

# DATA SHEET

# residual current operated circuit-breakers with integral overcurrent protection RCBO 1 B32/0,03/1-AC



sensitive to residual currents Type AC Article number 09915827

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 from series RCBO 1 are independent of the mains voltage and have a high switching capacity of 10 kA. They are especially suited for use in British standard distribution systems, and are particularly compact thanks to a module width of just one module width unit. Two features make mounting and removal easier: terminal protection against wires being lodged behind them and the bi-stable snap-in slider. 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. 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 of this series have been designed in accordance with the requirements of the British Standards Institution. Due to their voltage dependance, they are not admitted for use in Germany.

#### Features

mains-voltage-dependent tripping, compact design for all rated currents, high short-circuit resistance, green/red switching position indicator, strain-relief clamps with protection against wires being lodged behind them, bi-stable snap-in slider for easy mounting and removal

#### Mounting

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

#### Applications

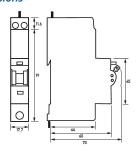
Power supplies to residential and purpose-built buildings as well as industrial facilities with TN-S, TT and TN-C-S networks. In IT networks, the RCBOs of this series can be set to switch off in the event of a second fault, Not permitted for use in TN-C networks and for protecting systems in which electronic 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 1 B32/0,03/1-AC
Series	RCBO 1
Number of poles	1
Residual current type	AC
Rated current (AC)	32 A
Rated residual current I∆n	o.o <sub>3</sub> A
Short-time delayed	false
Selective	false
min. Operating voltage range of test circuit	184 V
max. Operating voltage range of test circuit	264 V

