

Distribution Apparatus

Moulded case circuit breaker



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MCCB



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Earth Leakage
MCCB



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Series MCCB

Air circuit breaker



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YCW1-1000
(200-1000A)



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Distribution Apparatus

Automatic transfer switch



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YQC1B
CB Class



Page B245
YQC1F
PC Class



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YQC9B
CB Class



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YQC9HB
CB Class



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YQC9
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YQC9E
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YQC6
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YQC4
CB Class



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ATS220
ATS Controller



Page B302
YCQR-63
PC Class

Changeover switch



Page B304
YCHGLZ1
125-3150A

Isolating switch



Page B309
YCHGL
63-3150A

Low voltage fuse



Page B319
NT
Low Voltage Fuse

Fuse-switch disconnecter



Page B322
YCHR17
Fuse-switch
Disconnecter



Page B323
YCH5
Vertical Fuse-switch
Disconnecter

Switch box



Page B327
ISBox Isolation switch box
Switch Box

YCM1 Series

Distribution Apparatus



- Reliable performance for more safety
- Reliable tripping of unipolar overload protection

Distribution Apparatus

YCM1 MCCB



General

YCM1 series moulded case circuit breaker (herein after called circuit breaker) adopts international advanced design and manufacturing technology, it can be divided into L-type (standard type), M-type (higher type) according to the rated ultimate short circuit breaking capacity (Icu). With the features of small and compact, high breaking capacity, short arcing-over distance, anti-vibration, the circuit breaker is used popularly on land and marine products, which are applied for the power distribution network of AC 50/60Hz, rated insulation voltage 800V (YCM1-63 to 500V), rated working voltage 690V (YCM1-63 to 400V) and below, rated current up to 1600A. It can be used to distribute electric power and protect power equipment against overload, short circuit, undervoltage etc. It also takes protective effect when motors infrequently start and protects against overload, short circuit and lacking voltage. In the series, frame ranging from 63-630A three-pole product also comes with a transparent cover, it is convenient for customers to observe the product operation.

The circuit breaker can be installed vertically, or horizontally.

Standard : IEC60947-2.

B

Type designation

YCM1 - □□□□ / □□□□□□

Type	Frame Inm	Code of breaking capacity	Operation	Rated current(A)
YCM1	- □	□	□	□ /
MCCB	63, 125, 160, 250, 400, 630, 800, 1250, 1600	Code of breaking capacity: L-standard type; M-higher type;	Operation mode(note 2):	63: 10, 16, 20, 25, 32, 40, 50, 63 125: 10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125 160: 100, 125, 140, 160 250: 100, 125, 140, 160, 180, 200, 225, 250 400: 200, 225, 250, 275, 300, 315, 320, 350, 400 630: 400, 500, 630 800: 630, 700, 800 1250: 800, 1000, 1250 1600: 1600
Poles	Tripping mode and inner accessory	Application	Option for 4P MCCB	
□ 2: 2P 3: 3P 4: 4P	□□□ Release method and accessories code(Table 1)	□ 1. for power distribution; 2. for motor protection	□ N pole for 4P circuit breaker (note 3)	

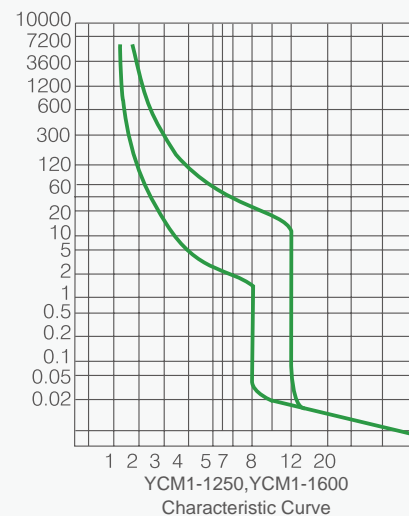
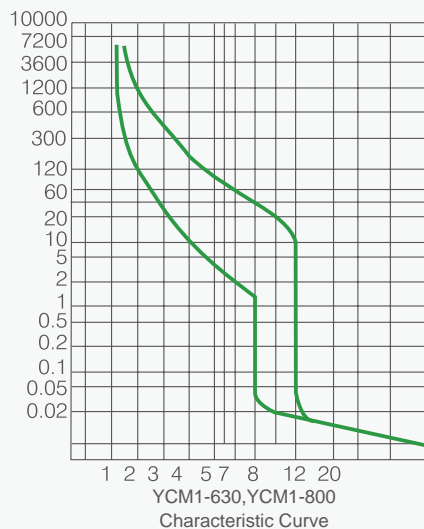
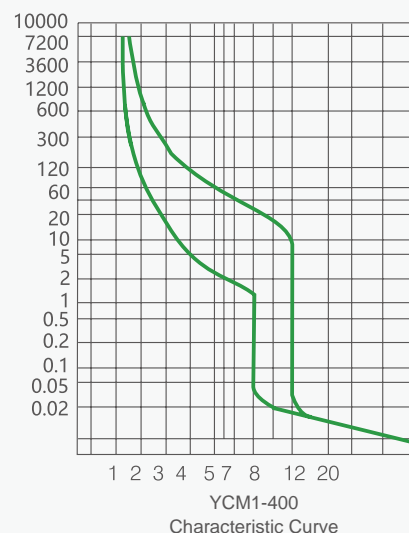
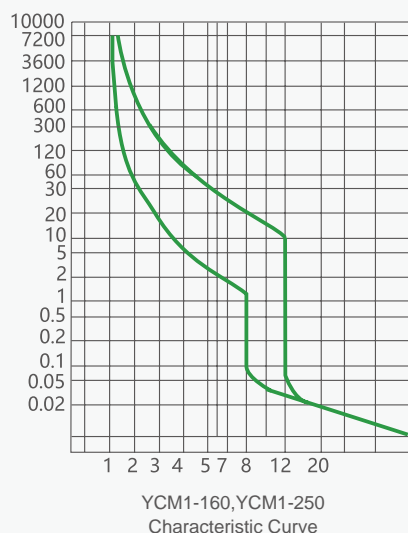
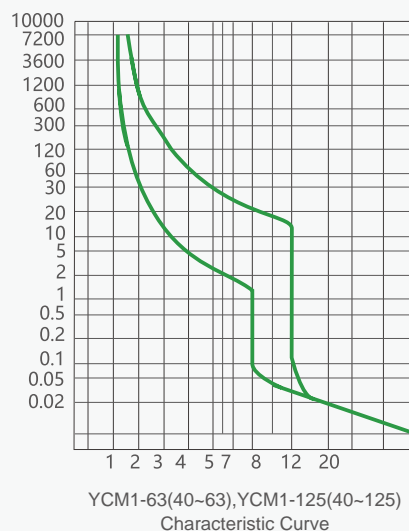
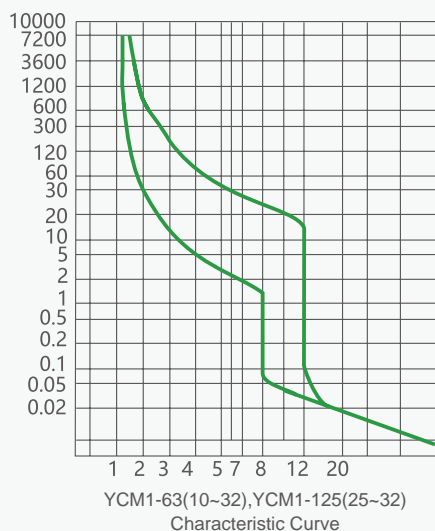
Note:

- Blank for power distribution, 2 for motor protection
- Blank for direct operation with handle, Z for operation with rotary handle, P for motor-driven operation.
- There are 2 types of N-pole for 4P breaker:
A: Without current release components, N-Pole is always at making status (not breakers);
B: Without current release components, N-Pole is made with the other three poles.

Distribution Apparatus

YCM1 MCCB

Curve



Distribution Apparatus

YCM1 MCCB

Operating conditions

1. Temperature: -5°C~+40°C; the average value within 24h shall not exceed +35°C. For the circuit breaker with thermo-magnetic release, +40°C is set to be the standard temperature for ratings. For temperature not between -5°C~+40°C, please contact us for temperature compensation correction;
2. Altitude: not exceed 2000m (Please contact with us for reduction coefficient if altitude at the mounted site exceed 2000m)
3. Pollution grade: Grade 3;
4. Air conditions:
At mounting site, relative humidity not exceed 50% at the max temperature of +40°C, higher relative humidity is allowable under lower temperature. For example, RH could be 90% at +20°C. Special measures should be taken when dew occurs.

Technical data

Type		YCM1-63		YCM1-125		YCM1-160		YCM1-250		YCM1-400		YCM1-630		YCM1-800		YCM1-1250		YCM1-1600		
Poles	P	3	3,4	2,3	3,4	3		2,3,4		3,4		3,4		3,4		3		3		
Rated current In	A	10, 16, 20, 25, 32, 40, 50, 63		10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125		100, 125, 140, 160		100, 125, 140 160, 180, 200, 225, 250		200,225, 250,275, 300,315, 320,350, 400		400, 500, 630		630, 700, 800		800, 1000, 1250		1600		
Rated insulation voltage Ui	V	500		800																
Rated impulse withstand voltage Uimp	V	600		8000																
Rated operation voltage Ue	V	AC230/400/690																		
Breaking capacity class		L	M	L	M	L	L	M	L	M	L	M	L	M	L	M	L	M	L	M
Limit short-circuit breaking capacity Icu	kA	230V	35	50	35	50	35	35	50	50	75	50	75	100	100	100	100	100	100	100
		400V	25	35	25/35	50	35	35	50	35/50	65	35/50	65	75	75	85	85	85	85	85
		690V	5	8	8	10	8	8	10	10	20	10	20	20	30	20	30	20	30	
Working short-circuit breaking capacity Ics	kA	230V	18	50	22	50	22	22	50	50	50	50	50	75	75	75	75	75	75	75
		400V	18	22	18/22	25	22	18/22	25	18/35	32.5	18/35	42.5	50	50	50	50	50	50	
		690V	2	4	4	5	4	4	5	5	10	5	10	10	15	10	15	10	15	
Arcing distance	mm	50									100									
Operating life(cycle)	Electrical life	3000		3000		3000		3000		2000		2000		2000		800		500		
	mechanical life	20000		20000		20000		20000		10000		10000		10000		5000		2500		

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Distribution Apparatus

YCM1 MCCB

Inner accessories

Table 1

Accessories name	Release method and accessories code		Accessories installation and down-leads			
	Electromagnetic release	Complex release	YCM1-63 YCM1-125	YCM1-160 YCM1-250	YCM1-400 YCM1-630	YCM1-800 YCM1-1250
Without parts	200	300				
Alarm contact(SD)	208	308				
Shunt release(MX)	210	310				
Auxiliary contact(OF)	220	320				
Undervoltage release(MN)	230	330				
Shunt release,Auxiliary contact(MN+OF)	240	340				
Shunt release, under-voltage release(MX+MN)	250	350				
Secondary auxiliary contact(2OF)	260	360				
Auxiliary contact,Undervoltage release(OF+MN)	270	370				
Shunt release,Alarm contact(MX+SD)	218	318				
Auxiliary contact, Alarm contact(OF+SD)	228	328				
Undervoltage release,Alarm contact(MN+SD)	238	338				
Shunt release,Auxiliary contact,Alarm contact(MX+OF+SD)	248	348				
Secondary auxiliary contact,Alarm contact(2OF+SD)	268	368				
Auxiliary contact, Undervoltage release, Alarm contact(OF+MN+SD)	278	378				

handle

Note: left right Alarm contact □ Shunt release ● Auxiliary contact ■ Undervoltage release ○

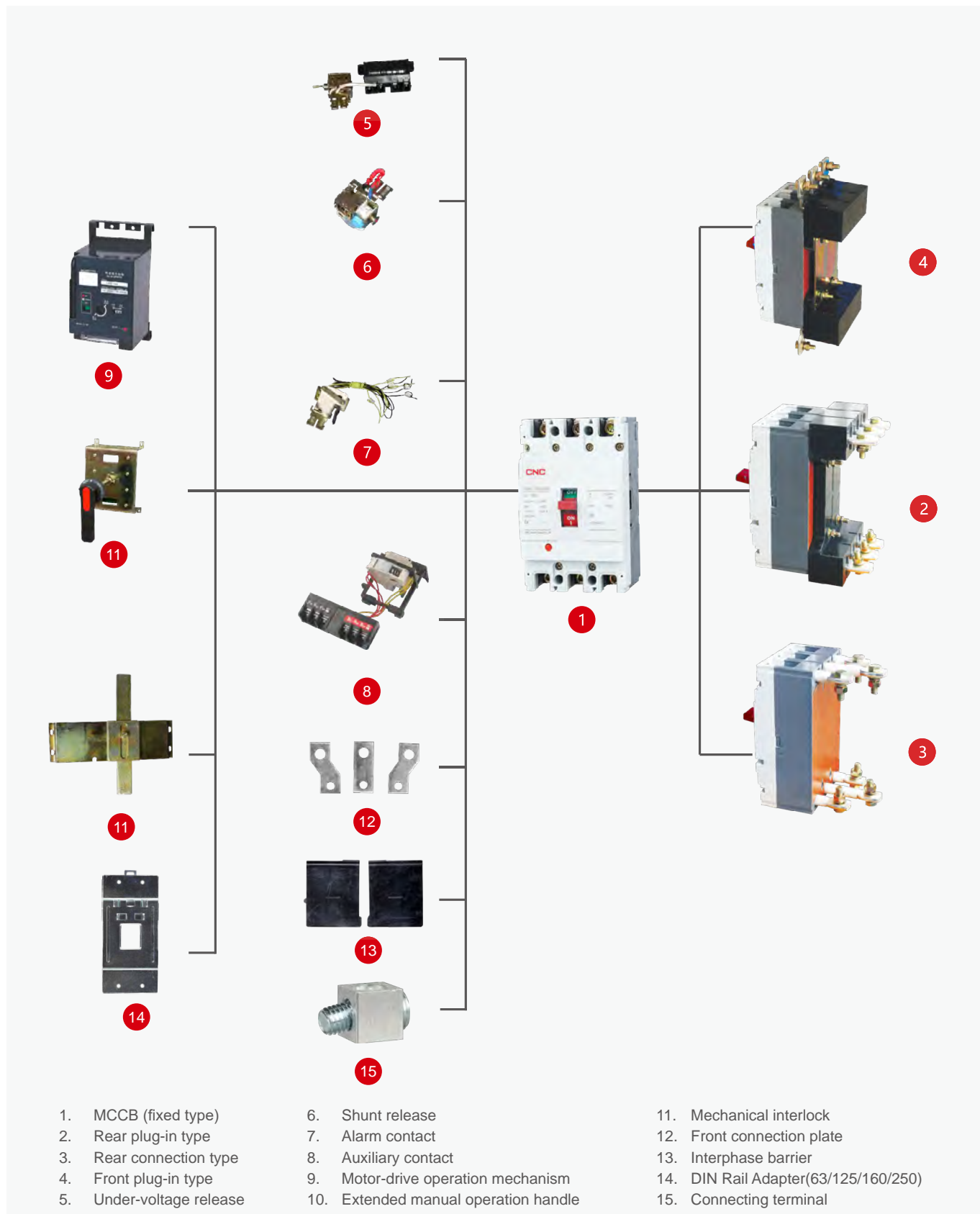
Note:

- 200 represents the circuit breaker body with only electromagnetic release; 300 represents the thermal and electromagnetic release body.
- 125, 250, 2-pole products only have 210, 220, 230, 310, 320, and 330.

Distribution Apparatus

YCM1 MCCB

Overview

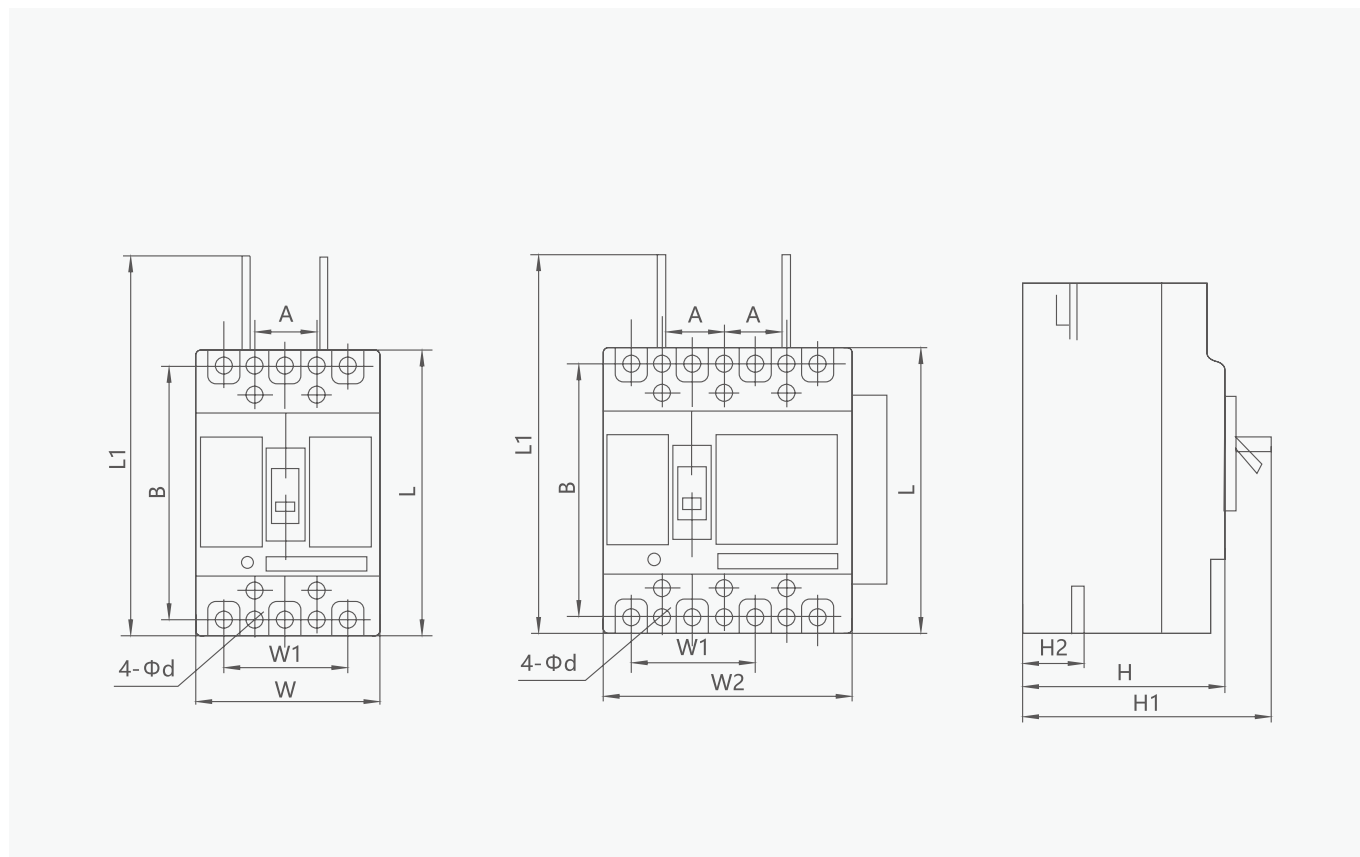


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Distribution Apparatus

YCM1 MCCB

Overall and mounting dimensions(mm)

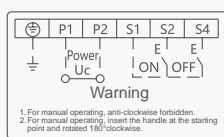
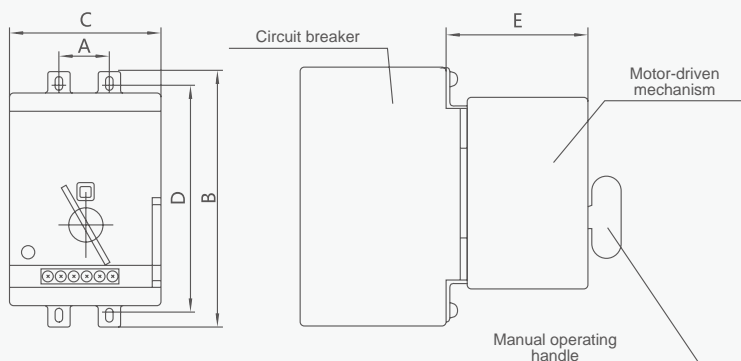


Type	Overall size (mm)							Installation size (mm)			
	W	L	H	W1	W2	L1	H1	H2	A	B	Φd
YCM1-63L	78	135	74	50	-	156	92	28	25	117	3.5
YCM1-63M	78	135	82	50	103	156	100	28	25	117	3.5
YCM1-125L	92	150	68	60	-	200	88	24	30	129	4.5
YCM1-125M	92	150	86	60	122	200	105	24	30	129	4.5
YCM1-160L	93	151	76	60	-	200	96	24	30	129	4.5
YCM1-250L	107	165	86	70	-	215	110	24	35	126	5
YCM1-250M	107	165	103	70	142	215	127	24	35	126	5
YCM1-400L	150	257	107	96	198	357	162	38	44	194	7
YCM1-400M	150	257	107	96	198	357	162	38	44	194	7
YCM1-630L	182	271	112	116	240	370	165	42	58	200	7
YCM1-630M	182	271	112	116	240	370	165	42	58	200	7
YCM1-800L/M	210	280	116	140	280	385	168	42	70	243	7
YCM1-1250L/M	210	406	158	140	-	610	193	60	70	375	11
YCM1-1600L/M											

Distribution Apparatus

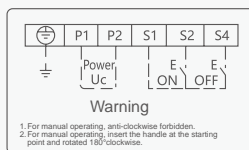
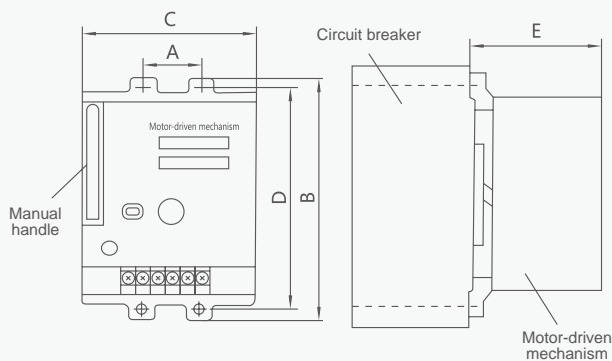
YCM1 MCCB

Overall and mounting dimensions(mm)



Wiring diagram

YCM1-63,125,160,250



Wiring diagram

YCM1-400,630,800,1250,1600


B

Distribution Apparatus


YCM1 MCCB

Model	Overall size (mm)					Ue(V)	Ie(A)	Mechanical life (times)	Motor power (W)
	A	B	C	D	E				
YCM1-63	25	117	74	102	79	K1	≤0.5	14000	14
YCM1-125/160	30	129	90	116	77	K1	≤0.5	14000	14
YCM1-250	35	126	90	116	77	K1	≤0.5	14000	14
YCM1-400	44	194	130	176	115	K2	≤2	5000	35
YCM1-630	58	200	130	176	115	K2	≤2	5000	35
YCM1-800	70	243	130	176	115	K2	≤2	5000	35
YCM1-1250	70	300	130	176	115	K2	≤2	5000	35
YCM1-1600	70	300	130	176	115	K2	≤2	2500	35

Under voltage release	Rated working voltage Ue V	AC230V AC400V
	Acting voltage V	(0.35-0.7)Ue
	Reliable close voltage V	(0.85~1.1)Ue

Shunt release	Rated control power voltage Us V	AC230V AC400V DC24V DC110V DC220V
	Acting voltage V	(0.7~1.1)Ue

Auxiliary, Alarm contact	Frame current Inm	Rated thermal current Ith
	Inm≤225	3A
	Inm≥400	6A

DIN Rail Adapter	Applicable frame	Rated thermal current Ith
	YCM1-63	3P
	YCM1-125	
	YCM1-160	
	YCM1-250	

Aluminum terminal block

Built-in type



Frame	Number of holes	Wide	Wiring aperture	Maximum wiring
400A	1	30mm	Φ24	250 mm ²
250A	1	23mm	Φ16	180mm ²
160A	1	15.9mm	Φ10	78mm ²
125A	1	14mm	Φ8	40mm ²

External type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
1600A	1600A	4	63mm	Φ13.5	400mm ²
1250A	1250A	4	58mm	Φ13	254mm ²
1250A	1000A	3	58mm	Φ13	254mm ²
800A	800A	3	30mm	Φ20	300mm ²
630A	630A	2	30mm	Φ20	300mm ²
400A	400A	1	28mm	Φ20	300mm ²
250A	250A	1	23mm	Φ16	180mm ²
160A	160A	1	15.9mm	Φ14	70mm ²
125A	125A	1	15.9mm	Φ11	60mm ²
63A	63A	1	12.7mm	Φ8	40mm ²

B

Distribution Apparatus

YCM1LE Earth Leakage MCCB



General

YCM1LE series earth leakage circuit breaker (herein after called circuit breaker) is applied for the power distribution network of AC 50-60Hz, rated current 630A. The circuit breaker can protect people against indirect contact with dangerous electric current and prevent fire disaster caused by insulation fault and single-phase ground fault. It can be used to distribute electric power and protect power equipment against overload and short circuit. The circuit breaker can change the circuit and start motor infrequently. The rated residual operating current and the maximum off-time can be adjusted on-site according to actual situation, and the alarm&no tripping function can be customized.

