

Shanghai Liangxin Electrical Co., Ltd.

NDB2-63H Molded Case Circuit Breaker

# Product Specification

(IPD-ENG-DEV-T20 A1 2016-09-23)

Prepared by	季春云	Date	2021-07-30
Reviewed by	杨卫	Date	2021-08-02
Countersigned by	代文华	Date	2021-08-02
	霍志强		2021-08-02
	陈明利		2021-08-02
	钱锦		2021-08-02
Approved by	陈妍儒	Date	2021-08-03

Revision History					
Version	Revision Reason/Content	Implementati on Date	Prepared by	Reviewe d by	Approve d by
0	Newly added	6/3/2021	Dai Wenhua	Yang Wei	Chen Yanru
1	Parameter modification	7/26/2021	Ji Chunyun	Yang Wei	Chen Yanru

## 1. Applicable Scope and Purpose

- Short-circuit protection
- Overload protection
- Isolating

The NDB2-63H series of circuit breakers are applicable to the low-voltage terminal distribution in the industry, civil buildings, energy, communication, infrastructure and other fields.

## 2. Picture of the Product



1P product



2P product

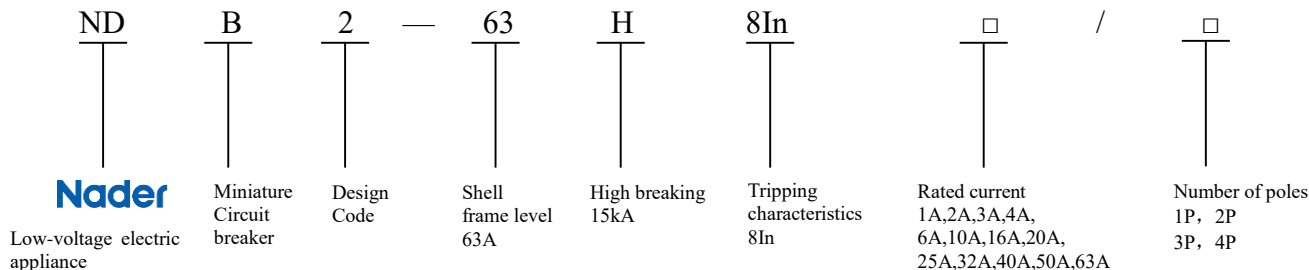


3P product



4P product

## 3. Specification and Model Description:



## 4. Main technical parameters

- Electrical parameters
  - Number of poles: 1P, 2P, 3P, 4P
  - Rated working voltage: AC230V (1P); AC400V (2P, 3P, 4P)
  - Rated working current: 1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
  - Rated insulation voltage: 500V
  - Rated frequency: 50/60Hz
  - Rated impulse withstand voltage: 4kV
  - Rated operating short-circuit breaking capacity: 7.5kA
  - Rated limit short-circuit breaking capacity: 15kA
  - Instantaneous tripping characteristics: 8In (1±20%)
- Product certification and implementing standards:
  - Product certifications: CCC, TUV, CE and CB certifications

- Product certification standards: GB/T 14048.2, IEC60947-2;
- Mechanical and electrical life
  - Mechanical life: 20000 times
  - Electrical life: 10000 times
- Isolating function
  - Indication of practical breaking
  - The green mark in the observation window indicates that the contact is in the breaking position
- Protection class
  - IP20
- Line incoming mode
  - Upper inlet wire
- Utilization category
  - A
- Installation category
  - II, III
- Characteristic Curve
  - Protect the conventional load and distribution cable
  - Tripping characteristics: 8In (1±20%)

## 5. Normal Working Environment

- Ambient temperature: -40°C~+70°C
- Ambient temperature for storage: -40°C~+80°C
- Resistance to heat and humidity: in case of ambient temperature 55°C, the relative air humidity is ≤95%
- Altitude: ≤2000m. In case of use at higher altitude, it may be derated according to the requirements of small-sized circuit breaker of the company. Refer to GB/T 20645 Specific Environmental Condition - Technical Requirements of Low-voltage Apparatuses for Plateau.
- Environment with the pollution level of 3
- Working site without obvious vibration and shock
- High-altitude derating factor:

Altitude H (km)	Rated working current	Maximum operating voltage	Rated power frequency withstand voltage	Rated impulse withstand voltage	Rated short-circuit breaking capacity and electrical life
2	In	Ue	1	1	1
3	0.97In	Ue	0.89	0.89	0.83
4	0.94In	Ue	0.8	0.8	0.71

5	0.90In	Ue	0.73	0.73	0.63
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● Temperature Derating Factor Table

额定电流 (A)	修正 电流 (A)	环境 温度 (°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
2			2.45	2.41	2.38	2.35	2.32	2.29	2.26	2.23	2.2	2.17	2.13	2.1
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
4			4.94	4.87	4.81	4.75	4.68	4.62	4.55	4.49	4.42	4.35	4.29	4.22
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

