



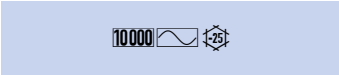
## DATA SHEET

### residual current circuit-breaker

### DFS 4W 040-4/0,50-AC +DHI11

sensitive to residual currents Type AC, rated voltage 500 V, 16 2/3 Hz or 16 2/3 Hz - 60 Hz

Article number 09137966



#### 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. 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. The "W" device design is a mains-voltage-independent residual current circuit-breaker with a rated frequency of 16 2/3 Hz for track systems with voltages up to 500 V.

#### Features

two-pole design (4 module width units) with two integrated auxiliary switches (2 S), three-pole design (4 module width units) with one integrated auxiliary switch (1 S), 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

#### Mounting

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

#### Applications

preferably in earthed power networks for tracks used to fuse-protect point heater systems, 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.

#### Notes

The use of Type AC residual current circuit-breakers is not permitted in all countries. Pay attention to the corresponding national installation regulations.

#### Accessories

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

#### Technical Data

Technical Data	DFS 4W 040-4/0,50-AC +DHI11
Series	DFS 4 AC W
Number of poles	4
Residual current type	AC
Rated current (AC)	40 A
Rated residual current IΔn	0.5 A
Short-time delayed	false
Selective	false

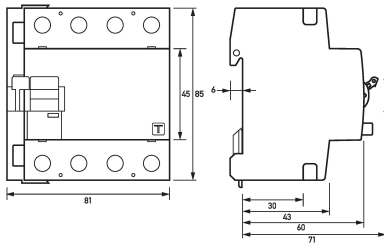
Subject to technical changes

Technical Data	DFS 4W 040-4/0,50-AC +DHI11
min. Operating voltage range of test circuit	200 V
max. Operating voltage range of test circuit	550 V
Maximum disconnection times	$1 \cdot I_{\Delta n} \leq 300 \text{ ms}$ ; $5 \cdot I_{\Delta n} \leq 40 \text{ ms}$
	<b>load circuit</b>
Specification	load disconnect contact
min. Contact opening	4 mm
Rated voltage (AC)	290 V, 500 V
Rated current (AC)	40 A
Rated short-circuit current	10 kA
Surge current strength	0.25 kA
max. Total rated switching capacity	500 A
Rated insulation voltage	500 V
Rated impulse withstand voltage	4 kV
Rated frequency	16.67 Hz ... 60 Hz
Current heat loss per current path	11.2 W
Thermal Backup-fuse OCPD	40 A
Short-circuit backup-fuse SCPD	100 A
Back-up fuse type	gG
	<b>auxiliary switches</b>
Specification	switching contact
Contact assignment	1 NC/1 CO
Rated voltage (AC)	230 V
Rated voltage (DC)	110 V
Rated current (AC)	max. 6 A
Rated current (DC)	max. 1 A
Current heat loss per current path	0.54 W
Back-up fuse (short-circuit)	6 A
Back-up fuse type	gL
	<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 and bottom (auxiliary switches)</b>
Connection C2 Maximum number of conductors per terminal	2 (conductors of same type and cross-section)

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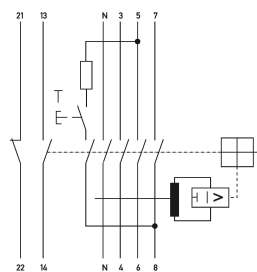
Technical Data	DFS 4W 040-4/0,50-AC +DHi11
Cross section solid	1-wire: 1 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> ; 2-wire: 1 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cross section flexible with ferrule	1 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cross section stranded	1-wire: 1 mm <sup>2</sup> ... 1.5 mm <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	0.471 kg
Design requirements/Standards	VDE 0664-10, DIN EN 61008-1
Degree of pollution	2

**Dimensions**



Dimensional drawing Group view

**Wiring example**



Wiring diagram

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