



DATA SHEET

residual current operated circuit-breakers with integral overcurrent protection

DRCBO 3 B40/0,03/1N-A KV

sensitive to pulsating and alternating currents Type A, short-time delayed

Article number 09932408



10000 KV G

Function

RCCB/MCB combinations (RCBO) are residual current operated circuit-breakers with integral overcurrent protection for protecting systems in the event of a short-circuit and overload as per the requirements of VDE 0100 Part 430, and for protecting persons, farm animals and material items in the event of earth leakage currents as per VDE 0100 Part 410. Overload tripping occurs at currents in the overload range through a short-time delayed, heat-sensitive bimetal trip and at short-circuit currents through an electromagnetic instantaneous trip. The high-quality residual current operated circuit-breakers with integral overcurrent protection from series DRCBO 3 are independent of the mains voltage and have a high switching capacity of 10 kA. The green–red contact position indicator and the residual current tripping indicator allow for a quick overview of the operating status of the devices. Two features make mounting and removal easier: terminal protection against wires being lodged behind them and the tri-stable snap-in slider. Type A residual current circuit-breakers are sensitive to pulsating and alternating currents. This function is independent of the mains voltage. RCBOs with characteristic B ensure standard protection for lighting and socket circuits. As their short-circuit trip is three to five times the rated current, they should not be used to fuse-protect load circuits with high inrush currents. Due to a response delay, residual current operated circuit-breakers with integral overcurrent protection in the KV design respond only to residual currents with a duration of more than a half-period of the mains frequency. In contrast to instantaneous breakers, they are significantly less sensitive to brief impulse-like residual currents and facilitate problem-free operation, even when lightning or switching overvoltage in the system causes capacitive surge residual currents or insulation flashovers with a secondary current up to the zero point of the mains voltage. They therefore meet the requirements for lightning-resistant RCBOs as per Austrian standard ÖVE E 8601. The tripping times set out in national and international design regulations for instantaneous RCBOs are also observed by the KV design devices. In principle, therefore, they may be used instead of a standard breaker.

Features

tripping not dependent on mains and auxiliary voltage, sensitive to AC residual currents and pulsating DC residual currents (type A), compact design for all rated currents, high short-circuit resistance, green/red switching position indicator, residual current tripping indicator, Strain-relief clamps with protection against wires being lodged behind them and wide terminal cross-section range for rail and line wiring on both connection sides, Use of conventional wiring rails possible, Neutral conductor right, tri-stable snap-in slider for easy mounting and removal, high electromagnetic compatibility (immunity to interference for industrial applications)

Mounting

quick fastening to mounting rail, any installation position, supply as desired

Applications

Protection of circuits in residential and purpose-built buildings as well as industrial facilities with TN-S, TT and TN-C-S networks. In IT networks, the RCCB/MCBs can be set to switch off in the event of a second earth fault, Not permitted for use in systems with TN-C networks; not permitted for protecting circuits in which the power electronics equipment may cause smooth DC residual currents or residual currents with frequencies not equal to 50/60 Hz.

Accessories

auxiliary switches DHi, wiring components RCCB and MCB busbars 2-pole, wiring components RCCB and MCB busbars 4-pole, operating current trip FAM, auxiliary switches Hi, restart locks RH-SPE

Technical Data

| Technical Data | DRCBO 3 B40/0,03/1N-A KV |
|-----------------------|--------------------------|
| Series | DRCBO 3 |
| Number of poles | 1+N |
| Residual current type | A |

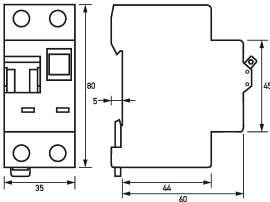
Subject to technical changes

| Technical Data | DRCBO 3 B40/0,03/1N-A KV |
|---|---|
| Rated current (AC) | 40 A |
| Rated residual current I Δ n | 0.03 A |
| Short-time delayed | true |
| Selective | false |
| min. Operating voltage range of test circuit | 196 V |
| max. Operating voltage range of test circuit | 253 V |
| Non-trip time | 10 ms |
| Tripping characteristic | B |
| | load circuit |
| Specification | load disconnect contact |
| Rated voltage (AC) | 230 V |
| Rated current (AC) | 40 A |
| Rated short-circuit current | 10 kA |
| Surge current strength | 3 kA |
| max. Total rated switching capacity | 10 kA |
| Rated insulation voltage | 440 V |
| Rated impulse withstand voltage | 4 kV |
| Rated frequency | 50 Hz |
| Current heat loss per current path | 4.1 W |
| Back-up fuse type | gG |
| Overvoltage class | III |
| | screw-type terminal top, bottom (load circuit) |
| Neutral conductor position | right |
| Connection C1 Maximum number of conductors per terminal | 2 (conductors of same type and cross-section) |
| Cross section solid | 1-wire: 1 mm ² ... 25 mm ² |
| Connecting capacity flexible | 1-wire: 1 mm ² ... 16 mm ² |
| Cross section stranded | 1-wire: 1 mm ² ... 16 mm ² |
| Tightening torque | 2 Nm ... 2.4 Nm |
| | General data |
| Mechanical endurance | min. 10000 switching cycles |
| Electrical endurance | min. 4000 switching cycles |
| Storage temperature | -35 °C ... 60 °C |
| Ambient temperature | -25 °C ... 40 °C |
| Climate resistance | According to IEC 68-2 (25–55°C / 90–95% RH) |
| Housing type | distribution board housing |
| Installation type | Mounting rail (35 mm) |
| Housing material | thermoplastic |
| Protection class | IP20 (installed: IP40) |
| Width | 35 mm |
| Height | 80 mm |
| Depth | 74 mm |
| Installation depth | 68 mm |
| Module widths | 2 |
| Weight | 0.225 kg |
| Design requirements/Standards | EN 61009-1, EN 61009-2-1, ÖVE/ÖNORM E 8601 |

Subject to technical changes

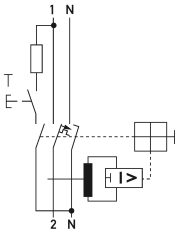
| Technical Data | DRCBO 3 B40/0,03/1N-A KV |
|---------------------------|--------------------------|
| Power limitation category | 3 |
| Degree of pollution | 2 |

Dimensions



Dimensional drawing Group view

Wiring example



Wiring diagram