






NDB2 Miniature Circuit Breakers Nader

1. Product Overview

					
Product models	NDB2-40	NDB2-63	NDB2T-63	NDB2T-63 (UL489)	NDB2-63K
Rated operational voltage (V)	AC230/240	AC230/240 (1P) AC400/415(2P/3P/4P) DC80(1P/2P)	AC230/240 (1P) AC400/415(2P/3P/4P) DC60/80 (1P) DC80/125 (2P)	AC120/240 AC277/480 DC60(1P/2P) DC125(2P)	AC230/240
Rated operating current (A)	2 ~ 40A	1 ~ 63A	1 ~ 63A	1 ~ 63A	1 ~ 63A
Number of poles	1P+N	1P、2P、3P、4P	1P、2P、3P、4P	1P、2P、3P	1P+N
Product certification	CCC、CE、TUV、UL1077	CCC、CE、TUV、UL1077	CCC、CE、TUV、UL1077	UL489	CCC

2. Product Features

● Scope of application and purpose

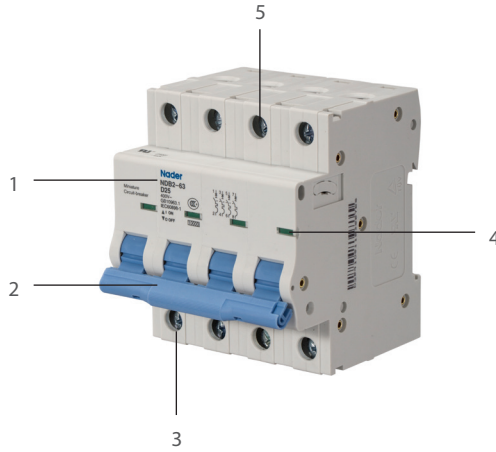
NDB2 series circuit breakers provide short circuit protection, overload protection, control, isolation, etc. They are applicable to low-voltage terminal power distribution in such fields as industry, civil construction, energy, communications and infrastructure.

● Design features

- ◆ Quick closure: ensures reliable operation of impact load and prolongs the service life of circuit breaker
- ◆ The product structure provides short-circuit current limitation and improves short-circuit breaking capacity
- ◆ Frame wiring structure: Reliable wiring
- ◆ Supporting a variety of accessories: Simple and convenient function extension
- ◆ Modulization and modularization: Arbitrary combination

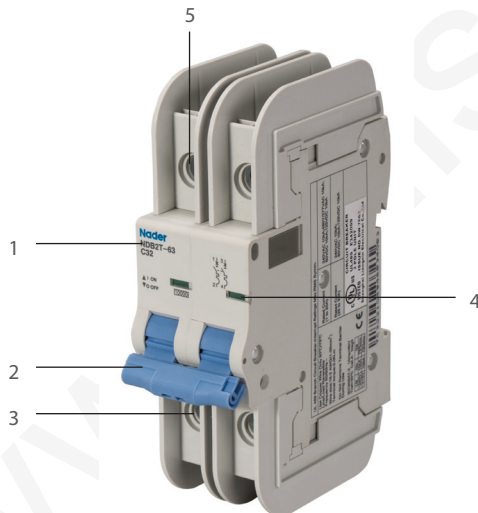
● Structural features

- ◆ Structures and features of NDB2 product



- 1: Product model
- 2: Handle
- 3: Incoming and outgoing line ends
- 4: Opening/closing indication

- ◆ NDB2(UL489) Structures and features of the product



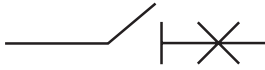
- 1: Product model
- 2: Handle
- 3: Incoming and outgoing line ends
- 4: Opening/closing indication

● Meeting the following standards

- ◆ GB10963.1 Circuit breakers with overcurrent protection for household and similar places - Part 1: Circuit breakers for AC.
- ◆ GB14048.2 Low-voltage switchgear and controlgear Part 2: Circuit breaker.
- ◆ IEC 60898-1 Electrical accessories-Circuit-breakers for overcurrent protection for house hold and similar installation-Part 1.
- ◆ IEC 60947-2 Low-voltage switchgear and controlgear-Part 2.

