



NDA Series Outlet

2016 Edition

Nader

1. Product Overview

		
Model	NDA1-10/22	NDA1-16/34
Outlet Symbol		
Rated Working Voltage (V)	AC 250V	AC 250V
Rated Working Current (A)	10A	10A , 16A
Width (mm)	18	36
Module	2	4

			
Model	NDA1-16/46	NDA1-25/48	NDA3-10/34
Outlet Symbol			
Rated Working Voltage (V)	AC 440V	AC 440	AC 250V
Rated Working Current (A)	16	25	10A , 16A
Width (mm)	54	72	36
Module	6	8	4

Note:1 module=9mm

2. Product Features

● Applicable Scope

This Series Outlet can be used indoor or outdoor, household and similar sites. Only for AC, Rated current should not exceed 25A and Rated Voltage Range is: 50V-440V.

● Design Features

- ◆ This Series Outlet is installed in the modularized distribution box and other electric cabinet to connect related electric device.
- ◆ Seriation Product, Modularization.

● Standard

- ◆ GB 2099.1 Plug and socket-outlets for household and similar purposes-Part 1: General requirements.
- ◆ IEC 60884-1 Piuge and socket-outlets for household and similar purposes-Part 1: Genenral requirements.

3. Working Condition

● Applicable Condition

- ◆ Ambient Usage Temperature and Storage Temperature

Ambient Usage Temperature: -5℃~+40℃

- ◆ Altitude

The altitude of the mounting site ≤ 2000m

- ◆ Relative Usage Humidity and Relative Storage Humidity

The relative humidity shouldn't exceed 50% when the ambient air temperature is +60 degrees, higher humidity can be allowed in lower temperature. For example, the humidity can be 90% when the ambient temperature is +20 degrees. Necessary measures should be acted for the condensation produced by the changed temperature.

● Pollution Degree

2

● Protection Level

Level of Product Protection: IP20

- **Mounting Types**

II (For Load Level) and III (For distribution and control Level)

- **Applicable Types**

AC-22A

- **Applicable Types**

II (For Load Level) and III (For distribution and control Level)

- **Mounting Method**

Mounted on TH35mm x 7.5 Standard Rail.

- **Mounting Direction**

Mounting Direction

- **Environmental Requirement**

Comply with RoHS

4. Product Technical Characteristic

4.1 Model and Implication

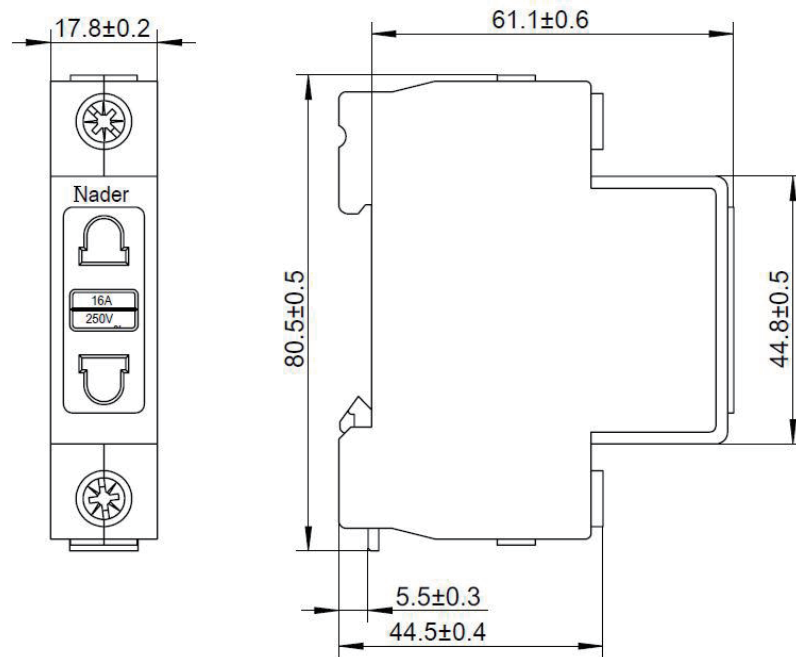
ND A □ - □ / □ / □ 1 2 3 4 5 6					
No.	Implication	NDA			
1	Brand Code	ND: Nader			
2	Code	A: Outlet			
3	Design Code	1	3		
4	Rated Current	10A, 16A, 25A	10A, 16A		
5	Holes	2, 3, 4	3		
6	Width Module	2, 4, 6, 8	4		

4.2 Technical Characteristics

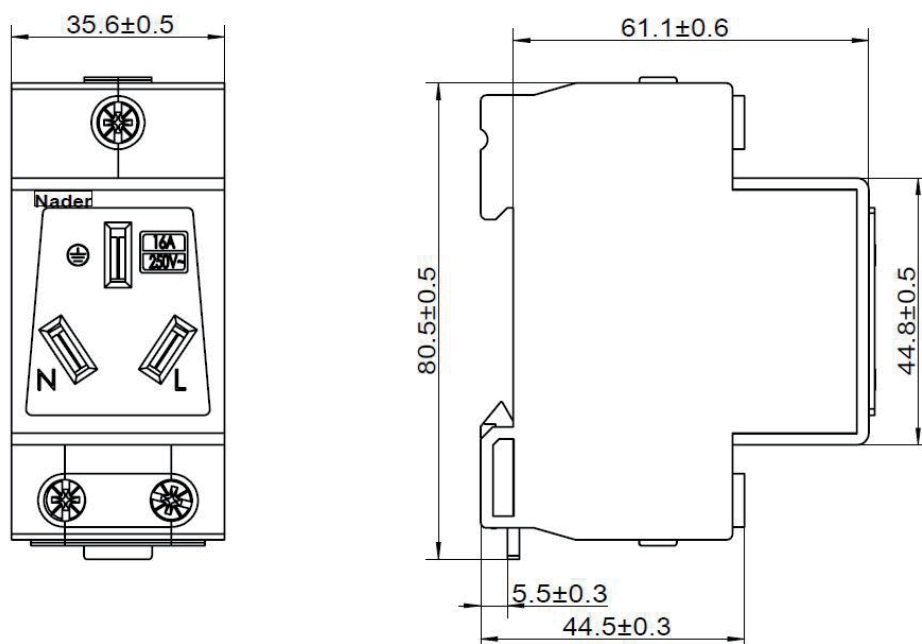
Model	NDA1-10/22	NDA1-16/34	NDA1-16/46	NDA1-25/48	NDA3-10/34
Rated Voltage	AC250V	AC250V	AC250V	AC440V	AC250V
Rated Current	10A	10A	16A	25A	10A
Holes	2	3	4		3
Width Module	2	4	6	8	4
Terminal Connecting Area	2~25 mm ² cable is applicable	2~25 mm ² cable is applicable	2~25 mm ² cable is applicable		1~6 mm ² cable is applicable

5. Outline and Mounting Dimension

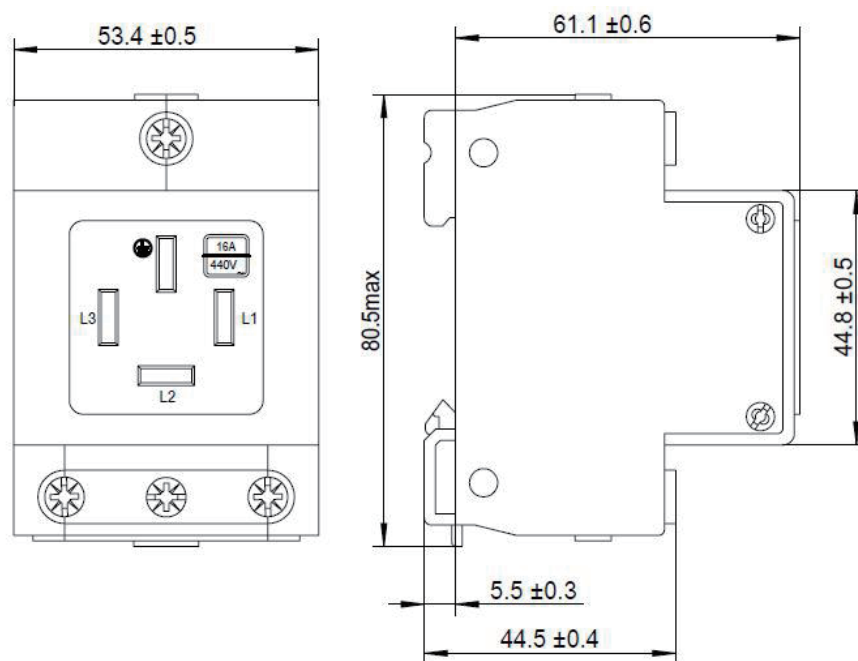
5.1 NDA1 (External Dimension of 2 Holes)



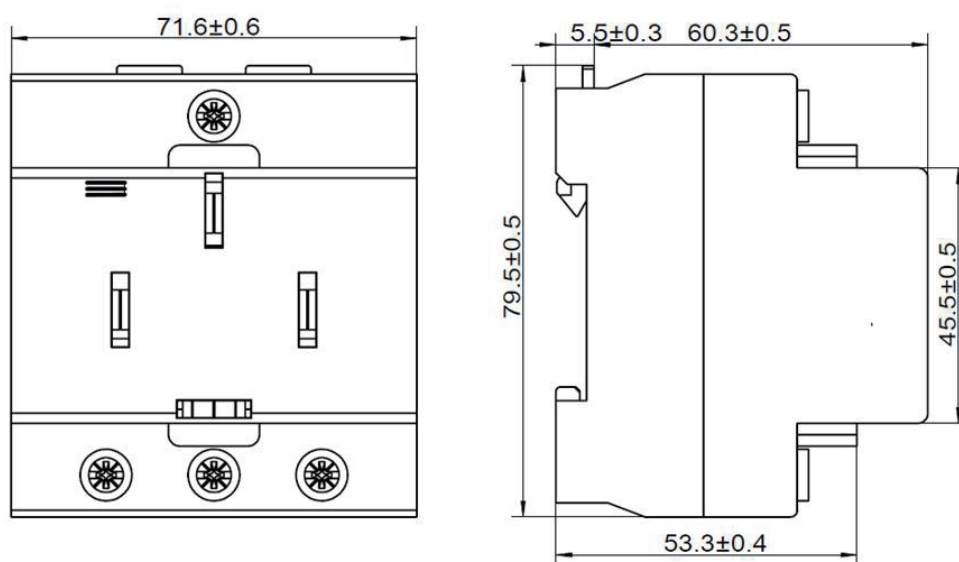
5.2 NDA1-16/34 (External Dimension of 3 Holes)



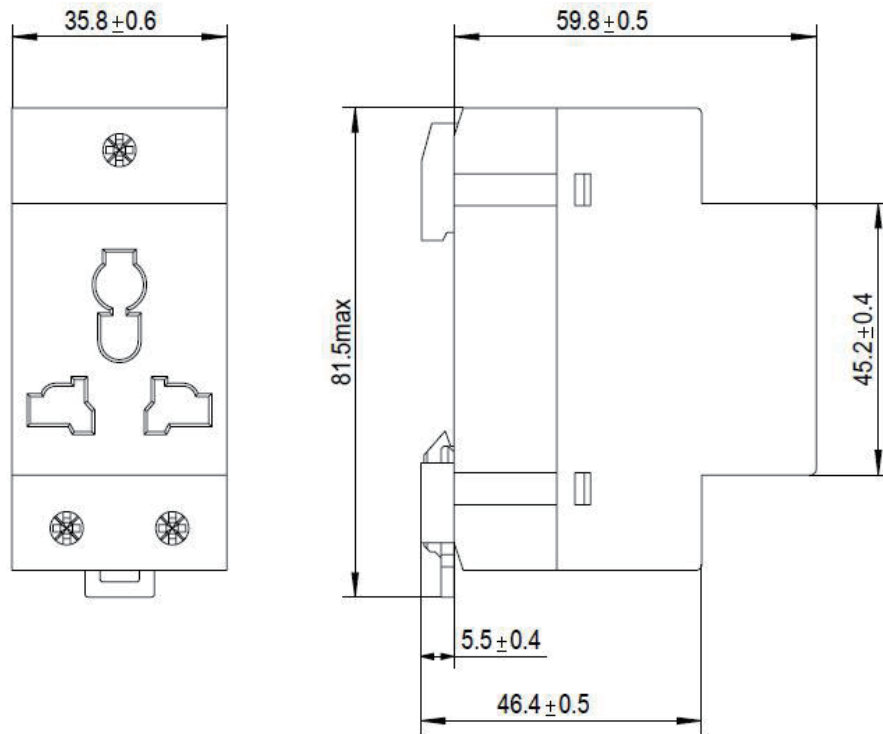
5.3 NDA1-16/46 (External Dimension of 4 Holes)



