

CHAC

CQW2 Series Air Circuit Breaker

PRODUCT CATALOG



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CQW2 Series Air Circuit Breaker



Product Features

- Rated current from 200A to 6300A, suitable for AC 400V/690V, 50Hz distribution networks.
- Provides comprehensive protection: overload, short-circuit, undervoltage, and earth fault protection, with isolation functionality.
- High breaking capacity (Icu up to 120kA at AC415V) and short-circuit withstand capability.
- Modular and compact design supports both fixed and withdrawable installation.
- Intelligent controller options (L/M/H-type) with precise selective protection, communication support (e.g., Profibus-DP), and remote monitoring capabilities.
- Complies with IEC 60947-2 and GB/T 14048 standards.

Operating & Installation Conditions

- Ambient temperature: -5°C to +40°C (average ≤ +35°C within 24 hours).
- Altitude: ≤ 2000 m (derating required above 2000 m).
- Pollution degree: 3.
- Relative humidity: ≤ 50% at +40°C; higher humidity permissible at lower temperatures.
- Suitable for installation in non-explosive environments, free of conductive dust and corrosive substances.
- Must be mounted vertically (±5° tilt tolerance).
- Protection rating: IP30 (IP40 with door frame mounted).
- Installation category:
 - Main circuit & undervoltage release: IV
 - Auxiliary/control circuits: III
- Connection: Horizontal or vertical, based on model configuration.

Type designation



Code Position	Code Symbol	Meaning & Explanation
①	Enterprise Code	Zhejiang Chuangqi Electric Co., LTD.
②	Product Code	Universal Circuit Breaker
③	Design Serial Number	Design Serial Number
④	Frame Rating Code	1600, 2000, 3200, 4000, 6300
⑤	Number of Poles	3: 3-Pole, 4: 4-Pole
⑥	Mounting Type	D: Drawout Type, F: Fixed Type
⑦	Rated Current	200~6300A
⑧	Intelligent Controller	L: Electronic Type, M: Standard Type, H: Communication Type
⑨	Control Circuit Voltage	AC230V, AC400V, DC220V, DC110V

Technical Specifications

Parameter	CQW2-1600	CQW2-2000	CQW2-3200	
Rated Current In (A)	200, 400, 630, 800 1000, 1250, 1600	400, 630, 800, 1000 1250, 1600, 2000	2000, 2500, 2900, 3200	
N-pole Rated Current	100%In	100%In	100%In	
Rated Operational Voltage Ue	AC415V/690V	AC415V/690V	AC415V/690V	
Rated Frequency f	50/60Hz	50/60Hz	50/60Hz	
Rated Insulation Voltage Ui	1000V	1250V	1000V	
Rated Impulse Withstand Voltage Uimp	12kV	12kV	12kV	
Number of Poles	3, 4	3, 4	3, 4	
Total Break Time	≤30ms	≤30ms	≤30ms	
Closing Time	≤70ms	≤70ms	≤70ms	
Rated Ultimate Short-Circuit Breaking Capacity Icu (RMS)	AC415V	65kA	80kA	
	AC690V	42kA	65kA	
Rated Service Short-Circuit Breaking Capacity Ics (RMS)	AC415V	55kA	80kA	
	AC690V	35kA	65kA	
Rated Making Capacity Icm (Peak)	AC415V	143kA	176kA	
	AC690V	88kA	143kA	
Rated Short-Time Withstand Current Icw (RMS)	AC415V	42kA	60kA	
	AC690V	35kA	40kA	
Operating Performance (Number of operations)	Mechanical Life - Maintenance-Free	10000	15000	15000
	Mechanical Life - With Maintenance	10000	15000	15000
	Operating Frequency	20 operations/hour	20 operations/hour	20 operations/hour
	Electrical Life - AC415V	15000	15000	15000
	Electrical Life - AC690V	30000	30000	30000
	Operating Frequency	60 operations/hour	60 operations/hour	60 operations/hour
Control and Protection Unit	L Type (Electronic Type)			
	M Type (Standard Type)			
	H Type (Communication Type)			
Connection Method	Horizontal			
	Vertical			
Standard	IEC60947-2, GB/T14048.2			

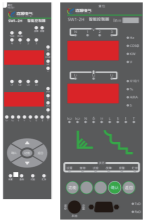


Technical Specifications

Parameter	CQW2-4000	CQW2-6300
Rated Current In (A)	3200、3600、4000	4000、5000、6300
N-pole Rated Current	100%In	100%In
Rated Operational Voltage Ue	AC415V/690V	AC415V/690V
Rated Frequency f	50/60Hz	50/60Hz
Rated Insulation Voltage Ui	1000V	1000V
Rated Impulse Withstand Voltage Uimp	12kV	12kV
Number of Poles	3、4	3、4
Total Break Time	≤30ms	≤30ms
Closing Time	≤70ms	≤70ms
Rated Ultimate Short-Circuit Breaking Capacity Icu (RMS)	AC415V	100kA
	AC690V	80kA
Rated Service Short-Circuit Breaking Capacity Ics (RMS)	AC415V	85kA
	AC690V	70kA
Rated Making Capacity Icm (Peak)	AC415V	220kA
	AC690V	176kA
Rated Short-Time Withstand Current Icw (RMS)	AC415V	85kA
	AC690V	70kA
Operating Performance (Number of operations)	Mechanical Life - Maintenance-Free	6000
	Mechanical Life - With Maintenance	3000
	Operating Frequency	20 operations/hour
	Electrical Life - AC415V	12500
	Electrical Life - AC690V	25000
Control and Protection Unit	Operating Frequency	60 operations/hour
	L Type (Electronic Type)	
	M Type (Standard Type)	
Connection Method	H Type (Communication Type)	
	Horizontal	
Standard	Vertical	
	IEC60947-2、GB/T14048.2	

