

CCC, CQC, CB, CE, TUV, UL, SAA

Miniature Circuit Breaker

NDB2NZ-80H series

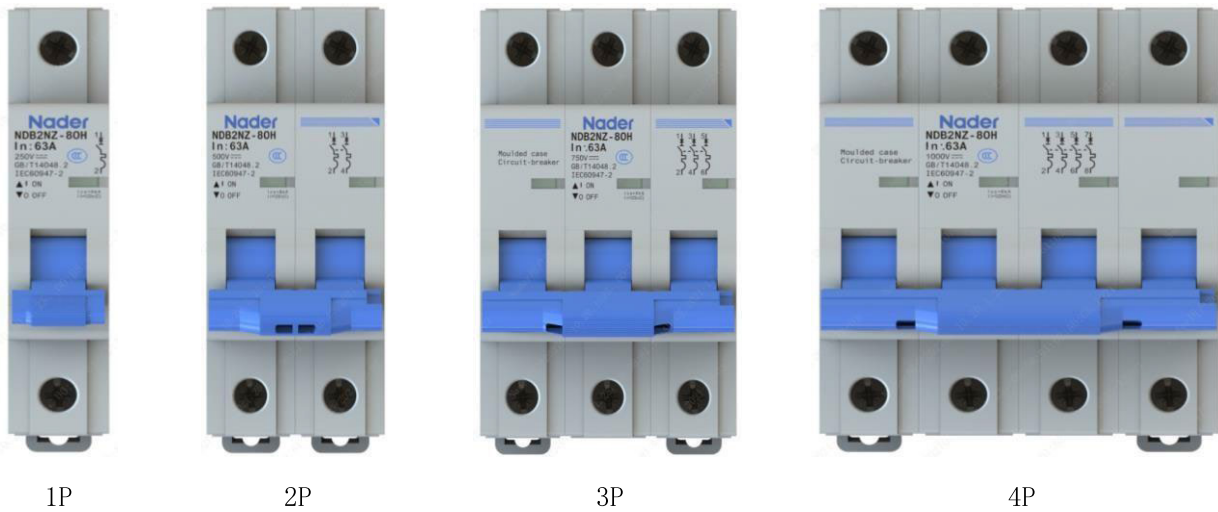


1. Applicable Scope and Purpose

- 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)



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	C	80	/	1
Nader low-voltage apparatus	Circuit breaker Code	Design Code	DC code Z	Shell frame current(A) 80	Derived code	Tripping characteristic B/C	Rated current (A) 6、10、16、20、 25、32、40、50、 63、80	Pole 1=1P 2=2P 3=3P 4=4P		

4. Main Technical Parameters

4.1 Technical Parameters of Circuit Breaker

- Electrical parameters
 - Number of poles: 1P、2P、3P、4P
 - Rated voltage: DC250V(1P)、DC500V(2P)、DC750V(3P)、DC1000V(4P)
 - Rated current: 6A、10A、16A、20A、25A、32A、40A、50A、63A、80A

