

# 框架断路器

AIR CIRCUIT BREAKER

**veKON**

**WE** *are*  
**VEKON**  
**GLOBAL**

# About us

VEKON Global company is a leading provider of high-technology products and complex solutions in the fields of electrical engineering, automation, and engineering infrastructure.

We promote the VEKON brand and its values worldwide, ensuring easy access for our Customers to VEKON innovations through a wide product range, balanced commercial policies, and exceptional Customer service.

Our core manufacturing facility, Zhejiang VEKON Technology Co., Ltd., located in Yueqing Bay Power Technology Town, Zhejiang Province, China, is a technological leader in modular electrical equipment. Established in 2002, it produces a diverse range of products including RCCB/RCCBOs, MCBs, AFDDs, relays, contactors, and signaling and control devices. Manufactured on automated production lines, the facility boasts a daily output of 500,000 units. Our products are exported globally to Europe, the Americas, Southeast Asia, and Africa. Advanced technology, reliable equipment, guaranteed quality, and dedicated technical support have secured a substantial base of loyal customers worldwide. VEKON holds patents on its own designs and its products are CE, SEMKO, KEMA, and other internationally recognized certifications

compliant. Our manufacturing facilities maintain ISO 9001 certification.

In addition to Zhejiang VEKON Technology Co., Ltd., the VEKON brand encompasses over 30 other manufacturing sites across Mainland China. We design, manufacture, and supply a comprehensive range of low – and medium-voltage electrical products (up to 35 kV), as well as a wide array of industrial automation and process control equipment.

VEKON's strategy is built on Partnerships. By collaborating with professional distributors, retailers, panel builders, installers, system integrators, and service centers, we strive to provide seamless customer proximity. At VEKON, responsibility and reputation are paramount. Our greatest reward is the establishment of long-term, mutually beneficial business and personal relationships with our Partners.

Customers and Partners who choose VEKON products can rely on our commitment to VEKON values throughout the entire product lifecycle – from ideation and innovation to manufacturing, reliable supply, comprehensive solution implementation, and comprehensive warranty and post-warranty services.

# ACB-1 Series Air circuit breaker

## General

ACB-1 series intelligent air circuit breakers (hereinafter called ACB) are applied for the network circuit of AC 50Hz, rated voltage 400V, 690V and rated current between 630A and 6300A. Mainly used for distributing energy and protecting the circuit and power supply device against short-circuit, undervoltage, single-phase ground fault, etc. The ACB has intelligent protection function and the key parts adopt intelligent release. The release can make the accurate selective protection, which can avoid cutting off the power and improve the reliability of power supply.  
Standard: IEC60947-1, IEC60947-2.



## Type designation

ACB-1- 2000 / 3 + Installation + Control unit + Common use accessory + Optional accessory



1. Rated current in scope of frame current  
 2000 Type-in: 630A, 800A, 1000A, 1250A, 1600A, 2000A;  
 3200 Type-in: 2000A, 2500A, 3200A;  
 6300 Type-in: 4000A, 5000A, 6300A;
2. Pole number  
 3-default, 4-4 pole
3. Installation  
 Fixed type-horizontal, vertical  
 Draw out type-horizontal, vertical  
 Note: 2000 type have vertical wiring, others are horizontal wiring
4. Control unit  
 L type-dial switch mode, over-current protection (overload, short delay, instantaneous).  
 2M type-digital display, over-current protection (overload, short delay, instantaneous), 4P or 3P+N have earthing protection (3M type is LCD display).  
 2H type-communication function, digital display, over-current protection (overload, short delay, instantaneous), 4P or 3P+N have earthing protection (3H type is LCD display).
5. Common use accessory  
 Closing electromagnet-AC230V, AC400V, DC220V  
 Undervoltage release-AC230V, AC400V, undervoltage instantaneous, undervoltage time-delay  
 Release (close) magnetic iron-AC230V, AC400V, DC220V  
 Electric operation mechanism-AC230V, AC400V, DC110V, DC220V  
 Auxiliary contact-standard type (4a4b), special type (5a5b, 6a6b)  
 Note: a-normal open, b-normal close
6. Optional accessory  
 Mechanical inter-lock:  
 one circuit breaker (1lock+1key)  
 two circuit breaker (steel cable inter-lock, connecting rod inter-lock, 2lock+1key)  
 three circuit breakers (3locks+2keys, connecting rod inter lock)  
 Automatic power transfer system  
 Current transformer connected with neutral lead



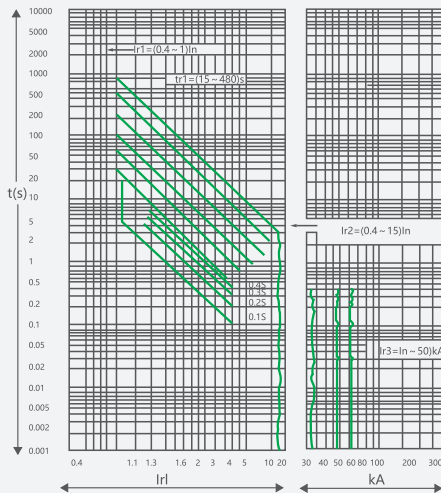


# ACB-1 Series Air circuit breaker

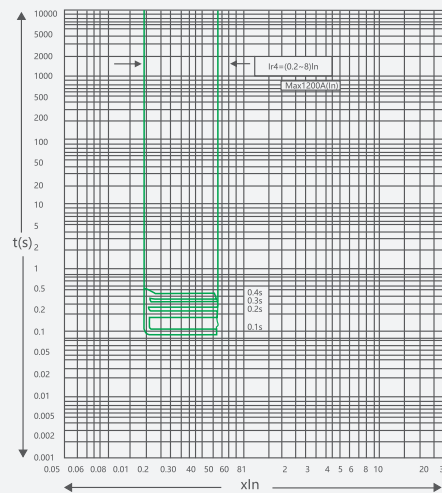
## Operating conditions

Item	Description
Ambient temperature	-5°C ~ +40°C (except special order products)
Altitude	≤2000m
Pollution grade	3
Safety category	Main circuit and undervoltage tripping coil is IV, other auxiliary and control circuit is III
Installation position	Vertical installed, tilt not exceed 5 degree
Environmental protection	Most of parts use recyclable and degradable materials
Isolating function	With isolating function

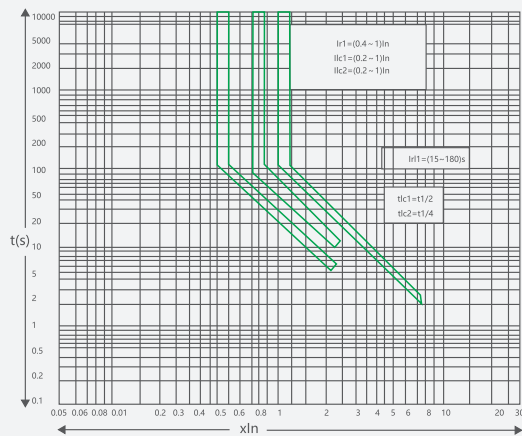
## Curve



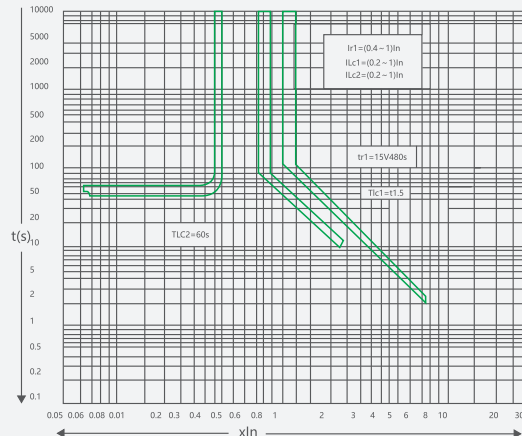
ACB-1-2000~6300 Over current release time/current characteristic curve



ACB-1-2000~6300 Earth fault protection time/current characteristic curve



ACB-1-Load monitoring (1) time/current characteristic curve



ACB-1-Load monitoring (2) time/current characteristic curve

## ACB-1 Series Air circuit breaker

### Technical data

Type			ACB-1-2000	ACB-1-3200	ACB-1-6300	
Pole			3P, 4P	3P, 4P	3P, 4P	
Using category			B	B	B	
Rated current In		A	630, 800, 1000 1250, 1600, 2000	2000, 2500, 3200	4000, 5000, 6300	
Rated frequency		Hz	50	50	50	
Rated operation voltage Ue		V	400, 690	400, 690	400, 690	
Rated insulation voltage Ui		V	800	800	800	
Arcing distance		mm	0	0	0	
Rated impulse withstanding voltage Uimp		V	8000	8000	8000	
Rated operation short circuit breaking capacity Ics (O-t-CO)	400V	kA	50	80	100	
	660V	kA	40	50	75	
Rated limiting short circuit breaking capacity Icu (O-t-CO)	400V	kA	80	80	120	
	660V	kA	50	65	85	
Rated short time withstanding current Icw (O-t-CO, AC400V 0.4S)		400V	kA	50	65	85
Operation life	Per hour	times	20	20	10	
	Electrical	times	1000	500	500	
	Mechanical	times	10000	5000	5000	
Full breaking time		ms	20~30	20~30	20~30	
Full closing time		ms	55~70	55~70	55~70	
Power consumption	3P	W	360	1200	2000	
	4P	W	450	1750	2300	
Resistance of each pole	Fixed type	μΩ	11	9	-	
	Draw out type	μΩ	20	14	10	
Dimensions (L×W×H)	3P fixed type	mm	362×323×402	422×323×402		
	3P draw out type	mm	375×461×452	435×471×452		
	4P fixed type	mm	457×323×402	537×323×402		
	4P draw out type	mm	470×461×452	550×471×452		
Approximate weight	3P fixed type	kg	41	55		
	3P draw out type	kg	71	95	245	
	4P fixed type	kg	51.5	65	-	
	4P draw out type	kg	86	115	260	

# ACB-1 Series Air circuit breaker

## Technical data

Overload protection		ACB-1-2000~6300					
Adjust scope Ir1		(0.4-1)In (pole difference 2%)					
1.05 Ir1	h	2h non-tripping					
1.3 Ir1	h	≤1h tripping					
1.5 Ir1	s	15	30	60	120	240	480
2.0 Ir1	s	8.4	16.9	33.7	67.5	135	270
Accuracy	%	±15					

Short circuit, short time delay							
Adjust scope Ir1 Ir2		(0.4-15)In (pole difference 2%)					
Delay time tr2	ms	100, 200, 300, 400					
Accuracy	%	±15					

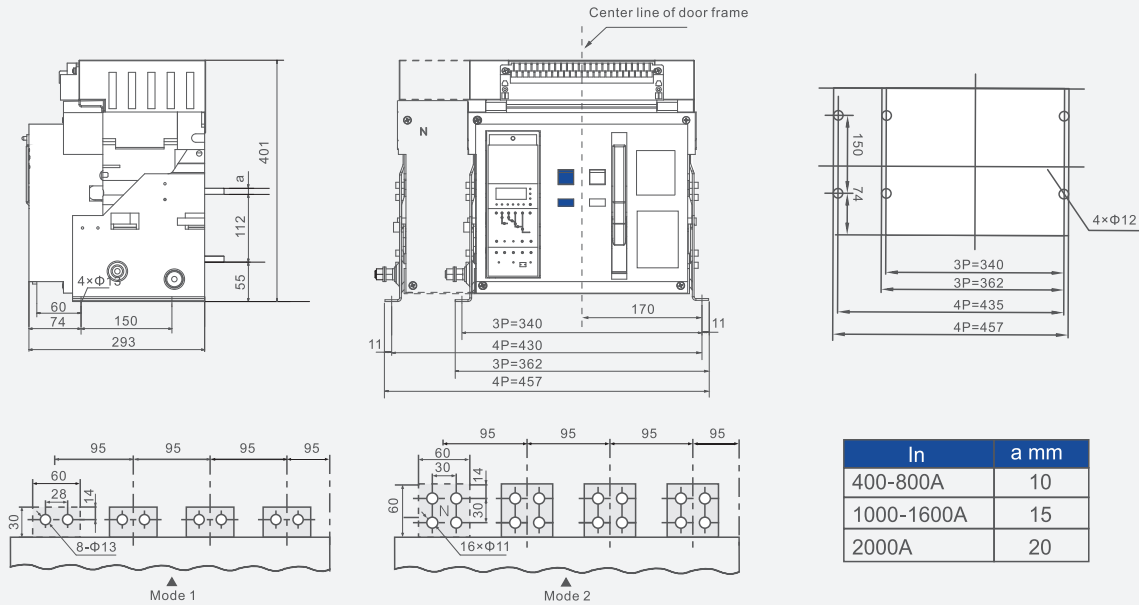
Short circuit, instantaneous				
		ACB-1-2000	ACB-1-3200	ACB-1-6300
Adjust scope Ir1 Ir3		1In-50kA	1In-75kA	1In-100kA
Accuracy	%	±15	±15	±15

Load monitoring output		ACB-1-2000~6300					
Load adjust scope Ic1		(0.2-1)In (pole difference 2%)					
Delay time tc1		tr1×0.5					
Load adjust scope Ic2		(0.2-1)In (pole difference 2%)					
Delay time tc2		tr1×0.25 (anti-time limit)					
Accuracy	s	60 (set time limit)					
	%	±10					

## ACB-1 Series Air circuit breaker

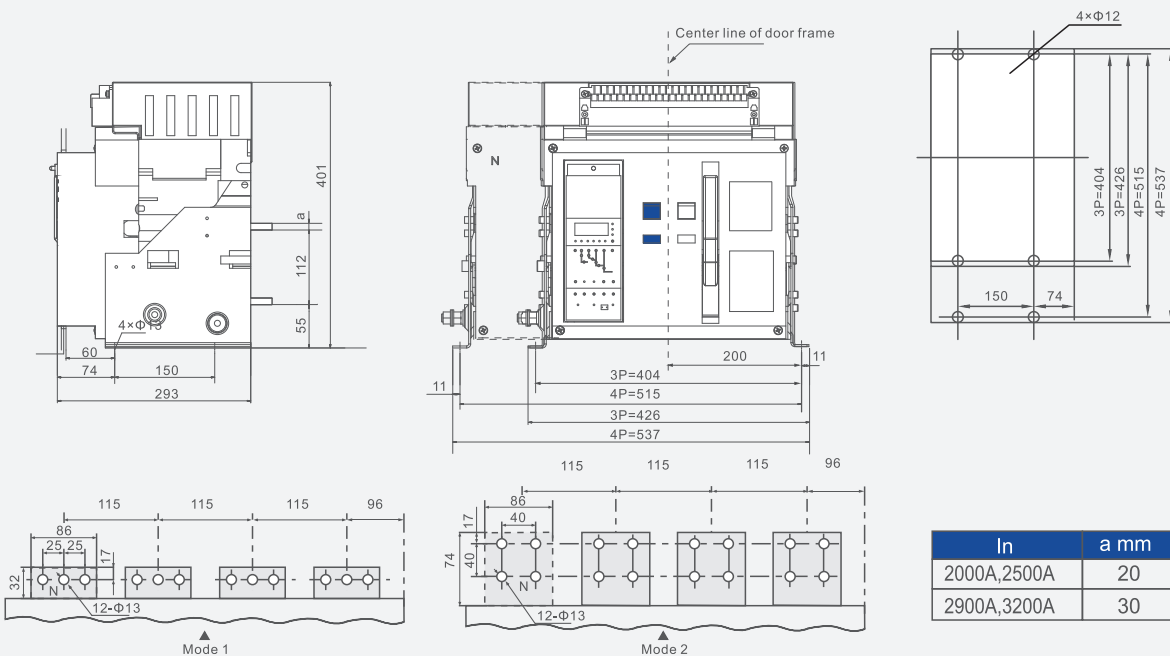
### Overall and mounting dimensions(mm)

ACB-1-2000A Fixed circuit-breaker installation and overall dimensions are shown



Fixed Circuit-Breaker Installation and Overall Dimensions (Inm equals to 2000A three or four-pole)

