

Shanghai Liangxin Electrical Co., Ltd.

Product Specification of NDB2-63

(IPD-ENG-DEV-T22 A1 2016-09-23)

Product Name: Miniature Circuit Breaker

Product type: NDB2-63

Date: 20201130

Prepared	<u>XuRong</u>	Date	<u>2020-11-30</u>
Reviewed	<u>ZhangJingyang</u>	Date	<u>2020-11-30</u>
Approved	<u>ZhangYang</u>	Date	<u>2020-11-30</u>

Revision information					
Version	Revised contents and reasons	Date	Prepared	Reviewed	Approved
4	Parameter update	20190620	XuRong	HuoZhiqiang	DuanHui
5	Parameter update	20201130	XuRong	ZhangJingyang	ZhangYang

1、Applicable scope and purpose

●Short -circuit protection

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- Over-load protection
- Control
- Isolation
- DC system protection

NDB2-63 dedicated to the low voltage power distribution system of industrial, buildings, energy communications and infrastructure.

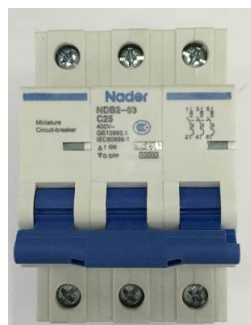
2、Picture:



1P



2P

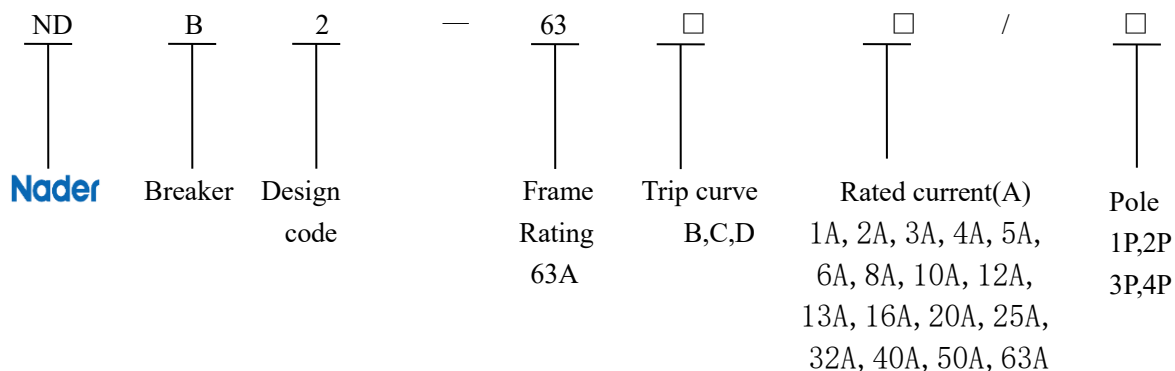


3P



4P

3、Model and implication:



4、Main technical specification

●Electrical parameters

Pole		1P	2P	3P	4P	certificate
Rating current(A)		1A,2A,3A,4A,5A,6A,8A,10A,12A,13A, 16A,20A,25A,32A,40A,50A,63A				
Item		Icn (SC)				
Voltage	AC230/240/400*/415*V	10kA	/	/	/	CCC
	AC400/415V	/	10kA			
	DC60/80V	10kA		/	/	
	AC230/240/400*/415*V	10kA	/	/	/	CE/TUV
	AC400/415V	/	10kA			
	DC60/80V	10 kA		/	/	
	AC240V	7.5kA, U1	/	/	/	UL1077
	AC277V	5kA, U1	/	/	/	
	AC480V	/	7.5kA, U1			
	DC60V	7.5kA, U1	/	/	/	

	DC125 V	/	7.5 kA, U1 (2 IN SERIES)	/	/	
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○Impulse withstand test voltages: 4kV

○electrical endurance: 10000 times; Mechanical endurance: 10000 times

● Product certification and implementation standard.:

○Product certificate: CCC,CE,TUV,UL1077;

○Product certification standard: GB/T 10963.1, GB/T 10963.2, IEC60898-1, IEC60898-2 , UL1077;

