



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.

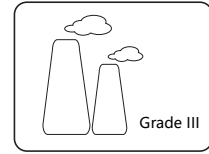
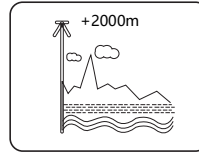
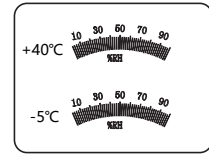
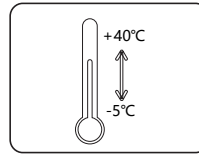
1.2 Applicable standards

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.

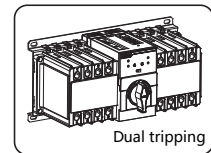
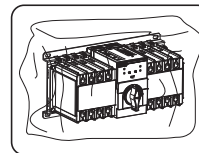
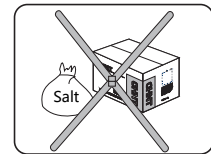
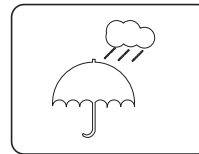
1.3.2 Sea level elevation

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

NXZHB: 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,

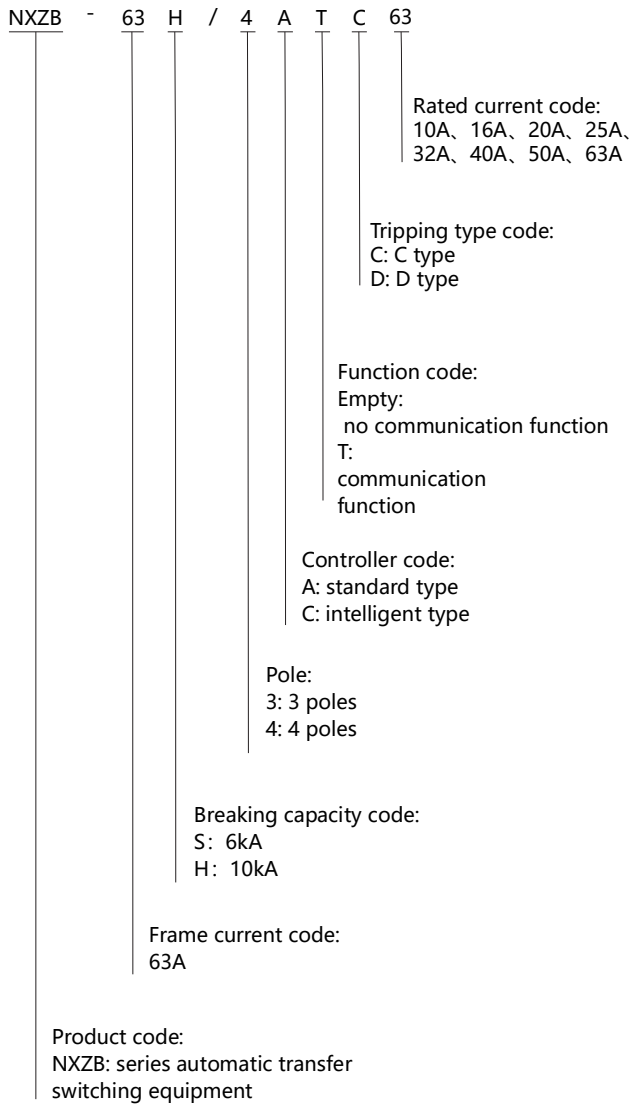
Surges (IEC 61000-4-5) Level 3, Radio-frequency

electromagnetic field-conducted immunity (IEC 61000-4-6)

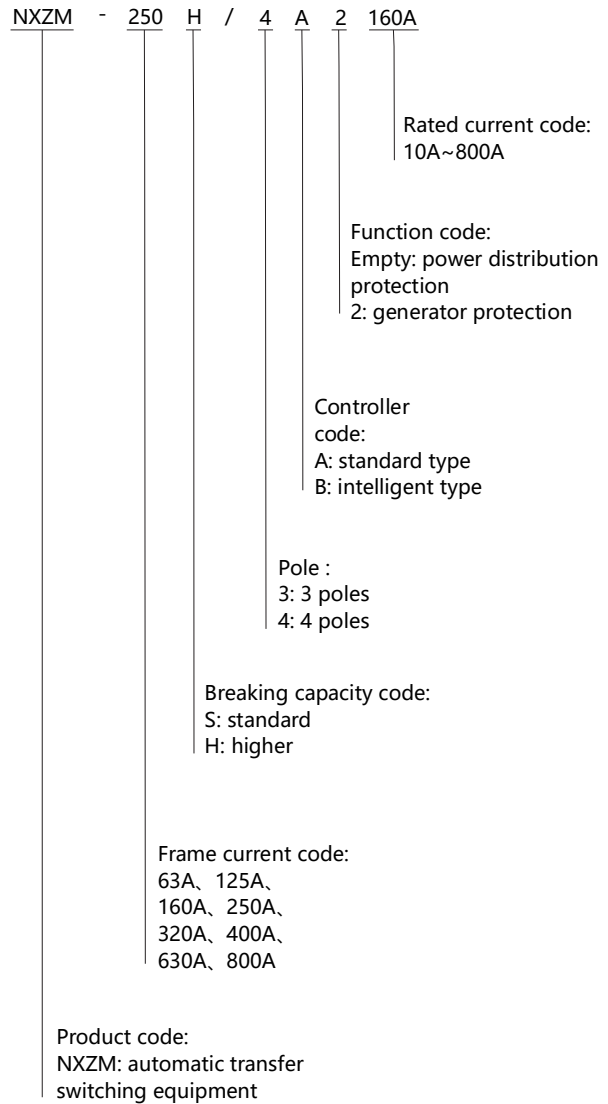
Level 3, Radiation grade (CISPR11) grade B,

2. Model definition and description

NXZB-63 (Class CB)



NXZM (Class CB)



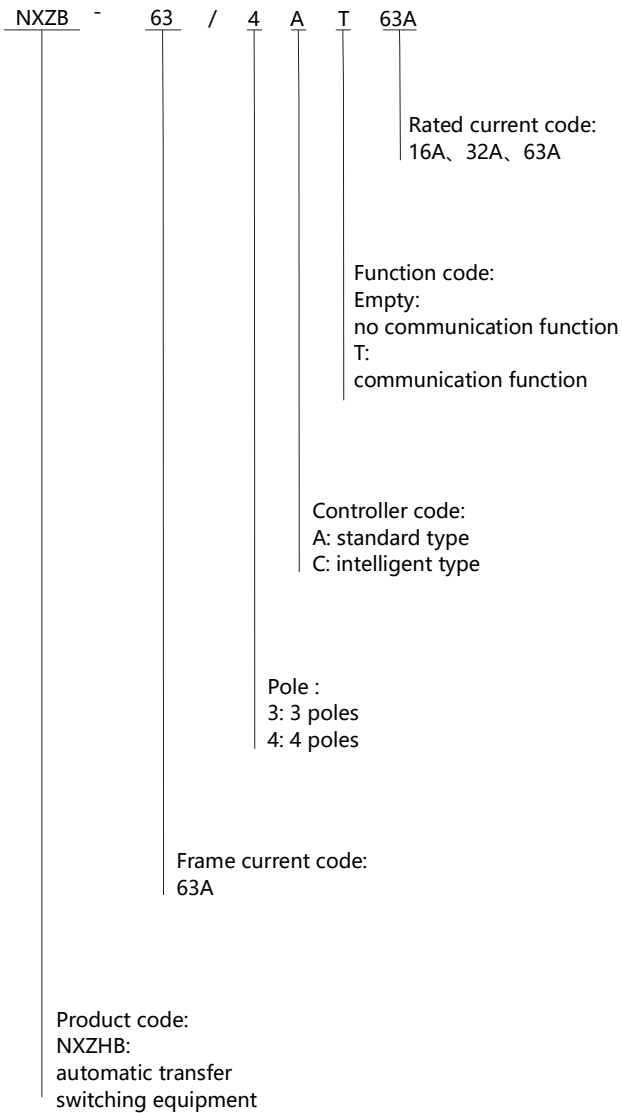
Type selection example:
 NXZB-63H/4C 63: To order a class CB automatic transfer switching equipment, the frame current is 63A, number of poles is 4P, the breaking capability is 10kA, rated current is 63A, the tripping type is C type, with an intelligent controller (C type).

