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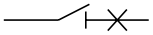
## 1、Applicable scope and purpose

The NDM5-1600 series of moulded case circuit breakers (referred to as circuit breakers) have a rated insulation voltage of 1000V and apply to circuits with the AC 50Hz/60Hz, the rated working voltageAC380/400/415V、AC500V、AC660/690V、AC800V，Vand rated working current (800A to 1250A). The circuit breakers are used for distributing power while protect the overload, short circuit and under-voltage (with a under-voltage release) of lines and power units as well as the infrequent starting, braking, overload and short circuit of motors.

The circuit breaker has an isolating function with the corresponding symbol of  ;

Comply with standards: IEC60947-2, GB/T 14048.2.

Each voltage level and short-circuit section capacity of the circuit breaker can be connected with the lower incoming line.(Except AC800V )

## 2、Picture of the product


Fig.1 Product picture

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## 3、Specification and model description

| ND | M | 5 | - | 1600 | □ | □ | / | □ | / | □/ | □ | □ | □ | □ | □ | □ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | | 4 | 5 | 6 | | 7 | | 8 | 9 | 10 | 11 | 12 | 13 | 14 |

| S.N. | Name of S.N. | NDM5 |
|---|---|---|
| 1 | Enterprise characteristic code | Manufacturer Code |
| 2 | Product type code | M:Moulded case circuit breaker (MCCB) |
| 3 | Design S.N. | 5 |
| 4 | Current of the frame size | 1600 |
| 5 | Interrupting level code | L:standard |
| | | M:medium-high |
| | | H:high |
| 6 | Rated current | See table 2 |
| 7 | Pole | 3:3 poles |
| | | 4B:N-pole is without the over-current protection and acts together with other three poles(N-pole close first and open last) |
| | | 4C:N-pole is with the over-current protection and acts together with other three poles(N-pole close first and open last) |
| 8 | Trip release code | TMF： Thermal magnetic fixed release |
| 9 | Installation code+ Wiring method | Null: Stationary connector + front panel wiring |
| | | ES：Stationary connector+ front extension wiring board |
| | | R1：Fixed type+ horizontal wiring behind terminal |
| | | R2：Fixed type+ vertical wiring behind terminal |
| 10 | Operation method | Null: directly handle operation |
| | | Z2A150: Circular eccentric hole rotary handle + shaft length 150mm |
| | | Z2A200: Circular eccentric hole rotary handle + shaft length 200mm |
| | | Z2A300: Circular eccentric hole rotary handle + shaft length 300mm |
| | | Z2A350: Circular eccentric hole rotary handle + shaft length 350mm |
| | | Z2A650: Circular eccentric hole rotary handle + shaft length 650mm |
| | | M02:motor operation DC24V |
| | | M11:motor operation AC110V/DC110V |
| | | M22:motor operation AC230V/DC220V |

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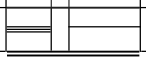
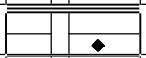
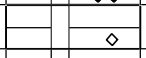
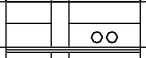
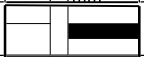
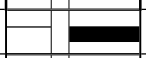
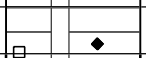
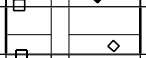
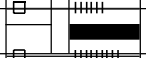
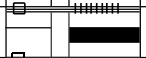
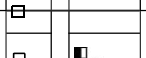
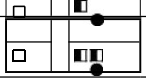
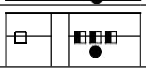
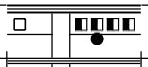
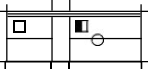
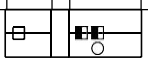
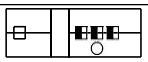
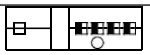
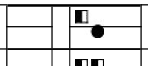
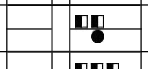
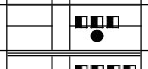
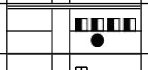
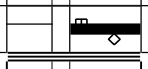
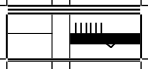
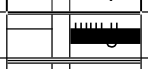
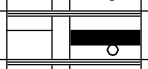
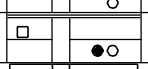
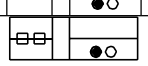
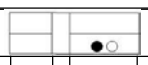
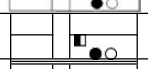
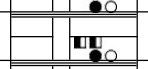
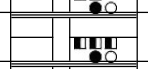
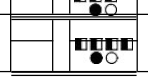
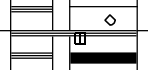
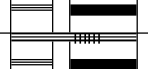
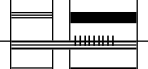
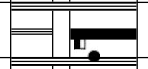
|---|---|---|
| | | M40:motor operation AC400V |
| 11 | Accessory code | See table 1 |
| 12 | Other codes | MS2：MS2 lock |
| 13 | Special code | Pin 35：default 800A/1000A |
| | | Pin 40：default 1250A/1600A |
| 14 | Application code | Application code |

Note: Default length of wiring screw: 800A/1000A: nail 35; 1250A/1600A: Pin 40. If you need o ther wiring screw lengths, please refer to Table 9.

Table 1 Accessory code

| Accessory code | Accessory name | Installation 3P、4P |
|---|---|---|
| 00 | None | — |
| 08 | Alarm contact |  |
| 98 | Two sets of alarm contact |  |
| 10 | Shunt release |  |
| K01 | Two sets of shunt release |  |
| 30 | Under-voltage release |  |
| A01 | Two sets of under-voltage release |  |
| 21 | Single auxiliary contact |  |
| 61 | Two sets of single auxiliary contact |  |
| 23 | There sets of single auxiliary contact |  |
| 24 | Four sets of single auxiliary contact |  |
| 18 | Shunt release、alarm contact |  |
| 38 | Under-voltage release、alarm contact |  |
| 22 | Alarm contact、alarm contact |  |
| 88 | Two sets of alarm contact、alarm contact |  |
| 26 | There sets of alarm contact、alarm contact |  |
| 25 | four sets of alarm contact、alarm contact |  |
| 42 | Shunt release、alarm contact、alarm contact |  |
| 44 | Shunt release、two sets of single auxiliary contact、alarm contact |  |
| 46 | Shunt release、there sets of single auxiliary contact、alarm contact |  |

| | | |
|---|---|---|
| 14 | Shunt release、four sets of single auxiliary contact、alarm contact |  |
| 75 | Under-voltage release、alarm contact、alarm contact |  |
| 77 | Under-voltage release、Two sets of single auxiliary contact、alarm contact |  |
| 81 | Under-voltage release、there sets of single auxiliary contact、alarm contact |  |
| 82 | Under-voltage release、four sets of single auxiliary contact、alarm contact |  |
| 41 | Shunt release、alarm contact |  |
| 11 | Shunt release、Two sets of single auxiliary contact |  |
| 12 | Shunt release、there sets of single auxiliary contact |  |
| 13 | Shunt release、four sets of single auxiliary contact |  |
| 71 | Under-voltage release、alarm contact |  |
| 72 | Under-voltage release、two sets of single auxiliary contact |  |
| 73 | Under-voltage release、there sets of single auxiliary contact |  |
| 74 | Under-voltage release、four sets of single auxiliary contact |  |
| 31 | Under-voltage release、shunt release、alarm contact |  |
| 37 | Under-voltage release、shunt release、Two sets of alarm contact |  |
| 50 | Under-voltage release、shunt release |  |
| 51 | Under-voltage release、shunt release、alarm contact |  |
| 52 | Under-voltage release、shunt release、Two sets of single auxiliary |  |
| 53 | Under-voltage release、shunt release、there sets of single auxiliary |  |
| 54 | Under-voltage release、shunt release、four sets of single auxiliary |  |
| 19 | Shunt release、two sets of alarm contact |  |
| 79 | Shunt release、two sets of alarm contact |  |
| 63 | Single auxiliary contact、two sets of alarm contact |  |
| 64 | Two sets of single auxiliary contact、two sets of alarm contact |  |
| 65 | There sets of single auxiliary contact、two sets of alarm contact |  |
| 66 | Four sets of single auxiliary contact、two sets of alarm contact |  |
| 43 | Shunt release、alarm contact、two sets of alarm contact |  |
| 45 | Shunt release、two sets of alarm contact、two sets of alarm contact |  |
| 47 | Shunt release、there sets of alarm contact、two sets of alarm contact |  |
| 15 | Shunt release、four sets of alarm contact、two sets of alarm contact |  |
| 76 | Under-voltage release、alarm contact、two sets of alarm contact |  |
| 80 | Under-voltage release、two sets of alarm contact、two sets of alarm contact |  |

