

■ Datasheet: Residual current circuit breaker, series BCFO, 10kA



■ SCHRACK-INFO

- Contact position indicator
- Not dependent on position
- Power supply on top or bottom

■ Technical data

Standards	IEC/EN 61008-1, IEC/EN 61008-2-1 G: ÖVE E 8601
Poles	2, 4
Type	AC, A
Tripping-type	Main voltage independent
Delay-type	undelayed, G, S, U
Rated current I_n	25 A, 40 A, 63 A, 80 A, 100 A
Rated residual current $I_{\Delta n}$	0,01A, 0,03A, 0,1A, 0,3A
Rated voltage U_e	230/400 V-AC 4-pole 230 V-AC 2-pole
Rated insulation voltage U_i	440 V
Rated frequency (AC):	50/60 Hz
Main supply side	top or bottom
Rated impulse withstand voltage U_{imp}	4 kV
Short-circuit current I_{nc}	10.000 A

Max. back-up fuse as short circuit protection (SCPD)			
	16 A - type	63 A gG	
	25 A - type	63 A gG	
	40 A - type	63 A gG	
	63 A - type	63 A gG	
	80 A - type	80 A gG	
	100 A - type	100 A gG	
Max. back-up fuse as overload protection (OPCD)			
	16 A - type	10 A gG	
	25 A - type	25 A gG	
	40 A - type	25 A gG	
back-up fuse = rated current (OPCD-endurance, vsf.)	40 A - type	40 A gG	
	63 A - type	40 A gG	
back-up fuse = rated current (OPCD-endurance, vsf.)	63 A - type	63 A gG	
	80 A - type	50 A gG	
	100 A - type	63 A gG	
Rated residual making and breaking capacity $I_m, I_{\Delta m}$			
	16 A - type	500 A	
	25 A - type	500 A	
	40 A - type	500 A	
	63 A - type	630 A	
	80 A - type	800 A	
	100 A - type	1000 A	
Tripping time	undelayed	$I\Delta n$	$\leq 300\text{ms}$
		$2 \times I\Delta n$	$\leq 150\text{ms}$
		$\geq 5 \times I\Delta n$	$\leq 40\text{ms}$
	G	$I\Delta n$	$\geq 10\text{ms und } \leq 300\text{ms}$
		$2 \times I\Delta n$	$\geq 10\text{ms und } \leq 150\text{ms}$
		$\geq 5 \times I\Delta n$	$\geq 10\text{ms und } \leq 40\text{ms}$
	S	$I\Delta n$	$\geq 130\text{ms und } \leq 500\text{ms}$
		$2 \times I\Delta n$	$\geq 60\text{ms und } \leq 200\text{ms}$
		$5 \times I\Delta n$	$\geq 50\text{ms und } \leq 150\text{ms}$
		$> 5 \times I\Delta n$	$\geq 40\text{ms und } \leq 150\text{ms}$
No tripping residual current		$\leq 0,5 I\Delta n$	
Rated voltage of test circuit			
	2 pole	195,5 - 250 V-AC	
	4 pole	195,5 - 440 V-AC	

Prevents nuisance tripping caused by switching electronic light:	undelayed	with commercially available ballast according to the manufacturer max. 20 EVG each phase, max. 60 each RCCB
	delayed G,S 30 mA	with commercially available ballast according to the manufacturer max. 30 EVG each phase, max. 90 each RCCB
	delayed G,S 100 mA	with commercially available ballast according to the manufacturer max. 90 EVG each phase
Power loss		according to the following diagram
Electrical endurance		> 4.000 cycles
Mechanical endurance		> 20.000 cycles
Position indicator		yes (red /green)
Polution degree		2
Protection degree		IP 20
	in panel	IP 40
Finger and hand touch safe		according to BGV A3, ÖVE-EN 6
Ambient operating temperature		-25 °C bis +40 °C
Max. ambient temperature		-25 °C bis +60 °C (expect 25A)
Terminals		open mouthed terminal and lift clamps both sides
Terminal-screws		Pozidriv PZ2
Wire-material		Cu
Terminal capacity		1 x 1,5 - 35mm ² single wire
		2 x 16 mm ² stranded
		more information in the following diagram
Material thickness busbar		0,8 - 2 mm
Torque		2 - 2,4 Nm
Dimension and weight	2-pole	W x H x D: 35 x 80 x 63 mm
		0,22 kg
	4-pole	W x H x D: 70 x 80 x 63 mm
		0,32 kg
Mounting		Fast clip device on DIN-rail EN 60715 (35mm)

