

YCW3 Air circuit breaker



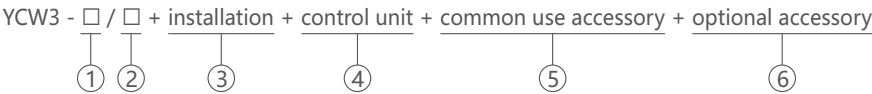
General

YCW3 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 and 6300A. It is mainly used to distribute electric energy and protect circuits and electric equipment against over-load, under-voltage, short-circuit and single-phase earthing fault.

With intelligent and selective 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.

Type designation



- Rated current in scope of frame size
1600 Type In: 200A,400A,630A,800A,1000A,1250A,1600A
2000 Type In: 630A,800A,1000A,1250A,1600A,2000A
2500 type In:630A,800A,1000A,1250A,1600A,2000A,2500A
3200 Type In: 2000A,2500A,3200A
4000 Type In: 2500A,3200A,4000A
6300 Type In: 4000A,5000A,6300A
- Number of poles
3-default
4-4 pole
- Installation
Fixed type-horizontal, vertical
Drawout type-horizontal, vertical
- Intelligent controller
M type
2M type: digital display, over-current protection (overload, short delay, instantaneous), 4P or 3P+N have earthing protection.
3M type: LCD display, over-current protection(overload, short delay, instantaneous), 4P or 3P+N have earthing protection.
H type
2H type: communication function, digital display, over-current protection (overload, short delay, instantaneous), 4P or 3P+N have earthing protection.
3H type: communication function, LCD display, over-current protection (overload, short delay, instantaneous), 4P or 3P+N have earthing protection.

YCW3 Air circuit breaker

- Common accessories
Shunt release-AC220V/230V,AC380V/400V,DC220V,DC110V
Undervoltage release-AC220V/230V,AC380V/400V, it is classified to instantaneous type and time-delay type.
Closing electromagnet-AC220V/230V,AC380V/400V,DC220V,DC110V
Motor-driven energy-storage mechanism-AC220V/230V,AC380V/400V,DC220V,DC110V
Auxiliary contact-4a4b,2a6b,3a3b
Note: a-normal open, b-normal close
- Optional accessories
Mechanical interlock;
One circuit breaker (1lock+1key)
Two circuit breakers(steel cable interlock, connecting rod interlock,2lock+1key)
Three circuit breakers(3lock+2keys, connecting rod interlock)
Automatic power transfer system
Current transformer connected with neutral load

Operating conditions

Item	Description
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 data

Item	Description
Number of Poles	3,4
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
Have function of switch disconnecter	✕

Distribution Apparatus

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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	6000	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	254×297×354	375×389×432	375×389×432	435×389×432	435×389×432	813×389×432
	4P	324×297×354	470×389×432	470×389×432	550×389×432	550×389×432	928×389×432
Fixed type	3P	269×195×324	362×293×401	362×293×401	426×293×401	426×293×401	807×293×401
	4P	339×195×324	457×293×401	457×293×401	537×293×401	537×293×401	922×293×401

Note: 6300A only has 3P drawout type.

Distribution Apparatus

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Protection features of intelligent controller

Digital display intelligent controller

M type: digital display without communication
H type: digital display with communication

- ① bottom fixing position
- ② rated current
- ③ digital display window
- ④ "set" switch to setting menu
- ⑤ base plate
- ⑥ indicator



LCD display intelligent controller

3M type: LCD display without communication
3H type: LCD display with communication

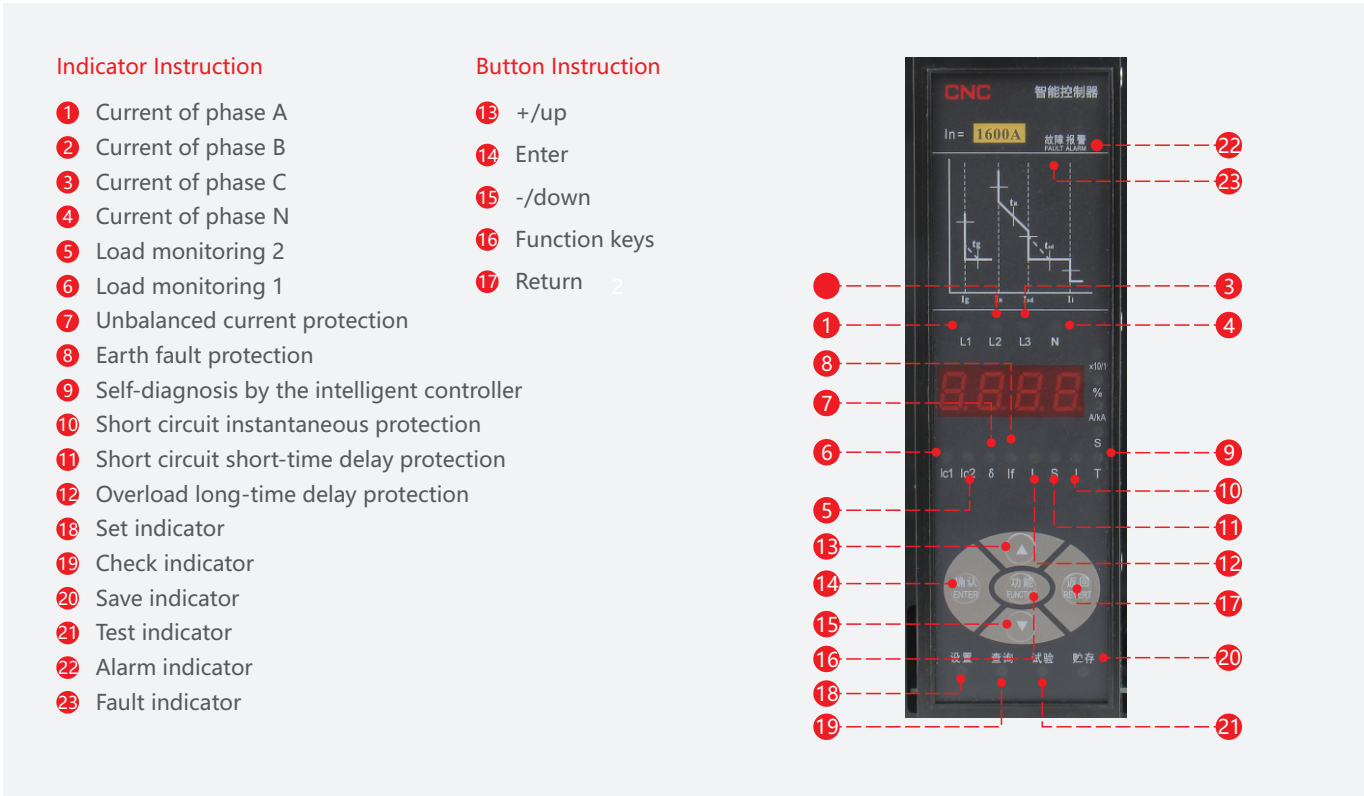
- ① bottom fixing position
- ② rated current
- ③ LCD display window
- ④ "set" switch to setting menu
- ⑤ base plate
- ⑥ indicator



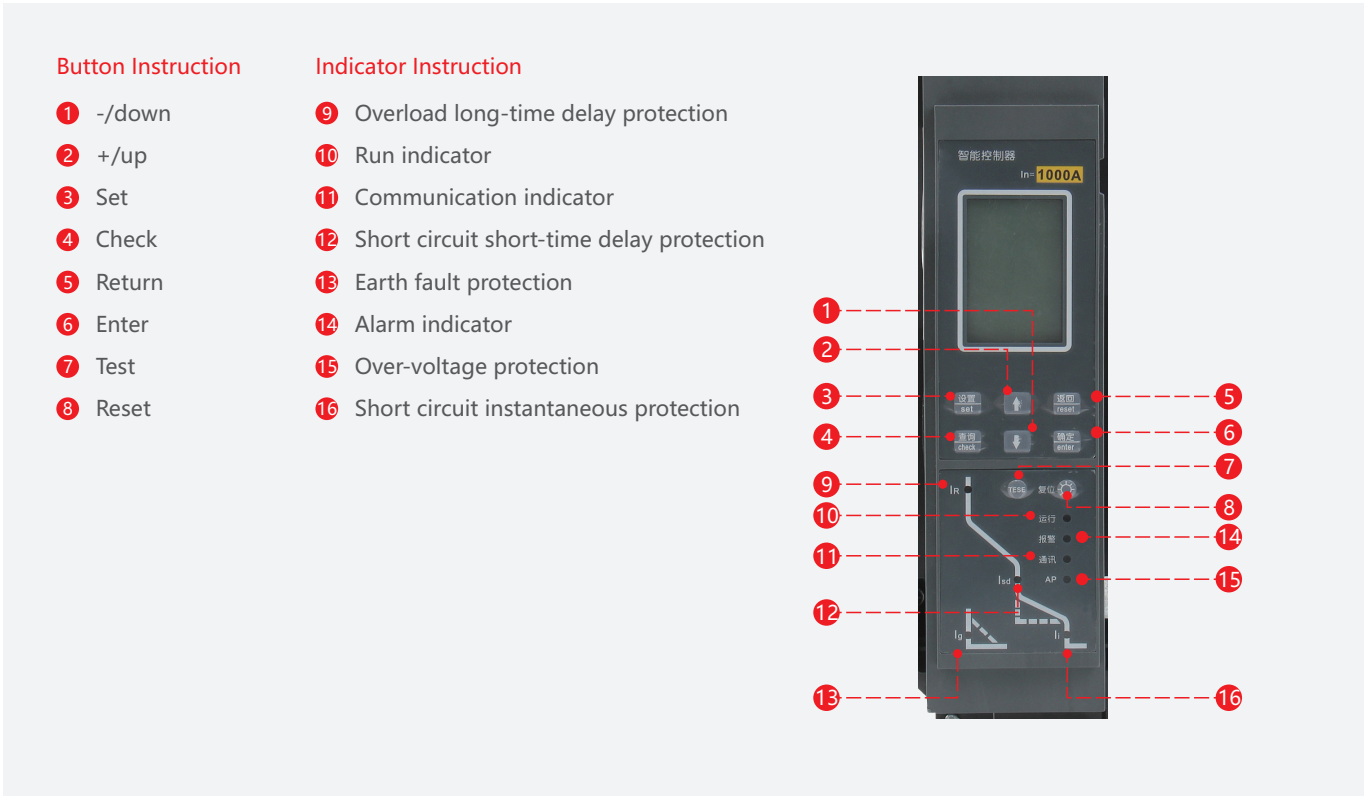
Distribution Apparatus

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M/H (standard type) intelligent controller



