DATA SHEET: COMBINED RCD/MCB DEVICES BO, 3-POLE

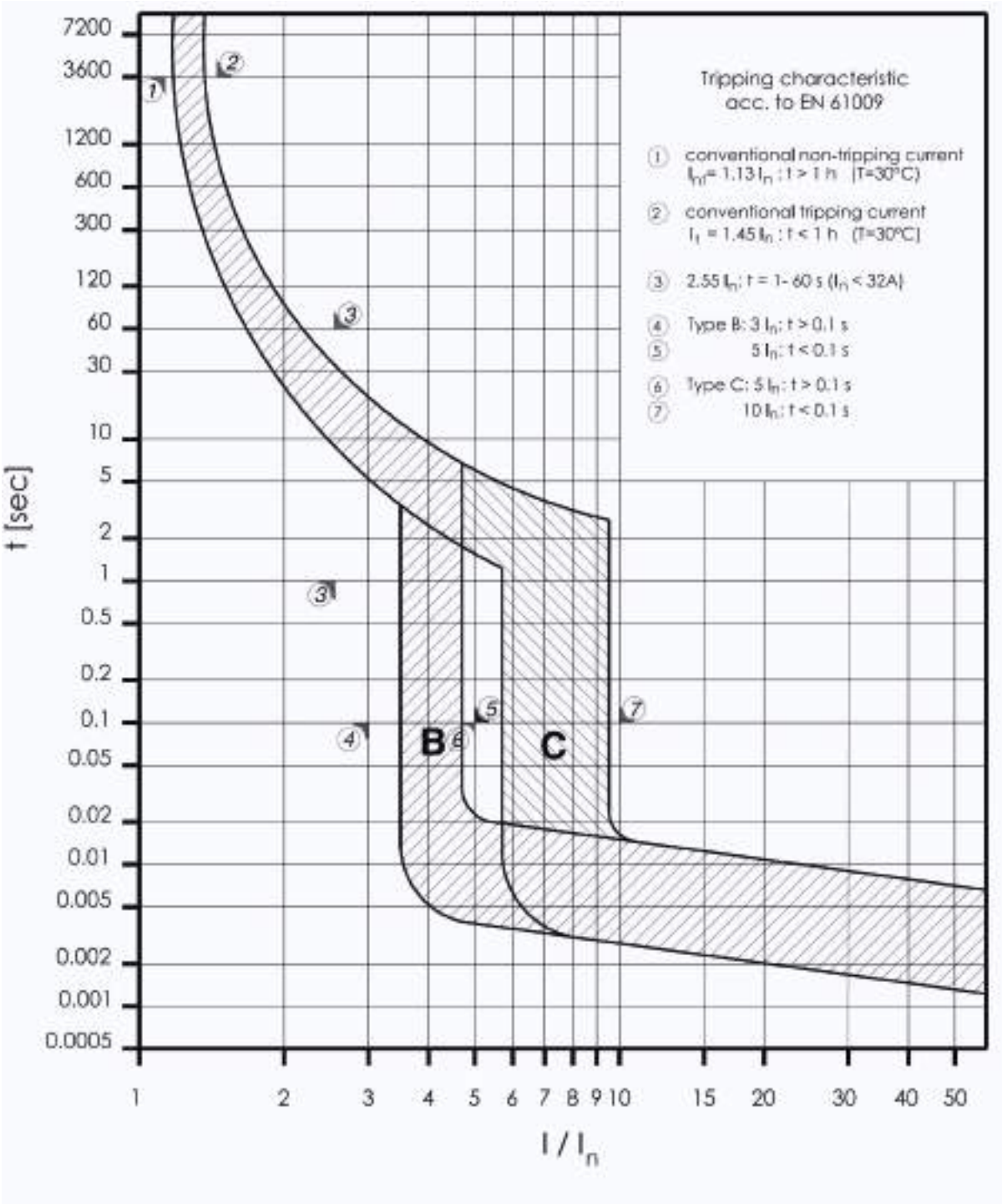
SCHRACK-INFO

- Combined RCD/MCB device
- Type-A: Protects against special forms of residual pulsating DC which have not been smoothed
- Line voltage-independent tripping
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Twin-purpose terminal (lift/open-mouthed) above and below
- Guide for secure terminal connection
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Compatible with standard busbar
- Comprehensive range of accessories suitable for subsequent installation

