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Jun. 2019

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CHINT | Next
CHINT ELECTRIC | series

The Next Reliable Choice

Automatic Transfer Switching Equipment

CHINT•Empower the World



Founded in 1984, CHINT Group is a well-known enterprise in Chinese industrial electric appliance and new energy sectors. With total assets of over 60 billion RMB and more than 30 thousand employees, the company is running business that covers the power equipment industrial chain including power generation, storage, transmission, transformation, distribution, and consumption. The company is also operating in the fields of urban rail traffic, energy equipment manufacturing, new energy storage materials, Energy Internet, investment & financing platform, and business incubator. The products have been sold to over 130 countries and regions around the world, and have entered main component markets in Europe, Asia, Middle East, and Africa.

CHINT ranks among top 500 private enterprises in China for a few consecutive years, and the amount of tax payable can be regarded as a model for the manufacturing enterprises in Wenzhou. Zhejiang CHINT Electric Appliance Corporation under CHINT Group is a well-known enterprise in China's low voltage electrical appliance industry, and also A-share listed company. CHINT Solar has built over a hundred photovoltaic power stations around the world, it is an influential power station investor and operator in domestic private enterprises.

CHINT has always following the policies of innovation-driven industrial development. Among all competitors, it passed ISO9001 quality system certification, ISO 14001 environment system certification, and OHSAS18001 occupational health safety management certification. The group also holds China Compulsory Certificate (CCC), international CB safety certificate, US UL certificate, Finland FI certificate, Belgium CEBEC certificate, Netherland KEMA certificate, and Germany VDE certificate. The group now owns over 1000 domestic and foreign patents, and has participated in establishment and revision of over 120 industrial standards. Its HV and LV electric appliances and photovoltaic inverters won Germany Red Dot Award. CHINT led development of critical manufacturing equipment PECVD, LPCVD, and MOCVD for China's silicon based thin film photovoltaic cells, which has significantly improved semiconductor equipment manufacturing level in China.

The group has won a number of awards including China Industrial Award, National Quality Management Award, China Excellent Private Science & Technology Enterprise, China Top Ten Machinery Manufacturers with Core Competitiveness, China Top Ten Leading Private Enterprises with Independent Innovation Capabilities, China Contract-Fulfilling and Trustworthy Enterprise, National Advanced Private Enterprise for Employment and Social Security, and China Charity Award.

In the future, CHINT will march towards the targets of creating world famous brands and contributing to an industrial power. It will focus on building the Energy Internet and becoming a smart energy developer and operator. The group will make great efforts to implement three policies: globalization, M&A and integration, and smart manufacturing. Four platforms will be created, including scientific innovation and industrial incubation platform, online industrial and civil Internet of Things platform, online & offline supply chain interaction platform, and investment & financing and payment platform. Four industrial clusters will also be developed, including smart electrical system solution industrial cluster for smart grid, industrial automation information cluster for smart cities, clean energy, environment protection, and energy conservation industrial cluster for smart micro-grid, high-tech material information technology and high-end equipment industrial cluster for smart manufacturing, and Internet of Things IT and smart home industrial group for smart business.

Dual protection for key electrical power

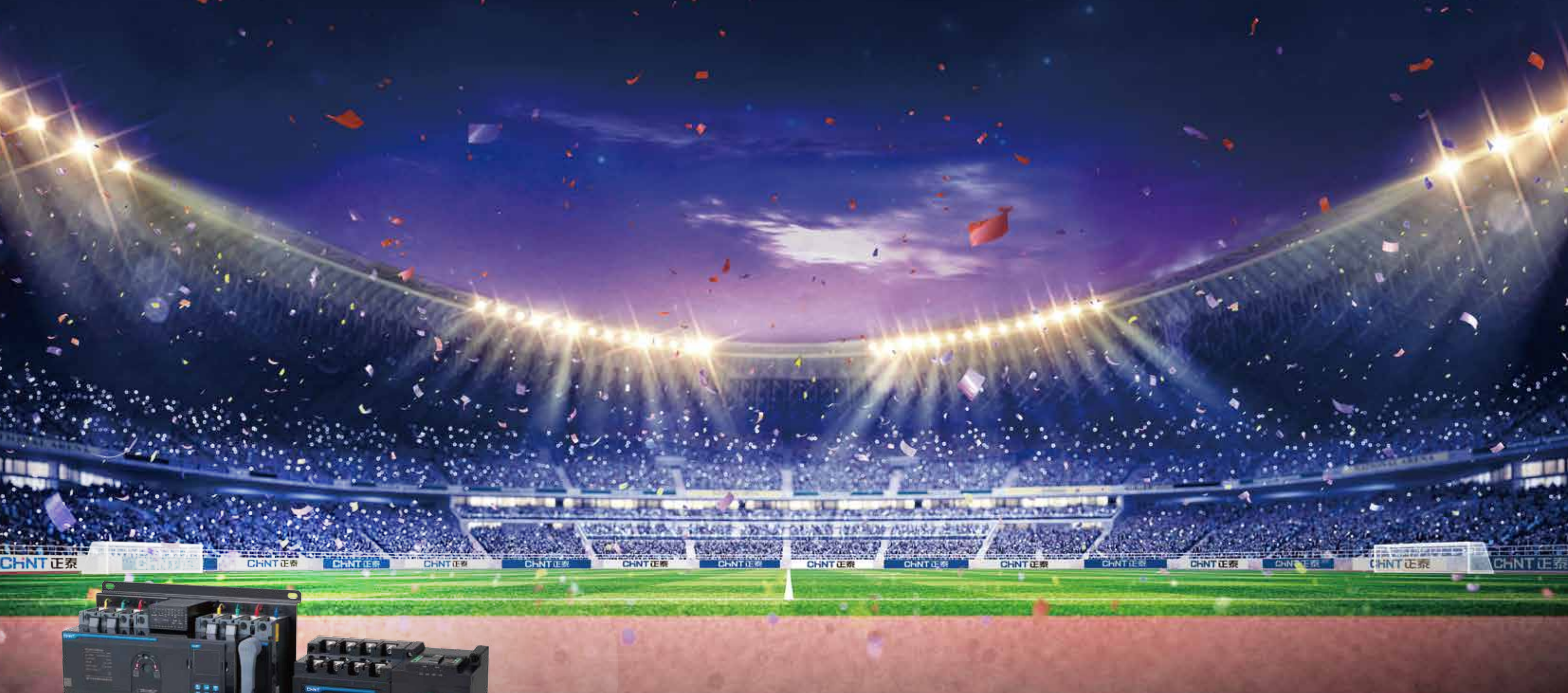
Newest Automatic Transfer Switching Equipment series product
Precise switching, worryless power utilization

CHINT | Next
CHINT ELECTRIC | series

The Next Reliable Choice

Automatic Transfer Switching Equipment





Small size, convenient in installation, intensive and efficient use of space

The product adopts the modular design and has a small size; the controller can be installed in integrated or split type.



PC grade for dedicated use, stable and reliable product performance

Full plastic insulation enclosure and excellent electric properties can ensure reliable power supply to important loads.



Isolated lock, safe and efficient repair and maintenance

It has a disconnected position and can be reliably used for fire control linkage and high sensitive anti-load; the padlock can prevent false operation in maintenance.



Intelligent control, integration of multifunction

With optional communication function, various modes of conversion, and settable time and voltage parameters, it can be flexibly and conveniently used.



Strong adaptability in the environment with big temperature difference, reliable operation in extreme environment

It can be used in the ambient temperature of $-25^{\circ}\text{C}\sim 70^{\circ}\text{C}$ to meet the use requirements in different applications.

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NXZ(H)B/NXZ(H)M Series Automatic Transfer Switching Equipment

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NXZ Series Automatic Transfer Switching Equipment



Introduction

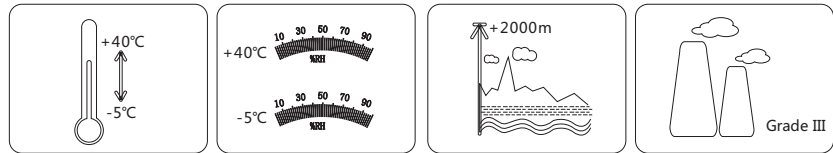
Scope of Application

- NXZ series Automatic Transfer Switching Equipment is applicable to the three-phase four-wire duplicate supply power grid of AC 50Hz, rated voltage 400V/415V and below, and rated current up to 630A . It can automatically connect one or several load circuits from one power source to the other to ensure the normal power supply for the load circuit.
- This product is applicable to industrial and commercial power use places, high-rise buildings, and residential houses.

Applicable standards

- Product standard
IEC 60947-1.
IEC 60947-6-1.
- Standards for use in extreme environment
IEC 60068-2-1. (Low Temperature)
IEC 60068-2-2. (High Temperature)
IEC 60068-2-30. (Cyclic Damp Heat)
IEC 60068-2-11. (Salt mist)
- Certification : CB、CE、KEMA

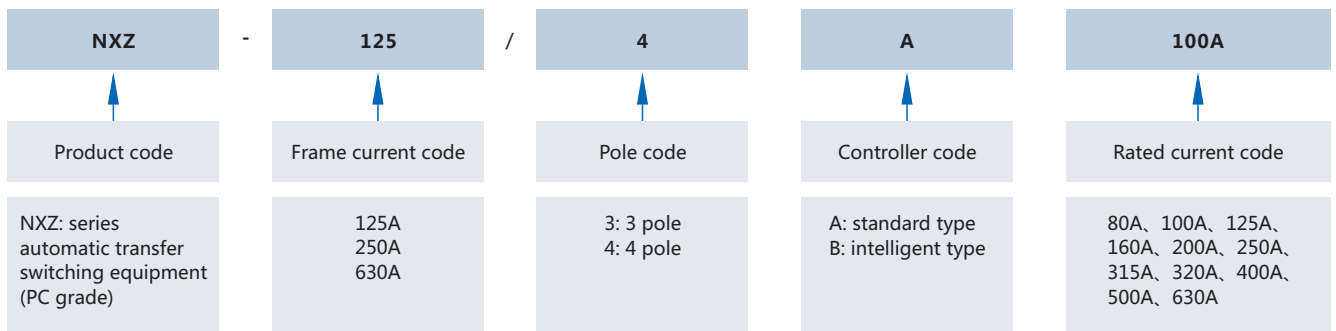
Normal working conditions



- Ambient temperature
-5°C~+40°C; Users can custom-tailor relevant product to be used in the environment of -25°C~+70°C, and use the product according to the temperature compensation table.
- Sea level elevation
Equal to 2000m or below; if it needs to work above 2000m altitude, it shall be used according to the table of capacity reduction of different altitudes.
- Atmospheric conditions
The relative humidity shall not exceed 50% when the surrounding air temperature is +40°C; the relative humidity can be higher when the temperature is lower; the average monthly maximum relative humidity in the wettest month is 90%, and the average monthly minimum temperature shall be +20°C. Special measures may be necessary in cases of occasional condensation due to variations in temperature.
- Pollution degree: class 3
- Installation category
Installation category of the switching equipment of main circuit is category IV.
Installation category of auxiliary circuit is category III.
Installation category of conversion controller is category II.
- Utilization category: AC-33B
Electromagnetic compatibility (EMC)
Electrostatic discharge (IEC 61000-4-2) Level 2
Radio-frequency electromagnetic field-radiated electromagnetic field immunity (IEC 61000-4-3) Level 3,
Fast transient bursts (IEC 61000-4-4) Level 3,
Surges (IEC 61000-4-5) Level 3,
Radio-frequency electromagnetic field-conducted immunity (IEC 61000-4-6) Level 3,
Radiation grade (CISPR11) grade B,

NXZ Series Automatic Transfer Switching Equipment

Model definition and description



Type selection example:

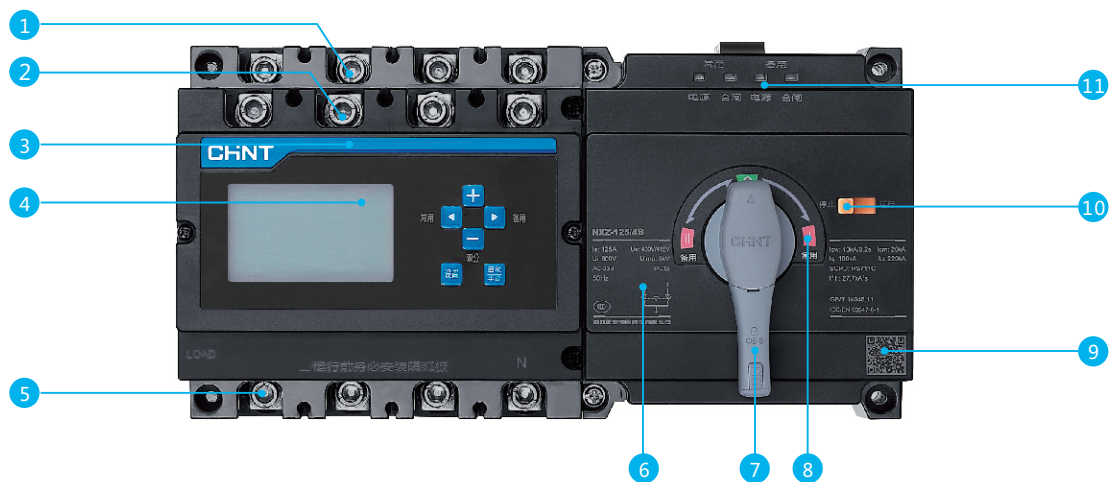
NXZ-125/4A 125A: To order an Automatic Transfer Switching Equipment of which the frame current is 125A, number of poles is 4P, rated current is 125A, with a standard controller

Note: when the controller is installed in split type, the split wire needs to be ordered separately.

