



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

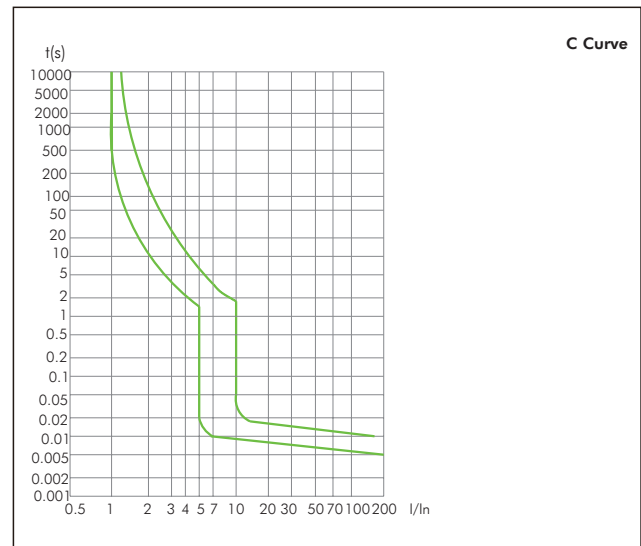
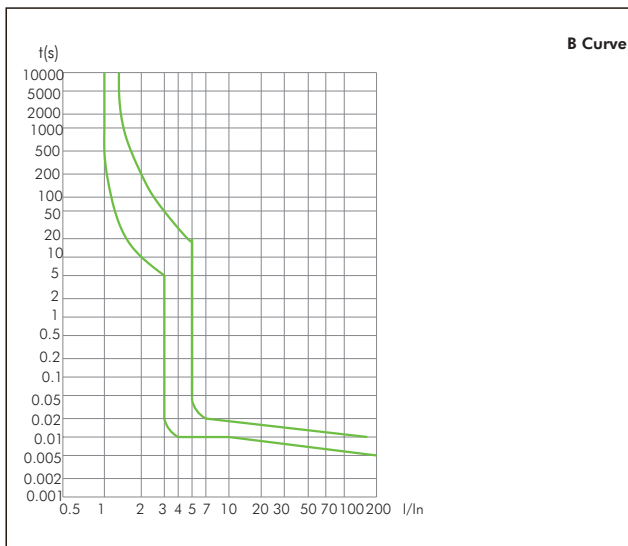
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- Rated residual operating current
- Instantaneous trip type and rated current (A)
- Function Code (electronic residual current)
- Design sequence No.
- Miniature Circuit Breaker
- Company Code



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 $I_{\Delta no}$	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)				
		$I_{\Delta n}$	$2 I_{\Delta n}$	$5 I_{\Delta n}$	$5A, 10A, 20A, 50A, 100A, 200A, 500A^a$	$I_{\Delta t}^b$
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 $I_{\Delta t}$ 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

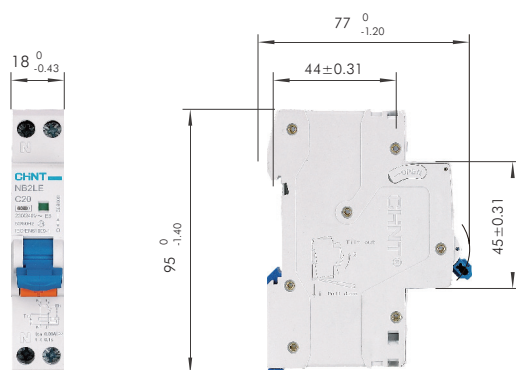
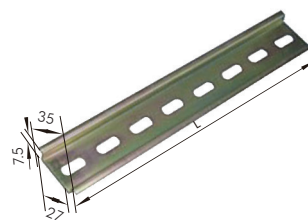


Fig. 3 Mounting rail size



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.