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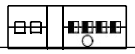
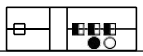
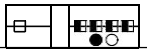
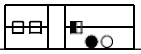
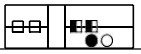
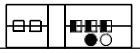
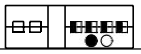
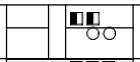
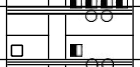
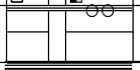
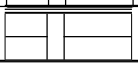
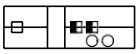
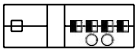
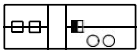
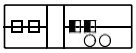
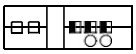
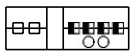
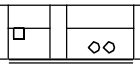
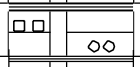
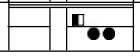
|---|---|---|
| 83 | Under-voltage release、there sets of alarm contact、two sets of alarm contact |  |
| 84 | Under-voltage release、four sets of single alarm contact、two sets of alarm contact |  |
| 32 | Under-voltage release、shunt release、alarm contact、alarm contact |  |
| 33 | Under-voltage release、shunt release、two sets of alarm contact、alarm contact |  |
| 34 | Under-voltage release、shunt release、there sets of alarm contact、alarm contact |  |
| 35 | Under-voltage release、shunt release、there sets of alarm contact、alarm contact |  |
| 39 | Under-voltage release、shunt release、alarm contact、two sets of alarm contact |  |
| 55 | Under-voltage release、shunt release、two sets of alarm contact、two sets of alarm contact |  |
| 56 | Under-voltage release、shunt release、there sets of alarm contact、two sets of alarm contact |  |
| 36 | Under-voltage release、shunt release、four sets of single alarm contact、two sets of alarm contact |  |
| A02 | Two sets of under-voltage release、alarm contact |  |
| A07 | Two sets of under-voltage release、two sets of alarm contact |  |
| A08 | Two sets of under-voltage release、there sets of alarm contact |  |
| A09 | Two sets of under-voltage release、four sets of single alarm contact |  |
| A10 | Two sets of under-voltage release、alarm contact、alarm contact |  |
| A12 | Two sets of under-voltage release、two sets of alarm contact、alarm contact |  |
| A14 | Two sets of under-voltage release、there sets of alarm contact、alarm contact |  |
| A16 | Two sets of under-voltage release、four sets of single alarm contact、alarm contact |  |
| A11 | Two sets of under-voltage release、alarm contact、two sets of alarm contact |  |
| A13 | Two sets of under-voltage release、two sets of alarm contact、Two sets of alarm contact |  |
| A15 | Two sets of under-voltage release、there sets of alarm contact、Two sets of alarm contact |  |
| A17 | Two sets of under-voltage release、four sets of single alarm contact、Two sets of alarm contact |  |
| A05 | Two sets of under-voltage release、alarm contact |  |
| A06 | Two sets of under-voltage release、two sets of alarm contact |  |
| K04 | Two sets of shunt release、alarm contact |  |

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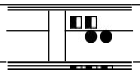
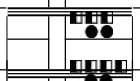
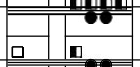
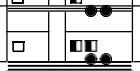
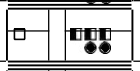
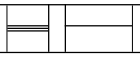
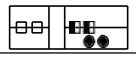
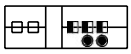
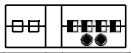
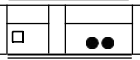
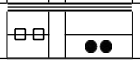
| | | |
|---|---|---|
| K06 | Two sets of shunt release、two sets of alarm contact |  |
| K07 | Two sets of shunt release、there sets of alarm contact |  |
| K08 | Two sets of shunt release、four sets of single alarm contact |  |
| K12 | Two sets of shunt release、alarm contact、alarm contact |  |
| K09 | Two sets of shunt release、two sets of alarm contact、alarm contact |  |
| K10 | Two sets of shunt release、there sets of alarm contact、alarm contact |  |
| K11 | Two sets of shunt release、four sets of single alarm contact、alarm contact |  |
| K13 | Two sets of shunt release、alarm contact、Two sets of alarm contact |  |
| K14 | Two sets of shunt release、two sets of alarm contact、Two sets of alarm contact |  |
| K15 | Two sets of shunt release、there sets of alarm contact、Two sets of alarm contact |  |
| K16 | Two sets of shunt release、four sets of single alarm contact、Two sets of alarm contact |  |
| K02 | Two sets of shunt release、alarm contact |  |
| K05 | Two sets of shunt release、two sets of alarm contact |  |

**Note:** ◧ Single auxiliary contact； □ Alarm contact； ● Shunt release； ○ Under-voltage release

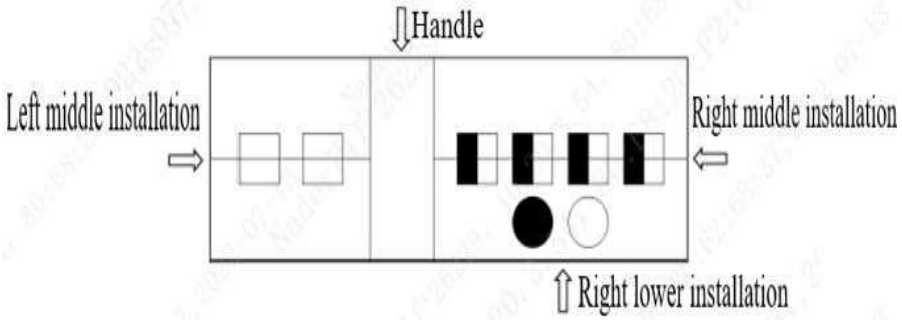



Fig.2 Attachment installation diagram

## 4、Main technical parameters

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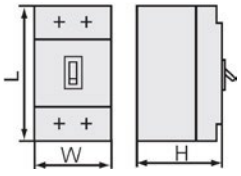
Table 2 Main technical parameters

| Modle | | | NDM5-1600 | | |
|---|---|---|---|---|---|
| Frame current Inm (A) | | | 1600 | | |
| Rated voltage Ue (V) | | | AC380/400/415、500、660/690、800 | | |
| Rated current In(A) | | | 800、1000、1250 | | |
| Rated insulation voltage Ui V) | | | 1000 | | |
| Power frequency withstand voltage (V) | | | 3500 | | |
| Rated impulse withstand voltage Uimp (kV) | | | 12 | | |
| Number of poles | | | 3 | 3、4 | 3 |
| Interrupting level code | | | L | M | H |
| Rated limit short-circuit breaking capacity Icu (kA) | AC380/400/415V | | 70 | 100 | 100 |
| | AC500V | | 50 | 70 | 85 |
| | AC660/690V | | 20 | 35 | 50 |
| | AC800V | | / | / | 30 |
| Rated operating short-circuit breaking capacity Ics (kA) | AC380/400/415V | | 70 | 100 | 100 |
| | AC500V | | 50 | 70 | 70 |
| | AC660/690V | | 20 | 35 | 42 |
| | AC800V | | / | / | 20 |
| Usage category | | | A | | |
| Operational performance (times) | Mechanical life | Maintainable free life | 10000(3P)/6000(4P) | | |
| | | Maintainable life | 20000(3P)/12000(4P) | | |
| | Electrical life | AC415V | 3000 | | |
| | | AC500V | 1500 | | |
| | | AC690V | 1000 | | |
| | | AC800V | 500 | | |
| Boundary dimension   | | L(mm) | 268 | | |
| | | W(mm) | 210(3P)/280(4P) | | |
| | | H(mm) | 152 | | |
| Flashover distance(mm) | | | ⩽100 | | |

Note: The overall dimension does not include the dimension of terminal cover.

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4.1 Sectional area and applicable rated current adopted in wiring

Table 3 Wire parameters

| Rated current (A) | Copper bar | |
|---|---|---|
| | size（mm²） | Quantity |
| 800 | 50×5 | 2 |
| 1000 | 50×6 | 2 |
| 1250 | 50×8 | 2 |

4.2 Derating factor of temperature change for the circuit breaker

Table 4 Derating Factor Table of Temperature Change for the Circuit Breaker

| Model | Screw application | Thread specification | Torsional moment (N·m) |
|---|---|---|---|
| NDM5-1600 | Wiring screw | M10 | 20 |
| | Set screw | M5 | 4 |

4.3 Derating factor of temperature change for the circuit breaker

Table 5 Derating Factor Table of Temperature Change for the Circuit Breaker

| Model | Derating factor of product temperature change | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NDM5-1600 | Temperatu（℃） | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
| | Derating | 1 | 0.96 | 0.92 | 0.87 | 0.82 | 0.76 | 0.70 |

Note: 1)When the operating ambient temperature is below + 40℃,the product can be used normally without derating capacity. and do not need to reduce capacity.

2)The above derating factors are measured under the rated current of the shell frame.

4.4 High altitude derating factor of circuit breaker

Table 6 Altitude drop correction factor

| Altitude (m) | Working current correction coefficient | Maximum working current correction coefficient (V) | | Power frequency withstand voltage (V) | Isolation voltage correction coefficient (V) |
|---|---|---|---|---|---|
| 2000 | 1 | 800 | 690 | 3500 | 1000 |
| 2500 | 1 | 800 | 690 | 3500 | 1000 |
| 3000 | 0.98 | 720 | 620 | 3150 | 900 |
| 3500 | 0.97 | 670 | 580 | 3000 | 850 |
| 4000 | 0.95 | 630 | 550 | 2800 | 810 |
| 4500 | 0.94 | 600 | 520 | 2650 | 770 |
| 5000 | 0.93 | 560 | 500 | 2500 | 730 |

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4.5 Power consumption of circuit breaker

Table 7 NDM5-1600 Product current specification single phase power consumption able

| Model | Current specification | Single phase power consumption (W) | |
|---|---|---|---|
| | | Front panel wiring | Extended row wiring |
| NDM5-1600 | 800A | 28 | 31 |
| | 1000A | 40 | 43 |
| | 1250A | 47 | 52 |
| Note：The above data are the single-phase loss measured under the rated current of the circuit breaker when the ring temperature is 40℃。 | | | |

## 5、Normal Working Environment of Circuit Breaker

1) The altitude of the installation site doesn't exceed 2,500m. See the "High-altitude Derating Factor Table of Circuit Breaker" for the derating factor at the altitude;
2) The ambient temperature is -35℃ ~+ 70℃; the average within 24 h shall not be more than +35℃. If the ambient temperature is higher than +40℃, the user needs to reduce the capacity. See the "Derating Factor Table of Temperature Change for the Circuit Breaker" for the derating factor;
3) Its relative humidity at an ambient temperature of +40℃ should not exceed 50%. A higher relative humidity is allowed at a lower temperature. For example, the relative humidity at 20℃ can reach 90%; for frost due to temperature change, the corresponding measures should be taken;
4) The product can withstand the effects of wet air, salt mist, oil mist and mould;
5) The installation category of the circuit breaker connected to the main loop is: Category Ⅲ (power distribution and control level), The installation category of the circuit breaker not connected to the main loop is: Category Ⅱ (load level);
6) The pollution level is Level 3;
7) Degree of protection: IP 20;
8) The product should be installed in places that are free from explosive media, media corrosive to metal, insulation damaging gas, and conductive dust, which should be also avoided from snow and rain;

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9) In case of stricter user conditions than the above description, negotiate with the manufacturer.

