

**AiSIKAI®**

# ACB

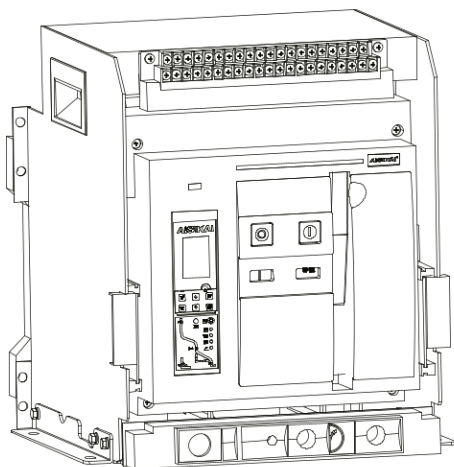
## UNIVERSAL AIR CIRCUIT BREAKER



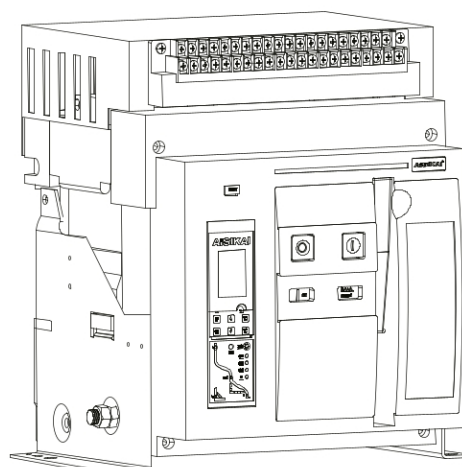
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ASKW SERIES ACB  
A PRODUCT OF  
POWER DISTRIBUTION



Drawout type



Fixed type

## OVERVIEW

ASKW1 series intelligent universal air circuit breakers (ACB for abbreviation) are suitable for the distribution network of AC 50Hz/60Hz, rated voltage 400V and 690V, rated current 630A-6300A, distributing electric power and protecting circuits and power supply equipment against faults as overload, under-voltage, short-circuit, single-phase grounding, etc. ACB have intelligent protection functions and isolation function. The selective protections of ACB have high accuracy, which can improve the reliability of power supply and avoid unnecessary power outages. ACB are equipped with open communication interfaces for four remote functions, meeting the requirements of centralized control of the automation system.

## CLASSIFICATION

- Classified by installation method : Fixed type, Drawout type
- Classified by operation method : Electric operation; manual operation (for inspection and maintenance)
- Classified by poles number : 3P, 3P+N, 4P
- Classified by wiring method : Horizontal; horizontal extended; vertical
- Classified by intelligent over-current controller : H type (communication function); M type (normal type)

## CERTIFICATES



## STANDARDS

GB/T14048.2 IEC60947-2

## EASY TO USE

ACB can be used in matching with the general standard cabinets. Drawout type or fixed type can be selected for installation. The direction of output copper bars can be selected in horizontal or vertical. Lengthened copper bars are optional in special occasions.

## MODEL DESCRIPTION

ASK	W	1	2000	4P	M	C	Optional accessories	1250A	50Hz
Company	Product	Design serial	Frame rating	Quantity of poles	Intelligent controller	Installation method	Optional accessories	Rated operational current (A)	Frequency
AISIKAI ELECTRIC	INTELLIGENT UNIVERSAL AIR CIRCUIT BREAKER	Standard	2000 3200 4000 6300	3P:3 poles  4P:4 poles  3P+N: 3P+external N line current transformer	M type: normal type  H type: communication function	C:Drawout G:Fixed	Under-voltage tripper Voltage loss delay tripper Under-voltage delay tripper Vertical inlet and outlet busbars Breaking position key lock Mechanical interlocking External current trans- former of neutral line N Door interlocking Drawout type circuit breaker phase partition DC power module	630,800,1000,1250, 1600,2000 (W1 type-2000A frame) 2000,2500,2900,3200 (W1 type-3200A frame) 3200,3600,4000 (W1 type-4000A frame) 4000,5000,6300 (W1 type-6300A frame)	50Hz 60Hz