TECHNICAL DATA

Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Tripping	line voltage-independent	instantaneous 250A (8/20µs)
		surge current-proof
Rated voltage U_e		230/400 V; 50 Hz
Rated tripping current $I_{\Delta n}$		30, 100 mA
Rated non-tripping current $I_{\Delta no}$		0.5 $I_{\Delta n}$
Sensitivity		A (pulsating DC)
Selectivity class		3
Rated breaking capacity		10kA
Rated current		10 - 20 A
Rated peak withstand voltage		U_{imp} 4 kV (1.2/50µs)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>10 kA)
Endurance	electrical comp.	≥ 2.000 operating cycles
	mechanical comp.	≥ 10.000 operating cycles
MECHANICAL		
Frame size		45 mm
Device height		80 mm
Device width		70 mm (4SU)
Mounting		3-position DIN rail clip, permits removal from existing busbar system
Upper and lower terminals		open mouthed/lift terminals
Terminal protection		finger and hand touch safe, VBG4, ÖVE-EN 6
Terminal capacity		1 – 25 mm^2
Busbar thickness		0.8 – 2 mm
Degree of protection switch		IP20
Degree of protection, built-in		IP40
Tripping temperature		-25°C to +40°C
Resistance to climatic conditions		acc. to IEC/EN 61009