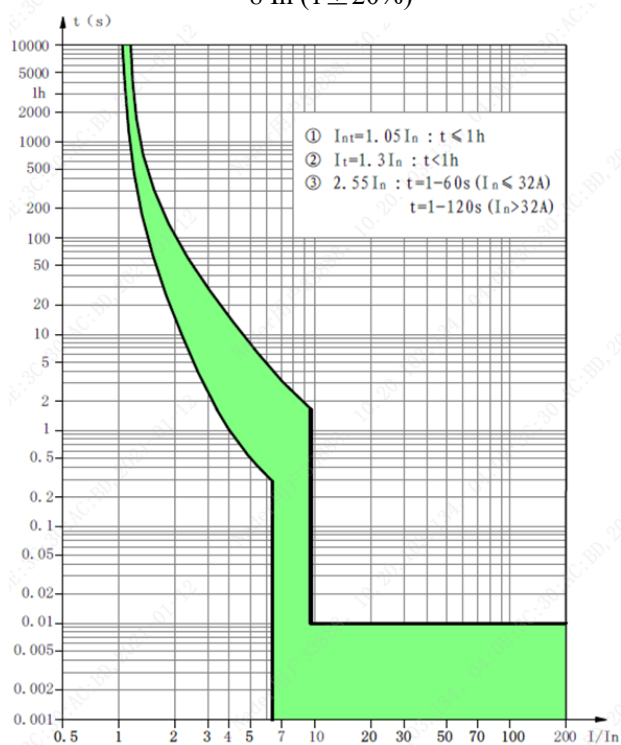
额定电流 (A)	修正 电流 (A)	环境 温度 (°C)	20	25	30	35	40	45	50	55	60	65	70
1			1.05	1.02	1.00	0.97	0.94	0.91	0.89	0.86	0.83	0.80	0.77
2			2.07	2.03	2.00	1.96	1.93	1.89	1.86	1.82	1.78	1.74	1.7
3			3.14	3.06	3.00	2.92	2.84	2.76	2.67	2.58	2.49	2.38	2.27
4			4.15	4.07	4.00	3.93	3.85	3.77	3.69	3.61	3.53	3.44	3.36
6			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

## ● Derating Factor Table

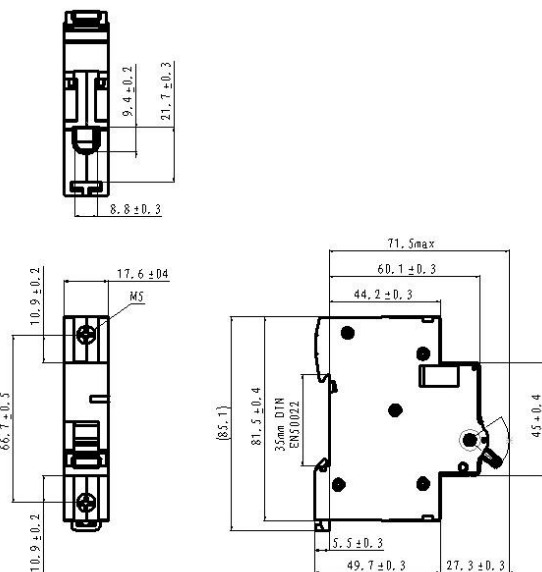
Quantity of circuit breakers in row	1	2~3	4~5	6~9	10
Derating factor	1	0.9	0.8	0.7	0.6

## 6. Tripping Characteristics

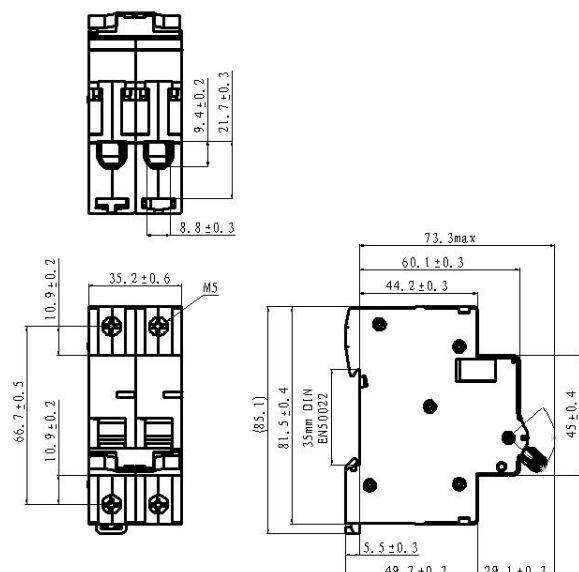
Power distribution type  
 $8 I_n (1 \pm 20\%)$



