

Shanghai Liangxin Electrical Co., Ltd.

NDW2GZ-1600-4P-DC1500 switch-disconnector

Product Specification

(IPD-ENG-DEV-T03 A1 2018-07-10)

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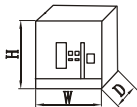
Revision History					
Version	Revision Reason/Content	Implementation Date	Prepared by	Reviewed by	Approved by
0	Newly prepared and issued.	2024/07/12	Xu Shaoli	Zhao Peng	Dai Bao
1	1. Update the drawing for side panels in the Fixed Details 2. Increase closing ready; 3. Update wiring diagram	20240924	Xu Shaoli	Zhao Peng	Dai Bao

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Chapter1 Product Overview

Table 1 Table of Technical Parameters

Switch-disconnector model			NDW2GZ-1600	
Rated current I_e (+40°C) (A)			800、1000、1250、1600	
Rated working voltage U_e (V)			DC1500 (4P)	
Rated insulation voltage U_i (V)			1500	
Rated impulse withstand voltage U_{imp} (kV)			12	
Number of poles			4P in series	
Closing time ^{Note 1} (ms)			≤85	
Break time ^{Note 2} (ms)			Shunt release(Retention)	Shunt release
			≤160	≤50
Rated short-circuit making capacity I_{cm} (kA)			50	
Rated short-time withstand current I_{ew} (kA)			Common	Enhanced
			50/1s	120/100ms
Utilization category			DC-22A、DC-PV2	
Operation performance	Electrical life (times) Operation frequency (20 times/h)	DC1500V (time constant=2ms)	500	
	Mechanical life (times) Operation frequency (60 times/h)	Maintenance-free ^{Note 3}	11000	
Installation type			Fixed type	
Wiring method of the main circuit			Front-of-board wiring, vertical bottom feed, special bottom feed	
Boundary dimension: W×D×H (mm) 		Fixed type 4P	342.4×220×319	
Weight (kg)		Fixed type 4P	25	

Note: 1. Closing time: Interval from the beginning of the switch-disconnector closing to the end of the contact time for all pole contacts ;

2. Break time: Interval from the beginning of the switch-disconnector disconnection to the end of the arcing time.

3. Maintenance free means that the product can work normally without repairing or replacing parts in the environment as stipulated in the specifications.

Chapter2 Field of Application

2.1 Working Environment

Ambient temperature

Applicable ambient temperature is $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$, In case the temperature is above $+40^{\circ}\text{C}$, the user shall reduce the capacity according to Table 3.

Table 2 Table of Working Environmental Parameters

Environmental requirements	Description of the specific parameters
Operating ambient temperature	The operating ambient temperature is $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$; If the ambient temperature is higher than $+40^{\circ}\text{C}$, the user needs to reduce the capacity. (For details, see Table 3) Note:The GD type switch-disconnector can be used under the environment of plateau and -40°C low temperature; the corresponding switch-disconnector confirms to GB/T 20645 《Specific environment condition—Technical requirements of low-voltage apparatuses for plateau》.
Altitude	The altitude of the installation site doesn't exceed 2,000m. For use with the altitude above 2, 000m, it is necessary to correct the working performance, including power frequency withstand voltage 、 rated current 、 making and breaking capacity (For details, see Table 4).
Pollution degree	Pollution level: Level 3
Wet heat resistance	The relative air humidity at a maximum temperature of $+40^{\circ}\text{C}$ should not exceed 50%. A higher humidity is allowed at a lower temperature, but special measures should be taken to address occasional condensing due to temperature fluctuation.
Storage conditions	The air temperature is $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$.
Storage period and conditions	The relative air humidity at a maximum temperature of $+40^{\circ}\text{C}$ should not exceed 50%, and the product can be stored for 1 year without unpacking. The product can be stored for 3 months under the condition of packaging. For continuous use, the surface shall be subjected to dust and moisture removal, and measure the loop resistance less than $35\mu\Omega$.
Installation condition	With the vertical gradient no more than 5° , the switch-disconnector shall be installed in places without explosion danger, conductive dust or the possibility of corroding metal and damaging the insulation.

Derating factor

Table 3

Ambien temperature	$+40^{\circ}\text{C}$	$+45^{\circ}\text{C}$	$+50^{\circ}\text{C}$	$+60^{\circ}\text{C}$	$+65^{\circ}\text{C}$	$+70^{\circ}\text{C}$
Rated curren ($I_e=1600\text{A}$)	$1.0I_e$	$0.97I_e$	$0.94I_e$	$0.9I_e$	$0.86I_e$	$0.81I_e$

Altitude

Altitude of the installation site shall not exceed 2,000 m.

If the altitude of the installation site is between 2,000 m to 5000m, it can be specially customized. For the working performance, refer to the correction value in the following table (Table 4).

Table 4

Altitude (m)	2000	3000	4000	4500	5000
Power frequency withstand voltage (V)	3500	3500	3000	2500	2200
Impulse withstand voltage(kV)	12	12	10	10	10
Rated current	1.0Ie	0.93Ie	0.88Ie	0.85 Ie	0.82Ie
Making and breaking capacity derating factor	1.0	0.83	0.71	0.65	0.58

Note: The above data is calculated according to the test and theory. The data represent only guidelines and recommendations.

2.2 Anti-corrosion Level

Salt spray level: severity class (2)

2.3 Pollution Level

Pollution level: Level 3

The switch-disconnector can be operated in the industrial environment specified in IEC 60664-1. However, we still recommended that it shall be installed in a switchgear with suitable temperature and no excessive dust pollution.

2.4 Shock proof Requirement

The switch-disconnector can ensure resistance to mechanical shock, and has passed the GB/T4798.3 standard test;

Amplitude: $\pm 1.5\text{mm}$ (2Hz~9Hz);

Constant acceleration: 5m/s^2 (9Hz~200Hz);

Super strong shock may result in part damage, and impact the reliable action of the switch-disconnector.

2.5 Electromagnetic Interference

The switch-disconnector can resist the following electromagnetic interference

- Overvoltage caused by electromagnetic interference;
- Overvoltage due to aging of the distribution system or environmental interference;
- Radio wave;
- Electrostatic discharge.

The switch-disconnector has passed the electromagnetic compatibility (EMC) test stipulated by following standards

- GB/T14048.3-2017

The above tests can ensure that the switch-disconnector won't wrongly occur tripping.

2.6 Installation Category

The installation category of the switch-disconnector's main circuit and power transformer primary coil is IV; the rest auxiliary circuit and control circuit installation category is III.

2.7 Protection Class

IP30 and IP40 (installed in a cubicle and equipped with a protective door frame).

2.8 Utilization Category

DC-22A、 DC-PV2.

2.9 Reference Specifications of Switch-disconnector's Main Circuit Copper Bar

Table 5

Frame size	Rated current I_e (A) +40°C	Copper bar specification	
		Dimensions	Number
1600	800、1000、1250、1600	100mm×5mm	2

Note: 1. The table indicates the copper bar specifications adopted when the switch-disconnector is under the ambient temperature of +40°C and the open wide installation under the heating condition meets the stipulation in GB 14048.3. If the temperature is higher than 40°C, the quantity of copper bar should be increased, or the capacity should be reduced refer to table 3.

2. The above data is calculated according to the test and theory, and for reference only.

3. The maximum permissible temperature of the copper bar is no more than +110°C.

4. The electrical gap of copper bar is $\leq 25\text{mm}$. With the altitude more than 2,000m and relative humidity more than 90%, the electrical gap shall be adjusted according to the table 1 of GB/T20645.

