

Shanghai Liangxin Electrical Co., Ltd.
(NDB2NZ-80H ,Molded Case Circuit breaker)
Product Specification
(IPD-ENG-DEV-T20 A1 2016-09-23)

Prepared	燕震雷	Date	2023-09-18
Reviewed	冯洪宝	Date	2023-09-19
Countersign	成霞 10531	Date	2023-09-25
	Zhaojiaming		2023-9-1
	Zhangyesuo		2023-9-1
	Yangqi		2023-9-1
	Zhaojian		2023-9-1
	Chentao		2023-9-1
Approved	李日西	Date	2023-09-26

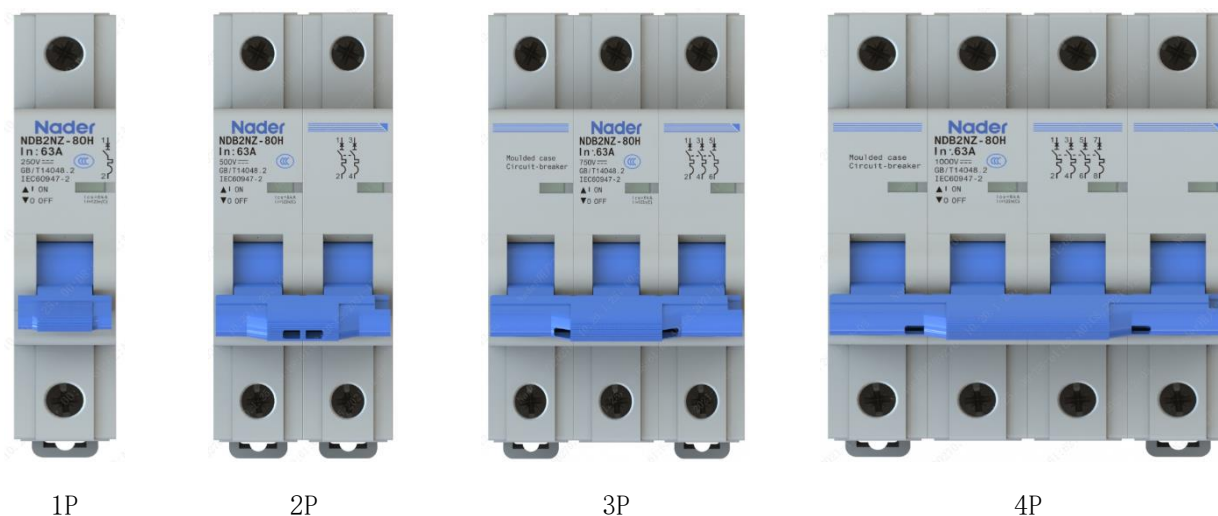
Revision History					
Version	Revised contents and reasons	Date	Prepared	Reviewed	Approved
0	New addition	2023-9-1	Yanzhenlei	Fenghongbao	Lirixi

1. Applicable Scope and Purpose

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

NDB2NZ-80H dedicated to the low voltage power distribution system of industrial, energy, communications and infrastructure.

2. Picture of the Product (The Specific Kind Prevails)



1P

2P

3P

4P

Note: The short circuit method is specified by the customer. The company will ship after internal short circuit according to the customer's requirements. If there is no short circuit requirement, the product will be shipped by free wiring (the customer will use wire short circuit by himself).

3. Specification and Model Description

ND B 2N Z - 80 H □ □ /□
 1 2 3 4 5 6 7 8 9

Seriali Number	Seriali Number description	NDB2NZ-80H
1	Enterprise code	ND
2	Product code	B:Miniature circuit breaker
3	Design Code	2N
4	Current form	Z:DC code Z
5	Shell frame current(A)	80
6	Derived code	H
7	Tripping characteristic	B、C
8	Rated current (A)	6、10、16、20、25、32、40、50、63、80
9	Pole	1P、2P、3P、4P