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.

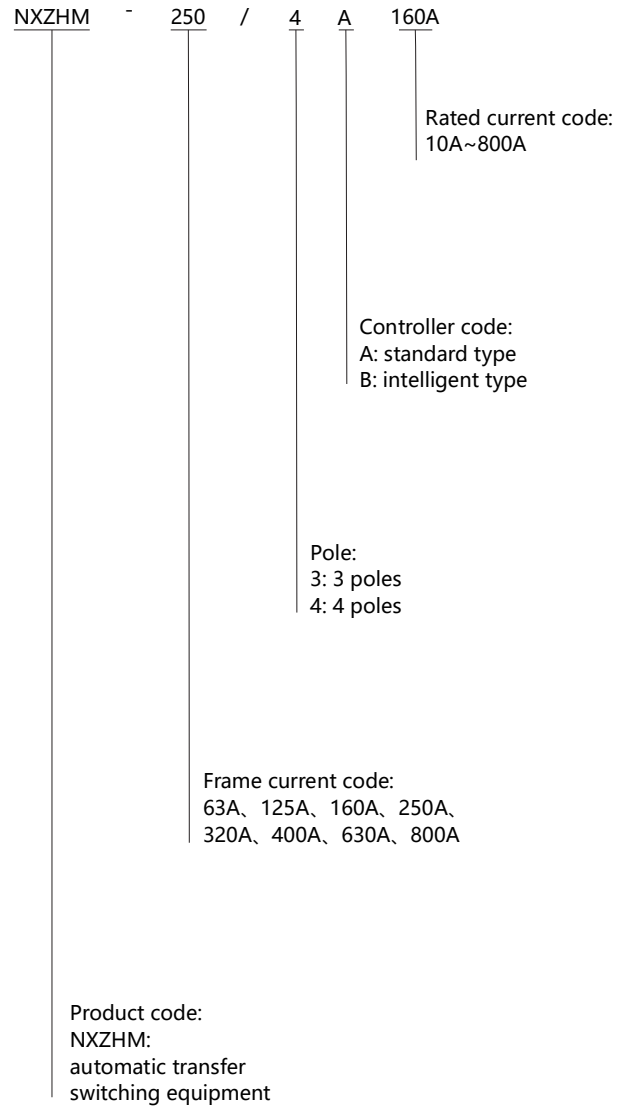
Comparison Table of Frame Current and Rated Current

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																					■	■	■	

NXZHB-63 (Class PC)



NXZHM (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).

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																					■	■	■	



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)	9.18	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-400	NXZM-630	NXZM-800	
Electrical characteristics								
Execution body	NXM-63	NXM-125	NXM-160	NXM-250	NXM-400	NXM-630	NXM-800	
Frame current (A)	63	125	160	250	400	630	800	
Rated current (A)	10, 16, 25, 32, 40, 50, 63	63, 80, 100, 125	125, 160	160, 180, 200, 225, 250	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	
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: 105 H: 154	S: 105 H: 154	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: 50 H: 70	S: 50 H: 70	S: 50 H: 75	
Mechanical endurance (times)	10000	10000	8000	6000	4000	4000	4000	
Electrical endurance (times)	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 U _e (V)	400
Rated insulation voltage U _i (V)	500
Rated impulse voltage U _{imp} (kV)	4
Utilization category	AC-33B
Number of poles	3P, 4P
Rated conditional short-circuit current I _q (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 U _e (V)	230 50Hz
Control voltage range	85%U _e ~110%U _e

Technical parameters of NXZHM (class PC)

Model	NXZM-63	NXZM-125	NXZM-160	NXZM-250	NXZM-400	NXZM-630	NXZM-800
Electrical characteristics							
Execution body	NXM-63	NXM-125	NXM-160	NXM-250	NXM-400	NXM-630	NXM-800
Frame current (A)	63	125	160	250	400	630	800
Rated current (A)	10, 16, 25, 32, 40, 50, 63	63, 80, 100, 125,	125, 160	160, 180, 200, 225, 250	250, 315, 350, 400	400, 500, 630	630, 700, 800
Rated operational voltage U _e (V)	400/415 50Hz						
Rated insulation voltage U _i (V)	AC800	AC800	AC800	AC1000	AC1000	AC1000	AC1000
Rated impulse voltage U _{imp} (kV)	8				12		
Utilization category	AC-33B						
Number of poles	3P, 4P	3P, 4P	3P, 4P	3P, 4P	3P, 4P	3P, 4P	3P, 4P
Rated conditional short-circuit current I _q (kA)	100	100	100	100	100	100	100
Mechanical endurance (times)	10000	10000	8000	6000	4000	4000	4000
Electrical endurance (times)	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%)
Installation mode	Integrated, split						
Rated control power source voltage U _s (V)	230/240 50Hz						
Control voltage range	85%~110%U _e						

4. Functions and characteristics

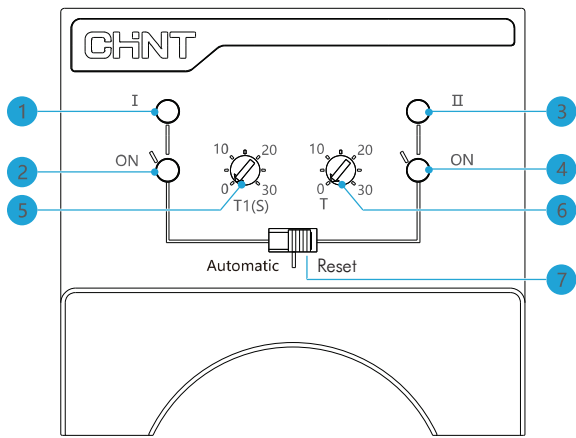
Functional parameters of NXZ (H) B controller

Function	Model	A type (standard)	C type (intelligent type)
Manual/automatic transfer		■	■
Main contact positions			
Normal position		■	■
Alternative position		■	■
Off-position		■	■
Automatic control			
Normal supply of monitoring		■ Phasefailure/loss of voltage, undervoltage, overvoltage fault	■ Phasefailure/loss of voltage, undervoltage, overvoltage fault
Alternative supply of monitoring		■ Phasefailure/loss of voltage, undervoltage, overvoltage fault	■ Phasefailure/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		-	■
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	■

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/loss of voltage, undervoltage, overvoltage fault	■ Phasefailure/loss of voltage, undervoltage, overvoltage fault
Alternative supply of monitoring		■ Phasefailure/loss of voltage, undervoltage, overvoltage fault	■ Phasefailure/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



- 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

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 $\Phi 5.5$.

