Shanghai Liangxin Electrical Co., Ltd.

PRODUCT SPECIFICATION

NDB2NZ-80V (Trial version)

Miniature Circuit Breaker

（IPD-ENG-DEV-T22 A2 2023-03-14）

Prepared		Date	
Reviewed		Date	
Approved		Date	

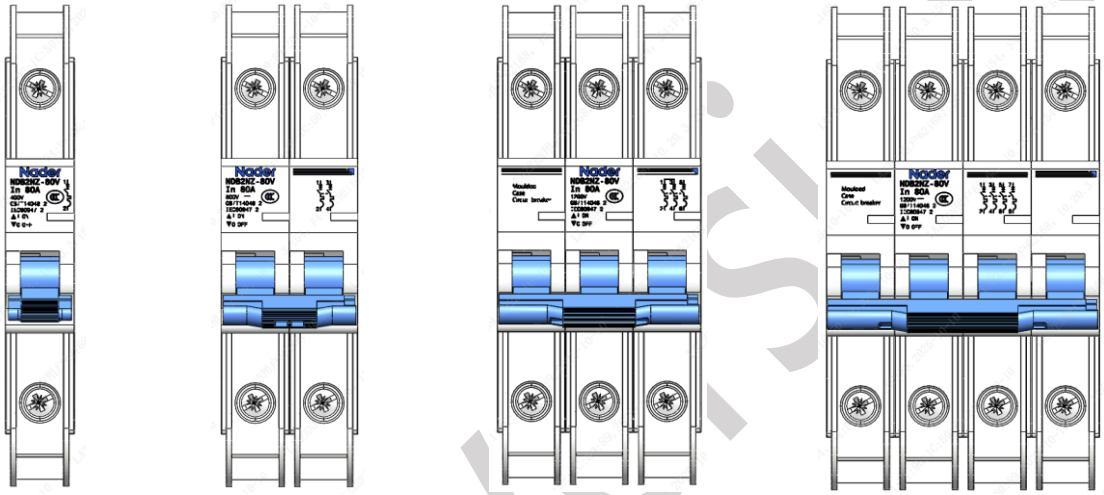
Revision information					
Version	Revised contents and reasons	Date	Prepared	Reviewed	Approved
0	New addition	2025-08-15	Libanban	Fenghongbao	Lirixi
1	Revision	2025-10-10	Libanban	Fenghongbao	Lirixi

1 Application

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

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

2 Product pictures（For reference only）



1P 2P 3P 4P

3 Product model

ND B 2N Z - 80 V □ □ /□

1 2 3 4 5 6 7 8 9

Item	Parameter type	NDB2NZ-80V
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	V
7	Tripping characteristic	B、C
8	Rated current (A)	16、25、32、40、50、63、80
9	Pole	1P、2P、3P、4P

4 Main technical parameters

Electrical parametes

Number of poles	1P、2P、3P、4P
Product certification standard	GB/T14048.2、IEC60947-2
Product certificate	CCC、TUV、CE
Rated voltage（3C）Ue	DC250V/DC400V/500V(1P)、DC500V/800V/1000V(2P) DC750V/DC1200V/DC1500V(3P) DC1000V/DC1500V (4P)
Rated insulation voltage Ui	1500V
Rated impulse withstand voltage	6kV
Tripping Characteristics	B:6In（1±20%）、C: 12In（1±20%）
Rated current In	16A、25A、32A、40A、50A、63A、80A
Icu	DC250V(1P)、DC500V(2P)、DC750V(3P) DC1000V(4P) 10kA DC400V(1P)、DC800V(2P)、DC1200V(3P) 6kA DC500V(1P)、DC1000V(2P)、DC1500V(4P) 3kA DC1500V（3P）1.5kA
Ics	DC250V(1P)、DC500V(2P)、DC750V(3P) DC1000V(4P) 6kA DC400V(1P)、DC800V(2P)、DC1200V(3P) 6kA DC500V(1P)、DC1000V(2P)、DC1500V(4P) 3kA DC1500V（3P）1.5kA
Electrical endurance	1500
Mechanical endurance	Mechanical endurance：8500
Protection grade	IP20
Environmental requirements	RoHS2.0

