



Residual current circuit breaker (RCCB), 40A, 4p, 500mA, type A

Part no. **PFIM-40/4/05-A-MW**
 Catalog No. **235442**

Similar to illustration

Delivery program

| | | | |
|------------------------------|----------------|------|--|
| Basic function | | | Residual current circuit-breakers |
| Number of poles | | | 4 pole |
| Application | | | Residual current circuit-breaker for residential and commercial applications |
| Rated current | I_n | A | 40 |
| Rated short-circuit strength | I_{cn} | kA | 10 |
| Rated fault current | $I_{\Delta N}$ | A | 0.5 |
| Type | | | Type A |
| Tripping | | s... | non-delayed |
| Product range | | | PFIM |
| Sensitivity | | | Pulse-current sensitive |
| Impulse withstand current | | | Partly surge-proof 250 A |

Technical data

Electrical

| | | | |
|--|----------------------|------|-------------------------|
| Standards | | | IEC/EN 61008 |
| Rated operational voltage | U_e | V | |
| | U_e | V AC | |
| Rated operating voltage | U_e | V AC | 230/400 |
| Rated frequency | f | Hz | 50 |
| Limit values of the operating voltage | | | |
| Test circuit | | V AC | 196 - 456 |
| 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 |
| Rated making and breaking capacity / Rated residual making and breaking capacity | $I_m / I_{\Delta m}$ | A | 500 |
| lifespan | | | |
| Electrical | Operations | | ≥ 4000 |
| Mechanical | Operations | | ≥ 20000 |

References

| | | | |
|---|--|--|--------------------|
| Auxiliary switch for subsequent installation | | | Z-HK 248432 |
| Tripping signal contact for subsequent installation | | | Z-NHK 248434 |
| Remote control and automatic switching device | | | Z-FW/LP 248296 |
| Compact enclosure | | | KLV-TC-4 276241 |
| Sealing cover set | | | Z-RC/AK-4MU 101062 |

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 | | | Open mouthed/lift terminals |
| Terminal protection | | | DGUV VS3, EN 50274 |
| Terminal cross-section | | | |
| Solid | | mm ² | 1.5 - 35 |

| | | |
|--|-----------------|---|
| Stranded | mm ² | 2 x 16 |
| Thickness of busbar material | mm | 0.8 - 2 |
| Permissible storage and transport temperatures | °C | -35 - +60 |
| Climatic proofing | | 25-55°C/90-95% relative humidity according to IEC 60068-2 |
| Thickness of busbar material | mm | |
| Material thickness | mm | 0.8 - 2 |

Design verification as per IEC/EN 61439

| | | | |
|--|-------------------|----|--|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I _n | A | 40 |
| Heat dissipation per pole, current-dependent | P _{vid} | W | 0 |
| Equipment heat dissipation, current-dependent | P _{vid} | W | 8.4 |
| 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 | 60 |
| | | | Starting at 40 °C, the max. permissible continuous current decreases by 2.5% for every 1 °C |
| IEC/EN 61439 design verification | | | |
| 10.2 Strength of materials and parts | | | |
| 10.2.2 Corrosion resistance | | | |
| 10.2.2.1 Verification of thermal stability of enclosures | | | Meets the product standard's requirements. |
| 10.2.2.2 Verification of resistance of insulating materials to normal heat | | | Meets the product standard's requirements. |
| 10.2.2.3 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

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|---|--|----|-----|
| 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) (ec1@ss10.0.1-27-14-22-01 [AAB906014]) | | | |
| Number of poles | | | 4 |
| Rated voltage | | V | 400 |
| Rated current | | A | 40 |
| Rated fault current | | mA | 500 |
| Rated insulation voltage U _i | | V | 440 |

| | | |
|--|-----------------|----------|
| Rated impulse withstand voltage U _{imp} | kV | 4 |
| Mounting method | | DIN rail |
| Leakage current type | | A |
| Selective protection | | No |
| Short-time delayed tripping | | No |
| Short-circuit breaking capacity (I _{cw}) | kA | 10 |
| Surge current capacity | kA | 0.25 |
| 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 ² | 1.5 - 16 |
| Connectable conductor cross section solid-core | mm ² | 1.5 - 35 |