Note

The test button "T" must be operated once every 6 months (enclosed information sticker). Under non-household-type conditions (e.g. humid or dusty environment), it is recommended to carry out the test at shorter (monthly) intervals.

Pressing the test button "T" only tests the function of the residual current (RC) circuit breaker. This test does not replace the earthing resistance measurement (RE) nor the proper protective conductor test that must be performed separately.

▀ Influence of ambient temperature on the maximum permissible continuous current

2-pole

Ambient-temperature	Rated current			
	16 A	25 A	40 A	63 A
40°	16 A	25 A	40 A	63 A
45°	14 A	21 A	37 A	59 A
50°	11 A	18 A	33 A	55 A
55°	9 A	14 A	30 A	50 A
60°	-	-	26 A	45 A

4-pole

Ambient-temperature	Rated current				
	25 A	40 A	63 A	80 A	100 A
40°	25 A	40 A	63 A	80 A	100 A
45°	22 A	37 A	59 A	76 A	95 A
50°	19 A	34 A	55 A	72 A	90 A
55°	16 A	31 A	50 A	68 A	85 A
60°	-	27 A	45 A	64 A	80 A

Note: It must be ensured that these values are not exceeded.
16A and 25A RCCB can not be used at 60°C.

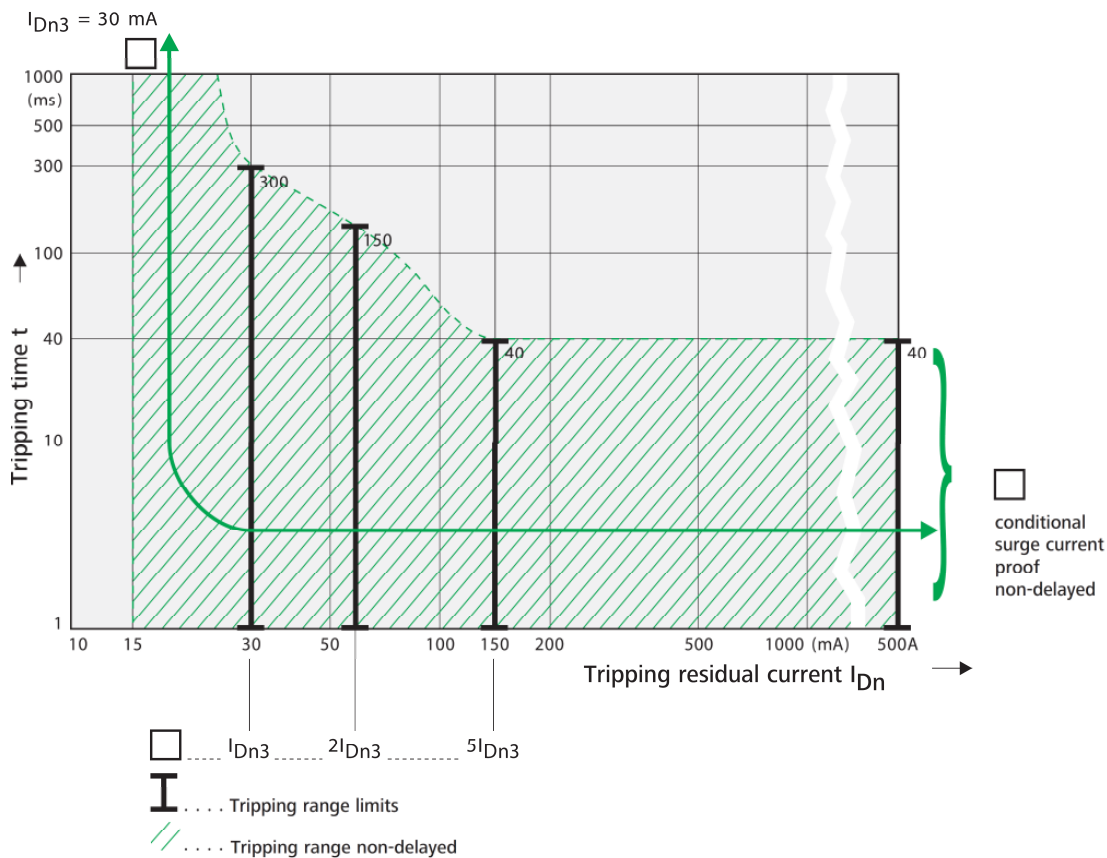
▀ Power loss

Pole	I_N	$I_{\Delta n}$	Type	Power loss
2-pole	16 A	10mA	A	2,6 W
2-pole	25 A	30mA	AC, A, G/AC	1,3 W
2-pole	25 A	100mA, 300mA, 500mA	AC, A, G/AC	2 W
2-pole	40 A	30mA	AC, A, G/AC, G/A	5,8 W
2-pole	40 A	100mA, 300mA, 500mA	AC, A, G/AC	5,4 W
2-pole	63 A	30mA	AC	9,7 W
2-pole	63 A	300mA	AC, A	7,2 W