Standard: IEC60947-2.

Type designation

YCM1LE - □ □ □ □ / □ □ □ □ □ □ □

Type	Frame size	Code of breaking capacity	Operation	Rated current(A)
YCM1LE -	□	□	□	□ /
MCCB	125, 250, 400, 630, 800	L-standard type M-higher type	Operation mode: blank: direct operation with handle Z: operation with rotary handle P: motor-driven operation	125: 10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125 250: 100, 125, 140, 160, 180, 200, 225, 250 400: 225, 315, 350, 400 630: 400, 500, 630 800: 630, 700, 800
Poles	Application	Option for 4P MCCB	Alarm modular	
□	□	□	□	
Release method and accessories code (Table 1)	blank: for power distribution 2. for motor protection	Note is for 4P code	Alarm modular: I: alarm, tripping; II: alarm, no tripping	

Distribution Apparatus

YCM1LE Earth Leakage MCCB

Technical data

Type	YCM1LE-125			YCM1LE-250			YCM1LE-400		YCM1LE-630		YCM1LE-800		
Frame current $I_{nm}(A)$	125			250			400		630		800		
Rated current $I_n(A)$	10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125			100, 125, 140, 160, 180, 200, 225, 250			225, 315, 350, 400		400, 500, 630		630, 700, 800		
Pole	2	3	4	2	3	4	3	4	3	4	3	4	
Rated insulation voltage $U_i(V)$	AC800												
Rated working voltage $U_e(V)$	AC230/400/690												
Rated impulse withstand voltage $U_{imp}(V)$	8000												
Arcing-over distance(mm)	50						100						
Breaking ability level	L	M	L	M	L	M	L	M	L	M	L	M	
Rated ultimate short-circuit breaking capacity $I_{cu}(kA)$		35	50	35	50	50	65	50	65	50	65	50	65
	230V	35	50	35	50	50	75	50	75	50	75	50	75
	400V	35	50	35	50	50	65	50	65	50	65	50	65
	690V	8	10	8	10	10	20	10	20	10	20	10	20
Rated working short-circuit breaking capacity $I_{cs}(kA)$		22	25	22	25	35	42	35	42	35	42	35	42
	230V	22	50	22	50	50	50	50	50	50	50	50	50
	400V	22	25	22	25	35	42	35	42	35	42	35	42
	690V	4	5	4	5	5	10	5	10	5	10	5	10
Rated residual operating current $I_{\Delta n}(mA)$	No time-delay type	30/100/500 100/300/500			30/100/500 100/300/500			100/300/500		300/500/1000		300/500/1000	
	Time-delay type	100/300/500			100/300/500			100/300/500		300/500/1000		300/500/1000	
Rated residual unoperating current $I_{\Delta n}(mA)$		$1/2 I_{\Delta n}$			$1/2 I_{\Delta n}$			$1/2 I_{\Delta n}$		$1/2 I_{\Delta n}$		$1/2 I_{\Delta n}$	
Operating life(cycle)	Power on	1500			1000			1000		1000		1000	
	Power off	8500			7000			4000		4000		4000	
	Total times	10000			8000			5000		5000		5000	
Residual current protection operating time		$I_{\Delta n}$			$2I_{\Delta n}$			$5I_{\Delta n}$		$10I_{\Delta n}$		$10I_{\Delta n}$	
Max. breaking time(s)	No time-delay type	0.2			0.1			0.04		0.04		0.04	
	Time-delay type	0.4/1			0.4/1			0.3/1		0.3/1		0.3/1	

B

Distribution Apparatus

YCM1LE Earth Leakage MCCB

Inner accessories

Table 1

Accessories name	Release method and accessories code		Accessories installation and down-leads			
	Electromagnetic release	Complex release	YCM1LE-125/3 YCM1LE-250/3	YCM1LE-125/4 YCM1LE-250/4	YCM1LE-400/3 YCM1LE-630/3 YCM1LE-800/3	YCM1LE-400/4 YCM1LE-630/4 YCM1LE-800/4
Without parts	200	300				
Alarm contact(SD)	208	308				
Shunt release(MX)	210	310				
Auxiliary contact(OF)	220	320				
Undervoltage release(MN)	230	330				
Shunt release,Auxiliary contact(MN+OF)	240	340	—		—	
Secondary auxiliary contact(2OF)	260	360				
Auxiliary contact,Undervoltage release(OF+MN)	270	370	—		—	
Shunt release,Alarm contact(MX+SD)	218	318	—		—	
Auxiliary contact, Alarm contact(OF+SD)	228	328				
Undervoltage release,Alarm contact(MN+SD)	238	338	—		—	
Shunt release,Auxiliary contact,Alarm contact(MX+OF+SD)	248	348	—		—	
Secondary auxiliary contact,Alarm contact(2OF+SD)	268	368	—		—	
Auxiliary contact, Undervoltage release, Alarm contact(OF+MN+SD)	278	378	—		—	

handle

Note: left right Alarm contact □ Shunt release ● Auxiliary contact ■ Undervoltage release ○

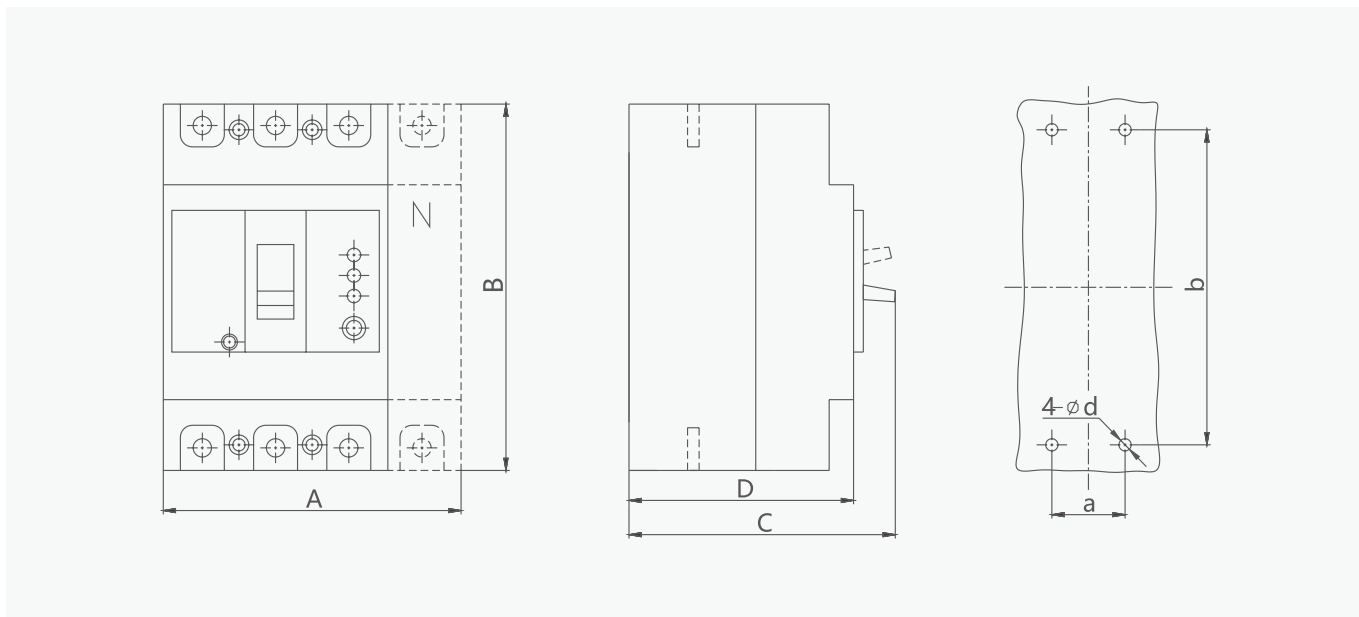
Note:

- 200 represents the circuit breaker body with only electromagnetic release; 300 represents the thermal and electromagnetic release body.
- 125, 250, 2-pole products only have 210, 220, 230, 310, 320, and 330.

Distribution Apparatus

YCM1LE Earth Leakage MCCB

Overall and mounting dimensions(mm)



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Type	Pole	Overall size (mm)				Installation size (mm)		
		A	B	C	D	a	b	Φd
YCM1LE-125	2	62	150	95	72	/	124	4.5
	3	92	150	110	92	30	129	4.5
	4	122				60		
YCM1LE-250	3	107	165	110	90	35	126	4.5
	4	142				70		
YCM1LE-400	3	150	257	146.5	106.5	44	194	7
	4	198				94		
YCM1LE-630/800	3	210	280	155	115.5	70	243	7
	4	280				140		

Distribution Apparatus

YCM6 Series MCCB



General

YCM6, YCM6RT series circuit breaker is a new generation of breaker.

This breaker is applied for the distribution network of AC 50/60Hz, rated insulation voltage 800V, rated working current up to 800A, which is for electric energy distribution, circuit protection, protecting power supply facility from being destroyed by the fault of overloading, short circuit and undervoltage. And it is also used for protecting, over loading, short circuit and undervoltage of the motor.

This breaker has such characteristics as high short circuit interrupting capacity, shortcircuiting and etc., which is a ideal product for users. This breaker can be installed vertically or horizontally.

Standard:IEC60947-2

Features

1. Design miniaturized
The miniaturization of product volume can meet the individual needs of customers on installation size.
2. Size uniformed
Completely consistent installation size with same shell level beyond different breaking capacity(S,M) and different functions(air,leakage).
3. Reasonable parameter setting
Circuit breaker can realize long-time delay overload inverse time, short circuit instantaneous action protection functions such as parameter setting, users can set their own protective properties required, the distribution network is used in the circuit breaker on the lower level with more reasonable.

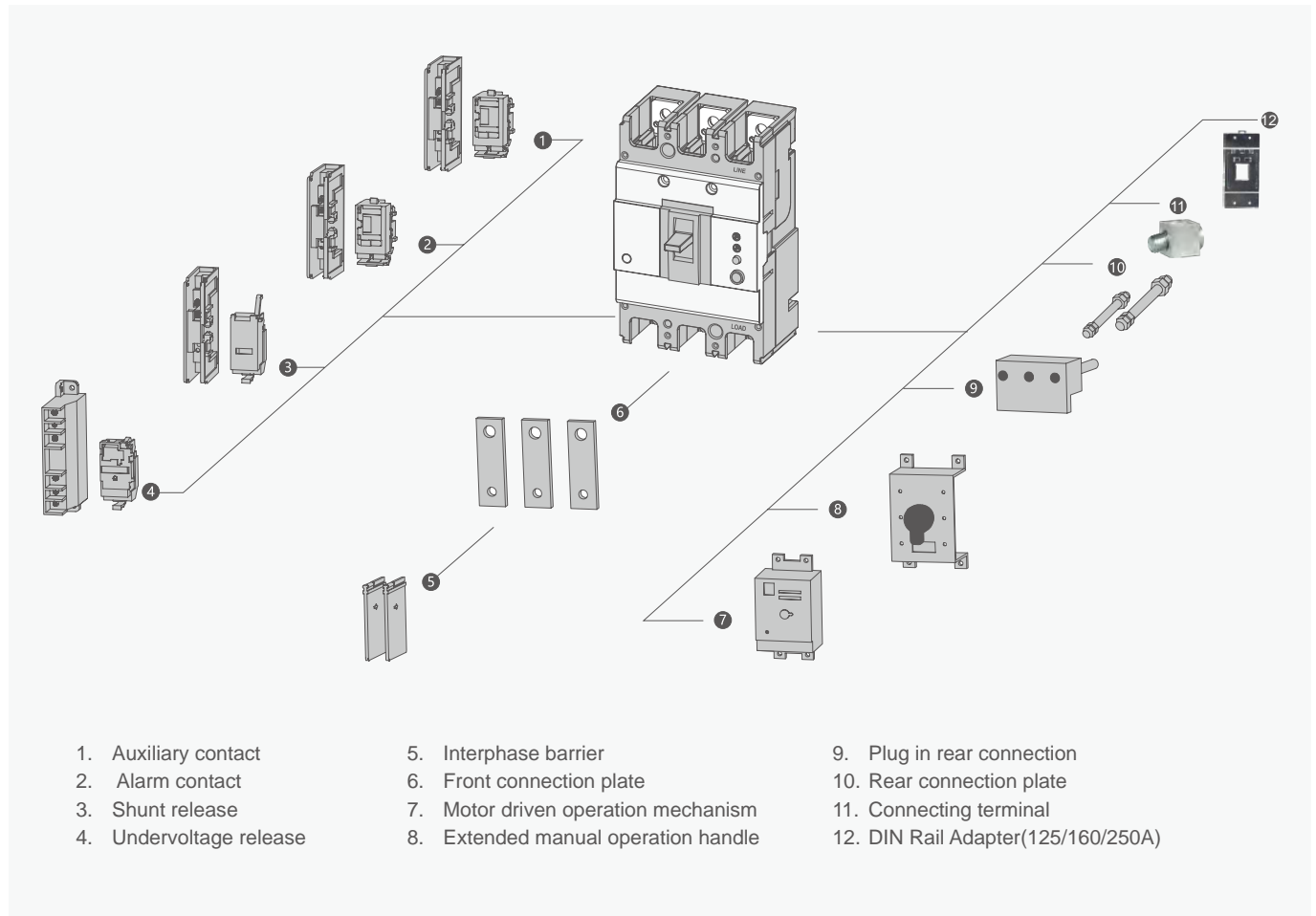
Operating conditions

1. Altitude less than 2000m
2. Ambient medium temperature is from -5°C to +40°C (+45°C for shipping product)
3. Humidity resistance
4. Bacteria resistance
5. Nuclear radiation resistance
6. Max lean degree is 22.5 degree.
7. Can operate normally when it comes to vibration of ship.
8. Can operate normally when it comes to earthquake(4g).
9. The medium should be no risk of blasting and can't erode the metal and damage insulating gas as well as conductive dust.
10. Work in the places where is no rain and snow.

Distribution Apparatus

YCM6 Series MCCB

Overview



B

Distribution Apparatus

YCM6 Series MCCB

Thermo-magnetic release

1. The circuit breaker (for power distribution) has reverse time breaking characteristics of overcurrent release in all pole states and is energized simultaneously at room temperature 40°C.

Test current	Current time	Conventional time		Initial status
		$I_n \leq 63$	$I_n < 63$	
Conventional non-trip current	1.05	1h	2h	Cold status
Conventional trip current	1.30	<1h	<2h	Hot status

2. When ambient temperature is +40°C for electromotor protection breaker, power on for every pole, inverse time limit characteristic of no temperature compensation is in the following sheet.

Test current	Current time	Conventional time		Initial status
		$I_n \leq 800$		
Conventional non-trip current	1.0	2h		Cold status
Conventional trip current	1.2	<2h		Hot status

3. Action property of the short-circuit release of the breaker

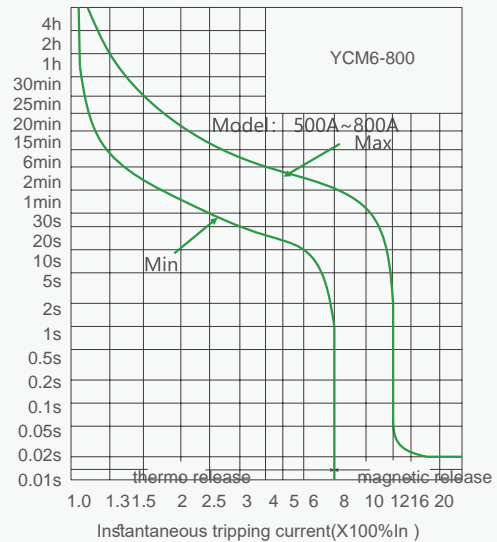
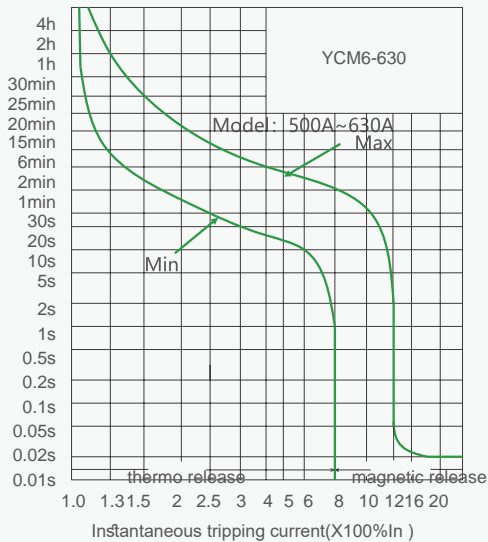
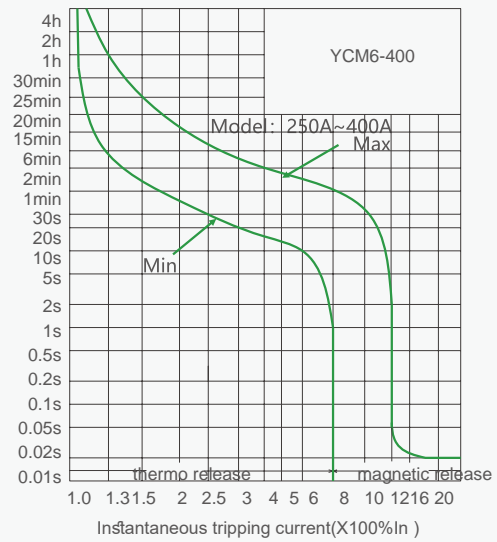
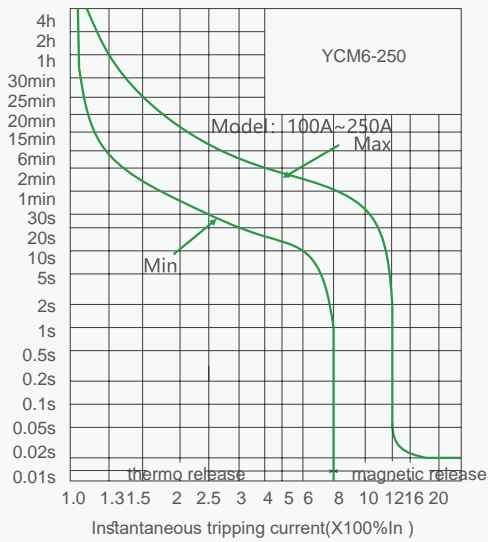
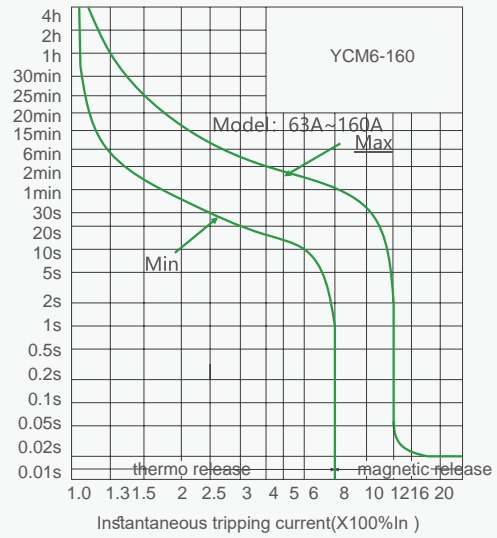
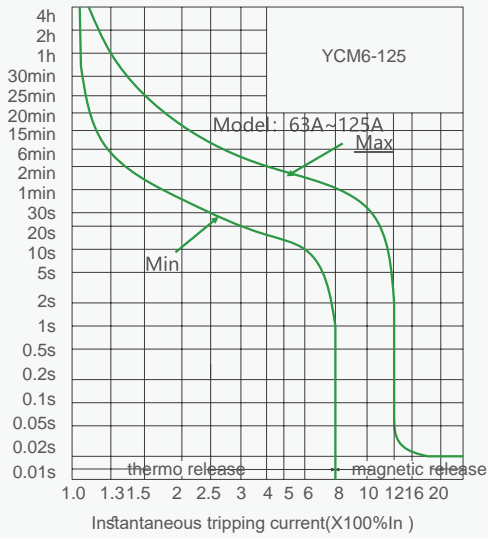
- ◆ Instant trip (for power distribution) $I = 10I_n$
- ◆ Instant trip (for motor protection) $I = 12I_n$
- ◆ Current setting accuracy $\pm 20\%$

Distribution Apparatus

YCM6 Series MCCB

Curve

B



Distribution Apparatus

YCM6 Series MCCB

Type designation

YCM6 - 125 L P / 4 300 2 A 125A Q1 D5 Q 2

Type	Frame Inm	Breaking capacity Icu/lcs(kA)	Operation	Poles												
YCM6	125	L	P	4												
MCCB	125, 160, 250,400,630,800	<table border="1"> <tr><td>125</td><td>18/9</td></tr> <tr><td>160</td><td>18/9</td></tr> <tr><td>250</td><td>25/18</td></tr> <tr><td>400</td><td>35/25</td></tr> <tr><td>630</td><td>35/25</td></tr> <tr><td>800</td><td>50/35</td></tr> </table>	125	18/9	160	18/9	250	25/18	400	35/25	630	35/25	800	50/35	P: Motor-driven Z: Rotary handle W: Directly	3: 3P 4: 4P
125	18/9															
160	18/9															
250	25/18															
400	35/25															
630	35/25															
800	50/35															

