

symbolic image

UK Technical Data

*DFS 4 ***-4/*** A S 230, 400V 50Hz*

Sensitive to pulsating A alternating current. Type A Selective

Function

Residual current circuit-breakers (RCCBs) are components for implementing protective measure "Automatic disconnection of the power supply" as per IEC 60364-4-41 or corresponding national installation regulations. Series DFS 4 devices are compact two or four-poleresidual 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. Type A residual current circuitbreakers are sensitive to pulsating and alternating currents. This function is independent of the mains voltage. 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 switchoff 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. Standard RCCBs are designed for circuits with 230/400 V at 50 Hz. Devices in the standard design are intended for monitoring circuits with a rated voltage of 230 V, 400 V and a rated frequency of 50 Hz.

Features

response delay for selective design, high immunity against surge currents and mains-voltage-operated secondary current impulses , 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

Mounting

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

Applications

Main distribution boards in extended power supplies with TN-S, TT and TN-C-S systems, such as campsites, marinas, allotment gardens and showrooms. Selective residual current circuit-breakers in most cases protect the cables from the main distribution board to the subdistribution boards, 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

To ensure the selectivity of the RCCB, the rated residual current of the selective RCCB must be set at least one level higher than the downstream instantaneous switch.

Accessories

automatic reclosing devices DFA, terminal caps KA, information stickers HAS, auxiliary switches DHi, restart locks DFS WES, software DBS.

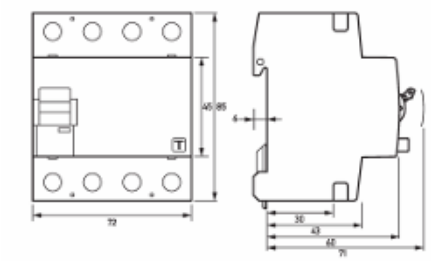
Technical Data

Technical Data	DFS 4 ***-4/***-A S
Series	DFS 4 A S
Number of poles	4
Residual current type	A
Rated current (AC)	Refer to the individual product reference, data sheet available on request
Rated residual current IΔn	Refer to the individual product reference, data sheet available on request
Short-time delayed	false
Selective	true
min. Operating voltage range of test circuit	200 V
max. Operating voltage range of test circuit	440 V

Technical Data	DFS 4 ***-4/***-A S
Non-trip time	50 ms
Maximum disconnection times	Refer to the individual product reference, data sheet available on request
	Load circuit
Specification	Load disconnect contact
min. Contact opening	4 mm
Rated voltage (AC)	230 V, 400V
Rated current (AC)	Refer to the individual product reference, data sheet available on request
Rated short-circuit current	10 kA
Surge current strength	5 kA
max. total rated switching capacity	Refer to the individual product reference, data sheet available on request
Rated impulse withstand voltage	4 kV
Rated frequency	50 Hz
Current heat loss per current path	Refer to the individual product reference, data sheet available on request
thermal Backup-fuse OCPD	Refer to the individual product reference, data sheet available on request
short-circuit backup-fuse SCPD	Refer to the individual product reference, data sheet available on request
Back-up fuse type	gG
I2t	48 k'As
Dynamic current strength Ip	6 ka
	Screw-type terminal top and bottom (Load circuit)
Neutral conductor position	Left or right
Protection against direct contact	DGUV V3, VDE 0660-514, finger-safe and safe for back-of-hand
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
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, stranded, flexible or with ferrule	15 ... 1
Tightening torque	2.5 Nm ... 3 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	-40 °C ... 70 °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
Mounting type	Mounting rail (35 mm)
Housing material	Thermoplastic resin
Protection class	IP20 (installed: IP40)
sealable	true
Width	72 mm
Height	85 mm
Depth	75 mm
Weight	0.26kg
Installation depth	69 mm

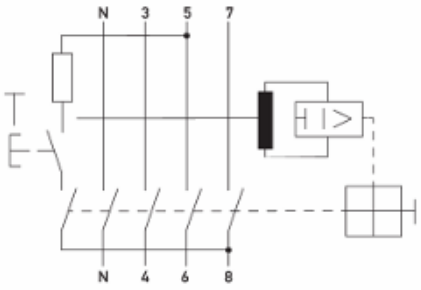
Technical Data	DFS 4 ***-4/***-A S
Width (modules)	4
Design requirements/Standards	VDE 0664-10, VDE 0664-400, ÖVE/ÖNORM E 8601, EN 61008-1, EN 62423
Certifications	VDE
Degree of pollution according to EN 60664	2

Dimensions



Dimensional drawing Group view

Wiring example



Wiring diagram