DATA SHEET

residual current operated circuit-breakers with integral overcurrent protection

DRCBO 3 B40/0,30/1N-F

sensitive to residual currents Type F

Article number 09932318

10000 WWW 25 KV

Function

RCCB/MCB combinations (RCBO) are residual current operated circuit-breakers with integral overcurrent protection for protecting systems in the event of a short-circuit and overload as per the requirements of VDE 0100 Part 430, and for protecting persons, farm animals and material items in the event of earth leakage currents as per VDE 0100 Part 410. Overload tripping occurs at currents in the overload range through a short-time delayed, heat-sensitive bimetal trip and at short-circuit currents through an electromagnetic instantaneous trip. The high-quality residual current operated circuit-breakers with integral overcurrent protection from series DRCBO 3 are independent of the mains voltage and have a high switching capacity of 10 kA. The green–red contact position indicator and the residual current tripping indicator allow for a quick overview of the operating status of the devices. Two features make mounting and removal easier: terminal protection against wires being lodged behind them and the tri-stable snap-in slider. Switches for residual current type F are mains voltage-independent and record type A sinusoidal alternating and pulsating DC residual currents as well as residual currents with mixed frequencies that differ from 50 Hz. For example, these can arise when using single-phase frequency converters. RCBOs with characteristic B ensure standard protection for lighting and socket circuits. As their short-circuit trip is three to five times the rated current, they should not be used to fuse-protect load circuits with high inrush currents. Devices in standard design are intended for monitoring circuits with a rated voltage of 230 V or 400 V and a rated frequency of 50 Hz.

Features

sensitive to AC residual currents and pulsating DC residual currents at the mains frequency (type A) as well as AC residual currents with multiple frequency components not equal to 50 Hz, compact design for all rated currents, high short-circuit resistance, green/red switching position indicator, residual current tripping indicator, Strain-relief clamps with protection against wires being lodged behind them and wide terminal cross-section range for rail and line wiring on both connection sides, Use of conventional wiring rails possible, Neutral conductor right, tri-stable snap-in slider for easy mounting and removal, high electromagnetic compatibility (immunity to interference for industrial applications)

Mounting

quick fastening to mounting rail, any installation position, supply as desired

Applications

Protection of circuits in residential and purpose-built buildings as well as industrial facilities with TN-S, TT and TN-C-S networks. In IT networks, the RCCB/MCBs can be set to switch off in the event of a second earth fault, perfect for single-phase frequency converters, installations with switching power supplies and LED lighting, 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 50/60 Hz.

Accessories

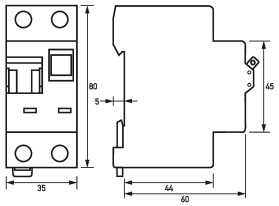
auxiliary switches DHi, wiring components RCCB and MCB busbars 2-pole, wiring components RCCB and MCB busbars 4-pole, operating current trip FAM, auxiliary switches Hi, restart locks RH-SPE

Technical Data

Technical Data	DRCBO 3 B40/0,30/1N-F
Number of poles	1+N
Residual current type	F
Rated current (AC)	40 A
Rated residual current IΔn	0.3 A
Short-time delayed	true
Selective	false

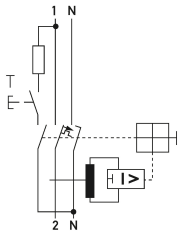
Technical Data	DRCBO 3 B40/0,30/1N-F
min. Operating voltage range of test circuit	196 V
max. Operating voltage range of test circuit	253 V
Tripping characteristic	B
	load circuit
Specification	load disconnect contact
Rated voltage (AC)	230 V
Rated current (AC)	40 A
Rated short-circuit current	10 kA
Surge current strength	3 kA
max. Total rated switching capacity	10 kA
Rated insulation voltage	440 V
Rated impulse withstand voltage	4 kV
Rated frequency	50 Hz
Current heat loss per current path	4.1 W
Back-up fuse type	gG
Overvoltage class	III
	screw-type terminal top, bottom (load circuit)
Neutral conductor position	right
Connection C1 Maximum number of conductors per terminal	2 (conductors of same type and cross-section)
Cross section solid	1-wire: 1 mm² ... 25 mm²
Connecting capacity flexible	1-wire: 1 mm² ... 16 mm²
Cross section stranded	1-wire: 1 mm² ... 16 mm²
Tightening torque	2 Nm ... 2.4 Nm
	General data
Mechanical endurance	min. 10000 switching cycles
Electrical endurance	min. 4000 switching cycles
Storage temperature	-35 °C ... 60 °C
Ambient temperature	-25 °C ... 40 °C
Housing type	distribution board housing
Installation type	Mounting rail (35 mm)
Housing material	thermoplastic
Protection class	IP20 (installed: IP40)
Width	35 mm
Height	80 mm
Depth	74 mm
Installation depth	68 mm
Module widths	2
Weight	0.218 kg
Power limitation category	3
Degree of pollution	2

Dimensions



Dimensional drawing Group view

Wiring example



Wiring diagram