Comparison Table of Frame Current and Rated Current

Rated current (A)		80	100	125	160	200	250	315	320	400	500	630
Frame current (A)	125	■	■	■								
	250				■	■	■					
	630							■	■	■	■	■

Structural Features of the Automatic Transfer Switching Equipment



- 1 Terminal on the normal supply side
- 2 Terminal on the alternative supply side
- 3 Trade mark
- 4 Display and operation module of the controller
- 5 Terminal on the load side
- 6 Nameplate

- 7 Handle
- 8 Switching-off/switching-on indicator
- 9 QR Code
- 10 Manual/electric dial switch
- 11 Controller processing module

NXZ Series Automatic Transfer Switching Equipment

Functions and characteristics

Technical parameters of NXZ (Class PC)

Model	NXZ-125	NXZ-250	NXZ-630
Electrical characteristics			
Frame current (A)	125	250	630
Rated current (A)	80,100,125	160,200,250	315,320,400,500,630
Rated operational voltage Ue (V)	400/415 50Hz		
Rated insulation voltage Ui (V)	AC800		
Rated impulse withstand voltage Uimp (kV)	8		
Utilization category	AC-33B		
Number of poles	3P/4P		
Rated conditional short-circuit current Iq (kA)	100		
Rated short-circuit making capacity Icm (kA)	20	30	50
Rated short time withstand current Icw/0.2s (kA)	10	10	25
Contact transfer time (S)	0.6× (1±50%)	1× (1±10%)	1.5× (1±10%)
Operating transfer time (S)	1.2× (1±10%)	2.1× (1±10%)	3.3× (1±10%)
Mechanical endurance (times)	8500	7000	3000
Electrical endurance (times)	1500	1000	1000
Overall dimension			
Width x height x depth (mm)	245×130×126	295×175×175	430×272×230
Controller characteristics			
Controller model	A type (standard), B type (intelligent)		
Installation mode	Integrated, split		
Rated control power supply voltage Us (V)	230/240 50/60Hz		
Control voltage range	85%~110%Ue		

NXZ Series Automatic Transfer Switching Equipment

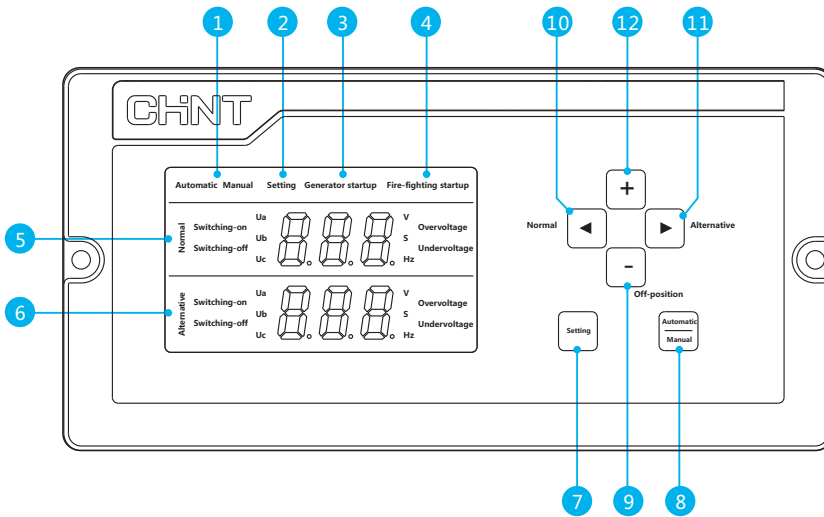
Parameters of controller		
Function	Model	
	A type (standard)	B type (intelligent)
Manual/automatic transfer	■	■
Main contact positions		
Normal position	■	■
Alternative position	■	■
Off-position	■	■
Automatic control		
Normal supply of monitoring	■ Phase failure/loss of voltage, undervoltage, overvoltage fault	■ Phase failure/loss of voltage, undervoltage, overvoltage fault
Alternative supply of monitoring	■ Phase failure/loss of voltage, undervoltage, overvoltage fault	■ Phase failure/loss of voltage, undervoltage, overvoltage fault
Automatically transfer and restore operation	■	■
Automatically transfer and nonautomatically restore operation	■	■
Grid-grid	■	■
Grid-generator	■	■
Phase failure/loss of voltage transfer	■	■
Under voltage transfer	■	■
Over voltage transfer	■	■
Delay adjustable	■	■
Transfer delay	0s~300s adjustable	0s~300s adjustable
Return delay	0s~300s adjustable	0s~300s adjustable
Generator control	■	■
Fire control linkage	■	■
Indication		
Switching-on/switching-off/Off-position indication	■	■
Normal/alternative supply indication	■	■
Parameter setting indication	■	■
Others		
Communication function	-	■
Display module	■ LED	■ LCD

NXZ Series Automatic Transfer Switching Equipment

Functions and characteristics

Operation interface of the display module of controller

Figure 1

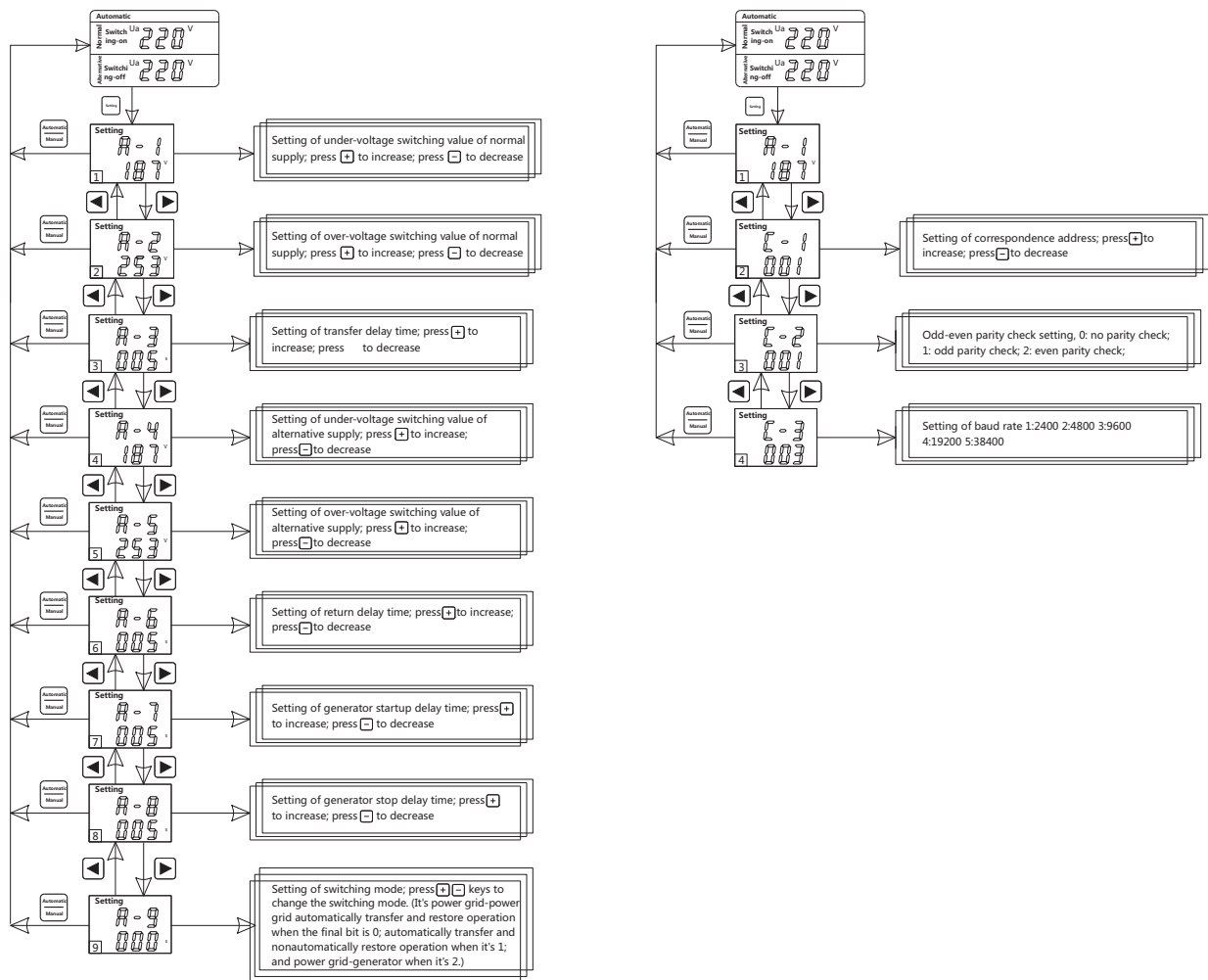


1. Indication of automatic/manual operation mode
2. Setting status indication
3. Indication of the startup signal of generator
4. Indication of start of the fire control linkage function
5. Display area of the status parameters of normal supply: Display the voltage parameters and Transfer delay time of normal supply in working state; display the setting item parameters in setting state;
6. Display area of the status parameters of alternative supply: Display the voltage parameters and return delay time of alternative supply in working state; display the setting item parameters in setting state;
7. Setting button (press this button to enter the parameter setting menu of the controller);
8. Automatic/manual transfer mode selector button: used for selection of automatic/manual transfer mode in normal working state; used for save and exit in setting state;
9. Off-position button: under the manual control mode, any one of the two power supply is normal, press this button to make automatic transfer switching equipment on off-position; Under setting mode, this button is used to decrease value in parameter setting;
10. Normal supply transfer button: under the manual control mode, the switch is on alternative position, press this button to switch on normal supply; under setting mode, this button is used for pageup in parameter setting;
11. Alternative supply transfer button: under the manual control mode, the switch is on normal position, press this button to switch on alternative supply; under setting mode, this button is used for pagedown in parameter setting;
12. + button: Under setting mode, this button is used for increase value in parameter setting.

NXZ Series Automatic Transfer Switching Equipment

Parameter setting of the display module of controller

Figure 2



Note: The functional parameters of the display module and communication module are set as follows:

Setting of under-voltage switching value: Default to 187V, user-settable 160V~200V;

Setting of over-voltage switching value: Default to 263V, user-settable 240V~290V;

Transfer delay setting: Default to 5s, user-settable 0s~300s;

Return delay setting: Default to 5s, user-settable 0s~300s;

Generator startup delay setting: Default to 5s, user-settable 0s~300s;

Generator stop delay setting: Default to 5s, user-settable 0s~300s;

Switching and power source mode: Default setting: automatically transfer and restore operation (grid - grid), and user can set automatically transfer and nonautomatically restore operation (grid - grid), automatically transfer and restore operation (grid - power generation)..