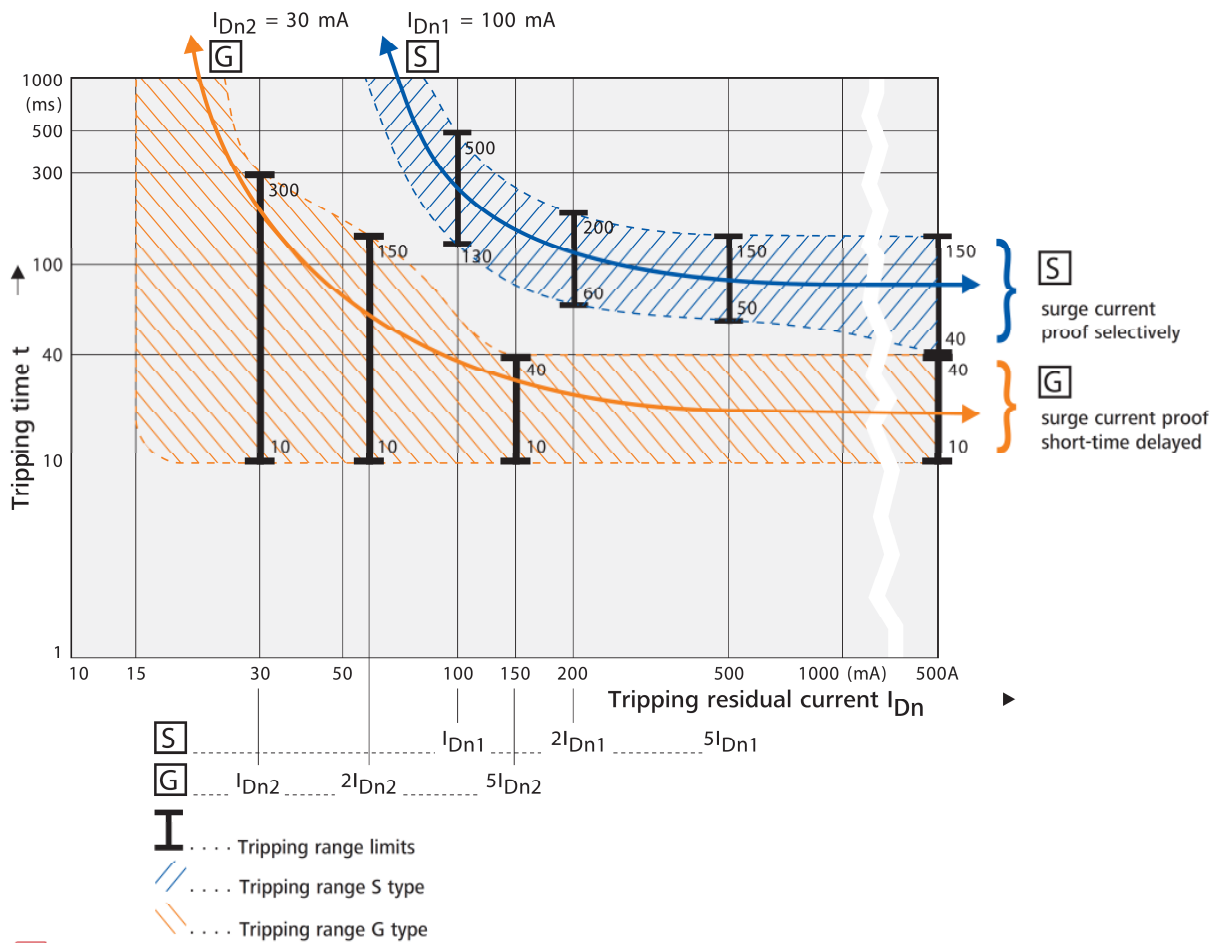
Pole	I_N	$I_{\Delta n}$	Type	Power loss
4-pole	25 A	30mA	AC, A	3,1 W
4-pole	25 A	100mA, 300mA, 500mA	AC	2,8 W
4-pole	40A	30mA	AC, A, G/AC, G/A, U	9,6 W
4-pole	40A	100mA, 300mA, 500mA	AC, A, G/AC, G/A, S/A, U	8,4 W
4-pole	40A OPCD	30mA	AC, A, G/AC, G/A	13,4 W
4-pole	40A OPCD	100mA, 300mA, 500mA	AC, A, G/AC, G/A, S/A, U	10,5 W
4-pole	63A	30mA	AC, A, G/AC, G/A	13,4 W
4-pole	63A	100mA, 300mA, 500mA	AC, A, G/AC, G/A, S/A, U	10,5 W