Accessory List

Accessory Name	Parameters	
Standard Configuration	Closing Solenoid	AC230V, AC400V, DC220V, DC110V
	Shunt Release	AC230V, AC400V, DC220V, DC110V
	Energy Storage Motor	AC230V, AC400V, DC220V, DC110V
	Auxiliary Switch	4 changeover contacts (default), 5 changeover contacts, 4NO+4NC, 6NO+6NC
Optional Configuration	Others	Phase barrier, Door frame, Drawer base three-position lock
	Undervoltage Release	AC230V, AC400V Instantaneous, Delayed: 0.5s, 1s, 3s, 5s
	Trip Locking Device	1 lock + 1 key, 2 locks + 1 key, 3 locks + 2 keys, 6NO+6NC
	Mechanical Interlock	For 2 circuit breakers: Linkage interlock (vertical), Cable interlock For 3 circuit breakers: Linkage interlock (vertical), Cable interlock
	Others	Residual Current Transformer, External Neutral Current Transformer, Relay Module Communication Module (Profibus-DP), Power Module, Wireless Remote Control Module

Intelligent Controller


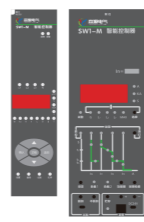

Parameter	CQW2-L	CQW2-M	CQW2-2M
			
Basic Functions	Overload long-time delay protection; Short-time delay short-circuit protection; Instantaneous short-circuit protection; Ground fault protection; Dial switch grading setting; Running current bar graph indication; Test function; Fault recording function; Thermal memory function	Overload long-time delay protection; Short-time delay short-circuit protection; Instantaneous short-circuit protection; Ground fault protection (differential type); LED digital display; Key setting method; Ammeter function; Test function; Fault recording function; Thermal memory function	Overload long-time delay protection; Short-time delay short-circuit protection; Instantaneous short-circuit protection; Ground fault protection (differential type); LED digital display; Key setting method; Ammeter function; Test function; Fault recording function; Thermal memory function; Clock function; Self-diagnosis function; Contact pattern and mechanical operation count
Optional Functions	MCR make-break and over-limit tripping; Contact output; 3P+N type neutral protection	MCR make-break and over-limit tripping; Contact output; Voltage function; Residual current type leakage protection; Clock function; Current unbalance protection; Remote reset function; Load monitoring function; 3P+N type neutral protection; Low voltage ride-through	MCR make-break and over-limit tripping; Contact output; Voltage function; Residual current type leakage protection; Current unbalance protection; Remote reset function; Load monitoring function; 3P+N type neutral protection; Low voltage ride-through
Optional Accessories	DC Power Module (DC110V/220V) External N-phase Transformer	DC Power Module (DC110V/220V) External N-phase Transformer Ground Current Transformer ZT100 Residual Current Transformer ZCT1 ST201 Relay Module ST-4 Power Module ST Handheld Programmer	DC Power Module (DC110V/220V) External N-phase Transformer Ground Current Transformer ZT100 Residual Current Transformer ZCT1 ST201 Relay Module ST-4 Power Module ST Handheld Programmer

Note: 1.Only one of the following functions can be selected: 3P+N neutral protection, ground current type leakage protection, or residual current leakage protection. The corresponding transformer accessory must be additionally selected.

2.Only one signal unit (S1, S2, or S3) can be selected.

3.For detailed instructions on the intelligent controller, please refer to the "SW1 Series Intelligent Controller User Manual".

