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

IΔn = 30mA, 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 In-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 In-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

CE/CB

1.4 Add-on devices

XF9 auxiliary contacts

S9 shunt release

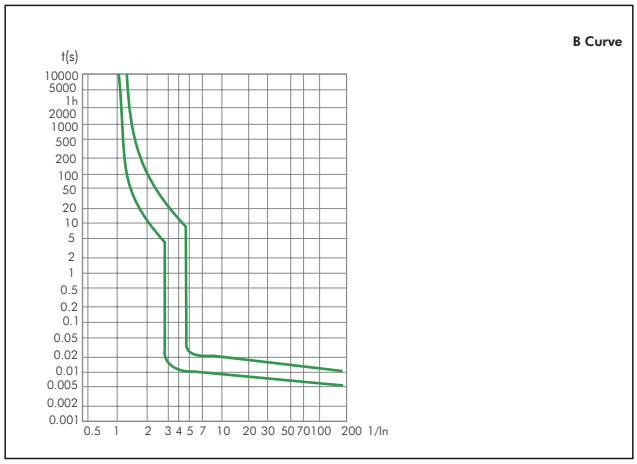
V9 under voltage release

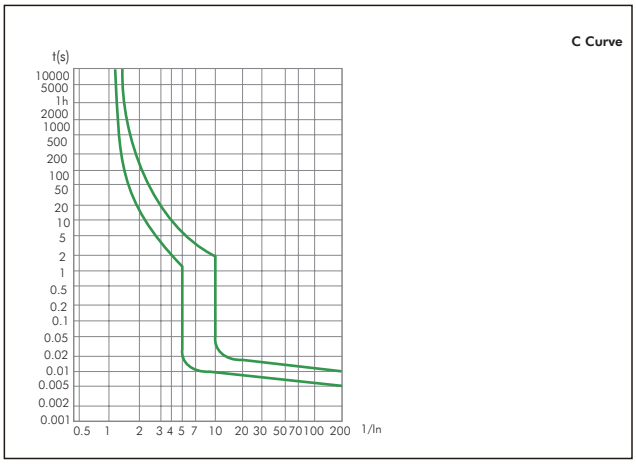
OVT-1 over voltage release

CE CB RoHS REACH

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 In	A	6, 10, 13, 16, 20, 25, 32
	Poles		2P
	Rated voltage Ue	V	230/240
	Rated sensitivity I △ n	A	0.03
	Rated residual making and breaking capacity I △ m	A	3,000
	Rated short-circuit capacity Icn	A	6,000
	Break time under I △ n	s	≤0.1
	Rated frequency	Hz	50/60
	Rated impulse withstand voltage (1.2/50)Uimp	kV	4
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage Ui	V	500
	Pollution degree		2
Mechanical features	Electrical life		2,000
	Mechanical life		10,000
	Contact position indicator		Yes
	Protection degree		IP20
	Ambient temperature (with daily average≤35℃)	℃	-25~+70
	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		Bottom electrical feeding

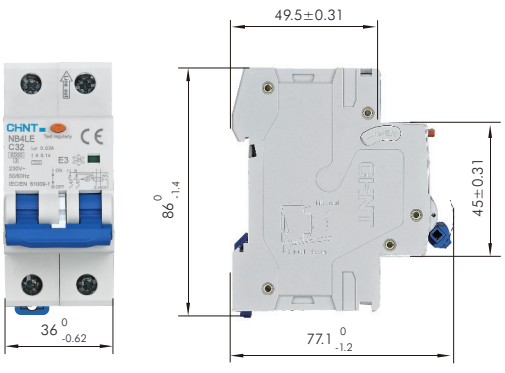
2.3 Temperature derating

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℃

Temperature	-25℃	-20℃	-10℃	0℃	10℃	20℃	30℃	40℃	50℃	60	70℃
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	2P	C	16	30mA	A	6kA
Frame	**Poles**	**Curve**	**Current(In)**	**Rated sensitivity (IΔn)**	**Leakage type**	**Breaking capacity**
NB4LE	2P	B BK C CK	6A~40A	30mA	A	6kA 10kA