2.10 Specifications and Models Description

ND W 2 GZ □- □ 1 2 3 4 5 6		
SN	SN name	
1	Enterprise code	ND- Nader 良信电器
2	Product code	W - Universal
3	Design code	2
4	Derived code	G – switch-disconnector Z - DC
5	Derived code	Not-marked - Conventional
6	Frame size	1600

Notes: For details of the product ordering models and specifications, see the ordering type selection specification.

Chapter3 Accessories

If there are no special notes, the calibration parameters in the annex are the test data obtained in the laboratory environment (room temperature 25 ± 5 °C, humidity 30% -70% RH, no dust, no pollution, no shock, no vibration).

3.1 Remote live operation

3.1.1 Closed electromagnet

Closed electromagnet is mainly composed of coil, iron core component and electronic parts. In the condition of mechanism energy storage, as long as the closed electromagnet is energized, the switch-disconnector can be closed.

◆ Action features of the closed electromagnet.

1) When the power supply voltage of the closed electromagnet maintains at 85%~110% of the rated control supply voltage U_s , operation of the closed electromagnet can make the switch-disconnector close reliably;

2) Closed electromagnet is the short-time duty-type;

3) There is control circuit inside that can ensure long-time energizing, which shall be >500ms. The user cannot connect it with the auxiliary switch point of the switch-disconnector in series;



Table 6

Rated insulation voltage (U_i)	Rated control supply voltage (U_s)	Starting power
400V	AC220V/AC230V 50/60Hz	330VA
	DC220V	500W

3.1.2 Shunt release (Standard configuration)

Shunt release is mainly composed of coil, iron core component and electronic parts, which can make the switch-disconnector disconnect by remote operation.

◆ Action features of the shunt release

1) When the power supply voltage of the shunt release (Retention) maintains at 70%~110% of the rated control supply voltage U_s , operation of the shunt release can make the switch-disconnector disconnect;

2) The shunt release (Retention) can be energized for a long time and maintained under power supply. When the working voltage maintains/locks at 85%~110% of the rated control supply



voltage U_s , the switch-disconnector maintains in the disconnected position and fails to perform on/off operation.

3) Trigger time of each power on: $\geq 200\text{ms}$.

Table 7

Rated insulation voltage (U_i)	Rated control supply voltage (U_s)	Instantaneous power
400V	AC220V/AC230V 50/60Hz	330VA
	DC220V	330W

3.1.3 Shunt release (Retention)

Retention shunt release is mainly composed of coil, iron core component and electronic parts, which can make the switch-disconnector disconnect by remote operation,

◆ Action features of the shunt release

- 1) When the power supply voltage of the shunt release (Retention) maintains at 70%~110% of the rated control supply voltage, operation of the shunt release can make the switch-disconnector disconnect;
- 2) The shunt release (Retention) can be energized for a long time and maintained under power supply. When the working voltage maintains/locks at 85%~110% of the rated control supply voltage U_s , the switch-disconnector maintains in the disconnected position and fails to perform on/off operation.
- 3) Trigger time of each power on: $\geq 300\text{ms}$



Table 8 Power Consumption Table of shunt release (Retention)

Table 8

Rated insulation voltage (U_i)	Rated control supply voltage (U_s)	Starting power	Maintain power(Retention)
400V	DC220V	500W	6W

3.1.4 Motor operating mechanism

The switch-disconnector can only be closed after the motor operating mechanism make the switch-disconnector to store energy in advance.

◆ Operation features

- 1) If the rated supply voltage of the motor operating mechanism is between 85%~110%, energy storage of the switch-disconnector can be made in place
- 2) The motor will close the power supply automatically and stop operation after it stores energy in place.
- 3) The motor operating mechanism can realize the automatic pre-energy storing.



4) Each power-on trigger time: $t > 8s$, long-term energization is allowed for the secondary circuit input terminal.

5) Without the overvoltage protection, 1.4Us beyond the limit, long-term energization will burn. It is allowed to energize for 1s at 1.4Us during operation.

Operating power is shown in the table below.

Table 9

Rated insulation voltage (Ui)	Energy storage time	Rated control supply voltage (Us)	Operating power
400V	3s~5s	AC220V/AC230V (50/60Hz)	180VA
		DC220V	300W

3.1.5 Undervoltage release

◆ Action features of the undervoltage release

1) When the applied voltage drops, even slowly drops to 70%~35% of the rated operational voltage, the undervoltage release will work to disconnect the switch-disconnector;

2) When the applied voltage is less than 35% of the rated operational voltage of the undervoltage release, the undervoltage release will make the switch-disconnector cannot be closed;

3) When the applied voltage is 85%~110% of the rated operational voltage of the undervoltage release, the undervoltage release can be closed reliably to guarantee the reliable closing of the switch-disconnector.

◆ Undervoltage release can be divided into two types (instantaneous release and delayed release), which is mainly composed of coil, iron core component and electronic parts.

◆ The delay time is customized within the limits of 0~10s as required and can't be adjusted by customer, the default delay time is 1s.

See the table below for the power consumption of loss of undervoltage release.

Table 10

Rated insulation voltage (Ui)	Rated operational voltage (Ue)	Operating power	Starting power
400V	AC220V/AC230V 50Hz/60Hz	3VA	250VA
	DC220V	5W	500W



3.2 Signal Output Accessories

3.2.1 Auxiliary switch

- ◆ The conventional thermal current of the auxiliary switch is 6A;
- ◆ Auxiliary contact form: Four switches;
- ◆ Technical parameters of auxiliary contact.

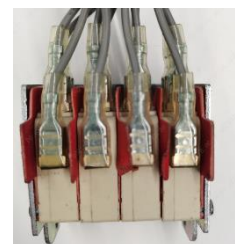


Table 11

Auxiliary contact form		Four switches
The conventional thermal current I _{th}		6A
Minimum load(DC)		10mA/DC24V
Breaking capacity	DC	0.3A/DC250V
	AC	4A/AC250V

3.2.2 Secondary wiring terminal

- ◆ There are 32 groups of secondary wiring terminal in total.
- ◆ See the table below for parameters of the secondary wiring terminal

Table 12

Item	Parameters
Connection mode	Clamping
Flame retardant rating, according to UL 94	V0
Pollution level	3
Voltage category	III
Material group	IIIa
Applicable connection standards	GB/T 14048.7-2006
Maximum load current	10A
Rated current	10A
Rated voltage	500V
Minimum cross section area of the rigid (flexible) conductor	0.5mm ²
Maximum cross section area of the rigid (flexible) conductor	1.5mm ²
Recommended striping length	10±1mm
Minimum test pull-force after the conductor connection	30N

3.2.3 Closing ready signal output device

The closing ready signal output device of circuit breaker is a signal output device reflecting that the operating mechanism has reached the closing state.

It can output signals only when the following mechanical conditions are met.

- ◆ Off state of the circuit breaker;
- ◆ Storage energy in place;
- ◆ No off command;
- ◆ The undervoltage release is engaged in place;
- ◆ Release reset due to the default of the controller.



3.3 Safety Accessories

3.3.1 Phase partition

It is installed in the groove between the phase bus bars, used to increase the insulation strength between phase to phase of the main circuit and improve the insulation performance.

The phase partition is standardized configuration.



3.3.2 Off-position key lock

◆ This key lock is locked on the manually disconnected position of the switch-disconnector. When the key is anticlockwise locked and pulled out, The switch-disconnector cannot carry out closed operation, so as to prevent irregular operation.