Intelligent Controller

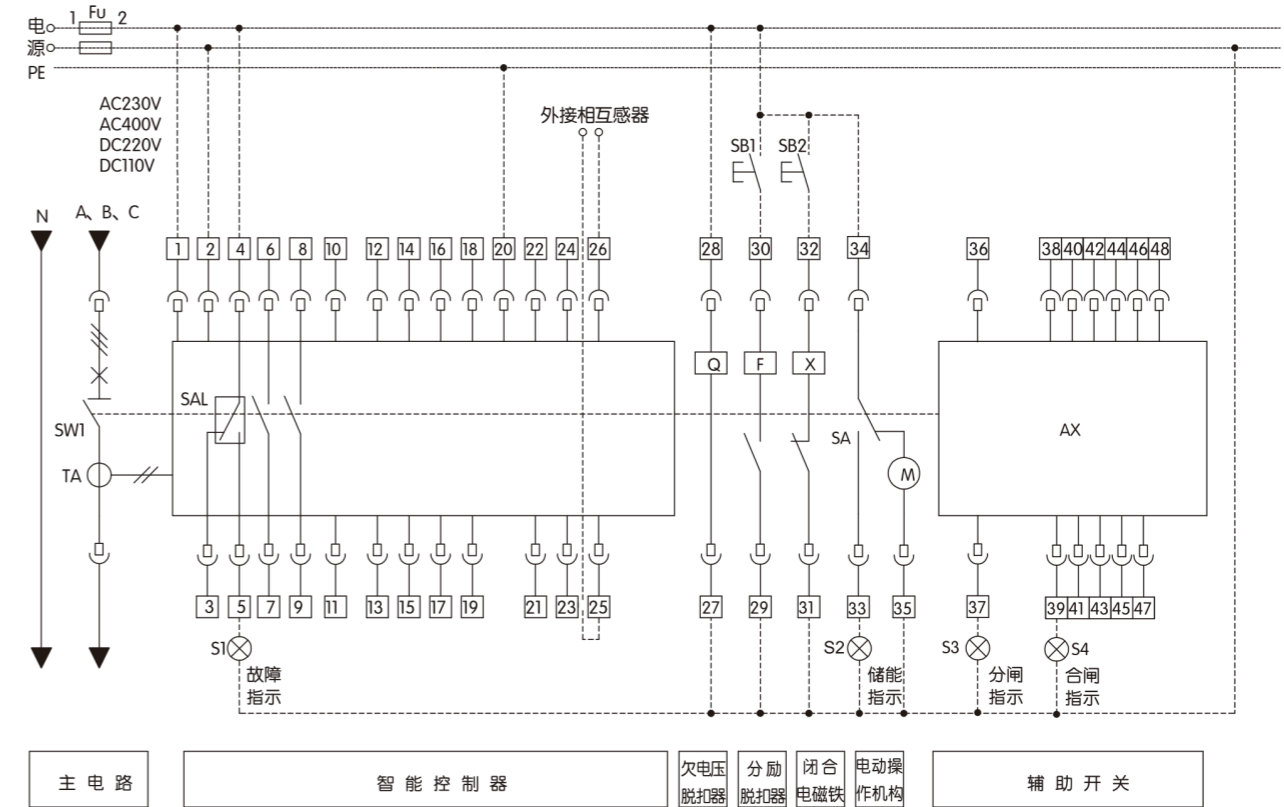
Parameter	CQW2-2H	CQW2-3M	CQW2-3H
			
Basic Functions	Overload long-time delay protection; Short-circuit short-time delay protection; Short-circuit instantaneous protection; Ground fault protection (differential type); LED digital tube display; Key setting method; Ammeter function; Fault memory function; Thermal memory function; Clock function; Self-diagnosis function; Contact pattern and mechanical operation count; Communication function	Load monitoring (current method 1); Multi-curve long-time delay protection; Multi-curve short-time inverse-time protection; Short-time definite-time protection; Instantaneous protection; Current unbalance (phase loss) protection; Ground fault alarm; Ground fault protection (default T-type); Neutral protection; Four-phase current and ground current measurement; Thermal capacity; Eight records of faults, alarms and status changes; Historical current peak; Contact equivalent; Operation count; Clock function; Self-diagnosis; Chinese graphical LCD display; LCD status indicator; Keyboard operation	Load monitoring (current method 1); Multi-curve long-time delay protection; Multi-curve short-time inverse-time protection; Short-time definite-time protection; Instantaneous protection; Current unbalance (phase loss) protection; Ground fault alarm; Ground fault protection (default T-type); Neutral protection; Four-phase current and ground current measurement; Thermal capacity; Eight records of faults, alarms and status changes; Historical current peak; Contact equivalent; Operation count; Clock function; Self-diagnosis; Chinese graphical LCD display; LCD status indicator; Keyboard operation; Communication function
Optional Functions	MCR make-break and over-limit tripping; Contact output; Voltage function; Residual current type leakage protection; Clock function; Current unbalance protection; Remote reset function; Load monitoring function; 3P+N type neutral protection; Low voltage ride-through	Function Table: D, U, UD, P, PD, H Select HD from the table (refer to function table description) Signal Unit: S1, S2, S3 Load Monitoring: Current Method 2 3P+N Type Neutral Protection Ground Current Type Leakage Protection Residual Current Type Leakage Protection Remote Reset Function	Function Table: D, U, UD, P, PD, H Select HD from the table (refer to function table description) Signal Unit: S1, S2, S3 Load Monitoring: Current Method 2 3P+N Type Neutral Protection Ground Current Type Leakage Protection Residual Current Type Leakage Protection Remote Reset Function Profibus-DP Communication Protocol Device-net Communication Protocol
Optional Accessories	DC Power Module (DC110V/220V) External N-phase Transformer Ground Current Transformer ZT100 Residual Current Transformer ZCT1 ST201 Relay Module ST-4 Power Module ST Handheld Programme	DC Power Module (DC110V/220V) External N-phase Transformer Ground Current Transformer ZT100 Residual Current Transformer ZCT1 ST201 Relay Module Selective Zone Interlocking Protection Device	DC Power Module (DC110V/220V) External N-phase Transformer Ground Current Transformer ZT100 Residual Current Transformer ZCT1 ST201 Relay Module Selective Zone Interlocking Protection Device

D	U	UD	P
Demand Measurement (Current)	Voltage Measurement	Voltage Measurement	Voltage Measurement
Demand Protection	Frequency Measurement	Frequency Measurement	Frequency Measurement
	Voltage Unbalance Rate Measurement	Voltage Unbalance Rate Measurement	Voltage Unbalance Rate Measurement
	Phase Sequence Detection	Phase Sequence Detection	Phase Sequence Detection
	Overvoltage Protection	Current Demand Measurement	Power Measurement
	Undervoltage Protection	Overvoltage Protection	Power Factor Measurement
	Voltage Unbalance Protection	Undervoltage Protection	Energy Measurement
	Overfrequency Protection	Voltage Unbalance Protection	Overvoltage Protection
	Underfrequency Protection	Overfrequency Protection	Undervoltage Protection
	Phase Sequence Protection	Underfrequency Protection	Voltage Unbalance Protection
		Phase Sequence Protection	Overfrequency Protection
		Demand Protection	Underfrequency Protection
			Phase Sequence Protection