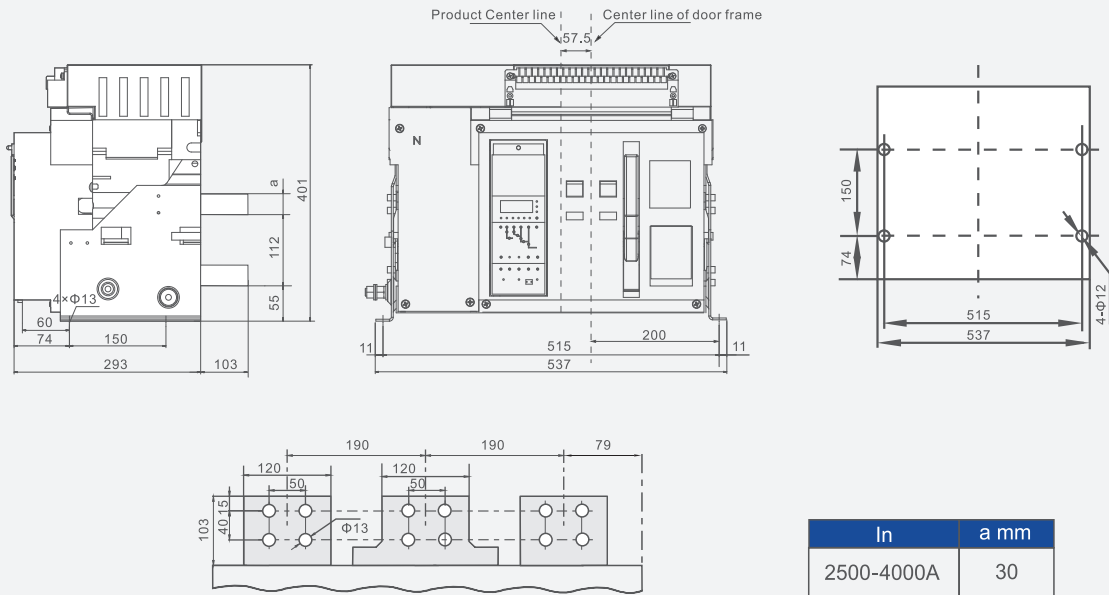
ACB-1-3200A Fixed circuit-breaker installation and overall dimensions are shown



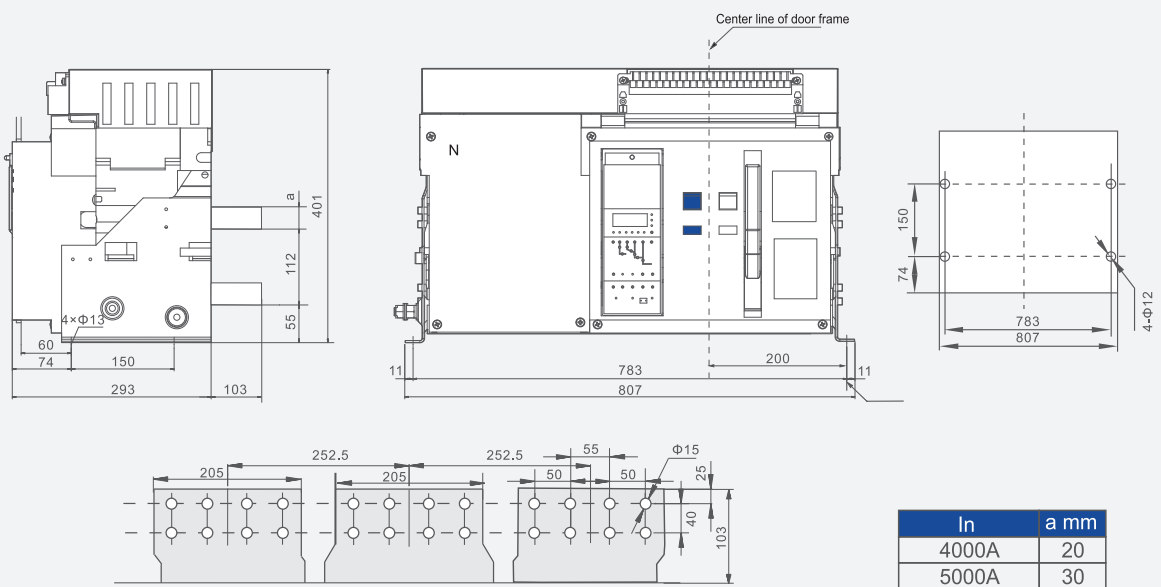
Fixed Circuit-Breaker Installation and Overall Dimensions ((Inm equals to 3200A three or four pole)

# ACB-1 Series Air circuit breaker

ACB-1-4000A Fixed circuit-breaker installation and overall dimensions are shown



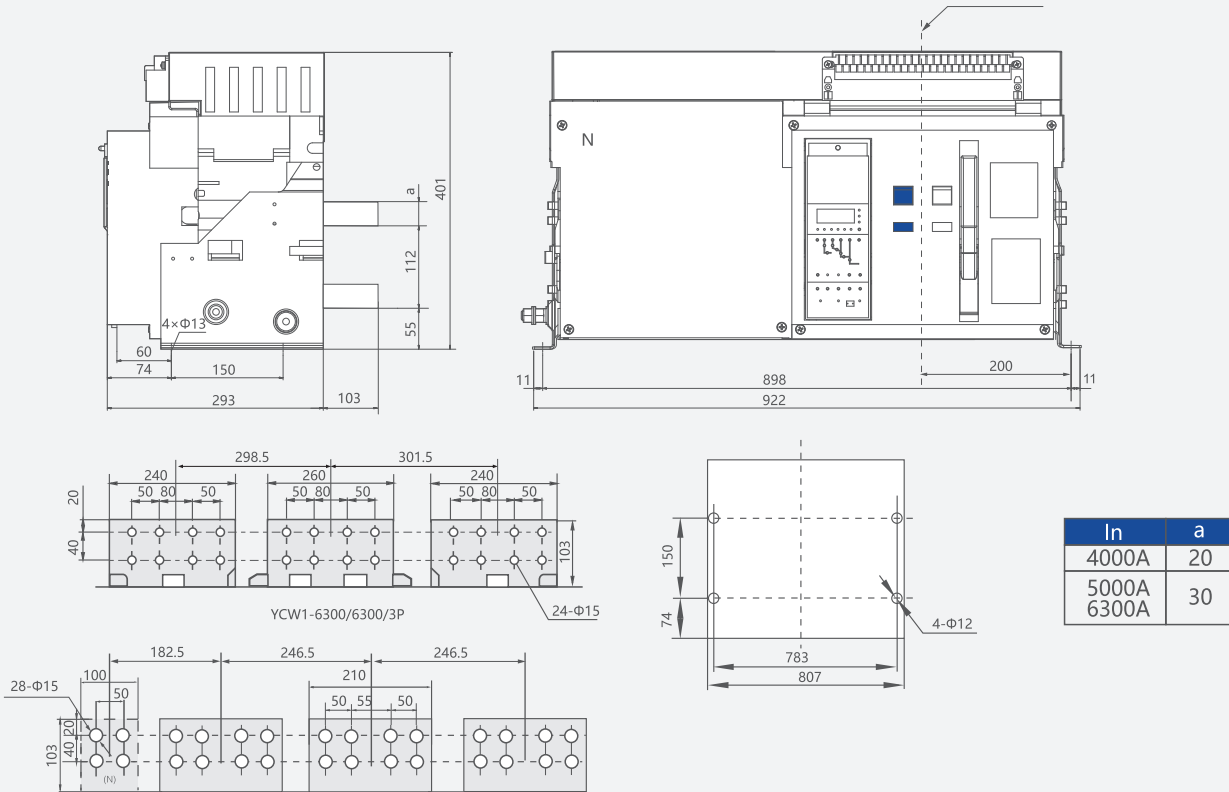
ACB-1-6300/3P Fixed circuit breaker and overall dimension are shown



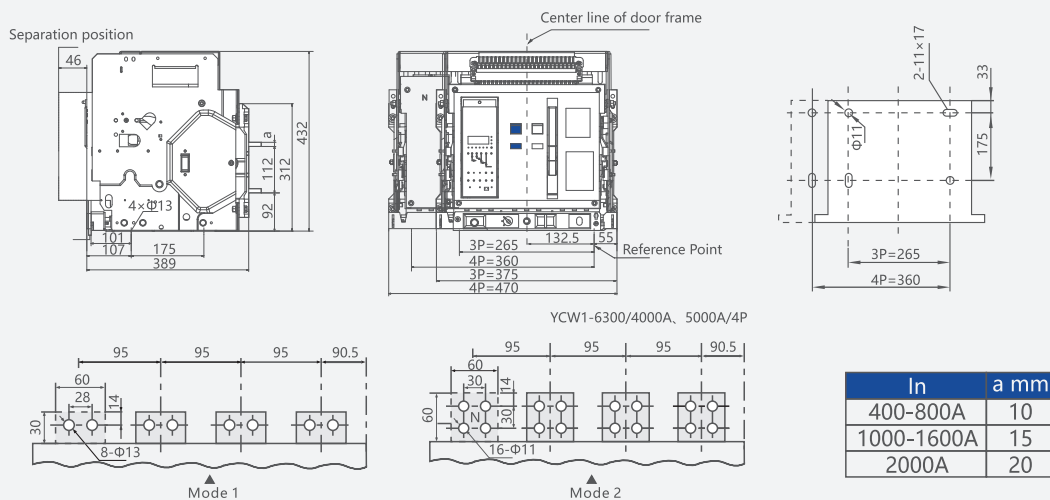
ACB-1-6300/4000A,5000A/3P

## ACB-1 Series Air circuit breaker

ACB-1-6300A Fixed circuit breaker and overall dimension are shown



ACB-1-2000A Drawer circuit breaker and overall dimension are shown



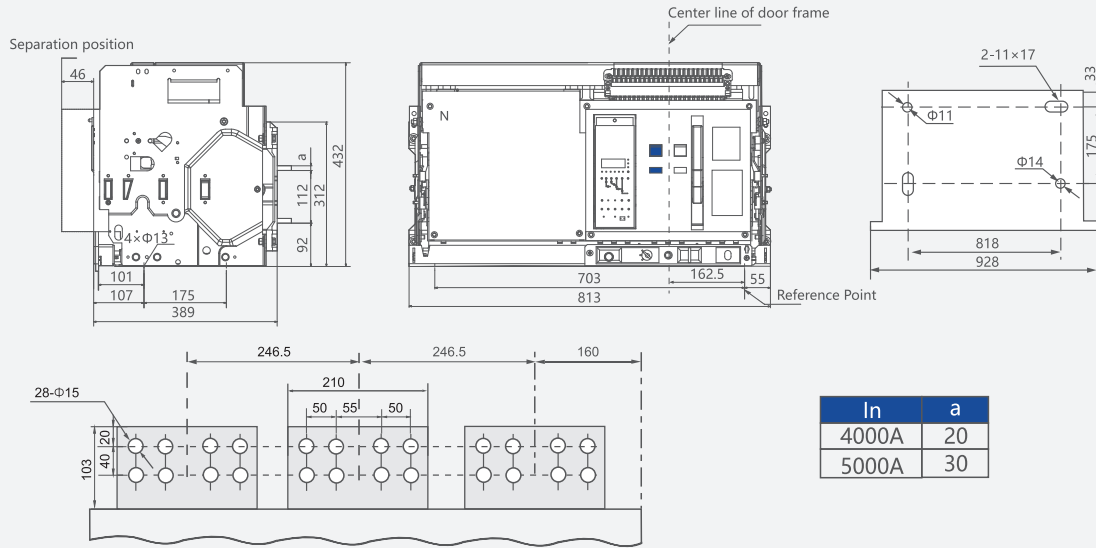
Installation of the drawer circuit breaker and overall dimension (Inm = 2000A three-pole, quadrupole)





# ACB-1 Series Air circuit breaker

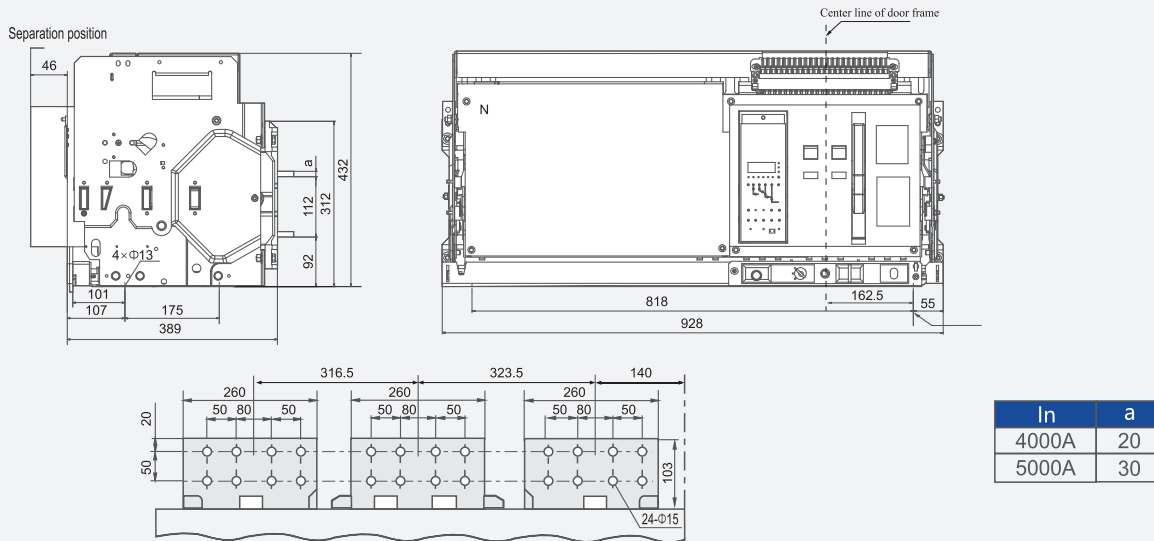
ACB-1-6300/3P Drawer circuit breaker (quadrupole) and installation size.



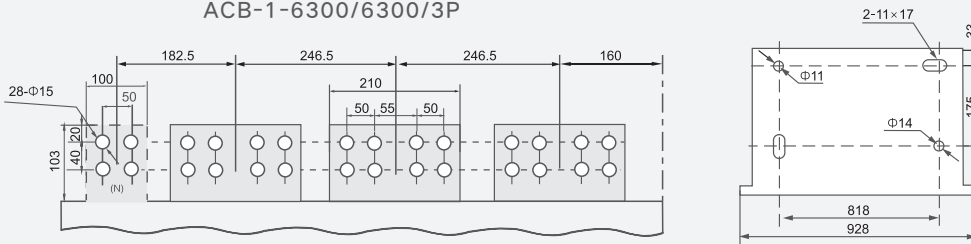
ACB-1-6300/4000、5000/3P

Installation of drawer circuit breaker and overall dimension (Inm=.4000A quadrupole).