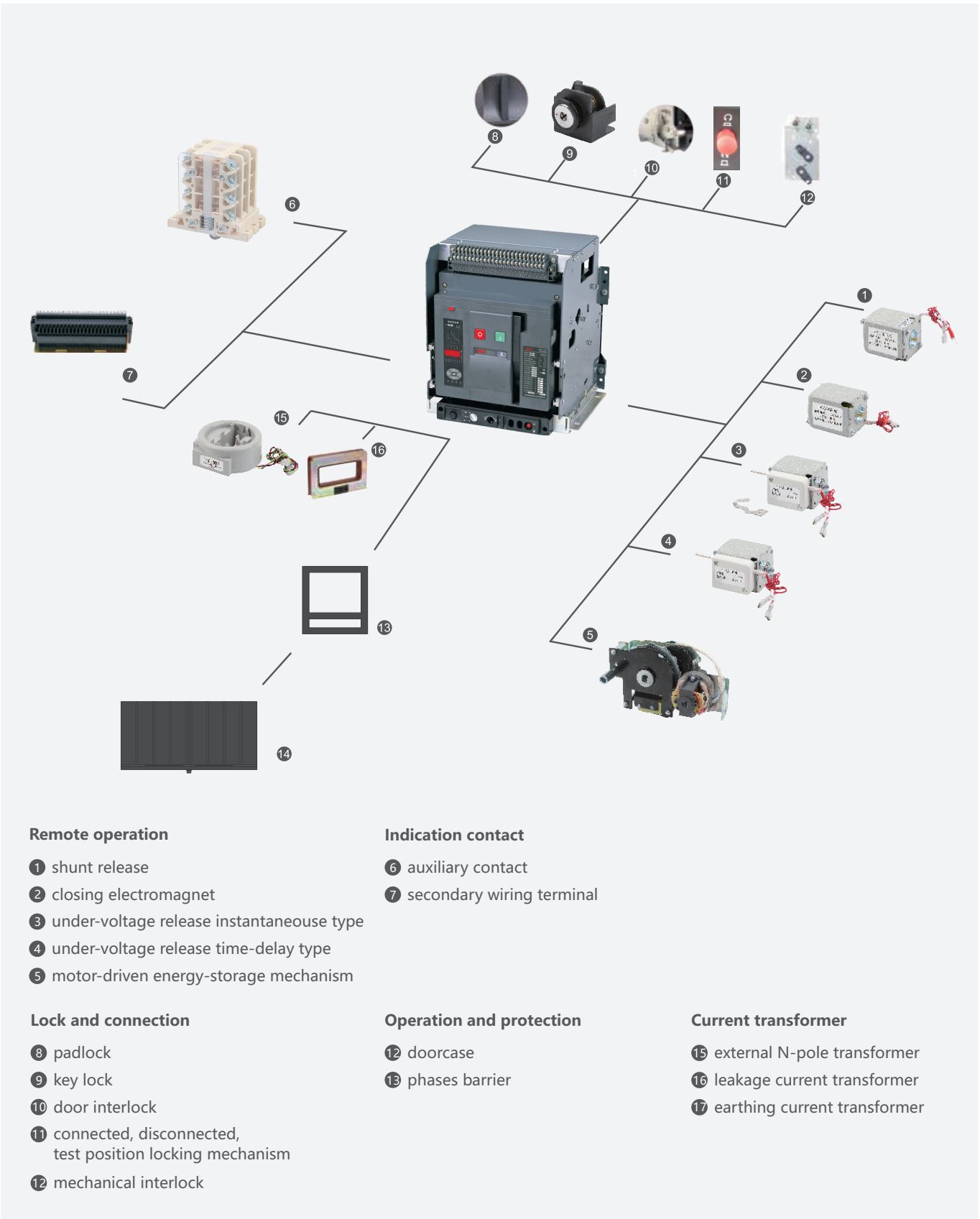
3M/3H(LCD) intelligent controller



Distribution Apparatus

YCW3 Air circuit breaker

Accessories



B

Distribution Apparatus

YCW3 Air circuit breaker

Accessories of YCW3

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 (0.7~1.1)Us
- breaking time (50±10)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 (0.85~1.1)Us
- closing time (55±10)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%~35%) 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 (0.35~0.7)Us
- reliable making voltage (0.85~1.1)Us
- reliable non-making voltage ≤0.35Us
- delay time: 0.5s,1s,1.5s,3s (YCW3-1600 , non-adjustable);
0.5s, 1s, 3s, 5s(YCW3-2000A, 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 (0.85~1.1)Us
- power loss 75W(1600A), 85W(2000A),110W(3200A,4000A),150W(6300A)
- energy-storage time <5s

Distribution Apparatus

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Auxiliary contact

Standard model: 4NO/4NC

For YCW3-1600: only have 4NO/4NC;

For YCW3-2000, 3200, 4000, 6300: 4NO/4NC, 4NO+4NC, 2NO+6NC, 3NO+3NC.

Ith: AC380V/AC400V 0.75A, DC220V 0.15A, AC220V/AC230V 1.3A.

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; One breaker is provided with one lock and one key for the lock; two breakers are provided with two locks and one key for the locks; three breakers are provided with three same locks and two 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 draw-out 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.

Distribution Apparatus

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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 and fitted on the bus-bar by user.

Leakage current transformer

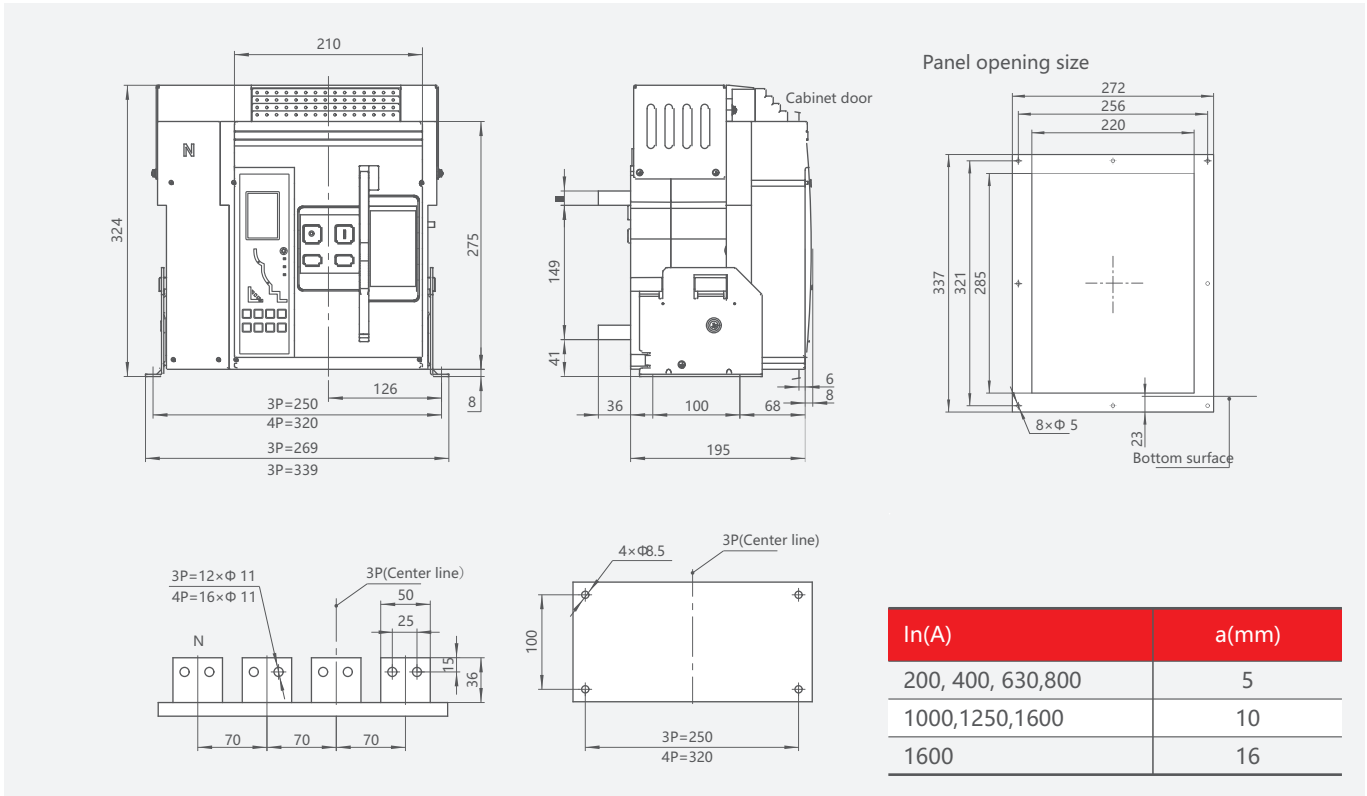
1. If the grounding protection is the leakage type, then a rectangular transformer will be needed.