TRIPPING CHARACTERISTIC, CHARACTERISTICS B AND C

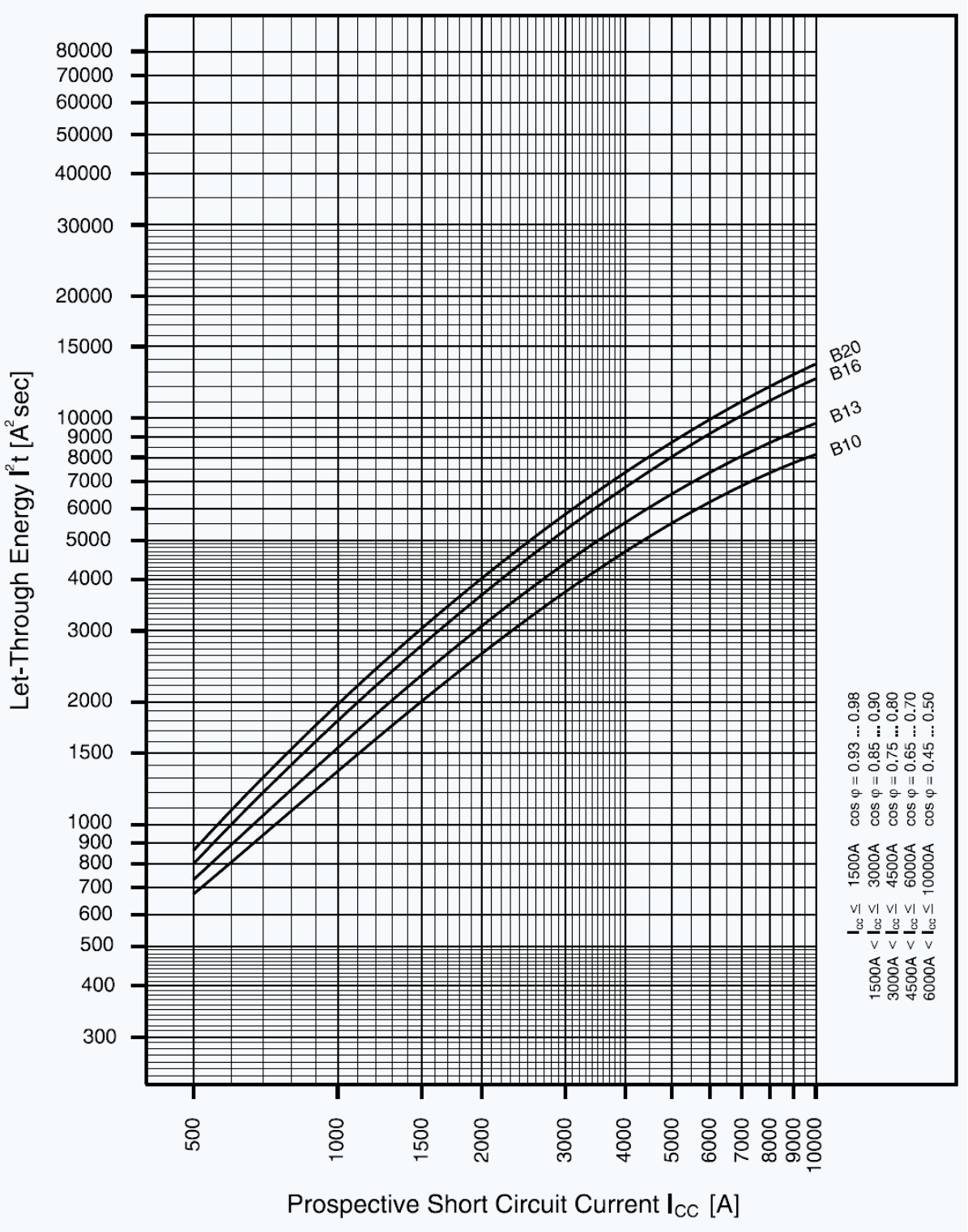


INFLUENCE OF AMBIENT TEMPERATURE ON LOAD CARRYING CAPACITY

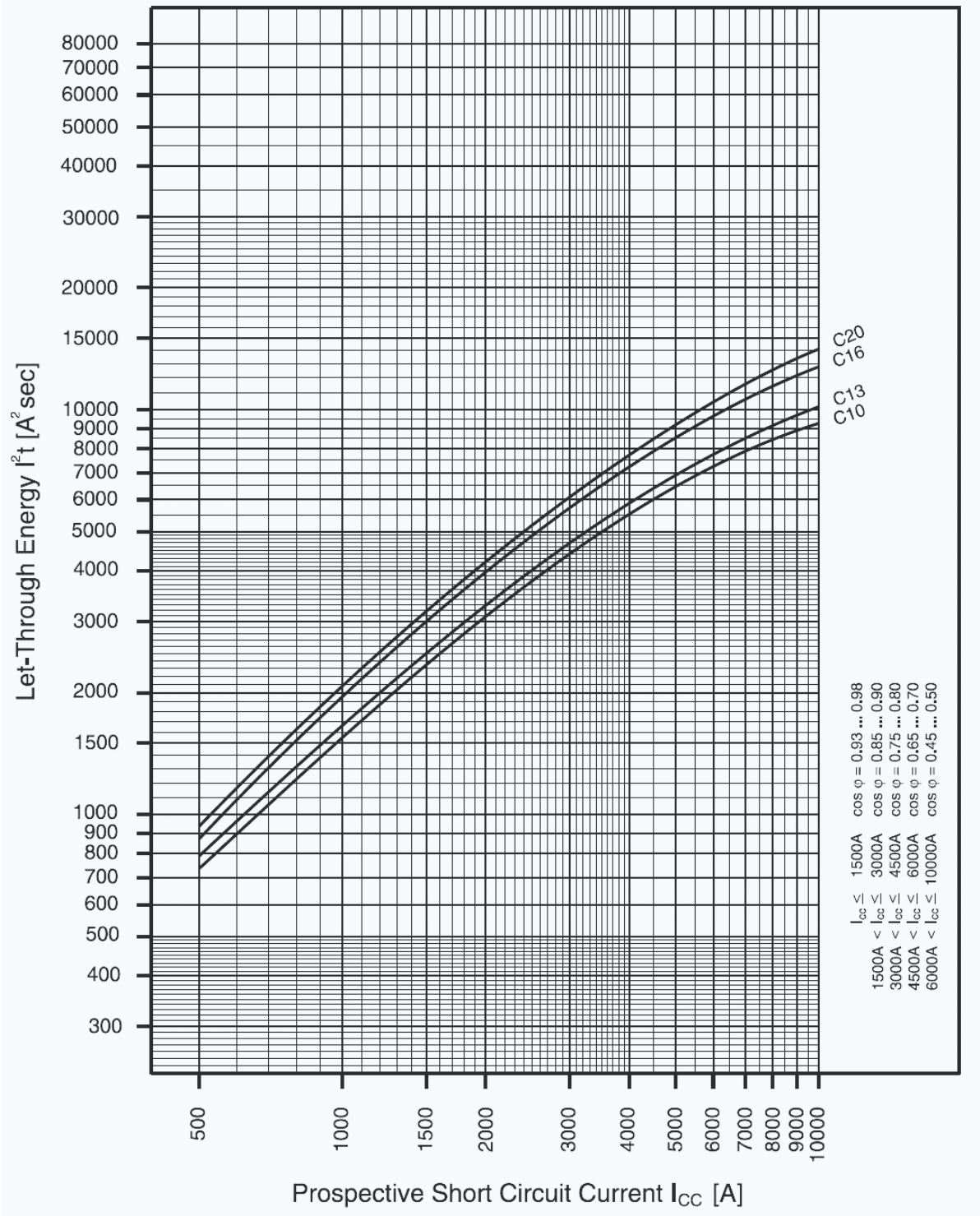
- Values = max. allowed current in Ampere at the specific temperature
- Temperature factor (%/K) = 0,5