ACB-1-6300A Drawer circuit breaker and overall dimension are shown



ACB-1-6300/6300/3P



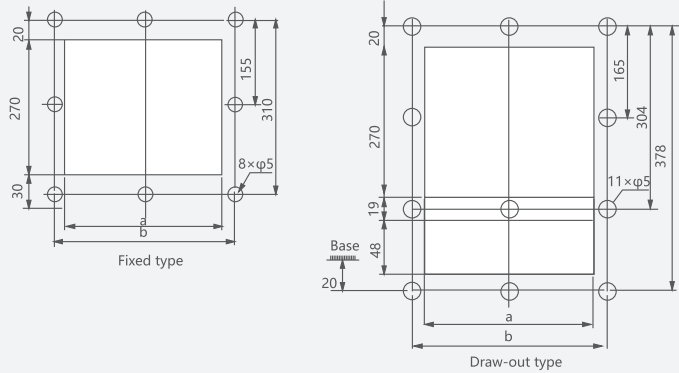
ACB-1-6300/4000、5000/4P

Figure 24 Drawer circuit breaker installation and overall dimension (Inm=6300A) (4000A, 5000A three-pole and quadrupole as well as 6300 A three-pole)

# ACB-1 Series Air circuit breaker

Installation and figure dimension of draw-out type circuit breaker (Inm=3200A 3P 4P)

Dimension of panel hole see picture and table Unit:mm

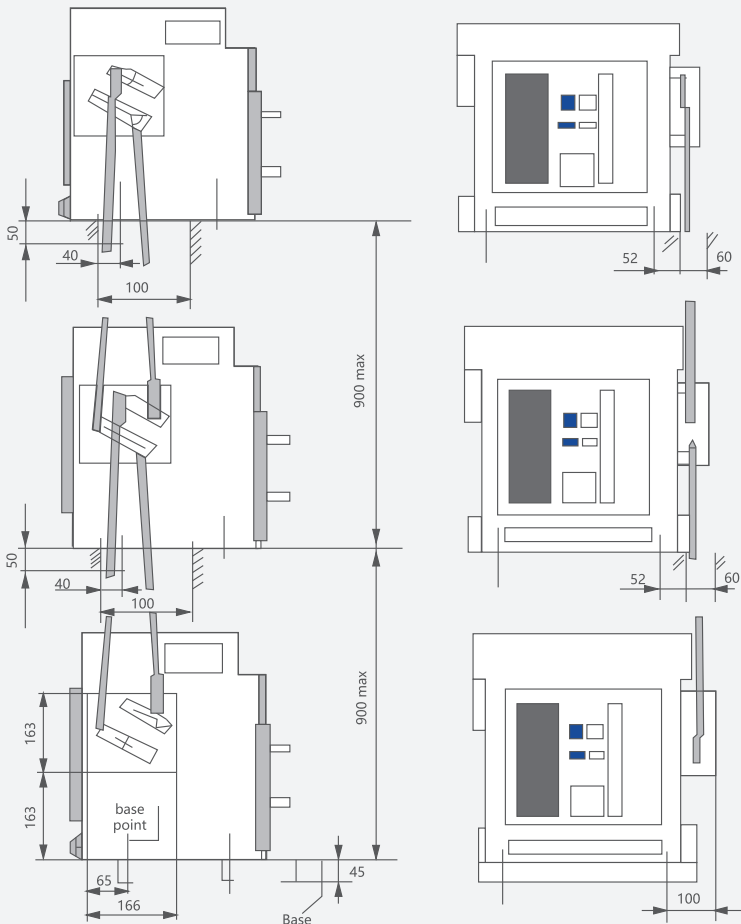


Installation dimension of panel hole

Type	a	b
ACB-1-2000	306	346
ACB-1-3200~6300	366	406

Interlock device of circuit breaker see picture Unit:mm

Interlock device of vertical install circuit breaker

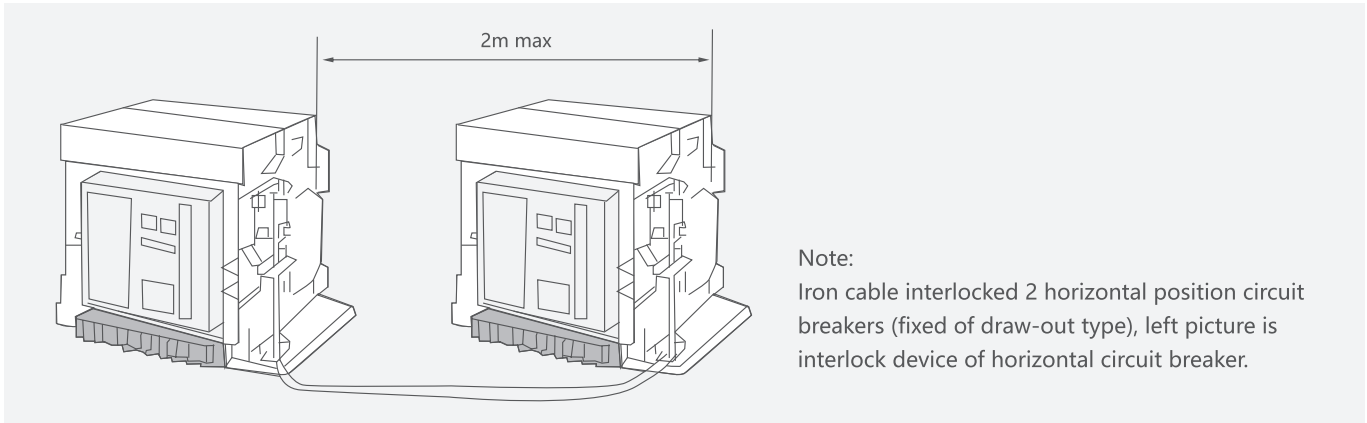


Note:

Left picture is interlocked 3 vertical install circuit breakers if only need 2 circuit breakers, only need to remove the top one.

## ACB-1 Series Air circuit breaker

Interlock device of horizontal install circuit breaker



Note:  
Iron cable interlocked 2 horizontal position circuit breakers (fixed of draw-out type), left picture is interlock device of horizontal circuit breaker.


### Characteristic of intelligent controller


	Basic function	
	Overload long time-delay anti-time limit protection	
	Short circuit short time-delay anti-time limit protection	
	Short circuit short time-delay timing protection	
	Short circuit instantaneous protection	
Insulate earth fault protection		
Display function		
Current (select 1)	Digital display	Can display L1, L2, L3, I <sub>max</sub> IG(earth), IG(Neutral)
Voltage (select 2) Power (select 2)	Digital display	Can display U <sub>12</sub> , U <sub>23</sub> , U <sub>31</sub> , U <sub>min</sub> P
Power factor (select 2)		COSΦ
Warning function		
Over current fault warning	Light-emitting diodes on panel	After fault trip indicator light corresponding
Fault category identification	Light-emitting diodes on panel	Overload log time-delay Short circuit short time-delay Short circuit instantaneous Earth fault
Fault phase sequence	Digital display	Display the fault phase sequence
Current		Breaking current
Time display		Breaking time
Contact loss indication	Digital display	Display percentage of loss
Self-diagnosis function		Send the error signal


## ACB-1 Series Air circuit breaker


Testing function		
Panel key	Tripping	Test the time current characteristic of release and situation of operation device
Remote monitoring function	Non-tripping	Test the time current characteristic of release
Remote monitoring code signal optocoupler	Relay (contain power) module	Output of various working condittion
Communication function		
Communicate type	RS485 (communication) I/O	User should consult with the manufacturer

### Electrical accessories

Under-voltage release	Rated working voltage $U_e(V)$	AC400 AC230
	Acting voltage (V)	$(0.35 \sim 0.7) U_e$
	Reliable close voltage (V)	$(0.85 \sim 1.1) U_e$
	Non close voltage (V)	$\leq 0.335 U_e$
	Power loss	12VA (YCW1-1000 5VA)

Shunt release	Rated control power voltage $U_s(V)$	AC400 AC230 DC220 DC110
	Acting voltage (V)	$(0.7 \sim 1.1) U_e$
	Power loss	40VA 40W (YCW1-1000 5VA)
	Open time	less than 30ms

Close electromagnetic iron	Rated control power voltage $U_s(V)$	AC400 AC230 DC220 DC110
	Acting voltage (V)	$(0.85 \sim 1.1) U_e$
	Power loss	40VA 40W (YCW1-1000 5VA)
	Open time	less than 70ms

Motor operating device	Rated control power voltage $U_s(V)$	AC400 AC230 DC220 DC110
	Acting voltage (V)	$(0.85 \sim 1.1) U_e$
	Power loss	40VA 40W (YCW1-1000 5VA)
	Open time	less than 5s

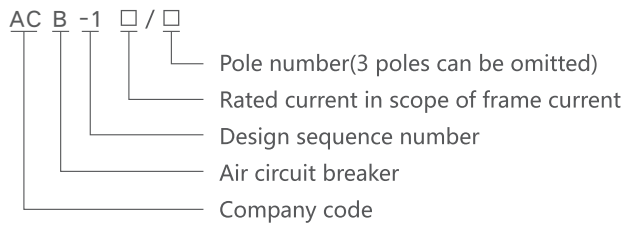
# ACB-1 Air circuit breaker

## ACB-1-1000 Intelligent Air Circuit Breakers

### General

ACB-1-1000series intelligent air circuit breakers (hereinafter called ACB) are applied for the network circuit of AC 50Hz, rated voltage 400V,690V and rated current up to 1000A. Mainly used for distributing energy and protecting the circuit and power supply device against short-circuit, undervoltage,single-phase ground fault etc. The ACB have intelligent protection function and the key parts adopt intelligent release. The release can make the accurate selective protection, which can avoid cutting off the power and improve the reliability of power supply.  
Standard: IEC60947-2.

### Type designation



Category

Installation: Fixed type, draw out type.

Operation: Motor-driven, hand.

### Technical data

Type		ACB-1-1000				
Rated short circuit breaking capacity		I <sub>cu</sub> =42kA 400V I <sub>cs</sub> =I <sub>cw</sub> /1s=30kA 400V				
		I <sub>cu</sub> =25kA 690V I <sub>cs</sub> =I <sub>cw</sub> /1s=20kA 690V				
Rated current I <sub>n</sub> (A)		200	400	630	800	1000
Pole		3P, 4P				
Rated operation voltage U <sub>e</sub> (V)		400				
Rated insulation voltage U <sub>i</sub> (V)		690				
N pole max continuous current I <sub>n</sub> (A)		100%I <sub>n</sub>				
Breaking time (ms)		23~32				
Control unit	Standard (M)	●	●	●	●	●
	Multi-function (H)	●	●	●	●	●
Operation life	Electrical	1000				
	Mechanical	maintenance-free 3000				
		maintenance 10000				
Connection mode		Horizontal, vertical				
Weight	3P/4P draw out type	38/55				
	3P/4P fixed type	22/26.5				



# ACB-1 Air circuit breaker

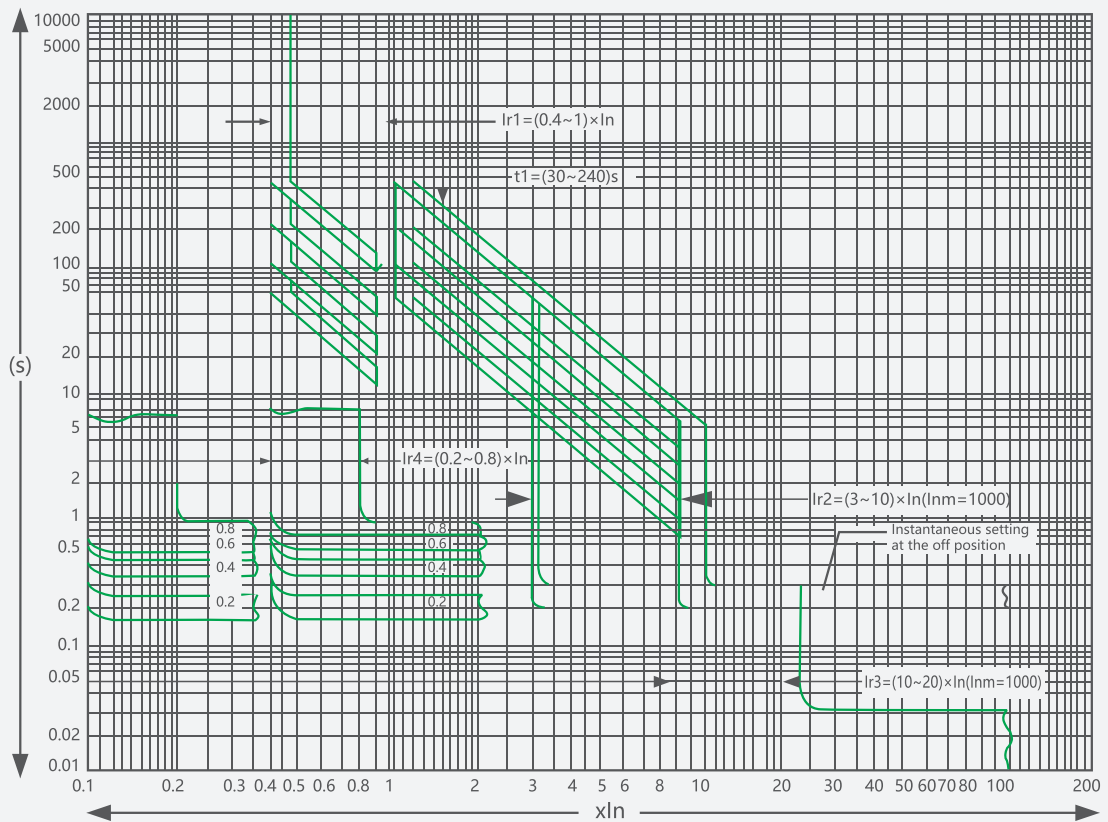
## Intelligent controller protection characteristic

Definite setting and error for Intelligent Controller

Long time-delay		Short time-delay		Instantaneous		Earthing fault	
Ir1	Ir2	Error	Ir3	Error	Ir3	Error	
(0.4~1)In	(1.5~15)In	±10%	1In~30kA	±15%	(0.2~1)In	±10%	
(0.4~1)In	☆(2~10)In	±10%	☆(5~20)In	±15%	☆(0.2~0.8)In	±10%	

Note: L type intelligent controller setting with ☆

## Over-current and earthing fault characteristic curve figure

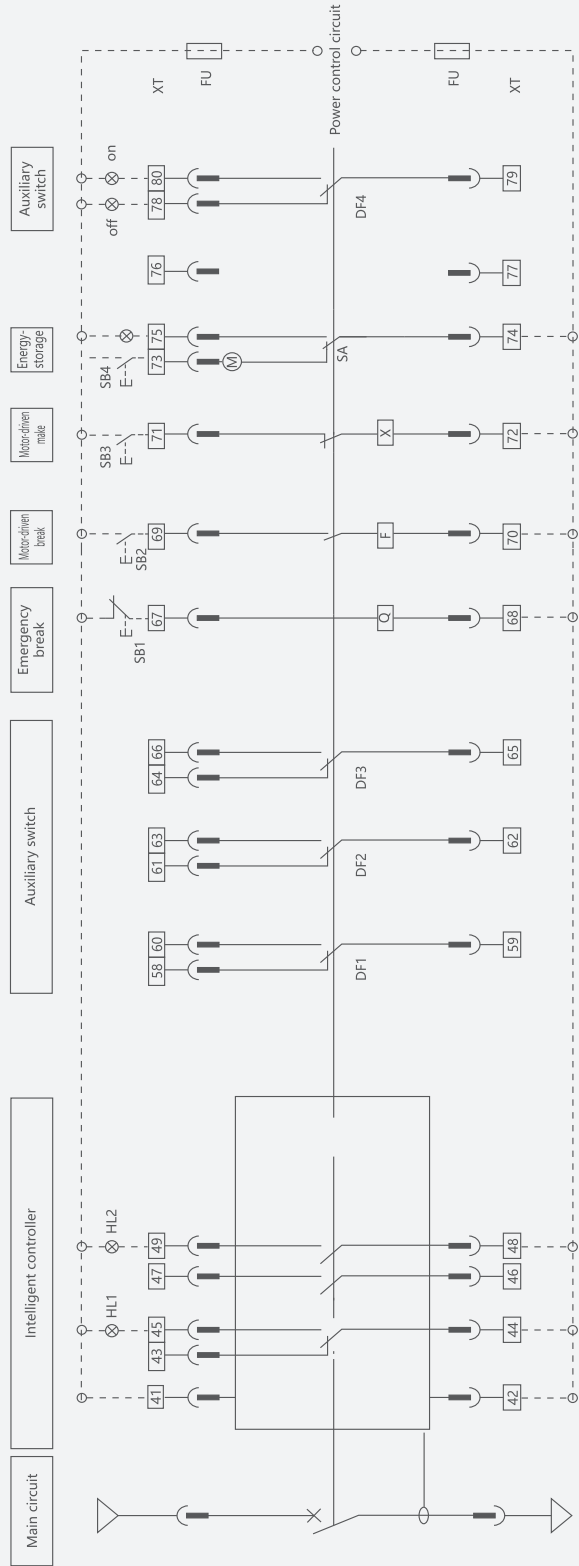


# ACB-1 Air circuit breaker

## Secondary circuit wiring

The circuit breaker has 40pcs terminal connector, please refer to picture1, picture2, picture3.

