RCBOs Ex9BL-N, 6 kA

- **Residual Current circuit Breakers with Overload protection according to AS/NZS 61009:2015**
- **Rated breaking capacity I_{cn} 6 kA**
- **1+N-pole version**
- **Rated residual current 30, 100, 300 mA**
- **Rated currents up to 40 A**
- **C tripping characteristics of installed circuit breaker**
- **A type of RCBO**
- **2-module width**
- **Suitable for applications from -25 to +40°C**

Ex9BL residual current circuit breakers are suitable for domestic as well as industrial applications. They are based on combination of residual current device with permanent magnet principle and circuit breaker with thermal overload release and magnetic short circuit current release. It brings the advantage of voltage independent function of the residual current device. Adequate voltage is only necessary when testing the RCBO with the T test button. Magnetic RCBOs should be tested regularly with a period of one month.

Type Key

Ex9	BL	-N	1PN	B	16A	A	30mA
Product family	Product	Rated breaking capacity	Poles	Tripping characteristic of MCB	Rated current	Sensitivity to type of current	Rated residual current
Ex9	BL: RCBO	-N: 6 kA	1P+N	C	6 — 40 A	A: A	30 mA 100 mA 300 mA

Certification marks

RCBOs Ex9BL-N, 6 kA

Accessories

All accessories are mounted to the RCBOs Ex9BL from the left side and are identical for devices of the whole line Ex9B.

RCBOs Ex9BL-N, 6 kA

A type, characteristic C

- A type of residual current circuit breaker sensitive on residual pulsating AC current
- C characteristic of installed circuit breaker
- Without time delay
- Surge current-proof 3000 A
- Suitable for protection of people in case of direct and indirect contact with live parts and exposed conductive parts during a fault, respectively

Rated current	Rated residual current	MCB tripping char.	Part No.	Model	Packing
6 A	30 mA	C	107643	Ex9BL-N 1P+N C6 A 30mA IEC	1/6/72
10 A	30 mA	C	107644	Ex9BL-N 1P+N C10 A 30mA IEC	1/6/72
13 A	30 mA	C	107645	Ex9BL-N 1P+N C13 A 30mA IEC	1/6/72
16 A	30 mA	C	107646	Ex9BL-N 1P+N C16 A 30mA IEC	1/6/72
20 A	30 mA	C	107647	Ex9BL-N 1P+N C20 A 30mA IEC	1/6/72
25 A	30 mA	C	107648	Ex9BL-N 1P+N C25 A 30mA IEC	1/6/72
32 A	30 mA	C	107649	Ex9BL-N 1P+N C32 A 30mA IEC	1/6/72
40 A	30 mA	C	107650	Ex9BL-N 1P+N C40 A 30mA IEC	1/6/72
10 A	100 mA	C	107676	Ex9BL-N 1P+N C10 A 100mA IEC	1/6/72
13 A	100 mA	C	107677	Ex9BL-N 1P+N C13 A 100mA IEC	1/6/72
16 A	100 mA	C	107678	Ex9BL-N 1P+N C16 A 100mA IEC	1/6/72
20 A	100 mA	C	107679	Ex9BL-N 1P+N C20 A 100mA IEC	1/6/72
25 A	100 mA	C	107680	Ex9BL-N 1P+N C25 A 100mA IEC	1/6/72
32 A	100 mA	C	107681	Ex9BL-N 1P+N C32 A 100mA IEC	1/6/72
40 A	100 mA	C	107682	Ex9BL-N 1P+N C40 A 100mA IEC	1/6/72
10 A	300 mA	C	107708	Ex9BL-N 1P+N C10 A 300mA IEC	1/6/72
13 A	300 mA	C	107709	Ex9BL-N 1P+N C13 A 300mA IEC	1/6/72
16 A	300 mA	C	107710	Ex9BL-N 1P+N C16 A 300mA IEC	1/6/72
20 A	300 mA	C	107711	Ex9BL-N 1P+N C20 A 300mA IEC	1/6/72
25 A	300 mA	C	107712	Ex9BL-N 1P+N C25 A 300mA IEC	1/6/72
32 A	300 mA	C	107713	Ex9BL-N 1P+N C32 A 300mA IEC	1/6/72
40 A	300 mA	C	107714	Ex9BL-N 1P+N C40 A 300mA IEC	1/6/72