## PARAMETER DATA SHEET

PRODUCT NAME		INTELLIGENT UNIVERSAL AIR CIRCUIT BREAKER															
Model		ASKW1-2000						ASKW1-3200				ASKW1-4000			ASKW1-6300		
Standards		GB/T 14048.2 IEC/EN 60947-2															
Quantity of poles		3P, 4P															
Frame rating current Inm A		2000						3200				4000			6300		
Rated operational current In(A)		630	800	1000	1250	1600	2000	2000	2500	2900	3200	3200	3600	4000	4000	5000	6300
Rated impulse withstand voltage Uimp (kV)		12															
Rated operational voltage Ue(V)		AC 50Hz/60Hz 400V 690V															
Rated limit short-circuit breaking capacity Icu (KA)	400V	85						100				100			120		
	660/690V	65						70				70			85		
Rated service short-circuit breaking capacity Ics (KA)	400V	65						80				80			100		
	660/690V	65						70				70			85		
Rated short-time withstand current Icw kA (1s) delay 0.4s o-co	400V	65						80				80			100		
	660/690V	65						70				70			85		
Isolation function		YES															
Protection level		IP20															
Service life C/O cycles	Mechanical	10000						10000				10000			10000		
	Electrical	6000						6000				6000			6000		
Power loss (In) W	Fixed	40	60	90	90	140	170	170	260	320	420	430	440	450	1225	1250	1625
	Drawout	80	130	205	205	310	310	400	510	650	760	780	790	800			
Operational temperature		Between -5°C and +40°C. The average value in 24 hours does not exceed +35°C.															

## PROTECTION CHARACTERISTICS

Long time-delay		Short time-delay		Instantaneous		Earthing fault	
$I_{r1}$	Error	$I_{r2}$	Error	$I_{r3}$	Error	$I_{r4}$	Error
$(0.4 \sim 1.0)I_n$	$\pm 10\%$	$(1.5 \sim 15)I_n$	$\pm 10\%$	$1.0I_n \sim 100KA$	$\pm 15\%$	$(0.2 \sim 1.0)I_n$	$\pm 10\%$

Note: when having current protection of 3 stages at the same time, the setting value cannot be overlapped, and it should be  $I_{r1} < I_{r2} < I_{r3}$



M type controller



H type controller

## Controller Panel Structure

### 1.LCD display screen

### 2.Curve LED

Red LED indicators are hidden in the curve. When a fault occurs, the corresponding LED will flash, indicating the fault type. When setting the protection parameters, the corresponding LED will be constantly lit, indicating the current item under setting.

3. “Working” LED—The green LED always flashes as long as the controller is powered on and in normal working condition.

4. “Fault/Alarm” LED—During normal operation, the LED is not lit; during the fault tripping, the red LED flashes rapidly; in the event of an alarm, the red LED is constantly lit.

5. “Communication” LED—Modbus: During the communication, the LED flashes; when there’s no communication, the LED is not lit.

### 6. “AP” LED—advanced protection indicator

( In the event of fault tripping due to phase loss, over-voltage, voltage unbalance, under-frequency, over-frequency, reverse power, etc., the “AP” LED is lit if alarm only no tripping.)

7. “Up” button—Move menu content upward in the currently used level, or increase the selected parameter.

8. “Back” button—Exit the currently used level to go to the upper level menu, or cancel selecting the current parameter.

9. “Check” button—Function button 2, used for the cycle switching between “System parameter setting menu” and “History and maintenance menu”. In password inputting interface, this button works as “Right” button.

10. “Down” button—Move menu content downward in the currently used level, or decrease the selected parameter.

11. “Enter” button—Go to the next level menu pointed to by the current item, or select the current parameter, or save the modifications made.

12. “Test” button—Once pressed, the tripper trips one time, used for testing whether the mechanical mating is normal.

13. “Reset” button—After fault, the LCD screen shows fault. After troubleshooting, you need to press this button to reset the display.

14. “Set” button—Function button , used for the cycle switching between “Measurement menu” and “Protection parameter setting menu”. In password inputting interface, this button works as “Left” button.



## ACCESSORIES-STANDARD



### Shunt (Opening) tripper

- Shunt tripper can disconnect the circuit breaker instantaneously after the tripper is powered on. This operation can be performed remotely.