Ambient temperature / °C										
In (A)	-40	-30	-25	-20	-10	0	10	20	**30**	40
6	8,1	7,8	7,7	7,5	7,2	6,9	6,6	6,3	**6**	5,7
10	13,5	13	12,8	12,5	12	11,5	11	10,5	**10**	9,5
13	17,6	16,9	16,6	16,3	15,6	15	14,3	13,7	**13**	12,4
16	21,6	20,8	20,4	20	19,2	18,4	17,6	16,8	**16**	15,2
20	27	26	25,5	25	24	23	22	21	**20**	19

LET-THROUGH ENERGY, CHARACTERISTIC B, 3-POLE



LET-THROUGH ENERGY, CHARACTERISTIC C, 3-POLE



SHORT CIRCUIT SELECTIVITY

SHORT CIRCUIT SELECTIVITY OF TOWARDS D0 / D / NH00

Short circuit selectivity towards fuse link D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V
Short circuit currents in kA, Rated currents of fuses in A

BO.1....	fuse link D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V									
	16	20	25	32	35	40	50	63	80	100
B10	<0,5	0,5	0,9	2	2,3	3,7	8	10	10	10
B13	<0,5	0,5	0,8	1,7	1,9	3	6	10	10	10
B16	n.s.	0,5	0,7	1,5	1,7	2,4	4,4	6,8	10	10
B20	n.s.	n.s.	0,7	1,4	1,5	2,2	3,9	6	9,2	10
C10	<0,5	0,5	0,8	1,7	1,9	3	6,1	10	10	10
C13	<0,5	0,5	0,7	1,6	1,8	2,8	5,5	9,5	10	10
C16	n.s.	<0,5	0,7	1,3	1,5	2,2	4	6,2	10	10
C20	n.s.	n.s.	0,6	1,3	1,4	2,1	3,7	5,6	8,5	10

n.s. no selectivity

Short circuit selectivity of BO21...., BO61.... and BO71.... towards fuse link DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V
Short circuit currents in kA, Rated currents of fuses in A

BO.1....	fuse link DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V								
	16	20	25	32	35	50	63	80	100
B10	<0,5	0,5	0,9	1,8	2,9	5,6	10	10	10
B13	<0,5	0,5	0,8	1,5	2,4	4,5	10	10	10
B16	n.s.	0,5	0,8	1,3	2	3,4	8	10	10
B20	n.s.	n.s.	0,7	1,3	1,9	3,1	7,1	10	10
C10	<0,5	0,5	0,8	1,5	2,4	4,4	10	10	10
C13	<0,5	0,5	0,8	1,4	2,3	4,2	10	10	10
C16	n.s.	<0,5	0,7	1,2	1,9	3,2	7,6	10	10
C20	n.s.	n.s.	0,7	1,2	1,8	2,9	6,5	9,7	10