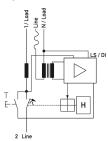
Technical Data Technical Data RCBO 1 B3zl/pogh-AC Tipping characteristic B Operating voltage (AC) max. 2g3 V load circuit Specification Ioad disconnect contact Rated voltage (AC) Rated current (AC) Rated current (AC) Rated sont-circuit current 10 kA Surge current strength 0.25 kA max. Total rated switching capacity Rated frequency Sp Hz Current heat loss per current path Short-circuit backup-fuse SCPD 30 A Back-up fuse type 3 G screw-type terminal top, bottom (load circuit) Neutral conductor position Clamping area Connection Ca Maximum number of conductors per terminal Clamping position Operating position Operating position Operating position Operating position Rechanical endurance Electrical endurance Electrical endurance Min. 20000 switching cycles Electrical endurance Inin. 40000 switching cycles Electrical endurance Min. 40000 switching cycles Electrical endurance Inin. 40000 switching cycles Electrical endurance Inin. 40000 switching cycles Electrical endurance Min. 40000 switching cycles Electrical endurance Inin. 40000 switching Electrical endurance Inin. 40000 switching E		
Operating voltage (AC)    Ioad circuit		RCBO 1 B32/0,03/1-AC
Ioad circuit	Tripping characteristic	В
Specification load disconnect contact Rated voltage (AC) 230 V Rated current (AC) 32 A Rated current (AC) 32 A Rated short-circuit current 10 kA Surge current strength 0.25 kA max. Total rated switching capacity Rated frequency 50 Hz Current heat loss per current 10.7 W path 5Nort-circuit backup-fuse SCPD 10.0 A Back-up fuse type 10.0 G Back-up fuse type 20.0 G Back-up fuse type 30 G Screw-type terminal top, bottom (load circuit) Neutral conductor position right Clamping area 1 mm² 25 mm² Connection C1 Maximum 2 (conductors of same type and cross-section) number of conductors per terminal  Connection C2 Maximum 2 (conductors of same type and cross-section) Neutral conductor position 0 optional Mechanical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Electrical endurance min. 2000 switching cycles Electrical endurance according to IEC 60068-2 (po95%) Housing type distribution board housing Installation type Auounting rail (35 mm) Housing material thempopalstic Protection class IP20 (installed: IP40) Width 17,7 mm Height 10.26 mm Depth 75.2 mm Installation depth 70.2 mm Module widths 1 Installation depth 70.2 mm Module widths 1 Installation depth 10.28 fm Design requirements/Standards EN 61009-2-1, EN 61009-2-1, EN 61503	Operating voltage (AC)	
Rated voltage (AC) Rated current (AC) Rated current (AC) Rated short-circuit current 10 kA Surge current strength 20.25 kA max. Total rated switching capacity Rated frequency So Hz Current heat loss per current path Short-circuit backup-fuse SCPD 10.7 W Path Short-circuit backup-fuse SCPD 10.0 A Back-up fuse type gG screw-type terminal top, bottom (load circuit) Neutral conductor position Glamping area 1 mm² 25 mm² Connection C3 Maximum number of conductors per terminal Connection C3 Maximum number of conductors per terminal Rechanical endurance Biectrical endurance Electrical endurance Storage temperature -25 °C 55 °C Ambient temperature -25 °C 40 °C Climate resistance according to IEC 60068-2 (9095%) Housing type Housing material Heusing material Frotection class IP20 (installed: IP40) Width 17.7 mm Height 10.2 km  Depth 75.2 mm Installation depth Nodule widths 1 Weight 0.2 km  EN 61009-1, EN 61009-2-1, EN 61643		load circuit
Rated current (AC) Rated short-circuit current  10 kA  Surge current strength  20.25 kA  max. Total rated switching capacity Rated frequency  50 Hz  Current heat loss per current path Short-circuit backup-fuse SCPD  100 A  Back-up fuse type  gG screw-type terminal top, bottom (load circuit)  Neutral conductor position  Clamping area  1 mm² 25 mm² Connection C1 Maximum number of conductors per terminal  General data  Operating position  Optional  Mechanical endurance  Inin. 2000o switching cycles  Electrical endurance  Storage temperature  2 5° C 55° C  Ambient temperature  2 5° C 55° C  Ambient temperature  3 coording to IEC 60068-2 (9095%)  Housing type  Mounting rail (35 mm)  Housing material  Protection class  IP20 (installed: IP40)  Width 17.7 mm  Height 102.6 mm  Depth 105.2 mm  Module widths 1  Weight 10.2 mm  Module widths 1  Mechanical and cross-section 10 Max	Specification	load disconnect contact
Rated short-circuit current Surge current strength O.25 kA  Surge current strength O.25 kA  max. Total rated switching capacity Rated frequency So Hz  Current heat loss per current path Short-circuit backup-fuse SCPD One of the strength o	Rated voltage (AC)	230 V
Surge current strength  max. Total rated switching capacity  Rated frequency  So Hz  Current heat loss per current path  Short-circuit backup-fuse SCPD  100 A  Back-up fuse type  gG  screw-type terminal top, bottom (load circuit)  Neutral conductor position  Clamping area  1 mm² 25 mm²  Connection C1 Maximum number of conductors per terminal  General data  Operating position  Optional  Mechanical endurance  Biorage temperature  Torage temperature  1-25 °C 55 °C  Ambient temperature  1-25 °C 40 °C  Climate resistance  Indicate resistance	Rated current (AC)	32 A
max. Total rated switching capacity  Rated frequency  Current heat loss per current path  Short-circuit backup-fuse SCPD  Back-up fuse type  gG  screw-type terminal top, bottom (load circuit)  Neutral conductor position  Clamping area  1 mm² 25 mm²  Connection C1 Maximum anumber of conductors per terminal  General data  Operating position  Mechanical endurance  Electrical endurance  Storage temperature  -25°C 40°C  Climate resistance  according to IEC 60068-2 (go95%)  Housing type  Installation type  Mounting rail (35 mm)  Height  102.6 mm  Depth  75.2 mm  Installation depth  Module widths  1  Weight  O.18 kg  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 6	Rated short-circuit current	10 kA
