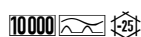




DATA SHEET
Article number: 09134801

residual current circuit-breaker
DFS 6 040-4/0,03-A NU
sensitive to pulsating and alternating currents Type A, with mains monitoring



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. Devices of the DFS 6 series are four-pole residual current circuit breakers for one- or three-phase networks. They also have large two-tier terminals for accommodating large conductor cross-sections and a practical multifunctional switching knob for easier error searches and can be easily 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. Thanks to the mains monitoring function, our NU RCCBs also trip in the event of input-side mains disturbances, such as a neutral conductor interruption. This reliably protects electrical equipment against overvoltage damage.

Features

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. 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+).

Accessories

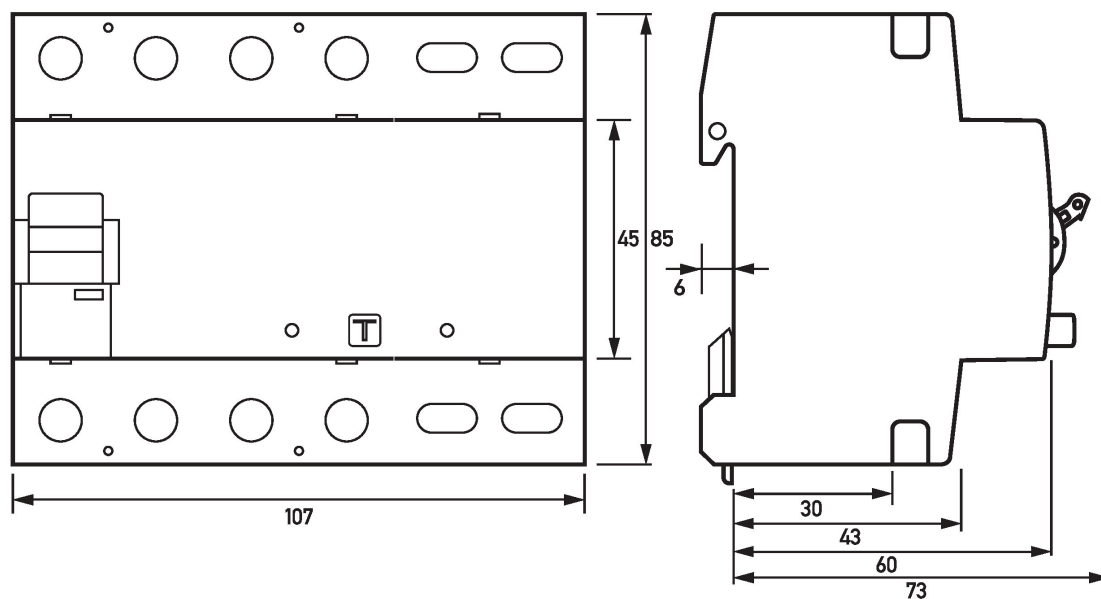
terminal caps KA, information stickers HAS, auxiliary switches DHi, restart locks DFS WES, software DBS

Technical Data

Series	DFS 6 A NU
Number of poles	4
Residual current type	A
Rated current (AC)	40 A
Rated residual current $I_{\Delta n}$	0.03 A
Short-time delayed	false
Selective	false
min. Operating voltage range of test circuit	250 V
max. Operating voltage range of test circuit	440 V
Maximum disconnection times	1 · $I_{\Delta n}$: ≤ 300 ms; 5 · $I_{\Delta n}$: ≤ 40 ms
Display elements	Switch position indicator, active conductors, Network error indicator, Operating
Control elements	Switching knob, Residual current test button
Network fault detection	Phase failure, N conductor interruption, L and N conductor mix-up
Protective functions	Residual current protection
	Error voltage monitoring
Rated residual voltage	20 V
max. Switch-off time error voltage ≥ 50 V	150 ms
Non-trip time	70 ms
Trip threshold for voltage unbalance	5 % ... 10 %
Internal consumption	max. 3 W
	load circuit

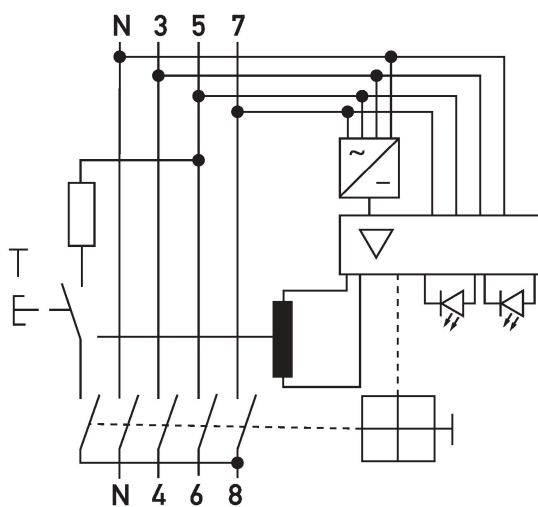
Specification	load disconnect contact
min. Contact opening	4 mm
Rated voltage (AC)	230 V, 400 V
Rated current (AC)	40 A
Rated short-circuit current	10 kA
Surge current strength	3 kA
max. Total rated switching capacity	500 A
Rated insulation voltage	400 V
Rated impulse withstand voltage	4 kV
Rated frequency	50 Hz
Current heat loss per current path	1.2 W
Thermal Backup-fuse OCPD	40 A
Short-circuit backup-fuse SCPD	100 A
Back-up fuse type	gG
I ^t strength	48 kA ² s
Dynamic current strength I _p	6 kA
	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 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	-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
Installation type	Mounting rail (35 mm)
Housing material	thermoplastic
Protection class	IP20 (installed: IP40)
sealable	true
Width	108 mm
Height	85 mm
Depth	75 mm
Installation depth	69 mm
Module widths	6
Weight	0.587 kg

Dimensions



Dimensional drawing DFS 6 A NU, 4-pole (Group view)

Wiring example



Wiring diagram DFS 6 A NU, 4-pole