CHINT

Empower the World

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A CHINT COMPANY

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# Series Automatic Transfer Switching Equipment

CHINT ELECTRIC | Next series

# Series Automatic Transfer Switching Equipment

## NXZ Series Automatic Transfer Switching Equipment



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

# NXZ
# Series Automatic Transfer Switching Equipment

## 1. General

1.1 Scope of Application

1.1.1 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.

1.1.2 This product is applicable to industrial and commercial power use places, high-rise buildings, and residential houses.

1.2 Applicable standards

1.2.1 Product standard

IEC 60947-1.

IEC 60947-6-1.

1.2.2 Standards for use in extreme environment

IEC 60068-2-1. (Low Temperature)

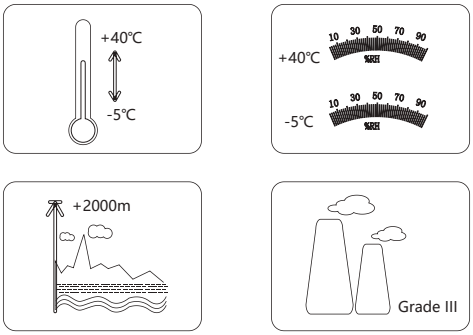
IEC 60068-2-2. (High Temperature)

IEC 60068-2-30. (Cyclic Damp Heat)

IEC 60068-2-11. (Salt mist)

1.2.3 Certification： CB、CE、KEMA

1.3 Normal working conditions




1.3.1 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.

1.3.2 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.

1.3.3 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.

1.3.4 Pollution degree: class 3

1.3.5 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.

1.3.6 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,

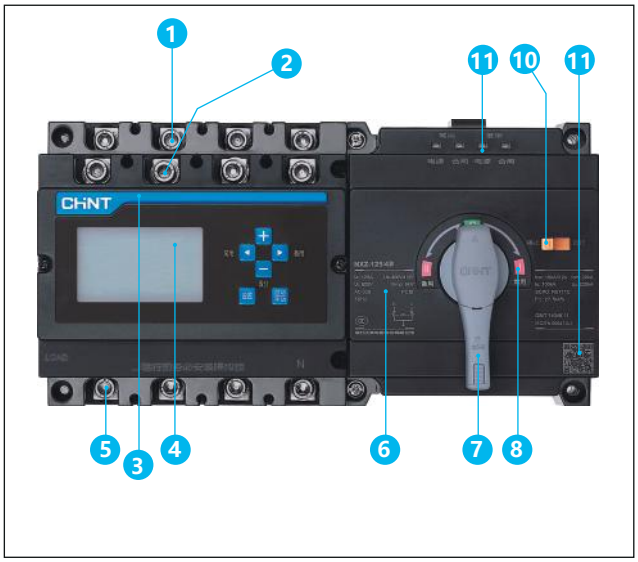
## 2. Model definition and description

NXZ – 125 / 4 A 100A

- 100A: Rated current code: 80A、100A、125A、160A、200A、250A、315A、320A、400A、500A、630A
- A: Controller code: A: standard type; B: intelligent type
- 4: Pole code: 3: 3 pole; 4: 4 pole
- 125: Frame current code: 125A, 250A, 630A
- NXZ: Product code: NXZ: series automatic transfer switching equipment (PC grade)

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.

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 |

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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 | ■ | ■ | ■ | | | | | | | | |
| | | | | | ■ | ■ | ■ | | | | | |
| | 630 | | | | | | | ■ | ■ | ■ | ■ | ■ |

### 3. 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 | | |

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 | ■ LED |

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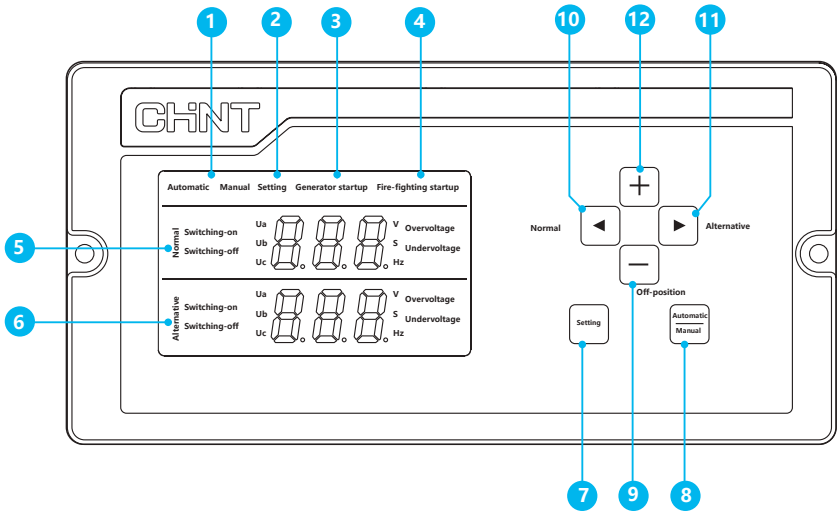
## 4. Functions and characteristics

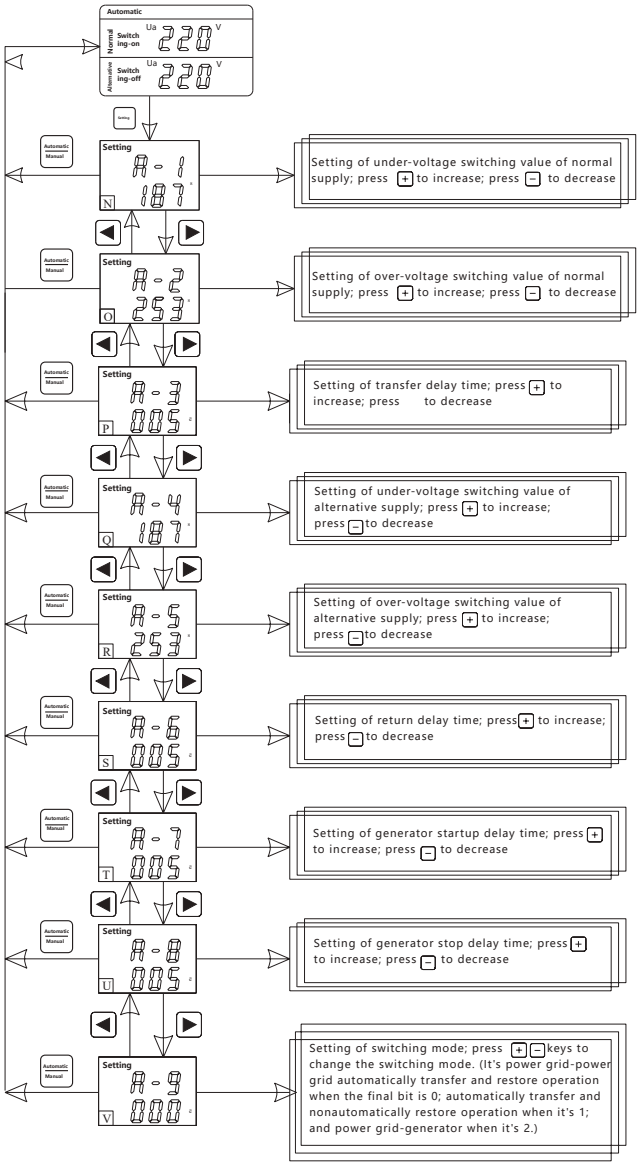
Operation interface of the display module of controller

**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.

Parameter setting of the display module of controller



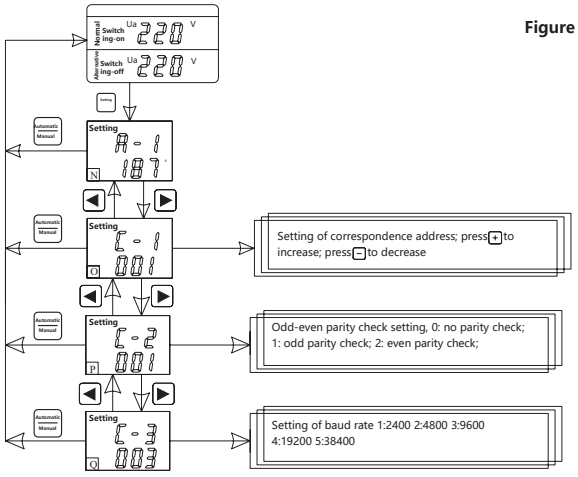




**Figure 2**

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)

