

RCCBs Ex9CL-H/-100, 10 kA



- Residual Current Circuit Breakers according to IEC / EN 61008-1
- Conditional rated short circuit strength / _{nc} 10 kA
- 2 and 4-pole versions
- Rated residual current 30, 100, 300 mA
- Rated current up to 100 A
- Rated operational voltage 230/400 V AC
- AC, A, S and S+A types
- Indication of electrical tripping

Ex9CL-H and Ex9CL-100 residual current circuit breakers are suitable for domestic as well as industrial applications. They are based on permanent magnet principle. It brings the advantage of Voltage independent function. Adequate voltage is only necessary when testing of the RCCB with the T test button. Magnetic RCCBs should be tested regularly with a period of one month.

Type Key

Ex9	CL	-H	2P	63 A	A	30mA	S
Product family	Product	Conditional short circuit strength	Poles	Rated current	Sensitivity to type of current	Rated residual current	Time delay (insensitivity)
Ex9	CL: RCCB	-H: 10 kA (63A case) -100: 10 kA (100A case)	2, 4	25, 40, 63, 80, 100 A	_ : AC A : A	30, 100, 300 mA	_ : 0 ms (63A case) S : 40 ms (100A case)

Certification marks



RCCBs Ex9CL-H, 10 kA

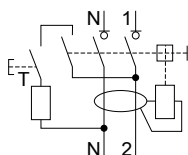
AC type, 2-pole

- AC type of residual current circuit breaker sensitive on residual AC current
- Without time delay
- Surge current-proof 250 A
- 30 mA version suitable for protection of people in case of direct and indirect contact with live parts and exposed conductive part during a fault, respectively
- Selective with upstream installed S or S+A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
25 A	30 mA	2	100643	Ex9CL-H 2P 25A 30mA	1/81
40 A	30 mA	2	100646	Ex9CL-H 2P 40A 30mA	1/81
63 A	30 mA	2	100649	Ex9CL-H 2P 63A 30mA	1/81
25 A	100 mA	2	100644	Ex9CL-H 2P 25A 100mA	1/81
40 A	100 mA	2	100647	Ex9CL-H 2P 40A 100mA	1/81
63 A	100 mA	2	100650	Ex9CL-H 2P 63A 100mA	1/81
25 A	300 mA	2	100645	Ex9CL-H 2P 25A 300mA	1/81
40 A	300 mA	2	100648	Ex9CL-H 2P 40A 300mA	1/81
63 A	300 mA	2	100651	Ex9CL-H 2P 63A 300mA	1/81

Wiring diagram



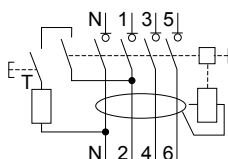
AC type, 4-pole

- AC type of residual current circuit breaker sensitive on residual AC current
- Without time delay
- Surge current-proof 250 A
- 30 mA version suitable for protection of people in case of direct and indirect contact with live parts and exposed conductive part during a fault, respectively
- Selective with upstream installed S or S+A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
25 A	30 mA	4	100652	Ex9CL-H 4P 25A 30mA	1/45
40 A	30 mA	4	100655	Ex9CL-H 4P 40A 30mA	1/45
63 A	30 mA	4	100658	Ex9CL-H 4P 63A 30mA	1/45
25 A	100 mA	4	100653	Ex9CL-H 4P 25A 100mA	1/45
40 A	100 mA	4	100656	Ex9CL-H 4P 40A 100mA	1/45
63 A	100 mA	4	100659	Ex9CL-H 4P 63A 100mA	1/45
25 A	300 mA	4	100654	Ex9CL-H 4P 25A 300mA	1/45
40 A	300 mA	4	100657	Ex9CL-H 4P 40A 300mA	1/45
63 A	300 mA	4	100660	Ex9CL-H 4P 63A 300mA	1/45