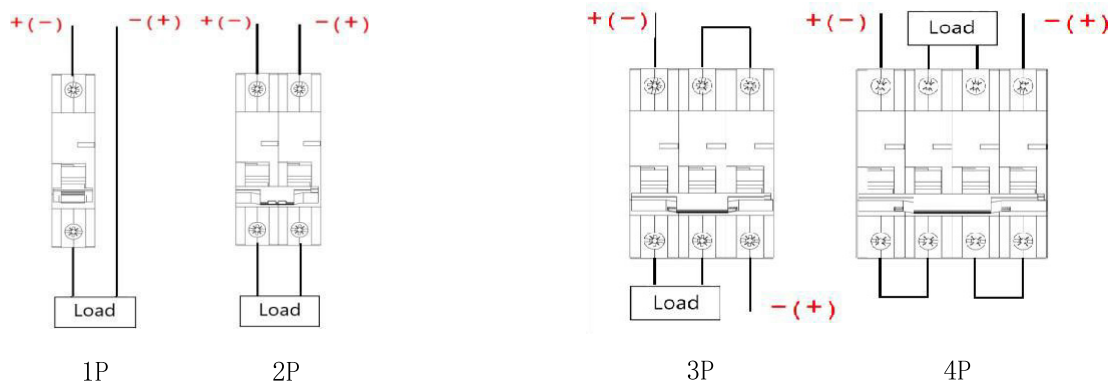


- Rated insulation voltage: 1000V
- Rated ultimate short-circuit breaking capacity: 80A: 4.5kA, 63A and below: 6kA
- Rated operation short-circuit breaking capacity: 80A: 4.5kA, 63A and below: 6kA
- Rated impulse withstand voltage: 6kV
- Tripping Characteristics: B、C
- Endurance
 - Mechanical endurance: 8500times
 - Electrical endurance: 1500times
 - Pure Mechanical endurance: 20000times
- 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

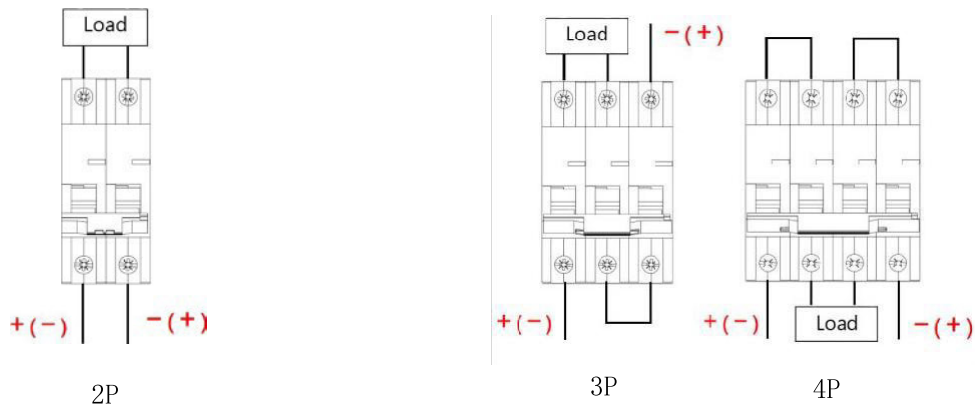
Refer to Table 9 of GB/T14048.1-2012 (IEC60947-12011) for details; If copper bar wiring is adopted, the recommended sectional area of copper bar is twice that of copper conductor, for example, the sectional area of 50A circuit breaker is 20mm²The copper bar of shall be connected;

- Protection class: IP20
- Wiring Configuration: Upper incoming line or Lower incoming line
- Use categories: A
- Install category: II、III
- Product certification and implementation standard.
 - Product certificate: CCC、TUV、CE、UL1077
 - Product certification standard: GB/T14048.2、IEC60947-2、UL1077
- Environmental requirements
 - RoHS
- Wiring Configuration
 - Upper incoming line





- Lower incoming line



4.2 Technical Parameters of shunt trip

- Electrical parameters of the auxiliary contact(OF2)

Rated voltage	AC415V	AC240V	AC/DC48V	AC/DC24V	DC12V
Rated current	3A	6A	2A	6A	6A

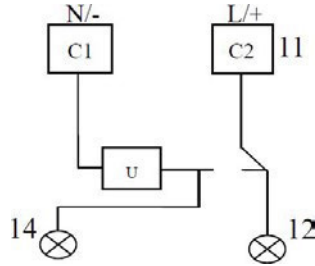
- Electrical parameters of the shunt trip release(MX+OF2)

Rated voltage:	AC415V	AC240V	AC/DC48V	AC/DC24V	AC/DC12V
Minimum suction voltage	240V	168V	24V	12V	8.4V
Minimum suction power	140W	70W	130W	80W	30W

