Doepke



DATA SHEET

residual current operated circuit-breakers with integral overcurrent protection RCBO 2 B20/0,03/2-A sensitive to pulsating and alternating currents Type A Article number 09957305

symbolic image



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 in the RCBO 2 series are independent of the mains voltage and have a high switching capacity of 10 kA. They have a 2-pole design. The residual current tripping indicator allows 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 bi-stable snap-in slider. Type A residual current circuit-breakers are sensitive to pulsating and alternating currents. This function is independent of the mains voltage. 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

Mains-voltage-independent tripping, compact design for all rated currents, high short-circuit resistance, 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, bi-stable snap-in slider for easy mounting and removal

Mounting

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

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 RCBOs of this series can be set to switch off in the event of a second fault, Not permitted for use in TN-C networks and for protecting systems in which electronic equipment may cause pulsating or smooth DC residual currents or residual currents with frequencies not equal to 50 Hz. Comprehensive protection is not provided with an RCCB type AC. For these applications we recommend our residual current operated circuit-breakers with integral overcurrent protection Type A or our AC-DC sensitive RCBO Type B.

Technical Data

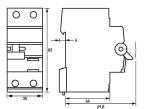
Technical Data	RCBO 2 B20/0,03/2-A
Series	RCBO 2
Number of poles	2
Residual current type	A
Rated current (AC)	20 A
Rated residual current IAn	0.03 A
Short-time delayed	false
Selective	false
min. Operating voltage range of test circuit	200 V
max. Operating voltage range of test circuit	250 V

Doepke

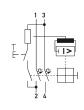
The experts in residual current protection technology