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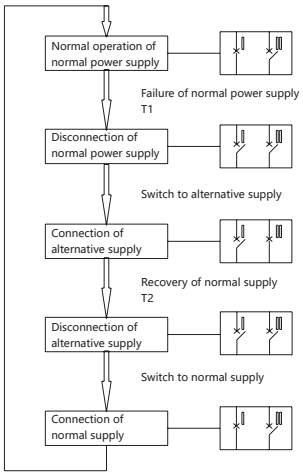
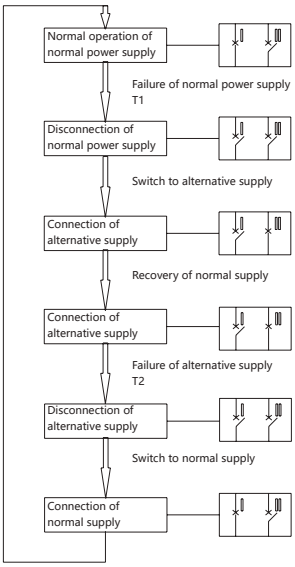
## 5. Functions and characteristics

**Controller action flow**

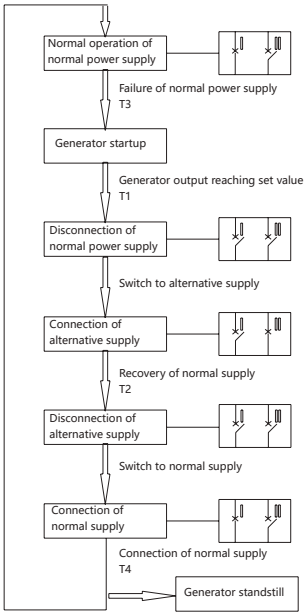
**Figure 3**




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



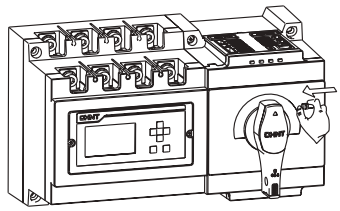

Automatically transfer and restore operation (power grid-generator) work flow diagram of controller

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

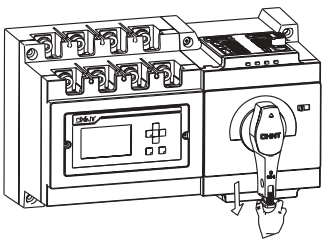
### Padlocking function

Padlock apertureΦ5~Φ8 (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.

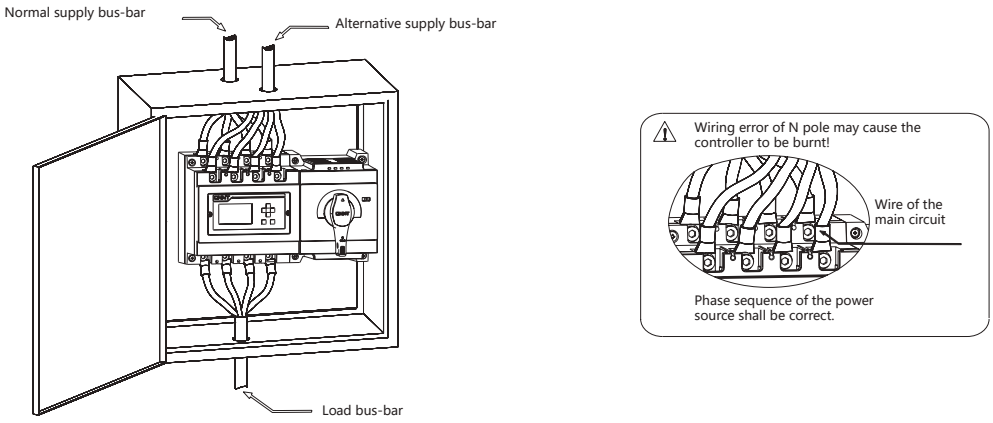
### Communication function

Modbus protocol; RS485 interface.

## 6. Mode of connection of the main part and controller

**Product incoming mode: upper incoming**

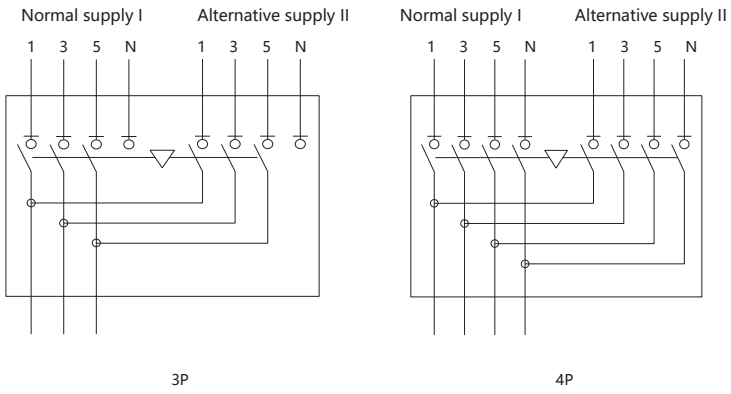
**Figure 5**




**Installation mode: vertical or horizontal**

Product wiring

**Figure 6**

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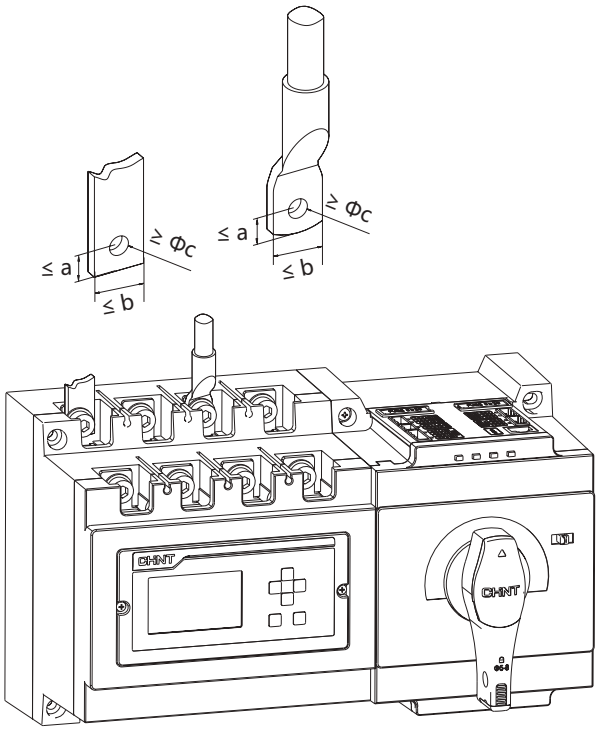
### 7. Mode of connection of the main part and controller

## Wire connection

**Figure 7**

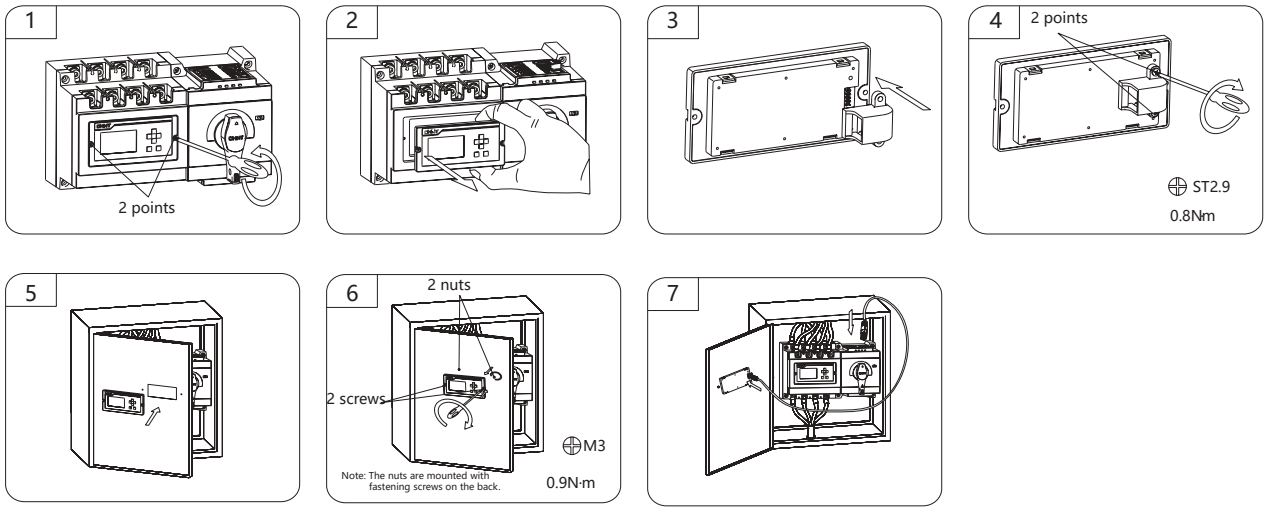



Unit: mm

| | 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)