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

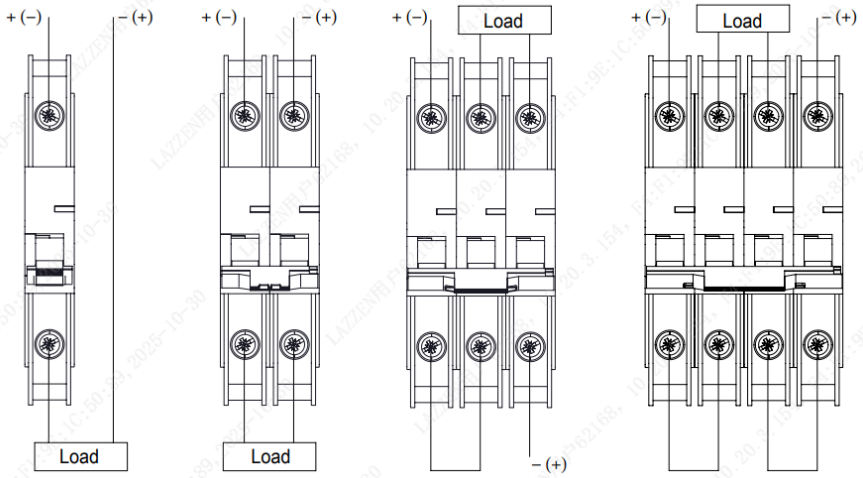
- Connect line requirements
  - Tunnel terminal block
  - Standard cross-sections of round copper conductors: 1~35mm^2
  - Terminal screw:M5, Rated torque :2.5N.m

16A	25A	32A	40A	50A	63A	80A
2.5 mm²	4 mm²	6 mm²	10 mm²	10 mm²	16 mm²	25 mm²
12AWG	10AWG	10AWG	8AWG	8AWG	6AWG	4AWG

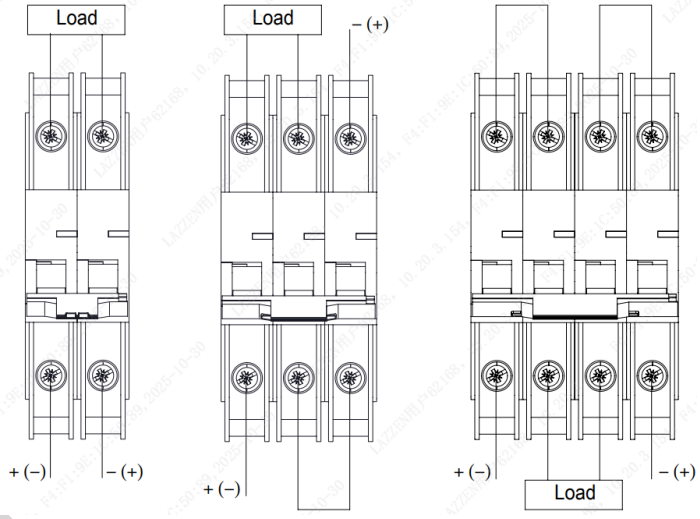
Refer to Table 9 of GB/T14048.1-2012 (IEC60947-12011) for details;

- Wiring Configuration：Upper incoming line or Lower incoming line
- Use categories：A
- Install category：II、III
- Wiring Configuration

◦Upper incoming line



◦Lower incoming line



Note:When using short circuiting, the cross~sectional area of the copper flexible wire shall not be less than the specified sq uare number, and the length of the copper flexible wire shall not be less than 200mm; it is not recommended to use copper bars for short circuiting;

5 Normal Working Environment

- Reference set temperature：40℃
- Operating ambient temperature：-40° ～+70℃
- Storage temperature：-40℃～+80℃
- Wet heat resistance： When the ambient air temperature is +55℃, 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

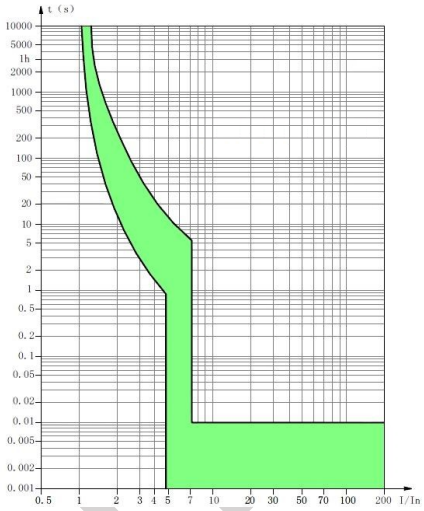
Number of circuit breakers in parallel	1	2～3	4～5	6～9	10
Derating factor	1	0.9	0.8	0.7	0.6

•Temperature derating factor table

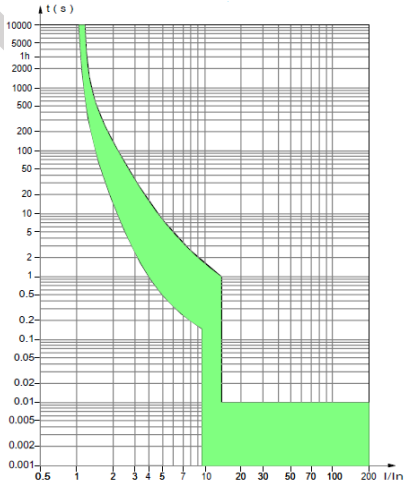
The derating factor is currently under verification, please wait