#### Action characteristic

Rated control power voltage Ue(V)	AC230 AC400	DC110 DC220
Action voltage	(0.7~1.1)Ue	
Power consumption	56VA	250W
Breaking time	50 ±10(ms)	

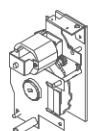


### Energy release (Making) electromagnetic

- After the motor finishes energy storage, when the closing electromagnetic is powered on, the energy-storing spring force in the operating mechanism is released instantly, making the circuit breaker close quickly.

#### Action characteristic

Rated control power voltage Ue(V)	AC230 AC400	DC110 DC220
Action voltage	(0.85~1.1)Ue	
Power consumption	56VA	250W
Closing time	50 ±10(ms)	

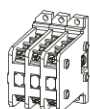


### Electric operating mechanism

- Having motorized energy storage function and automatic energy re-storage function after the circuit breaker is closed, it ensures the circuit breaker can be closed immediately after breaking.
- Manual energy pre-storage is also available.

#### Action characteristic

Rated control power voltage Ue(V)	AC230 AC400	DC110 DC220
Action voltage	(0.85~1.1)Ue	
Power consumption	250VA/350VA	200W
Energy storing time	<4s	
Operating frequency	At most 3 times per minute	

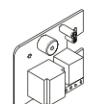


### Auxiliary contacts

- The standard form of auxiliary contacts is 4 sets of combined contacts(4NO). 8 separate contacts are optional(4NO4NC or specified).

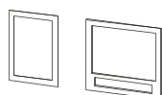
#### Technical Parameters

Rated voltage (V)	Rated thermal current(Ih(A)	Rated control capacity
AC		
230	10	300VA
400	6	100VA
DC		
220	0.5	60W



### Closing coil protection circuit board

- Protection method: After the first closing failure, disconnect the closing coil power supply, then close again; After 3 times closing failure, disconnect the closing coil power supply, preventing the



### Door escutcheon and pad

- Mount on the door of power distribution cabinet room for sealing. The protection level achieves IP40 ( the protection level is IP20 when circuit breaker is installed alone).



### Self-actuate under-voltage tripper

- When under-voltage tripper is not powered on, neither electric nor manual can make circuit breaker close.
- Under-voltage trippers have 3 types: instantaneous action, under-voltage delay and zero-voltage delay.
- Zero-voltage delay time can be set to 0, 1, 2, 3, 5 seconds when ordering, cannot be adjusted afterwards.
- Under-voltage delay time can be set to 0, 1, 2, 3, 5, 10, 20 seconds when ordering, cannot be adjusted afterwards.

#### Action characteristic

Rated operational voltage Ue(V)	AC230 AC400
Action voltage	(0.35~0.7)Ue
Reliable closing voltage	(0.85~1.1)Ue
Reliable non-closing voltage	≤0.35Ue
Power consumption	20VA



### External N (neutral) line transformer

- When using ASKW1 3 poles circuit breaker in TN-S power distribution system, connect external neutral line N current transformer for grounding fault protection. The maximum distance from the transformer installation location to the circuit breaker is 2m.
- Grounding fault protection signal uses the vector sum of three phases current and N phase current.
- The protection characteristic is definite-time protection.



### Relay module

- When using H type controller with ASKW1 circuit breaker, the optional special relay module can be used to expand the 3A relay to 5A, making it convenient for user to connect to various load equipment.



### Power module

- Special power for the relay module, transforming the external AC220V control power to DC24V.



### Open/Close button locking cover

- Can be used to lock the manual Open/Close button, used in ATMT system.

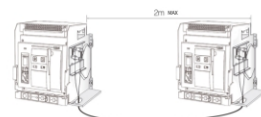


### Key lock

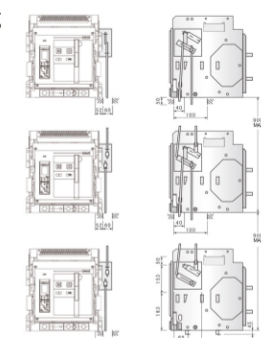
- Key lock can lock the Open button of the circuit breaker at the pressed down position, and after the user turn the key, then the breaker cannot close.
- One unit of circuit breaker is equipped with separate lock and one or two keys.
- Three units of circuit breakers are equipped with three identical locks and two identical keys.
- Note: When removing the key from the universal air circuit breaker with key lock, you must first press and hold the Open button and turn the key counterclockwise, then pull out the key.

