
# *DATA SHEET*

## *residual current circuit-breaker*

## *DFS 4 063-4/0,50-AC S FT*

***sensitive to residual currents Type AC, with remote-tripping function, selective***

***Article number 09147944***

10000 S G

### *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 4 devices are compact two or four-pole residual current circuit-breakers. In the standard design, they only take up four module width units of space. Although DFS 4 devices for AC and pulsating DC residual currents are actually designed for three-phase networks, they can also be used in single-phase networks. However, in addition to these, special variants are also available for single or three-phase operation in the form of the AC/DC sensitive designs (type B, type B+). 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. Switches with residual current characteristic AC only detect AC residual currents. They cannot detect pulsating DC residual currents so are not permitted for use as residual current operated protective devices in Germany. They are therefore only available as export models. 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. In order to trip, selective residual current circuit-breakers need the residual current to flow for longer than in the case of instantaneous breakers. Selective switch-off is therefore possible in systems with stacked distribution boards, i.e. when RCCBs are connected in series, only the RCCB responsible for the system section of the earth fault immediately downstream of it trips if a fault occurs. Due to their long switch-off times and high rated residual currents, selective residual current circuit-breakers only provide fire protection and fault protection (protection in the case of indirect contact). Additional protection (in the case of direct contact, personal protection) is therefore not provided.

### *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 (type AC) , 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

### *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, Not permitted for use in TN-C networks; not permitted for protecting systems in which electronic equipment may cause pulsating or smooth DC residual currents or residual currents with frequencies not equal to 50 Hz. Comprehensive protection is not provided with an RCCB type AC. For these applications we recommend our residual current circuit-breaker type A or our AC/DC sensitive residual current circuit-breaker type B/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*

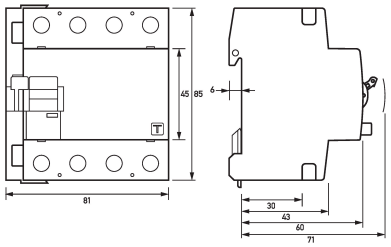
terminal caps KA, information stickers HAS, restart locks DFS WES, software DBS

## *Technical Data*

| Technical Data | DFS 4 063-4/0,50-AC S FT |
|---|---|
| Series | DFS 4 AC S FT |
| Number of poles | 4 |
| Residual current type | AC |
| Rated current (AC) | 63 A |
| Rated residual current IΔn | 0.5 A |
| Short-time delayed | false |
| Selective | true |
| min. Operating voltage range of test circuit | 200 V |
| max. Operating voltage range of test circuit | 440 V |
| Non-trip time | 50 ms |
| Maximum disconnection times | 1 · IΔn: ≤ 500 ms; 5 · IΔn: ≤ 150 ms |
| Response delay | 1 · IΔn: 130 ms < T ≤ 500 ms; 5 · IΔn: 50 ms < T ≤ 150 ms |
| | **control input** |
| Galvanically separated | false |
| Rated voltage (AC) | 400 V |
| | **load circuit** |
| Specification | load disconnect contact |
| min. Contact opening | 4 mm |
| Rated voltage (AC) | 230 V, 400 V |
| Rated current (AC) | 63 A |
| Rated short-circuit current | 10 kA |
| Surge current strength | 5 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 | 3.1 W |
| Thermal Backup-fuse OCPD | 63 A |
| Short-circuit backup-fuse SCPD | 100 A |
| Back-up fuse type | gG |
| | **remote trip** |
| Specification | switching contact |
| Number of poles (total) | 1 |
| Contact assignment | 1 NC |
| Rated voltage (AC) | 12 V ... 230 V |
| 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 |
| 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 mm² ... 50 mm²; 2-wire: 1.5 mm² ... 16 mm² |

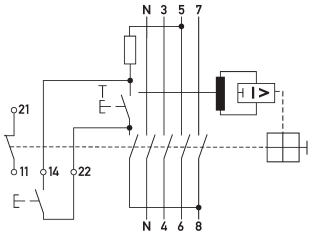
| Technical Data | DFS 4 063-4/0,50-AC S FT |
|---|---|
| Connecting capacity flexible | 1-wire: 1.5 mm² ... 50 mm²; 2-wire: 1.5 mm² ... 16 mm² |
| Cross section stranded | 1-wire: 1.5 mm² ... 50 mm²; 2-wire: 1.5 mm² ... 16 mm² |
| Cross section AWG, solid | 15 ... 1 |
| Cross section AWG, stranded | 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) |
| Cross section solid | 1-wire: 1 mm² ... 1.5 mm²; 2-wire: 1 mm² ... 1.5 mm² |
| Cross section flexible with ferrule | 1 mm² ... 1.5 mm² |
| Cross section stranded | 1-wire: 1 mm² ... 1.5 mm²; 2-wire: 1 mm² ... 1.5 mm² |
| 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 | 81 mm |
| Height | 85 mm |
| Depth | 75 mm |
| Installation depth | 69 mm |
| Module widths | 4.5 |
| Weight | 0.5 kg |
| Design requirements/Standards | VDE 0664-10, DIN EN 61008-1 |
| Degree of pollution | 2 |

## *Dimensions*




*Dimensional drawing Group view*

## *Wiring example*




*Wiring diagram*