## 6、Tripping characteristics

### 6.1 Tripping characteristics curve

Tripping characteristics curve under normal environment (ambient air temperature: +40℃), see the figure below:

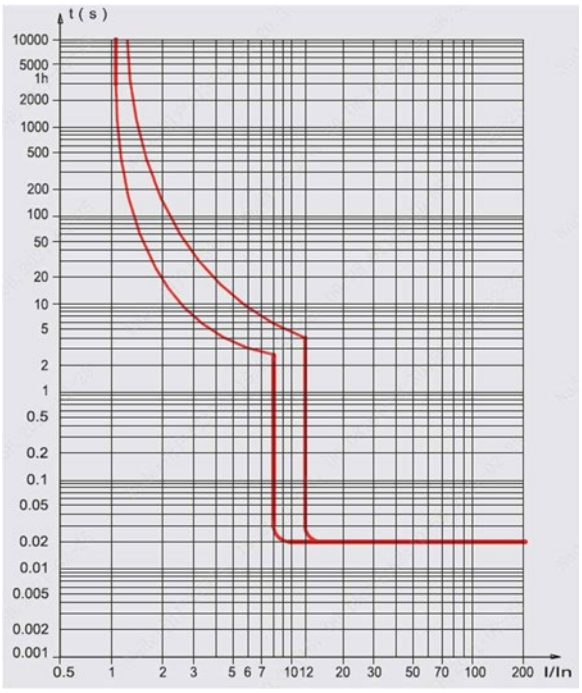


Fig.3 800A、1000A

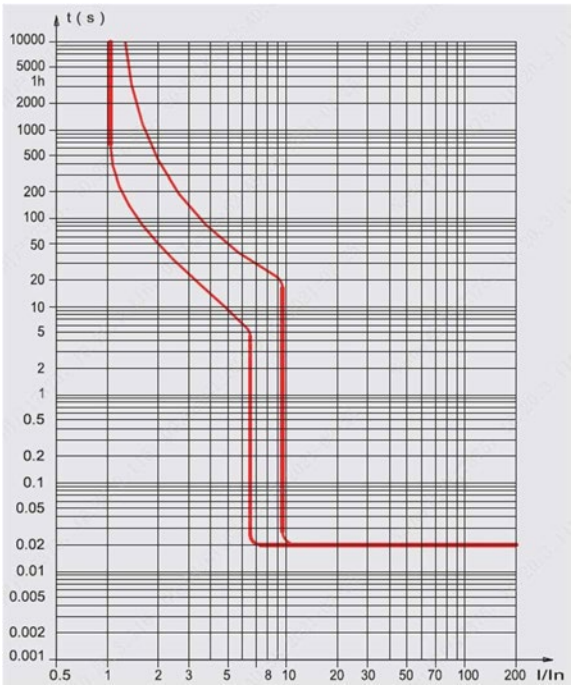


Fig.4 1250A

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6.2 Current limiting and permissive characteristic curve

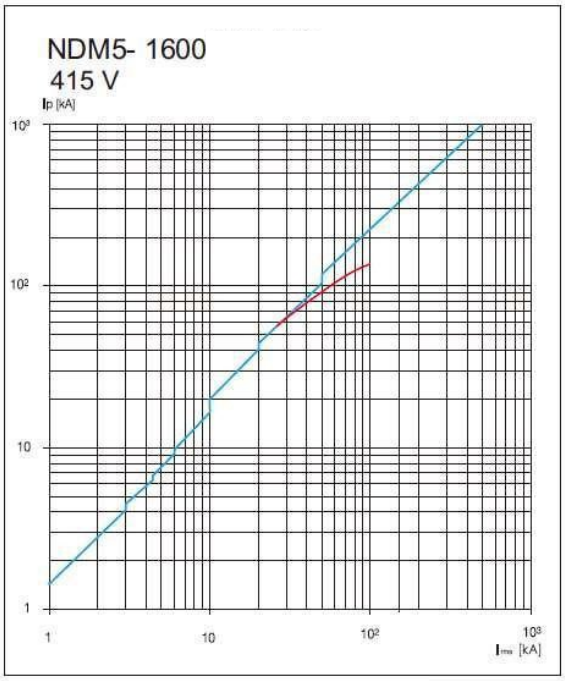


Fig.5 Current limiting characteristic curve chart

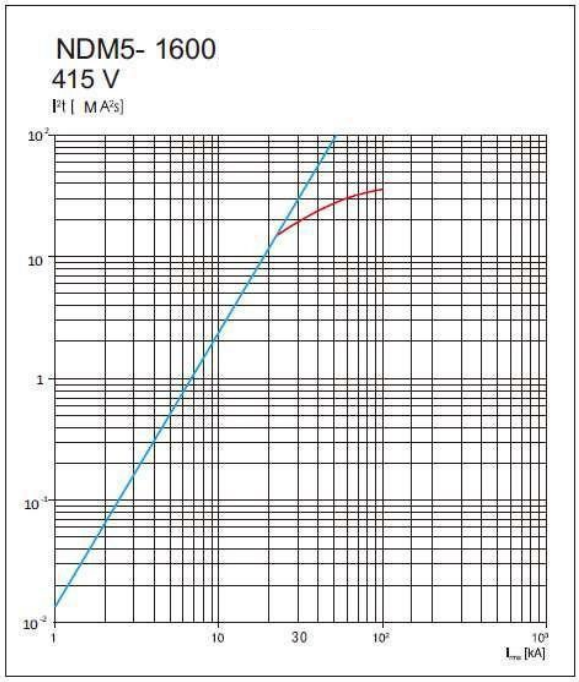


Fig.6 Permissive characteristic curve chart

## 7、Products Outline and Installation Dimensions

7.1 3P Outline and installation dimensions of front board wiring products

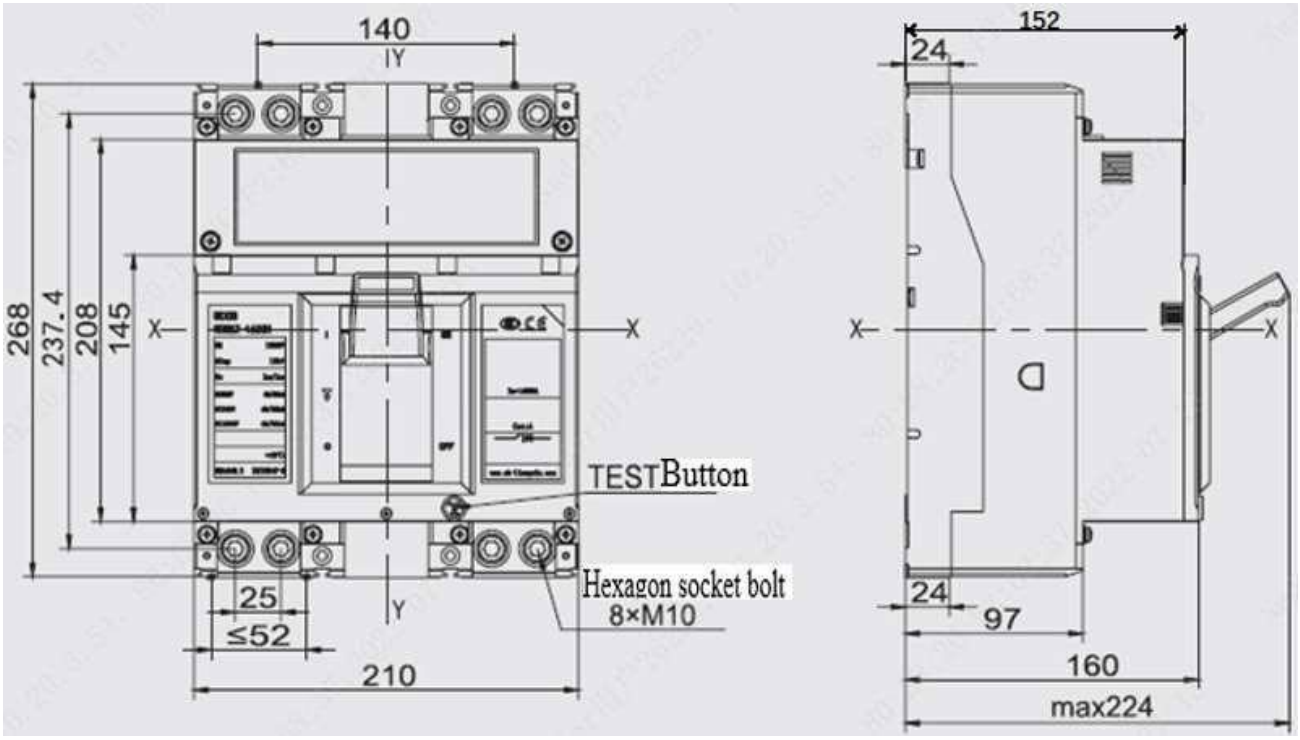


Fig.7 Overall dimensions of front board wiring products

Note: Unmarked tolerance level should follow GB/T 1804-c.