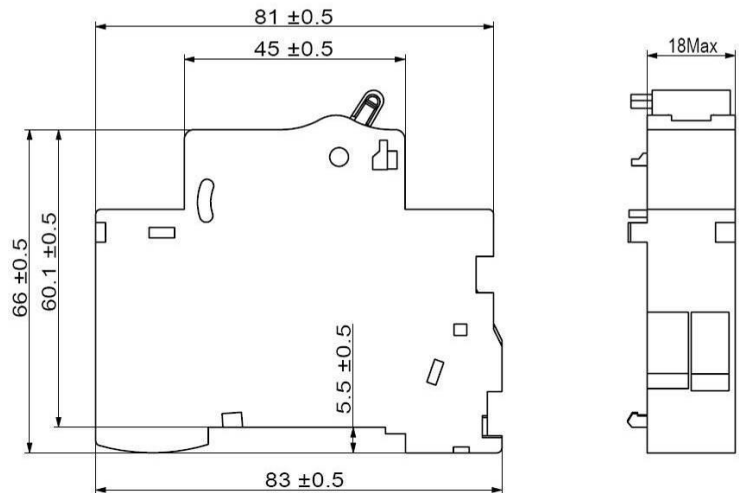
- Rated insulation voltage: AC500V
- Rated frequency: 50/60Hz
- Rated impulse withstand voltage: 2500V
- Tripping time: <0.2s
- Protection class
IP20
- Product certification and implementation standard
 - (OF2) Product certification standard: GB/T 14048.5
 - (MX+OF2) Product certification standard: GB/T 14048.1
- Environmental requirements
 - RoHS 2.0
- Use category
 - AC-12 (AC415V, AC240V, AC48V, AC24V)
 - DC-12 (DC48V, DC24V, DC12V)
- Endurance
 - Mechanical endurance: 8000times
 - Electrical endurance: 1500times
- Indication mark of shunt trip release (The products in the open state)
 - Shunt tripping indication—Red: Shunt tripping protection
 - Shunt tripping indication—White: Circuit breaker overcurrent protection tripping



- Connect line requirements
 - Wiring area: single line 2.5mm², double line 1.5mm²;
 - Terminal screw: M3.5;
 - Rated torque: 1 N · m.
- Wiring Configuration of shunt trip release



- Outline and Installation Dimensions of shunt trip release (The Specific Kind Prevails)



5. Normal Working Environment

- 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: ≤4000m, 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
- Reference set temperature: 30°C
- 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)

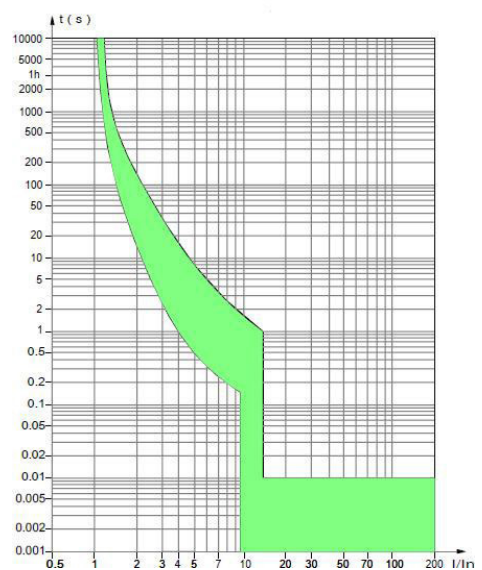
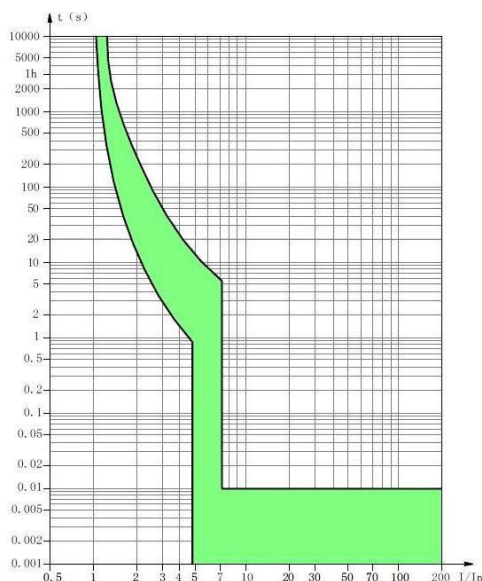
Ambient temperature (°C) Correcting current (A) Rated current (A)	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
6	7.96	7.70	7.58	7.46	7.34	7.21	7.09	6.96	6.83	6.70	6.56	6.42
10	14.15	13.89	13.62	13.35	13.07	12.81	12.53	12.23	11.93	11.63	11.33	11.01
16	21.10	20.78	20.43	20.08	19.75	19.40	19.05	18.70	18.33	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