Default parameter setting for communication function: address: 1; Baud rate: 9600bps; parity check bit: odd parity; data bit: 8; stop bit: 1

Buttons:

Press setup key to enter the setting interface when the controller is working. Press "◀" "▶" to page up or down the setting menu. Press manual/automatic key to exit from the setting menu. Press "↑" "↓" to revise the parameters.

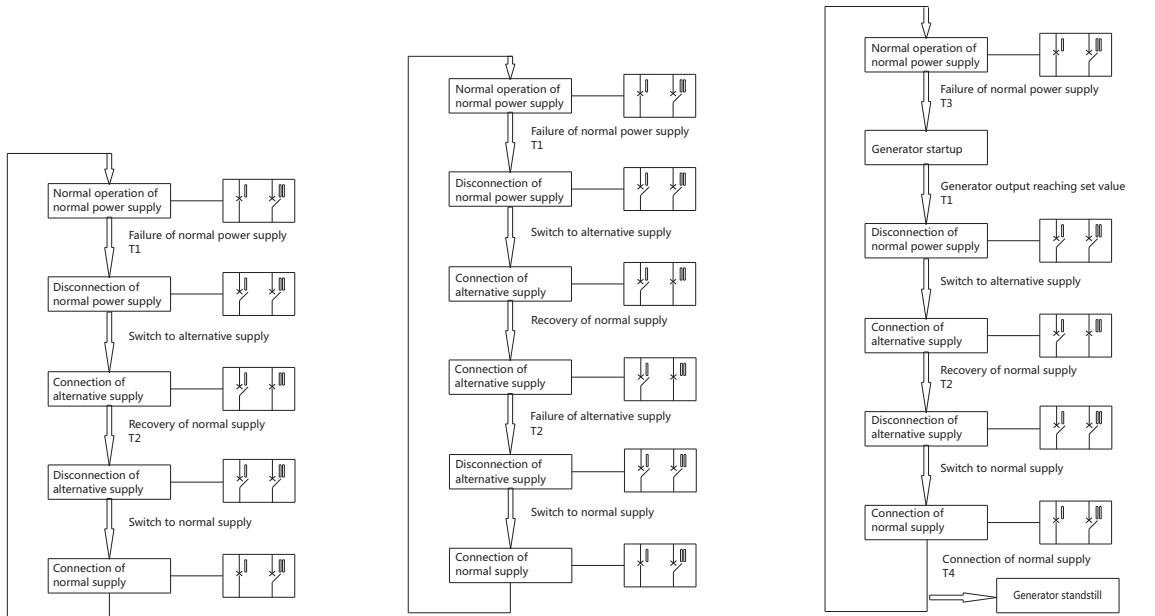
Parameter setting of communication function (note: please ask for the communication agreement from our after-service staff)

NXZ Series Automatic Transfer Switching Equipment

Functions and characteristics

Controller action flow

Figure 3



Automatically transfer and restore operation (power grid-power grid) work flow diagram of controller

Automatically transfer and nonautomatically restore operation (power grid-power grid) work flow diagram of controller

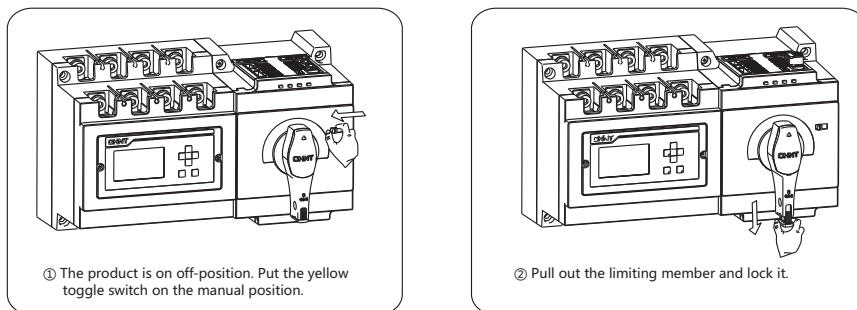
Automatically transfer and restore operation (power grid-generator) work flow diagram of controller

- I: Normal supply
- II: Alternative supply
- T1: Transfer delay time, normal supply fault, time before disconnection of I;
- T2: Return delay time, normal supply recovered, time before disconnection of II;
- T3: Generator startup delay time: 0s~300s, adjustable
- T4: Generator standstill delay time: 0s~300s, adjustable

Padlocking function

- Padlock aperture $\Phi 5 \sim \Phi 8$ (mm)

Figure 4



① The product is on off-position. Put the yellow toggle switch on the manual position.

② Pull out the limiting member and lock it.

Communication function

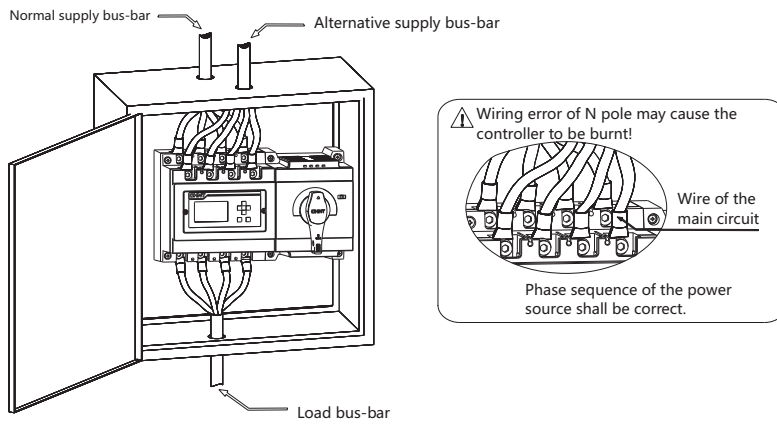
- Modbus protocol; RS485 interface.

NXZ Series Automatic Transfer Switching Equipment

Mode of connection of the main part and controller

Product incoming mode: upper incoming

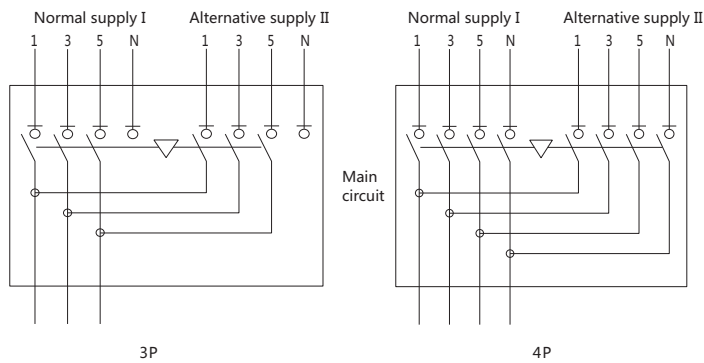
Figure 5



Installation mode: vertical or horizontal

Product wiring

Figure 6

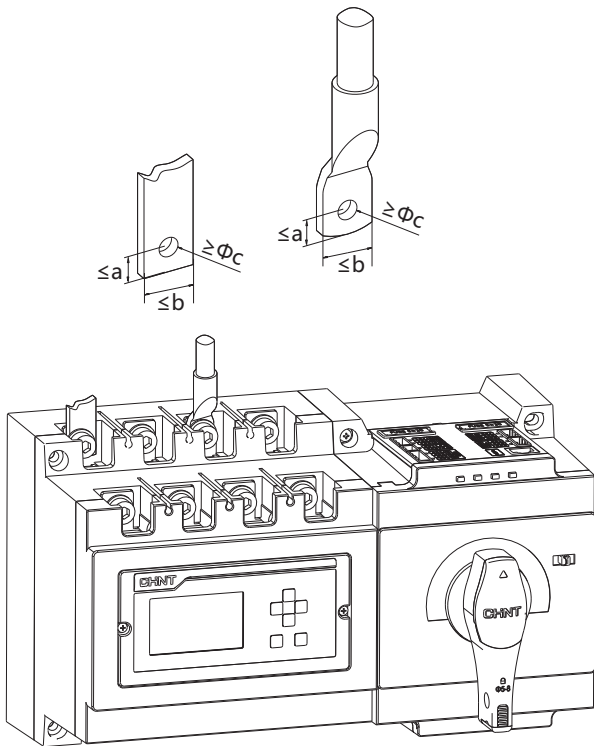


NXZ Series Automatic Transfer Switching Equipment

Mode of connection of the main part and controller

Wire connection

Figure 7

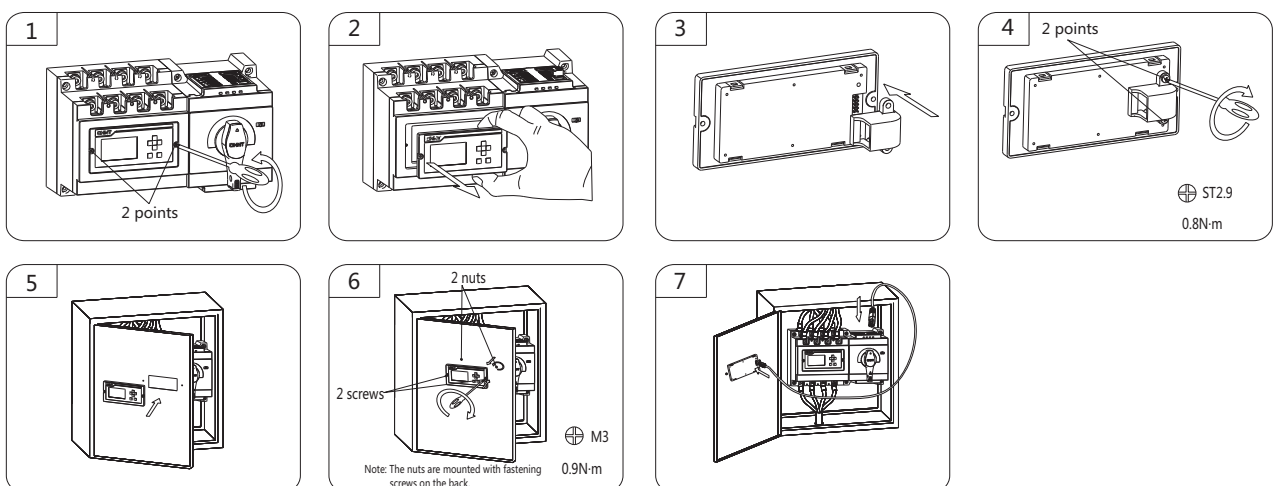


Unit: mm

	a	b	c
NXZ-125	8	21.5	6
NXZ-250	10	27.5	8
NXZ-630	15	43	12

Split type installation of the display module (cabinet)

Figure 8

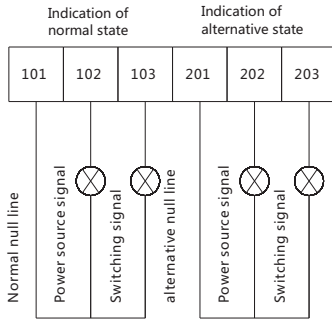


NXZ Series Automatic Transfer Switching Equipment

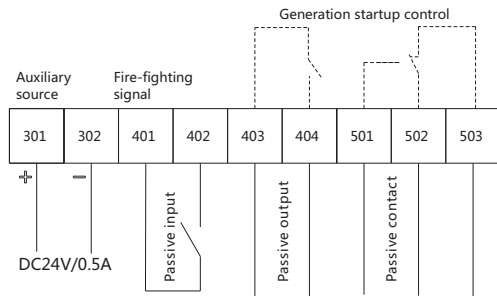
Wiring of signal and control terminal

A type controller

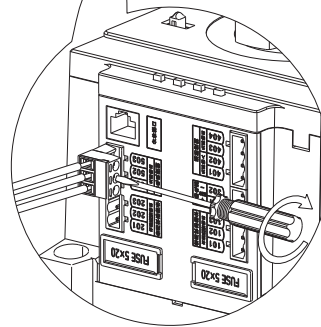
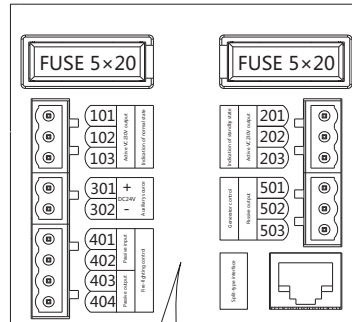
Figure 9



Active AC230V/0.5A
Users can connect corresponding terminal based on requirements.