5.4 NDA1-25/48 (External Dimension of 4 Holes)



5.5 NDA3-16/34 (External Dimension of 3 Holes)



6. Ordering Types and Specifications (Tick ✓ in ☐)

Customer	Ordering Quantity:	Ordering Date:
Frame Rating	☐ NDA1-10/22 ☐ NDA1-10/34 ☐ NDA1-16/46 ☐ NDA1-25/48 ☐ NDA3-16/34	
Number of Holes	☐ 2 Holes ☐ 3 Holes ☐ 4 Holes	



NDM1L (NDM1) Series RCBO

2016 Edition

Nader

1. Product Overview

			
Model	NDM1L-32	NDM1L-50	NDM1L-100
Rated Voltage	AC230/240V(1PN、2P) AC380/400/ 415V(3PN、3P、4P)	AC230/240V(1PN、2P) AC380/400/ 415V(3PN、3P、4P)	AC230V(1PN、2P、3PN、4P) AC400V(3P)
Rated Current	1A、2A、3A、4A、5A、 6A、10A、16A、20A、 25A、32A	6A、10A、16A、20A、 25A、32A、40A、50A、 10A、16A、20A、25A、 32A、40A、50A	50A、63A、80A、100A
Rated Residual Operation Current	30mA、50mA、 100mA、300mA	30mA、50mA、 100mA、300mA	100mA

2. Product Features

● Applicable Scope

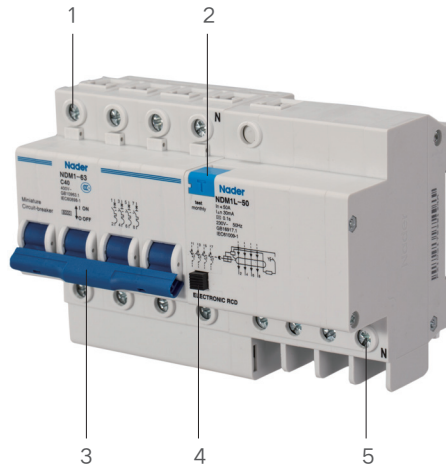
NDM1L-32, NDM1L-50 and NDM1L-100 Series RCBOs are linked to the right side of both NDM1-63 and NDM1-125. These series RCBOs can protect people from direct or indirect electric shock, protect the circuits from earth leakage. RCBOs are widely used in Low-voltage distribution of industry, civil building, energy, telecommunication and infrastructure etc. to protect the circuits from short circuits, over-current, leakage, disconnection and over/under-voltage.

● Design Features

- ◆ Visual window's design: Make the product's switching-closing status more clearly to see.
- ◆ Modularized and Assemble Structure: Easily to remove and mount.

● Structure Features

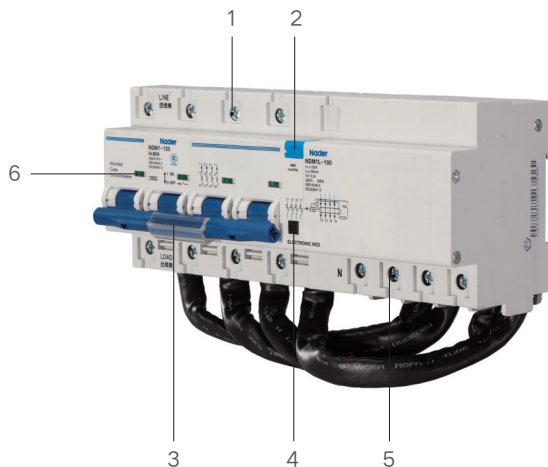
◆ NDM1L-32、50 External Diagram



NDM1L-32、50 External Structure Diagram :

- 1 : Line
- 2 : Test Button
- 3 : Operation Handle
- 4 : Reset Button
- 5 : Load

◆ NDM1L-100 External Diagram



NDM1L-100 External Diagram :

- 1 : Line
- 2 : Test Button
- 3 : Operation Handle
- 4 : Reset Button
- 5 : Load
- 6 : Status Indicated Window

● Standard

◆ Standard As Follow:

- ★ GB 16917.1 Residual current operated circuit-breakers with integral over-current protection for household and similar uses(RCBOs)-Part 1 : General rules
- ★ IEC 61009-1 Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses(RCBOs)-Part 1 : General rules

◆ NDM1L-100 Standard As Follow :

- ★ GB 14048.2 Low-voltage switchgear and control gear Part 2: Circuit-breakers
- ★ IEC 60947-2 Low-voltage switchgear and controlgear-Part 2: Circuit-breakers

3. Working Condition

● Applicable Condition

- ◆ Ambient Usage Temperature and Storage Temperature

Ambient Usage Temperature: -25°C~+55°C, Standard Temperature: +30°C, correction factor of different ambient usage temperature refer to sheet 1

Storage Temperature:-30°C~+70°C.

- ◆ Altitude

The altitude of the mounting site $\leq$ 2000m

- ◆ Relative Usage Humidity and Relative Storage Humidity

The relative humidity shouldn't exceed 50% when the ambient air temperature is +40 degrees, higher humidity can be allowed in lower temperature. For example, the humidity can be 90% when the ambient temperature is +20 degrees. Necessary measures should be acted for the condensation produced by the changed temperature.

● Pollution Degree

2

● Protection Level

Level of Product Protection: IP20

● Mounting Method

Mounted on TH35mm x 7.5 Standard Rail.

● Mounting Direction

- ◆ Vertical Mounting: The inclination between mounting plane and vertical plane should $\leq \pm 5$ degrees
- ◆ Horizontal Mounting

● Environmental Requirement

Comply with RoHS

4. Product Technical Characteristic

4.1 Model and Implication

ND		M		1		L		-		□		/		□		□		□		□	
1		2		3		4		5		6		7		8		9					
No.		Implication		NDM1L																	
1		Brand Code		ND : Nader																	
2		Code		M : MCB																	
3		Design Code		1																	
4		Leakage		L: Leakage Functional Code (30mA, 50mA, 100mA, 300mA)						L: Leakage Functional Code (30mA, 50mA, 100mA, 300mA)						L: Leakage Functional Code (100mA)					
5		Frame Rating		32A						50A						100A					
6		Instantaneous Tripping Characteristics		B: Instantaneous Tripping Range 3In ~ 5In ; C: Instantaneous Tripping Range 5In ~ 10In ; D: Instantaneous Tripping Range 10In ~ 14In ;						B: Instantaneous Tripping Range 3In ~ 5In ; C: Instantaneous Tripping Range 5In ~ 10In ; D: Instantaneous Tripping Range 10In ~ 14In ;						C: Instantaneous Tripping Range 8In (1 ± 20%) ; D: Instantaneous Tripping Range 12In (1 ± 20%) ;					
7		Rated Current		1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A						6A, 10, 16A, 20A, 25A, 32A, 40A, 50A						50A, 63A, 80A, 100A					
8		Over-Voltage and Under-Voltage Functional Code		/						No Code: Normal Leakage Products GQ : Indicates over-voltage and under-voltage protective function G: Indicates over-voltage protective function Q: Indicates under-voltage protective function						No Code: Normal Leakage Products GQ : Indicates over-voltage and under-voltage protective function G: Indicates over-voltage protective function Q: Indicates under-voltage protective function					
9		Number of Poles		1PN、2P、3P 3PN、4P						1PN、2P、3P 3PN、4P						1PN、2P、3P 3PN、4P					

4.2 Technical Parameters

	NDM1L-32	NDM1L-50	NDM1L-100
Rated Voltage (V)	AC230/240V(1PN、2P) AC380/400/ 415V(3PN、3P、4P)	AC230/240V(1PN、2P) AC380/400/ 415V(3PN、3P、4P)	AC230V(1PN、2P、3PN、4P) AC400V(3P)
Rated Current (A)	1、2、3、4、5、6、 10、16、20、25、32	6、10、16、20、25、 32、40、50	50、63、80、100
Tripping Characteristics of Residual Current	AC and ELE	AC and ELE	AC and ELE
Rated Residual Operation Current $I_{\Delta n}$ (mA)	30、50、100、300	30、50、100、300	100
Rated Insulated Voltage (V)	AC500V	AC500V	AC500V
Rated Ultimate Short Circuit Breaking Current I_{cu}	6kA (B、C) 4.5kA (D)	6kA (B、C6A~40A); 4.5kA (B、C50A、D)	10kA
Rated Short-Circuit Operation Breaking Current (Ics)	6kA (B、C) 4.5kA (D)	6kA(B、C6A~40A); 4.5kA (B、C50A、D)	10kA
Rated Residual Connecting and Breaking Current (I Δ m)	500A	500A	2500A
Rated Working Frequency (Hz)	50/60	50/60	50/60
Over-Voltage Operation Value and Time (Uover)	/	280V $\pm$ 12V/0.1s	280V $\pm$ 12V/0.1s
Under-Voltage Operation Value and Time (Uover)	/	170V $\pm$ 7V/1s	170V $\pm$ 7V/1s
Mechanical and Electric Life	20000	20000	20000
Connecting and Wiring Capacity	◆ Tunnel Connecting Terminal ◆ Terminal Connecting Area: 1~10 mm² cable is applicable ◆ Connecting Screw is M4, Torque is 1.2N.m	◆ Tunnel Connecting Terminal ◆ Terminal Connecting Area: 1~10 mm² cable is applicable ◆ Connecting Screw is M4, Torque is 1.2N.m	◆ Tunnel Connecting Terminal ◆ Terminal Connecting Area: 1~50 mm² cable is applicable ◆ Connecting Screw is M6, Torque is 4.0N.m
Certificate	CCC	CCC	CCC

● Temperature Correction Factor Sheet (1)

Ambient Temperature (°C) Correction Current (A) Rated Current (A)	-35	-30	-25	-20	-15	-10	-5	-0	5	10	15
1	1.27	1.25	1.23	1.21	1.19	1.17	1.15	1.13	1.10	1.08	1.06
3	3.89	3.83	3.76	3.70	3.64	3.57	3.50	3.44	3.37	3.30	3.22
6	7.70	7.58	7.46	7.34	7.21	7.09	6.96	6.83	6.70	6.56	6.42
10	13.89	13.62	13.35	13.07	12.81	12.53	12.23	11.93	11.63	11.33	11.01
16	20.78	20.43	20.08	19.75	19.40	19.05	18.70	18.33	17.96	17.58	17.20
20	25.67	25.28	24.88	24.47	24.06	23.64	23.22	22.78	22.34	21.89	21.43
25	32.21	31.72	31.22	30.70	30.18	29.65	29.10	28.55	27.98	27.41	26.82
32	41.04	40.46	39.82	39.17	38.51	37.84	37.15	36.47	35.75	35.03	34.30
40	51.63	50.86	50.04	49.21	48.37	47.51	46.63	45.74	44.83	43.90	42.95
50	64.92	63.97	62.92	61.86	60.77	59.67	58.54	57.40	56.23	55.05	53.81
63	83.48	82.06	80.64	79.19	77.72	76.22	74.70	73.14	71.54	69.91	68.24
80	135	130	126	122	118	115	112	108	104	99	95
100	160	155	150	146	142	137	133	129	125	122	118