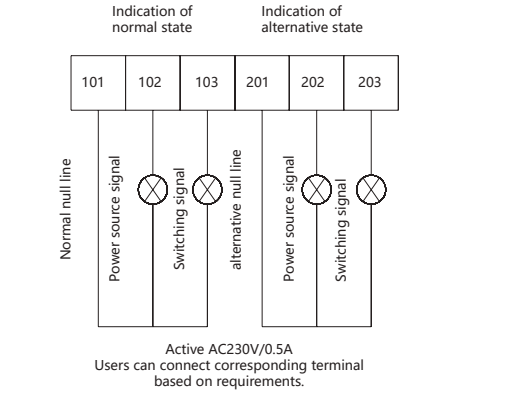
**Figure 8**

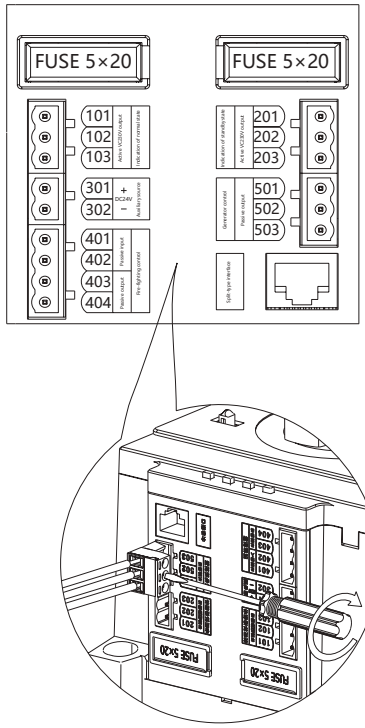


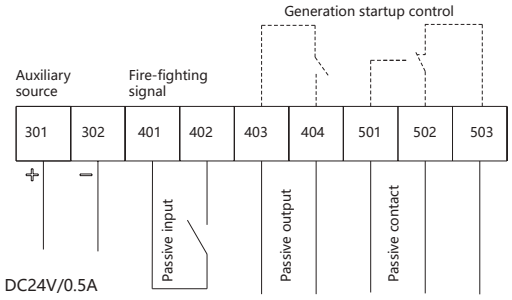
Wiring of signal and control terminal

## A type controller

**Figure 9**

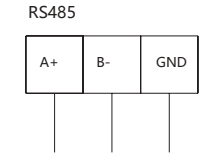


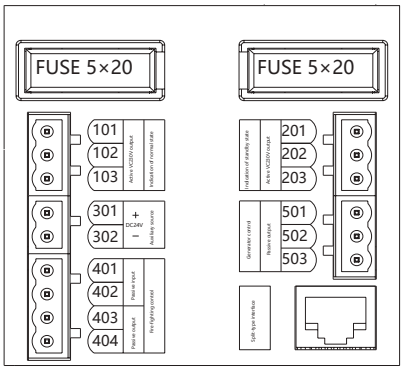




Note: the dotted line is the circuit inside the controller.

**Figure 10**



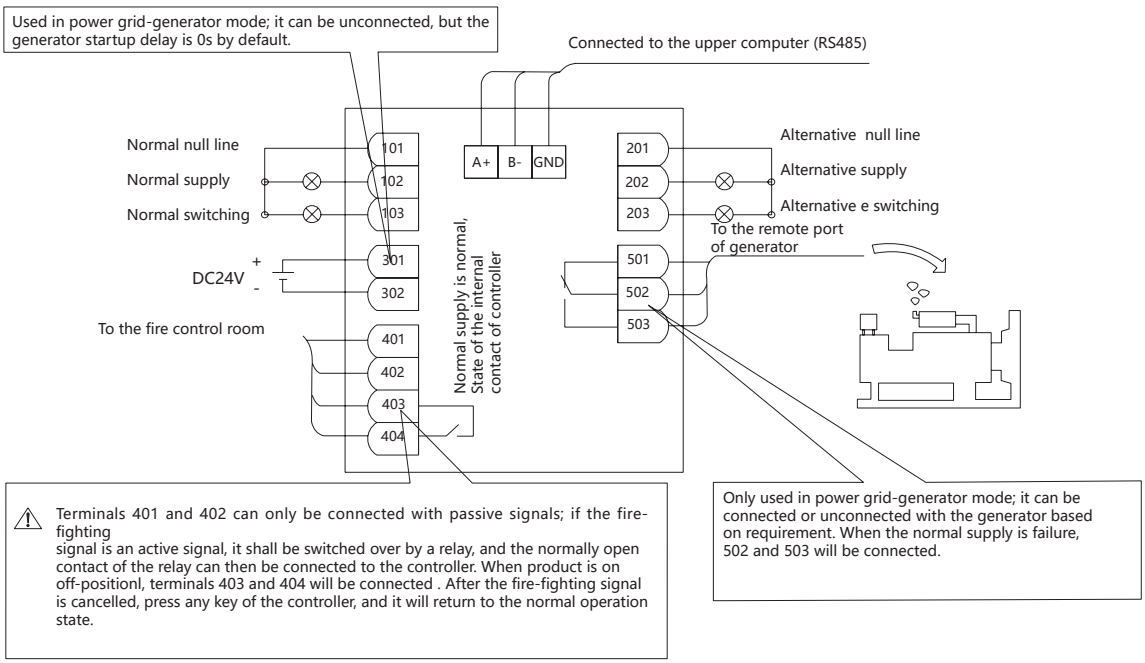

Note: The signal and controller terminal wiring of B type controller is same with A type controller, and B type controller has communication terminal wiring.



## 8. Mode of connection of the main part and controller

Typical application

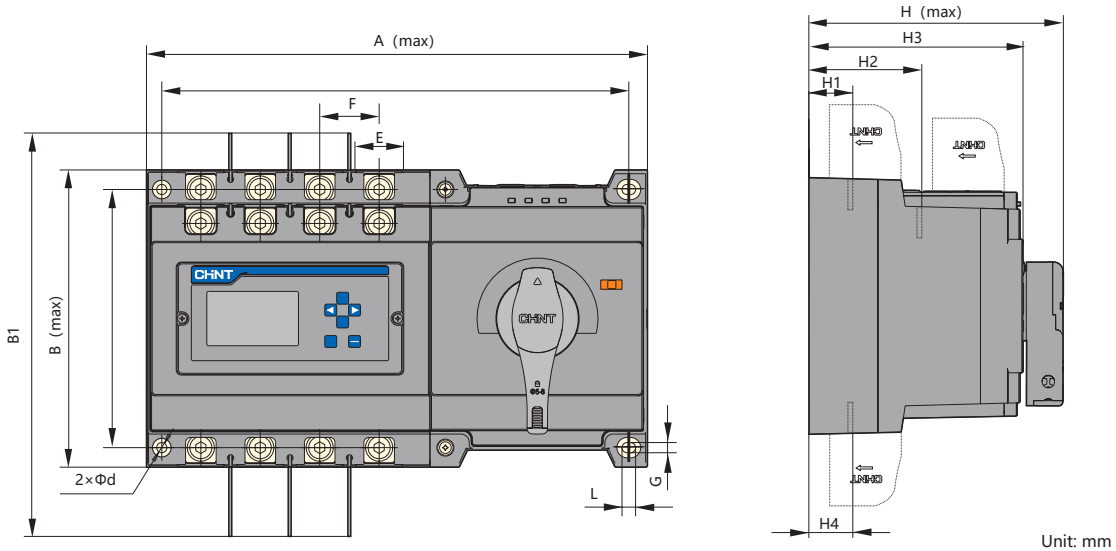
**Figure 11**



## 9. Overall and installation dimension

Product overall and installation dimension

Figure 12

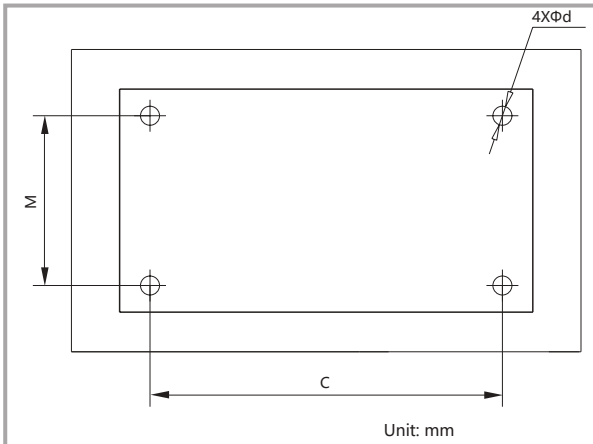



Unit: mm

| 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

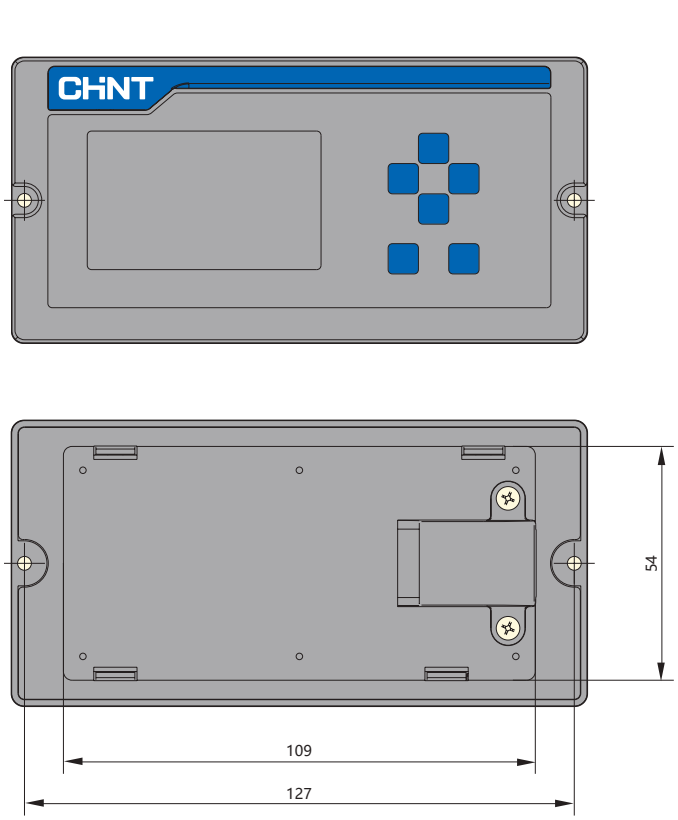
| Product code | C | M | D |
|---|---|---|---|
| NXZ-125 | 229.5 | 113 | 4.5 |
| NXZ-250 | 275 | 152 | 6 |
| NXZ-630 | 400 | 240 | 9 |

