

Shanghai Liangxin Electric Appliance Co., Ltd.

(NDG3-100/125 disconnecter)

Product specification

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

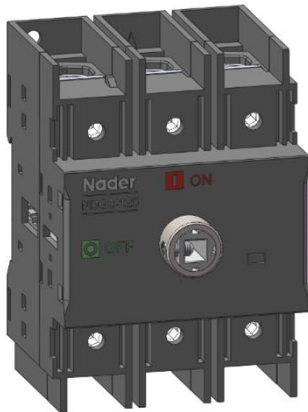
Author	Hu Tao	Date	2024-03-18
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Approve	Hu Qi	Date	2024-03-18

Revision record					
version	Reason/content of revision	date of enforcement	Compiler	Reviewer	approver
0	add	2024/3/18	Hu Tao	Liu Donghui	Hu Qi

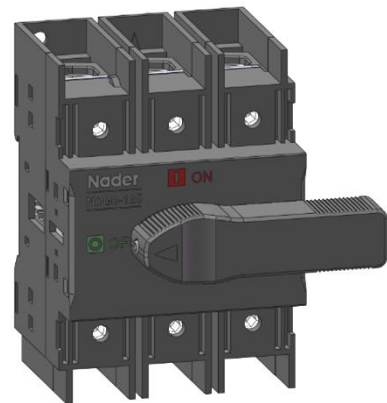
1. Scope of application and use

The NDG3-100/125 disconnecter is suitable for power systems with rated current of 100/125A and rated voltages of AC380/400/415V, AC500V, AC660/690V(50/60Hz) or DC110V and DC250V or below, and plays the role of breaking and isolating in the lines. The product can also be used for infrequent connection and disconnection. It can be widely used in construction, telecommunications, metallurgy and other industries, and can be used in the fields of line isolation and motor control of various equipment.

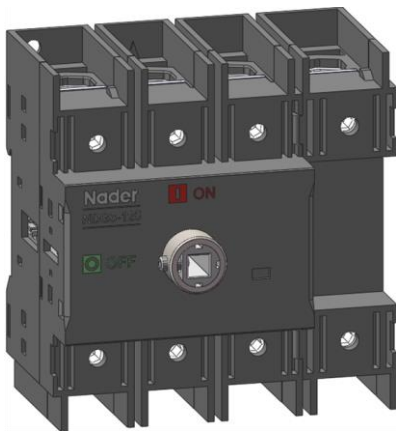
2, product pictures (the following pictures are for reference only, please refer to the real thing)