PD	H	HD
Voltage Measurement	Voltage Measurement	Voltage Measurement
Frequency Measurement	Frequency Measurement	Frequency Measurement
Voltage Unbalance Rate Measurement	Voltage Unbalance Rate Measurement	Voltage Unbalance Rate Measurement
Phase Sequence Detection	Phase Sequence Detection	Phase Sequence Detection
Power Measurement	Power Measurement	Power Measurement
Power Factor Measurement	Power Factor Measurement	Power Factor Measurement
Energy Measurement	Energy Measurement	Energy Measurement
Demand Measurement (Current, Power)	Harmonic Measurement	Demand Measurement (Current, Power)
Overvoltage Protection	Undervoltage Protection	Undervoltage Protection
Undervoltage Protection	Voltage Unbalance Protection	Overvoltage Protection
Voltage Unbalance Protection	Overfrequency Protection	Undervoltage Protection
Overfrequency Protection	Underfrequency Protection	Voltage Unbalance Protection
Underfrequency Protection	Phase Sequence Protection	Overfrequency Protection
Phase Sequence Protection		Underfrequency Protection
		Phase Sequence Protection
		Reverse Power Protection

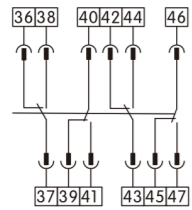
Secondary Circuit Wiring Diagram

Wiring diagram of secondary circuit for SW1-1600-6300 circuit breakers equipped with L/M type intelligent controllers (auxiliary switch default configuration: 4 changeover contacts)

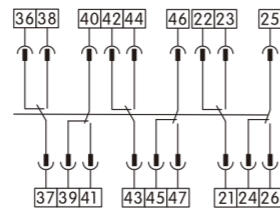


Terminal Number	Function Description	Symbol	Explanation	Remarks
1、2	Auxiliary power input: AC230V, AC400V, DC220V, DC110V	SW1	SW1 Universal Circuit Breaker	Customer self-provided
	For DC power: 1 is (+), 2 is (-)	S1-S4	Signal lamp	Customer self-provided
3、4、5	Fault trip auxiliary contact, contact capacity: AC250V, 3A	TA	Current transformer	
20	Grounding (PE)	SAL	Micro switch	Customer self-provided
27、28	Undervoltage release	SB1	Open button	Customer self-provided
29、30	Shunt release	SB2	Close button	
31、32	Closing electromagnet	x	Closing electromagnet	
33、34、35	Motor-operated mechanism (motor energy storage), 37connect green wire, 38 connect black wire, 39 connect red wire	F	Shunt release	
36-48	Auxiliary contact terminal	Q	Undervoltage release	
		M	Motor-operated mechanism	Customer self-provided
		SA	Travel switch of motor-operated mechanism	Customer self-provided
		Fu	Fuse	Customer self-provided
		PE	Grounding	
		N	Neutral line (N phase)	
		A, B, C	Phase line	
	For customer optional use of AX auxiliary switch form	AX	Auxiliary switch	

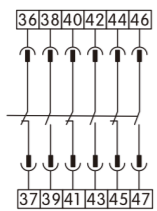
I: Four changeover contacts (default)



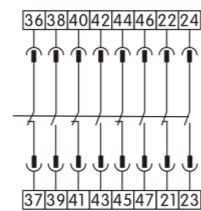
II: Six changeover contacts



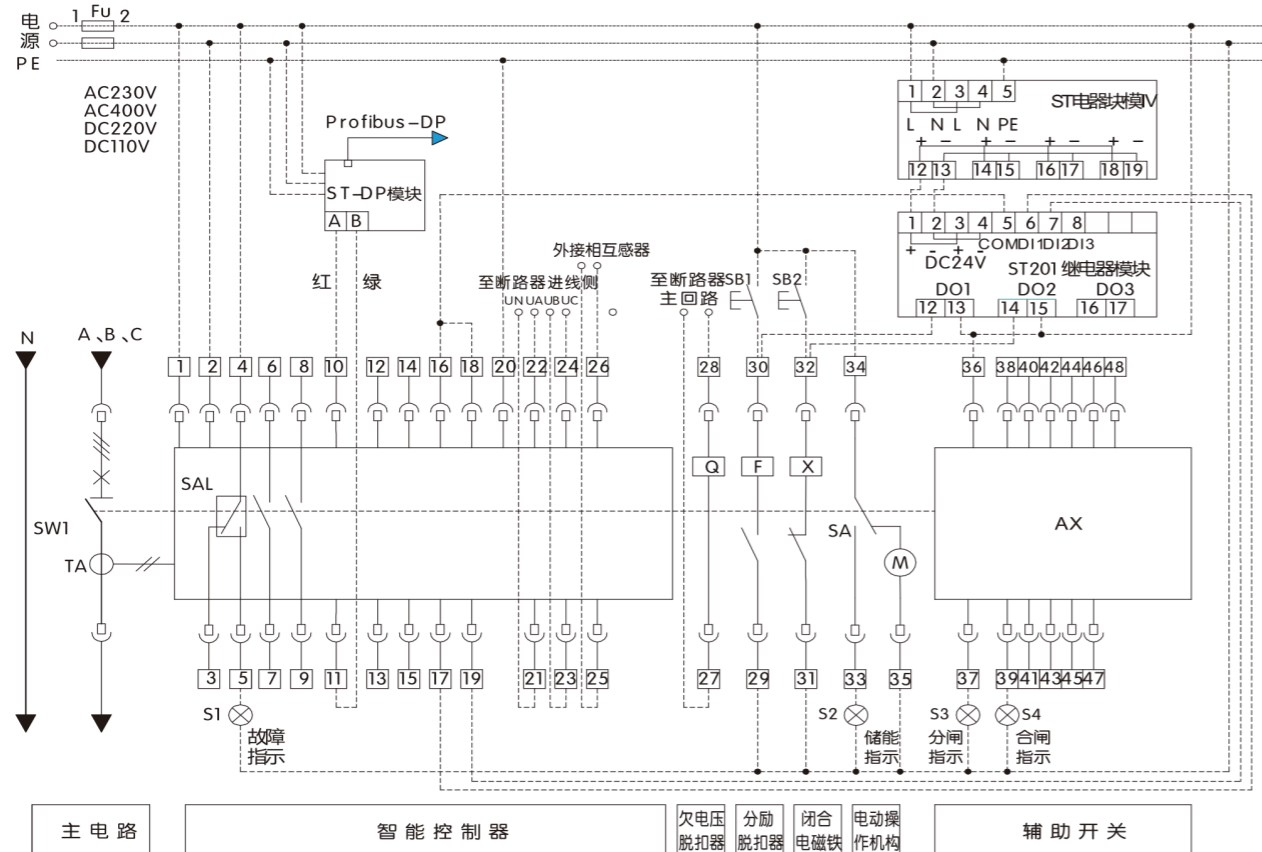
III: Three normally open and three normally closed contacts