3. Application Scope

● Electrical symbols



● Applicable environment

- ◆ Temperature of the working environment/storage temperature
Temperature of the working environment: $-35^{\circ}\text{C}\sim+70^{\circ}\text{C}$, the average value in 24h is not more than $+35^{\circ}\text{C}$
Storage temperature: $-35^{\circ}\text{C}\sim+70^{\circ}\text{C}$
- ◆ Altitude
Installation site altitude $\leq 2,000\text{m}$.
- ◆ Relative humidity for operation/Relative humidity for storage
The relative humidity of atmosphere is not more than 50% at the ambient air temperature of $+40^{\circ}\text{C}$; at a lower temperature, a higher relative humidity is allowed, for example, 90% at 20°C . Special measures should be taken to deal with occasional condensation due to temperature change.

● Pollution grade

2 poles

● Protection grade

Product protection grade: IP20

● Installation category

Class II (load level), Class III (power distribution and control level), Class IV (power level)

● Installation mode

Installed on the TH35mm \times 7.5 (EN50022) standard rails

● Installation direction

Installed in any direction

● Environmental protection requirements

Products meet the RoHS standard

4. Technical Characteristics of the Product

4.1 Description of Specifications and Models

Serial No.	Serial No. name	Code explanation			
1	Enterprise code	ND: Nader brand low-voltage apparatus			
2	Model	B: Miniature Circuit Breakers			
3	Design serial No.	2			
4	Meeting the following standards	None: GB 10963.1	T: GB 14048.2		
5	Frame grade	40	63	63	63
6	Tripping characteristic	B、C	B、C、D	B、C、D	B、C、D
7	Rated current	2、4、6、10、16、20、25、32、40	1、2、3、4、5、6、8、10、12、13、16、20、25、32、40、50、63	1、1.2、1.5、1.6、2、3、4、5、6、7、8、10、12、13、15、16、20、25、30、32、35、40、50、60、63	1、1.2、1.5、1.6、2、4、5、6、7、8、10、12、13、15、16、20、25、30、32、35、40、50、60、63
8	Number of poles	None: 1PN	1: 1P, 2: 2P 3: 3P, 4: 4P	1: 1P, 2: 2P 3: 3P, 4: 4P	1: 1P, 2: 2P 3: 3P
9	None: CC、CE、TUV、UL1077	None: CCC、CE、TUV、UL1077	None: CCC、CE、TUV、UL1077	None: CCC、CE、TUV、UL1077	None: UL489