6 Tripping characteristic（For reference only）

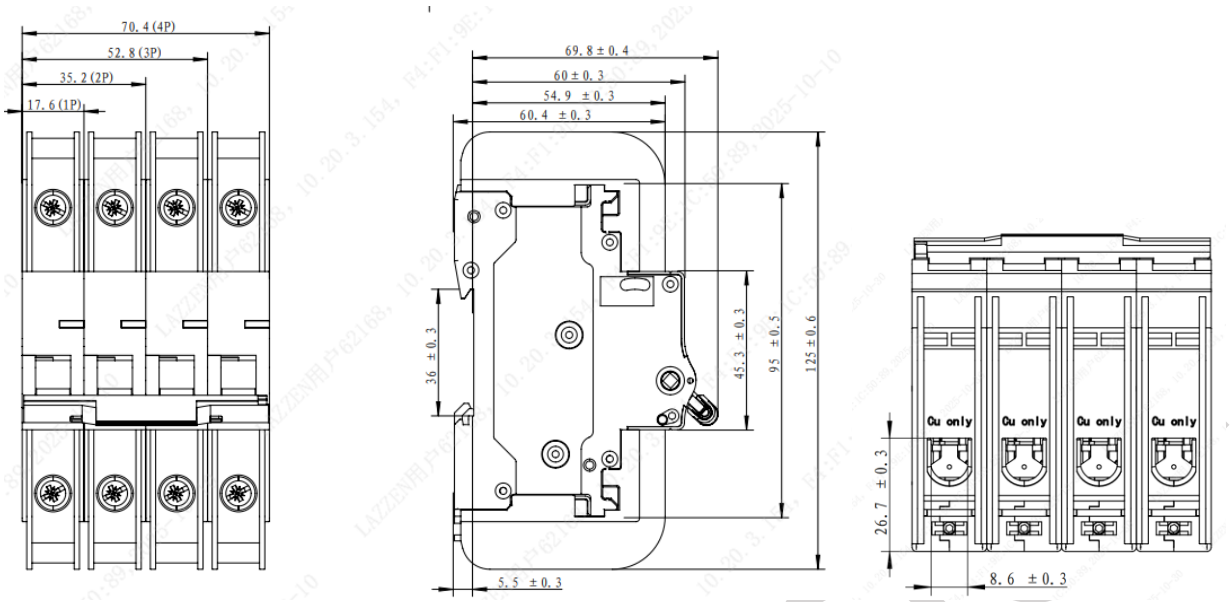
B: 6In（1±20%）



C: 12In（1±20%）



7 Outline and Installation Dimensions



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 ℃，Not less than - 40 ℃ 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-80V circuit breaker left, indication circuit breaker on-off state ;

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

10.1.MX+OF2 Technical Parameter

10.1.1Specification and Model Description

MX+OF2	
MX	Shunt trip release
OF2	Auxiliary contacts

10.1.2 Main technical parameters

- Electrical Characteristics

MX+OF2	Wiring form		Electrical parameters of shunt release(MX)					Electrical parameters of auxiliary contacts(OF2)					
 (The pictures are for reference only)	Tunnel type wiring	Rated operational voltage	DC12V		DC24V			Rated operational voltage	DC12V		DC24V		
		Minimum pull-in voltage	DC8.4V		DC12V								
		Rated suction power	30W		60W			Rated current of auxiliary contact	6A		6A		
	U-shaped wiring	Rated operational voltage	DC12V	AC/DC24V	AC/DC48V	AC240V	AC415V	Rated operational voltage	DC12V	AC/DC24V	AC/DC48V	AC240V	AC415V
		Minimum pull-in voltage	8.4V	16V	24V	160V	200V						
		Rated suction power	30W	200W	200W	240W	240W	Rated current of auxiliary contact	6A	6A	2A	6A	3A

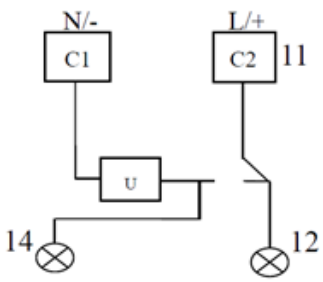
  - ○Release time of trip: < 0.2s

- Mechanical and electrical lifespan
  - ○Mechanical life 8000 times
  - ○Electrical life 1500 times

