

Shanghai Liangxin Electrical Co., Ltd.

NDB1-125 MCCB

Product Specification

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

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Revision information					
Version	Revised contents and reasons	Date	Prepared	Reviewed	Approved
0	Initial release.	Apr 20, 2022	Zhoushi Wang	Min Xu	Hui Duan
1	Add UL1077 certification	Aug 16, 2022	Zhoushi Wang	Min Xu	Hui Duan

1 Application

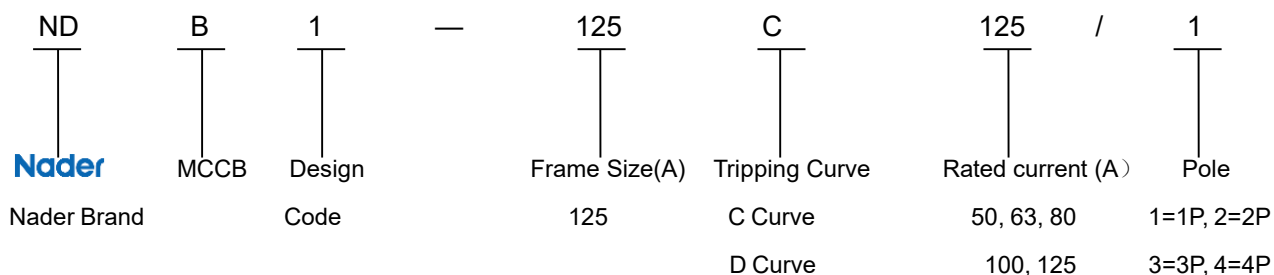
- Protection against short circuit
- Protection against overload
- Control
- Isolation
- Protection of DC system

NDB1-125 series is used in low voltage electrical distribution system in industry, real estate, power, telecom, construction field, etc.

2 Product Picture: (The picture is for reference only; the specific kind prevail)



3 Model and implication



4 Main technical parameters

- Electrical parameters
 - Rated voltage (Ue): 1P (AC230/240V; DC60/80V); 2P (AC400/415V; DC80/125V); 3P (AC400/415V); 4P (AC400/415V)
 - Rated current (In): 50A, 63A, 80A, 100A, 125A
 - Ultimate short-circuit breaking capacity (Icu): 10kA
 - Service short-circuit Breaking Capacity(Ics): 7.5kA
 - Rated insulation voltage(Ui): 500V
 - Impulse withstand voltage(Uimp): 4kV
 - UL1077 parameter table

Trip Curve (C or D)	Type	UG	FW	Maximum V	Freq. Hz	Amp	No. of Poles	TC	OL	SC
C	OC	A	0	240ac	50/60	50-125	1-2	2	0	5kA, U1
D	OC	A	0	240ac	50/60	50-100	1-2	2	0	5kA, U1
C	OC	A	0	480ac	50/60	50-125	3-4	2	0	5kA, U1
D	OC	A	0	480ac	50/60	50-100	3-4	2	0	5kA, U1
C	OC	A	0	60 DC	DC	50-125	1-4	2	0	10kA, U2
D	OC	A	0	60 DC	DC	50-100	1-4	2	0	10kA, U2

- Isolation function
 - Indication of real breaking;
 - Green color in the indication window indicates the contacts are open.
- Mechanical and electrical endurance: 20000 times.
- Wiring
 - Adopt tunnel type wiring.
 - Connection capability: 10mm² to 50 mm² ;
 - Connection screw M7,Torque:3.5N · m.
- Standards and Certificates
 - Product certificate: CCC,CE,TUV;UL1077
 - Product certification standard: GB/T14048.2、 IEC 60947-2.
- Environmental requirements: Products comply with RoHS standards.
- Accessories of a product: None .

5 Working conditions

- Ambient temperature: $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- Stored ambient temperature: $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$
- Heat and humidity resistance: The relative air humidity $\leq 95\%$ at the temperature of $+55^{\circ}\text{C}$
- Altitude: $\leq 2000\text{m}$, if you want to apply it more than 2000m, you must refer to Miniature Circuit Breaker's reduced capacity table.
- Pollution degree: 3
- Used in place without obvious shock and vibration
- Protection Degree: IP20

6 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	Remarks
2	In	Ue	1.00	1.00	1.00	
3	0.97 In	Ue	0.89	0.89	0.83	
4	0.94In	Ue	0.80	0.80	0.71	
5	0.90In	Ue	0.73	0.73	0.63	