● Environmental requirements: RoHS

● Isolation function

○Practical breaking instructions

○View window within the green identification said contact in the off position

● Tripping characteristic

B type curve

○ Protection of short circuit current small load

○ rated current: 1A~63A

○ tripping characteristic: The instantaneous tripping range $3I_n \sim 5I_n$

C type curve

○ Protect normal load and distribution wire cable

○ rated current: 1A~63A

○ tripping characteristic: The instantaneous tripping range $5I_n \sim 10I_n$

D type curve

○ Protect starting current big impact load (Such as motor, transformer)

○ rated current: 1A~63A

○ tripping characteristic: The instantaneous tripping rang $10I_n \sim 14I_n$

5、Normal working environment

●Ambient temperature: $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$

●Air relative humidity: $\leq 95\%$

●Altitude: $\leq 2000\text{m}$

●pollution degree: 2

●Service place without significant vibration and impact

●Lower capacity coefficient table above 2000 meters above sealevel

Height above sea level (km)	Rated current	Rated voltage	Rated frequency voltage tolerance	Breaking capacity	Breaking Capacity and Electrical life
2	I_n	U_e	1	1	1
3	$0.97I_n$	U_e	0.89	0.89	0.83
4	$0.94I_n$	U_e	0.8	0.8	0.71
5	$0.90I_n$	U_e	0.73	0.73	0.63

●Side-by-side volume reduction coefficient table

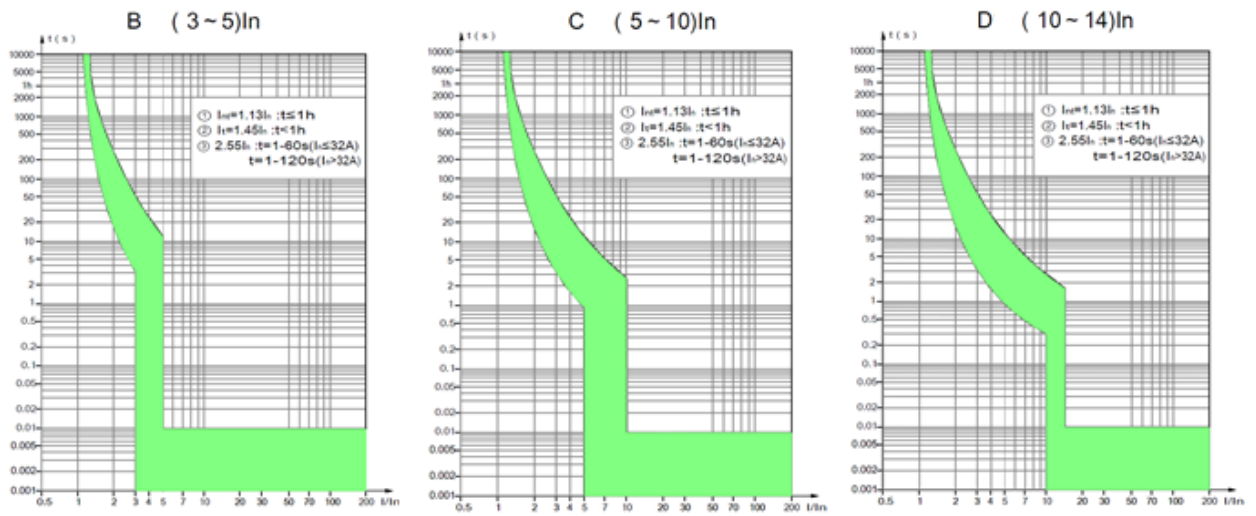
Number of products placed side by side	1	2~3	4~5	6~9	10
Current derated coefficient	1	0.9	0.8	0.7	0.6

●Temperature Derating Parameter Table:

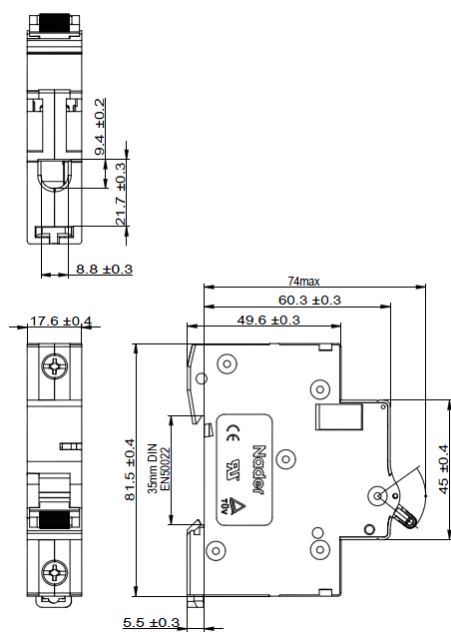
Correcting current (A) Rated current (A) Ambient temperature (°C)	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
1	1.29	1.27	1.25	1.23	1.21	1.19	1.17	1.15	1.13	1.10	1.08	1.06
3	3.97	3.89	3.83	3.76	3.70	3.64	3.57	3.50	3.44	3.37	3.30	3.22
6	7.96	7.70	7.58	7.46	7.34	7.21	7.09	6.96	6.83	6.70	6.56	6.42
10	14.15	13.89	13.62	13.35	13.07	12.81	12.53	12.23	11.93	11.63	11.33	11.01
16	21.10	20.78	20.43	20.08	19.75	19.40	19.05	18.70	18.33	17.96	17.58	17.20
20	26.04	25.67	25.28	24.88	24.47	24.06	23.64	23.22	22.78	22.34	21.89	21.43
25	32.91	32.21	31.72	31.22	30.70	30.18	29.65	29.10	28.55	27.98	27.41	26.82
32	41.67	41.04	40.46	39.82	39.17	38.51	37.84	37.15	36.47	35.75	35.03	34.30
40	52.43	51.63	50.86	50.04	49.21	48.37	47.51	46.63	45.74	44.83	43.90	42.95
50	66.10	64.92	63.97	62.92	61.86	60.77	59.67	58.54	57.40	56.23	55.05	53.81
63	84.40	83.48	82.06	80.64	79.19	77.72	76.22	74.70	73.14	71.54	69.91	68.24

Correcting current (A) Rated current (A) Ambient temperature (°C)	20	25	30	35	40	45	50	55	60	65	70
1	1.05	1.02	1.00	0.97	0.94	0.91	0.89	0.86	0.83	0.80	0.77
3	3.14	3.06	3.00	2.92	2.84	2.76	2.67	2.58	2.49	2.38	2.27
6	6.27	6.14	6.00	5.84	5.68	5.52	5.36	5.19	5.01	4.83	4.64
10	10.67	10.34	10.00	9.63	9.24	8.85	8.45	8.01	7.55	7.06	6.55
16	16.80	16.40	16.00	15.55	15.11	14.66	14.20	13.71	13.21	12.70	12.15
20	20.96	20.47	20.00	19.47	18.95	18.42	17.87	17.30	16.71	16.10	15.47
25	26.22	25.61	25.00	24.33	23.67	23.00	22.28	21.56	20.80	20.02	19.21
32	33.54	32.77	32.00	31.17	30.34	29.48	28.60	27.69	26.75	25.78	24.77
40	41.98	40.99	40.00	38.93	37.85	36.75	35.61	34.43	33.21	31.95	30.63
50	52.56	51.28	50.00	47.82	46.24	44.81	43.33	41.81	40.23	38.58	35.77
63	66.53	64.78	63.00	60.11	58.19	56.21	54.16	52.03	49.81	47.50	43.05