4. Main Technical Parameters

4.1 Technical Parameters of Circuit Breaker

•Electrical parameters

Number of poles	1P、2P、3P、4P
Product certification standard	GB/T14048.2、IEC60947-2、UL1077
Product certificate	CCC、TUV、CE、UL1077 (Special customiation)
Rated voltage (3C) Ue	DC250V(1P)、DC500V(2P)、DC750V(3P)、DC1000V(4P)
Rated voltage (UL1077) Ue	DC250V(1P)、DC500V(2P)、DC600V(3P)、DC600V(4P)
Rated insulation voltage Ui	1000V
Rated impulse withstand voltage	6kV
Tripping Characteristics	B:6In (1±20%)、C: 12In (1±20%)
Rated current In	6A、10A、16A、20A、25A、32A、40A、50A、63A、80A
Icu	80A: 4.5KA 63A and below: 6kA
Ics	80A: 4.5KA 63A and below: 6kA
Electrical endurance	32A and above: 1500 , 32A below: 500
Mechanical endurance	Mechanical endurance: 8500 Pure Mechanical endurance: 20000
Protection class	IP20
Environmental requirements	RoHS

•Isolation function

- Practical breaking instructions
- View window within the green identification said contact in the off position

•Connect line requirements

- Tunnel terminal block
- Standard cross-sections of round copper conductors: 1~25mm²
- Terminal screw:M5, Rated torque :2.5N.m

6A	10A	16A	20A	25A	32A	40A	50A	63A	80A
1mm ²	1.5 mm ²	2.5 mm ²	2.5 mm ²	4 mm ²	6 mm ²	10 mm ²	10 mm ²	16 mm ²	25 mm ²

Refer to Table 9 of GB/T14048.1-2012 (IEC60947-12011) for details; If copper bar wiring is adopted, the recommended sectional area of copper bar is twice that of copper conductor, for example, the sectional area of 50A circuit breaker is 20mm²The copper bar of shall be connected;

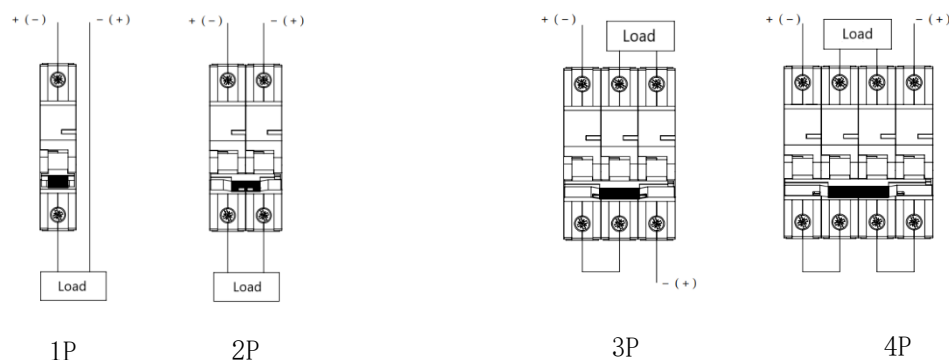
•Wiring Configuration: Upper incoming line or Lower incoming line

