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∆n ⩽30 mA: additional protection in the case of direct contact.

I∆n ⩽300 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 In) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

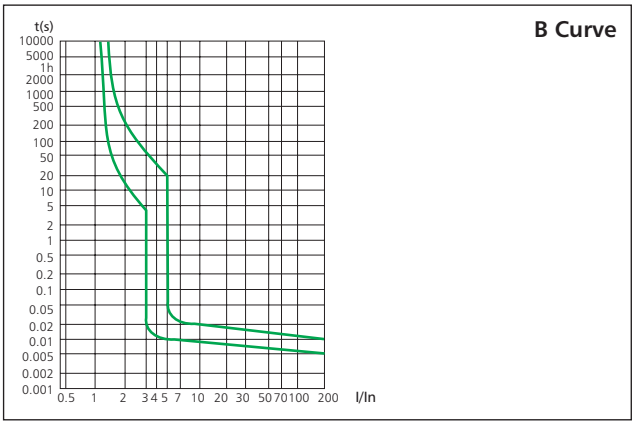
C curve (5-10 In) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

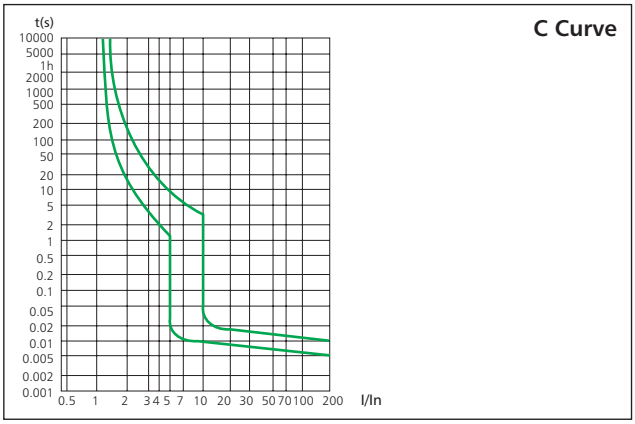
1.3 Approvals and certificates

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)		AC, A		
	Thermo-magnetic release characteristic		B, C		
	Rated current In	A	MCB+add-on RCCB block	1, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40	50, 63
			Combined	1-25/6-40	
	Poles		MCB+add-on RCCB block	1P+N, 2P, 3P, 3P+N, 4P	
			Combined	1P+N, 2P	
	Rated voltage Ue	V	230/400~240/415		
	Rated sensitivity I△n	A	0.03, 0.1, 0.3		
	Rated residual making and breaking capacity I△m	A	500 (In≤40A)		
			630 (In>40A)		
	Rated short-circuit capacity Icn	A	6,000/10,000		
	Break time under I△n	s	≤0.1		
	Rated frequency	Hz	50/60		
	Rated impulse withstand voltage (1.2/50)Uimp	V	6,000		
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2		
	Insulation voltage Ui		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℃)	℃	-5...+40		
	Storage temperature	℃	-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)		

A

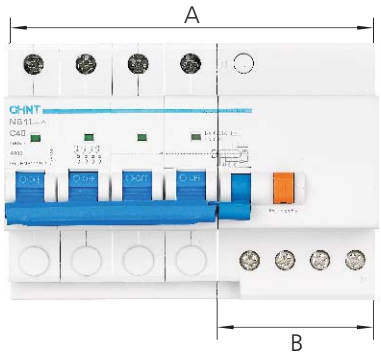
2.3 Temperature derating

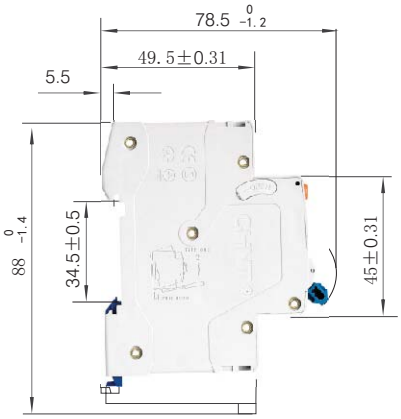
The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed.
The reference temperature is 30℃

Temperature	-10℃	0℃	10℃	20℃	30℃	40℃	50℃	60℃
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)

3.1 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

Combined