7 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

8 Coefficient Table of Temperature Correction

Correcting current (A) Rated current (A)	Ambient temperature (°C)	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
50		69.10	67.24	66.10	64.92	63.97	62.92	61.86	60.77	59.67	58.54	57.40	56.23
63		87.40	85.68	84.40	83.48	82.06	80.64	79.19	77.72	76.22	74.70	73.14	71.54
80		140	135	130	126	122	118	115	112	108	104	99	95
100		165	160	155	150	146	142	137	133	129	125	122	118
125		285	275	265	255	245	235	225	215	205	195	185	175

Correcting current (A) Rated current (A)	Ambient temperature (°C)	20	25	30	35	40	45	50	55	60	65	70
50		55.05	53.81	52.56	51.28	50.00	47.82	46.24	44.81	43.33	41.81	40.23
63		69.91	68.24	66.53	64.78	63.00	60.11	58.19	56.21	54.16	52.03	49.81
80		91	88	85	82	80	75.5	72.5	68	64.5	58	52.5
100		114	111	108	103	100	94	88	82	75	68	58
125		165	155	145	135	125	115	105	95	85	75	65

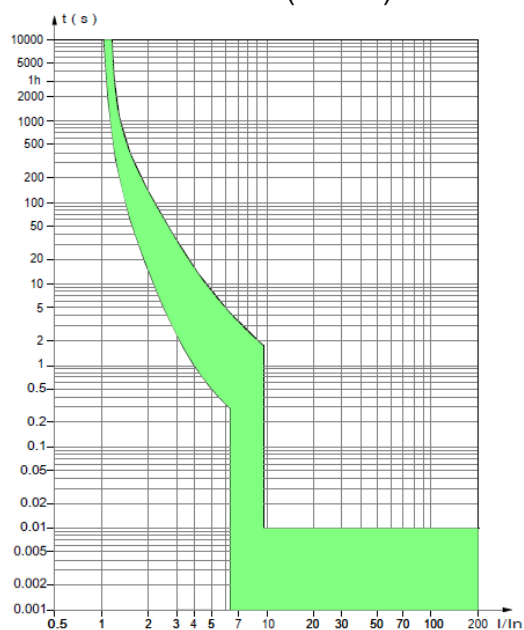
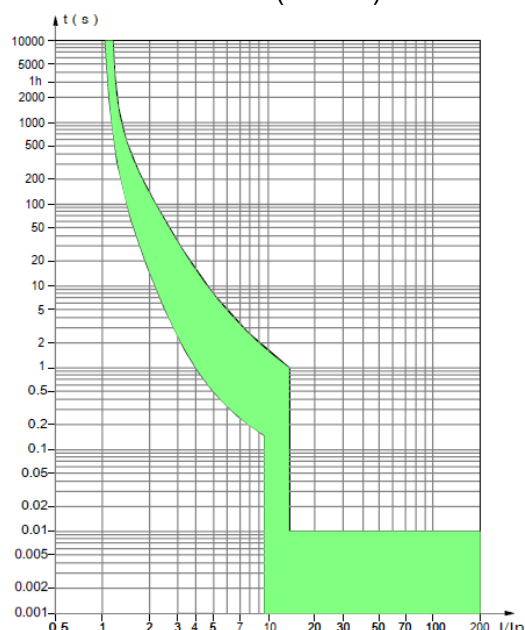
9 Tripping curves (ambient temperature 40°C)