### Mechanical interlocking device

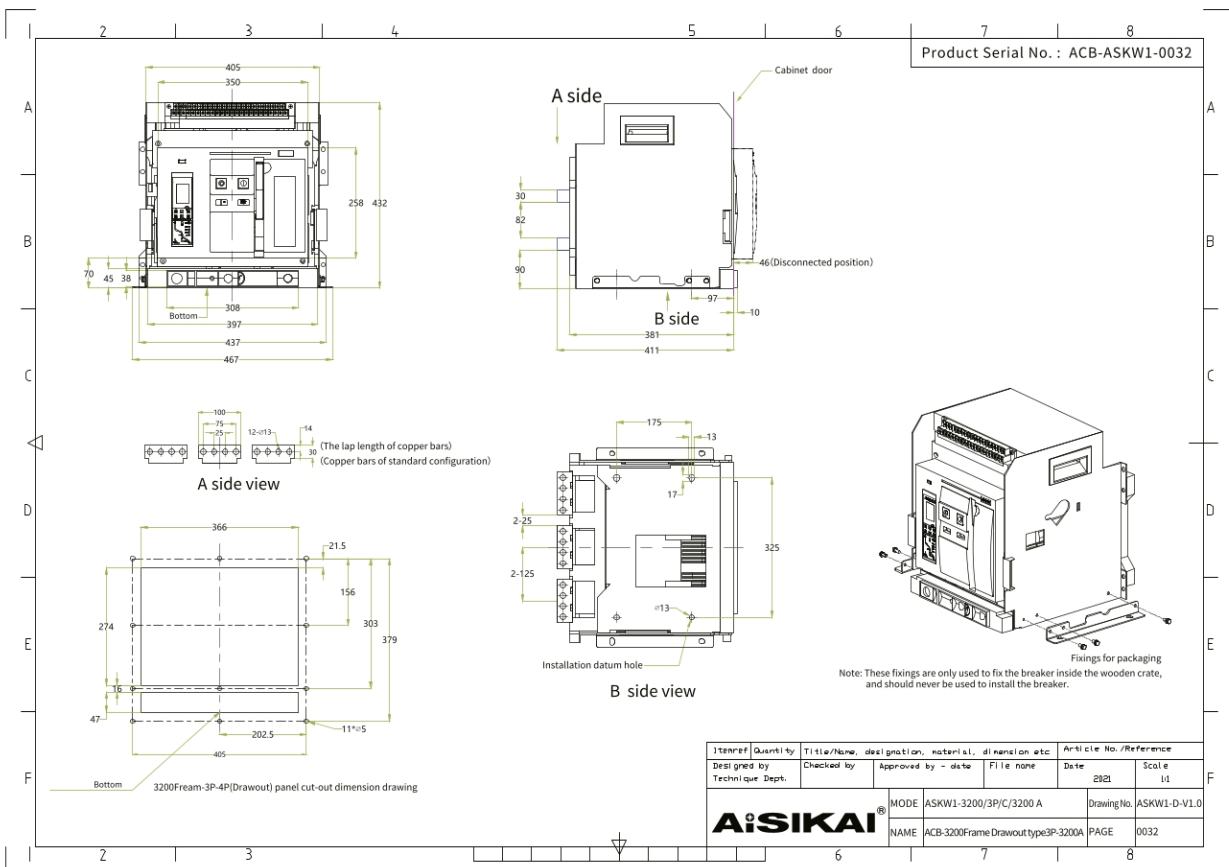
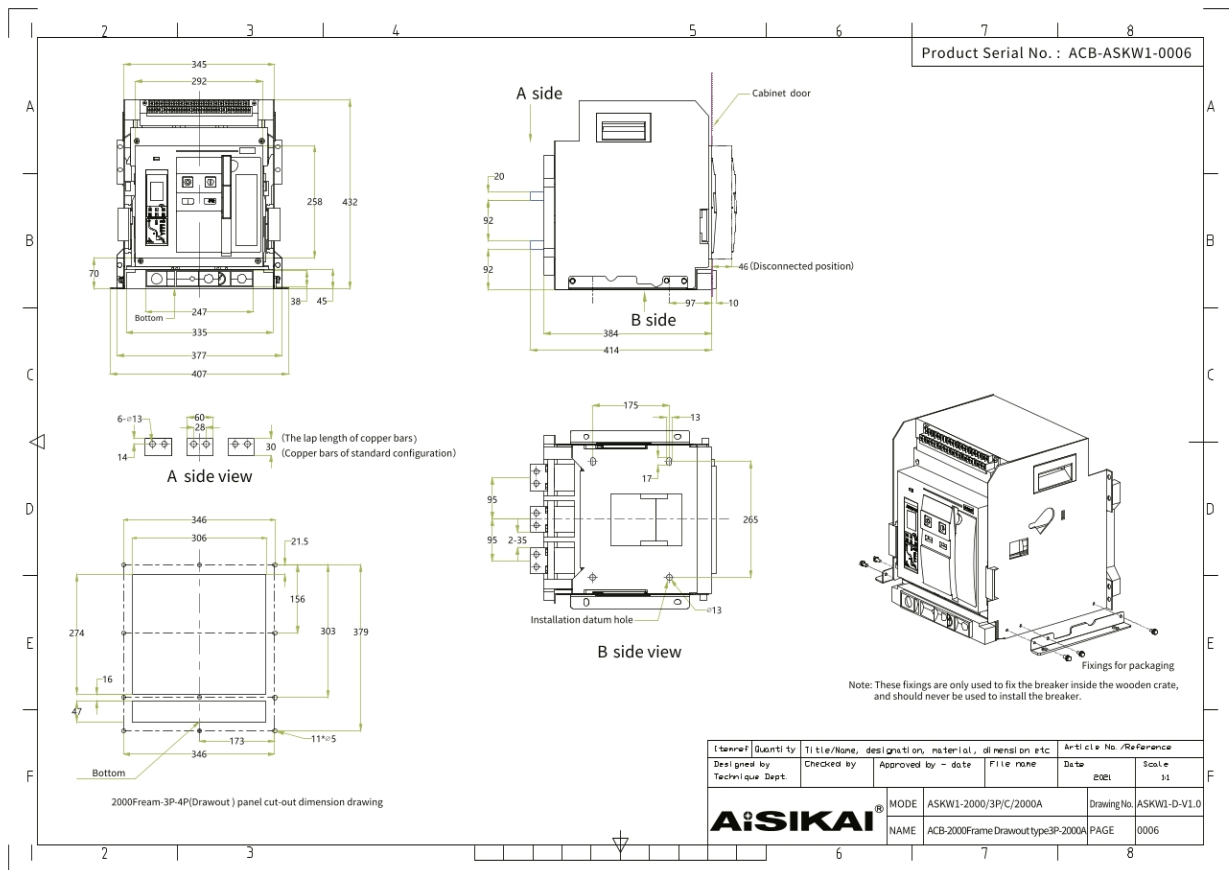
- Mechanical interlocking of steel cable