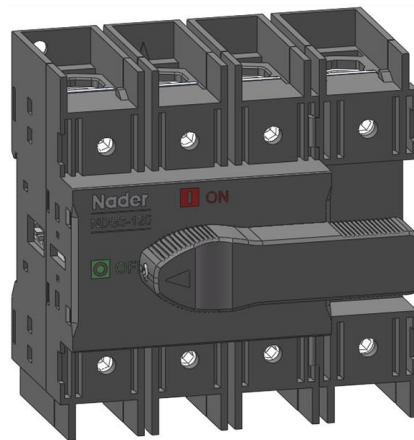
3-pole basic type



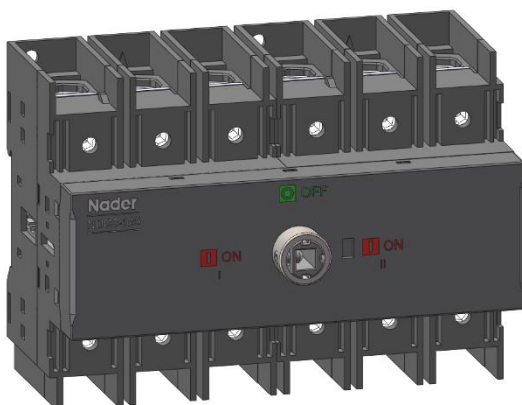
3-pole handle with cabinet



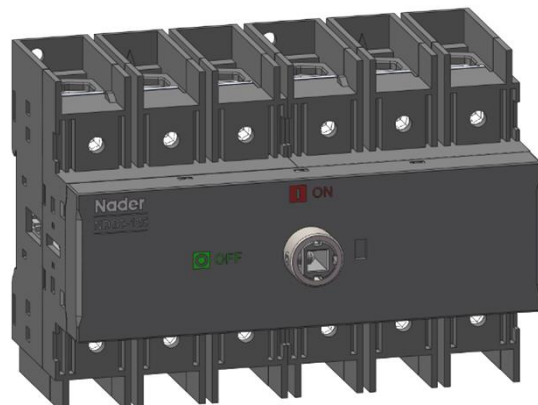
4-pole basic type



4-pole handle with cabinet



6-pole manual dual power supply

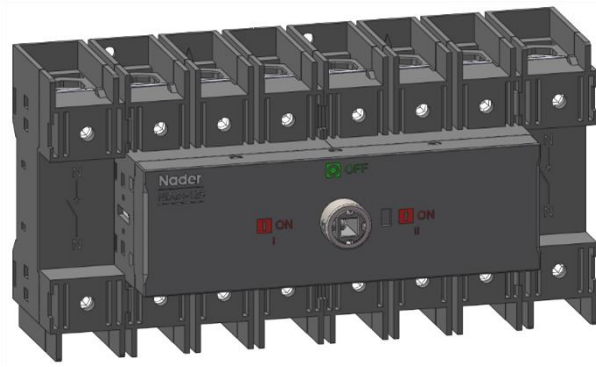


6-pole interlock

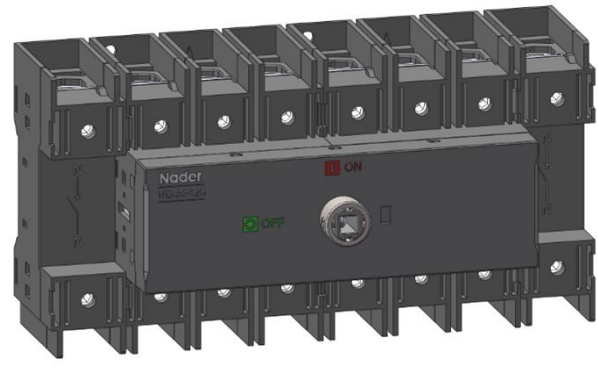
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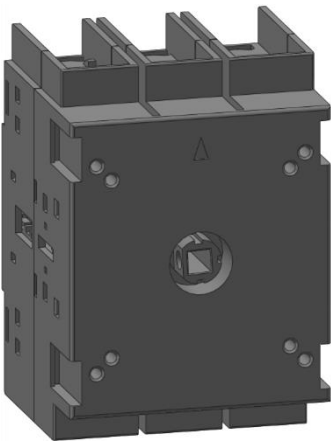
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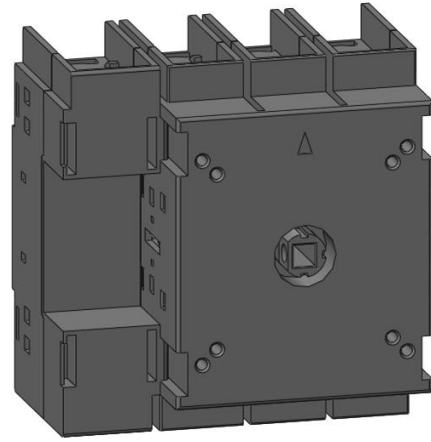
8-pole manual dual power supply



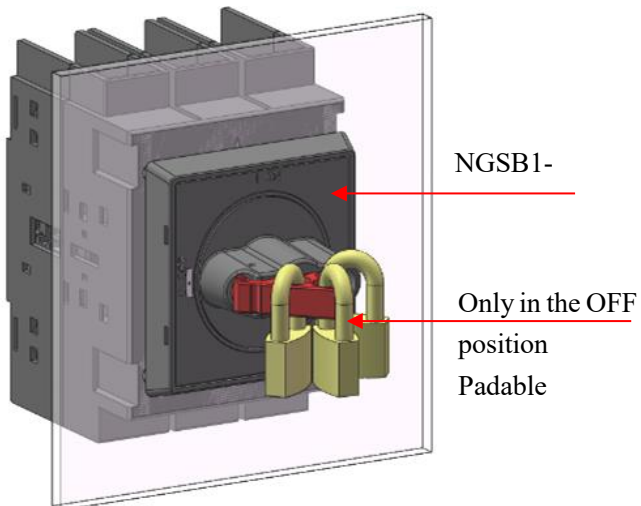
8-pole interlock



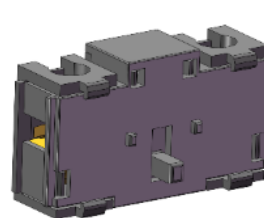
Cabinet door installation products: 3 poles



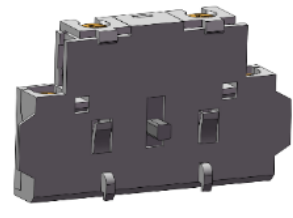
Cabinet door installation products: 4 poles



