



## DATA SHEET

### residual current circuit-breaker

### DFS 4 125-4/0,10-A FT

Article number 09175921



#### 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. 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

#### 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  $\geq 0.5$  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 4 125-4/0,10-A FT
Series	DFS 4 A FT
Number of poles	4
Residual current type	A
Rated current (AC)	125 A
Rated residual current $I_{\Delta n}$	0.1 A

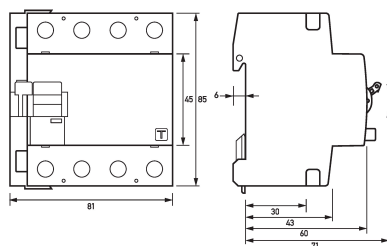
Subject to technical changes

Technical Data		DFS 4 125-4/0,10-A FT
Short-time delayed		false
Selective		false
min. Operating voltage range of test circuit		200 V
max. Operating voltage range of test circuit		440 V
		<b>control input</b>
Rated voltage (AC)		400 V
		<b>load circuit</b>
Specification		load disconnect contact
min. Contact opening		4 mm
Rated voltage (AC)		230 V, 400 V
Rated current (AC)		125 A
Rated short-circuit current		10 kA
Surge current strength		0.25 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		11.2 W
Thermal Backup-fuse OCPD		80 A
Short-circuit backup-fuse SCPD		125 A
Back-up fuse type		gG
		<b>remote trip</b>
Specification		switching contact
Contact assignment		1 NC
Tolerance of rated voltage		max. 5 %
Rated current (AC)		6 A
Rated current (DC)		1 A
		<b>screw-type terminal top and bottom (load circuit)</b>
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 mm <sup>2</sup> ... 50 mm <sup>2</sup> ; 2-wire: 1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Connecting capacity flexible		1-wire: 1.5 mm <sup>2</sup> ... 50 mm <sup>2</sup> ; 2-wire: 1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Cross section stranded		1-wire: 1.5 mm <sup>2</sup> ... 50 mm <sup>2</sup> ; 2-wire: 1.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>
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
		<b>screw-type terminal top, bottom (remote trip)</b>
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 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> ; 2-wire: 1 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>

Subject to technical changes

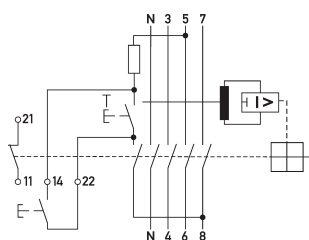
Technical Data	DFS 4 125-4/0,10-A FT
Cross section flexible with ferrule	1 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cross section stranded	1-wire: 1 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> ; 2-wire: 1 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cross section AWG, solid	17 ... 16
Cross section AWG, stranded	17 ... 16
Cross section AWG, flexible with ferrule	17 ... 16
Tightening torque	max. 0.8 Nm
	<b>General data</b>
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	0.487 kg
Design requirements/Standards	VDE 0664-10, DIN EN 61008-1
Degree of pollution	2

## Dimensions



Dimensional drawing Group view

## Wiring example



Wiring diagram