4-pole	63A OPCD	30mA	AC, A, G/AC, G/A	13,4 W
4-pole	63A OPCD	100mA, 300mA, 500mA	AC, A, G/AC, G/A, S/A, U	10,5 W
4-pole	80A	30mA	AC, A, G/AC, G/A	11,4 W
4-pole	80A	100mA, 300mA, 500mA	AC, A, G/AC, G/A, S/A, U	11,4 W
4-pole	100A	30mA	AC, A, G/AC, G/A	18,8 W
4-pole	100A	100mA, 300mA, 500mA	AC, A, G/AC, G/A, S/A, U	18,8 W

Tripping characteristics

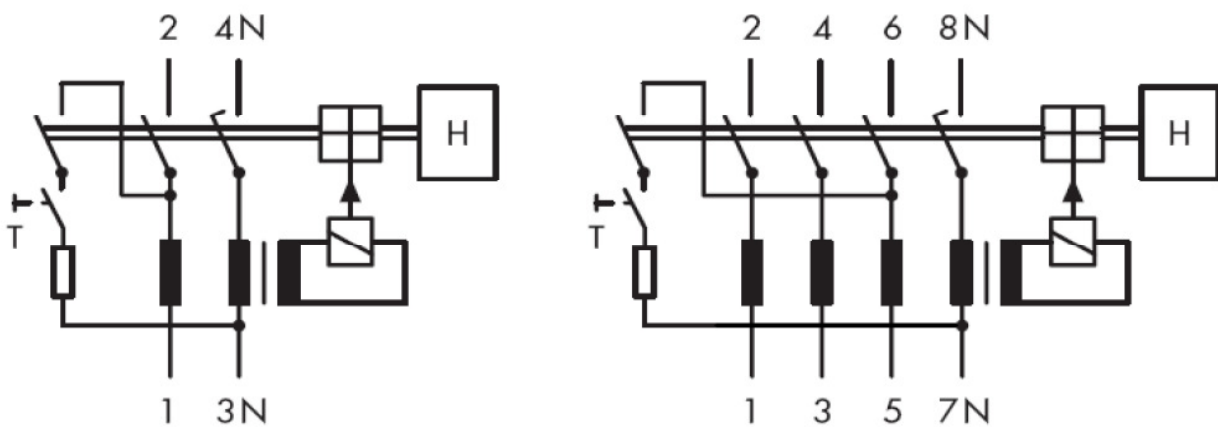
Typical residual current circuit breaker tripping characteristic, non-delayed




