Elektrizität

SAX series universal circuit breaker

SAX series universal circuit breaker

Product Usage

SAX series intelligent universal circuit breakers (hereinafter referred to as circuit breakers) are suitable for distribution networks with AC 50/60HZ, rated working voltage 400V ~1140 V, and rated working current 200A ~ 6300A. They are used to distribute electric energy and protect lines to protect equipment from overload, short circuit, undervoltage, grounding and other faults. The circuit breaker has communication and intelligent protection functions, which can accurately realize selective protection between upper and lower levels, improve power supply reliability, and avoid unnecessary power outages. The circuit breaker also has an isolation function.

Circuit breakers with a rated working current of 630A or less can also be used in AC 50Hz, 400V distribution networks as overload, short circuit, undervoltage and ground fault protection for motors. Under normal conditions, they can also be used for infrequent starting and stopping of motors.

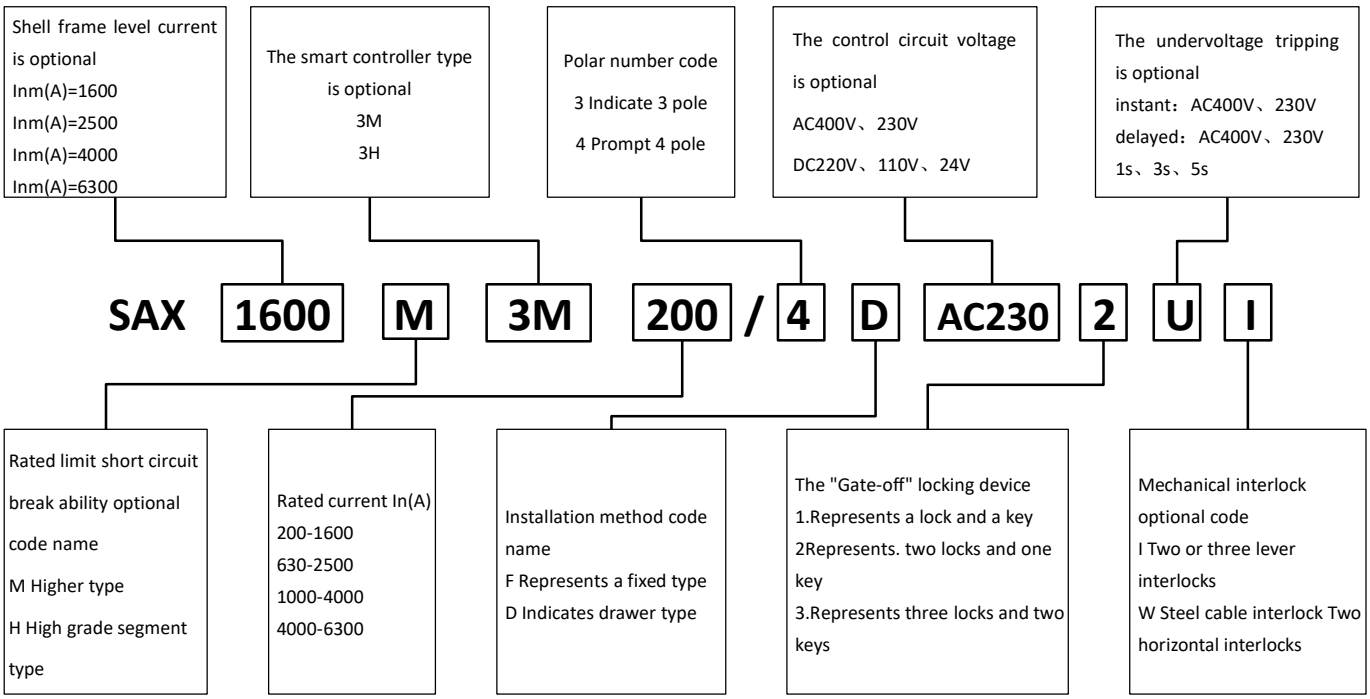
Features

1. Extremely high breaking capacity and zero arcing, which improves the protection reliability;
2. Unparalleled ultra-small size;
3. Complete modular structural accessories;
4. The main circuit adopts different wiring methods, which brings great convenience to installation;
5. Users can use different types of intelligent controllers according to the requirements of grid protection and power measurement and management;
6. It has extremely high mechanical life, electrical life and operational reliability;
7. The circuit breaker can be connected from the top or bottom, which is convenient for users to install.

Normal use conditions

1. Ambient air temperature -40℃~+60℃, average value within 24 hours ≤+35℃;
2. The altitude of the installation site shall not exceed 2000m;
3. The relative humidity of the air shall not exceed 50% when the maximum temperature is +40℃. Higher relative humidity is allowed at lower temperatures. For example, the relative humidity can reach 90% at 20℃. Special measures shall be taken for occasional condensation caused by temperature changes.
4. The pollution level is level 3;
5. The installation category of the main circuit of the circuit breaker is Ⅳ, and the installation category of other auxiliary circuits (except the undervoltage release coil and the primary coil of the power module for the electronic release are the same as the circuit breaker) and control circuits is Ⅲ;
6. The circuit breaker should be installed in a place without explosion hazard, conductive dust, or sufficient corrosion to metal and insulation damage;
7. The vertical inclination of the circuit breaker installation shall not exceed 5°;
8. The circuit breaker is installed in a small cabinet and a door frame is added, with a protection level of IP 40.

Quick Selection Table



Technical Parameters

Circuit breaker model			SAX1600M	SAX1600 H
Frame grade Rated current Inm(A)			1600	
Rated current In(A)			200, 400, 630, 800, 1000, 1250, 1600	
Rated working voltage Ue(V)			AC400, 690, 1140/50Hz , 60Hz	
Rated insulation voltage Ui(V)			1000	
Rated impulse withstand voltage Uimp(kV)			12	
Power frequency withstand voltage U(V)			3500	
Number of poles			3.4	
Neutral (N) pole rated current IN (A)			100%In	
Short circuit segmentation capability level			M	H
Rated ultimate short-circuit breaking capacity Icu(kA) (effective value)	AC400V		60	65
	AC690V		45	50
	AC1140V		-	32
Rated operating short-circuit breaking capacity Ics(kA) (effective value)	AC400V		50	55
	AC690V		35	42
	AC1140V		-	32
Rated short-circuit making capacity Icm(kA) (peak value)	AC400V		132	143
	AC690V		96	105
	AC1140V		-	70
Rated short-time withstand current Icw(kA) (1s) (effective value)	AC400V		42	50
	AC690V		38	42
	AC1140V		-	32
Full breaking time (s)			⩽ 0.03	
Closing time (s)			⩽ 0.07	
Operation performance (times)	Electrical life		10000	
	Mechanical life		1 5 000	
Power consumption (W) (ambient temperature +40° C)	Drawer type		345	
	Fixed		130	
Overall dimensions (width x height x depth) mm	Fixed	3P	26 2 × 31 2 × 2 26	
		4P	33 2 × 31 2 × 2 26	
	Drawer type	3P	275×345×330	
		4P	345×345×330	
Installation size (length × width) mm	Fixed	3P	242×100	
		4P	312×100	
	Drawer type	3P	145×95	
		4P	215×95	

Circuit breaker model			SAX2500 M	SAX2500 H
Frame grade Rated current Inm(A)			2500	
Rated current In(A)			630, 800, 1000, 1250, 1600, 2000, 2500	
Rated working voltage Ue(V)			AC400, 690, 1140/50Hz , 60Hz	
Rated insulation voltage Ui(V)			1000	
Rated impulse withstand voltage Uimp(kV)			12	
Power frequency withstand voltage U(V)			3500	
Number of poles			3.4	
Neutral (N) pole rated current IN (A)			100%In	
Short circuit segmentation capability level			M	H
Rated ultimate short-circuit breaking capacity Icu(kA) (effective value)	AC400V		65	85
	AC690V		55	65
	AC1140V		-	42
Rated operating short-circuit breaking capacity Ics(kA) (effective value)	AC400V		65	85
	AC690V		55	65
	AC1140V		-	42
Rated short-circuit making capacity Icm(kA) (peak value)	AC400V		143	187
	AC690V		121	143
	AC1140V		-	121
Rated short-time withstand current Icw(kA) (1s) (effective value)	AC400V		65	85
	AC690V		55	65
	AC1140V		-	42
Full breaking time (s)			⩽ 0.03	
Closing time (s)			⩽ 0.07	
Operation performance (times)	Electrical life		7000	
	Mechanical life		1 5 000	
Power consumption (W) (ambient temperature +40° C)	Drawer type		850	
	Fixed		380	
Overall dimensions (width x height x depth) mm	Fixed	3P	378×398×364	
		4P	473×398×364	
	Drawer type	3P	352×440×469	
		4P	447×440×469	
Installation size (length × width) mm	Fixed	3P	356×150	
		4P	451×150	
	Drawer type	3P	270×175	
		4P	370×175	

Circuit breaker model			SAX4000 M	SAX4000 H
Frame grade Rated current Inm(A)			4000	
Rated current In(A)			1000, 1250, 1600, 2000, 2500, 2900, 3200, 3600, 4000	
Rated working voltage Ue(V)			AC400, 690, 1140/50Hz , 60Hz	
Rated insulation voltage Ui(V)			1140	
Rated impulse withstand voltage Uimp(kV)			12	
Power frequency withstand voltage U(V)			3500	
Number of poles			3.4	
Neutral (N) pole rated current IN (A)			100%In	
Short circuit segmentation capability level			M	H
Rated ultimate short-circuit breaking capacity Icu(kA) (effective value)	AC400V		85	120
	AC690V		75	85
	AC1140V		-	50
Rated operating short-circuit breaking capacity Ics(kA) (effective value)	AC400V		85	100
	AC690V		75	85
	AC1140V		-	50
Rated short-circuit making capacity Icm(kA) (peak value)	AC400V		187	264
	AC690V		165	187
	AC1140V		-	132
Rated short-time withstand current Icw(kA) (1s) (effective value)	AC400V		85	100
	AC690V		75	85
	AC1140V		-	50
Full breaking time (s)			≤ 0.03	
Closing time (s)			≤ 0.07	
Power consumption (W) (ambient temperature +40° C)	Drawer type		880	
	Fixed		508	
Operation performance (times)	Electrical life		4000	
	Mechanical life		1 5 000	
Overall dimensions (width x height x depth) mm	Fixed	3P	438×398×407	
		4P	553×398×407	
	Drawer type	3P	412×440×502	
		4P	527×440×502	
Installation size (length × width) mm	Fixed	3P	416×150	
		4P	531×150	
	Drawer type	3P	325×175	
		4P	440×175	

Circuit breaker model			SAX6300M	SAX6300 H
Frame grade Rated current Inm(A)			6300	
Rated current In(A)			4000, 5000, 6300	
Rated working voltage Ue(V)			AC400, 690, 1140/50Hz , 60Hz	
Rated insulation voltage Ui(V)			1140	
Rated impulse withstand voltage Uimp(kV)			12	
Power frequency withstand voltage U(V)			3500	
Number of poles			3.4	
Neutral (N) pole rated current IN (A)			100%In	
Short circuit segmentation capability level			M	H
Rated ultimate short-circuit breaking capacity Icu(kA) (effective value)	AC400V		120	135
	AC690V		85	100
	AC1140V		50	50
Rated operating short-circuit breaking capacity Ics(kA) (effective value)	AC400V		120	135
	AC690V		85	100
	AC1140V		50	50
Rated short-circuit making capacity Icm(kA) (peak value)	AC400V		264	297
	AC690V		187	220
	AC1140V		105	110
Rated short-time withstand current Icw(kA) (1s) (effective value)	AC400V		120	135
	AC690V		85	100
	AC1140V		50	50
Full breaking time (s)			⩽ 0.03	
Closing time (s)			⩽ 0.07	
Power consumption (W) (ambient temperature +40° C)	Drawer type		1145	
	Fixed		787	
Operation performance (times)	Electrical life		4000	
	Mechanical life		13 000	
Overall dimensions (width x height x depth) mm	Fixed	3P	786×435×407	
		4P	1019×435×407	
	Drawer type	3P	762×480×502	
		4P	993×480×502	
Installation size (length × width) mm	Fixed	3P	720×176	
		4P	900×176	
	Drawer type	3P	677×252	
		4P	878×252	

Derating factor

1. The following table shows the circuit breaker's ability to continuously carry current under the ambient working temperature and heating conditions specified in GB/T 14048.2.

Ambient working temperature		+40℃	+45℃	+50℃	+55℃	+60℃
Continuous carrying capacity	Inm=1600A	1 Inm	0.96 Inm	0.92 Inm	0.87 Inm	0.80 Inm
	Inm=2500A	1 Inm	0.93 Inm	0.88 Inm	0.82 Inm	0.75 Inm
	Inm=4000A	1 Inm	0.90 Inm	0.86 Inm	0.80 Inm	0.72 Inm
	Inm=6300A	1 Inm	0.89 Inm	0.85 Inm	0.79 Inm	0.71 Inm

2. If the altitude exceeds 2000m of the applicable working environment, the electrical performance of the circuit breaker can be corrected according to the following table .

