

CHNT

Empower the World



Modular Din Rail Products

Perfect Reliable choice

Modular DIN Rail Products

MCB



NB1-63
In: 1~63A
Icn=6000A

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NB1-63H
In: 1~63A
10000A

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NB1-63DC
In: 1~63A
Icu=6000A

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NB7
In: 63A

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NB
In: 1~63A
Icn=3000A,
4500A

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NB1-63G
In: 1~63A

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NBH8
In: 1~40A
Icn=4500A,
6000A

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MCCB



DZ158
In: 63A, 80A,
100A, 125A
Icu=6kA, 10kA

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RCCB



NL1
Magnetic
type

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NL210

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RCBO



NB1L
Magnetic
type

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NB3LE
Electronic
type

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NB3LEG
Electronic
type

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NB3LEU
Electronic
type

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NBH8LE
Electronic
type

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DZ158LE
Electronic
type

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NB2LE
Electronic
type

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NB310L
Magnetic
type

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NB4LE
Electronic
type

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Accessories for MCB, RCBO



XF9
Auxiliary
contact

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XF9J
Alarm auxiliary
contact

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S9
Shunt
release

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V9
Under-voltage
release

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Modular DIN Rail Products



AX-1
Auxiliary
contact

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AX-5
Auxiliary
contact

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OUVR-1
Self-recovery
Protector

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OUVR-2
Self-recovery
Protector

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OUVT-1
Over/under
voltage release

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Switch Disconnecter



NH2
In=32A,
63A, 100A,
125A

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NH4
In=32A,
40A, 63A,
80A, 100A,
125A;

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Change-over Switch



NZK1

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NZK2

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Surge Arrester



NU6- II

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NU6- II G

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NU6- III

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Pushbutton & Indicator



NP9
Pushbutton

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ND9
Indicator
light

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Consumer Unit



NX8

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NX2

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NXW1

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Wall Mounting Enclosure



NXW5

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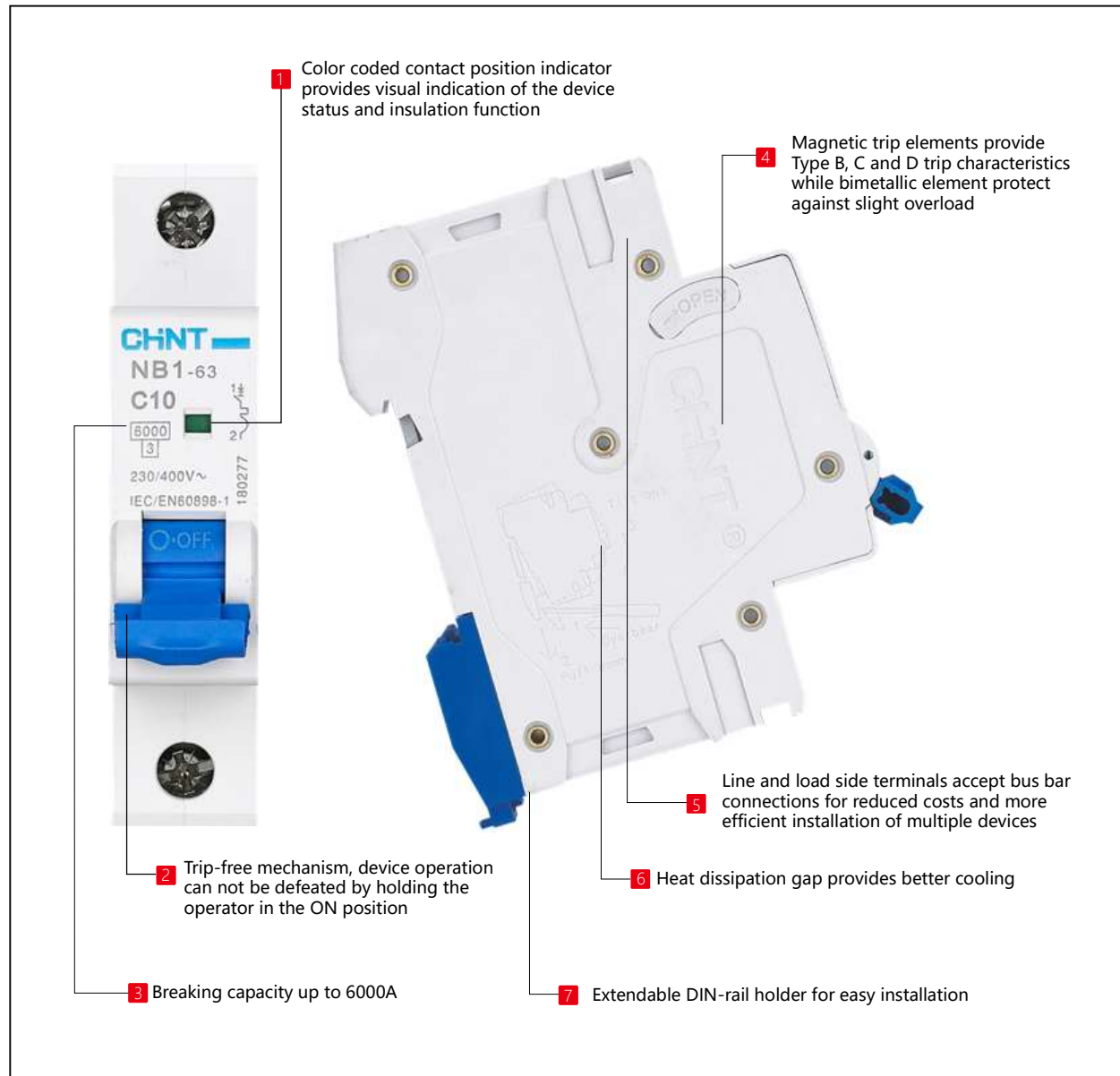
Busbar



CBB-2
Busbar

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NB1 Miniature Circuit Breaker





NB1 -63 Miniature Circuit Breaker

1. General

1.1 Function

protection of circuits against short-circuit currents,
protection of circuits against overload currents,
switch, isolation.

NB1 circuit-breakers are used in domestic installation,
as well as in commercial and industry electrical
distribution systems.

1.2 Selection

Technical data of the network at the point considered:
short-circuit current at the circuit-breaker installation point,
which must always be less than the breaking capacity of
this device, network normal voltage.

Tripping curves:

B curve (3-5In)

protection for people and big length cables in TN and IT
systems.

C curve (5-10In)

protection for resistive and inductive loads with low inrush
current.

D curve(10-14In)

protection for circuits which supply loads with high inrush
current at the circuit closing
(LV/LV transformers, breakdown lamps).

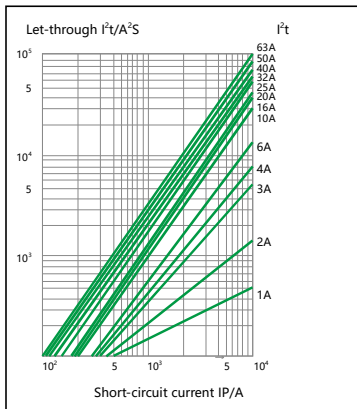
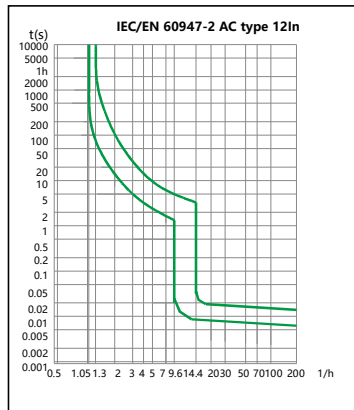
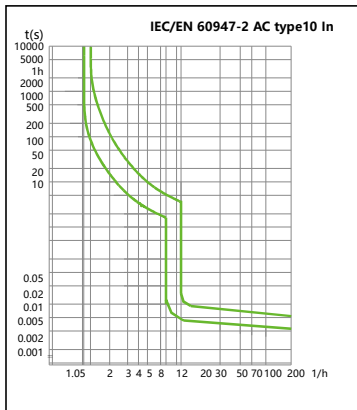
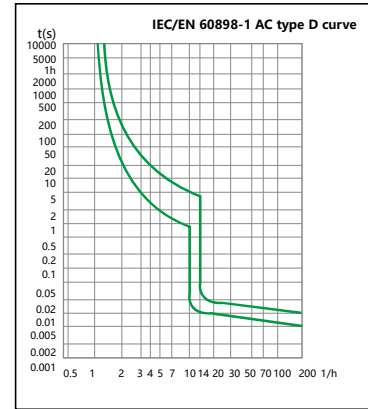
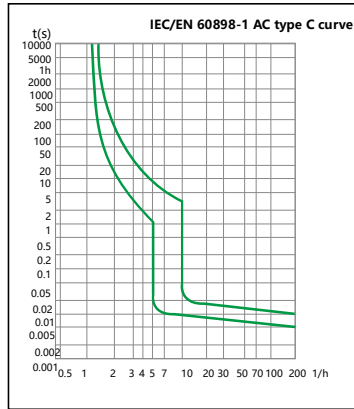
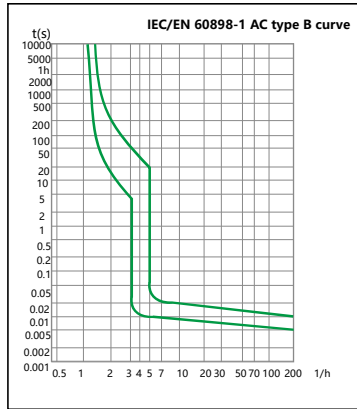
1.3 Approvals and certificates

Detailed information, please refer to Certificates Table
on the last page.



2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 60898-1	IEC/EN 60947-2	UL1077
Electrical features	Rated current In	A	1, 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63		1, 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63
	Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P	1P, 2P, 3P, 4P	1P, 2P, 3P, 4P
	Rated voltage Ue	V	230/400, 240/415		277/480
	Insulation voltage Ui	V	500		110/125
	Rated frequency		50/60Hz		(DC)
	Rated breaking capacity	A	6000	6000	5000
	Energy limiting class		3		10000
	Rated impulse withstand voltage(1.2/50) Uimp	V	4000		
	Dielectric test voltage at ind. Freq. for 1 min	KV	2	1.890	2
	Pollution degree		2		
	Power loss per pole		Rated current (A)		Max power loss per pole (W)
			1, 2, 3, 4, 6, 10		2
			16, 20, 25, 32		3.5
			40, 50, 63		5
	Thermo-magnetic release characteristic		B, C, D	10In, 12In	B, C, D
Mechanical features	Electrical life		10, 000		
	Mechanical life		20, 000		
	Contact position indicator		Yes		
	Protection degree		IP20		
	Reference temperature for setting of thermal element	°C	30		
	Ambient temperature (with daily average ≤ 35°C)	°C	-35-+70		
	Storage temperature	°C	-35-+70		
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar		
	Terminal size top/bottom for cable	mm ²	25		
		AWG	18-4		
	Terminal size top/bottom for busbar	mm ²	10		
		AWG	18-8		
	Tightening torque	N·m	2.0		
		In-lbs.	22		
Combination with accessories	Auxiliary contact		Yes		
	Shunt release		Yes		
	Under voltage release		Yes		
	Alarm contact		Yes		
	Connection		On DIN rail EN 60715 (35mm) by means of fast clip device		

2.3 Selectivity

	In (A)	Power supply side: RT36-00 (fuse)								
		20	25	36	50	63	80	100	125	160
		Is (kA)								
Load side: NB1-63, Curve B, C	≤ 2	1.2	4	> 12	> 12	> 12	> 12	> 12	> 12	> 12
	3	0.7	1.2	3.8	5.3	6	6	6	6	6
	4	0.6	0.9	2.5	3.8	6	6	6	6	6
	6	0.5	0.8	1.9	2.5	4.5	5	6	6	6
	10		0.7	1.4	2.2	3.2	3.6	6	6	6
	16			1.2	1.8	2.6	3	5.6	6	6
	20				1.5	2.2	2.5	4.6	6	6
	25				1.3	2	2.2	4.1	5.5	6
	32					1.7	1.9	3.8	4.5	6
	40						1.7	3	4	5
	50						1.5	2.6	3.5	4.5
	63							2.4	3.3	4.5

	In (A)	Power supply side: NM8-100S/H/R								
		16	20	25	32	40	50	63	80	100
		Is (kA)								
Load side: NB1-63, Curve B, C	≤ 10	0.19	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8
	16			0.3	0.4	0.5	0.5	0.5	0.63	0.8
	20					0.5	0.5	0.5	0.63	0.8
	25						0.5	0.5	0.63	0.8
	32							0.5	0.63	0.8
	40								0.63	0.8
	50									0.8
	63									

2.4 Backup protection

	In (A)	Power supply side: RT16 series						
		40	50	63	80	100	125	160
		Is (kA)						
Load side: NB1-63, Curve B, C	1~6	40	40	40	40	40	40	40
	8~10	40	40	40	40	40	40	40
	13	40	40	40	40	35	35	35
	16	40	40	40	40	30	30	30
	20	40	40	40	40	30	30	30
	25	40	40	40	40	30	30	30
	32	40	40	40	40	30	30	30
	40	40	40	40	40	30	30	30
	50	30	30	30	30	30	30	30
	63	20	20	20	20	15	15	15

	In (A)	Power supply side: NM8					
		NM8-125S	NM8-125H	NM8-125R	NM8-250S	NM8-250H	NM8-250R
		Is (kA)					
Load side: NB1-63, Curve B, C	1~6	15	18	18	15	15	15
	10~20	12	15	15	12	12	12
	32~40	12	15	15	12	12	12
	50~60	12	15	15	12	12	12

2.5 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

Ambient temperature(°C) Rated current(A)	-35	-30	-20	-10	0	10	20	30	40	50	60	70
1	1.3	1.26	1.23	1.19	1.15	1.11	1.05	1	0.96	0.93	0.88	0.83
2	2.6	2.52	2.46	2.38	2.28	2.2	2.08	2	1.92	1.86	1.76	1.66
3	3.9	3.78	3.69	3.57	3.42	3.3	3.12	3	2.88	2.79	2.64	2.49
4	5.2	5.04	4.92	4.76	4.56	4.4	4.16	4	3.84	3.76	3.52	3.32
6	7.80	7.56	7.38	7.14	6.84	6.6	6.24	6	5.76	5.64	5.28	4.98
10	13.20	12.7	12.5	12	11.5	11.1	10.6	10	9.6	9.3	8.9	8.40
16	21.12	20.48	20	19.2	18.4	17.76	16.96	16	15.36	14.88	14.24	10.92
20	26.40	25.6	25	24	23	22.2	21.2	20	19.2	18.6	17.8	16.80
25	33	32	31.25	30	28.75	27.75	26.5	25	24	23.25	22.25	21
32	42.56	41.28	40	38.72	37.12	35.52	33.92	32	30.72	29.76	28.16	26.88
40	53.20	51.2	50	48	46.4	44.8	42.4	40	38.4	37.2	35.6	33.60
50	67	65.5	63	60.5	58	56	53	50	48	46.5	44	41.50
63	83.79	81.9	80.01	76.86	73.71	70.56	66.78	63	60.48	58.9	55.44	52.29

When several simultaneously operating circuit breakers are mounted side by side in a small enclosure, the temperature rise inside the enclosure causes a reduction in current rating.

You must then assign the rating (already derated if necessary according to ambient temperature) a downrating factor of 0.8.

3. Overall and mounting dimensions (mm)





NB1-63H Miniature Circuit Breaker

1. General

1.1 Function

protection of circuits against short-circuit currents,
protection of circuits against overload currents,
switch, isolation.

NB1-63H circuit-breakers are used in domestic installation,
as well as in commercial and industry electrical
distribution systems.

1.2 Selection

Technical data of the network at the point considered:
short-circuit current at the circuit-breaker installation point,
which must always be less than the breaking capacity of
this device, network normal voltage.

Tripping curves:

B curve (3-5I_n)

protection for people and big length cables in TN and IT
systems.

C curve (5-10I_n)

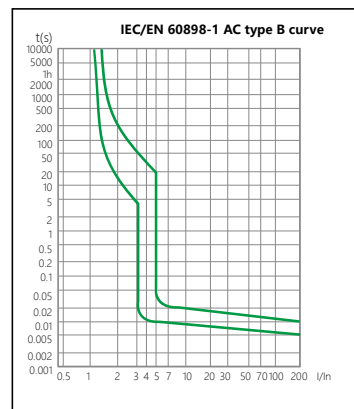
protection for resistive and inductive loads with low inrush
current.

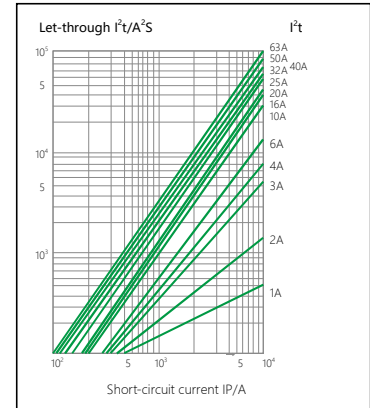
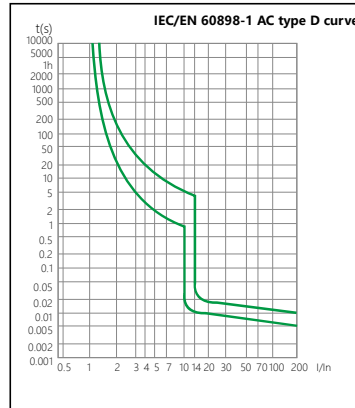
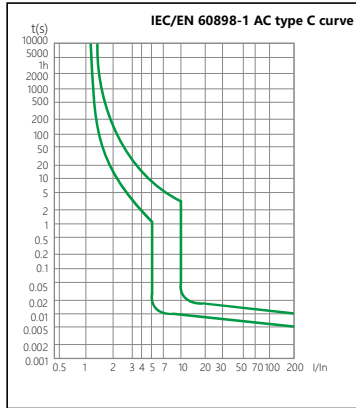
D curve (10-14I_n)

protection for circuits which supply loads with high inrush
current at the circuit closing
(LV/LV transformers, breakdown lamps).

2. Technical data

2.1 curves





2.2

			IEC/EN 60898-1		
Electrical features	Rated current In	A	1, 2, 3, 4, 6, 10, 16,20, 25, 32, 40, 50, 63		
	Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P		
	Rated voltage Ue	V	230/400~240/415		
	Insulation voltage Ui	V	500		
	Rated frequency		50/60Hz		
	Rated breaking capacity	A	10000		
	Energy limiting class		3		
	Rated impulse withstand voltage(1.2/50) Uimp	V	6000		
	Dielectric test voltage at ind. Freq. for 1 min	KV	2		
	Pollution degree		2		
	Power loss per pole		Rated current (A)	Max power loss per pole (W)	
			1, 2, 3, 4, 5, 6, 10	3	
13, 16, 20, 25, 32			6		
40, 50, 63			13		
Thermo-magnetic release characteristic			B, C, D		
Mechanical features	Electrical life		10, 000		
	Mechanical life		20, 000		
	Contact position indicator		Yes		
	Protection degree		IP20		
	Reference temperature for setting of thermal element	℃	30		
	Ambient temperature (with daily average ≤ 35℃)	℃	-35~+70		
	Storage temperation	℃	-35~+70		
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar		
	Terminal size top/bottom for cable	mm²	25		
		AWG	18-4		
	Terminal size top/bottom for busbar	mm²	10		
		AWG	18-8		
	Tightening torque	N·m	2.0		
		In·lbs.	22		
Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device			
Connection		From top and bottom			
Combination with accessories	Auxiliary contact		Yes		
	Shunt release		Yes		
	Under voltage release		Yes		
	Alarm contant		Yes		

2.3 Selectivity

Load side: NB1-63H Curve B, C	In (A)	Power supply side: RT36-00 (fuse)								
		20	25	36	50	63	80	100	125	160
		Is (kA)								
	≤ 2	1.2	4	> 12	> 12	> 12	> 12	> 12	> 12	> 12
	3	0.7	1.2	3.8	5.3	6	6	6	6	6
	4	0.6	0.9	2.5	3.8	6	6	6	6	6
	6	0.5	0.8	1.9	2.5	4.5	5	6	6	6
	10		0.7	1.4	2.2	3.2	3.6	6	6	6
	16			1.2	1.8	2.6	3	5.6	6	6
	20				1.5	2.2	2.5	4.6	6	6
	25				1.3	2	2.2	4.1	5.5	6
	32					1.7	1.9	3.8	4.5	6
	40						1.7	3	4	5
	50						1.5	2.6	3.5	4.5
	63							2.4	3.3	4.5

Load side: NB1-63H Curve B, C	In (A)	Power supply side: NM8-100S/H/R								
		16	20	25	32	40	50	63	80	100
		Is (kA)								
	≤ 10	0.19	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8
	16			0.3	0.4	0.5	0.5	0.5	0.63	0.8
	20					0.5	0.5	0.5	0.63	0.8
	25						0.5	0.5	0.63	0.8
	32							0.5	0.63	0.8
	40								0.63	0.8
	50									0.8
	63									

2.4 Backup protection

Load side: NB1-63H Curve B, C	In (A)	Power supply side: RT16 series						
		40	50	63	80	100	125	160
		Is (kA)						
	1~6	40	40	40	40	40	40	40
	8~10	40	40	40	40	40	40	40
	13	40	40	40	40	35	35	35
	16	40	40	40	40	30	30	30
	20	40	40	40	40	30	30	30
	25	40	40	40	40	30	30	30
	32	40	40	40	40	30	30	30
	40	40	40	40	40	30	30	30
	50	30	30	30	30	30	30	30
	63	20	20	20	20	15	15	15

Load side: NB1-63H Curve B, C	In (A)	NM8-125S	NM8-125H	NM8-125R	NM8-250S	NM8-250H	NM8-250R
		Is (kA)					
		15	18	18	15	15	15
	1~6	12	15	15	12	12	12
	10~20	12	15	15	12	12	12
	32~40	12	15	15	12	12	12
	50~60	12	15	15	12	12	12

2.5 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

Ambient temperature(°C)	-35	-30	-20	-10	0	10	20	30	40	50	60	70
Rated current(A)												
1	1.3	1.26	1.23	1.19	1.15	1.11	1.05	1	0.96	0.93	0.88	0.83
2	2.6	2.52	2.46	2.38	2.28	2.2	2.08	2	1.92	1.86	1.76	1.66
3	3.9	3.78	3.69	3.57	3.42	3.3	3.12	3	2.88	2.79	2.64	2.49
4	5.2	5.04	4.92	4.76	4.56	4.4	4.16	4	3.84	3.76	3.52	3.32
6	7.80	7.56	7.38	7.14	6.84	6.6	6.24	6	5.76	5.64	5.28	4.98
10	13.20	12.7	12.5	12	11.5	11.1	10.6	10	9.6	9.3	8.9	8.40
16	21.12	20.48	20	19.2	18.4	17.76	16.96	16	15.36	14.88	14.24	10.92
20	26.40	25.6	25	24	23	22.2	21.2	20	15.36	18.6	17.8	16.80
25	33	32	31.25	30	28.75	27.75	26.5	25	24	23.25	22.25	21
32	42.56	41.28	40	38.72	37.12	35.52	33.92	32	30.72	29.76	28.16	26.88
40	53.20	51.2	50	48	46.4	44.8	42.4	40	38.4	37.2	35.6	33.60
50	67	65.5	63	60.5	58	56	53	50	48	46.5	44	41.50
63	83.79	81.9	80.01	76.86	73.71	70.56	66.78	63	60.48	58.9	55.44	52.29

When several simultaneously operating circuit breakers are mounted side by side in a small enclosure, the temperature rise inside the enclosure causes a reduction in current rating.

You must then assign the rating (already derated if necessary according to ambient temperature) a downrating factor of 0.8.

3. Overall and mounting dimensions (mm)





NB1-63DC DC Circuit Breaker

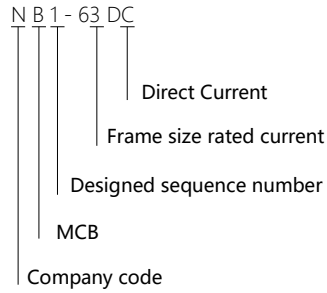
1. General

- 1.1 Certificates: CCC,CE,CB,TUV;
- 1.2 Standard: IEC/EN 60947-2 ,RoHS;
- 1.3 Rated voltage up to 1000V, Rated current up to 63A;
- 1.4 Protection of circuits against overload currents;
- 1.5 Protection of circuits against short-circuit currents;
- 1.6 NB1-63 DC circuit-breakers are used in communication systems and PV DC systems.

2. Features

- 2.1 Excellent breaking capacity
- 2.2 Double connection function of lead wire and bus bar
- 2.3 Stored energy operation, fast closing, long service life
- 2.4 Convenient installation, disassembly
- 2.5 Contact on-off indication, higher security
- 2.6 Green environmental protection and energy saving

3. Type designation



4. Operating conditions

- 4.1 Ambient temperature: -35°C ~ +70°C (Refer to 5.3)
- 4.2 The atmosphere condition: ≤ 95%
- 4.3 Pollution degree: II
- 4.4 Altitude: ≤ 2000m (if exceed 2000m, Refer to 5.4)

5. Technical data

5.1 Classification

- 5.1.1 Rate Current In:
1A, 2A, 3A, 4A, 6A, 10A, 13A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
- 5.1.2 Number of poles: 1P, 2P, 4P
- 5.1.3 Tripping curves: C Type, (7~10)In

5.2 Parameters

- 5.2.1 Rated breaking capacity Icu

Rated current In (A)	Number of poles	Rated voltage Ue (V)	Rated breaking capacity Icu (A)
1~63	1	250	6000
	2	500	6000
	4	1000	6000

5.2.2 Electrical and mechanical life

a. Electrical life: > 1500 cycles

b. Mechanical life: > 20,000 cycles

5.2.3 Rated impulse withstand voltage Uimp:4KV

5.2.4 (28-32)°C ambient temperature over-current protection features.

Test	Test current	Initial state	Time limit for tripping or not tripping	Expected result	Remarks
a	1.05In	Cold state	t ≤ 1h	Not tripping	
b	1.30In	Right after test number a	t ≤ 1h	Tripping	The current is rising within 5s
c	7In	Cold state	t ≤ 0.2s	Not tripping	
d	10In	Cold state	t < 0.2s	Tripping	

Note: The terminology "Cold state" means that the test is performed at the base calibration temperature with no load prior to the test.