Typical residual current circuit breaker tripping characteristics **S** **G**, delayed



Wiring diagram test circuit



 Possible connections

Conductor cross-section	Number of single conductors, rigid, single-wire Cu conductors					
	[mm ²]	1	2	3	4	5
1.5	+	+	+	+	+	-
2.5	+	+	+	+	-	-
4	+	+	+	+	-	-
6	+	+	+	+	-	-
10	+	+	+	-	-	-
16	+	+	-	-	-	-
25	+	-	-	-	-	-
35	+	-	-	-	-	-

Conductor cross-section	Number of single conductors, rigid, multi-wire Cu conductors					
	[mm ²]	1	2	3	4	5
10	+	+	+	-	-	-
16	+	+	-	-	-	-
25	+	-	-	-	-	-
35	+	-	-	-	-	-

+ permissible
 - not permissible

Conductor cross-section [mm ²]	Number of single-conductors, flexible Cu conductors					
	1**	2*	3*	4*	5*	6*
1.5	+	-	-	-	+	-
2.5	+	-	+	+	-	-
4	+	+	+	+	-	-
6	+	+	+	+	-	-
10	+	+	-	-	-	-
16	+	+	-	-	-	-
25	+	-	-	-	-	-
35	+	-	-	-	-	-

*) Only without wire end and sleeve

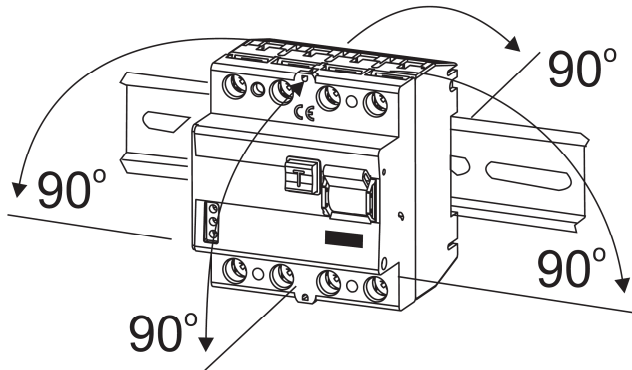
***) Only with wire end and sleeve

Conductor cross-section [mm ²]	Combinations of different cross-sections of flexible Cu conductors with each other								
	Permissible variations (without wire end sleeves)								
1.5	+	-	-	-	-	-	-	-	-
2.5	+	+	-	-	-	+	-	-	-
4	-	+	+	-	-	-	+	-	-
6	-	-	+	+	-	+	-	+	-
10	-	-	-	+	+	-	+	-	+
16	-	-	-	-	+	-	-	+	-
25	-	-	-	-	-	-	-	-	+
35	-	-	-	-	-	-	-	-	-