### Auxiliary contact and four groups change over contact wiring (Standard type)

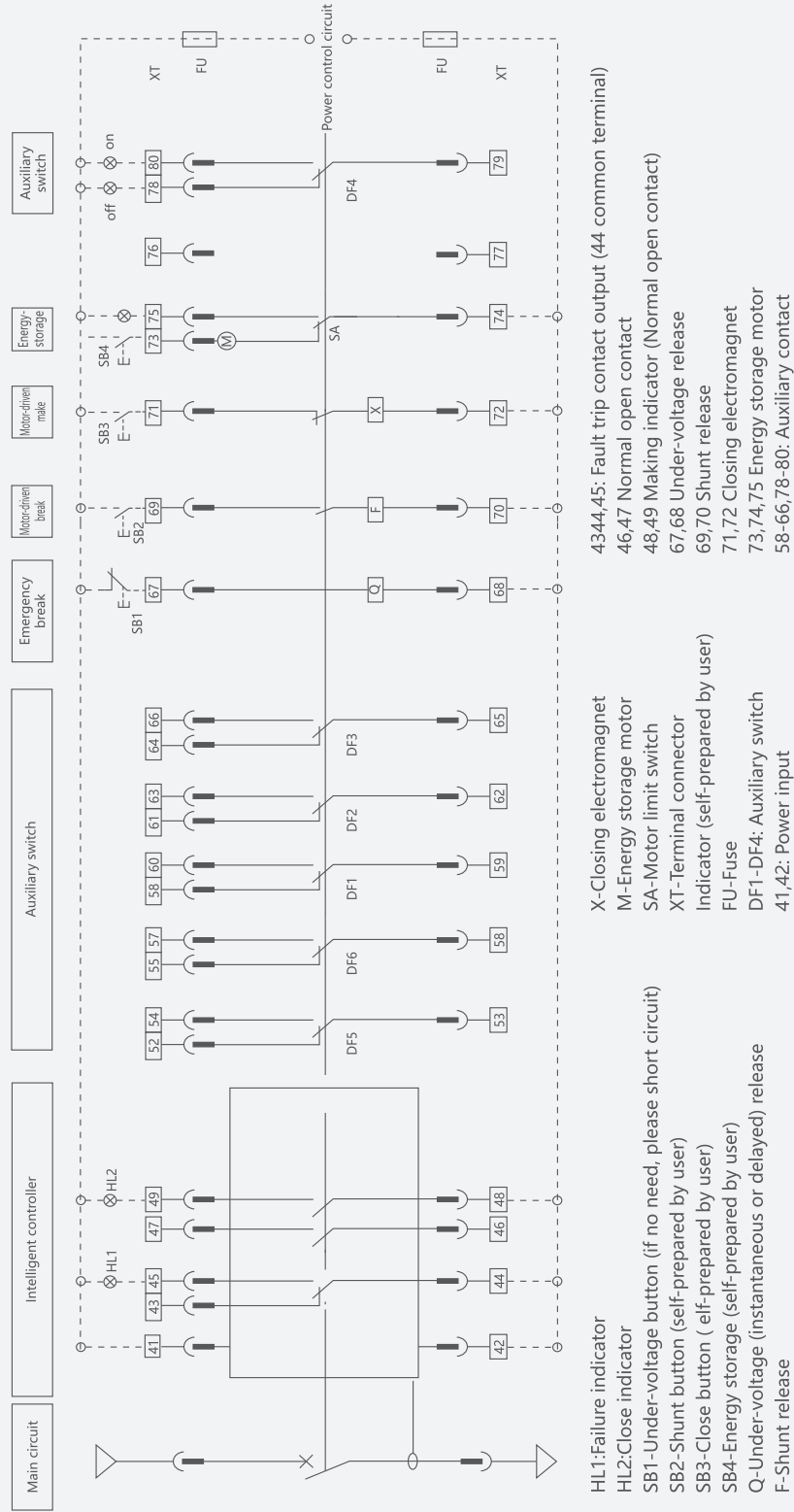


- HL1: Failure indicator
  - HL2: Close indicator
  - SB1-Under-voltage button(if no need, please short circuit)
  - SB2-Shunt button (self-prepared by user)
  - SB3-Close button (self-prepared by user)
  - SB4-Energy storage (self-prepared by user)
  - Q-Under-voltage (instantaneous or delayed) release
  - F-Shunt release
  - 73-can be directly connected to power(automatic pre-storing energy), alternatively connect power after connecting NO button(manul-controlled pre-storing energy).
  - Note: If control voltage of Q,F,X,M is different from each other, they can be connected to different power.
- 
- X-Closing electromagnet
  - M-Energy storage motor
  - SA-Motor limit switch
  - XT-Terminal connector
  - Indicator (self-prepared by user)
  - FU-Fuse
  - DF1-DF4: Auxiliary switch
  - 41,42: Power input
  - 43,44,45: Fault trip contact output (44 common terminal)
  - 46,47 Normal open contact
  - 48,49 Making indicator (Normal open contact)
  - 67,68 Under-voltage release
  - 69,70 Shunt release
  - 71,72 Closing electromagnet
  - 73,74,75 Energy storage motor
  - 58-66,78-80: Auxiliary contact

Picture 1 YCW1-1000 Intelligent Air circuit breaker Secondary circuit wiring

# ACB-1 Air circuit breaker

## Auxiliary contact and six groups change over contact circuit wiring (Special type)

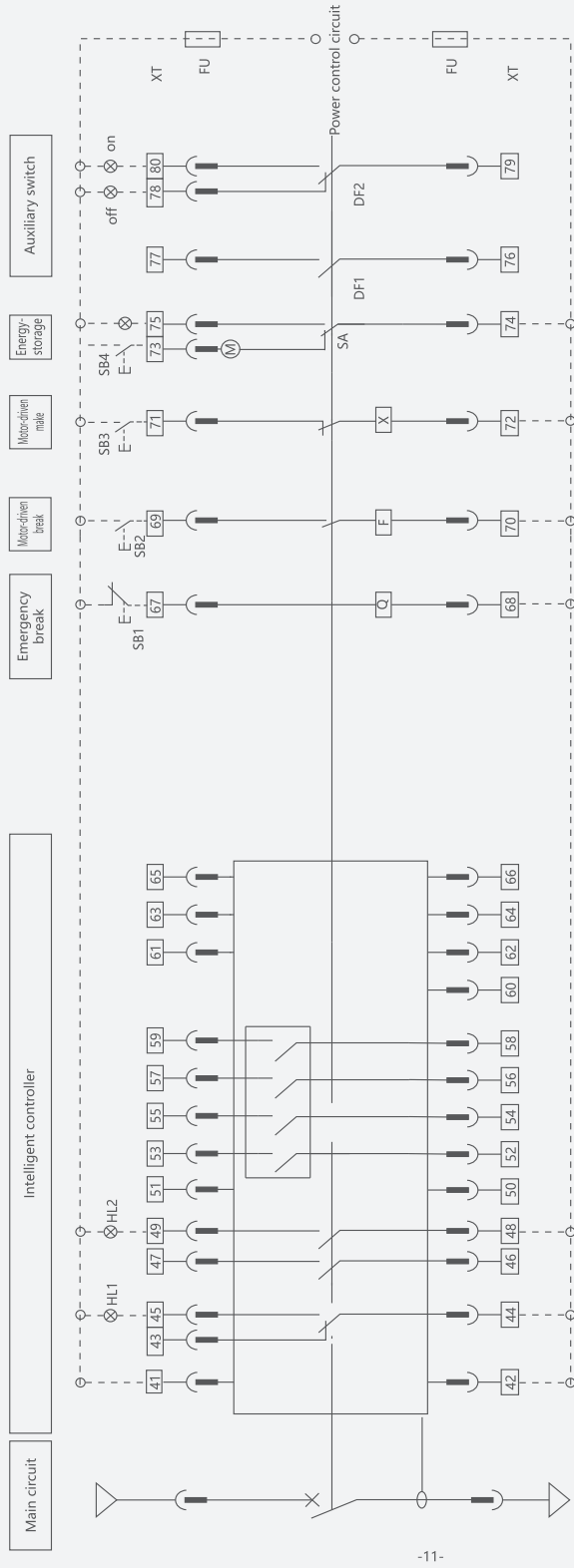


- HL1: Failure indicator
  - HL2: Close indicator
  - SB1- Under-voltage button (if no need, please short circuit)
  - SB2- Shunt button (self-prepared by user)
  - SB3- Close button (elf-prepared by user)
  - SB4- Energy storage (self-prepared by user)
  - Q- Under-voltage (instantaneous or delayed) release
  - F- Shunt release
  - 73- can be directly connected to power (automatic pre-storing energy), alternatively connect power after connecting NO button(manul-controlled pre-storing energy).
  - Note: If control voltage of Q,F,X,M is different from each other, they can be connected to different power.
- X- Closing electromagnet
  - M- Energy storage motor
  - SA- Motor limit switch
  - XT- Terminal connector
  - F- Indicator (self-prepared by user)
  - FU- Fuse
  - DF1-DF4: Auxiliary switch
  - 41,42: Power input
  - 43,44,45: Fault trip contact output (44 common terminal)
  - 46,47 Normal open contact
  - 48,49 Making indicator (Normal open contact)
  - 67,68 Under-voltage release
  - 69,70 Shunt release
  - 71,72 Closing electromagnet
  - 73,74,75 Energy storage motor
  - 58-66,78-80: Auxiliary contact

Picture 2 YCW1-1000 Intelligent Air circuit breaker Secondary circuit wiring

# ACB-1 Air circuit breaker

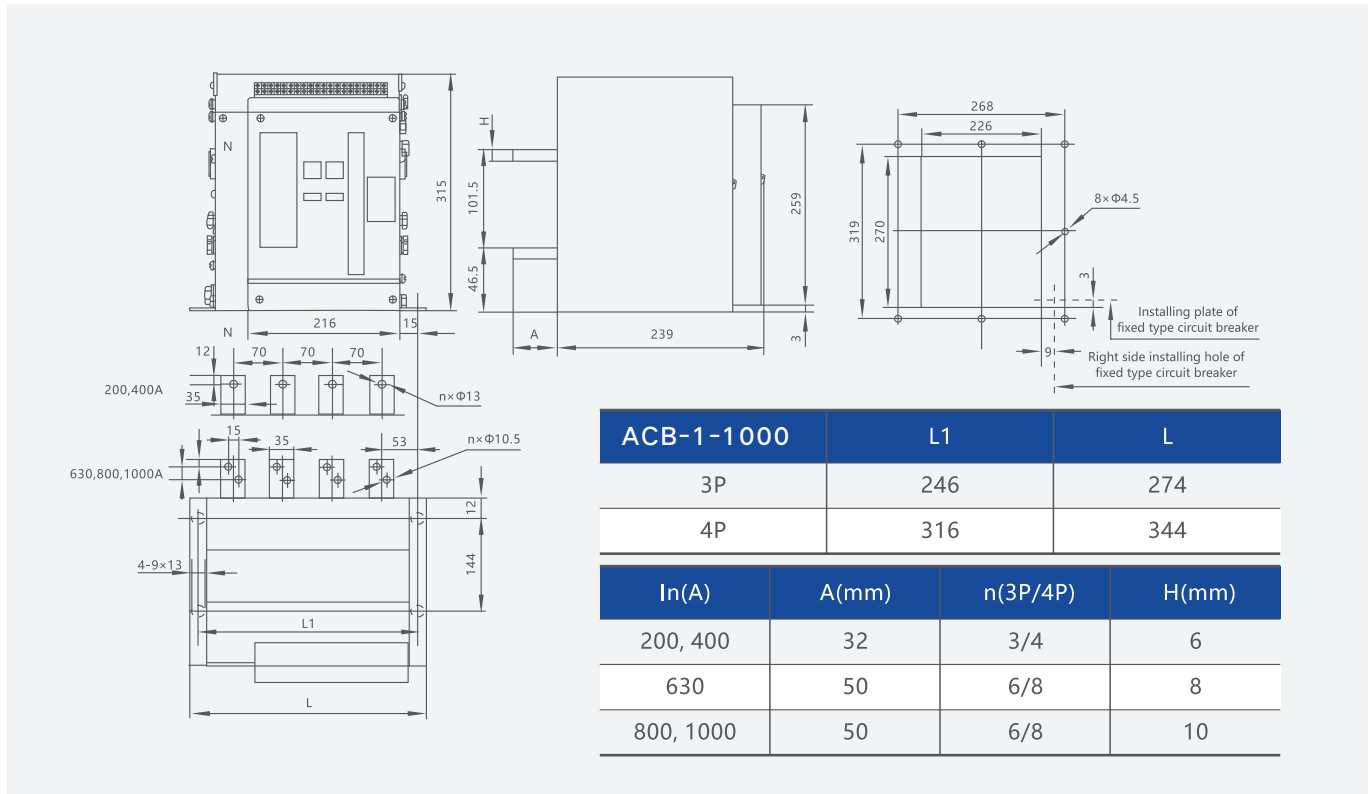
## H Type Intelligent circuit wiring



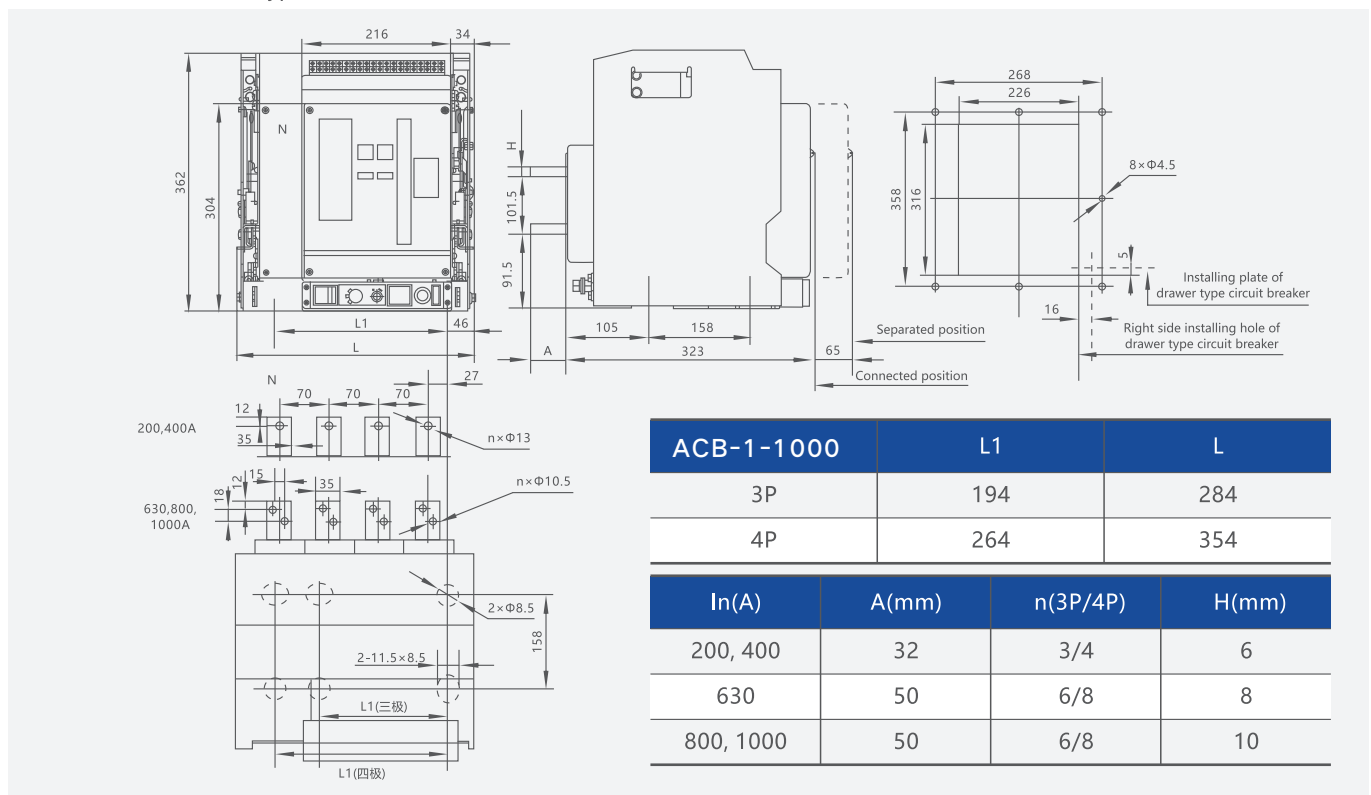
# ACB-1 Air circuit breaker

## Overall and mounting dimensions(mm)

ACB-1-1000 Fixed type



ACB-1-1000 Draw out type



## ACB-Z Air circuit breaker

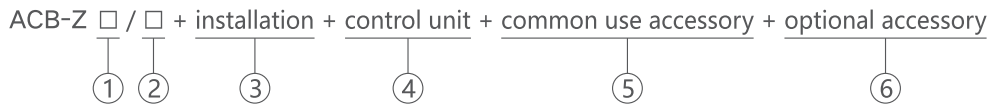
### General

ACB-Z 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 intelligitized building.