Tripping mode and inner accessory	Application	Option for 4P MCCB	Rated current(A)												
300	2	A	125A												
First figure means tripping unit way 2: Only with magnetic release 3: Thermal release+,magnetic release body Remark: The last two figures means accessory code (see accessories list)	1. Power distribution 2. Motor-protection	A: N pole without protection, N pole is always ON B: N pole without protection, N pole makes with the other three poles	<table border="1"> <tr><td>125</td><td>32, 40, 50, 63, 80, 100, 125</td></tr> <tr><td>160</td><td>40, 50, 63, 80, 100, 125, 140, 160, 100</td></tr> <tr><td>250</td><td>125, 140, 160, 180, 200, 225, 250</td></tr> <tr><td>400</td><td>250, 315, 350, 400</td></tr> <tr><td>630</td><td>500, 630</td></tr> <tr><td>800</td><td>630, 700, 800</td></tr> </table>	125	32, 40, 50, 63, 80, 100, 125	160	40, 50, 63, 80, 100, 125, 140, 160, 100	250	125, 140, 160, 180, 200, 225, 250	400	250, 315, 350, 400	630	500, 630	800	630, 700, 800
125	32, 40, 50, 63, 80, 100, 125														
160	40, 50, 63, 80, 100, 125, 140, 160, 100														
250	125, 140, 160, 180, 200, 225, 250														
400	250, 315, 350, 400														
630	500, 630														
800	630, 700, 800														

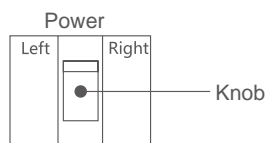
Accessory voltage	Motor-driven operation voltage	Connection	With the connection plate or not										
Q1	D5	Q	2										
<table border="1"> <tr><td>UVT</td><td>Shunt</td></tr> <tr><td>Q1: AC220V</td><td>F1: AC220V</td></tr> <tr><td>Q2: AC240V</td><td>F2: AC380V</td></tr> <tr><td>Q3: AC380V</td><td>F3: DC110V</td></tr> <tr><td>Q4: AC415V</td><td>F4: DC24V</td></tr> </table>	UVT	Shunt	Q1: AC220V	F1: AC220V	Q2: AC240V	F2: AC380V	Q3: AC380V	F3: DC110V	Q4: AC415V	F4: DC24V	DC3 D5:AC220V D6:AC110V D7:DC220V D8:DC110V D9:AC110~240V D10: DC100~220V	Q: Front H: Rear C: Plug-in	1: not 2: yes
UVT	Shunt												
Q1: AC220V	F1: AC220V												
Q2: AC240V	F2: AC380V												
Q3: AC380V	F3: DC110V												
Q4: AC415V	F4: DC24V												

Distribution Apparatus

YCM6 Series MCCB

Inner accessories

Model		YCM6-125	YCM6-160	YCM6-250	YCM6-400/630	YCM6-800
Breaking capacity		L	L	L	L	L
No. of poles		3,4	3,4	3,4	3,4	3,4
Code	Accessory name					
208, 308	Alarm contact(SD)					
210, 310	Shunt release(MX)					
220, 320	Auxiliary contact(OF)					
230, 330	Under-voltage release(MN)					
240, 340	Shunt auxiliary contact(MX+MN)					
260, 360	Two groups auxiliary contacts(2OF)					
270, 370	Auxiliary contact UVT(OF+MN)					
218, 318	Shunt alarm contact(MX+SD)					
228, 328	Auxiliary alarm contact(OF+SD)					
238, 338	UVT alarm contact(MN+SD)					
248, 348	Shunt auxiliary alarm contact(MX+OF+SD)					
268, 368	Two groups aux alarm contact(2OF+SD)					
278, 378	Aux contact UVT alarm contact(OF+MN+SD)					
280, 380	Two groups aux contact and shunt(2OF+MX)					



● Alarm switch ○ Auxiliary switch □ Shunt release ■ Undervoltage release(UVT)

Remark: Right auxiliary, contact, left shunt, left UVT as options

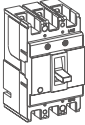
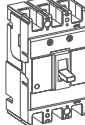
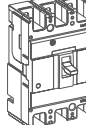
→
Accessories connecting wire

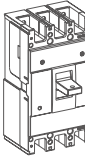
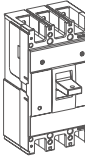
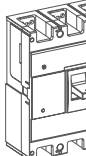
B

Distribution Apparatus

YCM6 Series MCCB

Technical data

Type	YCM6-125	YCM6-160	YCM6-250	
Frame(A)	125	160	250	
Number of poles	3,4	3,4	3,4	
Products				
Rated current In (A)	32,40,50,63,80,100,125	40,50,63,80,100,125,140,160	125, 140, 160, 180, 200, 225, 250	
Rated voltage Ue(V)	AC230/240,380/400/415,440,690V			
Rated insulation voltage Ui(V)	AC800V	AC800V	AC800V	
Short Circuit Breaking Capacity (kA) Icu/Ics	L	L	L	
	AC230/240V	36/18	36/18	50/25
	AC400/415V	18/9	18/9	25/18
	AC440V	14/7	14/7	20/10
	AC690V	5/3	5/3	7/3
Operating life(cycle)	Electrical life	600	3000	3000
	Mechanical life	9000	7000	7000
Motor-driven operation	•	•	•	
External drive handle	•	•	•	
Automatic release	Thermo-magnetic	Thermo-magnetic	Thermo-magnetic	

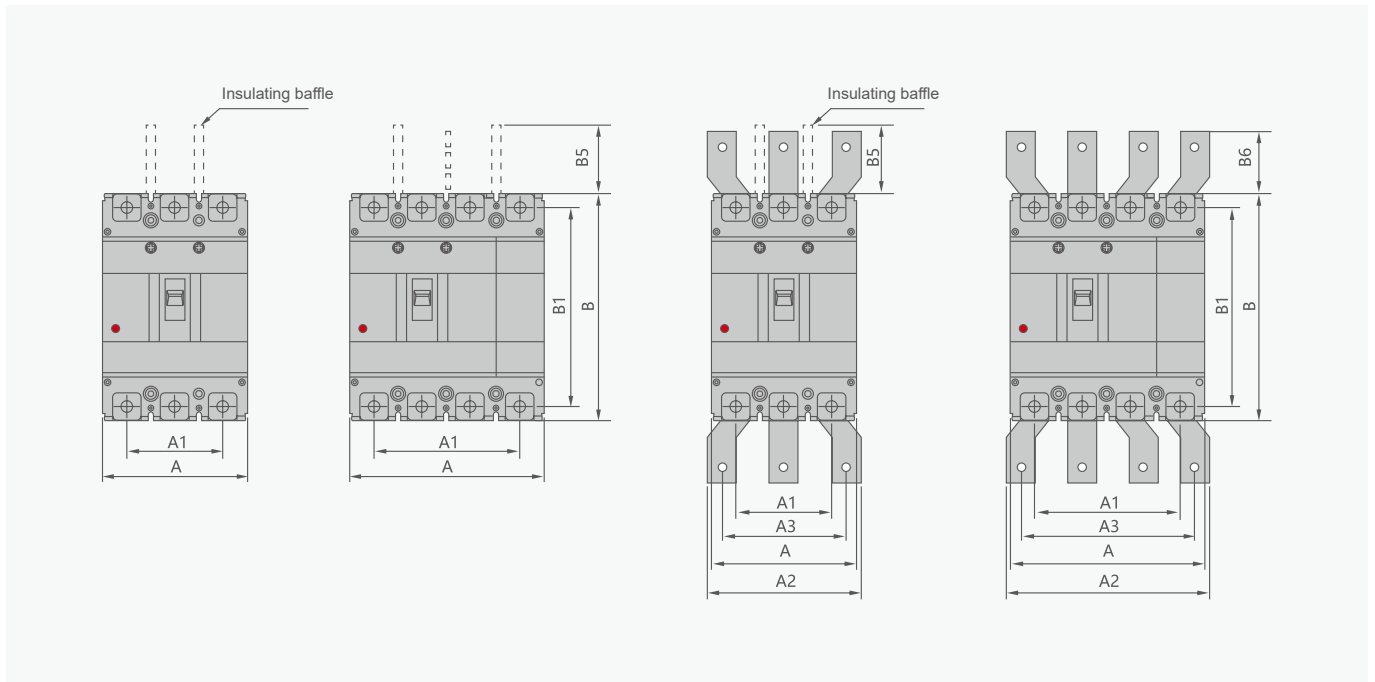
Type	YCM6-400	YCM6-630	YCM6-800	
Frame(A)	400	630	800	
Number of poles	3,4	3,4	3,4	
Products				
Rated current In (A)	250, 315, 350, 400	500, 630	500, 630, 700, 800	
Rated voltage Ue(V)	AC230/240,380/400/415,440,690V			
Rated insulation voltage Ui(V)	AC800V	AC800V	AC800V	
Short Circuit Breaking Capacity (kA) Icu/Ics	L	L	L	
	AC230/240V	70/35	70/35	85/42
	AC400/415V	35/25	35/25	50/35
	AC440V	30/15	30/14	45/22
	AC690V	8/4	8/4	10/5
Operating life(cycle)	Electrical life	1000	1000	500
	Mechanical life	4000	4000	2500
Motor-driven operation	•	•	•	
External drive handle	•	•	•	
Automatic release	Thermo-magnetic	Thermo-magnetic	Thermo-magnetic	

• Means accessory as option

Distribution Apparatus

YCM6 Series MCCB

Overall and mounting dimensions(mm)

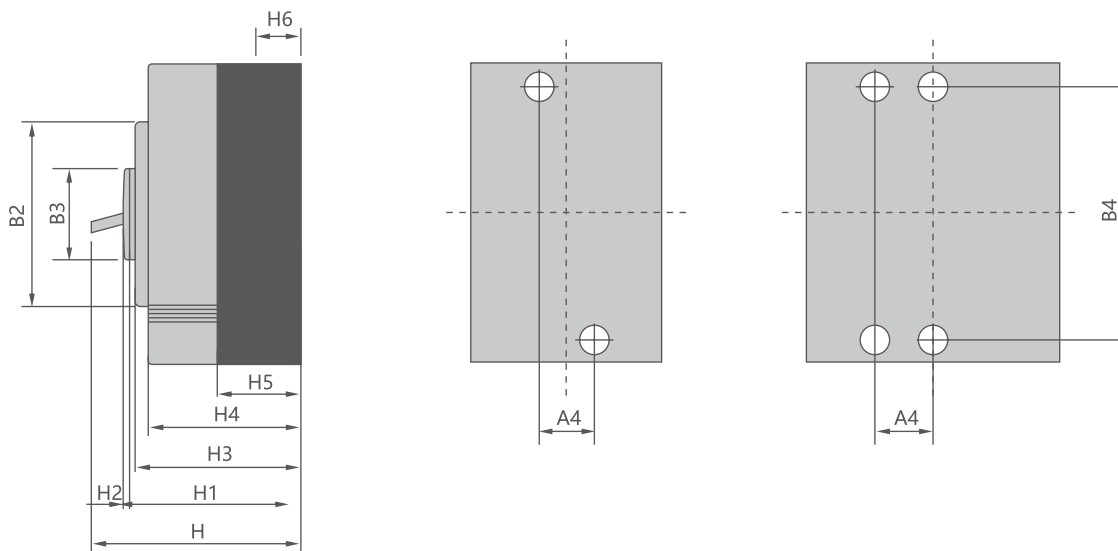


B

Distribution Apparatus

YCM6 Series MCCB

Overall and mounting dimensions(mm)



Model case Circuit breaker	Overall dimensions																				Installing dimensions		Bolt	
	A		A1		A2		A3		B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5	H6	A4		B4
	3P	4P	3P	4P	3P	4P	3P	4P																
YCM6-125L	75	100	50	75	-	-	-	-	130	114	85	50	50	-	72	4	68	61	41	24	41	25	111	M8/M6
YCM6-160L	90	120	60	90	-	-	-	-	155	134	103	50	50	-	72	4	68	61	41	24	41	30	132	M8
YCM6-250L	105	140	70	105	-	-	-	-	165	144	103	50	100	-	72	4	68	61	46	24	46	35	126	M8
YCM6-400L	140	185	88	132	140	196	112	168	257	230	179	90	110	43	107	5	105	97	64	36	64	44	194	M10
YCM6-630L	140	185	88	132	140	196	112	168	257	230	179	90	110	42	107	5	105	97	64	36	64	44	194	M10
YCM6-800L	210	280	140	210	180	250	140	210	275	243	192	90	110	87	107	5	104	97	65	24	65	70	242.5	M12

Distribution Apparatus

YCM6RT Thermal Magnetic Adjustable MCCB

Type designation

YCM6 RT - 160 L P / 3 300 2 A 160A Q1 D5 Q 2

Type	The adjustable type	Frame Inm	Breaking capacity Icu/Ics(kA)		Operation	Poles
YCM6	RT	160	L		Z	3
MCCB	Thermal and Magnetic adjust type	160, 250,400, 630,800	160 250 400 630 800	18/9 25/18 35/25 35/25 50/35	P: Motor-driven Z: Rotary handle W: Directly	3: 3P 4: 4P
Tripping mode and inner accessory		Application	Option for 4P MCCB		Rated current(A)	
300		2	A		160	
<p>First figure means tripping unit way 2: Only with magnetic release 3: Thermal release+,magnetic release body</p> <p>Remark: The last two figures means accessory code (see accessories list)</p>		<p>1. Power distribution 2. Motor-protection</p>	<p>A: N pole without protection, N pole is always ON B: N pole without protection, N pole makes with the other three poles</p>		<p>160 32-40,40-50,50-63,70-80,80-100,100-125,125-160 250 100-125, 125-160,160-200, 200-250 400 200-250, 250-320, 320-400 630 400-500, 500-630 800 500-630, 630-800</p>	
Accessory voltage		Motor-driven operation voltage	Connection		With the connection plate or not	
Q1		D5	Q		2	
<p>UVT</p> <p>Q1: AC220V Q2: AC240V Q3: AC380V Q4: AC415V</p> <p>Shunt</p> <p>F1: AC220V F2: AC380V F3: DC110V F4: DC24V</p>		<p>DC3</p> <p>D5:AC220V D6:AC110V D7:DC220V D8:DC110V D9:AC110~240V D10: DC100~220V</p>	<p>Q: Front H: Rear C: Plug-in</p>		<p>1: not 2: yes</p>	

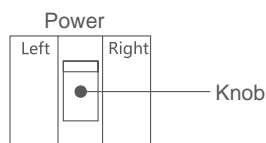
B

Distribution Apparatus

YCM6RT Thermal Magnetic Adjustable MCCB

Inner accessories

Model		YCM6RT-160		YCM6RT-250		YCM6RT-400/630	YCM6RT-800
Breaking capacity		L		L		L	L
No. of poles		3	4	3	4	3,4	3,4
Code	Accessory name						
208, 308	Alarm contact(SD)						
210, 310	Shunt release(MX)						
220, 320	Auxiliary contact(OF)						
230, 330	Under-voltage release(MN)						
240, 340	Shunt auxiliary contact(MX+MN)						
260, 360	Two groups auxiliary contacts(2OF)						
270, 370	Auxiliary contact UVT(OF+MN)						
218, 318	Shunt alarm contact(MX+SD)						
228, 328	Auxiliary alarm contact(OF+SD)						
238, 338	UVT alarm contact(MN+SD)						
248, 348	Shunt auxiliary alarm contact(MX+OF+SD)						
268, 368	Two groups aux alarm contact(2OF+SD)						
278, 378	Aux contact UVT alarm contact(OF+MN+SD)						
280, 380	Two groups aux contact and shunt(2OF+MX)						



● Alarm switch ○ Auxiliary switch □ Shunt release ■ Undervoltage release(UVT)

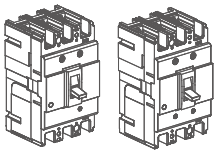
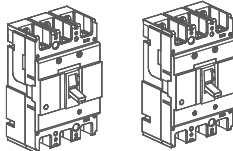
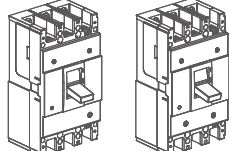
Remark: Right auxiliary, contact, left shunt, left UVT as options

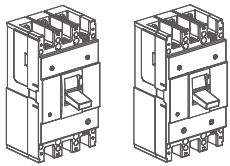
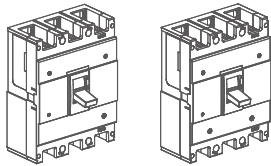
→ Accessories connecting wire

Distribution Apparatus

YCM6RT Thermal Magnetic Adjustable MCCB

Technical data

Type	YCM6RT-160	YCM6RT-250	YCM6RT-400	
Frame(A)	160	250	400	
Number of poles	3,4	3,4	3,4	
Products				
Rated current In (A)	32-40,40-50,50-63,70-80,80-100,100-125,125-160	100-125,125-160,160-200,200-250,	200-250,250-320,320-400	
Rated voltage Ue(V)	AC230/240,380/400/415,440,690V			
Rated insulation voltage Ui(V)	AC800V	AC800V	AC800V	
Short Circuit Breaking Capacity (kA) Icu/Ics	L	L	L	
	AC230/240V	36/18	50/25	70/35
	AC400/415V	18/9	25/18	25/18
	AC440V	14/7	20/10	30/15
Operation life (cycle)	AC690V	5/3	7/3	8/4
	ON	3000	3000	2000
	OFF	7000	7000	4000
Motor-driven operation	•	•	•	
External drive handle	•	•	•	
Automatic release	Thermo-magnetic	Thermo-magnetic	Thermo-magnetic	

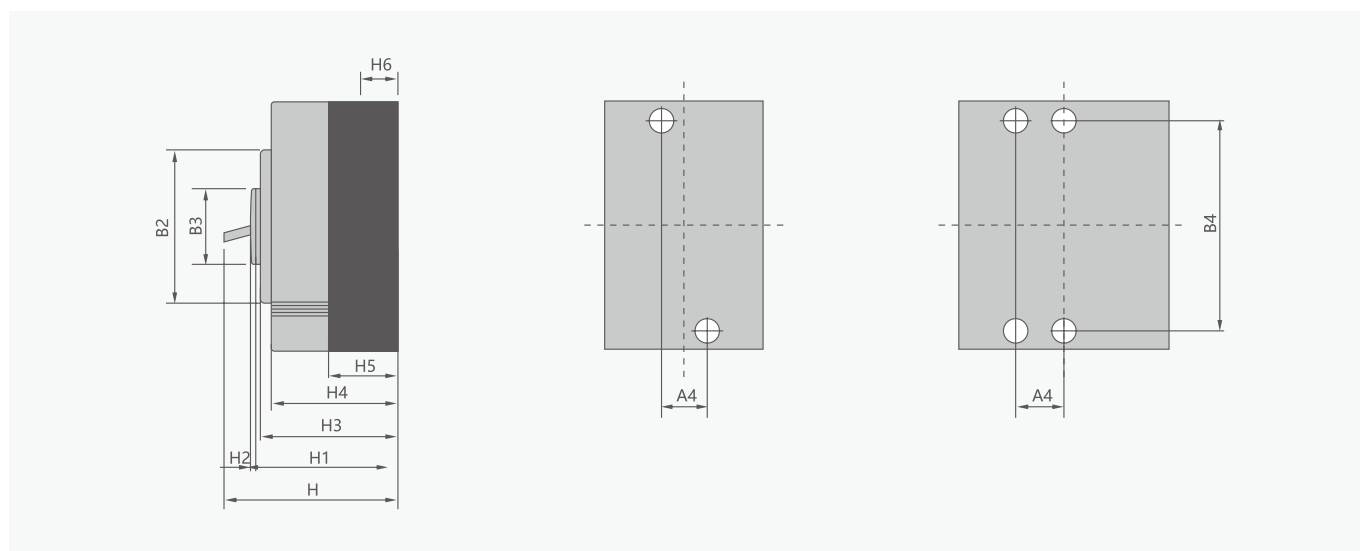
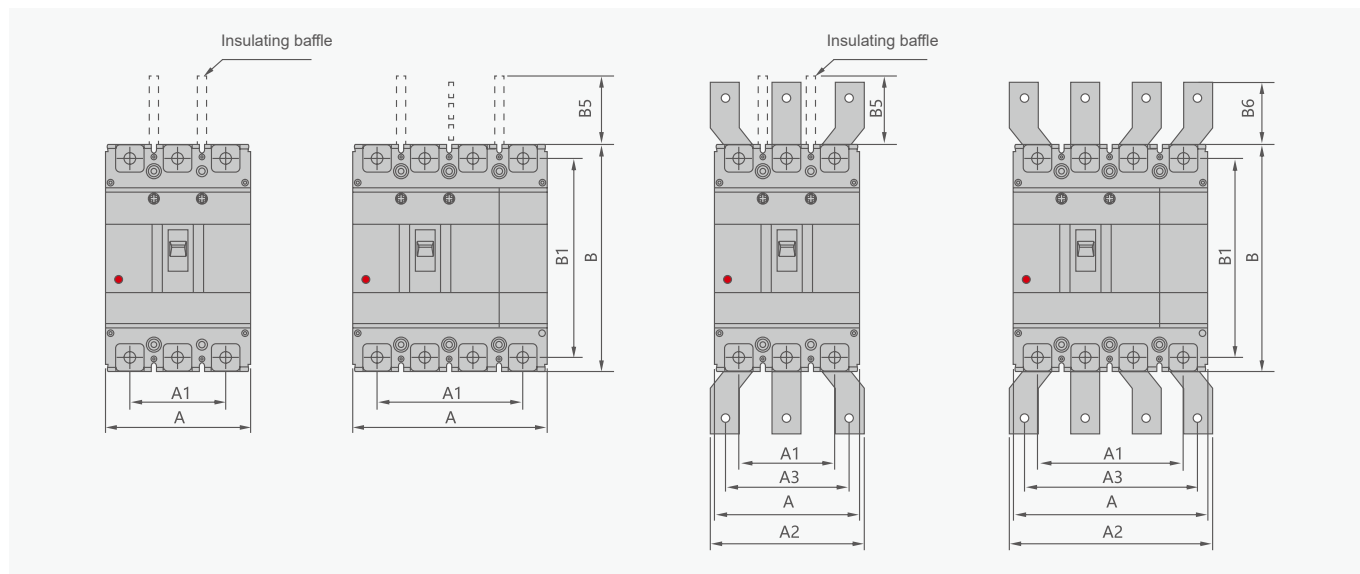
Type	YCM6RT-630	YCM6RT-800	
Frame(A)	630	800	
Number of poles	3,4	3,4	
Products			
Rated current In (A)	400-500,500-630	500-630,630-800	
Rated voltage Ue(V)	AC400/690V	AC400/690V	
Rated insulation voltage Ui(V)	AC690V	AC690V	
Short Circuit Breaking Capacity (kA) Icu/Ics	L	L	
	AC230/240V	70/35	85/42
	AC400/415V	35/25	50/35
	AC440V	30/15	45/22
Operation life (cycle)	AC690V	8/4	10/5
	ON	2000	1500
	OFF	4000	4000
Motor-driven operation	•	•	
External drive handle	•	•	
Automatic release	Thermo-magnetic	Thermo-magnetic	

B

Distribution Apparatus

YCM6RT Thermal Magnetic Adjustable MCCB

Overall and mounting dimensions(mm)



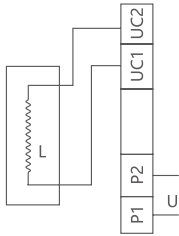
Thermal magnetic trip circuit breaker	Overall dimensions																		Installing dimensions		Bolt			
	A		A1		A2		A3		B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5		H6	A4	B4
	3P	4P	3P	4P	3P	4P	3P	4P																
YCM6RT-160L	90	120	60	90	-	-	-	-	155	134	103	50	50	-	94	72	4	68	61	47	24	30	132	M8
YCM6RT-250L	105	140	70	105	-	-	-	-	165	144	103	50	100	-	96	72	4	68	61	46	24	35	126	M8
YCM6RT-400L	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	64	36	44	194	M10
YCM6RT-630L	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	64	36	44	194	M10
YCM6RT-800L	210	280	140	210	180	250	140	210	175	243	192	90	110	87	155	107	5	104	97	65	24	70	242.5	M12

Distribution Apparatus

YCM6 Series MCCB Accessories

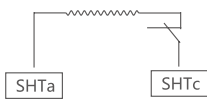
Internal accessories

Internal accessories of YCM6, YCM6RT series include undervoltage release, shunt release and auxiliary alarm release, their main technical parameters and wiring diagram are as follows:



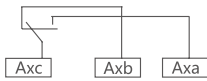
Undervoltage release

Rated voltage of power supply	Main features
AC220, AC240 AC380, AC415	<p>A. Undervoltage release should act when voltage drops to within 70% and 35% of the rated voltage.</p> <p>B. The undervoltage release should not be closed to prevent the circuit breaker from closing when the voltage is lower than 35% of the rated voltage.</p> <p>C. The undervoltage release should be closed to ensure reliable closing of the circuit breaker when the voltage is equal to or greater than 85% of the rated voltage.</p>



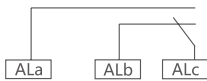
Shunt release

Rated voltage of power supply	Main features
AC24, DC110 AC220, AC380	Shunt release can work reliably when the rated voltage value is at 70% and 110%.