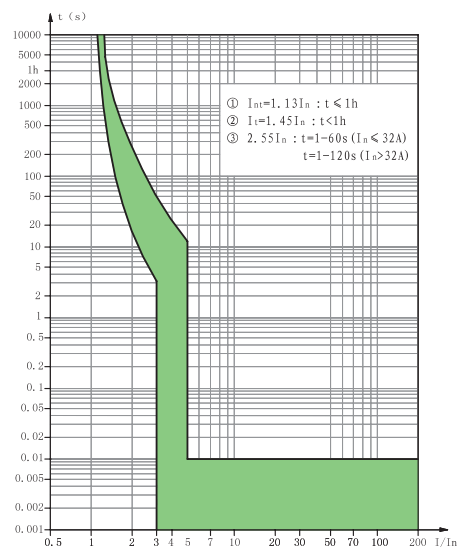
Ambient Temperature (°C) Correction Current (A) Rated Current (A)	20	25	30	35	40	45	50	55	60	65	70
1	1.05	1.02	1.00	0.97	0.94	0.91	0.89	0.86	0.83	0.80	0.77
3	3.14	3.06	3.00	2.92	2.84	2.76	2.67	2.58	2.49	2.38	2.27
6	6.27	6.14	6.00	5.84	5.68	5.52	5.36	5.19	5.01	4.83	4.64
10	10.67	10.34	10.00	9.63	9.24	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	12.75
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	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

4.3 Tripping Curve

4.3.1 NDM1L-32、NDM1L-50 Tripping Curve

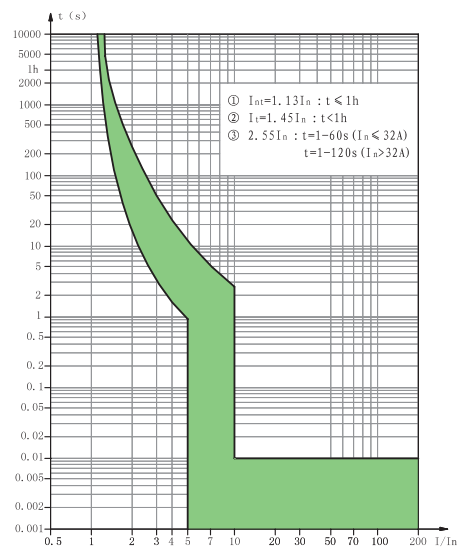
● B Curve

- ★ Protect non-inductive and micro inductive circuits
- ★ Rated Current: 1A-63A
- ★ Tripping Characteristics: Instantaneous tripping range: $3I_n-5I_n.s$



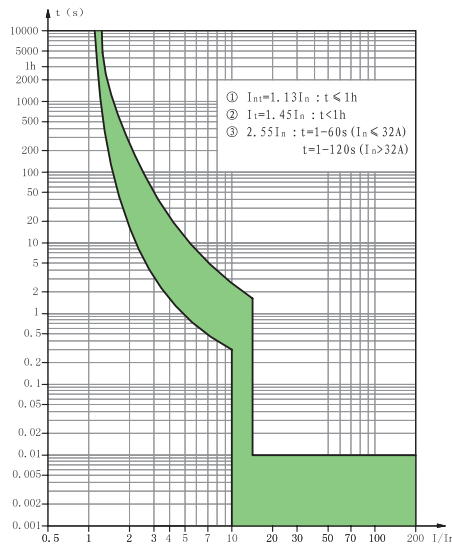
● C Curve

- ★ Protect Nominal Load and Distribution Cables
- ★ Rated Current: 1A-63A
- ★ Tripping Characteristics: Instantaneous tripping range: $5I_n-10I_n$



● D Curve

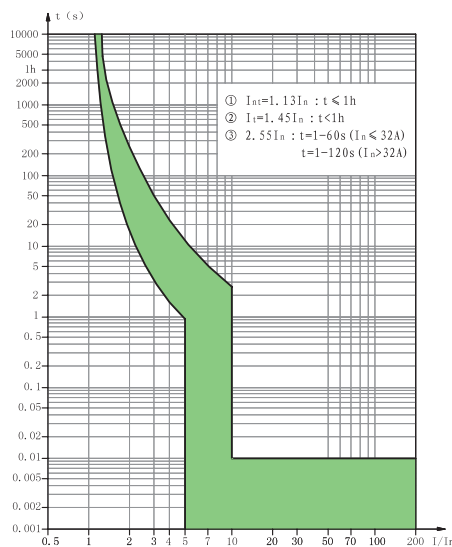
- ★ Protect industrial distribution systems
- ★ Rated Current: 1A-63A
- ★ Tripping Characteristics: Instantaneous tripping range: $10I_n$ - $14I_n$



4.3.2 NDM1L-100 Tripping Curve

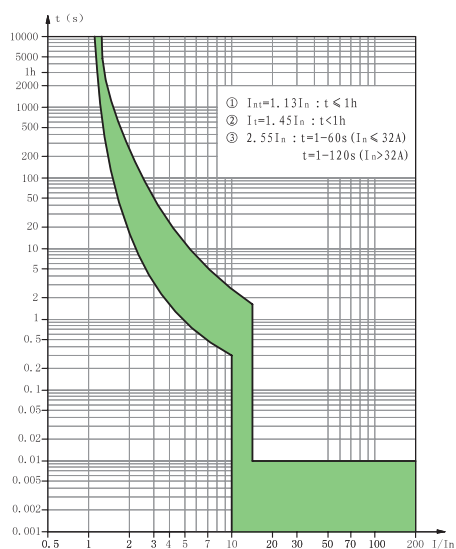
● C Curve

- ★ Protect Nominal Load and Distribution Cables
- ★ Rated Current: 50A-100A
- ★ Tripping Characteristics: Instantaneous tripping range: $8I_n (1 \pm 20\%)$

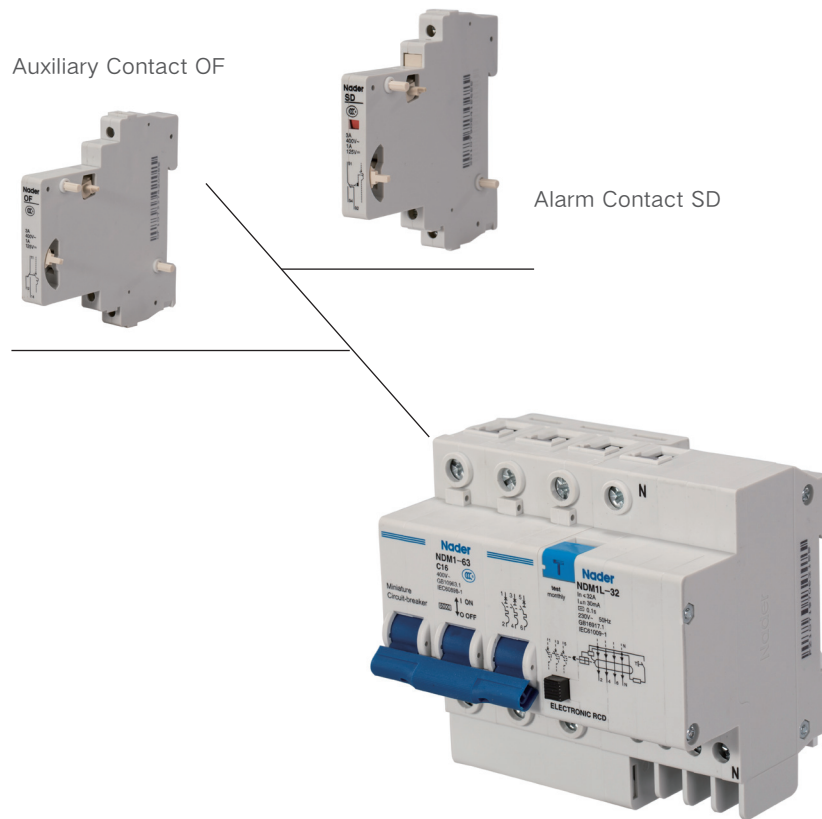


● D Curve

- ★ Protect industrial distribution systems
- ★ Rated Current: 50A-100A
- ★ Tripping Characteristics: Instantaneous tripping range: $12I_n$ ($1 \pm 20\%$)



5. Accessory



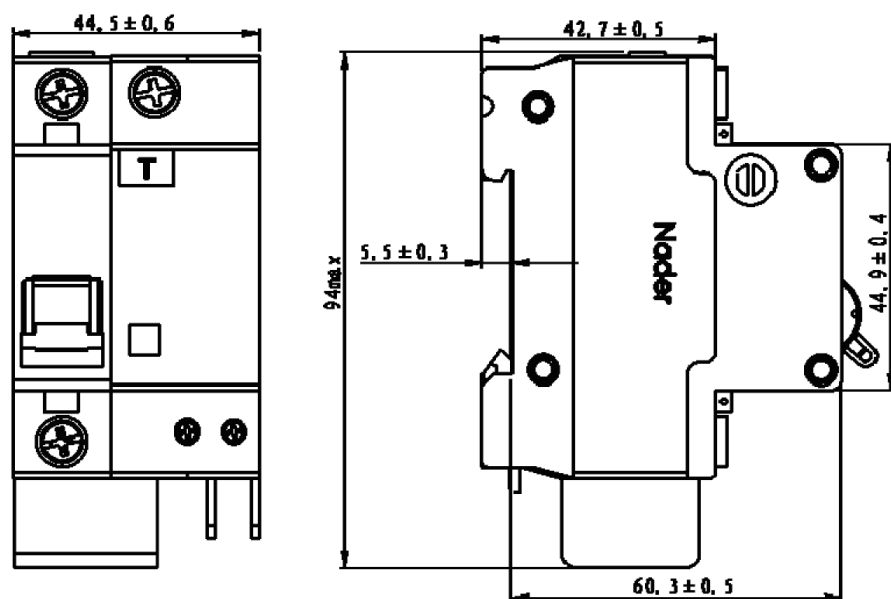
NDM1L-32、NDM1L-50、NDM1L-100 Accessory Types

No.	Name	Accessory Code	Function and Matched Quantity
1	Auxiliary Contact	OF	Linked to the left side of MCB to indicate OPEN or CLOSE status of the associated breaker. Matched quantity: Max 3 Pcs
2	Alarm Contact	SD	Linked to the left side of MCB to indicate the accidental tripping status of the associated breaker. Matched quantity: 3 Pcs Max.

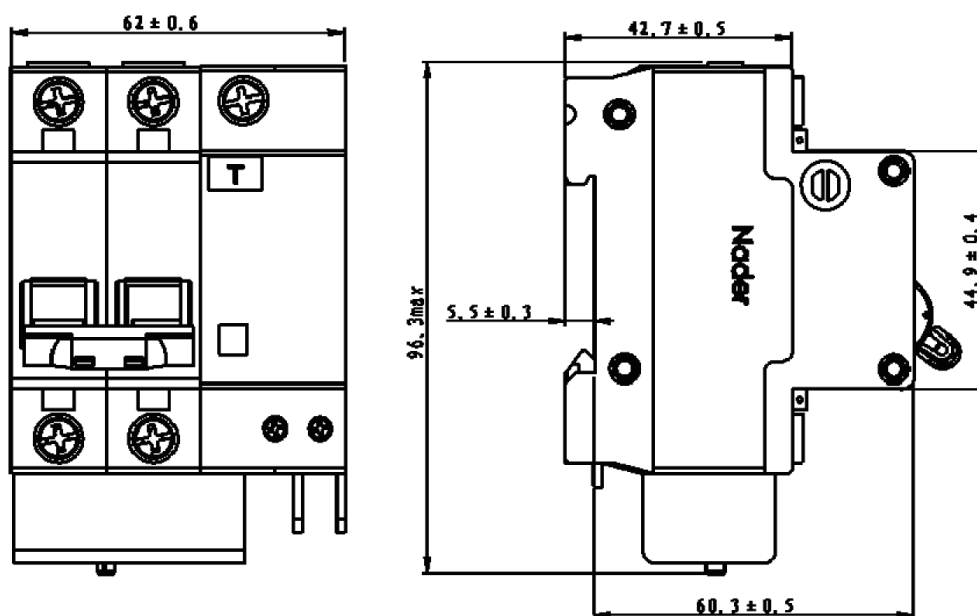
Note: Accessory parameters, please refer to "OF、SD" specimens.