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7.2 3P Outline and installation dimensions of expansion wiring in front of the board

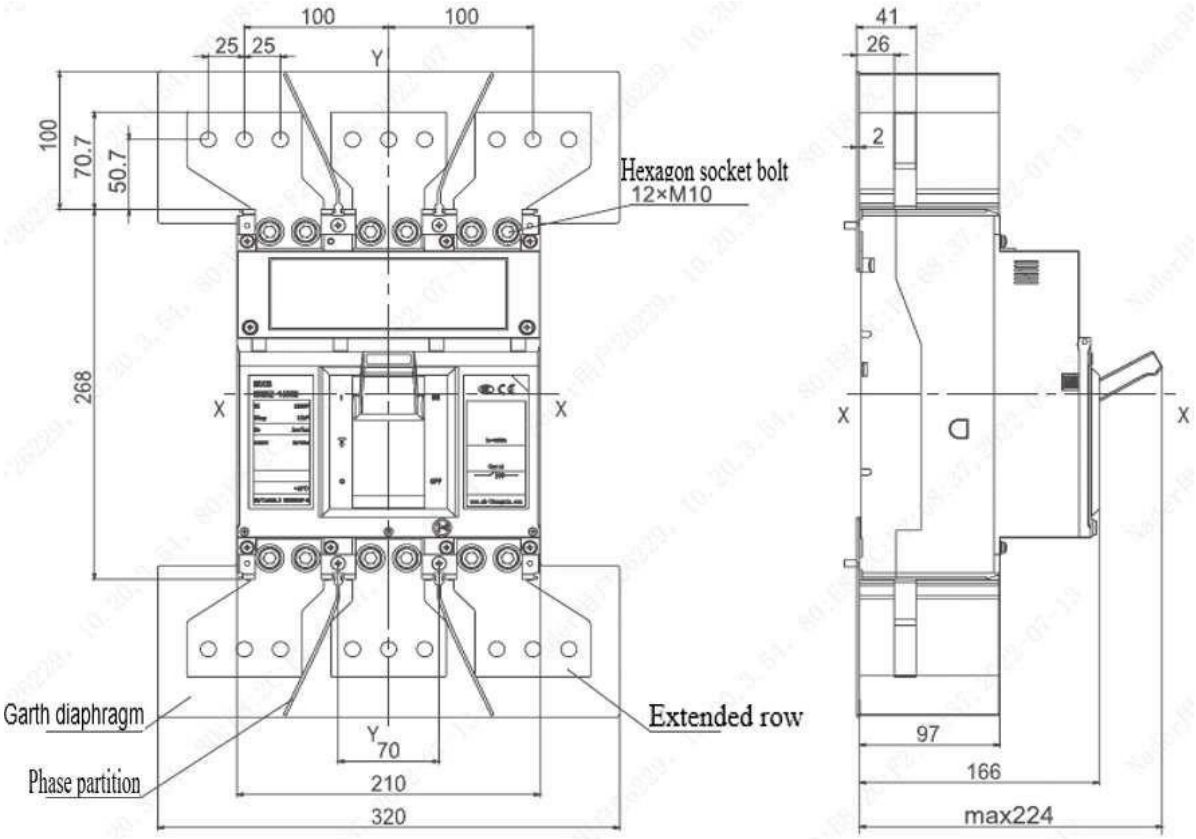


Fig.8 Outline and installation dimensions of expansion wiring in front of the board

Note: Unmarked tolerance level should follow GB/T 1804-c.

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7. 3 4P Outline and installation dimensions of front board wiring products

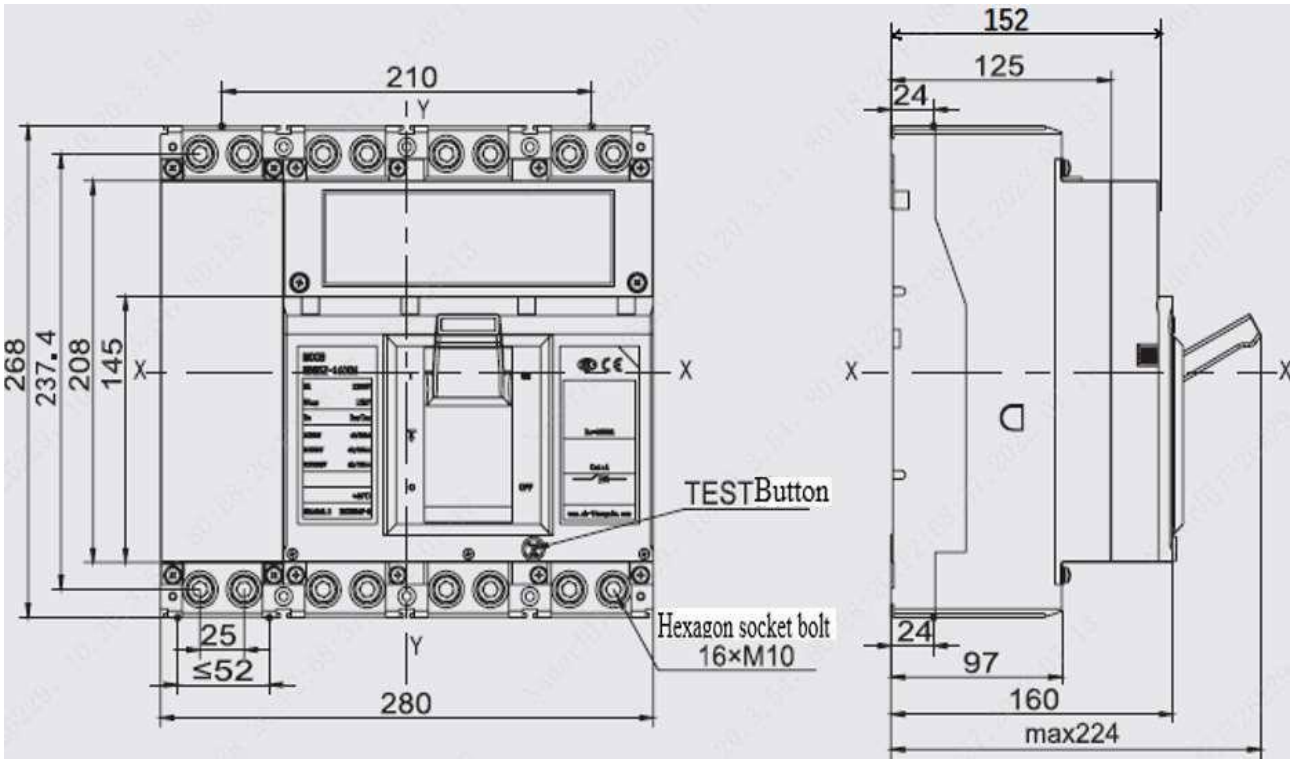


Fig.10 Overall dimensions of front board wiring products

Note: Unmarked tolerance level should follow GB/T 1804-c.

7. 4 4P Outline and installation dimensions of expansion wiring in front of the board

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7.4 4P Outline and installation dimensions of expansion wiring in front of the board

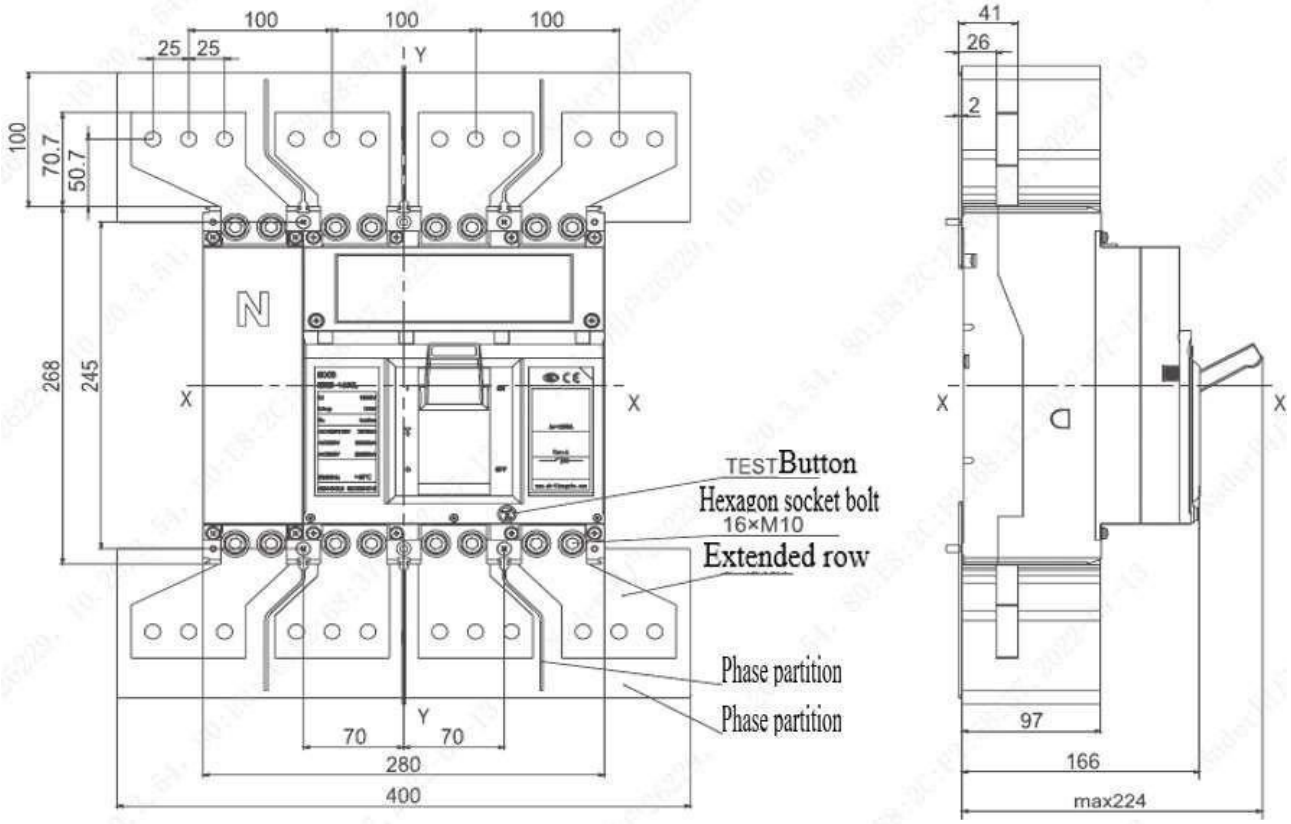


Fig.11 Outline and installation dimensions of expansion wiring in front of the board

Note: Unmarked tolerance level should follow GB/T 1804-c.

