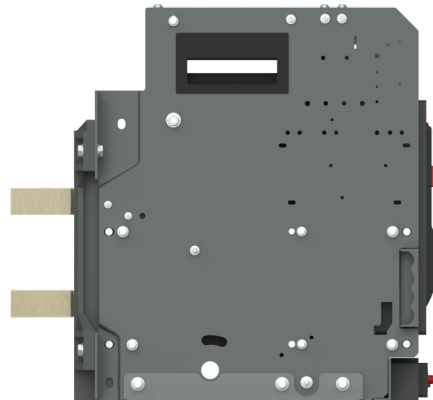


## CW7 Air Circuit Breaker



### General

CW7 series air circuit breaker(hereinafter called ACB) is suitable for the circuit of AC 50Hz/60Hz with rated service voltage 400V, 690V and rated service current between 200A -6300A. It is mainly used to distribute electric energy and protect circuits and electric equipment against over-load, under-voltage, short-circuit and singlephase earthing fault. With intelligent and seleActive protection functions, the breaker can improve the reliability of power supply, and avoid unnecessary power failure. The breaker is applicable for power stations, factories, mines(for 690V) and modern high-buildings,especially for the distribution system of intelligentized building.

Standard: IEC/EN 60947-2

### Selection

CW7	2500A	3P	Fixed type
↓	↓	↓	↓
Model	Rated current in scope of frame size	Number of poles	Installation
ACB	1600 Type: 200A,400A,630A,800A,1000A,1250A,1600A 2000 Type: 630A,800A,1000A,1250A,1600A,2000A 2500 Type: 630A,800A,1000A,1250A,1600A,2000A,2500A 3200 Type: 2000A,2500A,3200A 4000 Type: 2500A,3200A,4000A 6300 Type: 4000A,5000A,6300A	3P 4P	Fixed type:horizontal Drawout type: horizontal / vertical (Default horizontal wiring)
	3M	□	□
↓	↓	↓	↓
Intelligent controller	Common use accessory	Optional accessories	
2M type: digital display 3M type: LCD display 2H type: communication function, digital display 3H type: communication function, LCD display	Shunt release Undervoltage release Closing electromagnet Motor-driven energy-storage mechanism Auxiliary contact	Mechanical interlock Automatic power transfer system Current transformer connected with neutral load	

### Operating Conditions

Type	Operating and Installation Conditions
Ambient temperature	-5°C~+40°C;the average value within 24h shall not exceed +35°C; L type and M type controller can be used under -40°C~+70°C
Altitude	≤2000m
Pollution grade	3
Safety category	Main circuit and undervoltage tripping coil is IV,other auxiliary and control circuit is III
Installation position	Vertically installed, inclination between the mounting plane and the vertical plane should not exceed ±5

## Technical Parameters

Item	Description
Number of Poles	3P, 4P
Rated voltage Ue(V)	400/415, 660/690
Rated insulation voltage Ui(V)	1000
Rated impulse withstand voltage Uimp(kV)	12
Rated frequency(Hz)	50/60

### Frame size rated current

Rated current In(A)	1600	2000	2500	3200	4000	6300
200	•					
400	•					
630	•	•	•			
800	•	•	•			
1000	•	•	•			
1250	•	•	•			
1600	•	•	•			
2000		•	•	•		
2500			•	•	•	
3200				•	•	
4000					•	•
5000						•
6300						•

### Breaking capacity

Rated current In(A)		1600	2000	2500	3200	4000	6300
Rated ultimate short circuit breaking capacity Icu(kA)	400/415V	65	80	100	100	120	135
	660/690V	50	65	70	85	85	100
Rated service short circuit breaking capacity Ics(kA)	400/415V	55	65	80	80	100	135
	660/690V	42	65	70	70	85	100
Rated short time withstand current Icw.1s(kA)	400/415V	50	65	80	80	100	135
	660/690V	42	65	70	70	85	100
Rated short circuit making and breaking capacity Icm(kA)	400/415V	110	176	220	220	264	297
	660/690V	77	143	154	154	187	220
Electric life		8000	8000	8000	8000	600	1500
Mechanical life(Maintenance)		30000	30000	30000	20000	20000	5000
Mechanical life(Non-maintenance)		20000	15000	15000	12500	10000	2500
Dimension(mm)W×H×L							
Drawout type	3P	285×345×351	375×451×432	375×451×432	435×486×439	435×486×439	930×486×439
	4P	352×345×351	470×451×432	470×451×432	550×486×439	550×486×439	/
Fixed type	3P	254×251×320	362×362×395	362×362×395	426×378×395	426×378×395	/
	4P	324×251×320	457×362×395	457×362×395	537×378×395	537×378×395	/

**Note:** 6300A only has 3P drawout type.

## Protection Features of Intelligent Controller

### Digital display intelligent controller

- 01 bottom fixing position
- 02 rated current
- 03 digital display window
- 04 "set" switch to setting menu
- 05 base plate
- 06 indicator



### LCD display intelligent controller

- 01 bottom fixing position
- 02 rated current
- 03 LCD display window
- 04 "set" switch to setting menu
- 05 base plate
- 06 indicator



## Protection Features of Intelligent Controller

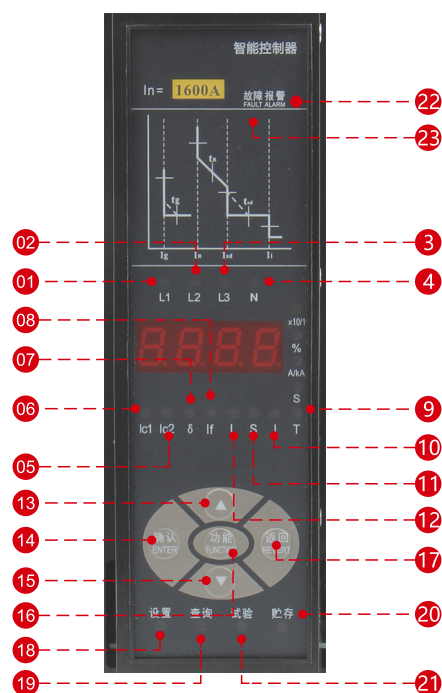
### M/H (standard type) intelligent controller

#### Indicator Instruction

- 01 Current of phase A
- 02 Current of phase B
- 03 Current of phase C
- 04 Current of phase N
- 05 Load monitoring 2
- 06 Load monitoring 1
- 07 Unbalanced current protection
- 08 Earth fault protection
- 09 Self-diagnosis by the intelligent controller
- 10 Short circuit instantaneous protection
- 11 Short circuit short-time delay protection
- 12 Overload long-time delay protection
- 18 Set indicator
- 19 Check indicator
- 20 Save indicator
- 21 Test indicator
- 22 Alarm indicator
- 23 Fault indicator

#### Button Instruction

- 13 +/-up
- 14 Enter
- 15 -/down
- 16 Function keys
- 17 Return



### 3M/3H(LCD) intelligent controller

#### Button Instruction

- 01 -/down
- 02 +/-up
- 03 Set
- 04 Check
- 05 Return
- 06 Enter
- 07 Test
- 08 Reset