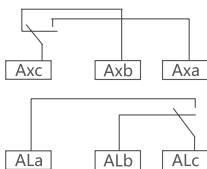


Auxiliary alarm contact

Rated voltage of power supply	Main features
Auxiliary switch AC 125V 5A, AC 250V 3A DC 125V0.4A, DC 125V0.2A	Shunt release can work reliably when the rated voltage value is at 70% and 110%.



Alarm switch AC 125 5A, AC 250V 3A DC 125V0.4A, DC 125V 0.2A	Provide differentiated signals for the circuit breaker at "normal work" and "fault free trip" positions.
--	--



Auxiliary alarm switch AC 125V 5A, AC 250V 3A DC 125V0.4A, DC125V0.2A	Provide differentiated signals for the circuit breaker at "close", "open" and "fault free trip" positions.
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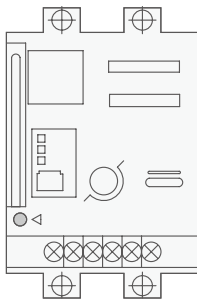
B

Distribution Apparatus

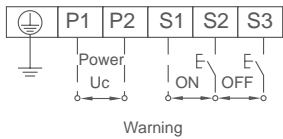
YCM6 Series MCCB Accessories

External accessories

The main technical parameters, dimensions and installation diagrams of external accessories for YCM7, YCM7RT and YCM7E series are as follows:
DC3 electric operating mechanism.

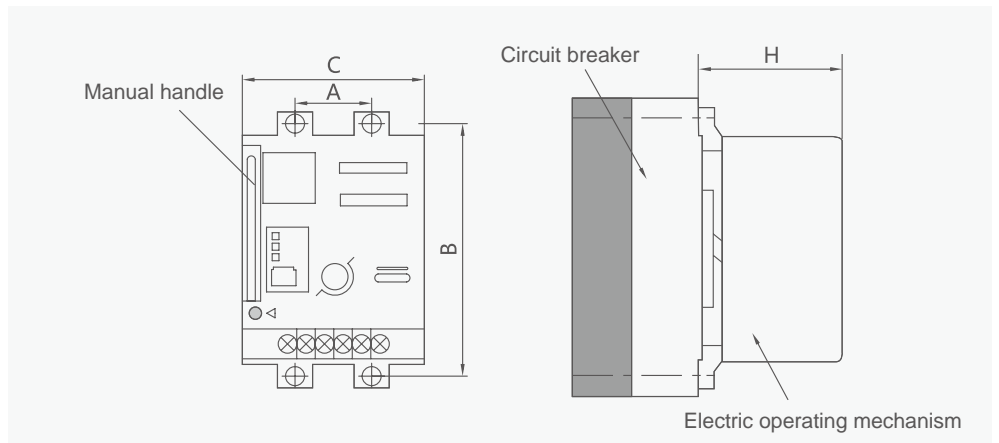



Wiring diagram



1. Counterclockwise manual operation is prohibited
2. When under manual operation, insert the handle at the starting point and rotate it 180 clockwise

Model & Spec.		DC3-63/30	DC3-100/30	DC3-250/30	DC3-400/30	DC3-630/30
Applicable model		YCM6-125	YCM6-160 YCM6RT-160	YCM6-250 YCM6RT-250	YCM6-400 YCM6RT-400 YCM6-630 YCM6RT-630	YCM6-800 YCM6RT-800
Outline dim.	A	25	30	35	44	70
	B	117	132	126	194	243
	C	73	90	90	130	130
	H	98	98(89.5)	102(92)	152	153
Rated voltage (V)		AC-110-24, DC100-220, C24			AC230, DC220 or AC110, DC110, DC24	
Starting current (A)		≤0.5			≤2	
Mechanical life (times)		14000		10000	5000	
Power (W)		14			35	



DIN Rail Adapter	Applicable frame	Rated thermal current I _{th}
	YCM6-125	3P
	YCM6-160	
	YCM6-250	

Aluminum terminal block

Built-in type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
400A	400A	1	30mm	Φ24	250 mm ²
250A	250A	1	23mm	Φ16	180mm ²
160A	160A	1	17.8mm	Φ14	125mm ²
125A	125A	1	15.9mm	Φ10	78mm ²

B

External type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
800A	800A	2	38mm	Φ24	325mm ²
		1	44mm	Φ27	480mm ²
630A	630A	2(short)	30mm	Φ22	250mm ²
		2(long)	30mm	Φ20	250mm ²
400A	400A	1	30mm	Φ19.5	250mm ²
250A	250A	2	23mm	Φ16	180mm ²
		1	23mm	Φ16	180mm ²
160A	160A	1	17mm	Φ13.5	125mm ²
125A	125A	1	15.9mm	Φ11	80mm ²

YCM7 Series

Distribution Apparatus



- Multi-function choices
- Design with small size
- Modular accessories for easy and convenient installation

Distribution Apparatus

YCM7 Series MCCB



General

YCM7, YCM7RT, YCM7T/A, YCM7RE series circuit breaker is a new generation of breaker.

This breaker is applied for the distribution network of AC 50/60Hz, rated insulation voltage 800V, rated working current up to 800A, which is for electric energy distribution, circuit protection, protecting power supply facility from being destroyed by the fault of overloading, short circuit and undervoltage. And it is also used for protecting, over loading, short circuit and undervoltage of the motor.

This breaker has such characteristics as high short circuit interrupting capacity, shortcircuiting and etc., which is a ideal product for users. This breaker can be installed vertically or horizontally.

Standard:IEC60947-2

Features

1. Design miniaturized
The miniaturization of product volume can meet the individual needs of customers on installation size.
2. Size uniformed
Completely consistent installation size with same shell level beyond different breaking capacity(S,M) and different functions(air,leakage).
3. Reasonable parameter setting
Circuit breaker can realize long-time delay overload inverse time, short circuit instantaneous action protection functions such as parameter setting, users can set their own protective properties required, the distribution network is used in the circuit breaker on the lower level with more reasonable.

Operating conditions

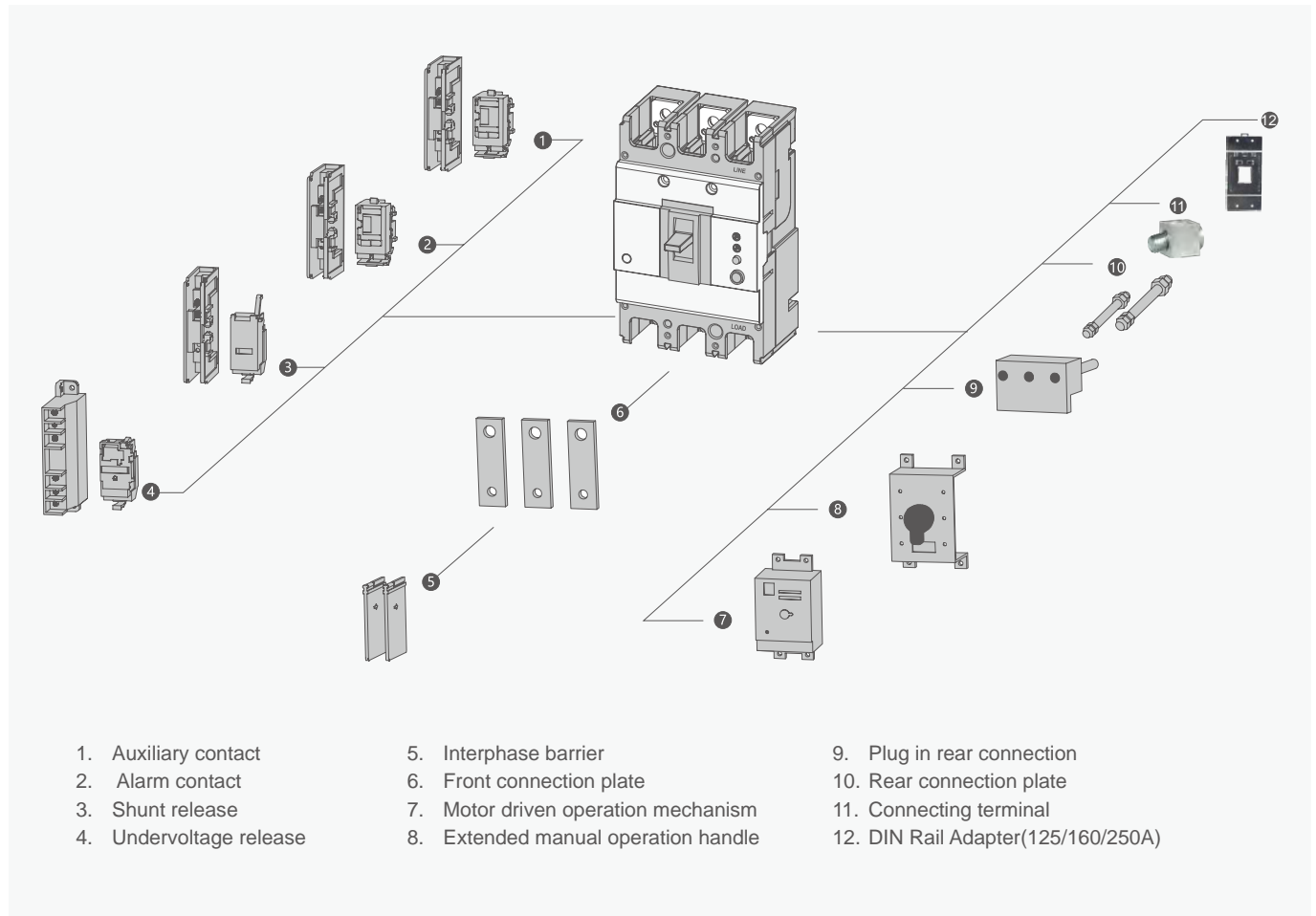
1. Altitude less than 2000m
2. Ambient medium temperature is from -5°C to +40°C (+45°C for shipping product)
3. Humidity resistance
4. Bacteria resistance
5. Nuclear radiation resistance
6. Max lean degree is 22.5 degree.
7. Can operate normally when it comes to vibration of ship.
8. Can operate normally when it comes to earthquake(4g).
9. The medium should be no risk of blasting and can't erode the metal and damage insulating gas as well as conductive dust.
10. Work in the places where is no rain and snow.

B

Distribution Apparatus

YCM7 Series MCCB

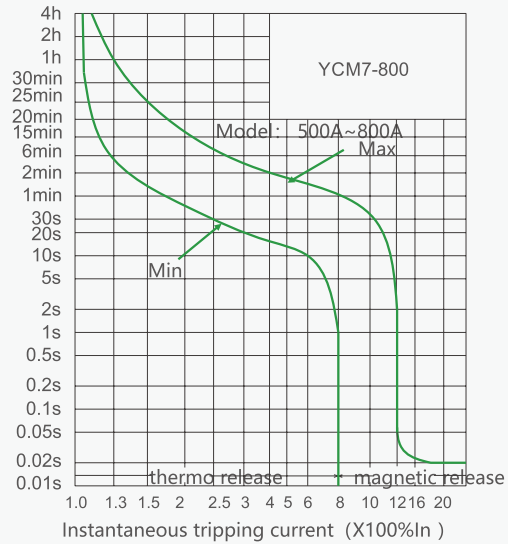
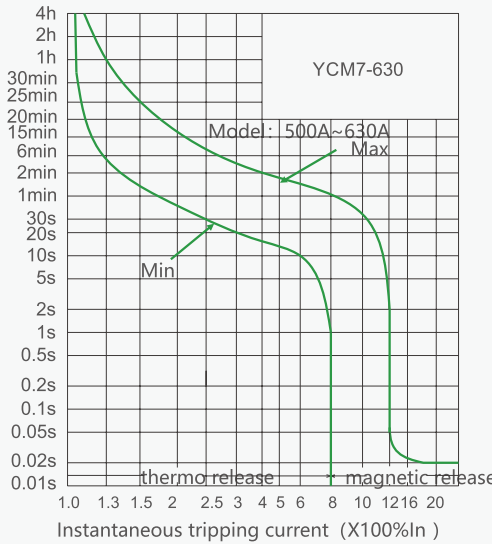
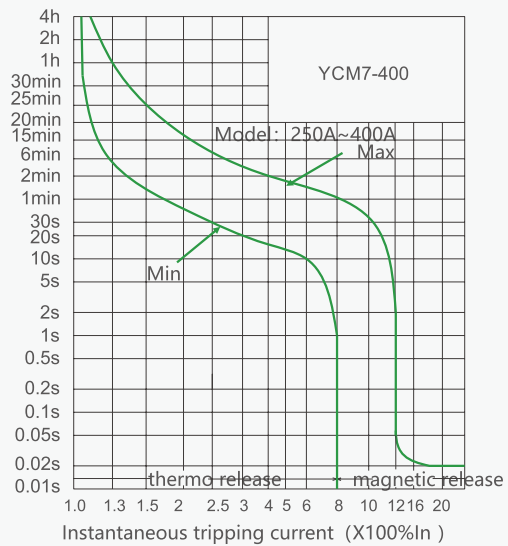
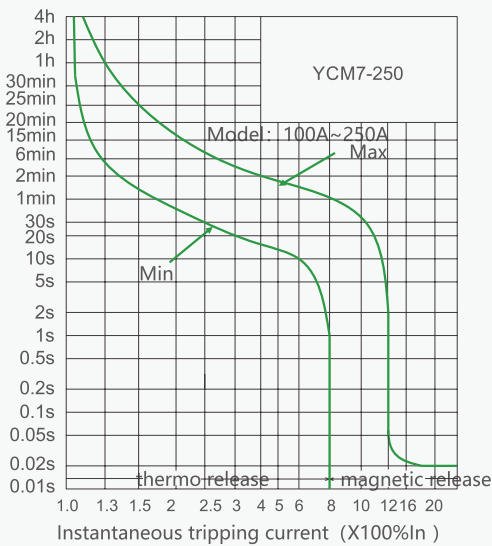
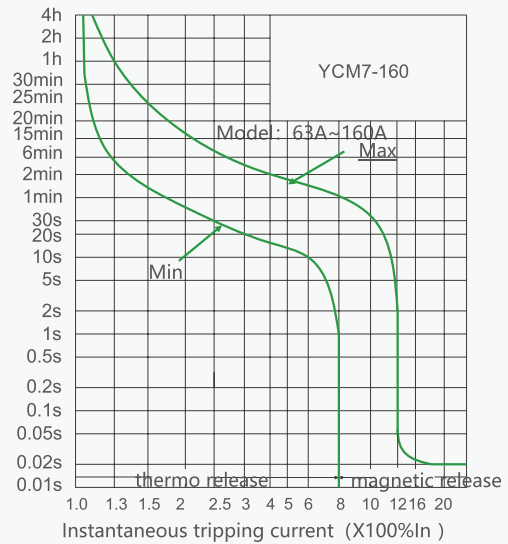
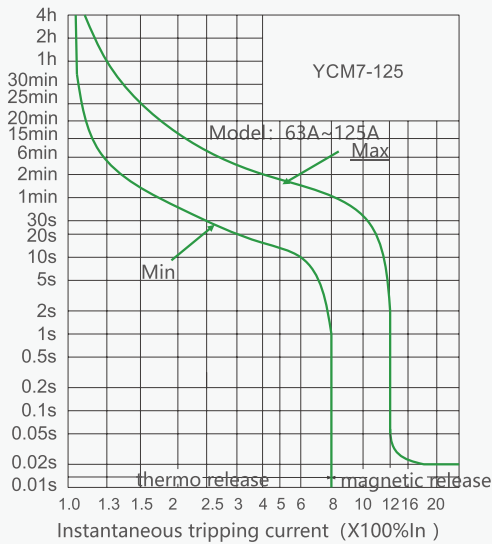
Overview



Distribution Apparatus

YCM7 Series MCCB

Curve



Distribution Apparatus

YCM7 Series MCCB

Type designation

YCM7 - 125 S P / 4 300 2 A 125A Q1 D5 Q 2

Type	Frame Inm	Breaking capacity Icu/Ics(kA)	Operation	Poles																					
YCM7	125	S	P	4																					
MCCB	125, 160, 250, 400, 630, 800	<table border="1"> <tr> <td>125</td> <td>S</td> <td>H</td> </tr> <tr> <td>160</td> <td>15/8</td> <td>-</td> </tr> <tr> <td>250</td> <td>25/18</td> <td>-</td> </tr> <tr> <td>400</td> <td>25/18</td> <td>-</td> </tr> <tr> <td>630</td> <td>35/25</td> <td>50/35</td> </tr> <tr> <td>800</td> <td>-</td> <td>50/35</td> </tr> <tr> <td></td> <td>-</td> <td>50/35</td> </tr> </table>	125	S	H	160	15/8	-	250	25/18	-	400	25/18	-	630	35/25	50/35	800	-	50/35		-	50/35	P: Motor-driven Z: Rotary handle W: Directly	3: 3P 4: 4P
125	S	H																							
160	15/8	-																							
250	25/18	-																							
400	25/18	-																							
630	35/25	50/35																							
800	-	50/35																							
	-	50/35																							

Tripping mode and inner accessory	Application	Option for 4P MCCB	Rated current(A)												
300	2	A	125A												
First figure means tripping unit way 2: Only with magnetic release 3: Thermal release+,magnetic release body Remark: The last two figures means accessory code (see accessories list)	1. Power distribution 2. Motor-protection	A: N pole without protection, N pole is always ON B: N pole without protection, N pole makes with the other three poles	<table border="1"> <tr> <td>125</td> <td>63,80,100,125</td> </tr> <tr> <td>160</td> <td>63, 80, 100, 125, 140, 160</td> </tr> <tr> <td>250</td> <td>100, 125, 140, 160, 180, 200, 225, 250</td> </tr> <tr> <td>400</td> <td>250, 315, 350, 400</td> </tr> <tr> <td>630</td> <td>500, 630</td> </tr> <tr> <td>800</td> <td>500, 630, 700, 800</td> </tr> </table>	125	63,80,100,125	160	63, 80, 100, 125, 140, 160	250	100, 125, 140, 160, 180, 200, 225, 250	400	250, 315, 350, 400	630	500, 630	800	500, 630, 700, 800
125	63,80,100,125														
160	63, 80, 100, 125, 140, 160														
250	100, 125, 140, 160, 180, 200, 225, 250														
400	250, 315, 350, 400														
630	500, 630														
800	500, 630, 700, 800														

Accessory voltage	Motor-driven operation voltage	Connection	With the connection plate or not
Q1	D1	Q	2
UVT Q1: AC220V Q2: AC240V Q3: AC380V Q4: AC415V Shunt F1: AC220V F2: AC380V F3: DC110V F4: DC24V	DC3 D5:AC220V D6:AC110V D7:DC220V D8:DC110V D9:AC110~240V D10: DC100~220V	Q: Front H: Rear C: Plug-in	1: not 2: yes

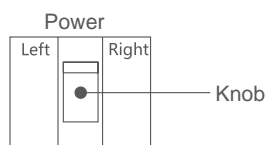
Distribution Apparatus

YCM7 Series MCCB

Inner accessories

Model		YCM7-125	YCM7-160	YCM7-250	YCM7-400/630	YCM7-800
No. of poles		3,4	3,4	3,4	3,4	3,4
Code	Accessory name					
208, 308	Alarm contact(SD)					
210, 310	Shunt release(MX)					
220, 320	Auxiliary contact(OF)					
230, 330	Under-voltage release(MN)					
240, 340	Shunt auxiliary contact(MX+MN)					
260, 360	Two groups auxiliary contacts(2OF)					
270, 370	Auxiliary contact UVT(OF+MN)					
218, 318	Shunt alarm contact(MX+SD)					
228, 328	Auxiliary alarm contact(OF+SD)					
238, 338	UVT alarm contact(MN+SD)					
248, 348	Shunt auxiliary alarm contact(MX+OF+SD)					
268, 368	Two groups aux alarm contact(2OF+SD)					
278, 378	Aux contact UVT alarm contact(OF+MN+SD)					
280, 380	Two groups aux contact and shunt(2OF+MX)					

B



● Alarm switch ○ Auxiliary switch □ Shunt release ■ Undervoltage release(UVT)

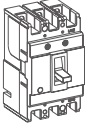
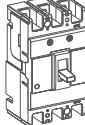
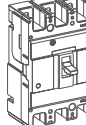
Remark: Right auxiliary, contact, left shunt, left UVT as options


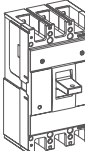

→
Accessories connecting wire

Distribution Apparatus

YCM7 Series MCCB

Technical data

Type	YCM7-125S	YCM7-160S	YCM7-250S
Frame(A)	125	160	250
Number of poles	3,4	3,4	3,4
Products			
Rated current In (A)	63, 80, 100, 125	63, 80, 100, 125, 140, 160	100, 125, 140, 160, 180, 200, 225, 250
Rated voltage Ue(V)	AC400V	AC400V	AC400V
Rated insulation voltage Ui(V)	AC800V	AC800V	AC800V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	15/8	25/18
	AC690V	-/-	-/-
Operating life(cycle)	Electrical life	600	3000
	Mechanical life	9000	7000
Motor-driven operation	•	•	•
External drive handle	•	•	•
Automatic release	Thermo-magnetic	Thermo-magnetic	Thermo-magnetic

Type	YCM7-400S/M	YCM7-630M	YCM7-800M
Frame(A)	400	630	800
Number of poles	3,4	3,4	3,4
Products			
Rated current In (A)	250, 315, 350, 400	500, 630	500, 630, 700, 800
Rated voltage Ue(V)	AC400V/AC690V	AC400V/AC690V	AC400V/AC690V
Rated insulation voltage Ui(V)	AC800V	AC800V	AC800V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	S:35/25 M:50/35	50/35
	AC690V	S:8/4 S:10/7.5	10/7.5
Operating life(cycle)	Electrical life	1000	500
	Mechanical life	4000	2500
Motor-driven operation	•	•	•
External drive handle	•	•	•
Automatic release	Thermo-magnetic	Thermo-magnetic	Thermo-magnetic

• Means accessory as option

Distribution Apparatus

YCM7 Series MCCB

Thermo-magnetic release

1. The circuit breaker (for power distribution) has reverse time breaking characteristics of overcurrent release in all pole states and is energized simultaneously at room temperature 40°C.