Ambient temperature (°C) Correcting current (A) Rated current (A)	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

6. Tripping characteristic

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

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



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QUISURE

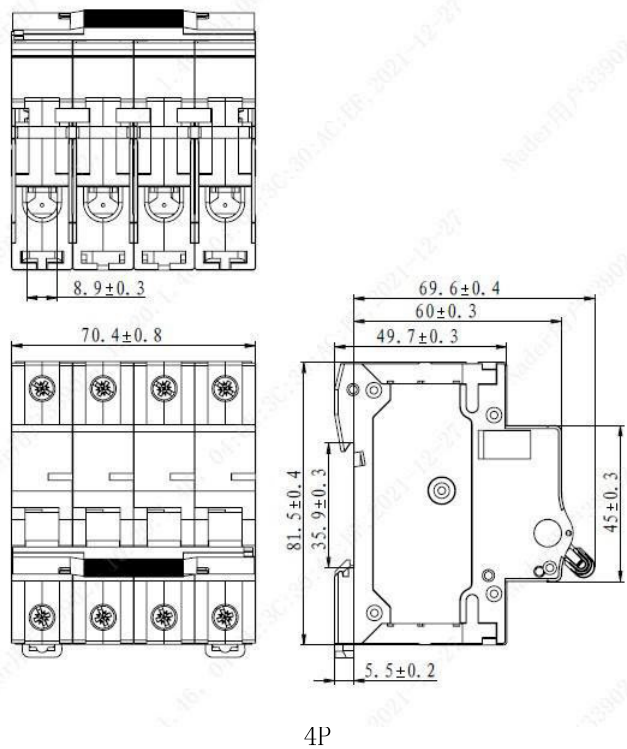
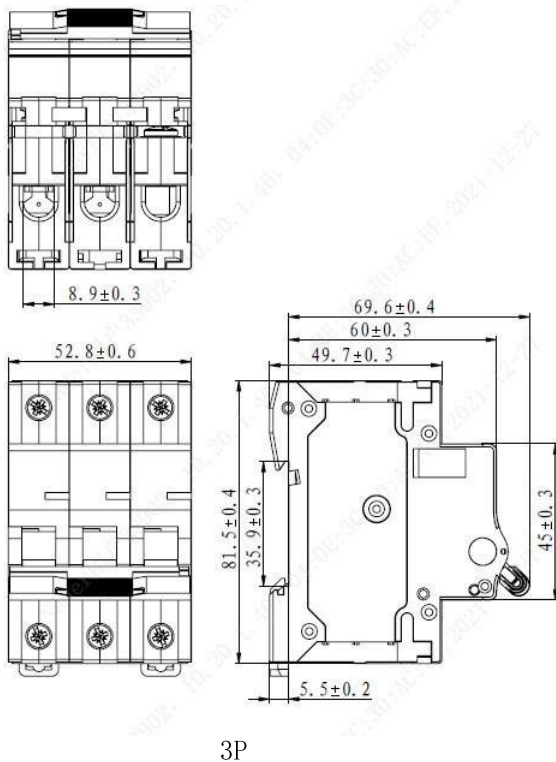
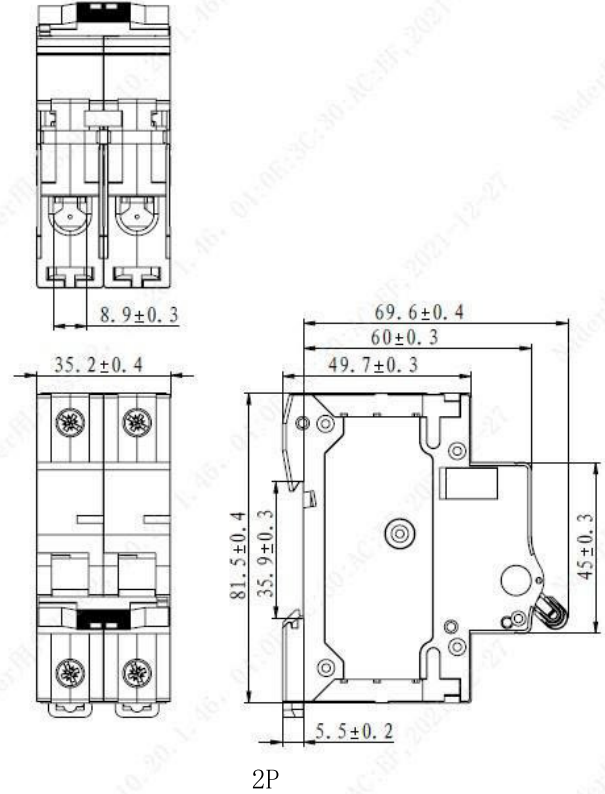
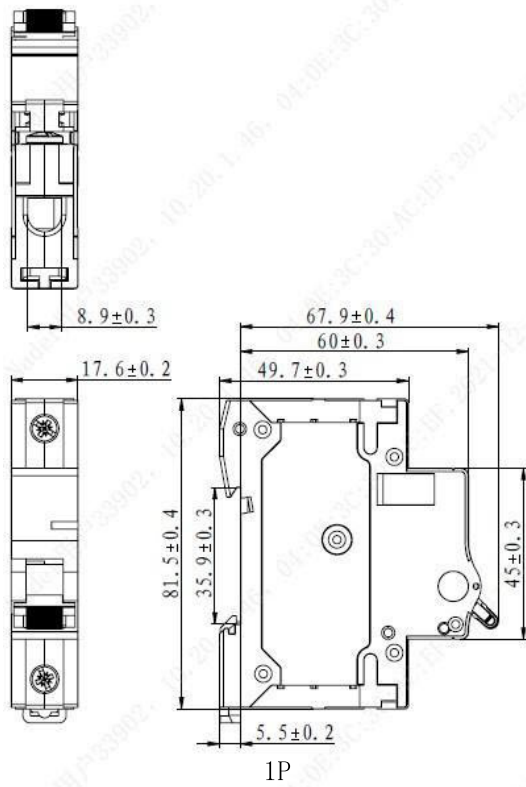
Keep quick, Make sure