Standard: IEC/EN 60947-2.

### Type designation



1. 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
  - 3200 Type In: 2000A,2500A,3200A
  - 4000 Type In: 2500A,3200A,4000A
  - 6300 Type In: 4000A,5000A,6300A
2. Number of poles
  - 3-default
  - 4-4 pole
3. Installation
  - Fixed type-horizontal, vertical
  - Drawout type-horizontal, vertical
4. 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.





## ACB-Z Air circuit breaker

### 5. Common use accessory

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

### 6. Optional accessory

Mechanical interlock;

One circuit breaker (1lock+1key)

Two circuit breaker(steel cable interlock, connecting rod interlock,2lock+1key)

Three circuit breaker(3lock+2keys, connecting rod interlock)


Automatic power transfer system

Current transformer connected with neutral lead

## 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	Vertical 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	

## ACB-Z Air circuit breaker

### Frame size rated current

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

### Breaking capacity

Rated current In(A)		1600	2000	3200	4000	6300
Rated ultimate short circuit breaking capacity Icu(kA)	400/415V	65	80	100	120	135
	660/690V	50	65	85	85	100
Rated service short circuit breaking capacity Ics(kA)	400/415V	55	65	80	100	135
	660/690V	42	65	70	85	100
Rated short time withstand current Icw.1s(kA)	400/415V	50	65	80	100	135
	660/690V	42	65	70	85	100
Rated short circuit making and breaking capacity Icm(kA)	400/415V	110	176	220	264	297
	660/690V	77	143	154	187	220
Electric life		8000	8000	8000	6000	1500
Mechanical life (Maintenance)		30000	30000	20000	20000	5000
Mechanical life (Non-maintenance)		20000	15000	12500	10000	2500
Dimension(mm) W×H×L						
Drawout type	3P	285×345×351	375×451×432	435×486×439	435×486×439	930×486×439
	4P	352×345×351	470×451×432	550×486×439	550×486×439	/
Fixed type	3P	254×251×320	362×362×395	426×378×395	426×378×395	/
	4P	324×251×320	457×362×395	537×378×395	537×378×395	/

Note: 6300A only has 3P drawout type.

# ACB-Z Air circuit breaker

## 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



ACB-Z display intelligent controller

3M type: ACB-Z display without communication  
 3H type: ACB-Z display with communication

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



# ACB-Z Air circuit breaker

M/H (standard type) intelligent controller

**Indicator Instruction**

- ① Current of phase A
- ② Current of phase B
- ③ Current of phase C
- ④ Current of phase N
- ⑤ Load monitoring 2
- ⑥ Load monitoring 1
- ⑦ Unbalanced current protection
- ⑧ Earth fault protection
- ⑨ Self-diagnosis by the intelligent controller
- ⑩ Short circuit instantaneous protection
- ⑪ Short circuit short-time delay protection
- ⑫ Overload long-time delay protection
- ⑬ Set indicator
- ⑭ Check indicator
- ⑮ Save indicator
- ⑯ Test indicator
- ⑰ Alarm indicator
- ⑱ Fault indicator

**Button Instruction**

- ⑬ +/-up
- ⑭ Enter
- ⑮ -/down
- ⑰ Function keys
- ⑱ Return



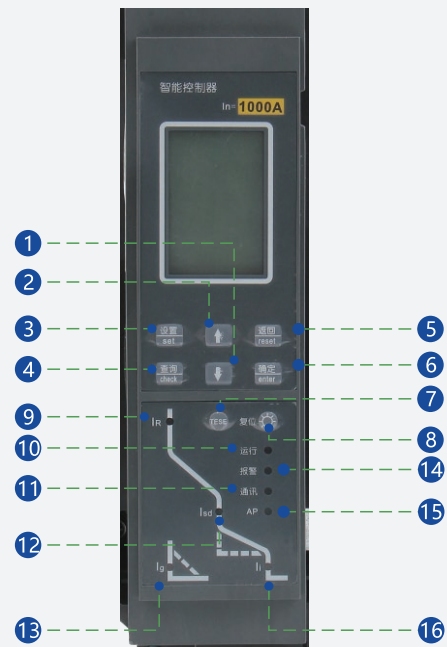
3M/3H(LCD) intelligent controller

**Button Instruction**

- ① -/down
- ② +/-up
- ③ Set
- ④ Check
- ⑤ Return
- ⑥ Enter
- ⑦ Test
- ⑧ Reset

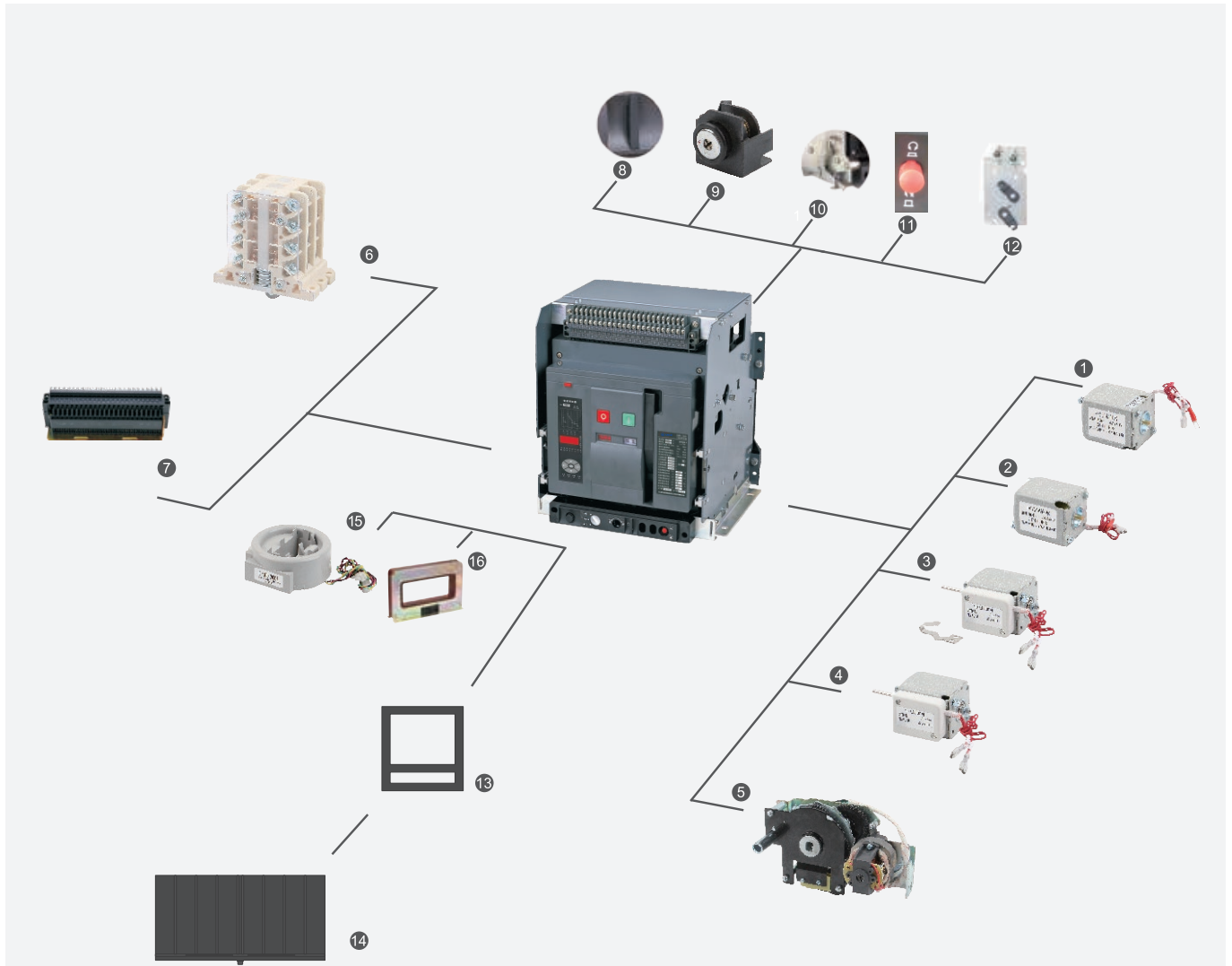
**Indicator Instruction**

- ⑨ 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



# ACB-Z Air circuit breaker

## Accessories



### Remote operation

- ① shunt release
- ② closing electromagnet
- ③ under-voltage release instantaneous type
- ④ under-voltage release time-delay type
- ⑤ motor-driven energy-storage mechanism

### Lock and connection

- ⑧ padlock
- ⑨ key lock
- ⑩ door interlock
- ⑪ connected, disconnected, test position locking mechanism
- ⑫ mechanical interlock

### Indication contact

- ⑥ auxiliary contact
- ⑦ secondary wiring terminal

### Operation and protection

- ⑬ phases barrier
- ⑭ doorcase

### Current transformer

- ⑮ external N-pole transformer
- ⑯ leakage current transformer
- ⑰ earthing current transformer

## ACB-Z Air circuit breaker

### Accessories of ACB-Z

#### 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) $U_s$
- breaking time (50±10)ms

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

#### Closing electromagnet

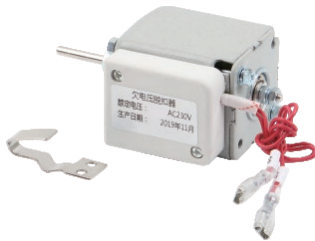


After the motor finishing the energy storage, closing release can instantly close the circuit breaker.

- rated control power voltage  $U_s(V)$  AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage (0.85~1.1) $U_s$
- 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.

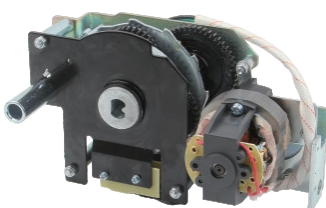
It is classified into instantaneous and time-delay type.

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) $U_s$
- reliable making voltage (0.85~1.1) $U_s$
- reliable non-making voltage  $\leq 0.35U_s$
- 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 closing 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) $U_s$
- power loss 75W(1600A), 85W(2000A), 110W(3200A, 4000A), 150W(6300A)
- energy-storage time <5s



## ACB-Z Air circuit breaker

### Auxiliary contact

Standard model: 4NO/4NC

For ACB-Z-1600 : only have 4NO/4NC;

For ACB-Z-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 push-button of the breaker can be locked in the position of depress, and at this time, the breaker can not be closed for operation; 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.

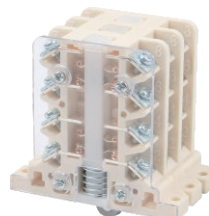
Note: the air circuit breaker with key lock, when the key has to be pulled out, it is necessary to first press the OFF key, turn the key anticlockwise, and then pull out the key.

#### "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 locking device for three position(disconnected, test, connection) of draw-out type. Three position of circuit breaker is indicated by indicator, the driving and reversing handle is locked in the exact position, the lock can be released by the reset button.



## ACB-Z Air circuit breaker

### 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.

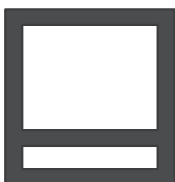
### Controller accessories

#### 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

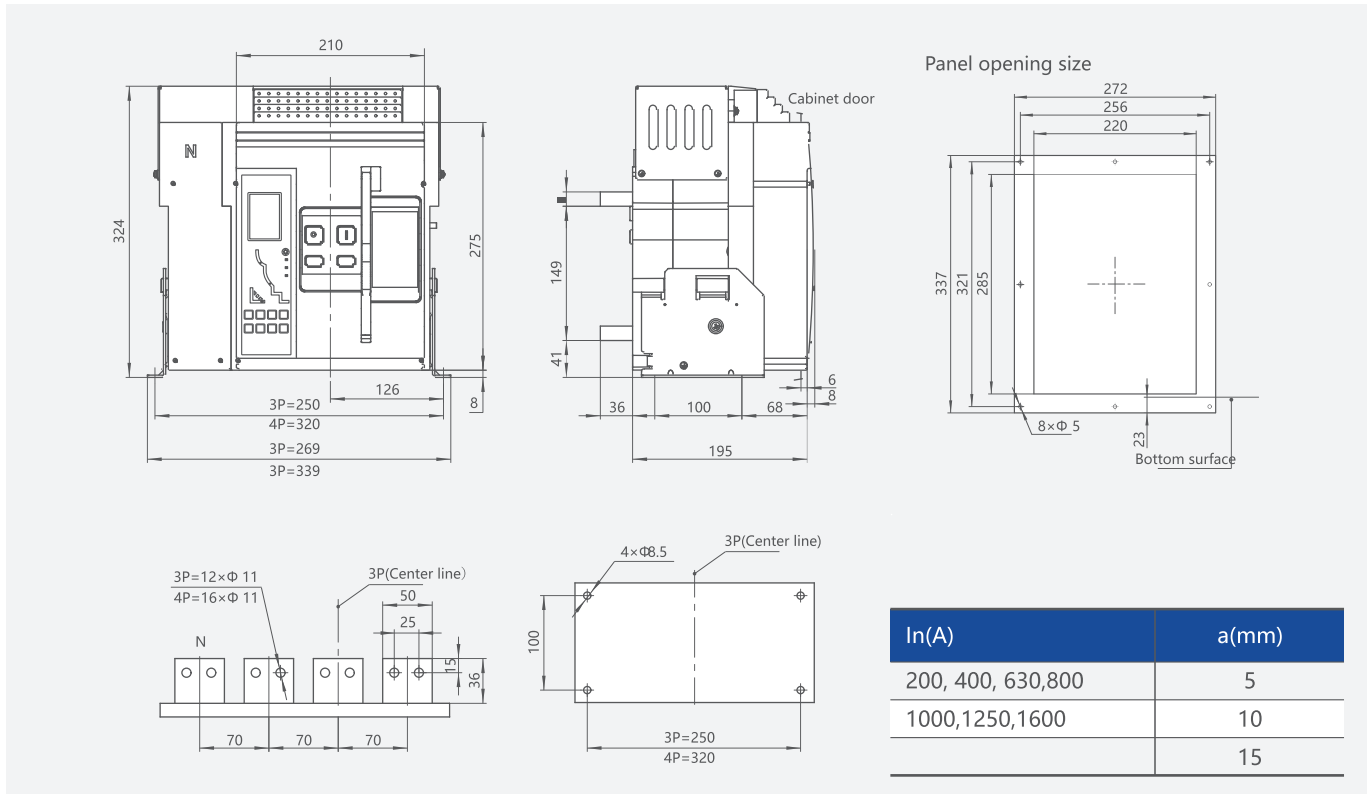
When the grounding protection is leakage type, need use plus special rectangular transformer