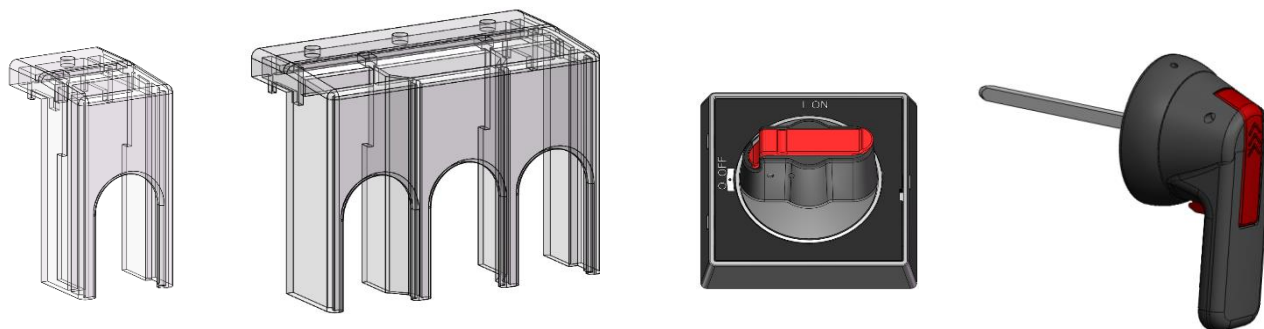
Cabinet door installation products: installation schematic
(NGSB1-B handle must be optional)



NGF1-01/10



NGF1-11



NGZ1-125/1

NGZ1-125/3

NGSB1-

SB1-130/G3-125

3. Description of specifications and models

3.1 NDG3-100/125 Product Model Explanation

 ND G 3 - 125 / 3 A Z K S
 1 2 3 4 5 6 7 8 9

serial number	name of code	Code description
one	Enterprise code	ND
2	Product code	G: isolating switch
three	Design serial number	three
four	Rated current (a)	100:100A 125:125A
five	number of poles	3:3 pole, 4:4 pole 6:6 pole, 8:8 pole
six	Polar type	No code: No neutral pole (only applicable to 3/6 pole) A: Neutral pole with on-off switch at the same time as the main switch (only applicable to 4/8 pole) B: with straight-through neutral pole (only applicable to 4/8 pole)
seven	Installation mode	Z: guide rail and screw installation M: Installation of cabinet door (only applicable to 3/4 poles, no operation inside the cabinet, and the handle outside NGSB1-B cabinet needs to be ordered).
eight	Handle type	K: direct operating handle in the cabinet No code: no handle (handle outside the cabinet, need to be ordered separately, see "Specifications of Common Handles" for details).
nine	Derived code	S: interlock (manual dual power supply, only applicable to 6/8 poles) L: Interlocking (all phase poles are in the same position, which is only applicable to 6/8 poles)

Note: Common specifications and models:

serial number	type	specifications
1	3 pole, guide rail and screw installation	NDG3-125/3 Z
2	4-pole, N-phase breakpoint, guide rail and screw installation	NDG3-125/4 AZ
3	4-pole, N-phase without breakpoint, guide rail and screw installation	NDG3-125/4 BZ
4	3-pole, cabinet door installation	NDG3-125/3 M
5	4-pole, N-phase breakpoint, cabinet door installation	NDG3-125/4 AM
6	4-pole, N-phase without breakpoint, cabinet door installation	NDG3-125/4 BM
7	6 poles, interlocking, guide rail and screw installation	NDG3-125/6 ZL
8	8-pole, interlocking, N-phase breakpoint, guide rail and screw installation	NDG3-125/8 AZL
9	8-pole, interlocking, N-phase without breakpoint, guide rail and screw installation	NDG3-125/8 BZL
10	6 poles, interlocking, guide rail and screw installation	NDG3-125/6 ZS
11	8-pole, interlocking, N-phase breakpoint, guide rail and screw installation	NDG3-125/8 AZS
12	8-pole, interlocking, N-phase without breakpoint, guide rail and screw installation	NDG3-125/8 BZS
13	3-pole, guide rail and screw installation, operation in cabinet (long)	NDG3-125/3 ZK
14	4-pole, N-phase breakpoint, guide rail and screw installation, operation in cabinet (long)	NDG3-125/4 AZK
15	4-pole, N-phase without breakpoint, guide rail and screw installation, operation in cabinet (long)	NDG3-125/4 BZK

3.2

Explanation of accessory model:

3.2.1 Selection of IP65 handle outside the cabinet:

SB 1-130/G3-125

1 2 3 4

serial number	name of code	Code description
1	Attachment code	SB- handle
2	Design serial number	one
3	Square shaft length	130: the shaft length is 130mm; ; 150: shaft length is 150mm; ; 161: shaft length is 161mm; ; 185: the shaft length is 185mm; ; 210: the shaft length is 210mm; ; 260: shaft length 260mm; ; 290: the shaft length is 290mm.
4	Ontology model	G3-125: applicable to NDG3-100/125/160/200/250 products.