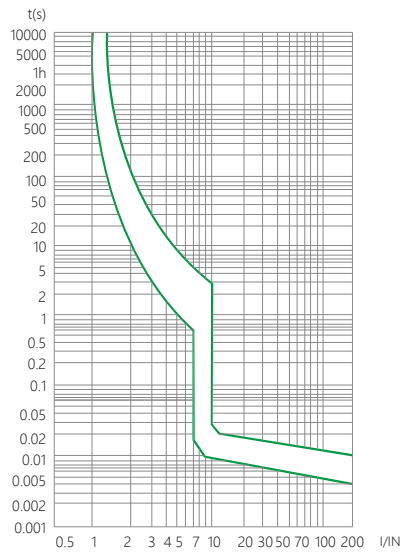
5.3 Temperature derating

Rated current (A)	Temperature compensation coefficient under various operational temperature.											
	-35°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
1	1.3	1.26	1.23	1.19	1.15	1.11	1.05	1	0.96	0.93	0.88	0.83
2	2.6	2.52	2.46	2.38	2.28	2.2	2.08	2	1.92	1.86	1.76	1.66
3	3.9	3.78	3.69	3.57	3.42	3.3	3.12	3	2.88	2.79	2.64	2.49
4	5.2	5.04	4.92	4.76	4.56	4.4	4.16	4	3.84	3.76	3.52	3.32
6	7.8	7.56	7.38	7.14	6.84	6.6	6.24	6	5.76	5.64	5.28	4.98
10	13.2	12.7	12.5	12	11.5	11.1	10.6	10	9.6	9.3	8.9	8.4
13	17.16	16.51	16.25	15.6	14.95	14.43	13.78	13	12.48	12.09	11.57	10.92
16	21.12	20.48	20	19.2	18.4	17.76	16.96	16	15.36	14.88	14.24	13.44
20	26.4	25.6	25	24	23	22.2	21.2	20	19.2	18.6	17.8	16.8
25	33	32	31.25	30	28.75	27.75	26.5	25	24	23.25	22.25	21
32	42.56	41.28	40	38.72	37.12	35.52	33.93	32	30.72	29.76	28.16	26.88
40	53.2	51.2	50	48	46.4	44.8	42.4	40	38.4	37.2	35.6	33.6
50	67	65.5	63	60.5	58	56	53	50	48	46.5	44	41.5
63	83.79	81.9	80.01	76.86	73.71	70.56	66.78	63	60.48	58.9	55.44	52.29

5.4 Altitude derating

Tripping type	Rated current In (A)	Current correction factor			For example
		≤ 2000	2000~3000m	≥ 3000m	
C	1,2,3,4,6,10, 13,16,20,32, 40,50,63	1	0.9	0.8	Rated current of 10A products rated current derating 2500m:0.9×10=9A

5.5 Curves shown in Figure 1



5.6 Wiring: Apply to 25 mm² wire connection terminals

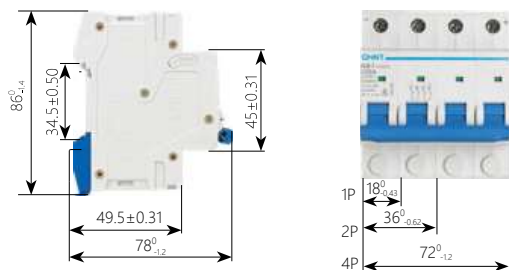
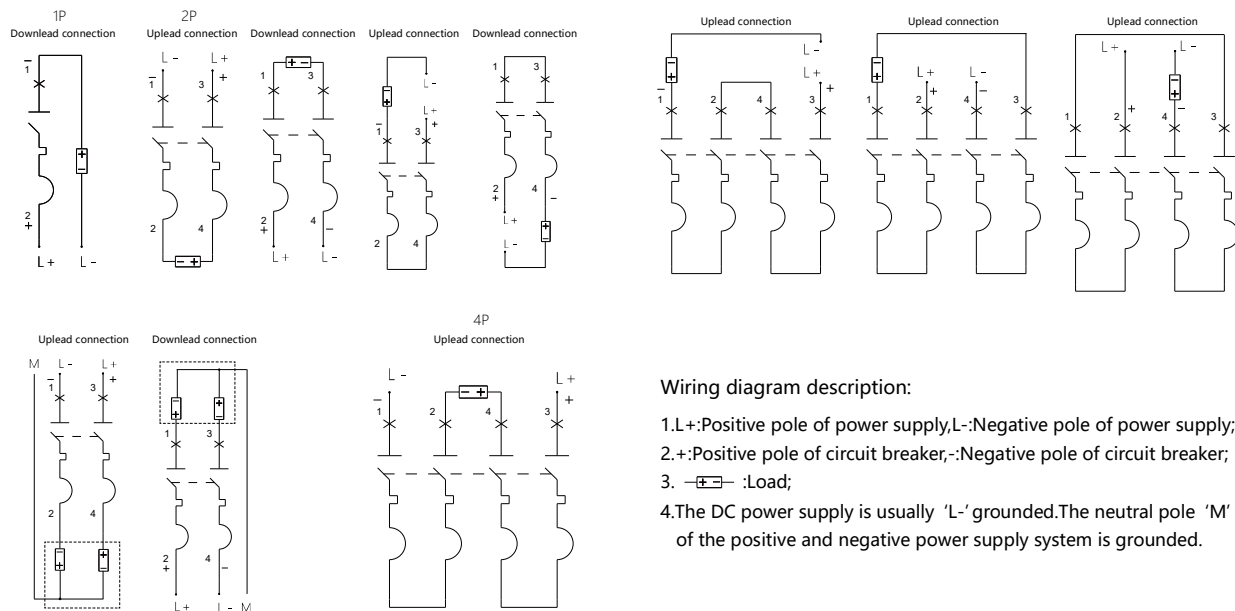
Tightening torque 2N·m

Rated current I_n (A)	Copper wire nominal cross sectional area(mm ²)
1~6	1
10	1.5
13,16,20	2.5
25	4
32	6
40,50	10
63	16

5.7 Each pole power consumption of the circuit breaker

Rated current I_n (A)	Each pole maximum power consumption(W)
1~10	2
13~32	3.5
40~63	5

5.8 DC application wiring diagram shown in Figure 2





NB7 Miniature Circuit Breaker

1. General

The NB7 series miniature circuit breaker is applicable to the circuit with an alternating current of 50Hz/60Hz, rated voltage of 240/415V, and rated current up to 63A for overload protection and short circuit protection, and also for not-frequent operational transformation in the circuit under normal condition.

This product can be applied to various places such as industrial, commercial, and tall buildings, and residential houses.

The product meets the standards of IEC60898-1.



2. Type designation

N B 7

Design number

Miniature circuit breaker

Company code

3. Technical data

3.1 Main specifications

3.1.1 Graded according to the rated current I_n : 1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A;

3.1.2 Classified as follows according to the type of instantaneous release: type B (3-5) I_n , type C (5-10) I_n , type D ((10-16) I_n ;

3.1.3 Categorized as follows according to the number of poles:

- Single pole
- Two poles
- Three poles
- Four poles

3.2 Technical parameters

3.2.1 For the rated short circuit breaking capacity, see Table 1

Table 1

Rated current I_n (A)	Number of poles	Rated voltage U_e (V)	Rated short circuit capacity I_{cn} (A)
B, C type: 1~40	1	240/415	6000
	2, 3, 4	415	
B, C type: 50 63	1	240/415	4500
	2, 3, 4	415	
D type: 1~63	1	240/415	
	2, 3, 4	415	

3.2.2 Mechanical/electrical Life

- Electrical life: not less than 4,000 times
- Mechanical life: not less than 10,000 times

3.2.3 For the over current protection characteristics, see Table 2

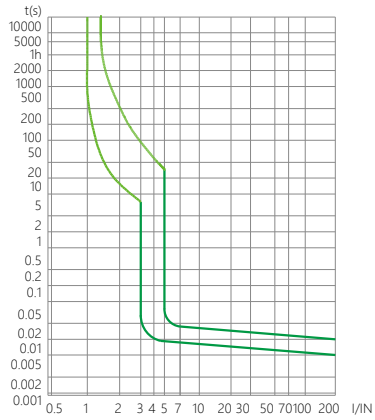
Table 2

Test	Type	Test current	Initial state	Time limit for tripping or not tripping	Expected result	Test environment temperature	Remarks	
a	B, C, D	1.13 In	Cold state	t ≤ 1h	Not tripping	30°C ~35°C	The current is rising within 5s	
b	B, C, D	1.45 In	Right after test number 1	t < 1h	Tripping			
c	B, C, D	2.55 In	Cold state	1s < t < 60s (In ≤ 32A) 1s < t < 120s (In > 32A)	Tripping			
d	B	3In	Cold state	t ≤ 0.1s	Not tripping			The power supply is turned on by closing the auxiliary switch
	C	5In						
	D	10In						
e	B	5In	Cold state	t < 0.1s	Tripping			The power supply is turned on by closing the auxiliary switch
	C	10In						
	D	16In						

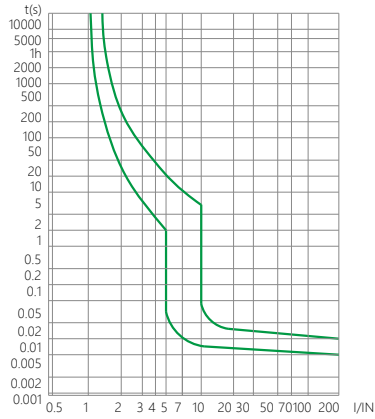
Note: The terminology "Cold state" means that the test is performed at the base calibration temperature with no load prior to the test.

3.2.4 For the tripping performance diagram, see Fig 1

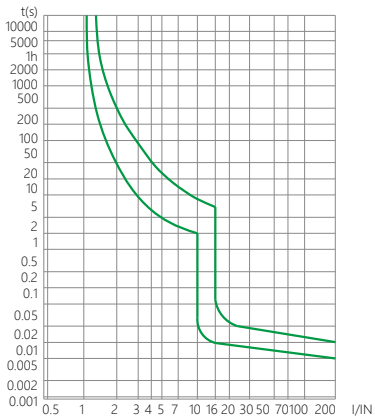
B Type



C Type



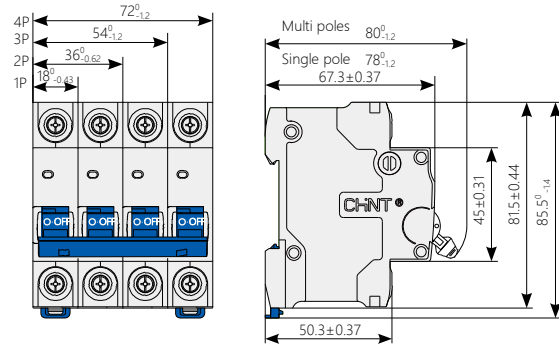
D Type



3.2.5 Wiring: good for connection of leads of less than 25mm² (see Table 3); wiring method: screw hold-down with a torque of 2N·m

Rated current I _n (A)	Nominal cross-sectional area of the copper conductor (mm ²)
1~6	1
10	1.5
16,20	2.5
25	4
32	6
40,50	10
63	16

4. Overall and mounting dimensions (mm)



5. Ordering information

5.1 When ordering the goods, the user shall indicate the following items:

5.1.1 Types and names of products, for example, NB7 miniature circuit breaker;

5.1.2 Instantaneous tripping type and rated current, for example, C25;

5.1.3 Number of poles: for example, 2P;

5.1.4 Amount on order, for example, 50 units;

5.2 Example for ordering: 50 units of the NB7 series miniature circuit breakers, 2P, C25.



eBC eB eBG Miniature Circuit Breaker

1. General

1.1 Function

protection of circuits against short-circuit currents,
protection of circuits against overload currents,
switch, isolation.

1.2 Selection

Technical data of the network at the point considered:
the earthing systems (TNS, TNC),
short-circuit current at the circuit-breaker installation point,
which must always be less than the breaking capacity of
this device, network normal voltage.

Tripping curves:

B curve (3-5I_n)

protection for people and big length cables in TN and IT
systems.

C curve (5-10I_n)

protection for resistive and inductive loads with low inrush
current.

D curve (10-20I_n)

protection for circuits which supply loads with high inrush
current at the circuit closing
(LV/LV transformers, breakdown lamps).

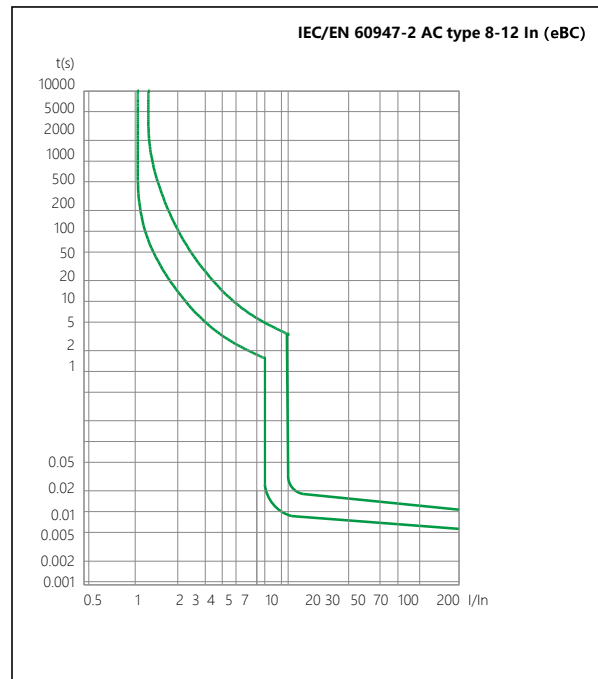
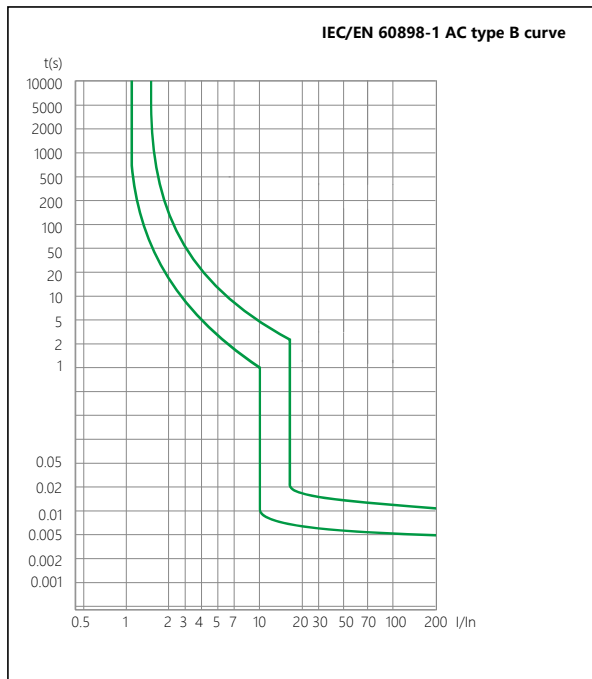
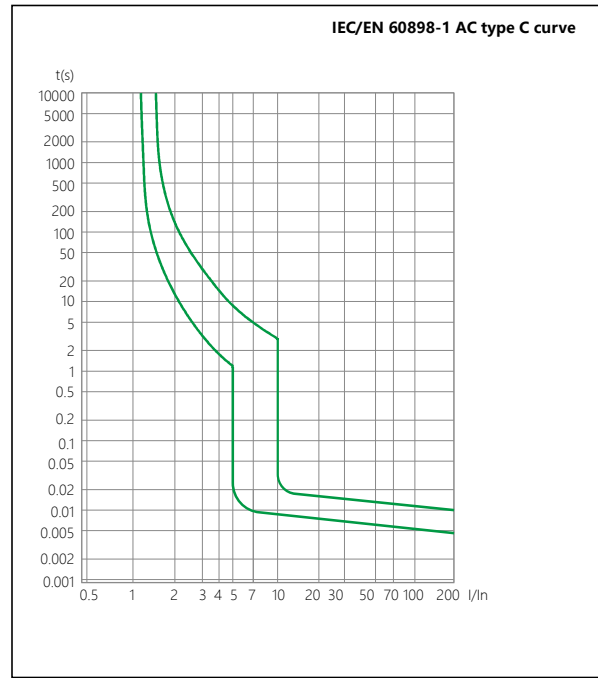
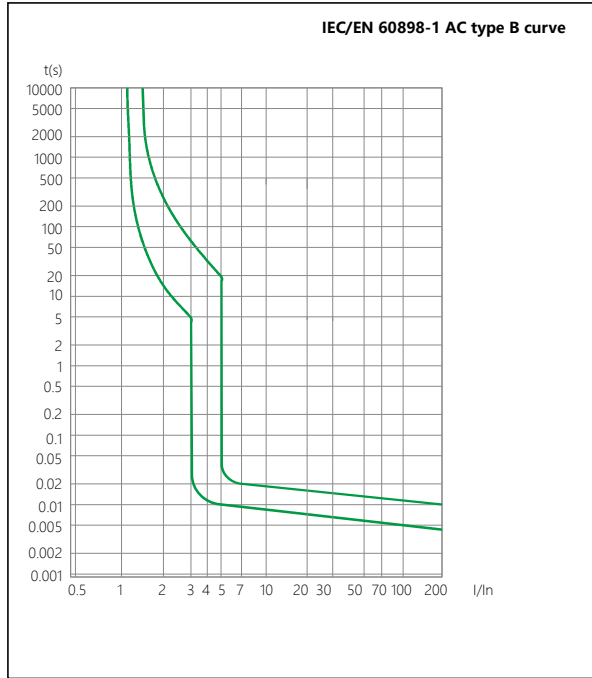
1.3 Approvals and certificates

Detailed information, please refer to Certificates Table
on the last page.

2. Technical data

2.1 Curves

BC B BG is of high current limiting performance to limit the destruction energy due to short circuit to the greatest extent.



2.2

	Standard		IEC/EN 60898-1	IEC/EN 60947-2
Electrical features	Rated current I_n	A	1, 2, 3, 4, 5, 6, 10, 15, 16, 20, 25, 32, 40, 50, 60, 63	
	Poles		1P, 2P, 3P, 4P	
	Rated voltage U_e	V	230/400~240/415	
	Insulation voltage U_i		500	
	Rated frequency	Hz	50/60	
	Rated breaking capacity	kA	3 (1~63A) eBC 4.5 (1~63A) eB 6 (B,C 1~40A) eBG	
	Rated impulse withstand voltage(1.2/50) U_{imp}	V	4000	
	Dielectric test voltage at ind. Freq. for 1 min		2	
	Pollution degree		2	
	Thermo-magnetic release characteristic		B, C, D	8-12 I_n
Mechanical features	Electrical life		4, 000	
	Mechanical life		10, 000	
	Protection degree		IP20	
	Reference temperature for setting of thermal element	°C	30	
	Ambient temperature (with daily average $\leq 35^\circ\text{C}$)	°C	-5...+40	
	Storage temperature	°C	-25...+70	
Installation	Terminal connection type		Cable/Pin-type busbar	
	Terminal size top/bottom for cable	mm ²	1~25	
		AWG	17~3	
	Terminal size top/bottom for busbar	mm ²	1~10	
		AWG	17~7	
	Tightening torque	N·m	2	
		In-lbs.	18	
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device	
	Connection		From top and bottom	

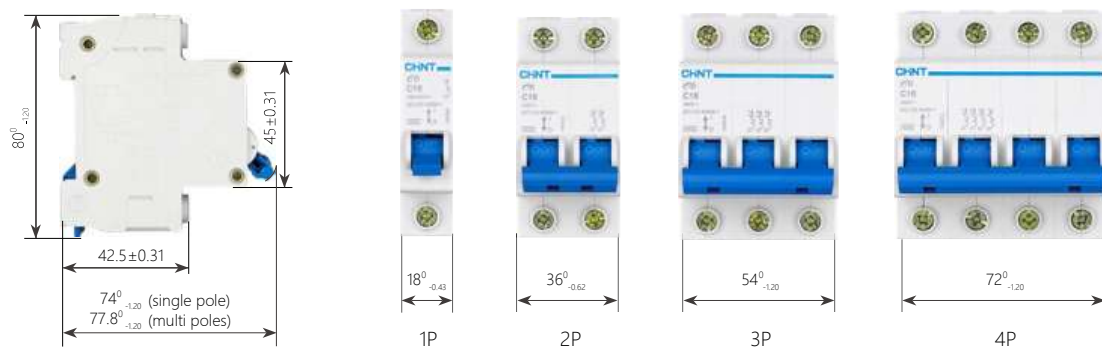
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

Rated current I_n (A)	Temperature compensation coefficient under various operational temperature								
	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	55°C	60°C
1~6	1.20	1.14	1.09	1.05	1.00	0.96	0.80	0.75	0.70
10~32	1.18	1.12	1.08	1.04	1.00	0.96	0.92	0.88	0.84
40~60	1.16	1.12	1.07	1.03	1.00	0.97	0.87	0.83	0.80

3. Overall and mounting dimensions (mm)



NB1-63G Miniature Circuit Breaker





NB1-63G Miniature Circuit Breaker

1. General

1.1 Function

protection of circuits against short-circuit currents,
protection of circuits against overload currents,
switch, isolation.

NB1-63G circuit-breakers are used in domestic installation,
as well as in commercial and industry electrical
distribution systems.

1.2 Selection

Technical data of the network at the point considered:
short-circuit current at the circuit-breaker installation point,
which must always be less than the breaking capacity of
this device, network normal voltage.

Tripping curves:

B curve (3-5I_n)

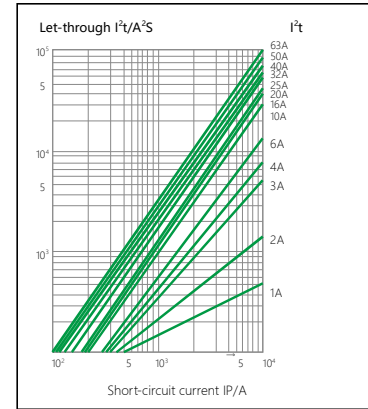
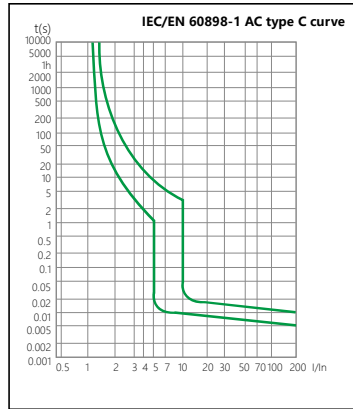
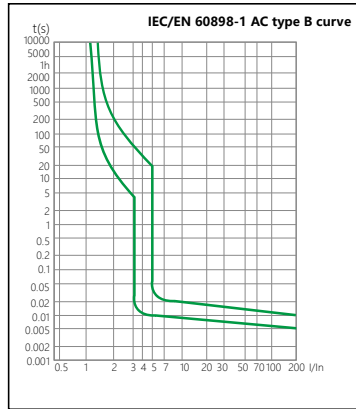
protection for people and big length cables in TN and IT
systems.

C curve (5-10I_n)

protection for resistive and inductive loads with low inrush
current.

2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 60898-1
Electrical features	Rated current I_n	A	6, 10, 13, 16, 20, 25, 32, 40, 50, 63
	Poles		1P, 2P, 3P, 4P
	Rated voltage U_e	V	230/400
	Insulation voltage U_i	V	500
	Rated frequency		50/60Hz
	Rated breaking capacity	A	6000
	Energy limiting class		3
	Rated impulse withstand voltage(1.2/50) U_{imp}	V	4000
	Dielectric test voltage at ind. Freq. for 1 min	KV	2
	Pollution degree		2
Mechanical features	Power loss per pole		Rated current (A)
			Max power loss per pole (W)
			6, 10
			2.5
			16, 20, 25, 32
			5
			40, 50, 63
			10
	Thermo-magnetic release characteristic		B, C
Mechanical features	Electrical life		4, 000
	Mechanical life		20, 000
	Contact position indicator		Yes
	Protection degree		IP20
	Reference temperature for setting of thermal element	°C	30
	Ambient temperature (with daily average $\leq 35^\circ\text{C}$)	°C	-35 ~ + 70
	Storage temperation	°C	-35 ~ + 70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top/bottom for cable	mm²	25
		AWG	18-4
	Terminal size top/bottom for busbar	mm²	10
		AWG	18-8
	Tightening torque	N·m	2.0
	Mounting	In-lbs.	22
Combination with accessories	Connection		On DIN rail EN 60715 (35mm) by means of fast clip device
	Auxiliary contact		From top and bottom
	Shunt release		Yes
	Under voltage release		Yes
	Alarm contant		Yes

2.3 Selectivity

	In (A)	Power supply side: RT36-00 (fuse)								
		20	25	36	50	63	80	100	125	160
		Is (kA)								
Load side: NB1-63G	6	0.5	0.8	1.9	2.5	4.5	5	6	6	6
	10		0.7	1.4	2.2	3.2	3.6	6	6	6
	16			1.2	1.8	2.6	3	5.6	6	6
	20				1.5	2.2	2.5	4.6	6	6
	25				1.3	2	2.2	4.1	5.5	6
	32					1.7	1.9	3.8	4.5	6
	40						1.7	3	4	5
	50						1.5	2.6	3.5	4.5
	63							2.4	3.3	4.5

	In (A)	Power supply side: NM8-100S/H/R								
		16	20	25	32	40	50	63	80	100
		Is (kA)								
Load side: NB1-63G	≤ 10	0.19	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8
	16			0.3	0.4	0.5	0.5	0.5	0.63	0.8
	20					0.5	0.5	0.5	0.63	0.8
	25						0.5	0.5	0.63	0.8
	32							0.5	0.63	0.8
	40								0.63	0.8
	50									0.8
	63									

2.4 Backup protection

	In (A)	Power supply side: RT16 series						
		40	50	63	80	100	125	160
		Is (kA)						
Load side: NB1-63G	6	40	40	40	40	40	40	40
	10	40	40	40	40	40	40	40
	13	40	40	40	40	35	35	35
	16	40	40	40	40	30	30	30
	20	40	40	40	40	30	30	30
	25	40	40	40	40	30	30	30
	32	40	40	40	40	30	30	30
	40	40	40	40	40	30	30	30
	50	30	30	30	30	30	30	30
	63	20	20	20	20	15	15	15

	In (A)	Power supply side: NM8					
		NM8-125S	NM8-125H	NM8-125R	NM8-250S	NM8-250H	NM8-250R
		Is (kA)					
Load side: NB1-63G	6	15	18	18	15	15	15
	10~20	12	15	15	12	12	12
	32~40	12	15	15	12	12	12
	50~60	12	15	15	12	12	12

2.5 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

Ambient temperature(°C) Rated current(A)	-35	-30	-20	-10	0	10	20	30	40	50	60	70
6	7.80	7.56	7.38	7.14	6.84	6.6	6.24	6	5.76	5.64	5.28	4.98
10	13.20	12.7	12.5	12	11.5	11.1	10.6	10	9.6	9.3	8.9	8.40
16	21.12	20.48	20	19.2	18.4	17.76	16.96	16	15.36	14.88	14.24	10.92
20	26.40	25.6	25	24	23	22.2	21.2	20	15.36	18.6	17.8	16.80
25	33	32	31.25	30	28.75	27.75	26.5	25	24	23.25	22.25	21
32	42.56	41.28	40	38.72	37.12	35.52	33.92	32	30.72	29.76	28.16	26.88
40	53.20	51.2	50	48	46.4	44.8	42.4	40	38.4	37.2	35.6	33.60
50	67	65.5	63	60.5	58	56	53	50	48	46.5	44	41.50
63	83.79	81.9	80.01	76.86	73.71	70.56	66.78	63	60.48	58.9	55.44	52.29

When several simultaneously operating circuit breakers are mounted side by side in a small enclosure, the temperature rise inside the enclosure causes a reduction in current rating.

You must then assign the rating (already derated if necessary according to ambient temperature) a downrating factor of 0.8.

3. Overall and mounting dimensions (mm)





NBH8 Miniature Circuit Breaker

1. General

1.1 Function

protection of circuits against short-circuit currents,
protection of circuits against overload currents,
switch, isolation.

1.2 Selection

Technical data of the network at the point considered:
the earthing systems (TNS, TNC),
short-circuit current at the circuit-breaker installation point,
which must always be less than the breaking capacity of
this device, network normal voltage.

Tripping curves:

B curve (3-5I_n)

protection for people and big length cables in TN and IT
systems.