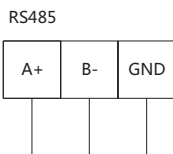


Note: the dotted line is the circuit inside the controller.

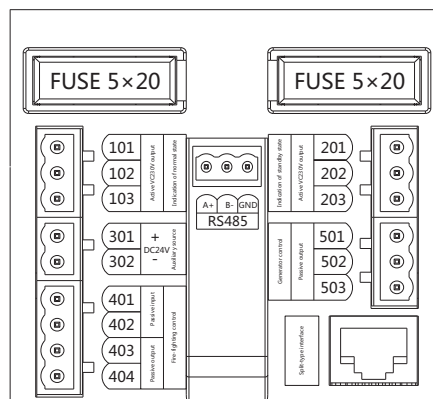


B type controller

Figure 10



Note: The signal and controller terminal wiring of B type controller is same with A type controller, and B type controller has communication terminal wiring.

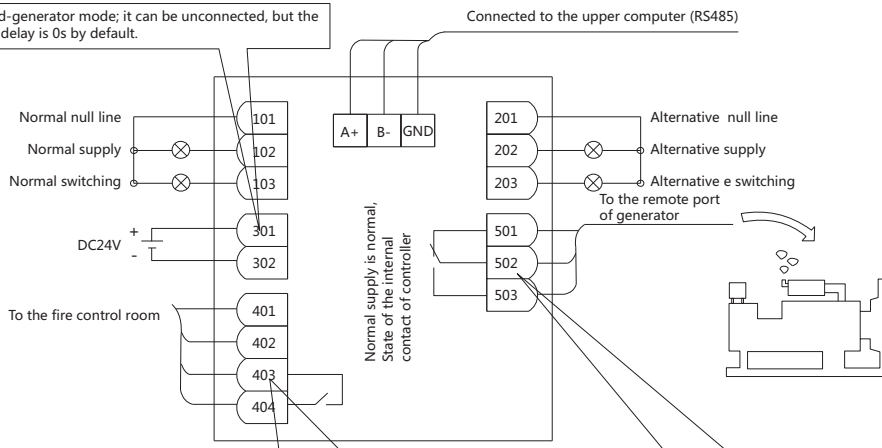


NXZ Series Automatic Transfer Switching Equipment

Mode of connection of the main part and controller

Typical application

Figure 11



⚠ Terminals 401 and 402 can only be connected with passive signals; if the fire-fighting signal is an active signal, it shall be switched over by a relay, and the normally open contact of the relay can then be connected to the controller. When product is on off-position, terminals 403 and 404 will be connected. After the fire-fighting signal is cancelled, press any key of the controller, and it will return to the normal operation state.

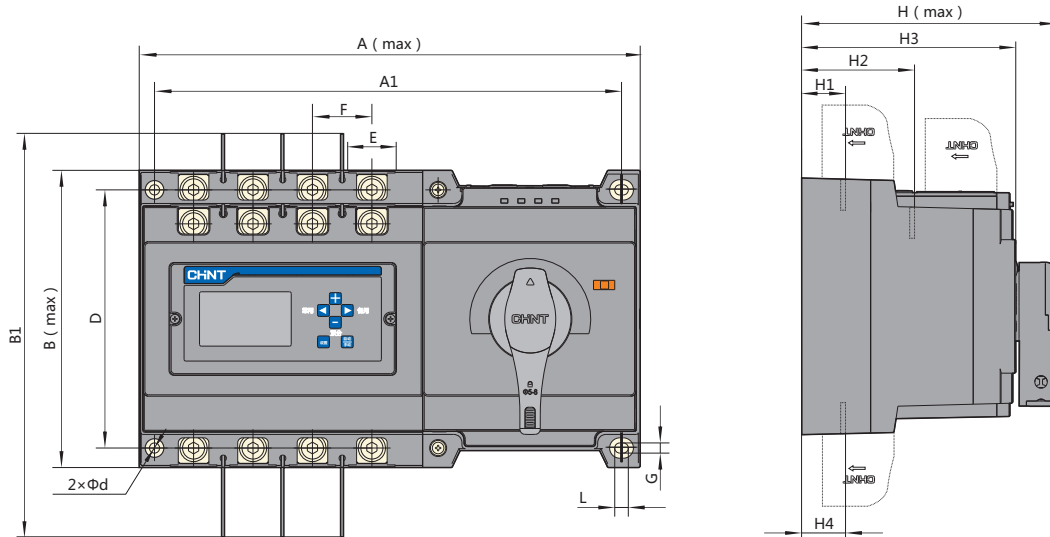
Only used in power grid-generator mode; it can be connected or disconnected with the generator based on requirement. When the normal supply is failure, 502 and 503 will be connected.

NXZ Series Automatic Transfer Switching Equipment

Overall and installation dimension

Product overall and installation dimension

Figure 12

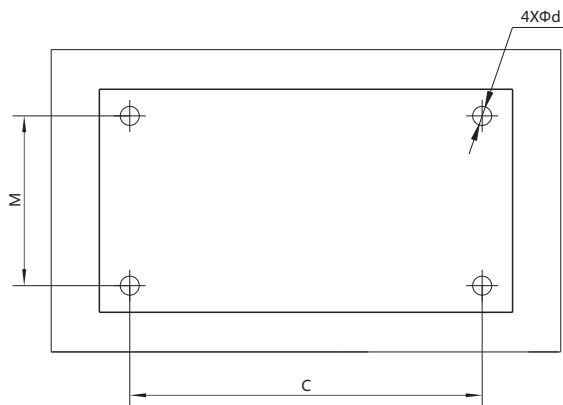


Unit: mm

Product code	A	A1	B	B1	D	E	F	G	L	H	H1	H2	H3	H4	d
NXZ-125	245	229.5	130	220	113	21.5	30	4.5	5.5	126	21	71	107.5	21	4.5
NXZ-250	295	275	175	304	152	27.5	35	6	8	175	29	99	146	29	6
NXZ-630	430	400	272	461	240	43	58	9	13	230	41	131	192	41	9

Hole size of the product installation plate

Figure 13



Unit: mm

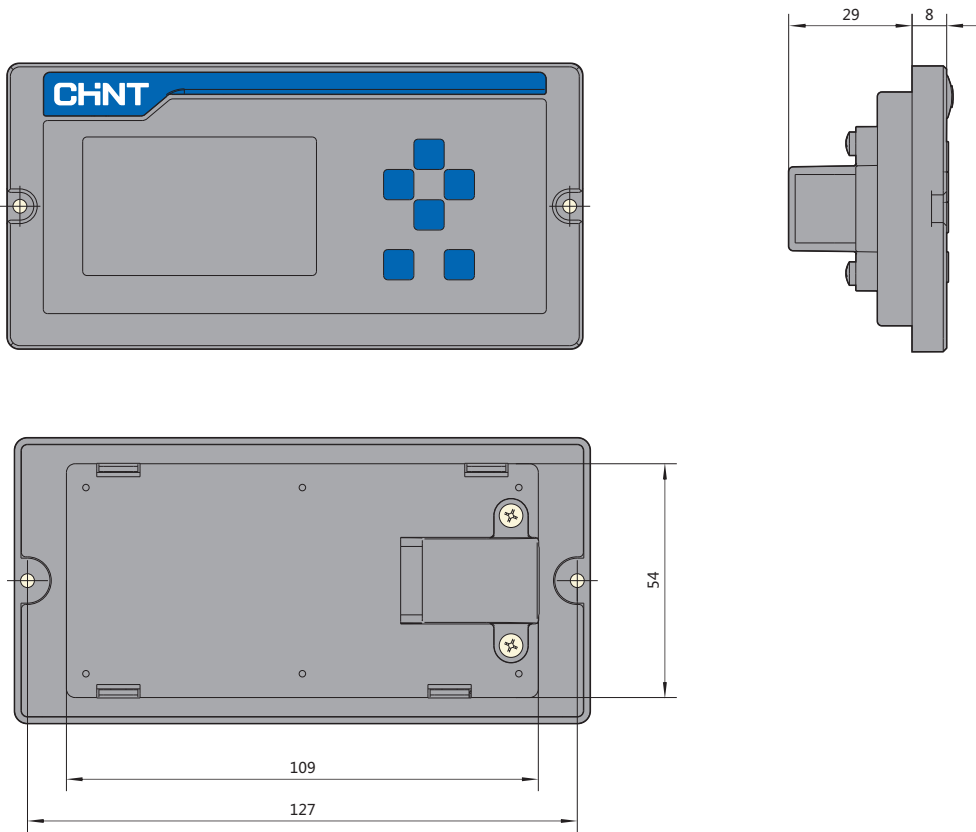
Product code	C	M	d
NXZ-125	229.5	113	4.5
NXZ-250	275	152	6
NXZ-630	400	240	9

NXZ Series Automatic Transfer Switching Equipment

Overall and installation dimension

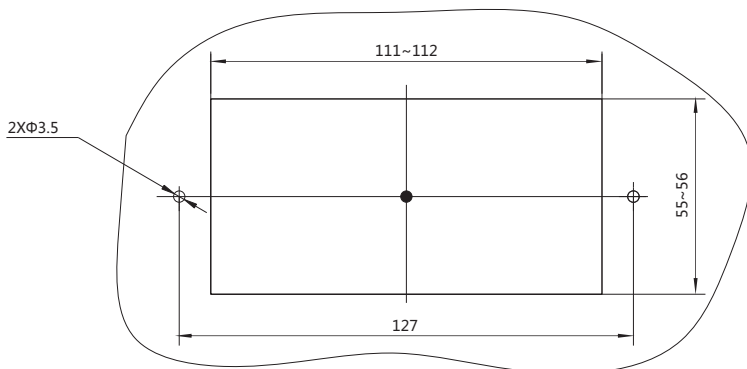
Overall dimension of split type module (unit: mm)

Figure 14



Size of the installation cabinet of split type module (unit: mm)

Figure 15



NXZ(H)B、NXZ(H)M Series ATS

Introduction

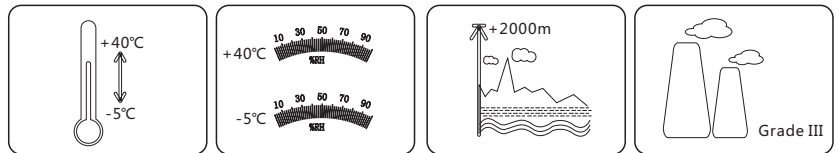
Scope of application

- NXZ(H)B/NXZ(H)M Series Automatic Transfer Switching Equipment is applicable to three-phase four-wire duplicate supply grid of AC 50/60Hz, rated voltage 400V/415V and below, rated current 800A, and can switch one or several load circuits from one power source to the other to ensure the normal power supply of the load circuit.
- This product is applicable to industrial and commercial power use places, high-rise buildings, and residential houses.