3.2.2 Selection of auxiliary switch

NGF 1 - 01

1 2 3 4 5

serial number	name of code	Code description
1	Attachment enterprise code	N
2	Matching product code	G isolating switch
3	Auxiliary code	F
4	Design code	one
5	Contact form	01-normally closed; 10-1 normally open; 11-normally open and normally closed

Note: General auxiliary specifications

serial number	type	specifications	Product number.
1	01-normally closed;	NGF1-01	30000961
2	10-1 normally open;	NGF1-10	30000962
3	11-normally open and normally closed	NGF1-11	30000396

3.2.3 Selection of terminal cover

NGZ1 - 125 / 1

1 2 3 4 5 6

serial number	name of code	Code description
1	Attachment enterprise code	N
2	Matching product code	G isolating switch
3	Terminal cover code	Z
4	Design code	1
5	specifications	125: Applicable to NDG3-100/125.
6	Extreme usage type	1: unipolar use 3: tripolar use

Note: Specification of terminal cover

serial number	specifications	article number	remarks
1	NGZ1-125/1	30000965	Including 6, suitable for one 3-pole product.
2	NGZ1-125/3	30000964	Including 2, suitable for 1 3-pole product.

4. Main technical parameters

4.1 Main parameters of disconnecter

product model			NDG3-100	NDG3-125
Agreed heating current Ith(A)			125	
number of poles			3、4、6、8	
Rated isolation voltage (V)			750	
Rated impulse withstand voltage Uimp(kV)			eight	
Rated working current (a)	Usage category	Rated voltage (v)	NDG3-100	NDG3-125
	AC-21A	380/400/415	100	125
		500	100	125
		660/690	100	125
	AC-22A	380/400/415	100	125
		500	100	125
		660/690	100	125
	AC-23A	380/400/415	80	90
		500	60	70
		660/690	40	50
	DC-22A series connection between poles	110	100/2	125/2
		250	63/4	80/4
Rated short-term withstand current Icw(kA)			2.5/1s	
Rated short-circuit connection capacity Icm(kA peak)			3.6	
Electrical life			1500 times	1000 times
mechanical life			20,000 times	
Wiring capacity (mm) (Bare copper cable)			Main product: 10-50mm² Auxiliary: 0.75-2.5mm	
Specification of terminal screw (metric: diameter × length mm)			Main products: M8×16 (hexagon socket); Auxiliary: M3.5×9.5	
Terminal tightening torque (locking torque Nm)			Main product: 6 nm; Auxiliary: 0.8Nm; ；	
Operating torque (N.m)			2.5	
Weight (Kg) (guide rail and screws are installed without accessories)			0.36	
Installation mode			Guide rail and screw installation; Cabinet door installation	

- Compliance with standards: main products IEC 60947-3, GB/T 14048.3; ;
- Frequency: 50/60Hz; ;
- Certified: CCC, CE, TUV; ;

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4.2 Main parameters of auxiliary switch

➤ Electrical parameters

Rated working voltage:	AC230V	AC400V	AC690V	DC220V
Rated working current:	6A	4A	2A	0.6A

- Rated isolation voltage: AC690V V.
- Rated impulse withstand voltage U_{imp} : 4kV
- Agreed heating current: I_{th} : 16A
- Minimum applicable load: DC24V/10mA
- Rated frequency: 50/60Hz
- Usage category: AC-15 ,DC-13
- Protection grade: IP20
- Electrical life: 20,000 times
- Standard certification: GB/T 14048.5
- ROHS compliant

5. Normal working environment

5.1 The ambient air temperature is -40℃ -70℃, and the average temperature within 24h does not exceed +35℃.

See the table below for the use of high ambient temperature:

Ring temperature (℃)	75	80	85
Rated working current (a): NDG 3-125	110	100	90
Rated working current (a): NDG 3-100	100	100	90

5.2 See the following table for altitude application:

Altitude (m)	2000	3000	3500	4000
rated insulation voltage	750V	750V	750V	690V
Impulse withstand voltage	8	8	8	8
Power frequency withstand voltage	2500V	2200V	2000V	1890V
rated operational voltage	690V	690V	690V	690V
Rated working current (a): NDG 3-125	125A	125A	110A	100A
Rated working current (a): NDG 3-100	100A	100A	100A	100A

5.3 The relative humidity of the atmosphere shall not exceed 50% when the ambient air temperature is +40℃, and higher relative humidity can be allowed at lower temperature, for example, 90% at 20℃. Special measures should be taken for occasional condensation due to temperature changes.