P

## 10. Overall and installation dimension

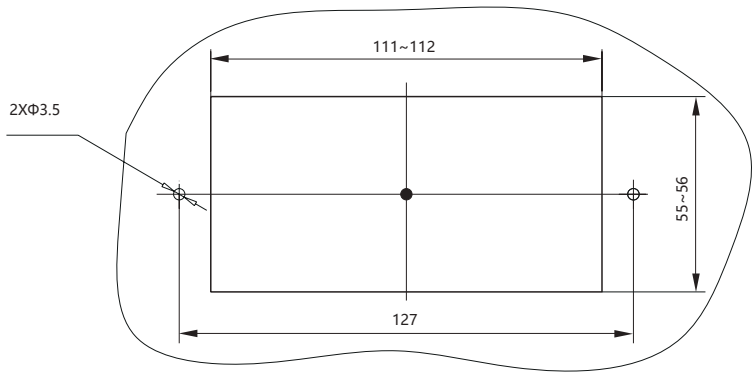
Overall dimension of split type module (unit: mm)

**Figure 14**




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

**Figure 15**



# NXZ(H)B、NXZ(H)M Series ATS

## 1. General

1.1 Scope of Application

1.1.1 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.

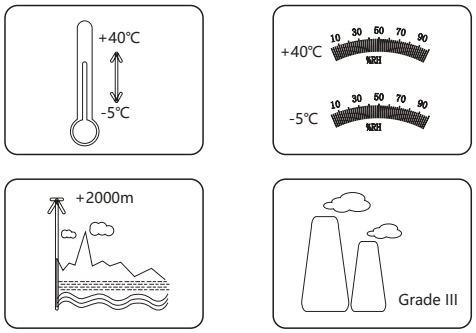
1.1.2 This product is applicable to industrial and commercial power use places, high-rise buildings, and residential houses.

1.2 Applicable standards

1.2.1 Product standard
IEC 60947-1.
IEC 60947-6-1.

1.2.2 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)

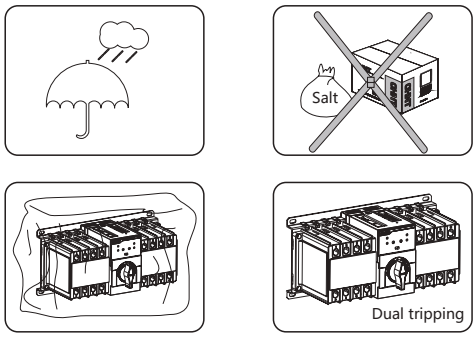
1.3 Normal working conditions




1.3.1 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.
1.3.2 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.

1.3.3 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.

1.3.4 Pollution degree: class 3



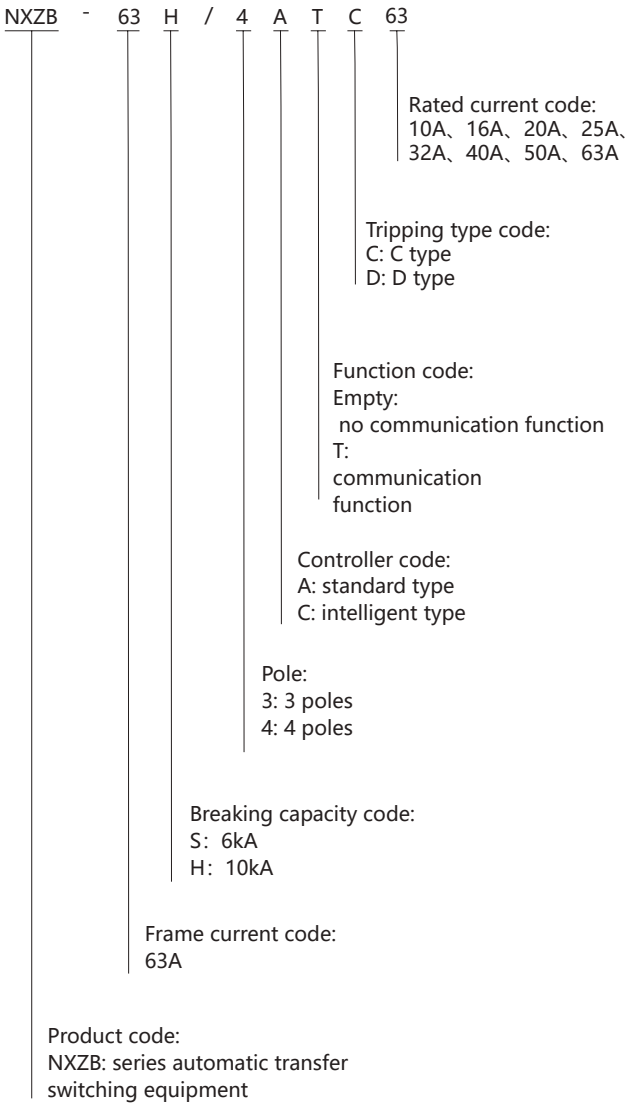

1.3.5 Installation category
Installation category of the switching equipment of main circuit is category IV.
Installation category of auxiliary circuit is category III.
Installation category of conversion controller is category II.

1.3.6 Utilization category:
NXZB: AC-33iB
NXZ (H) B: AC-33B
NXZ (H) M: AC-33B

1.3.7 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,

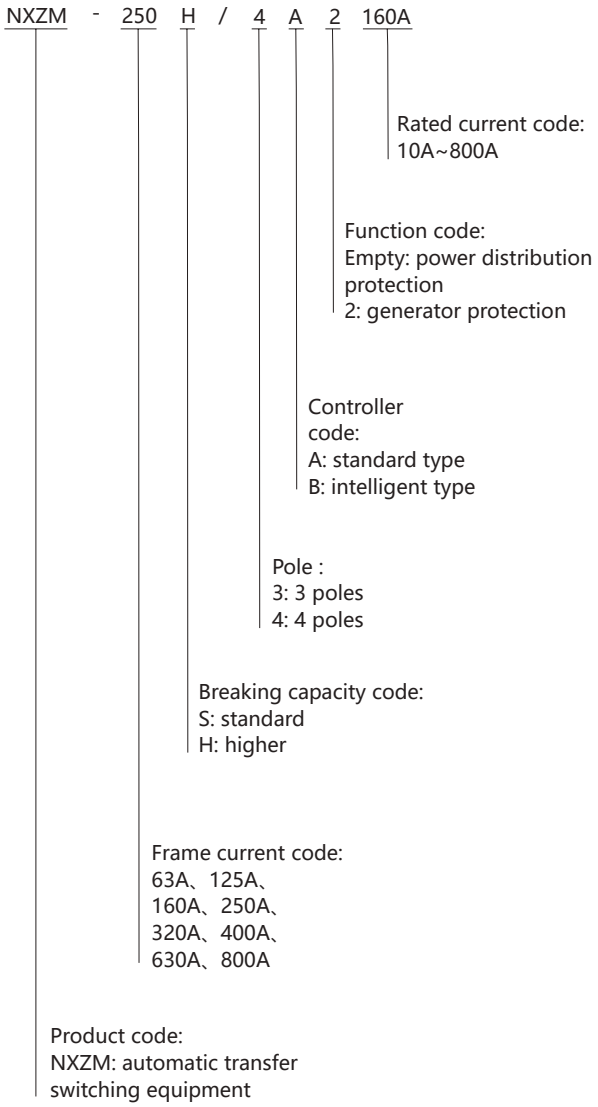
## 2. Model definition and description

NXZB-63 (Class CB )




Type selection example:
NXZB-63H/4C C63: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)