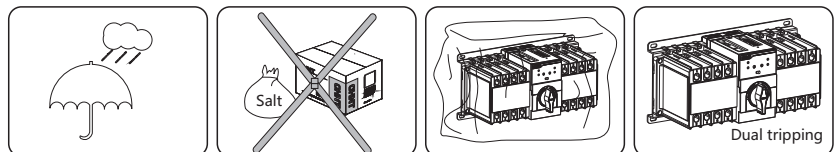
Applicable standards

- Product standard
IEC 60947-1.
IEC 60947-6-1.
- Standards for use in extreme environment
IEC 60068-2-1. (Low Temperature)
IEC 60068-2-2. (High Temperature)
IEC 60068-2-30. (Cyclic Damp Heat)
IEC 60068-2-11. (Salt mist)

Normal working conditions



- Ambient temperature
-5°C~+40°C; Users can custom-tailor relevant product to be used in the environment of -25°C~+70°C, and use the product according to the temperature compensation table.
- Sea level elevation
Equal to 2000m or below; if it needs to work above 2000m altitude, it shall be used according to the table of capacity reduction of different altitudes.
- Atmospheric conditions
The relative humidity shall not exceed 50% when the surrounding air temperature is +40°C; the relative humidity can be higher when the temperature is lower; the average monthly maximum relative humidity in the wettest month is 90%, and the average monthly minimum temperature shall be +20°C. Special measures may be necessary in cases of occasional condensation due to variations in temperature.
- Pollution degree: class 3



- Installation category
Installation category of the switching equipment of main circuit is category IV.
Installation category of auxiliary circuit is category III.
Installation category of conversion controller is category II.
- Utilization category:
NXZB: AC-33iB
NXZ (H) B: AC-33B
NXZ (H) M: AC-33B
- Electromagnetic compatibility (EMC)
Electrostatic discharge (IEC 61000-4-2) Level 2
Radio-frequency electromagnetic field-radiated electromagnetic field immunity (IEC 61000-4-3) Level 3,
Fast transient bursts (IEC 61000-4-4) Level 3,
Surges (IEC 61000-4-5) Level 3,
Radio-frequency electromagnetic field-conducted immunity (IEC 61000-4-6) Level 3,
Radiation grade (CISPR11) grade B,



NXZ(H)B、 NXZ(H)M Series ATS

Model definition and description

NXZB-63 (Class CB)									
NXZB	-	63	H	/	4	A	T	C	63
Product code		Frame current code	Breaking capacity code		Pole	Controller code	Function code	Tripping type code	Rated current code
NXZB: series automatic transfer switching equipment		63A	S : 6kA H : 10kA		3: 3 poles 4: 4 poles	A: standard type C: intelligent type	Empty: no communication function T: communication function	C: C type D: D type	10A、 16A、 20A、 25A、 32A、 40A、 50A、 63A

Type selection example:

NXZB-63H/4C 63: To order a class CB automatic transfer switching equipment, the frame current is 63A, number of poles is 4P, the breaking capability is 10kA, rated current is 63A, the tripping type is C type, with an intelligent controller (C type).

NXZM (Class CB)								
NXZM	-	250	H	/	4	A	2	160A
Product code		Frame current code	Breaking capacity code		Pole	Controller code	Function code	Rated current code
NXZM: automatic transfer switching equipment		63A、 125A、 160A、 250A、 320A、 400A、 630A、 800A	S: standard H: higher		3: 3 poles 4: 4 poles	A: standard type B: intelligent type	Empty: power distribution protection 2: generator protection	10A~800A

Type selection example:

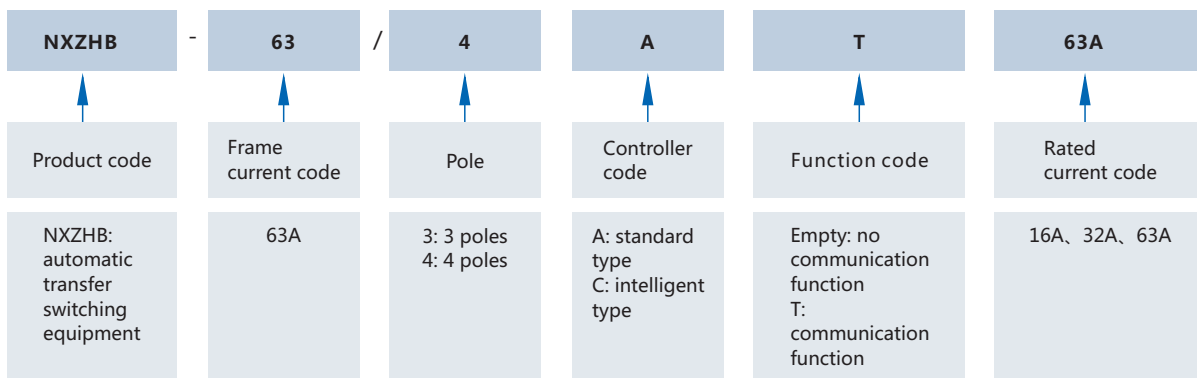
NXZM-250H/4A 160A: To order a class CB automatic transfer switching equipment, the frame current is 250A, number of poles is 4P, H breaking capability, rated current is 160A, with a standard controller (A type) and generator protection.

Comparison Table of Frame Current and Rated Current

Rated current (A)	10	16	25	32	40	50	63	80	100	125	160	180	200	225	250	315	320	350	400	500	630	700	800	
63	■	■	■	■	■	■	■																	
125							■	■	■	■														
160										■	■													
250											■	■	■	■	■									
320															■		■							
400															■	■		■	■					
630																			■	■	■			
800																					■	■	■	

NXZ(H)B、NXZ(H)M Series ATS

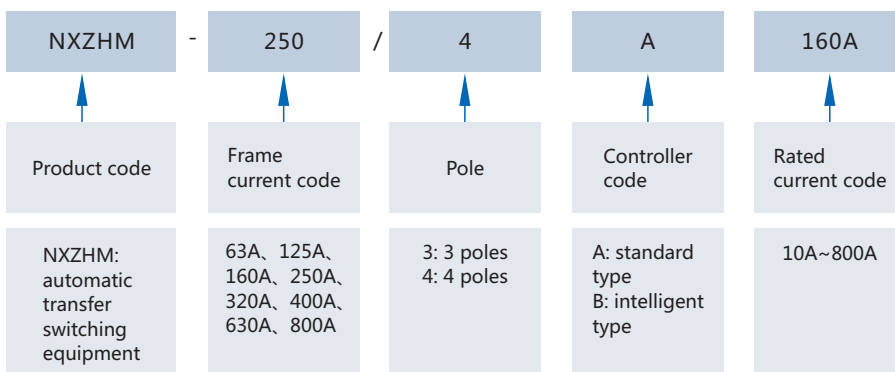
NXZHB-63 (Class PC)



Type selection example:

NXZHB-63/4A 63A: To order a PC grade automatic transfer switching equipment, the frame current is 63A, number of poles is 4P, rated current is 63A, with a standard controller (A type).

NXZHM (Class PC)



Type selection example:

NXZHM-250/4A 250A: To order a PC grade automatic transfer switching equipment, the frame current is 250A, number of poles is 4P, rated current is 250A, with a standard controller (A type)

Comparison Table of Frame Current and Rated Current

Rated current (A)	10	16	25	32	40	50	63	80	100	125	160	180	200	225	250	315	320	350	400	500	630	700	800	
63		■	■	■	■	■	■																	
125							■	■	■	■														
160										■	■													
250											■	■	■	■	■									
320															■		■							
400															■	■		■	■					
630																			■	■	■			
800																					■	■	■	■

NXZ(H)B、NXZ(H)M Series ATS

Functions and characteristics

Technical parameters of NXZB-63 (class CB)

Model	NXZB-63S	NXZB-63H
Electrical characteristics		
Execution body	NXB-63	NXB-63H
Frame current (A)	63	63
Rated current (A)	10, 16, 20, 25, 32, 40, 50, 63	10, 16, 20, 25, 32, 40, 50, 63
Rated operational voltage Ue (V)	400	400
Rated insulation voltage Ui (V)	500	500
Rated impulse voltage Uimp (kV)	4	4
Utilization category	AC-33iB	AC-33iB
Number of poles	3P, 4P	3P, 4P
Rated short-circuit making capacity Icm (kA)	9	17
Rated short-circuit breaking capacity Icn (kA)	6	10
Tripping curve type	C, D	C, D
Mechanical endurance (times)	10000	10000
Electrical endurance (times)	3000	3000
Controller characteristics		
Controller model	A type (standard), C type (intelligent)	
Operating transfer time (s)	1.4 × (1±10%)	
Controller installation mode	Built in	
Rated control power source voltage Us(V)	230 50Hz	
Control voltage range	85%Ue~110%Ue	

Technical parameters of NXZM (class CB)

Model	NXZM-63	NXZM-125	NXZM-160	NXZM-250	NXZM-320	NXZM-400	NXZM-630	NXZM-800
Electrical characteristics								
Execution body	NXM-63	NXM-125	NXM-160	NXM-250	NXM-320	NXM-400	NXM-630	NXM-800
Frame current (A)	63	125	160	250	320	400	630	800
Rated current (A)	10, 16, 25, 32, 40, 50, 63	63, 80, 100, 125	125, 160	160, 180, 200, 225, 250	160, 180, 200, 225, 250, 320	250, 315, 350, 400	400, 500, 630	630, 700, 800
Rated operational voltage Ue (V)	400/415 50Hz							
Rated insulation voltage Ui (V)	AC800	AC800	AC800	AC1000	AC1000	AC1000	AC1000	AC1000
Rated impulse voltage Uimp (kV)	8						12	
Use type	AC-33B							
Number of poles	3P, 4P							
Rated short-circuit making capacity Icm (kA)	S : 52.5 H : 105	S : 52.5 H : 105	S : 73.5 H : 105	S : 73.5 H : 105	S : 73.5 H : 105	S : 105 H : 143	S : 105 H : 143	S : 105 H : 165
Rated short-circuit breaking capacity Icn (kA)	S : 25 H : 50	S : 25 H : 50	S : 35 H : 50	S : 35 H : 50	S : 35 H : 50	S : 50 H : 65	S : 50 H : 65	S : 50 H : 75
Mechanical endurance (times)	10000	10000	8000	6000	6000	4000	4000	4000
Electrical endurance (times)	2000	2000	2000	2000	2000	1500	1500	1000
Controller characteristics								
Controller model	A type (standard), B type (intelligent)							
Operating transfer (s)	2.8 × (1±10%)	2.8 × (1±10%)	3.3 × (1±10%)	3.3 × (1±10%)	3.3 × (1±10%)	3.5 × (1±10%)	3.5 × (1±10%)	4 × (1±10%)
Installation mode	Integrated, split							
Rated control power source voltage Ue(V)	230/240 50Hz							
Control voltage range	85%~110%Ue							

NXZ(H)B、NXZ(H)M Series ATS

Technical parameters of NXZHB-63 (class PC)

Model	NXZHB-63
Electrical characteristics	
Frame current (A)	63
Rated current (A)	16, 32, 63A
Rated operational voltage Ue (V)	400
Rated insulation voltage Ui (V)	500
Rated impulse voltage Uimp (kV)	4
Utilization category	AC-33B
Number of poles	3P、4P
Rated conditional short-circuit current Iq (kA)	100
Mechanical endurance (times)	10000
Electrical endurance (times)	1500
Controller characteristics	
Controller model	A type (standard), C type (intelligent)
Operating transfer (s)	1.4× (1±10%)
Controller installation mode	Built in
Rated control power source voltage Ue(V)	230 50Hz
Control voltage range	85%Ue~110%Ue

Technical parameters of NXZHM (class PC)

Model	NXZHM-63	NXZHM-125	NXZHM-160	NXZHM-250	NXZHM-320	NXZHM-400	NXZHM-630	NXZHM-800
Electrical characteristics								
Execution body	NXHM-63	NXHM-125	NXHM-160	NXHM-250	NXHM-320	NXHM-400	NXHM-630	NXHM-800
Frame current (A)	63	125	160	250	320	400	630	800
Rated current (A)	10, 16, 25, 32, 40, 50, 63	63, 80, 100, 125	125, 160	160, 180, 200, 225, 250	160, 180, 200, 225, 250, 320	250, 315, 350, 400	400, 500, 630	630, 700, 800
Rated operational voltage Ue (V)	400/415 50Hz							
Rated insulation voltage Ui (V)	AC800	AC800	AC800	AC1000	AC1000	AC1000	AC1000	AC1000
Rated impulse voltage Uimp (kV)	8					12		
Utilization category	AC-33B							
Number of poles	3P、4P	3P、4P	3P、4P	3P、4P	3P、4P	3P、4P	3P、4P	3P、4P
Rated conditional short-circuit current Iq (kA)	100	100	100	100	100	100	100	100
Mechanical endurance (times)	10000	10000	8000	6000	6000	4000	4000	4000
Electrical endurance (times)	2000	2000	2000	2000	2000	1500	1500	1000
Controller characteristics								
Controller model	A type (standard), B type (intelligent)							
Operating transfer (s)	2.8 × (1±10%)	2.8 × (1±10%)	3.3 × (1±10%)	3.3 × (1±10%)	3.3 × (1±10%)	3.5 × (1±10%)	3.5 × (1±10%)	4 × (1±10%)
Installation mode	Integrated, split							
Rated control power source voltage Us(V)	230/240 50Hz							
Control voltage range	85%~110%Ue							