Altitude (m)	2000	3000	4000	5000
Power frequency withstand voltage (V)	3500	3000	2350	1930
Working current correction factor	1	0.89	0.85	0.79
Short-circuit breaking capacity correction factor	1	0.80	0.68	0.60

Control loop parameters

Circuit breaker controller	Rated operating voltage Ue	AC400V	AC230V	DC220V	DC110V	DC24V
	Power consumption	10VA		10W		
	Normal operating voltage	(0.85~1.1)Ue				
Closing solenoid	Rated control power supply voltage Us	AC400V	AC230V	DC220V	DC110V	
	Power consumption	60VA (instantaneous)		60W(instantaneous)		
	Action voltage	(0.85~1.1)Us				
	Closing time	⩽0.07s				
Shunt release	Rated control power supply voltage Us	AC400V	AC230V	DC220V	DC110V	
	Power consumption	40 VA (instantaneous)		40 W (instantaneous)		
	Action voltage	(0.7 ~ 1.1)Us				
	Break time	⩽0.0 3 s				
Electric transmission mechanism	Rated control power supply voltage Us	AC400V	AC230V	DC220V	DC110V	
	Power consumption	165 VA (instantaneous)		165 W (instantaneous)		
	Operating Voltage	(0.85~1.1)Us				
	Energy storage time	⩽ 5 s				
Auxiliary switch	Rated operating voltage	AC400V	AC230V	DC220V	DC110V	
	Conventional heating current	6A				
	Rated control capacity	300VA		60W		

Circuit breaker main circuit wiring copper bar specifications reference table

Frame grade Rated current Inm (A)	Rated current In (A)	Copper busbar specifications	
		The number of	Dimensions (mm x mm)
1600	200	1	20×5
	400	1	50×5
	630	2	40×5
	800	2	50×5
	1000	3	40×5
	1250	4	40×5
	1600	2	50×10
2500	630	2	50×5
	800	2	60×5
	1000	2	60×5
	1250	3	60×5
	1600	2	60×10
	2000	3	60×10
	2500	4	60×10
4000	1000	2	60×5
	1250	3	60×5
	1600	2	60×10
	2000	3	60×10
	2500	4	100×5
	2900	3	100×10
	3200	4	100×10
	3600	4	100×10
	4000	5	100×10
6300	4000	4	100×10
	5000	6	100×10
	6300	6	100×10

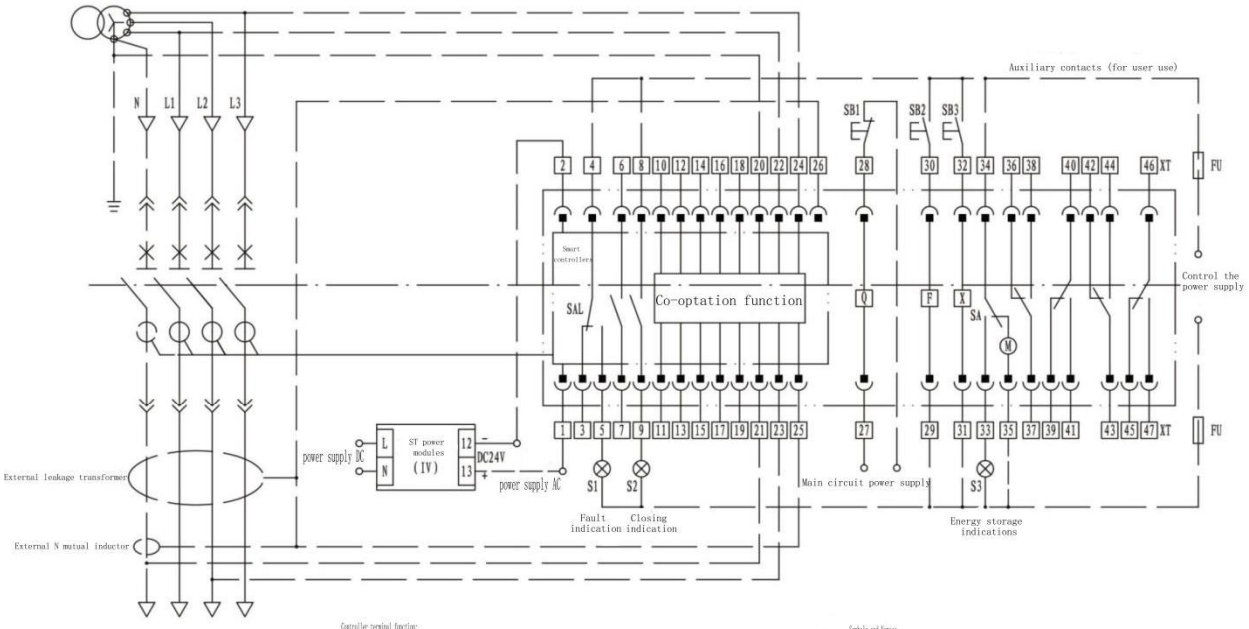
Intelligent controller protection features

The intelligent controller has LCD display, LED status indication, continuous parameter setting, and other measurement functions such as current, voltage, power, frequency, phase sequence, and additional protection. It is used for general power distribution circuits and generator protection. (√ indicates basic function; ○ indicates optional function; - indicates no function)

Feature Project \ Intelligent controller type				3M	3H
Features /Alarms	Overload long delay protection (Thermal memory can be set)		Ir1=（0.4~1）In+OFF（setting step is 1A）inverse time action delay; at 1.5Ir1, I^2t:（15、30、60、120、240、360、480、600、720、840、960 ） s action tolerance ±10%	√	√
	Short circuit short delay protection (Thermal memory can be set)		Ir2=（1.5~15）In+OFF（setting step is 1A） Inverse time action delay; at 8Ir1 I^2t: (0.1, 0.2, 0.3, 0.4) s When I＞8Ir1, the action is based on the time limit and the action tolerance is ±10%	√	√
	Short circuit instantaneous protection		Ir3=（1.0~20）In+OFF（setting step is 1A） Action tolerance : <3In: ±10% ⩾3In: ±15%	√	√
	Ground fault protection	Differential type (T)	Ir4=（0.2~1.0）In（minimum 160A）+OFF（setting step is 1A） Inverse time shear coefficient: 1.5~6+OFF Action delay (0.1~1)s (setting step is 0.1s) Action tolerance ±10%	√	√
		Ground current (W)		○	○
	Neutral protection		Three-pole circuit breaker : 0.5N, N, 1.6N, 2N: Four-pole circuit breaker: 0.5N, N	√	√
	MCR and HSISC protection		Inm=1600A: MCR=35kA, HSISC=50kA Inm=2500A: MCR=50kA, HSISC=65kA Inm=4000A: MCR=50kA, HSISC=80kA Inm=6300A: MCR=50kA, HSISC=80kA	√	√
	Overload warning alarm			○	○
	Current unbalance (phase failure) protection		Protection start setting value : 5%~60%; action delay 0.1~40s action tolerance: ±10%	√	√
	Load monitoring		Mode 1: Two loads can be controlled independently; Method 2: Generally used to control the load on the same branch; Setting range: (0.2~1.0) Ir1 Action delay: 10~3600s	○	○
Measurement	Current		Three-phase current , neutral pole current , ground current	√	√
maintain	Circuit breaker maintenance		Self-diagnosis	√	√
other	test		Simulate various fault current tests to test tripping or non-tripping	√	√
	Communication function			-	√

SAX1600 Secondary loop wiring diagram

Warning: The controller must be connected to the working power supply to ensure the normal operation of the circuit breaker!



Controller terminal function:

Terminal No.	Terminal function	Terminal No.	Terminal function
1、2	The working power input of the controller, 1 is +, 2 is -	16、19	Ground (or leakage) fault trip signal output (co-opt function)
3、4、5	Fault trip electric shock output	17、19	Load Offloading 1 Signal Output (Extended Range)
6、7	Two sets of auxiliary contact outputs that operate synchronously with the new circuitr	18、19	Load Offloading 2 Signal Output (Co-opt Function)
8、9		20	The controller protects the ground wire
12、19	Overload Warning Signal Output (Co-opt Function)	21	OCR Fault Trip Signal Output for 3-Phase Voltage Incoming Sampling Input) (Selective Function)
14、19	Short-delay, instantaneous trip signal output (additional function)	22、23、24	Sampling input terminals of A, B, and C phases respectively (additional function)
15、19	Long delay trip signal output (co-opt function)	25、26	External transformer input

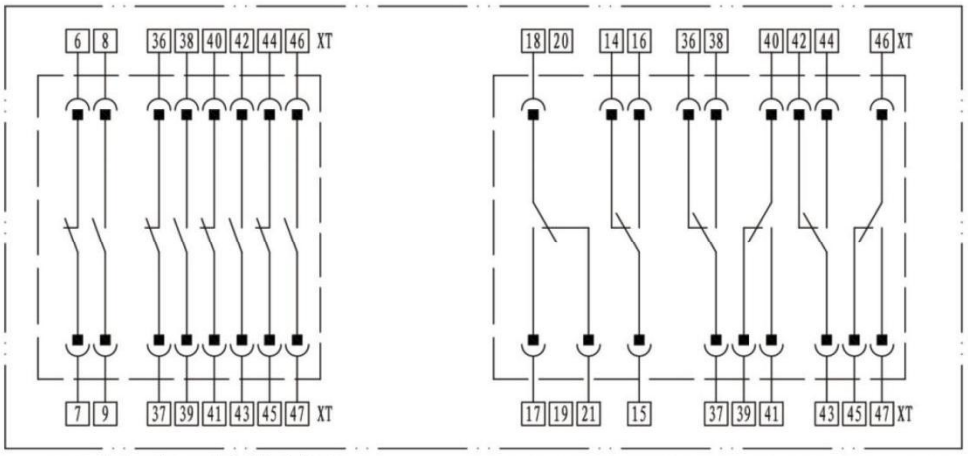
Symbols and Names:

Symbol	Name	Symbol	Name
X	Closed solenoids	S1～S3	Indicator light (provided by user)
F	Shunt tripper	SA	Electric transmission travel switch
M	Electric transmission mechanism	SAL	Fault trip indication contacts
Q	Undervoltage tripper	SB1	Undervoltage button (provided by user)
XT	Control loop terminal blocks	SB2	Open button (provided by user)
FU	Fuse (provided by user)	SB3	Closing button (provided by the user)

Control Loop Wiring Instructions:
1. The dotted line part is connected by the user.
2. If the rated voltage of the intelligent controller, closed solenoid, shunt tripper, undervoltage tripper, electric transmission mechanism and so on is different, they should be connected to different power supplies.
3. The terminal 25 can be directly connected to the power supply (automatic pre-energy storage), and can also be connected in series to the power supply after the normally open button (manual control pre-energy storage).

SAX1600 The controller is 3M with optional function

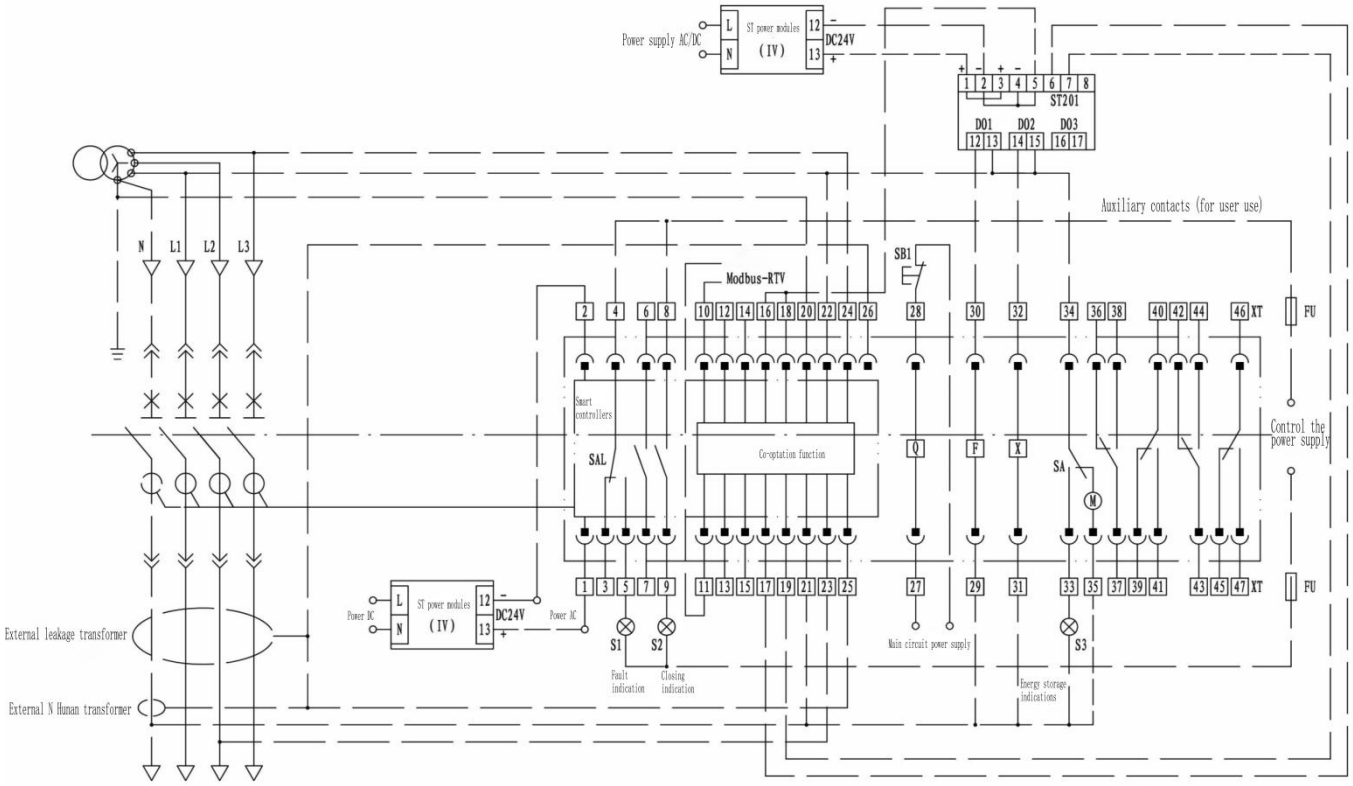
Special type of the auxiliary contact



No common point 4 often open often closed contact

6 sets of auxiliary contacts with common point conversion (3H controller)

Warning: The controller must be connected to the working power supply to ensure the normal operation of the circuit breaker!