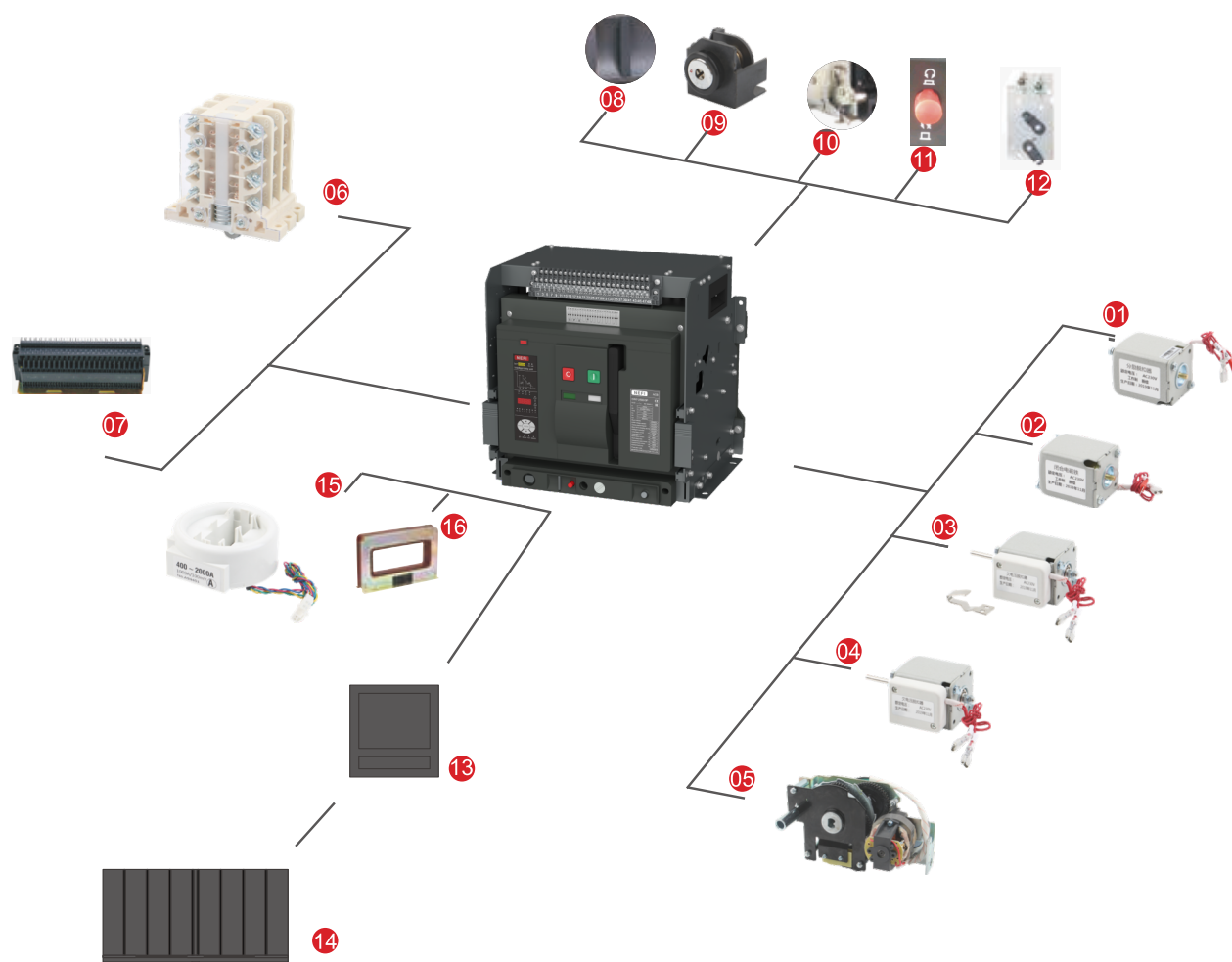
#### Indicator Instruction

- 09 Overload long-time delay protection
- 10 Run indicator
- 11 Communication indicator
- 12 Short circuit short-time delay protection
- 13 Earth fault protection
- 14 Alarm indicator
- 15 Over-voltage protection
- 16 Short circuit instantaneous protection





## Product Accessories



### Remote operation

- 01 shunt release
- 02 closing electromagnet
- 03 under-voltage release instantaneous type
- 04 under-voltage release time-delay type
- 05 motor-driven energy-storage mechanism

### Indication contact

- 06 auxiliary contact
- 07 secondary wiring terminal

### Lock and connection

- 08 padlock
- 09 key lock
- 10 door interlock
- 11 connected, disconnected, test position locking mechanism
- 12 mechanical interlock

### Operation and protection

- 12 doorcase
- 13 phases barrier

### Current transformer

- 14 external N-pole transformer
- 15 leakage current transformer
- 16 earthing current transformer

## Accessories

### Shunt release



Shunt release can realize the remote control to break the circuit breaker.

- rated control power voltage  $U_s(V)$  :  
AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage  $(0.7\sim1.1)U_s$
- breaking time  $(50\pm10)ms$

Forbid making the power for long time to avoid the shunt release being damaged.

### Closing electromagnet

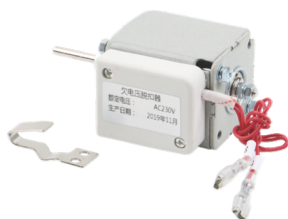


After the motor finishes the energy storage, closing release can instantly close the circuit breaker.

- rated control power voltage  $U_s(V)$  :  
AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage  $(0.85\sim1.1)U_s$
- closing time  $(55\pm10)ms$

Forbid making the power for long time to avoid the closing release being damaged.

### Under-voltage release



Without power supply, under-voltage release can't close.

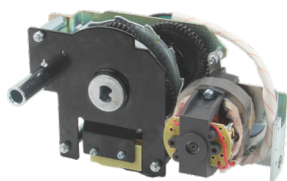
It is classified into instantaneous and time-delay type.

After closing the circuit breaker, under-voltage release can break the circuit breaker when the voltage drops to  $(70\%\sim35\%) U_s$ . The circuit breaker can be closed again when power voltage recovers and exceeds  $85\% U_s$ .

- rated control power voltage  $U_s(V)$  : AC220V/230V, AC380V/400V
- action voltage  $(0.35\sim0.7)U_s$
- reliable making voltage  $(0.85\sim1.1)U_s$
- reliable non-making voltage  $\leq 0.35U_s$
- delay time: 0.5s, 1s, 1.5s, 3s (CW7-1600, non-adjustable);  
0.5s, 1s, 3s, 5s (CW7-2000A, 3200A, 4000A, 6300A, adjustable).

Make sure there is power supply on the under-voltage release before making the circuit breaker.

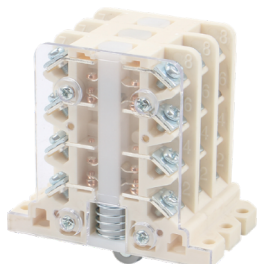
### Motor-driven energy-storage mechanism



With the function of motor-driven storing and auto restoring energy after closing the circuit breaker, the mechanism can ensure to close the circuit breaker instantly after breaking the circuit breaker.

- rated control power voltage  $U_s(V)$  :  
AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage  $(0.85\sim1.1)U_s$
- power loss 75W(1600A), 85W(2000A), 110W(3200A, 4000A), 150W(6300A)
- energy-storage time  $<5s$

### Auxiliary contact



- Standard model: 4NO/4NC
- For CW7-1600: only have 4NO/4NC;
- For CW7-2000, 3200, 4000, 6300:  
4NO/4NC, 4NO+4NC, 2NO+6NC, 3NO+3NC.
- Ith: AC380V/AC400V 0.75A, DC220V 0.15A, AC220V/AC230V 1.3A.