Distribution Apparatus

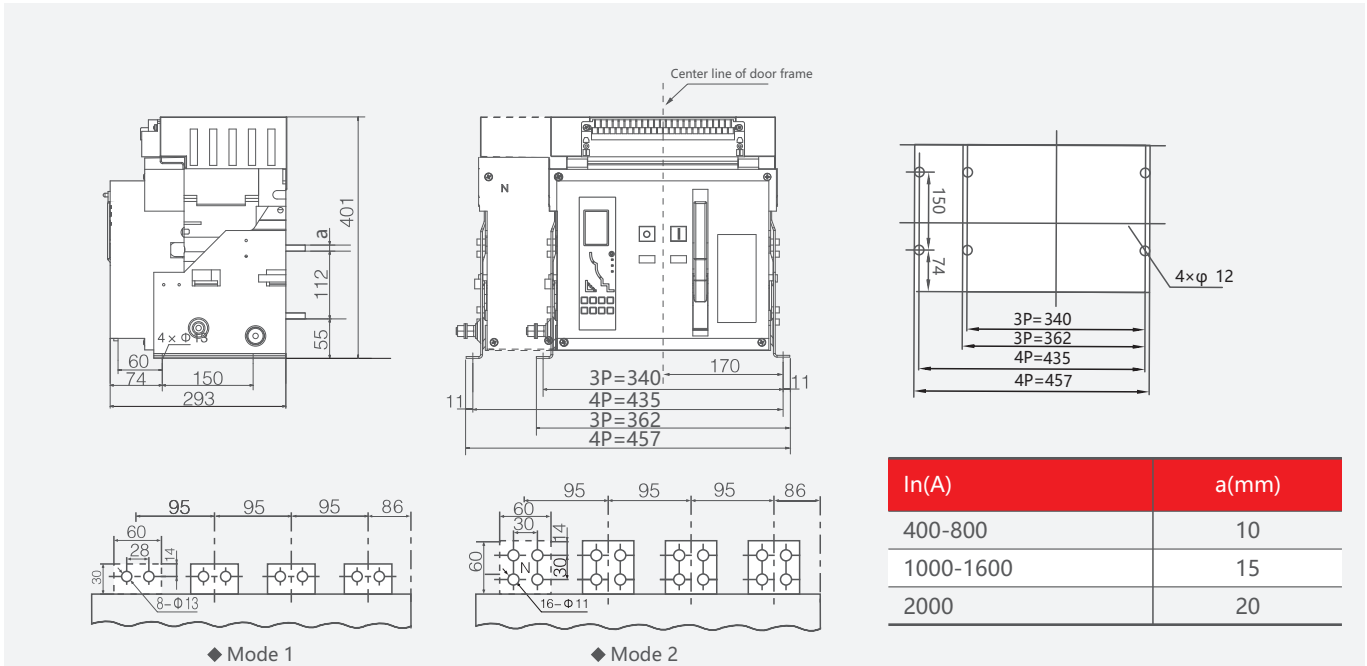
YCW3 Air circuit breaker

Overall and mounting dimensions(mm)

YCW3-1600A Fixed circuit-breaker



YCW3-2000A Fixed circuit-breaker



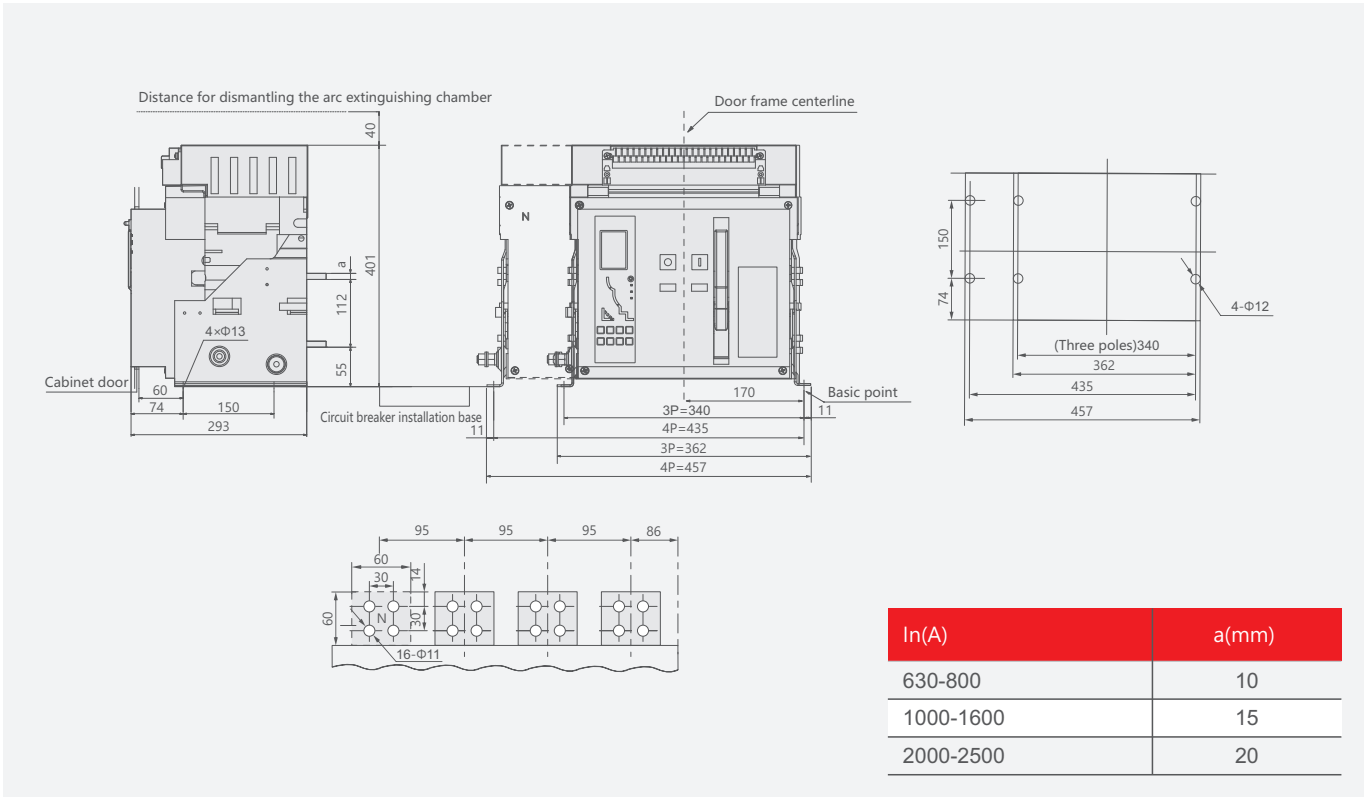
Note: Regular default Mode 1;When using Mode 2, please remark the extended busbar after the model to place an order

Distribution Apparatus

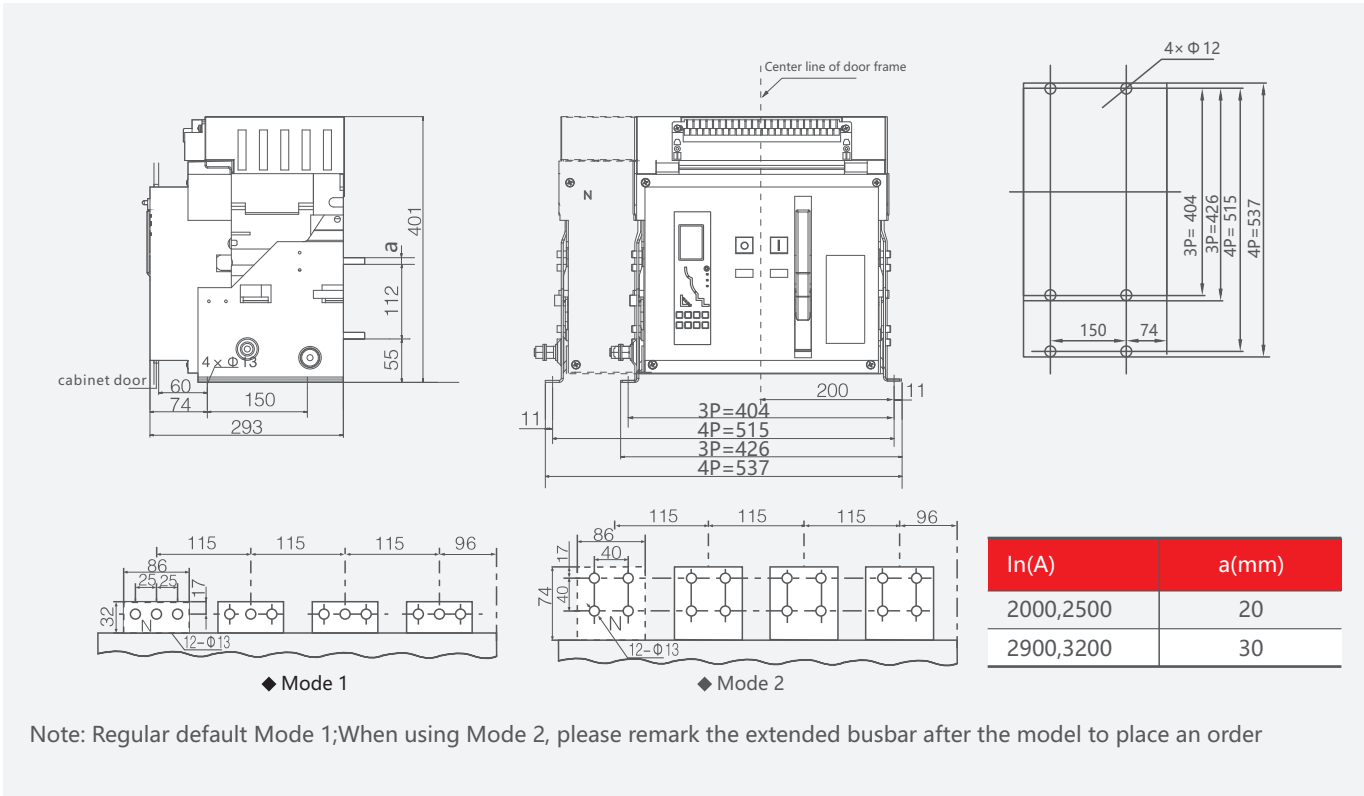
YCW3 Air circuit breaker

Overall and mounting dimensions(mm)