IV: Four normally open and four normally closed contacts

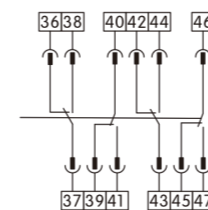


Wiring diagram of secondary circuit for SW1-1600-6300 circuit breakers equipped with H type intelligent controllers (auxiliary switch default configuration: 4 changeover contacts)

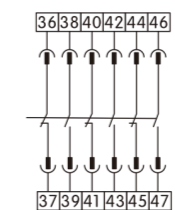


Terminal Number	Function Description	Symbol	Explanation	Remarks
1, 2	Auxiliary power input: AC230V, AC400V, DC220V, DC110V	SW1	SW1 Universal Circuit Breaker	Customer self-provided
3, 4, 5	For DC power: 1 is (+), 2 is (-)	S1-S4	Signal lamp	Customer self-provided
10, 11	Fault trip auxiliary contact, contact capacity: AC250V, 3A	TA	Current transformer	
12-15	Communication interface output, 10 is (+), 11 is (-)	SAL	Micro switch	Customer self-provided
14, 15	DO1, Programmable signal output, contact capacity: AC250V, 3A	SB1	Open button	Customer self-provided
16, 17	DO2, Programmable signal output, contact capacity: AC250V, 3A	SB2	Close button	Customer self-provided
18, 19	DO3, Trip signal output, contact capacity: AC250V, 3A	X	Closing electromagnet	
20	DO4, Closing signal output, contact capacity: AC250V, 3A	F	Shunt release	
21, 22, 23, 24	Grounding (PE)	Q	Undervoltage release	
25, 26	Voltage signal measurement, 21 connect N phase, 22 connect A phase, 23 connect B phase, 24 connect C phase	M	Motor-operated mechanism	
27, 28	External N-phase transformer input	SA	Travel switch of motor-operated mechanism	Customer self-provided
29, 30	Undervoltage release	Fu	Fuse	Customer self-provided
31, 32	Shunt release	PE	Grounding	
33, 34, 35	Closing electromagnet	N	Neutral line (N phase)	
36-48	Motor-operated mechanism (motor energy storage), 37 connect green wire, 38 connect black wire, 39 connect red wire	A, B, C	Phase line	
For customer optional use of AX auxiliary switch form	Auxiliary contact terminal	AX	Auxiliary switch	
		ST-DP Module	Required for Profibus-DP communication	
		ST-DP Module	Required for communication function	
		ST201 Relay Module	Required for communication function	