Controller terminal function:

Terminal No.	Terminal function	Terminal No.	Terminal function
1、2	The working power input of the flip controller, 1 is ten, 2 is -	12、13	Controller 4 sets of signal contact outputs (additional function)
3、4、5	Fault trip contact output	14、15	
6、7	The auxiliary contact output of the two buttons and the breaker is AC380V, 16A	16、17	
8、9		18、19	
10、11	They are RS485A and RS485B communication lead-outs	21、22、23、24	Sampling input terminals of N, A, B, C phase voltage incoming lines respectively (additional function)
20	The controller protects the ground wire	25、26	External transformer input

Symbols and Names:

Symbols	Names	Symbols	Names
X	Closed solenoids	S1～S3	Indicator light (provided by user)
F	Shunt tripper	SA	Electric transmission mechanism travel switch
M	Electric transmission mechanism	SAL	Fault trip indication contacts
Q	Undervoltage trippers	SB1	Under-voltage button (user-provided)
XT	Control loop terminal blocks	ST201	Relay module (for four remote use)
FU	Fuse (provided by user)	ST	Power module

SAX1600 The controller is 3H with optional function

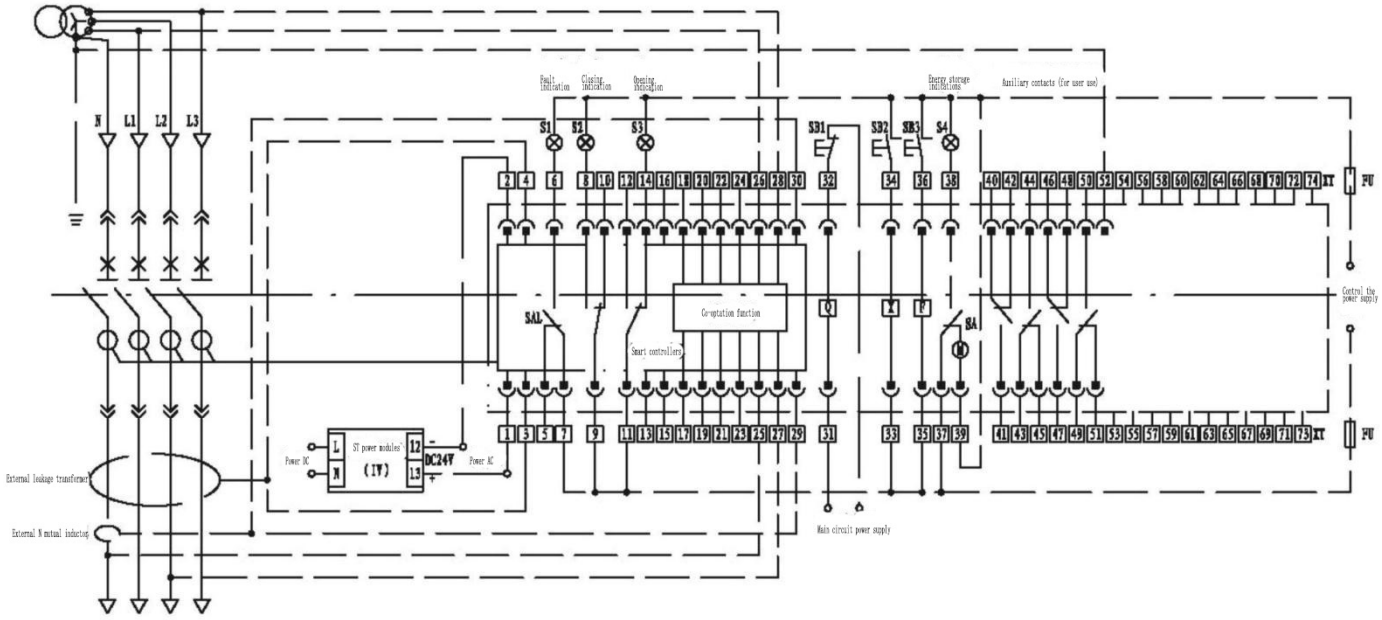
Instructions of control loop:

1.The dotted line is connected by the user.

2.If the circuit breaker does not need four remote function, refer to the SAX1600 controller to connect the 3M control loop.

SAX2500、4000、6300 Secondary loop wiring diagram

Warning: The controller must be connected to the working power supply to ensure the normal operation of the circuit breaker !



Controller terminal function:

Terminal No.	Terminal function	Terminal No.	Terminal function
1、2	The working power input of the controller, 1 is +, 2 is -	19、20	Programmable Signal Contact 2 Output (Co-opt Function)
3、4	External leakage transformer input	21、22	Programmable Signal Contact 3 Output or Switch 2 Input (Co-opt Function)
5、6、7	Fault trip contact output	23、24	Programmable Signal Contact 4 Output or Switch 1 Input (Co-opt Function)
8、9、10	Two sets of auxiliary contact outputs that operate synchronously with the circuit breaker	25、26、27、28	Sampling input terminals of N, A, B, C phase voltage incoming lines respectively (additional function)
11、12、14		29、30	When 3P+N, the external N mutual inductor input is connected
17、18	Programmable Signal Contact 1 Output (Co-opt Function)	52	The controller protects the ground wire

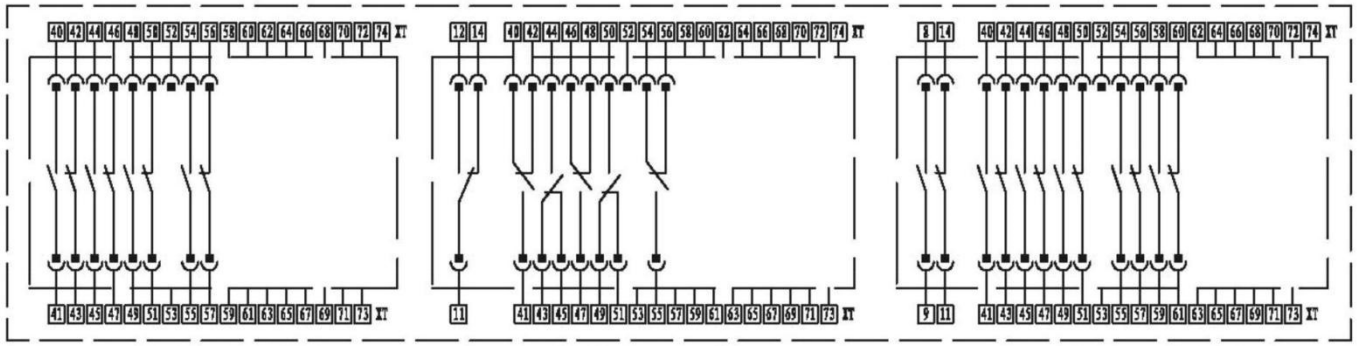
Symbols and Names:

Symbol	Names	Symbol	Names
X	Closed solenoids	S1～S4	Indicator light (provided by user)
F	Shunt tripper	SA	Electric transmission mechanism travel switch
M	Electric transmission mechanism	SAL	Fault trip indication contacts
Q	Undervoltage trippers	SB1	Undervoltage button (provided by the user)
XT	Control loop terminal blocks	SB2	Closing button (provided by the user)
FU	Fuse (provided by user)	SB3	Open button (provided by user)

Control Loop Wiring Instructions:
1. The dotted line part is connected by the user.
2. If the rated voltage of the intelligent controller, closed solenoid, shunt tripper, undervoltage tripper, electric transmission mechanism and so on is different, they should be connected to different power supplies.
3. The terminal 39 can be directly connected to the power supply (automatic pre-energy storage), and can also be connected in series with the normally open button and then connected to the power supply (hand-controlled pre-energy storage).

The SAX2500,4000 and 6300 controllers are 3M type with optional function control loop wiring diagram

Special type of auxiliary contact:

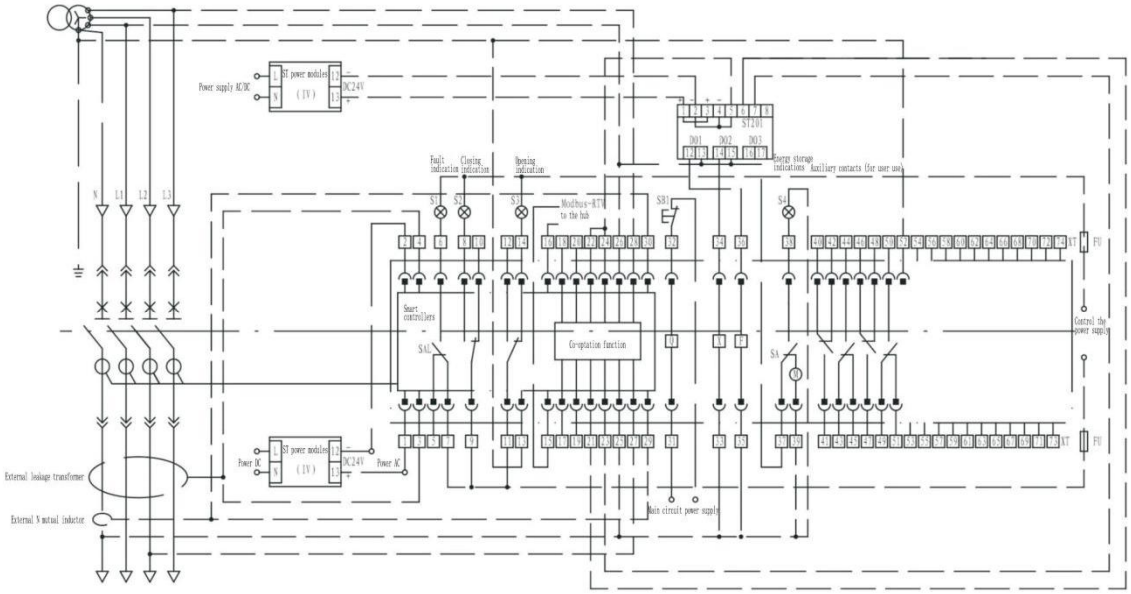


No common point 4 often open 4 normally closed auxiliary contact

6 sets of auxiliary contacts with common point conversion

No common point 6 normally open 6 normally closed auxiliary contact

Warning: The controller must be connected to the working power supply to ensure the normal operation of the circuit breaker



Controller terminal function：

Terminal number	Terminal function	Terminal number	Terminal function
1、2	Working power input end of controller, 1 is +, 2 is-	17、18	Programmable signal contact 1 output (co-option)
3、4	External input end of electric leakage transformer (optional function)	19、20	Programmable signal contact 2 output (co-option)
5、6、7	Fault trip contact output	21、22	Programmable signal contact 3 output or switch quantity 2 input (optional function)
8、9、10	Two sets of auxiliary contact output to synchronize the action with the	23、24	Programmable signal contact 4 output or switch quantity 1 input (optional function)
11、12、14	circuit breaker	25、26、27、28	Phase incoming voltage sampling input of N, A, B and C (additional function)
13	Communication shielding ground wire	29、30	When 3P + N is connected with the external N phase transformer input end (optional function)
15、16	For RS485A and RS485B communication lead lines, respectively	52	The controller protects the ground wire

Symbols and Names：

Symbols	Names	Symbols	Names
X	Closed solenoids	S1~S4	Indicator light (provided by user)
F	Shunt tripper	SA	Electric transmission mechanism travel switch
M	Electric transmission mechanism	SAL	Fault trip indication contacts
Q	Undervoltage trippers	SB1	Undervoltage button (provided by the user)
XT	Control loop terminal blocks	ST201	Relay module (for four remote use)
FU	Fuse (provided by user)		

Control loop description:

1. The dotted line is connected by the user.
2. When the controller voltage is DC, the circuit breaker is equipped with a DC power supply module.

If the circuit breaker does not need four remote function, refer to the SAX2500 controller to connect the 3M control loop.

SAX2500,4000,6300 controllers are 3H type with optional function control loop wiring diagram

Standard accessories

Shunt release

The circuit breaker can be disconnected by remote control. For the characteristics, see the technical parameters of the control circuit.

SAX1600

SAX2500, 4000, 6300

Closing solenoid

After the energy storage is completed, the closing electromagnet can release the energy storage spring force of the operating mechanism instantly, so that the circuit breaker can be closed quickly. For the characteristics, see the technical parameters of the control circuit.

SAX1600

SAX2500, 4000, 6300

Electric transmission mechanism

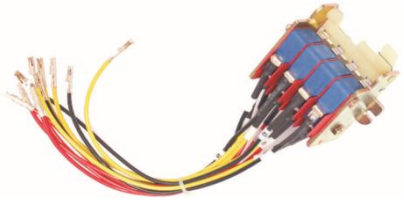
The circuit breaker has the function of motor energy storage and automatic re-storage; the circuit breaker can also store energy manually, the characteristics of which can be seen in the technical parameters of the control circuit

SAX1600

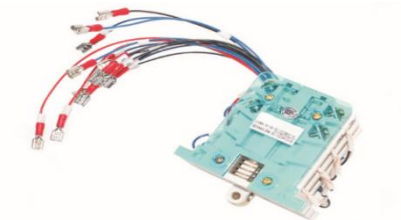
SAX2500, 4000, 6300

Auxiliary switch

The auxiliary switch characteristics are shown in the control circuit technical parameters. The standard form is 4 sets of changeover contacts (4 normally open and 4 normally closed), and the special form is 5 sets of changeover contacts.