Test current	Current time	Conventional time		Initial status
		$I_n \leq 63$	$I_n < 63$	
Conventional non-trip current	1.05	1h	2h	Cold status
Conventional trip current	1.30	<1h	<2h	Hot status

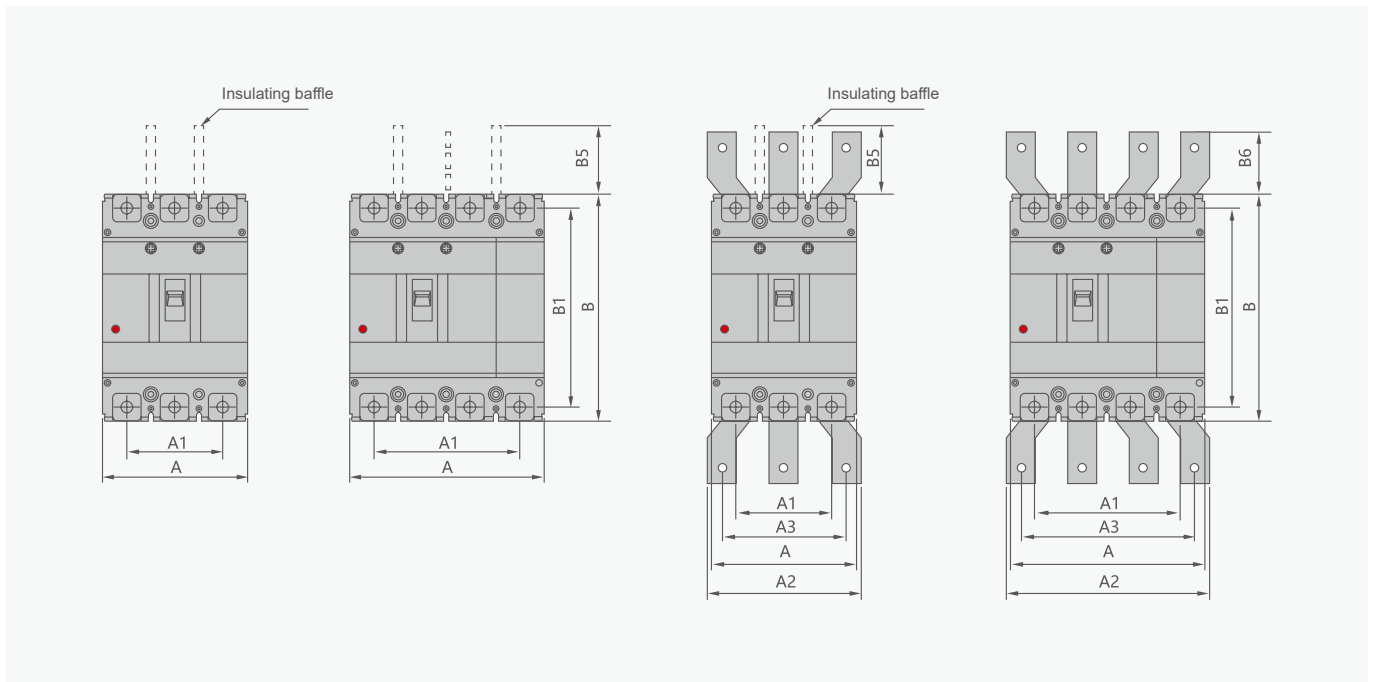
2. When ambient temperature is +40°C for electromotor protection breaker, power on for every pole, inverse time limit characteristic of no temperature compensation is in the following sheet.

Test current	Current time	Conventional time	Initial status
		$I_n \leq 800$	
Conventional non-trip current	1.0	2h	Cold status
Conventional trip current	1.2	<2h	Hot status

3. Action property of the short-circuit release of the breaker

- ◆ Instant trip (for power distribution) $I = 10I_n$
- ◆ Instant trip (for motor protection) $I = 12I_n$
- ◆ Current setting accuracy $\pm 20\%$

Overall and mounting dimensions(mm)

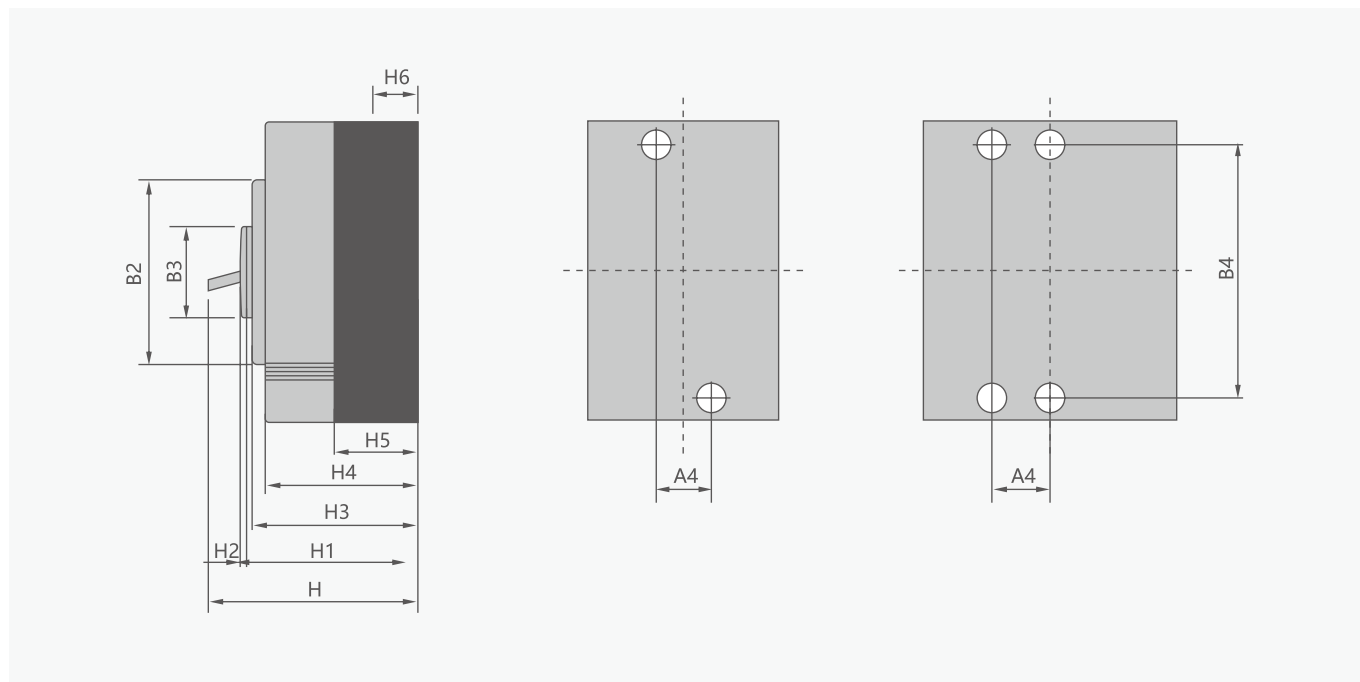


B

Distribution Apparatus

YCM7 Series MCCB

Overall and mounting dimensions(mm)



Model case Circuit breaker	Overall dimensions																				Installing dimensions		Bolt	
	A		A1		A2		A3		B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5	H6	A4		B4
	3P	4P	3P	4P	3P	4P	3P	4P																
YCM7-125S	75	100	50	75	-	-	-	-	130	114	85	50	50	-	72	4	68	61	41	24	41	25	111	M8/M6
YCM7-160S	90	120	60	90	-	-	-	-	155	134	103	50	50	-	72	4	68	61	41	24	41	30	132	M8
YCM7-250S	105	140	70	105	-	-	-	-	165	144	103	50	100	-	72	4	68	61	46	24	46	35	126	M8
YCM7-400S	140	185	88	132	140	196	112	168	257	230	179	90	110	43	107	5	105	97	64	36	64	44	194	M10
YCM7-400M	140	185	88	132	140	196	112	168	257	230	179	90	110	43	107	5	105	97	64	36	64	44	194	M10
YCM7-630M	140	185	88	132	140	196	112	168	257	230	179	90	110	42	107	5	105	97	64	36	64	44	194	M10
YCM7-800M	210	280	140	210	180	250	140	210	275	243	192	90	110	87	107	5	104	97	65	24	65	70	242.5	M12

Distribution Apparatus

YCM7RE Electronic Adjustable MCCB



General

YCM7RE Series Electronic circuit breaker is suitable for ac 50/60 Hz, rated voltage 690V, rated working current 800A, low voltage power grid.

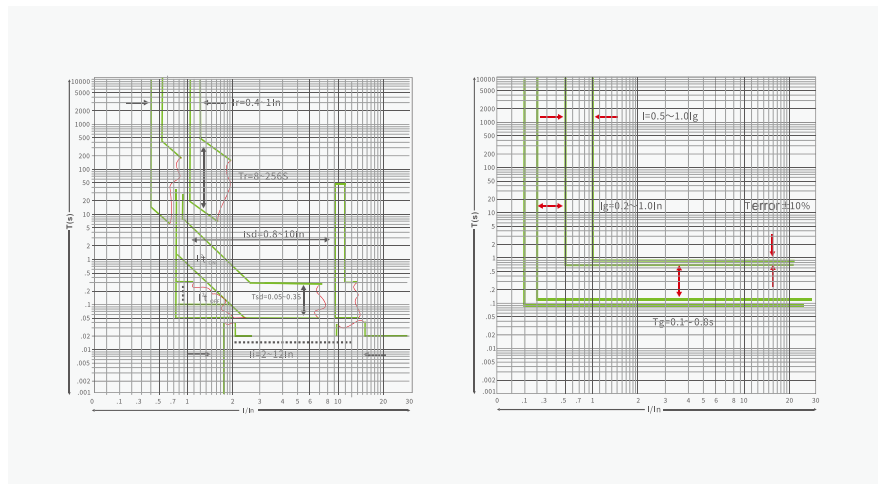
Operating conditions

1. Altitude less than 2000m.
2. Ambient medium temperature is from -5°C to +40°C (+45°C for shipping product).
3. Humidity resistance.
4. Bacteria resistance.
5. Nuclear radiation resistance.
6. Max lean degree is 22.5 degree.
7. Can operate normally when it comes to vibration of ship.
8. Can operate normally when it comes to earthquake(4g).
9. The medium should be no risk of blasting and can't erode the metal and damage insulating gas as well as conductive dust.
10. Work in the places where is no rain and snow.

Features

1. Above MCCB can put accessories such as, UVT, Shunt, Aux, Alarm contact, Motordriven operation, Mechanism, Rotary handle.
2. Functions available as over-load long-time delay, short-circuit time-delay, instant protection.
3. Earth-fault protection, thermal analog Pre-alarm, indication, over-current, indication operational current.

Curve



Distribution Apparatus

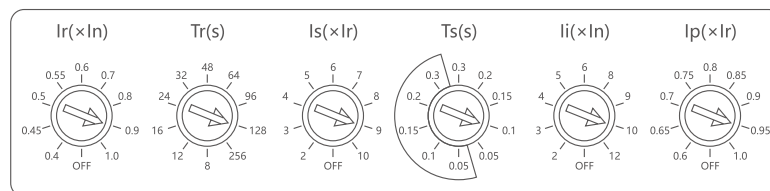
YCM7RE Electronic Adjustable MCCB

Type designation

YCM7 RE - 160 P/3 300 2 A 160A

Type	The adjustable type	Frame Inm
YCM7	RE	160
MCCB	RE: Electronic adjustable	Inm=160 Inm=250 Inm=400 Inm=630 Inm=800
Operation	Poles	Tripping mode and inner accessory
P	3	□00
P: Motor-driven Z: Rotation handle W: Direct	RE: Electronic adjustable	The intelligent tripping device Remark: The last two figures means accessory code (see accessories list)
Application	Option for 4P MCCB	
2	A	
P: Motor-driven Z: Rotation handle W: Direct	A: N pole without protection, N pole is always ON B: N pole without protection, N pole makes with the other three poles Remark: If the customer has no specific requirements, the quadrupole product will be the default for the B class	

Function



Notice:

1. Ir: Adjustable setting value of over-load protection, it could be adjusted as per customer's requirements;
2. Tr: Adjustable setting value of long time-delay operated time $Tr \pm 20\%$, tripping time at the status of $1.5I_r$ can be set as per customer's requirements;
3. Is: Adjustable setting value of short time-delay current;
4. Ts: Adjustable setting value of short time-delay operated time, it is divided into two types: fixed time limit Ts (0.05s, 0.1s, 0.15s, 0.2s, 0.3s) and reverse time limit Ts (0.05s, 0.1s, 0.15s, 0.2s, 0.3s).
5. Ii: Adjustable setting value of instant current;
6. Ip: Adjustable setting value of over-load alarm current.

Distribution Apparatus

YCM7RE Electronic Adjustable MCCB

Inner accessories of YCM7RE 3P

Model		YCM7RE-160	YCM7RE-250	YCM7RE-400	YCM7RE-630	YCM7RE-800
No. of poles		3	3	3	3	3
Code	Accessory name					
308	Alarm contact(SD)					
310	Shunt release(MX)					
320	Auxiliary contact(OF)					
330	Under-voltage release(MN)					
340	Shunt auxiliary contact(MX+MN)					
360	Two groups auxiliary contacts(2OF)					
370	Auxiliary contact UVT(OF+MN)					
318	Shunt alarm contact(MX+SD)					
328	Auxiliary alarm contact(OF+SD)					
338	UVT alarm contact(MN+SD)					
348	Shunt auxiliary alarm contact(MX+OF+SD)					
368	Two groups aux alarm contact(2OF+SD)					
378	Aux contact UVT alarm contact(OF+MN+SD)					
380	Two groups aux contact and shunt(2OF+MX)					

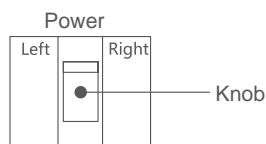
B

Distribution Apparatus

YCM7RE Electronic Adjustable MCCB

Inner accessories of YCM7RE 4P

Model		YCM7RE-160	YCM7RE-250	YCM7RE-400	YCM7RE-630	YCM7RE-800
No. of poles		4	4	4	4	4
Code	Accessory name					
308	Alarm contact(SD)					
310	Shunt release(MX)					
320	Auxiliary contact(OF)					
330	Under-voltage release(MN)					
340	Shunt auxiliary contact(MX+MN)					
360	Two groups auxiliary contacts(2OF)					
370	Auxiliary contact UVT(OF+MN)					
318	Shunt alarm contact(MX+SD)					
328	Auxiliary alarm contact(OF+SD)					
338	UVT alarm contact(MN+SD)					
348	Shunt auxiliary alarm contact(MX+OF+SD)					
368	Two groups aux alarm contact(2OF+SD)					
378	Aux contact UVT alarm contact(OF+MN+SD)					
380	Two groups aux contact and shunt(2OF+MX)					



● Alarm switch ○ Auxiliary switch □ Shunt release ■ Undervoltage release(UVT)

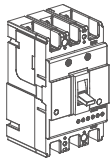
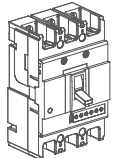
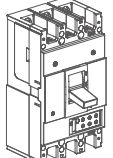
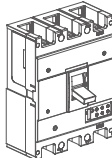
Remark: Right auxiliary, contact, left shunt, left UVT as options

→
Accessories connecting wire

Distribution Apparatus

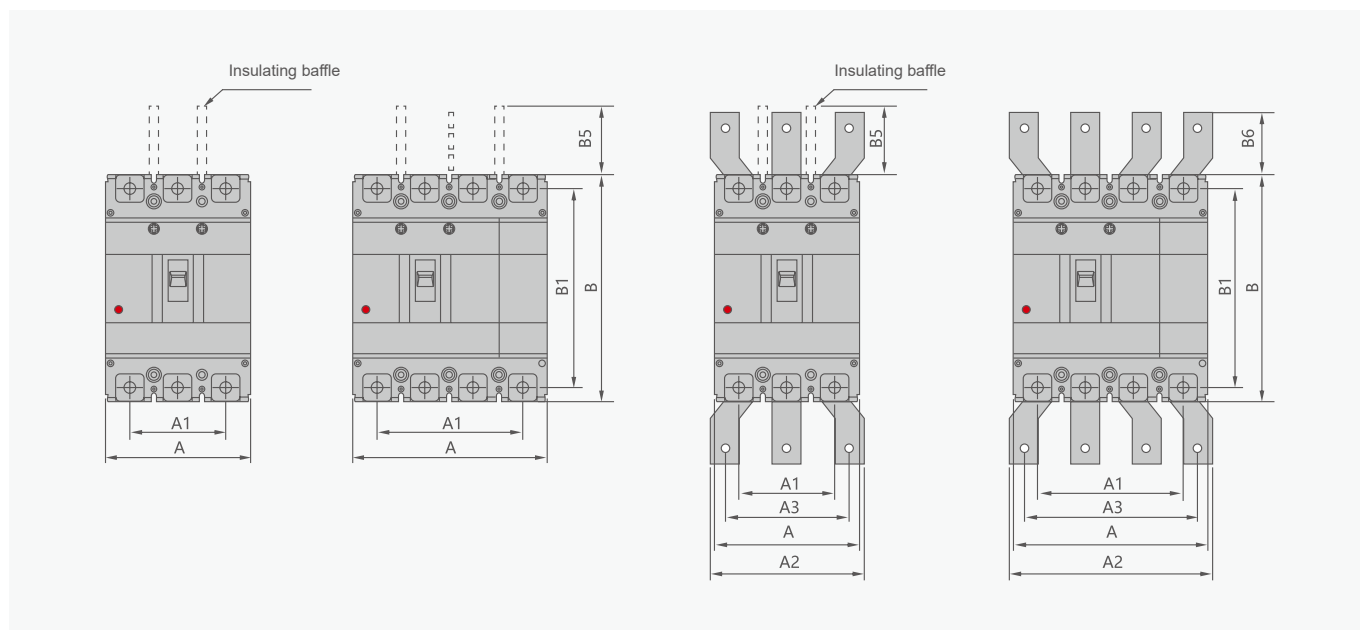
YCM7RE Electronic Adjustable MCCB

Technical data

Type	YCM7RE-160M	YCM7RE-250M	YCM7RE-400M/630M	YCM7RE-800M
Frame(A)	160	250	400 630	800
Number of poles	3,4	3,4	3,4	3,4
Products				
Rated current In (A)	16-32, 40-100,64-160	100-250	160-400, 252-630	252-630,320-800
Rated voltage Ue(V)	AC400/690V	AC400/690V	AC400/690V	AC400/690V
Rated insulation voltage Ui(V)	AC800V	AC800V	AC800V	AC800V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	35/25	50/35	50/35
	AC690V	8/4	10/7.5	15/10
Operating cycle number	Electrical life	1500	1000	1000
	Mechanical life	8500	7000	4000
Motor-driven operation	•	•	•	•
External drive handle	•	•	•	•
Automatic release	Electronic type	Electronic type	Electronic type	Electronic type

- Means accessory as option

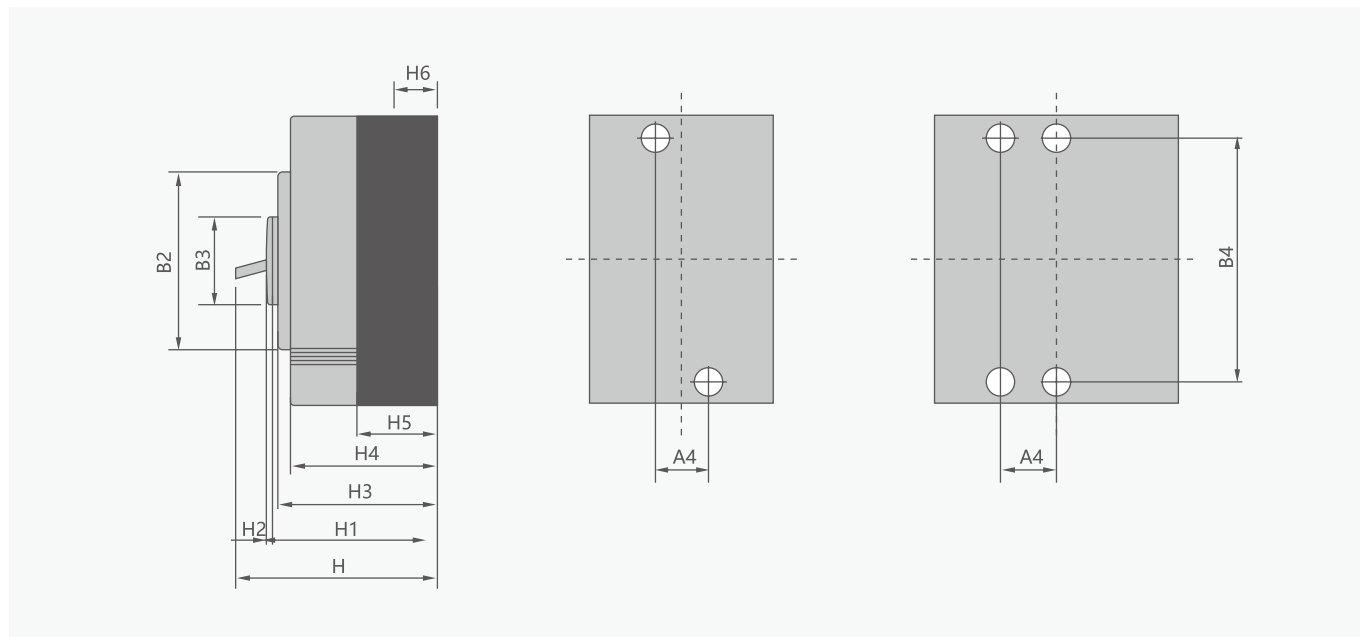
Overall and mounting dimensions(mm)



Distribution Apparatus

YCM7RE Electronic Adjustable MCCB

Overall and mounting dimensions(mm)



Thermal magnetic trip circuit breaker	Overall dimensions																			Installing dimensions		Bolt		
	A		A1		A2		A3		B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5	H6		A4	B4
	3P	4P	3P	4P	3P	4P	3P	4P																
YCM7RE-160M	90	120	60	90	-	-	-	-	155	134	102	50	50	-	109	83	4	68	61	20.7	24	30	132	M8
YCM7RE-250M	105	140	70	105	-	-	-	-	165	144	102	50	100	-	120	91	4	68	61	45	24	35	126	M8
YCM7RE-400M	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	45	36	44	194	M10
YCM7RE-630M	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	45	36	44	194	M10
YCM7RE-800M	210	280	140	210	180	250	140	210	175	243	192	90	110	87	155	107	5	104	97	15	24	70	243	2xM8