Wiring diagram



RCCBs Ex9CL-H, 10 kA

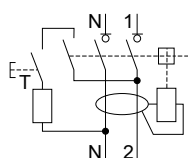
A type, 2-pole

- A type of residual current circuit breaker sensitive on residual AC and pulsating DC current
- Without time delay
- Surge current-proof 250 A
- 30 mA version suitable for protection of people in case of direct and indirect contact with live parts and exposed conductive part during a fault, respectively
- Selective with upstream installed S or S+A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
25 A	30 mA	2	100661	Ex9CL-H 2P 25A A 30mA	1/81
40 A	30 mA	2	100664	Ex9CL-H 2P 40A A 30mA	1/81
63 A	30 mA	2	100667	Ex9CL-H 2P 63A A 30mA	1/81
25 A	100 mA	2	100662	Ex9CL-H 2P 25A A 100mA	1/81
40 A	100 mA	2	100665	Ex9CL-H 2P 40A A 100mA	1/81
63 A	100 mA	2	100668	Ex9CL-H 2P 63A A 100mA	1/81
25 A	300 mA	2	100663	Ex9CL-H 2P 25A A 300mA	1/81
40 A	300 mA	2	100666	Ex9CL-H 2P 40A A 300mA	1/81
63 A	300 mA	2	100669	Ex9CL-H 2P 63A A 300mA	1/81

Wiring diagram



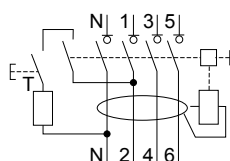
A type, 4-pole

- A type of residual current circuit breaker sensitive on residual AC and pulsating DC current
- Without time delay
- Surge current-proof 250 A
- 30 mA version suitable for protection of people in case of direct and indirect contact with live parts and exposed conductive part during a fault, respectively
- Selective with upstream installed S or S+A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
25 A	30 mA	4	100670	Ex9CL-H 4P 25A A 30mA	1/45
40 A	30 mA	4	100673	Ex9CL-H 4P 40A A 30mA	1/45
63 A	30 mA	4	100676	Ex9CL-H 4P 63A A 30mA	1/45
25 A	100 mA	4	100671	Ex9CL-H 4P 25A A 100mA	1/45
40 A	100 mA	4	100674	Ex9CL-H 4P 40A A 100mA	1/45
63 A	100 mA	4	100677	Ex9CL-H 4P 63A A 100mA	1/45
25 A	300 mA	4	100672	Ex9CL-H 4P 25A A 300mA	1/45
40 A	300 mA	4	100675	Ex9CL-H 4P 40A A 300mA	1/45
63 A	300 mA	4	100678	Ex9CL-H 4P 63A A 300mA	1/45

Wiring diagram



RCCBs Ex9CL-100, 10 kA

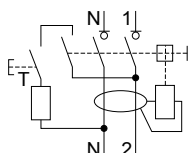
S type, 2-pole

- S type of residual current circuit breaker based on AC type sensitive on residual AC current
- With time delay (insensitivity) 40 ms
- Surge current-proof 3000 A
- Suitable for protection against fire, as a main RCCB of a house or flat or as a protection against leakage currents (e.g. due to imperfect isolation)
- Selective with downstream installed AC or A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
63 A	100 mA	2	100715	Ex9CL-100 2P 63A 100mA S	1/81
80 A	100 mA	2	100717	Ex9CL-100 2P 80A 100mA S	1/81
100 A	100 mA	2	100719	Ex9CL-100 2P 100A 100mA S	1/81
63 A	300 mA	2	100716	Ex9CL-100 2P 63A 300mA S	1/81
80 A	300 mA	2	100718	Ex9CL-100 2P 80A 300mA S	1/81
100 A	300 mA	2	100720	Ex9CL-100 2P 100A 300mA S	1/81