SAX1600



SAX2500, 4000, 6300

Optional accessories

DC Power Module

When the power supply voltage of SAX1600, 2500, 4000, 6300 universal circuit breaker intelligent controller is DC220V or DC110V, it must be converted into DC24V by this module and provided to the controller.

DC power module

Undervoltage release

The undervoltage release is composed of a release coil and a control unit;
The undervoltage release has two types of actions: instantaneous action and delayed action. The delayed action time is generally divided into 1s, 3s, and 5s.

characteristic

Rated operating voltage Ue	AC400V	AC230V
Action voltage	(0.35~0.7)Ue	
Reliable closing voltage	(0.85~1.1)Ue	
Reliable unclosing voltage	＜0.35Ue	
Power consumption	15VA	
When the power supply voltage returns to 80%Ue within 1/2 of the delay time, the circuit breaker should not be disconnected		

SAX1600

SAX2500, 4000, 6300

"Open" locking device

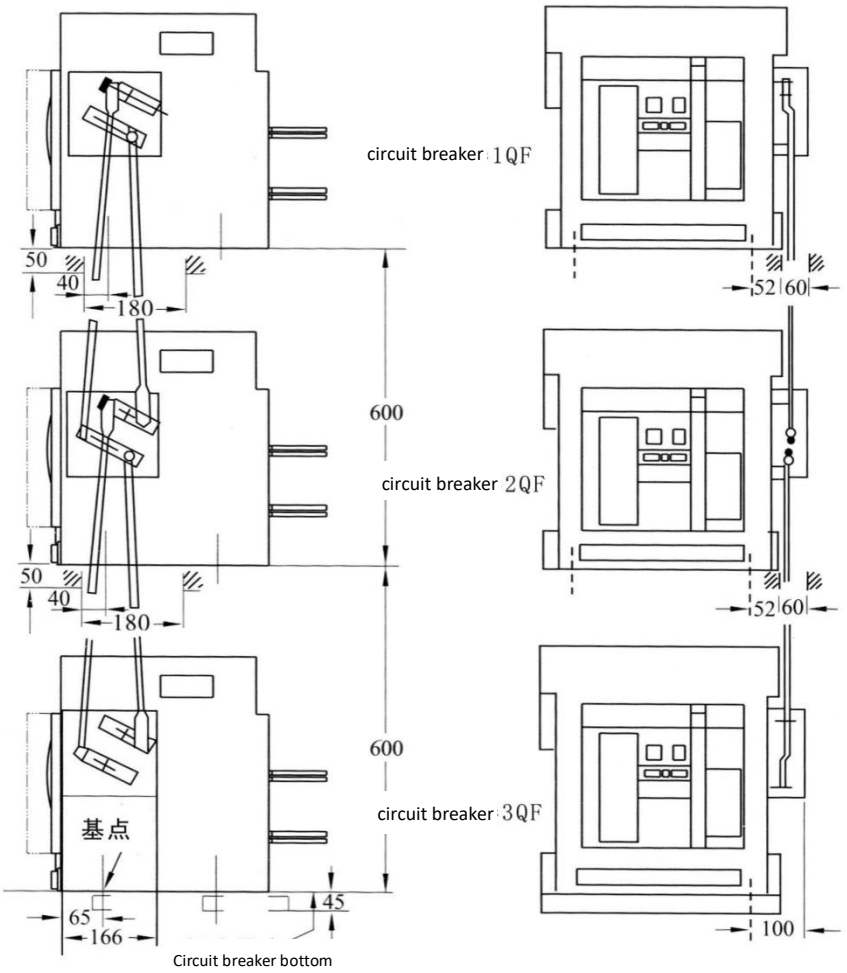
The "open" locking device can lock the circuit breaker's open button in the pressed position, at which time the circuit breaker cannot be closed.
Users can choose:
1.One circuit breaker is equipped with one lock and one key.
2. Two circuit breakers are equipped with two identical locks and one key.
3. Three circuit breakers are equipped with three identical locks and two identical keys.

Mechanical interlock

Users can select a mechanical interlock device to switch between two or three circuit breakers.

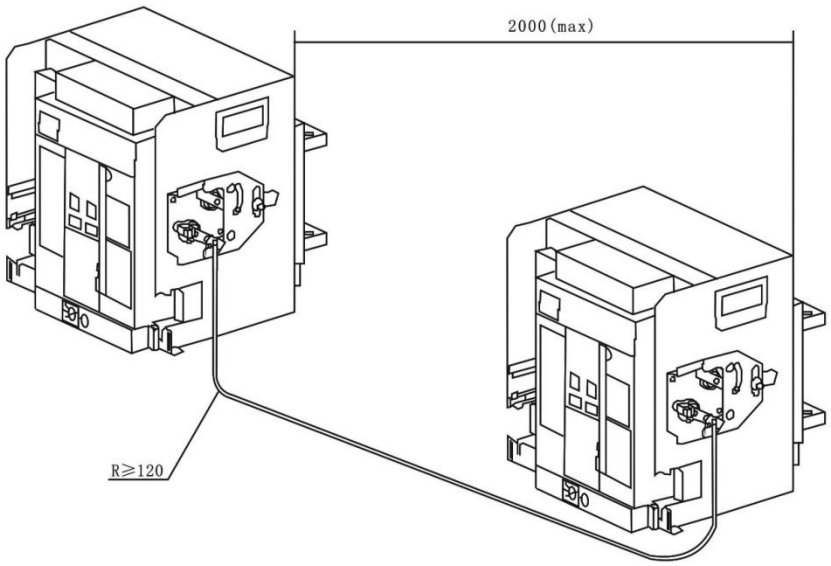
Lever interlock

Lever interlock can only be installed vertically



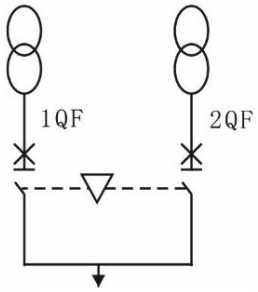
Cable interlock

Circuit breakers interlocked with wire cables can be installed horizontally or vertically.



Runnable mode

The interlocking distance between two circuit breakers is up to 2m.

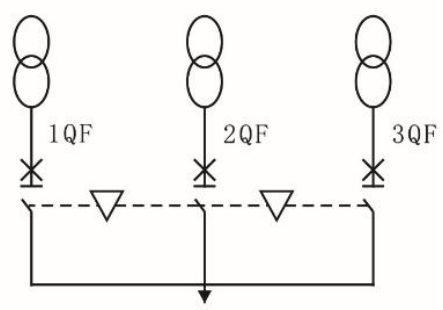


circuit diagram

1Q	2Q
0	0
0	1
1	0

Runnable mode

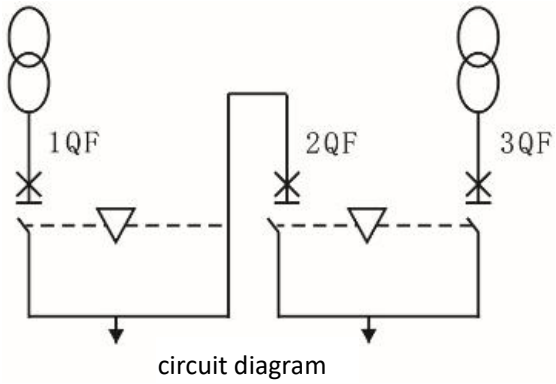
The interlocking distance between three circuit breakers is up to 2m.



circuit diagram

1Q	2Q	3Q
0	0	0
1	0	0
0	1	0
0	0	1

Runnable mode



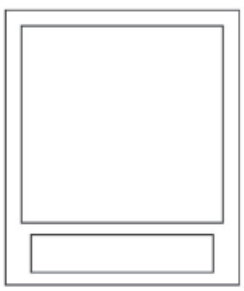
circuit diagram

1Q	2Q	3Q
0	0	0
1	0	0
0	1	0
0	0	1

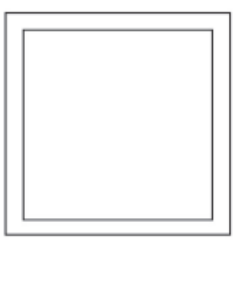
Runnable mode

Door frame

- Fixed on the cabinet door for sealing , protection level reaches IP40
- Beautiful and practical
- There are two types: drawer-type door frame and fixed door frame (both with a thickness of 10mm)



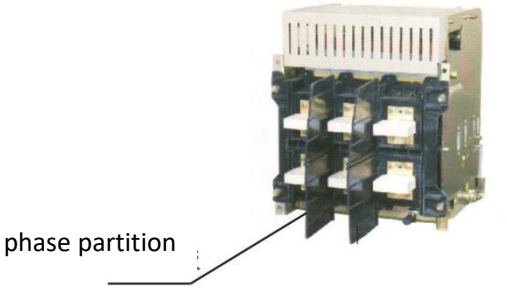
Drawer type,



Fixed type

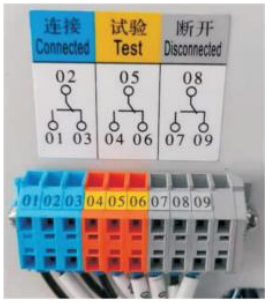
Phase partition

Phase partitions are used to improve the insulation capacity between the busbars of each pole connection and can be configured by the user when needed .



Three-position electrical signal

- Used for outputting electrical status signals when the drawer-type circuit breaker body and the drawer seat are in the "separated", "test" and "connected" positions respectively.
- Wiring is on the side of the drawer seat



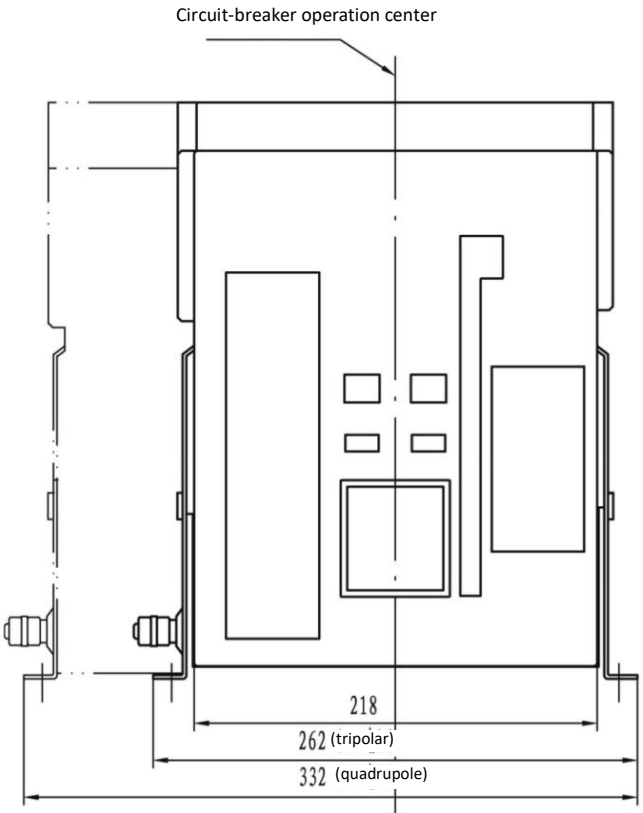
Protection parameter factory setting value

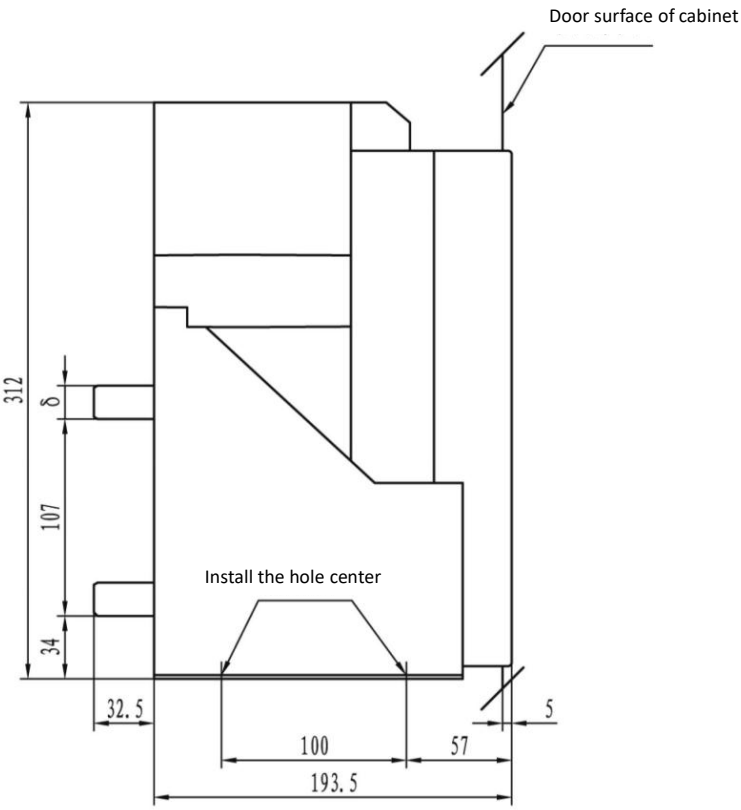
If the user has no special requirements for the overcurrent protection function of the circuit breaker controller, our company will set it according to the "factory setting value of the circuit breaker controller". If you have special requirements, please indicate them in the "order form".