Rated frequency Current heat loss per current path Short-circuit backup-fuse SCPD Back-up fuse type GG Screw-type terminal top, bottom (load circuit) Neutral conductor position Clamping area 1 mm² 25 mm² Connection C1 Maximum and conductors per terminal conductors pe	Surge current strength	0.25 kA
Current heat loss per current path path Short-circuit backup-fuse SCPD Back-up fuse type  gG screw-type terminal top, bottom (load circuit) Neutral conductor position light Clamping area l mm² 25 mm² Connection C1 Maximum number of conductors per terminal  General data Operating position Operating position Operating position Mechanical endurance min. 20000 switching cycles Electrical endurance min. 4000 switching cycles Storage temperature -25 °C 55 °C Ambient temperature -25 °C 40 °C Climate resistance according to IEC 60068-2 (9095%) Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material Protection class IP20 (installed: IP40) Width 17.7 mm Height 102.6 mm Depth 75.2 mm Installation depth Module widths 1 Neight 1.8 kg Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 610643	_	10 kA
path Short-circuit backup-fuse SCPD Back-up fuse type g screw-type terminal top, bottom (load circuit) Neutral conductor position Clamping area 1 mm² 25 mm² Connection Ca Maximum number of conductors per terminal  Coperating position Operating position Mechanical endurance Electrical endurance Storage temperature -25 °C 55 °C Ambient temperature -25 °C 40 °C Climate resistance According to IEC 60068-2 (9095%) Housing type distribution board housing Installation type Housing material Protection class IP20 (installed: IP40) Width 17.7 mm Height Depth To 2.2 mm Module widths 1 Weight Design requirements/Standards EN 61009-1, EN 61069-2-1, EN 615643	Rated frequency	50 Hz
Back-up fuse type  screw-type terminal top, bottom (load circuit)  Neutral conductor position  Clamping area  2 (conductors of same type and cross-section) number of conductors per terminal  General data  Operating position  Mechanical endurance  Electrical endurance  Storage temperature  -25 °C 55 °C  Ambient temperature  according to IEC 66068-2 (go95%)  Housing type  Installation type  Mounting rail (35 mm)  Housing material  Protection class  IP 20 (installed: IP 40)  Width  17.7 mm  Height  Depth  75.2 mm  Installation depth  Module widths  1  Weight  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543		10.7 W
Screw-type terminal top, bottom (load circuit)   Neutral conductor position   Fight     Clamping area   1 mm² 25 mm²     Connection C1 Maximum   2 (conductors of same type and cross-section)     Image: Imag	Short-circuit backup-fuse SCPD	100 A
Neutral conductor position  Clamping area  1 mm² 25 mm²  Connection C1 Maximum number of conductors per terminal  General data  Operating position  Mechanical endurance  Electrical endurance  Storage temperature  -25 °C 55 °C  Ambient temperature  -25 °C 40 °C  Climate resistance  according to IEC 60068-2 (9095%)  Housing type  distribution board housing  Installation type  Mounting rail (35 mm)  Housing material  Protection class  IP20 (installed: IP40)  Width  17.7 mm  Height  Depth  Pop. 2 mm  Installation depth  70.2 mm  Module widths  1  Weight  On.18 kg  Design requirements/Standards  EN 61009-14, EN 61009-2-1, EN 61009-	Back-up fuse type	<del>-</del>
Clamping area  1 mm² 25 mm²  Connection C1 Maximum number of conductors per terminal  General data  Operating position  Mechanical endurance  Electrical endurance  Storage temperature  Climate resistance  Housing type  distribution board housing  Installation type  Housing material  Protection class  Width  17.7 mm  Height  Depth  75.2 mm  Module widths  1  Weight  Operating yosition  2 (conductors of same type and cross-section)  1 mm² 25 mm²  2 (conductors of same type and cross-section)  1 mum² 25 mm²  2 (conductors of same type and cross-section)  1 mum² 25 mm²  Operating board ataa  Operating position  Optional  Mechanical endurance  min. 2000s witching cycles  min. 4000 switching cycles  1-25 °C 55 °C  Ambient temperature  -25 °C 40 °C  Climate resistance  according to IEC 60068-2 (9095%)  Housing type  distribution board housing  Mounting rail (35 mm)  Hermoplastic  Thermoplastic  Protection class  Protection class  Protection class  Thermoplastic  Protection class  Thermoplastic  Protection class  Thermoplastic  Thermoplasti		screw-type terminal top, bottom (load circuit)
Connection C1 Maximum number of conductors per terminal  General data  Operating position optional  Mechanical endurance min. 2000 switching cycles  Electrical endurance min. 4000 switching cycles  Electrical endurance min. 4000 switching cycles  Storage temperature -25 °C 45 °C  Ambient temperature -25 °C 40 °C  Climate resistance according to IEC 60068-2 (9095%)  Housing type distribution board housing  Installation type Mounting rail (35 mm)  Housing material thermoplastic  Protection class IP20 (installed: IP40)  Width 17.7 mm  Height 102.6 mm  Depth 75.2 mm  Installation depth 70.2 mm  Module widths 1  Weight 0.18 kg  Design requirements/Standards EN 61009-1-1, EN 61543	Neutral conductor position	right
number of conductors per terminal  General data  Operating position optional  Mechanical endurance min. 20000 switching cycles  Electrical endurance min. 4000 switching cycles  Storage temperature -25 °C 55 °C  Ambient temperature -25 °C 40 °C  Climate resistance according to IEC 60068-2 (9095%)  Housing type distribution board housing  Installation type Mounting rail (35 mm)  Housing material thermoplastic  Protection class IP20 (installed: IP40)  Width 17.7 mm  Height 102.6 mm  Depth 75.2 mm  Installation depth 70.2 mm  Module widths 1  Weight 0.18 kg  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543	Clamping area	1 mm² 25 mm²