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Residual Current current Breakers with Overload protection Ex9BL-N, 6 kA

General parameters

Combination of MCB and RCCB in one case - saves 50 % space in comparison to combination of stand-alone MCB and RCCB
Tripping characteristics of installed circuit breaker C
A type of residual current device
1+N-pole version
Suitable for household as well as industrial applications
Permanent magnet principle of residual current device - Voltage independent tripping function
Magnetic RCBOs should be tested regularly with a period of one month. This is a responsibility of the user of an installation given by law
Signaling of contacts status

Electrical parameters

Tested according to	AS/NZS 61009:2015
Rated operating voltage U_e	230 V AC
Min. voltage for RCD function	voltage independent
Voltage range of the test button T	195.5 — 253 V AC
Rated frequency f	50/60 Hz
Rated breaking capacity I_{cn}	6 kA
Rated current I_n	6 — 40 A
Rated residual current $I_{\Delta n}$	30, 100, 300 mA
Sensitivity to residual current	A type - residual AC and pulsating DC current
Time characteristic of RCD	undelayed type
Tripping characteristics of MCB	C
Rated impulse withstand voltage U_{imp}	4 kV
Rated insulation voltage U_i	500 V
Surge current proof	3000 A
Mechanical service life	20 000 operation cycles
Electrical service life	4 000 operation cycles
Selectivity class	3
Back-up fuse/breaker	max. 125 A gG
Line voltage connection	arbitrary above or below

Mechanical parameters

Device width	36 mm
Device height	85 mm (including rail clip)
Frame size	45 mm
Mounting	easy fastening onto 35 mm device rail (DIN)
Degree of protection	IP20
Terminals	combined lift + open mouthed
Terminal capacity	1 — 25 mm^2
Fastening torque of terminals	1.5 — 2.5 Nm
Busbar thickness	0.8 — 2 mm
Ambient temperature	-25 — +40 °C
Altitude	≤ 2000 m
Relative humidity	≤ 95 %
Resistance to humidity and heat	class 2
Pollution degree	2
Installation class	III
Weight	0.2 kg

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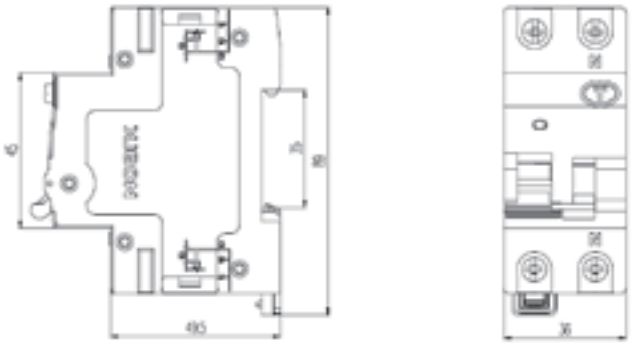
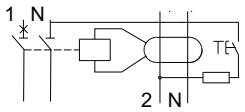
Residual Current current Breakers with Overload protection Ex9BL-N, 6 kA