● C Curve

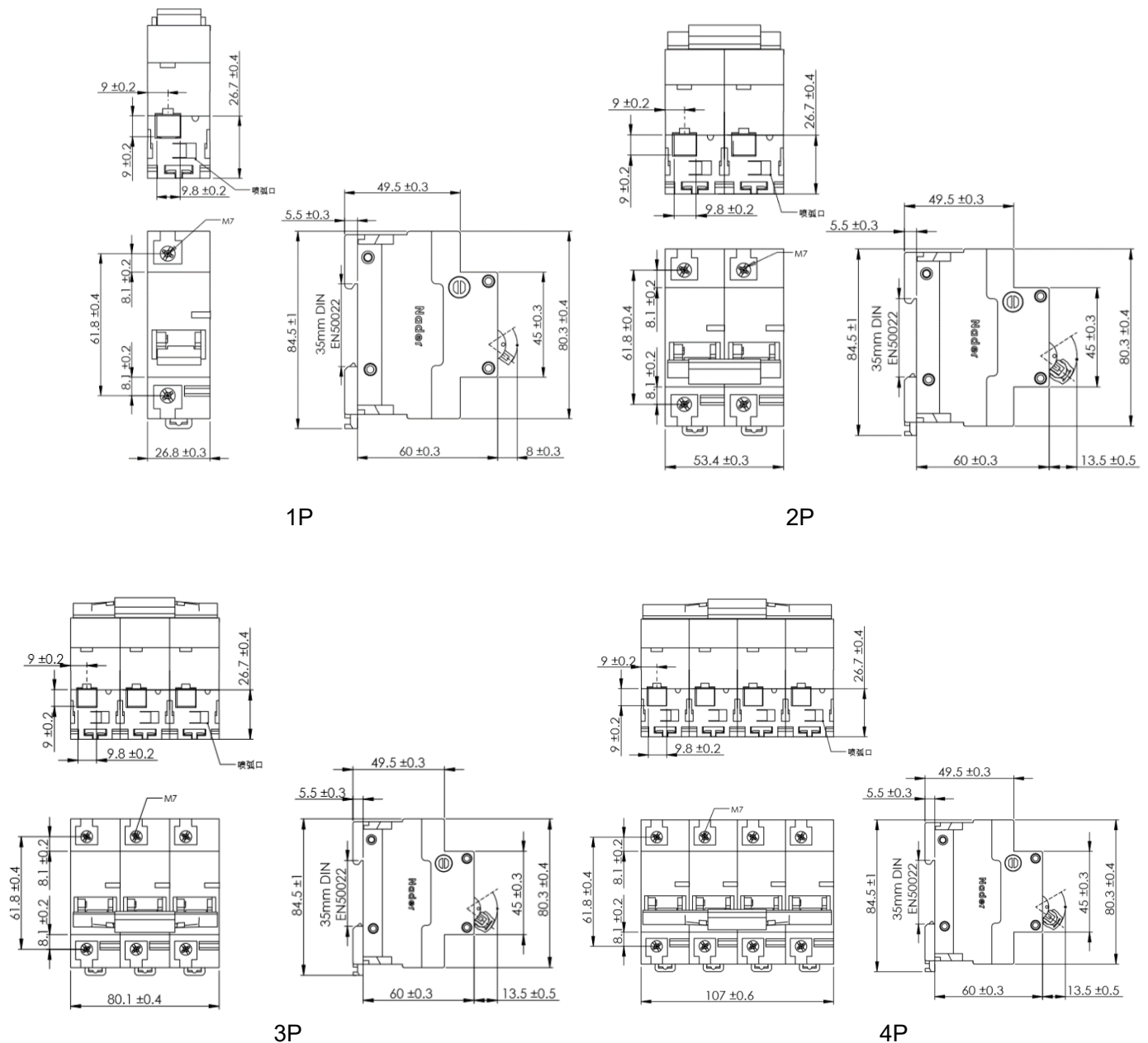
- Protection common loads and power distribution circuit
- Available for the rated current of 50A to 125A
- Tripping characteristic: instantaneous trip between $6.4I_n$ to $9.6I_n$

● D Curve

- Protection big impulse load of starting current (Motor, transformer etc)
- Available for the rated current of 50A to 125A
- Tripping characteristic: instantaneous trip between $9.6I_n$ to $14.4I_n$

C Curve $8I_n(1\pm20\%)$ D Curve $12I_n(1\pm20\%)$ 

10 Outline dimensions and installation



11 Mounting

Modularized structure, can be easily installed in TH35mm×7.5 Standard DIN rail.

12 Packing and depositing

Quantity (1P product: 12PCS/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 + 80 °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.

13 Accessories

- OF auxiliary contact: Installed on the left hand of the NDB1-125 MCCBs to indicate tripping status of the breaker.
- SD alarm contact: Installed on the left hand of the NDB1-125 MCCBs to indicate failure tripping status of the breaker.
- MX+OF shunt release: Installed on the right hand of the NDB1-125 MCCBs to control the breaker from a distance.

14 Environmental protection

Comply with the RoHS directive requirements.

15 Notices

- 15.1 The user should responsible for the quality problem caused by taking the products apart or adjust the tripping parameters without permission.
- 15.2 Touch the uninsulated bare part is not allowed when breaker is energized state.
- 15.3 Make sure reliable connection to prevent the abnormal heating of terminals. That can cause fault operation of breakers or terminal damage.
- 15.4 The seal must be removed before assembling the attachment. For details, please refer to the corresponding product instructions.
- 15.5 Please open the cover when installing the accessory. Please refer to *OF, SD MX+OF Instruction* for details.