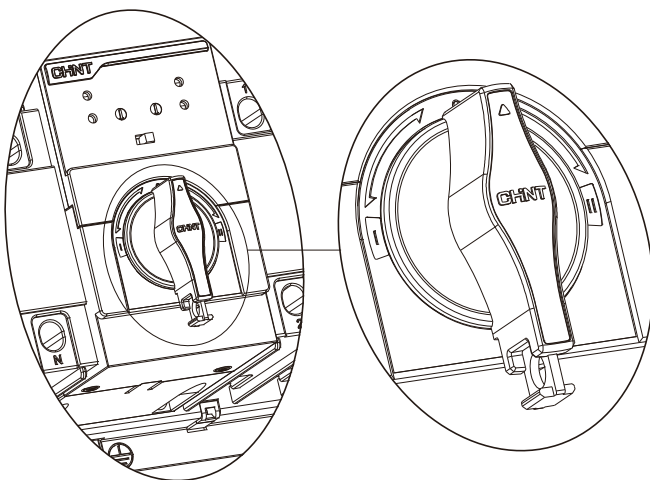


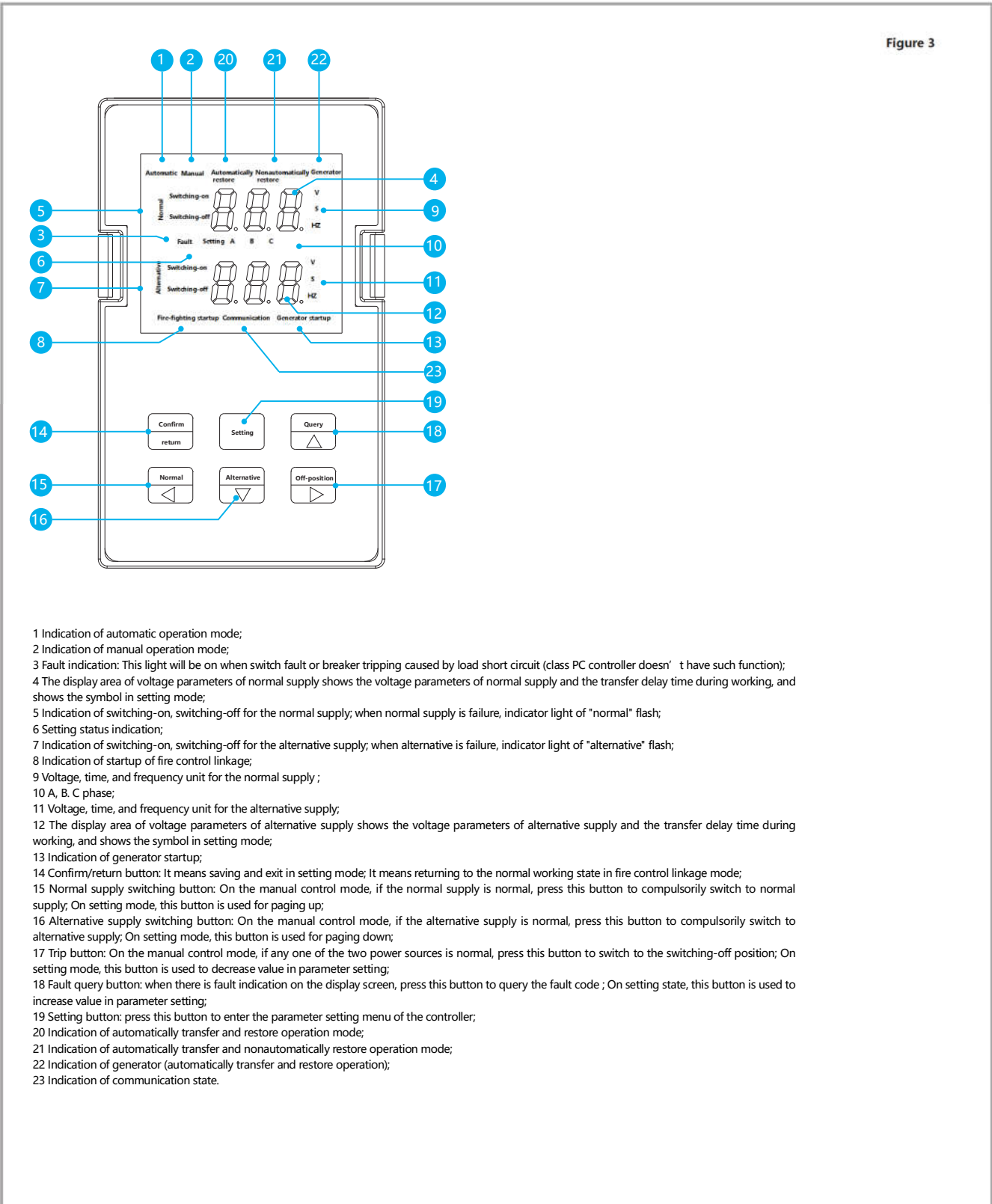
Figure 2



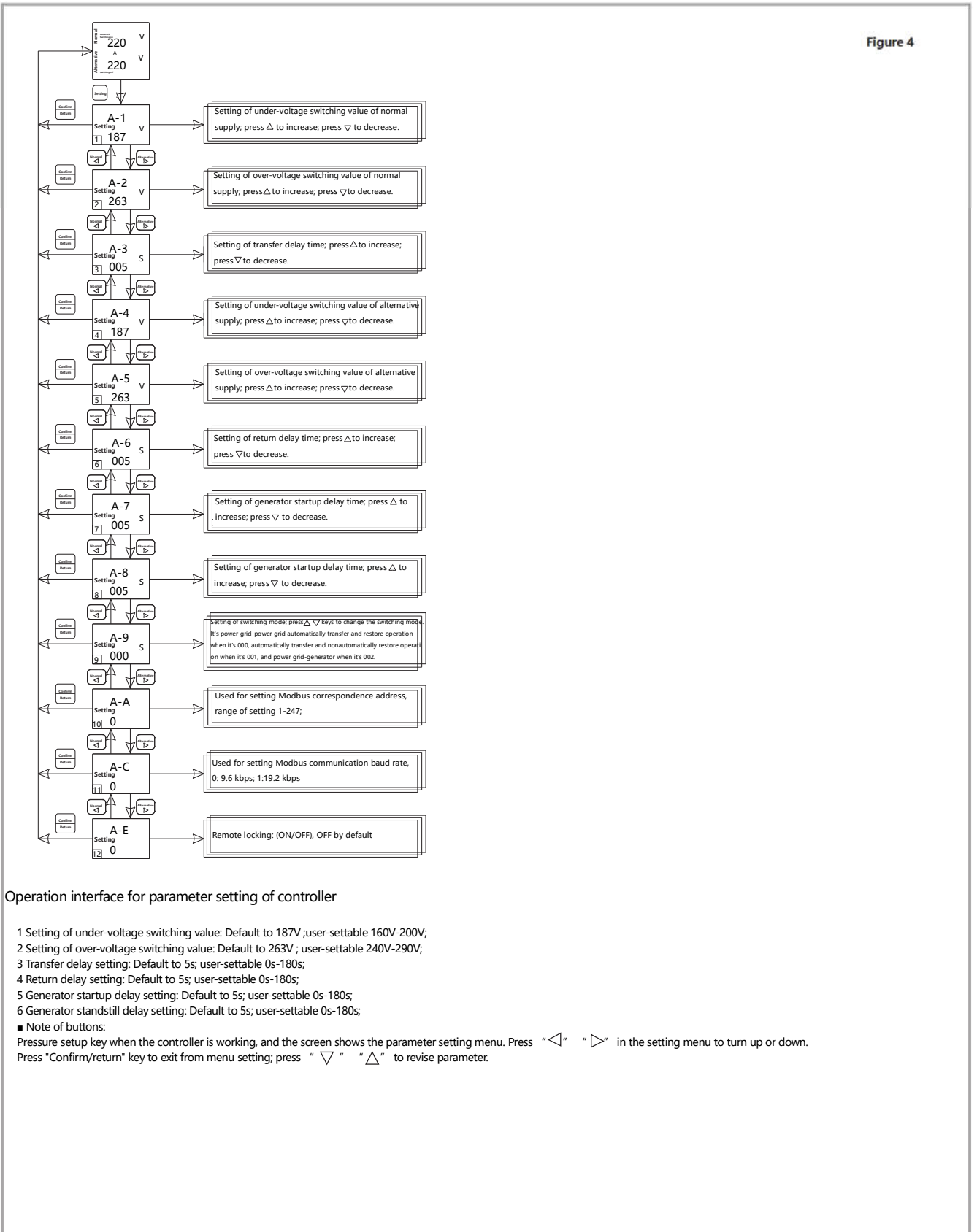
5. Functions and characteristics

Functional description of NXZ (H) M

Operation interface of the display module of controller



Parameter setting of the display module of controller