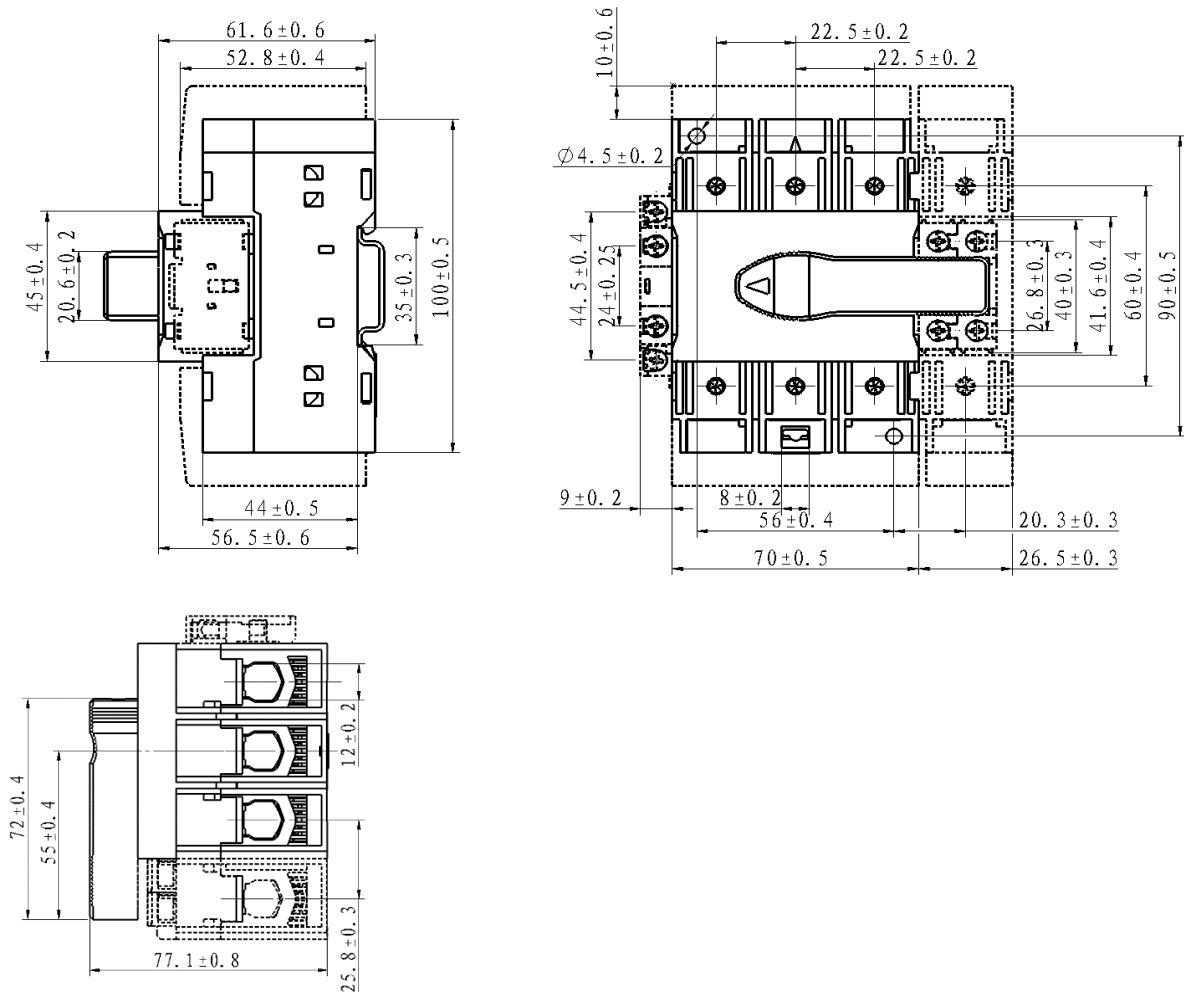
5.4 In the medium without explosion danger, and the medium is free of gas and conductive dust that can corrode metals and destroy insulation; Where there is no rain or snow.