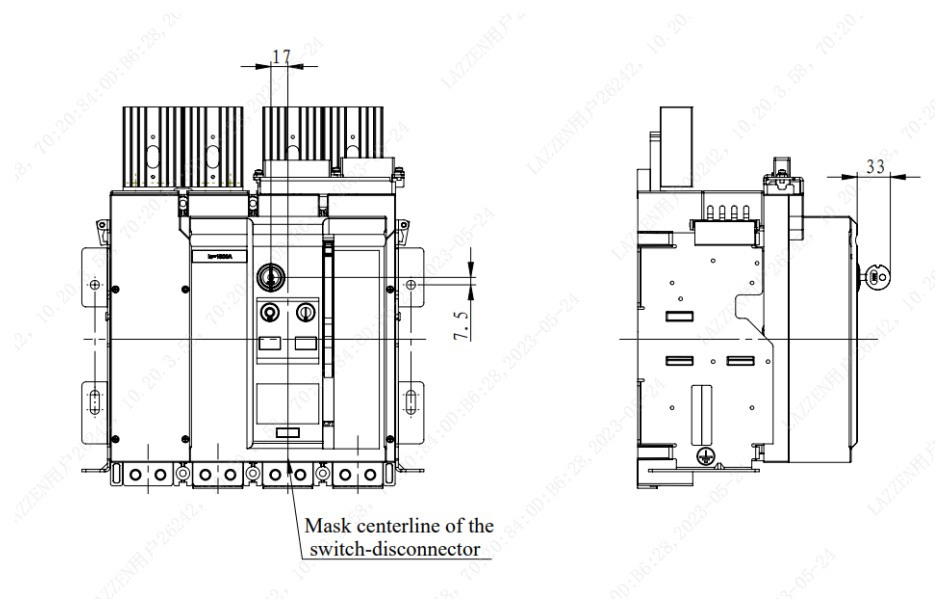
Model and type are shown in the table below.



Table 13

Model	Name	Number of switch-disconnectors	Number of keys
SF11	One lock one key	1	1

◆ When the off-position lock is optionally selected, this accessory is sent to the user after being assembled with the switch-disconnector. As the off-position lock protrudes out of the switch-disconnector mask, the installer shall pay attention to the protruding dimension when opening the power distribution cabinet door. This dimension diagram and data are as follows.

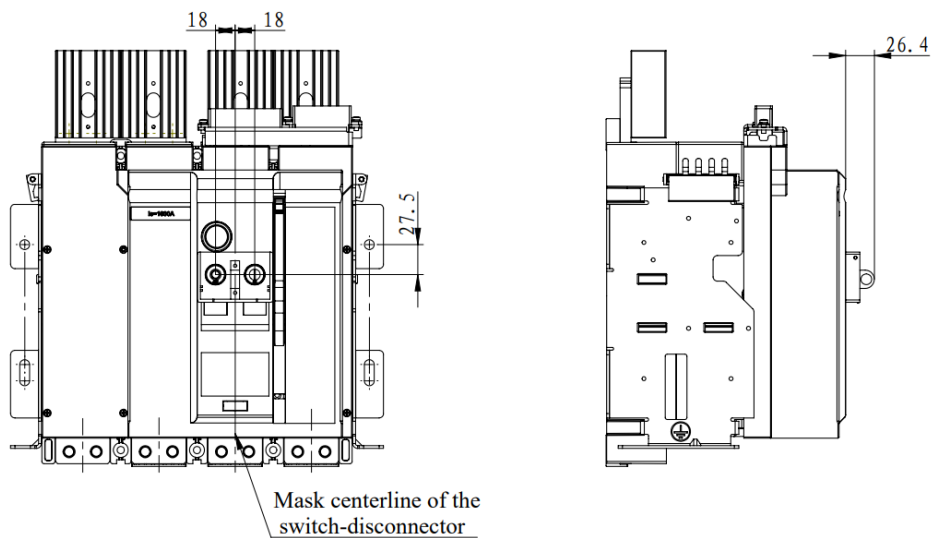


3.3.3 Button lock

- ◆ To be used with a padlock, it is used to prevent non-staff from illegally operating the opening/closing button (padlock should be prepared by users).
- ◆ When the off-position lock is optionally selected, this accessory is sent to the user after being assembled with the switch-disconnector. As the off-position lock protrudes out of the switch-disconnector cover, the installer shall pay attention to the protruding dimension when opening the power distribution cabinet door.



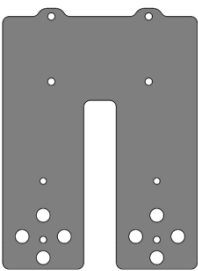
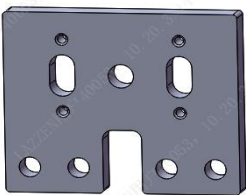
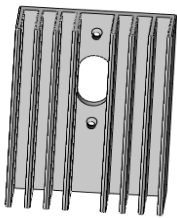
This dimension diagram and data are as follows.



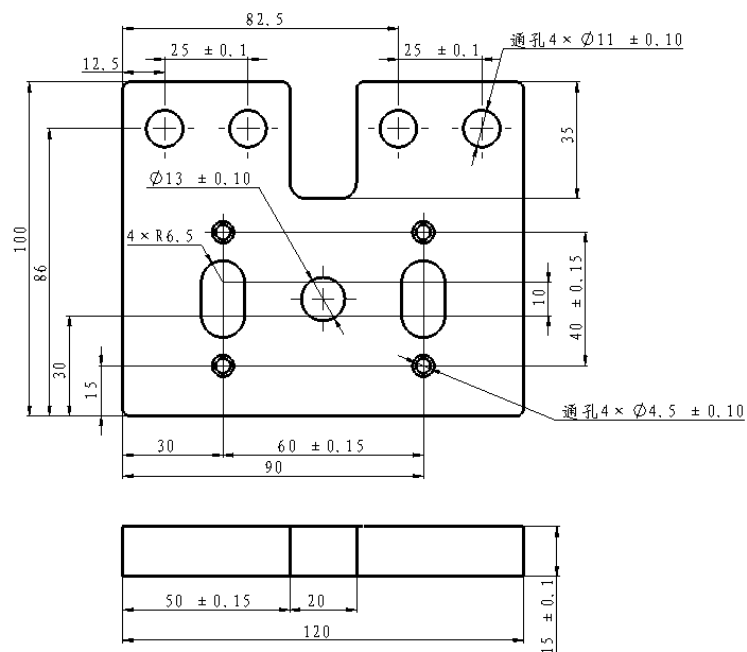
3.4 Short-connected busbar

The shorting bar and its accessory kit are optional and should be used in conjunction with a radiator (standard). The configuration is shown in Table 14. If you need a shorting bar or its accessory kit, please check the wiring method for model selection before placing an order; otherwise, it will not be provided.