## Accessories

### Lock



#### Key lock

The OFF button of the circuit breaker can be locked in the depressed position and the circuit breaker cannot be closed in that case; when the user selects the option, the factory provides locks and keys; 1 breaker is provided with 1 lock and 1 key for the lock; 2 breakers are provided with 2 locks and 1 key for the locks; 3 breakers are provided with 3 same locks and 2 same keys for the locks. **Note:** It is necessary to firstly press the OFF key and turn it anticlockwise before pulling out the key for the air circuit breaker with key lock equipped.

#### "Disconnected" position locking device for the draw-out type

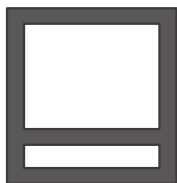
For the "disconnected" position of the draw-out circuit breaker, a lock rod can be pulled out to lock the matter, and the breaker locked will be unable to be turned towards the TEST or CONNECTION position. Padlocks have to be provided by users themselves.

#### Three position locking device for the draw-out

It is the locking device for three positions(disconnected, test, connection) of drawout type.

Three positions of circuit breaker is indicated by the indicator, the driving and the reversing handle which is locked in the exact position, and the lock can be released by the reset button.

### Door-case



Installed on the door of the distribution cubicle, for sealing the distribution cubicle and making the protection class to IP40(fixed type and draw-out type).

### Phases barrier (optional)



Installed between the bus-bars to increase the creepage distance.

### Controller accessories



#### External N-pole transformer

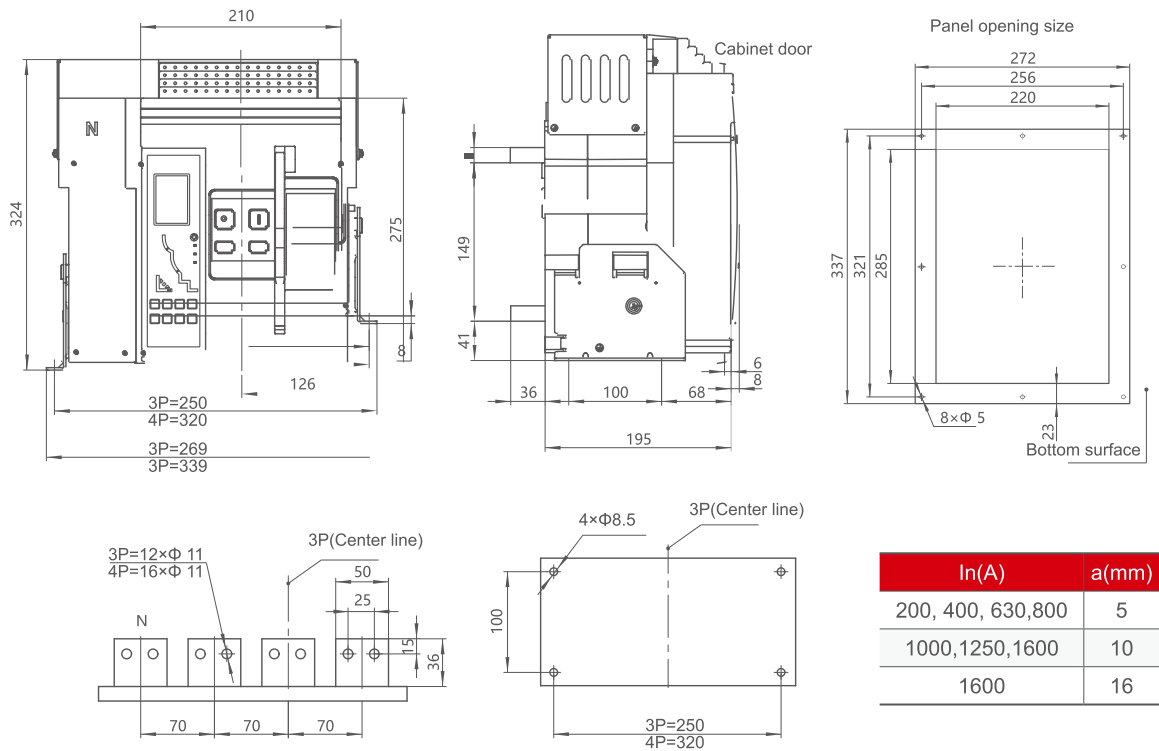
In 3P+N system, it is used to measure N-pole current, it is fitted on the bus-bar by user.

#### Leakage current transformer

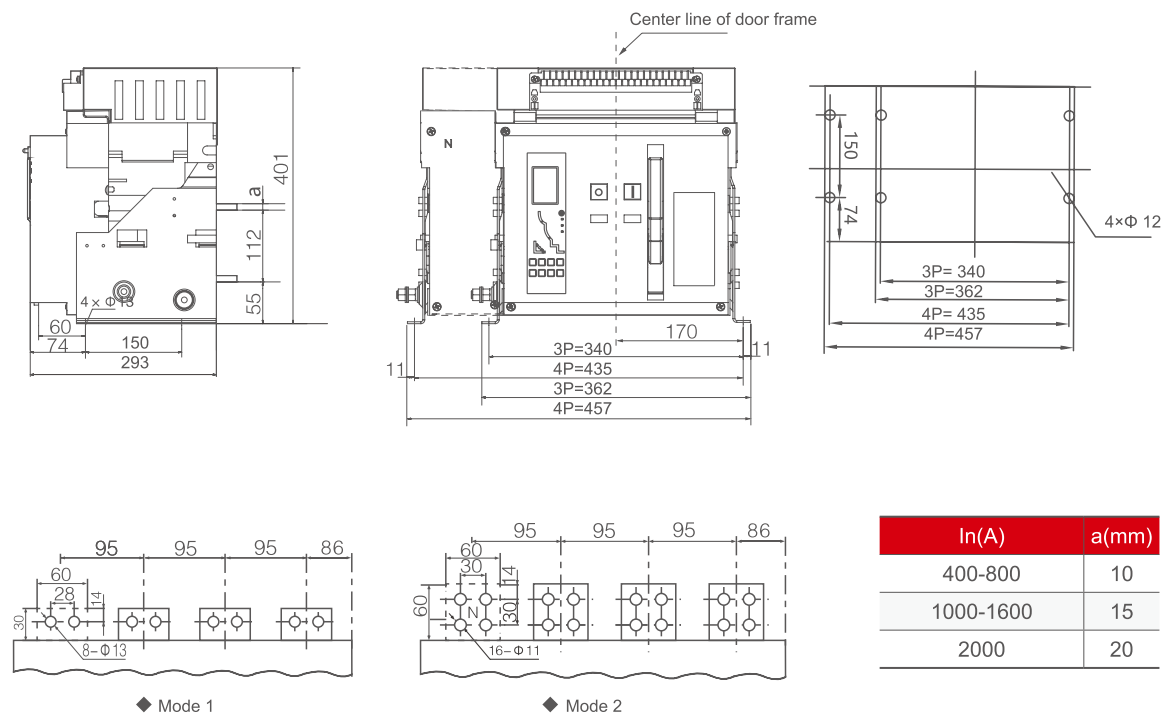
When the grounding protection is leakage type, need use plus special rectangular transformer.