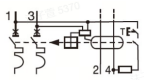
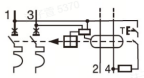
Diagram	Curve	Poles	In(A)	Icu(kA)	Ue(V)	IΔn(mA)	Leakage Type	Description	Code
	B	2P	10	6	AC230/240	30	A	NB4LE 2P B10 30mA A 6kA	292726
	B	2P	13	6	AC230/240	30	A	NB4LE 2P B13 30mA A 6kA	292727
	B	2P	16	6	AC230/240	30	A	NB4LE 2P B16 30mA A 6kA	292728
	B	2P	20	6	AC230/240	30	A	NB4LE 2P B20 30mA A 6kA	292729
	B	2P	25	6	AC230/240	30	A	NB4LE 2P B25 30mA A 6kA	292730
	B	2P	32	6	AC230/240	30	A	NB4LE 2P B32 30mA A 6kA	292731
	B	2P	6	6	AC230/240	30	A	NB4LE 2P B6 30mA A 6kA	292725
	BK	2P	10	6	AC230/240	30	A	NB4LE 2P BK10 30mA Type A 6kA	314264
	BK	2P	13	6	AC230/240	30	A	NB4LE 2P BK13 30mA Type A 6kA	314265
	BK	2P	15	6	AC230/240	30	A	NB4LE 2P BK15 30mA Type A 6kA	314266
	BK	2P	20	6	AC230/240	30	A	NB4LE 2P BK20 30mA Type A 6kA	314267
	C	2P	10	6	AC230/240	30	A	NB4LE 2P C10 30mA A 6kA	292719
	C	2P	13	6	AC230/240	30	A	NB4LE 2P C13 30mA A 6kA	292720
	C	2P	16	6	AC230/240	30	A	NB4LE 2P C16 30mA A 6kA	292721
	C	2P	20	6	AC230/240	30	A	NB4LE 2P C20 30mA A 6kA	292722
	C	2P	25	6	AC230/240	30	A	NB4LE 2P C25 30mA A 6kA	292723
	C	2P	32	6	AC230/240	30	A	NB4LE 2P C32 30mA A 6kA	292724
	C	2P	6	6	AC230/240	30	A	NB4LE 2P C6 30mA A 6kA	292718
	CK	2P	10	6	AC230/240	30	A	NB4LE 2P CK10 30mA A 6kA	292732
	CK	2P	13	6	AC230/240	30	A	NB4LE 2P CK13 30mA A 6kA	292733
	CK	2P	15	6	AC230/240	30	A	NB4LE 2P CK15 30mA A 6kA	292734
	CK	2P	20	6	AC230/240	30	A	NB4LE 2P CK20 30mA A 6kA	292735
	B	2P	10	10	AC230/240	30	A	NB4LE-40H 2P B10 30mA Type A 10kA	387531
	B	2P	13	10	AC230/240	30	A	NB4LE-40H 2P B13 30mA Type A 10kA	387532
	B	2P	16	10	AC230/240	30	A	NB4LE-40H 2P B16 30mA Type A 10kA	387533
	B	2P	20	10	AC230/240	30	A	NB4LE-40H 2P B20 30mA Type A 10kA	387534
	B	2P	25	10	AC230/240	30	A	NB4LE-40H 2P B25 30mA Type A 10kA	387535
	B	2P	32	10	AC230/240	30	A	NB4LE-40H 2P B32 30mA Type A 10kA	387536
	B	2P	40	10	AC230/240	30	A	NB4LE-40H 2P B40 30mA Type A 10kA	387537
	B	2P	6	10	AC230/240	30	A	NB4LE-40H 2P B6 30mA Type A 10kA	387530
	BK	2P	10	10	AC230/240	30	A	NB4LE-40H 2P BK10 30mA Type A 10kA	387538
	BK	2P	13	10	AC230/240	30	A	NB4LE-40H 2P BK13 30mA Type A 10kA	387539
	BK	2P	15	10	AC230/240	30	A	NB4LE-40H 2P BK15 30mA Type A 10kA	387540
	BK	2P	20	10	AC230/240	30	A	NB4LE-40H 2P BK20 30mA Type A 10kA	387541
	C	2P	10	10	AC230/240	30	A	NB4LE-40H 2P C10 30mA Type A 10kA	387543
	C	2P	13	10	AC230/240	30	A	NB4LE-40H 2P C13 30mA Type A 10kA	387544

Diagram	Curve	Poles	In(A)	Icu(kA)	Ue(V)	IΔn(mA)	Leakage type	Description	Code
	C	2P	16	10	AC230/240	30	A	NB4LE-40H 2P C16 30mA Type A 10kA	387545
	C	2P	20	10	AC230/240	30	A	NB4LE-40H 2P C20 30mA Type A 10kA	387546
	C	2P	25	10	AC230/240	30	A	NB4LE-40H 2P C25 30mA Type A 10kA	387547
	C	2P	32	10	AC230/240	30	A	NB4LE-40H 2P C32 30mA Type A 10kA	387548
	C	2P	40	10	AC230/240	30	A	NB4LE-40H 2P C40 30mA Type A 10kA	387549
	C	2P	6	10	AC230/240	30	A	NB4LE-40H 2P C6 30mA Type A 10kA	387542
	CK	2P	10	10	AC230/240	30	A	NB4LE-40H 2P CK10 30mA Type A 10kA	387550
	CK	2P	13	10	AC230/240	30	A	NB4LE-40H 2P CK13 30mA Type A 10kA	387551
	CK	2P	15	10	AC230/240	30	A	NB4LE-40H 2P CK15 30mA Type A 10kA	387552
	CK	2P	20	10	AC230/240	30	A	NB4LE-40H 2P CK20 30mA Type A 10kA	387553