B Specification load circuit Specification load disconnect contact Rated voltage (AC) 230 V Rated voltage (AC) 20 A Rated short-circuit current 6 kA Surge current strength 0.25 kA max. Total rated switching 10 kA capacity 20 Hz Current heat loss per current 4.1 W path 96 Hz Course type 9G Connection C1 Maximum 2 (conductors of same type and cos-section) number of conductors per terminal top. bottom (load circuit) Clamping area 1.5 mm² 25 Nm Connection C1 Maximum 2 (conductors of same type and cos-section) number of conductors per terminal 2 (conductors of same type and cos-section) Rated adurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material Hermoplastic Protection class IP20 (installed: IP40) Width 35 mm Height 63	Technical Data	RCBO 2 B20/0,03/2-A	
Specification Ioad disconnect contact Rated voltage (AC) 230 V Rated voltage (AC) 20 A Rated short-circuit current 6 kA Surge current strength 0.25 kA max. Total rated switching 10 kA capacity 50 Hz Current heat loss per current 4.1 W path gG Connection C1 Maximum 2 (conductors of same type and cross-section) number of conductors per terminal 2 Nm 2.5 Nm Tightening torque 2 Nm 2.5 Nm General data Mechanical endurance Main temperature -29 °C 40 °C Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material 1P20 (installed: IP40) Width 35 mm Height 83 mm Depth 73 mm Installation depth 65 mm Module widths 2 Weight 0.226 kg	Tripping characteristic	В	
Rated voltage (AC) 230 V Rated current (AC) 20 A Rated short-circuit current 6 kA Surge current strength 0.25 kA max. Total rated switching 10 kA capacity 50 Hz Current heat loss per current 4.1 W Back-up fuse type gG Screw-type terminal top, bottom (load circuit) Clamping area 1.5 mm² 25 mm² Connection C1 Maximum 2 (conductors of same type and cross-section) number of conductors per terminal 2 Nm 2.5 Nm Tightening torque 2 Nm 2.5 Nm Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Installation type Mounting rail (35 mm) Housing type distribution board housing Installation type Mounting rail (35 mm) Height 35 mm Depth 73 mm Installation depth 65 mm Module widths 2 Weight 0.226 kg		load circuit	
Rated current (AC) 20 Å Rated short-circuit current 6 kÅ Surge current strength 0.25 kÅ max. Total rated switching 10 kÅ capacity 50 HZ Current heat loss per current 4.1 W path gG Back-up fuse type gG Connection C1 Maximum 2 (conductors of same type and cross-section) number of conductors per terminal 2 (conductors of same type and cross-section) Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Ambient temperature -25 °C 40 °C Housing type Mounting rail (33 mm) Housing material Thermoplastic Protection class IP20 (installed: IP40) Width 35 mm Height 83 mm Depth 73 mm Installation depth 65 mm Module widths 2 Veight 0.226 kg	Specification	load disconnect contact	
Rated short-circuit current 6 kA Surge current strength 0.25 kA max. Total rated switching capacity 10 kA Rated frequency 50 Hz Current heat loss per current path 4.1 W Back-up fuse type gG Carpent heat loss per current path 90 bottom (load circuit) Clamping area 1.5 mm² 25 mm² Connection C1 Maximum number of conductors per terminal 2 (conductors of same type and cross-section) Tightening torque 2 Nm 2.5 Nm General data Mechanical endurance Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material thermoplastic Protection class IP20 (installed: IP40) Width 35 mm Height 63 mm Depth 73 mm Installation depth 65 mm Module widths 2 Veight 0.226 kg	Rated voltage (AC)	230 V	
Surge current strength 0.25 kA max. Total rated switching 10 kA capacity 50 Hz Current heat loss per current 4.1 W path gG Back-up fuse type gG Connection C1 Maximum 1.5 mm ² 25 mm ² Conductors per terminal top, bottom (load circuit) 2 (conductors of same type and cross-section) number of conductors per terminal 2 (conductors of same type and cross-section) Tightening torque 2 Nm 2.5 Nm General data Mechanical endurance Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material Thermoplastic Protection class IIP 20 (installed: IP 40) Width 35 mm Height 65 mm Module widths 2 Out widths 2	Rated current (AC)	20 A	
max. Total rated switching 10 kA Rated frequency 50 Hz Current heat loss per current path 4.1 W Back-up fuse type gG Connection C1 Maximum number of conductors per terminal 1.5 mm ² 25 mm ² Tightening torque 2 Nm 2.5 Nm General data Mechanical endurance Maximum number of conductors per terminal min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material 1P20 (installed: IP40) With 35 mm Height 83 mm Depth 73 mm Installation depth 65 mm Module widths 2 Veight 0.226 kg	Rated short-circuit current	6 kA	
capacityRated frequency50 HzCurrent heat loss per current path4.1 WBack-up fuse typegGGack-up fuse typegGConnection C1 Maximum number of conductors per terminal2 (conductors of same type and cross-section)Tightening torque2 Nm 2.5 NmGeneral dataGeneral dataMechanical endurancemin. 2000 switching cyclesElectrical endurancemin. 2000 switching cyclesHousing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Veight0.226 kgDest returnes1000000000000000000000000000000000000	Surge current strength	0.25 kA	