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.

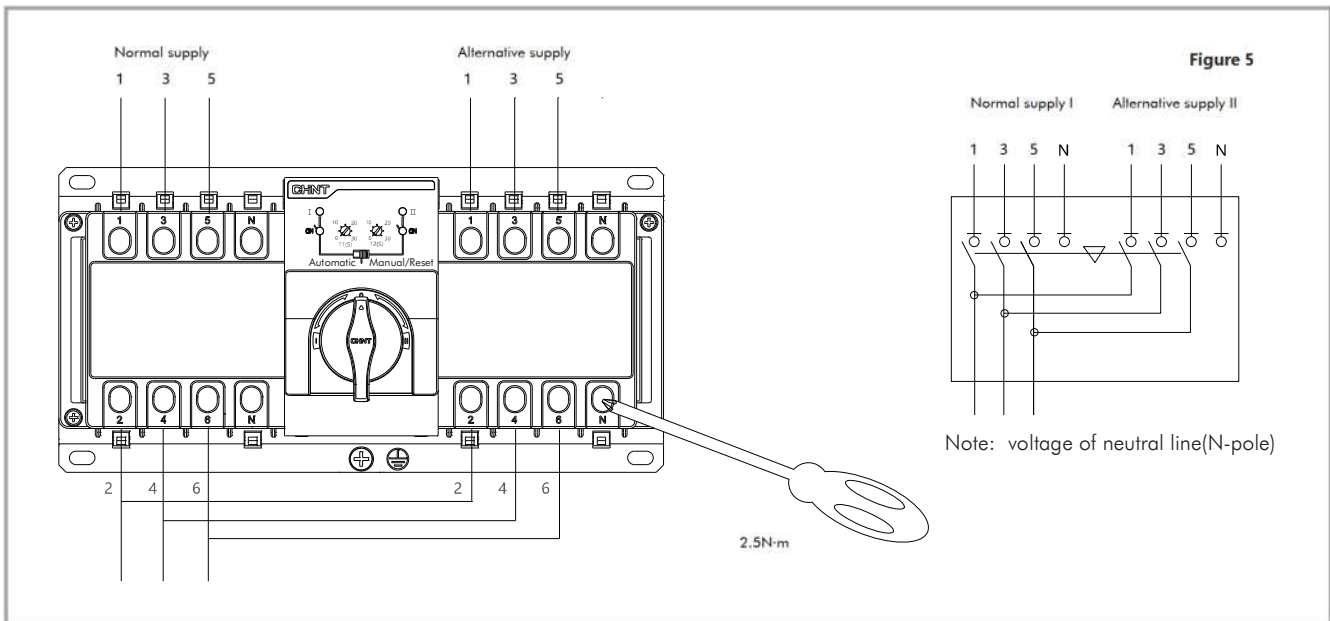
Wiring as follows. The power phase sequence shall be correct; in particular, N pole shall not be wrongly connected.

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

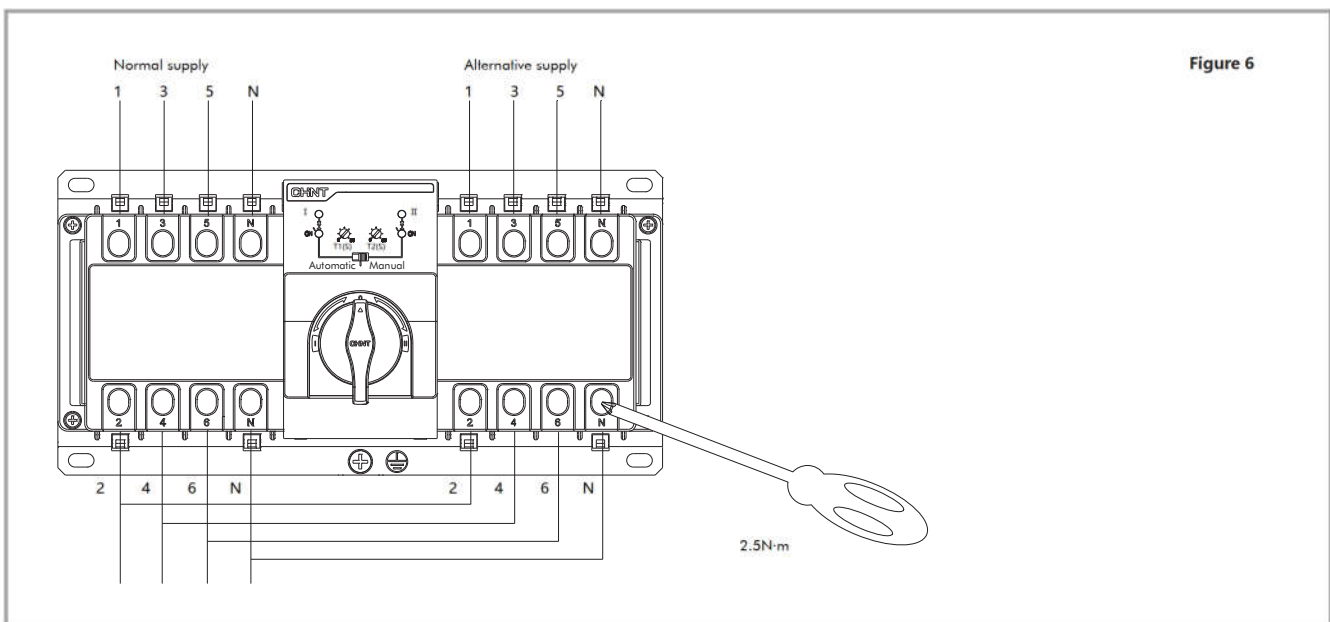
Cross-sectional area of copper conductor