6. Outline and Mounting Dimension

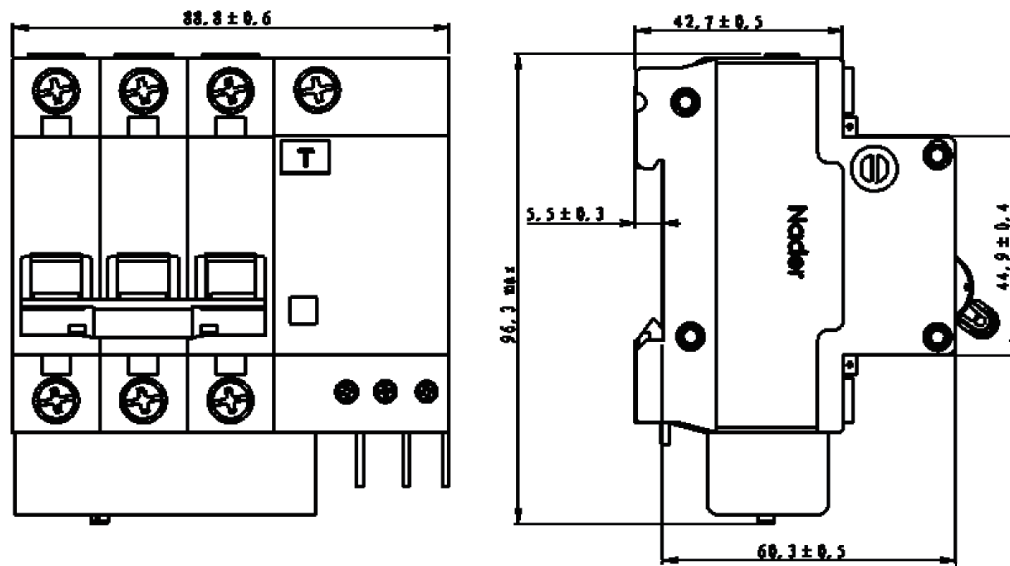
6.1 NDM1L-32 Rail Mounting Dimension



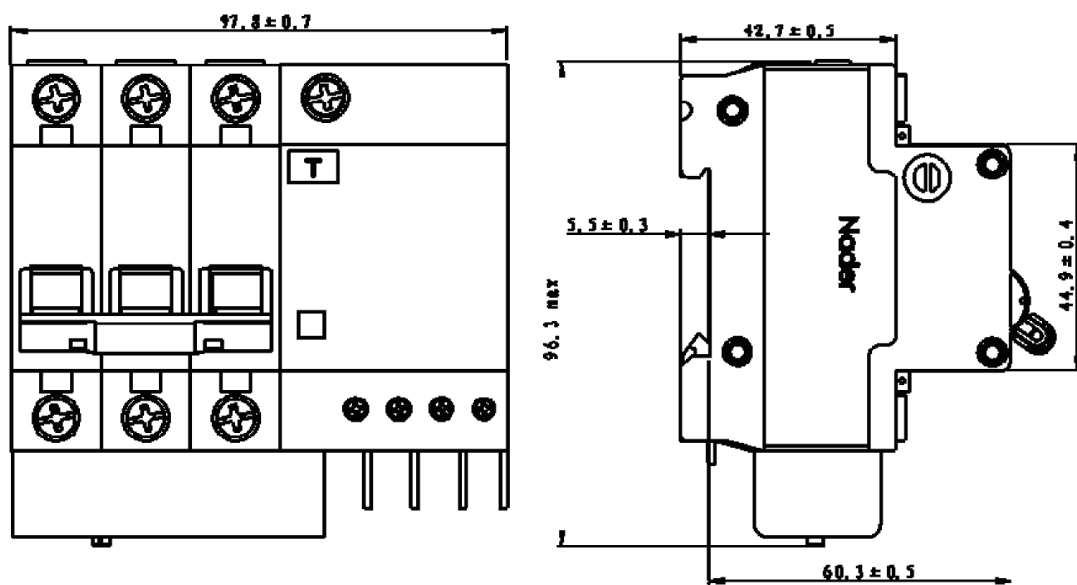
1P+N



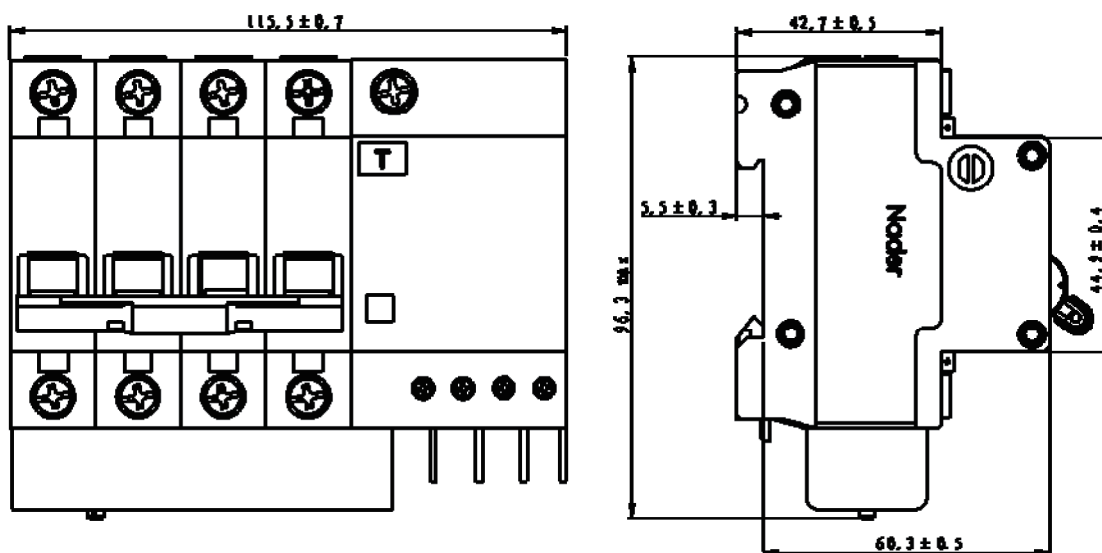
2P



3P

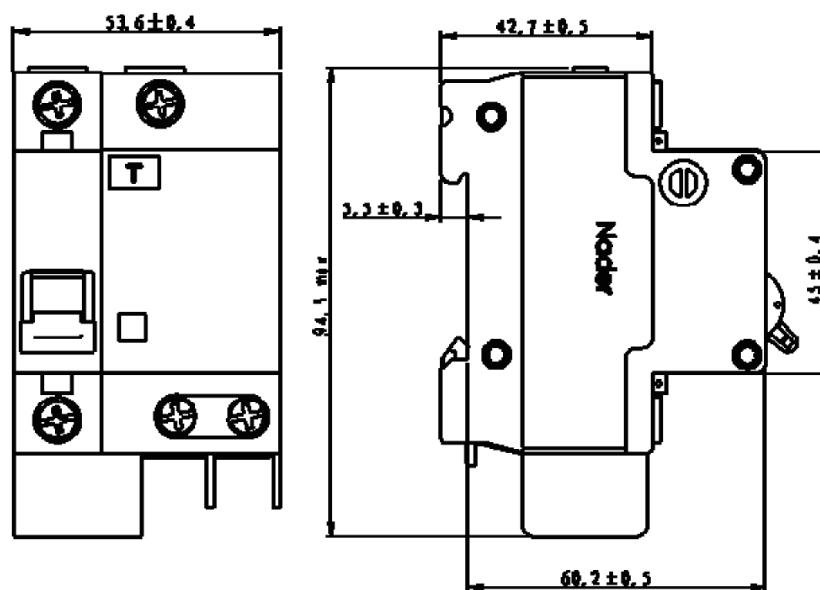


3P+N

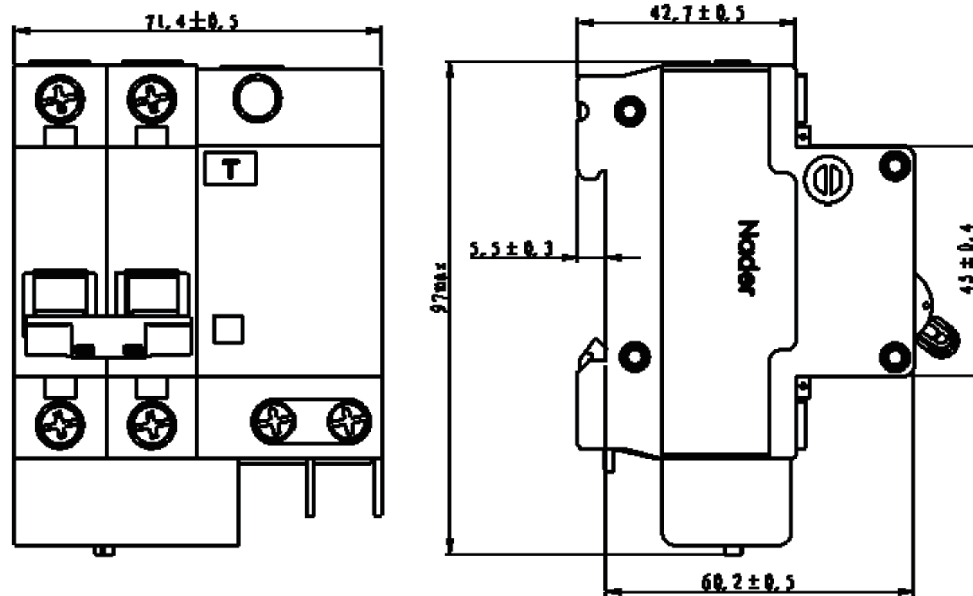


4P

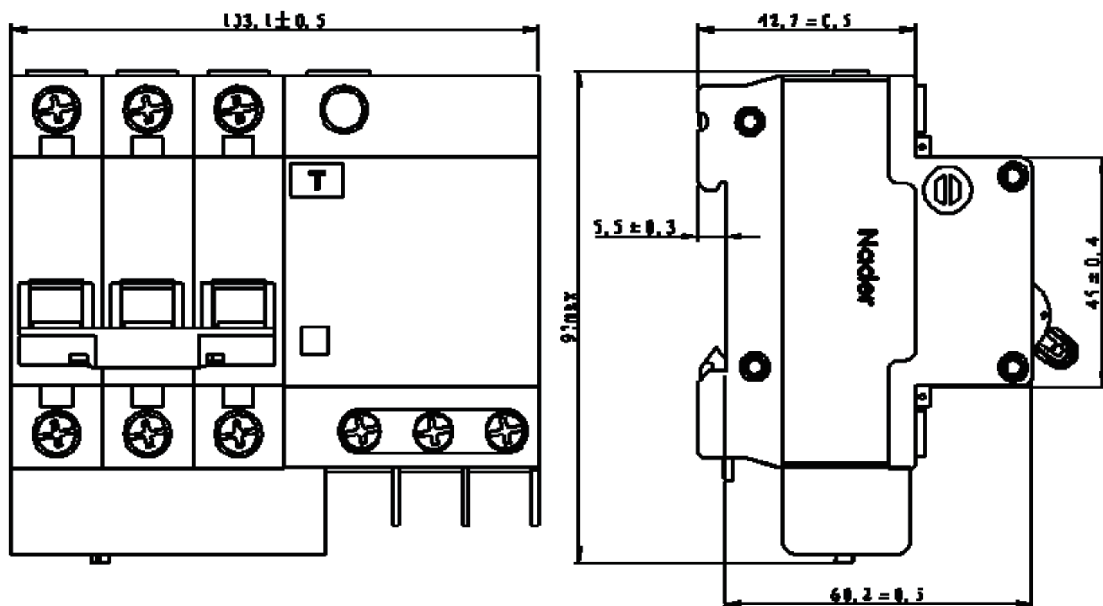
6.2 NDM1L-50 Rail Mounting Dimension



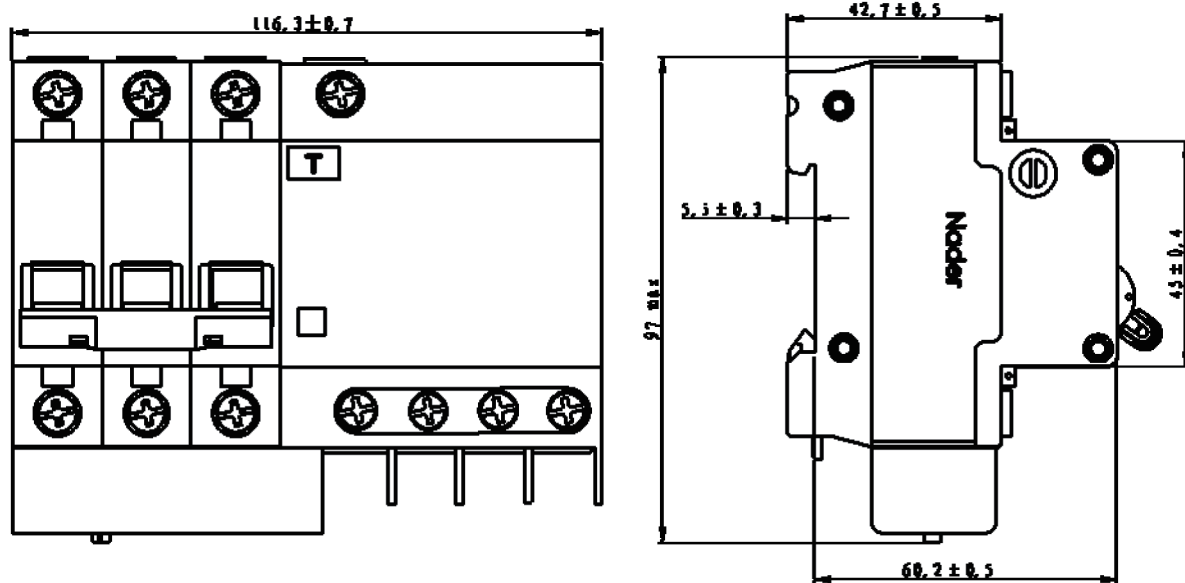
1PN