NXZ(H)B、NXZ(H)M Series ATS

Functions and characteristics

Functional parameters of NXZ (H) B controller

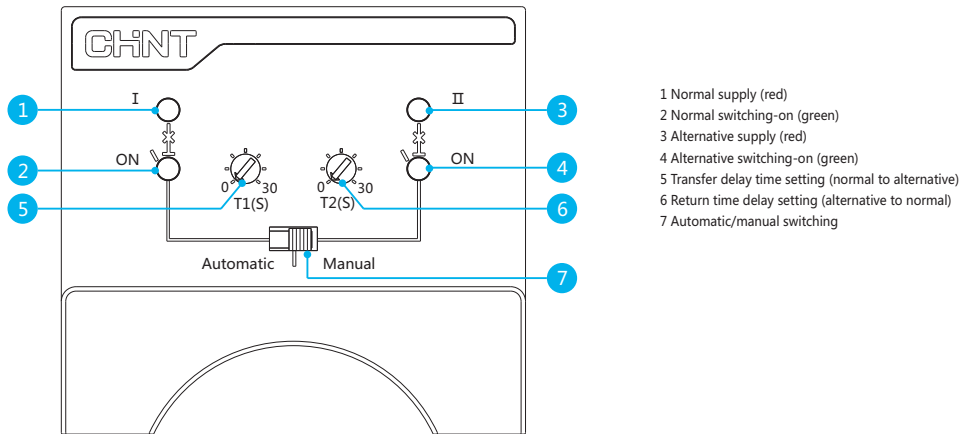
Function	Model	A type (standard)	C型 (智能型)
Manual/automatic transfer		■	■
Main contact positions			
Normal position		■	■
Alternative position		■	■
Off-position		■	■
Automatic control			
Normal supply of monitoring		■ Phase failure/loss of voltage, undervoltage, overvoltage fault	■ Phase failure/loss of voltage, undervoltage, overvoltage fault
Alternative supply of monitoring		■ Phase failure/loss of voltage, undervoltage, overvoltage fault	■ Phase failure/loss of voltage, undervoltage, overvoltage fault
Automatically transfer and restore operation		■	■
Grid-grid		■	■
Phase failure/loss of voltage transfer		■	■
Undervoltage transfer		■	■
Delay adjustable		■	■
Transfer delay		0s~30s adjustable	0s~30s adjustable
Return delay		0s~30s adjustable	0s~30s adjustable
Generator control		-	Optional
Fire control linkage		■	■
Fire control feedback		■	■
Indication			
Switching-on/switching-off/dual tripping indication		■	■
Normal/alternative supply indication		■	■
Parameter setting indication			
Others			
Communication function		Optional	Optional

Table of main functional parameters of NXZ (H) M controller

Function	Model	A type (standard)	B type (intelligent)
Manual/automatic transfer		■	■
Main contact positions			
Normal position		■	■
Alternative position		■	■
Off-position		■	■
Automatic control			
Normal supply of monitoring		■ Phase failure/loss of voltage, undervoltage, overvoltage fault	■ Phase failure/loss of voltage, undervoltage, overvoltage fault
Alternative supply of monitoring		■ Phase failure/loss of voltage, undervoltage, overvoltage fault	■ Phase failure/loss of voltage, undervoltage, overvoltage fault
Automatically transfer and restore operation		■	■
Automatically transfer and nonautomatically restore operation		■	■
Grid-grid		■	■
Grid-generator		-	-
Phase failure/loss of voltage transfer		■	■
Undervoltage transfer		■	■
Overvoltage transfer		■	■
Delay adjustable		■	■
Transfer delay		0s~180s adjustable	0s~180s adjustable
Return delay		0s~180s adjustable	0s~180s adjustable
Generator control		-	■
Fire control linkage		■	■
Fire control feedback		■	■
Indication			
Switching-on/switching-off/off-position		■	■
Normal/alternative supply indication		■	■
Parameter setting indication		■	■
Fault tripping indication		■	■
Others			
Communication function		Optional	Optional
Display module		■ LED	■ LED

Functional description of NXZ (H) B

Figure 1



- 1 Normal supply (red)
- 2 Normal switching-on (green)
- 3 Alternative supply (red)
- 4 Alternative switching-on (green)
- 5 Transfer delay time setting (normal to alternative)
- 6 Return time delay setting (alternative to normal)
- 7 Automatic/manual switching

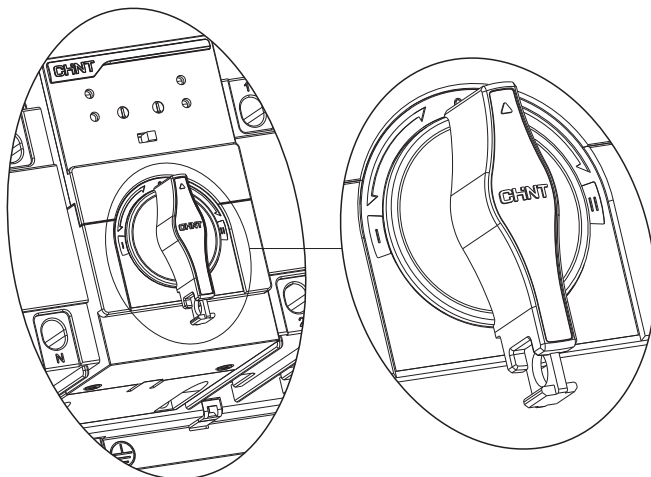
Indicator light information

Product status	①	②	③	④
Normal supply normal	Normal on			
Normal circuit breaker switched on	Normal on			
Alternative supply normal	Normal on			
Alternative breaker switched on	Normal on			
Transfer delay	Flash			
Return delay	Flash			
Normal circuit breaker tripped	Flash	Flash		
Alternative breaker tripped			Flash	Flash
Product transfer fault	Flash		Flash	Flash
Fire control linkage		Flash		Flash

Lock system

- During line repair or fault-based maintenance, put the product on off-position, and then pull out the locking system of the handle, then lock it. The lock hole diameter is $\Phi 5.5$.

Figure 2



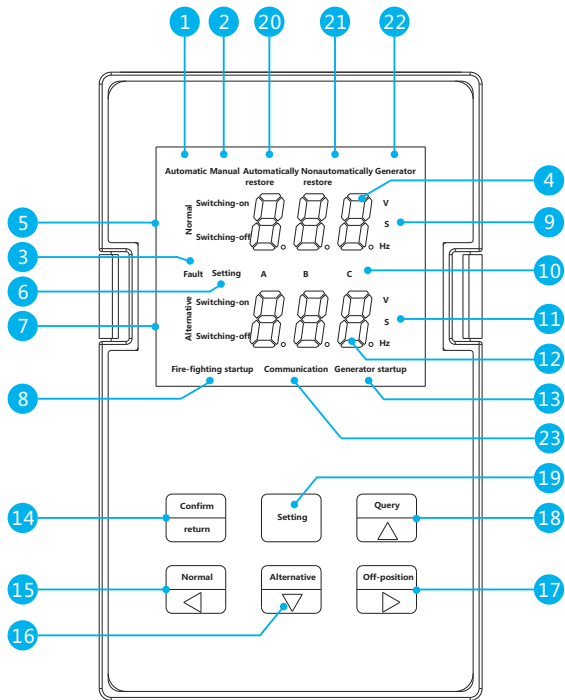
NXZ(H)B、NXZ(H)M Series ATS

Functions and characteristics

Functional description of NXZ (H) M

Operation interface of the display module of controller

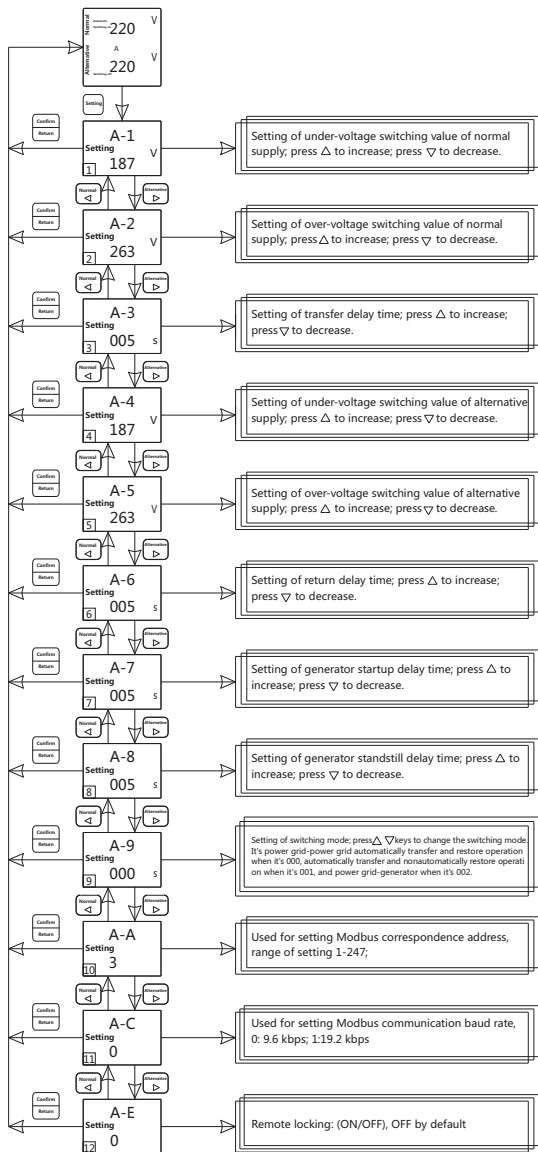
Figure 3



- 1 Indication of automatic operation mode;
- 2 Indication of manual operation mode;
- 3 Fault indication: This light will be on when switch fault or breaker tripping caused by load short circuit (class PC controller doesn't have such function);
- 4 The display area of voltage parameters of normal supply shows the voltage parameters of normal supply and the transfer delay time during working, and shows the symbol in setting mode;
- 5 Indication of switching-on, switching-off for the normal supply; when normal supply is failure, indicator light of "normal" flash;
- 6 Setting status indication;
- 7 Indication of switching-on, switching-off for the alternative supply; when alternative is failure, indicator light of "alternative" flash;
- 8 Indication of startup of fire control linkage;
- 9 Voltage, time, and frequency unit for the normal supply ;
- 10 A, B, C phase;
- 11 Voltage, time, and frequency unit for the alternative supply;
- 12 The display area of voltage parameters of alternative supply shows the voltage parameters of alternative supply and the transfer delay time during working, and shows the symbol in setting mode;
- 13 Indication of generator startup;
- 14 Confirm/return button: It means saving and exit in setting mode; It means returning to the normal working state in fire control linkage mode;
- 15 Normal supply switching button: On the manual control mode, if the normal supply is normal, press this button to compulsorily switch to normal supply; On setting mode, this button is used for paging up;
- 16 Alternative supply switching button: On the manual control mode, if the alternative supply is normal, press this button to compulsorily switch to alternative supply; On setting mode, this button is used for paging down;
- 17 Trip button: On the manual control mode, if any one of the two power sources is normal, press this button to switch to the switching-off position; On setting mode, this button is used to decrease value in parameter setting;
- 18 Fault query button: when there is fault indication on the display screen, press this button to query the fault code ; On setting state, this button is used to increase value in parameter setting;
- 19 Setting button: press this button to enter the parameter setting menu of the controller;
- 20 Indication of automatically transfer and restore operation mode;
- 21 Indication of automatically transfer and nonautomatically restore operation mode;
- 22 Indication of generator (automatically transfer and restore operation);
- 23 Indication of communication state.