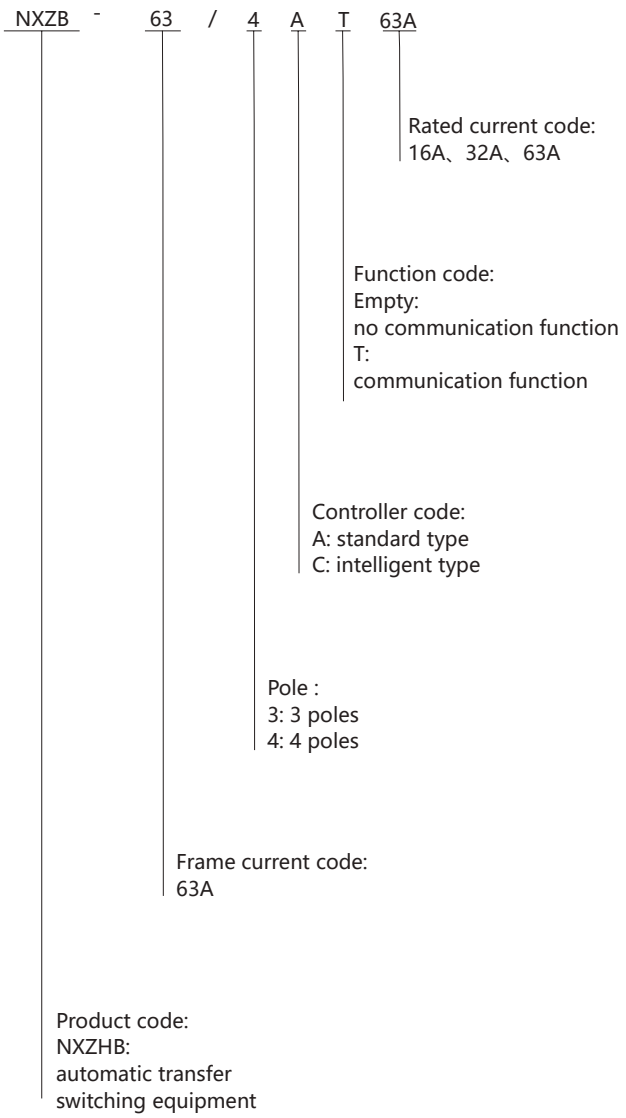



Type selection example:
NXZM-250H/4A 160A:To order a class CB automatic transfer switching equipment, the frame current is 250A, number of poles is 4P, H breaking capability, rated current is 160A, with a standard controller (A type) and generator protection.

Comparison Table of Frame Current and Rated Current

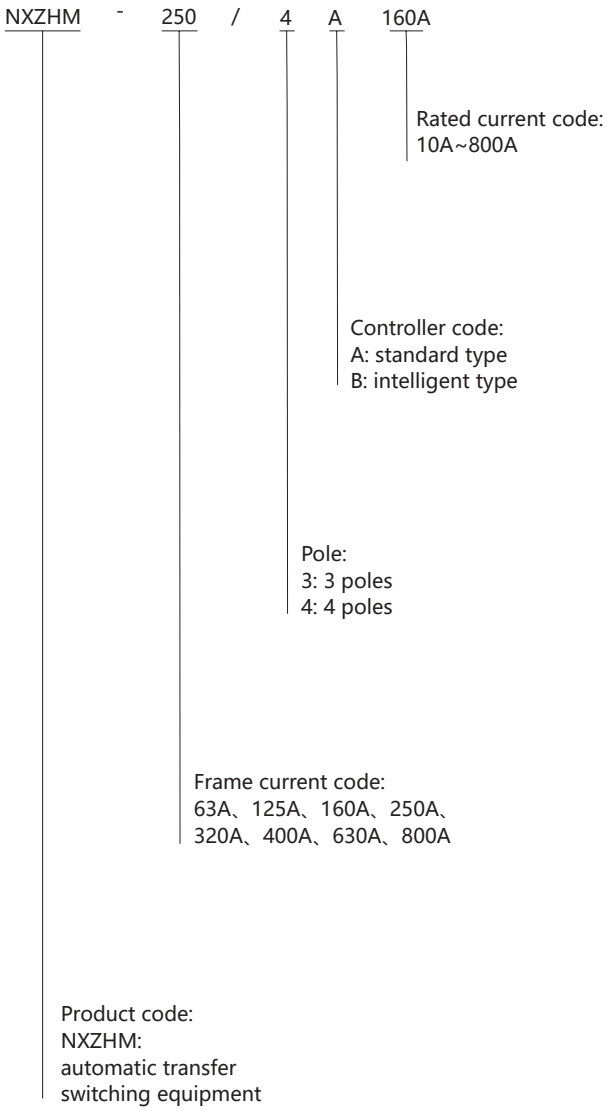
| Rated current (A) | | 10 | 16 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 180 | 200 | 225 | 250 | 315 | 320 | 350 | 400 | 500 | 630 | 700 | 800 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frame current (A) | 63 | ■ | ■ | ■ | ■ | ■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

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frame current (A) | 63 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | | | | | | |
| | 125 | | | | | | | ■ | ■ | ■ | ■ | | | | | | | | | | | | | |
| | 160 | | | | | | | | | | ■ | ■ | | | | | | | | | | | | |
| | 250 | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | 320 | | | | | | | | | | | | | | | ■ | | ■ | | | | | | |
| | 400 | | | | | | | | | | | | | | | ■ | ■ | | ■ | ■ | | | | |
| | 630 | | | | | | | | | | | | | | | | | | | ■ | ■ | ■ | | |
| | 800 | | | | | | | | | | | | | | | | | | | | | ■ | ■ | ■ |

## 3. 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<br>H：105 | S：52.5<br>H：105 | S：73.5<br>H：105 | S：73.5<br>H：105 | S：73.5<br>H：105 | S：105<br>H：143 | S：105<br>H：143 | S：105<br>H：165 |
| Rated short-circuit breaking capacity Icn (kA) | S：25<br>H：50 | S：25<br>H：50 | S：35<br>H：50 | S：35<br>H：50 | S：35<br>H：50 | S：50<br>H：65 | S：50<br>H：65 | S：50<br>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 | | | | | | | |

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 | 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 | | |
| 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 | | | | | | | |

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## 4. Functions and characteristics

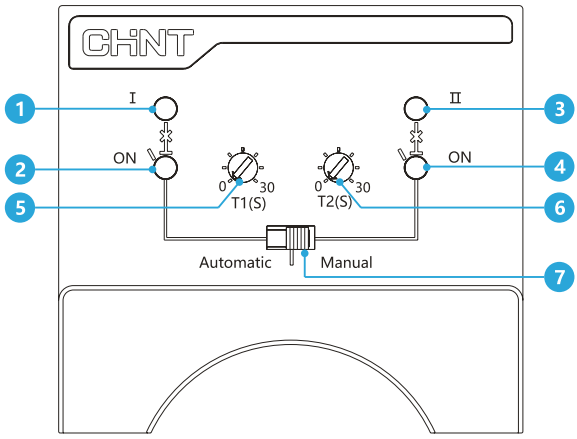
Functional parameters of NXZ (H) B controller

| Function \ Model | A type (standard) | C型 |
|---|---|---|
| Manual/automatic transfer | ■ | ■ |
| **Main contact positions** | | |
| Normal position | ■ | ■ |
| Alternative position | ■ | ■ |
| Off-position | ■ | ■ |
| **Automatic control** | | |
| Normal supply of monitoring | ■ Phasefailure/lossofvoltage,undervoltage,overvoltagefault | ■ Phasefailure/lossofvoltage,undervoltage,overvoltagefault |
| Alternative supply of monitoring | ■ Phasefailure/lossofvoltage,undervoltage,overvoltagefault | ■ Phasefailure/lossofvoltage,undervoltage,overvoltagefault |
| 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/dualtrippingindication | ■ | ■ |
| 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 | ■ Phasefailure/lossofvoltage,undervoltage,overvoltagefault | ■ Phasefailure/lossofvoltage,undervoltage,overvoltagefault |
| Alternative supply of monitoring | ■ Phasefailure/lossofvoltage,undervoltage,overvoltagefault | ■ Phasefailure/lossofvoltage,undervoltage,overvoltagefault |
| 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




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 | |
| Fire control linkage | | Flash | | Flash |

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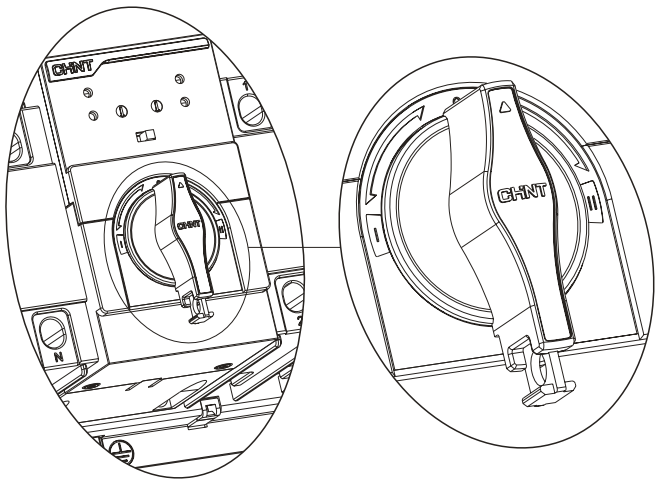
Lock system

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 Φ5.5.