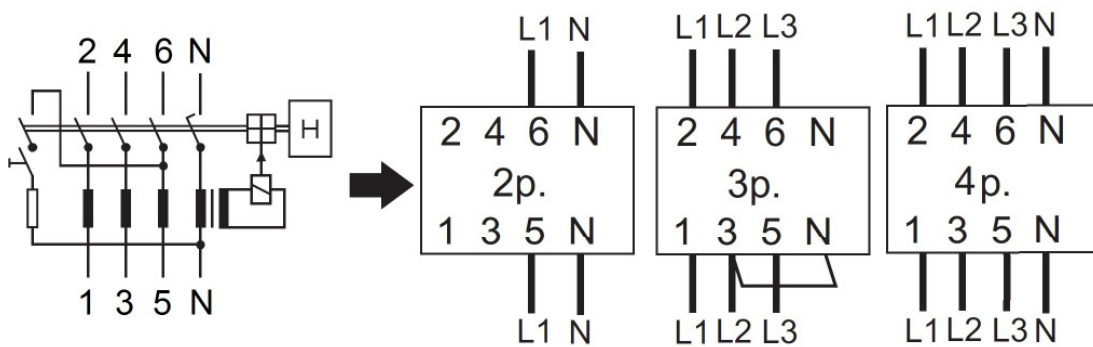
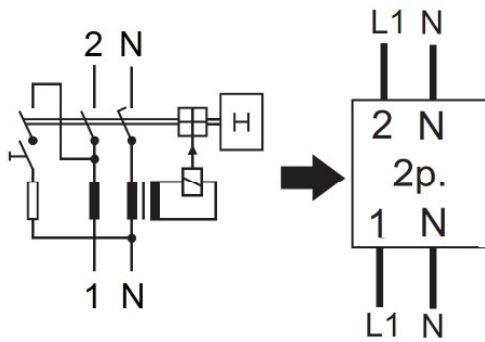
+ permissible
- not permissible

No combinations are permissible for rigid single- and multi-wire Cu conductors!