Wiring diagram



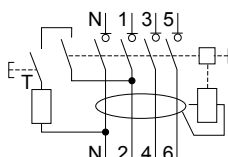
S type, 4-pole

- S type of residual current circuit breaker based on AC type sensitive on residual AC current
- With time delay (insensitivity) 40 ms
- Surge current-proof 3000 A
- Suitable for protection against fire, as a main RCCB of a house or flat or as a protection against leakage currents (e.g. due to imperfect isolation)
- Selective with downstream installed AC or A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
63 A	100 mA	4	100721	Ex9CL-100 4P 63A 100mA S	1/45
80 A	100 mA	4	100723	Ex9CL-100 4P 80A 100mA S	1/45
100 A	100 mA	4	100725	Ex9CL-100 4P 100A 100mA S	1/45
63 A	300 mA	4	100722	Ex9CL-100 4P 63A 300mA S	1/45
80 A	300 mA	4	100724	Ex9CL-100 4P 80A 300mA S	1/45
100 A	300 mA	4	100726	Ex9CL-100 4P 100A 300mA S	1/45

Wiring diagram



RCCBs Ex9CL-100, 10 kA

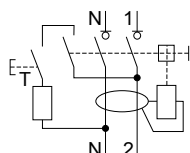
S+A type, 2-pole

- S type of residual current circuit breaker based on A type sensitive on residual AC and pulsating DC current
- With time delay (insensitivity) 40 ms
- Surge current-proof 3000 A
- Suitable for protection against fire, as a main RCCB of a house or flat or as a protection against leakage currents (e.g. due to imperfect isolation)
- Selective with downstream installed AC or A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
63 A	100 mA	2	100727	Ex9CL-100 2P 63A A 100mA S	1/81
80 A	100 mA	2	100729	Ex9CL-100 2P 80A A 100mA S	1/81
100 A	100 mA	2	100731	Ex9CL-100 2P 100A A 100mA S	1/81
63 A	300 mA	2	100728	Ex9CL-100 2P 63A A 300mA S	1/81
80 A	300 mA	2	100730	Ex9CL-100 2P 80A A 300mA S	1/81
100 A	300 mA	2	100732	Ex9CL-100 2P 100A A 300mA S	1/81

Wiring diagram



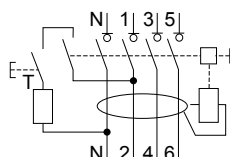
S+A type, 4-pole

- S type of residual current circuit breaker based on A type sensitive on residual AC and pulsating DC current
- With time delay (insensitivity) 40 ms
- Surge current-proof 3000 A
- Suitable for protection against fire, as a main RCCB of a house or flat or as a protection against leakage currents (e.g. due to imperfect isolation)
- Selective with downstream installed AC or A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
63 A	100 mA	4	100733	Ex9CL-100 4P 63A A 100mA S	1/45
80 A	100 mA	4	100735	Ex9CL-100 4P 80A A 100mA S	1/45
100 A	100 mA	4	100737	Ex9CL-100 4P 100A A 100mA S	1/45
63 A	300 mA	4	100734	Ex9CL-100 4P 63A A 300mA S	1/45
80 A	300 mA	4	100736	Ex9CL-100 4P 80A A 300mA S	1/45
100 A	300 mA	4	100738	Ex9CL-100 4P 100A A 300mA S	1/45

Wiring diagram



RCCBs Ex9CL-H/-100, 10 kA

Information sticker

- Sticker with information about regular monthly testing
- Languages EN, CZ, SK, FR, RU, PL, DE, RO
- In a scope of delivery of all magnetic RCCBs and RCBOs NOARK, spare part

Description	Languages	Article No.	Type	Packing
Information sticker	EN, CZ, SK, FR, RU, PL, DE, RO	101445	YS31	1