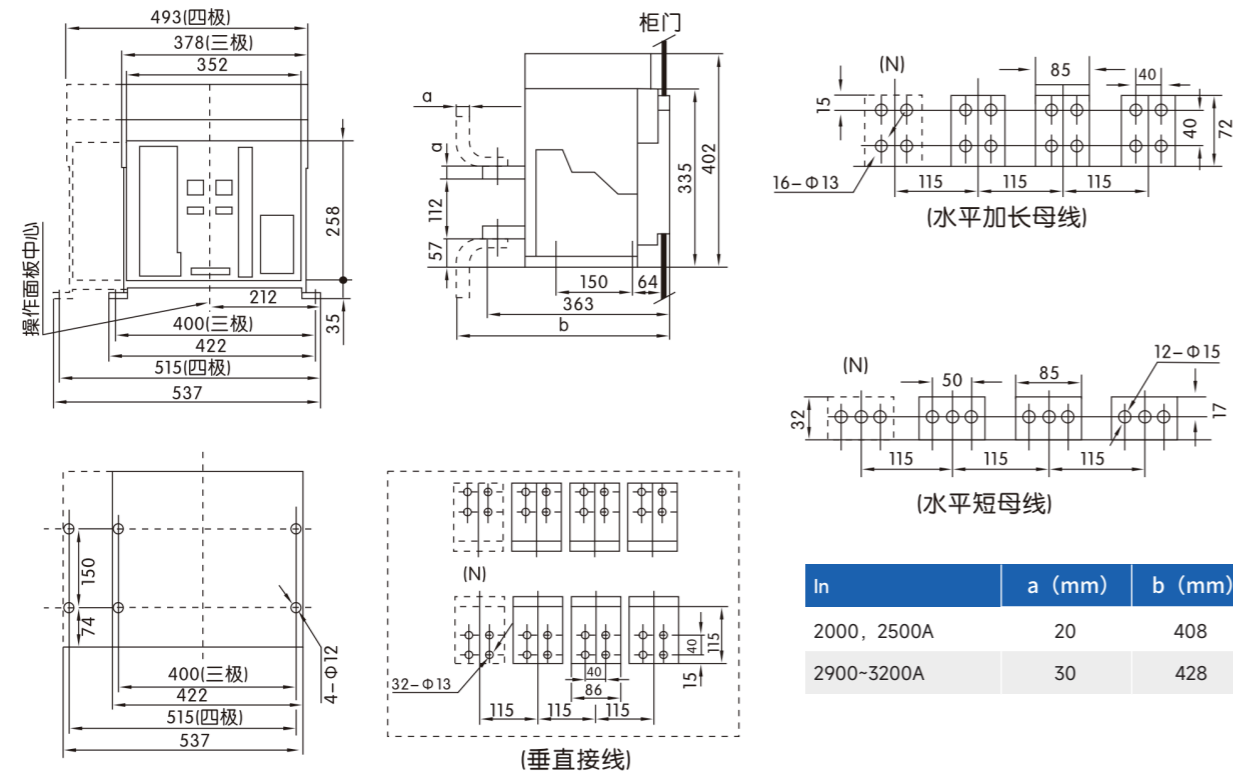
I: Four changeover contacts (default)



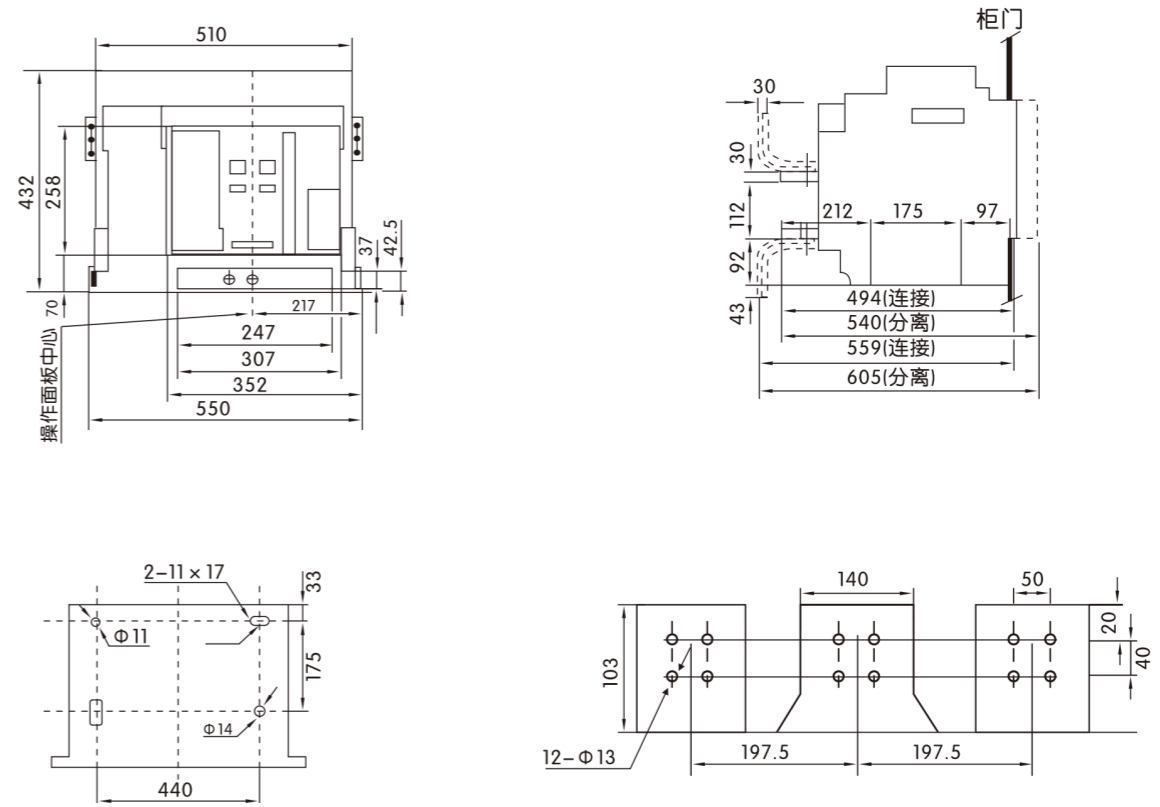
III: Three normally open and three normally closed contacts