Figure 2

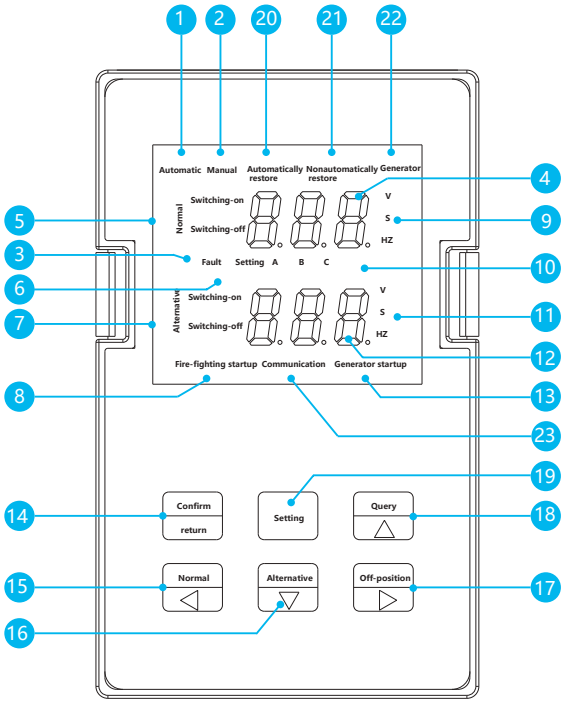


## 5. Functions and characteristics

### 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

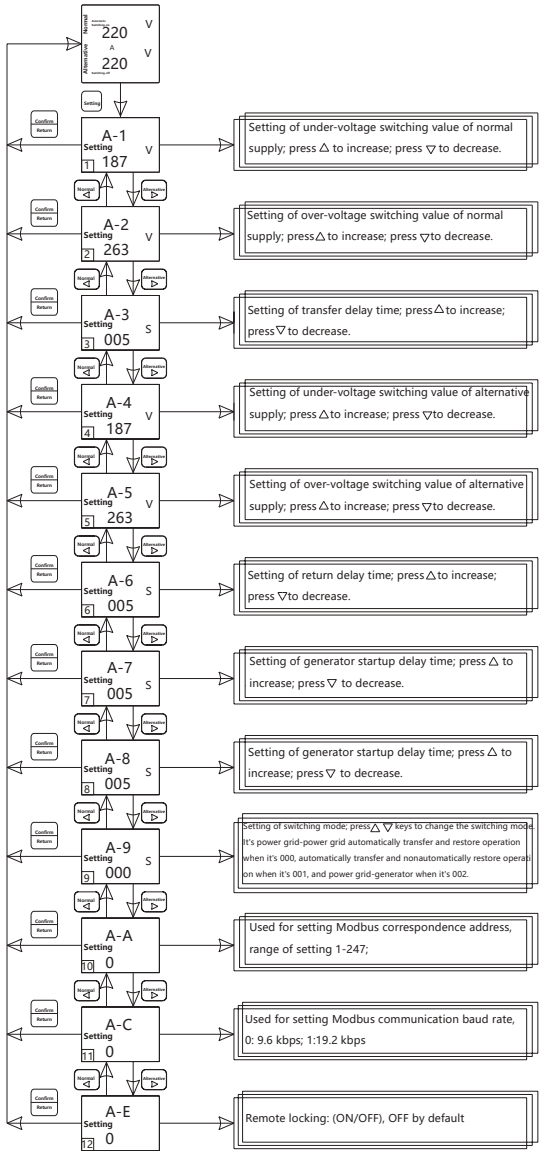



**Figure 4**

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 "◁" "▷" in the setting menu to turn up or down.
Press "Confirm/return" key to exit from menu setting; press "▽" "△" to revise parameter.