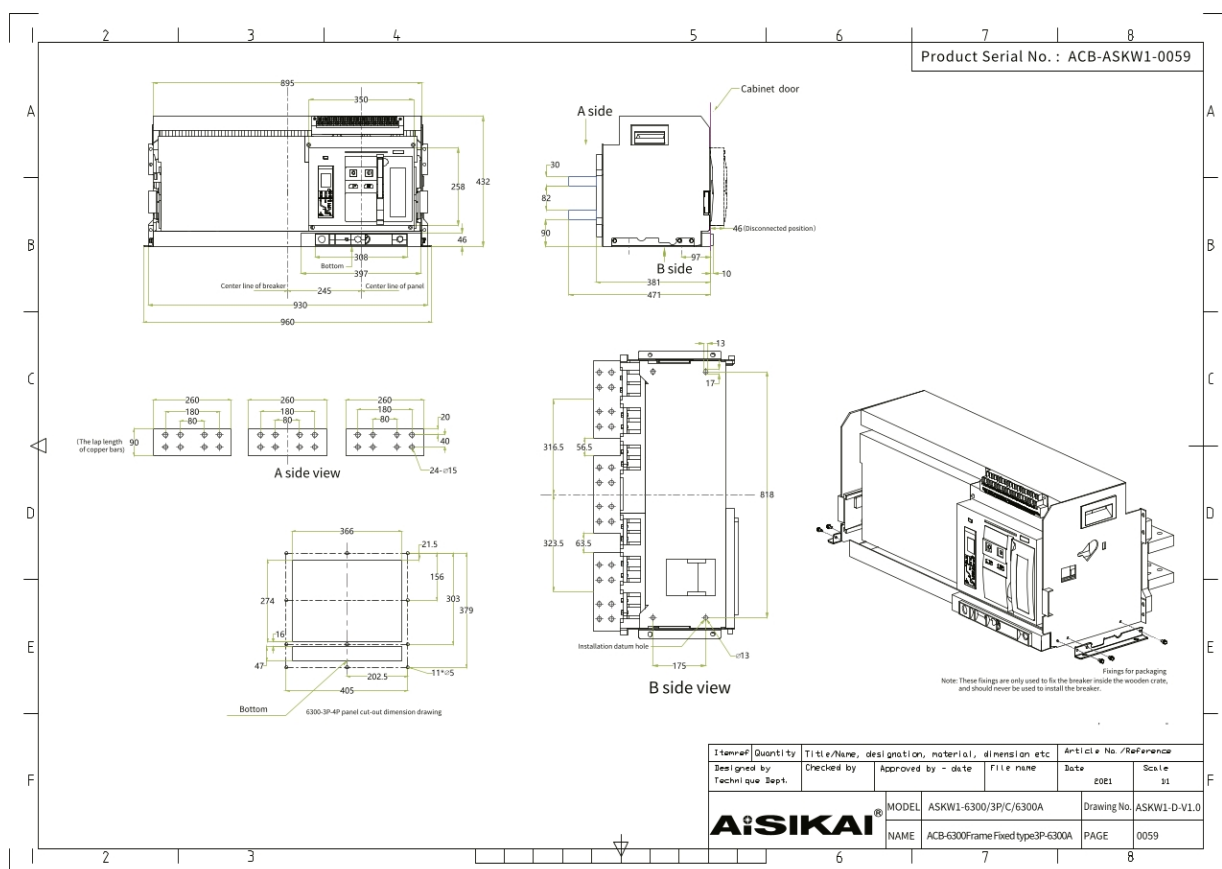