5.5 Suitable for installation and use under environmental conditions with pollution level 3.

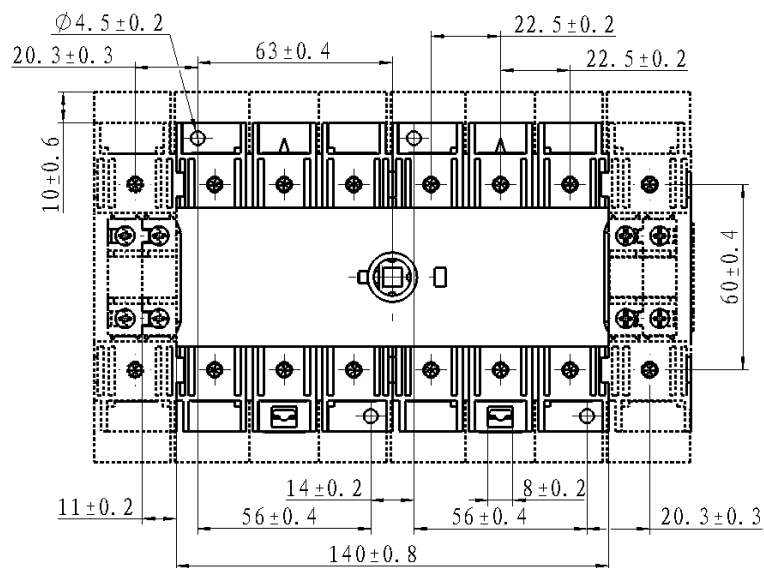
5.6 Installation categories are III and IV.

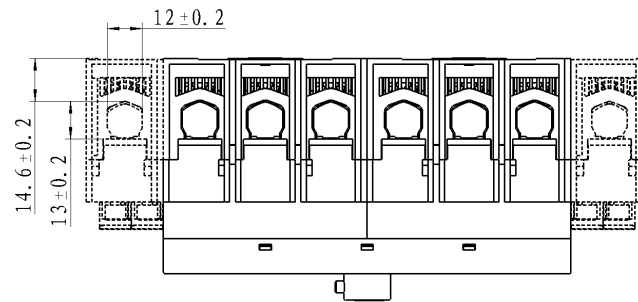
6, product appearance and installation size

6.1 3 pole /4 pole products:

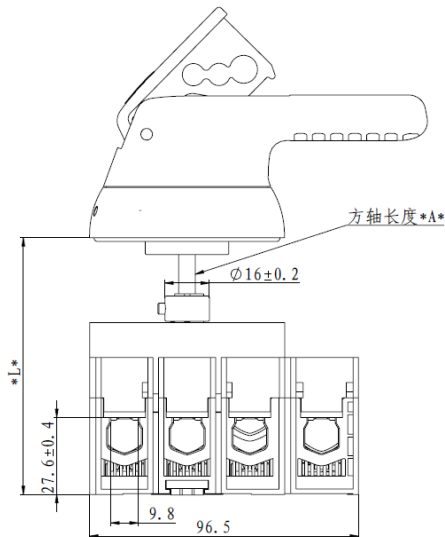


6.2 6-pole /8-pole products





6.3 SB1-*A*/G3-125 products outside the cabinet:

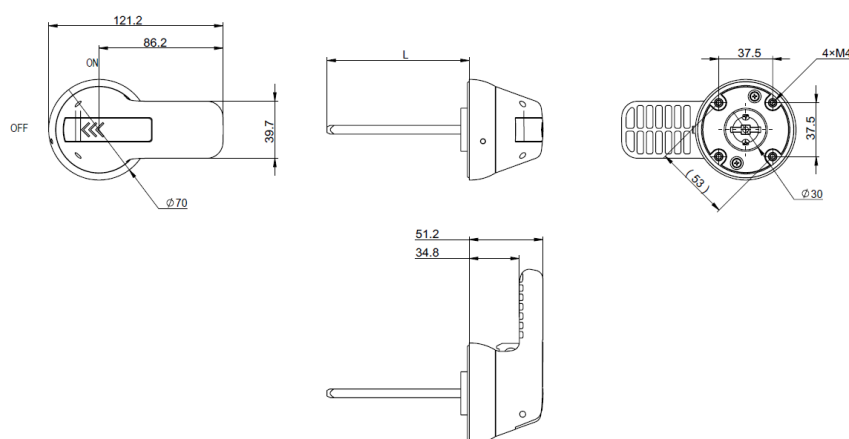


SB1- “A” /G3-125:

A stands for the square shaft length specification of the handle outside the cabinet.