YCW3-2500A Fixed circuit-breaker



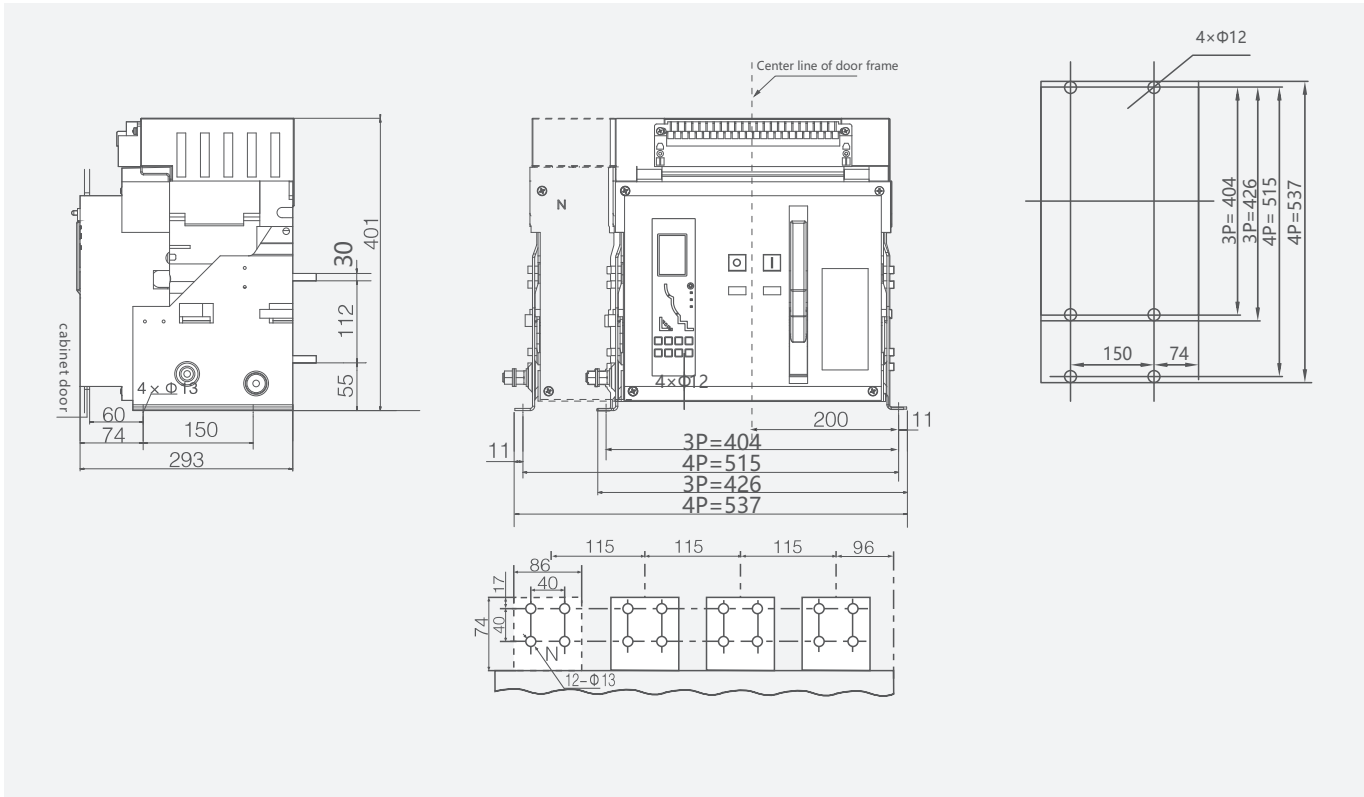
YCW3-3200A Fixed circuit-breaker



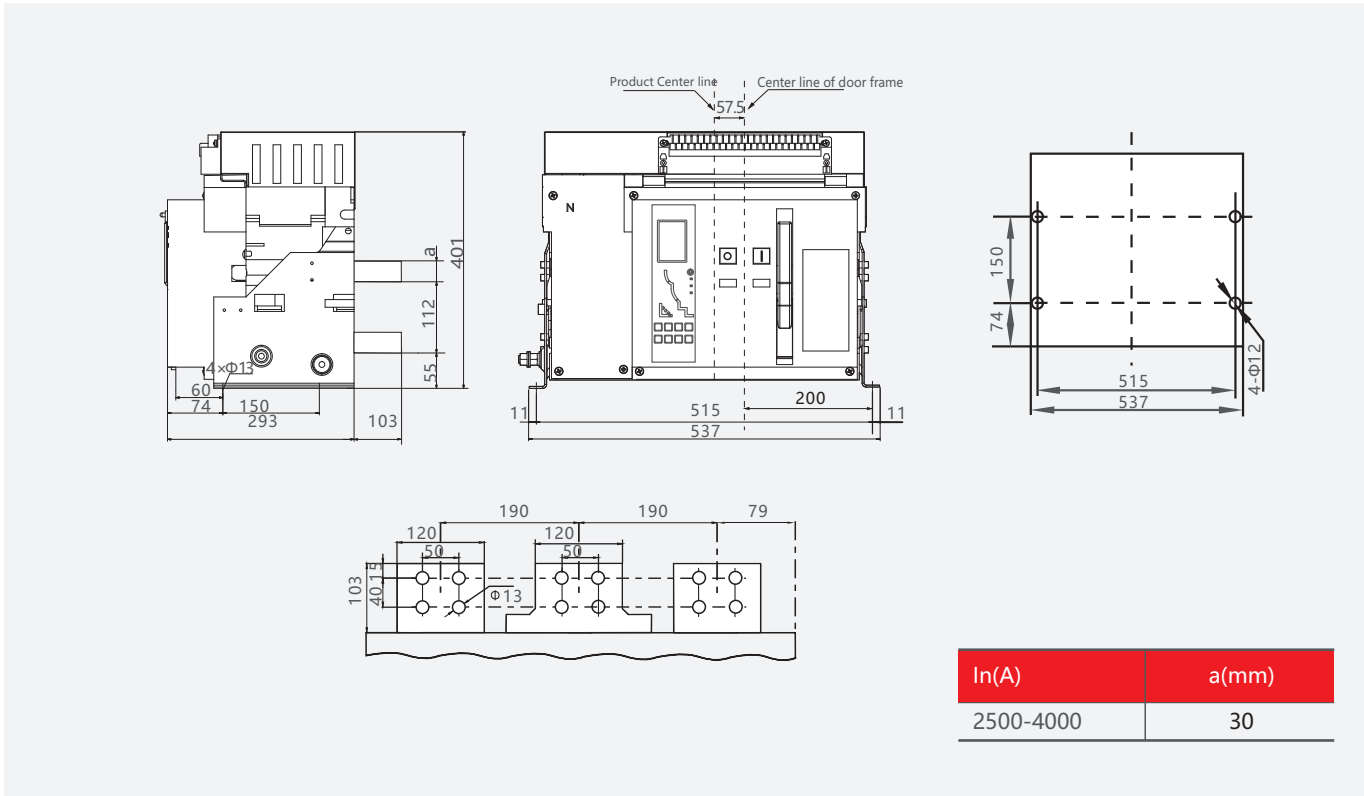
Distribution Apparatus

YCW3 Air circuit breaker

YCW3-4000A Fixed circuit-breaker



YCW3-4000A Fixed circuit-breaker (YCW1-4000/3 Fixed type Alternative)