•Use categories: A

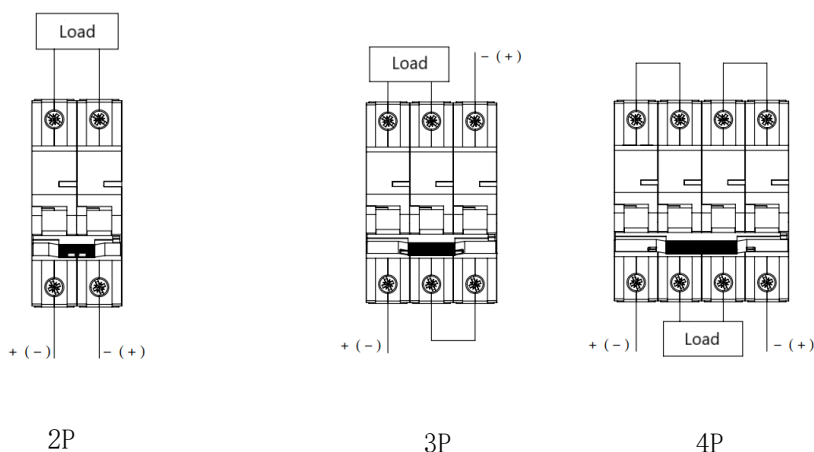
•Install category: II、III

•Wiring Configuration

◦Upper incoming line



Lower incoming line



5. Normal Working Environment

- Reference set temperature: 30°C
- Operating ambient temperature: -40°C~+70°C
- Storage temperature: -40°C~+80°C
- Wet heat resistance: When the ambient air temperature is +55°C, the relative air humidity is ≤95%.
- Altitude: ≤2000m, If it needs to be used at a higher altitude, the capacity can be reduced according to the requirements of the company's miniature circuit breaker. Refer to the technical requirements of low-voltage electrical appliances for plateau under special environmental conditions GB/T 20645.
- Pollution level: 3
- Places without significant vibration and impact
- Side by side derating coefficient table

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

•Temperature Derating Parameter Table: (Reference resources)

Correcting current (A) Rated current (A) Ambient temperature (°C)	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
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
80	140	135	130	126	122	118	115	112	108	104	99	95

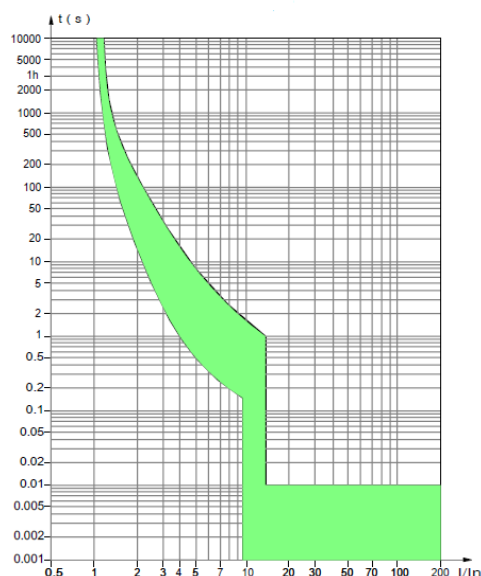
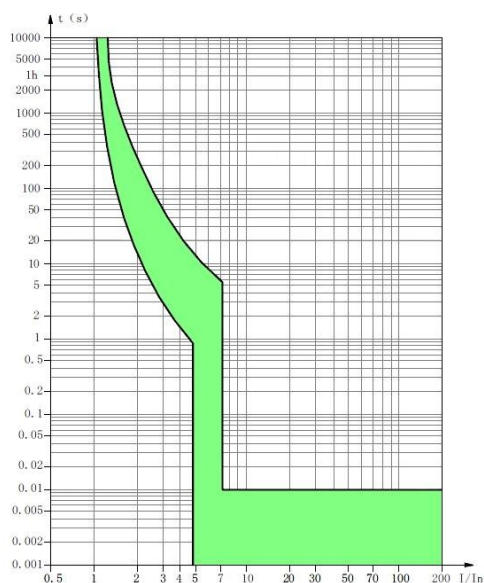
Correcting current (A) Ambient temperature (°C)	20	25	30	35	40	45	50	55	60	65	70
6	6.27	6.14	6.00	5.84	5.68	5.52	5.36	5.19	5.01	4.83	4.64
10	10.67	10.34	10.00	9.63	9.24	8.85	8.45	8.01	7.55	7.06	6.55
16	16.80	16.40	16.00	15.55	15.11	14.66	14.20	13.71	13.21	12.70	12.15
20	20.96	20.47	20.00	19.47	18.95	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
80	91	85	80	79.19	77.72	75.5	72.5	68	64.5	58	52.5

Note: This derating coefficient table is measured under standard conditions. If users use it in non-standard situations, this table is for reference only.