Distribution Apparatus

YCM7T/A, RT Thermal Magnetic Adjustable MCCB



B

Type designation

YCM7 RT - 160 M P / 3 300 2 A 160A Q1 D5 Q 2

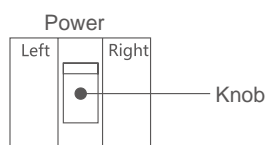
Type	The adjustable type	Frame Inm	Breaking capacity Icu/lcs(kA)	Operation	Poles																					
YCM7	RT	- 160	M	Z	3																					
MCCB	RT:Thermal and Magnetic adjust type T/A:Only thermal adjust	160, 250,400, 630,800	<table border="1"> <tr> <td>160</td> <td>S</td> <td>M</td> </tr> <tr> <td>250</td> <td>25/18</td> <td>-</td> </tr> <tr> <td>400</td> <td>25/18</td> <td>-</td> </tr> <tr> <td>630</td> <td>35/25</td> <td>-</td> </tr> <tr> <td>800</td> <td>-</td> <td>50/35</td> </tr> <tr> <td></td> <td></td> <td>50/35</td> </tr> <tr> <td></td> <td></td> <td>50/35</td> </tr> </table>	160	S	M	250	25/18	-	400	25/18	-	630	35/25	-	800	-	50/35			50/35			50/35	P: Motor-driven Z: Rotary handle W: Directly	2: 2P 3: 3P 4: 4P
160	S	M																								
250	25/18	-																								
400	25/18	-																								
630	35/25	-																								
800	-	50/35																								
		50/35																								
		50/35																								
Tripping mode and inner accessory	Application	Option for 4P MCCB	Rated current(A)																							
300	2	A	160																							
First figure means tripping unit way 2: Only with magnetic release 3: Thermal release+,magnetic release body Remark: The last two figures means accessory code (see accessories list)	1. Power distribution 2. Motor-protection	A: N pole without protection, N pole is always ON B: N pole without protection, N pole makes with the other three poles	160 50-63, 63-80, 80-100,100-125, 125-160 250 100-125, 125-160,160-200, 200-250 400 200-250, 250-320, 320-400 630 400-500, 500-630 800 500-630, 630-800																							
Accessory voltage	Motor-driven operation voltage	Connection	With the connection plate or not																							
Q1	D	Q	2																							
UVT Q1: AC220V Q2: AC240V Q3: AC380V Q4: AC415V	Shunt F1: AC220V F2: AC380V F3: DC110V F4: DC24V	DC3 D5:AC220V D6:AC110V D7:DC220V D8:DC110V D9:AC110~240V D10: DC100~220V	Q: Front H: Rear C: Plug-in	1: not 2: yes																						

Distribution Apparatus

YCM7T/A, RT Thermal Magnetic Adjustable MCCB

Inner accessories

Model		YCM7T/A-160 YCM7RT-160		YCM7T/A-250 YCM7RT-250		YCM7T/A-400/630 YCM7RT-400/630		YCM7T/A-800 YCM7RT-800	
Breaking capacity		S		S		S,M		S,M	
No. of poles		3	4	3	4	3,4		3,4	
Code	Accessory name								
208, 308	Alarm contact(SD)								
210, 310	Shunt release(MX)								
220, 320	Auxiliary contact(OF)								
230, 330	Under-voltage release(MN)								
240, 340	Shunt auxiliary contact(MX+MN)								
260, 360	Two groups auxiliary contacts(2OF)								
270, 370	Auxiliary contact UVT(OF+MN)								
218, 318	Shunt alarm contact(MX+SD)								
228, 328	Auxiliary alarm contact(OF+SD)								
238, 338	UVT alarm contact(MN+SD)								
248, 348	Shunt auxiliary alarm contact(MX+OF+SD)								
268, 368	Two groups aux alarm contact(2OF+SD)								
278, 378	Aux contact UVT alarm contact(OF+MN+SD)								
280, 380	Two groups aux contact and shunt(2OF+MX)								



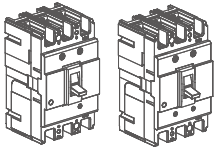
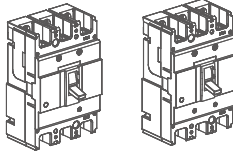
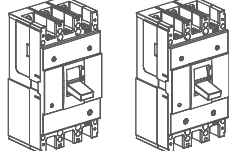
● Alarm switch ○ Auxiliary switch □ Shunt release ■ Undervoltage release(UVT)

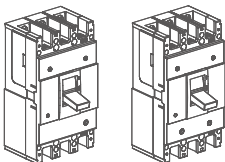
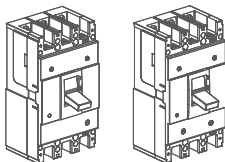
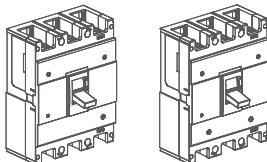
Remark: Right auxiliary, contact, left shunt, left UVT as options

Distribution Apparatus

YCM7T/A, RT Thermal Magnetic Adjustable MCCB

Technical data

Type	YCM7T/A-160S YCM7RT-160S	YCM7T/A-250S YCM7RT-250S	YCM7T/A-400S YCM7RT-400S
Frame(A)	160	250	400
Number of poles	3,4	3,4	3,4
Products			
Rated current In (A)	50-63,63-80,80-100, 100-125,125-160	100-125,125-160, 160-200,200-250,	200-250,250-320, 320-400
Rated voltage Ue(V)	AC400	AC400	AC400/690V
Rated insulation voltage Ui(V)	AC800V	AC800V	AC800V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	25/18	35/25
	AC690V	-	8/4
Operation life (cycle)	ON	3000	2000
	OFF	7000	4000
Motor-driven operation	•	•	•
External drive handle	•	•	•
Automatic release	Thermo-magnetic	Thermo-magnetic	Thermo-magnetic

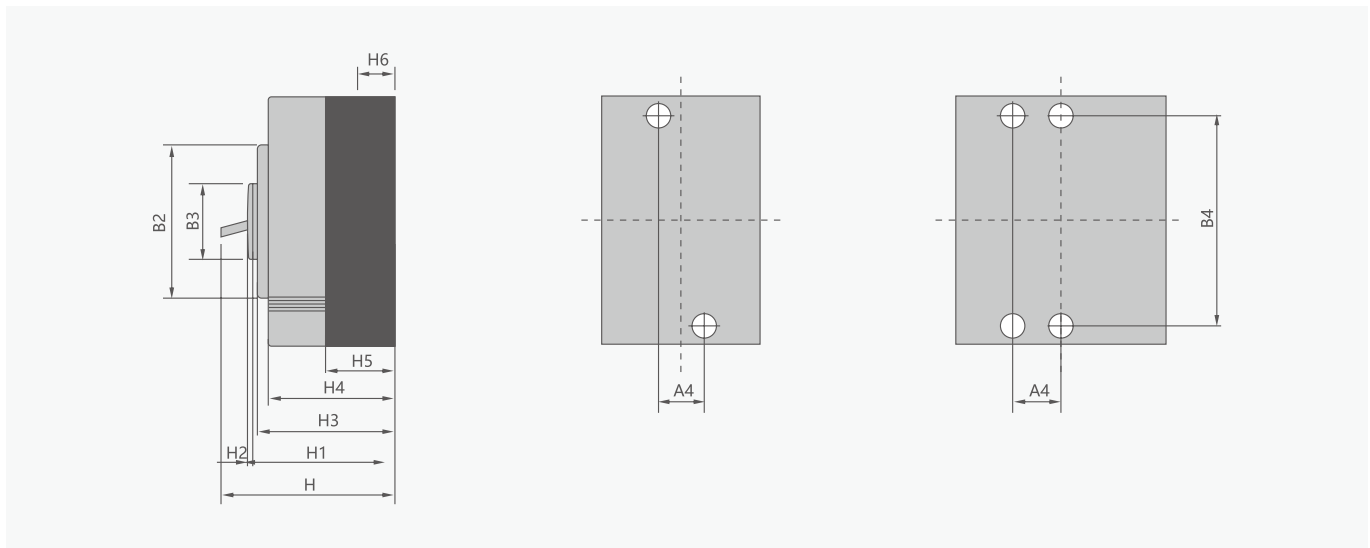
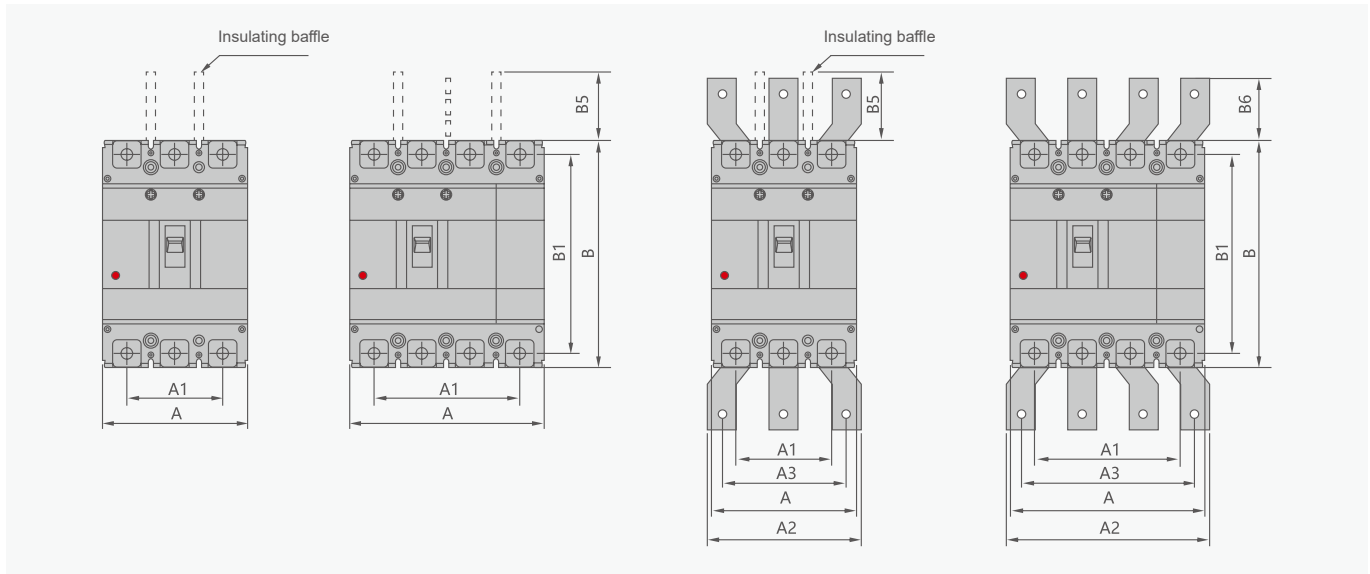
Type	YCM7T/A-400M YCM7RT-400M	YCM7T/A-630M YCM7RT-630M	YCM7T/A-800M YCM7RT-800M
Frame(A)	400	630	800
Number of poles	3,4	3,4	3,4
Products			
Rated current In (A)	200-250,250-320,320-400	400-500,500-630	500-630,630-800
Rated voltage Ue(V)	AC400/690V	AC400/690V	AC400/690V
Rated insulation voltage Ui(V)	AC690V	AC690V	AC690V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	50/35	50/35
	AC690V	10/7.5	15/10
Operation life (cycle)	ON	2000	1500
	OFF	4000	4000
Motor-driven operation	•	•	•
External drive handle	•	•	•
Automatic release	Thermo-magnetic	Thermo-magnetic	Thermo-magnetic

B

Distribution Apparatus

YCM7T/A, RT Thermal Magnetic Adjustable MCCB

Overall and mounting dimensions(mm)




Thermal magnetic trip circuit breaker	Thermal adjustable circuit breaker	Overall dimensions																			Installing dimensions		Bolt		
		A		A1		A2		A3		B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5	H6		A4	B4
		3P	4P	3P	4P	3P	4P	3P	4P																
YCM7RT-160S	YCM7T/A-160S	90	120	60	90	-	-	-	-	155	134	103	50	50	-	94	72	4	68	61	47	24	30	132	M8
YCM7RT-250S	YCM7T/A-250S	105	140	70	105	-	-	-	-	165	144	103	50	100	-	96	72	4	68	61	46	24	35	126	M8
YCM7RT-400S	YCM7T/A-400S	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	64	36	44	194	M10
YCM7RT-400M	YCM7T/A-400M	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	64	36	44	194	M10
YCM7RT-630M	YCM7T/A-630M	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	64	36	44	194	M10
YCM7RT-800M	YCM7T/A-800M	210	280	140	210	180	250	140	210	175	243	192	90	110	87	155	107	5	104	97	65	24	70	242.5	M12

Distribution Apparatus

YCM7YV MCCB



General

YCM7YV series electronic plastic case circuit breaker (hereinafter referred to as: circuit breaker) is suitable for low-voltage power grids with AC 50/60 Hz, rated insulation voltage 800V, rated operating voltage 400V and below, and rated operating current up to 800A. The circuit breaker has overload long-delay inverse time limit, short-circuit short-delay inverse time limit, short-circuit short-delay fixed time limit, short-circuit instantaneous and under-voltage protection functions. Under normal circumstances, the circuit breaker is used for infrequent switching of circuits and infrequent starting of motors. This series of circuit breakers has isolation function, and its corresponding symbol is "  "

Standard: IEC60947-2.

Operating conditions

1. Ambient air temperature
 - a) The upper limit value does not exceed +40°C;
 - b) The lower limit value does not exceed -5°C;
 - c) The average value over 24 hours does not exceed +35°C;
2. Altitude
The altitude of the installation site does not exceed 2000m.
3. Atmospheric conditions
The relative humidity of the atmosphere does not exceed 50% when the ambient maximum temperature is +40°C; it can have higher relative humidity at lower temperatures; when the monthly average minimum temperature of the wettest month is +25°C, the monthly average maximum temperature of the month is +25°C. The relative humidity is 90%, taking into account condensation that occurs on the product surface due to temperature changes.
4. Pollution degree
Pollution degree 3, the accessories installed in the circuit breaker have a pollution degree 2.
5. Installation category
The main circuit of the circuit breaker shall be installation category III, and the auxiliary circuit and control circuit shall be installation category II.
6. Installation conditions.
Circuit breakers should generally be installed vertically, usually with upward wiring, and the external magnetic field at the installation site should not exceed 5 times the geomagnetic field in any direction.

B

Distribution Apparatus

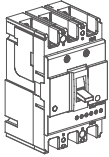
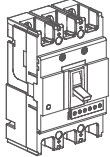
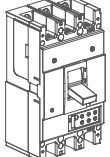
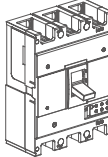
YCM7YV MCCB

Type designation

YCM7YV - 250 M P / 3 3 00 100-250A

Model	Shell frame	Breaking capacity	Number of poles	Tripping method	Accessorie	Rated current
YCM7YV -	250	M /	3	3	00	100-250A
YCM7YV	160 250 400 630	M:Standard breaking	3:3P	3:Electronic	00:No accessories	16-32A 40-100A 64-160A 100-250A 160-400A 252-630A

Technical data

Type	YCM7YV-160M	YCM7YV-250M	YCM7YV-400M	YCM7YV-630M
Frame(A)	160	250	400	630
Number of poles	3	3	3	3
Products				
Rated current adjustable range In(A)	16-32,40-100,64-160	100-250	160-400	160-400,252-630
Rated voltage Ue(V)	AC400/690V	AC400/690V	AC400/690V	AC400/690V
Rated insulation voltage Ui(V)	AC800V	AC800V	AC800V	AC800V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	35/25	35/25	50/35
	AC690V	8/4	8/4	10/7.5
Operation life (cycle)	ON	1500	1000	1000
	OFF	8500	7000	4000
Motor-driven operation	•	•	•	•
External drive handle	•	•	•	•
Automatic release	Electronic type	Electronic type	Electronic type	Electronic type

Distribution Apparatus

YCM7YV MCCB

Function description

Specifications and functions			
Classification	Describe		•
Display method	LCD display+LED indicator		•
Interface operation	key		•
Protection function	Current protection	Overload long delay protection function	•
		Short circuit protection Time delayprotection	•
		Short circuit instantaneous protection function	•
		Overload warning function	•
	Voltage protection	Undervoltage protection work	•
		Overvoltage protection function	•
		Lack of phase protection function	•
		Power side zero break protection function	•
	Communication function	D/LT645-2007 Multifunctional metercommunication protocol Modbus-RTu	•
		Modbus-RTU communication protocol	○
		RS-485Communication hardware 1 RS-485	•
	port function	Communication auxiliary power input	○
		One DI/O programmable control input	○
	Fault record	10 trip failure storage	•
		80 protection function logout events recorded	•
		10 gate position changeevents recorded	•
10 alarm event records		•	
Time function	With year, month, day, minute and second real-time clock function	•	
Measurement function	Measure electrical parameters	Voltage 0.7Ue~1.3Ue,0.5%	•
		Current 0.2In~1.2In,0.5%:	•
		Three-phase and total powerfactor 0.5~100005	•
		Three-phase and total active power, reactivepower,apparent power	•
		Three-phase and total active energy, reactive energy,apparent energy	•
		Voltage harmonics and total voltage harmonic distortion	•
		Current harmonics and total current harmonic distortion	•

Note:

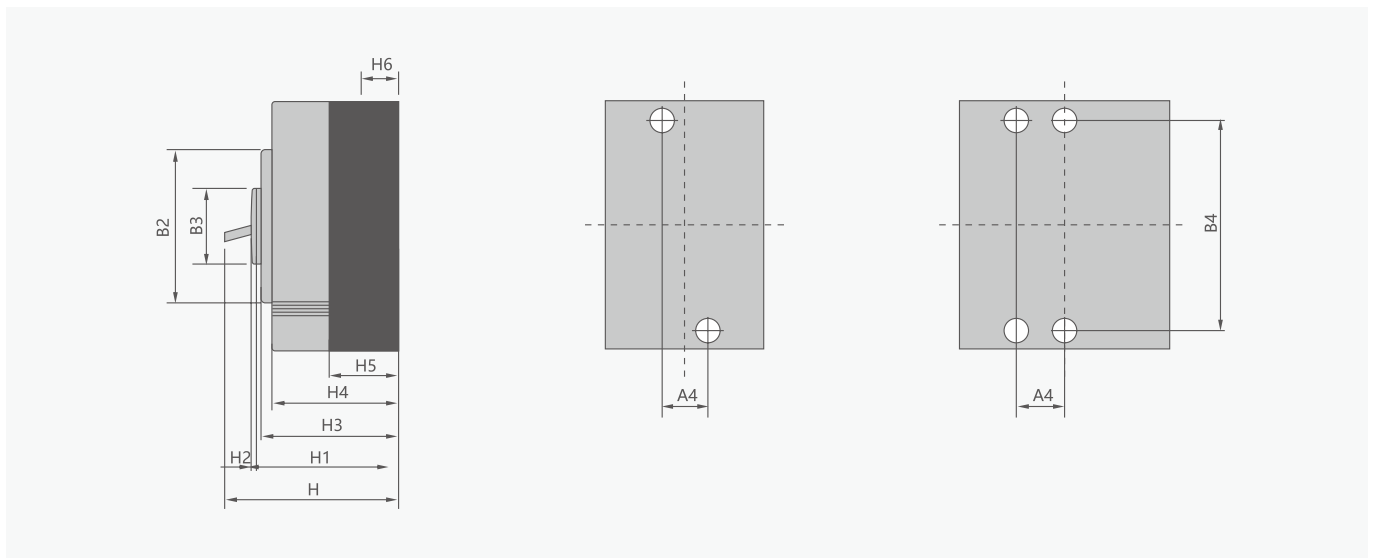
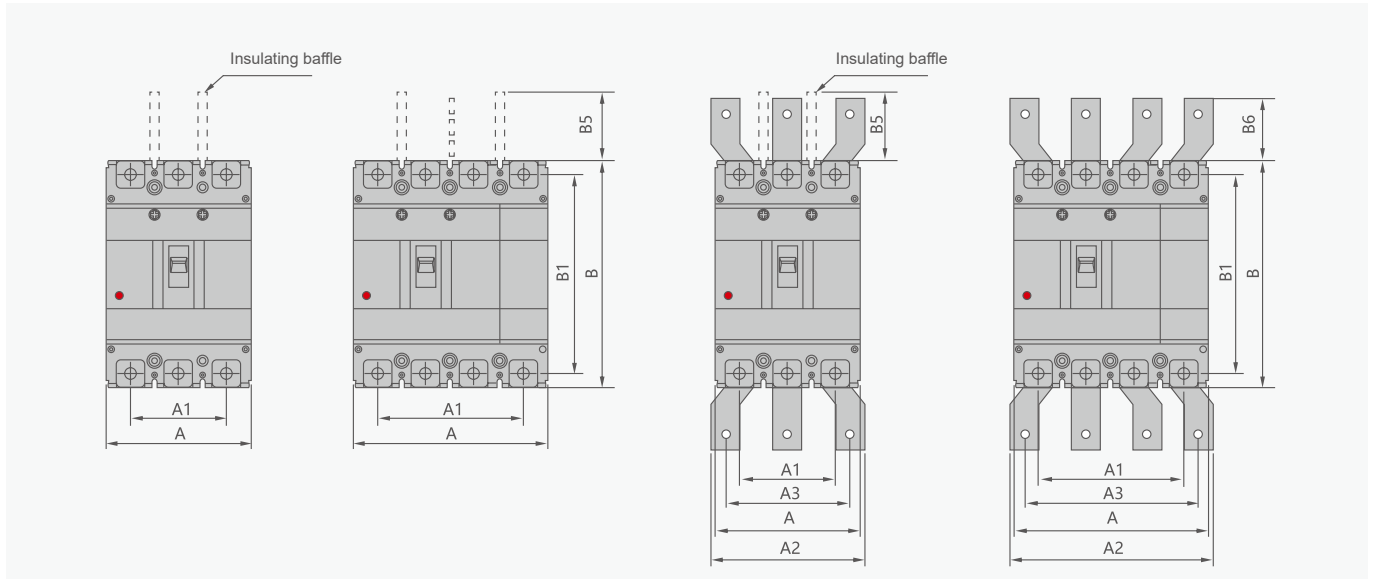
The symbol " " indicates that it has its function: the symbol " O"indicates that this function is optional; The symbol "-" indicates that thisfunction is unavailable.

B

Distribution Apparatus

YCM7YV MCCB

Overall and mounting dimensions(mm)



Model	Overall dimensions																		Mounting dimensions		Bolt			
	A	A1	A2		A3	B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5	H6	A4	B4				
	3P	4P	3P	4P	3P	4P	3P	4P																
160M	105	-	70	-	-	-	-	-	165	144	104	59	110	-	120	98	2	98	84	22.5	24	35	126	M8
250M	105	-	70	-	-	-	-	-	165	144	104	59	110	-	120	98	2	98	97	22.5	24	35	126	M8
400M	140	-	88	-	140	-	112	-	257	230	179	100	110	42	155	110	3	110	97	29	30	44	194	M10
630M	140	-	88	-	140	-	112	-	257	230	179	100	110	42	155	110	3	110	97	30	32	44	194	M10
800M	210	-	140	-	180	-	140	-	257	243	192	90	110	87	155	107	5	104	97	25	25	70	243	M12



General

The rated insulation voltage of this circuit breaker is up to 800V, suitable for distribution network circuits with AC 50/60Hz, rated working voltage up to 690V, and rated working current up to 800A. It is used to distribute electrical energy and protect lines and power equipment from losses caused by overload, short circuit, undervoltage and other faults. At the same time, it can also serve as infrequent starting and overload, short circuit, and undervoltage protection for electric motors.

This circuit breaker has the characteristics of small size, high breaking height, and short arcing, making it an ideal product for users. Circuit breakers can be installed vertically or horizontally.

Standard:IEC60947-2

Operating conditions

1. The product can operate reliably in Class III polluted environments defined by IEC/EN 60947-1 and IEC 60664-1 (industrial environments).
2. It can be used in a temperature range of -35 °C~70 °C. If the temperature is below -5 °C or above 40 °C, it must be reduced in capacity for use.
3. Installation altitude below 2000m is considered for normal operation. If it exceeds 2000m, the decrease in dielectric strength and air cooling factors must be taken into account. Please use the altitude reduction coefficient table provided in the sample for correction.
4. The product has passed environmental tests such as dry cold, dry heat, and humid heat, and can operate reliably in unconventional environments
5. The product complies with the requirements of IEC 60529/GB/T 4208 (enclosure protection level) standard. Product body: protection grade IP30 (excluding wiring terminals).