Dimensions and Installation Sizes(mm)

CW7-1600A Fixed circuit-breaker



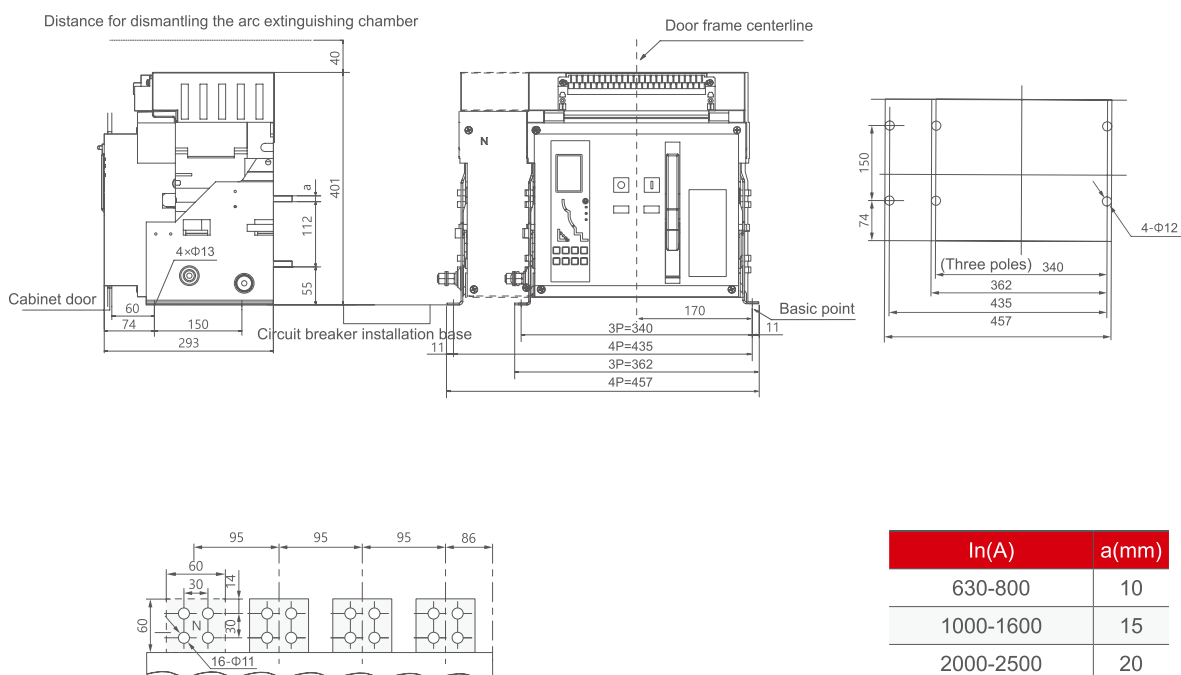
CW7-2000A Fixed circuit-breaker



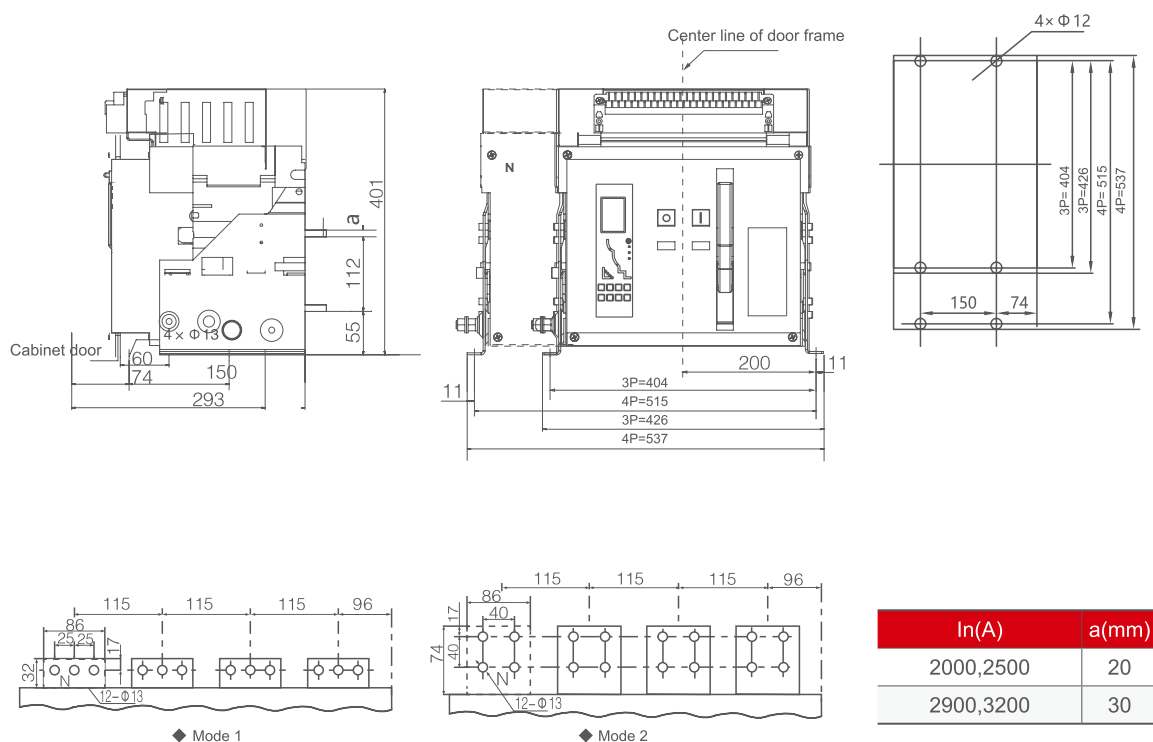
Note: Regular default Mode 1; When using Mode 2, please remark the extended busbar after the model to place an order