## 6. 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 (mm2) | 2.5 | 4 | 6 | 10 | 10 | 16 |

3P product

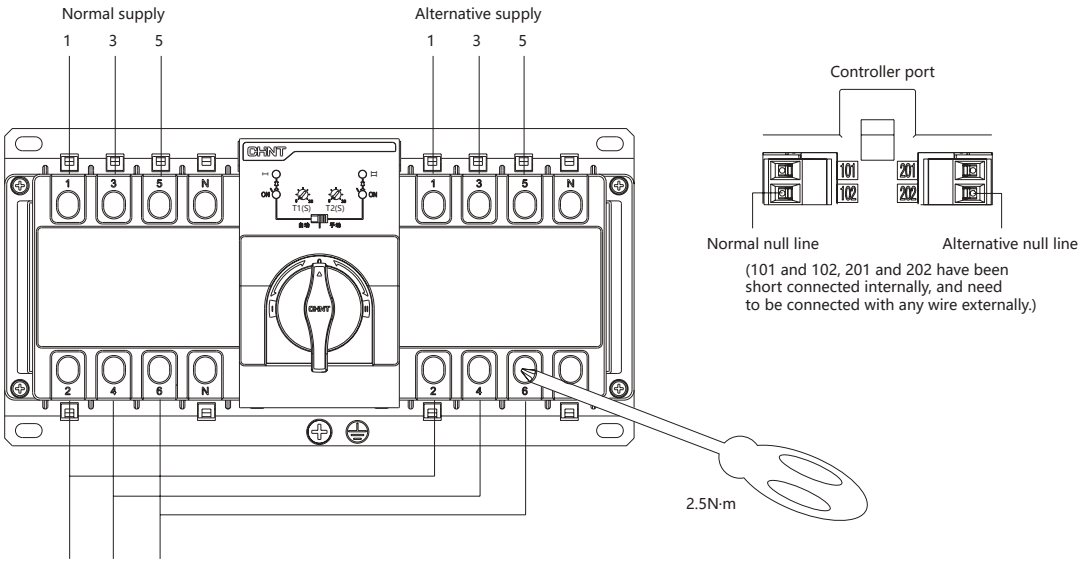



**Figure 5**

4P product

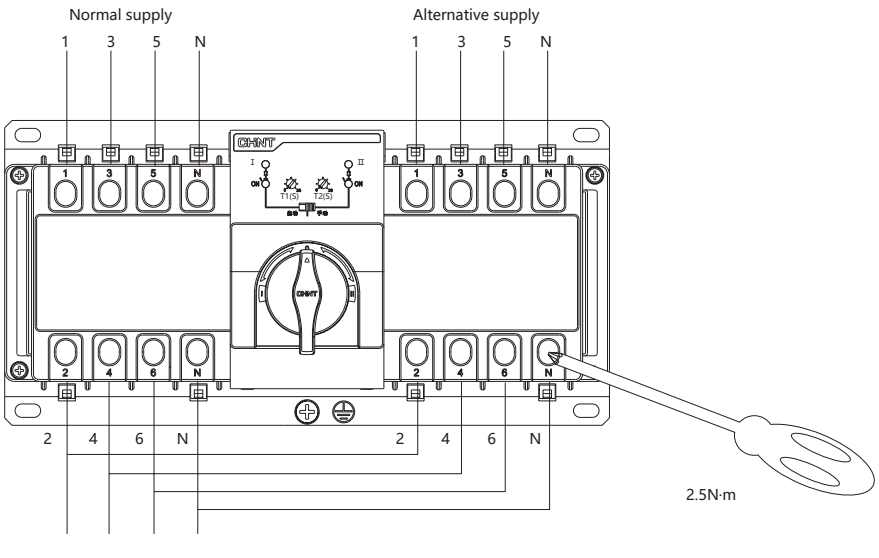
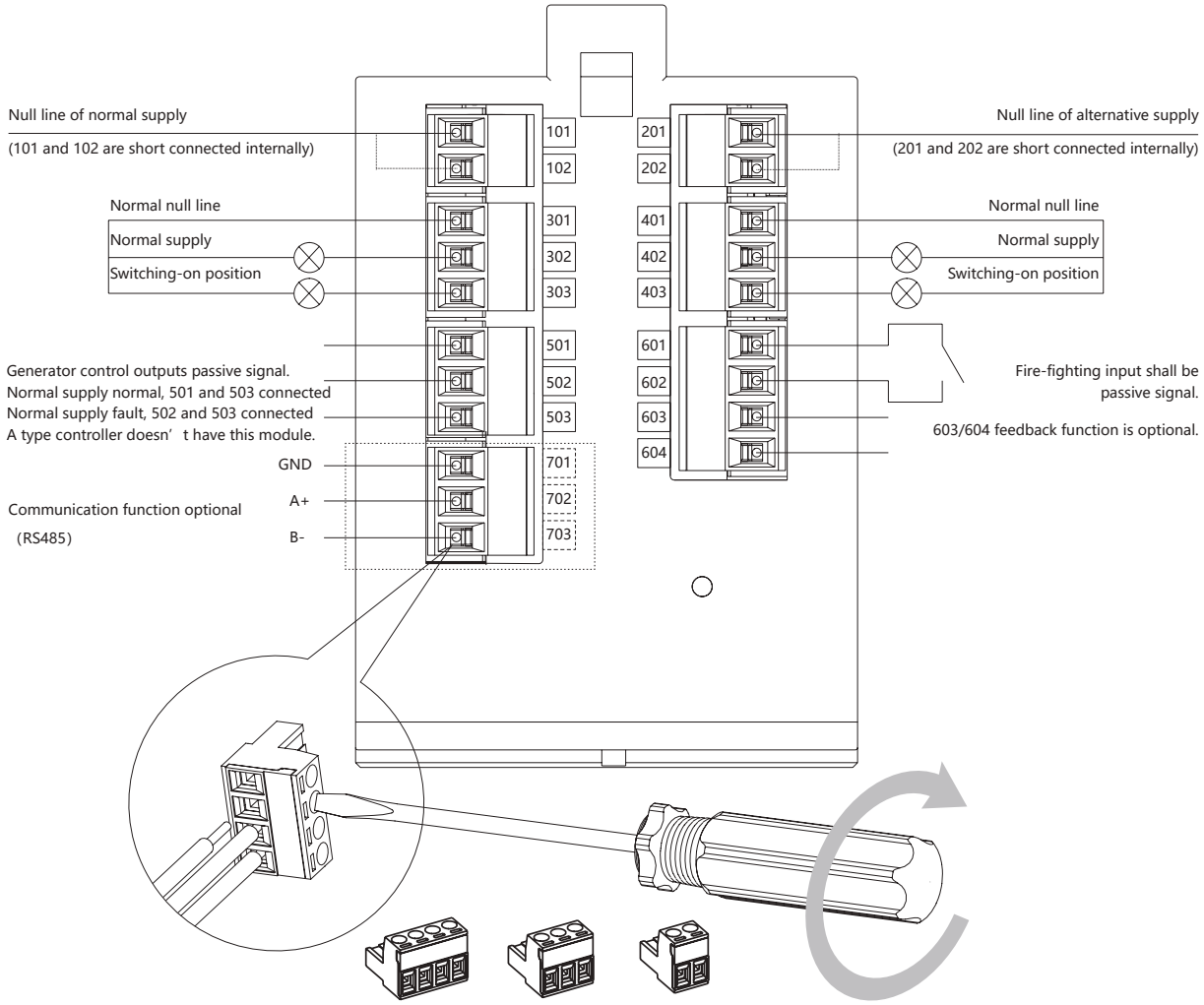



**Figure 6**

Signal and control terminal wiring

**Figure 7**




P

## 7. 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

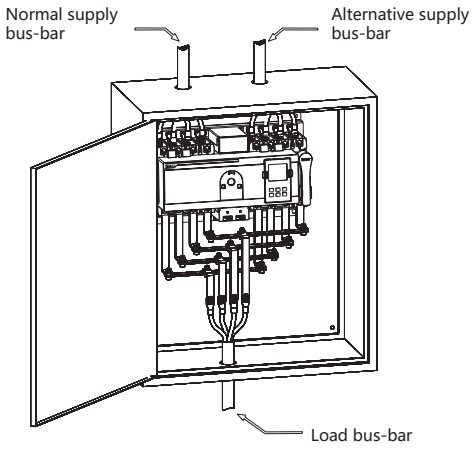
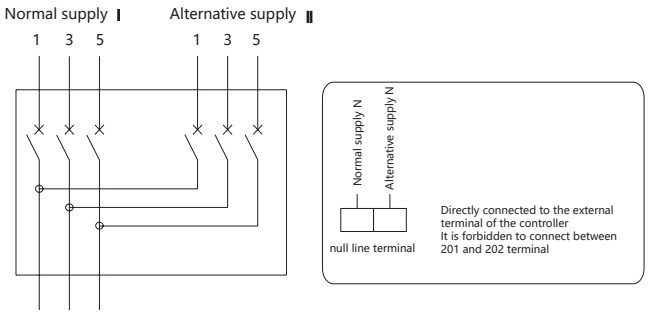



**Figure 8**

### Product wiring

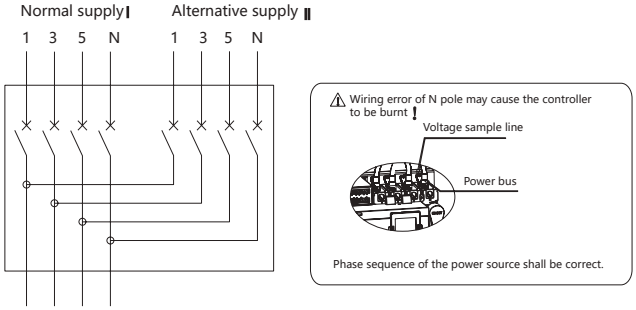
3P

**Figure 9**



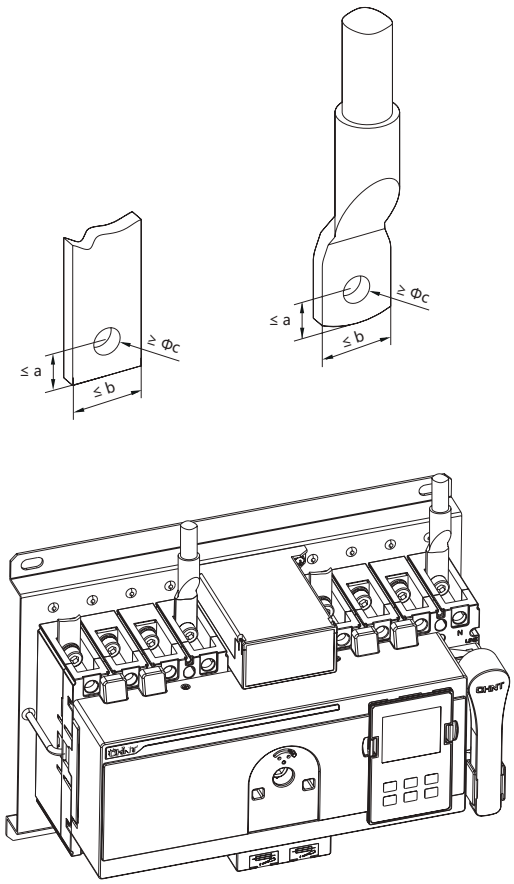

4P

**Figure 10**



Wire connection

Figure 11




Unit: mm

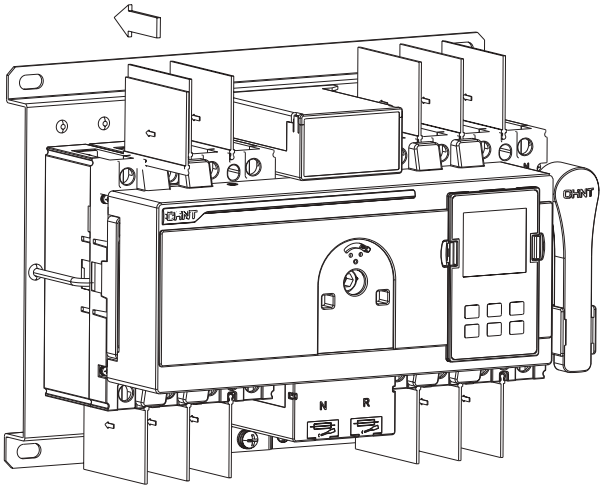
| Product wiring | a | b | c |
|---|---|---|---|
| MXZ(H)M-63、125 | 6.5 | 14 | 5.5 (≤ 63A) |
| | 7.5 | 17 | 6.5 ( > 63A) |
| MXZ(H)M-160 | 7.5 | 14.5 | 8.5 |
| MXZ(H)M-250、320 | 10 | 23 | 8.5 |
| MXZ(H)M-400、630 | 10.5 | 30.5 | 10.5 |
| MXZ(H)M-800 | 15 | 43 | 14 |