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

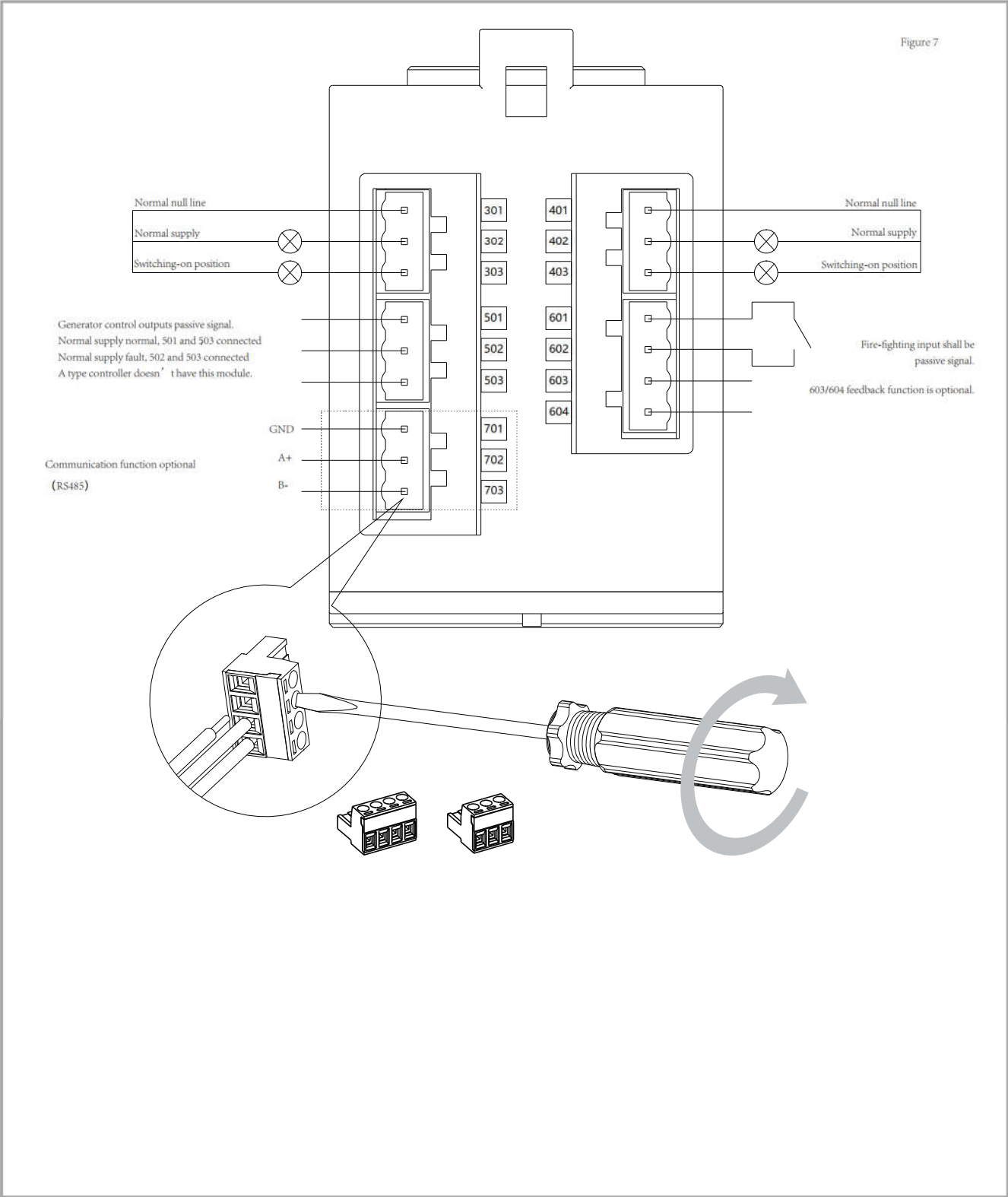
3P product



4P product



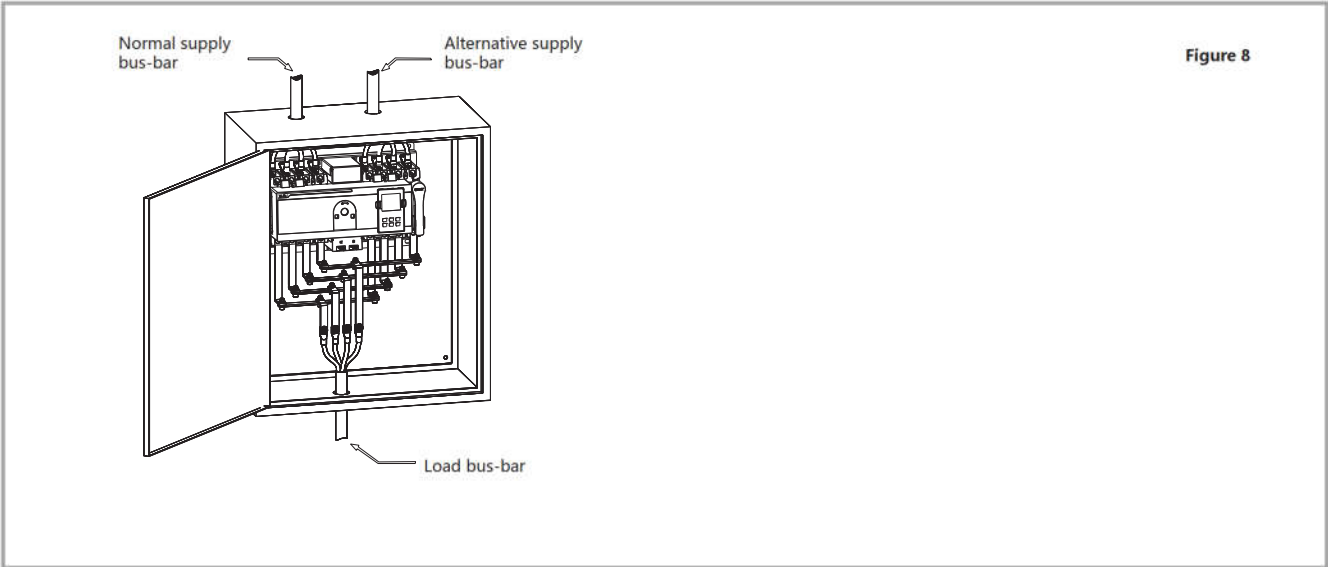
Signal and control terminal wiring



7. Mode of connection of the main part and controller

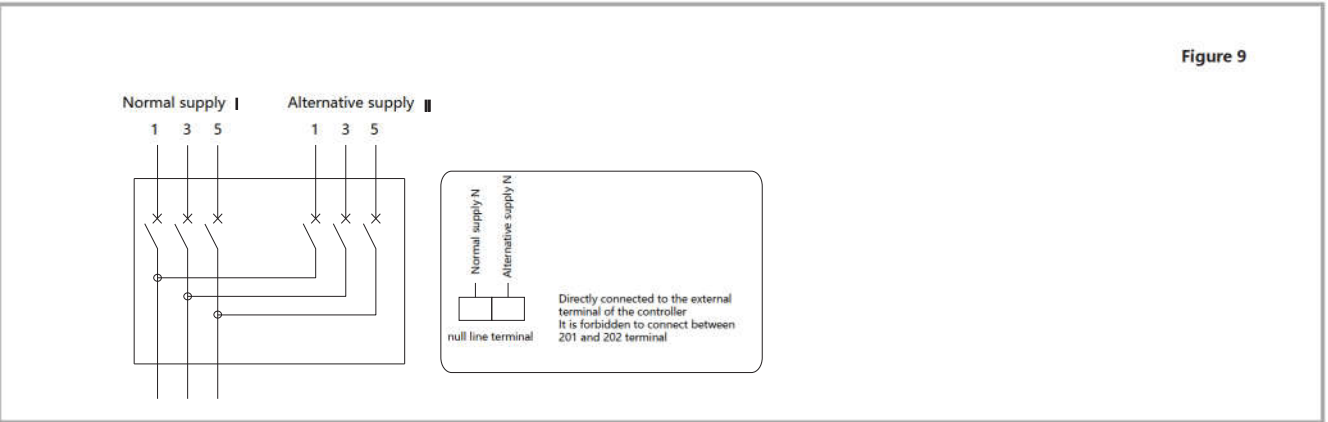
Mode of connection of NXZM and NXZHM

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