6. Tripping characteristic

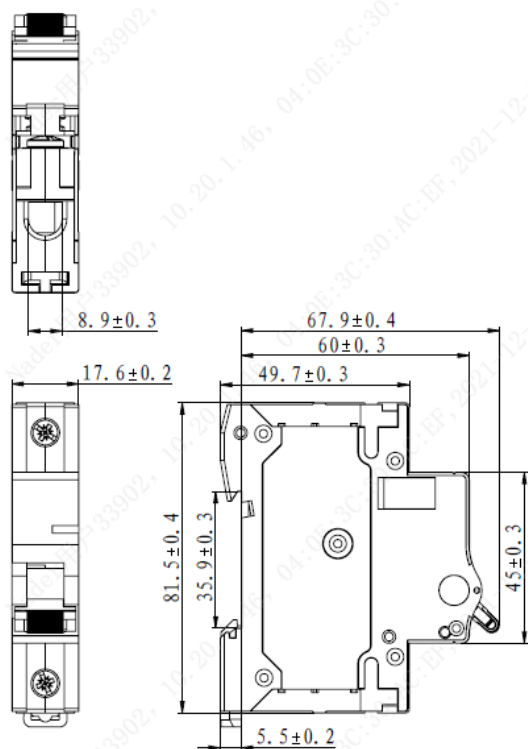
B: $6I_n (1 \pm 20\%)$

C: $12I_n (1 \pm 20\%)$

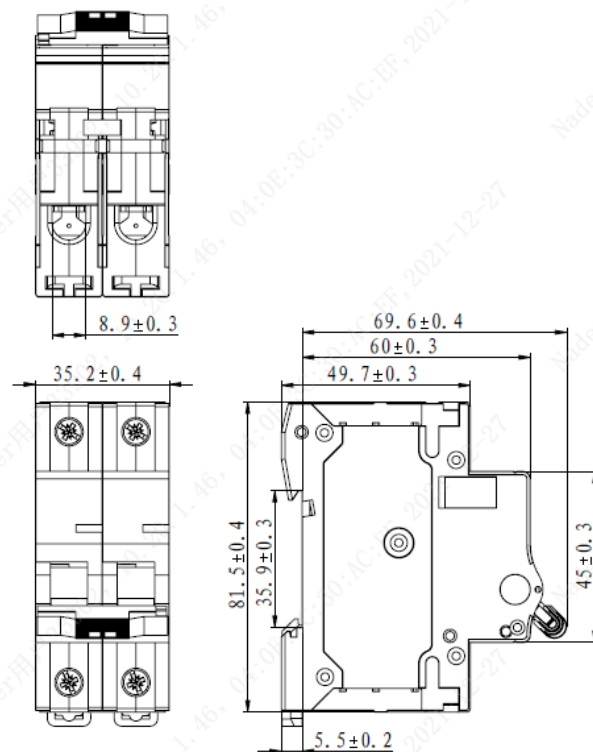


7. Outline and Installation Dimensions

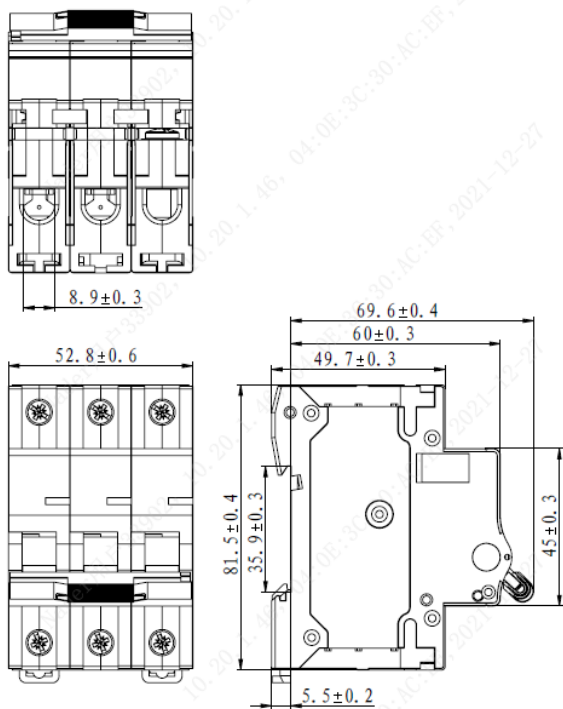
7.1 Outline and Installation Dimensions of internal short circuit.