Current heat loss per current path 4.1 W Back-up fuse type gG Screw-type terminal top, bottom (load circuit) 1.5 mm² 25 mm² Clamping area 1.5 mm² 25 mm² Connection C1 Maximum number of conductors per terminal 2 (conductors of same type and cross-section) Tightening torque 2 Nm 2.5 Nm General data Mechanical endurance Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2005 switching cycles Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material IP20 (installed: IP40) Width 35 mm Height 83 mm Depth 73 mm Installation depth 65 mm Module widths 2 Weight 0.226 kg Design requirements/Standards EN 61009, IEC 1009		10 kA	
path gG Back-up fuse type gG Clamping area 1.5 mm² 25 mm² Connection C1 Maximum 2 (conductors of same type and cross-section) number of conductors per terminal 2 Nm 2.5 Nm Tightening torque 2 Nm 2.5 Nm General data General data Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Ambient temperature -25 °C 40 °C Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material 1P20 (installed: IP40) Width 35 mm Height 83 mm Depth 73 mm Installation depth 65 mm Module widths 2 Weight 0.226 kg Design requirements/Standards EN 61009, IEC 1009	Rated frequency	50 Hz	
screw-type terminal top, bottom (load circuit) Clamping area 1.5 mm ² 25 mm ² Connection C1 Maximum number of conductors per terminal 2 (conductors of same type and cross-section) Tightening torque 2 Nm 2.5 Nm General data General data Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Ambient temperature -25 °C 40 °C Housing type Moutting rail (35 mm) Housing material thermoplastic Protection class IP20 (installed: IP40) Width 35 mm Height 83 mm Depth 73 mm Installation depth 65 mm Module widths 2 Veight 0.226 kg		4.1 W	
Clamping area 1.5 mm² 25 mm² Connection C1 Maximum 2 (conductors of same type and cross-section) number of conductors per 2 Nm 2.5 Nm Tightening torque 2 Nm 2.5 Nm General data Mechanical endurance Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Ambient temperature -25 °C 40 °C Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material thermoplastic Protection class IIP20 (installed: IP40) Width 35 mm Height 83 mm Depth 73 mm Installation depth 65 mm Module widths 2 Veight 0.226 kg Design requirements/Standards EN 61009, IEC 1009	Back-up fuse type	gG	
Connection C1 Maximum number of conductors per terminal2 (conductors of same type and cross-section)Tightening torque2 Nm 2.5 NmGeneral dataGeneral dataMechanical endurancemin. 2000 switching cyclesElectrical endurancemin. 2000 switching cyclesAmbient temperature-25 °C 40 °CHousing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Veight0.226 kgDesign requirements/StandardsEIN 61009, IEC 1009		screw-type terminal top, bottom (load circuit)	
number of conductors per terminalTightening torque2 Nm 2.5 NmGeneral dataMechanical endurancemin. 2000 switching cyclesElectrical endurancemin. 2000 switching cyclesAmbient temperature-25 °C 40 °CHousing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight65 mmDepth73 mmInstallation depth65 mmModule widths2Veight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Clamping area	1.5 mm ² 25 mm ²	
General dataMechanical endurancemin. 2000 switching cyclesElectrical endurancemin. 2000 switching cyclesAmbient temperature-25 °C 40 °CHousing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	number of conductors per	2 (conductors of same type and cross-section)	
Mechanical endurancemin. 2000 switching cyclesElectrical endurancemin. 2000 switching cyclesAmbient temperature $-25 ^{\circ}$ C 40 $^{\circ}$ CHousing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Tightening torque	2 Nm 2.5 Nm	
Electrical endurancemin. 2000 switching cyclesAmbient temperature-25 °C 40 °CHousing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009		General data	
Ambient temperature-25 °C 40 °CHousing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Mechanical endurance	min. 2000 switching cycles	
Housing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Electrical endurance	min. 2000 switching cycles	
Installation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Ambient temperature	-25 °C 40 °C	
Housing materialthermoplasticProtection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Housing type	distribution board housing	
Protection classIP20 (installed: IP40)Width35 mmHeight83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Installation type	Mounting rail (35 mm)	
Width35 mmHeight35 mmDepth83 mmDepth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Housing material	thermoplastic	
Height 83 mm Depth 73 mm Installation depth 65 mm Module widths 2 Weight 0.226 kg Design requirements/Standards EN 61009, IEC 1009	Protection class	IP20 (installed: IP40)	
Depth73 mmInstallation depth65 mmModule widths2Weight0.226 kgDesign requirements/StandardsEN 61009, IEC 1009	Width	35 mm	
Installation depth 65 mm Module widths 2 Weight 0.226 kg Design requirements/Standards EN 61009, IEC 1009	Height	83 mm	
Module widths 2 Weight 0.226 kg Design requirements/Standards EN 61009, IEC 1009	Depth	73 mm	
Weight 0.226 kg Design requirements/Standards EN 61009, IEC 1009	Installation depth	65 mm	
Design requirements/Standards EN 61009, IEC 1009	Module widths	2	
	Weight	0.226 kg	
	Design requirements/Standards	EN 61009, IEC 1009	
Power limitation category 3	Power limitation category	3	

Dimensions



Wiring example



Dimensional drawing Group view

Wiring diagram