



DATA SHEET

residual current circuit-breaker

DFS 2 040-2/0,01-A FT

Article number 09132621



Function

Residual current circuit-breakers (RCCBs) are components for implementing protective measure "Automatic disconnection of the power supply" as per VDE 0100 part 410 or corresponding international installation regulations. Series DFS 2 devices are compact two-pole residual current circuit-breakers for single-phase networks. In the standard design, they only take up two module-width units of space. In spite of the compact dimensions, a number of different tripping currents and characteristics are available at rated currents, depending on the design, up to 125 A. They also have large two-tier terminals for large conductor cross-sections, a practical multi-functional switch toggle and can be provided with labels using free-of-charge software. Type A residual current circuit-breakers are sensitive to pulsating and alternating currents. This function is independent of the mains voltage. With the FT design, the connections of the internal test key are wired to two terminals, so that the test device can be activated externally. An auxiliary contact also signals disconnection of the circuit-breaker.

Features

help function integrated, pin assignment 1 break contact/1 changeover contact, 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, double-sided two-tier terminals for large conductor cross-section and busbar, switch position indicator, viewing window for labels, multifunction switch toggle with three positions: "on", "off" and "tripped", Neutral conductor position left or right

Mounting

quick fastening to mounting rail, any installation position, supply from any direction

Applications

Power supplies to residential and purpose-built buildings as well as industrial facilities with TN-S, TT and TN-C-S networks. In IT networks, the residual current circuit-breakers of this series can be set to switch off in the event of a second fault, RCCBs from the FT series are especially suitable for the remote switch-off of systems and parts of systems and for being tripped by hazard alarms, amongst other devices, Excluded is the application in TN-C systems and for the protection of installations in which electronic equipment could generate smooth DC currents or residual currents with frequencies other than 50 Hz. Comprehensive protection is not provided in this case. For these applications we recommend our AC/DC sensitive residual current circuit-breakers (Type B or B+).

Notes

Devices for FT variants must not be used in emergency-stop positions. The type-A and type-B NA variants are available for this purpose, The contacts of the external command device must be designed for a rated residual current ≥ 0.5 A and for the rated voltage of the residual current circuit-breaker.

Accessories

terminal caps KA, information stickers HAS, restart locks DFS WES, software DBS

Technical Data

| Technical Data | DFS 2 040-2/0,01-A FT |
|---------------------------------------|-----------------------|
| Series | DFS 2 A FT |
| Number of poles | 2 |
| Residual current type | A |
| Rated current (AC) | 40 A |
| Rated residual current $I_{\Delta n}$ | 0.01 A |
| Short-time delayed | false |
| Selective | false |

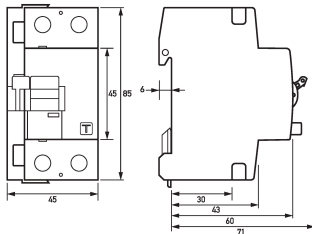
Subject to technical changes

| Technical Data | DFS 2 040-2/0,01-A FT |
|---|---|
| min. Operating voltage range of test circuit | 100 V |
| max. Operating voltage range of test circuit | 250 V |
| | control input |
| Galvanically separated | false |
| Rated voltage (AC) | 230 V |
| | load circuit |
| Specification | load disconnect contact |
| min. Contact opening | 4 mm |
| Rated voltage (AC) | 230 V |
| Rated current (AC) | 40 A |
| Rated short-circuit current | 10 kA |
| Surge current strength | 0.25 kA |
| max. Total rated switching capacity | 500 A |
| Rated insulation voltage | 400 V |
| Rated impulse withstand voltage | 4 kV |
| Rated frequency | 50 Hz |
| Current heat loss per current path | 7.5 W |
| Thermal Backup-fuse OCPD | 25 A |
| Short-circuit backup-fuse SCPD | 63 A |
| Back-up fuse type | gG |
| | remote trip |
| Specification | switching contact |
| Number of poles (total) | 1 |
| Contact assignment | 1 NC |
| Rated voltage (DC) | 12 V ... 110 V |
| Tolerance of rated voltage | max. 5 % |
| Rated current (AC) | 6 A |
| Rated current (DC) | 1 A |
| | screw-type terminal top and bottom (load circuit) |
| Neutral conductor position | left or right |
| Protection against direct contact | DGUV V3, VDE 0660-514, finger and back-of-hand proof |
| Connection C1 Maximum number of conductors per terminal | 2 (conductors of same type and cross-section) |
| Cross section solid | 1-wire: 1.5 mm ² ... 50 mm ² ; 2-wire: 1.5 mm ² ... 16 mm ² |
| Connecting capacity flexible | 1-wire: 1.5 mm ² ... 50 mm ² ; 2-wire: 1.5 mm ² ... 16 mm ² |
| Cross section stranded | 1-wire: 1.5 mm ² ... 50 mm ² ; 2-wire: 1.5 mm ² ... 16 mm ² |
| Cross section AWG, solid | 15 ... 1 |
| Cross section AWG, stranded | 15 ... 1 |
| Cross section AWG, flexible | 15 ... 1 |
| Cross section AWG, flexible with ferrule | 15 ... 1 |
| Tightening torque | 2.5 Nm ... 3 Nm |
| | screw-type terminal top, bottom (remote trip) |
| Protection against direct contact | DGUV V3, VDE 0660-514, finger and back-of-hand proof |
| Connection C2 Maximum number of conductors per terminal | 2 (conductors of same type and cross-section) |

Subject to technical changes

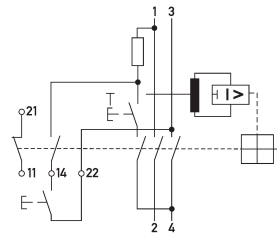
| Technical Data | DFS 2 040-2/0,01-A FT |
|--|---|
| Cross section solid | 1-wire: 1 mm ² ... 1.5 mm ² ; 2-wire: 1 mm ² ... 1.5 mm ² |
| Cross section flexible with ferrule | 1 mm ² ... 1.5 mm ² |
| Cross section stranded | 1-wire: 1 mm ² ... 1.5 mm ² ; 2-wire: 1 mm ² ... 1.5 mm ² |
| Cross section AWG, solid | 17 ... 16 |
| Cross section AWG, stranded | 17 ... 16 |
| Cross section AWG, flexible with ferrule | 17 ... 16 |
| Tightening torque | max. 0.8 Nm |
| General data | |
| Operating position | optional |
| max. Operating altitude above MSL | 2000 m |
| Mechanical endurance | min. 5000 cycles |
| Electrical endurance | min. 2000 cycles |
| Surrounding atmosphere | normal environmental conditions |
| Storage temperature | -35 °C ... 75 °C |
| Ambient temperature | -25 °C ... 40 °C |
| Climate resistance | according to IEC 60068-2-30: humid heat / cyclic (25 °C / 55 °C; 93 % / 97 % RH) |
| Shock resistance | 20 g / 20 ms Duration |
| Fatigue limit | > 5 g (f ≤ 80 Hz, duration > 30 min.) |
| Housing type | distribution board housing |
| Installation type | Mounting rail (35 mm) |
| Housing material | thermoplastic |
| Protection class | IP20 (installed: IP40) |
| sealable | true |
| Width | 45 mm |
| Height | 85 mm |
| Depth | 75 mm |
| Installation depth | 69 mm |
| Module widths | 2.5 |
| Weight | 0.319 kg |
| Design requirements/Standards | VDE 0664-10, DIN EN 61008-1 |
| Degree of pollution | 2 |

Dimensions



Dimensional drawing Group view

Wiring example



Wiring diagram

Subject to technical changes