Operating position optional  Mechanical endurance min. 20000 switching cycles  Electrical endurance min. 4000 switching cycles  Storage temperature -25 °C 55 °C  Ambient temperature -25 °C 40 °C  Climate resistance according to IEC 60068-2 (9095%)  Housing type distribution board housing  Installation type Mounting rail (35 mm)  Housing material thermoplastic  Protection class IP20 (installed: IP40)  Width 17.7 mm  Height 102.6 mm  Depth 75.2 mm  Installation depth 70.2 mm  Module widths 1  Weight 0.18 kg  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543	number of conductors per	2 (conductors of same type and cross-section)
Mechanical endurancemin. 20000 switching cyclesElectrical endurancemin. 4000 switching cyclesStorage temperature-25 °C 55 °CAmbient temperature-25 °C 40 °CClimate resistanceaccording to IEC 60068-2 (9095%)Housing typedistribution board housingInstallation typeMounting rail (35 mm)Housing materialthermoplasticProtection classIP20 (installed: IP40)Width17.7 mmHeight102.6 mmDepth75.2 mmInstallation depth70.2 mmModule widths1Weight0.18 kgDesign requirements/StandardsEN 61009-2-1, EN 61009-2-1, EN 61543		General data
Electrical endurance  Storage temperature  -25 °C 55 °C  Ambient temperature  -25 °C 40 °C  Climate resistance  according to IEC 60068-2 (9095%)  Housing type  distribution board housing  Installation type  Mounting rail (35 mm)  Housing material  thermoplastic  Protection class  IP20 (installed: IP40)  Width  17.7 mm  Height  102.6 mm  Depth  75.2 mm  Installation depth  70.2 mm  Module widths  1  Weight  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543	Operating position	optional
Storage temperature  -25 °C 55 °C  Ambient temperature  -25 °C 40 °C  Climate resistance  according to IEC 60068-2 (9095%)  Housing type  distribution board housing  Installation type  Mounting rail (35 mm)  Housing material  thermoplastic  Protection class  IP20 (installed: IP40)  Width  17.7 mm  Height  102.6 mm  Depth  75.2 mm  Installation depth  70.2 mm  Module widths  1  Weight  0.18 kg  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543	Mechanical endurance	min. 20000 switching cycles
Ambient temperature  -25 °C 40 °C  Climate resistance  according to IEC 60068-2 (9095%)  Housing type  distribution board housing  Installation type  Mounting rail (35 mm)  Housing material  thermoplastic  Protection class  IP20 (installed: IP40)  Width  17.7 mm  Height  102.6 mm  Depth  75.2 mm  Installation depth  70.2 mm  Module widths  1  Weight  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543	Electrical endurance	min. 4000 switching cycles
Climate resistance according to IEC 60068-2 (9095%) Housing type distribution board housing Installation type Mounting rail (35 mm) Housing material thermoplastic Protection class IP20 (installed: IP40) Width 17.7 mm Height 102.6 mm Depth 75.2 mm Installation depth 70.2 mm Module widths 1 Weight 0.18 kg Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 61543	Storage temperature	-25 °C 55 °C
Housing type Installation type Mounting rail (35 mm) Housing material Thermoplastic Protection class IP20 (installed: IP40) Width 17.7 mm Height 102.6 mm Depth 75.2 mm Installation depth 70.2 mm Module widths 1 Weight 0.18 kg Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 61543	Ambient temperature	-25 °C 40 °C
Installation type  Mounting rail (35 mm)  Housing material  thermoplastic  Protection class  IP20 (installed: IP40)  Width  17.7 mm  Height  102.6 mm  Depth  75.2 mm  Installation depth  70.2 mm  Module widths  1  Weight  0.18 kg  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543	Climate resistance	according to IEC 60068-2 (9095%)
Housing material thermoplastic  Protection class IP20 (installed: IP40)  Width 17.7 mm  Height 102.6 mm  Depth 75.2 mm  Installation depth 70.2 mm  Module widths 1  Weight 0.18 kg  Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 61543	Housing type	distribution board housing
Protection class  IP20 (installed: IP40)  Width  17.7 mm  Height  102.6 mm  Depth  75.2 mm  Installation depth  70.2 mm  Module widths  1  Weight  0.18 kg  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543	Installation type	Mounting rail (35 mm)
Width       17.7 mm         Height       102.6 mm         Depth       75.2 mm         Installation depth       70.2 mm         Module widths       1         Weight       0.18 kg         Design requirements/Standards       EN 61009-1, EN 61009-2-1, EN 61543	Housing material	thermoplastic
Height 102.6 mm  Depth 75.2 mm  Installation depth 70.2 mm  Module widths 1  Weight 0.18 kg  Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 61543	Protection class	IP20 (installed: IP40)
Depth 75.2 mm Installation depth 70.2 mm  Module widths 1  Weight 0.18 kg  Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 61543	Width	17.7 mm
Installation depth 70.2 mm  Module widths 1  Weight 0.18 kg  Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 61543	Height	102.6 mm
Module widths  1 Weight  0.18 kg  Design requirements/Standards  EN 61009-1, EN 61009-2-1, EN 61543	Depth	75.2 mm
Weight 0.18 kg Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 61543	Installation depth	70.2 mm
Design requirements/Standards EN 61009-1, EN 61009-2-1, EN 61543	Module widths	1
	Weight	0.18 kg
Power limitation category 3	Design requirements/Standards	EN 61009-1, EN 61009-2-1, EN 61543
	Power limitation category	3

## **Dimensions**



# Dimensional drawing Group view

## Wiring example



Wiring diagram