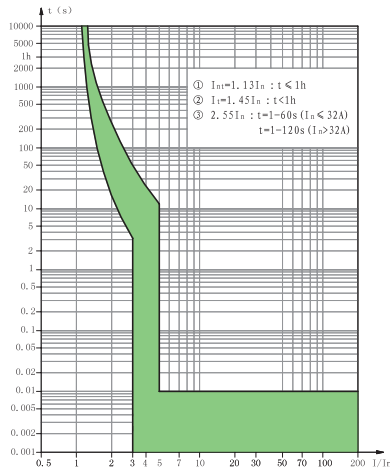
4.2 Technical Parameters

Model	NDB2-40	NDB2-63	NDB2T-63	NDB2T-63 (UL489)	NDB2-63K
Rated voltage	AC230/240	AC230/240 (1P) AC400/415 (2P/3P/4P) DC80 (1P/2P)	AC230/240 (1P) AC400/415 (2P/3P/4P) DC60/80 (1P) DC60/80 (2P)	AC120/277 (1P) AC240 (2P/3P) AC480Y/277 (2P/3P) DC60 (1P/2P) DC125 (2P)	AC230
Rated insulation voltage	400V	1000V	1000V	1000V	230V
Rated impulse withstand voltage	4kV	6kV	6kV	6kV	6kV
Rated current	2A、4A、6A、 10A、16A、 20A、25A、 32A、40A	1A、2A、3A、 4A、5A、6A、 8A、10A、12A、 13A、16A、20A、 25A、32A、40A、 50A、63A	1A、1.2A、1.5A、 1.6、2A、3A、 4A、5A、6A、 7A、8A、10A、 10A、12A、13A、 15A、16A、20A、 25A、30A、32A、 35A、40A、50A、 63A	1A、1.2A、1.5A、 1.6A、2A、3A、 4A、5A、6A、7A、 8A、10A、12A、 13A、15A、16A、 20A、25A、30A、 32A、40A、50A、 60A、63A	1A、2A、4A、 6A、10A、16A、 20A、25A、32A、 40A 50A、63A
Rated short-circuit breaking capacity	6kA	10kA	/	AC120/240 10kA AC277V/480 10kA(1-32A)	6kA
Rated ultimate short-circuit breaking capacity	/	/	10kA	/	/
Rated running short-circuit breaking capacity	6kA	7.5kA	7.5kA	/	6kA
Instantaneous tripping characteristic	B: 3 ~ 5I _n C: 5 ~ 10I _n	B: 3 ~ 5I _n C: 5 ~ 10I _n D: 10 ~ 14I _n	B: 4I _n ± 20% C: 8I _n ± 20% D: 12I _n ± 20%	B: 4I _n ± 20% C: 8I _n ± 20% D: 12I _n ± 20%	C: 5 ~ 10I _n
Mechanical/ Electrical life	10000/10000	20000/10000	20000/10000	10000/10000	20000/10000
Number of poles	1PN	1P/2P/3P/4P	1P/2P/3P/4P	1P/2P/3P	1PN
Meeting the following standards	GB 10963.1 IEC 60898-1 UL1077	GB 10963.1 IEC 60898-1 UL1077	GB 14048.2 IEC 60947-2 UL1077	UL489	GB 10963.1 IEC 60898-1

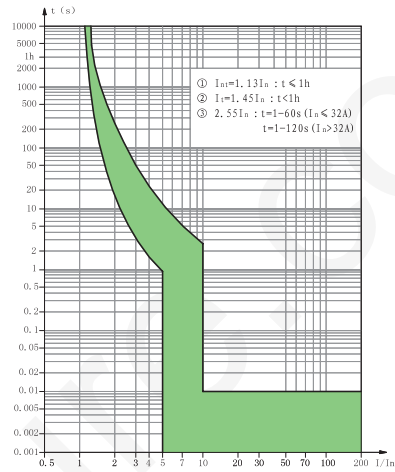
4.3 Tripping Characteristic Curve

● NDB2-40

Type B (3 ~ 5 In)

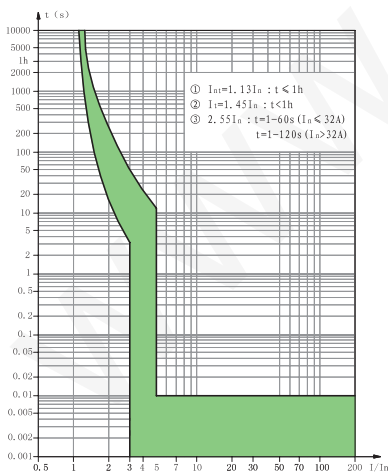


Type C (5 ~ 10 In)