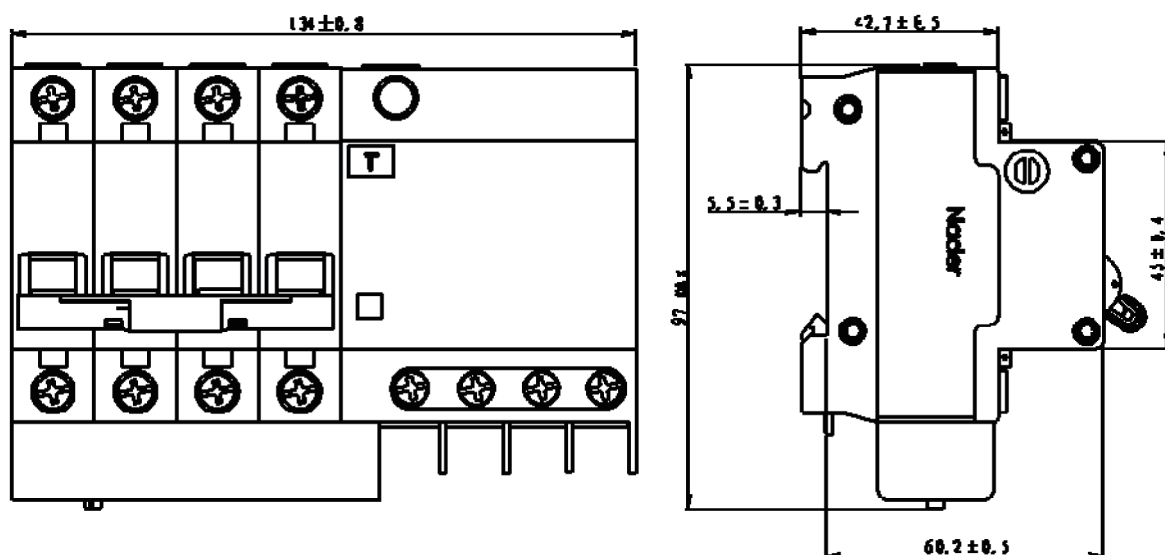
2P



3P

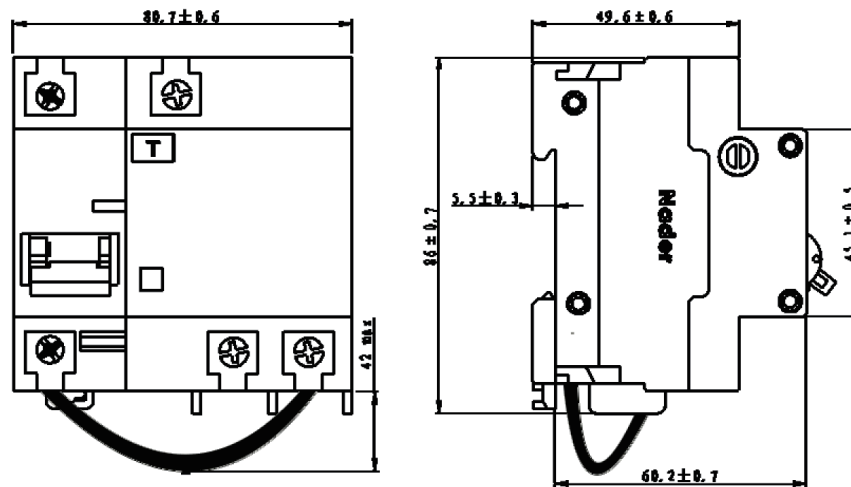


3PN

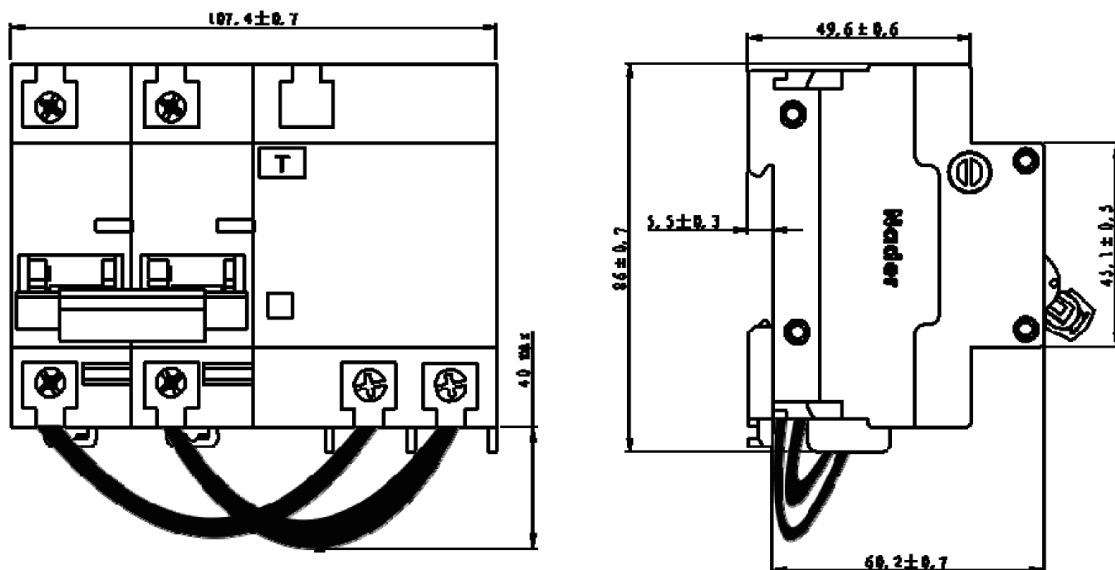


4P

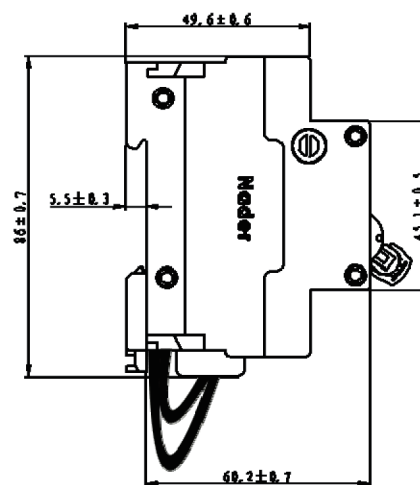
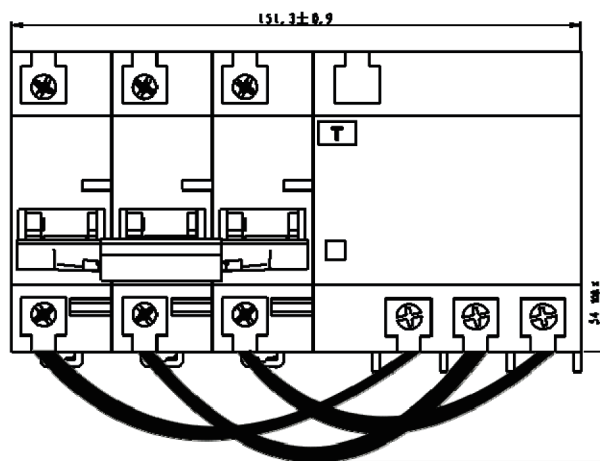
6.3 NDM1L-100 Rail Mounting Dimension



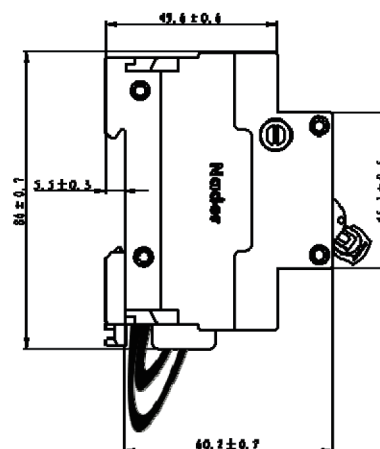
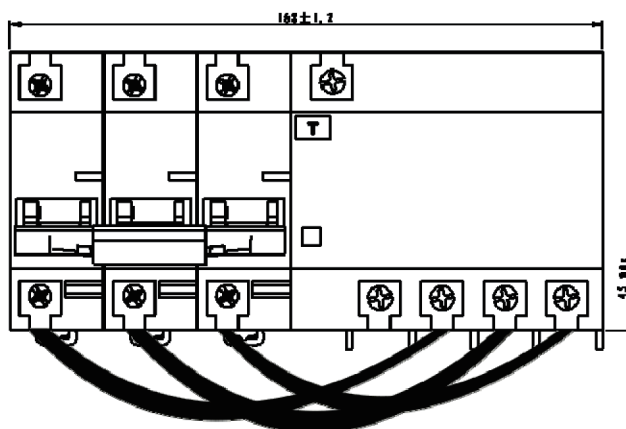
1PN



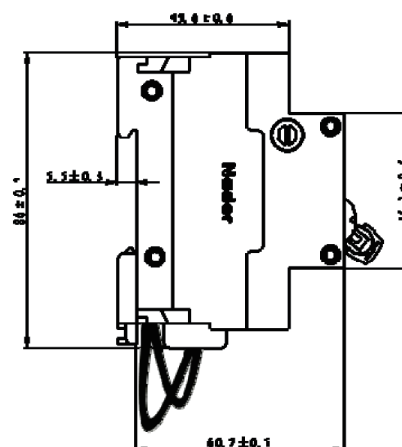
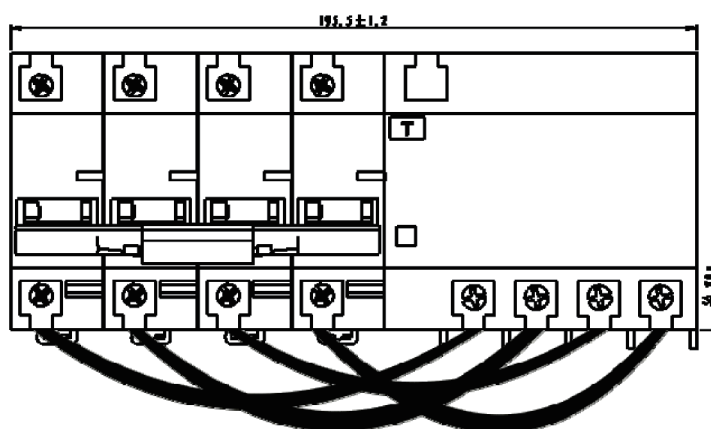
2P