RCCBs Ex9CL-N, 6 kA

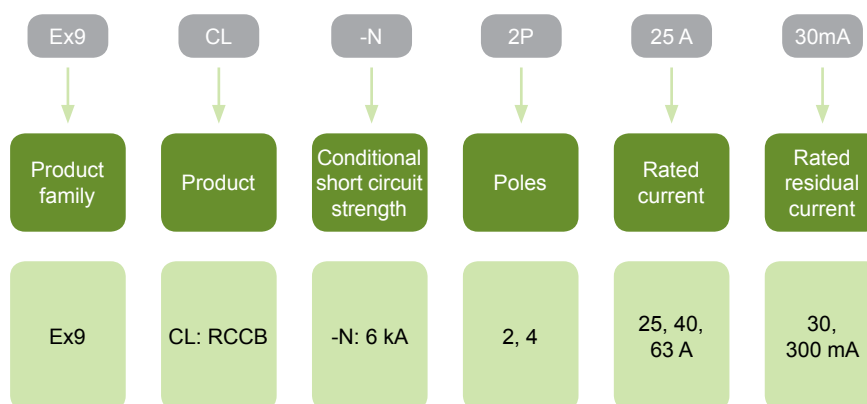


- Residual Current Circuit Breakers according to IEC / EN 61008-1
- Conditional rated short circuit strength / _{nc} 6 kA
- 2 and 4-pole versions
- Rated residual current 30, 300 mA
- Rated current up to 63 A
- Rated operational voltage 230/400 V AC
- AC type
- Indication of electrical tripping

Ex9CL-N residual current circuit breakers are suitable mainly for domestic applications. They are based on permanent magnet principle. It brings the advantage of Voltage independent function. Adequate voltage is only necessary when testing of the RCCB with the T test button. Magnetic RCCBs should be tested regularly with a period of one month.

6 kA variant of the Ex9CL-N residual current circuit breaker is intended mainly for low demanding application like basic protection in household installations.

Type Key



Certification marks



RCCBs Ex9CL-N, 6 kA

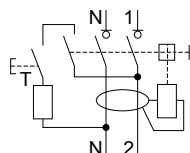
AC type, 2-pole

- AC type of residual current circuit breaker sensitive on residual AC current
- Without time delay
- Surge current-proof 250 A
- 30 mA version suitable for protection of people in case of direct and indirect contact with live parts and exposed conductive part during a fault, respectively
- Selective with upstream installed S or S+A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
25 A	30 mA	2	100607	Ex9CL-N 2P 25A 30mA	1/81
40 A	30 mA	2	100610	Ex9CL-N 2P 40A 30mA	1/81
40 A	300 mA	2	100612	Ex9CL-N 2P 40A 300mA	1/81

Wiring diagram



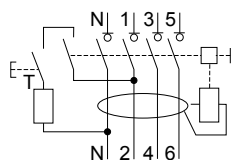
AC type, 4-pole

- AC type of residual current circuit breaker sensitive on residual AC current
- Without time delay
- Surge current-proof 250 A
- 30 mA version suitable for protection of people in case of direct and indirect contact with live parts and exposed conductive part during a fault, respectively
- Selective with upstream installed S or S+A type RCCB



Rated current	Rated residual current	Poles	Article No.	Type	Packing
25 A	30 mA	4	100616	Ex9CL-N 4P 25A 30mA	1/45
40 A	30 mA	4	100619	Ex9CL-N 4P 40A 30mA	1/45
63 A	30 mA	4	100622	Ex9CL-N 4P 63A 30mA	1/45
40 A	300 mA	4	100621	Ex9CL-N 4P 40A 300mA	1/45
63 A	300 mA	4	100624	Ex9CL-N 4P 63A 300mA	1/45

Wiring diagram



Information sticker

- Sticker with information about regular monthly testing
- Languages EN, CZ, SK, FR, RU, PL, DE, RO
- In a scope of delivery of all magnetic RCCBs and RCBOs NOARK, spare part

Description	Languages	Article No.	Type	Packing
Information sticker	EN, CZ, SK, FR, RU, PL, DE, RO	101445	YS31	1

Technical Data Ex9CL-H

Residual Current Circuit Breakers, 10 kA

General parameters

Permanent magnet principle - Voltage independent tripping function
Suitable for household as well as industrial applications
AC and A types
Magnetic RCCBs should be tested regularly with a period of one month. This is a responsibility of the user of an installation given by law
In case all wires are not connected at 4-pole RCCB, it is necessary to ensure that circuit of the test button T is supplied with appropriate voltage (by means of mutual connection of respective terminals of the RCCB, see wiring diagram)
Indication of electrical tripping