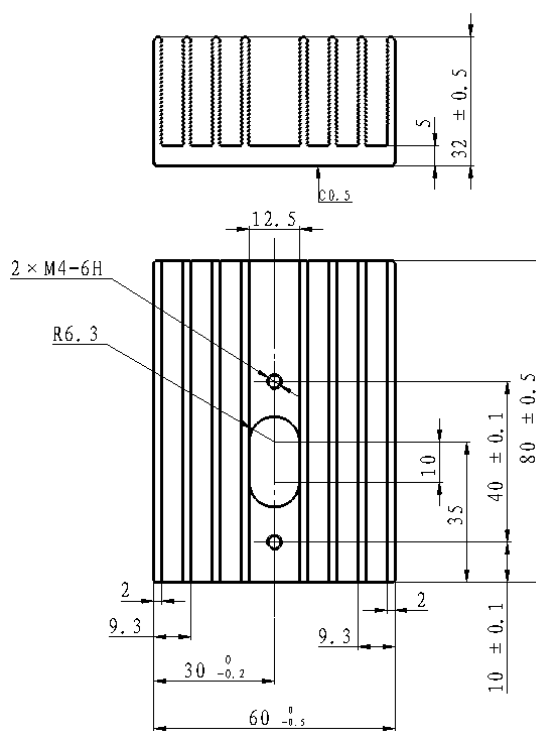
Table 14

Optional Type	Composition of shorting bar (single set)	Quantity	Wiring Method	Notes
Built-in shorting bar		2	Optional; only the JCX can be provided in factory before delivery;	The shorting bar is fixed to the body and removable
External shorting bar		2	Optional; delivered as an accessory kit only (wired by the customer)	The shorting bar accessory kit should be installed by the customer. It can be mounted and removed outside.
Radiator		4	4 radiators are provided with the body	

If the Short-connected busbar prepared by the customer. Dimensions as below. The material of the Short-connected busbar is T2Y2 copper.



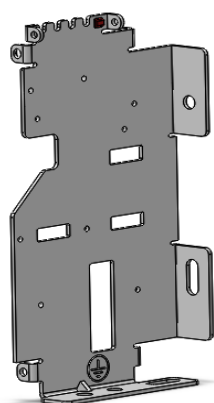
The details of short-connected busbar



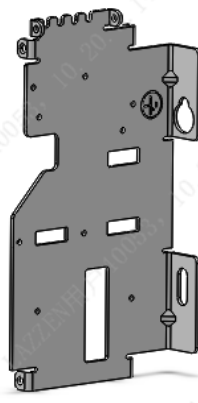
The details of radiator

3.5 Lateral plate

There are two type of Lateral plate. C1 provided the bottom and the lateral of mounting hole, C2 provided the lateral of mounting hole. Please check the Ordering Type Selection Specification before placing orders



C1



C2

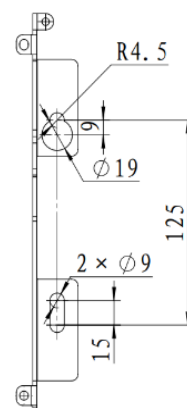


Table 15

The type of the Lateral plate	The bottom of mounting hole	The lateral of mounting hole
C1	✓	✓
C2	×	✓

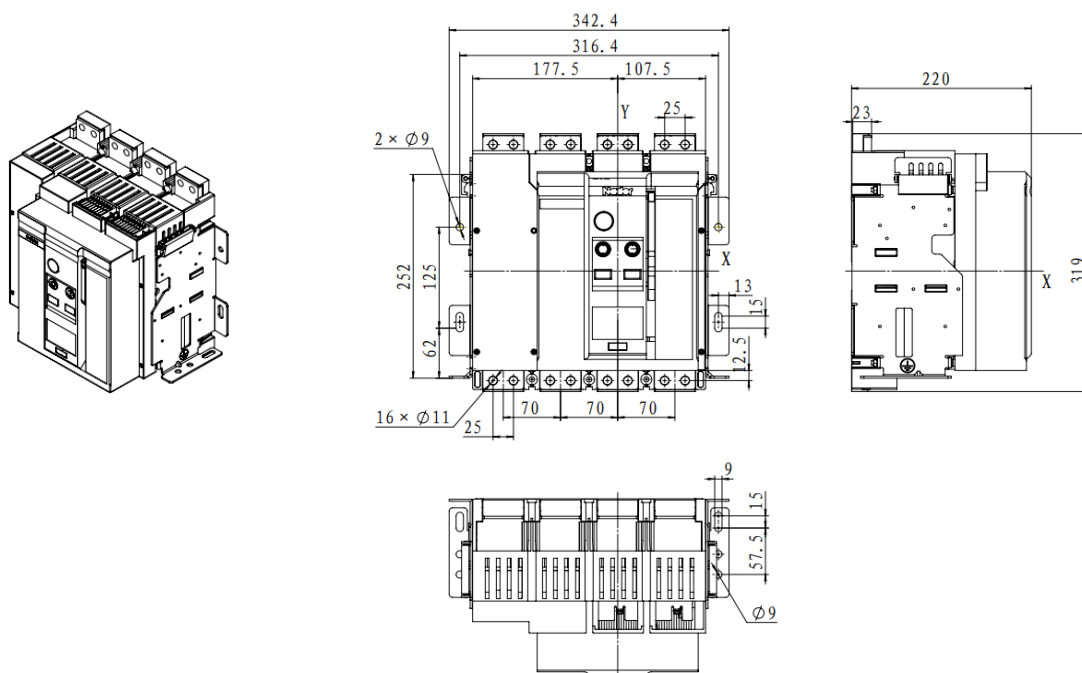
Chapter4 Outline and Installation Dimensions

NDW2GZ-1600 (4P) fixed type (unit: mm)

Power supply from vertical lower terminals

(without Short-connected busbar、without phase partition)

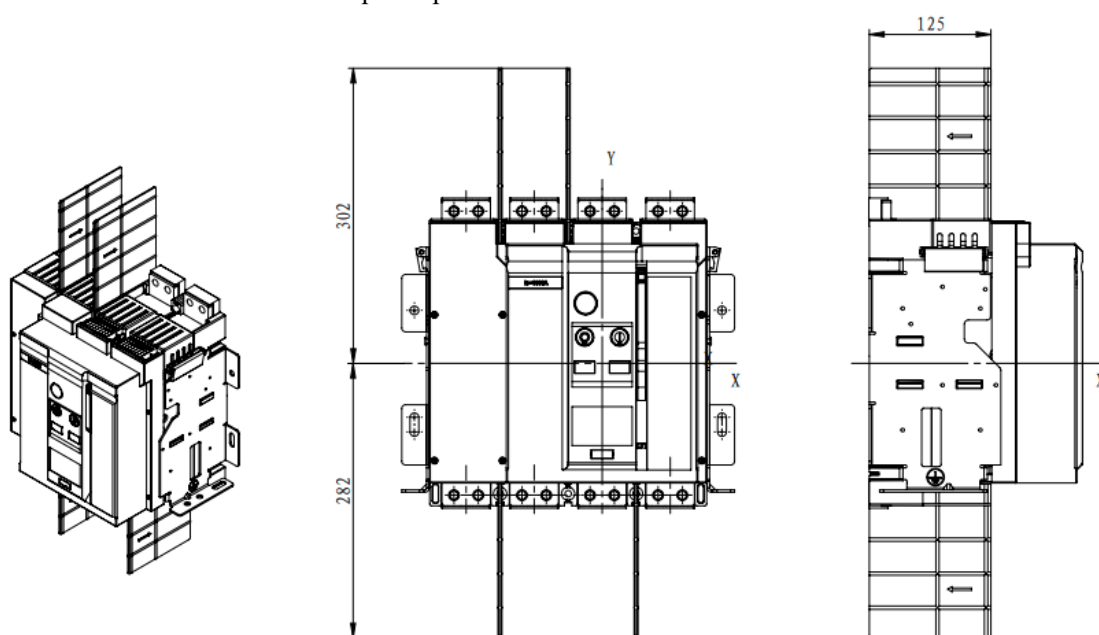
Fixed Details



Power supply from vertical lower terminals

(without Short-connected busbar、with phase partition)