ISO9001:2015

QUALITY GUARANTEED

7 Outline and Installation Dimensions

7.1 Outline and Installation Dimensions of internal short circuit.



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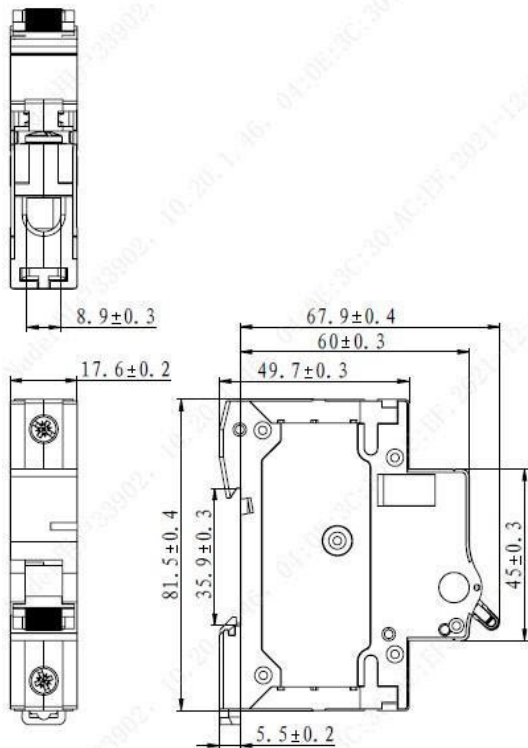
QUISURE