Electrical parameters

Tested according to	IEC/EN 61008
Rated op. voltage U_e	230/400 V AC
Min. voltage for RCD function	voltage independent
Voltage range of the test button T	150 — 254 V AC (2-pole), 150 — 440 V AC (4-pole)
Rated frequency	50/60 Hz
Conditional short circuit strength I_{nc}	10 kA
Rated current	25, 40, 63 A
Rated residual current	30, 100, 300 mA
Sensitivity to residual current	AC type - AC residual current A type - residual AC and pulsating DC current
Time characteristic	undelayed type
Rated impulse withstand voltage U_{imp}	6 kV
Rated insulation voltage U_i	500 V
Surge current proof	250 A
Mechanical service life	20 000 operation cycles
Electrical service life	4 000 operation cycles
Back-up fuse for overload	
$I_n = 25$ A	max. 25 A gG
$I_n = 40$ A	max. 32 A gG
$I_n = 63$ A	max. 50 A gG
Back-up fuse for short circuit	
$I_n = 25$ A	max. 63 A gG
$I_n = 40$ A	max. 63 A gG
$I_n = 63$ A	max. 63 A gG
Rated making capacity I_m (rated residual making capacity $I_{\Delta m}$)	
$I_n = 25$ A	500 A
$I_n = 40$ A	500 A
$I_n = 63$ A	630 A
Line voltage connection	arbitrary above or below

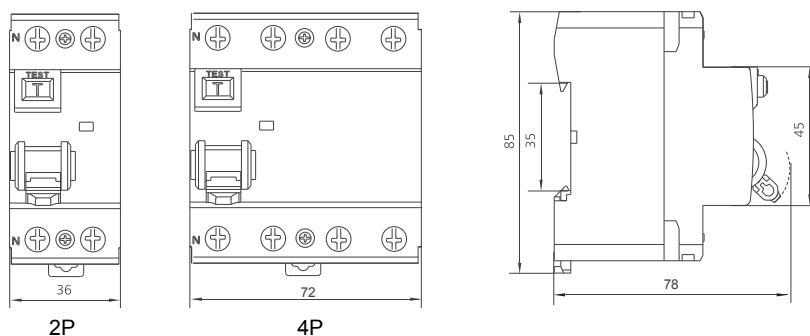
Technical Data Ex9CL-H

Residual Current Circuit Breakers, 10 kA

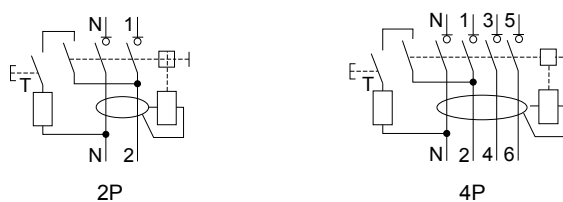
Mechanical parameters

Device width	36 mm (2-pole), 72 mm (4-pole)
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 — 35 mm ²
Fastening torque of terminals	1.5 — 2.5 Nm
Busbar thickness	0.8 — 2 mm
Ambient temperature	-5 — +40 °C
Altitude	≤ 2000 m
Relative humidity	≤ 95 %
Resistance to humidity and heat	class 2
Pollution degree	2
Installation class	III
Weight	0.22 kg (2-pole), 0.4 kg (4-pole)