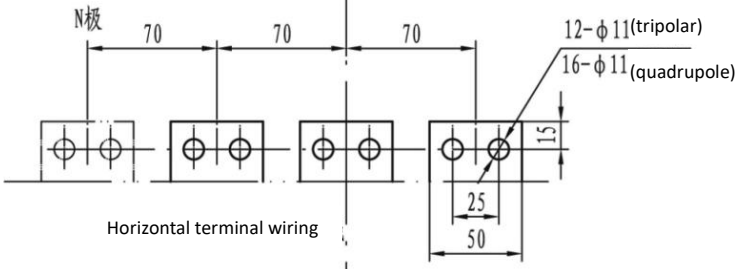
Overload long delay	Current setting value I_{r1}	In	
	Action time setting value t_L	480s	
Short circuit short delay	Current setting value I_{r2}	6I	
	Action time setting value t_S	0.4s	
Short circuit instant	Current setting value I_{r3}	15In≤12kA	In=200A~1600A
		12In≤28kA	In=2000A~3200A
		8In≤30kA	In=3600A~8000A
Ground Fault	Current setting value I_{r4}	0.8In	≥1200A
	Action time setting value t_G	0.2s	
Load monitoring Ic1	Current setting value	In	
Load monitoring Ic2	Current setting value	In	

Shape and installation dimensions

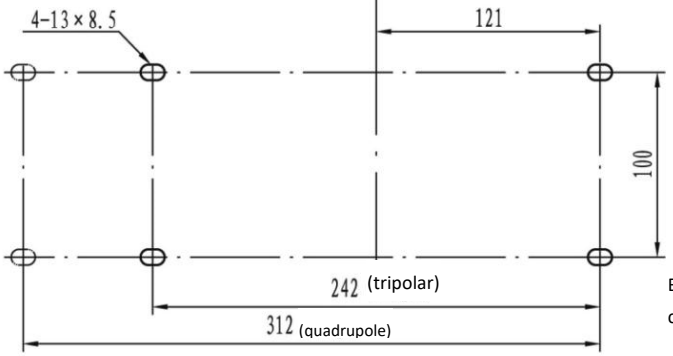
SAX1600/200~1600A fixed type (three or four poles)



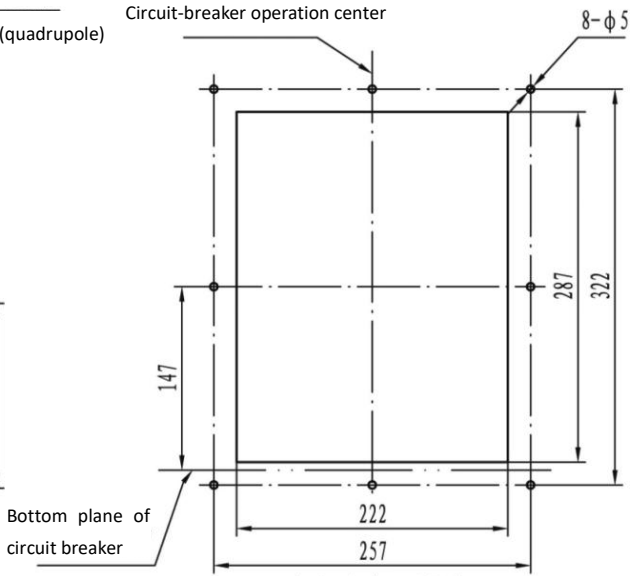




Horizontal terminal wiring



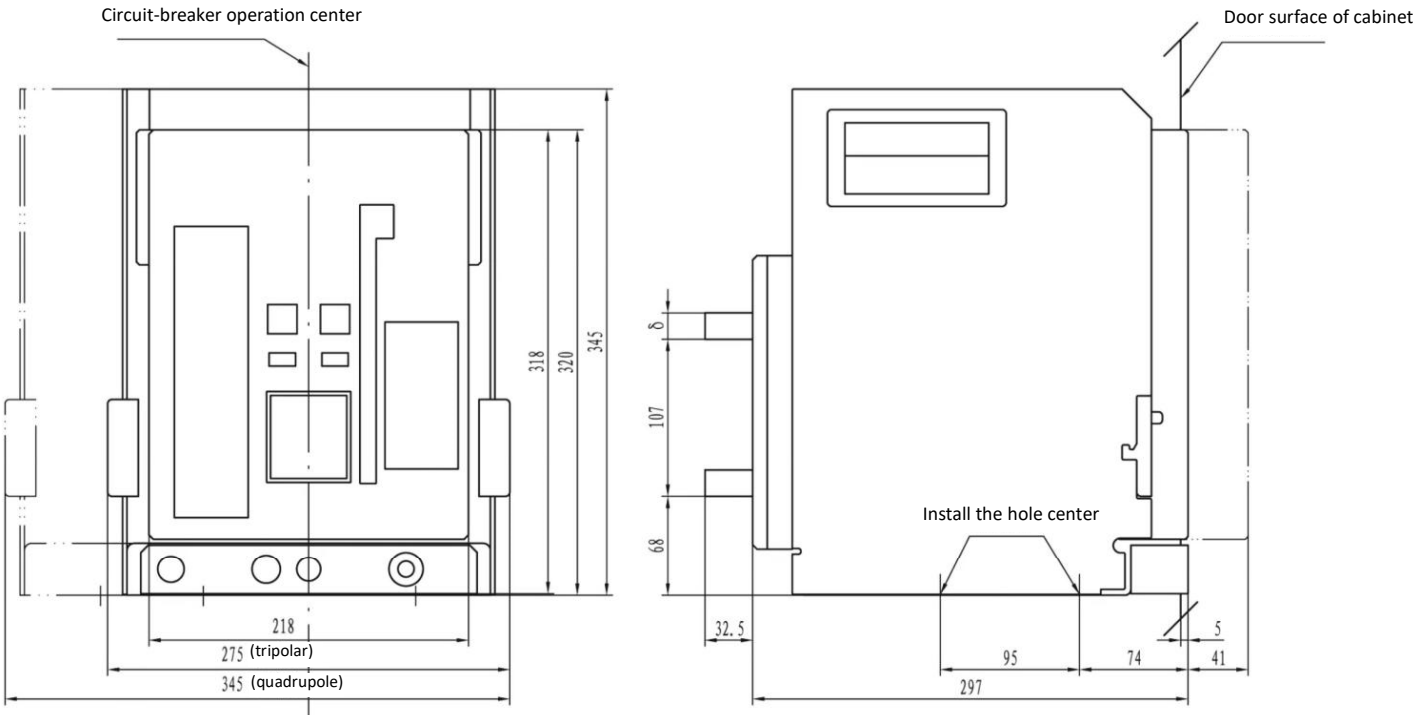
Breaker installation size

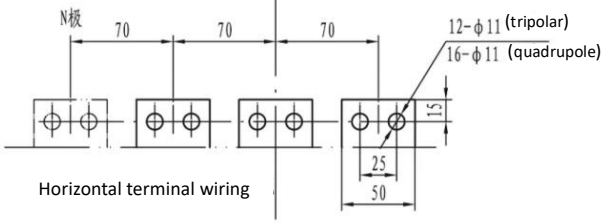


Circuit breaker door frame opening size

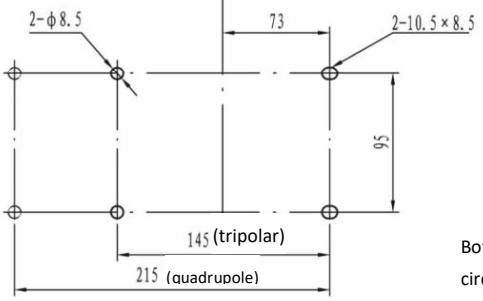
In (A)	δ
200A~1000A	10
1250A、1600A	18

SAX1600/200~1600A drawer type (three, four poles)

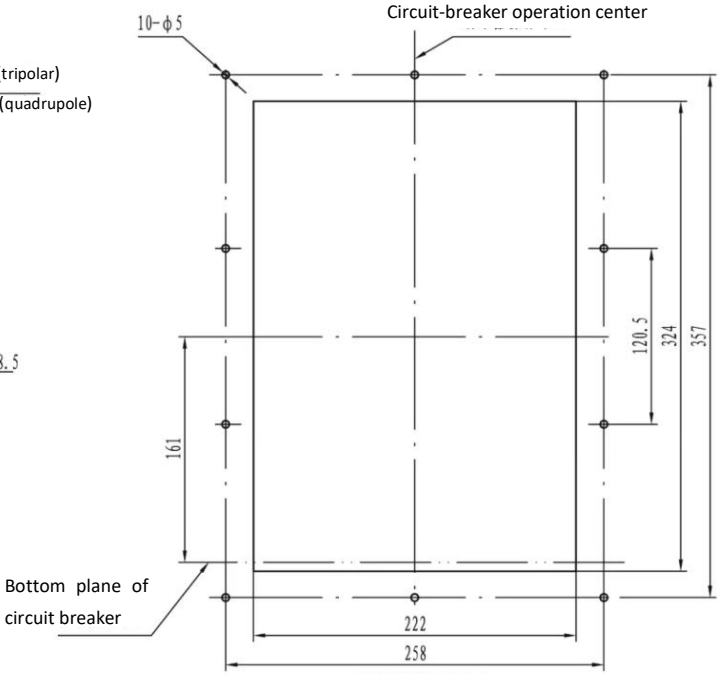




Horizontal terminal wiring



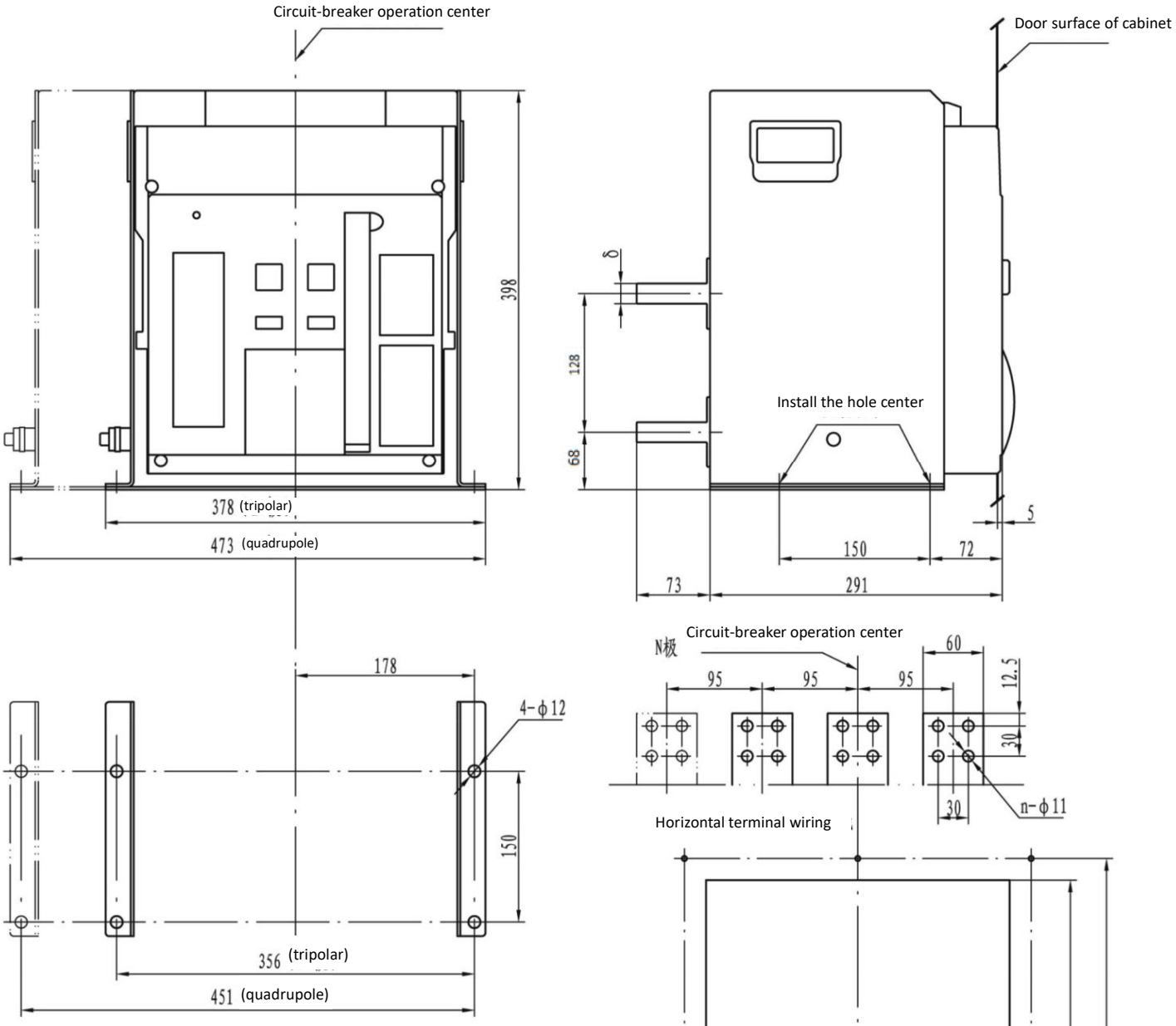
Breaker installation size



Circuit breaker door frame opening size

In (A)	δ
200A~1000A	10
1250A、1600A	18

SAX 2500 / 630 ~ 2500 A fixed type (three, four poles)