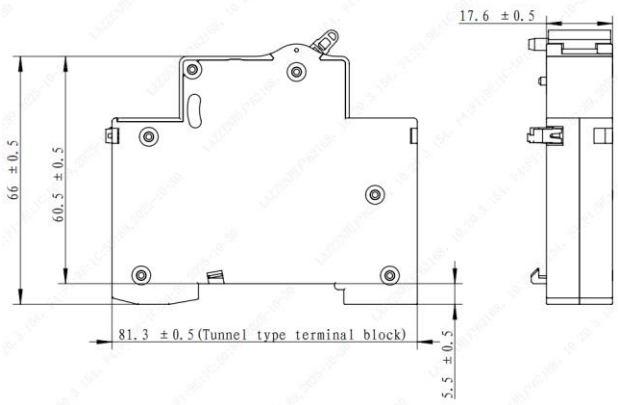
- Indication mark for shunt release device (product in open state)
  - ○Partial excitation trip indication - red: Partial excitation protection trip
  - ○Partial excitation trip indication - white: circuit breaker overcurrent protection trip or manual trip

- Wire connection
  - ○Wiring ability：single line 2.5mm² , double lines 1.5mm²
  - ○Terminal screw：M3.5
  - ○Rated torsional moment：1N.m

10.1.3 Electrical Schematic diagram

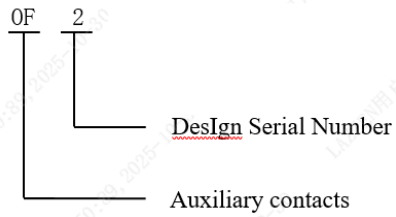


10.1.4 Appearance and installation dimensions

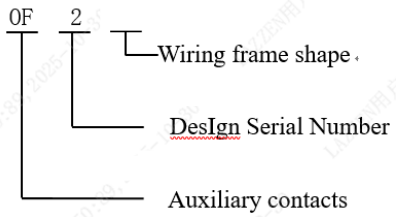


10.2. OF2 and OF2S technical parameters

10.2.1 Specification and Model Description



Tunnel type terminal block (OF2)



Tunnel type terminal block (OF2S)

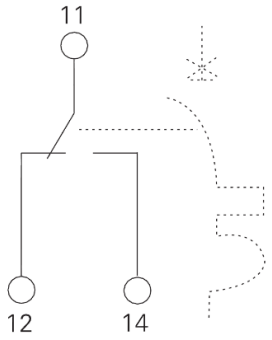
10.2.2 Main electrical parameters

Rated operational voltage	AC240V	AC415	DC24V	DC48V
Rated working current	6A	3A	6A	2A
Rated operational voltage	DC130V	DC110V	DC220V	DC250V
Rated working current	1A	1A	1A	0.4A

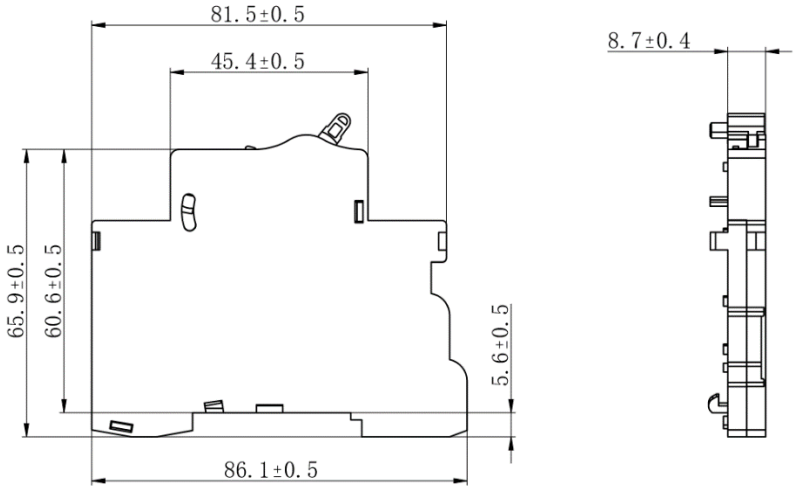
- Mechanical and electrical lifespan
  - ○Mechanical life：10000 times
  - ○Electrical life：6050 times
- Certification standards and qualifications：
  - ○Executive standard: GB/T 14048.5
  - ○Product certification：CCC CE TUV
- Environmental requirements
  - ○Compliant with RoSH directive requirements

- Utilization category
  - ○AC-12
  - ○DC-12
- Terminal screw：M3.5
- Torque：0.8N.m

10.2.3 Electrical Schematic diagram



10.2.4 Appearance and installation dimensions



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 the corresponding attachment manual for details;