Dimensions



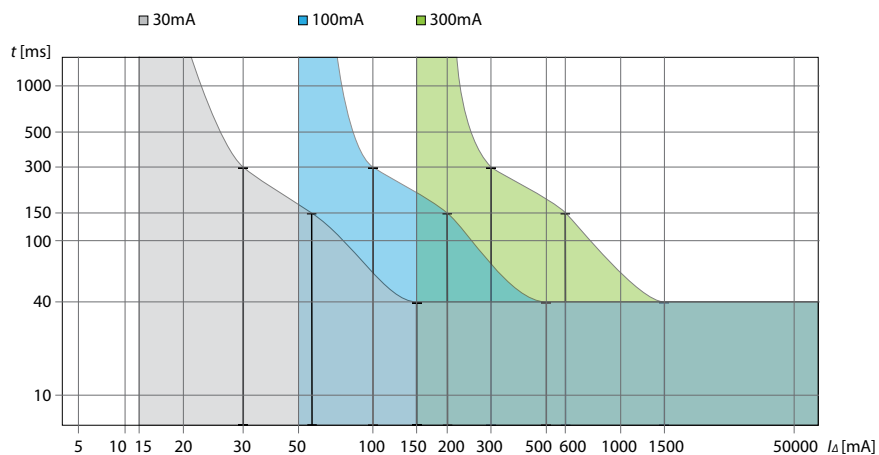
Wiring diagrams



Technical Data Ex9CL-H

Residual Current Circuit Breakers, 10 kA

Tripping characteristics



Power loss

I_n [A]		25 A			40 A			63 A		
I_{Δ} [mA]		30 mA	100 mA	300 mA	30 mA	100 mA	300 mA	30 mA	100 mA	300 mA
P [W]	2P	3.0	2.7	1.7	6.9	6.7	5.2	9.7	7.2	7.2
	4P	4.0	3.8	2.7	11.2	10.6	7.5	14.7	13.3	11.7

Technical Data Ex9CL-100

Residual Current Circuit Breakers up to 100 A, 10 kA

General parameters

Permanent magnet principle - Voltage independent tripping function
Suitable for household as well as industrial applications
S and S+A types
Magnetic RCCBs should be tested regularly with a period of one month. This is a responsibility of the user of an installation given by law
In case all wires are not connected at 4-pole RCCB, it is necessary to ensure that circuit of the test button T is supplied with appropriate voltage (by means of mutual connection of respective terminals of the RCCB, see wiring diagram)
Indication of electrical tripping

Electrical parameters

Tested according to	IEC/EN 61008
Rated op. voltage U_e	230/400 V AC
Min. voltage for RCD function	voltage independent
Voltage range of the test button T	150 — 254 V AC (2-pole), 150 — 440 V AC (4-pole)
Rated frequency	50/60 Hz
Conditional short circuit strength I_{nc}	10 kA
Rated current	63, 80, 100 A
Rated residual current	100, 300 mA
Sensitivity to residual current	AC type - AC residual current A type - residual AC and pulsating DC current
Time characteristic	selective S type with insensitivity 40 ms
Rated impulse withstand voltage U_{imp}	6 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
Back-up fuse for overload	
$I_n = 63$ A	max. 50 A gG
$I_n = 80$ A	max. 63 A gG
$I_n = 100$ A	max. 80 A gG
Back-up fuse for short circuit	
$I_n = 63$ A	max. 63 A gG
$I_n = 80$ A	max. 80 A gG
$I_n = 100$ A	max. 100 A gG
Rated making capacity I_m (rated residual making capacity $I_{\Delta m}$)	
$I_n = 63$ A	630 A
$I_n = 80$ A	1000 A
$I_n = 100$ A	1000 A
Line voltage connection	arbitrary above or below