7.5 3P、4P Overall dimensions of front board wiring product

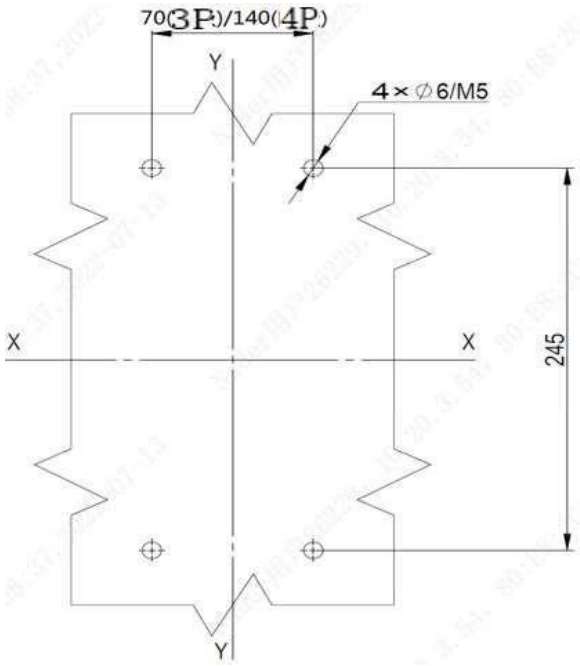


Fig.12 Mounting hole installed on the base plate

Note: Unmarked tolerance level should follow GB/T 1804-c.

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7.6 3P Overall dimensions of horizontal wiring products behind the board

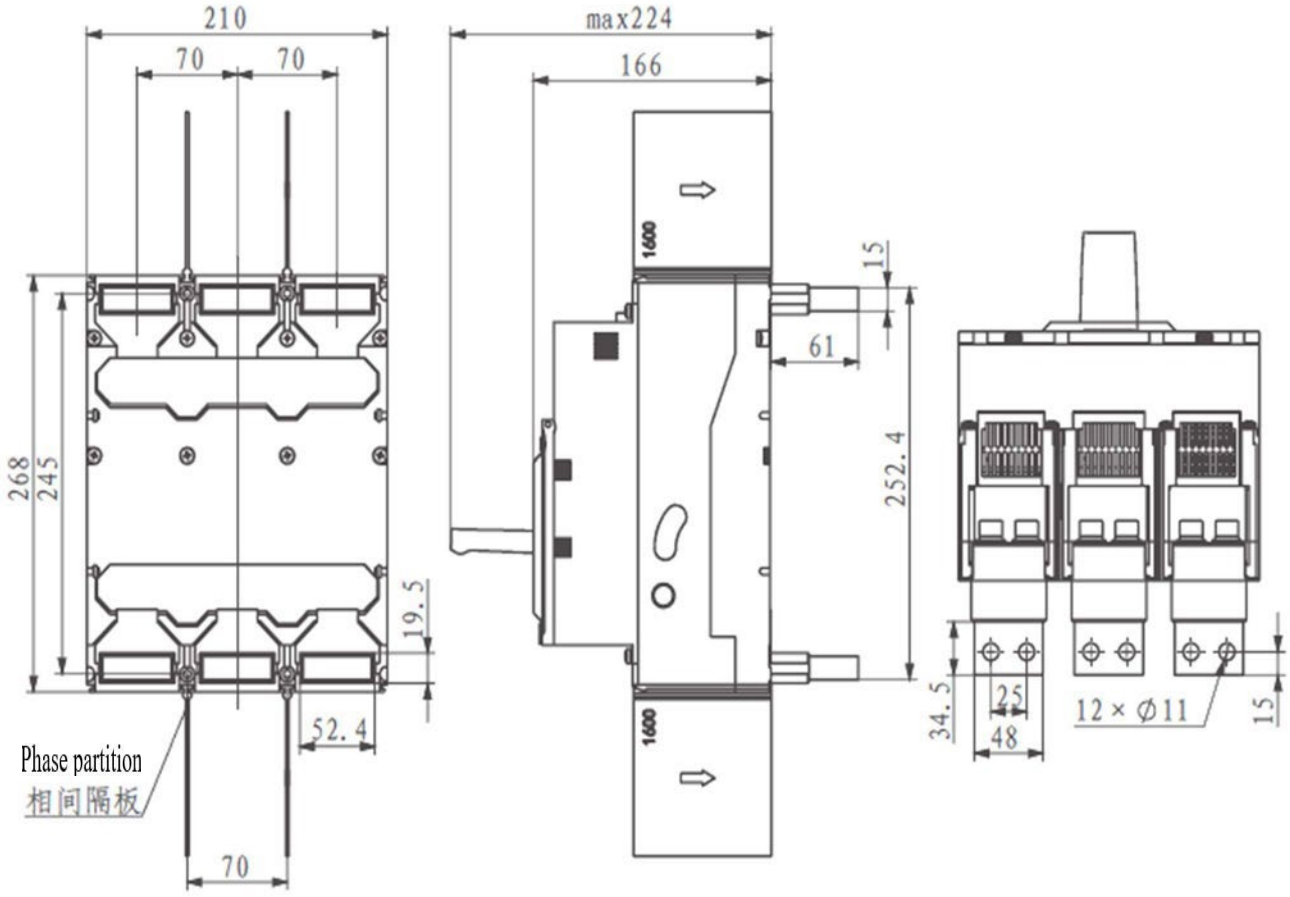


Fig.13 Overall dimensions of horizontal wiring products behind the board

Note: Unmarked tolerance level should follow GB/T 1804-c.

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## 7. 7 4P Overall dimensions of horizontal wiring products behind the board

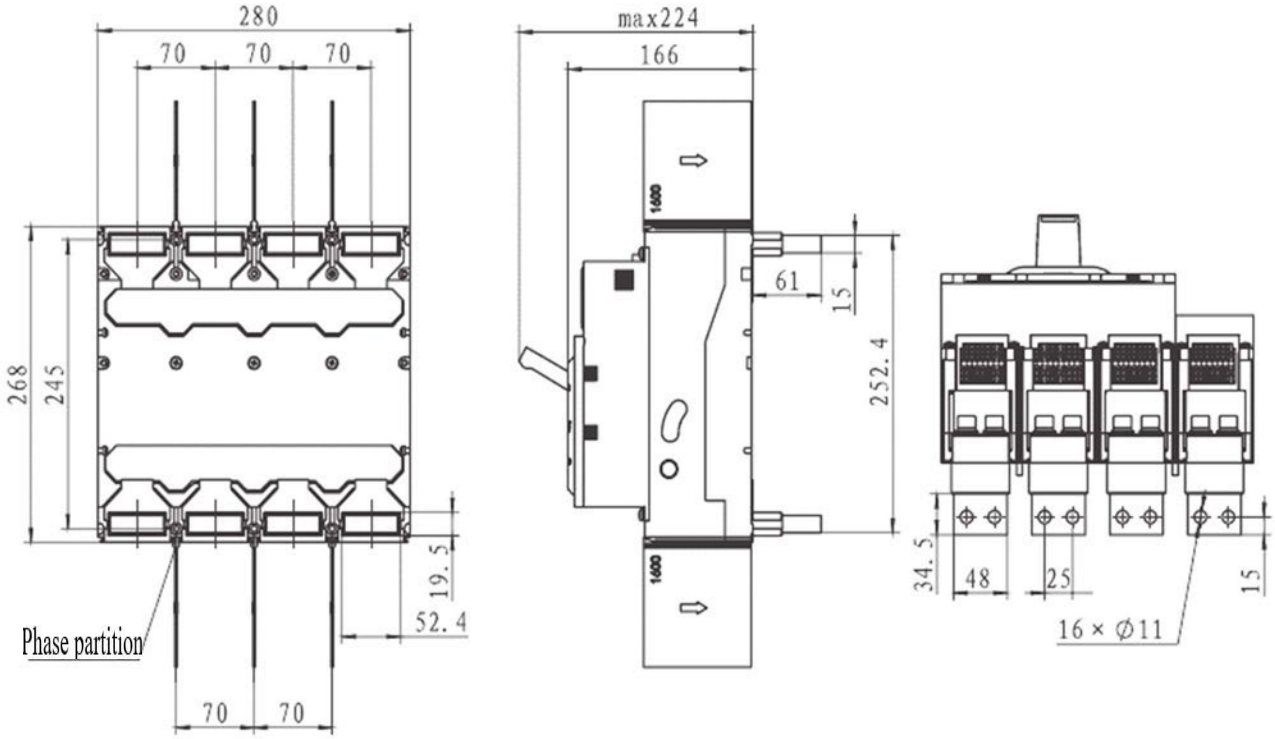


Fig.14 Overall dimensions of horizontal wiring products behind the board

Note: Unmarked tolerance level should follow GB/T 1804-c.