C curve (5-10I_n)

protection for resistive and inductive loads with low inrush
current.

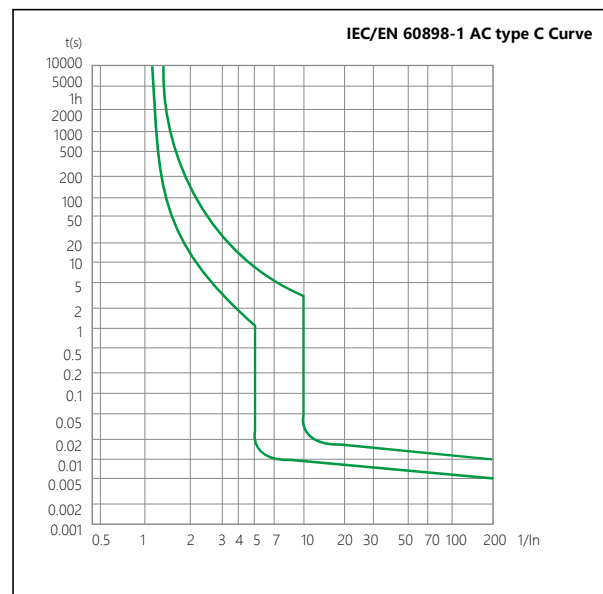
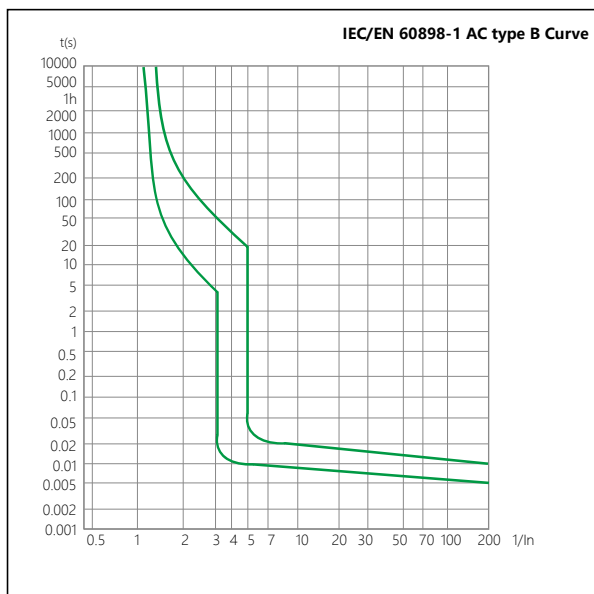
1.3 Approvals and certificates

Detailed information, please refer to Certificates Table
on the last page.



2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 60898-1
Electrical features	Rated current In	A	1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40
	Poles		1P+N
	Rated voltage Ue	V	230/240
	Insulation voltage Ui	V	500
	Rated frequency	Hz	50/60
	Rated breaking capacity	A	4500/6000
	Rated impulse withstand voltage(1.2/50) Uimp	V	4000
	Dielectric test voltage at ind. Freq. for 1 min	kV	2
	Pollution degree		2
	Energy limiting class		3
Mechanical features	Electrical life		10, 000
	Mechanical life		20, 000
	Contact position indicator		Yes
	Protection degree		IP20
	Reference temperature for setting of thermal element	°C	30
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Installation	Terminal connection type		Cable/Pin-type busbar
	Terminal size top/bottom for cable	mm ²	16
		AWG	18-5
	Terminal size top/bottom for busbar	mm ²	10
		AWG	18-8
	Tightening torque	N-m	2
		In-lbs.	18
Combination with accessories	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top and bottom
	Auxiliary contact		Yes
	Shunt release		Yes
	Under voltage release		Yes
	Alarm contact		Yes

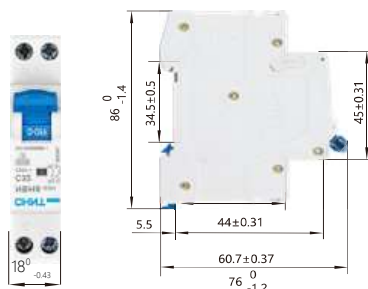
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

In/Rated current(A)	Current correction value under different ambient temperature										
	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
1	1.28	12.5	1.19	1.13	1.08	1.03	1	0.97	0.91	0.86	0.8
2	2.56	2.5	2.38	2.26	2.16	2.06	2	1.94	1.82	1.72	1.6
3	3.84	3.75	3.57	3.39	3.24	3.09	3	2.97	2.73	2.58	2.4
4	5.12	5	4.76	4.52	4.32	4.12	4	3.88	3.64	3.44	3.2
6	7.68	7.5	7.14	6.78	6.48	6.18	6	5.82	5.46	5.16	4.8
10	12.8	12.5	11.9	11.3	10.8	10.3	10	9.7	9.1	8.6	8
16	20.5	20	19.0	18.1	17.3	16.5	16	15.5	14.6	13.8	12.8
20	25.6	25	23.8	22.6	21.6	20.6	20	19.4	18.2	17.2	16
25	32	31.3	29.8	28.3	27	25.8	25	24.3	22.8	21.5	20
32	39.1	38.3	36.8	35.3	34	32.8	32	31.3	30	28.7	27.2
40	47.8	46.8	45.2	43.6	42.2	40.8	40	39.3	38	36.7	35.2

3. Overall and mounting dimensions (mm)



Note



Handwriting practice lines consisting of horizontal dashed lines.



DZ158 Moulded Case Circuit Breaker

1. General

1.1 Function

protection of circuits against short-circuit currents,
protection of circuits against overload currents,
switch, isolation.

1.2 Selection

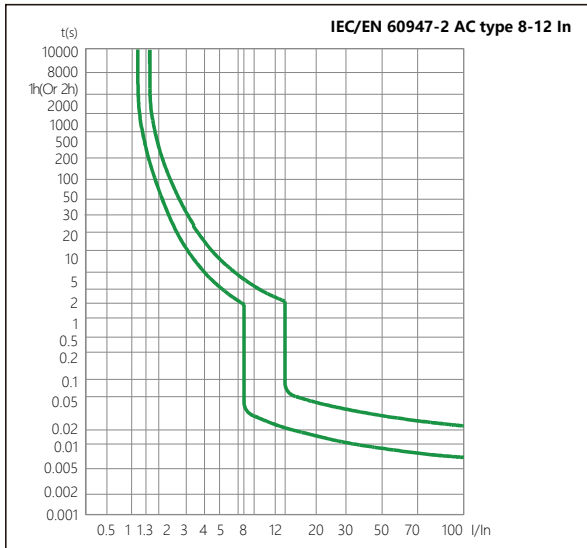
Technical data of the network at the point considered:
the earthing systems (TNS, TNC),
short-circuit current at the circuit-breaker installation point,
which must always be less than the breaking capacity of
this device, network normal voltage.

1.3 Approvals and certificates

Detailed information, please refer to Certificates Table
on the last page.

2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 60947-2
Electrical features	Rated current In	A	63, 80, 100, 125
	Poles		1P, 2P, 3P, 4P
	Rated voltage Ue	V	230/400~240/415
	Insulation voltage Ui	V	500
	Rated frequency	Hz	50/60
	Rated breaking capacity	kA	6/10
	Rated impulse withstand voltage(1.2/50) Uimp	kV	4
	Dielectric test voltage at ind. Freq. for 1 min	kV	1.89
	Pollution degree		3
Mechanical features	Thermo-magnetic release characteristic		8-12In
	Electrical life		1,500 (In=63A, 80A, 100A) 1,000 (In=125A)
	Mechanical life		8,500 (In=63A, 80A, 100A) 7,000 (In=125A)
	Contact position indicator		Yes
	Protection degree		IP20
	Reference temperature for setting of thermal element	°C	30
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
Installation	Storage temperature	°C	-25...+70
	Terminal connection type		Cable
	Terminal size top/bottom for cable	mm²	16~50
		AWG	6-0
	Tightening torque		3.5
			31
Combination with accessories	Mounting	N-m	On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection	In-lbs.	From top and bottom
	Auxiliary contact		Yes

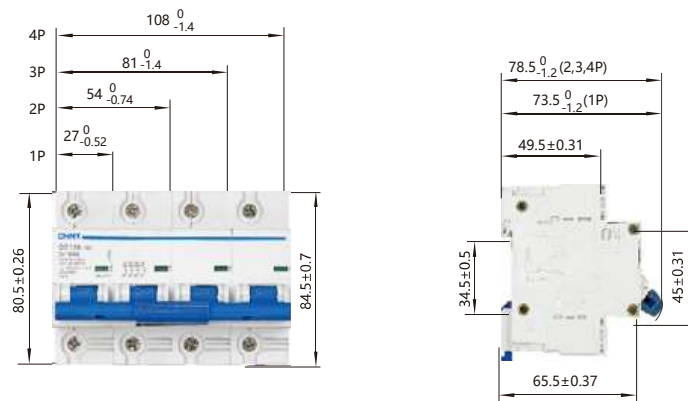
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

In/Rated current (A)	Current correction value under different ambient temperature										
	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
63	1.375	1.345	1.275	1.215	1.15	1.075	1.00	0.915	0.825	0.735	0.69
80	1.37	1.34	1.27	1.205	1.135	1.07	1.00	0.925	0.845	0.755	0.71
100	1.38	1.35	1.275	1.21	1.135	1.075	1.00	0.925	0.845	0.755	0.72
125	1.35	1.32	1.25	1.19	1.125	1.08	1.00	0.93	0.86	0.78	0.74

3. Overall and mounting dimensions (mm)





NL1 Residual Current Operated Circuit Breaker without over-current protection (Magnetic)

1. General

1.1 Function

Control electric circuits.

Protect people against indirect contacts and additional protection against direct contacts.

Protect installations against fire hazard due to insulation faults.

Residual current circuit breakers are used in housing, tertiary sector and industry.

1.2 Selection

Detectable wave form

AC class

Tripping is ensured for slowly increasing sinusoidal AC residual currents.

A class

Tripping is ensured for sinusoidal AC residual currents and for pulsed DC residual currents, whether applied suddenly or increasing slowly.

S, G/SI class

Tripping is ensured not only for sinusoidal AC residual currents but also for pulsed DC residual currents whether applied suddenly or increasing slowly. S, G/SI type with filters against spurious tripping caused by harmonics and transient surges. With the impact of 8/20us surge 3000A, this high immunity RCCB will still be in stable status.

Tripping sensitivity

10mA - precision instrument leakage protection and bathroom use.

30mA - additional protection against direct contact.

100mA - co-ordinated with the earth system according to the formula $I\Delta n < 50/R$, to provide protection against indirect contacts;

300mA/500mA - protection against indirect contacts, as well as fire hazard.

Tripping time

Instantaneous

It ensures instantaneous tripping (without time-delay).

Short time delay $[G/SI]$

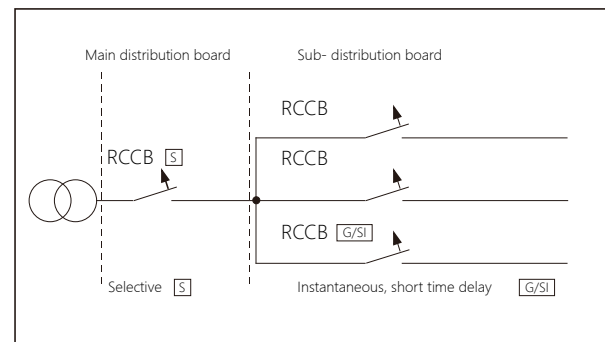
It ensures any tripping at least 10ms.

Selective $[S]$


It ensures total discrimination with a nonselective RCCB placed downstream.

1.3 Approvals and certificates

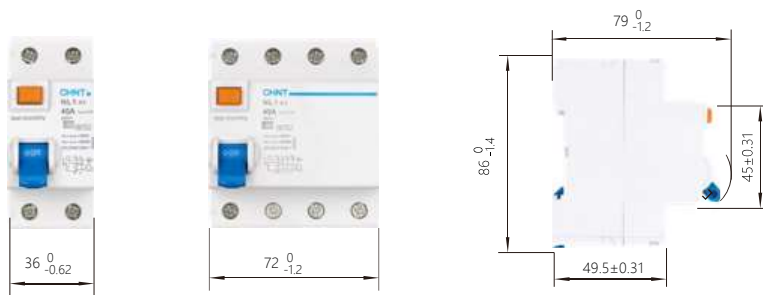
Detailed information, please refer to Certificates Table on the last page.



2. Technical data

	Standard		IEC/EN 61008-1				IEC/EN 62423 & IEC/EN 61008-1	
Electrical features	Type (wave form of the earth leakage sensed)		AC, A	AC-G,A-G,A-SI	AC,A	AC-S,A-S	F	
	Rated current I _n	A	25, 40, 63	25, 40, 63	80,100	63,80,100	25,40,63	
	Poles		1P+N, 3P+N					
	Rated voltage U _e	V	230/400~240/415					
	Rated sensitivity I _{Δn}	A	0.01for1P+N 25A, 0.03, 0.1, 0.3, 0.5	0.03, 0.1, 0.3	0.03, 0.1, 0.3	0.1, 0.3	0.03, 0.1, 0.3	
	Insulation voltage U _i	V	500					
	Rated residual making and breaking capacity I _{Δm}	A	500 (I _n =25A/40A) 630 (I _n =63A)	500 (I _n =25A/40A) 630 (I _n =63A)	1000 (I _n =80A/100A)	1000(I _n =63A/80A/100A)	500 (I _n =25A/40A) 630 (I _n =63A)	
	Short-circuit current I _{nc} =I _{Δc}	A	6000/10000					10000
	SCPD fuse	A	 10000					
	break time under I _{Δn}	s	≤ 0.1(Normal type), 10ms~300ms(G type). 150ms~500ms(S type)					
	Rated frequency	Hz	50/60					
	Rated impulse withstand voltage(1.2/50) U _{imp}	V	6000					
	Dielectric test voltage at ind. Freq. for 1 min	kV	2					
	Pollution degree		2					
Mechanical features	Electrical life		2, 000					
	Mechanical life		2, 000					
	Fault current indicator		Yes					
	Protection degree		IP20					
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40					
	Storage temperation	°C	-25...+70					
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar					
	Terminal size top/bottom for cable	mm ²	25/35					
		AWG	18-3/18-2					
	Terminal size top/bottom for busbar	mm ²	10/16					
		AWG	18-8/18-5					
	Tightening torque	N·m	2.5					
		In-lbs.	22					
Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device						
Connection		From top and bottom						

3. Overall and mounting dimensions (mm)





NL210 Residual Current Operated Circuit Breaker without over-current protection

1. General

1.1 Function

Control electric circuits.

Protect people against indirect contacts and additional protection against direct contacts.

Protect installations against fire hazard due to insulation faults.

Residual current circuit breakers are used in housing, tertiary sector and industry.

1.2 Selection

Detectable wave form

Type B

Tripping is ensured for sinusoidal AC residual currents pulsed DC residual currents, alternating residual sinusoidal currents up to 1000Hz, pulsating direct residual currents and for smooth direct residual currents, whether applied suddenly or increasing slowly.

Tripping sensitivity

30mA - additional protection against direct contact.

100mA - co-ordinated with the earth system according to the formula $I\Delta n < 50/R$, to provide protection against indirect contacts;

300mA - protection against indirect contacts, as well as fire hazard.

Tripping time

Instantaneous

It ensures instantaneous tripping (without time-delay).

1.3 Approvals and certificates


CE, KEMA, VDE

1.4 Add-on devices

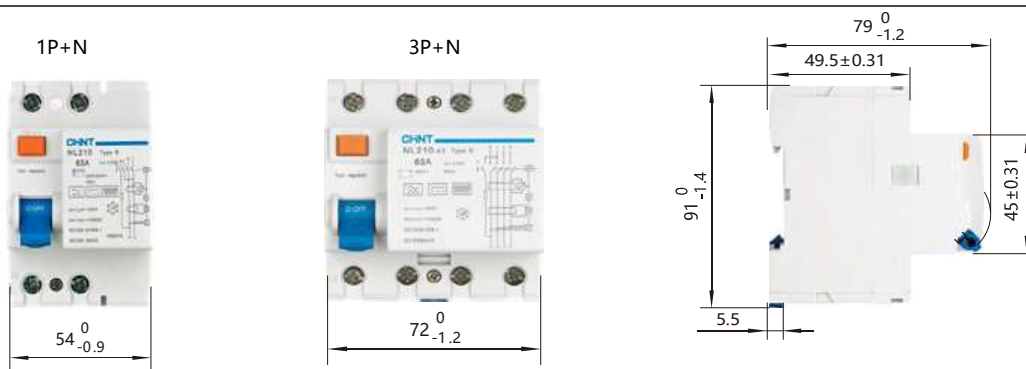
AX-5 auxiliary contacts

TC-1 terminal cover

2. Technical data

	Standard		IEC/EN 62423 & IEC/EN 61008-1
Electrical features	Type (wave form of the earth leakage sensed)		B
	Rated current I_n	A	25, 40, 63
	Poles		1P+N, 3P+N
	Rated voltage U_e	V	1P+N: 230/240 V~; 3P+N: 400/415 V~;
	Rated sensitivity $I_{\Delta n}$	A	0.03, 0.1, 0.3
	Insulation voltage U_i	V	500
	Rated residual making and breaking capacity $I_{\Delta m}$	A	500 ($I_n=25A/40A$) 630 ($I_n=63A$)
	Short-circuit current $I_{nc}=I_{\Delta c}$	A	10,000
	SCPD fuse	A	 10000
	break time under $I_{\Delta n}$	s	≤ 0.1
	Rated frequency	Hz	50
	Rated impulse withstand voltage(1.2/50) U_{imp}	V	4000
	Dielectric test voltage at ind. Freq. for 1 min	kV	2
	Pollution degree		2
Mechanical features	Electrical life		2,000
	Mechanical life		10,000
	Fault current indicator		Yes
	Protection degree		IP20
	Ambient temperature (with daily average $\leq 35^\circ\text{C}$)	$^\circ\text{C}$	-25...+40
	Storage temperature	$^\circ\text{C}$	-25...+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top/bottom for cable	mm ²	25/35
		AWG	18-3/18-2
	Terminal size top/bottom for busbar	mm ²	10/16
		AWG	18-8/18-5
	Tightening torque	N·m	2.5
		In-lbs.	22
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top and bottom

3. Overall and mounting dimensions (mm)





NB1L Residual Current Operated Circuit Breaker with over-current protection (Magnetic)

1. General

1.1 Function

Personnel and fire protection: Cable and line protection against overload and short-circuits.

1.2 Selection

Rated residual operating current

$I \Delta n \leq 30 \text{ mA}$: additional protection in the case of direct contact.

$I \Delta n \leq 300 \text{ mA}$: preventative fire protection in the case of ground fault currents.

Tripping class

AC class

Tripping is ensured for sinusoidal, alternating currents, whether they be quickly applied or slowly increase.

A class

Tripping is ensured for sinusoidal, alternating residual currents as well as for pulsed DC residual currents, whether they be quickly applied or slowly increase.

Tripping curve

B curve (3-5 I_n) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

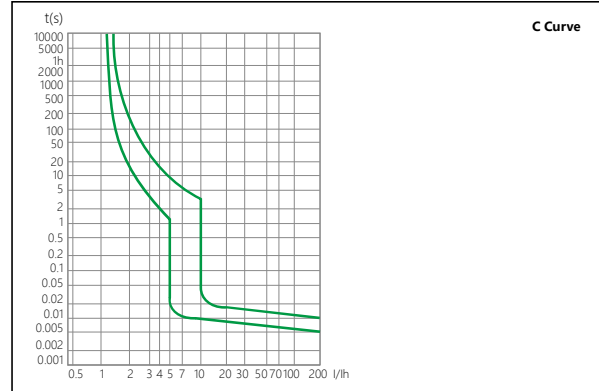
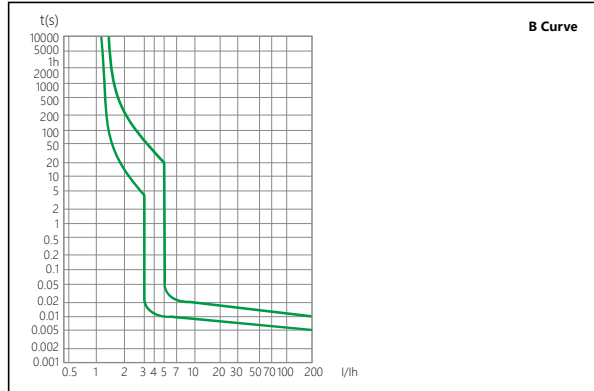
C curve (5-10 I_n) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

1.3 Approvals and certificates

Detailed information, please refer to Certificates Table on the last page.

2. Technical data

2.1 Curves



2.2

	Standard	IEC/EN 61009-1			
Electrical features	Type (wave form of the earth leakage sensed)		A	AC, A	A
	Thermo-magnetic release characteristic		B, C	B, C	B, C
	Rated current I _n	A	1, 2, 3, 4, 6, 10, 13, 16, 20, 25	2, 4, 6, 10, 13, 16, 20, 25, 32, 40	6, 10, 13, 16, 20, 25, 32, 40
	Poles		1P+N(N left)	1P+N(N right)	2P
	Rated voltage U _e	V	220/230/240~	220/230/240~	220/230/240~
	Rated sensitivity I _{Δn}	A	0.03	0.03, 0.1, 0.3	0.03
	Rated residual making and breaking capacity I _{Δm}	A	2,000	3,000	2,000
	Rated short-circuit capacity I _{cn}	A	6,000	6,000/10,000	10,000
	Break time under I _{Δn}	s	≤ 0.1		
	Rated frequency	Hz	50/60		
	Rated impulse withstand voltage (1.2/50)U _{imp}	V	6,000		
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2		
	Insulation voltage U _i	V	500		
	Pollution degree		2		
Mechanical features	Electrical life		2,000		
	Mechanical life		20,000		
	Contact position indicator		Yes		
	Protection degree		IP20		
	Ambient temperature (with daily average ≤ 35°C)	°C	-25~+40		
	Storage temperature	°C	-25~+70		
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar		
	Terminal size top/bottom for cable	mm ²	25		
		AWG	18-3		
	Terminal size top/bottom for busbar	mm ²	10		
		AWG	18-8		
	Tightening torque	N·m	2		
		In-lbs.	18		
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device		
	Connection		From top and bottom		



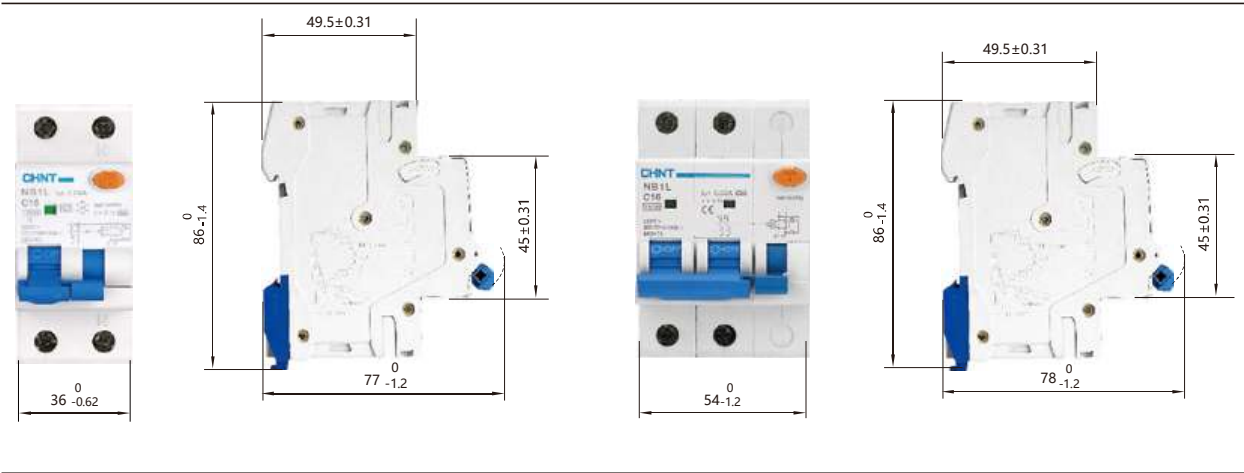
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.
The reference temperature is 30°C

Temperature	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Temperature compensation coefficient of rated current	1.28	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.80

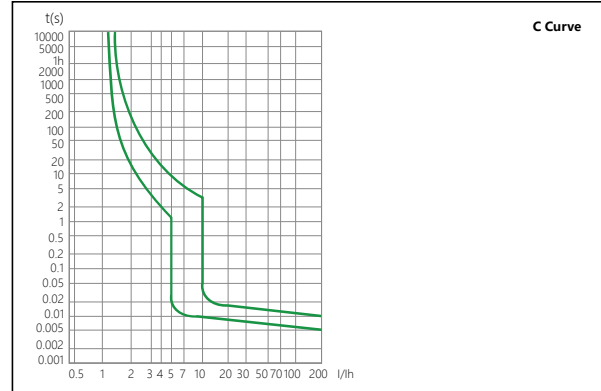
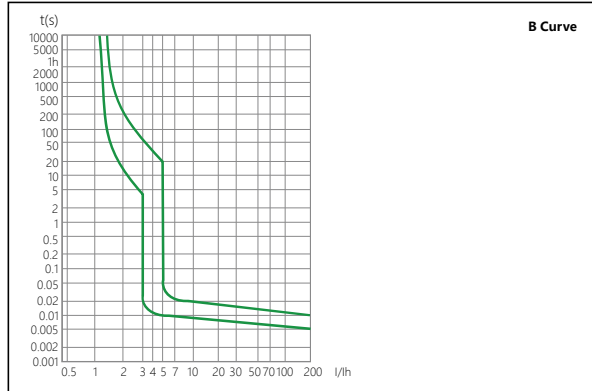
3. Overall and mounting dimensions (mm)

Combined



2. Technical data

2.1 Curves



2.2

	Standard	IEC/EN 61009-1
Electrical features	Type (wave form of the earth leakage sensed)	AC, A for NB1L-40 AC for NB1L-63
	Thermo-magnetic release characteristic	B, C
	Rated current I_n	NB1L-40 1, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40 NB1L-63 50, 63
	Poles	NB1L-40/NB1L-63 1P+N, 2P, 3P, 3P+N, 4P
	Rated voltage U_e	V 230/400~240/415
	Rated sensitivity $I_{\Delta n}$	A 0.03, 0.1, 0.3
	Rated residual making and breaking capacity $I_{\Delta m}$	A 500 ($I_n \leq 40A$) 630 ($I_n > 40A$)
	Rated short-circuit capacity I_{cn}	A 6,000/10,000
	Break time under $I_{\Delta n}$	s ≤ 0.1
	Rated frequency	Hz 50/60
	Rated impulse withstand voltage $(1.2/50)U_{imp}$	V 6,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV 2
	Insulation voltage U_i	500
	Pollution degree	2
Mechanical features	Electrical life	2,000
	Mechanical life	20,000
	Contact position indicator	Yes
	Protection degree	IP20
	Ambient temperature (with daily average $\leq 35^\circ C$)	$^\circ C$ -5...+40
	Storage temperature	$^\circ C$ -25...+70
Installation	Terminal connection type	Cable/U-type busbar/Pin-type busbar
	Terminal size top/bottom for cable	mm ² 25 AWG 18-3
	Terminal size top/bottom for busbar	mm ² 10 AWG 18-8
	Tightening torque	N-m 2 In-lbs. 18
	Mounting	On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection	From top and bottom (for combined type)
		From top (MCB+add-on RCCB block)



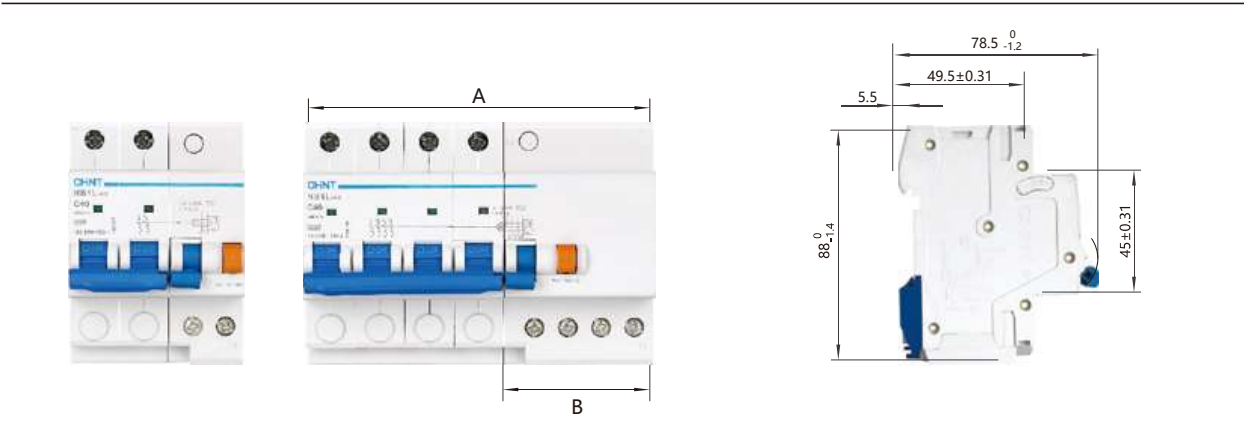
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.
The reference temperature is 30°C

Temperature	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C
Temperature compensation coefficient of rated current	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85

3. Overall and mounting dimensions (mm)

MCB+add-on RCCB block



Number of poles	Overall dimensions A (mm)	
	1~40A	50~63A
1P+N	45 ⁰ _{-0.62}	54 ⁰ _{-0.74}
2P	63 ⁰ _{-0.74}	72 ⁰ _{-0.74}
3P	108 ⁰ _{-1.4}	117 ⁰ _{-1.4}
3P+N	108 ⁰ _{-1.4}	117 ⁰ _{-1.4}
4P	126 ⁰ _{-1.6}	135 ⁰ _{-1.6}
B(mm)		
1P+N	27 ⁰ _{-0.52}	36 ⁰ _{-0.62}
2P	27 ⁰ _{-0.52}	36 ⁰ _{-0.62}
3P	54 ⁰ _{-1.20}	63 ⁰ _{-1.2}
3P+N	54 ⁰ _{-1.20}	63 ⁰ _{-1.2}
4P	54 ⁰ _{-1.20}	63 ⁰ _{-1.2}



NB3LE Residual Current Operated Circuit Breaker with Over-current Protection (Electronic)

1. General

1.1 Selection

Rated residual operating current

$I_{\Delta n} = 30 \text{ mA}$: additional protection in the case of direct contact.