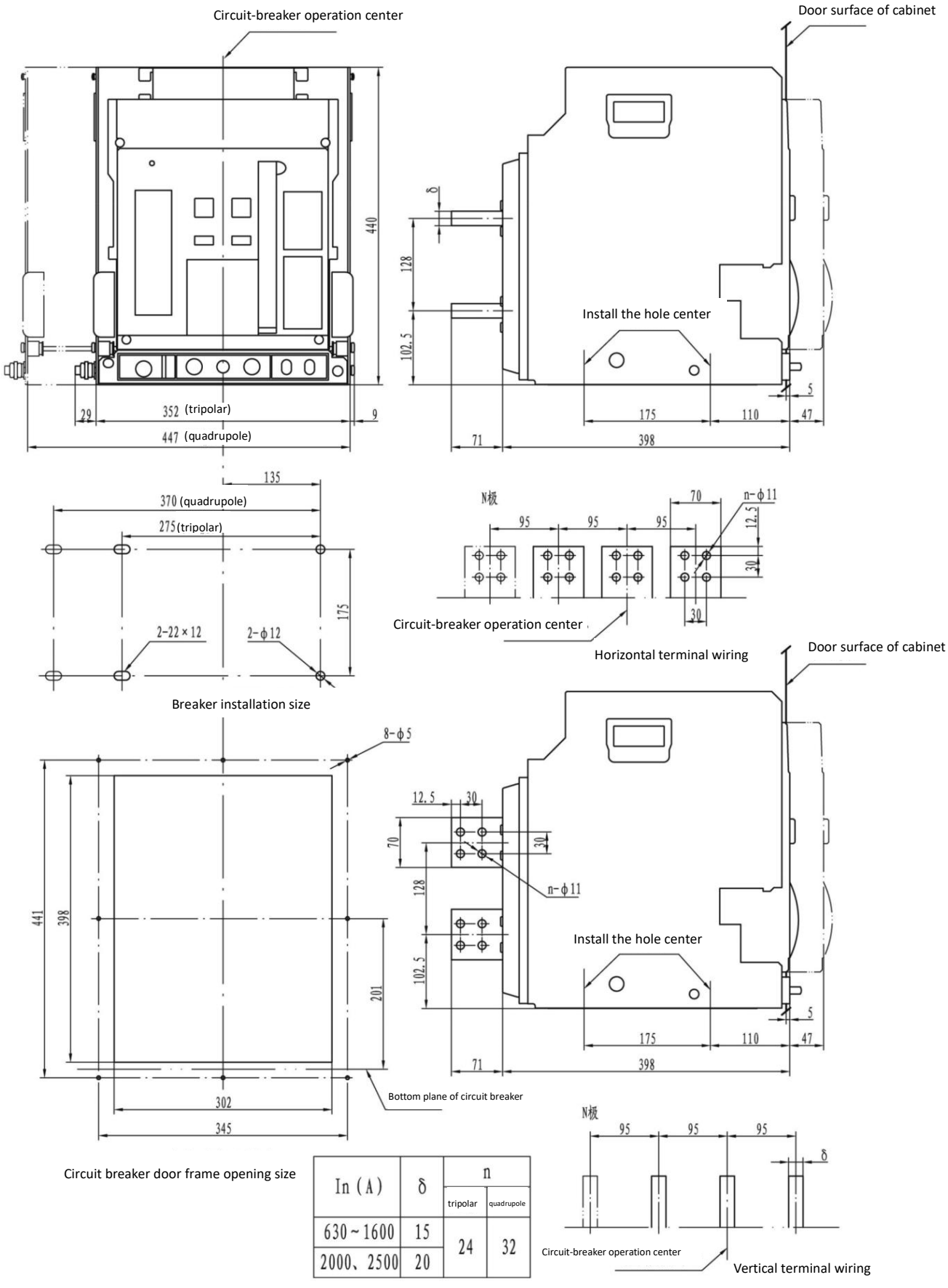


Breaker installation size

Circuit breaker door frame opening size

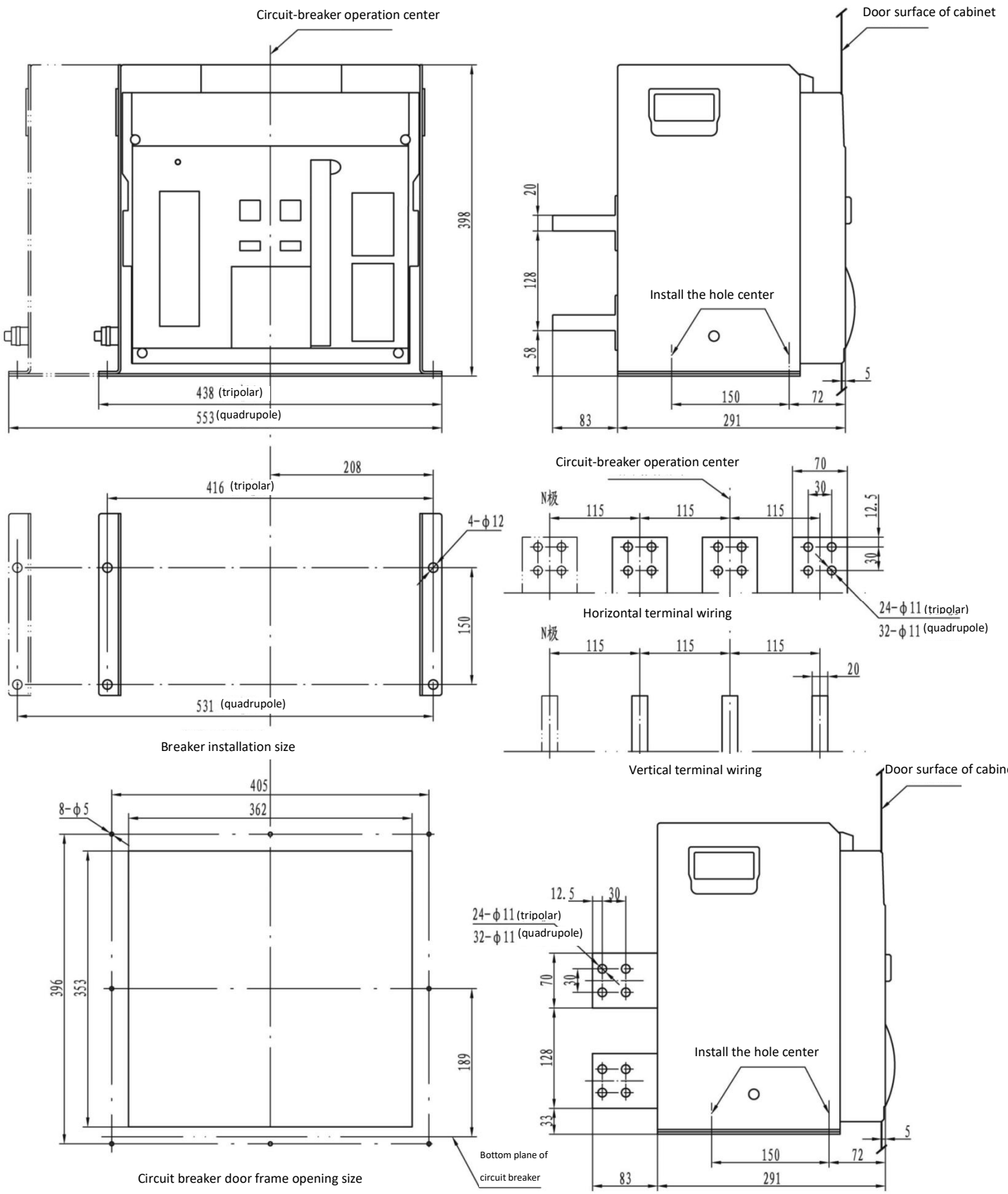
In (A)	δ (mm)	n	
		tripolar	quadrupol
630~1600	15	24	32
2000、2500	20		

SAX2500/630~2500A drawer type (three or four poles)

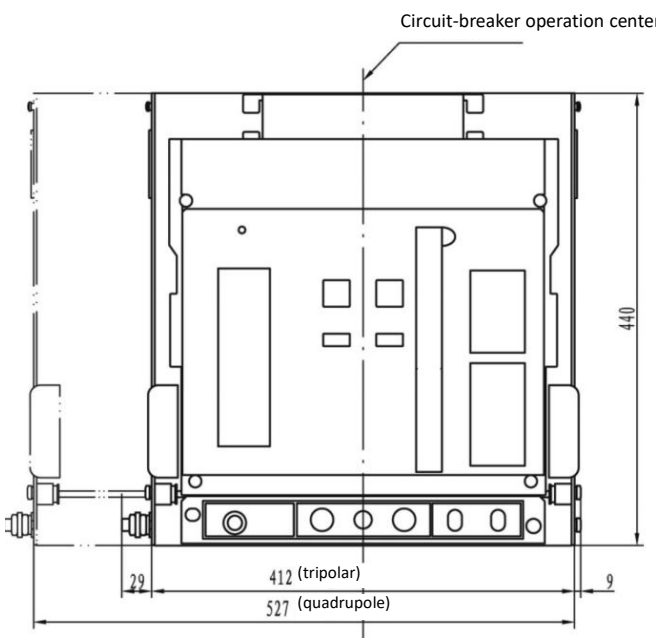


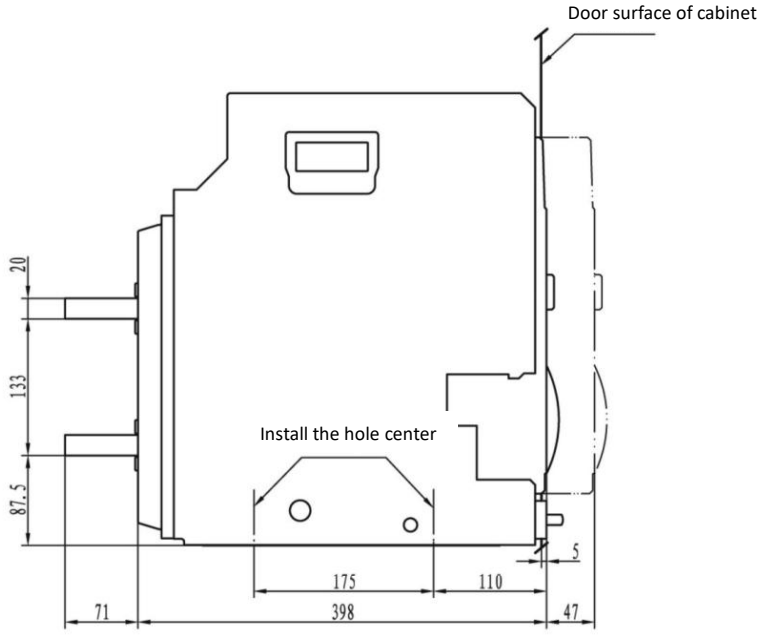
In (A)	δ	n	
		tripolar	quadrupole
630~1600	15	24	32
2000、2500	20		

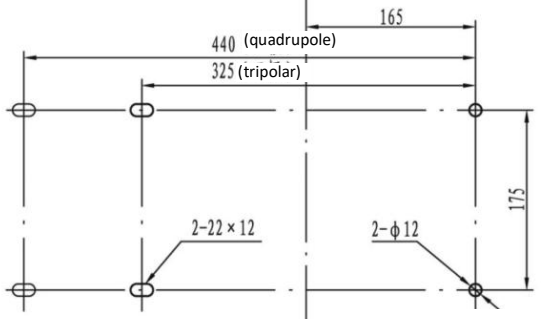
SAX 4000 / 1000 ~ 2500 A fixed type (three, four poles)



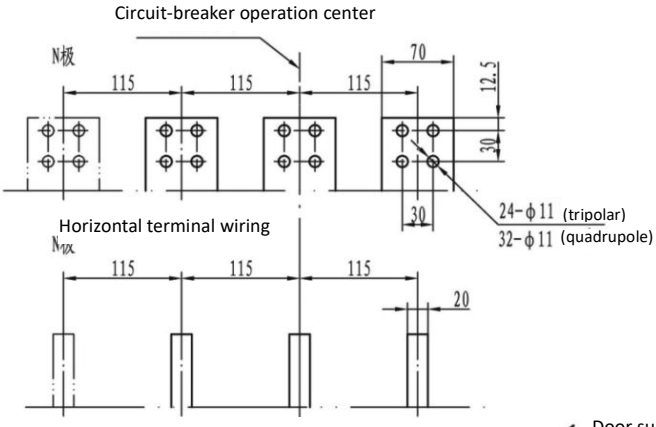
SAX4000/1000~2500A drawer type (three or four poles)