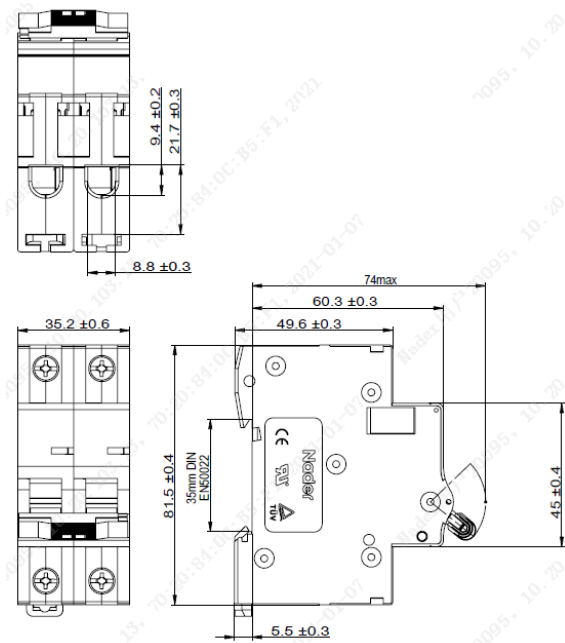
6. Tripping characteristic



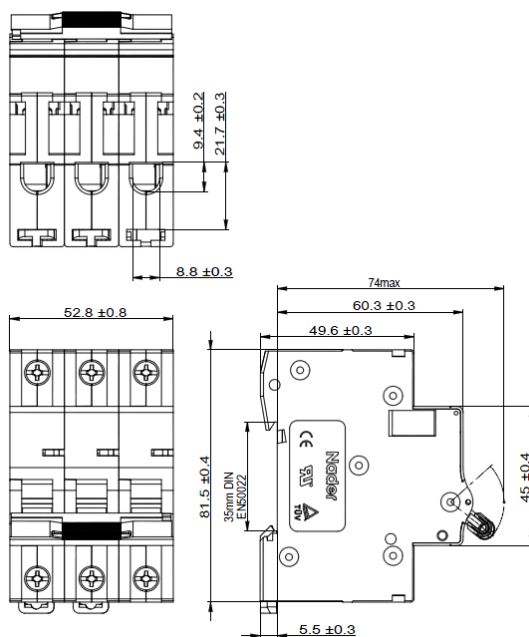
7、Outline dimensions



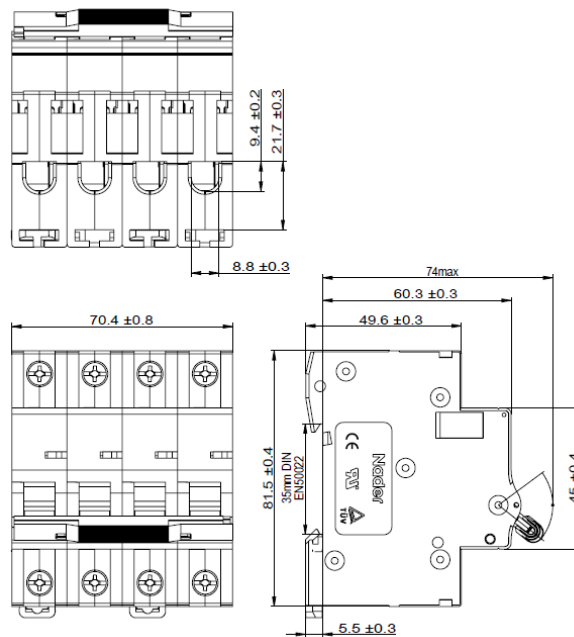
1P



2P



3P



4P

8、Mounting

Modular construction, can be installed in EN60715 TH 35mm x 7.5mm standard guide rail.

9、Connect line requirements

- Standard cross-sections of round copper conductors: 1~35mm²
- Terminal screw: M5 ,Rated torque : 2.0N.m

10、Packing storage

Quantity (1P product: 12 PCS/box, 2P product: 6PCS/box, 3P product: 4 PCS/box, 4P product: 3PCS/box) , Packing boxes of products should be stored in the air circulation and relative humidity is not more than 80% and the temperature is not higher than + 70 °C , Not less than - 40 °C in the air around without acid, alkali or other corrosive gases stored in the warehouse. In the above conditions, the storage period since the production date not more than three years.

11、Accessories list and mounting

- OF2 auxiliary contacts Installed on the left hand of the NDB2 - 63 circuit breaker left, indication circuit breaker on-off state ;
- SD2 indicator contacts Installed on the left hand of NDB2 - 63 circuit breaker , indication failure tripping status of breaker;
- MX+OF2 shunt trip release Installed on the left hand of NDB2 - 63 circuit breaker, remote control of the circuit breaker's tripping;

12、 Notice

- 1、 Customers who disassemble the product without approval shall undertake relevant quality problems by themselves;
- 2、 Do not touch the naked part of conductive components when the product is power on;
- 3、 Don't test characteristics of the breaker optionally, the manufacturer is irresponsible for such quality problems;
- 4、 Keep wiring correct to prevent malfunction or damage of wiring terminals.
- 5、 Please open the cover when installing the accessory. Please refer to OF2, SD2, MX+OF2 Instruction for details.