Tripping class

AC class – Tripping is ensured for sinusoidal, alternating currents, whether they be quickly applied or slowly increase.

Tripping curve

B curve (3-5 I_n) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

C curve (5-10 I_n) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

1.2 Approvals and certificates

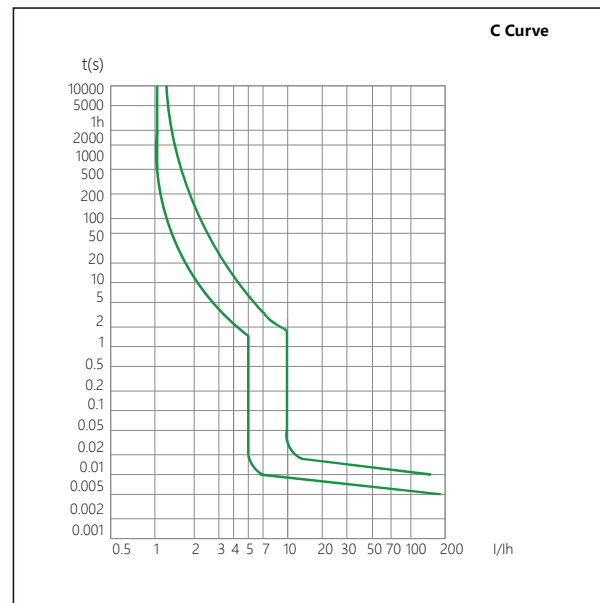
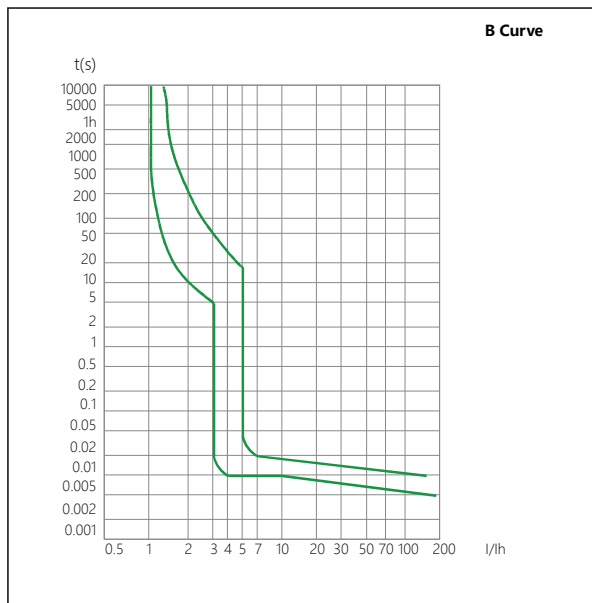
Detailed information, please refer to Certificates Table on the last page.



SAA

2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 61009-1
Electrical features	Type (wave form of the earth leakage sensed)		AC,A
	Thermo-magnetic release characteristic		B, C
	Rated current I _n	A	6, 10, 16, 20, 25, 32
	Poles		1P+N
	Rated voltage U _e	V	240
	Rated sensitivity I _{Δn}	A	0.03
	Rated residual making and breaking capacity I _{Δm}	A	2000
	Rated short-circuit capacity I _{cn}	A	6,000
	Break time under I _{Δn}	s	≤ 0.1
	Rated frequency	Hz	50/60
	Rated impulse withstand voltage (1.2/50)U _{imp}	V	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage U _i		500
	Pollution degree		2
Mechanical features	Electrical life		2,000
	Mechanical life		2,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top/bottom for cable	mm ²	16
		AWG	18-5
	Terminal size top/bottom for busbar	mm ²	10
		AWG	18-8
	Tightening torque	N·m	2
		In-lbs.	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top

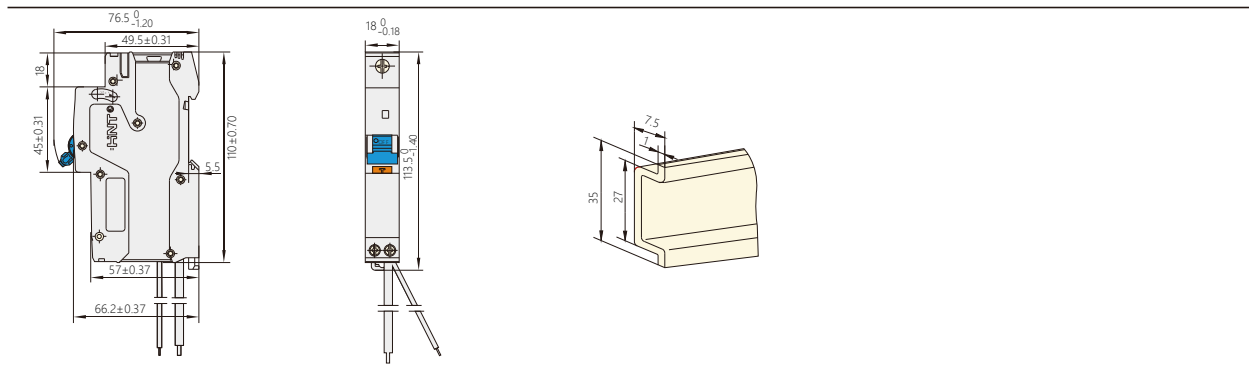
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C Ambient temperature: -5°C ~ +40°C.

Temperature	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Temperature compensation coefficient of rated current	1.27	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.83

3. Overall and mounting dimensions (mm)





NB3LEG-40 Residual Current Operated Circuit Breaker with Over-current Protection (Electronic)

1. General

1.1 Selection

Rated residual operating current

$I_{\Delta n} \leq 30 \text{ mA}$: additional protection in the case of direct contact.

Tripping class

AC class – Tripping is ensured for sinusoidal, alternating currents, whether they be quickly applied or slowly increase.

A class

Tripping is ensured for sinusoidal, alternating residual currents as well as for pulsed DC residual currents, whether they be quickly applied or slowly increase.

Tripping curve

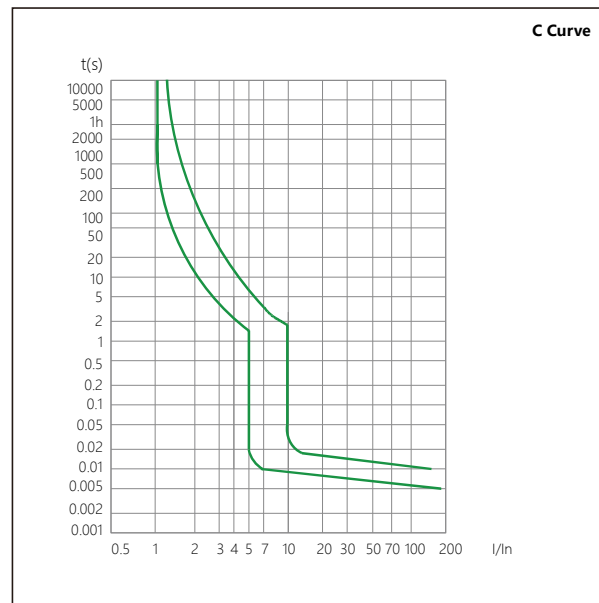
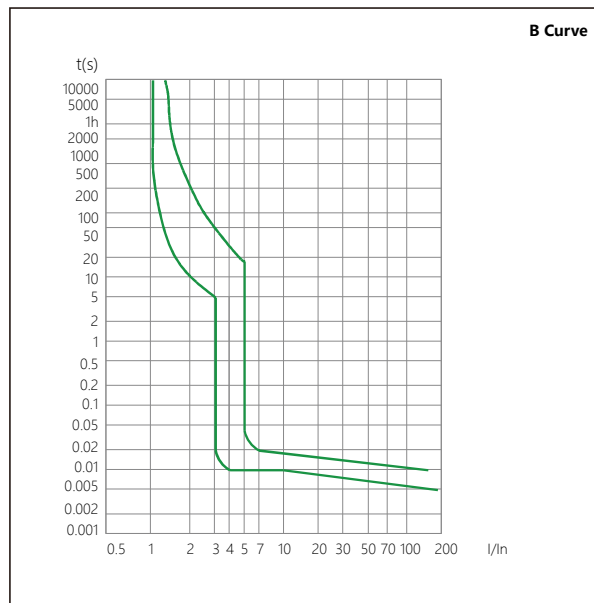
B curve (3-5 I_n) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

C curve (5-10 I_n) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.



2. Technical data

2.1 Curves



2.2

	Standard		BS EN61009-1
Electrical features	Type (wave form of the earth leakage sensed)		AC,A
	Thermo-magnetic release characteristic		B, C
	Rated current I _n	A	6, 10, 13,16, 20, 25, 32, 40
	Poles		1P+N
	Rated voltage U _e	V	240V AC
	Rated sensitivity I _{Δn}	A	0.03
	Rated residual making and breaking capacity I _{Δm}	A	3000
	Rated short-circuit capacity I _{cn}	A	6,000
	Break time under I _{Δn}	s	≤ 0.1
	Rated frequency	Hz	50
	Rated impulse withstand voltage (1.2/50)U _{imp}	V	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage U _i		500
	Pollution degree		2
Mechanical features	Electrical life		2,000
	Mechanical life		2,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top/bottom for cable	mm ²	16
		AWG	18-5
	Terminal size top/bottom for busbar	mm ²	10
		AWG	18-8
	Tightening torque	N·m	2
		In-lbs.	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From bottom

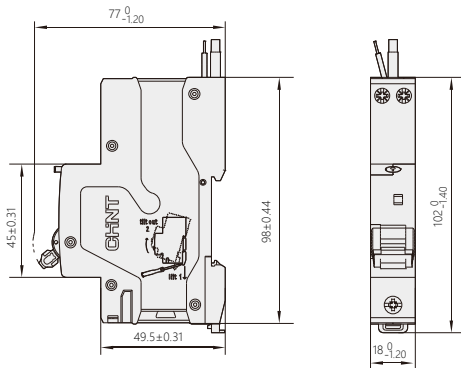
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C Ambient temperature: -5°C ~ +40°C .

Temperature	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Temperature compensation coefficient of rated current	1.27	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.83

3. Overall and mounting dimensions (mm)





NB3LEU Residual Current Operated Circuit Breaker with Over-current Protection (Electronic)

1. General

1.1 Selection

Rated residual operating current

$I_{\Delta n} = 30 \text{ mA}$:

additional protection in the case of direct contact.

Tripping class

AC class – Tripping is ensured for sinusoidal, alternating currents, whether they be quickly applied or slowly increase.

Tripping curve

B curve (3-5 I_n) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

C curve (5-10 I_n) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

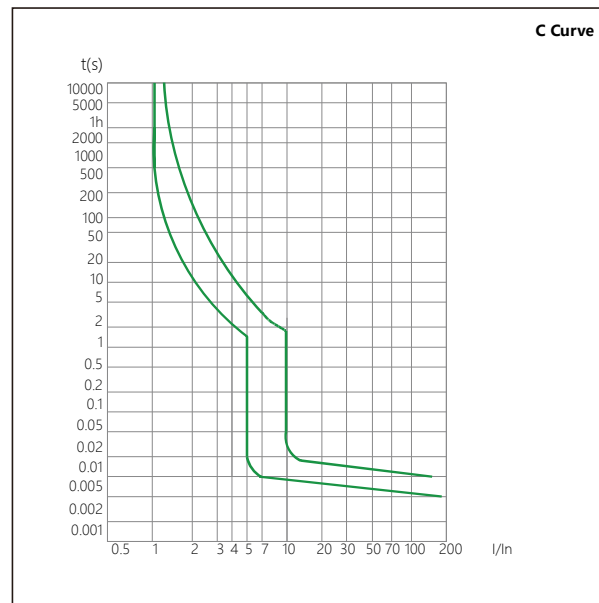
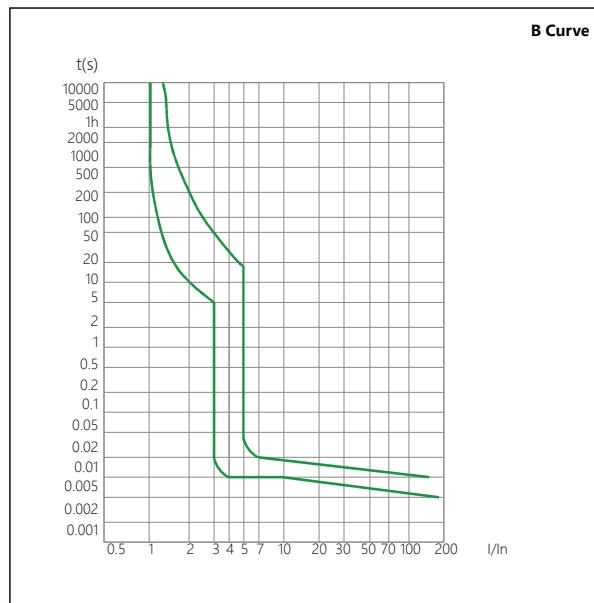
1.2 Approvals and certificates

Detailed information, please refer to Certificates Table on the last page.



2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 61009-1
Electrical features	Type (wave form of the earth leakage sensed)		AC,A
	Thermo-magnetic release characteristic		B, C
	Rated current I _n	A	6, 10, 13, 16, 20, 25, 32, 40, 45, 50
	Poles		1P+N
	Rated voltage U _e	V	240
	Rated sensitivity I _{Δn}	A	0.03
	Rated residual making and breaking capacity I _{Δm}	A	500
	Rated short-circuit capacity I _{cn}	A	10,000
	Break time under I _{Δn}	S	≤ 0.1
	Rated frequency	Hz	50/60
	Rated impulse withstand voltage (1.2/50)U _{imp}	V	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage U _i		500
	Pollution degree		2
Mechanical features	Electrical life		2,000
	Mechanical life		2,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top/bottom for cable	mm ²	16
		AWG	18-5
	Terminal size top/bottom for busbar	mm ²	10
		AWG	18-8
	Tightening torque	N·m	2
		In-lbs.	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From bottom

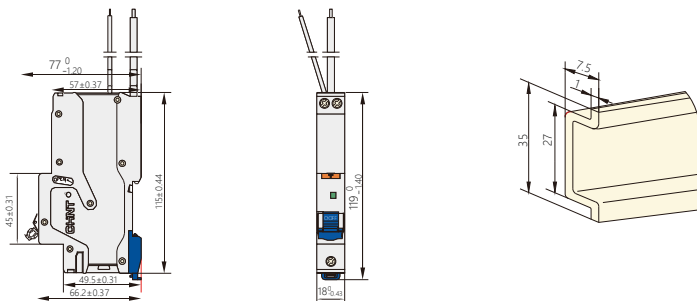
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

Temperature	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Temperature compensation coefficient of rated current	1.27	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.83

3. Overall and mounting dimensions (mm)





NBH8LE Residual Current Operated Circuit Breaker with over-current protection (Electronic)

1. General

1.1 Function

Personnel and fire protection
Cable and line protection against overload
and short-circuits.

1.2 Selection

$I \Delta n = 10mA, 30mA$: additional protection
in the case of direct contact.

C curve (5-10 I_n) protection and control of the circuits
against overloads and short-circuits; protection for
resistive and inductive loads with low inrush current.

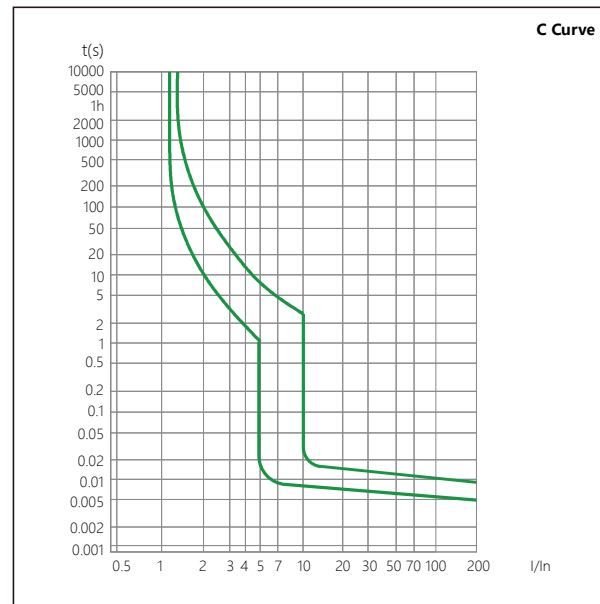
AC class – Tripping is ensured for sinusoidal,
alternating currents, whether they be quickly applied
or slowly increase.

1.3 Approvals and certificates

Detailed information, please refer to Certificates Table
on the last page.

2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 61009-1
Electrical features	Type (wave form of the earth leakage sensed)		AC
	Thermo-magnetic release characteristic		C
	Rated current I _n	A	1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40
	Poles		1P+N
	Rated voltage U _e	V	230/240
	Rated sensitivity I _{Δn}	A	0.01, 0.03
	Rated residual making and breaking capacity I _{Δm}	A	500
	Rated short-circuit capacity I _{cn}	A	4500/6000
	Break time under I _{Δn}	S	≤ 0.1
	Rated frequency	Hz	50/60
	Rated impulse withstand voltage (1.2/50)U _{imp}	V	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage U _i	V	500
Mechanical features	Pollution degree		2
	Electrical life		4,000
	Mechanical life		20,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
Installation	Storage temperature	°C	-25...+70
	Terminal connection type		Cable/Pin-type busbar
	Terminal size top/bottom for cable	mm ²	16
		AWG	18-5
	Terminal size top/bottom for busbar	mm ²	10
		AWG	18-8
	Tightening torque	N-m	2
		In-lbs.	11
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		From top

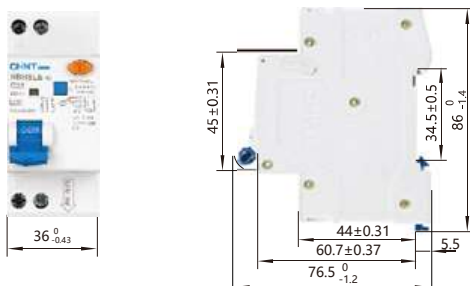
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

In/Rated current (A)	Current correction value under different ambient temperature										
	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
1	1.28	12.5	1.19	1.13	1.08	1.03	1	0.97	0.91	0.86	0.8
2	2.56	2.5	2.38	2.26	2.16	2.06	2	1.94	1.82	1.72	1.6
3	3.84	3.75	3.57	3.39	3.24	3.09	3	2.97	2.73	2.58	2.4
4	5.12	5	4.76	4.52	4.32	4.12	4	3.88	3.64	3.44	3.2
6	7.68	7.5	7.14	6.78	6.48	6.18	6	5.82	5.46	5.16	4.8
10	12.8	12.5	11.9	11.3	10.8	10.3	10	9.7	9.1	8.6	8
16	20.5	20	19.0	18.1	17.3	16.5	16	15.5	14.6	13.8	12.8
20	25.6	25	23.8	22.6	21.6	20.6	20	19.4	18.2	17.2	16
25	32	31.3	29.8	28.3	27	25.8	25	24.3	22.8	21.5	20
32	39.1	38.3	36.8	35.3	34	32.8	32	31.3	30	28.7	27.2
40	47.8	46.8	45.2	43.6	42.2	40.8	40	39.3	38	36.7	35.2

3. Overall and mounting dimensions (mm)





DZ158LE

Circuit-Break Incorporating Residual Current Protection

1. General

1.1 Function

Personnel and fire protection

Cable and line protection against overload and short-circuits.

1.2 Selection

I $\Delta n \leq 30$ mA: additional protection in the case of direct contact.

$I \Delta n \leq 300 \text{ mA}$: preventative fire protection in the case of ground fault currents.

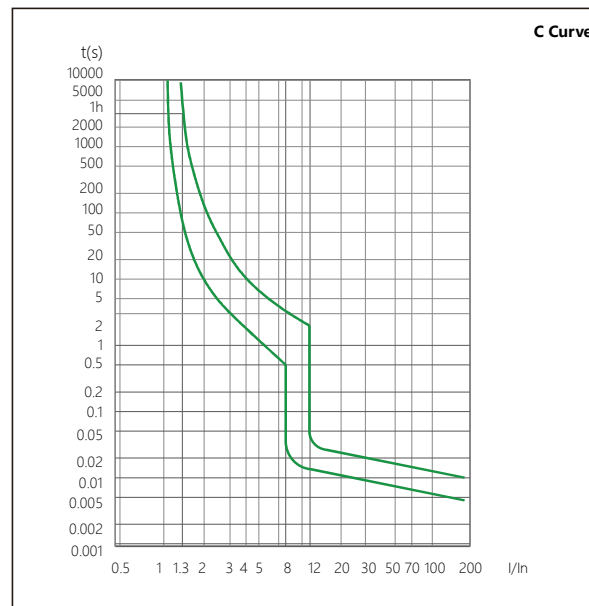
AC class – Tripping is ensured for sinusoidal, alternating currents, whether they be quickly applied or slowly increase.

1.3 Approvals and certificates

Detailed information, please refer to Certificates Table on the last page.

2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 60947-2
Electrical features	Type (wave form of the earth leakage sensed)		AC
	Thermo-magnetic release characteristic		8-12I _n
	Rated current I _n	A	63, 80, 100
	Poles		1P+N, 2P, 3P, 3P+N, 4P
	Rated voltage U _e	V	230/400
	Rated sensitivity I _{Δn}	A	0.03, 0.1, 0.3
	Rated residual making and breaking capacity I _{Δm}	A	2,000
	Rated short-circuit capacity I _{cn}	kA	6
	Break time under I _{Δn}	S	≤ 0.1
	Rated frequency	Hz	50
	Rated impulse withstand voltage (1.2/50)U _{imp}	kV	4
	Dielectric TEST voltage at ind. Freq. for 1min	kV	1.89
	Insulation voltage U _i	V	500
Mechanical features	Pollution degree		3
	Electrical life		1,500
	Mechanical life		8,500
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
Installation	Storage temperature	°C	-25...+70
	Terminal connection type		Cable
			16~35
	Tightening torque	N·m In-lbs.	3.5 31
	Mounting Connection		On DIN rail EN 60715 (35mm) by means of fast clip device From top

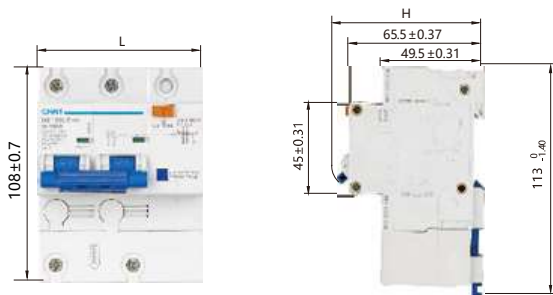
Rated current In (A)	Temperature compensation coefficient under various operational temperature										
	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
63	1.375	1.345	1.275	1.215	1.15	1.075	1.00	0.915	0.825	0.735	0.69
80	1.37	1.34	1.27	1.205	1.135	1.27	1.00	0.925	0.845	0.755	0.71
100	1.38	1.35	1.275	1.21	1.135	1.075	1.00	0.925	0.845	0.755	0.72

2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

3. Overall and mounting dimensions (mm)



Number of poles	1P+N	2P	3P	3P+N	4P
L (mm)	54 ⁰ _{-0.74}	81 ⁰ _{-0.87}	108 ⁰ _{-1.40}	108 ⁰ _{-1.40}	135 ⁰ _{-1.60}
H (mm)	73.5 ⁰ _{-1.2}	78.5 ⁰ _{-1.2}	78.5 ⁰ _{-1.2}	78.5 ⁰ _{-1.2}	78.5 ⁰ _{-1.2}



NB2LE Residual Current Operated Circuit Breaker

1. General

The NB2LE residual current operated circuit breakers are suitable for lines with AC 50/60Hz, rated voltage 240V, rated current up to 40A and for purposes of residual current protection, overload and short circuit protection. When any personal electric shock occurs or the circuit leakage current exceeds the predetermined value, the residual current operated circuit breaker can automatically cut off the power supply in a very short period of time, so that the safety of persons and electrical equipment can be protected. The residual current operated circuit breaker can be used for infrequent conversion of lines under normal conditions, and applied under occasions such as industrial, and commercial, high-rise buildings and residential houses.

