Doepke



DATA SHEET

residual current circuit-breaker DFS 2 080-2/0,03-AC sensitive to residual currents Type AC Article number 09154602



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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 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. 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

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 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, 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+.

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 2 080-2/0,03-AC
Series	DFS 2 AC
Number of poles	2
Residual current type	AC
Rated current (AC)	80 A
Rated residual current IAn	0.03 A
Short-time delayed	false
Selective	false
min. Operating voltage range of test circuit	150 V
max. Operating voltage range of test circuit	250 V

Technical Data	DFS 2 080-2/0,03-AC
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)	80 A
Rated short-circuit current	10 kA
Surge current strength	0.25 kA
max. Total rated switching	800 A
capacity	
Rated insulation voltage	400 V
Rated impulse withstand voltage	4 KV
Rated frequency	50 Hz
Current heat loss per current path	4 W
Thermal Backup-fuse OCPD	63 A
Short-circuit backup-fuse SCPD	100 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 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
	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	
Climate resistance	-25 °C 40 °C
Shock resistance	-25 °C 40 °C
	-25 °C 40 °C according to IEC 60068-2-30: humid heat / cyclic (25 °C / 55 °C; 93 % / 97 % RH)
Shock resistance	-25 °C 40 °C according to IEC 60068-2-30: humid heat / cyclic (25 °C / 55 °C; 93 % / 97 % RH) 20 g / 20 ms Duration
Shock resistance Fatigue limit	-25 °C 40 °C according to IEC 60068-2-30: humid heat / cyclic (25 °C / 55 °C; 93 % / 97 % RH) 20 g / 20 ms Duration > 5 g (f ≤ 80 Hz, duration > 30 min.)
Shock resistance Fatigue limit Housing type	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$
Shock resistance Fatigue limit Housing type Installation type	$\begin{array}{c} -25 \ ^{\circ}\text{C} \ \dots \ 40 \ ^{\circ}\text{C} \\ \hline \text{according to IEC } 60068-2-30: \ \text{humid heat } / \ \text{cyclic } (25 \ ^{\circ}\text{C} / \ 55 \ ^{\circ}\text{C}; \ 93 \ \% / \ 97 \ \% \ \text{RH}) \\ \hline 20 \ g / \ 20 \ \text{ms Duration} \\ \hline 20 \ g / \ 20 \ \text{ms Duration} \\ \hline > 5 \ g \ (f \le 80 \ \text{Hz}, \ \text{duration} > \ 30 \ \text{min.}) \\ \hline \text{distribution board housing} \\ \hline \text{Mounting rail } (35 \ \text{mm}) \end{array}$
Shock resistance Fatigue limit Housing type Installation type Housing material	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$

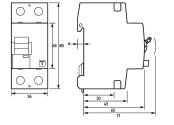
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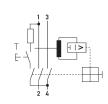
The experts in residual current protection technology

Technical Data	DFS 2 080-2/0,03-AC
Height	85 mm
Depth	75 mm
Installation depth	69 mm
Module widths	2
Weight	0.253 kg
Design requirements/Standards	VDE 0664-10, DIN EN 61008-1
Degree of pollution	2

Dimensions

Wiring example





Dimensional drawing Group view

Wiring diagram