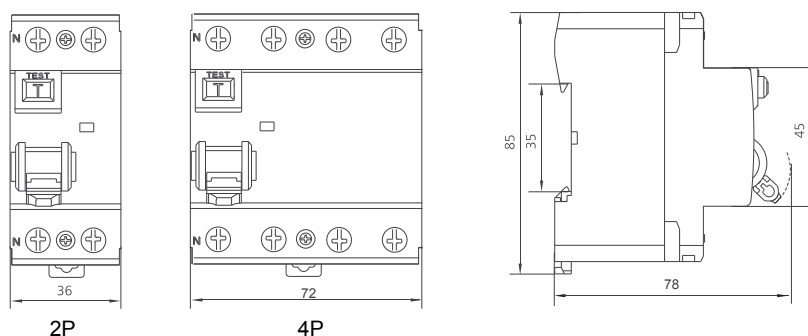
Technical Data Ex9CL-100

Residual Current Circuit Breakers up to 100 A, 10 kA

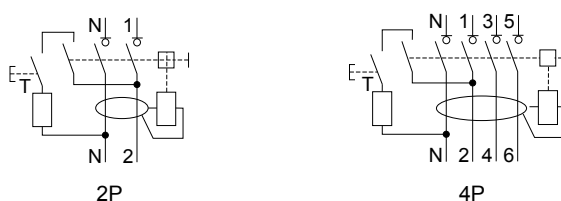
Mechanical parameters

Device width	36 mm (2-pole), 72 mm (4-pole)
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	lift
Terminal capacity	1 — 35 mm ²
Fastening torque of terminals	1.5 — 2.5 Nm
Ambient temperature	-5 — +40 °C
Altitude	≤ 2000 m
Relative humidity	≤ 95 %
Resistance to humidity and heat	class 2
Pollution degree	2
Installation class	III
Weight	0.22 kg (2-pole), 0.4 kg (4-pole)

Dimensions



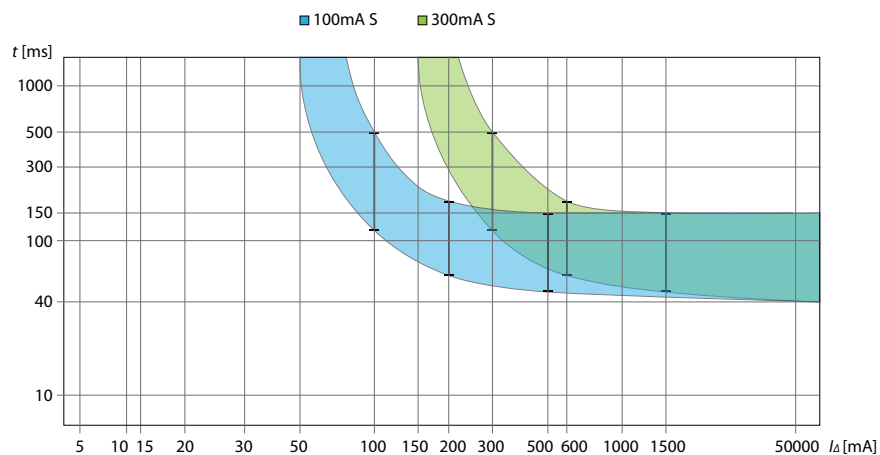
Wiring diagrams



Technical Data Ex9CL-100

Residual Current Circuit Breakers up to 100 A, 10 kA

Tripping characteristics



Power loss

I_n [A]		63 A		80 A		100 A	
I_{Δ} [mA]		100 mA	300 mA	100 mA	300 mA	100 mA	300 mA
P [W]	2P	7.2	7.2	8.3	8.1	10.5	10.1
	4P	13.3	11.7	14.5	14.2	17.7	16.9

Technical Data Ex9CL-N

Residual Current Circuit Breakers, 6 kA

General parameters

Permanent magnet principle - Voltage independent tripping function

Suitable for household as well as industrial applications

AC type

Magnetic RCCBs should be tested regularly with a period of one month. This is a responsibility of the user of an installation given by law

In case all wires are not connected at 4-pole RCCB, it is necessary to ensure that circuit of the test button T is supplied with appropriate voltage (by means of mutual connection of respective terminals of the RCCB, see wiring diagram)

Indication of electrical tripping

Electrical parameters

Tested according to	IEC/EN 61008
Rated op. voltage U_e	240/415 V AC
Min. voltage for RCD function	voltage independent
Voltage range of the test button T	150 — 254 V AC (2-pole), 150 — 440 V AC (4-pole)
Rated frequency	50 Hz
Conditional short circuit strength I_{nc}	6 kA
Rated current	25, 40, 63 A
Rated residual current	30, 300 mA
Sensitivity to residual current	AC type - AC residual current
Time characteristic	undelayed type
Rated impulse withstand voltage U_{imp}	6 kV
Rated insulation voltage U_i	500 V
Surge current proof	250 A
Mechanical service life	20 000 operation cycles
Electrical service life	4 000 operation cycles
Back-up fuse for overload	
$I_n = 25$ A	max. 25 A gG
$I_n = 40$ A	max. 32 A gG
$I_n = 63$ A	max. 50 A gG
Back-up fuse for short circuit	
$I_n = 25$ A	max. 63 A gG
$I_n = 40$ A	max. 63 A gG
$I_n = 63$ A	max. 63 A gG
Rated making capacity I_m (rated residual making capacity $I_{\Delta m}$)	
$I_n = 25$ A	500 A
$I_n = 40$ A	500 A
$I_n = 63$ A	630 A
Line voltage connection	arbitrary above or below