## Dimensions and Installation Sizes(mm)

### CW7-2500A Fixed circuit-breaker



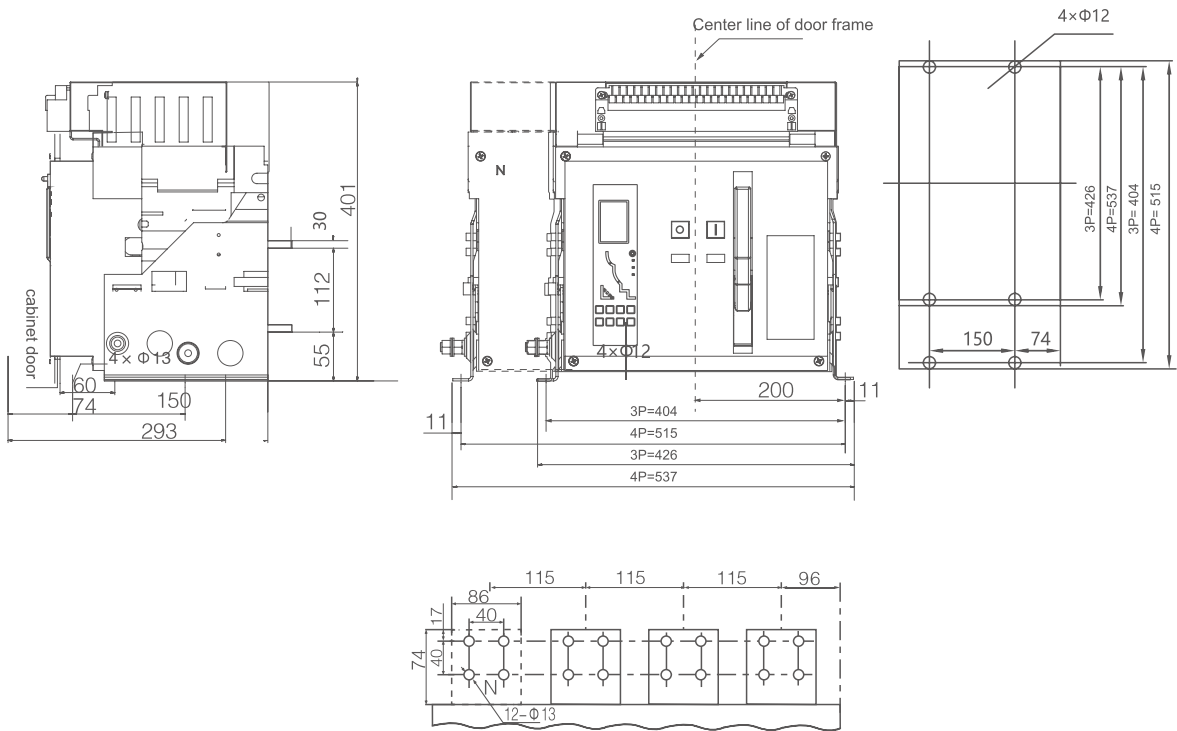
### CW7-3200A Fixed circuit-breaker



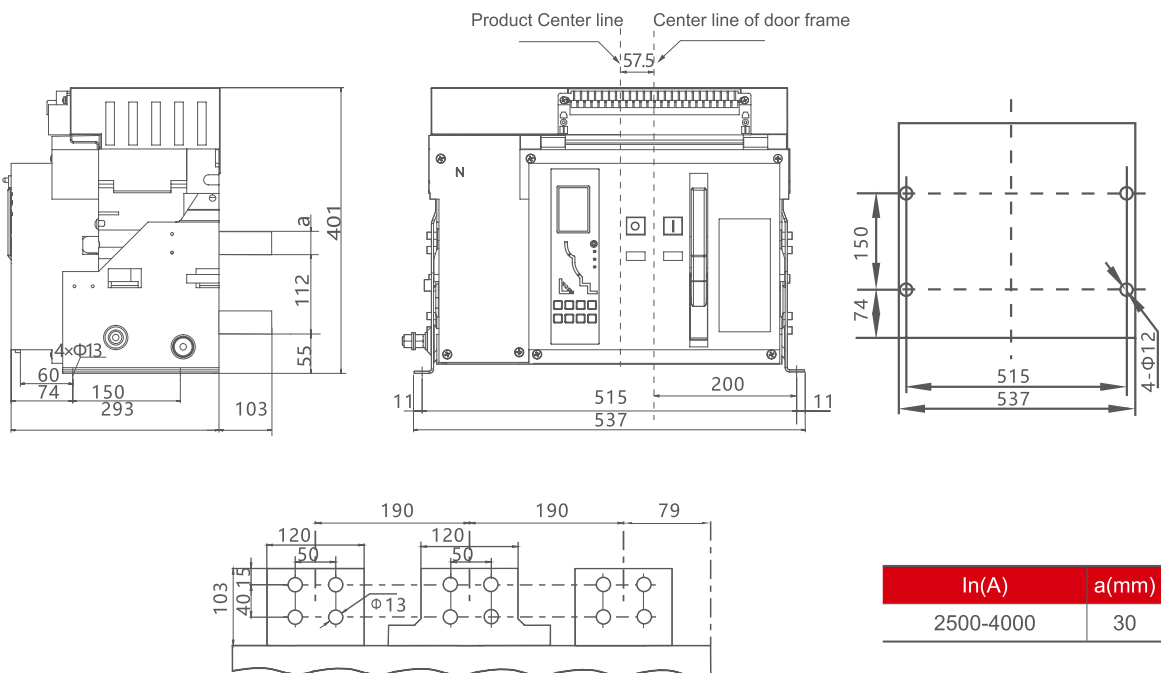
**Note:** Regular default Mode 1; When using Mode 2, please remark the extended busbar after the model to place an order

Dimensions and Installation Sizes(mm)

CW7-4000A Fixed circuit-breaker

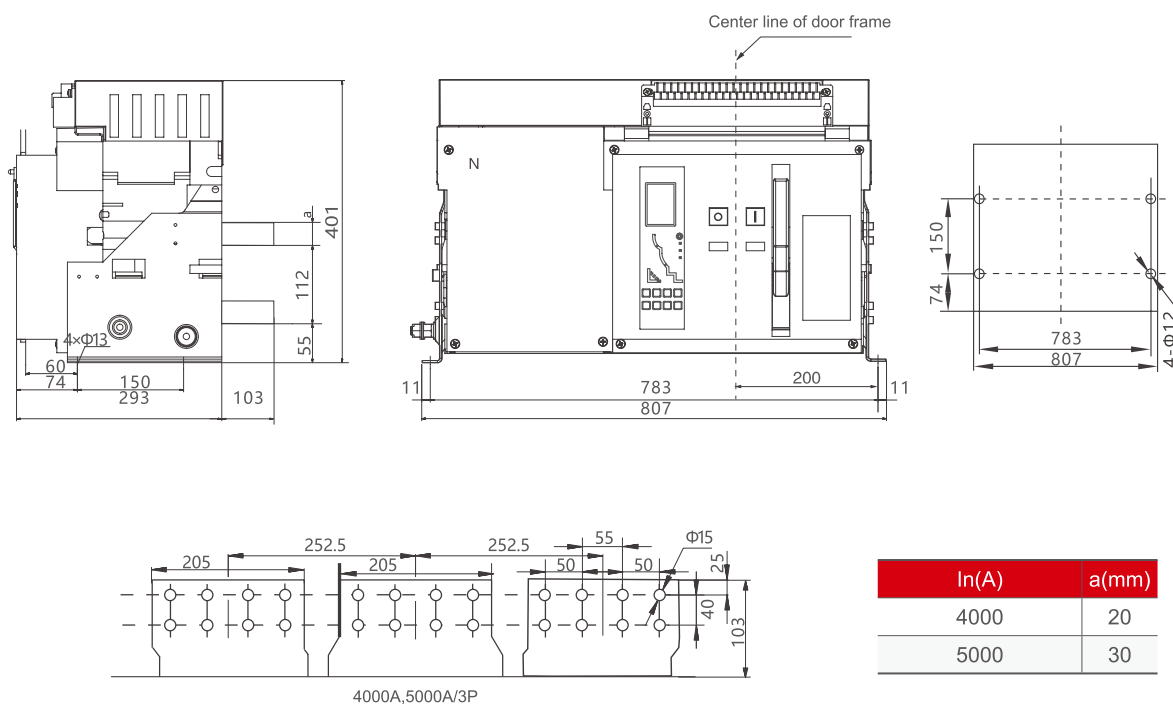


CW7-4000A Fixed circuit-breaker (CW1-4000/3 Fixed type Alternative)