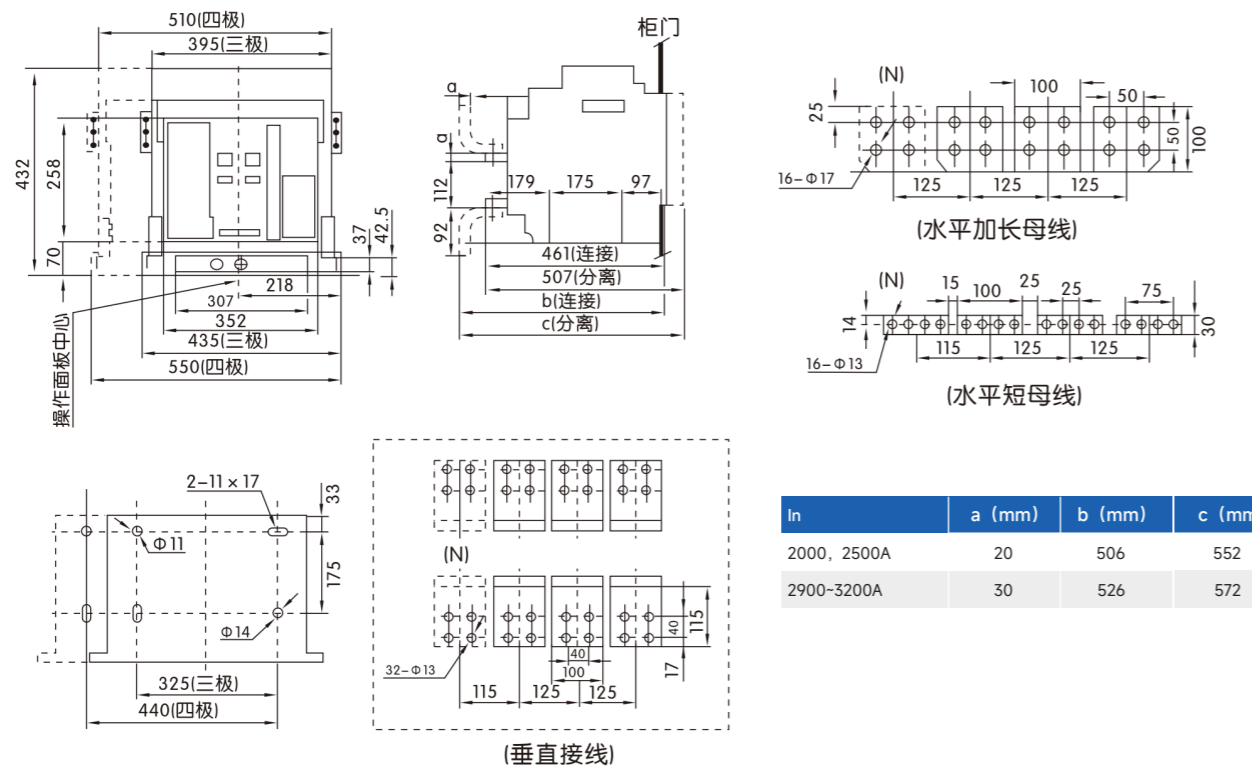
CQW2-1600 Series Fixed Type Overall Dimensions (Unit: mm)



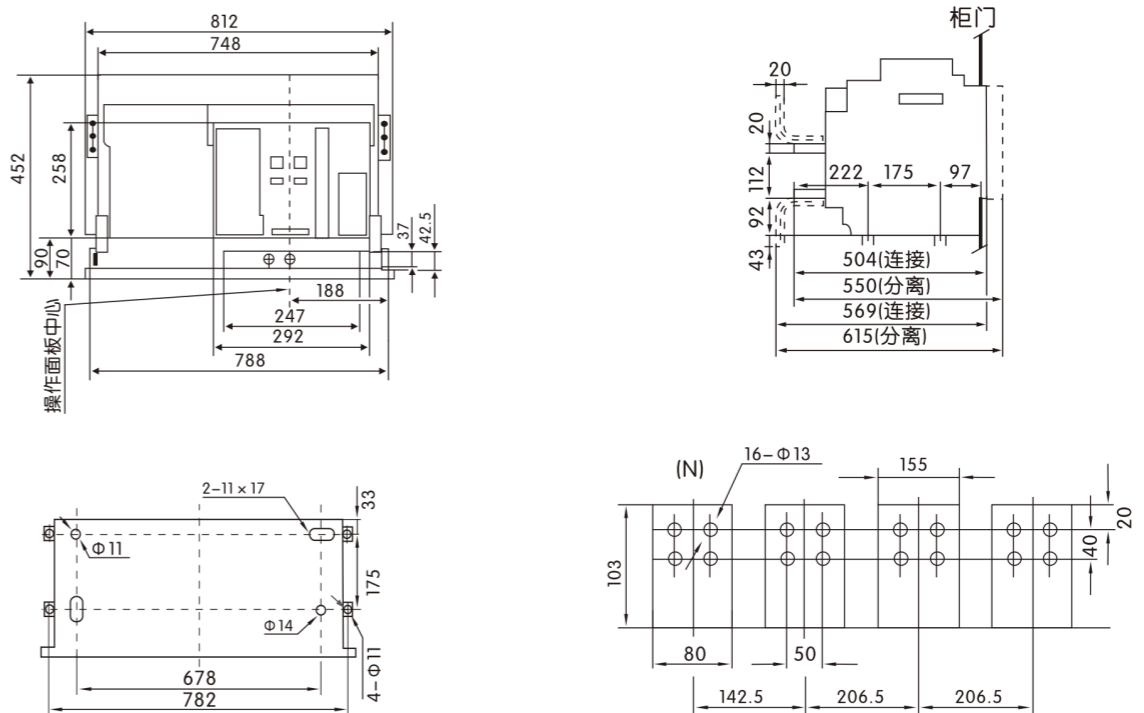
CQW2-4000 Series Drawout Type (3-Pole) Frame II Increased Capacity Type Overall Dimensions (Unit: mm)