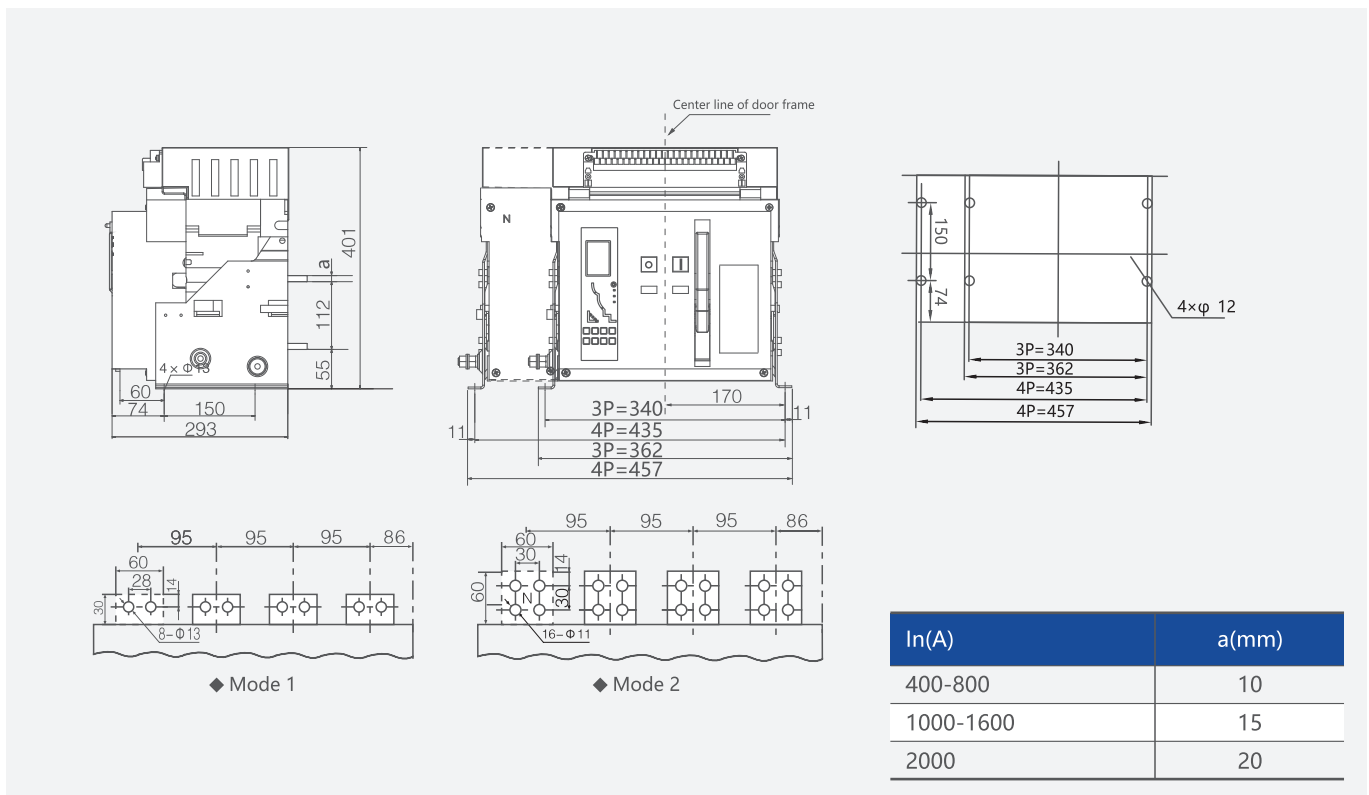
# ACB-Z Air circuit breaker

## Overall and mounting dimensions(mm)

ACB-Z-1600A Fixed circuit-breaker



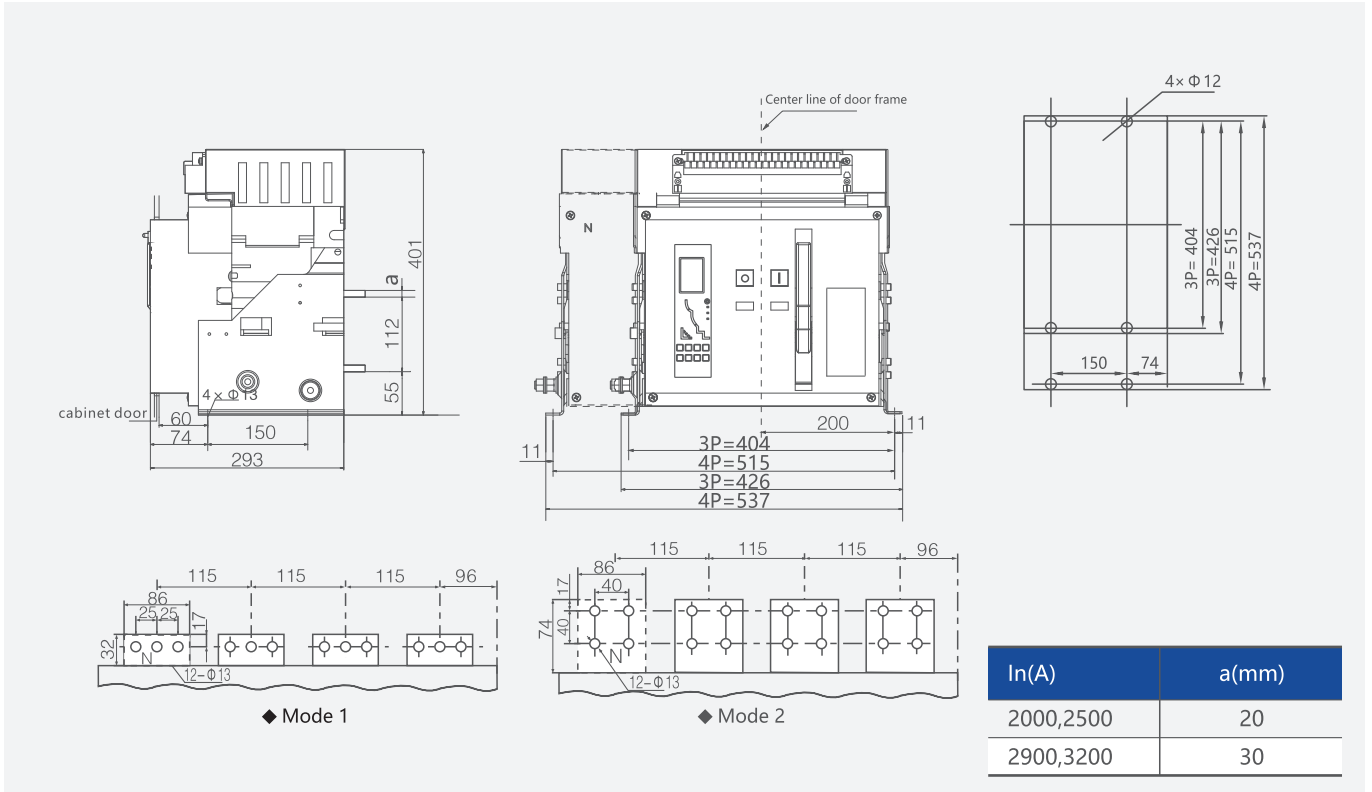
ACB-Z-2000A Fixed circuit-breaker



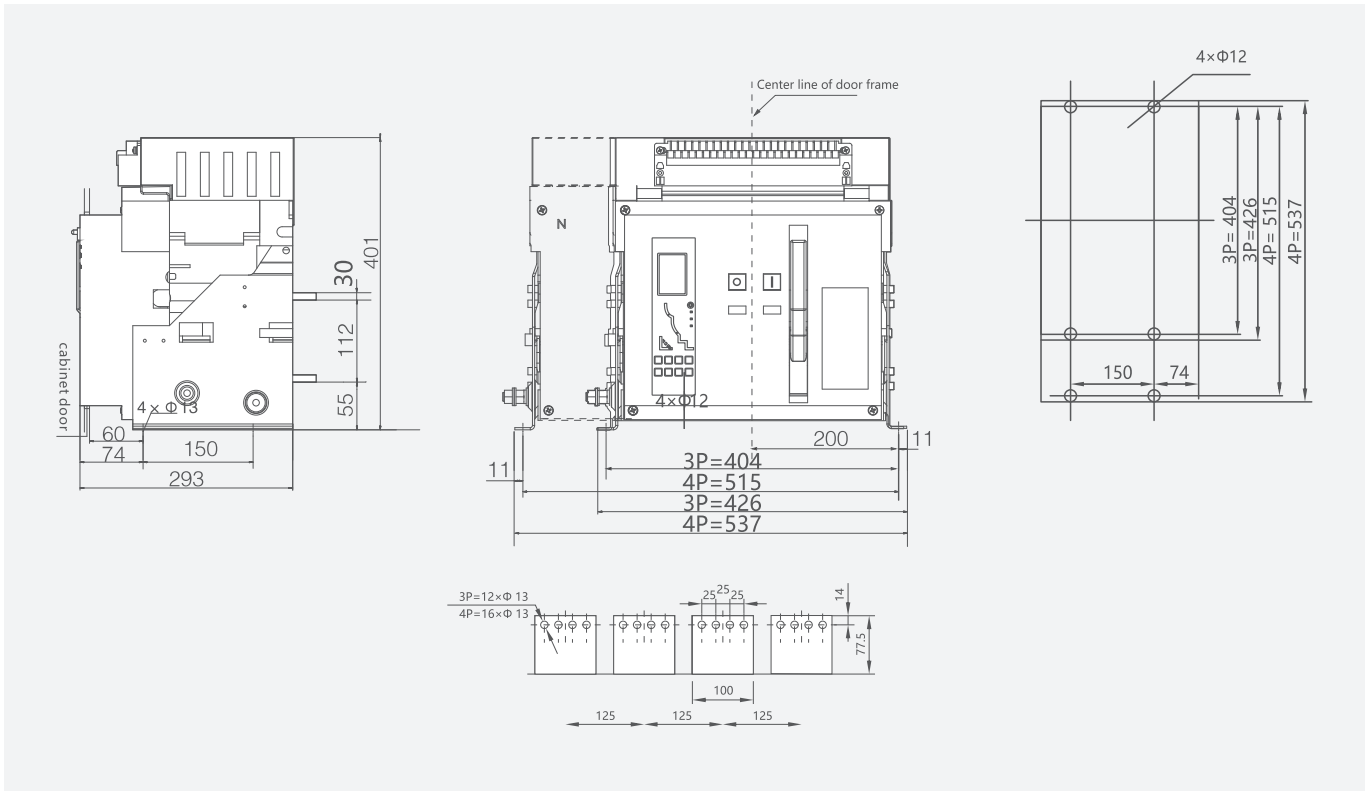
# ACB-Z Air circuit breaker

## Overall and mounting dimensions(mm)

ACB-Z-3200A Fixed circuit-breaker

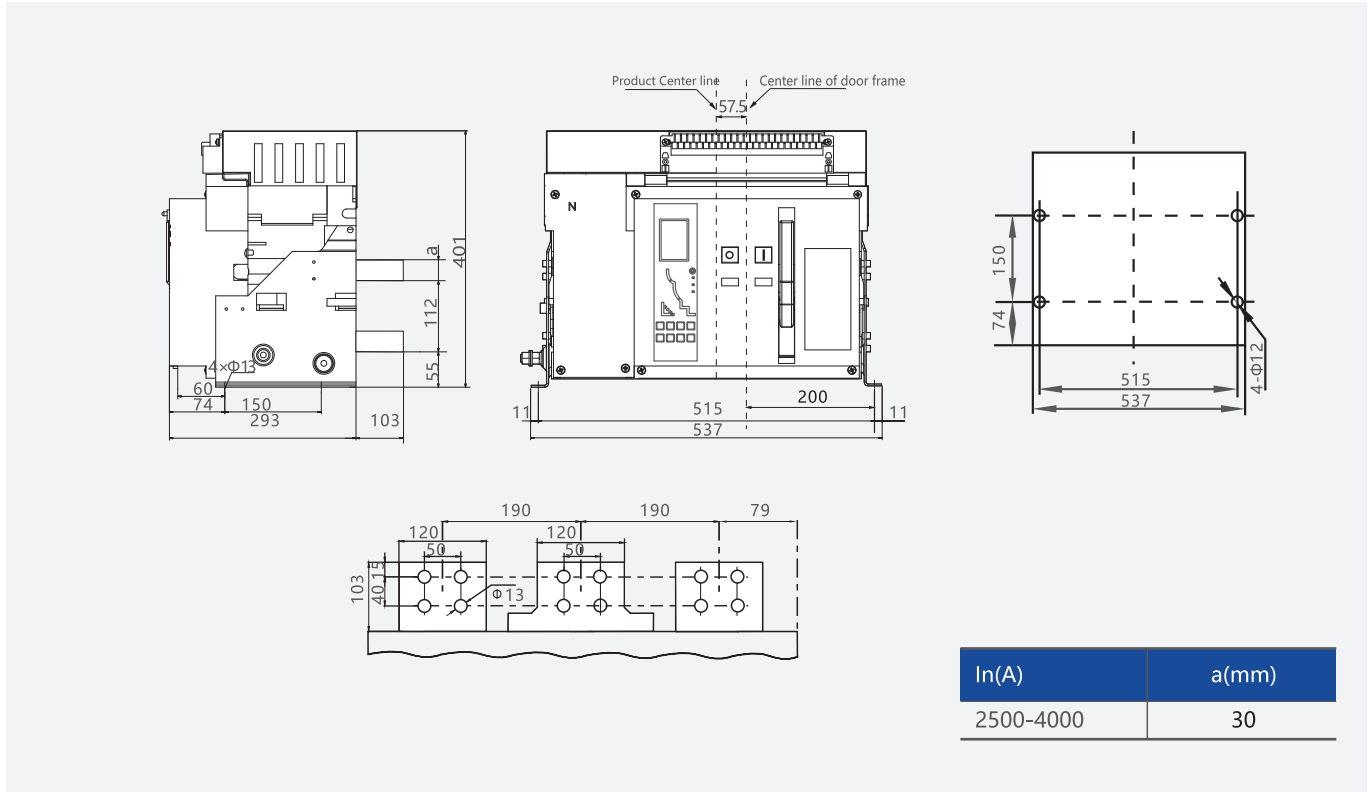


ACB-Z-4000A Fixed circuit-breaker

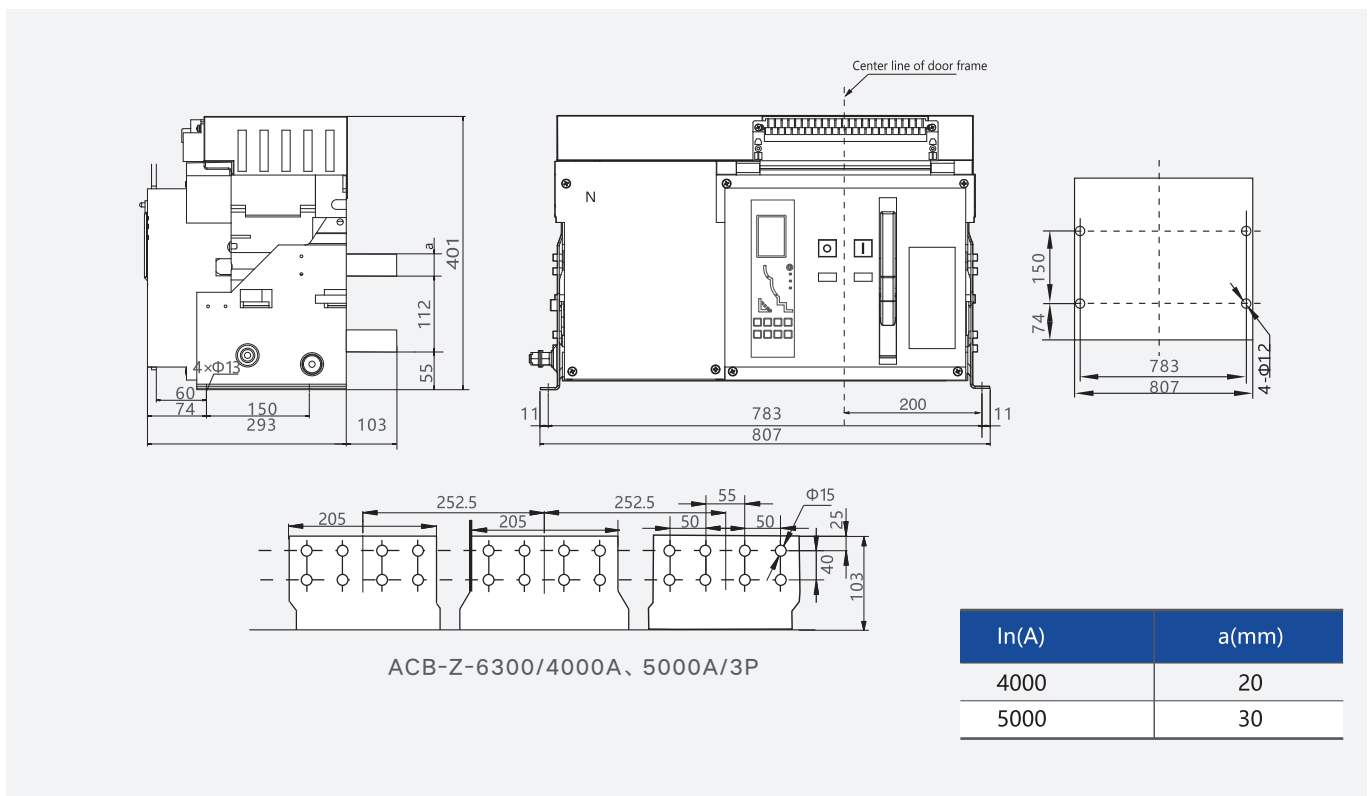


# ACB-Z Air circuit breaker

ACB-Z-4000A Fixed circuit-breaker

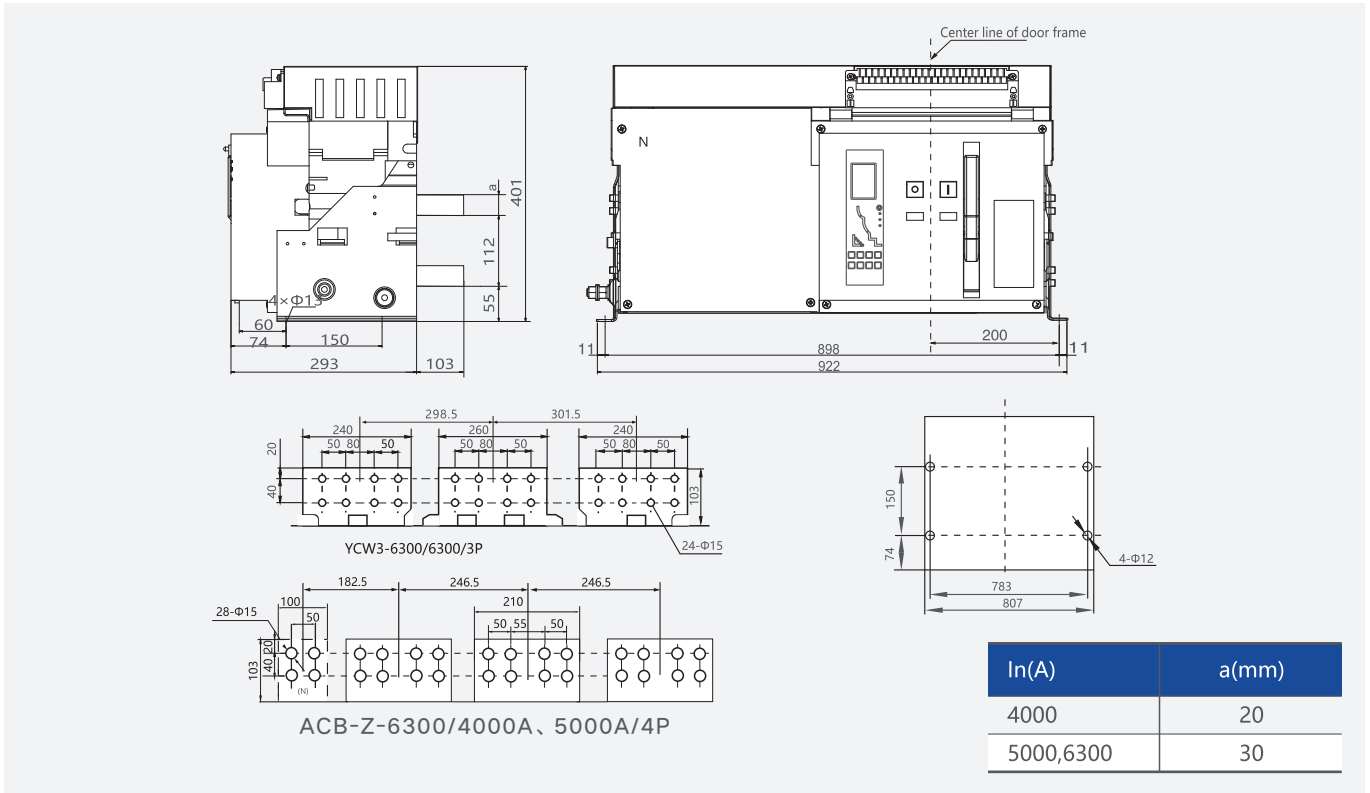


ACB-Z-6300/3P Fixed circuit-breaker

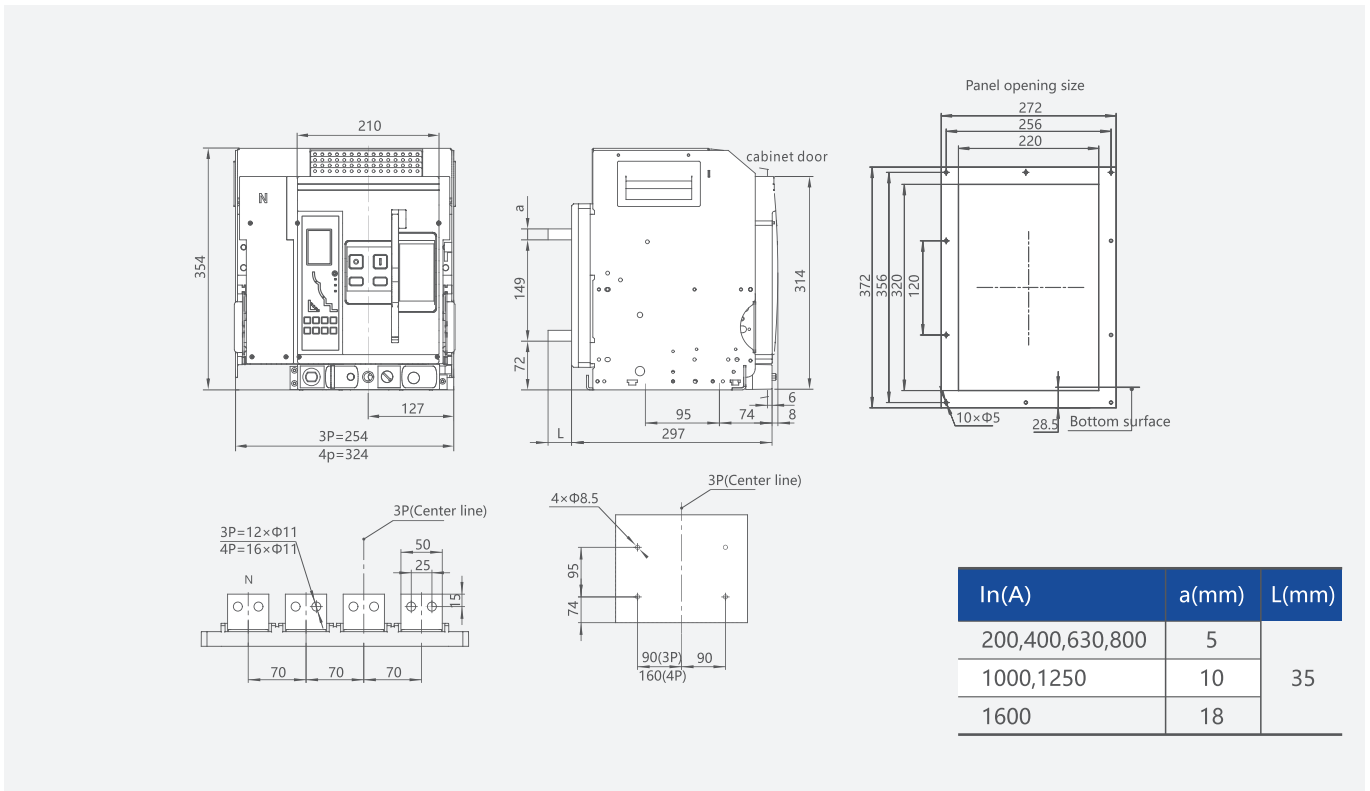


# ACB-Z Air circuit breaker

ACB-Z-6300A Fixed circuit breaker

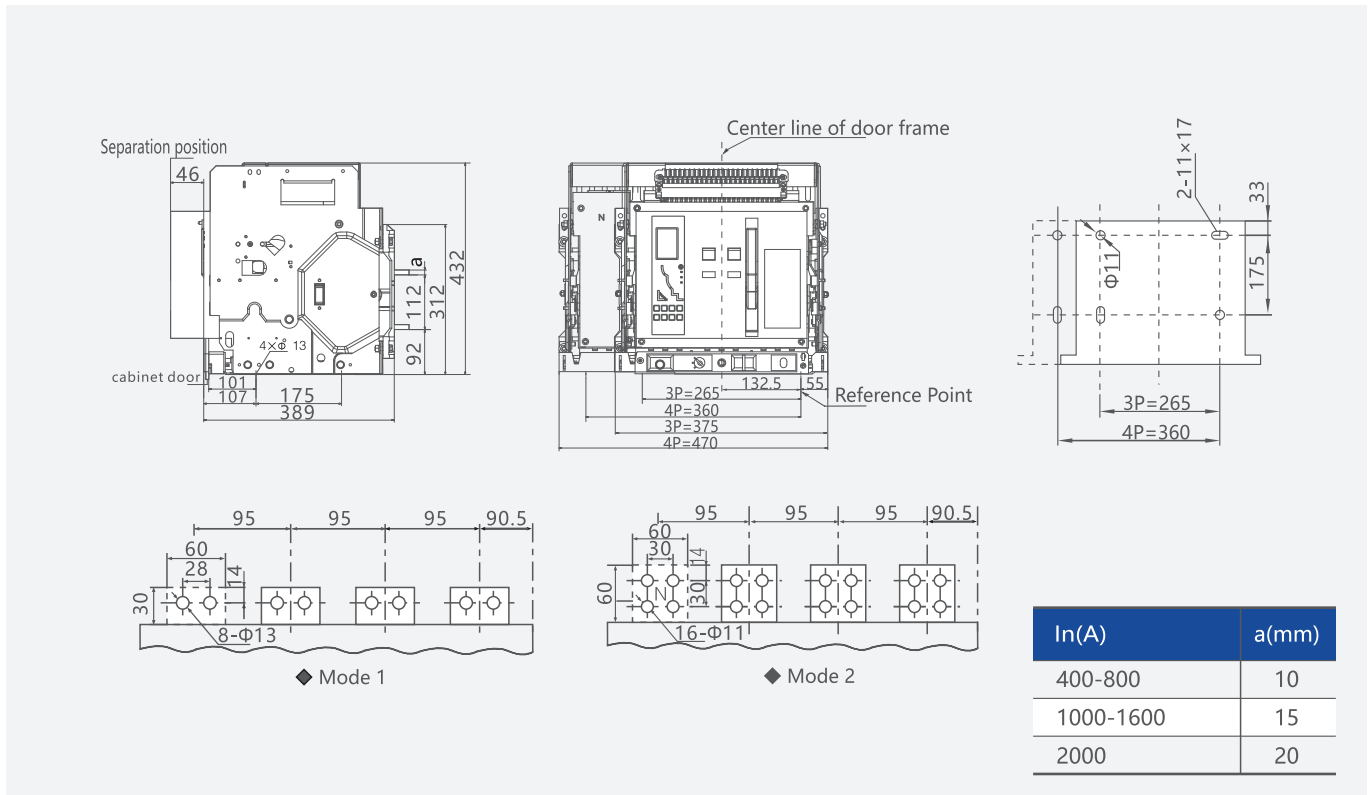