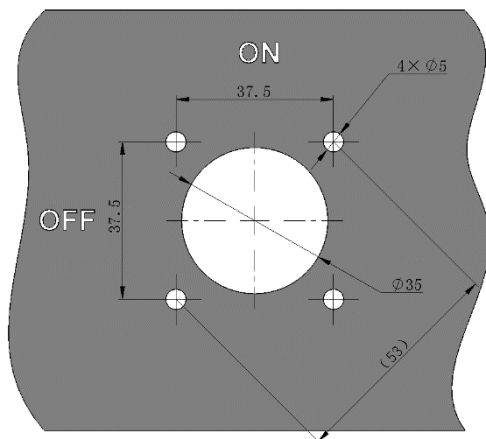
A	L
130	145-155
150	165-175
161	176-186
185	200-210
210	225-235
260	275-285
290	305-315

6.4 SB1-*A*/G3-125 handle outside the cabinet:

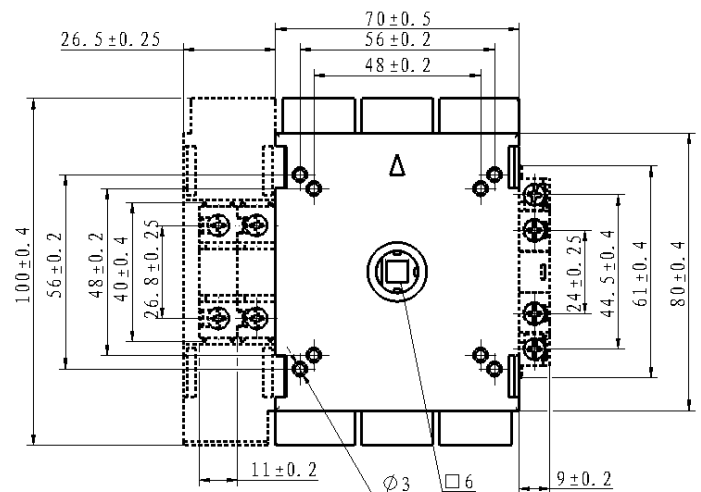
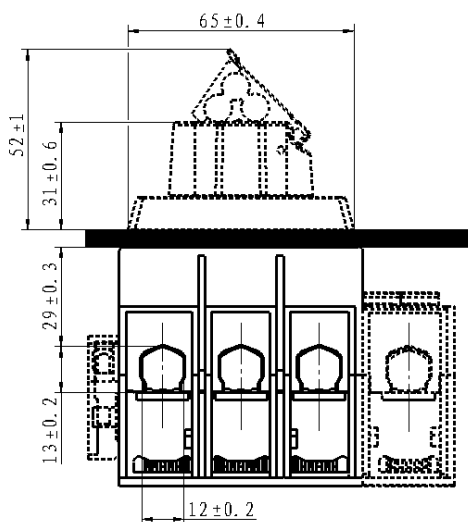
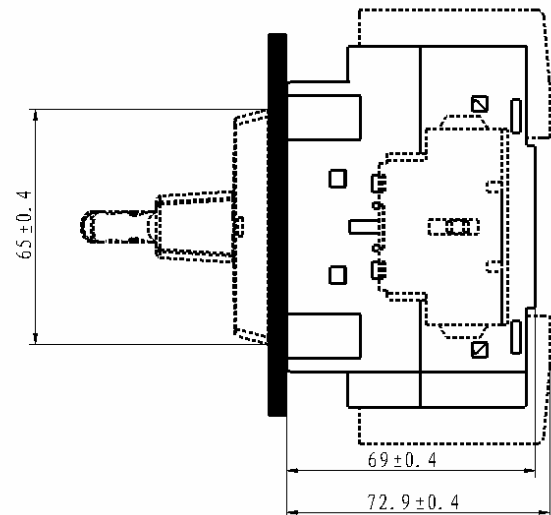
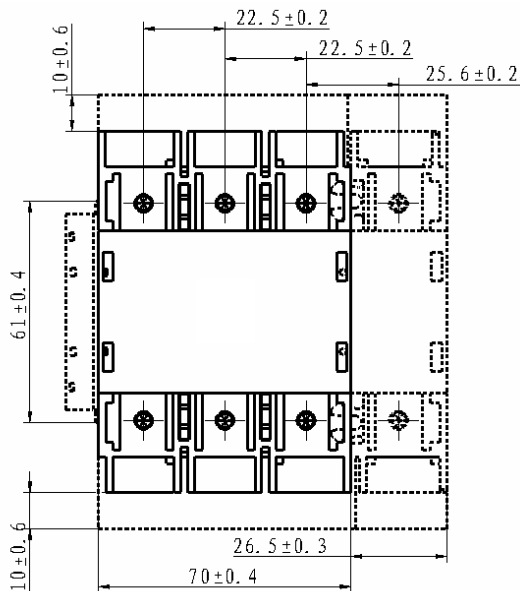


L: (square shaft length-30) 1.5mm.