Fixed Details

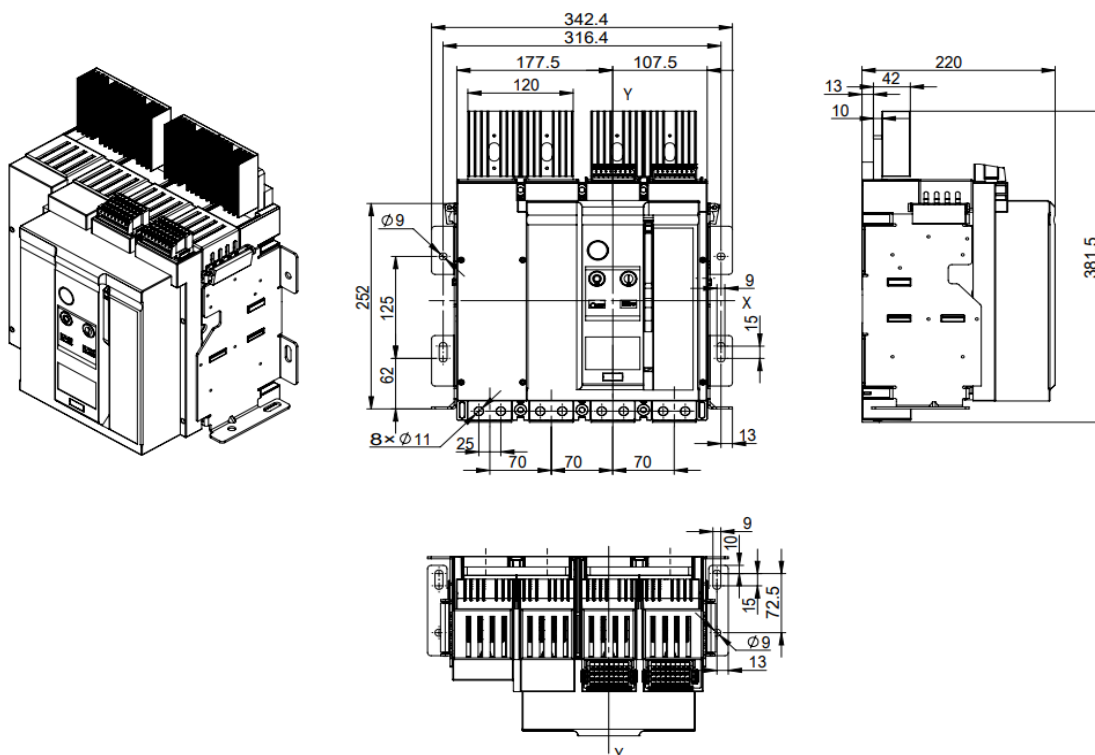


Note: For the 4-pole switch-disconnector, X and Y are the symmetric axes of the front panel;

Power supply from vertical lower terminals

(with Short-connected busbar、without phase partition)

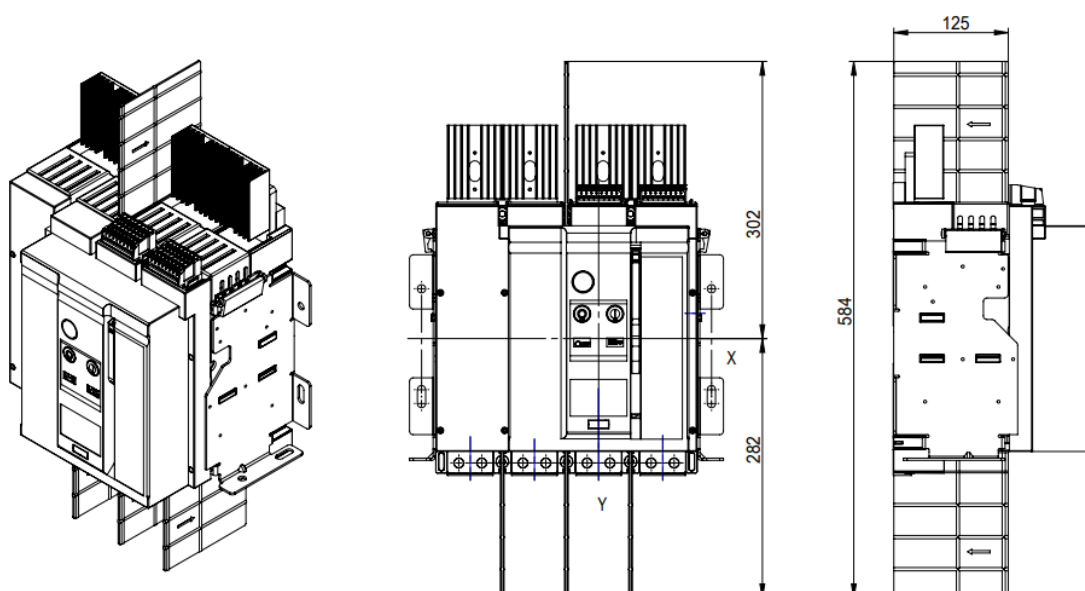
Fixed Details



Power supply from vertical lower terminals

(with Short-connected busbar、with phase partition)

Fixed Details

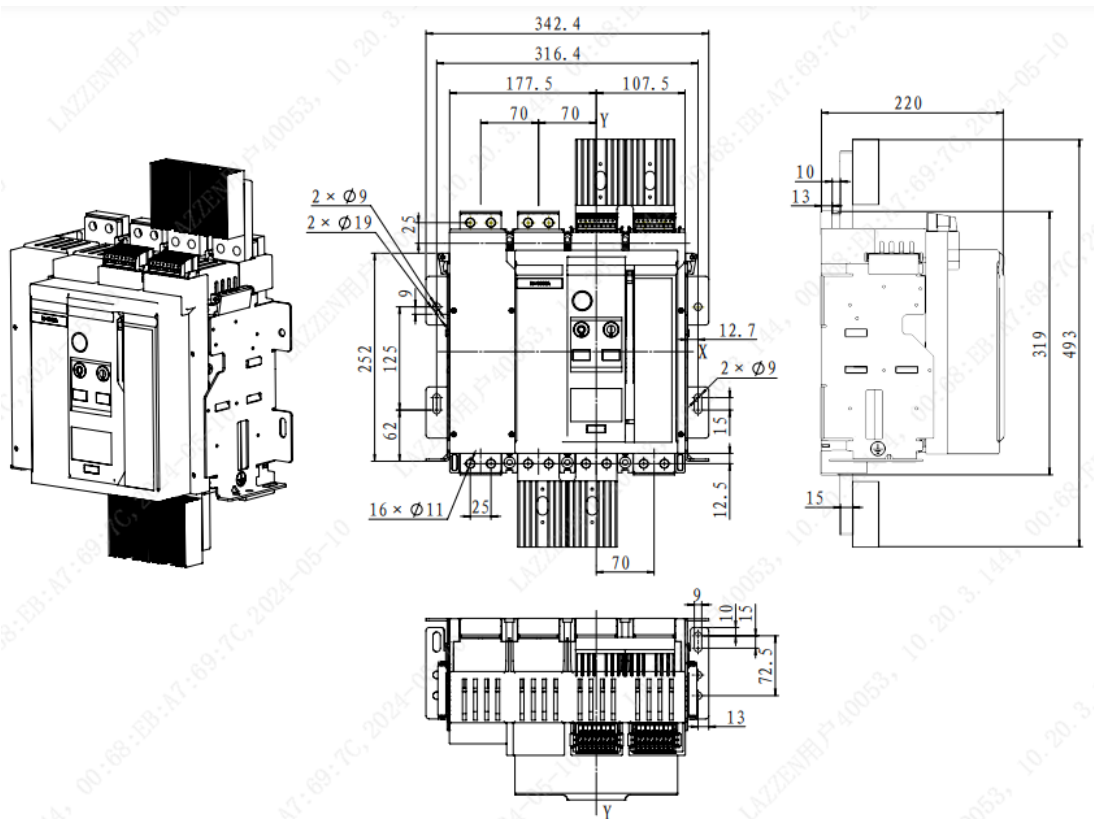


Note: 1、 For the 4-pole switch-disconnector, X and Y are the symmetric axes of the front panel;

2、 The phase partition is installed by the customer.