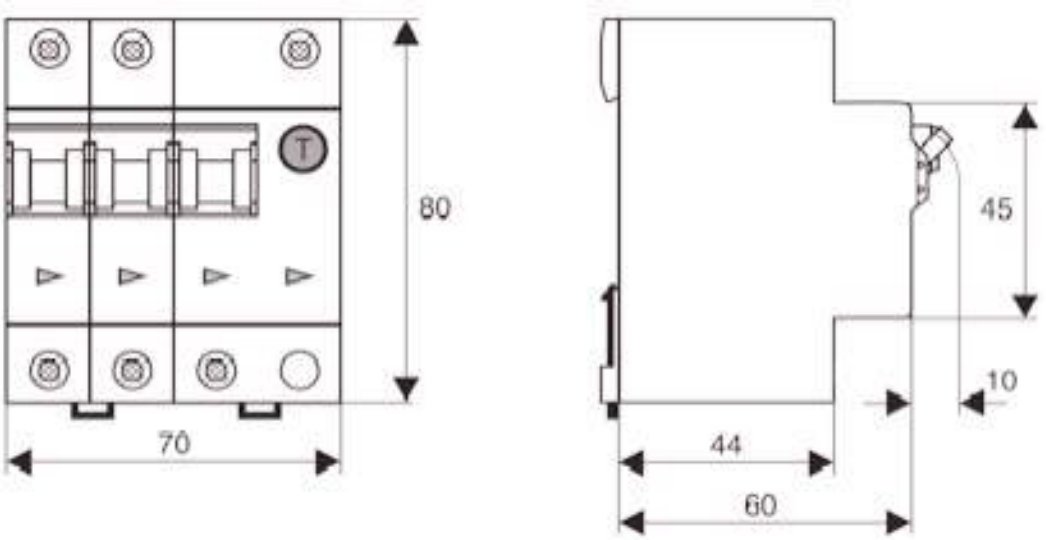
n.s. no selectivity

Short circuit selectivity of BO21...., BO61.... and BO71.... towards fuse link NH 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V
Short circuit currents in kA, Rated currents of fuses in A

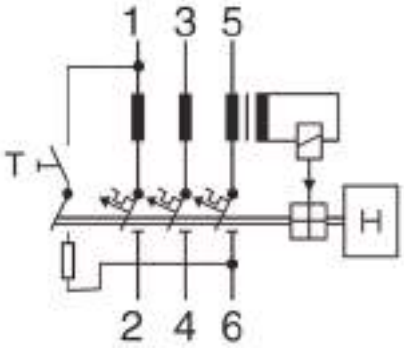
BO.1....	fuse link NH 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V											
	16	20	25	32	35	40	50	63	80	100	125	160
B10	<0,5	<0,5	0,8	1,5	2,3	3,2	5,7	9,1	10	10	10	10
B13	<0,5	<0,5	0,8	1,3	1,9	2,7	4,4	6,5	10	10	10	10
B16	n.s.	<0,5	0,7	1,1	1,6	2,2	3,4	4,8	8	10	10	10
B20	n.s.	n.s.	0,6	1	1,4	2	3,1	4,3	7	10	10	10
C10	<0,5	<0,5	0,7	1,3	1,9	2,7	4,5	6,9	10	10	10	10
C13	<0,5	<0,5	0,7	1,2	1,8	2,5	4,1	6,1	10	10	10	10
C16	n.s.	<0,5	0,6	1	1,5	2	3,1	4,4	7,5	10	10	10
C20	n.s.	n.s.	0,6	0,9	1,4	1,9	2,9	4,1	6,5	10	10	10

n.s. no selectivity

DIMENSIONS



WIRING DIAGRAM



TYP A, 30 mA RATED RESIDUAL CURRENT

TYPE	CHARATERISTIC / RATED CURRENT / NUMBER OF POLES / RATED RESIDUAL CURRENT / TYPE	ORDER NO.
RCBO B10/3 30mA Typ A 10kA	B / 10 / 3 / 30mA / Typ A	BO618310--
RCBO B13/3 30mA Typ A 10kA	B / 13 / 3 / 30mA / Typ A	BO618313--
RCBO B16/3 30mA Typ A 10kA	B /16A / 3 / 30mA / Typ A	BO618316--
RCBO B20/3 30mA Typ A 10kA	B /20A / 3 / 30mA / Typ A	BO618320--
RCBO C10/3 30mA Typ A 10kA	C /10A / 3 / 30mA / Typ A	BO617310--
RCBO C13/3 30mA Typ A 10kA	C /13A / 3 / 30mA / Typ A	BO617313--
RCBO C16/3 30mA Typ A 10kA	C /16A / 3 / 30mA / Typ A	BO617316--
RCBO C20/3 30mA Typ A 10kA	C /20A / 3 / 30mA / Typ A	BO617320--