3P

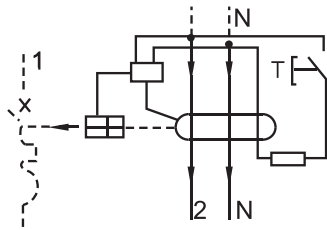


3PN

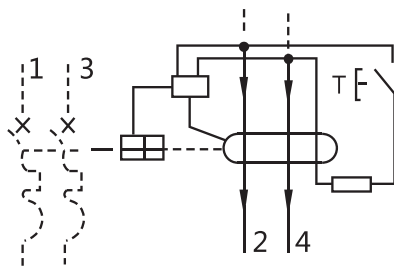


4P

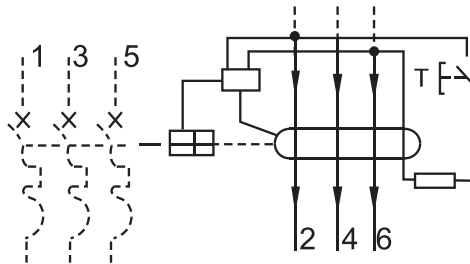
7. Wiring Diagram



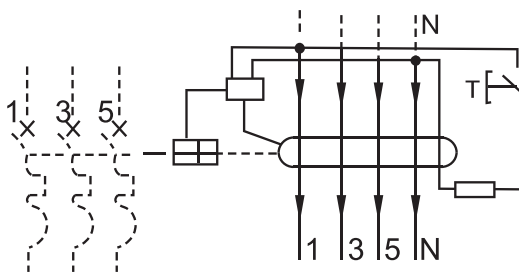
1PN Wiring Diagram



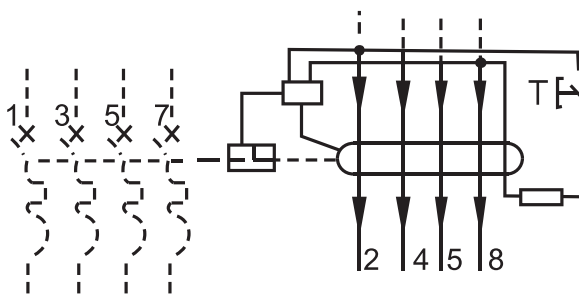
2P Wiring Diagram



3P Wiring Diagram



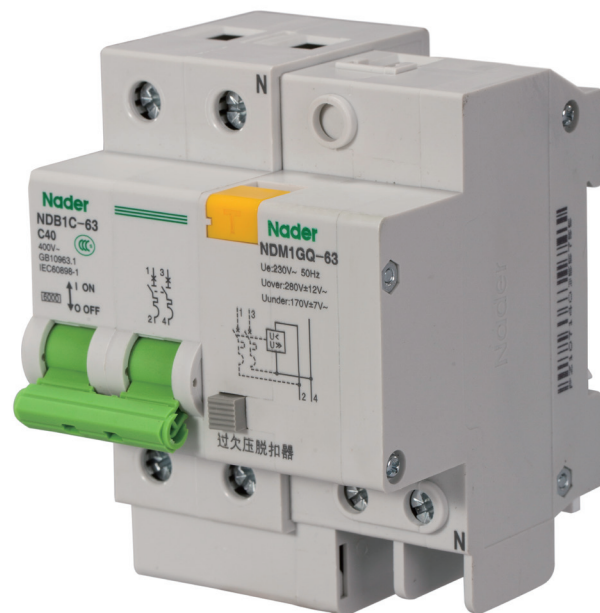
3PN Wiring Diagram



4P Wiring Diagram

8. Ordering Types and Specifications (Tick ✓ in ☐)

Customer		Ordering Quantity:	Ordering Date:
Frame Rating	☐ NDM1L-32 ☐ NDM1L-50	☐ NDM1L-100	
Tie Breakers	☐ NDM1A-63	☐ NDM1A-125	
Number of Poles	☐ 1PN ☐ 2P ☐ 3P ☐ 3PN ☐ 4P		
Rated Working Voltage(V)	☐ AC230/240 ☐ AC380/400/415 ☐ Other		
Rated Working Current(A)	1、2、3、4、5、6、10、16、20、25、32、40、50、63、80、100		
Rated Residual Operation Current I Δ n(mA)	☐ 30 ☐ 50 ☐ 100 ☐ 300 ☐ Other	☐ 100 ☐ Other	
Instantaneous Tripping Characteristics	☐ B : Instantaneous tripping range: 3In-5In, protect non-inductive and micro inductive circuits ☐ C : Instantaneous tripping range: 5In-10In, protect Nominal Load and Distribution Cables ☐ D : Instantaneous tripping range: 10In-14In, Protect industrial distribution systems		
Over-Voltage and Under-Voltage Functional Code	☐ GQ : Indicates over-voltage and under-voltage protective function ☐ G : Indicates over-voltage protective function ☐ Q : Indicates under-voltage protective function ☐ : Without over-voltage and under-voltage protective function		



NDM1GQ Series

Under-voltage and Over-voltage Protective Breaker

2016 Edition

Nader

1. Product Overview

				
Model	NDM1GQ-50	NDM1GQ-63	NDM1GQ-50	NDM1GQ-63
Rated Voltage	AC380/400/415V(4P)	AC230/ 240V(1PN、2P)	AC380/400/ 415V(4P)	AC230/ 240V(1PN、2P)
Rated Current	1、2、3、4、5、 6、10、16、20、 25、32、40、50	1、2、3、4、5、 6、10、16、20、 25、32、40、 50、63	1、2、3、4、5、 6、10、16、20、 25、32、40、50	1、2、3、4、5、 6、10、16、20、 25、32、40、 50、63
Adaptive Breaker	NDM1-63	NDM1-63	NDB1C-63	NDB1C-63

2. Product Features

● Applicable Scope

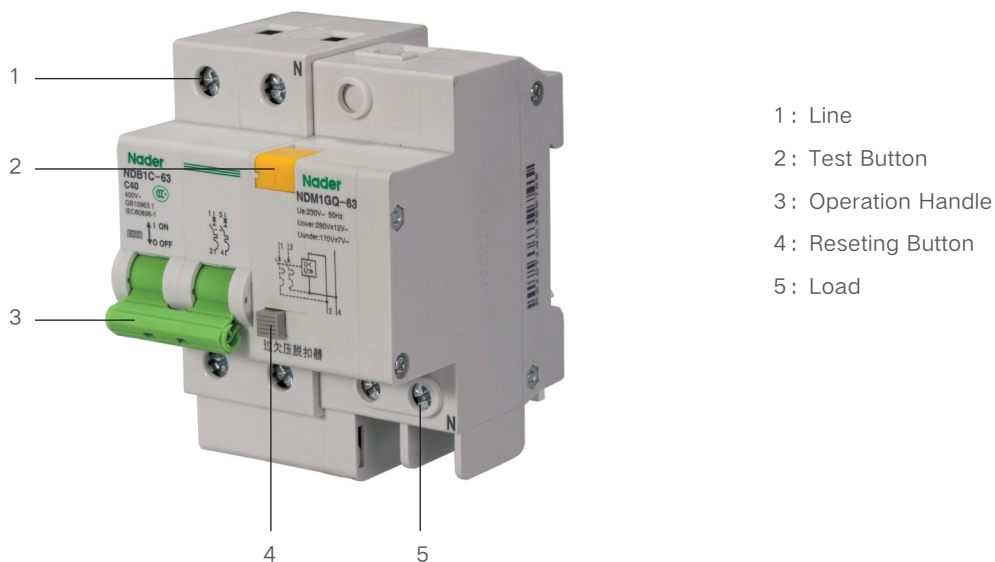
NDM1GQ Series Product adopts the assemble structure(between MCCB and under-voltage&over-voltage protective breaks) to do the protection against over voltage,over current and short circuit. It is a kind of multi-functional breakers and widely used in Low-voltage distribution of industry,civil building ,energy,telecommunication and infrastructure etc.

● Design Features

- ◆ Visual window's design: Make the product's switching-closing status more clearly to see.
- ◆ Modulation Structure:Easily to assemble and diversify

● Structure Features

- ◆ NDM1GQ External Diagram



● Standard

- ◆ The Subjected MCB's Complied Standards
 - ★ GB 16917.1 Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses(RCBOs)-Part 1 : General rules
 - ★ IEC 61009-1 Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses(RCBOs)-Part 1 : General rules
- ◆ NDM1L-100 Standards as Follow:
 - ★ GB 14048.2 Low-voltage switchgear and controlgear-Part 2: Circuit-breakers
 - ★ IEC 60947-2 Low-voltage switchgear and controlgear-Part 2: Circuit-breakers

3. Working Condition

● Applicable Condition

- ◆ Ambient Usage Temperature and Storage Temperature

Ambient Usage Temperature: -25°C~+55°C, Standard Temperature:+30°C, correction factor of different ambient usage temperature refer to sheet 1

Storage Temperature: -30°C~+70°C.

- ◆ Altitude

The altitude of the mounting site $\leq$ 2000m

- ◆ Relative Usage Humidity and Relative Storage Humidity

The relative humidity shouldn't exceed 50% when the ambient air temperature is +40 degrees, higher humidity can be allowed in lower temperature. For example, the humidity can be 90% when the ambient temperature is +20 degrees. Necessary measures should be acted for the condensation produced by the changed temperature.

● Pollution Degree

2

● Protection Level

Level of Product Protection:IP20

● Mounting Method

Mounted on TH35mm x 7.5 Standard Rail.

● Mounting Direction

- ◆ Vertical Mounting: The inclination between mounting plane and vertical plane should $\leq \pm 5$ degrees
- ◆ Horizontal Mounting

● Environmental Requirement

Comply with RoHS

4. Product Technical Characteristic

4.1 Model and Implication

ND M 1 - /							
1 2 3 4 5 6 7 8							
No.	Implication	Instruction					
1	Brand Code	ND : Nader					
2	Code	M					
3	Design Code	1					
4	Over-Voltage and Under-Voltage Functional Code	GQ : Indicates over-voltage and under-voltage protective function G : Indicates over-voltage protective function Q : Indicates under-voltage protective function					
5	Frame Rating	50		63			
6	Instantaneous Tripping Characteristics	B : Instantaneous Tripping Range: $3I_n \sim 5I_n$; C : Instantaneous Tripping Range: $5I_n \sim 10I_n$; D : Instantaneous Tripping Range: $10I_n \sim 14I_n$;		B : Instantaneous Tripping Range: $3I_n \sim 5I_n$; C : Instantaneous Tripping Range: $5I_n \sim 10I_n$; D : Instantaneous Tripping Range: $10I_n \sim 14I_n$;			
7	Rated Current (A)	1、2、3、4、5、6、10、16、20、25、32、40、50、63		1、2、3、4、5、6、10、16、20、25、32、40、50、63			
8	Number of Poles	4P		1PN, 2P			

4.2 Technical Parameters

	NDM1GQ-50	NDM1GQ-63
Rated Voltage (V)	AC380/400/415V	AC230/240V
Number of Poles	4P	1PN,2P
Rated Current In(A)	1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50	1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63
Rated Insulated Voltage Ui(V)	AC500V	AC500V
Rated Impulse Withstand Voltage (Uimp)	4kV	4kV
Rated Ultimate Short Circuit Breaking Current (Icu)	6kA (B、C1A~40A) ; 4.5kA (B、C50A, 63A, D)	6kA (B、C1A~40A) ; 4.5kA (B、C50A, 63A, D)
Rated Short-Circuit Operation Breaking Current (Ics)	6kA (B、C1A~40A) ; 4.5kA (B、C50A, 63A, D)	6kA (B、C1A~40A) ; 4.5kA (B、C50A, 63A, D)
Over-voltage Operation Value and Time (Uover)	AC280V ± 12V /0.1s	AC280V ± 12V /0.1s
Under-voltage Operation Value and Time (Uover)	AC170V ± 7V /1s	AC170V ± 7V /1s
Rated Working Frequency (Hz)	50/60	50/60
Mechanical and Electric Life	20000次	20000次
Connection and Wiring Capacity	◆ Tunnel Connecting Terminal ◆ Terminal Connecting Area: 1~16 mm² cable is applicable ◆ Connecting Screw is M4, Torque is 2.0N.m	◆ Tunnel Connecting Terminal ◆ Terminal Connecting Area: 1~16 mm² cable is applicable ◆ Connecting Screw is M4, Torque is 2.0N.m

● Temperature Correction Factor Sheet (1)