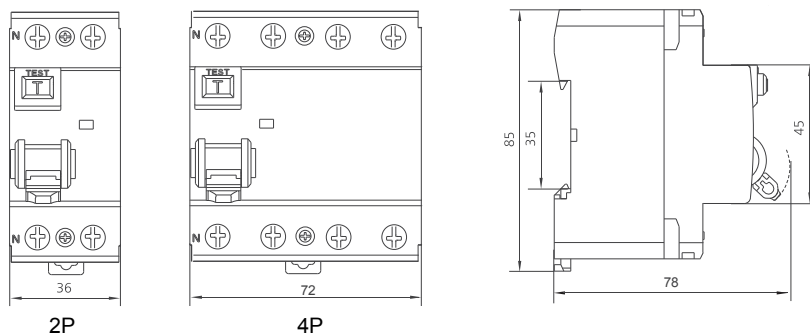
Technical Data Ex9CL-N

Residual Current Circuit Breakers, 6 kA

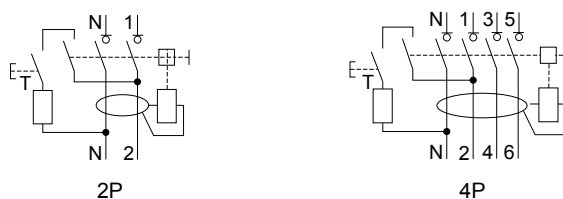
Mechanical parameters

Device width	36 mm (2-pole), 72 mm (4-pole)
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 — 35 mm ²
Fastening torque of terminals	1.5 — 2.5 Nm
Busbar thickness	0.8 — 2 mm
Ambient temperature	-5 — +40 °C
Altitude	≤ 2000 m
Relative humidity	≤ 95 %
Resistance to humidity and heat	class 2
Pollution degree	2
Installation class	III
Weight	0.22 kg (2-pole), 0.4 kg (4-pole)

Dimensions



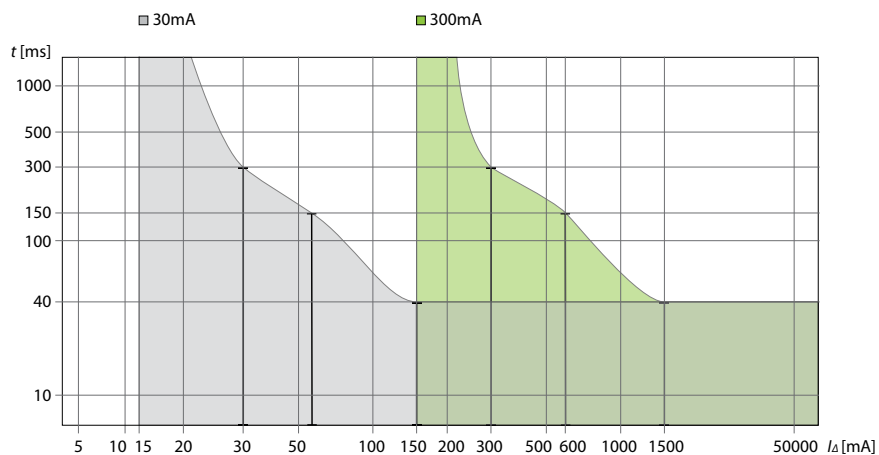
Wiring diagrams



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Tripping characteristics



Power loss

I_n [A]		25 A		40 A		63 A	
I_{Δ} [mA]		30 mA		30 mA	300 mA	30 mA	300 mA
P [W]	2P	3.0		6.9	5.2	-	-
	4P	4.0		11.2	7.6	13.3	11.7