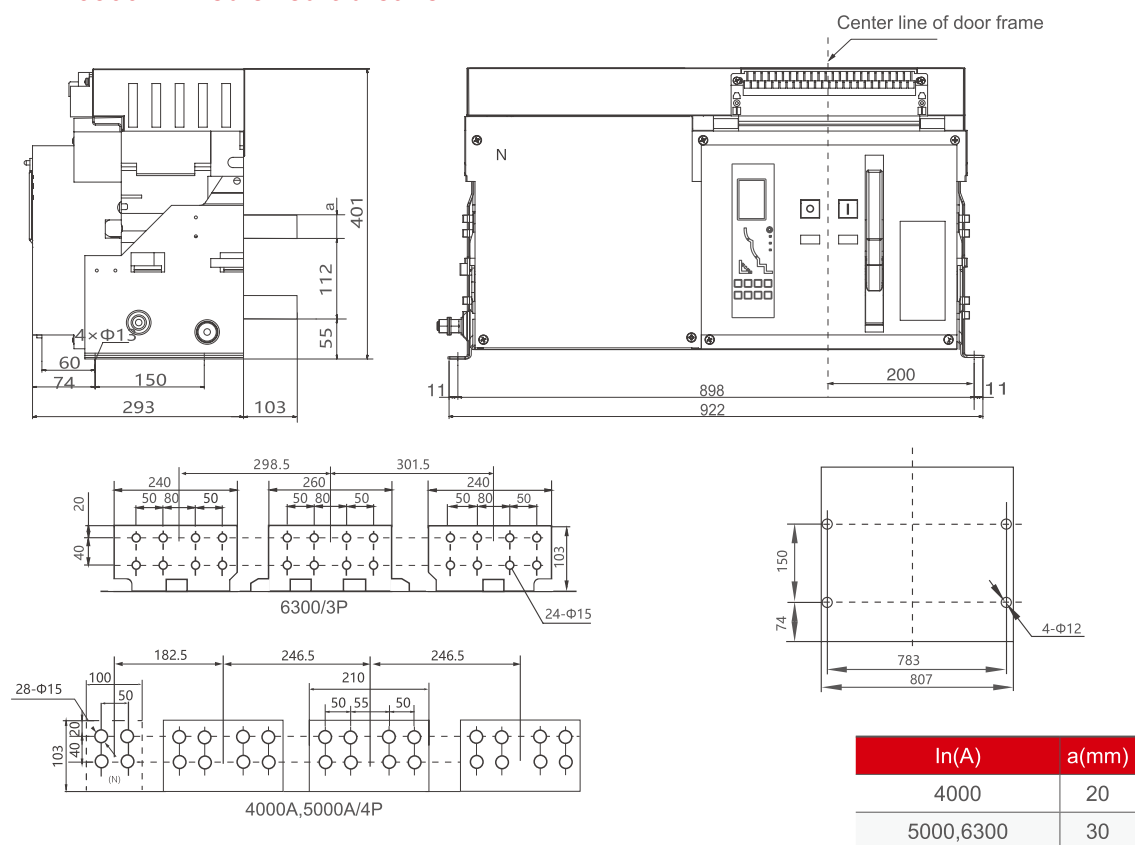


## Dimensions and Installation Sizes(mm)

### CW7-6300/3P Fixed circuit-breaker



### CW7-6300A Fixed circuit breaker

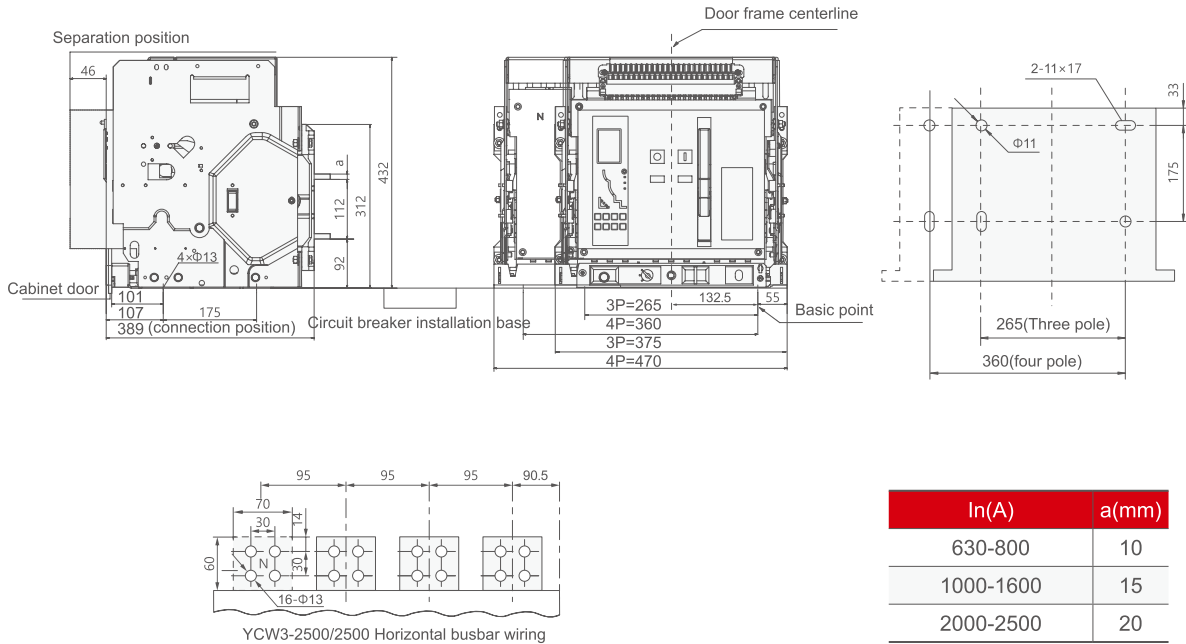




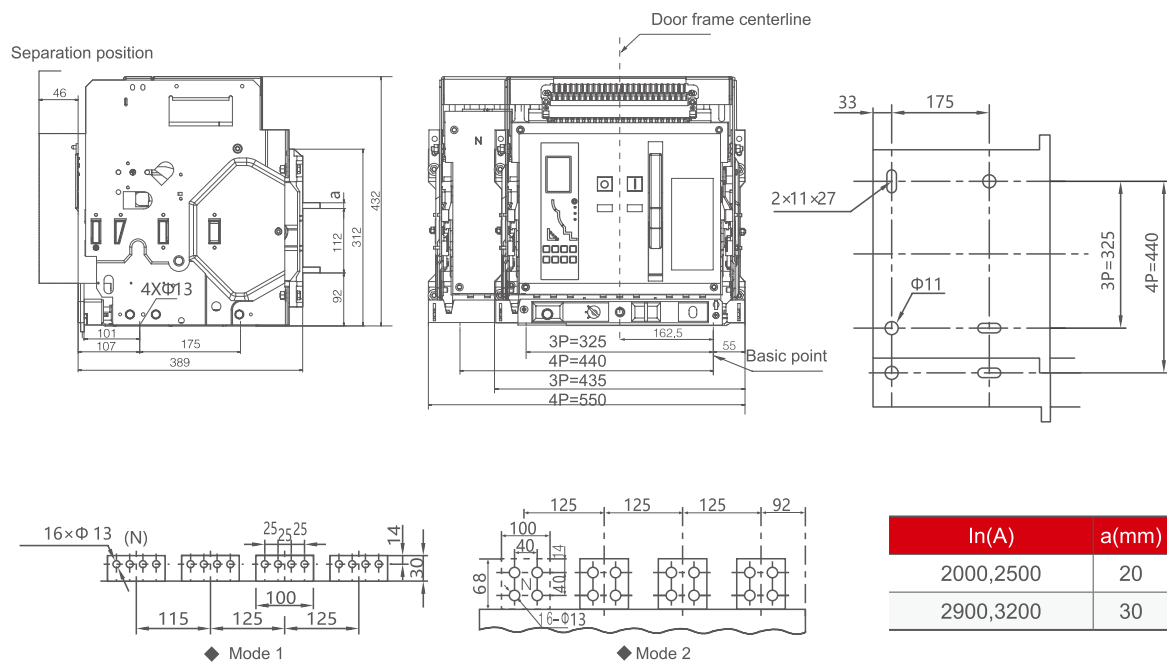


## Dimensions and Installation Sizes(mm)

### CW7-2500A Drawer circuit breaker



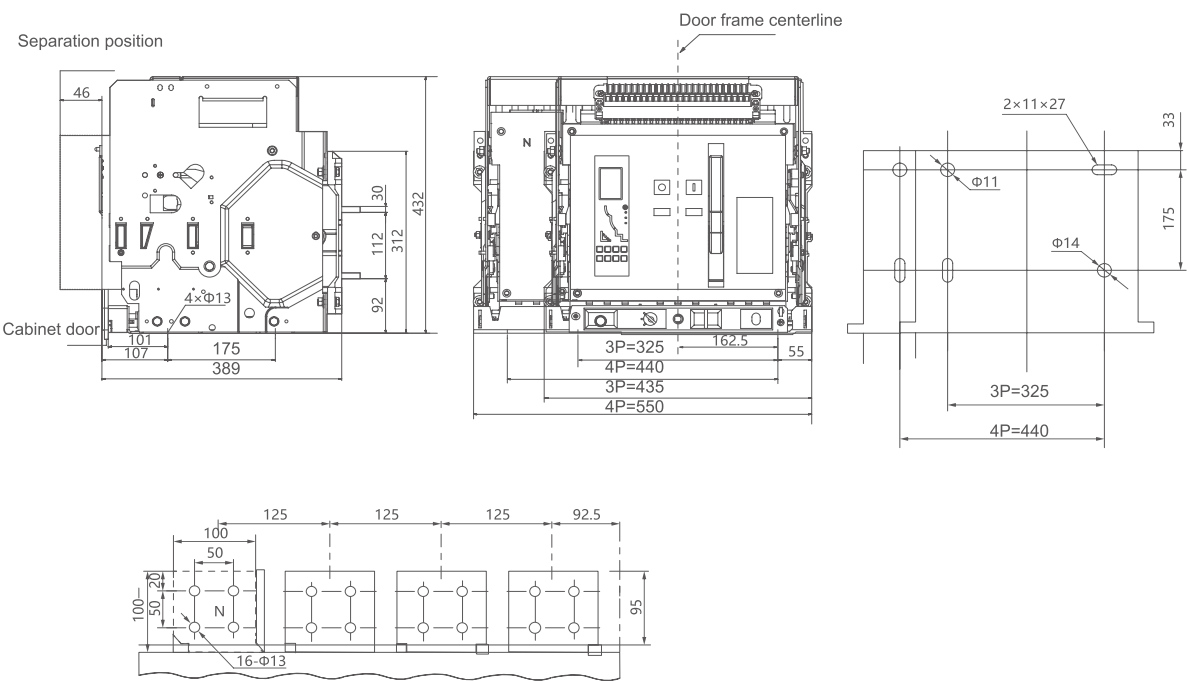