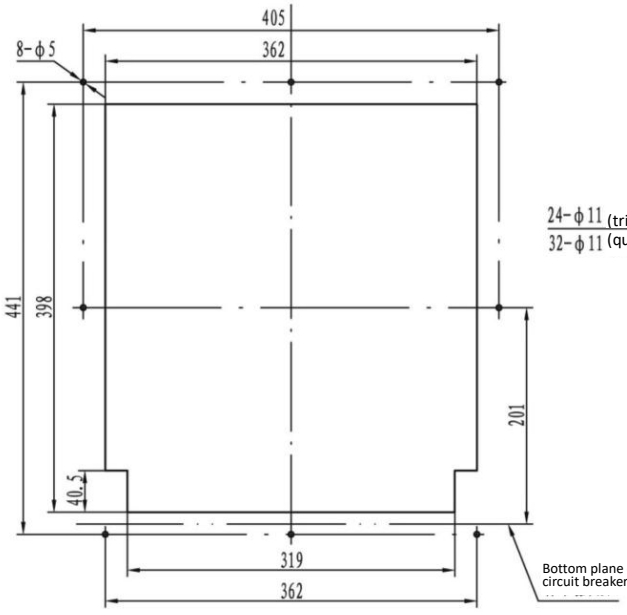




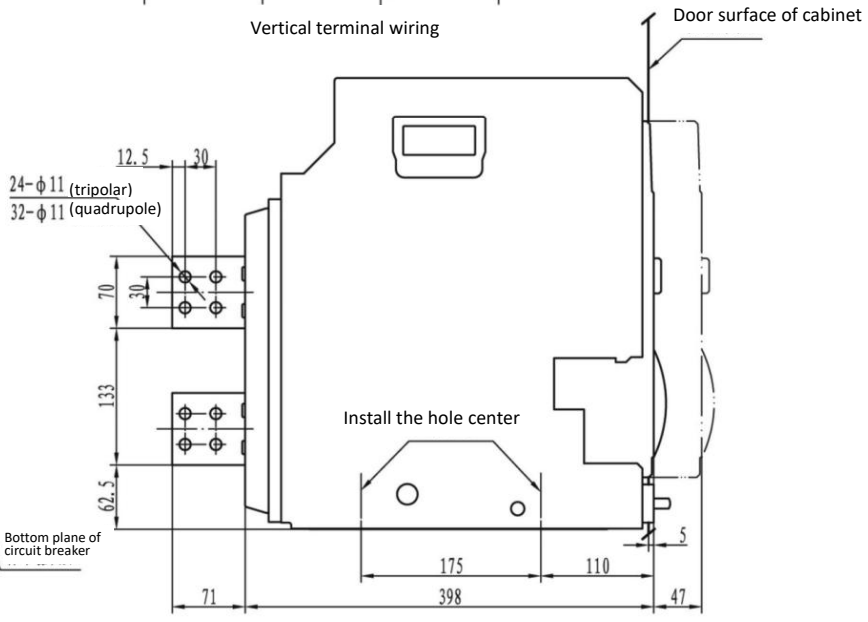


Breaker installation size

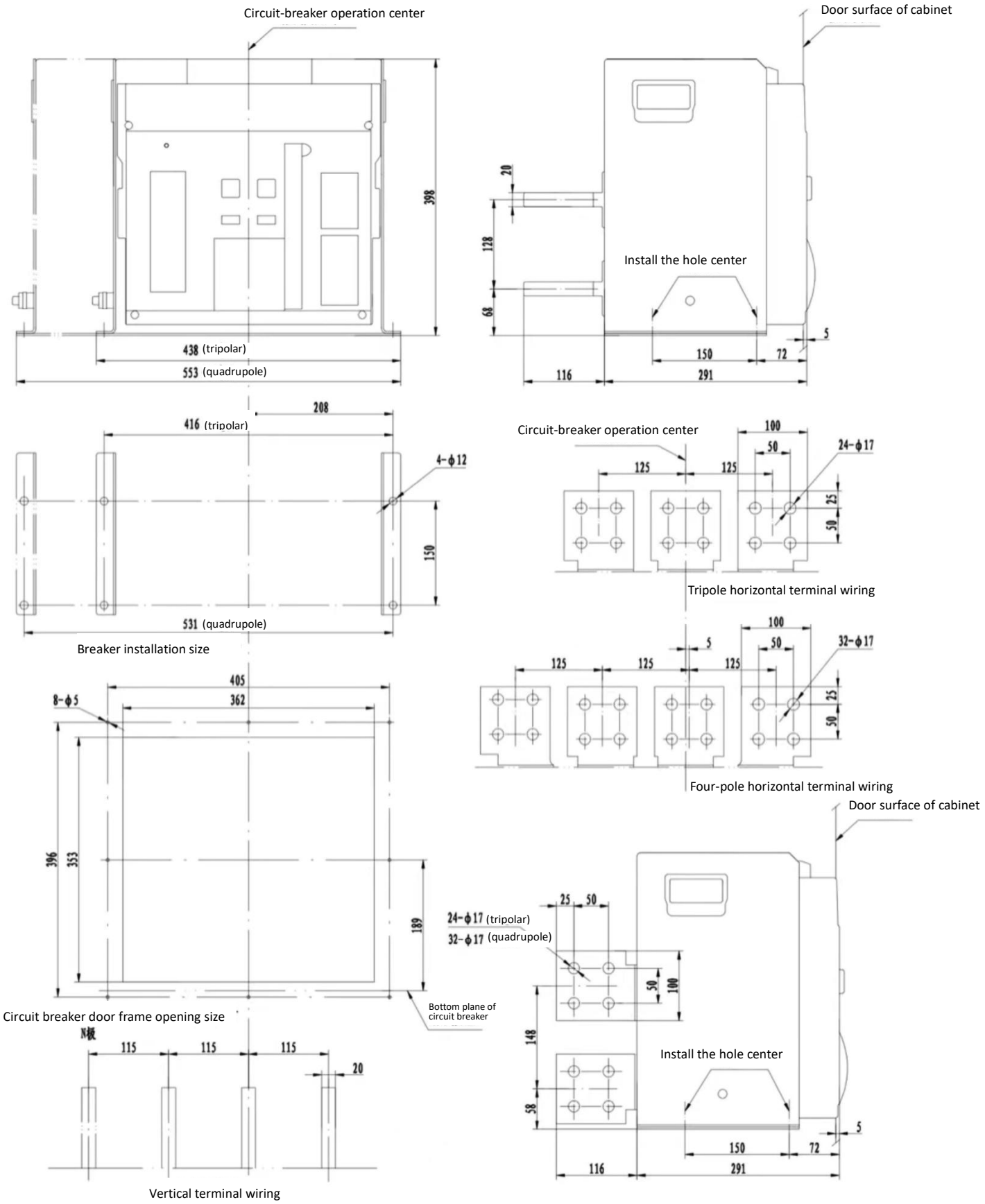




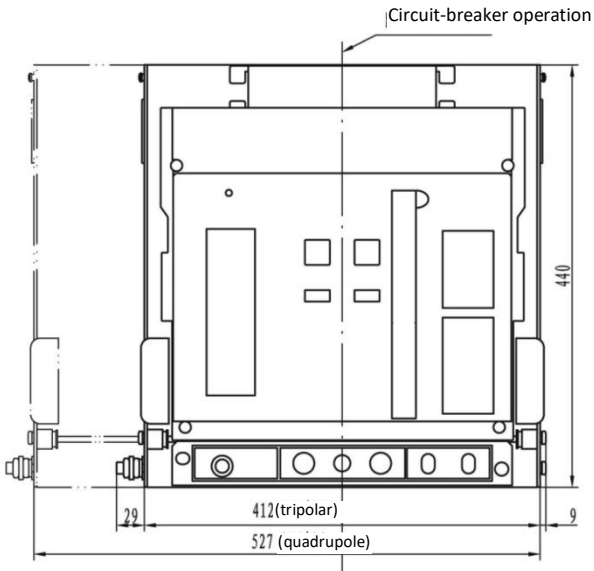
Circuit breaker door frame opening size

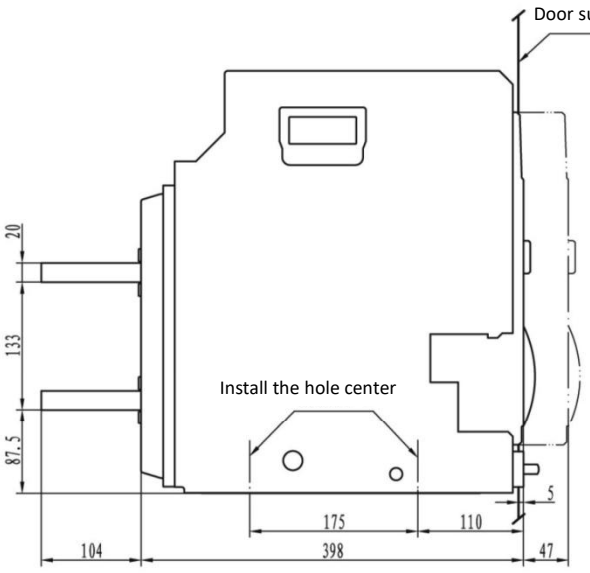


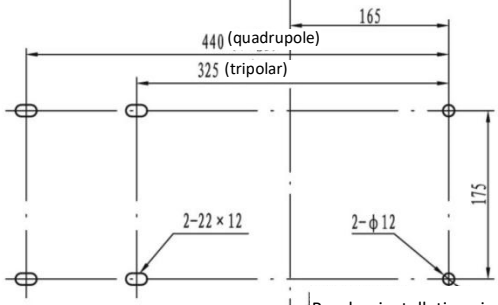
SAX 4000 / 2900 ~ 4000 A fixed type (three, four poles)



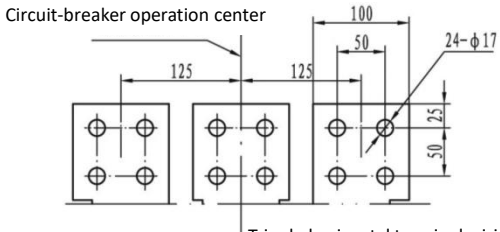
SAX4000/ 2900 ~ 4000 A drawer type (three, four poles)