Keep quick, Make sure

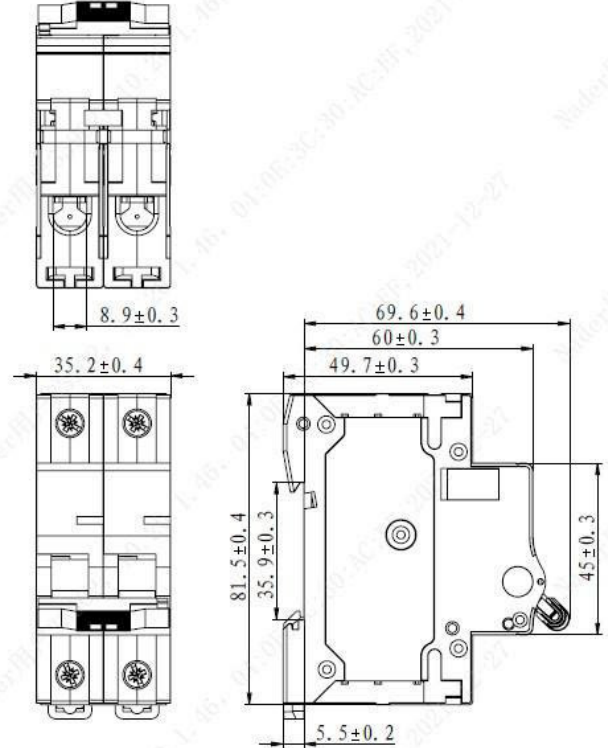
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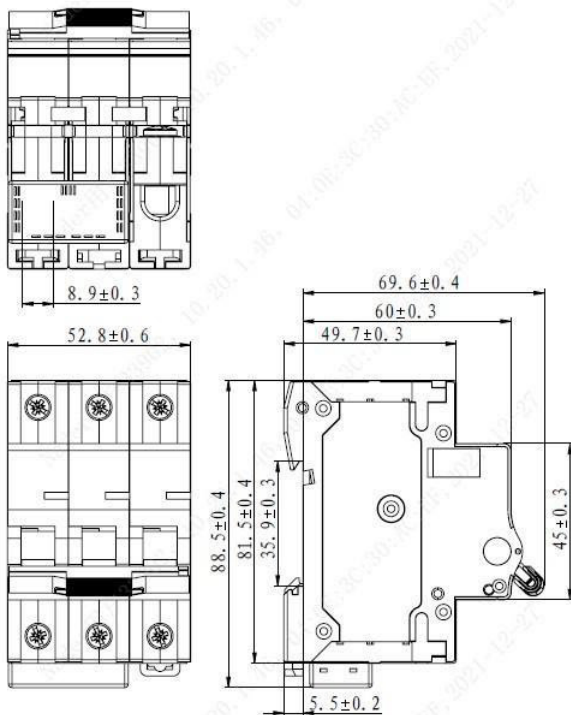
7.2 Outline and Installation Dimensions of external short circuit.



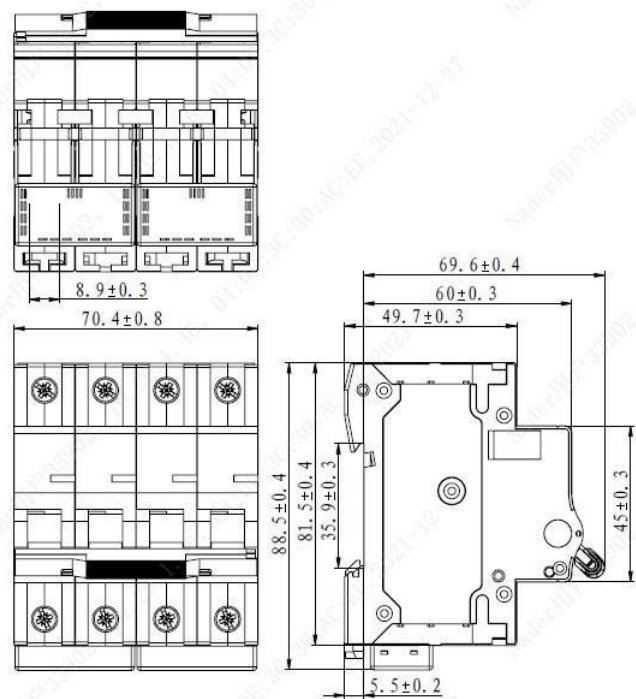
1P



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.