### CW7-3200A Drawer circuit breaker



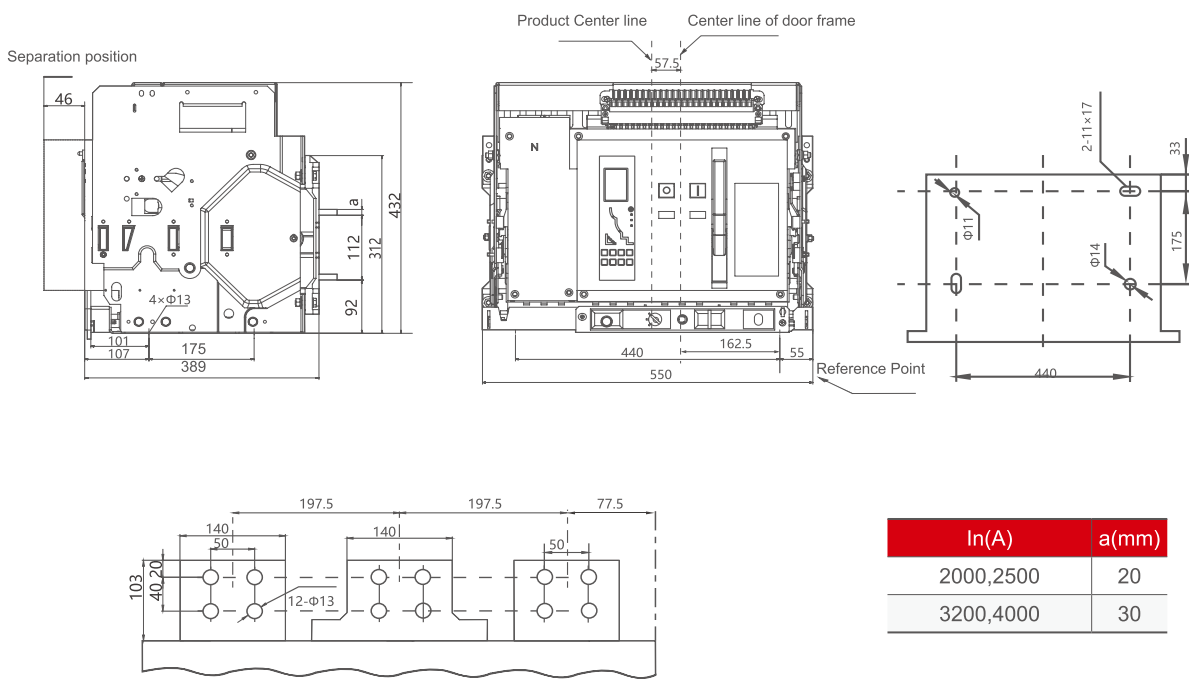
**Note:** Regular default Mode 1; When using Mode 2, please remark the extended busbar after the model to place an order

Dimensions and Installation Sizes(mm)

CW7-4000A Drawer circuit breaker



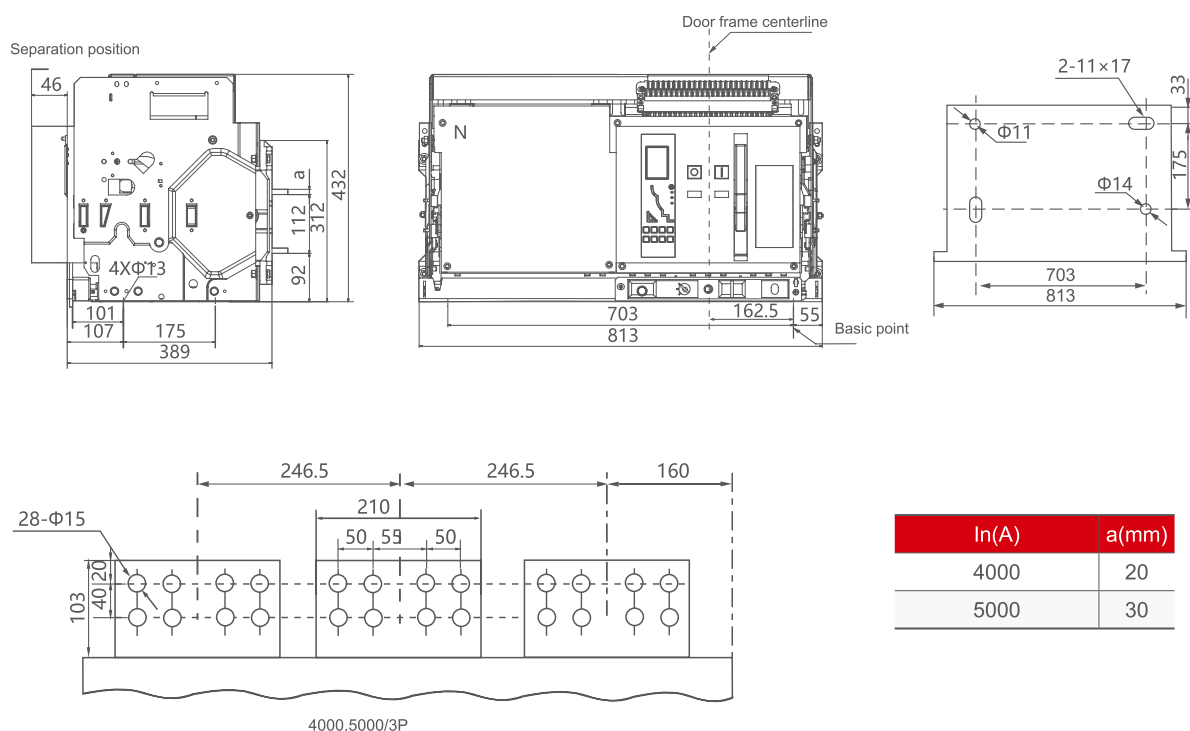
CW7-4000A Drawer circuit breaker (CW1-4000 Drawer Alternative)