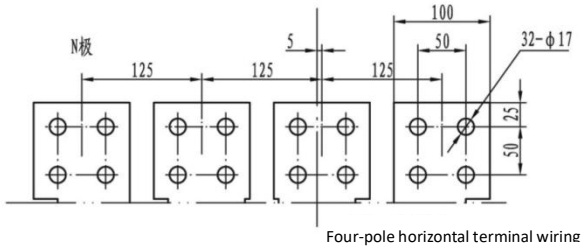




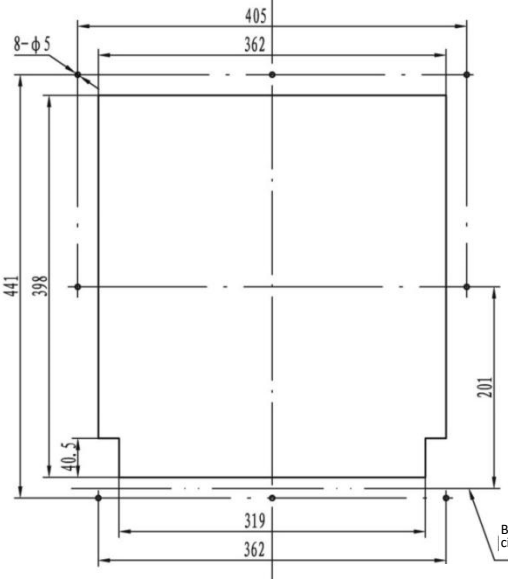
Breaker installation size



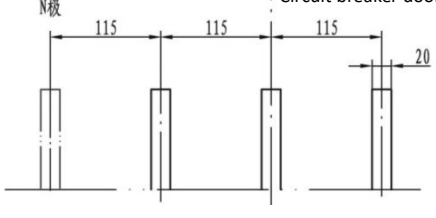
Tripole horizontal terminal wiring



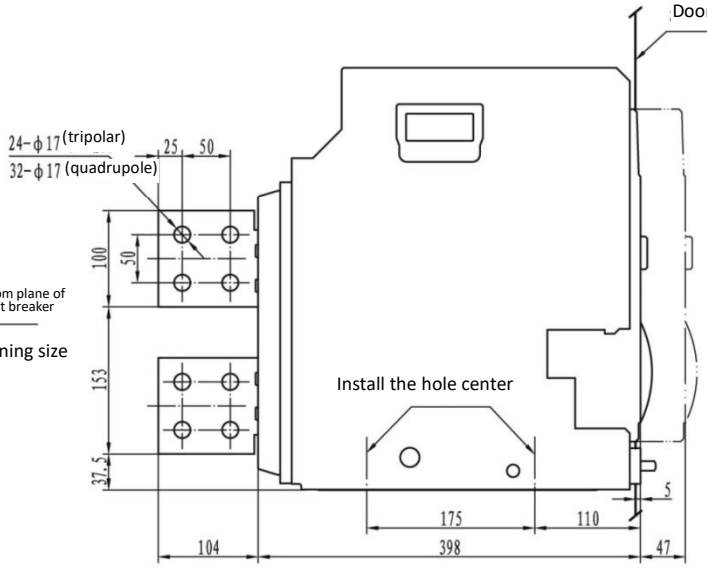
Four-pole horizontal terminal wiring



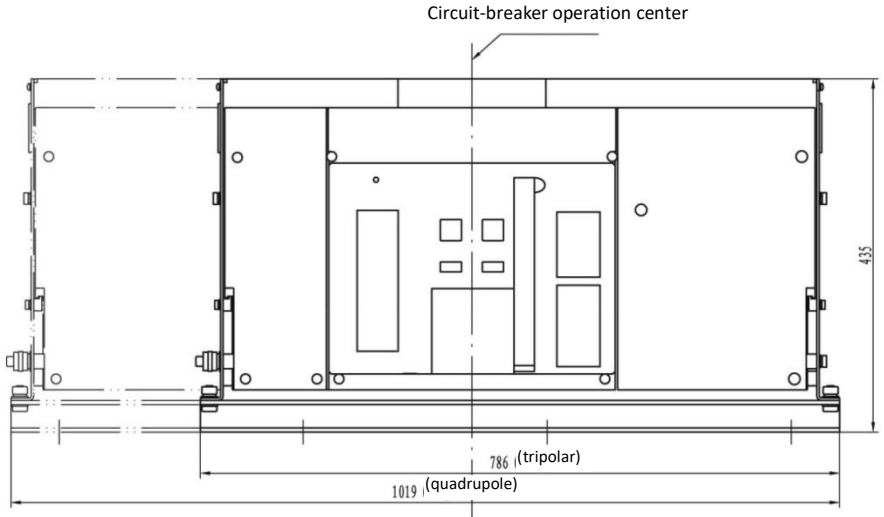
Circuit breaker door frame opening size

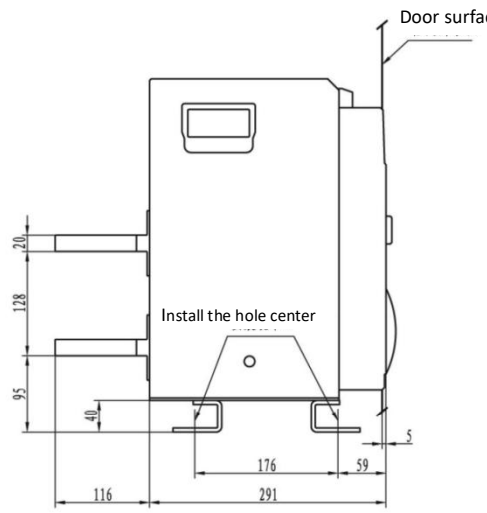


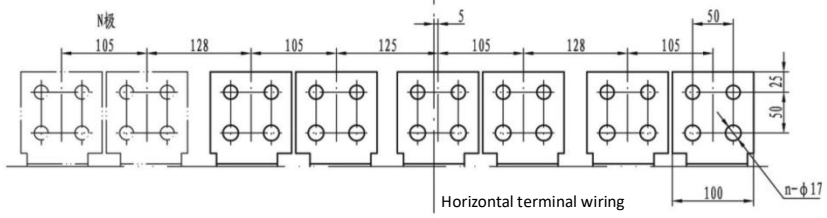
Vertical terminal wiring



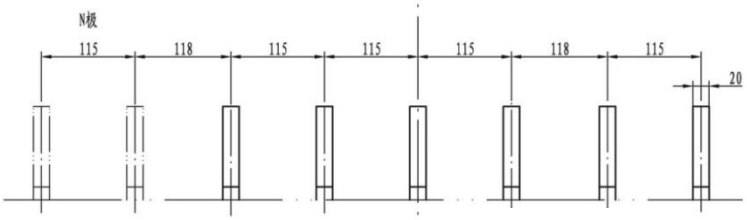
SAX 6300 / 4000 ~ 6300 A fixed type (three, four poles)



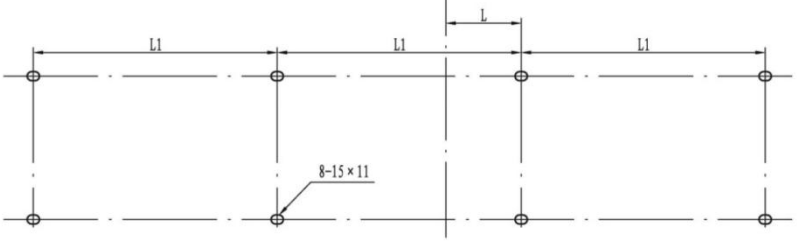




Horizontal terminal wiring

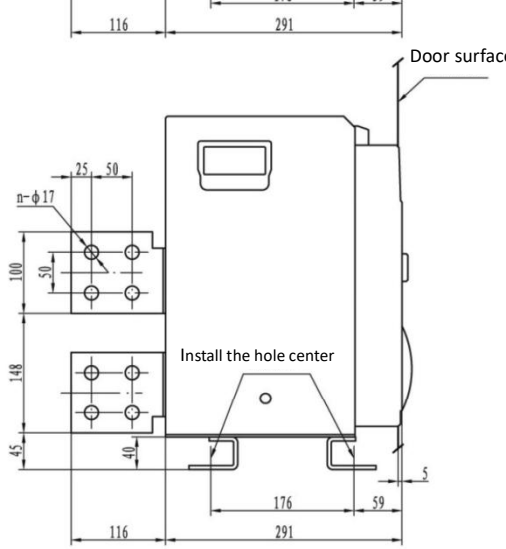


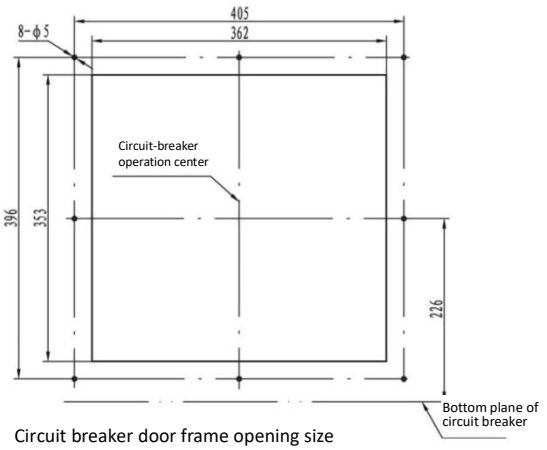
Vertical terminal wiring



Breaker installation size

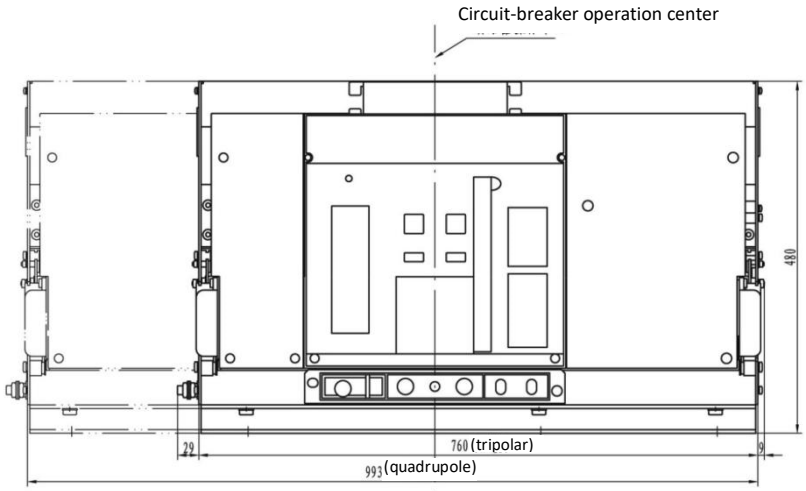
Norms	L	L1	n
tripolar	179	240	48
quadrupole	92.5	300	64

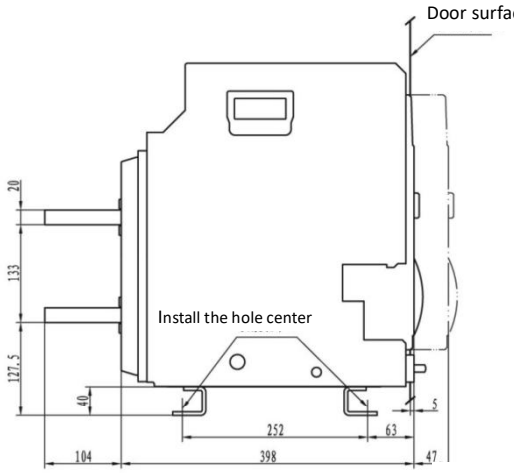


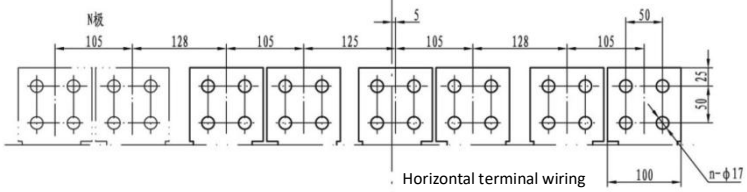


Circuit breaker door frame opening size

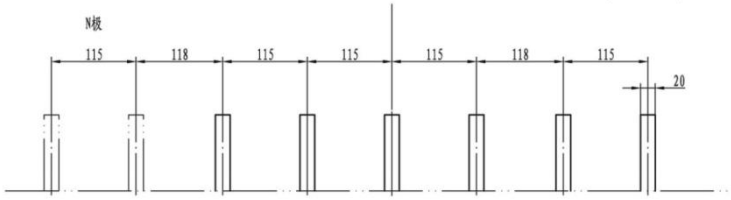
SAX 6300 / 4000 ~ 6300 A drawer type (three, four poles)



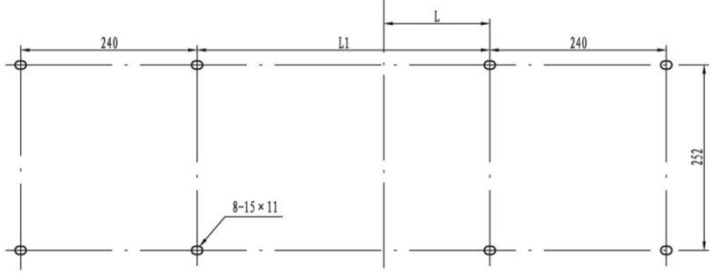




Horizontal terminal wiring

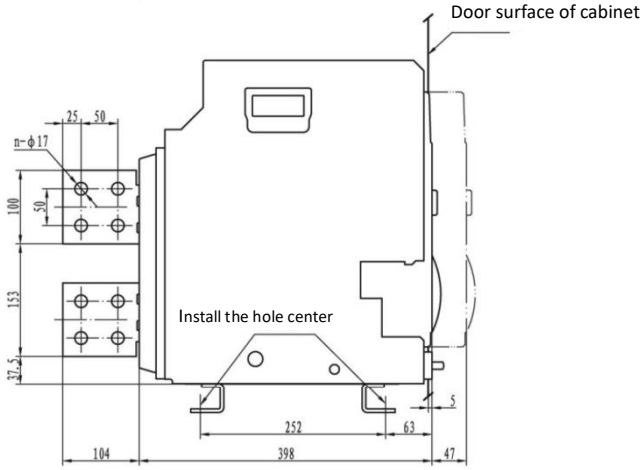


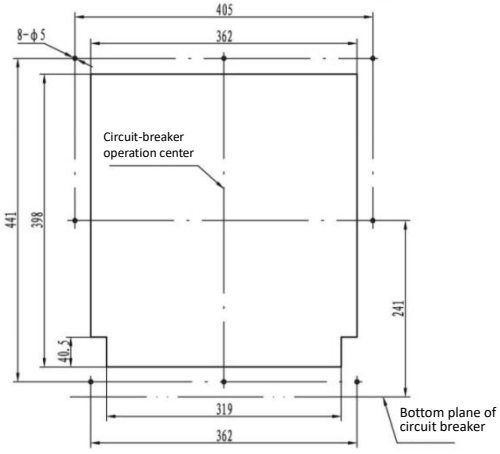
Vertical terminal wiring



Breaker installation size

Norms	L	L1	n
tripolar	154.5	197	48
quadrupole	144	398	64





Circuit breaker door frame opening size

Ordering Specifications

Order form

(Please fill ☐ in the number and tick the ☐)

User units		Order quantity		Contract No		Order Date	

□Fixed □Three-p rated working voltage Ue=☐ V

Model SAX ☐

□Drawer type □Four-pole rated working current In= ☐ A

Break road Device control system Device	Type selection		□3M type	□3H type
	base Book achievement able	Overload long delay protection Short circuit short delay protection Short circuit instantaneous protection Ground fault protection I_{r1}☐A t_L☐s I_{r2}☐A ts☐s I_{r3}☐A I_{r4}☐A t_G☐s		
		Various status indication and numerical display functions , ammeter function , fault memory function , thermal memory function , test function , MCR function		
			Contact wear indication function , operation times indication function , Chinese human-machine interface , self-diagnosis function	
				Protocol ☐Modbus ☐Profibus□Devicenet Four remote functions ☐Telemetry ☐Telecommunication ☐Remote control ☐Remote adjustment
	increase select achievement able	☐Overload pre-alarm function ☐Long delay action alarm function ☐Short delay action alarm function ☐Instantaneous action alarm function ☐Ground fault alarm function ☐OCR fault trip alarm function Function of☐terminals 5 and 6 Function of☐terminals 7 and 8 Function of☐terminals 9 and 10 Function of☐terminals 11 and 12 (You can only select 1 to 4 of the above functions when ordering)	☐Leakage protection ☐☐ Phase voltage line sampling input (voltmeter function) ☐ Menu Function ☐ Harmonic table function ☐Signal unit □4D0 □3D0+1DI □2D0+2DI Function of☐terminals 17 and 18 Function of☐terminals 19 and 20 Function of☐terminals 21 and 22 Function of☐terminals 23 and 24 Load monitoring ☐ Method 1 ☐ Method 2	
	Power supply voltage ☐AC400V ☐AC230V ☐DC220V ☐DC110V ☐DC24V			
Essential appendix	Shunt release	☐AC400V ☐AC230V ☐DC220V ☐DC110V		
	Closing solenoid	☐AC400V ☐AC230V ☐DC220V ☐DC110V		
	Electric transmission mechanism	☐AC400V ☐AC230V ☐DC220V ☐DC110V		
	Auxiliary contact	With common point conversion four normally open four normally closed (special form when ordering)		
	Door frame			
increase select Attached Item	☐Undervoltage release	☐AC400V ☐AC230V ☐Instantaneous ☐Delay ☐ s		
	☐Mechanical interlock	☐ Circuit breaker cable interlock ☐ Circuit breaker lever interlock		
	☐ "Open gate" locking device	☐ Lock ☐key		
	☐ Phase partition			
	☐Drawer type three-position electrical signal			
	☐External N mutual inductor			
wiring Way	☐Horizontal terminal wiring ☐Vertical terminal wiring			
Remark				