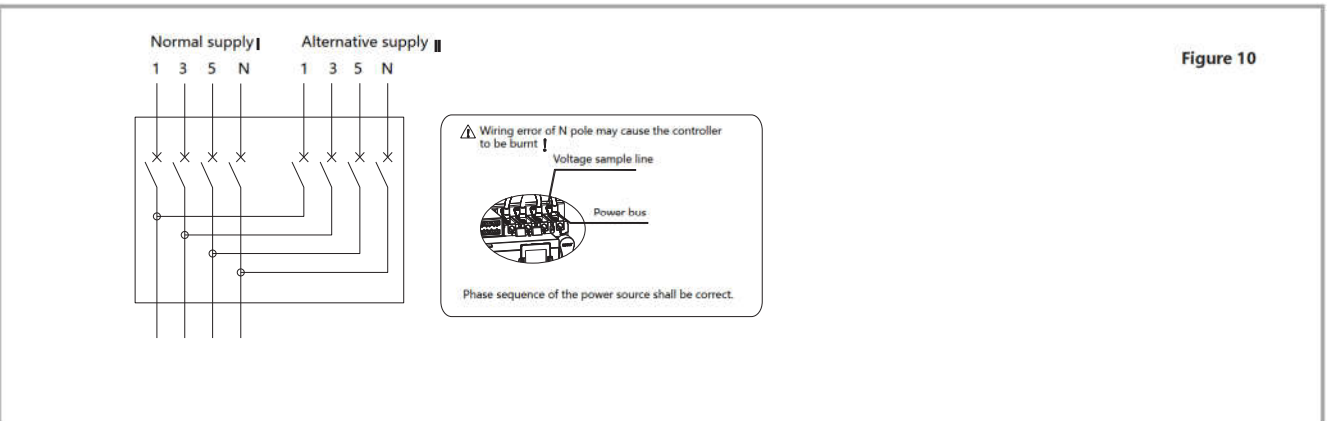


Product wiring

3P

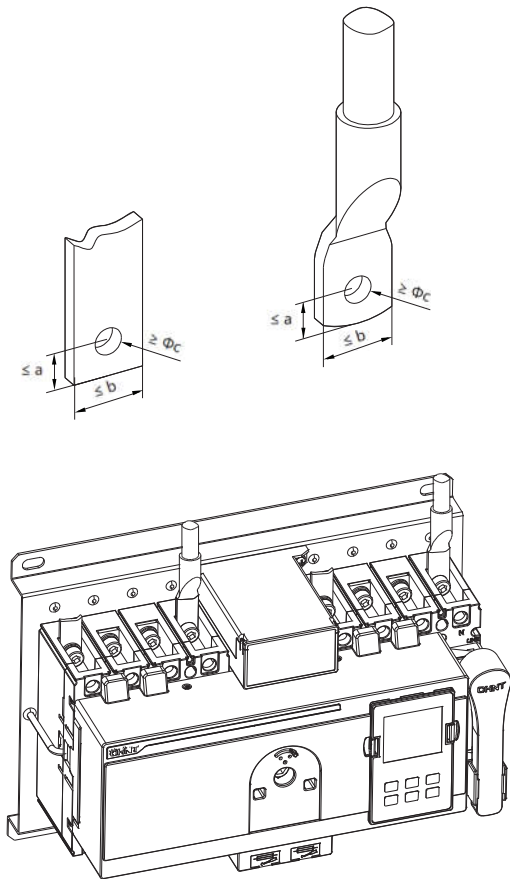


4P



Wire connection

Figure 11



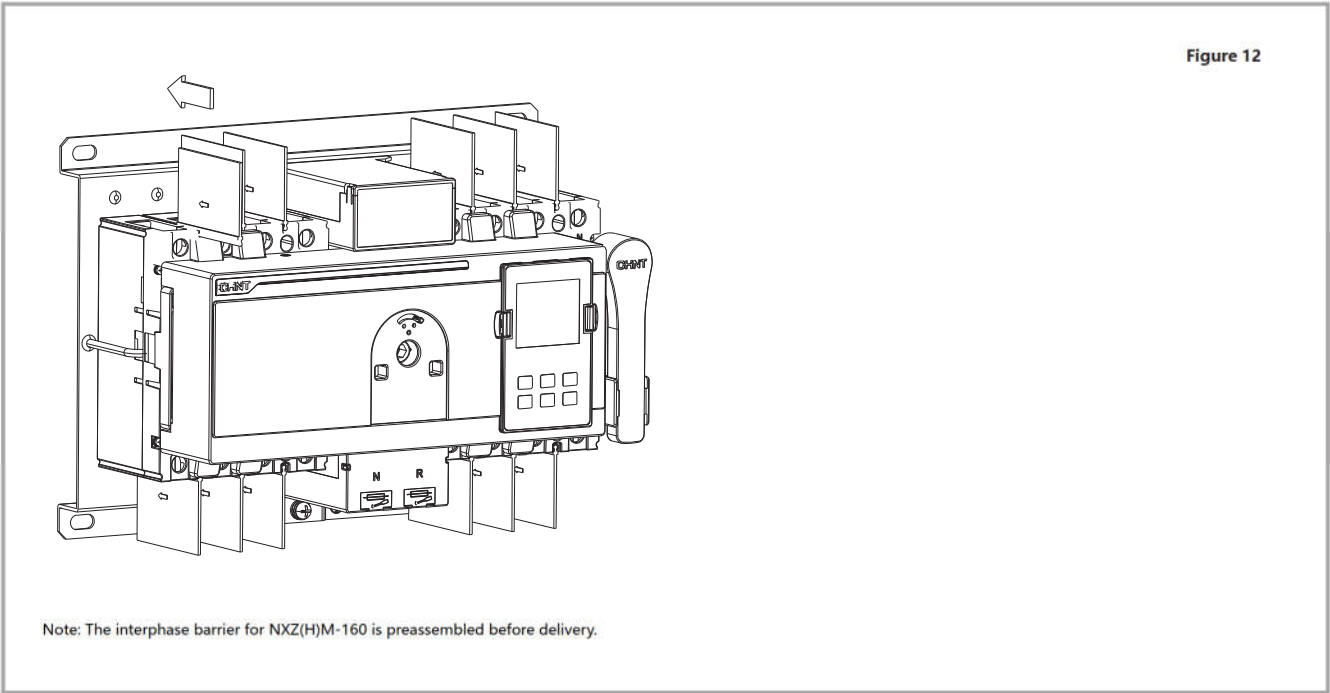
Unit: mm

Product wiring	a	b	c
MXZ(H)M-63, 125	8	17.5	6.5
MXZ(H)M-160	7.5	14.5	8.5
MXZ(H)M-250	10	23	8.5
MXZ(H)M-400, 630	10.5	30.5	10.5
MXZ(H)M-800	15	43	14