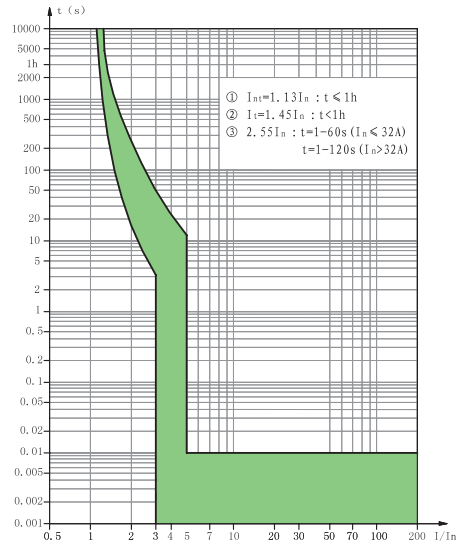
Ambient Temperature (°C) Correction Current (A) Rated Current (A)	-35	-30	-25	-20	-15	-10	-5	-0	5	10	15
1	1.27	1.25	1.23	1.21	1.19	1.17	1.15	1.13	1.10	1.08	1.06
3	3.89	3.83	3.76	3.70	3.64	3.57	3.50	3.44	3.37	3.30	3.22
6	7.70	7.58	7.46	7.34	7.21	7.09	6.96	6.83	6.70	6.56	6.42
10	13.89	13.62	13.35	13.07	12.81	12.53	12.23	11.93	11.63	11.33	11.01
16	20.78	20.43	20.08	19.75	19.40	19.05	18.70	18.33	17.96	17.58	17.20
20	25.67	25.28	24.88	24.47	24.06	23.64	23.22	22.78	22.34	21.89	21.43
25	32.21	31.72	31.22	30.70	30.18	29.65	29.10	28.55	27.98	27.41	26.82
32	41.04	40.46	39.82	39.17	38.51	37.84	37.15	36.47	35.75	35.03	34.30
40	51.63	50.86	50.04	40.21	48.37	47.51	46.63	45.74	44.83	43.90	42.95
50	64.92	63.97	62.92	61.86	60.77	59.67	58.54	57.40	56.23	55.05	53.81
63	83.48	82.06	80.64	79.19	77.72	76.22	74.70	73.14	71.54	69.91	68.24

Ambient Temperature (°C) Correction Current (A) Rated Current (A)	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
3	3.14	3.06	3.00	2.92	2.84	2.76	2.67	2.58	2.49	2.38	2.27
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	12.75
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

4.3 Tripping Curve

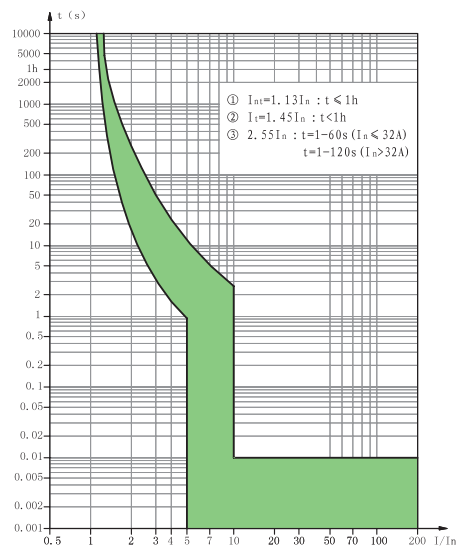
● B Curve

- ★ Protect non-inductive and micro inductive circuits
- ★ Rated Current: 1A-63A
- ★ Tripping Characteristics: Instantaneous tripping range: $3I_n$ - $5I_n$



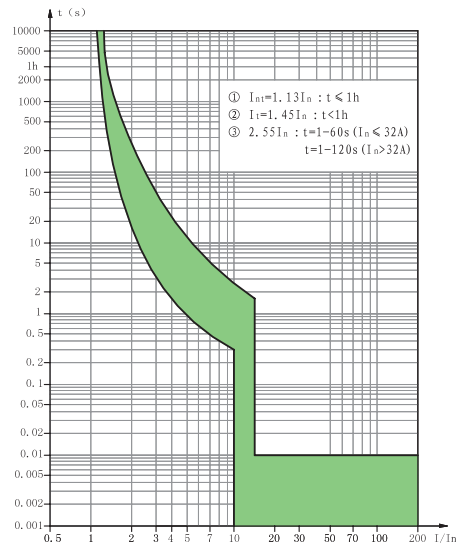
● C Curve

- ★ Protect Nominal Load and Distribution Cables
- ★ Rated Current: 1A-63A
- ★ Tripping Characteristics: Instantaneous tripping range: $5I_n$ - $10I_n$



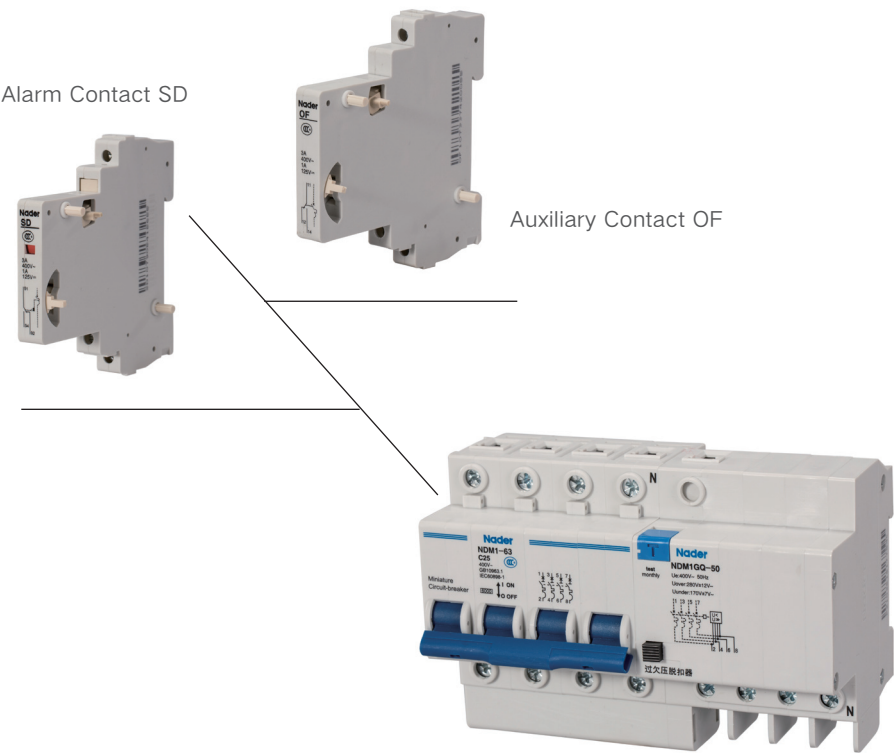
● D Curve

- ★ Protect industrial distribution systems
- ★ Rated Current: 1A-63A
- ★ Tripping Characteristics: Instantaneous tripping range: $10I_n$ - $14I_n$



5. Accessory

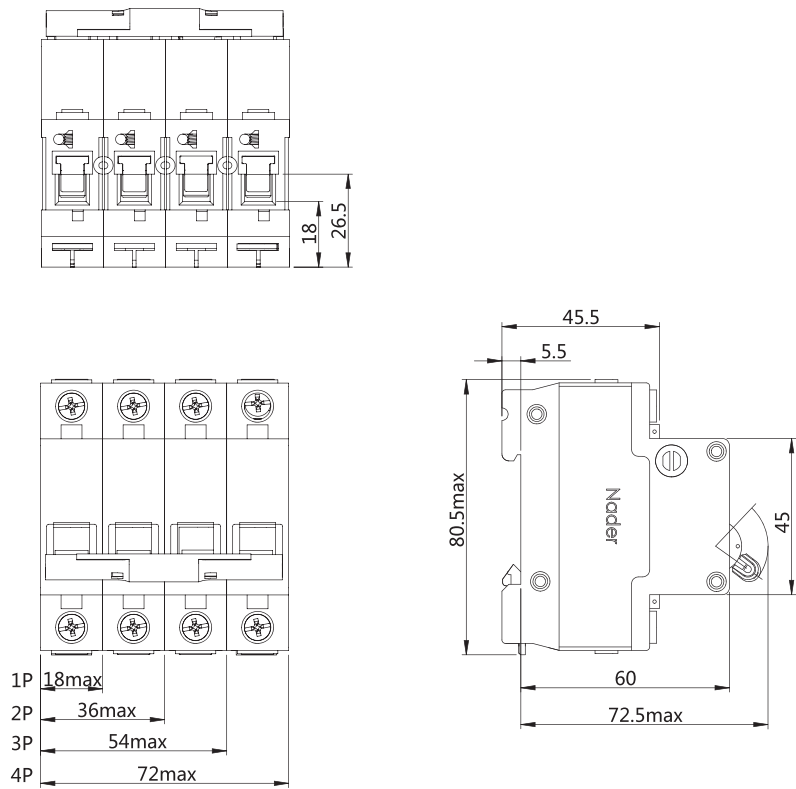
5.1 Accessory Sheet



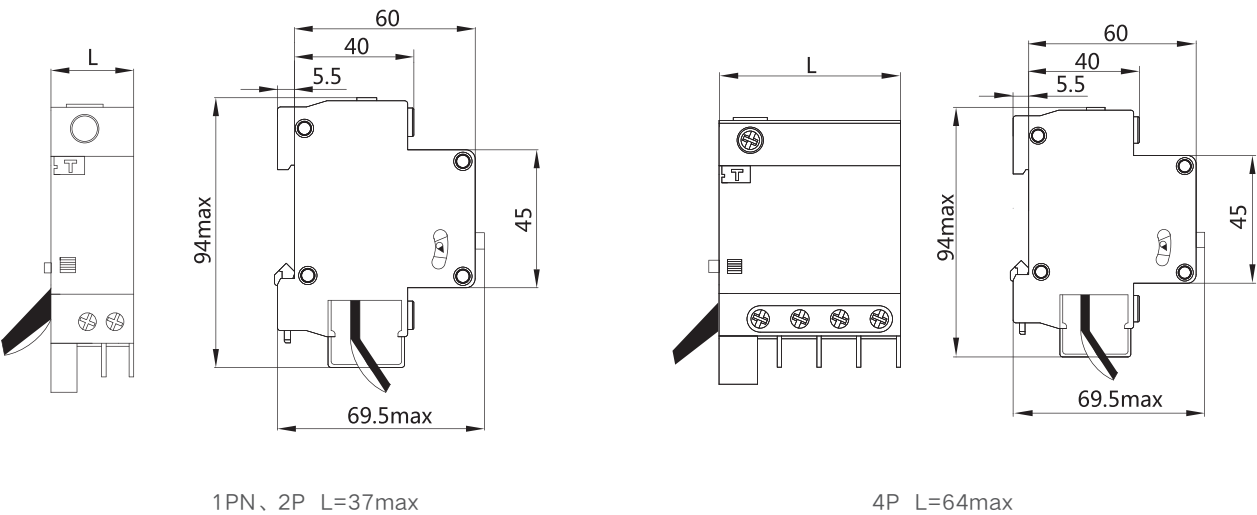
5.2 NDM1GQ-50、63 Accessory Types

No.	Name	Accessory Code	Function and Matched Quantity
1	Auxiliary Contact	OF	Linked to the left side of MCB to indicate OPEN or CLOSE status of the associated breaker. Matched quantity :Max 3 Pcs
2	Alarm Contact	SD	Linked to the left side of MCB to indicate the accidental tripping status of the associated breaker. Matched quantity:3 Pcs Max.