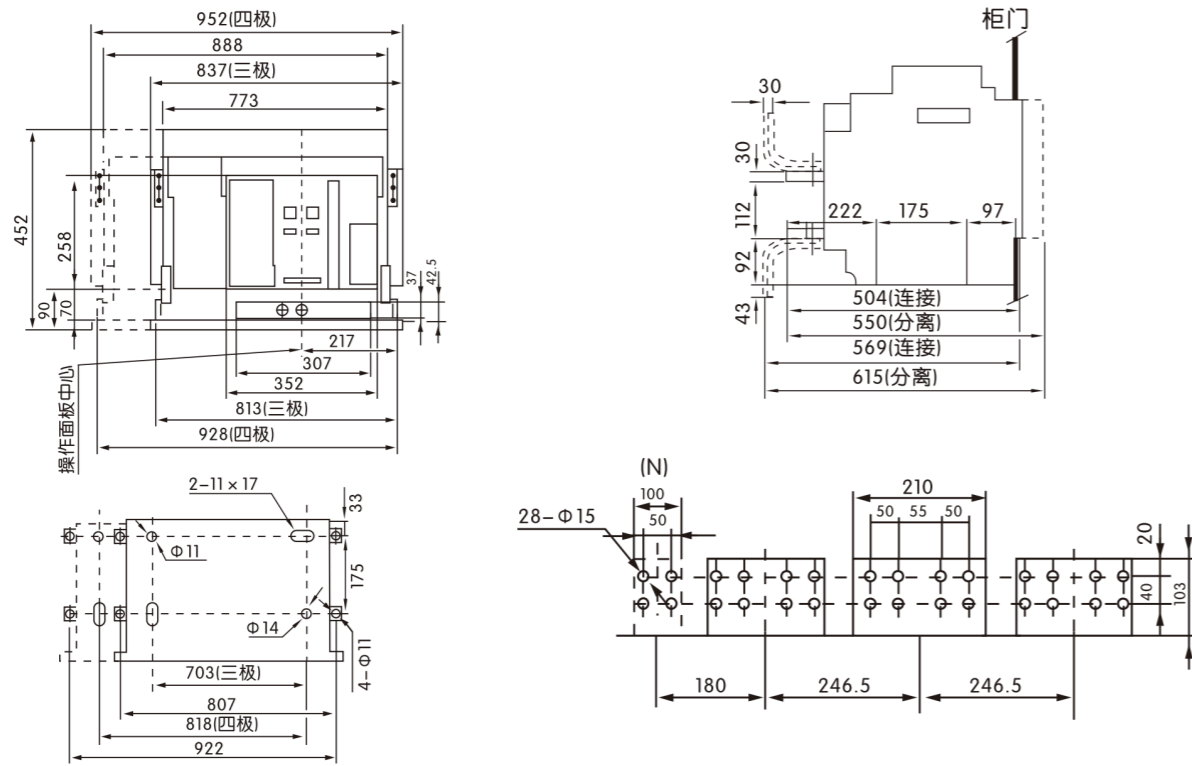
CQW2-1600 Series Drawout Type Installation Dimensions (Unit: mm)



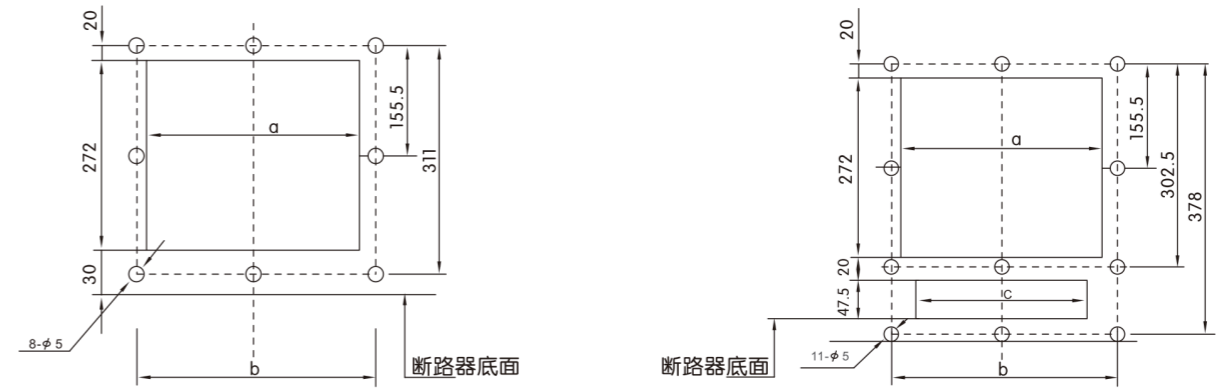
CQW2-4000 Series Drawout Type (4-Pole) Overall Dimensions (Unit: mm)



CQW2-6300 Series (In=5000A, 4000A) Drawout Type Overall Dimensions (Unit: mm)



CQW2 Series Enclosure Door Frame Outline and Installation Dimensions (Unit: mm)



Model number	a	b	c
CQW2-2000	304	345	263
CQW2-3200、4000/3P	366	405	325
CQW2-4000/4P	304	345	263
CQW2-6300	366	405	325

CQW2-6300 Series (In=6300A) Drawout Type (3-Pole) Overall Dimensions (Unit: mm)