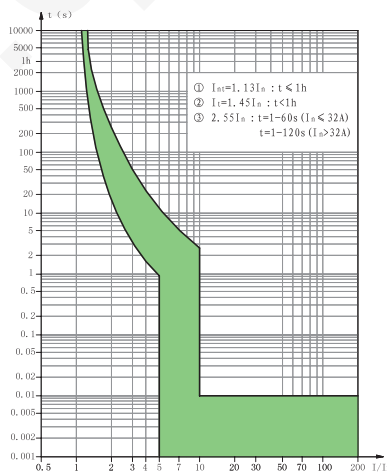


● NDB2-63

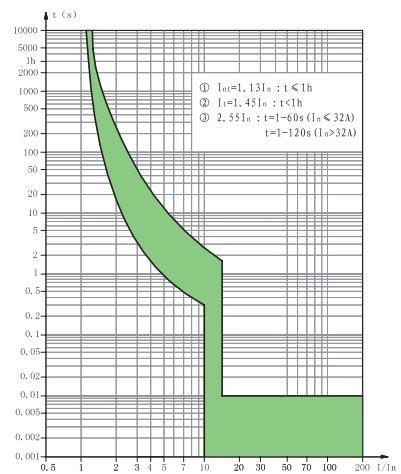
Type B (3 ~ 5 In)



Type C (5 ~ 10 In)

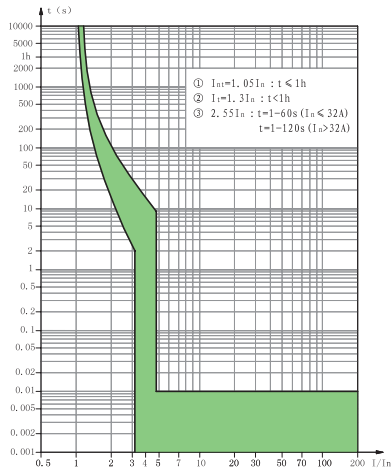


Type D (10 ~ 14 In)

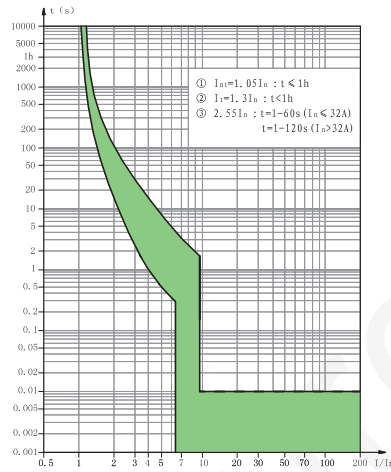


● NDB2T-63/ NDB2T-63 UL489

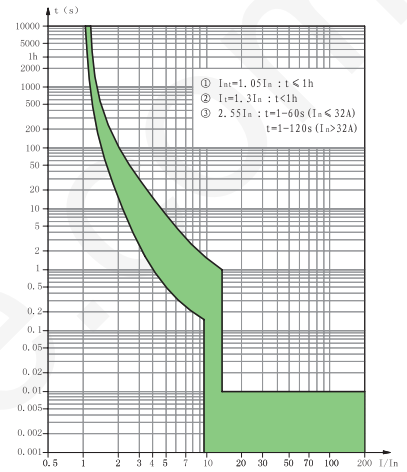
Type B 4 In (1 ± 20%)



Type C 8 In (1 ± 20%)

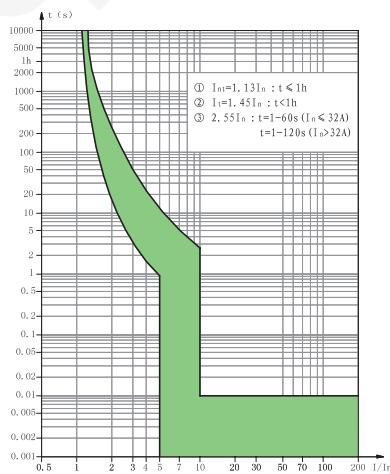


Type D 12 In (1 ± 20%)