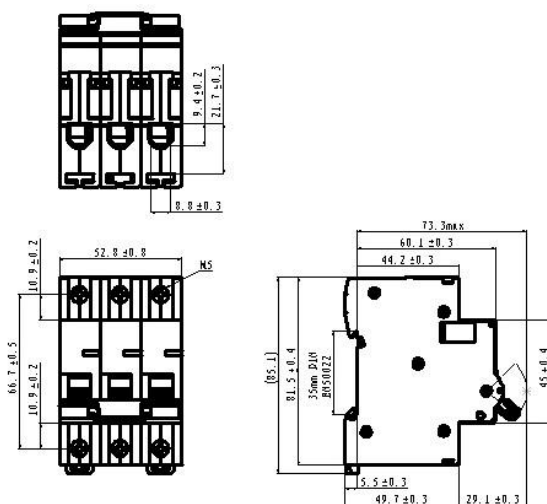
## 7. Product Outline and Installation Dimensions



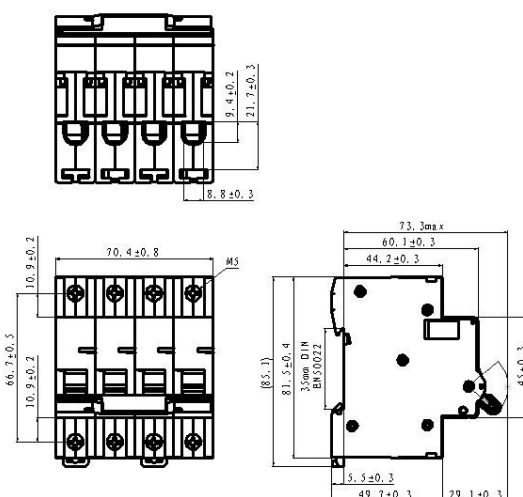
1P



2P



3P



4P

## 8. Installation mode

Based on the modular structure, it can be easily installed on the TH35mm×7.5 standard guide.

## 9. Terminal screw specifications and wiring torque

- Wiring capacity: 1-35mm<sup>2</sup> conductor;
- Wiring screw is M5, and the maximum ultimate torque is: 3.0 N.m;

## 10. Packaging and Storage

Maximum packaging quantity: (1P product: 12 pieces/box, 2P product: 6 pieces/box, 3P product: 4 pieces/box, 4P product: 3 pieces/box). The packaged products should be stored in a warehouse with the air ventilation and the relative humidity no more than 80% and the temperature between -40°C and +80°C. No acidic, alkaline or other corrosive gas exists in the ambient air in the warehouse. Under the above conditions, the storage period shall be no more than three (3) years since the manufacturing date.

## 11. Compliance with the requirement for environmental protection

Comply with the requirements of RoHS directives

## 12. List of accessories and installation

- OF2 auxiliary contact: Install on the left side of the NDB2-63H molded case circuit breaker for indicating the on-off state of the circuit breaker;
- SD2 alarm contact: Install on the left side of the NDB2-63H molded case circuit breaker for indicating the fault tripping state of the circuit breaker;
- MX+OF2 shunt release: Install on the left side of NDB2-63H Molded Case Circuit Breaker, for remote control of the tripping of the circuit breaker;
- NGQ2A overvoltage and undervoltage release: Install on the left side of NDB2-63H Molded Case Circuit Breaker, for automatic detection of the circuit voltage, and automatic breaking of the faulty circuit in case of overvoltage or undervoltage in the circuit;
- NDH1 busbar is a modular accessory in the family of NDB2-63H products, which can be applicable to connection between in-phase inlet wire ends of multiple circuit breakers or between in-phase terminal equipment as a universal standard accessory;
- Tm2 electric actuator: Install on the left side of NDB2-63H Molded Case Circuit Breaker, for remote control of the tripping of the circuit breaker, and locking, local control and remote control of the circuit breaker products;
- Automatic reclosing accessory of Tm2GQ overvoltage and undervoltage: Install on the left side of NDB2-63H Molded Case Circuit Breaker, for automatic detection of the circuit voltage, automatic breaking of the faulty circuit in case of overvoltage or undervoltage in the circuit, and automatic reclosing when the circuit voltage comes back to the normal range;
- JS1-11Y/B2-63 Mechanical interlock: applicable for mechanical interlock control of two circuit breakers;

## 13. Precautions

1. Any quality problem due to disassembly without permission will be the liability of the user;
2. Under the energized operation state, do not touch the exposed portion of the uninsulated parts on the circuit breaker with bare hand;
3. Do not commission the characteristics of the circuit breaker randomly; the manufacturer shall not be responsible for any quality problem caused;
4. Wiring must be reliable to prevent the malfunction of the circuit breaker or terminal burning due to the abnormal heat generation on the terminal;
5. During the assembling of accessories, be sure to remove the cover, which shall be free from burrs and depressions, so as to avoid any abnormal slipping. Refer to “Instructions of F2, SD2 and MX+OF2 accessories”.