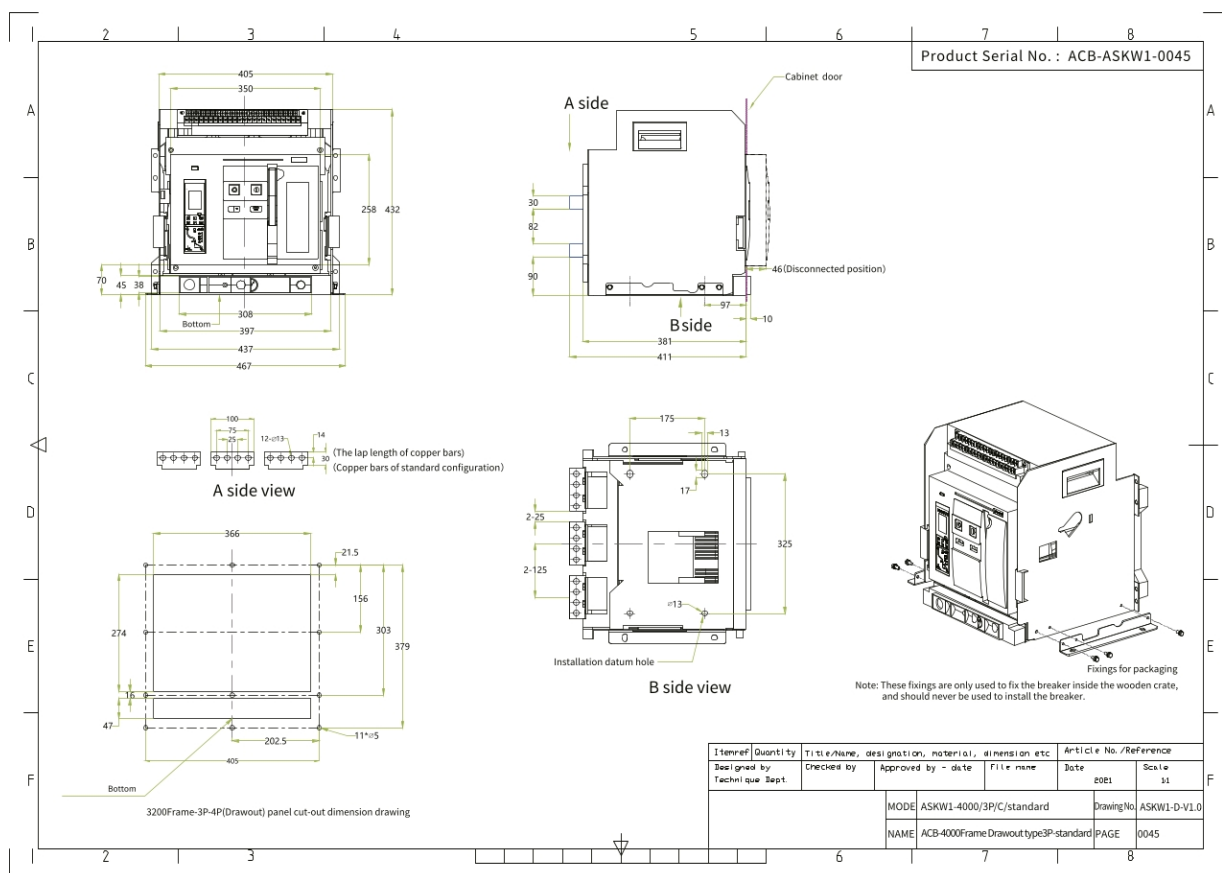
- Linkage rod interlocking