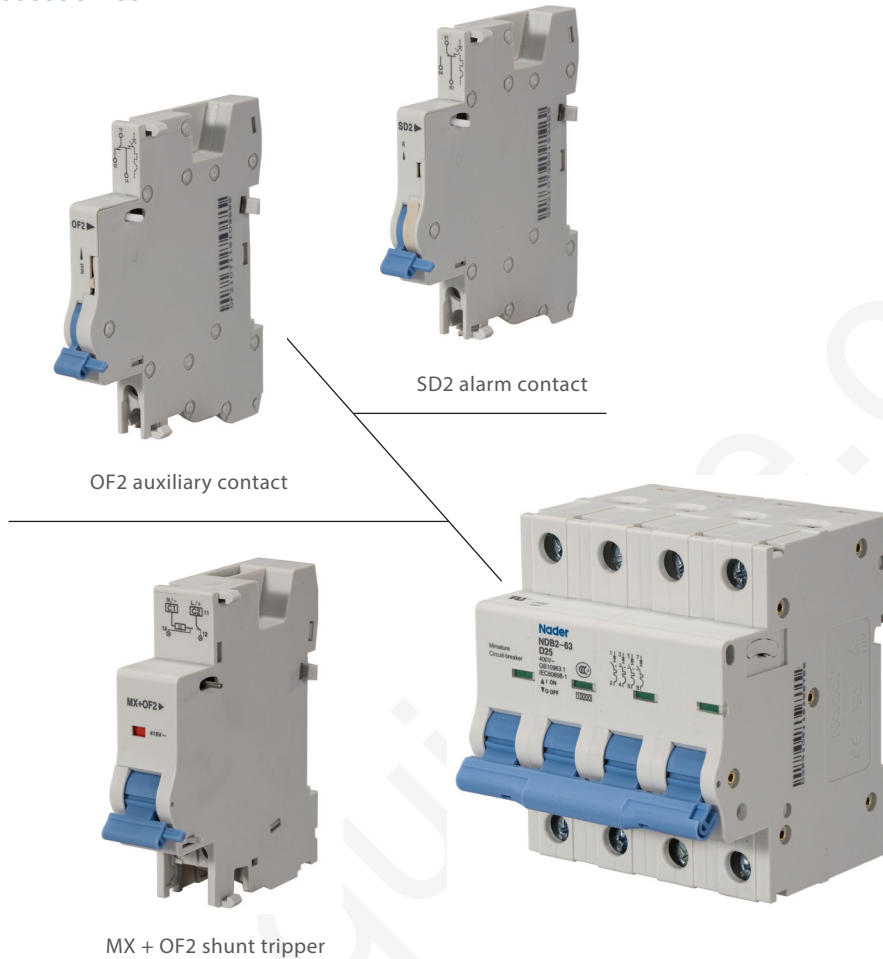
● NDB2-63K

Type C (5 ~ 10 In)