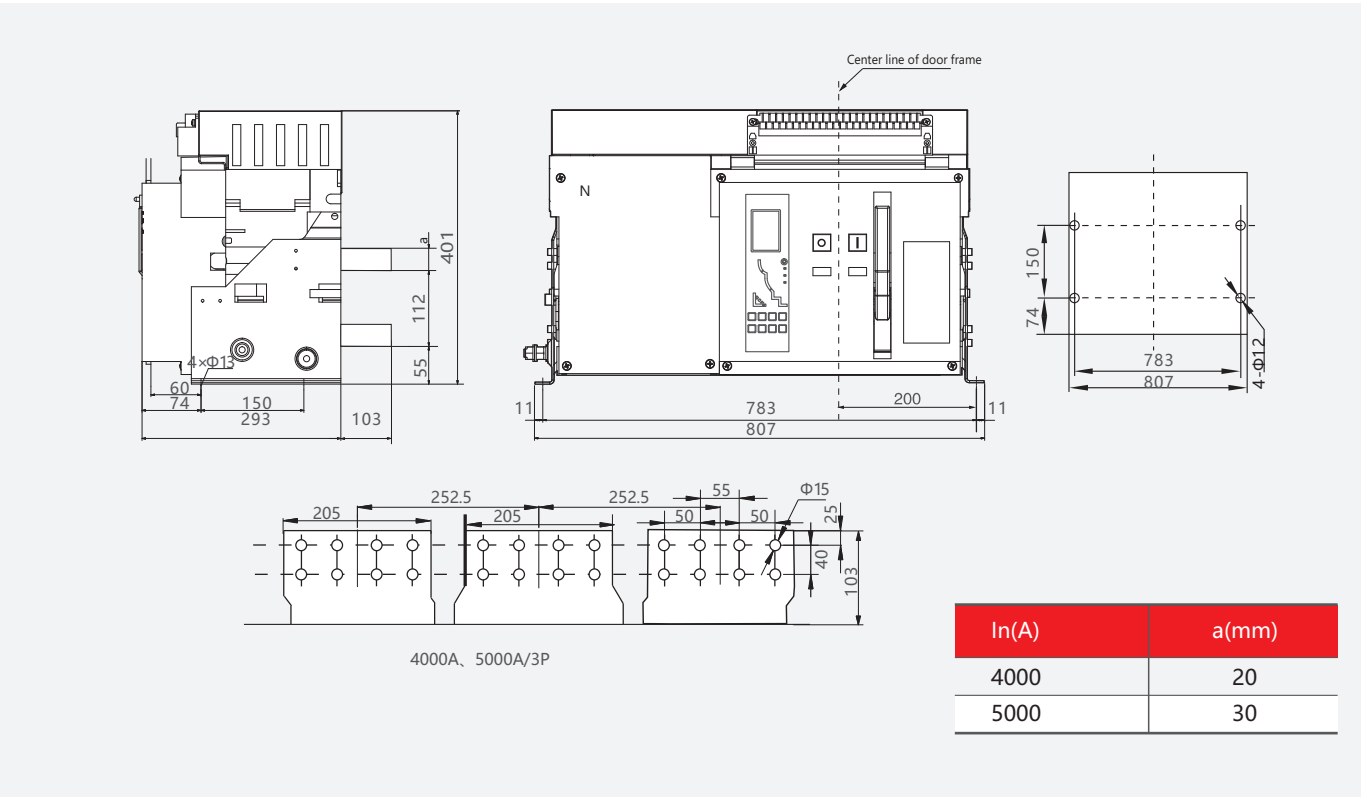


Distribution Apparatus

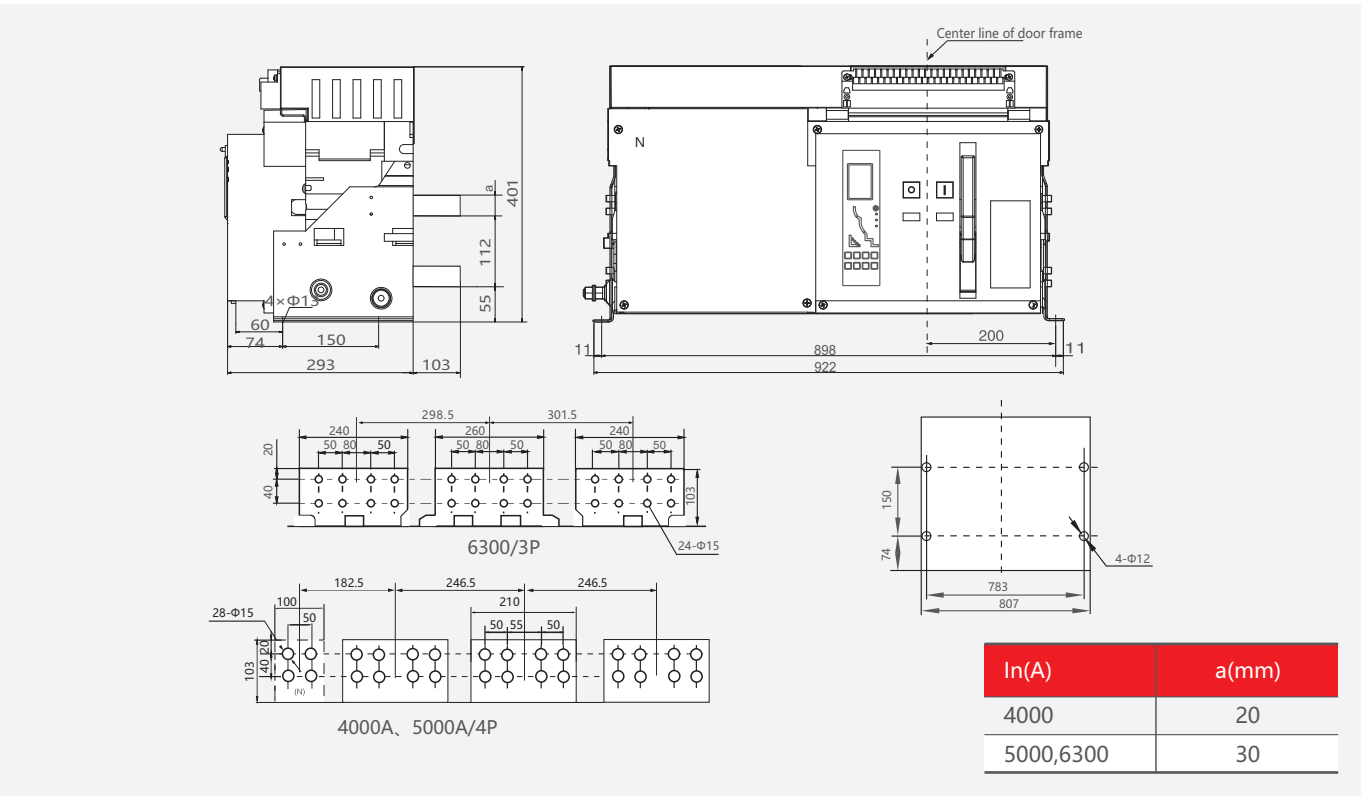
YCW3 Air circuit breaker

Overall and mounting dimensions(mm)