Parameter setting of the display module of controller

Figure 4



Operation interface for parameter setting of controller

- 1 Setting of under-voltage switching value: Default to 187V ;user-settable 160V-200V;
- 2 Setting of over-voltage switching value: Default to 263V ; user-settable 240V-290V;
- 3 Transfer delay setting: Default to 5s; user-settable 0s-180s;
- 4 Return delay setting: Default to 5s; user-settable 0s-180s;
- 5 Generator startup delay setting: Default to 5s; user-settable 0s-180s;
- 6 Generator standstill delay setting: Default to 5s; user-settable 0s-180s;

■ Note of buttons:

Pressure setup key when the controller is working, and the screen shows the parameter setting menu. Press " \triangleleft " " \triangleright " in the setting menu to turn up or down.

Press "Confirm/return" key to exit from menu setting; press " ∇ " " Δ " to revise parameter.

NXZ(H)B、NXZ(H)M Series ATS

Mode of connection of the main part and controller

Mode of connection of NXZB and NXZHB

● Product wiring

The incoming line is connected from the top of product; the outgoing line is connected from the bottom of product; the product can be installed vertically or horizontally.

Wiring as follows. The power phase sequence shall be correct; in particular, N pole shall not be wrongly connected.

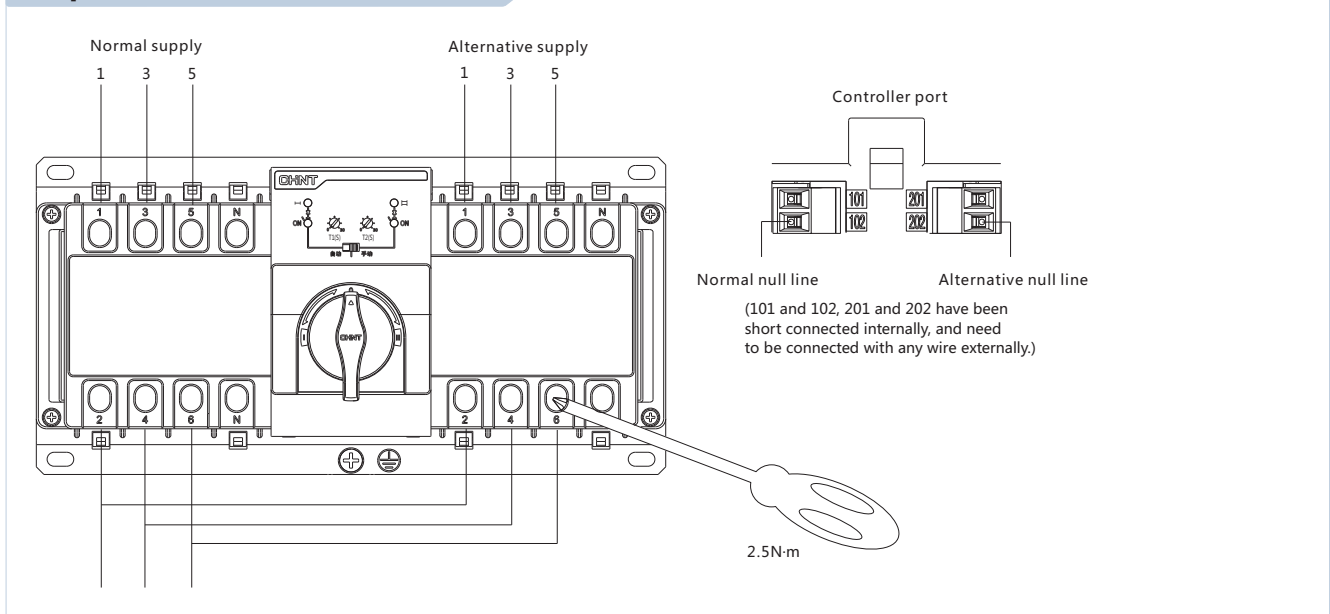
The connecting wire (electric cable) adopts single core Polyvinyl chloride (PVC) insulated conductor or copper bar of the equivalent effect. Advice as follows:

Cross-sectional area of copper conductor

Safe ampacity (A)	20	25	32	40	50	63
Cross-sectional area of copper conductor (mm ²)	2.5	4	6	10	10	16

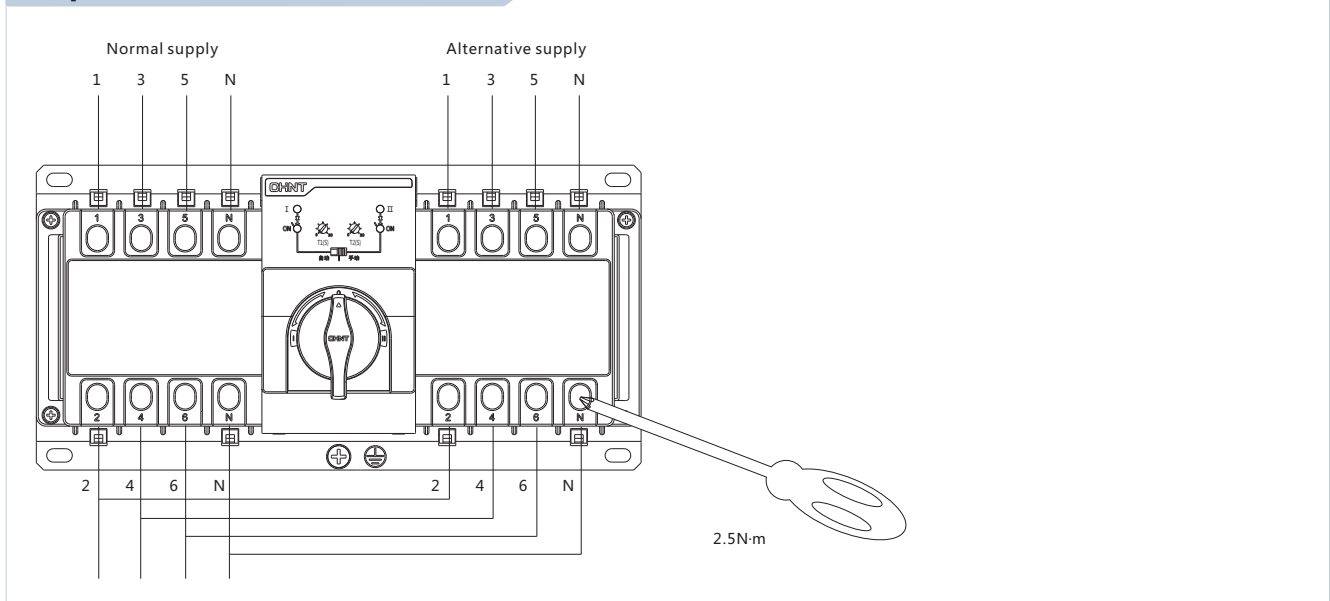
3P product

Figure 5



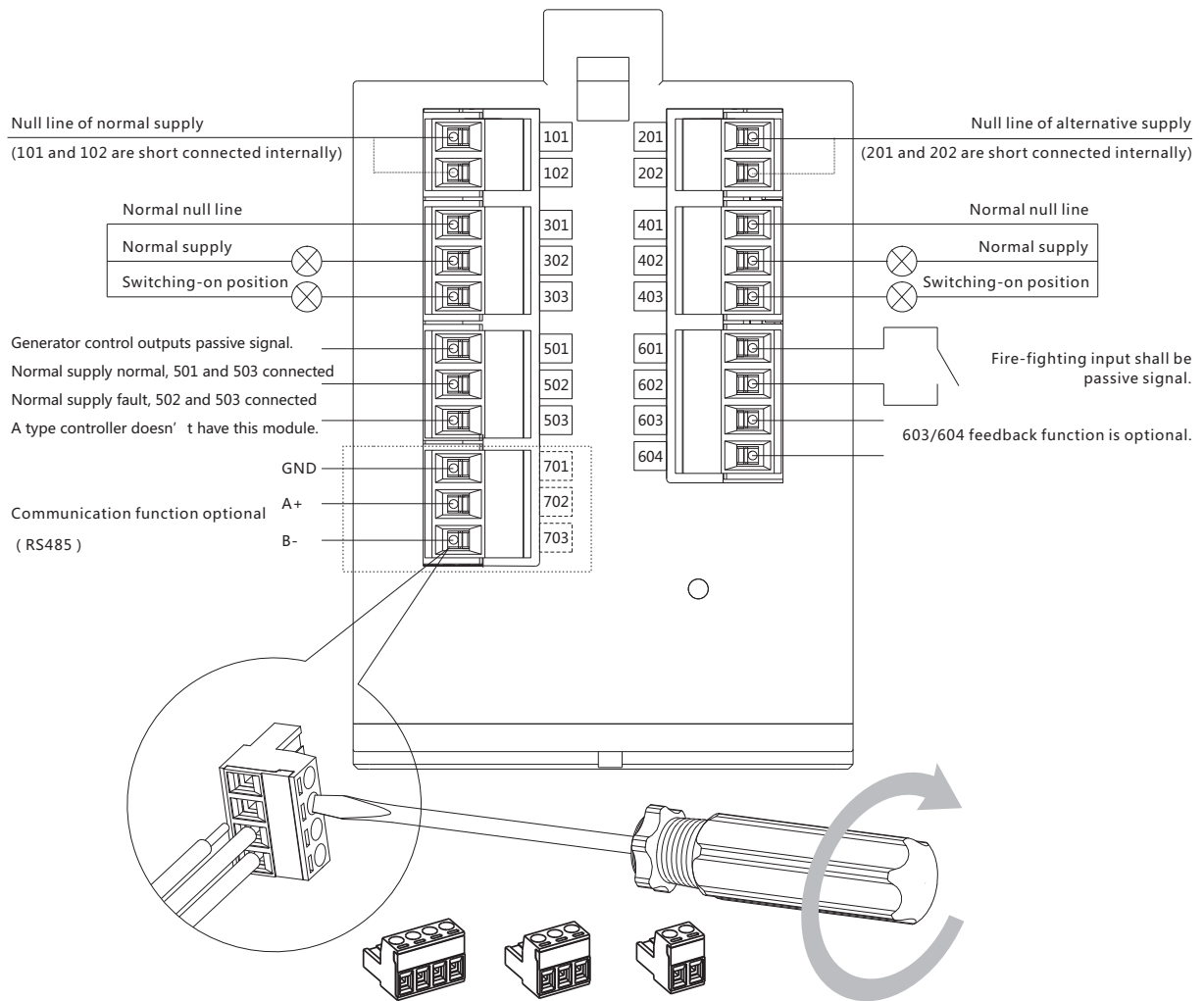
4P product

Figure 6



Signal and control terminal wiring

Figure 7



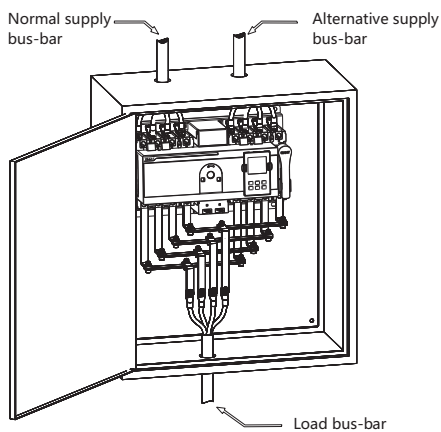
NXZ(H)B、NXZ(H)M Series ATS

Mode of connection of the main part and controller

Mode of connection of NXZM and NXZHM

- Product incoming line mode: incoming line at the top of product; outgoing line at the bottom of product
- Installation mode: vertically or horizontally