Distribution Apparatus

YCM7LE Series MCCB

Type designation

YCM7LE - 160 S P / 4 300 2 A 160A L1 Y1 Q1 D5 Q 2

Type	Frame Inm	Breaking capacity Icu/Ics(kA)	Operation	Poles	Tripping mode and inner accessory
YCM7LE	160	S	P	4	300
Earth Leakage MCCB		S			First figure means tripping unit way 2: Only with magnetic release 3: Thermal release+,magnetic re-lease body Remark: The last two figures means accessory code (see accessories list)
	160,	160,	25/18	/	
	250,	250,	25/18	/	
	400,	400,	/	35/25	
	630,	630,	/	35/25	
800	800	/	35/25		
			P: Motor-driven Z: Rotary handle W: Directly	4: 4P	

Application	Option for 4P MCCB	Rated current(A)	Rated residual operating current (mA)
2	A	160A	L1
1. Power distribution 2. Motor-protection	A: N pole without protection, N pole is always ON B: N pole without protection, N pole makes with the other three poles	160 : 10, 16, 20, 32, 40, 50, 63, 80, 100, 125, 140, 160 250 : 100, 125, 140, 160, 180, 200, 225, 250 400 : 250, 315, 350, 400 630 : 250, 315, 350, 400, 500, 630 800 : 500, 630, 700, 800	Fixed type Quick three adjustable L1: 30 L11: 30, 50,100 L2: 50 L12: 30, 100,200 L3: 75 L13: 30, 100,500 L4: 100 L14: 100, 300,500 L5: 150 L15: 100, 300,500 L7: 200 L16: 100, 300,1000 L8: 200 L9: 500 L10: 1000

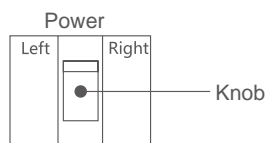
Delay fixed type	Accessory voltage	Motor-driven operation voltage	Connection	With the connection plate or not
Y1	Q1	D5	Q	2
Delay fixed type Quick three adjustable Y1: 0.1S Y13: 0.45,1,2 Y2: 0.2S Y14: 1,2,3 Y3: 0.3S Y4: 0.4S Y5: 0.5S Y6: 0.6S Y7: 0.7S Y8: 0.8S Y9: 0.9S Y10: 1.0S Y11: 1.1S Y12: 1.2S	UVT Shunt Q1: AC220V F1: AC220V Q2: AC240V F2: AC380V Q3: AC380V F3: DC110V Q4: AC415V F4: DC24V	DC3 D5:AC230V D6:AC110V D7:DC220 D8:DC110 D9: AC110 ~ 240V D10:DC100~220V	Q: Front H: Rear C: Plug-in	1: not 2: yes

Distribution Apparatus

YCM7LE Series MCCB

Inner accessories

Model		YCM7LE-160	YCM7LE-250	YCM7LE-400/630	YCM7LE-800
Breaking capacity		S	S	S	S
No. of poles		3,4	3,4	3,4	3,4
Code	Accessory name				
208, 308	Alarm contact(SD)				
210, 310	Shunt release(MX)				
220, 320	Auxiliary contact(OF)				
230, 330	Under-voltage release(MN)				
240, 340	Shunt auxiliary contact(MX+MN)				
260, 360	Two groups auxiliary contacts(2OF)				
270, 370	Auxiliary contact UVT(OF+MN)				
218, 318	Shunt alarm contact(MX+SD)				
228, 328	Auxiliary alarm contact(OF+SD)				
238, 338	UVT alarm contact(MN+SD)				
248, 348	Shunt auxiliary alarm contact(MX+OF+SD)				
268, 368	Two groups aux alarm contact(2OF+SD)				
278, 378	Aux contact UVT alarm contact(OF+MN+SD)				
280, 380	Two groups aux contact and shunt(2OF+MX)				



● Alarm switch ○ Auxiliary switch □ Shunt release ■ Undervoltage release(UVT)

Remark: Right auxiliary, contact, left shunt, left UVT as options

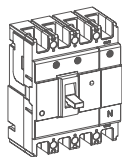
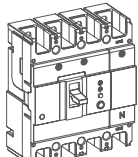
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Accessories connecting wire

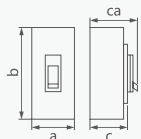
B

Distribution Apparatus

YCM7LE Series MCCB

Technical data

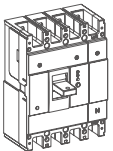
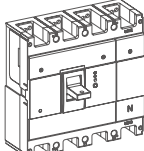
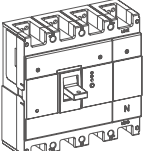
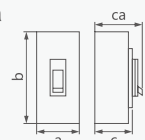
Type		YCM7LE-160	YCM7LE-250
Frame(A)		160	250
Number of poles		4	4
Products			
Rated current In (A)		10, 16, 20, 32, 40, 50, 63, 80, 100, 125, 160	100, 125, 140, 160, 180, 200, 225, 250
Rated voltage Ue(V)		400/690	
Rated insulation voltage Ui(V)		AC800V	AC800V
Rated impulse withstand voltage Uimp(KV)		8	8
Breaking capacity		S	S
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	25/18	25/18
	AC690V	5/3	5/3
Working with categories		A	A
Operation life(cycle)	ON	3000	3000
	OFF	7000	7000
Dimension(mm) a-b-c-ca		4P 120-155-70-94	140-165-70-96



Distribution Apparatus

YCM7LE Series MCCB

Technical data

Type		YCM7LE-400	YCM7LE-630	YCM7LE-800
Frame(A)		400	630	800
Number of poles		4	4	4
Products				
Rated current In (A)		250, 315, 350, 400	250, 315, 350, 400, 500, 630	500, 630, 700, 800
Rated voltage Ue(V)		400/690		
Rated insulation voltage Ui(V)		AC800V	AC800V	AC800V
Rated impulse withstand voltage Uimp(KV)		8	8	8
Breaking capacity		H	H	H
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	35/25	35/25	35/25
	AC690V	8/4	8/4	8/4
Working with categories		A	A	A
Operation life(cycle)	ON	2000	2000	1500
	OFF	4000	4000	4000
Dimension(mm) a-b-c-ca		4P 185-257-105-155	185-257-105-155	280-275-105-155

B

Distribution Apparatus

YCM7LE Series MCCB

Thermo-magnetic release

1. The circuit breaker (for power distribution) has reverse time breaking characteristics of overcurrent release in all pole states and is energized simultaneously at room temperature 40°C.

Test current	Current time	Conventional time		Initial status
		$I_n \leq 63$	$I_n < 63$	
Conventional non-trip current	1.05	1h	2h	Cold status
Conventional trip current	1.30	<1h	<2h	Hot status

2. When ambient temperature is +40°C for electromotor protection breaker, power on for every pole, inverse time limit characteristic of no temperature compensation is in the following sheet.

Test current	Current time	Conventional time	Initial status
		$I_n \leq 800$	
Conventional non-trip current	1.0	2h	Cold status
Conventional trip current	1.2	<2h	Hot status

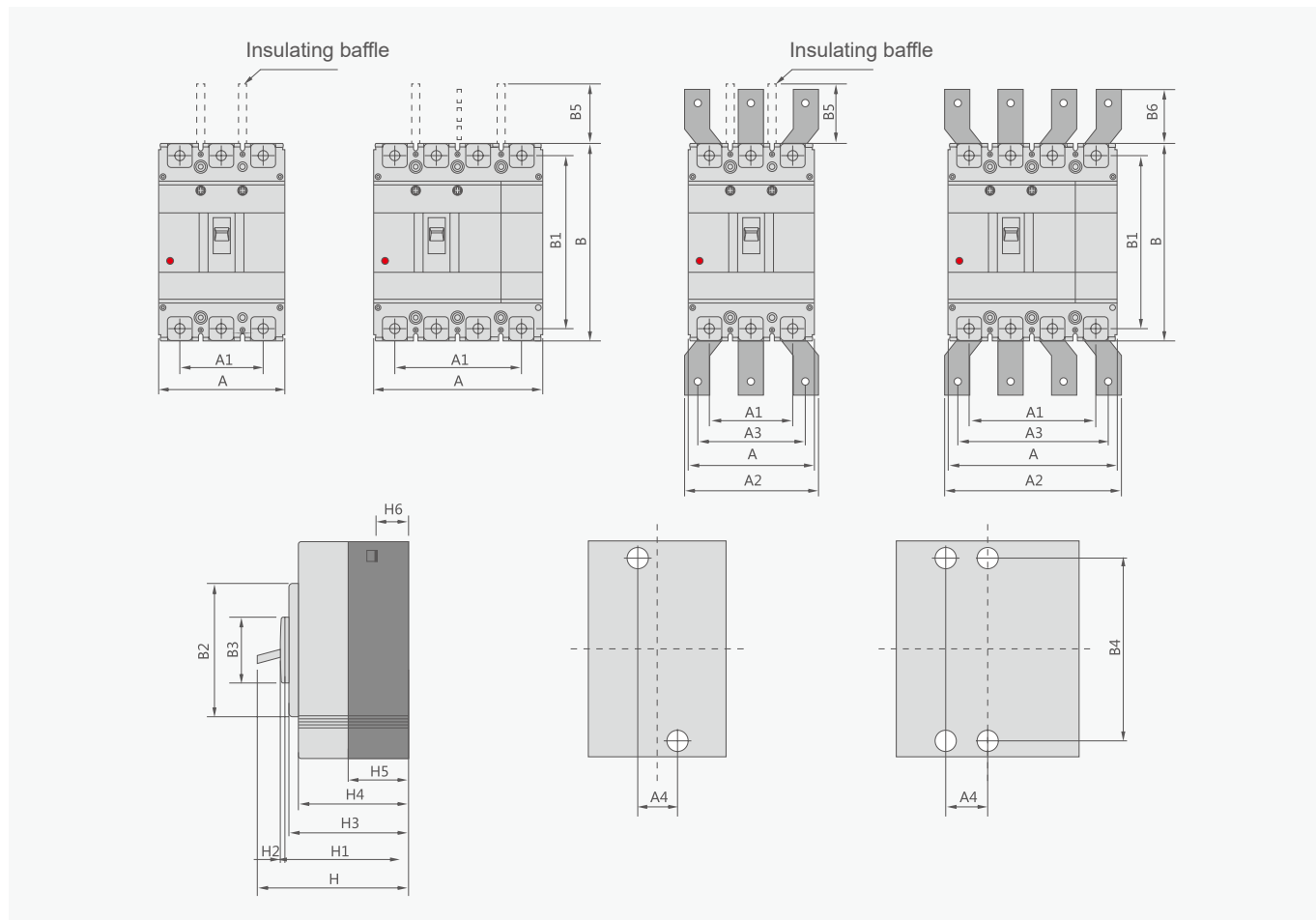
3. Action property of the short-circuit release of the breaker

- ◆ Instant trip (for power distribution) $I = 10I_n$
- ◆ Instant trip (for motor protection) $I = 12I_n$
- ◆ Current setting accuracy $\pm 20\%$

Distribution Apparatus

YCM7LE Series MCCB

Overall and mounting dimensions(mm)



B

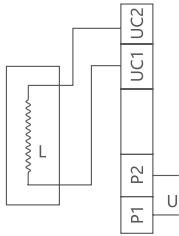
Thermal magnetic trip circuit breaker	Overall dimensions																		Installing dimensions		Bolt			
	A		A1		A2		A3		B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5		H6	A4	B4
	3P	4P	3P	4P	3P	4P	3P	4P																
YCM7LE-160	-	120	-	90	-	-	-	-	155	134	103	50	50	-	94	72	4	70	61	41	24	30	132	M8
YCM7LE-250	-	140	-	105	-	-	-	-	165	144	103	50	100	-	96	72	4	70	61	46	24	35	126	M8
YCM7LE-630	-	185	-	132	-	196	-	168	257	230	179	90	110	42	155	107	5	105	97	64	35	44	194	M10
YCM7LE-800	-	280	-	210	-	250	-	210	275	243	192	90	110	87	155	107	5	104	97	65	24	70	242.5	M12

Distribution Apparatus

YCM7 Series MCCB Accessories

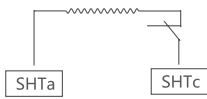
Internal accessories

Internal accessories of YCM7, YCM7RT, YCM7E series include undervoltage release, shunt release and auxiliary alarm release, their main technical parameters and wiring diagram are as follows:



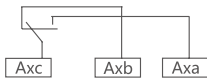
Undervoltage release

Rated voltage of power supply	Main features
AC220, AC240 AC380, AC415	<p>A. Undervoltage release should act when voltage drops to within 70% and 35% of the rated voltage.</p> <p>B. The undervoltage release should not be closed to prevent the circuit breaker from closing when the voltage is lower than 35% of the rated voltage.</p> <p>C. The undervoltage release should be closed to ensure reliable closing of the circuit breaker when the voltage is equal to or greater than 85% of the rated voltage.</p>



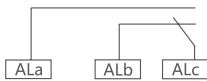
Shunt release

Rated voltage of power supply	Main features
AC24, DC110 AC220, AC380	Shunt release can work reliably when the rated voltage value is at 70% and 110%.

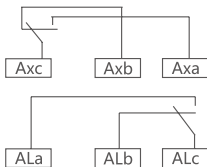


Auxiliary alarm contact

Rated voltage of power supply	Main features
Auxiliary switch AC 125V 5A, AC 250V 3A DC 125V0.4A, DC 125V0.2A	Shunt release can work reliably when the rated voltage value is at 70% and 110%.



Alarm switch AC 125 5A, AC 250V 3A DC 125V0.4A, DC 125V 0.2A	Provide differentiated signals for the circuit breaker at "normal work" and "fault free trip" positions.
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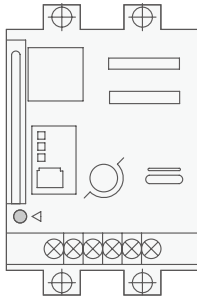
Auxiliary alarm switch AC 125V 5A, AC 250V 3A DC 125V0.4A.DC125V0.2A	Provide differentiated signals for the circuit breaker at "close", "open" and "fault free trip" positions.
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Distribution Apparatus

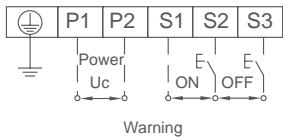
YCM7 Series MCCB Accessories

External accessories

The main technical parameters, dimensions and installation diagrams of external accessories for YCM7, YCM7RT and YCM7E series are as follows:
DC3 electric operating mechanism.

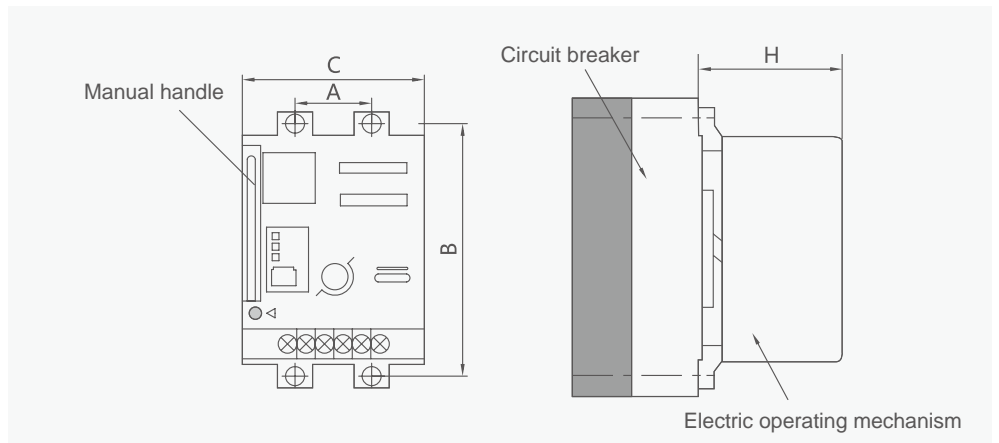



Wiring diagram



1. Counterclockwise manual operation is prohibited
2. When under manual operation, insert the handle at the starting point and rotate it 180 clockwise

Model & Spec.		DC3-63/30	DC3-100/30	DC3-250/30	DC3-400/30	DC3-630/30
Applicable model		YCM7-125 YCM7RT-125 YCM7T/A-125	YCM7-160 YCM7RT-160 YCM7E-160 YCM7T/A-160	YCM7-250 YCM7RT-250 YCM7E-250 YCM7T/A-250	YCM7T/A-400 YCM7-400 YCM7RT-400 YCM7E-400 YCM7-630 YCM7RT-630 YCM7E-630 YCM7T/A-630	YCM7-800 YCM7RT-800 YCM7E-800 YCM7T/A-800
Outline dim.	A	25	30	35	44	70
	B	117	132	126	194	243
	C	73	90	90	130	130
	H	98	98(89.5)	102(92)	152	153
Rated voltage (V)		AC-110-24, DC100-220, C24			AC230, DC220 or AC110, DC110, DC24	
Starting current (A)		≤0.5			≤2	
Mechanical life (times)		14000		10000	5000	
Power (W)		14			35	



DIN Rail Adapter	Applicable frame	Rated thermal current I _{th}
	YCM7-250169	3P
	YCM7-125	
	YCM7-160	

B

Aluminum terminal block

Built-in type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
400A	400A	1	30mm	Φ24	250 mm ²
250A	250A	1	23mm	Φ16	180mm ²
160A	160A	1	17.8mm	Φ14	125mm ²
125A	125A	1	15.9mm	Φ10	78mm ²

External type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
800A	800A	2	38mm	Φ24	325mm ²
		1	44mm	Φ27	480mm ²
630A	630A	2(short)	30mm	Φ22	250mm ²
		2(long)	30mm	Φ20	250mm ²
400A	400A	1	30mm	Φ19.5	250mm ²
250A	250A	2	23mm	Φ16	180mm ²
		1	23mm	Φ16	180mm ²
160A	160A	1	17mm	Φ13.5	125mm ²
125A	125A	1	15.9mm	Φ11	80mm ²

Distribution Apparatus

YCM8C External Circuit Breaker



General

YCM8C series external circuit breakers are suitable for distribution networks with AC 50Hz or 60Hz, rated insulation voltage of 1000V, rated voltage of 400V and below, and rated current of 1000A. Under normal circumstances, the circuit breaker can be used for the infrequent on-off control of the line and the infrequent start of the motor respectively.

Standard: IEC60947-2; EC60947-1.

Operating Conditions

1. Extreme temperature range for storage and transportation: -10°C to 85°C;
2. Operating range: -10°C to 75°C;
3. Reference temperature: 55°C;
4. Atmospheric conditions: The maximum temperature is 75 °C and the maximum relative humidity is 95%;
5. External magnetic fields at the installation site must not exceed 5 times the strength of the earth's magnetic field, and the product should be kept away from strong electromagnetic interference (such as high-power motors or inverters). There should be no explosive or corrosive gases, no exposure to rain or snow, and the environment should be dry and well-ventilated;
6. Pollution level: level 3; installation category: category II.

Type designation

YCM8C - 250 S / 3 TM 125A

Model	Shell frame	Breaking capacity	Number of poles	Tripping method	Rated current
YCM8C	250	S	3	TM	125A
YCM8C	250(100~250) 400(250~400) 630(400~630) 800(630~800) 1000(800~1000)	Standard breaking J: With RJ45	3	TM:Thermomagnetic M:single electromagnetic	100A 125A 140A 160A 180A 200A 225A 250A 315A 400A 500A 630A 700A 800A 1000A

B

Distribution Apparatus

YCM8C External Circuit Breaker

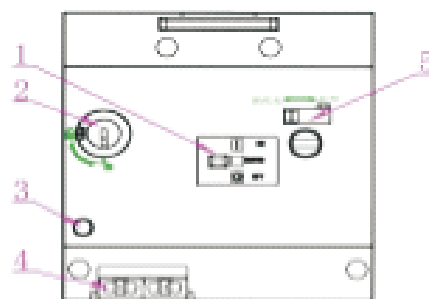
Technical data

Frame current Inm(A)		250S	400S	630S	800S	1000S
Working voltage Ue(V)		400				
Rated insulation voltage Ui(V)		AC1000				
Rated impulse withstand voltage Uimp(KV)		8				
Number of poles (P)		3				
Rated current In(A)		100,125,140,160, 180,200,225,250	250,315,350,400	400,500,630	630,700,800	800,1000
Ultimate breaking capacity Icu (KA)	AC240V	35	50	50	65	65
	AC415V	25	35	35	40	40
Operating breaking capacity Ics (KA)	AC240V	35	50	50	65	65
	AC415V	25	25	25	40	40
Electrical life (times)		1000	1000	1000	500	500
Mechanical life (times)		7000	4000	4000	2500	2500
Operating voltage		AC230V(85%~110%)				
Wiring		Up in and down out,down in and up out				
Protection degree		IP30				
Isolation function		Yes				
Tripping type		Thermomagnetic				
Accessories		Shunt,alarm,auxiliary				
Certificate		CE				

Product feature configuration

The operation interface of the electric operating mechanism is shown in Figure 1

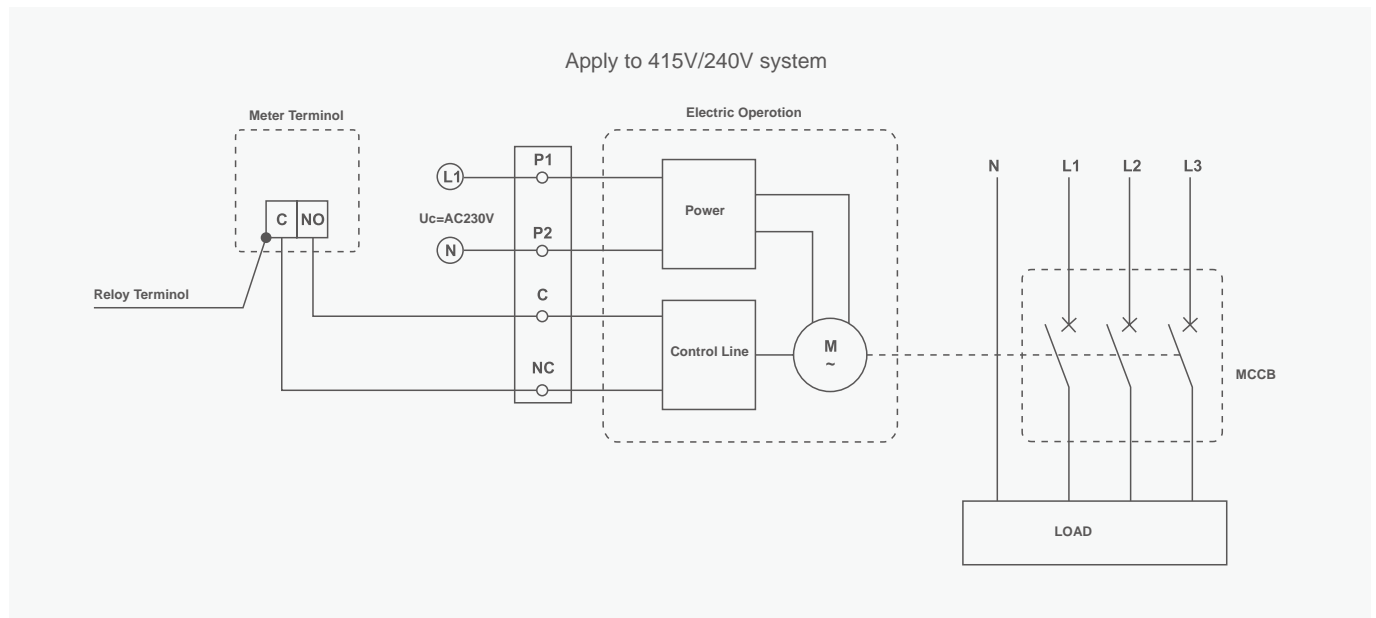
1. Circuit breaker status indication window
2. Mechanism lock
3. Tripping button
4. Power and control wiring ports
5. Manual and automatic switching of cover plates