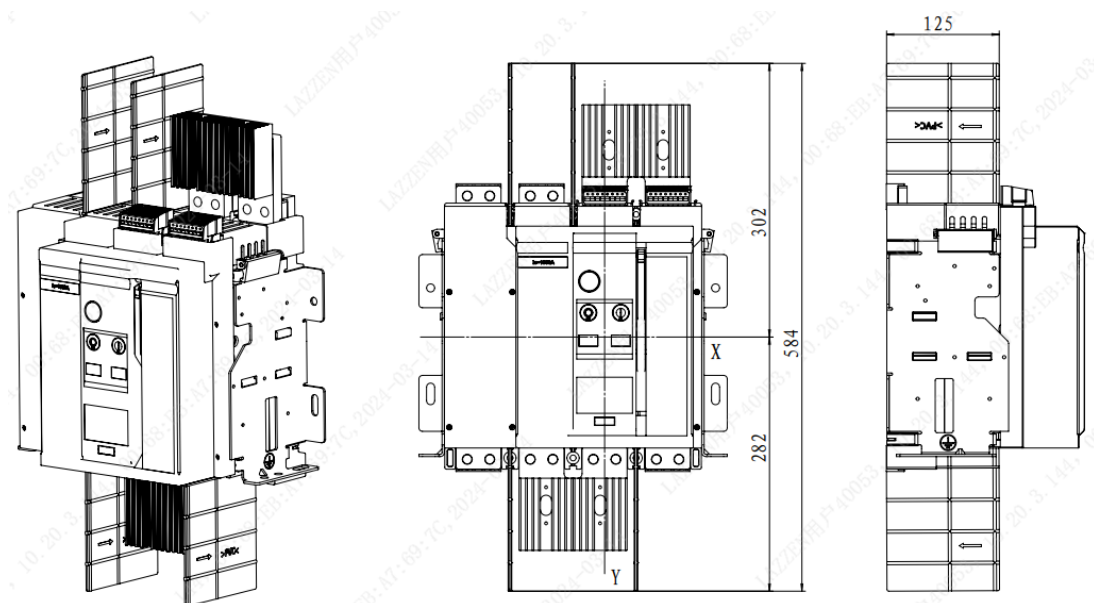
Fixed Details

(with Short-connected busbar accessory package、without phase partition)



Fixed Details

(with Short-connected busbar accessory package、with phase partition)



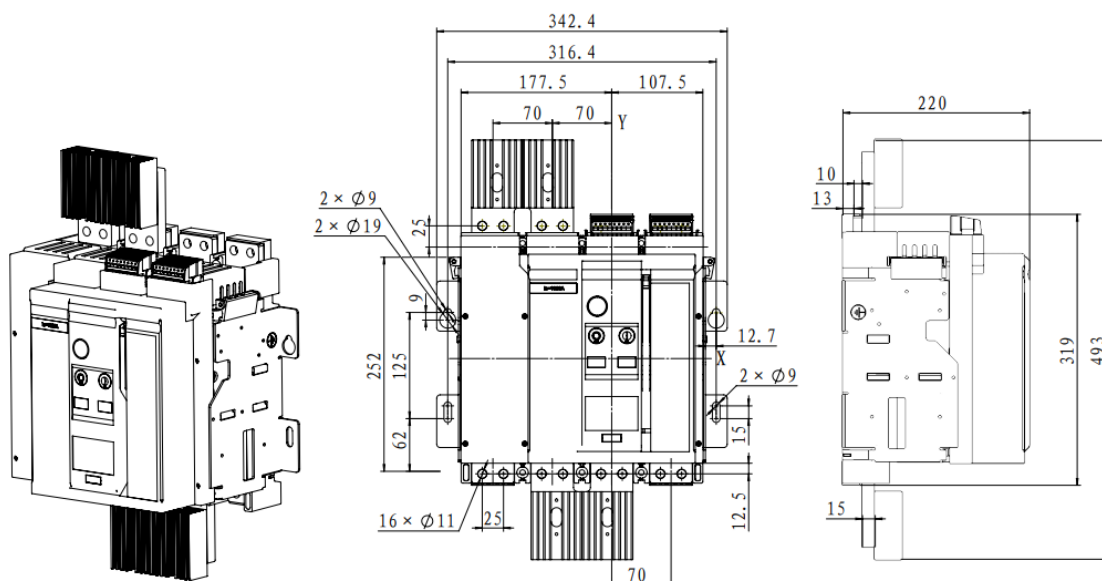
Note:1、 For the 4-pole switch-disconnector, X and Y are the symmetric axes of the front panel;

2、The Short-connected busbar accessory package and the phase partition are installed by the customer.

Power supply from the vertical left lower terminals

(with Short-connected busbar accessory package、without phase partition)

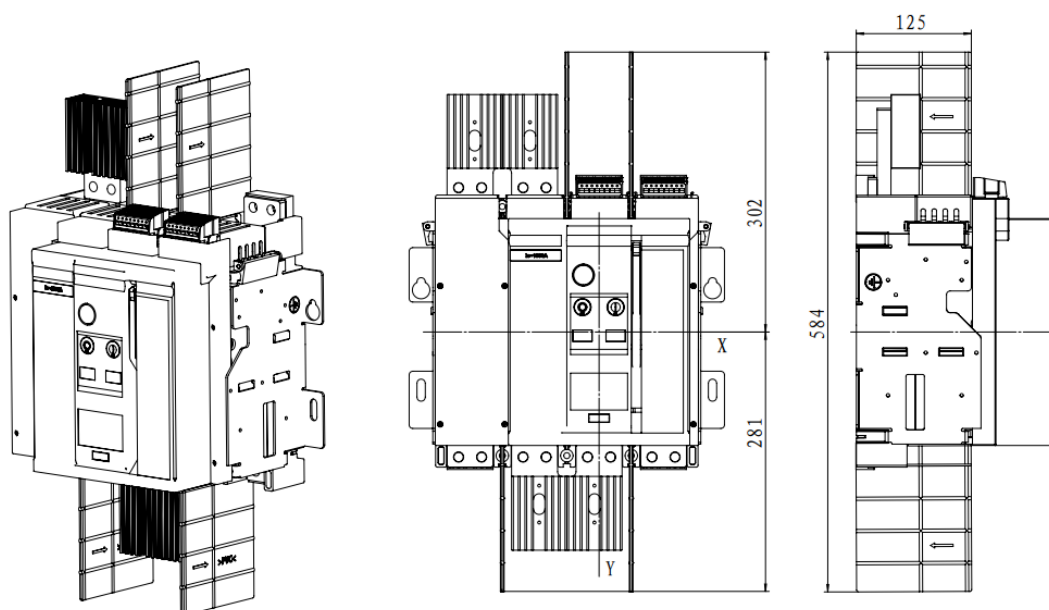
Fixed Details



Power supply from the vertical left lower terminals

(with Short-connected busbar accessory package、with phase partition)

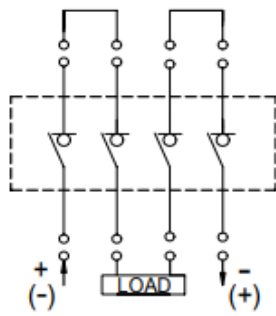
Fixed Details



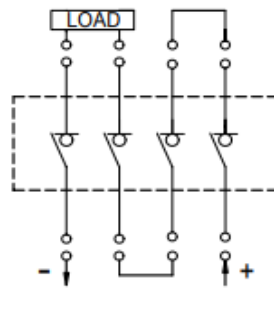
Note:1、 For the 4-pole switch-disconnector, X and Y are the symmetric axes of the front panel;

2、 The Short-connected busbar accessory package and the phase partition are installed by the customer.