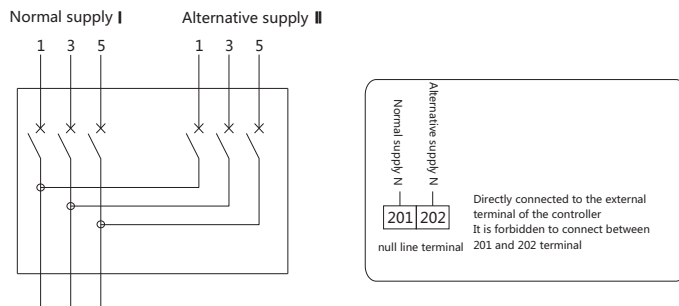
Figure 8



Product wiring

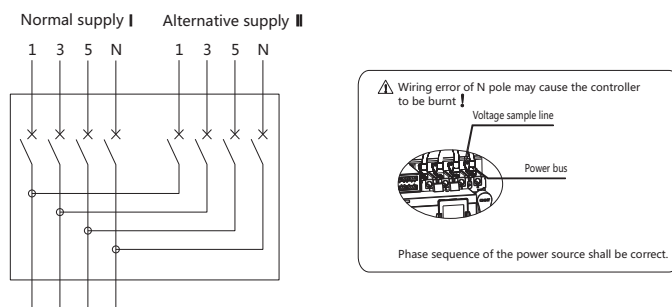
3P

Figure 9



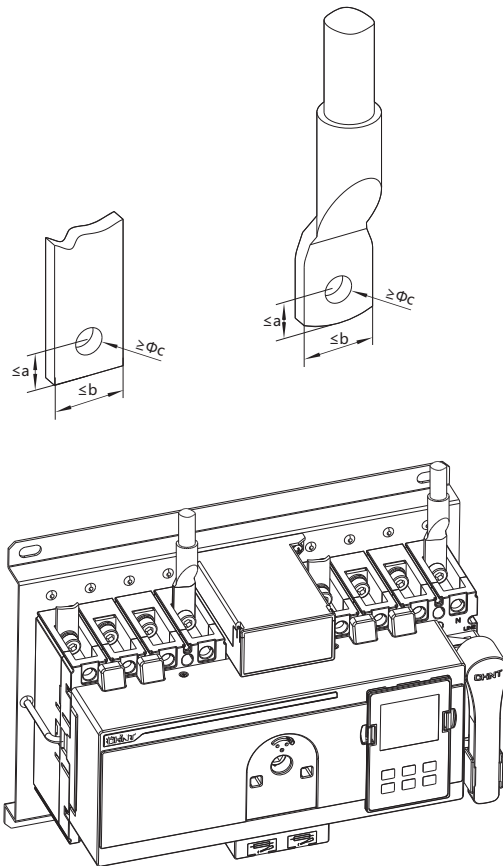
4P

Figure 10



Wire connection

Figure 11



Unit: mm

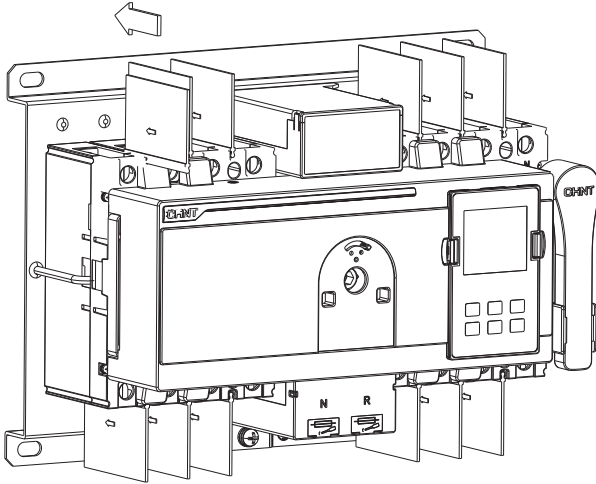
Product code	a	b	c
MXZ(H)M-63、125	6.5	14	5.5 ($\leq 63A$)
	7.5	17	6.5 ($> 63A$)
MXZ(H)M-160	7.5	14.5	8.5
MXZ(H)M-250、320	10	23	8.5
MXZ(H)M-400、630	10.5	30.5	10.5
MXZ(H)M-800	15	43	14

NXZ(H)B、 NXZ(H)M Series ATS

Mode of connection of the main part and controller

Installation of interphase barrier

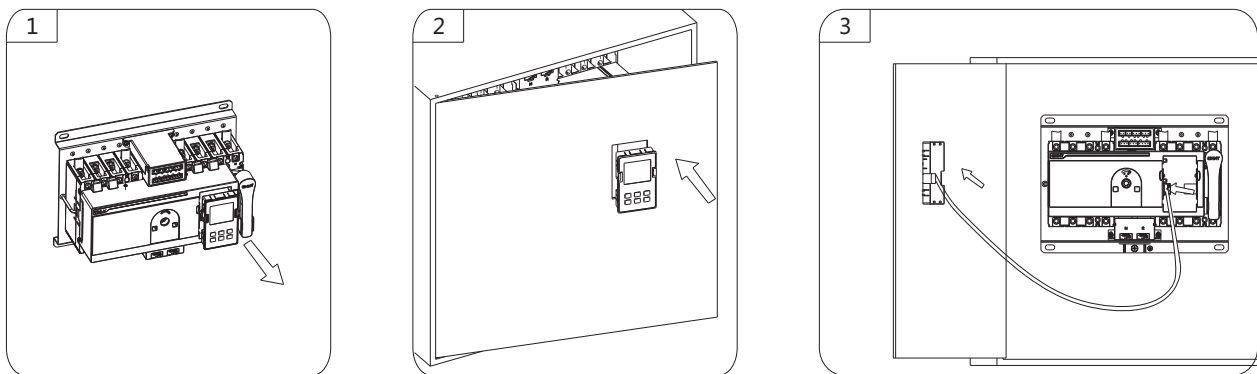
Figure 12



Note: The interphase barrier for NXZ(H)M-160 is preassembled before delivery.

Split type installation of the display module (cabinet door)

Figure 13



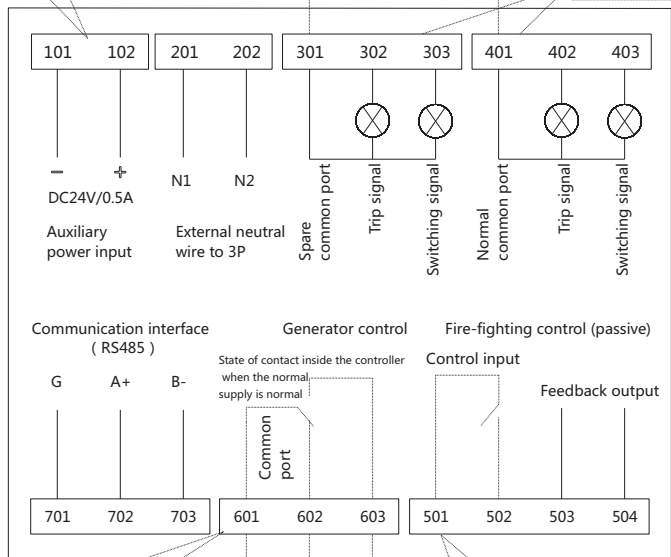
Signal and control terminal wiring

Figure 14

Only used in power grid-generator mode; If there is no connection, the generator startup delay automatically restores to 0s.

It is prohibited to connect between two pairs of terminals; otherwise, the controller will be burnt.

Note: The output is active AC230V/0.5A.



Only used in power grid-generator mode; connected with the generator based on required; when the normal supply is failure, 601 and 603 will be connected through.

connect to generator
The remote port

Terminals 501 and 502 can only be connected with passive signals; passive signals can be input after switchover by a relay. After fire-fighting is on off-position, terminals 503 and 504 will be connected.

For the automatic transfer switch under automatic operation state, after the fire-fighting signals are cancelled, the toggle switch shall be switched to "manual"; then press "confirm/return" to return to the normal state;

For the automatic transfer switch under the manual operation state, press "confirm/return" to return to the normal state.

Note: Type A controller has no fire-fighting feedback and generator control function.

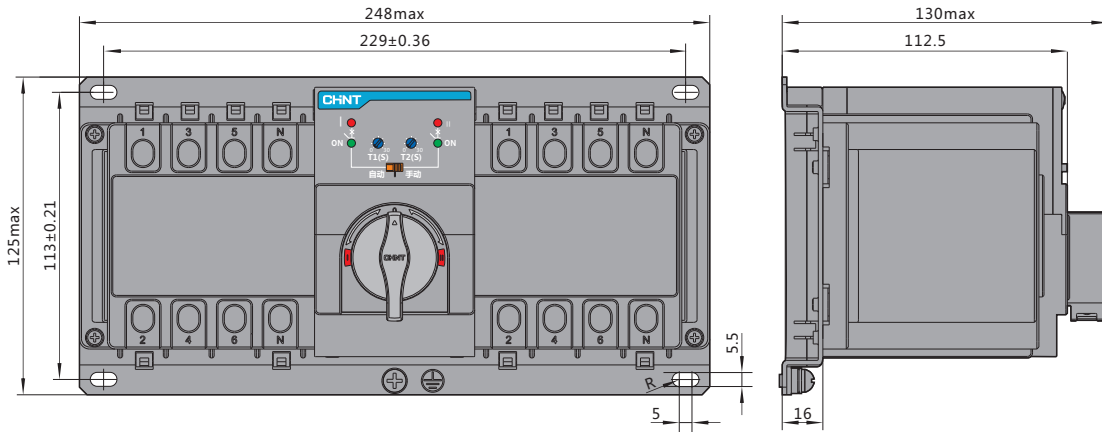
NXZ(H)B、NXZ(H)M Series ATS

Overall and installation dimension

Overall and installation dimension of NXZB and NXZHB

Overall and installation dimension
(the dimension of 3P product and 4P is the same)

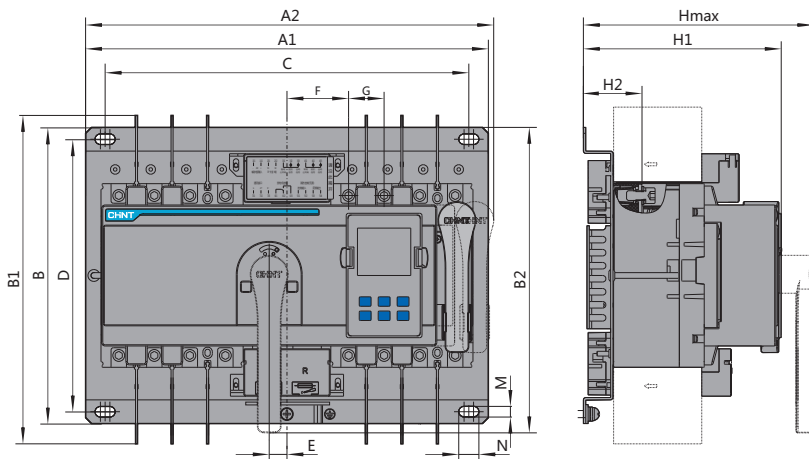
Figure 15



Overall and installation dimension of NXZM and NXZHM

Overall and installation dimension

Figure 16



Take 4p product as the example

Unit: mm

Product code	A1	A2	B	B1	B2	C	D	E		F		G	H		H1		H2		M	N
	4P	3P						4P	3P	S	H		S	H	S	H				
NXZ(H)M-63, 125	300	312	240	230	223	267	220	12.5	0	51.5	64	25	178	190	151	161	47	56	9	17
NXZ(H)M-160	340	345	250	245	240	307	230	15	0	52	67	30	167	195	152	180	50		9	17
NXZ(H)M-250, 320	390	393	250	367	240	357	230	17.5	0	60	77.5	35	181	216	155	190	49	50	9	17
NXZ(H)M-400, 630	535	540	334	464	342	475	304	24	0	84	108	44	234		198		66		11	26
NXZ(H)M-800	660	663	344	477	344	600	314	29	0	106	135	58	228		203		68		11	26

Note: the dimension H is only for reference.

Overall dimension of split type module (unit: mm)

Figure 17