## OUTLINE DIMENSIONS DIARAM



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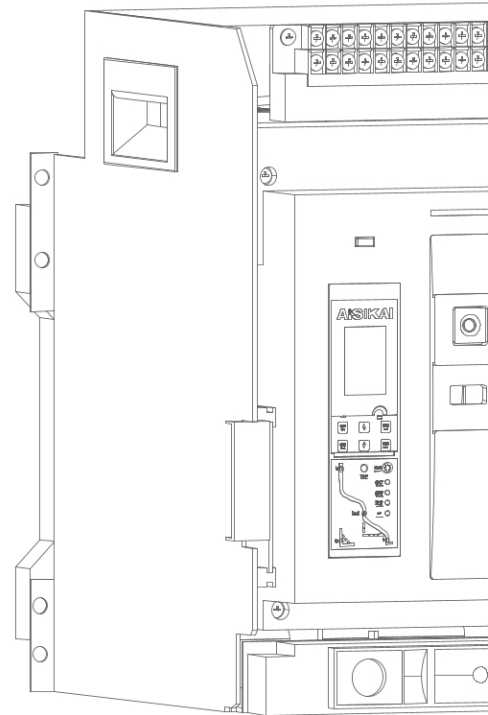
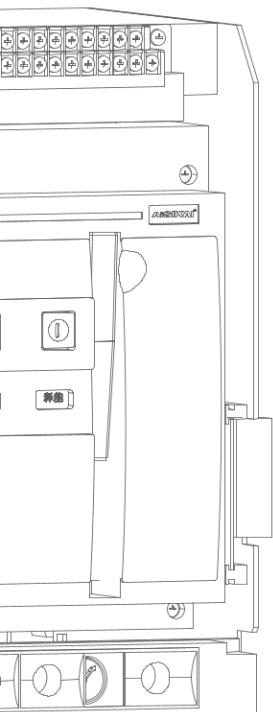
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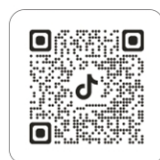
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