6. Outline and Mounting Dimension



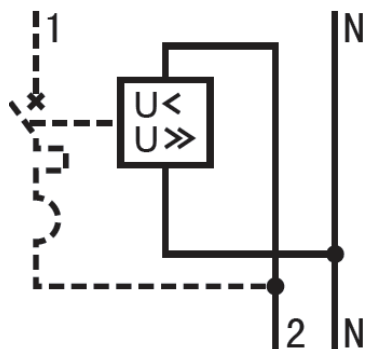
Subject Dimension of MCB



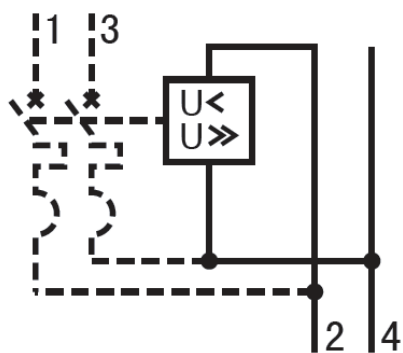
Over-Voltage and Under-Voltage Release Dimension

7. Wiring Diagram

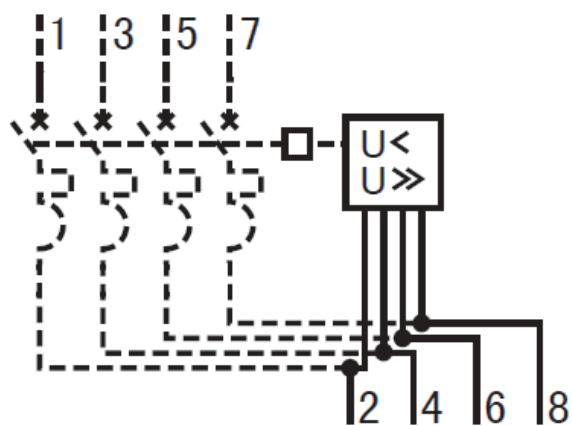
● 1PN Wiring Diagram



● 2P Wiring Diagram



● 4P Wiring Diagram



8. Ordering Types and Specifications (Tick ✓ in ☐)

Customer		Ordering Quantity:	Ordering Date:
Frame Rating	☐ NDM1GQ-50	☐ NDM1GQ-63	
Number of Poles	☐ 4P	☐ 1PN ☐ 2P	
Rated Working Voltage(V)	☐ AC380/400/415	☐ AC230/240	
Rated Working Current(A)	1、2、3、4、5、6、10、16、20、25、32、40、50	1、2、3、4、5、6、10、16、20、25、32、40、50、63	
Instantaneous Tripping Characteristics	☐ B: Instantaneous tripping range: 3In-5In, protect non-inductive and micro inductive circuits ☐ C: Instantaneous tripping range: 5In-10In, protect Nominal Load and Distribution Cables ☐ D: Instantaneous tripping range: 10In-14In, protect industrial distribution systems		
Over-Voltage and Under-Voltage Functional Code	☐ GQ: Indicates over-voltage and under-voltage protective function ☐ G: Indicates over-voltage protective function ☐ Q: Indicates under-voltage protective function		
Tie Breaker	☐ NDM1-63 ☐ NDB1C-63		



OF、SD、MX+OF、NGQ1A Accessory

2016 Edition

Nader

1. Product Overview

				
Item	OF Auxiliary Contact	SD Alarm Contact	MX+OF Shunt Release	NGQ1A Over-voltage and Under-voltage Accessory
Material Code	30000336	30000347	30000364	30000986
Adapta- tion	NDM1-63、125 NDM1A-63、125 NDM1T-63 NDM1L-32、50、100 NDM1F-63	NDM1-63、125 NDM1A-63、125 NDM1T-63 NDM1L-32、50、100 NDM1F-63	NDM1-63、125 NDM1A-63、125 NDM1T-63	NDM1-63、125 NDM1A-63、125 NDM1T-63

2. Application Scope

This Series Accessory can be mounted to NDM1 series MCB in circuits with AC50Hz, Rated Voltage below AC230V(include) and below DC125. This series accessory are widely used in the terminal distribution equipment of low-voltage in such fields:Industry, civil building, energy, telecommunication and infrastructure etc.

3. Working Condition

● Mounting Method

TH35mm standard mounting rail

● Mounting Direction

Horizontal Mounting

● Environmental Requirement

Comply with RoHS

4. Product Technical Characteristic

4.1 OF Auxiliary Contact

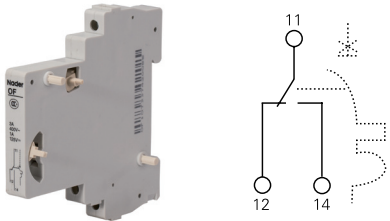
● Application

Linked to the left side of NDM1 to indicate OPEN or CLOSE status of the associated breaker.

● Application

Rated Working Parameters

	Voltage	Current		Voltage	Current
AC	230V	6A	AC	400V	3A
DC	24V	6A	DC	48V	2A
DC	125V	1A	DC	250V	0.4A



Width(mm): 9

Notes: Connected with NDM1 Series Breaker,
When it is Closing:11,14 means Connecting.
When it is Opening:11,12 means Connecting.
Max.Assemble Quantity:2 Pcs OF or 1 Pcs OF+ 1 Pcs SD.

4.2 SD Alarm Contact

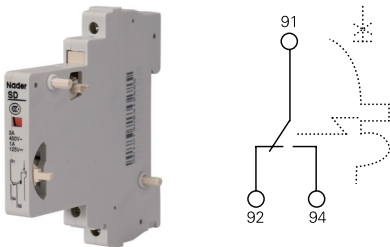
● Application

Linked to the left side of NDM1 to indicate the accidental tripping status of the associated breaker.

● Technical Parameters

Rated Working Parameters

	Voltage	Current		Voltage	Current
AC	230V	6A	AC	400V	3A
DC	24V	6A	DC	48V	2A
DC	125V	1A	DC	250V	0.4A



Width(mm): 9

Notes: Connected with NDM1 Series Breaker,
When it is Closing:91,92 means Connecting.
When it is Opening by accidents:91,94 means Connecting.
When it is Opening by hands:91,92 means Connecting;91,94means disconnecting.
Max. Assemble Quantity:2 Pcs SD

● Wiring Capacity

- ★ Single: 2.5mm² (cables); Double: 1.5mm² (cables)
- ★ Accessory of NDM1 Series MCB can be offered separately, used with other company's MCB is not recommended.

4.3 MX+OF Shunt Release

- Application

Linked to the left side of NDM1 to indicate the accidental tripping status of the associated breaker.

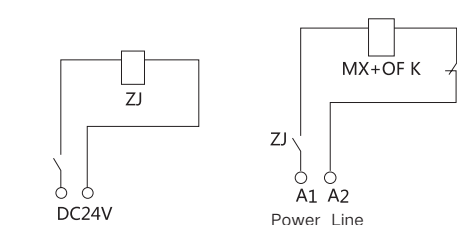
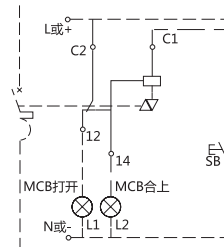
- Technical Parameters

Controlled Voltage: AC 230V/400V DC 24V/48V

Width(mm): 18

Note: The conversion contact should be active contact and the

former can't be passive contact to connect the other ELV module.



Note: When the voltage of control power circuit is DC24v, we recommend you to take the shunt control loop design as above.
ZJ: Represent the middle relay(the contact capacity should be 1A)

- Wiring Capacity

- ★ Single: 2.5mm² (cables); Double: 1.5mm²(cables)
- ★ This accessory can be offered separately, used with other company's MCB is not recommended.

4.4 NGQ1A Over-voltage and Under-voltage Release

- Application

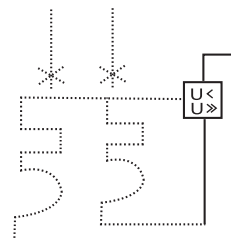
Linked to the right side of NDM1-63 to realize the protection function of single-phase over-voltage, under-voltage, over-voltage and under-voltage.

- Technical Parameters

- ★ Rated Over-voltage operation value (Uover) : AC280V $\pm$ 5% ,
Max. Breaking Time: 0.2S
- ★ Rated Under-voltage operation value (Uunder)Uunder : AC170V $\pm$ 7% ,
Max. Breaking Time: 1S
- ★ Width(mm): 18

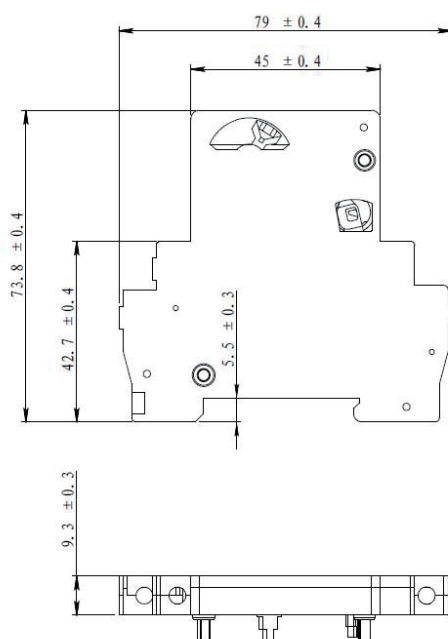
Note: User can select over-voltage release or under-voltage release depend on their need.

Every circuit breaker only matched with 1Pcs over-voltage release to realize the single path protection.

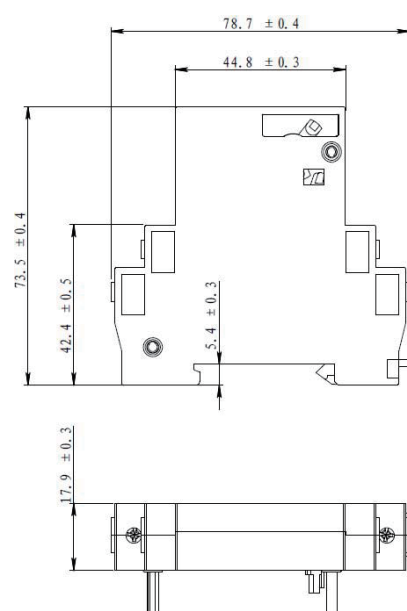


5. Outline and Mounting Dimension (mm)

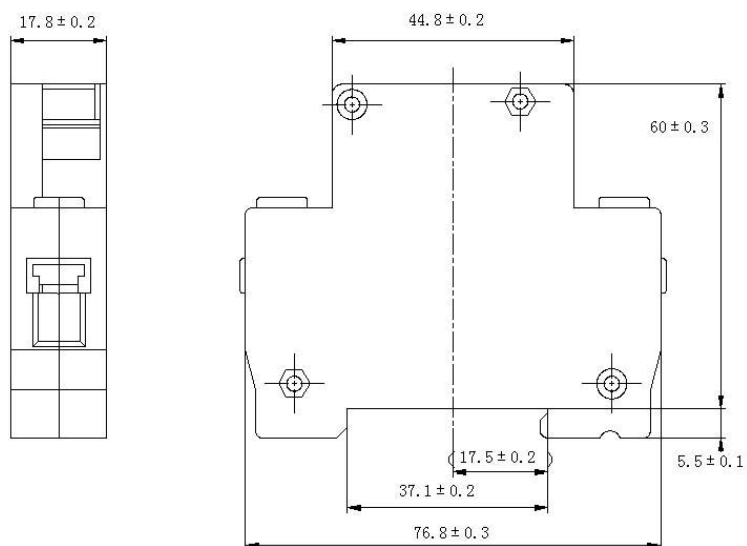
5.1 OF、SD External Dimension



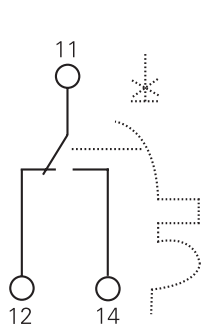
5.2 MX+OF External Dimension



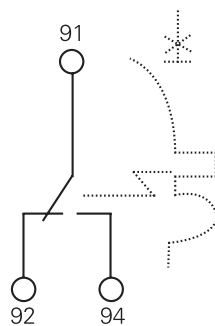
5.3 NGQ1A External Dimension



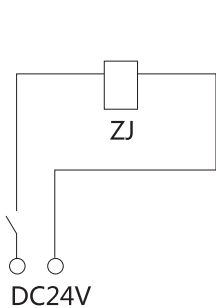
6. Wiring Diagram



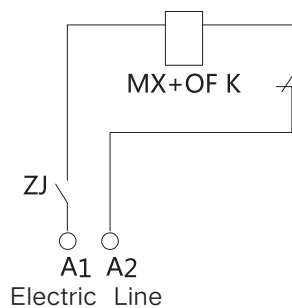
OF



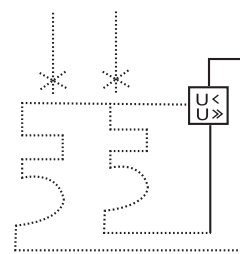
SD



MX+OF



MX+OF



NGQ1A

7. Ordering Types and Specifications (Tick ✓ in ☐)

Customer		Ordering Quantity:	Ordering Date:
Frame Rating	☐ OF ☐ SD ☐ MX+OF ☐ NGQ1A		
Voltage AC/DC	☐ OF 01 ☐ SD 02 ☐ MX+ OF 03 (AC200V) ☐ MX+OF 04 (AC230/400V) ☐ MX+OF 05 (DC24V) ☐ MX+OF 06 (DC48) ☐ NGQ1A 07		
Mounting Method	☐ Rail		