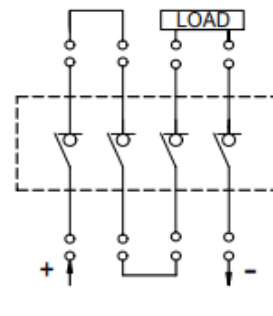
Wiring mode of 4P in series



Power supply from
lower terminals of 4P
in series



Power supply from the
right lower terminals of
4P in series



Power supply from the
left lower terminals of
4P in series

Chapter5 Safe Distance

5.1 The switch-disconnector is installed in the cabinet, the safe distance between the switch-disconnector and the cabinet

When users install the switch-disconnector into the cabinet, the safe distance between the switch-disconnector and the cabinet is shown in the table below.

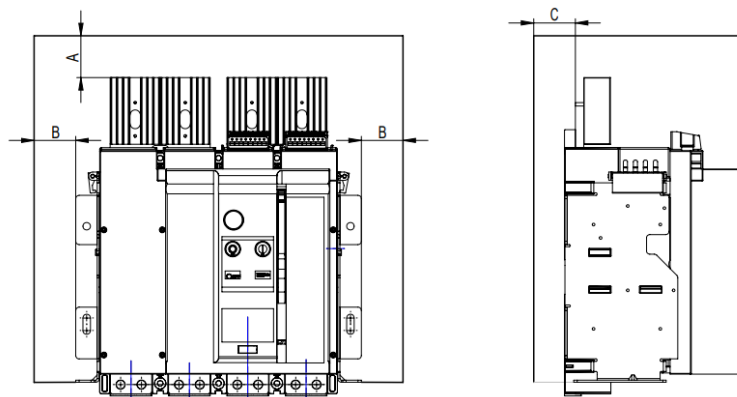


Table 17

Unit: mm

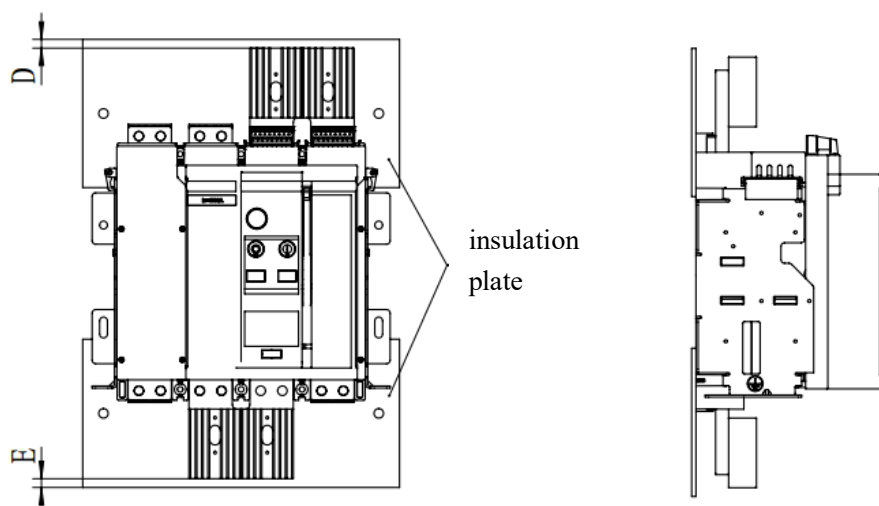
Installation type of the switch-disconnector	To the insulator			To the live part		
	A	B	C	A	B	C
Fixed type	0	0	0	60	60	60

Note: 1. 150 mm space needed for removing the arc-extinguishing chamber should be considered for the safe spacing of the fixed type switch-disconnector;

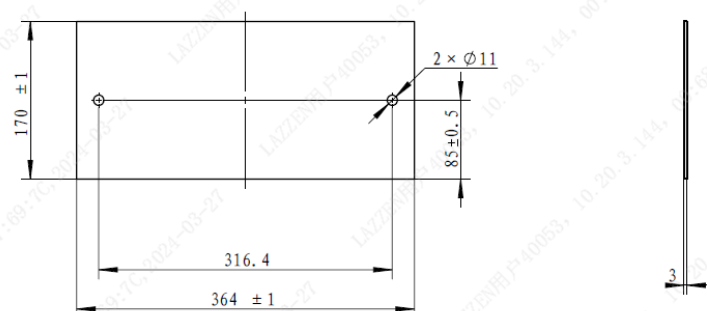
2. If distance to the live part can't meet the requirements in the table, insulation measures should be adapted between switch-disconnector and the live part.

5.2 The switch-disconnector is installed in the cabinet, insulation plate between the switch-disconnector and the backplane or beam installed in the switchgear cabinet should be considered

Install the switch-disconnector, add 3 mm insulation plate between the switch-disconnector and the backplane or beam installed in the switchgear cabinet. The plate must be prepared by the customer. Dimensions as below.



Insulated Backboard Installation Diagram



Insulated Backboard Dimensions

The type of Short-connected busbar	Wiring method of the main circuit	The number of insulation plate	D	E
Short-connected busbar	Vertical lower wiring (Standard)	2	36.5	/
Short-connected busbar accessory package	Vertical lower wiring (Standard)	2	10	/
Short-connected busbar accessory package	Vertical lower wiring(Nonstandard)	2	10	10

Table 18

Chapter6 Installation Notes on Switch-disconnector

To ensure the safety of you and the electric equipment, before put the switch-disconnector into operation, users must:

- a. Carefully read the Operation Manual before installation and use of the switch-disconnector.
- b. Check whether the specification of the switch-disconnector is in line with the requirements before installation.
- c. Install the switch-disconnector under the environment condition without explosion danger, conductive dust or the possibility of corroding metal and damaging the insulation.
- d. Measure the insulation resistance of the switch-disconnector with a 1000V megohmmeter before installation of the switch-disconnector. When the surrounding medium temperature is $+20^{\circ}\text{C}\pm 5^{\circ}\text{C}$, the relative humidity 50%-70% should not be less than 25 mge; otherwise it needs to be dried, and it can be used until the insulation resistance meets the requirements.
- e. Prevent foreign matters from falling into the switch-disconnector when installing the switch-disconnector.
- f. Ensure the switch-disconnector is flat without additional mechanical stress when installing the conductive busbar.
- g. Conduct reliable grounding protection when installing the switch-disconnector. The grounding place of the switch-disconnector has an obvious grounding symbol.
- h. Carry out wiring of the control circuit according to the wiring diagram when installing the switch-disconnector; check whether the working voltage of the undervoltage, shunt, closed electromagnet, motor and related parts conforms to the actual voltage, and then carry out the secondary circuit energizing. In case of drawout switch-disconnector, the switch-disconnector should be shaken into the test position, then the undervoltage release will close and then the switch-disconnector can be closed.
- i. Pressing (or powering on) the closing button after the energy storage of the motor, the switch-disconnector will close.
- j. Pressing (or powering on) the opening button, the switch-disconnector will open.
- K. For manual storage of energy, pull the handle on the front panel up and down, a "click" sound can be heard after seven times, and the panel shows "storage of energy", the storage of energy ends. At this point, if there's undervoltage tripping, power on it (no need if without undervoltage tripping), then carry out closing operation.