TYP G/A, 30 mA RATED RESIDUAL CURRENT

TYPE	CHARATERISTIC / RATED CURRENT / NUMBER OF POLES / RATED RESIDUAL CURRENT / TYPE	ORDER NO.
RCBO B10/3 30mA Typ G/A 10kA	B /10A / 3 / 30mA / Typ G/A	BO218310--
RCBO B13/3 30mA Typ G/A 10kA	B /13A / 3 / 30mA / Typ G/A	BO218313--
RCBO B16/3 30mA Typ G/A 10kA	B /16A / 3 / 30mA / Typ G/A	BO218316--
RCBO B20/3 30mA Typ G/A 10kA	B /20A / 3 / 30mA / Typ G/A	BO218320--
RCBO C10/3 30mA Typ G/A 10kA	C /10A / 3 / 30mA / Typ G/A	BO217310--
RCBO C13/3 30mA Typ G/A 10kA	C /13A / 3 / 30mA / Typ G/A	BO217313--
RCBO C16/3 30mA Typ G/A 10kA	C /16A / 3 / 30mA / Typ G/A	BO217316--
RCBO C20/3 30mA Typ G/A 10kA	C /20A / 3 / 30mA / Typ G/A	BO217320--

TYP A, 100 mA RATED RESIDUAL CURRENT

TYPE	CHARATERISTIC / RATED CURRENT / NUMBER OF POLES / RATED RESIDUAL CURRENT / TYPE	ORDER NO.
RCBO B10/3 100mA Typ A 10kA	B /10A / 3 / 100mA / Typ A	BO718310--
RCBO B13/3 100mA Typ A 10kA	B /13A / 3 / 100mA / Typ A	BO718313--
RCBO B16/3 100mA Typ A 10kA	B /16A / 3 / 100mA / Typ A	BO718316--
RCBO B20/3 100mA Typ A 10kA	B /20A / 3 / 100mA / Typ A	BO718320--
RCBO C10/3 100mA Typ A 10kA	C /10A / 3 / 100mA / Typ A	BO717310--
RCBO C13/3 100mA Typ A 10kA	C /13A / 3 / 100mA / Typ A	BO717313--
RCBO C16/3 100mA Typ A 10kA	C /16A / 3 / 100mA / Typ A	BO717316--
RCBO C20/3 100mA Typ A 10kA	C /20A / 3 / 100mA / Typ A	BO717320--

TYP G/A, 100 mA RATED RESIDUAL CURRENT

TYPE	CHARATERISTIC / RATED CURRENT / NUMBER OF POLES / RATED RESIDUAL CURRENT / TYPE	ORDER NO.
RCBO B10/3 100mA Typ G/A 10kA	B /10A / 3 / 100mA / Typ G/A	BO318310--
RCBO B13/3 100mA Typ G/A 10kA	B /13A / 3 / 100mA / Typ G/A	BO318313--
RCBO B16/3 100mA Typ G/A 10kA	B /16A / 3 / 100mA / Typ G/A	BO318316--
RCBO B20/3 100mA Typ G/A 10kA	B /20A / 3 / 100mA / Typ G/A	BO318320--
RCBO C10/3 100mA Typ G/A 10kA	C /10A / 3 / 100mA / Typ G/A	BO317310--
RCBO C13/3 100mA Typ G/A 10kA	C /13A / 3 / 100mA / Typ G/A	BO317313--
RCBO C16/3 100mA Typ G/A 10kA	C /16A / 3 / 100mA / Typ G/A	BO317316--
RCBO C20/3 100mA Typ G/A 10kA	C /20A / 3 / 100mA / Typ G/A	BO317320--