ACB-Z-1600A Drawer circuit breaker

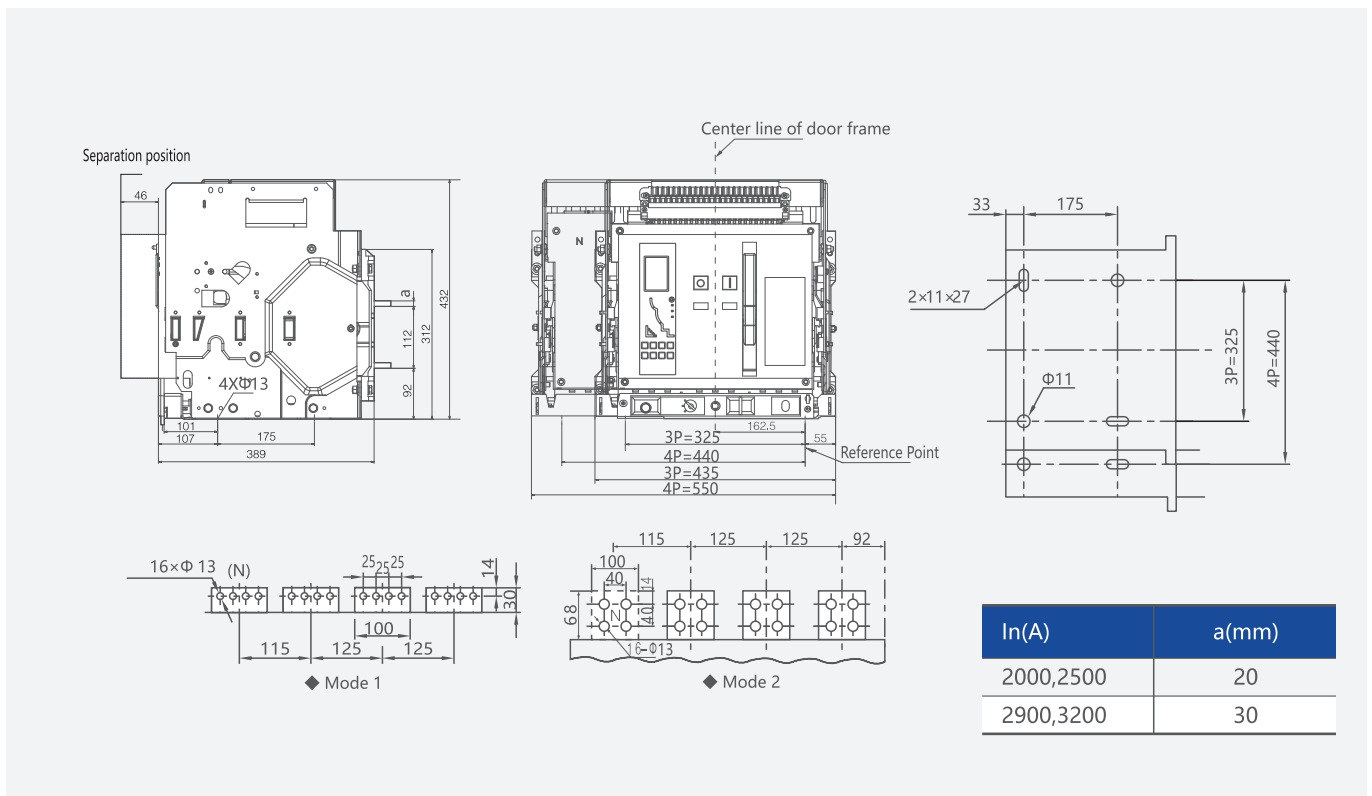


# ACB-Z Air circuit breaker

ACB-Z-2000A Drawer circuit breaker



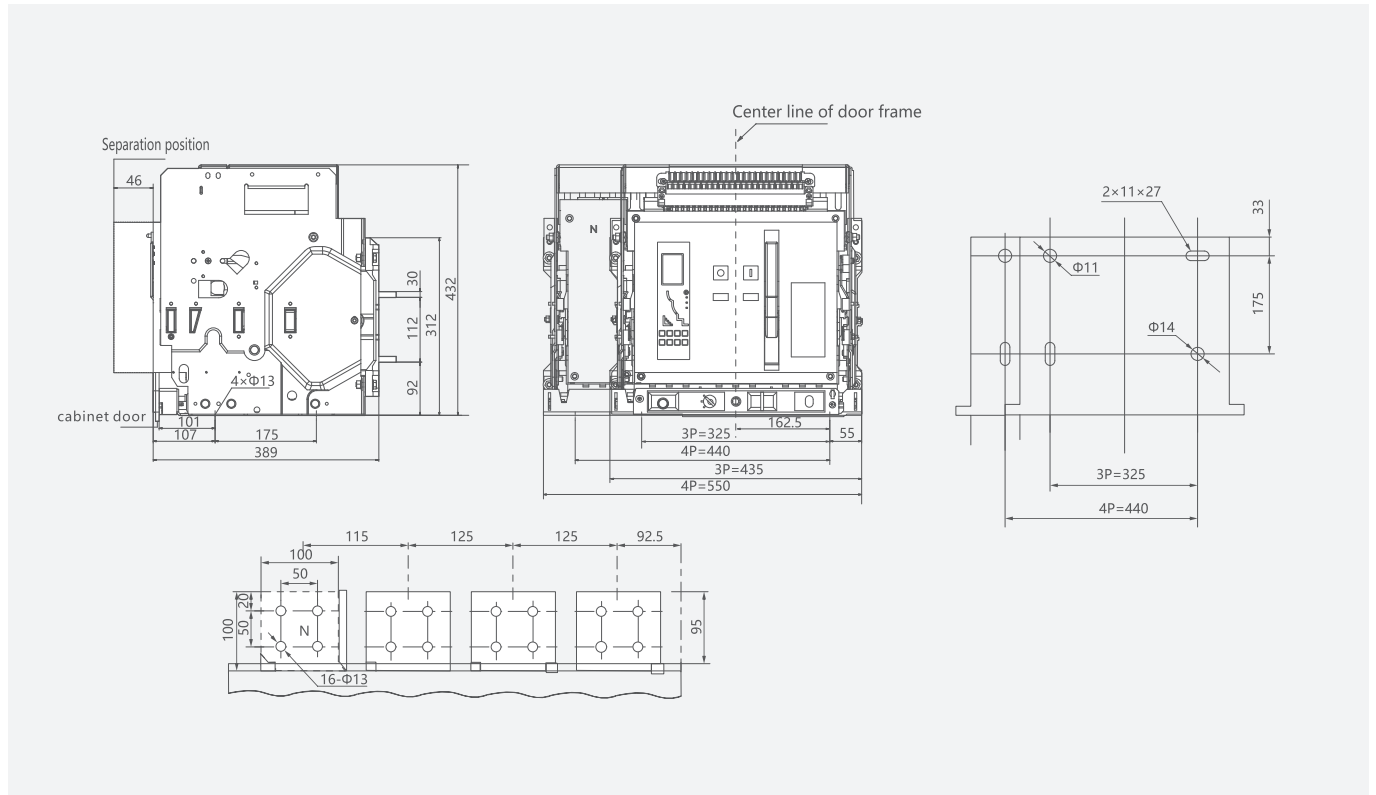
ACB-Z-3200A Drawer circuit breaker



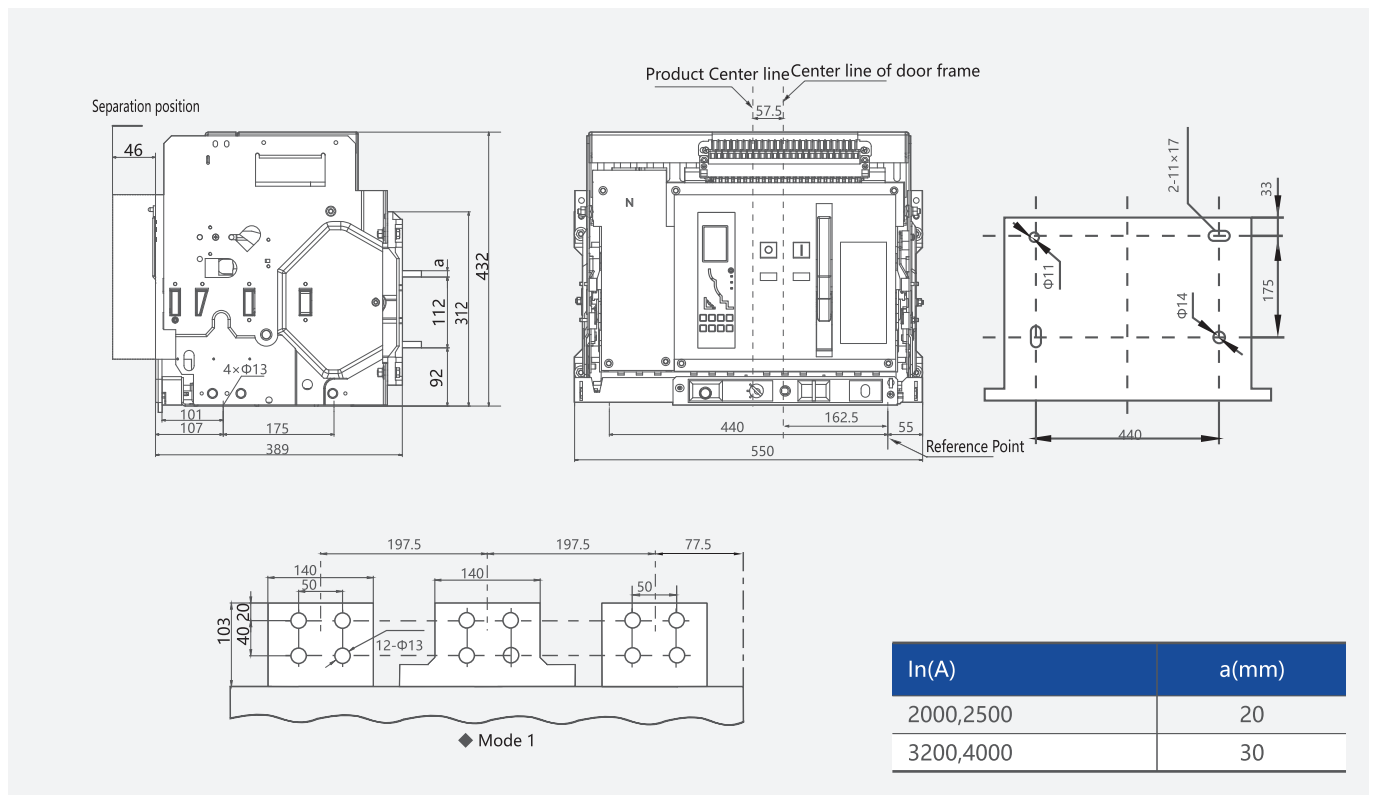
# ACB-Z Air circuit breaker

## Dimensions and connection

ACB-Z-4000ADrawer circuit breaker



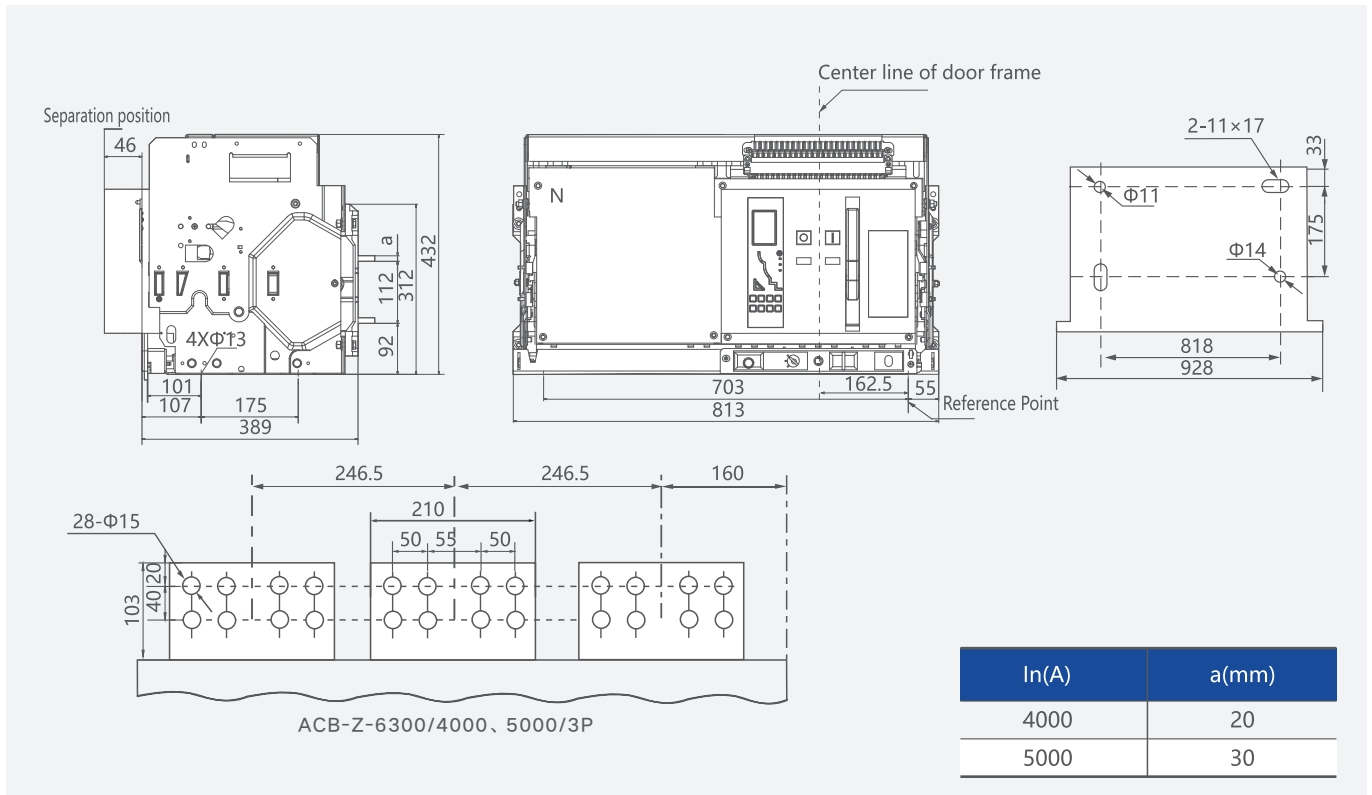
ACB-Z-4000ADrawer circuit breaker



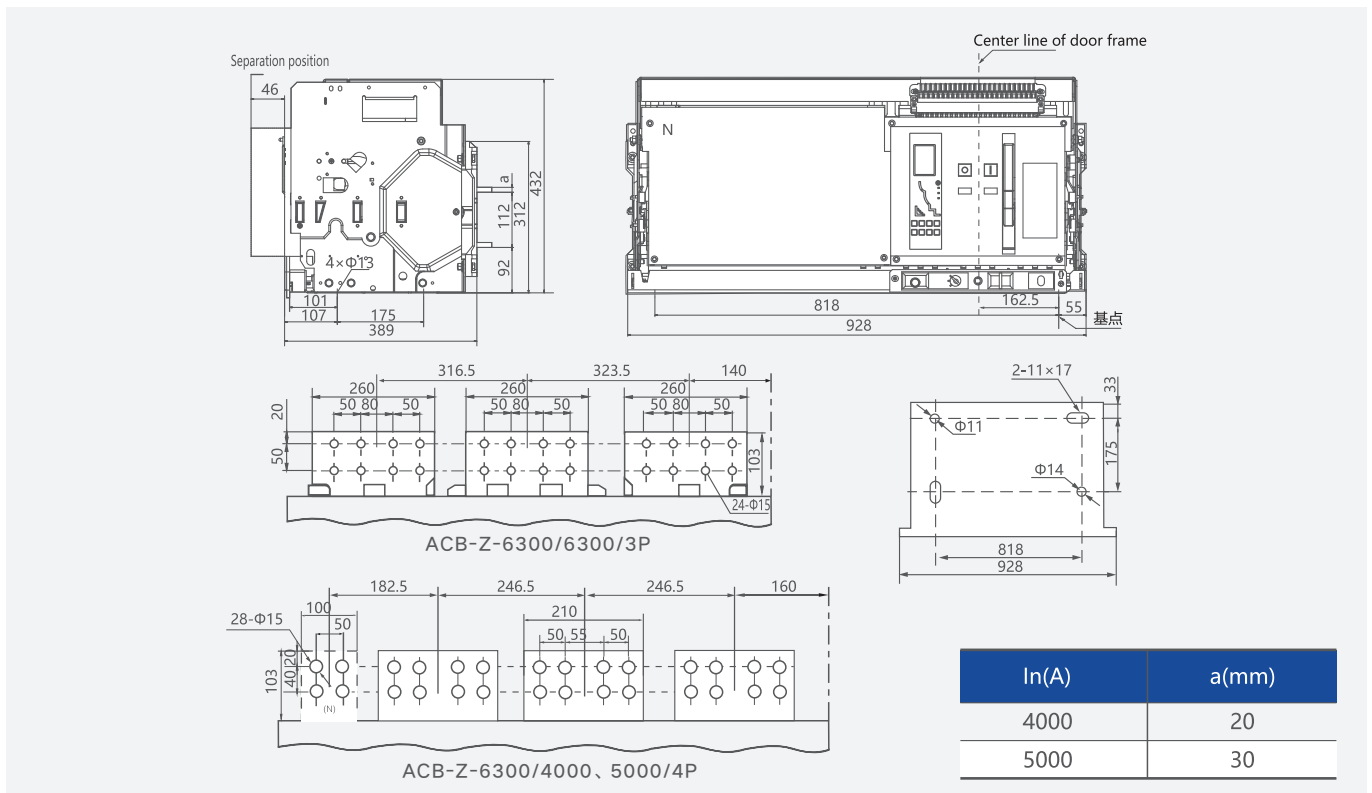


# ACB-Z Air circuit breaker

ACB-Z-6300/3P Drawer circuit breaker

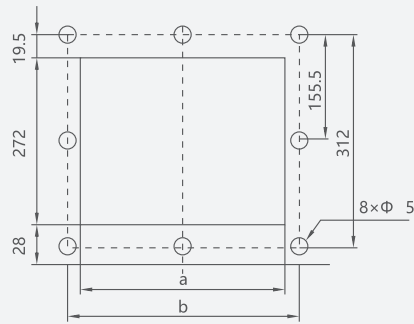


ACB-Z-6300A Drawer circuit breaker



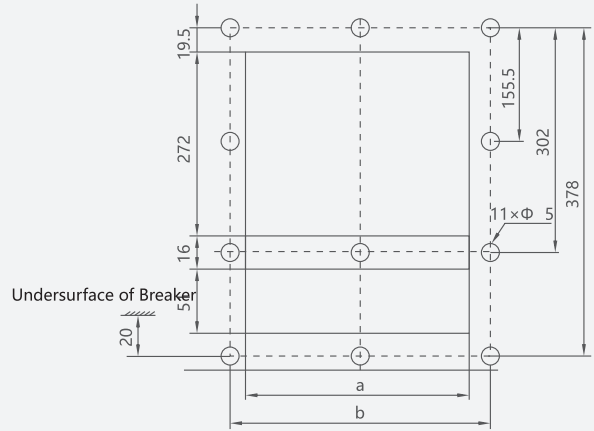
# ACB-Z Air circuit breaker

Boring dimension of doorcase



Fixed Type