2. Type designation

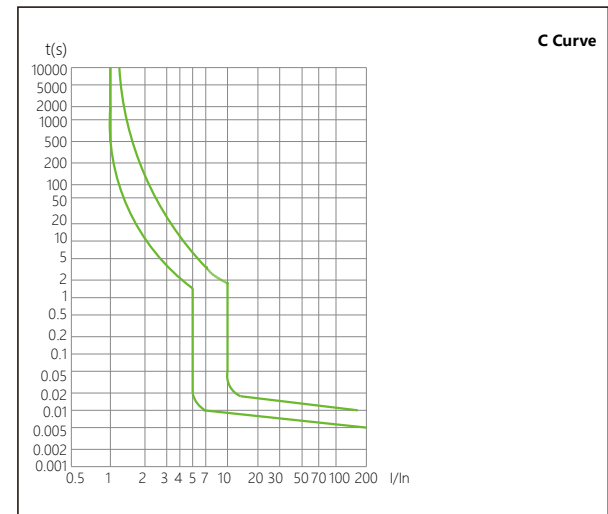
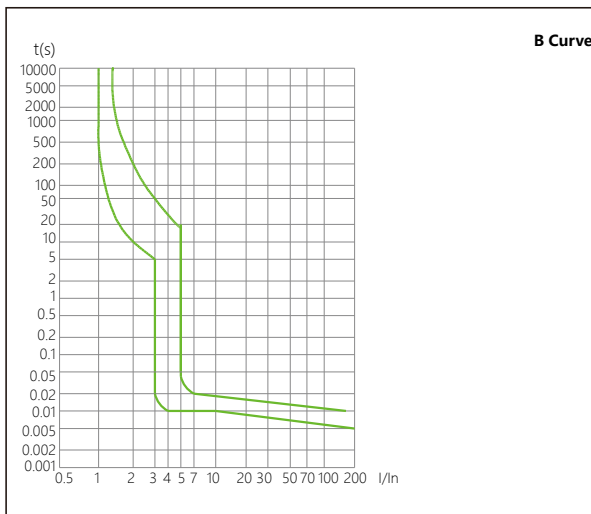
N B 2 LE / □-□

- Rated residual operating current
- Instantaneous trip type and rated current (A)
- Function Code (electronic residual current)
- Design sequence No.
- Miniature Circuit Breaker
- Company Code



3. Technical data

3.1 The tripping characteristic curves are as shown in Fig. 1.



3.2

	Standard		IEC/EN 61009-1
Main Specifications	Rated current I_n	A	6, 10, 16, 20, 25, 32, 40
	Classified by Type of Instantaneous Tripping		Type B: (3 ~ 5) I_n , Type C: (5 ~ 10) I_n
	Poles		1P + N
	Type(wave form of the earth leakage sensed)		Type AC, Type A
Technical Parameters	Rated voltage U_e	V	AC230/240
	Frame size rated current I_{nm}	A	40
	Rated residual operating current $I_{\Delta n}$	A	0.03, 0.1, 0.3
	Rated residual non-operating current $I_{\Delta n0}$	A	0.015
	Rated short-circuit breaking capacity I_{cn}	A	6000
	Rated residual making and breaking capacity $I_{\Delta m}$	A	3000
	Electrical life		2,000
	Mechanical life		2,000
	Rated impulse withstand voltage U_{imp}	V	6,000
	Connection		From top and bottom

3.3 The residual current breaking times

$I_n(A)$	$I_{\Delta n}(A)$	Breaking time when the residual current assumes the following values (s)				
		$I_{\Delta n}$	$2 I_{\Delta n}$	$5 I_{\Delta n}$	5A,10A,20A,50A,100A,200A,500A*	$I_{\Delta n} t^b$
6~40	0.03	0.1	0.05	0.04	0.04	0.04

a. For tests of 5A, 10A, 20A, 50A, 100A, 200A and 500A, the current values beyond the lower limit of over-current instantaneous tripping are not tested.
b. Tests are done when $I_{\Delta n} t$ is equal to the lower limit current of over-current instantaneous tripping of type B and type C.

3.4 The over-current protection characteristics

No.	Rated current In (A)	Initial state	Test current (A)	Specified time (t)	Expected result	Remarks
a	6~40	Cold state	1.13In	t ≥ 1h	Non-tripping	Increase to the specified current within 5s after test item a.
b		Immediately after sequence a	1.45In	t < h	Tripping	
c		Cold state	2.55In	1s < t < 60s	Tripping	Type B
d		Cold state	3In	t ≥ 0.1s	Non-tripping	
			5In	t < 0.1s	Tripping	
			5In	t ≥ 0.1s	Non-tripping	Type C
		10In	t < 0.1s	Tripping		

Rated current I_n (A)	Temperature compensation coefficient under various operational temperature										
	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
6-40	1.27	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.83

4. Overall and mounting dimensions (mm)

The product shall be mounted using mounting rail of 35-7.5 section steel.
The overall and mounting dimensions are as shown in Fig. 2 and Fig. 3.

Fig. 2 Overall and installation dimensions

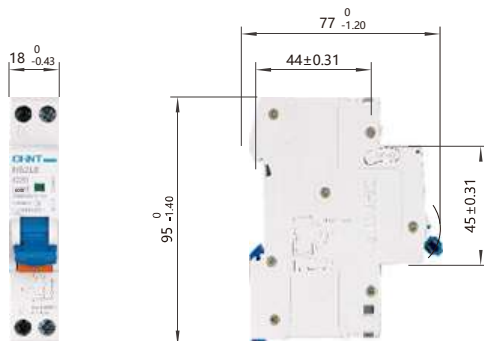
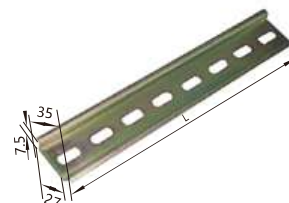


Fig. 3 Mounting rail size



5. Ordering information

5.1 When ordering, the following information must be indicated:

- a. Product type and description, such as: NB2LE residual current operated circuit breaker;
- b. Rated current, such as: 25A;
- c. Instantaneous tripping type, such as: Type C;
- d. Rated residual operating current, such as: 0.03A
- e. Operating conditions when containing DC component, such as: Type A;
- f. Ordering quantity, such as: 90 units.

5.2 Ordering examples: NB2LE residual current operated circuit breaker C25, 0.03A, A type, 90 units.



NB310L Residual Current Operated Circuit Breaker with over-current protection (Magnetic)

1. General

1.1 Function

Personnel and fire protection: Cable and line protection against overload and short-circuits.

1.2 Selection

Rated residual operating current

$I_{\Delta n} = 30\text{mA}, 300\text{mA}$: additional protection in the case of direct contact.

Tripping class

A and AC class

A class tripping is ensured for sinusoidal, alternating residual currents as well as for pulsed DC residual currents, whether they be quickly or slowly increase.

AC class tripping is ensured for sinusoidal, alternating residual currents, whether they be quickly or slowly increase.

Tripping curve

B curve (3 I_n -5 I_n) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

C curve (5 I_n -10 I_n) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

1.3 Approvals and certificates

CE/CB/KEMA

1.4 Add-on devices

XF9 auxiliary contacts

S9 shunt release

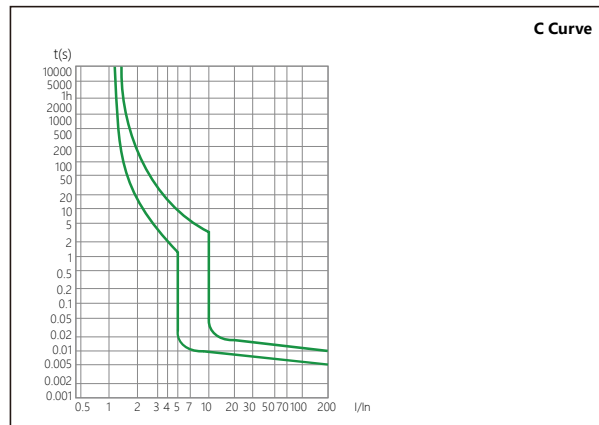
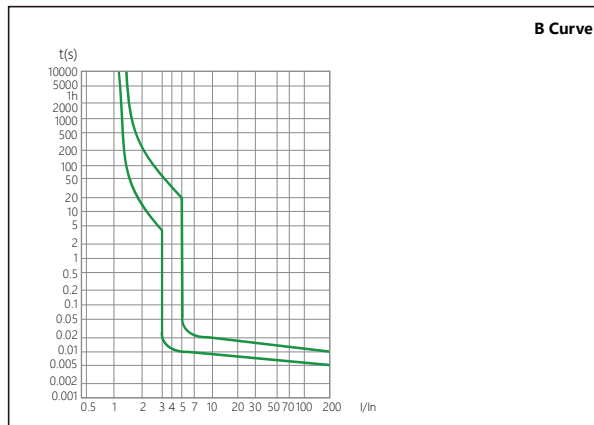
V9 under voltage release

OVT-1 over voltage release



2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 61009-1	
Electrical features	Type (wave form of the earth leakage sensed)		A	A, AC
	Thermo-magnetic release characteristic		B, C	
	Rated current I _n	A	6, 10, 13, 16, 20, 25, 32	6, 10, 13, 16, 20, 25, 32, 40
	Poles		2P	3P+N
	Rated voltage U _e	V	110/230/240	230/400
	Rated sensitivity I _{Δn}	A	0.03	0.03, 0.3
	Rated residual making and breaking capacity I _{Δm}	A	3,000	
	Rated short-circuit capacity I _{cn}	A	6,000	
	Break time under I _{Δn}	s	≤ 0.1	
	Rated frequency	Hz	50/60	
	Rated impulse withstand voltage (1.2/50)U _{imp}	V	4,000	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2	
	Insulation voltage U _i	V	500	
Mechanical features	Electrical life		2,000	
	Mechanical life		20,000	10,000
	Contact position indicator		Yes	
	Protection degree		IP20	
	Ambient temperature (with daily average ≤ 35°C)	°C	-25...+40	
	Storage temperature	°C	-25...+70	
Installation	Terminal connection type		Cable/U-type busbar/Pin-type busbar	
	Terminal size top/bottom for cable	mm ²	25	
		AWG	18-3	
	Terminal size top/bottom for busbar	mm ²	10	
		AWG	18-8	
	Tightening torque	N-m	2	
		In-lbs.	18	
Mounting			On DIN rail EN 60715 (35mm) by means of fast clip device	
	Connection		From top and bottom	

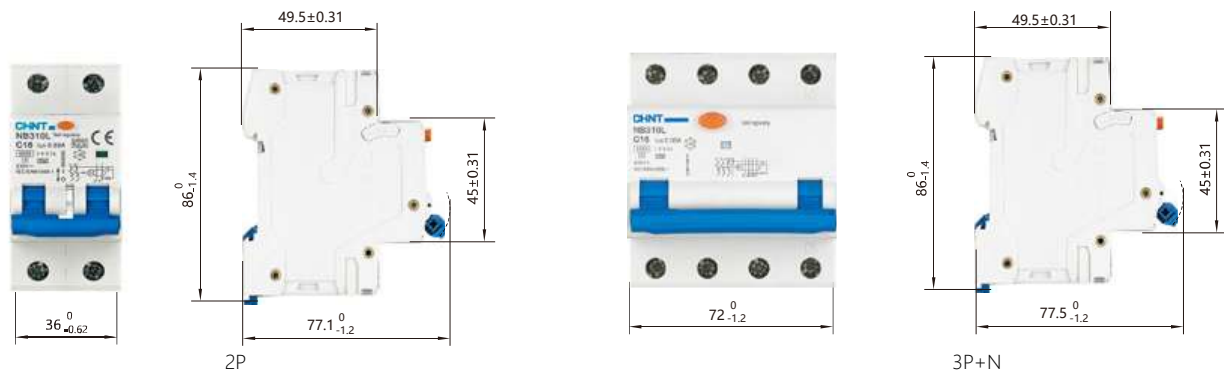
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

Temperature	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Temperature compensation coefficient of rated current	1.27	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.80

3. Overall and mounting dimensions (mm)





NB4LE Residual Current Operated Circuit Breaker (Electronic)

1. General

1.1 Function

Personnel and fire protection: Cable and line protection against overload and short-circuits.

1.2 Selection

Rated residual operating current

$I_{\Delta n} = 30\text{mA}$, additional protection in the case of direct contact.

RCD Type

Type A

RCD Type A is ensured for sinusoidal, alternating residual currents as well as for pulsed DC residual currents, whether they be quickly or slowly increase.

Tripping curve

B curve (3 I_n -5 I_n) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

C curve (5 I_n -10 I_n) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

1.3 Approvals and certificates

CE/CB

1.4 Add-on devices

XF9 auxiliary contacts

S9 shunt release

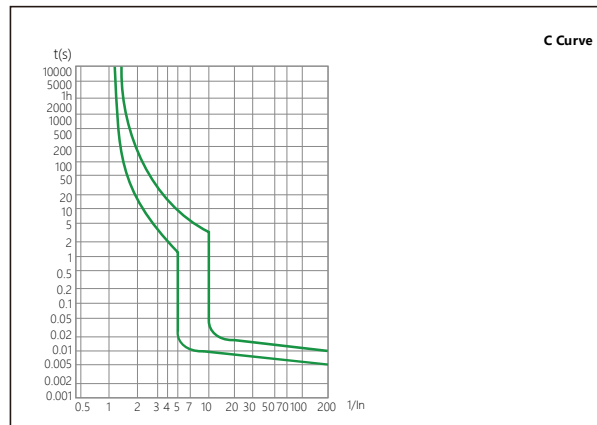
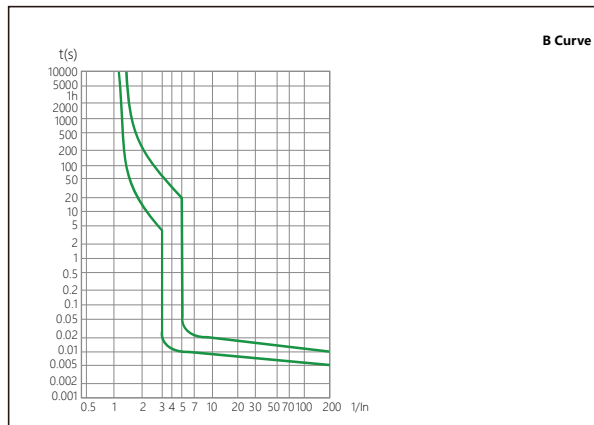
V9 under voltage release

OVT-1 over voltage release

CE CB

2. Technical data

2.1 Curves



2.2

	Standard		IEC/EN 61009-1
Electrical features	Type (wave form of the earth leakage sensed)		A
	Thermo-magnetic release characteristic		B, C
	Rated current I _n	A	6, 10, 13, 16, 20, 25, 32
	Poles		2P
	Rated voltage U _e	V	230/240
	Rated sensitivity I _{Δn}	A	0.03
	Rated residual making and breaking capacity I _{Δm}	A	3,000
	Rated short-circuit capacity I _{cn}	A	6,000
	Break time under I _{Δn}	s	≤ 0.1
	Rated frequency	Hz	50/60
	Rated impulse withstand voltage (1.2/50)U _{imp}	kV	4
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage U _i	V	500
Mechanical features	Pollution degree		2
	Electrical life		2,000
	Mechanical life		10,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-25~+40
Installation	Storage temperature	°C	-25~+70
	Terminal connection type		Cable/U-type busbar/Pin-type busbar
	Terminal size top/bottom for cable	mm ²	25
		AWG	18-3
	Terminal size top/bottom for busbar	mm ²	10
		AWG	18-8
	Tightening torque	N-m	2
		In-lbs.	18
	Mounting		On DIN rail EN 60715 (35mm) by means of fast clip device
	Connection		Bottom electrical feeding

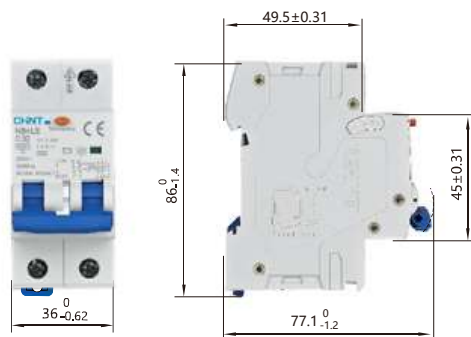
2.3 Temperature derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.

The reference temperature is 30°C

Temperature	-25°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Temperature compensation coefficient of rated current	1.27	1.25	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85	0.80

3. Overall and mounting dimensions (mm)





XF9 (Auxiliary Contact for NB1, NBH8, NB1L, NBH8LE)

1. General

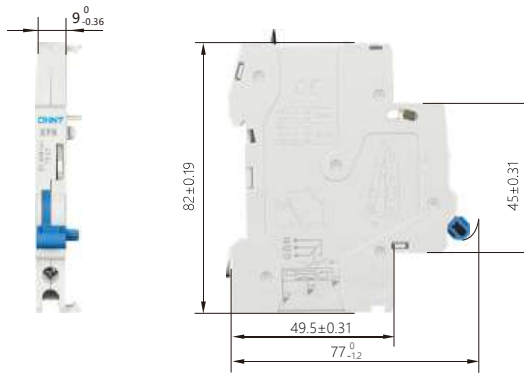
Indication of the position of the device's contacts.
To be mounted on the left side of the MCBs/RCBOs thanks to the special pin.

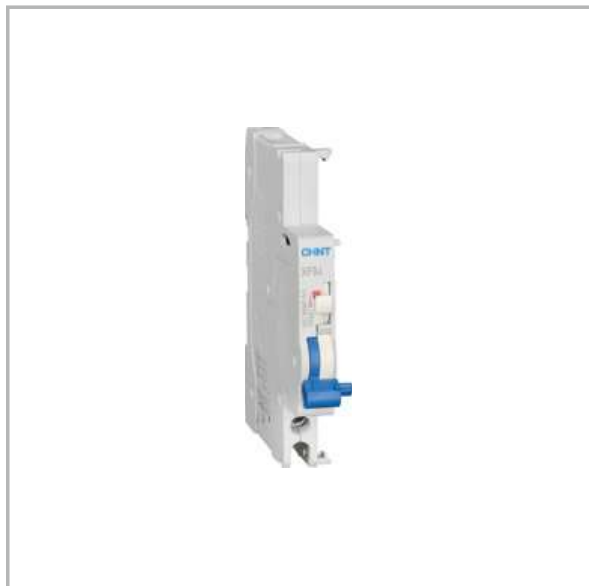


2. Technical data

Standard		IEC/EN 60947-5-1	
Electrical features	Rated value	UN (V)	In (A)
		AC415 50/60Hz	3
		AC240 50/60Hz	6
		DC130	1
		DC48	2
		DC24	6
	Configurations	1N/O+1N/C	
Mechanical features	Rated impulse withstand voltage (1.2/50)Uimp	V	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage Ui	V	500
	Pollution degree		2
	Electrical life		6,050
Installation	Mechanical life		10,000
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Terminal connection type	Terminal connection type		Cable
	Terminal size top/bottom for cable	mm ²	2.5
		AWG	18-14
	Tightening torque	N-m	0.8
		In-lbs.	7

3. Overall and mounting dimensions (mm)





XF9J (Alarm Auxiliary Contact for NB1, NBH8, NB1L, NBH8LE)

1. General

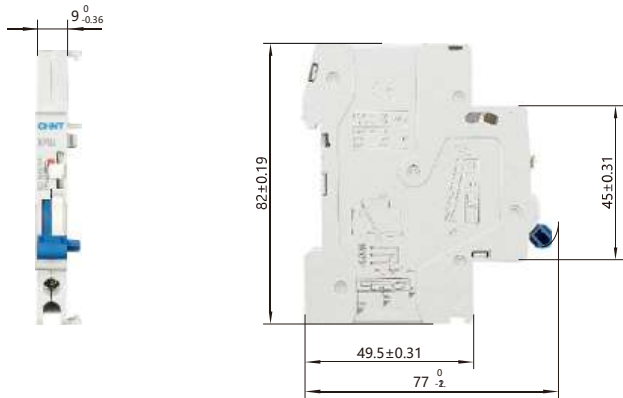
- 1.1 Indication of the position of the device's contacts only after the automatic release of the MCBs and RCBOs due to an overload or a short-circuit.
- 1.2 To be mounted on the left side of the MCBs/RCBOs thanks to the special pin.



2. Technical data

Standard			IEC/EN 60947-5-1	
Electrical features	Rated value		UN (V)	In (A)
			AC415 50/60Hz	3
			AC240 50/60Hz	6
			DC130	1
			DC48	2
			DC24	6
	Configurations		1N/O+1N/C	
Electrical features	Rated impulse withstand voltage (1.2/50)Uimp	V	4,000	
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2	
	Insulation voltage Ui	V	500	
	Pollution degree		2	
Mechanical features	Electrical life		6,050	
	Mechanical life		10,000	
	Protection degree		IP20	
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40	
	Storage temperature	°C	-25...+70	
Installation	Terminal connection type		Cable	
	Terminal size top/bottom for cable	mm ²	2.5	
		AWG	18-14	
	Tightening torque	N-m	0.8	
		In-lbs.	7	

3. Overall and mounting dimensions (mm)





S9 (Shunt Release for NB1, NBH8, NB1L, NBH8LE)

1. General

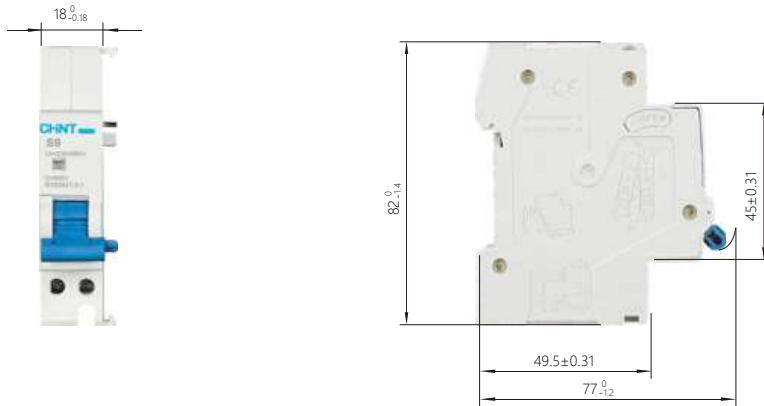
- 1.1 Remote opening of the device when a voltage is applied.
- 1.2 To be mounted on the left side of the MCBs/RCBOs thanks to the special pin.



2. Technical data

	Standard		IEC/EN 60947-5-1
Electrical features	Rated voltage U_s	V	AC230/400 50/60Hz AC/DC24 AC/DC48
	Rated impulse withstand voltage (1.2/50) U_{imp}	V	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage U_i	V	500
	Pollution degree		2
Mechanical features	Electrical life		4,000
	Mechanical life		4,000
	Protection degree		IP20
	Ambient temperature (with daily average $\leq 35^\circ\text{C}$)	$^\circ\text{C}$	-5...+40
	Storage temperature	$^\circ\text{C}$	-25...+70
Installation	Terminal connection type		Cable
	Terminal size top/bottom for cable	mm^2	2.5
		AWG	18-14
	Tightening torque	N-m	0.8
		In-lbs.	7

3. Overall and mounting dimensions (mm)

**A**



V9 (Under Voltage Release for NB1, NBH8, NB1L,NBH8LE)

1. General

- 1.1 Protection of the load in the event of a voltage drop (between 70% and 35% of its rated value)
- 1.2 Positive safety (device's tripping when the voltage is disconnected) emergency stop by means of a button.
- 1.3 To be mounted on the left side of the MCBs/RCBOs thanks to the special pin.



2. Technical data

	Standard		IEC/EN 60947-5-1
Electrical features	Rated voltage Us	V	AC230 50/60Hz
	Optional voltage of release		70-35%Ue, reliable operation
			< 35%Ue, prevent breaker from making
			85~110%Ue, reliable operation
	Rated impulse withstand voltage (1.2/50)Uimp	V	4,000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage Ui	V	500
	Pollution degree		2
Mechanical features	Electrical life		4,000
	Mechanical life		4,000
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Installation	Terminal connection type		Cable
	Terminal size top/bottom for cable	mm ²	2.5
		AWG	18-14
	Tightening torque	N·m	0.8
		In-lbs.	7

3. Overall and mounting dimensions (mm)





AX-1 (Auxiliary Contact for DZ158, DZ158LE)

1. General

- 1.1 Indication of the position of the device's contacts.
- 1.2 To be mounted on the left side of the MCBs/RCBOs thanks to the special pin.



2. Technical data

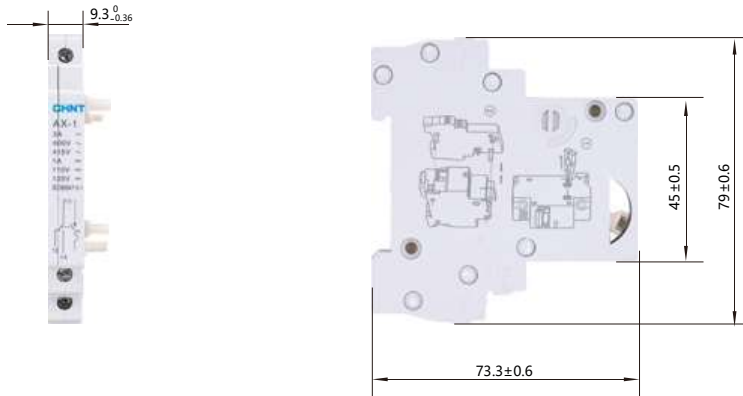
	Standard		IEC/EN 60947-5-1	
Electrical features	Rated voltage U_s	V	U_n (V)	I_n (A)
			AC415 50/60Hz	3
			DC125	1
	Configurations		1N/O+1N/C	
	Rated impulse withstand voltage (1.2/50) U_{imp}	V	4,000	
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2	
	Insulation voltage U_i	V	500	
	Pollution degree		2	
Mechanical features	Electrical life		6,050	
	Mechanical life		10,000	
	Protection degree		IP20	
	Ambient temperature (with daily average $\leq 35^{\circ}\text{C}$.)	$^{\circ}\text{C}$	-5...+40	
	Storage temperature	$^{\circ}\text{C}$	-25...+70	
Installation	Terminal connection type		Cable	
	Terminal size top/bottom for cable	mm ²	2.5	
		AWG	18-14	
	Tightening torque	N-m	0.8	
In-lbs.		7		

3. Ordering information



Model	Order Code
AX-1	985483

3. Overall and mounting dimensions (mm)





AX-5 Auxiliary Contact

1. Scope of Application

AX-5 auxiliary contact is mainly used in the circuit of AC 50/60Hz, rated heating current 6A, rated voltage AC 415V or DC 130V; assembled with NL1, it is used for distant circuit breaker on/off signal indication.

Conforming standard: GB/T 14048.5 , IEC 60947-5-1, accredited through CE certification.

2. Model and Meanings

AX - 5
 |
 Design No
 |
 Auxiliary contact



3.Main Parameters and Technical Performance

3.1 Rated working current under different rated voltages

AC-12: AC415V/3A, AC240V/6A

DC-12: DC130V/1A, DC48V/2A, DC24V/6A

3.2 Life

The working life of auxiliary contact is not lower than 10,000 operations.