Installation-direction

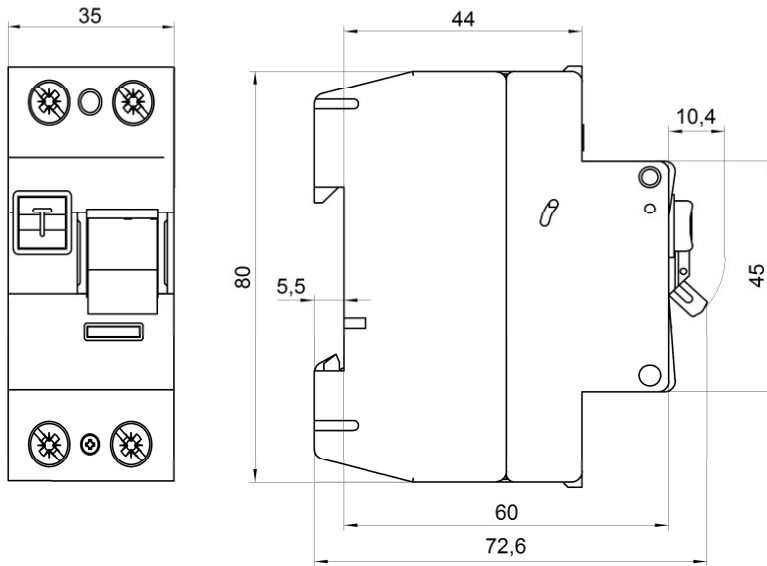


Wiring diagram

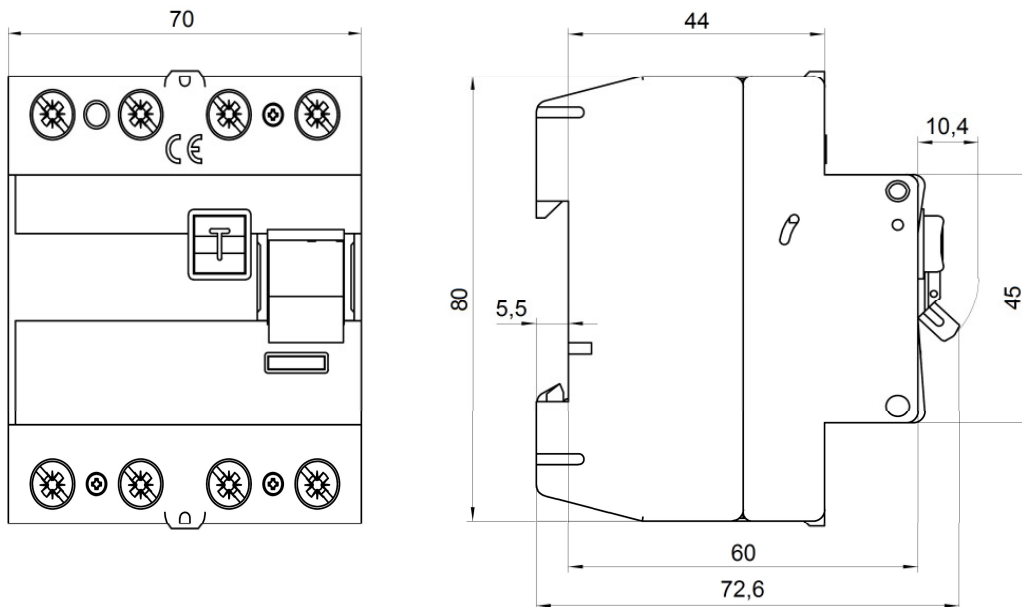


Dimensiones

2-pole



4-pole



Articles

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type A

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type A, 10mA

Description	Order no.
2pole	
16A / 2 / 0,01A	BC059201--

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type A, 30mA

Description	Order no.
2pole	
25A / 2 / 0,03A	BC052203--
40A / 2 / 0,03A	BC054203--
4-pole	
25A / 4 / 0,03A	BC052103--
40A / 4 / 0,03A	BC054103--
40A / 4 / 0,03A back-up fuse proof	BC054403--
63A / 4 / 0,03A	BC056103--
63A / 4 / 0,03A back-up fuse proof	BC056603--
80A / 4 / 0,03A	BC058103--
100A / 4 / 0,03A	BC050103--

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type A, 100mA

Description	Order no.
4-pole	
40A / 4 / 0,1A	BC054110--
63A / 4 / 0,1A	BC056110--
100A / 4 / 0,1A	BC050110--

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type A, 300mA

Description	Order no.
2pole	
40A / 2 / 0,3A	BC054230--
63A / 2 / 0,3A	BC056230--
4-pole	
40A / 4 / 0,3A	BC054130--
63A / 4 / 0,3A	BC056130--
80A / 4 / 0,3A	BC058130--
100A / 4 / 0,3A	BC050130--

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type AC

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type AC, 30mA

Description	Order no.
2pole	
25A / 2 / 0,03A	BC002203--
40A / 2 / 0,03A	BC004203--
63A / 2 / 0,03A	BC006203--
80A / 2 / 0,03A	BC008203--
4-pole	
25A / 4 / 0,03A	BC002103--
40A / 4 / 0,03A	BC004103--
40A / 4 / 0,03A back-up fuse proof	BC004403--
63A / 4 / 0,03A	BC006103--
63A / 4 / 0,03A back-up fuse proof	BC006603--
80A / 4 / 0,03A	BC008103--
100A / 4 / 0,03A	BC000103--

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type AC, 100mA

Description	Order no.
2pole	
25A / 2 / 0,1A	BC002210--
40A / 2 / 0,1A	BC004210--
4-pole	
25A / 4 / 0,1A	BC002110--
40A / 4 / 0,1A	BC004110--
40A / 4 / 0,1A back-up fuse proof	BC004410--
63A / 4 / 0,1A	BC006110--
63A / 4 / 0,1A back-up fuse proof	BC006610--
80A / 4 / 0,1A	BC008110--
100A / 4 / 0,1A	BC000110--

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type AC, 300mA

Description	Order no.
2pole	
25A / 2 / 0,3A	BC002230--
40A / 2 / 0,3A	BC004230--
63A / 2 / 0,3A	BC006230--
4-pole	
25A / 4 / 0,3A	BC002130--
40A / 4 / 0,3A	BC004130--
63A / 4 / 0,3A	BC006130--
80A / 4 / 0,3A	BC008130--
100A / 4 / 0,3A	BC000130--