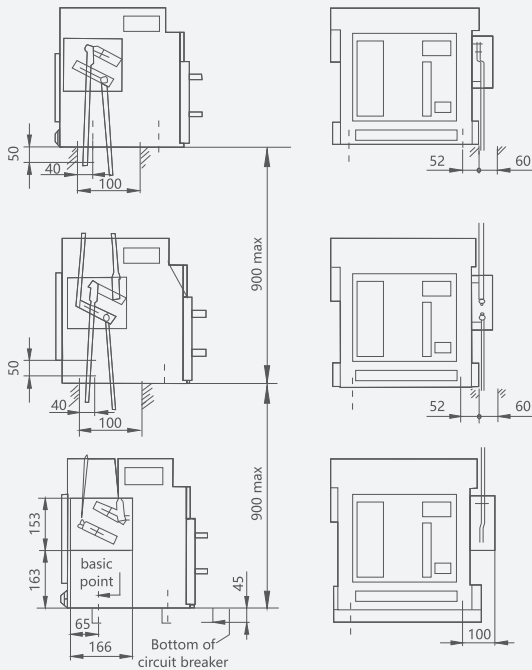
Type	a	b
ACB-Z-2000	306	346
ACB-Z-3200~6300	366	406



Drawer Type

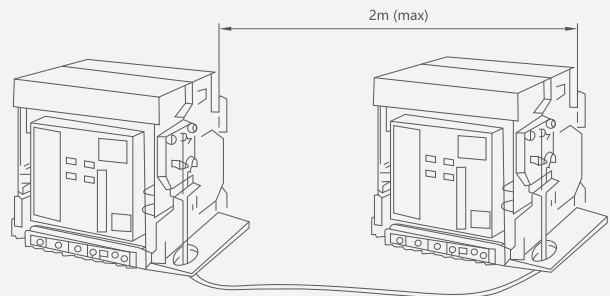
Installation size for panel drilling

Mechanical interlock



Vertical-installed mechanical interlock

Note: 3 pcs of circuit breaker vertical-installed with connecting-rod type mechanical interlock. If need 2 pcs of circuit breaker interlocked, just remove the top one.



Horizontal-installed mechanical interlock

Note: 2 pcs of circuit breaker horizontal-installed with steel cable mechanical interlock(fixed type or drawout type circuit breaker).

# ACB-Z Air circuit breaker

## Ordering information

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



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