YCW3-6300/3P Fixed circuit-breaker



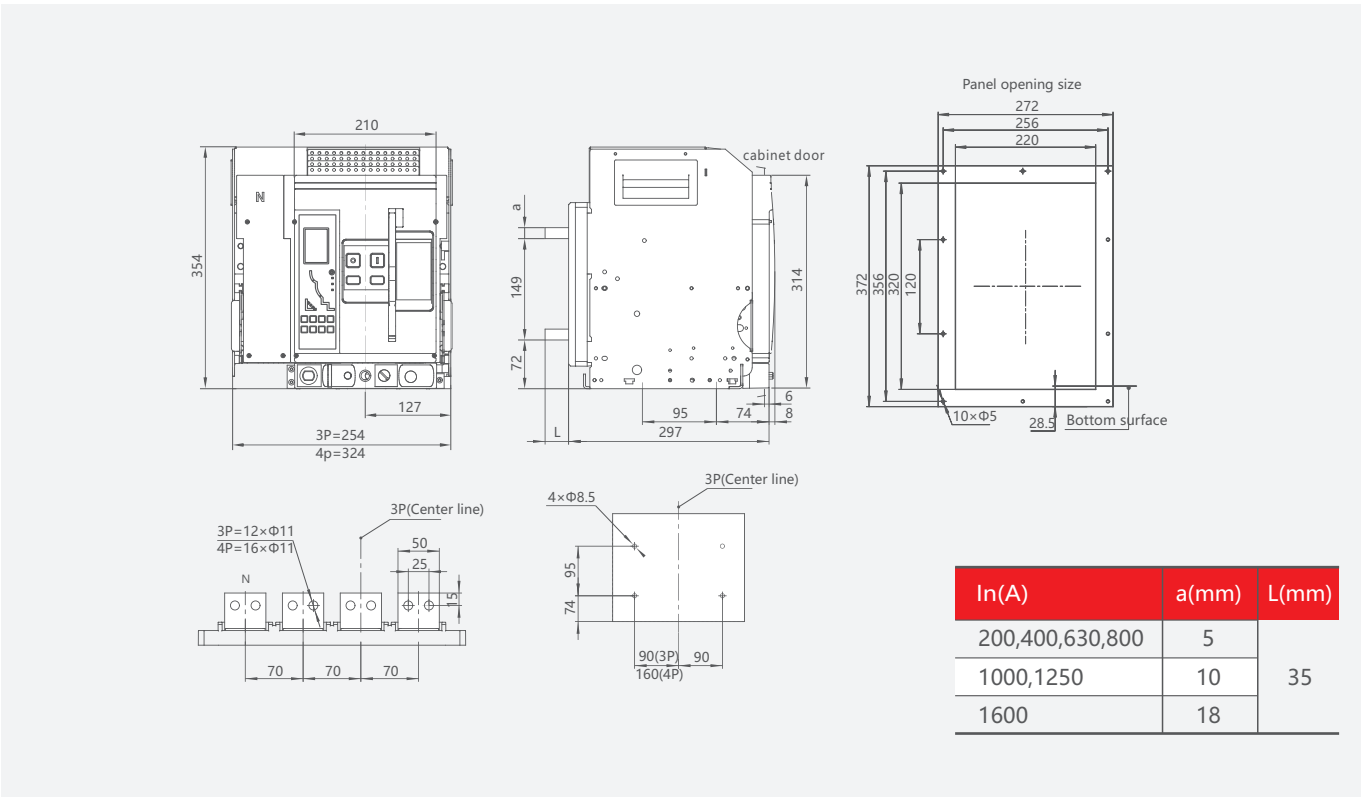
YCW3-6300A Fixed circuit breaker



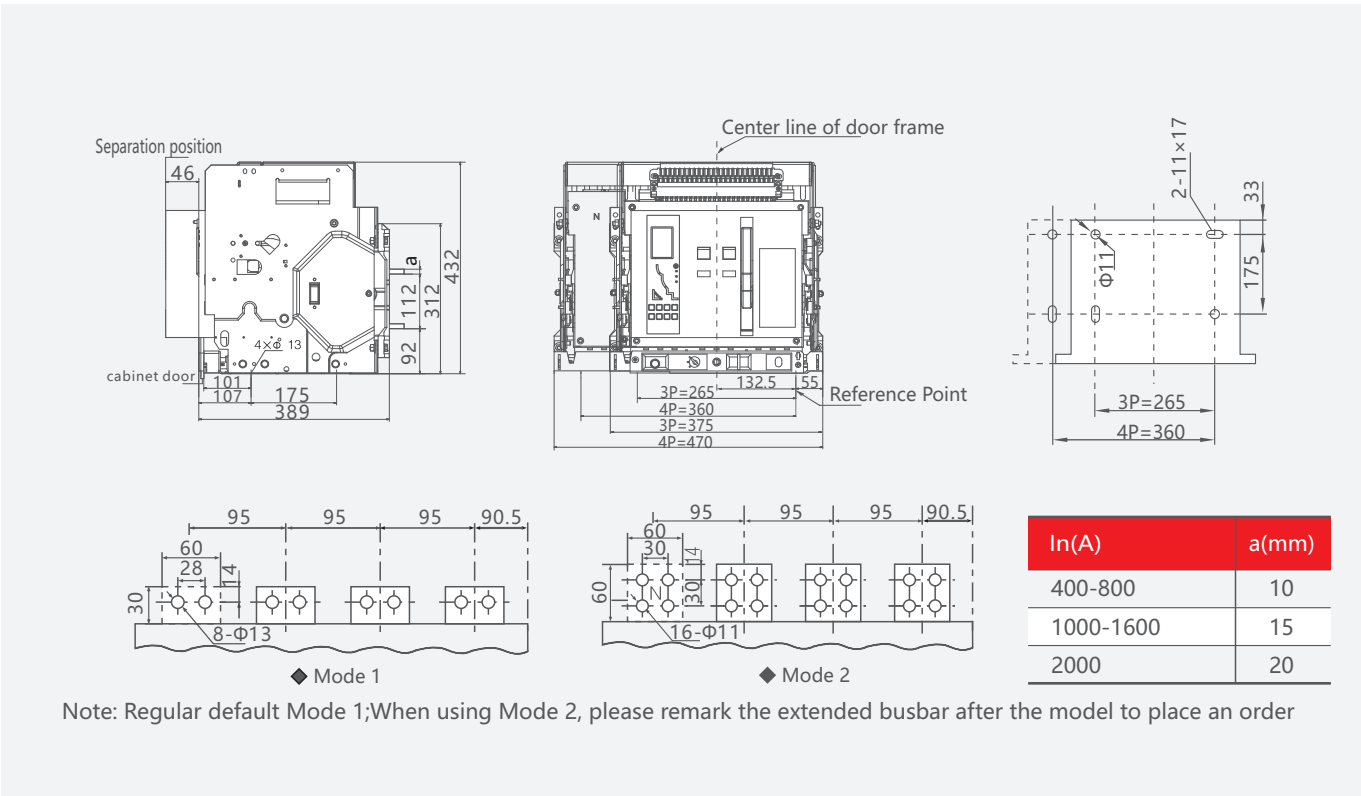
Distribution Apparatus

YCW3 Air circuit breaker

YCW3-1600A Drawer circuit breaker



YCW3-2000A Drawer circuit breaker

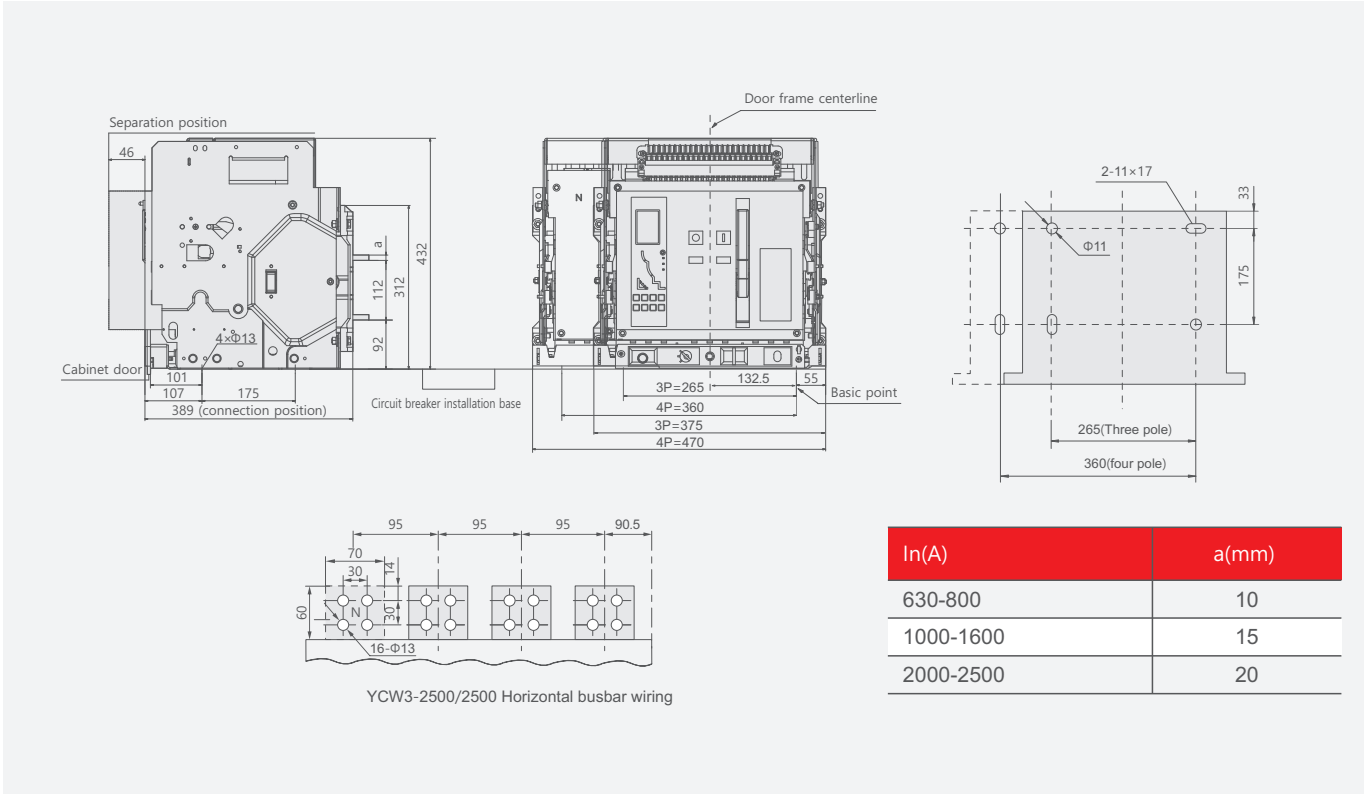


Distribution Apparatus

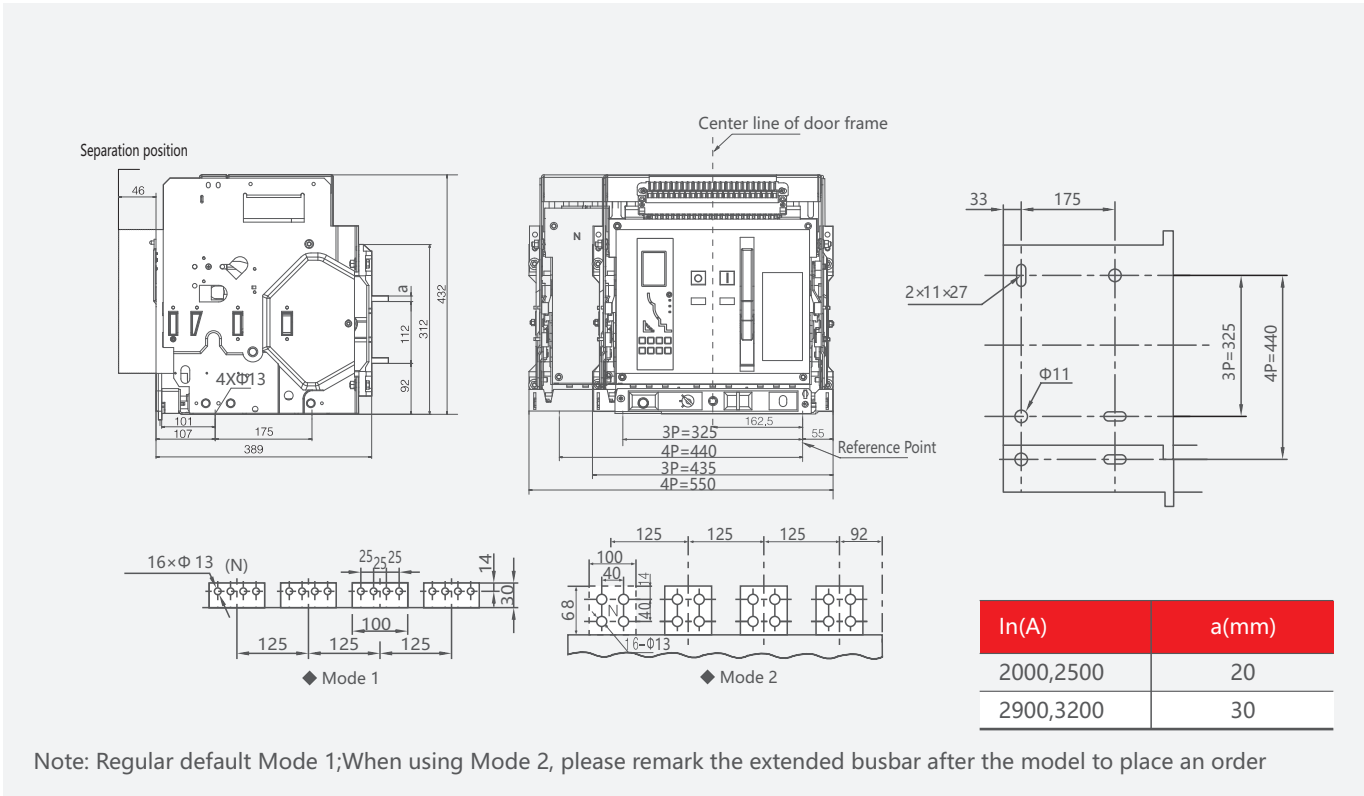
YCW3 Air circuit breaker

Overall and mounting dimensions(mm)