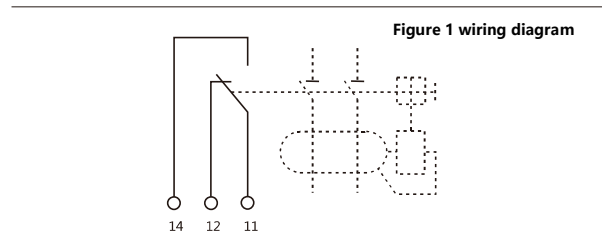
4.Main Parameters and Technical Performance

4.1Ambient temperature:-35 °C ~+70 °C

4.2 The atmosphere condition: ≤ 95%

4.3 Pollution degree: II

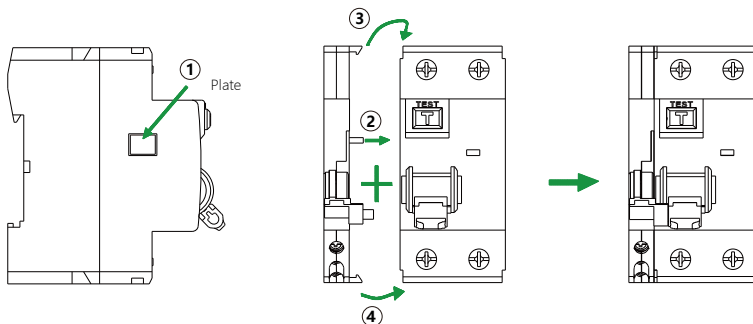
4.4 Altitude: ≤ 2000m



5.Product assembly and installation

5.1 AX-5 auxiliary contact is a kind of accessories, and can only function after being assembled with the NL1. The assembly and disassembly diagrams are shown below.

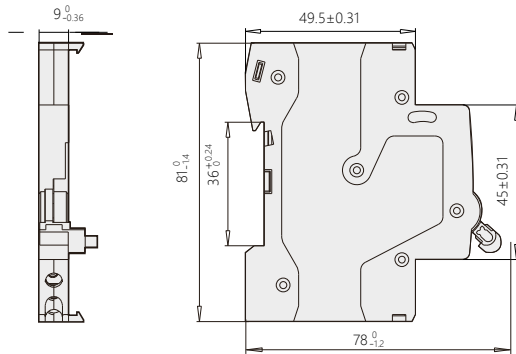
Figure 2



5.2 Remove left cover plate of circuit breaker

6. overall and mounting Dimensions (mm)

Figure 3



7. Ordering information

7.2 Types and names of product, for example, AX-5 auxiliary contact.

7.2 Quantity on order, for example, 50 units.

7.3 Example for ordering: AX-5 auxiliary contact, 50 units



CE

OUVR-1 Self-recovery Overvoltage and Undervoltage Protector

1. Product Features

- 1.1 Preventing misoperation: Where sudden transient or temporary overvoltage occurs in the line, the protector will not generate misoperation; when the line suffers instable voltage or sudden power recovery after sudden power disruption due to loose contact or other fault, the protector will not close the circuit;
- 1.2 Reliable operation: Protection is characterized by inverse time lag operation with operating time $\leq 1s$;
- 1.3 Wide scope of voltage protection: 0~450V; in case of maximum fault voltage upon line fault, the protector itself will not be damaged;
- 1.4 Safer, impulse withstand voltage: 4kV (conforming to the safety standard of category III electrical apparatus);
- 1.5 Condition indication: The protector has the LED to indicate the operating state, where green is normal voltage indication, and red is overvoltage or undervoltage indication;
- 1.6 External modular design, guiderail DIN rail mounting.

2.Scope of Application

OUVR-1self-recovery overvoltage and undervoltage protector is a new type of intelligent protection apparatus. With the modular standard design, in case of the overvoltage or undervoltage of power supply line, the protector can quickly and safely break the circuit under continuous high voltage surge, avoiding the happening of an accident due to abnormal voltage entry into the terminal apparatus; when voltage resumes normal value, the protector will automatically close the circuit within the specified time to ensure the terminal apparatus can operate normally in an unattended way.

OUVR-1self-recovery overvoltage and undervoltage protector is applied for the users or loads of AC 230/400V, 50Hz and rated operating current 80A and below. It is mainly used in the household distribution box or other distribution line requiring protection.

3.Model and Meanings

OUVR-	1	80A	3P+N	bottom entry and upper exit
				Mode of connection: upper entry and lower bottom exit, lower bottom entry and upper exit
				Number of poles: 1P+N, 3P+N
				Rated current: 32A, 40A, 50A, 63A, 80A
				Design No.
				Self-recovery overvoltage and undervoltage protector

4. Normal Operating Conditions and Mounting Conditions

4.1 Ambient temperature: $-20^{\circ}\text{C} \sim +65^{\circ}\text{C}$

4.2 Altitude: $\leq 3000\text{M}$

4.3 Atmospheric conditions: The atmospheric relative humidity is not more than 50% when the ambient air temperature is $+40^{\circ}\text{C}$; high relative humidity is permitted under low temperature. For example, it may be up to 90% at $+20^{\circ}\text{C}$; special measures should be taken in case of occasional condensation due to temperature variation;

4.4 Pollution degree: level 2;

4.5 Mounting category: category II or III.

4.6 Mounting form: It is installed using the TH35-7.5 section steel mounting rail. The inclination of installing surface and vertical plane cannot exceed 5° .

5. Points for Attention

5.1 When the protector is energized for the first time, it needs a time delay of $30 \pm 10\text{s}$ before normal power supply of loads.

5.2 Protector conductor N is neutral line, L is live line; connection cannot be done in a wrong way;

5.3 Mode of connection is upper entry and bottom exit;

5.4 Before use, please tighten the clamping screws to prevent the damage of the product due to loose contact.

5.5 LED indication: green lamp normally on—normal

Red lamp normally on—overvoltage or undervoltage

5.6 neutral line must be connected. When the neutral line or any phase of live conductor is disconnected in the line, the protector will play a role of protection.

5.7 After overvoltage or undervoltage of a 3P+N product, it can only resume normal operation when the voltage of three phases to neutral line is within the range of recovery value.

6. Main Parameters and Technical Indices

6.1 Rated voltage: AC230V/400V, 50Hz

6.2 Rated operating current: 32A, 40A, 50A, 63A, 80A

6.3 Overvoltage operation cutoff value: $270\text{V} \pm 5\text{V}$

6.4 Overvoltage recovery value: $240 \sim 260\text{V}$

6.5 Undervoltage operation cutoff value: $170 \pm 5\text{V}$

6.6 Undervoltage recovery value: $185 \sim 195\text{V}$

6.7 Time delay close time: $30 \pm 10\text{s}$

6.8 Electric mechanical life: $> 50,000$ operations

6.9 Power consumption: $< 2\text{W}$

6.10 Connection capacity: $< 25\text{mm}^2$

6.11 Number of poles: 1P+N, 3P+N

6.12 Mode of connection: upper entry and lower bottom exit, lower bottom entry and upper exit

7. Installation and Connection

7.1 Before installation, it should first check whether the product mark conforms to the use conditions.

7.2 Connection should be done according to the product marked entry and exit (The load current cannot be higher than the product rated current).

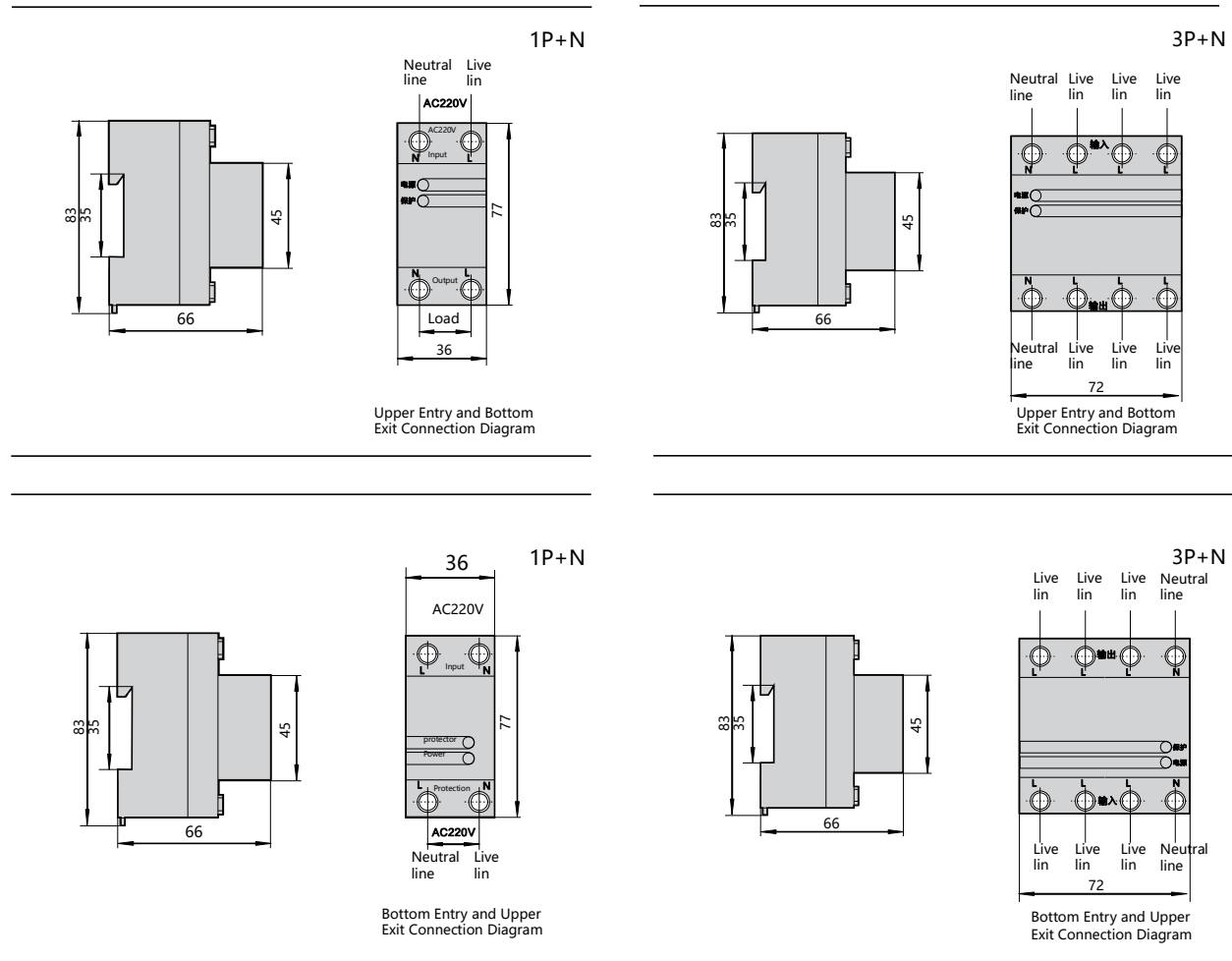
7.3 Pole N cannot be connected in a wrong way, and it must be reliably connected; otherwise, the protector cannot operate normally.

7.4 For the connecting conductor section area, refer to Table 1.

Table 1 Section Area and Rated Current of Connecting Conductor

Rated current A	32	40	50	63	80
Conductor section area mm^2	6	10	10	16	25

8. Outline and Installing Dimensions



9. Ordering information

When ordering the goods, the user must indicate the product name, type, number of poles, rated voltage, rated current and order quantity:

Order example: To order OUVR-1 self-recovery overvoltage and undervoltage protector, 1P+N, upper entry and lower exit, rated voltage 230V, rated current 40A, quantity: 1000units:

Please indicate: OUVR-1 40A 1P+N upper entry and lower bottom exit 230V 1000units.



CE

A

OUVR-2 Self-recovery Overvoltage and Undervoltage Protector

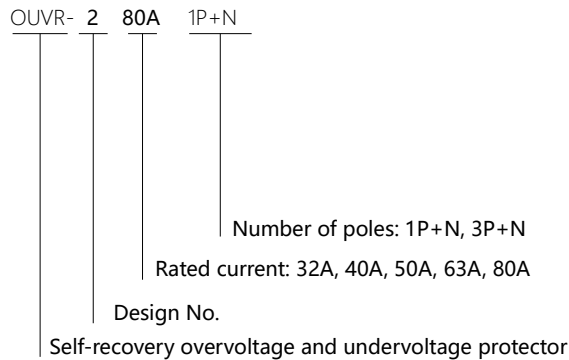
1. Product Features

- 1.1 Preventing misoperation: Where sudden transient or temporary overvoltage occurs in the line, the protector will not generate misoperation; when the line suffers instable voltage or sudden power recovery after sudden power disruption due to loose contact or other fault, the protector will not close the circuit;
- 1.2 Reliable operation: Protection is characterized by inverse time lag operation with operating time $\leq 1s$;
- 1.3 Wide scope of voltage protection: 0~450V; in case of maximum fault voltage, the protector itself will not be damaged;
Safer, impulse withstand voltage: 4kV (conforming to the safety standard of category III electrical apparatus);
- 1.4 Condition indication: The protector has the LED to indicate the operating state, where green is normal voltage indication, and red is overvoltage or under voltage indication;
- 1.5 The product is easy for installation with cable from bottom feed;
- 1.6 The product only has 27mm with small size;
- 1.7 External modular design, DIN rail mounting.

2. Scope of Application

- 2.1 OUVR-2 self-recovery overvoltage and undervoltage protector is a new type of intelligent protection apparatus. With the modular standard design, in case of overvoltage or undervoltage of power supply line, the protector can quickly and safely break the circuit under continuous high voltage surge, avoiding the happening of an accident due to abnormal voltage entry into the terminal apparatus; when voltage resumes normal value, the protector will automatically close the circuit within the specified time to ensure the terminal apparatus can operate normally in an unattended way.
- 2.2 OUVR-2 self-recovery overvoltage and undervoltage protector is applied for the users or loads of AC 230V, 50Hz and rated operating current 80A and below. It is mainly used in the household distribution box or other distribution line requiring protection.

3. Model and Meanings



4. Normal Operating Conditions and Mounting Conditions

- 4.1 Ambient temperature: $-35^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- 4.2 Altitude: $\leq 3000\text{M}$
- 4.3 Atmospheric conditions: The atmospheric relative humidity is not more than 50% when the ambient air temperature is $+40^{\circ}\text{C}$; high relative humidity is permitted under low temperature. For example, it may be up to 90% at $+20^{\circ}\text{C}$; special measures should be taken in case of occasional condensation due to temperature variation;
- 4.4 Pollution degree: level 2;
- 4.5 Mounting category: category II or III .
- 4.6 Mounting form: It is installed using the TH35-7.5 section steel mounting rail. The inclination of installing surface and vertical plane cannot exceed 5° .

5. Points for Attention

- 5.1 When the protector is energized for the first time, it needs a time delay of $30 \pm 10\text{s}$ before normal power supply of loads.
- 5.2 Protector conductor N is neutral line, L is live line; connection cannot be done in a wrong way;
- 5.3 Mode of connection is lower bottom entry and upper exit; bottom entry and I bottom exit; I bottom entry, upper/bottom exit;
- 5.4 Before use, please tighten the clamping screws to prevent the damage of the product due to loose contact.
- 5.5 LED indication: green lamp normally on—normal
Red lamp normally on—overvoltage or undervoltage
- 5.6 Neutral line must be connected. When the Neutral line is disconnected, the protector will play a role of protection.

6. Main Parameters and Technical Indices

- 6.1 Rated voltage : 230V 50Hz
- 6.2 Rated operating current: 32A, 40A, 50A, 63A, 80A
- 6.3 Overvoltage operation cutoff value: $275\text{V} >$
- 6.4 Undervoltage operation cutoff value: $161\text{V} <$
- 6.5 Recovery value: $196\text{V} \sim 253\text{V}$
- 6.6 Time delay close time: $30\text{s} \pm 10\text{s}$
- 6.7 Electric mechanical life: $> 50,000$ operations
- 6.8 Power consumption: $< 2\text{W}$
- 6.9 Connection capacity: $< 25\text{mm}^2$

7. Installation and Connection

7.1 Before installation, it should first check whether the product mark conforms to the use conditions.

7.2 Connection should be done according to the product marked entry and exit (The load current cannot be higher than the product rated current).

7.3 Pole N cannot be connected in a wrong way, and it must be reliably connected; otherwise, the protector cannot operate normally.

For the connecting conductor section area, refer to Table 1.

Table 1 Section Area and Rated Current of Connecting Conductor

Rated current A	32	40	50	63	80
Conductor section area mm ²	6	10	10	16	25

8. Overall and mounting dimensions(mm)

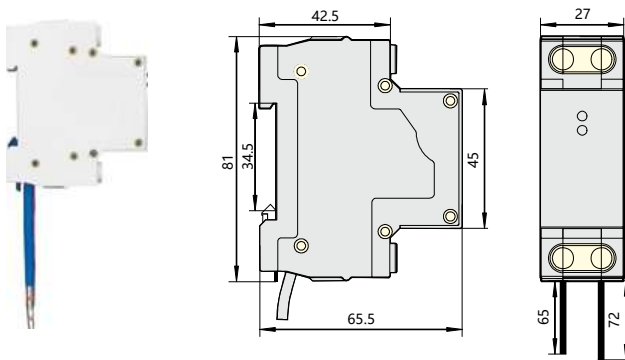
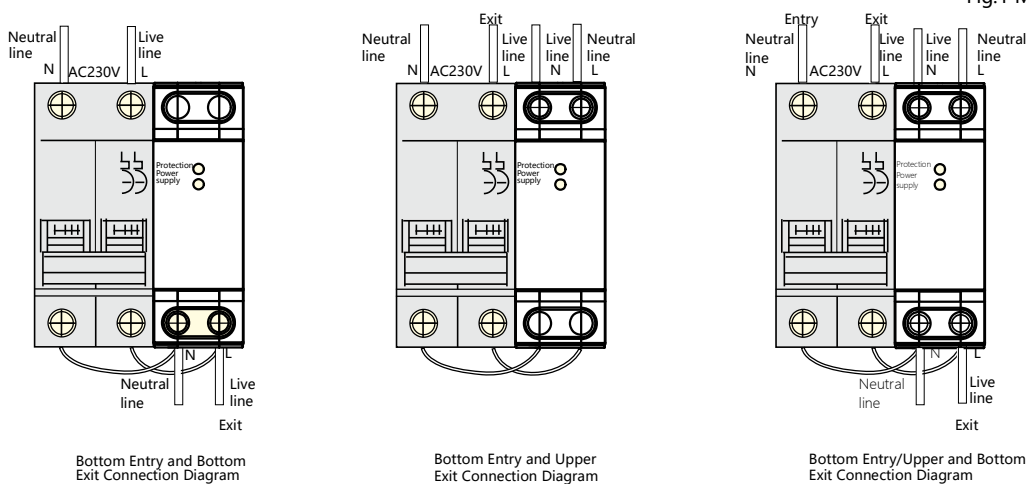


Fig.1 Overall and mounting dimensions(mm)

9. Mode of connection



10. Ordering information

10.1 When ordering the goods, the user must indicate the product name, type, number of poles, rated voltage, rated current and order quantity:

10.2 Order example: To order OUVR-2 self-recovery overvoltage and undervoltage protector, 1P+N, rated voltage 230V, rated current 40A, quantity: 1000units:

10.3 Please indicate: OUVR-2 1P+N 230V 40A lower bottom entry and upper exit 1000units.



OUVT-1 Over/under voltage release

1. Major function

To be assembled with circuit breaker to achieve over/under voltage protection.

2. Parameters and performance

Rated operation voltage U_e : AC 240V, 50Hz;

Overvoltage operation setting value U_{vo} : 280V;

Rated insulation voltage U_i : 500V;

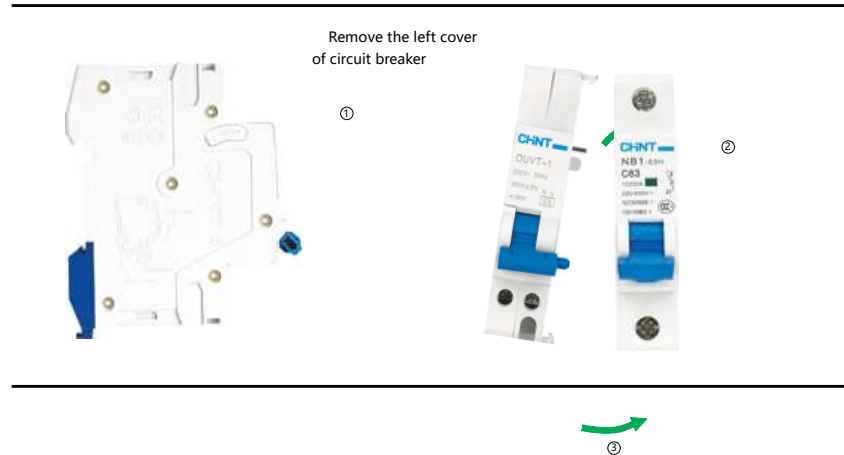
Tripping characteristics: the release is assembled with NXB-63 series circuit breaker. When the applied voltage is reduced to 35% U_e or increased to 95% ~ 105% of the over-voltage setting value, the release should drive the circuit breaker to act. When the applied voltage is below 35% U_e or above 105% of the over-voltage setting value, the release should be able to prevent the circuit breaker from closing. When the supply voltage is above 85% U_e and below 95% of over-voltage setting value, the circuit breaker should be able to close normally. The upper limit of the applied voltage should be less than 110% over-voltage operation setting value.

Mechanical and electrical life: the mechanical and electrical life after the release is assembled with the circuit breaker should be ≥ 4000 cycles, of which, 500 cycles for over-voltage trip and under-voltage trip each, and 3000 cycles for the open/close of the circuit breaker.

3. Assembly and installation of the product

OUVT-1 can be assembled with NB1-63 series circuit breaker, with the assembly diagram shown below:

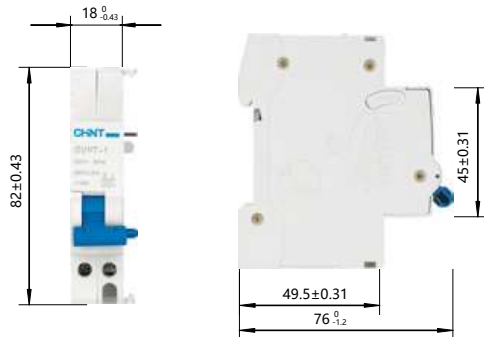
Figure 1



After OUVT-1 is assembled with the circuit breaker, mount them on the TH3.5-7.5 steel mounting rail.

4. Dimensions and installation sizes

Figure 2



A



NH2 Switch Disconnecter

1. General

- 1.1 In the open position, It complies with the requirements of the isolating function.
- 1.2 It is designed match DZ series MCBs/RCBOs.
- 1.3 Approvals and certificates
Detailed information, please refer to Certificates Table on the last page.



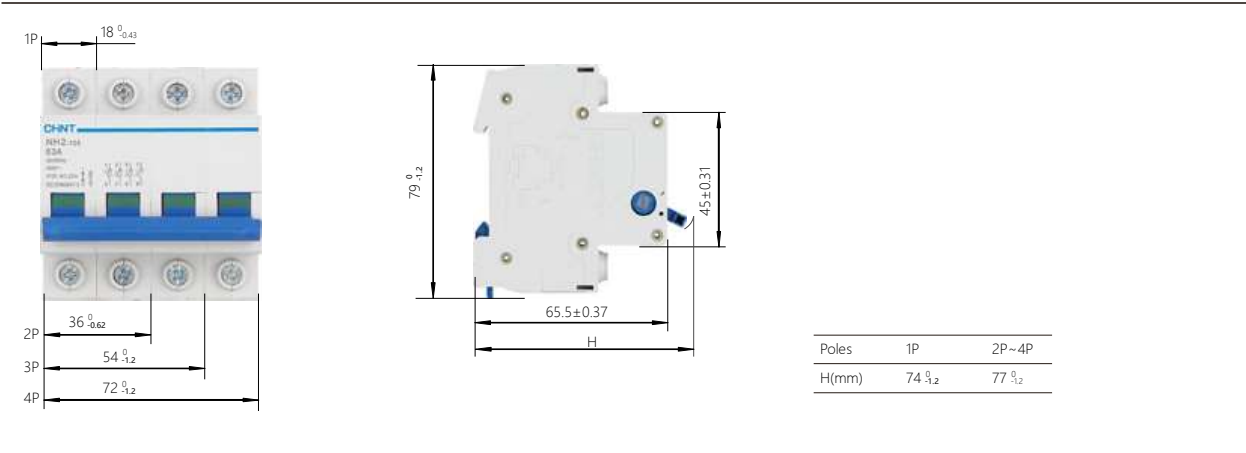
2. Technical data

	Standard		IEC/EN 60947-5-1
Electrical features	Rated voltage Ue	V	230/400
	Rated current Ie	V	32, 63, 100,125
	Rated frequency		50/60
	Rated impulse withstand voltage (1.2/50)Uimp	Hz	4,000
	Rated short-time withstand current Icw	V	12Ie, 1s
	Rated making and breaking capacity		3Ie, 1.05Ue, cosΦ=0.65
	Rated short circuit making capacity		20Ie, t=0.1s
	Dielectric test voltage at ind. Freq. for 5s	kV	1.89
	Insulation voltage Ui	V	500
Mechanical features	Pollution degree		2
	Utilization category		AC-22A
	Electrical life		1,500
	Mechanical life		8,500
	Protection degree		IP20
	Ambient temperature (with daily average ≤ 35°C)	°C	-5...+40
Installation	Storage temperature	°C	-25...+70
	Terminal connection type		Cable/Pin-type busbar
	Terminal size top/bottom for cable	mm ²	50
		AWG	18-2
	Terminal size top/bottom for busbar	mm ²	25
		AWG	18-3
	Tightening torque	N·m	2.5
		In-lbs.	22
	Connection		From top and bottom

Rated current	Screw size	Tightening torque	Copper cross-sectional area
32A, 63A	M5	2.0 N.m	32A: 6mm ² ; 63A: 16 mm ²
100A, 125A	M7	3.5 N.m	100A: 35mm ² ; 125A: 50 mm ²



3. Overall and mounting dimensions (mm)





NH4 Switch Disconnecter

1. General

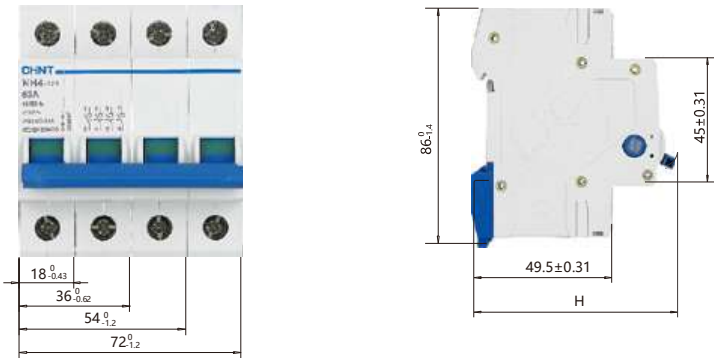
- 1.1 In the open position, It complies with the requirements of the isolating function.
- 1.2 It is designed match NB series MCBs/RCBOs.
- 1.3 Approvals and certificates
Detailed information, please refer to Certificates Table on the last page.