RCCB Residual Current Circuit Breaker series BCF0, 10kA, type A, version G

RCCB Residual Current Circuit Breaker series BCF0, 10kA, type A, version G, 30mA

Description	Order no.
2pole	
40A / 2 / 0,03A	BC034203--
4-pole	
40A / 4 / 0,03A	BC034103--
40A / 4 / 0,03A back-up fuse proof	BC034403--
63A / 4 / 0,03A	BC036103--
63A / 4 / 0,03A back-up fuse proof	BC036603--
80A / 4 / 0,03A	BC038103--
100A / 4 / 0,03A	BC030103--

RCCB Residual Current Circuit Breaker series BCF0, 10kA, type AC, version G

RCCB Residual Current Circuit Breaker 10kA, type AC, version G, 30mA

Description	Order no.
2pole	
25A / 2 / 0,03A	BC022203--
40A / 2 / 0,03A	BC024203--
4-pole	
40A / 4 / 0,03A	BC024103--
40A / 4 / 0,03A back-up fuse proof	BC024403--
63A / 4 / 0,03A	BC026103--
63A / 4 / 0,03A back-up fuse proof	BC026603--
80A / 4 / 0,03A	BC028103--
100A / 4 / 0,03A	BC020103--

RCCB Residual Current Circuit Breaker 10kA type AC, version G, 100mA

Description	Order no.
2pole	
25A / 2 / 0,1A	BC022210--
40A / 2 / 0,1A	BC024210--
4-pole	
40A / 4 / 0,1A	BC024110--
40A / 4 / 0,1A back-up fuse proof	BC024410--
63A / 4 / 0,1A	BC026110--
63A / 4 / 0,1A back-up fuse proof	BC026610--

RCCB Residual Current Circuit Breaker series BCFO, 10kA, type A, S

RCCB Residual Current Circuit Breaker 10kA, type A, S, 100mA

Description	Order no.
4-pole	
40A / 4 / 0,1A	BC064110--
40A / 4 / 0,1A back-up fuse proof	BC064410--
63A / 4 / 0,1A	BC066110--
63A / 4 / 0,1A back-up fuse proof	BC066610--

RCCB Residual Current Circuit Breaker 10kA, type A, S, 300mA

Description	Order no.
4-pole	
40A / 4 / 0,3A	BC064130--
63A / 4 / 0,3A	BC066130--
63A / 4 / 0,3A back-up fuse proof	BC066630--
80A / 4 / 0,3A	BC068130--
100A / 4 / 0,3A	BC060130--

RCCB Residual Current Circuit Breaker series BCF0, 10kA, type A, frequency converter proof

RCCB Residual Current Circuit Breaker 10kA, type A, version G, frequency converter proof 30mA

Description	Order no.
4-pole	
40A / 4 / 0,03A	BC094103--
63A / 4 / 0,03A	BC096103--

RCCB Residual Current Circuit Breaker 10kA, type A, S, frequency converter proof, 100mA

Description	Order no.
4-pole	
40A / 4 / 0,1A	BC094110--
63A / 4 / 0,1A	BC096110--
63A / 4 / 0,1A back-up fuse proof	BC096610--

RCCB Residual Current Circuit Breaker 10kA, type A, S, frequency converter proof, 300mA

Description	Order no.
4-pole	
40A / 4 / 0,3A	BC094130--
63A / 4 / 0,3A	BC096130--
63A / 4 / 0,3A back-up fuse proof	BC096630--
80A / 4 / 0,3A	BC098130--
100A / 4 / 0,3A	BC090130--

RCCB Residual Current Circuit Breaker 500mA (Serbia), 10kA, type AC

RCCB Residual Current Circuit Breaker, 500mA (Serbia), 10kA

Description	Order no.
4-pole	
40A / 4 / 0,5A	BC004150--
63A / 4 / 0,5A	BC006150--
100A / 4 / 0,5A	BC000150--