YCW3-2500A Drawer circuit breaker



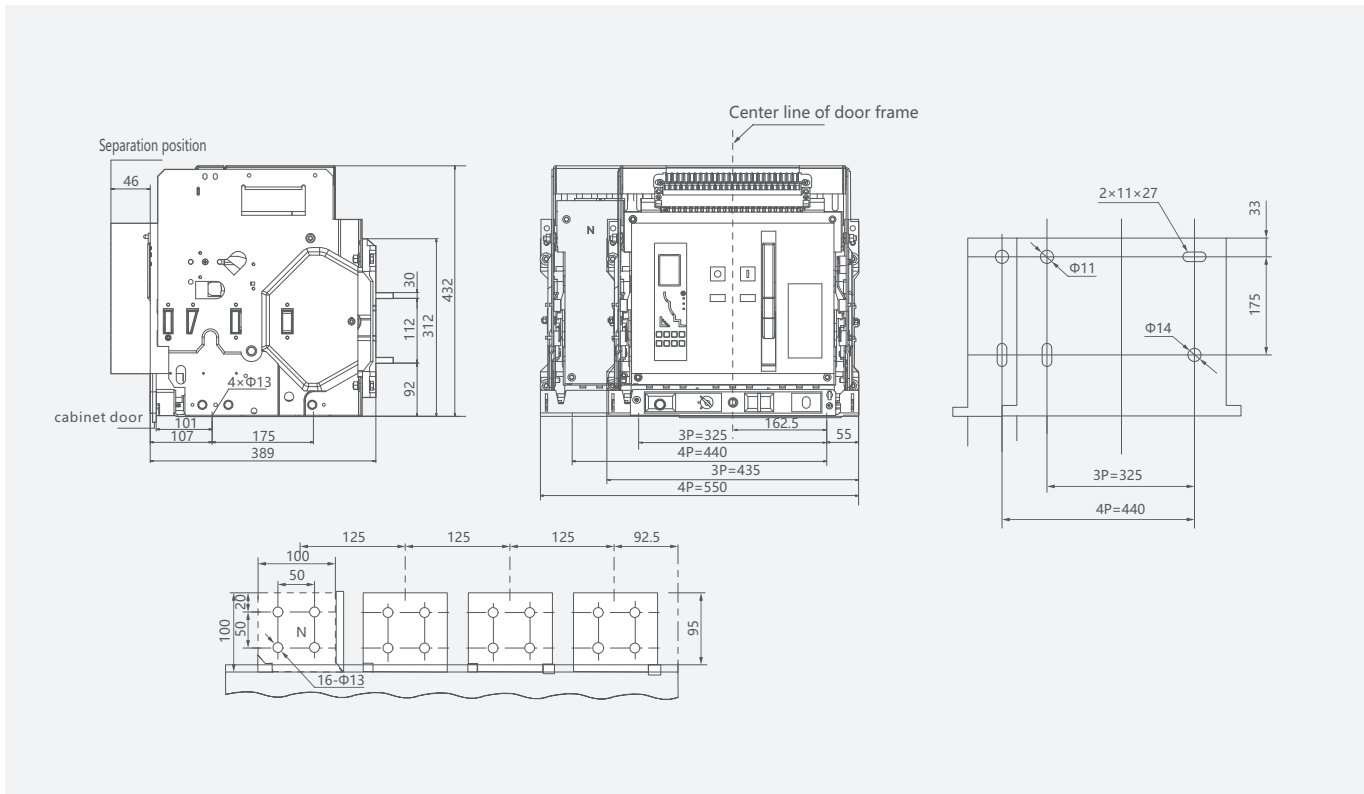
YCW3-3200A Drawer circuit breaker



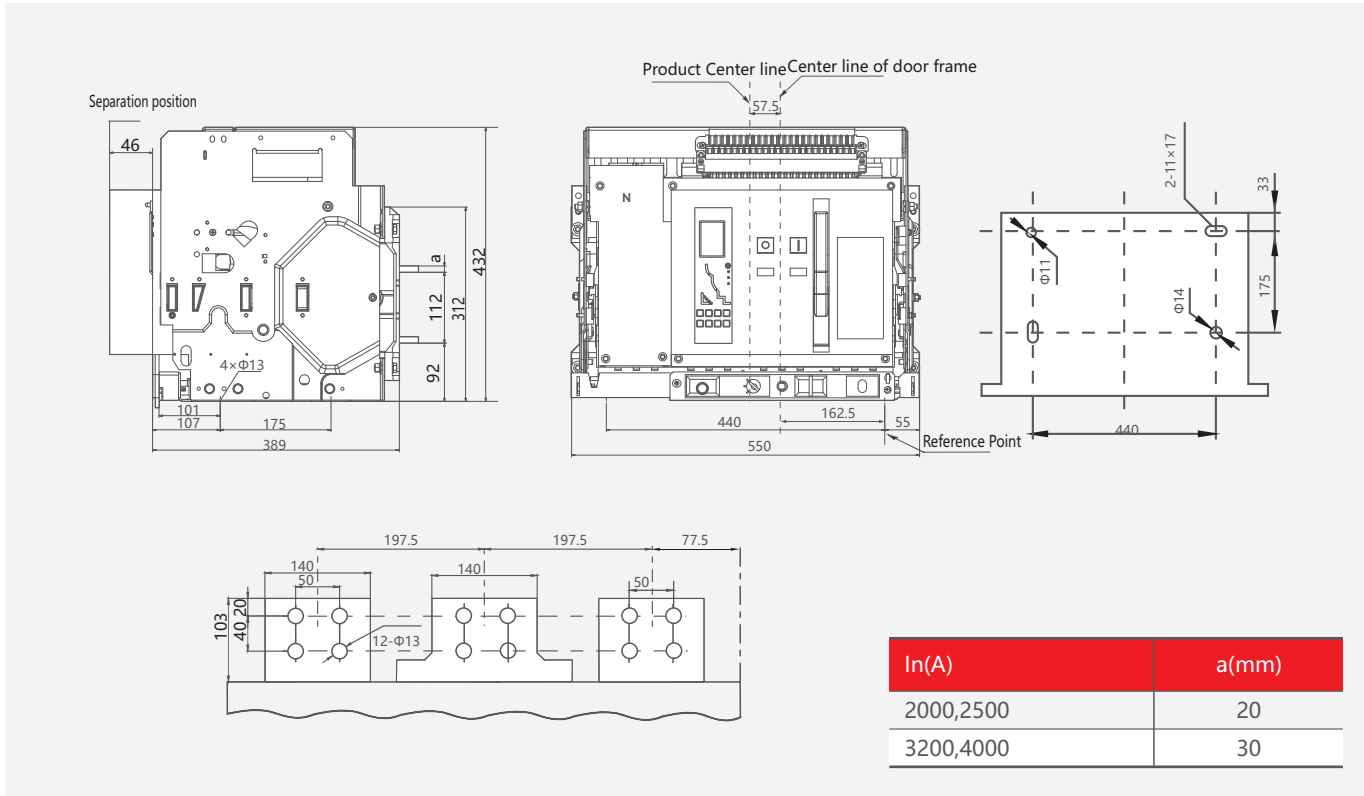
Distribution Apparatus

YCW3 Air circuit breaker

YCW3-4000A Drawer circuit breaker



YCW3-4000A Drawer circuit breaker (YCW1-4000 Drawer Alternative)

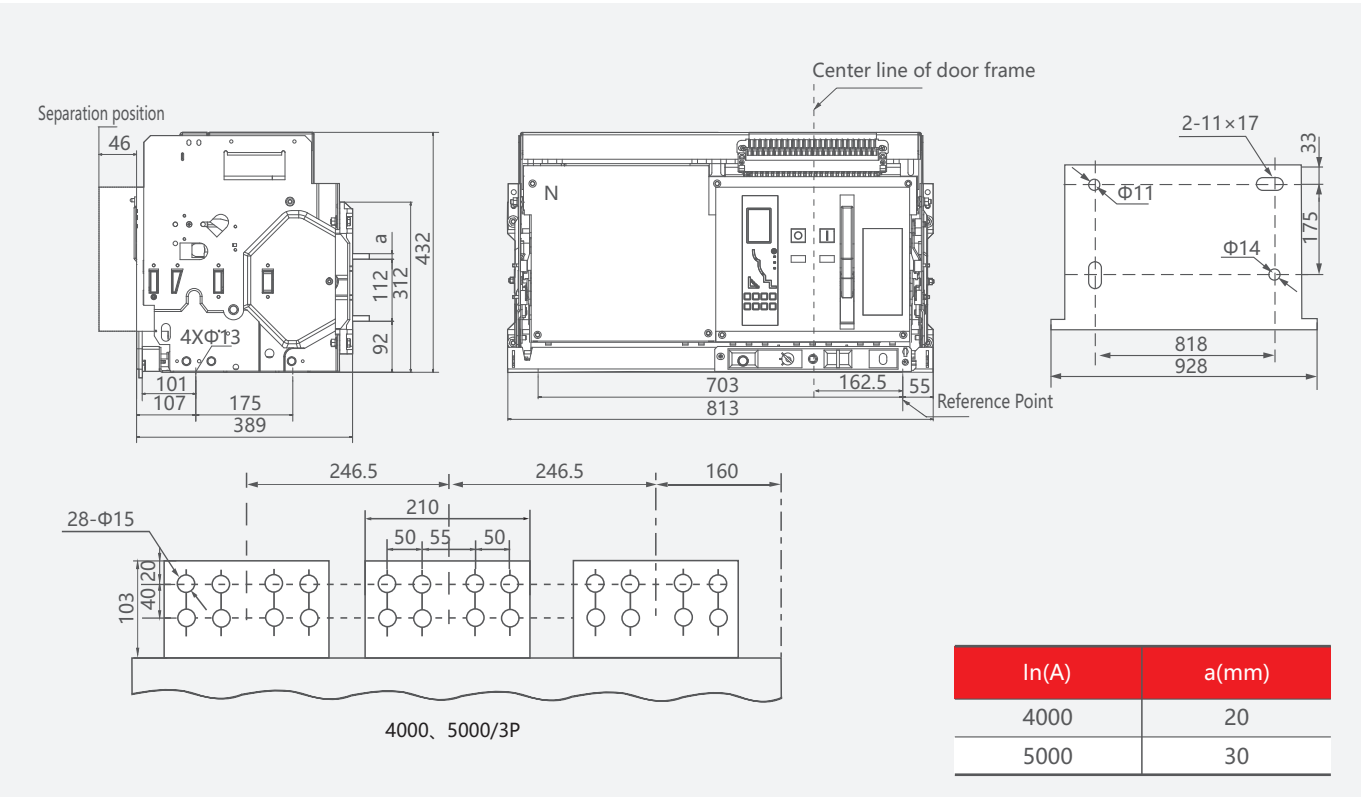


Distribution Apparatus

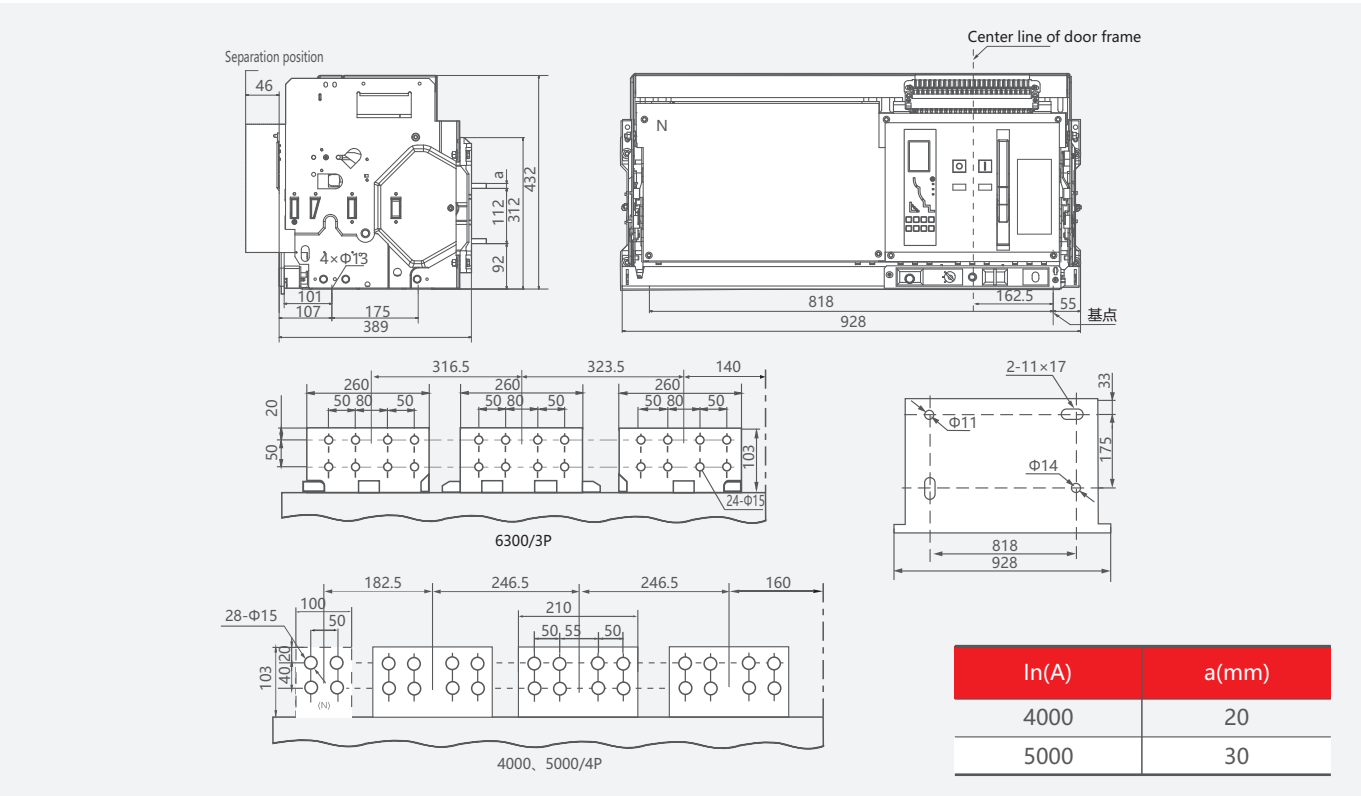
YCW3 Air circuit breaker

Overall and mounting dimensions(mm)