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## 7.8 3P Outline dimensions of vertical wiring products behind the board

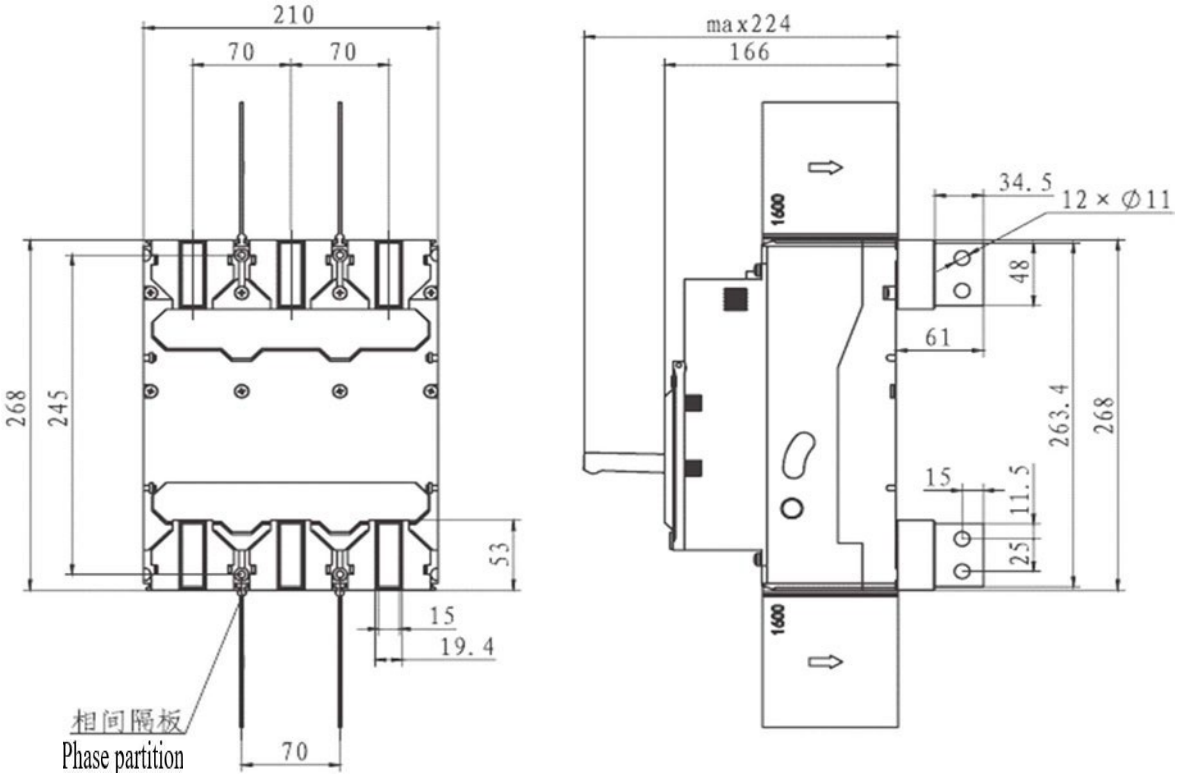


Fig.15 Outline dimensions of vertical wiring products behind the board

Note: Unmarked tolerance level should follow GB/T 1804-c.

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## 7.9 4P Outline dimensions of vertical wiring products behind the board

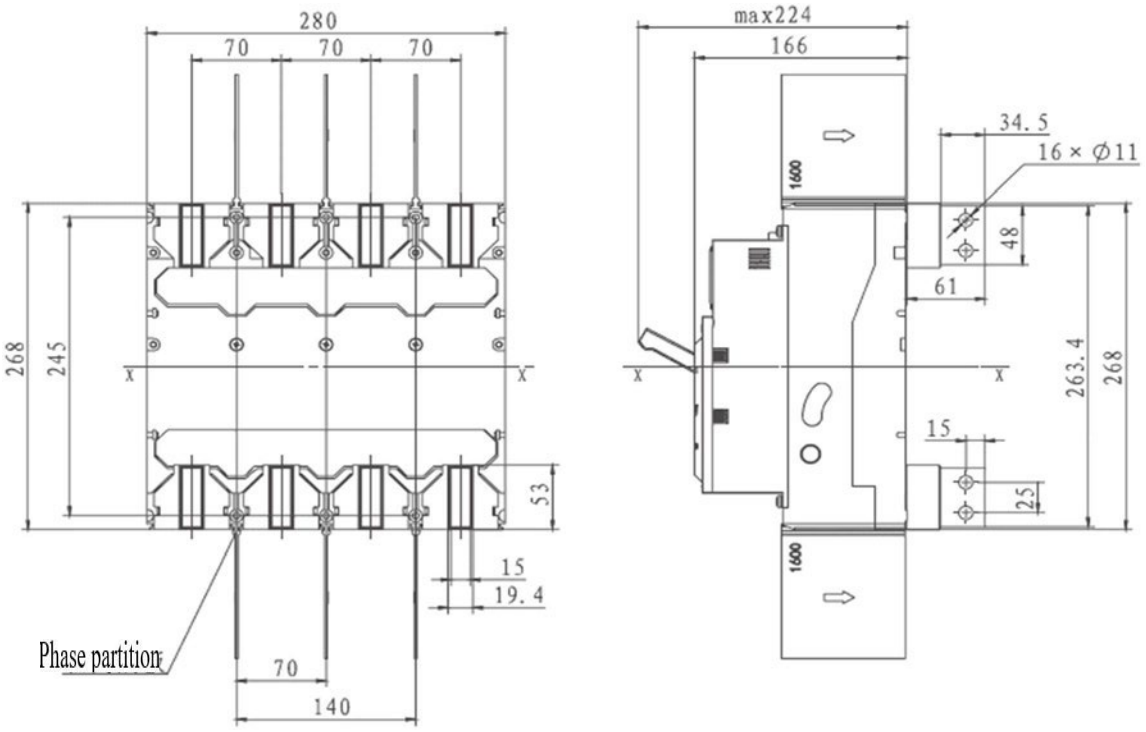


Fig.16 Outline dimensions of vertical wiring products behind the board

Note: Unmarked tolerance level should follow GB/T 1804-c.

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## 7. 10 Rotary handle operating mechanism

Manual operation-the schematic diagram of handle installation and opening and the outline dimension diagram of manual operation are shown below respectively：

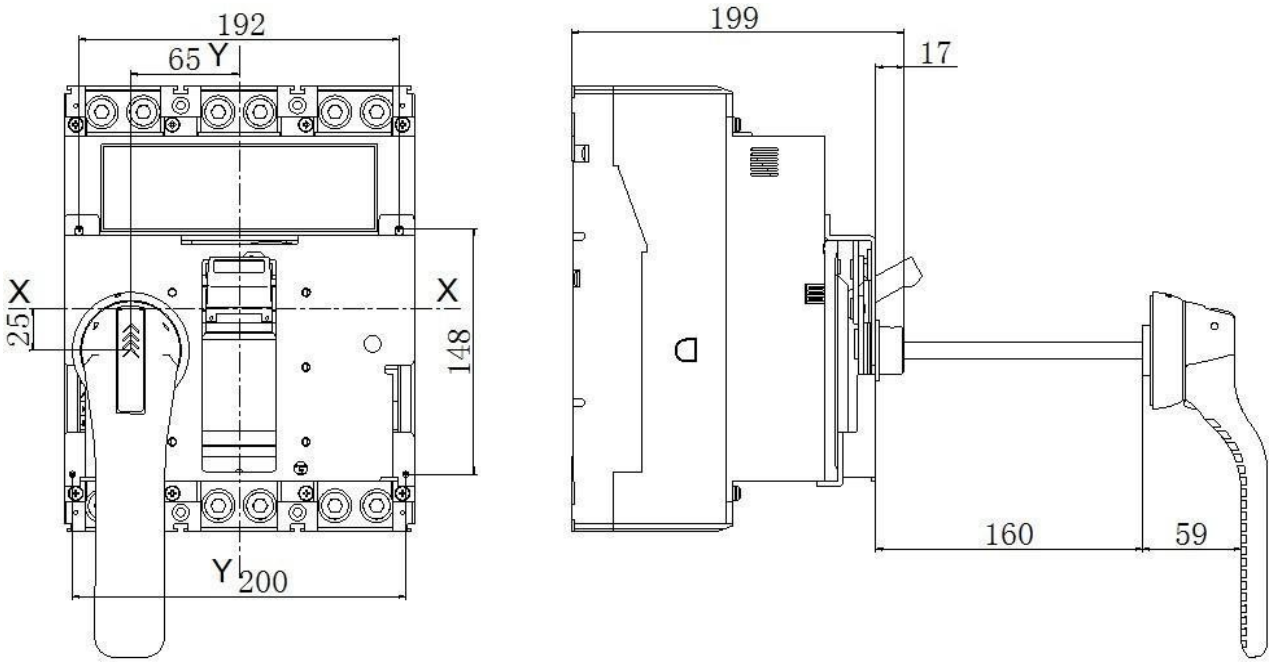


Fig.17 Installation drawing of rotary handle operating mechanism

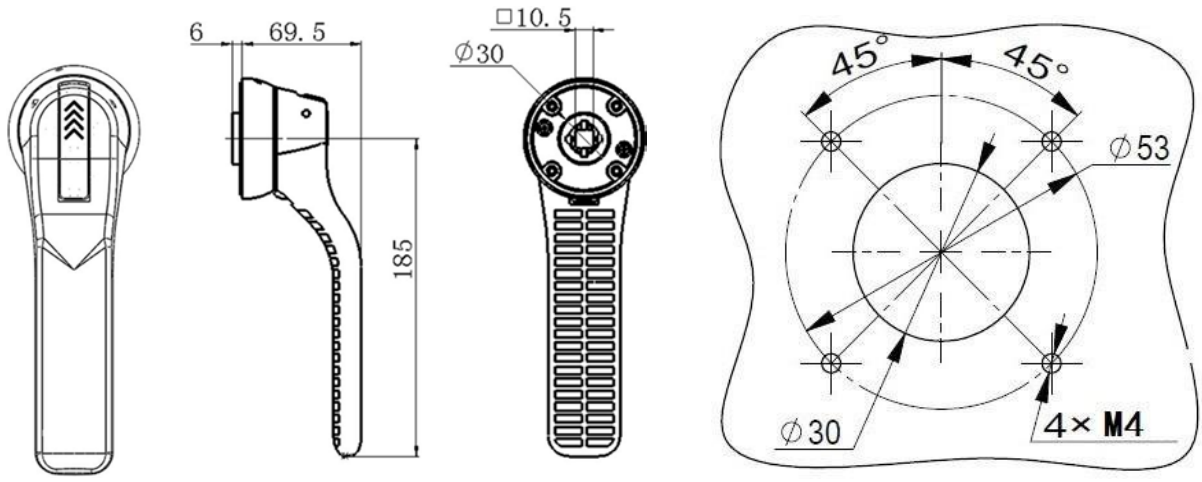


Fig.18 Installation opening diagram of rotary handle

Note: Unmarked tolerance level should follow GB/T 1804-c.

