DATA SHEET

residual current circuit-breaker

DFS 2 125-2/0,03-F

sensitive to residual currents Type F

Article number 09174020

Internetlink

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. Switches for residual current type F are mains voltage-independent and record type A sinusoidal alternating and pulsating DC residual currents as well as residual currents with mixed frequencies that differ from 50 Hz. For example, these can arise when using single-phase frequency converters. Devices in the standard design are intended for monitoring circuits with a rated voltage of 230 V and a rated frequency of 50 Hz.

Features

sensitive to AC residual currents and pulsating DC residual currents at the mains frequency (type A) as well as AC residual currents with multiple frequency components not equal to 50 Hz, high immunity against surge currents and mains-voltage-operated secondary current impulses, 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

Modern domestic installations with LED lighting systems and single-phase frequency converters, Ideal for systems where RCCBs Type A have a tendency towards faulty trips due to surge residual currents, Commercial and industrial installations with TN-S, TT- and TN-C-S systems, where power electronics equipment is used without galvanic isolation from the mains, e.g. switching power supplies, high-frequency converters, photovoltaic installations and UPS equipment with frequency converters without transformers, Not permitted for use in TN-C networks; not permitted for protecting systems in which electronic equipment could generate smooth DC currents. 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

suitable for use in 50 Hz AC networks, Not designed for use in direct current networks or on the output side of controlled electrical equipment such as frequency converters.

Accessories

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

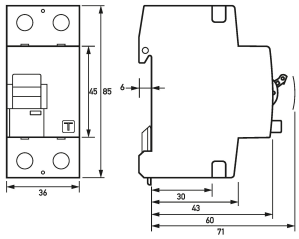
Technical Data

Technical Data	DFS 2 125-2/0,03-F
Series	DFS 2 F
Number of poles	2
Residual current type	F
Rated current (AC)	125 A
Rated residual current IΔn	0.03 A

Technical Data	DFS 2 125-2/0,03-F
Short-time delayed	true
Selective	false
min. Operating voltage range of test circuit	150 V
max. Operating voltage range of test circuit	250 V
Non-trip time	10 ms
Maximum disconnection times	1 · IΔn: ≤ 300 ms; 5 · IΔn: ≤ 40 ms
	load circuit
Specification	load disconnect contact
min. Contact opening	4 mm
Rated voltage (AC)	230 V
Rated current (AC)	125 A
Rated short-circuit current	10 kA
Surge current strength	3 kA
max. total rated switching capacity	1250 A
Rated insulation voltage	400 V
Rated impulse withstand voltage	4 kV
Rated frequency	50 Hz
Current heat loss per current path	10 W
thermal Backup-fuse OCPD	80 A
short-circuit backup-fuse SCPD	125 A
Back-up fuse type	gG
	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 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
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	-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)

Technical Data	DFS 2 125-2/0,03-F
sealable	true
Width	36 mm
Height	85 mm
Depth	75 mm
Installation depth	69 mm
Module widths	2
Design requirements/Standards	VDE 0664-10, DIN EN 61008-1, ÖVE/ÖNORM E 8601, EN 62423
Degree of pollution according to EN 60664	2
Certifications	VDE

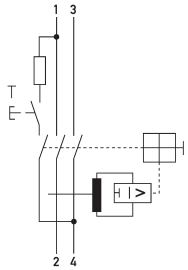
Dimensions



Dimensional drawing Group view

STEP file

Wiring example



Wiring diagram