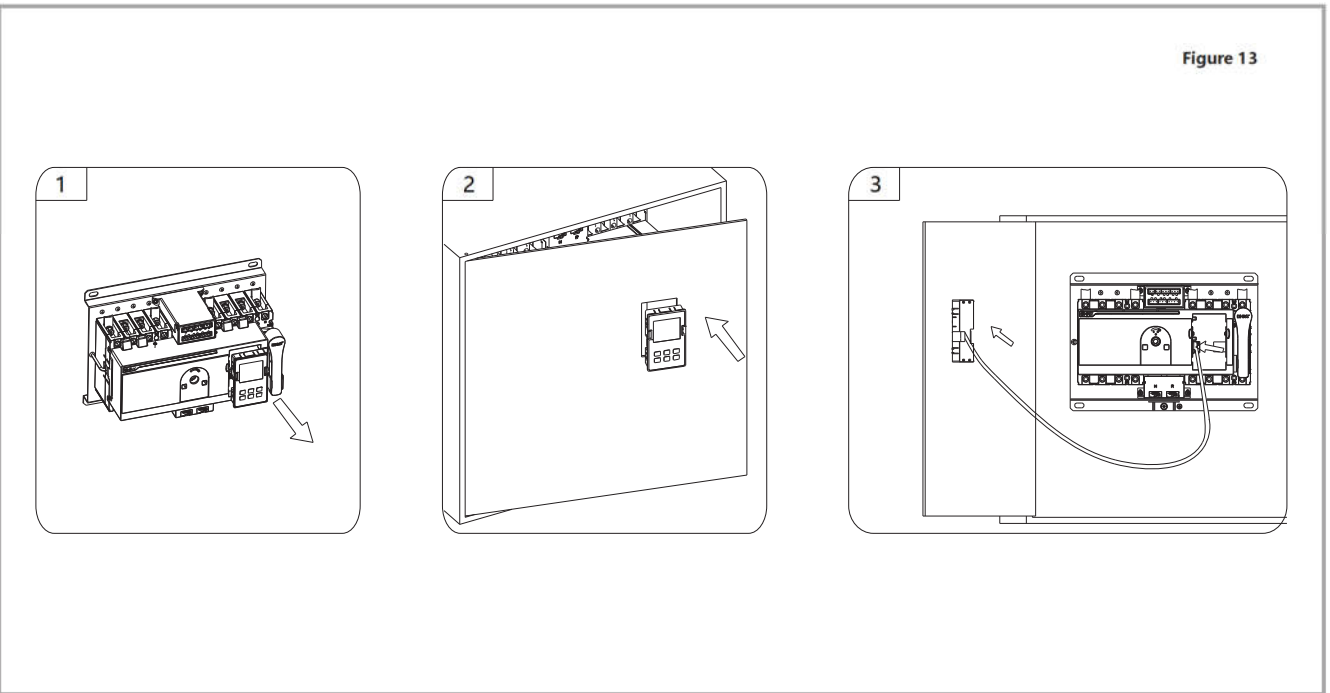


8. Mode of connection of the main part and controller

Installation of interphase barrier



Split type installation of the display module (cabinet door)



Signal and control terminal wiring

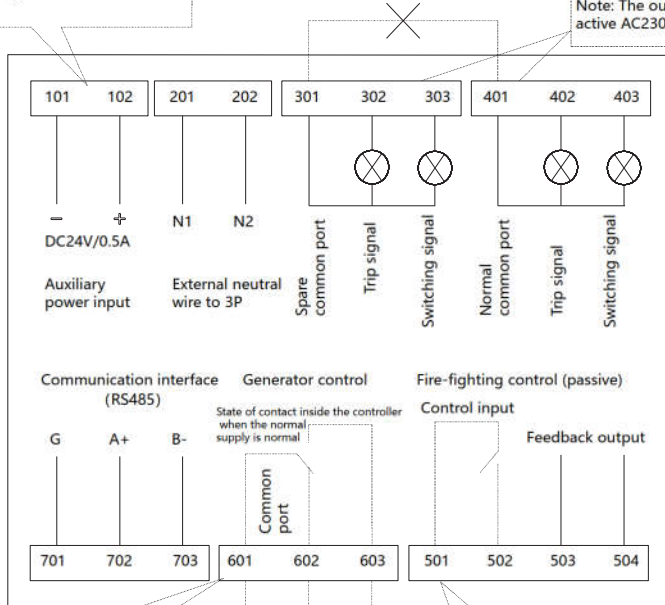
Figure 14

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.



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)