5. Accessories

● List of accessories



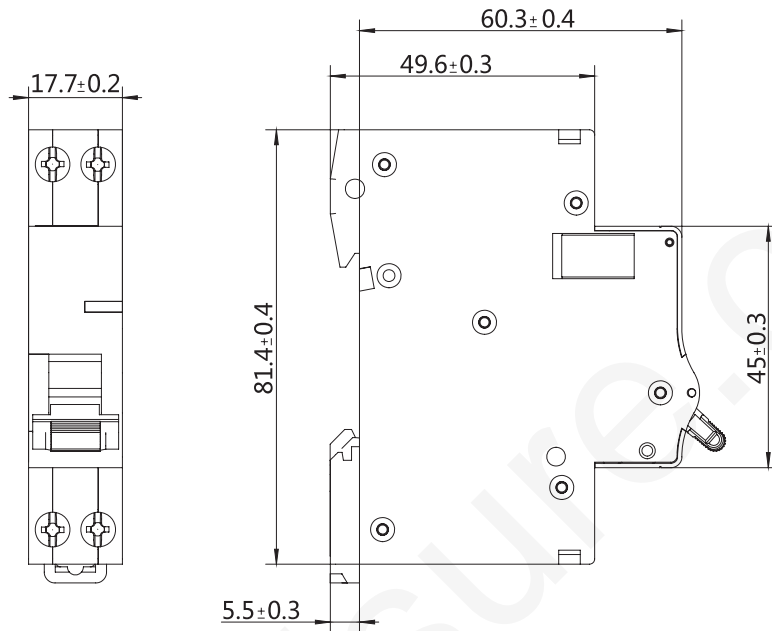
● NDB2-63/NDB2T-63 accessories forms

Serial No.	Name	Accessory code	Function and number of loading
1	Auxiliary contact	OF2	Loaded on the left side of a miniature circuit breaker to indicate the On/Off state of the circuit breaker; 3 can be loaded at most
2	Alarm contact	SD2	Loaded on the left side of a miniature circuit breaker to indicate the fault trip state of the circuit breaker; 3 can be loaded at most
3	Shunt tripper	MX+OF2	Loaded on the left side of a miniature circuit breaker to indicate the fault tripping state and remote breaking control of the circuit breaker;

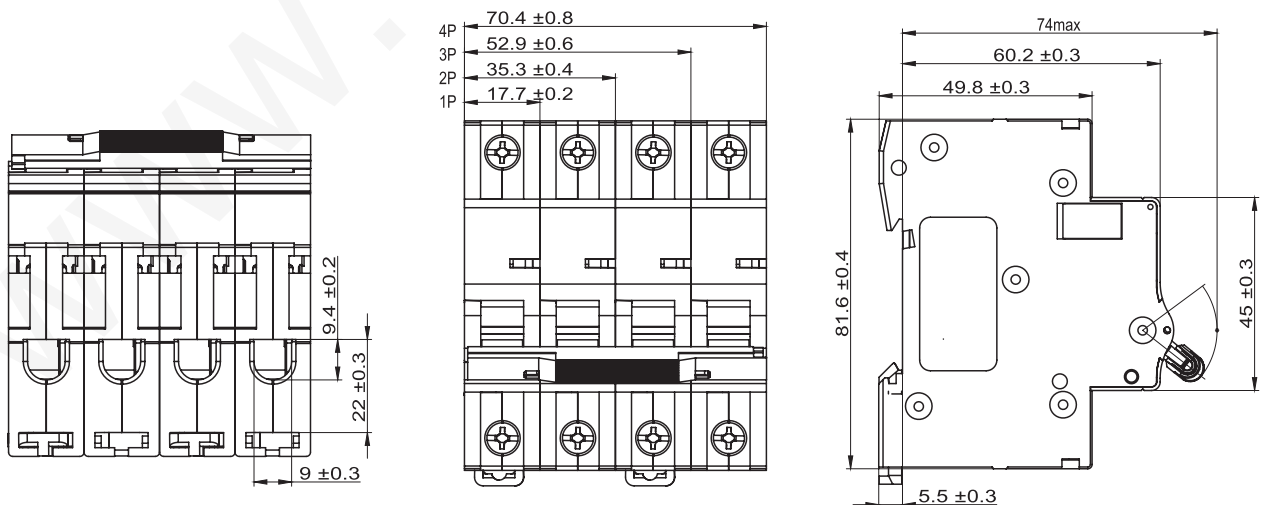
Note: For details of accessory parameters, see “OF2, SD2 and MX+OF2” samples