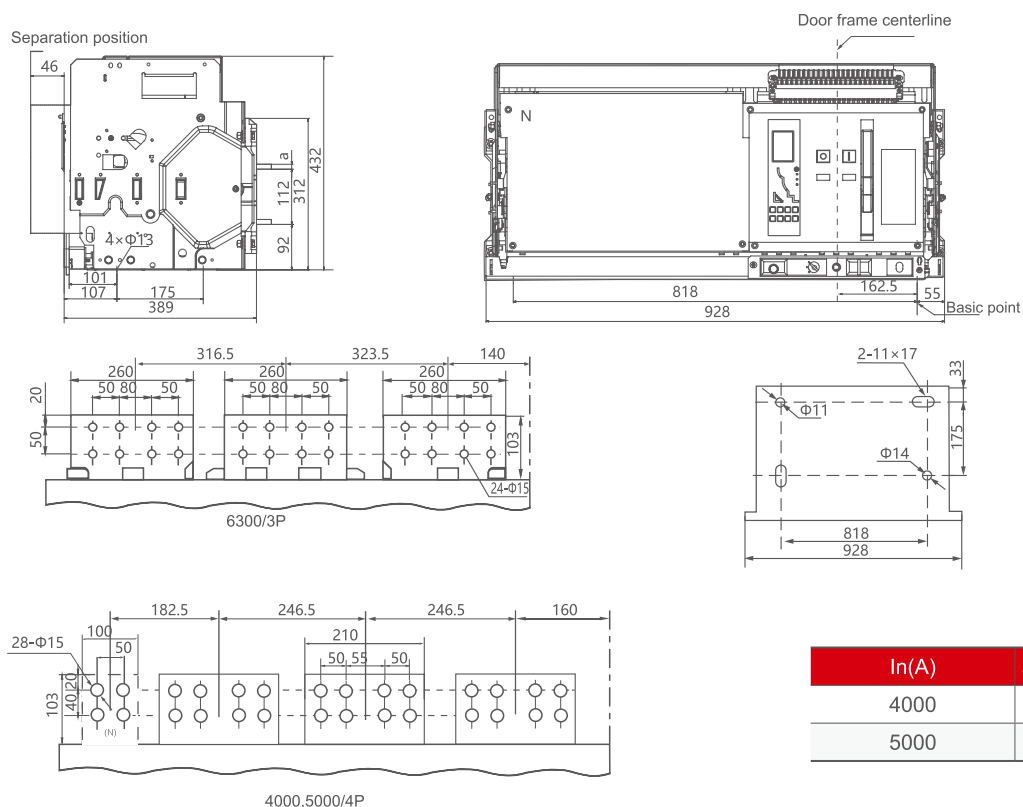
In(A)	a(mm)
2000,2500	20
3200,4000	30

## Dimensions and Installation Sizes(mm)

### CW7-6300 /3P Drawer circuit breaker

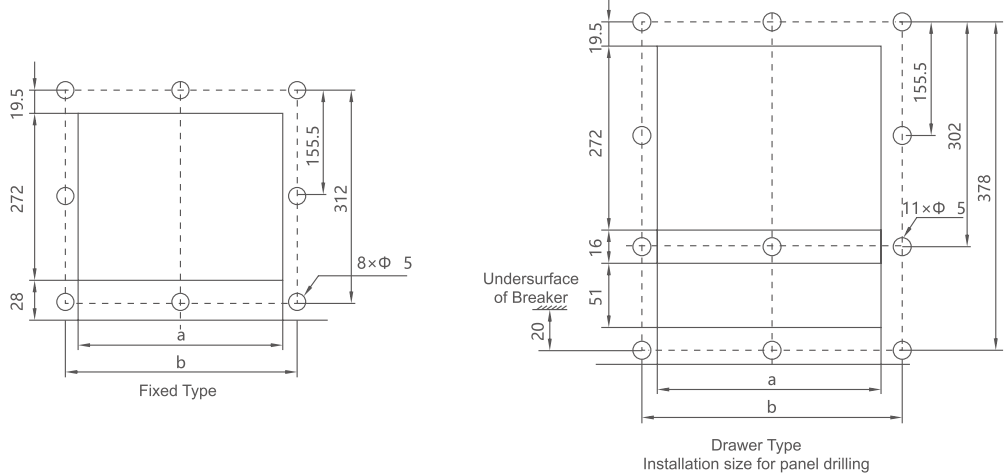


### CW7-6300A Drawer circuit breaker



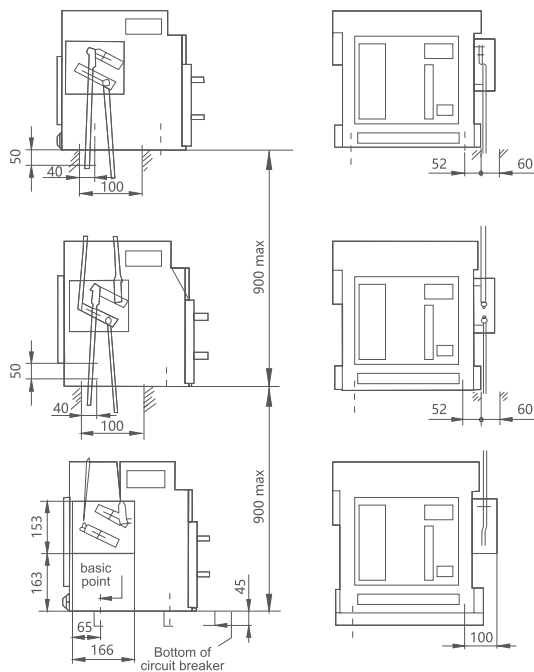
Dimensions and Installation Sizes(mm)

Boring dimension of doorcase



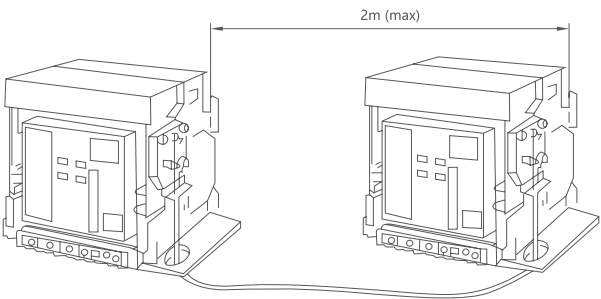
In(A)	a	b
CW7-2000	306	346
CW7-3200~6300	366	406

Mechanical interlock



Vertically-installed mechanical interlock

Note: 3 circuit breakers are vertically installed with the connecting-rod type mechanical interlock. And if only 2 circuit breakers are needed, then remove the top one.



Horizontally-installed mechanical interlock

Note: 2 circuit breakers are horizontally installed with the steel cable mechanical interlock(fixed type or drawout type circuit breaker).