Dimensions

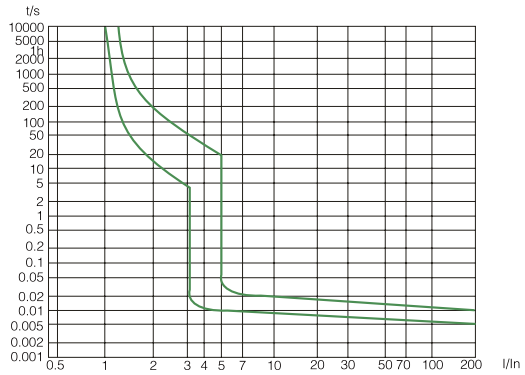


Wiring diagram

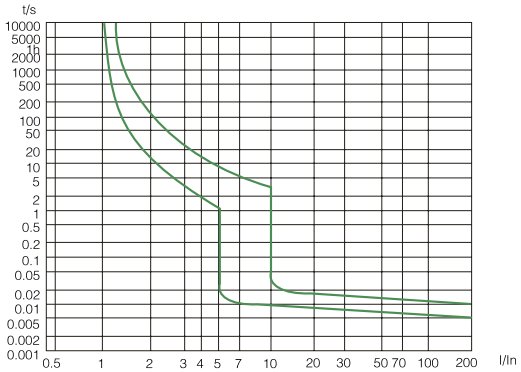


1P+N

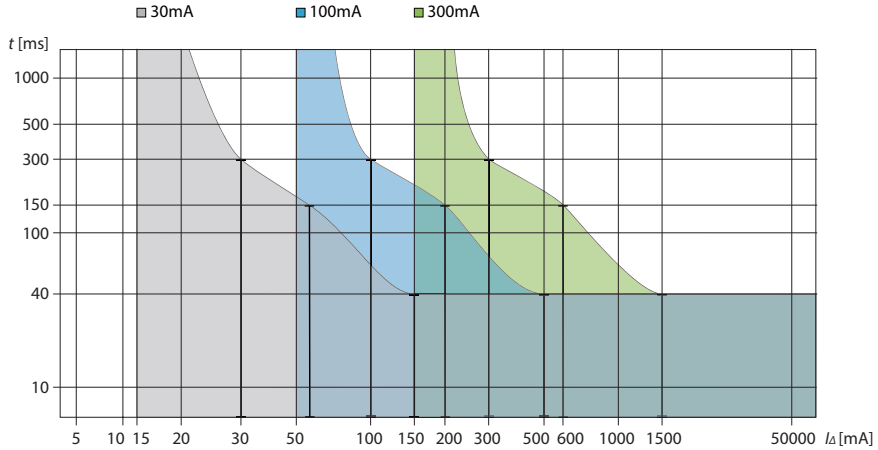
Tripping characteristics of MCB



Characteristic C



Tripping characteristics of RCD



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Residual Current current Breakers with Overload protection Ex9BL-N, 6 kA

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I_n (T) [A]							
	6 A	**10 A**	**13 A**	**16 A**	**20 A**	**25 A**	**32 A**	**40 A**
-20	8	13.5	17	20	24.5	29.8	39.5	50.5
-15	7.8	13.3	16.8	19.8	24.3	29.7	39.3	50.4
-10	7.6	13	16.5	19.5	24	29.5	39	50.2
-5	7.3	12.7	16.1	19.2	23.8	29.3	38.8	50
0	7.2	12.5	15.8	19.1	23.7	29.2	38.6	48.8
5	7	12.3	15.5	18.8	23.5	29	38.4	48.6
10	6.8	12.1	15.2	18.6	23.3	28.8	38.2	48.4
15	6.6	12	14.9	18.5	23.1	28.6	38	48.1
20	6.4	11.8	14.7	18.3	22.8	28.4	37.8	47.8
25	6.2	11.5	14.1	18	22.6	28.2	37.5	47
30	6	10	13	16	20	25	32	40
35	6	9.9	12.8	15.7	19.7	24.6	31.5	39.2
40	5.9	9.8	12.5	15.4	19.3	24.3	31.1	38.8
45	5.83	9.8	12.2	15.1	18.8	24	30.8	38.3
50	5.72	9.6	11.7	14.9	18.5	23.8	30.1	38
55	5.65	9.5	11.5	14.7	18.2	23.5	29.5	36.5
60	5.5	9	11.2	14.5	17.8	23	28.5	35
65	5.4	8.6	11	14	17.5	22	27.5	34
70	5.2	8	10.8	13.8	17.3	21.5	27	32.5

Power loss

I_n [A]	**6 A**	**10 A**	**13 A**	**16 A**	**20 A**	**25 A**	**32 A**	**40 A**
P [W]	1.8	2.5	3.5	4	5	5.8	6.5	7.8

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