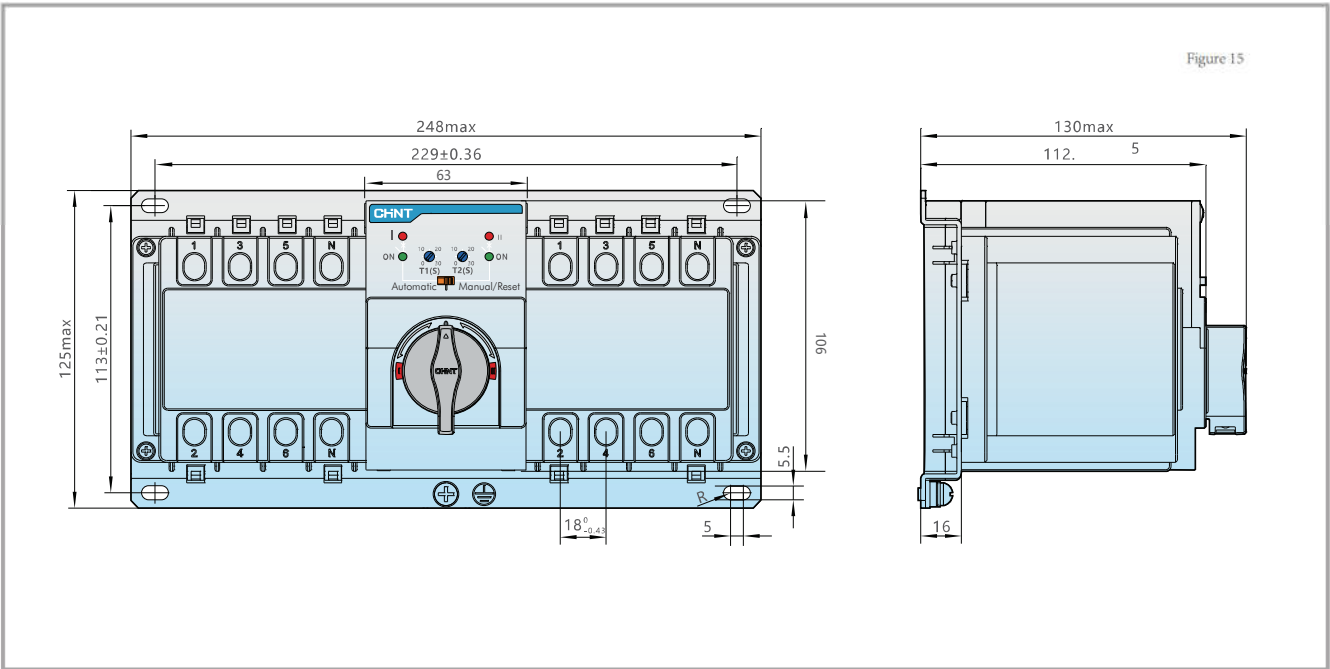


Figure 15

Overall and installation dimension of NXZM and NXZHM

Overall and installation dimension

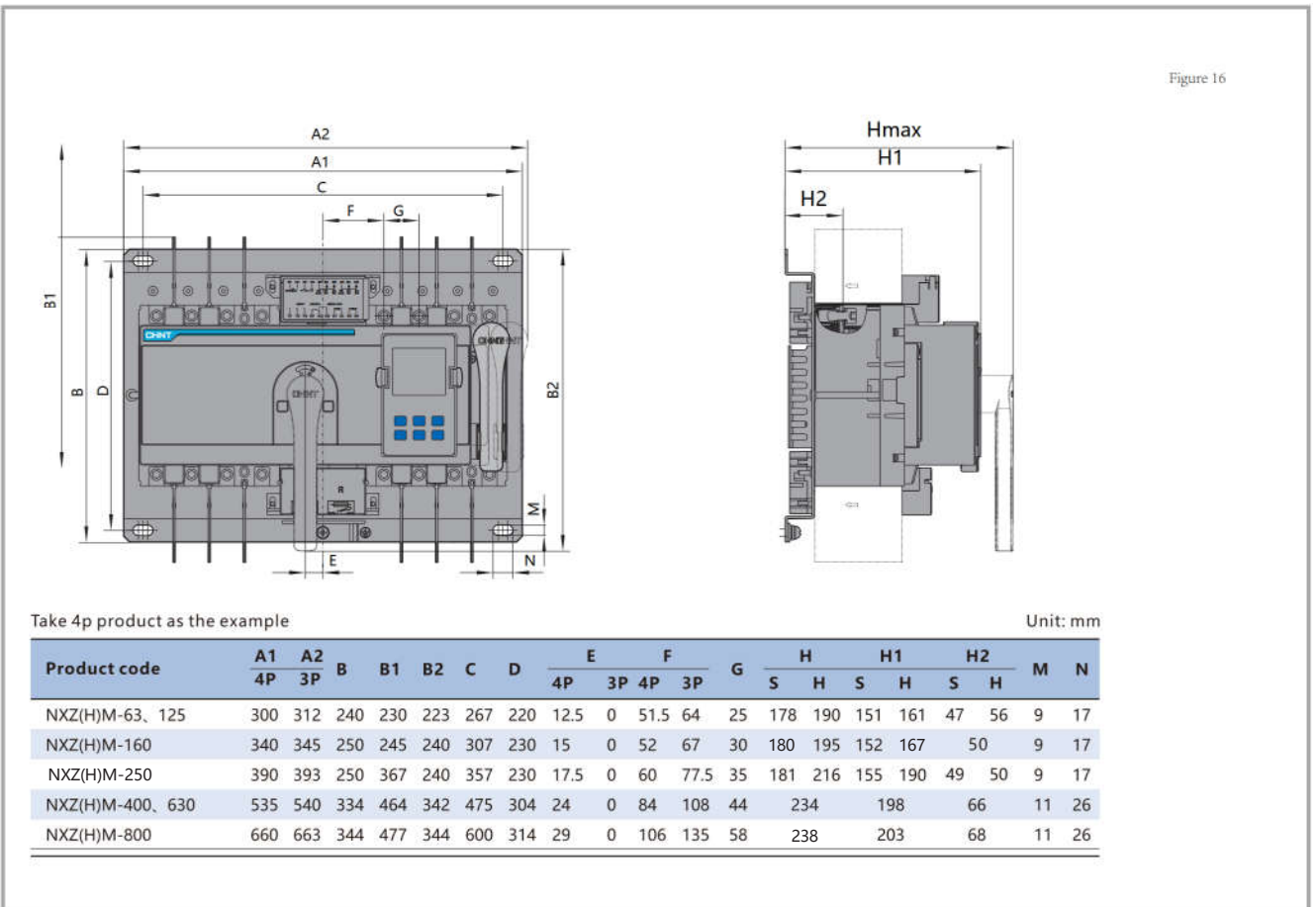


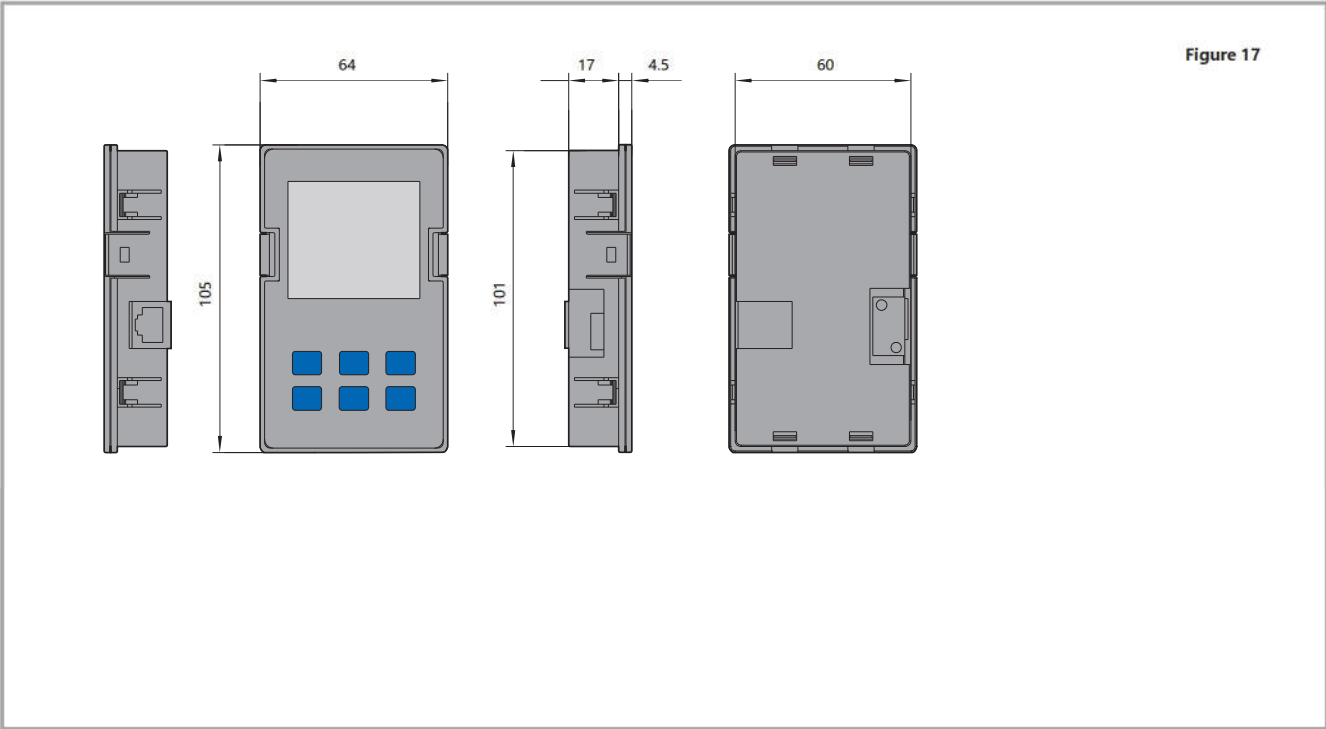
Figure 16

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	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	180	195	152	167	50		9	17
NXZ(H)M-250	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	238		203		68		11	26

Overall dimension of split type module (unit: mm)



Asia Pacific

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Singapore | Asia Pacific HQ

CHINT Global Pte Ltd

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Tel: +65 6329 3110
Fax: +65 6329 3159
Website: www.chintglobal.com

Sunlight Electrical Pte Ltd

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Website: www.sunlightgroup.com

India

CHINT India Energy Solution Private Limited

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Tel: +91 1202 9750 57
Email: marketing@chint.co.in
Website: www.chint.co.in

Philippines

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Website: www.chintglobal.com

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