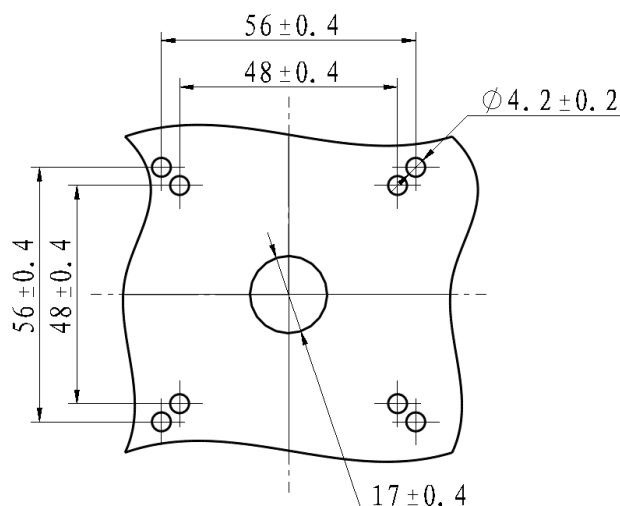
6.5 Dimensions of mounting hole for handle outside cabinet:



6.6 Cabinet door installation products:



6.7 Cabinet door installation product Cabinet door opening size:



7. Installation method

Guide rail installation, screw installation and cabinet door installation.

8. Packaging and storage

8.1 packaging

NDG3-100/125 series 3/4 pole products, 1 set per box, 18 boxes per box; 1 set of 6/8 poles per box, 9 boxes per box;

NGF1-01/10: 32 sets per box, 24 boxes per box;

NGF1-11 has 12 sets per box and 24 boxes per box;

NGZ1-125/1 terminal covers are 18 pieces per box, and 18 boxes per box; NGZ1-125/3 terminal covers are 16 in each box and 9 in each box;

NGSB1-B handles are 4 in a box (16 screws) and 18 in a box.

When the boxes are not full, products with different specifications can be combined, and corresponding box stickers need to be attached; However, when the box is not enough, different specifications cannot be assembled.

8.2 Transportation and storage

During storage, it should be protected from rain and snow, and should be stored in a warehouse with good air circulation, relative humidity of no more than 80%, temperature of no more than $+70^{\circ}\text{C}$ and no lower. Store in the warehouse where there is no acidic, alkaline or other corrosive gas in the surrounding air. Under the above conditions, the storage period shall not exceed 3 years from the date of production. -40°C

9. Attachment List and Installation

serial number	name	Model specification	Installation and quantity of accessory products
1	Terminal cover	NGZ1-125/1	Installed at both ends of the inlet and outlet lines of N-pole products.
2	Terminal cover	NGZ1-125/3	Installed at both ends of the inlet and outlet lines of the main switch.
3	pilot switch	NGF1-01	Installed on both sides of the main switch, with a maximum of two on each side and a maximum of four in total.
4	pilot switch	NGF1-10	Installed on both sides of the main switch, with a maximum of two on each side and a maximum of four in total.
5	pilot switch	NGF1-11	Installed on both sides of the main switch, 1 on each side, with a total of 2 at most.
6	hand shan	NGSB1-B	Used with cabinet door installation products, 1 for each set.

Note:

1. NGF1-11 cannot be installed on the same side as N;
2. For guide rail and screw-mounted products, if NGF1-01/10 is installed on the same side as the N pole, it is necessary to connect the auxiliary switch before installing it on the main switch;
3. For cabinet door-mounted products, NGF1- must be wired before being installed on the main switch;01/10/11
4. Before installing NGSB1-B handle, it is necessary to select the installation hole position and open the knock-out hole.

10. Matters needing attention

- a) Take responsibility for the quality problems caused by disassembling the products without permission;
- b) Do not touch the exposed part of the non-insulated parts of the circuit breaker when it is powered on;
- c) The wiring must be reliable to prevent the terminal from burning due to the disconnecter caused by abnormal heating of the terminal;
- d) When wiring, the wire should be completely inserted into the terminal and extended to the bottom, and the wiring torque of the disconnecter is 6 N.m.: The wiring torque of the auxiliary switch is 0.8N.m.
- e) Connecting wires shall be fastened on the power distribution cabinet frame. The switch should not bear the weight of the wire. Before fastening the conductor, the plane of bus bar or cable terminal should be parallel to the plane of switch terminal. After connecting the lead and the switch terminal with bolts, the switch should not bear all kinds of mechanical stress;

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