                                           |
| Type                         |                |      | Type G/A (ÖVE E 8601)                                          |
| Tripping                     |                | s... | Short time-delayed                                             |
| Product range                |                |      | FRCdM                                                          |
| Sensitivity                  |                |      | Pulse-current sensitive                                        |
| Impulse withstand current    |                |      | Surge-proof, 3 kA                                              |
| Contact sequence             |                |      |                                                                |

**Technical data**
**Electrical**

|                                                                                  |                      |      |                                 |
|----------------------------------------------------------------------------------|----------------------|------|---------------------------------|
| Types conform to                                                                 |                      |      | ÖVE E 8601                      |
| 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                              |
| Limit values of the operating voltage                                            |                      |      |                                 |
| electronic                                                                       |                      | V AC | 50 - 264                        |
| Test circuit                                                                     |                      | V AC | 184 - 440                       |
| Rated fault current                                                              | $I_{\Delta n}$       | mA   | 30                              |
| Sensitivity                                                                      |                      |      | Pulse-current sensitive         |
| 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      | 10 <sup>5</sup>     |
| Electrical (at 20 switching operations per minute) 1 A 30 VDC resistive load | Operations      | 5 x 10 <sup>5</sup> |
| 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                                                              |
| Internal resistance (at room temperature, single-pole, 50 Hz) |                 |                                                                           |
| Complete unit                                                 | R <sub>i</sub>  | mΩ 0.64                                                                   |

## 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  | 0                                                                                         |
| 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                                                                                        |
|                                                                                                                        |                   |    | Starting at 40 °C, the max. permissible continuous current decreases by 3% for every 1 °C |
| 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)  
(ec@ss10.0.1-27-14-22-01 [AAB906014])

|                                                 |                 |          |
|-------------------------------------------------|-----------------|----------|
| Number of poles                                 |                 | 4        |
| Rated voltage                                   | V               | 415      |
| Rated current                                   | A               | 63       |
| Rated fault current                             | mA              | 30       |
| Rated insulation voltage Ui                     | V               | 440      |
| Rated impulse withstand voltage Uimp            | kV              | 4        |
| Mounting method                                 |                 | DIN rail |
| Leakage current type                            |                 | A        |
| Selective protection                            |                 | No       |
| Short-time delayed tripping                     |                 | Yes      |
| Short-circuit breaking capacity (Icw)           | kA              | 10       |
| Surge current capacity                          | kA              | 3        |
| Frequency                                       |                 | 50 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 |

## Dimensions