Bolts for mounting disconnecting switches

Disconnecting switch	Conditions for connecting bus bars to terminals
NDW2GZ-1600	M10 bolts, grade 8.8, with contact spacer, tightening torque 20N.m

Chapter7 Electrical Wiring Diagram

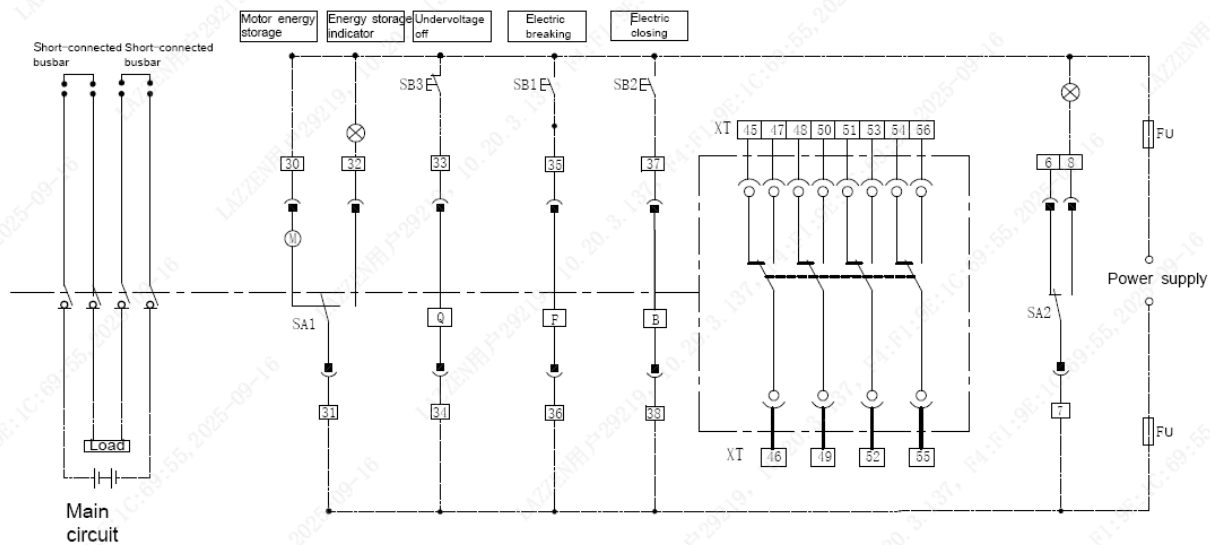


Figure1—NDW2GZ-1600 Auxiliary Wiring Diagram

6, 7, 8—Closing ready;

30, 31, 32—Motor energy storage and energy storage indicator;

33, 34—Undervoltage release;

35, 36—Shunt release;

37, 38—Close electromagnet;

45~56—Connecting terminals of auxiliary switch;

F—Shunt release;

B—Close electromagnet;

Q—Undervoltage release;

Note:

1、The current state of the switch-disconnector is de-energized, disconnected, no energy stored;

2、The dashed part shall be wired by users;

3、If the rated working volatges of Q, F, B, M are not the same, please connect to the rated voltage of contro power supply seperately;

SB1--Shunt button (to be prepared by users) ;

SB2--Close button (to be prepared by users) ;

SB3--Undervoltage disconnection button (to be prepared by users) ;

SA1--Motor travel switch;

XT--Secondary terminal;

FU--Fuse (to be prepared by users) ;

M--Energy storage motor.

Chapter8 Ordering Type Selection Specification

Switch-disconnector Model Explanation and Encoding Rules

ND W 2 GZ □ - □ □/□/□/□ □ □/□ □/□/□/□/□/□/□/□
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

SN	Name	Specification, type code		Description
1	Enterprise code	Nader brand low-voltage electrical appliance		
2	Product code	W - Universal		
3	Design code	2		
4	Derived code	G - Switch-disconnector Z - DC		
5	Derived code	Not-marked: Conventional		
6	Frame size	16-1600		
7	Installation structure	Not-marked - Fixed type		
8	Rated current	08-800A、10-1000A、12-1250A、16-1600A		
9	Number of poles	4 - 4P in series		
10	Electric energy storage mechanism	D2-AC220V/AC230V、D3-DC220V		
11	Shunt release	F2-AC220V/AC230V、F3-DC220V、 F6-DC220V （Retention）		
12	Closed electromagnet	B2-AC220V/AC230V、B3-DC220V		
13	Under-voltage release	Q2-AC220V/AC230V、Q3-DC220V		This shall be omitted if without this accessory;
14	Under-voltage release delay time	0-Instantaneous		
15	Auxiliary switch	Not-marked: Conventional, A4 Four switch (standard configuration)		
16	Lateral plate	C1- the bottom and the lateral of mounting hole、 C2- the lateral of mounting hole		
17	Internal Accessories	Off-position key lock	SF11 - key lock device (one lock and one key),	This shall be omitted if without accessory;
17 18	External accessories	Not-marked – G Phase partition (standard configuration)		This shall be omitted if without accessory;
		B- insulating board		
		S - Button lock		
		T- Busbar accessory package		
19	Wiring mode	Not marked - Power supply from vertical lower terminals (without Short-connected busbar) JCX - Power supply from vertical lower terminals (with Short-connected busbar)		Omitted when the customers install the short-connected busbar
20	Product usage type	Not marked - Conventional, GD - Plateau, low temperature		
21	Special notes	Customer’s special requirements，HD- Enhanced 120kA/100ms		

Switch-disconnector Ordering Notes

(Please fill in numbers in _____, and check ☒ in ☐. Related contents can be found in the Manual)

User unit			Number of units ordered:	Date of ordering:
Shell frame level		☐ NDW2GZ-1600		
Rated current (A)		☐ 800 ☐ 1000 ☐ 1250 ☐ 1600		
Number of poles		☐ 4 (4P in series)		
Installation structure		☐ Fixed type		
Required Accessories	Electric operating mechanism		☐ D2(AC220V/AC230V) ☐ D3(DC220V) D	
	Closed electromagnet		☐ B2-AC220V/AC230V ☐ B3-DC220V	
	Shunt release		☐ F2(AC220V/AC230V) ☐ F3(DC220V)	
	Auxiliary switch		☐ Not Marked A4- Four groups conversion	
	Lateral plate		☐ C1- the bottom and the lateral of mounting hole、 ☐ C2- the lateral of mounting hole	
Optional Function Accessories	undervoltage release	Voltage specification	☐ Q2(AC220V/AC230V) ☐ Q3(DC220V)	
		Delay time	☐ 0-Instantaneous (0s)	
	Closing ready		☐ BX - Closing ready signal output unit	
	Off-position key lock		☐ SF11 - key lock device (one lock and one key),	
	Phase partition		☐ Not marked -G Phase partition (standard configuration)	
	Insulating board		☐ B- Insulating board	
	Button lock		☐ S- Button lock	
	Terminal bolt		☐ T-Busbar accessory package	
Wiring mode		☐ JCX - Power supply from vertical lower terminals ☐ Not marked - short-connected busbars are installed by customers		
Special usage occasions		☐ GD- Plateau, low temperature		
Special requirements		☐ HD- Enhanced 120kA/100ms		
		Other requirements		
Note: If you have special requirements, please indicate in the special requirements column.				