2. Technical data

	Standard		IEC/EN 60947-5-1
Electrical features	Rated voltage U_e	V	240/415
	Rated current I_e	A	32, 40, 63, 80, 100, 125
	Rated frequency	Hz	50/60
	Rated impulse withstand voltage $(1.2/50)U_{imp}$	V	4,000
	Rated short-time withstand current I_{cw}		12 I_e , 1s
	Rated making and breaking capacity		3 I_e , 1.05 U_e , $\cos\Phi=0.65$
	Rated short circuit making capacity		20 I_e , $t=0.1s$
	Dielectric test voltage at ind. Freq. for 5s	kV	1.89
	Insulation voltage U_i	V	500
Mechanical features	Pollution degree		2
	Utilization category		AC-22A
	Electrical life		1,500
	Mechanical life		8,500
	Protection degree		IP20
	Ambient temperature (with daily average $\leq 35^\circ\text{C}$)	$^\circ\text{C}$	-5...+40
Installation	Storage temperature	$^\circ\text{C}$	-25...+70
	Terminal connection type		Cable/Pin-type busbar/U-type busbar
	Terminal size top/bottom for cable	mm ²	50
		AWG	18-1/0
	Terminal size top/bottom for busbar	mm ²	35
		AWG	18-2
	Tightening torque	N·m	2.5
		lbf·ft	22
	Connection		From top and bottom

3. Overall and mounting dimensions (mm)



Number of poles	1P	2P~4P
H(mm)	74 ⁰ _{-1.2}	77 ⁰ _{-1.2}

1.General

1.2 Electric ratings: AC 50/60Hz;
rated voltage up to 250V, rated current 32A;

2.Operating conditions

At mounting site, relative humidity not exceed 50% at the max temperature of +40°C, higher relative humidity is allowable under lower temperature. For example, RH could be 90% at +20°C, special measures should be taken to occurrence of dews.

Inclination between the mounting plane and the vertical plane should not exceed $\pm 5^\circ$

3.Type designation

Rated current of frame size (A)

Design SN (1: Three-way switch)

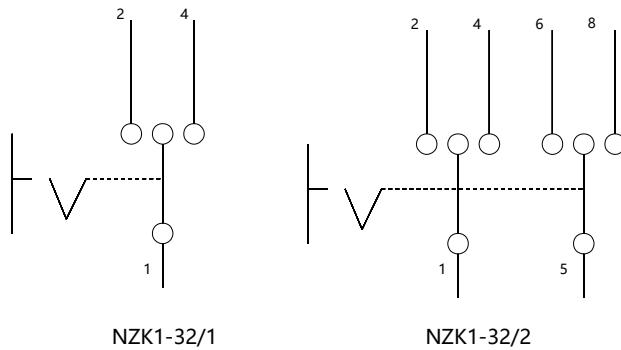
Change-over Switch

Corporate Characteristic Code

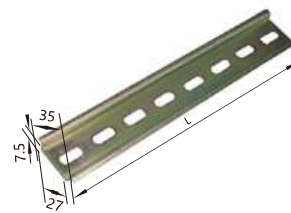
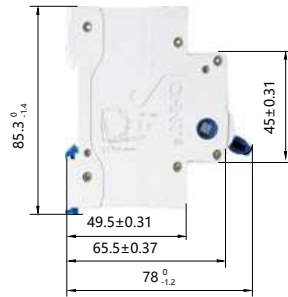
$U_{e0}^{+5\%}$; I_e ; $\cos\Phi=0.6\pm0.05$; 10000 times



5. Circuit diagram



6. Overall and mounting dimensions (mm)



7. Installation and usage

7.1 Prior to installation, check whether the switch symbol complies with the operating conditions.

7.2 As shown, snap into the mounting rail.

Contact 1-2 is closed when the handle is at position I, and contact 1-2, 1-4 are opened when the handle is at position "O", contact 1-4 is closed when the handle is at position II.

7.3 Before turning the power ON,

operate the switch several times to ensure that it is flexible and reliable, without any delay.

7.4 The switch must be protected against rain during usage, storage and transportation, etc.

8. Ordering information

8.1 Indicate the following order information:

- Product model and name, e.g. Change-over switch NZK1-32
- Number of poles, e.g. 2P
- Quantity of order, e.g. 100 units

8.2 Example:

e.g. Change-over switch NZK1-32/2 100 units



NZK2-32 Change-over Switch

1. General

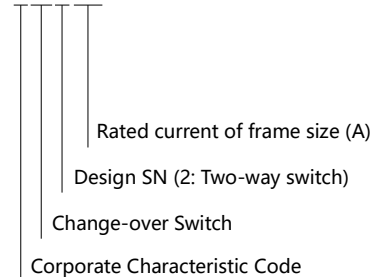
- 1.1 Certificates: KEMA;
- 1.2 Electric ratings: AC 50/60Hz;
rated voltage up to 250V, rated current 32A;
- 1.3 Standard: IEC60669-1

2. Operating conditions

- 2.1 Temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$;
the average value shall not exceed $+35^{\circ}\text{C}$
- 2.2 Altitude: $\leq 2000\text{m}$;
- 2.3 Air conditions:
At mounting site, relative humidity not exceed 50%
at the max temperature of $+40^{\circ}\text{C}$, higher relative
humidity is allowable under lower temperature.
For example, RH could be 90% at $+20^{\circ}\text{C}$, special
measures should be taken to occurrence of dews.
- 2.4 Mounting conditions:
Inclination between the mounting plane and the
vertical plane should not exceed $\pm 5^{\circ}$
- 2.5 Assemble with TH35-7.5 steel mounting rail

3.Type designation

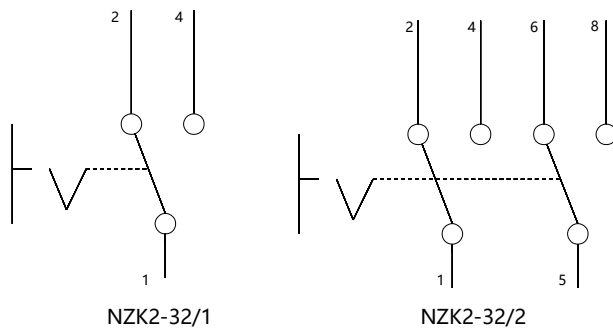
NZK1-32



4. Technical data

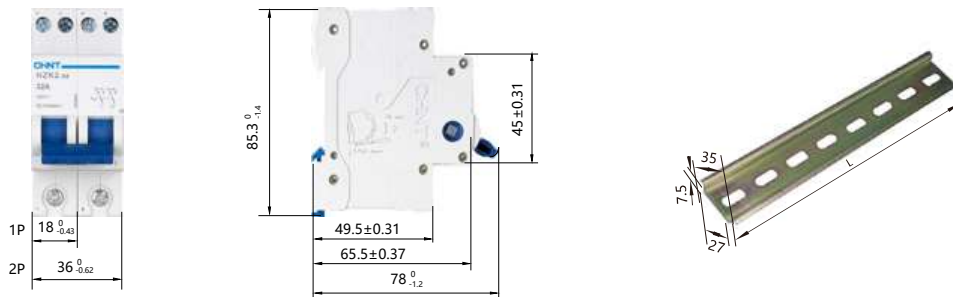
- 4.1 Poles: 1P, 2P
- 4.2 Rated frequency: 50Hz/60Hz;
- 4.3 Rated operating current I_e : 32A;
- 4.4 Rated voltage U_e : 250V;
- 4.5 Rated making and breaking capacity:
 $1.1U_e$; $1.25I_e$; $\text{COS}\Phi=0.3\pm0.05$; 200 times
- 4.6 Operational performance:
 $U_e^{+15\%}$; I_e ; $\text{COS}\Phi=0.6\pm0.05$; 10000 times

5. Circuit diagram



6. Overall and mounting dimensions (mm)

Mounting Rail Dimensions



7. Installation and usage

7.1 Prior to installation, check whether the switch symbol complies with the operating conditions.

7.2 As shown, snap into the mounting rail.

Contact 1-2 is closed when the handle is at position I, and contact 1-4 is opened, contact 1-4 is closed when the handle is at position II, and contact 1-2 is opened.

7.3 Before turning the power ON, operate the switch several times to ensure that it is flexible and reliable, without any delay.

7.4 The switch must be protected against rain during usage, storage and transportation, etc.

8. Ordering information

8.1 Indicate the following order information:

- Product model and name, e.g. Change-over switch NZK2-32
- Number of poles, e.g. 2P
- Quantity of order, e.g. 100 units

8.2 Example:

e.g. Change-over switch NZK2-32/2 100 units



NU6- II

Surge Arrester

1. General

- 1.1 Certificates: international certificates are under proceeding;
- 1.2 Number of poles: 1, 2,3, 4;
- 1.3 Electric ratings: 230/400V, AC50Hz;
- 1.4 Application: Protect electric system and on-loading electrical apparatus from thunder and instantaneous over-voltage;
- 1.5 Standard: IEC 61643-1, EN 61643-11



2. Technical data

Model	Max. continuous operational voltage U_c (V~)	Level of protection U_p (kV)	Maximum discharge current I_{max} (8/20 μ s) (kA)	Nominal discharge current I_n (8/20 μ s) (kA)	Mounting category of protected apparatus
NU6- II	385	1.8	40	15	II , III
	460	2.0			II , III
NU6- II	385	1.8	60	25	II , III
	460	2.0			II , III
NU6- II	385	1.8	100	40	II , III
	460	2.0			III

Model	Configurations	Rated voltage U_n (V)	Rated current I_n (A)
contact	INO+INC	AC125	3

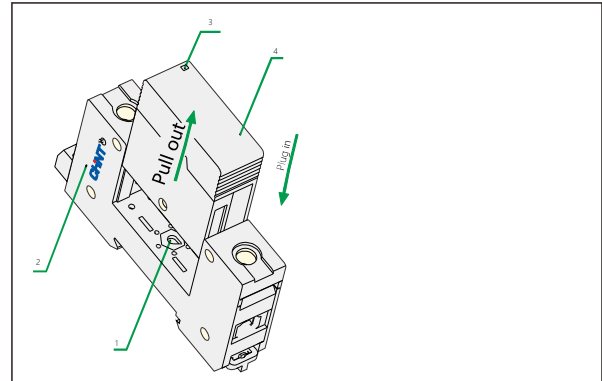
3. How to select surge protectors

- a. The voltage should be $\leq U_c$;
- b. $U_p <$ maximum impulse withstands;
- c. Different protectors should be selected according to various grounding system and protection mode.

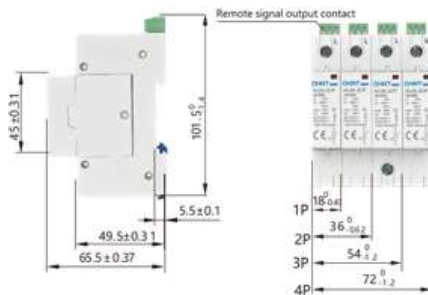
Model	Max. continuous operational voltage U_c (V~)	Applicable grounding system	Protection mode	Circuits	Number of poles
NU6- II	385	TN-S	L-PE, N-PE	1 phase, 3 phase 5 wire	1,2,3,4
		TN-C	L-PE	1 phase, 3 phase 4 wire	1,2,3
		TT	L-PE, N-PE	1 phase, 3 phase 4 wire	1,2,3,4
	460	TN-S	L-PE, N-PE	1 phase, 3 phase 5 wire	1,2,3,4
		TN-C	L-PE	1 phase, 3 phase 4 wire	1,2,3
		IT	L-PE	1 phase, 3 phase 3 /4 wire	1,2,3,4
		TT	L-PE, N-PE	1 phase, 3 phase 4 wire	1,2,3,4

4. Functions

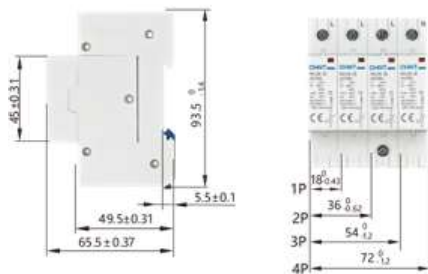
- 4.1 The product is composed of two independent components: removable protective module 4 and base 2;
- 4.2 When the product is damaged, the part 3 will indicate; please replace the removable protective module 4 at once and there is no need to cutoff the circuits;
- 4.3 The part 1 is for maximum continuous operational voltage indication as well as avoiding replacement with wrong module.



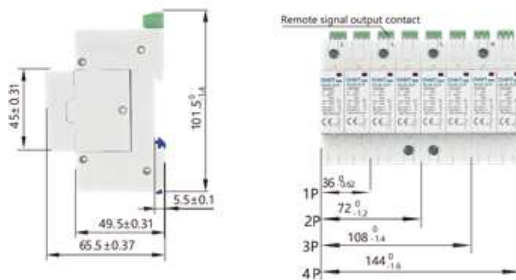
NU6- II /F (40, 60kA) with remote signal output contact



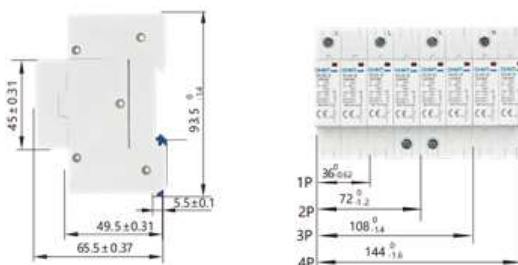
NU6- II (40, 60kA) without remote signal output contact



NU6- II /F (100kA) with remote signal output contact



NU6- II (100kA) without remote signal output contact





NU6- II G

Surge Arrester

1. General

- 1.1 Certificates: international certificates are under proceeding;
- 1.2 Number of pole: 1, 2, 3, 4, 1P+N, 3P+N;
- 1.3 Electric ratings: 230/400V, AC50/60Hz;
- 1.4 Application: Protect electric system and on-loading electrical apparatus from thunder and instantaneous over-voltage;
- 1.5 Standard: IEC/EN 61643-11



2. Technical data

Model	Max. continuous operational voltage U_c (V~)	Level of protection U_p (kV)	Maximum discharge current I_{max} (8/20 μ s) (kA)	Maximum discharge current I_{max} (8/20 μ s) (kA)
NU6- II G/(F)	275	1.5	40	20
	320	1.6		
	385	1.8		
	440	2.0		
	255(NPE)	1.5	65	30
	275	1.6		
	320	1.8		
	385	2.0		
	440	2.2		

Auxiliary	Configurations	Rated voltage U_n (V)	Rated current I_n (A)
contact	1NO+1NC	AC250	0.5

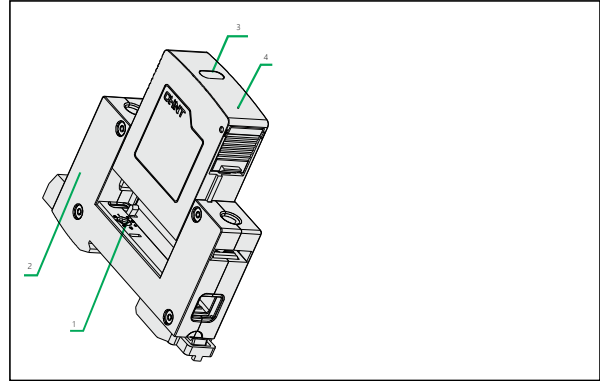
3. How to select surge protectors

- a. The voltage should be $\leq U_c$;
- b. $U_p <$ maximum impulse withstands;
- c. Different protectors should be selected according to various grounding system and protection mode.

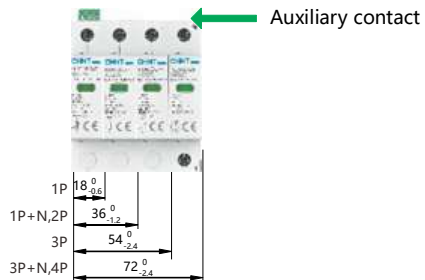
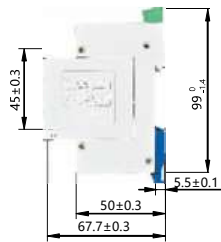
Model	Max. continuous operational voltage U_c (V~)	Applicable grounding system	Protection mode	Circuits	Number of poles
NU6- II G/(F)	275	TN-S	L-PE, N-PE	1 phase, 3 phase 5 wire	1,2,4, 1P+N,3P+N
		TN-C	L-PE	1 phase, 3 phase 4 wire	1,3
		TT	L-PE, N-PE	1 phase, 3 phase 4 wire	1P+N,3P+N
	320	TN-S	L-PE, N-PE	1 phase, 3 phase 5 wire	1,2,4, 1P+N,3P+N
		TN-C	L-PE	1 phase, 3 phase 4 wire	1,3
		TT	L-PE	1 phase, 3 phase 4 wire	1P+N,3P+N
	385	TN-S	L-PE,L-N,N-PE	1 phase, 3 phase 5 wire	1,2,4, 1P+N,3P+N
		TN-C	L-PEN	1 phase, 3 phase 4 wire	1,3
		TT	L-PE, L-N,N-PE	1 phase, 3 phase 4 wire	1,2,4, 1P+N,3P+N
	440	TN-S	L-PE,L-N,N-PE	1 phase, 3 phase 5 wire	1,2,4, 1P+N,3P+N
		TN-C	L-PEN	1 phase, 3 phase 4 wire	1,3
		TT	L-PE,L-N,N-PE	1 phase, 3 phase 4 wire	1,2,4, 1P+N,3P+N
		IT	L-PE	1 phase, 3 phase 3 wire	1,3

4. Functions

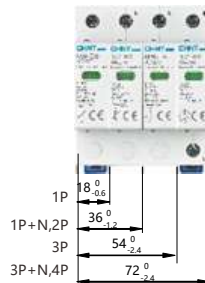
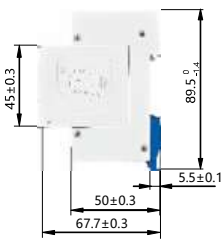
- 4.1 The product is composed of two independent components: removable protective module 4 and base 2;
- 4.2 When the product is damaged, the part 3 will indicate; please replace the removable protective module 4 at once and there is no need to cutoff the circuits;
- 4.3 The part 1 is for maximum continuous operational voltage indication as well as avoiding replacement with wrong module.



NU6- II G/F (40, 65kA) with remote control port



NU6- II G/F (40, 65kA) with remote control port





NU6- III Surge Arrester

1. General

- 1.1 Certificates: international certificates are under proceeding;
- 1.2 Electric ratings: Single phase power distribution and control system of AC50Hz, 230V;
- 1.3 Short circuit current: up to 5kA (8/20μs);
- 1.4 Application: Protect electric system and on-loading electrical apparatus from lightening and instantaneous over-voltage;
- 1.5 Standard: IEC61643-1, EN61643-11



2. Technical data

Model	Uoc (1.2/50μs) (kV)	Short circuit current Isc (8/20us)(KA)	Max. continuous operational voltage Uc (V~)	Level of protection Up (kV)
NU6- III	10	5	275	1.5
			320	1.5
			385	1.5

Auxiliary	Configurations	Rated voltage Un(V)	Rated current In(A)
contact	INO+INC	AC125	3

3. Type and circuit diagram

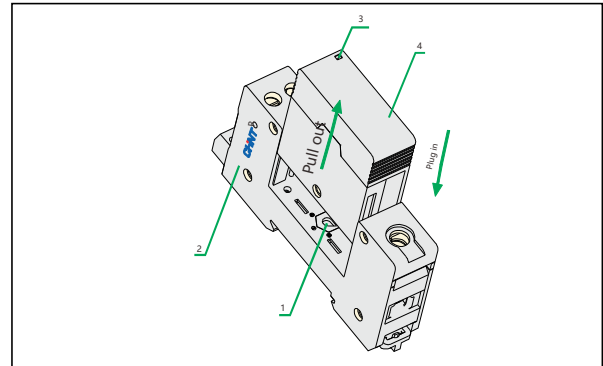
Model	Type	Circuit diagram
NU6- III	<p>1P+N</p>	<p>Compound Type</p>
	<p>2P</p>	<p>Compound Type</p>

4. Design type and protective mode of different surge protectors

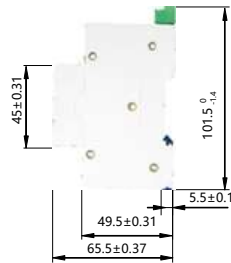
Model	Uoc (1.2/50μs) (kV)	Uc (V~)	Corresponding design type and protection mode
NU6- III	10	275	Compound type (with gasdischarge tube + voltage sensitive resistance) L-N/N-PE
		320	Compound type (with gas discharge tube + voltage sensitive resistance) L-PE/N-PE
		385	

5. Functions

- 5.1 The product is composed of two independent components: removable protective module 4 and base 2;
- 5.2 When the product is damaged, the part 3 will indicate; please replace the removable protective module 4 at once and there is no need to cutoff the circuits;
- 5.3 The part 1 is for maximum continuous operational voltage indication as well as avoiding replacement with wrong module.

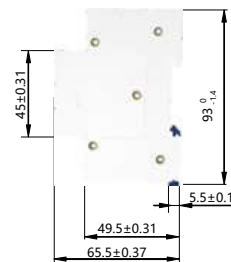


NU6- III /F with remote signal output contact



← Remote signal output contact

NU6- III without remote signal output contact



NU6- II series surge arrester	NU6- III series surge arrester
The boundary between lightning protection areas of LPZ1 & LPZ2	The boundary between lightning protection areas of LPZ2 & LPZ3
Protection category: C	Protection category: D
Over-voltage mounting category: II	Over-voltage mounting category: I
Rated impulse withstand voltage: 2500V	Rated impulse withstand voltage: 1500V
Parameters of discharge: I _{max} and I _n	Parameters of discharge: U _{oc} and I _{sc}
Applicable to branch power distribution switchgear	Applicable to terminal of power distribution



*Note: Fuse/Circuit breaker are strongly recommended to be installed upstream the surge protector.

7. Recommended circuit breaker selection

Surge protector	Maximum discharge current (kA)	Fuse or circuit breaker (upstream)
NU6- II	40	gL/gG 125A
	60	gL/gG 160A
	100	gL/gG 250A
NU6- III	ALL	NB1 C10



NP9 Pushbutton

1. General

- 1.1 Electric ratings: 230V, AC50/60Hz;
- 1.2 Utilization category: AC-14;
- 1.3 Rated conventional heating current I_{th} : 16A;
- 1.4 Rated operational current I_e : 6A;
- 1.5 Rated insulation voltage U_i : 500V;
- 1.6 Protection grade: IP20;
- 1.7 Standard: IEC/EN 60947-5-1;



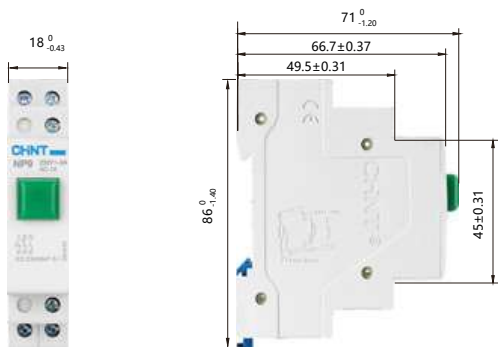
2. Operating conditions

- 2.1 Ambient temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$, average temperature in 24 hours not exceed $+35^{\circ}\text{C}$;
- 2.2 Altitude: $\leq 2000\text{m}$;
- 2.3 Air conditions:
At mounting site, relative humidity not exceed 50% at the max temperature of $+40^{\circ}\text{C}$, higher relative humidity is allowable under lower temperature. For example, RH could be 90% at $+20^{\circ}\text{C}$. Special measures should be taken to occurrence of dews;
- 2.4 Mounting category: II, III;
- 2.5 Pollution grade: II;
- 2.6 Mounting mode: TH35-7.5 standard rail, inclination between mounting and vertical plane not exceed 5° .

3. Technical data

- 3.1 Life (operations):
 - a. Electric life : 100,000
 - b. Mechanical life : 250,000
- 3.2 Assembly of contact: 1NO,2NO,3NO,4NO,1NO+1NC,1NO+2NC,2NO+1NC,2NO+2NC,3NO+1NC, (Not available for illuminated type)
- 3.3 Technical data of signal lamp
 - a. Rated operational voltage: AC/DC6.3V, AC/DC12V, AC/DC24V, AC/DC110V, AC/DC230V
 - b. Rated operational current: $\leq 20\text{mA}$
- 3.4 Life: LED $\geq 30000\text{h}$

4. Overall and mounting dimensions (mm)





ND9 Signal Light

1. General

- 1.1 Electric ratings: 230V, AC50/60Hz;
- 1.2 Rated insulation voltage Ui: 500V;
- 1.3 Protection grade: IP20
- 1.4 Rated operational current: $\leq 20\text{mA}$
- 1.5 Life: LED $\geq 30000\text{h}$;
- 1.6 Standard: IEC/EN 60947-5-1

2. Operating Conditions

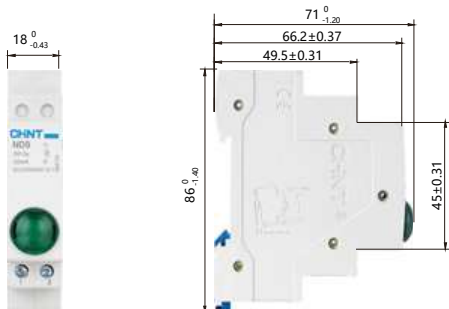
- 2.1 Ambient temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$,
average temperature in 24 hours not exceed $+35^{\circ}\text{C}$;
- 2.2 Altitude: $\leq 2000\text{m}$;
- 2.3 Air conditions:
At mounting site, relative humidity not exceed 50% at the max temperature of $+40^{\circ}\text{C}$, higher relative humidity is allowable under lower temperature. For example, RH could be 90% at $+20^{\circ}\text{C}$. Special measures should be taken to occurrence of dews;
- 2.4 Mounting category: II, III;
- 2.5 Pollution grade: II;
- 2.6 Mounting mode: TH35-7.5 standard rail, inclination between mounting and vertical plane not exceed 5°

3. Wirng

Cross section area of the conductor is 1.0mm^2 , and tightening torque should be $0.8\text{N}\cdot\text{m}$



4. Overall and mounting dimensions (mm)





NX8 Consumer Unit (Body)

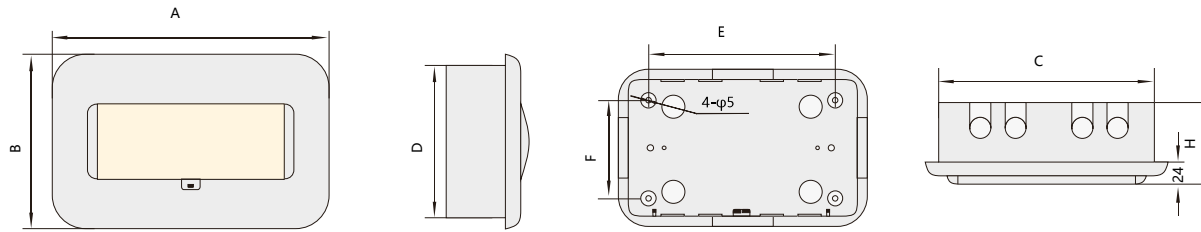
1. General

- 1.1 Electric ratings: up to 100A, 230V, AC50/60Hz;
- 1.2 No. Of mounted units: 5, 6, 8, 12, 15, 20, 24;
- 1.3 On-load current (A): 100/1-phase;
- 1.4 Protection degree: IP30;
- 1.5 Standard: IEC61439-3(EN60670-24)

2. Features

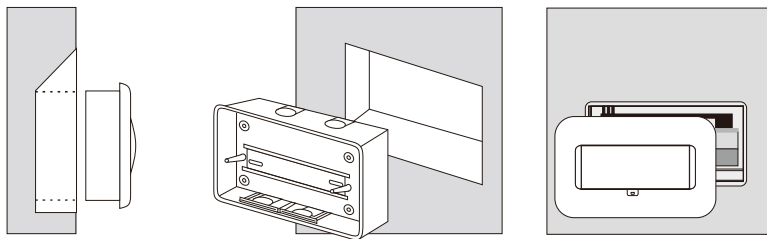
- 2.1 The window of the consumer unit is designed with novel appearance and convenient operation. Open and close operation is flexible, and self-locking at the open status;
- 2.2 Inside the product, there is a neon indicator light to indicate status of power supply; having a elegant appearance and clear indication;
- 2.3 The interiorly mounted MCBs are all in compliance with relative IEC standards, 9mm modularized electric components are applicable, as well;
- 2.4 On request, various circuit combinations can be assembled; and the mounting capacity of the product units can be taken to 5~24 units;
- 2.5 Convenient and reliable operation, having exposed handle, and all live parts to be mounted inside the wall box ;
- 2.6 The consumer unit is designed with internal terminal blocks for connection of neutral line and protective grounding wire.
- 2.7 The enclosure of the unit is made of plastic material with metal structure.

