



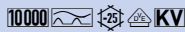
## DATA SHEET

### arc-fault detection devices

#### DAFDD 1 C20/0,03/2-A KV

Residual current operated circuit-breaker with integral overcurrent protection as Fire protection switch, sensitive to pulsating and alternating currents Type A, short-time delayed

Article number 09962404



### Function

Arc-fault detection devices (Fire protection switch, AFDD) are designed to protect serial and parallel fault arcs in accordance with DIN VDE 0100-420. They are commonly referred to as fire protection switches. They must be installed in permanently installed final circuits up to 16 A in, for example, facilities at risk of fire or public institutions. They are also recommended for bedrooms and for final circuits with high connection loads. The devices detect high-frequency arc faults, such as those occurring as a result of cabling defects. The early recognition and switching off of the final circuit, which may occur as a result in the case of an emergency, prevent thermal effects of arc faults. The risk of fire resulting from incorrect electrical installation is significantly reduced. The reason for tripping is indicated by an LED colour code on the front of the device. DAFDD 1 are compact combination devices with a triple function: arc fault detection, line protection and residual current trip. They protect systems in the event of a short-circuit and overload as per the requirements of VDE 0100 Part 430, and protect persons, farm animals and material items in the event of earth leakage currents as per VDE 0100 Part 410. The RCBO component works independent of the mains voltage. Residual current type A allows the detection of sinusoidal AC currents and pulsating DC residual currents. The contact position indicators and the display tripped by residual current provide a quick overview of the operating status of the device. The devices up to 25 A also have a high rated switching capacity of 10 kA, and the 32 A and 40 A devices have a rated switching capacity of 6 kA. Line protection with characteristic C is primarily suitable for power circuits with high switch-on or peak currents. Because they have a response delay, KV devices only respond to residual currents having a duration longer than a half-period of the power frequency. In contrast to instantaneous breakers, they are significantly less sensitive to momentary pulse-like residual currents and facilitate problem-free operation, even when lightning or switching overvoltage in the system causes capacitive surge residual currents or insulation flashovers with a secondary current up to the zero point of the mains voltage. This means they are lightning-resistant. The tripping times set out in national and international design regulations for instantaneous RCBOs are also observed by KV devices. As a general rule therefore, they may be used instead of a standard breaker.

### Features

combination device with three functions, two-pole, Variable neutral-pole position, AFDD as per IEC/EN-62606, RCBO as per IEC/EN-61009, continuous self-monitoring, mains-voltage-independent tripping of the RCCB/MCB functions, Display AFDD reason for tripping, Contact position indicators, Residual current tripping indicator, compact design for all rated currents, high short-circuit resistance, strain-relief clamps with protection against wires being lodged behind them, tri-stable snap-in slider for easy mounting and removal

### Mounting

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

### Applications

Protection of circuits in residential and purpose-built buildings as well as industrial facilities with TN-S and TN-C-S networks, Not permitted for use in systems with TN-C networks; not permitted for protecting circuits in which the power electronics equipment may cause smooth DC residual currents or residual currents with frequencies not equal to 50 Hz.

### Accessories

wiring components DAFDD busbars, auxiliary switches DHi, restart locks RH-SPE

### Technical Data

Technical Data	DAFDD 1 C20/0,03/2-A KV
Series	DAFDD 1
Number of poles	2
Residual current type	A
Rated current (AC)	20 A

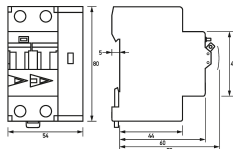
Subject to technical changes

Technical Data	DAFDD 1 C20/0,03/2-A KV
Rated residual current I $\Delta$ n	0.03 A
Short-time delayed	true
Selective	false
min. Operating voltage range of test circuit	196 V
max. Operating voltage range of test circuit	253 V
Tripping characteristic	C
Operating voltage (AC)	240 V (170 V ... 264 V)
Operating frequency	50 Hz
Rated impulse withstand voltage	4 kV
	<b>load circuit</b>
Specification	load disconnect contact
Rated voltage (AC)	240 V
Rated current (AC)	20 A
Rated short-circuit current	10 kA
Surge current strength	0.25 kA
max. Total rated switching capacity	10 kA
Rated insulation voltage	250 V
Rated frequency	50 Hz
Current heat loss per current path	3.45 W
Short-circuit backup-fuse SCPD	100 A
Back-up fuse type	gG
Overvoltage class	III
	<b>screw-type terminal top, bottom (load circuit)</b>
Neutral conductor position	left, right
Protection against direct contact	DGUV V3, ÖVE-EN 6
max. Connection C1 cable length	70 m (between the distribution board and the outer socket)
Clamping area	1 mm <sup>2</sup> ... 25 mm <sup>2</sup>
Tightening torque	2 Nm ... 2.4 Nm
	<b>General data</b>
Mechanical endurance	min. 20000 switching cycles
Electrical endurance	min. 4000 switching cycles
Storage temperature	-35 °C ... 60 °C
Ambient temperature	-25 °C ... 40 °C
Climate resistance	According to IEC/EN 61009
Housing type	distribution board housing
Installation type	Mounting rail (35 mm)
Housing material	thermoplastic
Protection class	IP20 (installed: IP40)
Width	54 mm
Height	80 mm
Depth	76 mm
Installation depth	70 mm
Module widths	3
Weight	0.277 kg
Design requirements/Standards	EN 62606, EN 61009
Power limitation category	3
Degree of pollution	2

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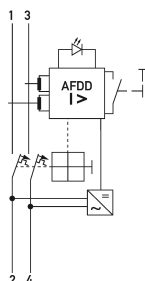
Technical Data	DAFDD 1 C20/0,03/2-A KV
Certifications	VDE

## Dimensions



Dimensional drawing Group view

## Wiring example



Wiring diagram