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## 7. 11 Electric operation

Electric operation-overall dimension of circuit breaker and its electric operating mechanism after installation：

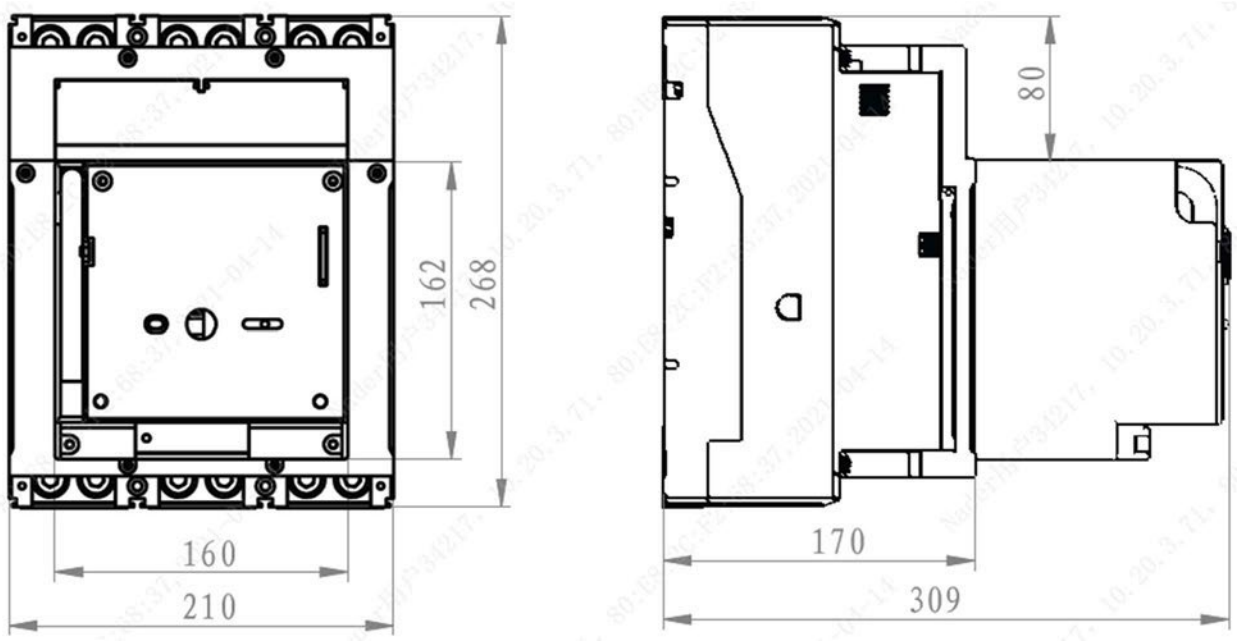


Fig.19 External dimension diagram of electric operation

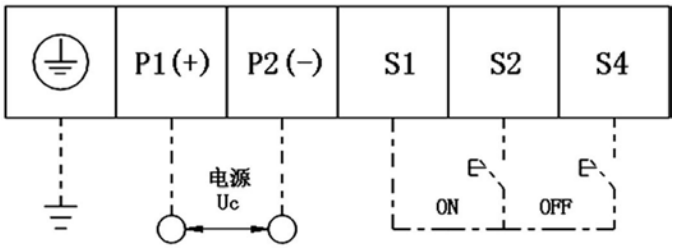


Fig.20 Electric operation wiring diagram

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Note：1）During manual operation,180° shall be operated clockwise ,and counterclockwise operation is prohibited

2）P1 and P2 shall not be connected with S1 and S2 and S4 during electric operation wiring

3) Unmarked tolerance level should follow GB/T 1804-c.

Table 8 Voltage specification and power of electric operation

| Attachment Name | Electric operation | | | |
|---|---|---|---|---|
| Voltage specification | DC24V | AC110V/DC110V | AC230V/DC220V | AC400V |
| power (W) | 240W | 400W | 400W | 400W |

7.12 Connction copper bar thickness and screw length

Table 9 Connction copper bar thickness and screw length

| S.N. | thickness of wiring copper bar(mm) | Length of socket head cap screw(mm) |
|---|---|---|
| 1 | 6、8 | M10X30 |
| 2 | 10、12 | M10X35 |
| 3 | 15 | M10X40 |
| 4 | 20 | M10X45 |

Note: The Length of socket head cap screw shall be indicated when ordering again.

## 7.13 Safety distance

The minimum safety distance between the top, bottom, side and front panel when installing the circuit breaker, see the figure below。

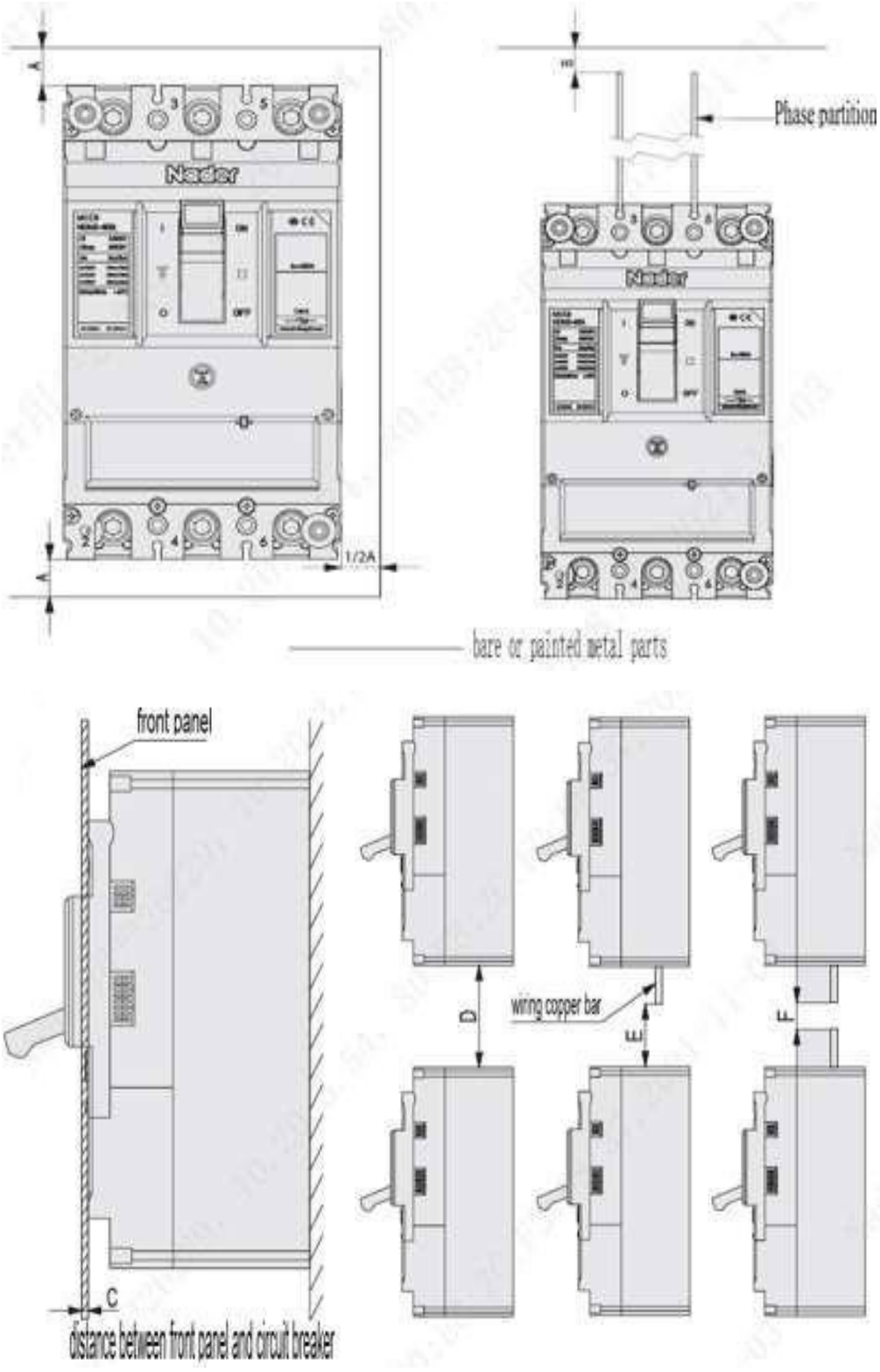



Fig.21 Insulation distance mounted in the metal cabinet

Table 10 Insulation distance mounted in the metal cabinet (unit: mm)

| Model | Spacing A | Spacing B | Spacing C | Spacing D | Spacing E | Spacing F |
|---|---|---|---|---|---|---|
| NDM5-1600 | ≥100 | ≥0 | ≥0 | ≥180 | ≥100 | ≥40 |

Note: Unmarked tolerance level should follow GB/T 1804-c.

