

DATA SHEET

residual current operated circuit-breakers with integral overcurrent protection FIC 16/0,03/1+N-B SK



AC/DC sensitive type B, C characteristic
Article number 09959124

symbolic image



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. FIB/FIC of this series have a rated switching capacity of 6 kA. They provide a labelling area in addition to the tripping indicator. Type B residual current circuit-breakers detect smooth DC residual currents and all other residual currents at frequencies up to 150,000 Hz. The operating voltage required for this is taken from the mains supply. Correct power supply is ensured when the voltage between the mains conductors is ≥ 50 V. Pulsating and AC residual currents are detected independent of the mains voltage. Residual current circuit-breakers with the tripping characteristic curve SK ensure residual current protection and a high system availability. They are characterised by a lower response sensitivity at higher frequencies. The characteristic curve SK is optimised for systems in which no fire protection is required. They detect residual currents with frequencies up to 150,000 Hz. RCBOs with tripping characteristic C are primarily suitable for power circuits with high switch-on or peak currents, as their short-circuit trip value is five to ten times the rated current. Devices in standard design are intended for monitoring circuits with a rated voltage of 230 V or 400 V and a rated frequency of 50 Hz.

Features

AC/DC sensitive for residual currents with frequencies of o Hz (smooth direct current) up to 150 kHz, mains-voltage-independent tripping when type A residual currents occur, compact design for all rated currents, switch position indicator, separate indication of tripping cause, strain-relief clamps with a wide terminal cross-section range on both connection sides, neutral conductor right, labelling area, high immunity against transient leakage and residual currents thanks to slow tripping response

Mounting

quick fastening to mounting rail, any installation position, supply preferably from above

Applications

commercial and industrial installations with TT, TN-S and TN-C-S systems, where power electronics equipment is used without galvanic isolation from the mains, e.g. frequency converters, switching power supplies, high-frequency converters, photovoltaic installations and UPS equipment with frequency converters without transformers, Type B+ and type B RCBOs with characteristic curve NK should be used where fire protection is legally required.

Notes

suitable for use in 50 Hz AC networks, RCBOs are also available for other frequencies upon request, not designed for use in direct current networks or on the output side of controlled electrical equipment such as frequency converters

Accessories

auxiliary switches DRCBO 4 Hi 1

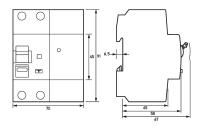
Technical Data

| Technical Data | FIC 16/0,03/1+N-B SK |
|-------------------------------|----------------------|
| Series | FIC |
| Number of poles | 1+N |
| Residual current type | В |
| Tripping characteristic curve | SK |
| Rated current (AC) | 16 A |

| Technical Data Rated residual current I∆n Short-time delayed true Selective false min. Operating voltage range of test circuit max. Operating voltage range of test circuit max. Operating voltage range of test circuit max. Operating voltage range of test circuit minimum rated operating voltage (Type A/AC operation) Minimum rated operating voltage (Type B operation) Mon-trip time 10 ms Tripping frequency next 150 kHz Maximum disconnection times Tripping characteristic C Operating voltage (AC) max. 253 V Internal consumption Data disconnect contact Rated voltage (AC) Rated consumption Rated voltage (AC) Rated short-circuit current 6 kA Surge current strength 3 kA max. Total rated switching capacity Rated insulation voltage Rated insulation voltage | |
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| Neutral conductor position right Connection C1 Maximum 2 (conductors of same type and cross-section) | |
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| | |
| terminal | |
| Cross section solid 1-wire: 1 mm ² 35 mm ² | |
| Connecting capacity flexible 1-wire: 1 mm² 25 mm² | |
| Cross section stranded 1-wire: 1 mm² 25 mm²; 2-wire: 1 mm² 10 mm² | |
| Tightening torque 2 Nm 2.4 Nm | |
| General data | |
| Operating position optional | |
| Mechanical endurance min. 5000 switching cycles | |
| Electrical endurance min. 2000 switching cycles | |
| Ambient temperature -25 °C 40 °C | |
| Climate resistance according to IEC 60068-2-30 | |
| Shock resistance 20 g / 20 ms Duration | |
| Fatigue limit $> 5 g (f \le 80 Hz, duration > 30 min.)$ | |
| Housing type distribution board housing | |

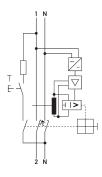
| Technical Data | FIC 16/0,03/1+N-B SK |
|-------------------------------|--|
| Installation type | Mounting rail (35 mm) |
| Housing material | thermoplastic |
| Protection class | IP20 (installed: IP40) |
| Width | 70 mm |
| Height | 91 mm |
| Depth | 73.5 mm |
| Installation depth | 67 mm |
| Module widths | 4 |
| Weight | o.327 kg |
| Design requirements/Standards | VDE 0664-20, VDE 0664-40, VDE 0664-401, EN 61009-1, EN 62423, ÖVE/ÖNORM E 8601 |
| Power limitation category | 3 |
| Degree of pollution | 2 |

Dimensions



Dimensional drawing Group view

Wiring example



Wiring diagram