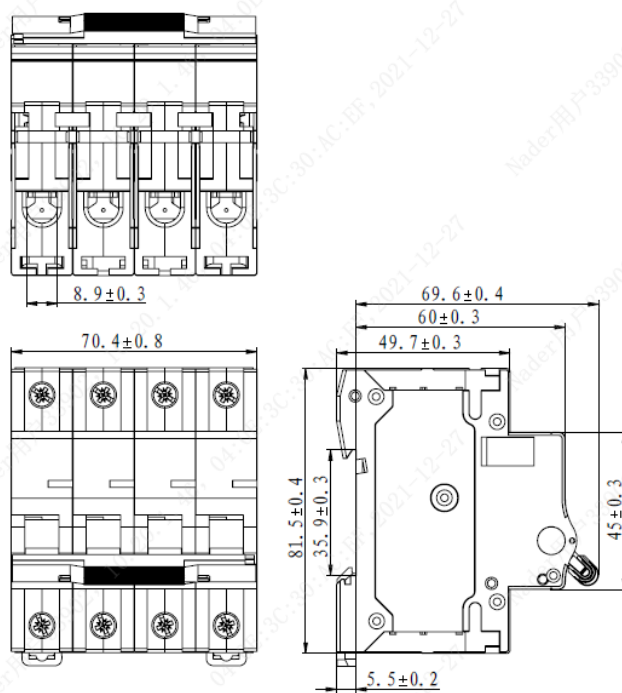
1P



2P

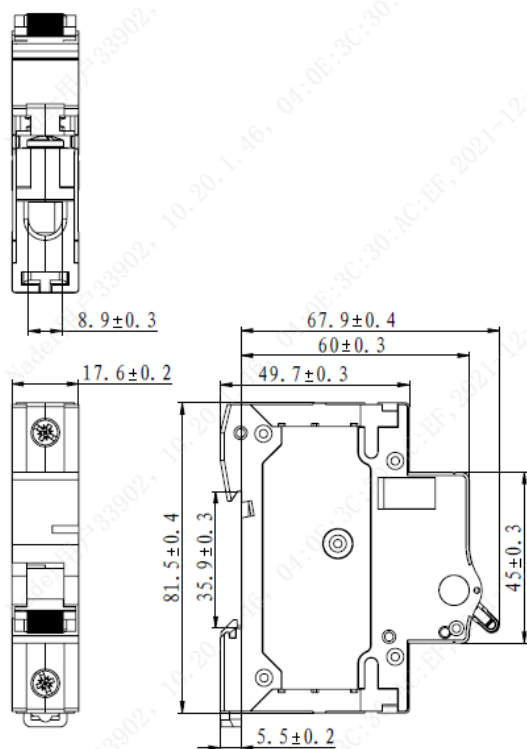


3P

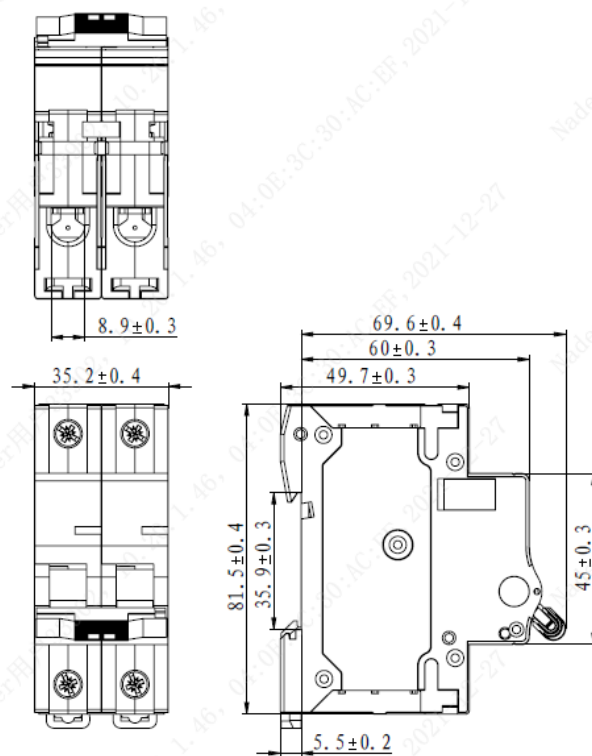


4P

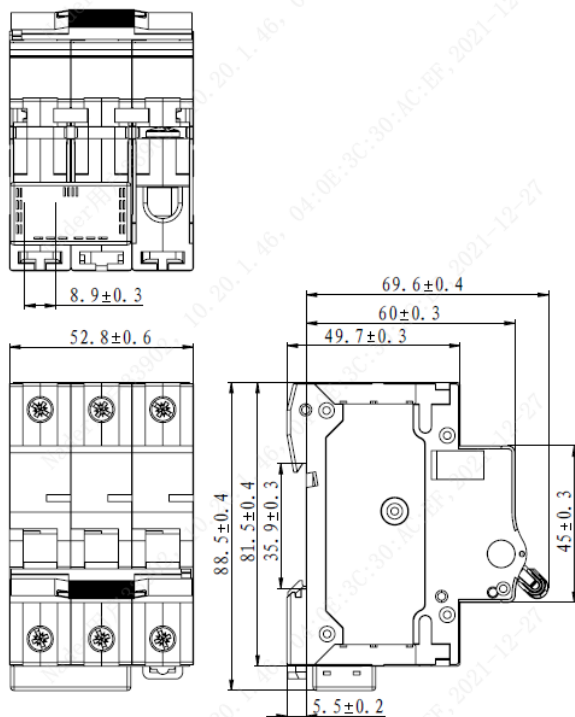
7.2 Outline and Installation Dimensions of external short circuit.



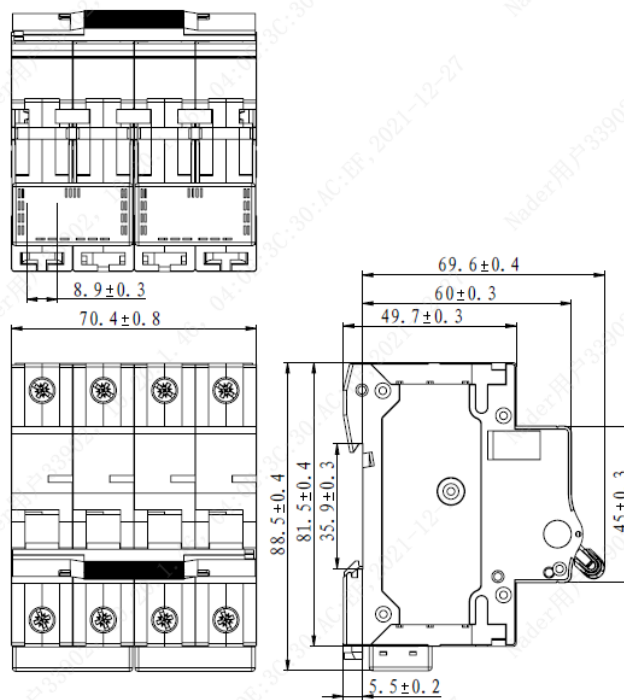
1P



2P



3P



4P

8. Installation Mode

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

9. 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 + 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.

10. Accessories list and mounting

●OF2/OF2S auxiliary contacts Installed on the left hand of the NDB2NZ-80H circuit breaker left, indication circuit breaker on-off state ;

●SD2 indicator contacts Installed on the left hand of NDB2NZ-80H circuit breaker, indication failure tripping status of breaker;

●MX+OF2 shunt trip release: Installed on the left hand of NDB2NZ-80H circuit breaker, remote control of the circuit breaker's tripping;

11. 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、Keep wiring correct to prevent malfunction or damage of wiring terminals;
- 4、Please open the cover when installing the accessory. Please refer to OF2,OF2S,SD2,MX+OF2 Instruction for details.