



DATA SHEET

residual current operated circuit-breakers with integral overcurrent protection

DRCBO 4 C16/0,30/1N-PV

AC/DC sensitive, for PV installations, increased surge-current resistant, short-time delayed, lightning resistant, fire prevention up to 20 kHz

Article number 09949434



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. DRCBO 4s have a rated switching capacity of 6 kA. Residual current circuit-breakers of the PV variant have been specially developed for use in PV systems and detect soft continuous residual currents as well as all other residual currents at frequencies of up to 20 kHz. With a short time delay optimised for PV, the AC/DC-sensitive residual current circuit-breaker is resistant to overcurrents. It therefore offers higher system availability due to fewer false trips. 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 0 Hz (smooth direct current) up to 20,000 Hz, 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

Mounting

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

Applications

RCBOs of the PV variant are suitable for private, commercial and industrial installations with TN-S, TT and TN-C-S systems in which photovoltaic systems are installed.

Notes

suitable for use in 50 Hz AC networks, not suitable for use on the output side of controlled electrical equipment such as frequency converters

Accessories

wiring components DRCBO 4-busbars 2-pole, wiring components DRCBO 4-busbars 4-pole

Technical Data

| Technical Data | DRCBO 4 C16/0,30/1N-PV |
|--|------------------------|
| Series | DRCBO 4 PV |
| Number of poles | 1+N |
| Residual current type | B+ |
| Rated current (AC) | 16 A |
| Rated residual current IΔn | 0.3 A |
| Short-time delayed | true |
| Selective | false |
| min. Operating voltage range of test circuit | 100 V |

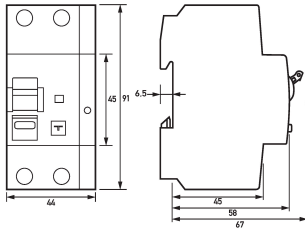
Subject to technical changes

| Technical Data | DRCBO 4 C16/0,30/1N-PV |
|---|---|
| max. Operating voltage range of test circuit | 254 V |
| Minimum rated operating voltage (Type A/AC operation) | 0 V AC |
| Minimum rated operating voltage (Type B operation) | 50 V AC |
| Non-trip time | 15 ms |
| Tripping frequency | 0 Hz ... 20 kHz |
| Maximum disconnection times | $1 \cdot I\Delta n: \leq 300 \text{ ms}; 5 \cdot I\Delta n: \leq 40 \text{ ms}$ |
| Tripping characteristic | C |
| Supply side | up |
| Operating voltage (AC) | max. 253 V |
| Internal consumption | max. 1.3 W |
| | load circuit |
| Specification | load disconnect contact |
| Rated voltage (AC) | 230 V |
| Rated current (AC) | 16 A |
| Rated short-circuit current | 6 kA |
| Surge current strength | 3 kA |
| max. Total rated switching capacity | 6 kA |
| Rated insulation voltage | 440 V |
| Rated impulse withstand voltage | 4 kV |
| Rated frequency | 50 Hz |
| Current heat loss per current path | 2.3 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 ... 35 mm ² ; 2-wire: 1 mm ² ... 10 mm ² |
| Connecting capacity flexible | 1-wire: 1 mm ² ... 25 mm ² ; 2-wire: 1 mm ² ... 10 mm ² |
| Cross section stranded | 1-wire: 1 mm ² ... 25 mm ² ; 2-wire: 1 mm ² ... 10 mm ² |
| Tightening torque | 2 Nm ... 2.4 Nm |
| | General data |
| Operating position | optional |
| Mechanical endurance | min. 4000 cycles |
| Electrical endurance | min. 2000 switching cycles |
| Ambient temperature | -25 °C ... 40 °C |
| Climate resistance | according to IEC 60068-2-30 |
| Housing type | distribution board housing |
| Installation type | Mounting rail (35 mm) |
| Housing material | thermoplastic |
| Protection class | IP20 (installed: IP40) |
| Width | 44 mm |
| Height | 91 mm |
| Depth | 73.5 mm |
| Installation depth | 67 mm |

Subject to technical changes

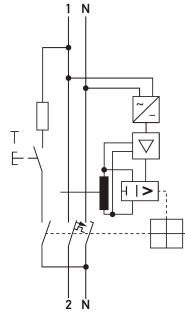
| Technical Data | DRCBO 4 C16/0,30/1N-PV |
|-------------------------------|--|
| Module widths | 2.5 |
| Weight | 0.278 kg |
| Design requirements/Standards | VDE 0664-20, VDE 0664-40, VDE 0664-401, EN 61009-1, EN 62423, ÖVE/ÖNORM E 8601 |
| Power limitation category | 3 |
| Degree of pollution | 2 |
| Certifications | VDE |

Dimensions



Dimensional drawing Group view

Wiring example



Wiring diagram