3. Overall and mounting dimensions (mm)



Model	A	B	C	D	E	F	H	Remark
NX8-5	184±1.45	200±1.45	164±1.25	180±1.45	114±1.1	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-5J	184±1.45	200±1.45	164±1.25	180±1.45	114±1.1	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-6J	202±1.45	200±1.45	182±1.25	180±1.45	132±1.1	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-8	238±1.45	200±1.45	218±1.45	180±1.45	168±1.25	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-8J	238±1.45	200±1.45	218±1.45	180±1.45	168±1.25	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-12	310±1.6	200±1.45	290±1.6	180±1.45	240±1.45	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-12J	310±1.6	200±1.45	290±1.6	180±1.45	240±1.45	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-15	364±1.8	200±1.45	344±1.8	180±1.45	294±1.6	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-15J	364±1.8	200±1.45	344±1.8	180±1.45	294±1.6	130±1.25	105 ⁰ _{-2.2}	Single-row
NX8-20	274±1.6	350±1.8	254±1.6	330±1.8	204±1.45	280±1.6	105 ⁰ _{-2.2}	Double-rows
NX8-20J	274±1.6	350±1.8	254±1.6	330±1.8	204±1.45	280±1.6	105 ⁰ _{-2.2}	Double-rows
NX8-24	310±1.6	350±1.8	290±1.6	330±1.8	240±1.45	280±1.6	105 ⁰ _{-2.2}	Double-rows
NX8-24J	310±1.6	350±1.8	290±1.6	330±1.8	240±1.45	280±1.6	105 ⁰ _{-2.2}	Double-rows

Remark :The letter "J" means the base is metal, otherwise the base material is plastic





NX2 Consumer Unit (Body)

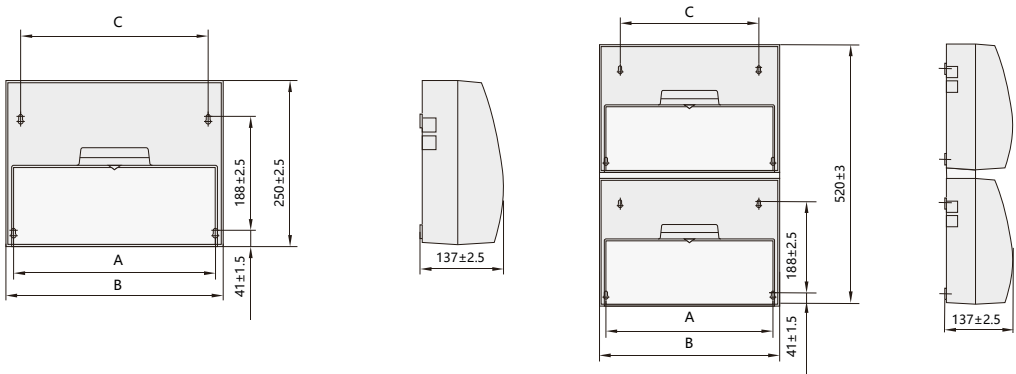
1. General

- 1.1 Electric ratings: up to 100A, 230V, AC50/60Hz;
- 1.2 No. Of mounted units: 8, 10, 14, 18, 28, 36;
- 1.3 On-load current (A): 100/1-phase;
- 1.4 Protection degree: IP30(after installation);
- 1.5 Standard: IEC61439-3(EN60670-24)

2. Features

- 2.1 The product has appearance patent.
In addition to the standard mounting rail, a front panel for fixing is supplied.
The shape fixing bolts are easy for fastening and loosening.
- 2.2 The interiorly mounted MCBs are in compliance with relative IEC standards, 9mm modularized electric components are available, as well.
- 2.3 On request, various circuits combinations can be assembled; and the mounting capacity of the product units can be taken to 8~36 units.
- 2.4 Convenient and reliable operation, having exposed handle, and all live parts to be mounted inside the wall box.
- 2.5 The consumer unit is designed with internal terminal blocks for connection of neutral line and protective grounding wire.
- 2.6 The enclosure of the unit is made of plastic material.

3. Overall and mounting dimensions (mm)



Model	A	B	C	Remark
NX2-8	194±2.5	218±2.5	144±2.5	Single-row
NX2-10	230±2.5	254±2.5	180±2.5	
NX2-14	302±2.5	326±2.5	252±2.5	
NX2-18	374±2.5	398±2.5	324±2.5	
NX2-28	302±2.5	326±2.5	252±2.5	Double-rows
NX2-36	374±2.5	398±2.5	324±2.5	



NXW1 Consumer Unit (NXW1 Consumer Unit Body) for Outdoor Application

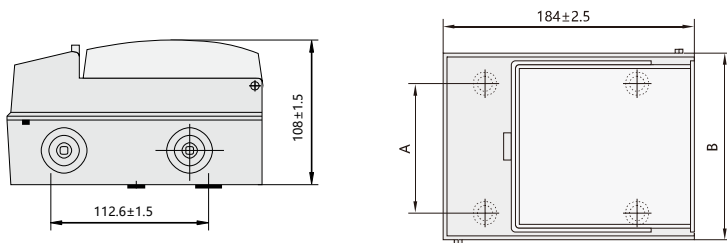
1.General

- 1.1 Electric ratings: up to 63A, 230V, AC50/60Hz;
- 1.2 No. of mounted units: 3, 5;
- 1.3 On-load current A: 63;
- 1.4 Protection degree: IP65;
- 1.5 Standard: IEC61439-3(EN60670-24)

2.Features

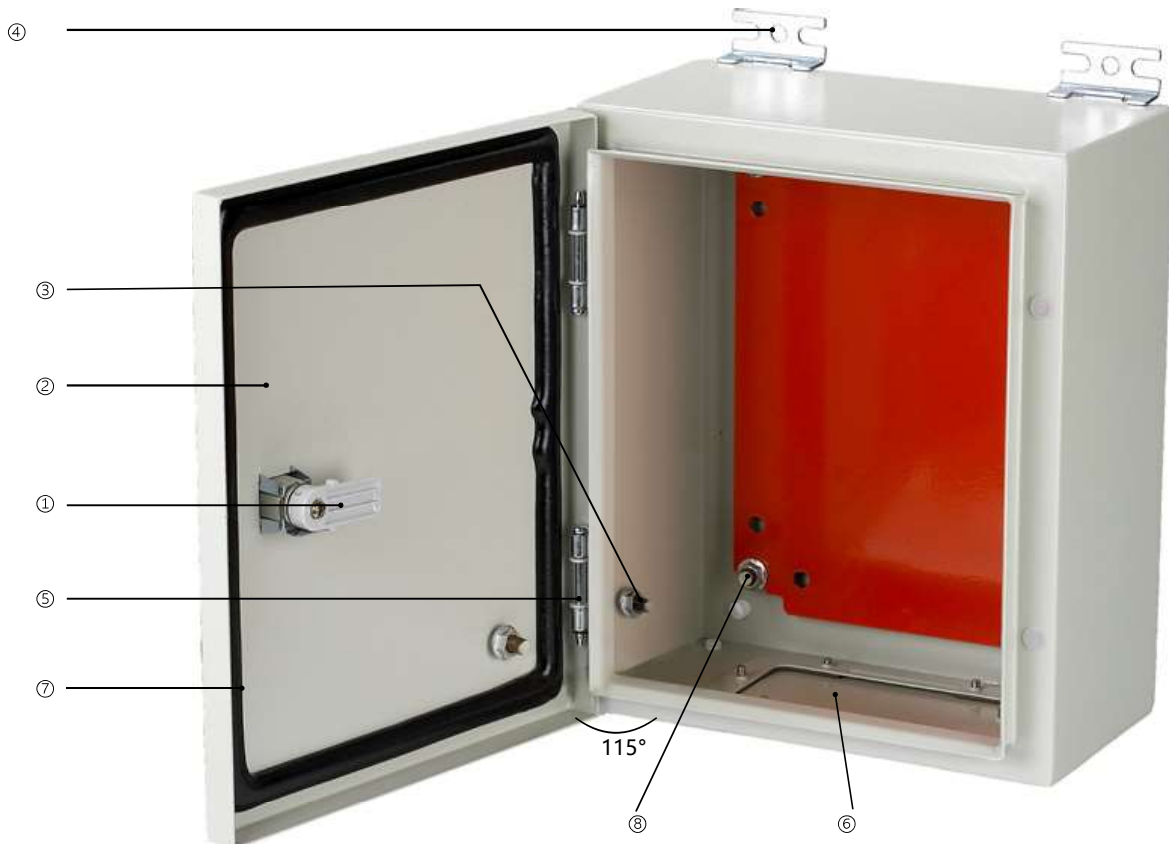
- 2.1 Special designed with excellent enclosure capability; with high protection degree up to IP65, applicable for outdoor mounting.
- 2.2 The interiorly mounted MCBs are all in compliance with relative IEC standards, 9mm modularized electric components are applicable, as well;
- 2.3 On request, various circuit combinations can be assembled; and the mounting capacity of the product units can be taken to 3~ 5units;
- 2.4 Convenient and reliable operation, having exposed handle, and all live parts to be mounted inside the wall box;
- 2.5 The consumer unit is designed with internal terminal blocks for connection of neutral line and protective grounding wire.
- 2.6 The enclosure of the unit is made of plastic material.

3. Overall and mounting dimensions (mm)

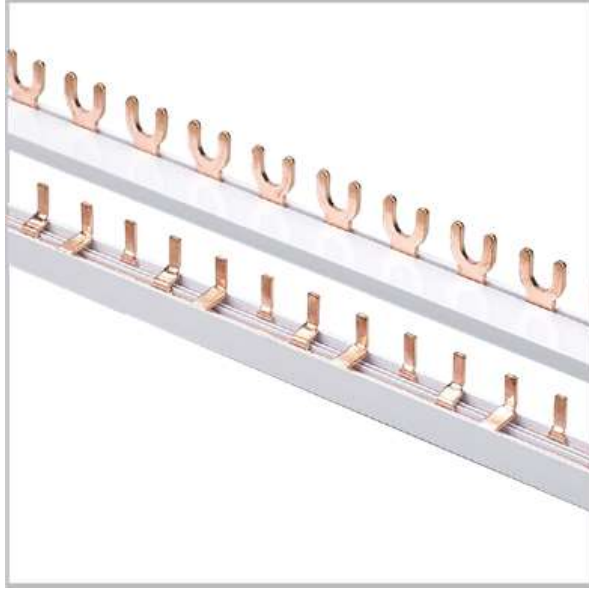


Model	A	B
NXW1-3	66.8±1.5	100±1.5
NXW1-5	102.8±1.5	136±2.5

NXW5 Wall Mounting Enclosure



- ① ---- Door lock: The operated lock for preventing unwanted operation.
- ② ---- Panel: Zinc-plated steel panel
- ③ ---- Earthing studs: Earthing connection between body and door.
- ④ ---- Wall fixing brackets: For easy surface installation.
- ⑤ ---- Hinges: Hinged connection provide better operating.
- ⑥ ---- Flanged panel: With sealing gasket that increased cable entry capacity.
- ⑦ ---- Sealing rubber gasket: Make high protection degree.
- ⑧ ---- Studs: For additional panel.



CBB-2 Busbar

1. General

Busbar is mainly applied to low-voltage distribution equipment for assembly of 18mm wide modularized products.

2. Naming rule

Naming rule:

Company	Product	S/N	Number of poles	Interface type	Cross-sectional area
C(CHINT)	BB(Busbar)	2	10:1P	1:needle type	10:10mm ²
C(CHINT)	BB(Busbar)	2	11:1P+N	2:U-type	16:16mm ²
			20:2P	3:1P+N in 18mm(upper interface)	
			30:3P	4:1P+N in 18mm(lower interface)	
			31:3P+N	5:1P+N in 38mm	
			40:4P	6:1P+N in 45mm	

Specific model:	Product order code
CBB-210110(Needle-type busbar 1P 10m ²)	811000
CBB-210116(Needle-type busbar 1P 16m ²)	811004
CBB-210210(U-type busbar 1P 10m ²)	811008
CBB-210216(U-type busbar 1P 16m ²)	811012
CBB-211310(1P+N in 18mm upper-interface busbar 10m ²)	811016
CBB-211410(1P+N in 18mm lower-interface busbar 10m ²)	811017
CBB-211510(1P+N in 36mm busbar 10m ²)	811018
CBB-211610(1P+N in 45mm busbar 10m ²)	811019
CBB-220110(Needle-type busbar 2P 10m ²)	811001
CBB-220116(Needle-type busbar 2P 16m ²)	811005
CBB-220210(U-type busbar 2P 10m ²)	811009
CBB-220216(U-type busbar 2P 16m ²)	811013
CBB-230116(Needle-type busbar 3P 10m ²)	811002
CBB-230116(Needle-type busbar 3P 16m ²)	811006
CBB-230210(U-type busbar 3P 10m ²)	811010
CBB-230216 (U-type busbar 3P 16m ²)	811014
CBB-230110 (Needle-type busbar 3P +N 10m ²)	811020
CBB-240110 (Needle-type busbar 4P 10m ²)	811003
CBB-240116 (Needle-type busbar 4P 16m ²)	811007
CBB-240210 (U-type busbar 4P 10m ²)	811011
CBB-240216 (U-type busbar 4P 16m ²)	811015

3 Operating conditions:

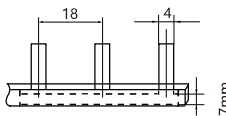
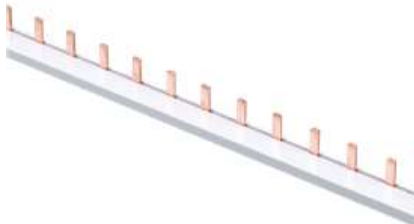
Operating temperature range: - 5°C ~ + 40°C
Relative air humidity in 20°C: 90%
Altitude: ≤2000m
Pollution degree: 2

CBB-2101

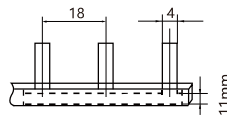
4 Main Technical Parameter

Table 1

Parameter name	Numeric value
Number of poles	1,2,3,4
Rated voltage,V	230/400
Rated impulse withstand voltage Uimp,V	4000



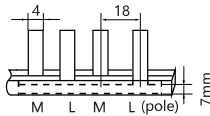
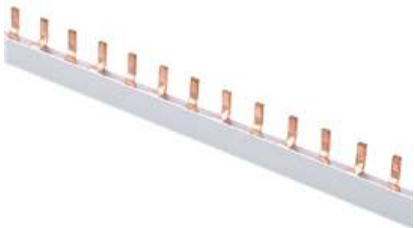
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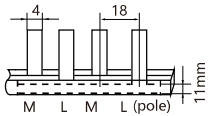
CBB-210116

Model	CBB-210110	CBB-210116
Thickness(mm)	7	11
Cross Section(mm) ²	10	16

CBB-2201



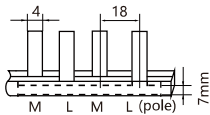
CBB-220110



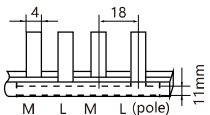
CBB-220116

Model	CBB-210110	CBB-210116
Thickness(mm)	7	11
Cross Section(mm) ²	10	16

CBB-2301



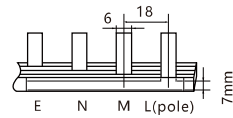
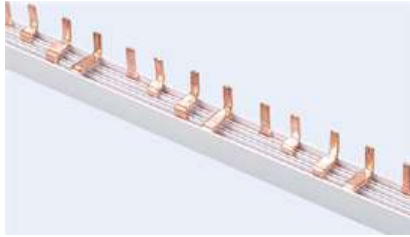
CBB-230110



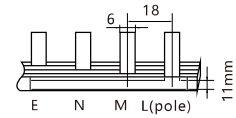
CBB-220116

Model	CBB-210110	CBB-210116
Thickness(mm)	7	11
Cross Section(mm) ²	10	16

CBB-2201



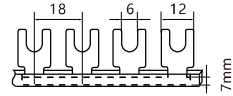
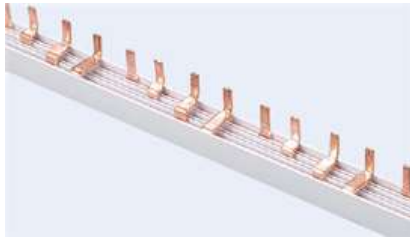
CBB-240110



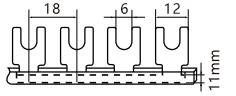
CBB-240116

Model	CBB-210110	CBB-210116
Thickness(mm)	1.5	1.5
Cross Section(mm) ²	10	16

CBB-2102



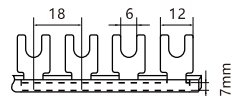
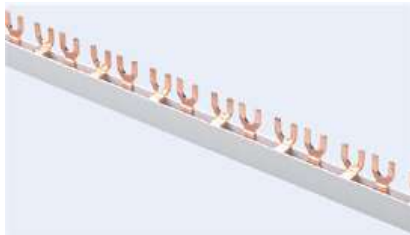
CBB-240110



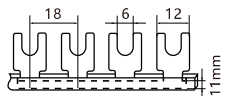
CBB-240116

Model	CBB-210110	CBB-210116
Thickness(mm)	1.5	1.5
Cross Section(mm) ²	10	16

CBB-2122



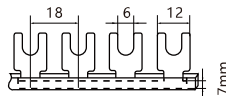
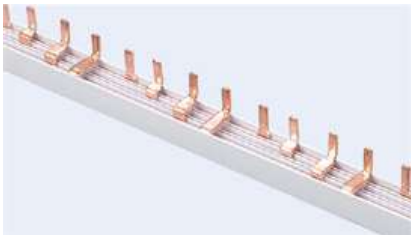
CBB-220210



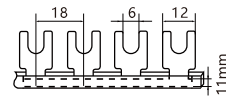
CBB-220216

Model	CBB-210110	CBB-210116
Thickness(mm)	1.5	1.5
Cross Section(mm) ²	10	16

CBB-2302



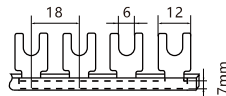
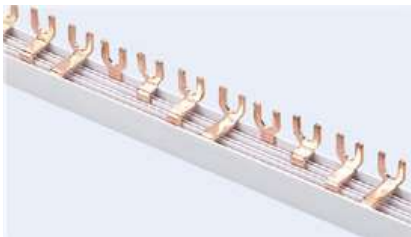
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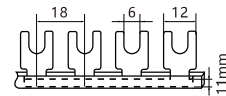
CBB-230216

Model	CBB-210110	CBB-210116
Thickness(mm)	1.5	1.5
Cross Section(mm) ²	10	16

CBB-2302



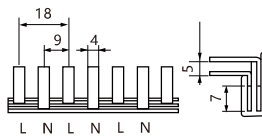
CBB-240210



CBB-240216

Model	CBB-210110	CBB-210116
Thickness(mm)	1.5	1.5
Cross Section(mm) ²	10	16

CBB-211310 CBB-211410



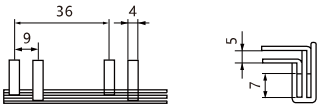
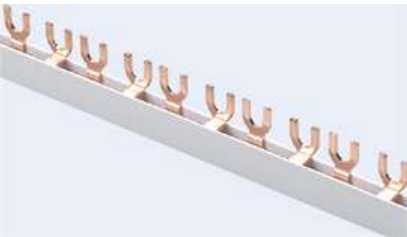
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CBB-211410

Model	CBB-210110	CBB-210116
Thickness(mm)	1.5	1.5
Cross Section(mm) ²	10	16

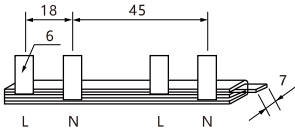
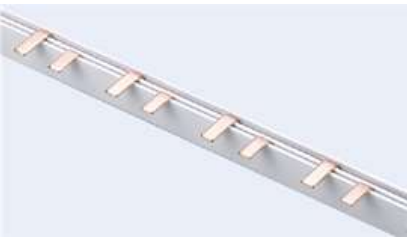
CBB-211510



CBB-211510

Model	CBB-211510
Thickness(mm)	1.5
Cross Section(mm) ²	10

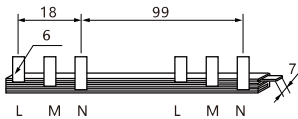
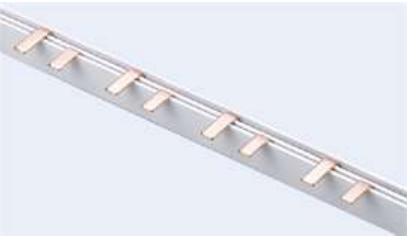
CBB-211610



CBB-211610

Model	CBB-211610
Thickness(mm)	1.5
Cross Section(mm) ²	10

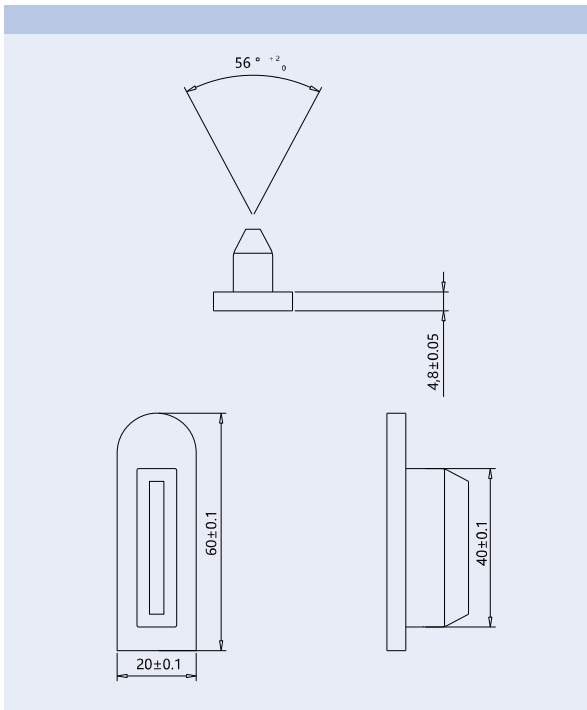
CBB-231110



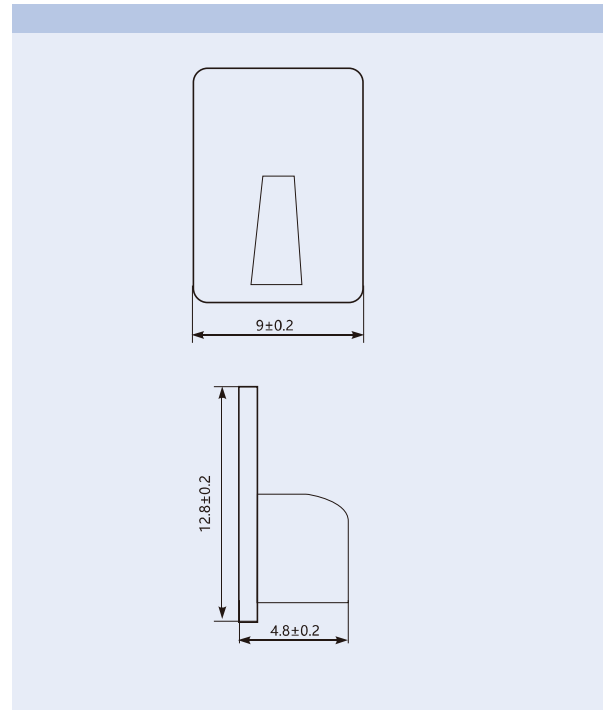
CBB-231110

Model	CBB-231110
Thickness(mm)	1.5
Cross Section(mm) ²	10

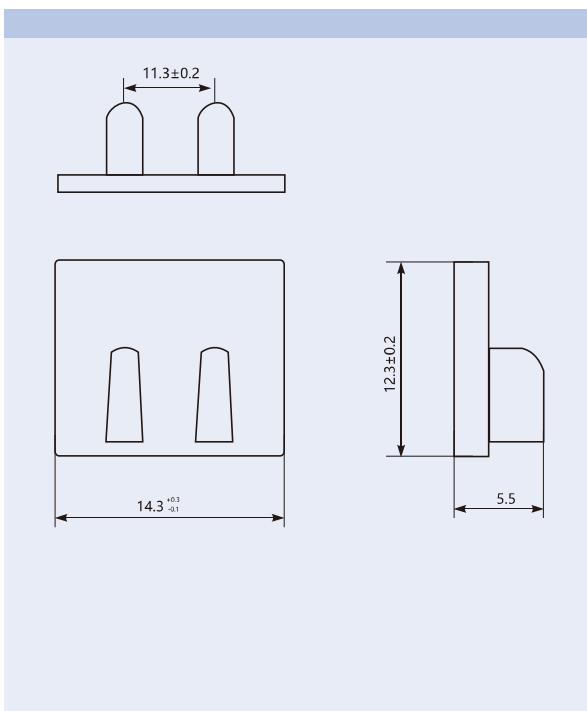
1P cap dimensions



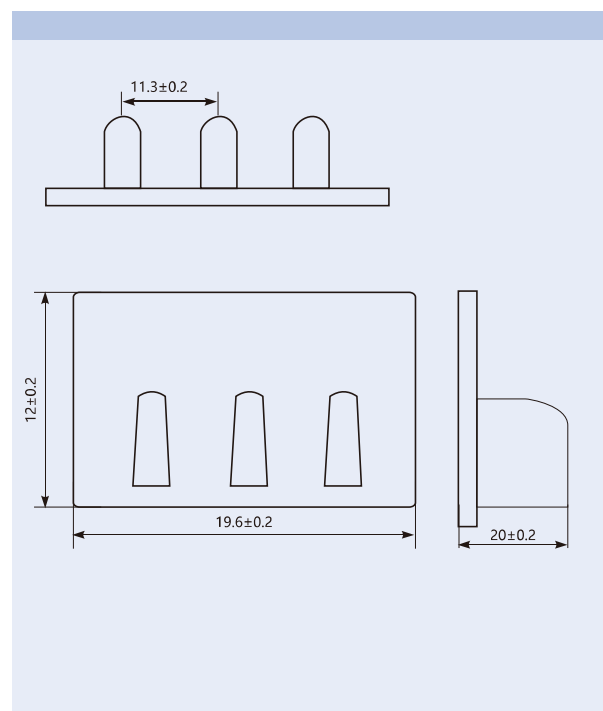
2P cap dimensions



3P cap dimensions



4P cap dimensions



[illegible]