7.15 Wiring diagram of circuit breaker

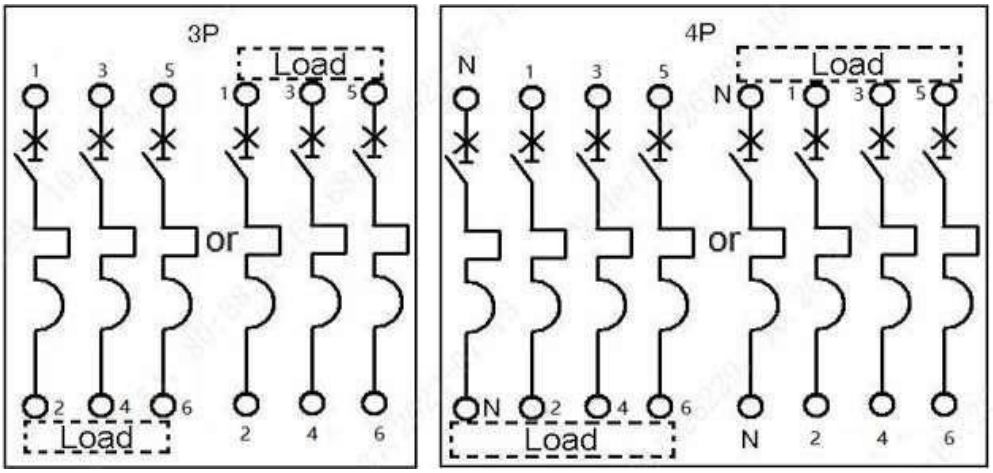



Fig.22 Main circuit wiring mode of AC products

## 8、Attachment function description

### 8.1 Under-voltage release

When the power voltage drops to the range (35%~70%) of the under-voltage release, the release can break the circuit breaker reliably; when the power voltage is 35% lower than the rated working voltage of the under-voltage release, the release can prevent closing of the circuit breaker; when the power voltage is 85% higher than the rated working voltage of the under-voltage release, the release can guarantee reliable closing of the circuit breaker.

Table 11 Rated Parameters of the Under-voltage Release

| Accessory name | voltage release | | |
|---|---|---|---|
| Voltage specifications (V) | AC/DC110 | AC/DC230 | AC/DC400 |
| Maintain power consumption (W) | 7 | 8 | 10 |
| Instantaneous power consumption(W) | 230 | 500 | 270 |
| Code name | Q11 | Q22 | Q40 |


Fig. 23 Working diagram of under-voltage release

## 8.2 Shunt release

When the external voltage of the shunt release is between 70% and 110% of the rated control power voltage, the release can break the circuit breaker reliably.

Table 12 Rated Parameters of the Shunt Release

| Accessory name | Shunt release | | |
|---|---|---|---|
| Voltage specifications (V) | AC/DC24 | AC/DC110 | AC/DC230 |
| Maintain power consumption (W) | 3.5 | 3.5 | 3.5 |
| Instantaneous power consumption(W) | 240 | 230 | 300 |
| Code name | FT02 | FT11 | FT22 |

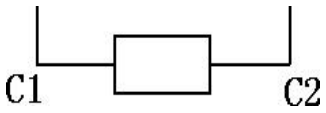



Fig.24 Working Diagram of Shunt Release

Note：shunt tripper is working principle：it is a single pulse action(power on time is recommended to be greater than 200ms)。If it needs to act again, the shunt release must be power on before it can act again. (power on time is recommended to be greater than 200ms)，The time from power on (receiving signal)of the shunt release to product tripping is 100ms。

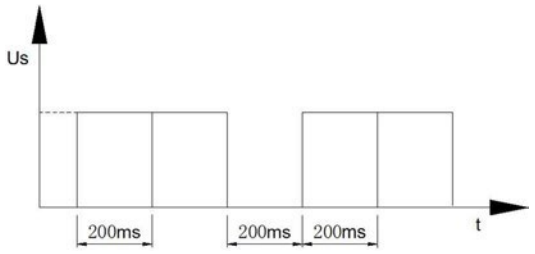
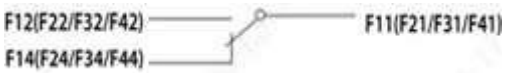



Fig.25 Working principle diagram of shunt tripper

## 8.3 Rated parameters of the auxiliary contact

Table 13 Parameter of Auxiliary Contact

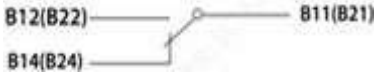
| Accessory name | | Auxiliary contact(conventional) | Auxiliary contact(Low power consumption） |
|---|---|---|---|
| Voltage specifications(V)/ conventional thermal current (Ith) | | AC250V/10A、AC400V/3A、DC220V/0.2A | DC30V/0.1A |
| Wiring diagram | Off |   | |
| | On |   | |
| Internal resistance | | ＜30mΩ | ＜50mΩ |

Note1: If need DC30V/0.1A auxiliary contact, please explain when ordering。

2: The first auxiliary harness is identified as F11 (red), F12 (white), F14 (yellow), and the second auxiliary harness is identified as F21 (red), F22 (white), F24 (yellow), and so on. At most three groups of auxiliary harness are installed.

## 8.4 Rated parameters of the alarm contact

Table 14 Rated parameters of the alarm contact

| Accessory name | | Alarm contact(conventional) | Alarm contact(Low power consumption) |
|---|---|---|---|
| Voltage specifications(V)/ conventional（Ith） | | AC250V/10A、AC400V/3A、DC220V/0.2A | DC30V/0.1A |
| Wiring diagram | On, off |   | |
| | Free tripping |   | |
| Internal resistance | | ＜30mΩ | ＜50mΩ |

Note1: If need DC30V/0.1A Alarm contact, please explain when ordering。

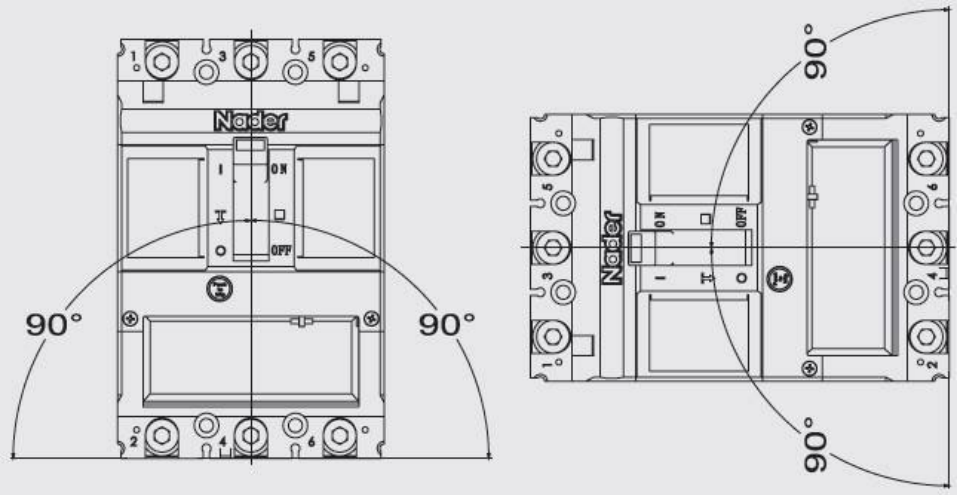
2： The first alarm harness is identified as B11 (red), B12 (white), B14 (yellow), and the second auxiliary harness is identified as B21 (red), B22 (white), B24(yellow), and so on. At most two groups of alarms are installed.

**Under-voltage release、Shunt Release、Auxiliary contact、Alarm contact ， the standard wiring line is 0.7mlong ， 1m、2m、4m can be customized according to requirements.**

## 9、Installation direction of circuit breaker

For vertical installation of the product, the gradient between the installation surface and the vertical plane is no more than ±5°

Horizontal installation of the product.




Vertical Installation Horizontal Installation

Fig.26 Mounting Method of Product

## 10、Packaging and storage of circuit breaker

Minimum packaging quantity: 1 piece/box. The packaged products should be stored in a warehouse with the air ventilation and the relative humidity no more than 80% when the ambient temperature is -40℃~+75℃. No acidic alkaline or other corrosive gas exists in the ambient air in the warehouse. Under the conditions above, the storage period shall be no more than three years since the manufacturing date.

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## 11、Environment

The environment that comply with RoHS instruction.

## 12、Installation direction of circuit breaker

Table 15 Accessories list form

| S.N. | Name | Specification | 3P Quantity/Set | 4P Quantity/Set |
|---|---|---|---|---|
| 1 | Cross small pan-head screw | M5×100 | 4 | 4 |
| 2 | Hexagon nut | M5 | 4 | 4 |
| 3 | Spring washer | 5 | 4 | 4 |
| 4 | Plain washer | 5 | 4 | 4 |
| 5 | Phase partition | —— | 4 | 6 |
| 6 | Garth diaphragm | —— | 2 | 2 |
| 7 | Terminal screw* | see table 9* | 12 | 16 |

Note : Terminal screw see table 9 connction copper bar thickness and screw length

## 13、Circuit breaker notes

1) Various characteristics and accessories of the circuit breaker are set in the factory. The circuit breaker, tripping unit or other accessories can only be adjusted, installed and maintained by the trained or qualified professionals according to the parameter requirements of the line design;

2) Ensure that the power supply is off before installing or removing any device;

3) The circuit breaker handle can be located in three positions, indicating three states: on, off and free tripping. When the handle is in the free tripping position, pull the handle in the off direction when the circuit breaker is connected and on.