DATASHEET - FRCMM-16/2/05-A



Residual current circuit breaker (RCCB), 16A, 2p, 500mA, type A

Powering Business Worldwide*

Part no. FRCMM-16/2/05-A Catalog No. 170281

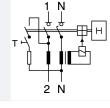
Alternate Catalog FRCMM-16/2/05-A

No.

EL-Nummer 1666277 (Norway)

Similar to illustration

| Delivery program | | | |
|------------------------------|-----------------|----|--|
| Basic function | | | Residual current circuit-breakers |
| Number of poles | | | 2 pole |
| Application | | | Switchgear for industrial and advanced commercial applications |
| Rated current | In | Α | 16 |
| Rated short-circuit strength | I _{cn} | kA | 10 with back-up fuse |
| Rated fault current | $I_{\Delta N}$ | Α | 0.5 |
| Туре | | | Type A |
| Tripping | | s | non-delayed |
| Product range | | | FRCmM |
| Sensitivity | | | Pulse-current sensitive |
| Impulse withstand current | | | Partly surge-proof 250 A |



Technical data

Contact sequence

Electrical

Device height

Built-in width

| Electrical | | | |
|--|--------------------|------|-----------------------------|
| Types conform to | | | IEC/EN 61008 |
| Current test marks | | | As per inscription |
| Tripping | | s | non-delayed |
| Rated voltage according to IEC/EN 60947-2 | U_n | V AC | 240 |
| Rated frequency | f | Hz | 50 |
| Limit values of the operating voltage | | | |
| Test circuit | | V AC | 184 - 250 |
| Rated fault current | $I_{\Delta n}$ | mA | 500 |
| Sensitivity | | | Pulse-current sensitive |
| Rated insulation voltage | U_{i} | V | 440 |
| Rated impulse withstand voltage | U_{imp} | kV | 4 (1.2/50μs) |
| Rated short-circuit strength | I _{cn} | kA | 10 with back-up fuse |
| Impulse withstand current | | | 250 A (8/20 μs) surge-proof |
| Max. admissible back-up fuse | | | |
| Short-circuit | gG/gL | Α | 63 |
| Overload | gG/gL | Α | 16 |
| Rated making and breaking capacity / Rated residual making and breaking capacity | $I_m/I_{\Delta m}$ | А | 500 |
| lifespan | | | |
| Electrical | Operations | | ≧ 4000 |
| Mechanical | Operations | | ≧ 20000 |
| Mechanical | | | |
| Standard front dimension | | mm | 45 |

mm

mm

80

35 (2TE)

| 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 | | Busbar tag shroud to BGV A3, ÖVE-EN 6 |
| Terminal cross-section | | |
| Solid | mm^2 | 1.5 - 35 |
| Stranded | mm^2 | 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 | In | Α | 16 |
| Heat dissipation per pole, current-dependent | P _{vid} | W | 0 |
| Equipment heat dissipation, current-dependent | P _{vid} | W | 2 |
| 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 |
| | | | 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 switch gear must be observed. $\label{eq:constraint}$ |
| 10.12 Electromagnetic compatibility | | | Is the panel builder's responsibility. The specifications for the switch gear must be observed. $\label{eq:constraint}$ |
| 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)

| Rated voltage V 240 Rated current A 16 Rated functurent MA 500 Rated insulation voltage Ui V 440 Rated insulation voltage Uimp KV 440 Mounting method DIN rail Leakage current type A No Selective protection No Short-time delayed tripping No Short-circuit breaking capacity (Icw) KA 10 Surge current capacity Yes With interlocking device Yes Unit interlocking device Yes Unit interlocking device 120 With in number of modular spacings 21 | (ecl@ss10.0.1-27-14-22-01 [AAB906014]) | , | , |
|--|---|-----|---|
| Rated current Rated functurent Rated insulation voltage Ui Rated insulation voltage Uimp Rated Carrent Vpe Rated Carrent Vpe Rated Insulation Voltage Uimp Rated Carrent Vpe Rated C | Number of poles | | 2 |
| Rated fault current Rated insulation voltage Ui Rated insulation voltage Ui Rated impulse withstand voltage Uimp Mounting method Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) With in number of modular spacings mA 500 440 440 40 40 40 40 40 40 40 40 40 40 | Rated voltage | V | 240 |
| Rated insulation voltage Ui Rated impulse withstand voltage Uimp Mounting method Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) With in number of modular spacings ### 440 ### | Rated current | А | 16 |
| Rated impulse withstand voltage Uimp Mounting method Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Within number of modular spacings kV 4 DIN rail A A 10 DIN rail No No Short-circuit breaking capacity (Icw) No Short-circuit breaking capacity (Icw) No Short-circuit breaking capacity (Icw) No Ves Yes Urban IP20 Within number of modular spacings | Rated fault current | mA | 500 |
| Mounting method Leakage current type Selective protection Short-time delayed tripping Short-circuit breaking capacity (Icw) Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) With in number of modular spacings DIN rail A A A A A A D No Short-circuit breaking capacity (Icw) No No Short-circuit breaking capacity (Icw) No No Short-circuit breaking capacity (Icw) No No No No No Surge current capacity NA No No No No No No No No No | Rated insulation voltage Ui | V | 440 |
| Leakage current type Selective protection Short-time delayed tripping No Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings A A A A A A A Description No No Short-circuit breaking capacity (Icw) No No No No No No No No No N | Rated impulse withstand voltage Uimp | kV | 4 |
| Selective protection Short-time delayed tripping No Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings No No No No No No No No No N | Mounting method | | DIN rail |
| Short-time delayed tripping Short-circuit breaking capacity (Icw) Surge current capacity Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings No No No No No No No No No N | Leakage current type | | A |
| Short-circuit breaking capacity (Icw) Surge current capacity kA 0.25 Frequency 50 Hz Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings kA 10 12 15 17 18 19 19 19 10 10 10 10 10 10 10 | Selective protection | | No |
| Surge current capacity kA 0.25 Frequency Additional equipment possible With interlocking device Degree of protection (IP) Width in number of modular spacings kA 0.25 Yes Yes Yes 1P20 2 | Short-time delayed tripping | | No |
| Frequency 50 Hz Additional equipment possible Yes With interlocking device Yes Degree of protection (IP) IP20 Width in number of modular spacings 2 | Short-circuit breaking capacity (Icw) | kA | 10 |
| Additional equipment possible With interlocking device With interlocking fevice Pegree of protection (IP) Width in number of modular spacings Yes IP20 2 | Surge current capacity | kA | 0.25 |
| With interlocking device Yes Degree of protection (IP) IP20 Width in number of modular spacings 2 | Frequency | | 50 Hz |
| Degree of protection (IP) Width in number of modular spacings 2 | Additional equipment possible | | Yes |
| Width in number of modular spacings 2 | With interlocking device | | Yes |
| | Degree of protection (IP) | | IP20 |
| | Width in number of modular spacings | | 2 |
| 3uilt-in depth mm 70.5 | Built-in depth | mm | 70.5 |
| Ambient temperature during operating °C -25 - 40 | Ambient temperature during operating | °C | -25 - 40 |
| Pollution degree 2 | Pollution degree | | 2 |
| Connectable conductor cross section multi-wired mm ² 1.5 - 16 | Connectable conductor cross section multi-wired | mm² | 1.5 - 16 |
| Connectable conductor cross section solid-core mm² 1.5 - 35 | Connectable conductor cross section solid-core | mm² | 1.5 - 35 |

Dimensions