6. Outline and Installation Dimension

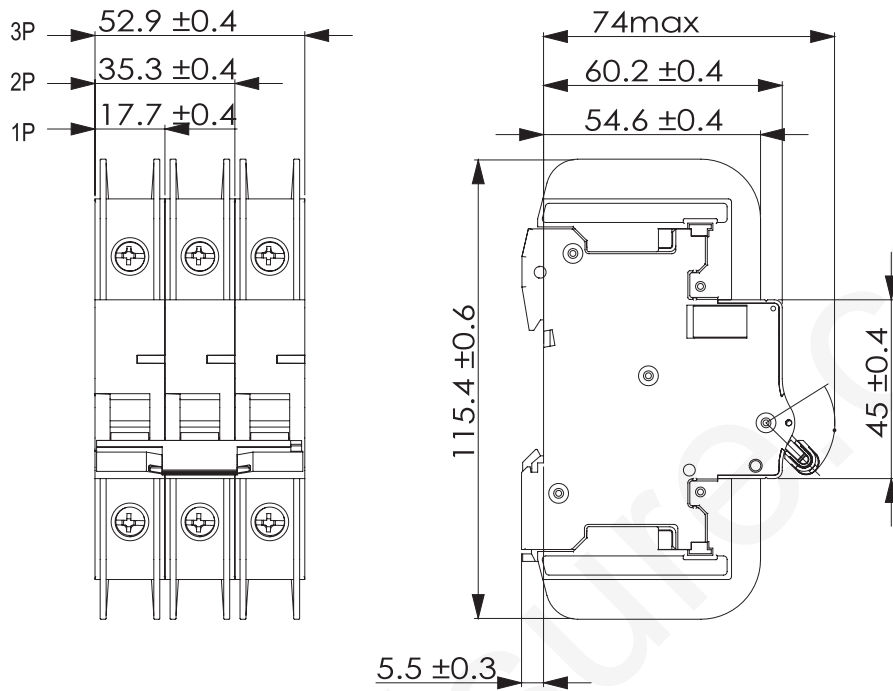
6.1 NDB2-40 Outline Dimension



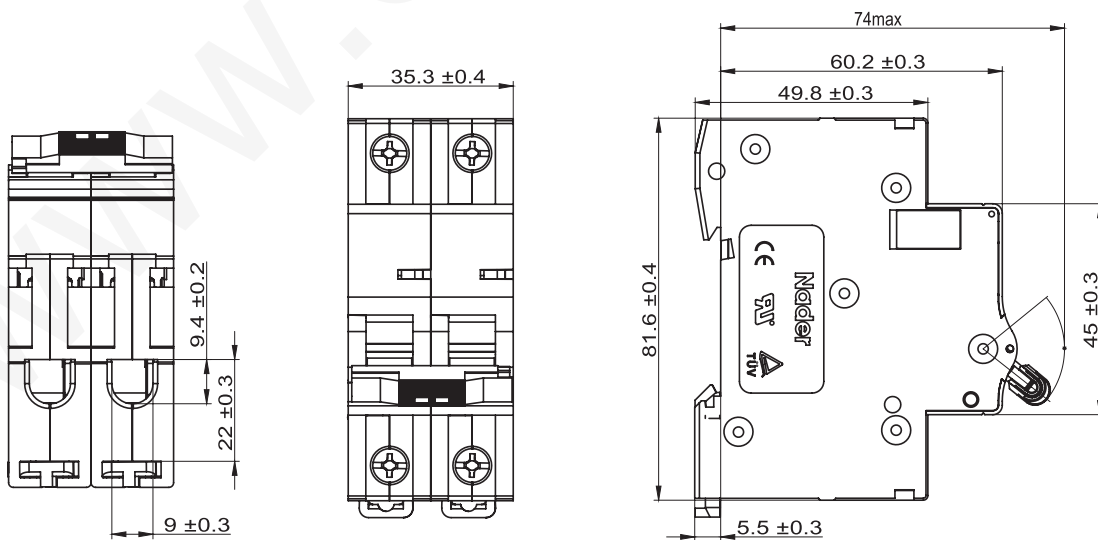
6.2 NDB2-63/NDB2T-63 Outline Dimension



6.3 NDB2T-63UL489 Outline Dimension

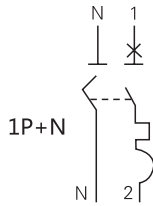


6.4 NDB2-63K Outline Dimension



7. Electric Circuit Diagram

● NDB2-40 / NDB2-63K



● NDB2-63/NDB2T-63/NB2T-63 UL489