P

## 8. Mode of connection of the main part and controller

Installation of interphase barrier

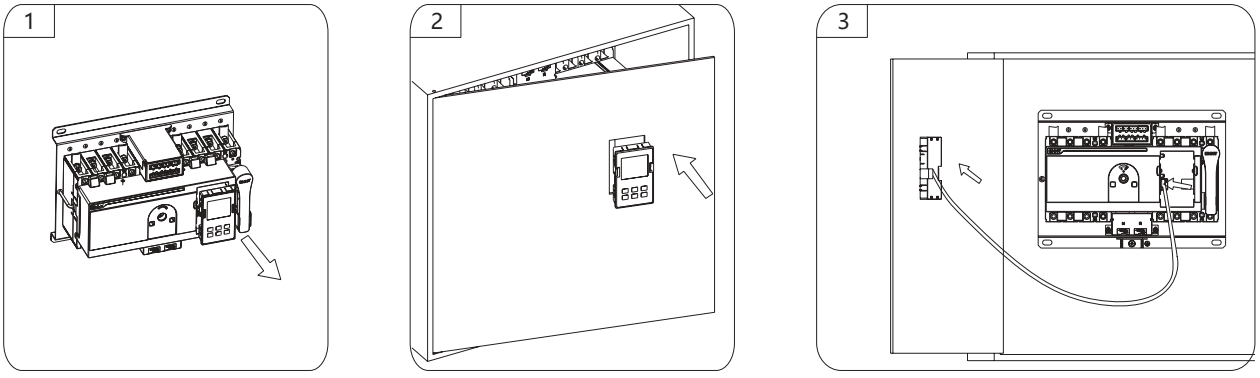
**Figure 12**




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

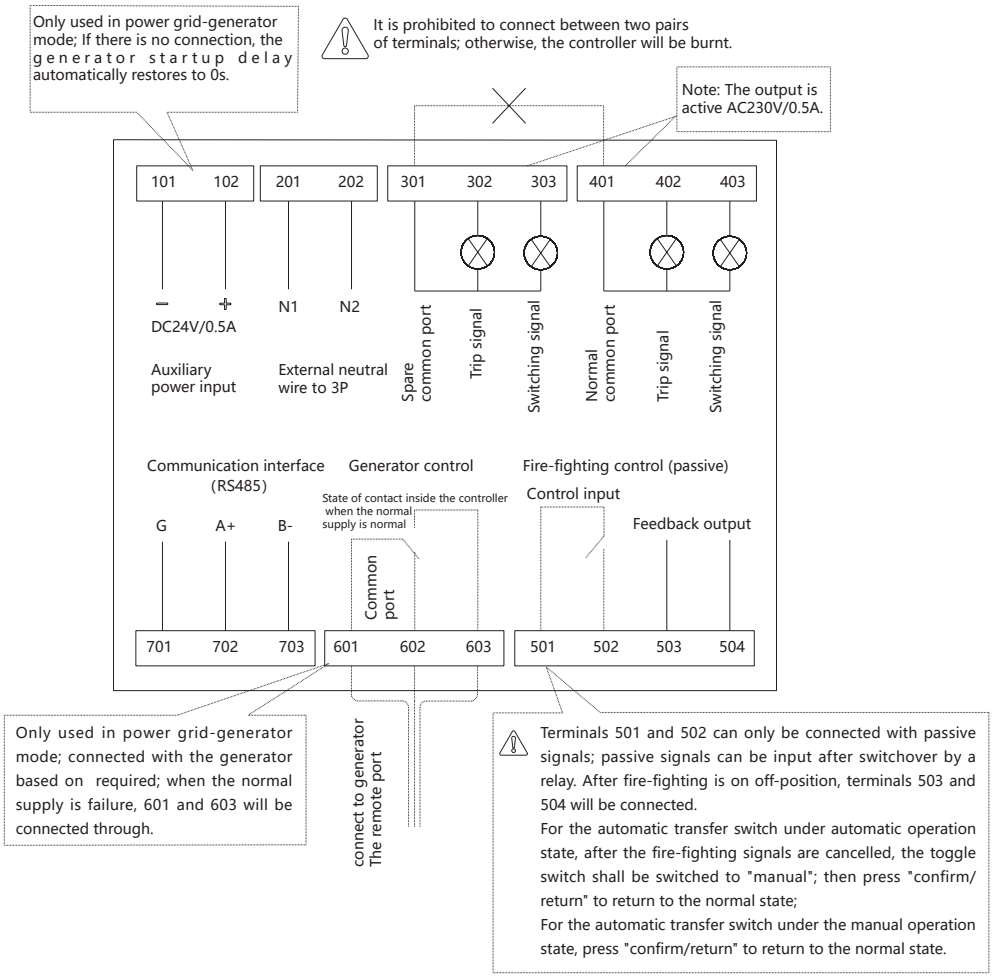
Split type installation of the display module (cabinet door)

**Figure 13**



Signal and control terminal wiring

**Figure 14**




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

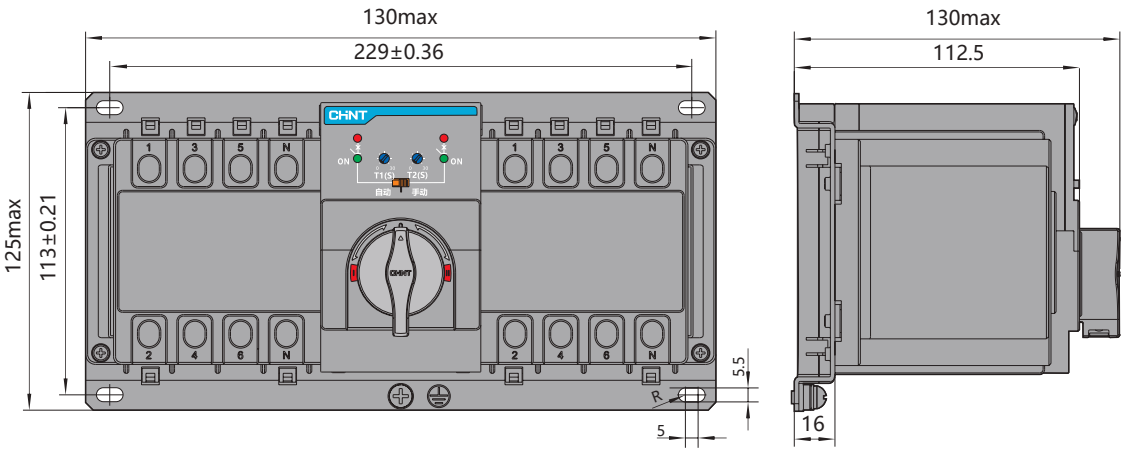
P

## 9. 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)

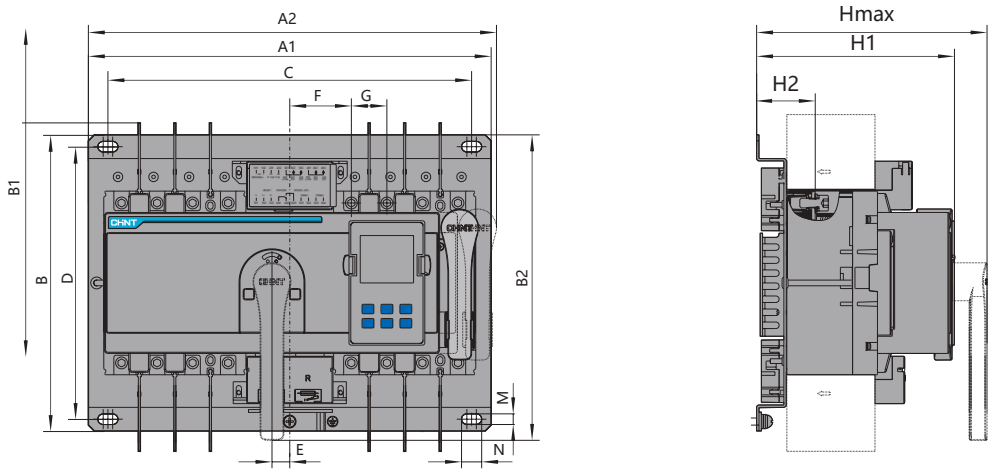
Figure 15




### 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 | 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 |

Overall dimension of split type module (unit: mm)

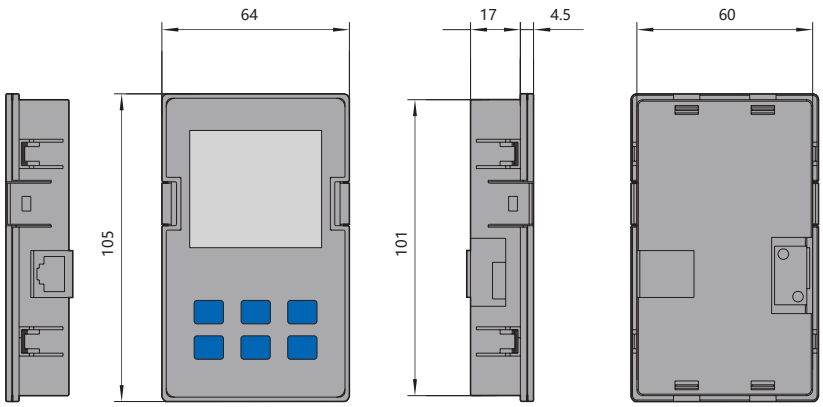



Figure 17