YCW3-6300 /3P Drawer circuit breaker



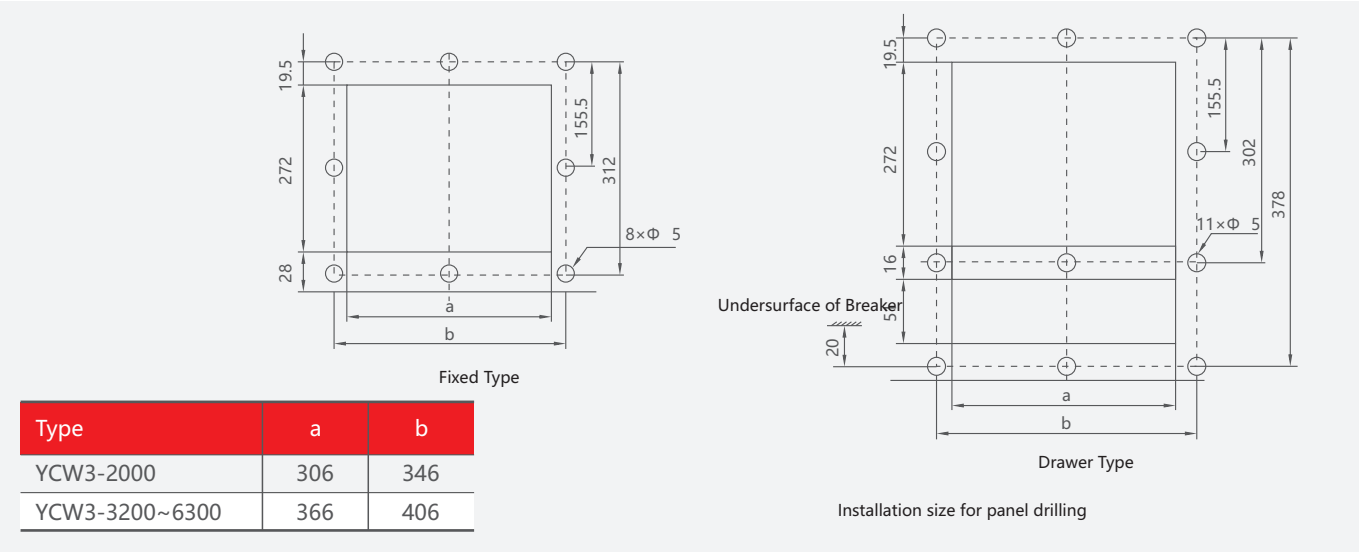
YCW3-6300A Drawer circuit breaker



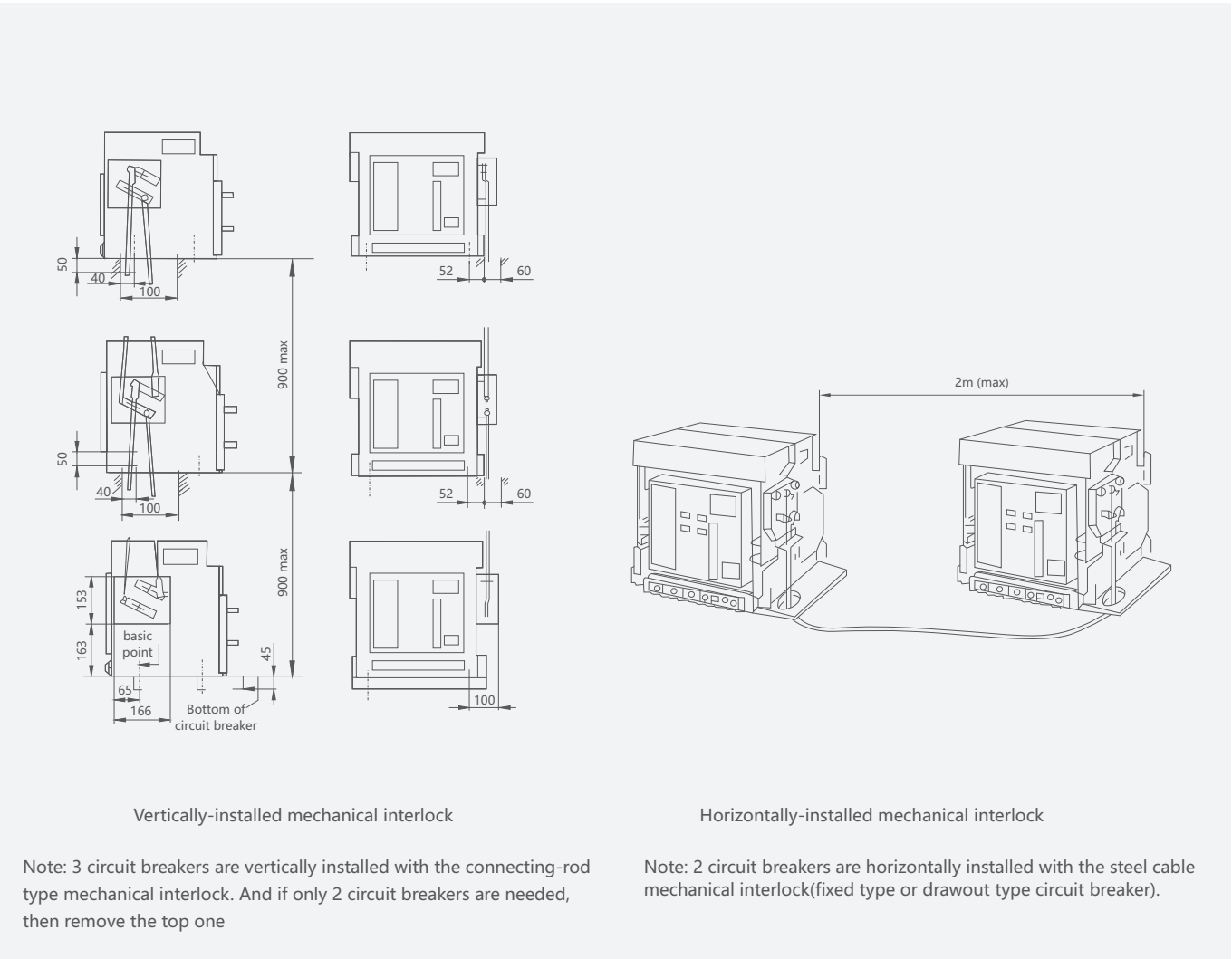
Distribution Apparatus

YCW3 Air circuit breaker

Boring dimension of doorcase



Mechanical interlock



Distribution Apparatus

YCW3 Air circuit breaker

Ordering information

Quantity Set									
Model		Available type and rated current				Rated voltage		☐ AC400V	☐ AC690V
YCW3-1600		☐ 200 ☐ 1000	☐ 400 ☐ 1250	☐ 630 ☐ 1600	☐ 800	Quantity	Set	☐ Fixed ☐ Three poles	☐ Draw-out ☐ Four poles
YCW3-2000		☐ 630 ☐ 1250	☐ 800 ☐ 1600	☐ 1000 ☐ 2000		Quantity	Set	☐ Fixed ☐ Three poles	☐ Draw-out ☐ Four poles
YCW3-2500		☐ 630 ☐ 1600	☐ 800 ☐ 2000	☐ 1000 ☐ 2500	☐ 1250	Quantity	Set	☐ Fixed ☐ Three poles	☐ Draw-out ☐ Four poles
YCW3-3200		☐ 2500	☐ 2900	☐ 3200		Quantity	Set	☐ Fixed ☐ Three poles	☐ Draw-out ☐ Four poles
YCW3-4000		☐ 3200	☐ 3600	☐ 4000		Quantity	Set	☐ Fixed ☐ Three poles	☐ Draw-out ☐ Four poles
YCW3-6300		☐ 4000	☐ 5000	☐ 6300		Quantity	Set	☐ Fixed ☐ Three poles	☐ Draw-out ☐ Four poles
Intelligent controller	Basic function	☐ Overload long time delay protection ☐ Short-circuit short delay ☐ Short-circuit instantaneous							
	Other function	☐ Earthing protection ☐ MCR function ☐ Self-diagnosis	☐ Load monitoring ☐ Thermo-simulating ☐ Testing	☐ Ampere meter ☐ voltage meter ☐ Fault records ☐ Communication					
	Controller power	☐ AC 220V	☐ AC 380V	☐ DC 220V	☐ DC 110V				
Accessory	☐ Under-voltage release	☐ AC 220V ☐ AC 380V							
		☐ Under-voltage instantaneous type ☐ Under-voltage time-delay type		☐ 1s ☐ 3s ☐ 5s ☐ 10s					
	☐ Shunt release	☐ AC 220V	☐ AC 380V	☐ DC 220V	☐ DC 110V				
	☐ Closing electromagnet	☐ AC 220V	☐ AC 380V	☐ DC 220V	☐ DC 110V				
	☐ Motor-driven energy-storage mechanism	☐ AC 220V	☐ AC 380V	☐ DC 220V	☐ DC 110V				
	☐ Auxiliary contact	☐ 4 groups of changeover contacts ☐ 4NO and 4NC contacts ☐ 3NO and 3NC contacts		☐ 2NO adn 6NC contacts ☐ 6NC and 4NO contacts (YCW3-1600 noly have 4 groups of changeover contacts)					
	☐ Locking device	☐ Horizontal interlock	☐ Vertical interlock	☐ Door interlock	☐ Others				

- Note:
- 1.The frame size current, rated current and auxiliary control voltage must be specified when ordering.
 - 2.Please mark "√" or fill in figure in the relative "□", if no mark, we will provide as usual.
 - 3.The operational function of the intelligent controller and special requirement require additional cost.