Distribution Apparatus

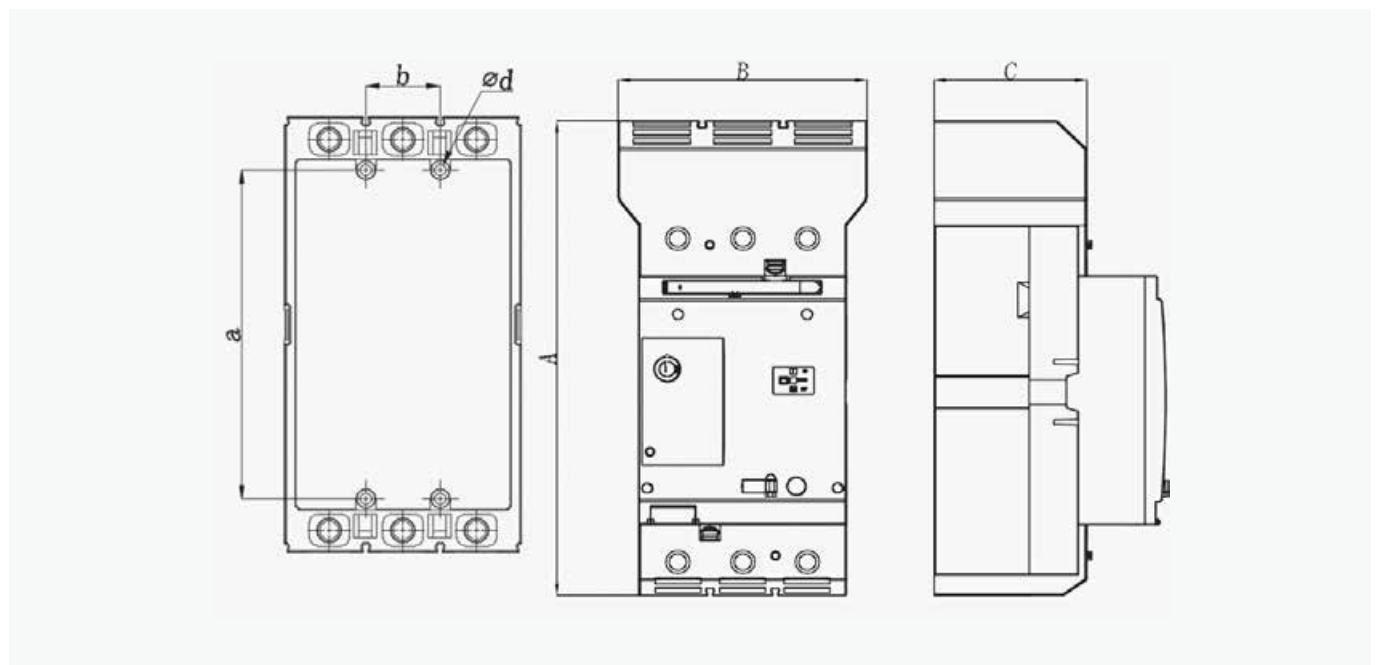
YCM8C External Circuit Breaker

Electrical control schematic



B

Overall and mounting dimensions

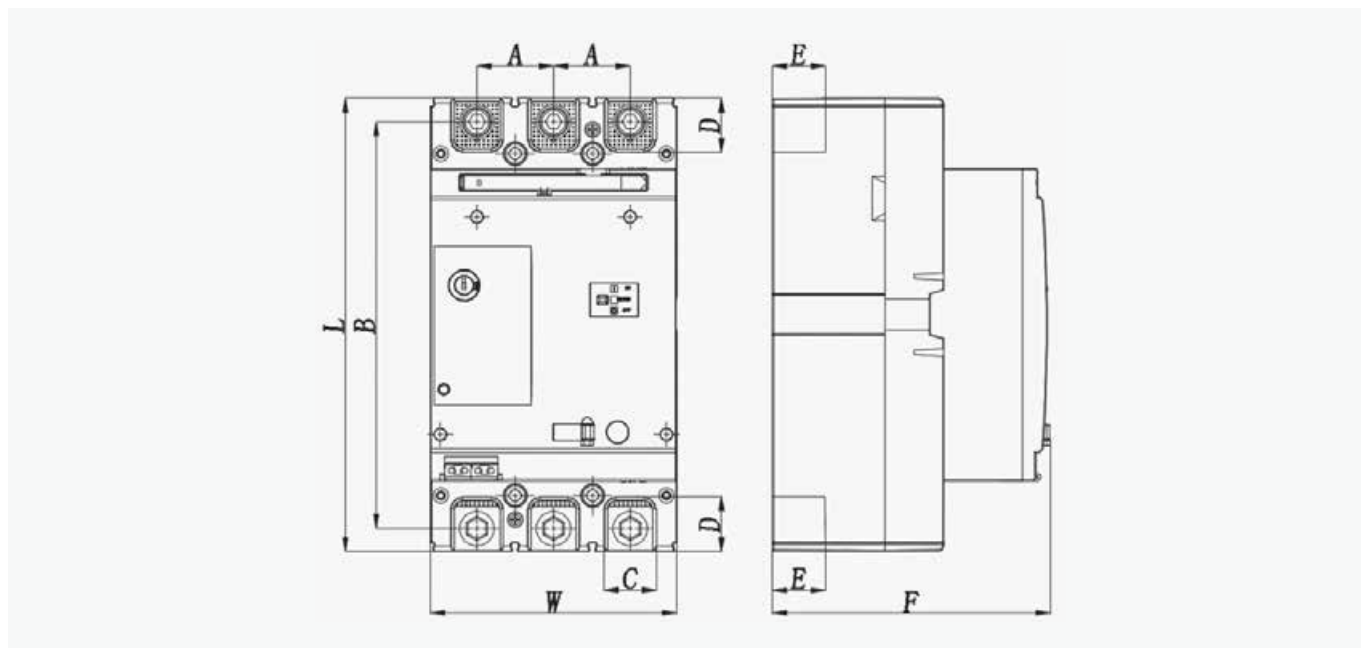


Distribution Apparatus

YCM8C External Circuit Breaker

Specifications	250S/3P	400/3P	630/3P	800/3P	1000/3P
L	165	257	275.5	275.5	275.5
W	105	140	210	210	210
A	35	43.5	70	70	70
B	144	230	243.5	243.5	243.5
C	24	31	45	45	45
D	21	29	30	30	30
E	22.5	30	24	26	28
F	118	160	175	175	175
a	126	194	243	243	243
b	35	44	70	70	70
Φd	4×Φ4.5	4×Φ7	4×Φ8	4×Φ8	4×Φ8

Dimensions with protective cover



Size	250S/3P	400/3P	630/3P	800/3P	1000/3P
A	208	278	418	418	418
B	105	140	238	238	238
C	67.5	103	103	103	103

Distribution Apparatus

YCM8C-J External Circuit Breaker



General

YCM8C-J is mainly applicable to the AC 60Hz distribution line which has no frequent operations with a rated operational voltage of 400V/230V and below, and a rated current from 125A to 1000A to provide overload and short-circuit protection to the line and equipment. Meanwhile, it has the function of electric meter control and can automatically disconnect the circuit breaker when the user has overdue bills. After it's manually switched on when there are overdue bills, it can automatically switch off, to prevent electricity theft. YCM8C-J is provided with a motor operator which is integrated with the circuit breaker, through which the intelligent electric meter can control the tripping and closing of the circuit breaker. The circuit breaker is provided with a panel lock, which can prevent the false switch on during line repair. It's also provided with a locking system, lead seal, terminal cover and cage terminal, which can meet the extensive market demand.

Standard:

IEC 60947-1(General Provisions) ; IEC 60947-2(Circuit Breaker) ;01-SDMS-01 ;02- 37-SDMS-05 ; 03- 41-SDMS-01

Operating Conditions

1. In the medium without the hazard of explosion; the medium shall have no gas and dust (including conducting dust) that can corrode the metal and damage the insulation.
2. The place without serious shaking and vibration.
3. The place that is protected from rain and snow.
4. The external magnetic field near the installation site shall not be 5 times bigger than the earth magnetic field in any direction.
5. The limiting temperature in storage and transport is -10°C to 85°C, the reference temperature is 55°C; the extreme operating temperature is -10°C to 75°C; the maximum relative humidity is 95%.
6. The installation category of the main circuit: III

Type designation

YCM8C - 250 S J / 3 TM 125A

Model	Shell frame	Breaking capacity	Function code	Number of poles	Tripping method	Rated current
YCM8C -	250	S	J /	3	TM	125A
YCM8C	250(100~250) 400(250~400) 630(400~630) 800(630~800) 1000(800~1000)	Standard breaking	With RJ45 Port	3	TM:Thermomagnetic M:single electromagnetic	100A 125A 140A 160A 180A 200A 225A 250A 315A 400A 500A 630A 700A 800A 1000A

Distribution Apparatus

YCM8C-J External Circuit Breaker

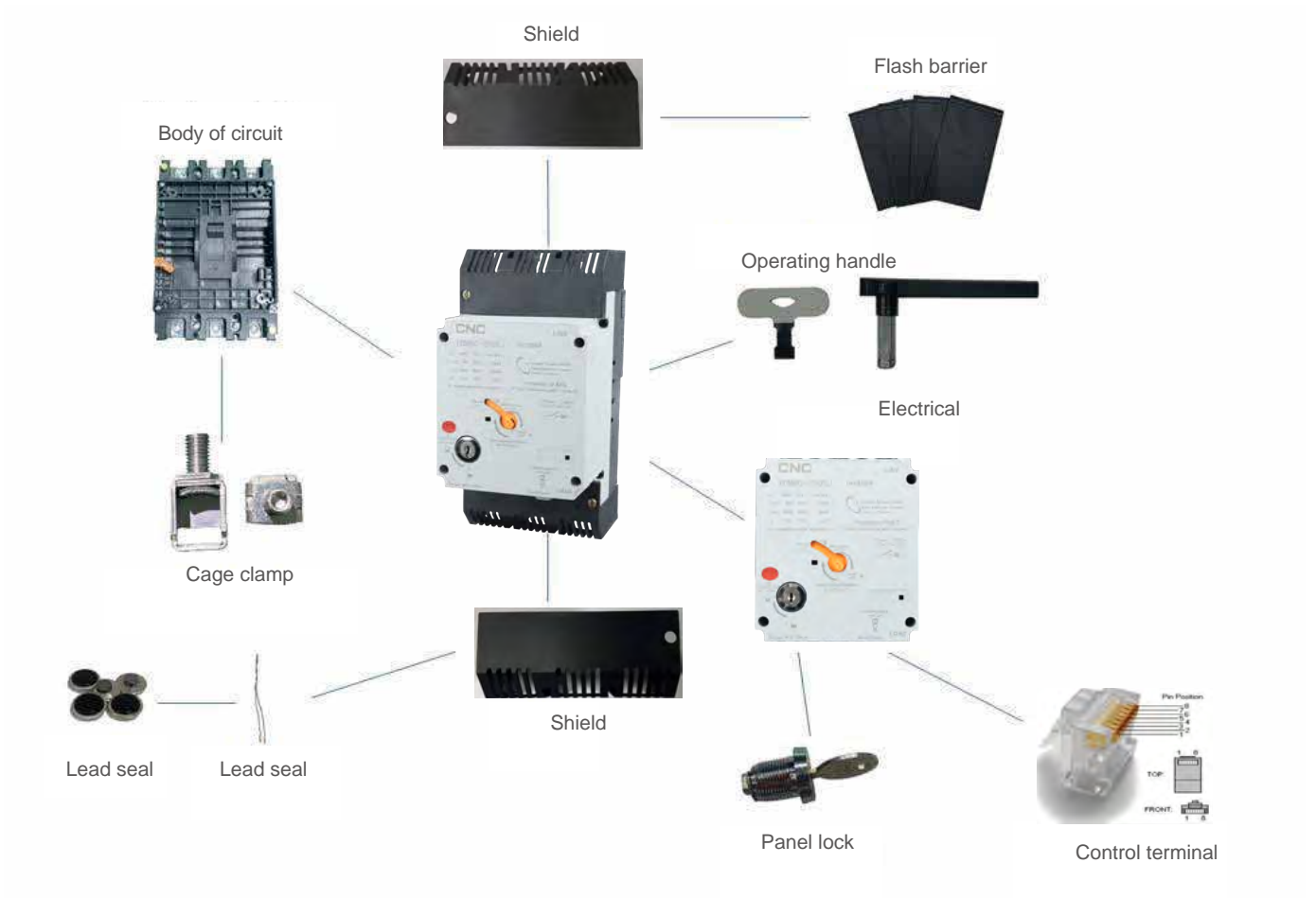
Technical data

Frame current Inm(A)		250S	400S	630S	1000S
Working voltage Ue(V)		400			
Rated insulation voltage Ui(V)		AC1000			
Rated impulse withstand voltage Uimp(KV)		8			
Number of poles (P)		3			
Rated current In(A)		100,125,140,160, 180,200,225,250	250,315,350,400	400,500,630	800,1000
Ultimate breaking capacity Icu (KA)	AC240V	25	50	50	65
	AC415V	20	35	35	40
Operating breaking capacity Ics (KA)	AC240V	25	50	50	65
	AC415V	20	25	25	40
Electrical life (times)		1000	1000	1000	500
Mechanical life (times)		7000	4000	4000	2500
Operating voltage		AC230V(85%~110%)			
Wiring		Up in and down out,down in and up out			
Protection degree		IP30			
Isolation function		Yes			
Tripping type		Thermomagnetic			
Accessories		Shunt,alarm,auxiliary			
Certificate		CE			

Distribution Apparatus

YCM8C-J External Circuit Breaker

Product feature configuration



Easy to install

- No derating is required during the exchange of the upper and lower incoming lines, in case the lines are intersected inside the distribution box.
- The cage terminal can be connected directly using a bare conductor, which is convenient in wiring.
- The product can be installed vertically, horizontally, sidewise, or on the back flexibly, which will not affect the product performance.

Convenient for user

- The switch can be switched on or off precisely and reliably, and can point to the contact accurately.
- The product has a one-piece motor operator which can control the tripping and closing of the circuit breaker through the motor operator.
- The motor operator is installed inside, which is compatible with the installation size of the distributor breaker, and has favorable exchangeability.

Easy for maintenance

- The circuit breaker is provided with a panel lock, which can prevent the false switch on during line repair.
- It adopts the modular design and the faulty module can be replaced separately when the circuit breaker goes wrong.

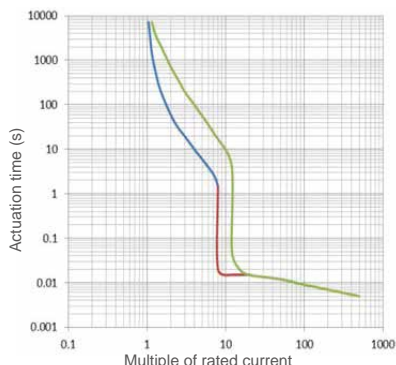
Low-carbon and environmental friendly

- The middle cover, face cover, handle, and shield are all made of new recycle materials, so the product is more environmental friendly, lighter and more beautiful.

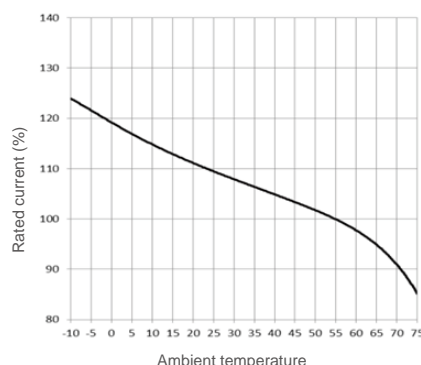
Distribution Apparatus

YCM8C-J External Circuit Breaker

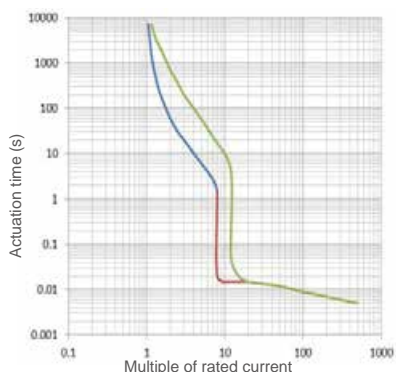
Tripping Characteristic Curve and Temperature Compensation Curve



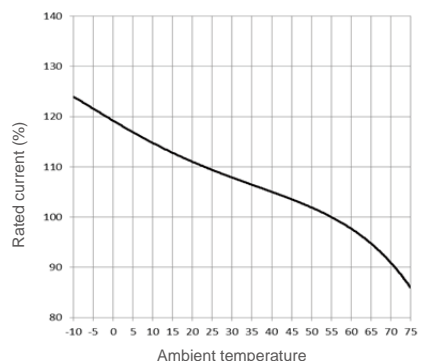
125A 150A Tripping characteristic curve



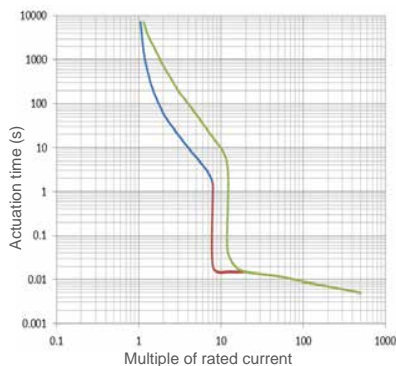
125A 150A Temperature compensation curve



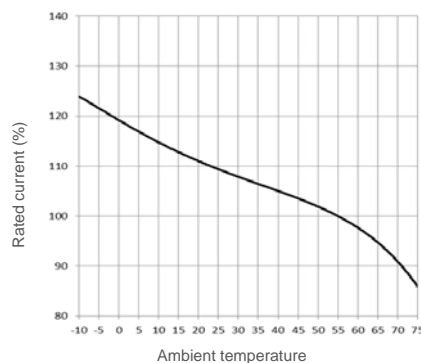
200A Tripping characteristic curve



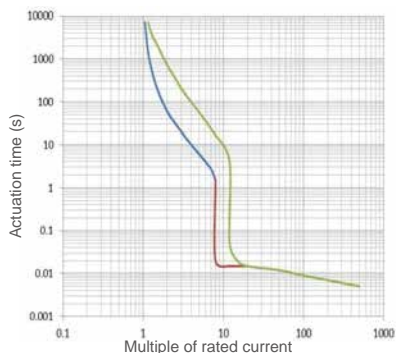
200A Temperature compensation curve



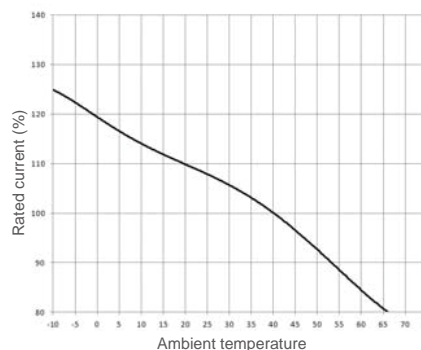
250A Tripping characteristic curve



250A Temperature compensation curve



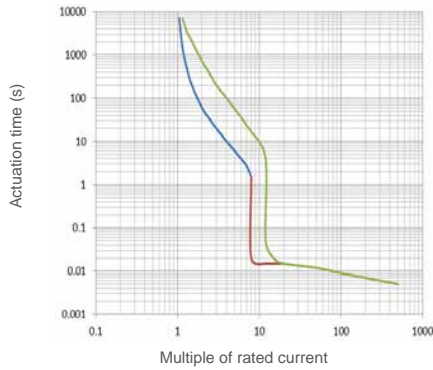
300A 400A Tripping characteristic curve



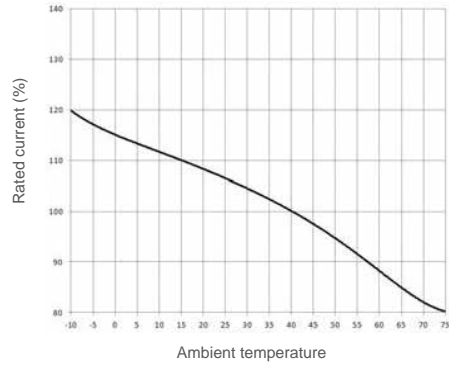
300A 400A Temperature compensation curve

Distribution Apparatus

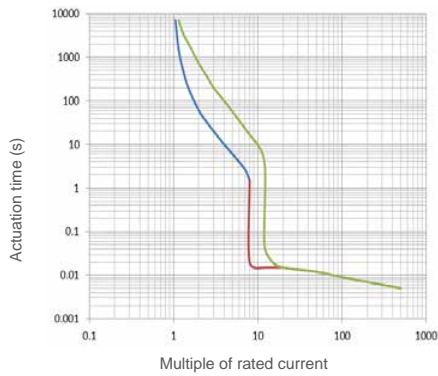
YCM8C-J External Circuit Breaker



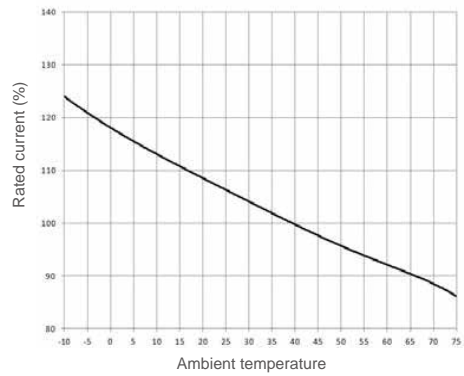
500A 600A Tripping characteristic curve



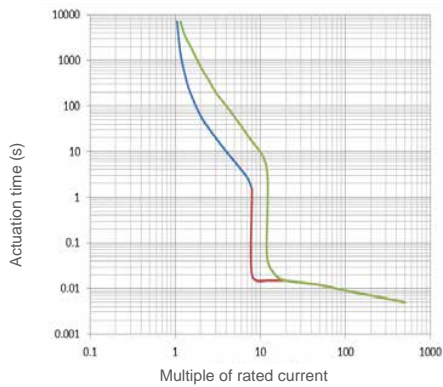
500A 600A Temperature compensation curve



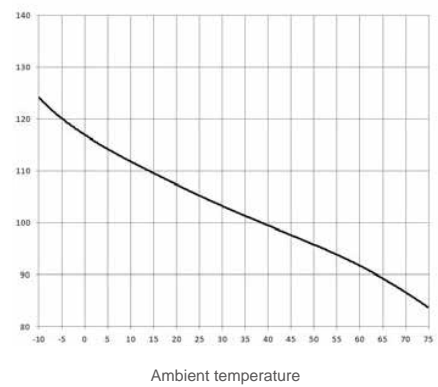
800A Tripping characteristic curve



800A Temperature compensation curve



1000A Tripping characteristic curve



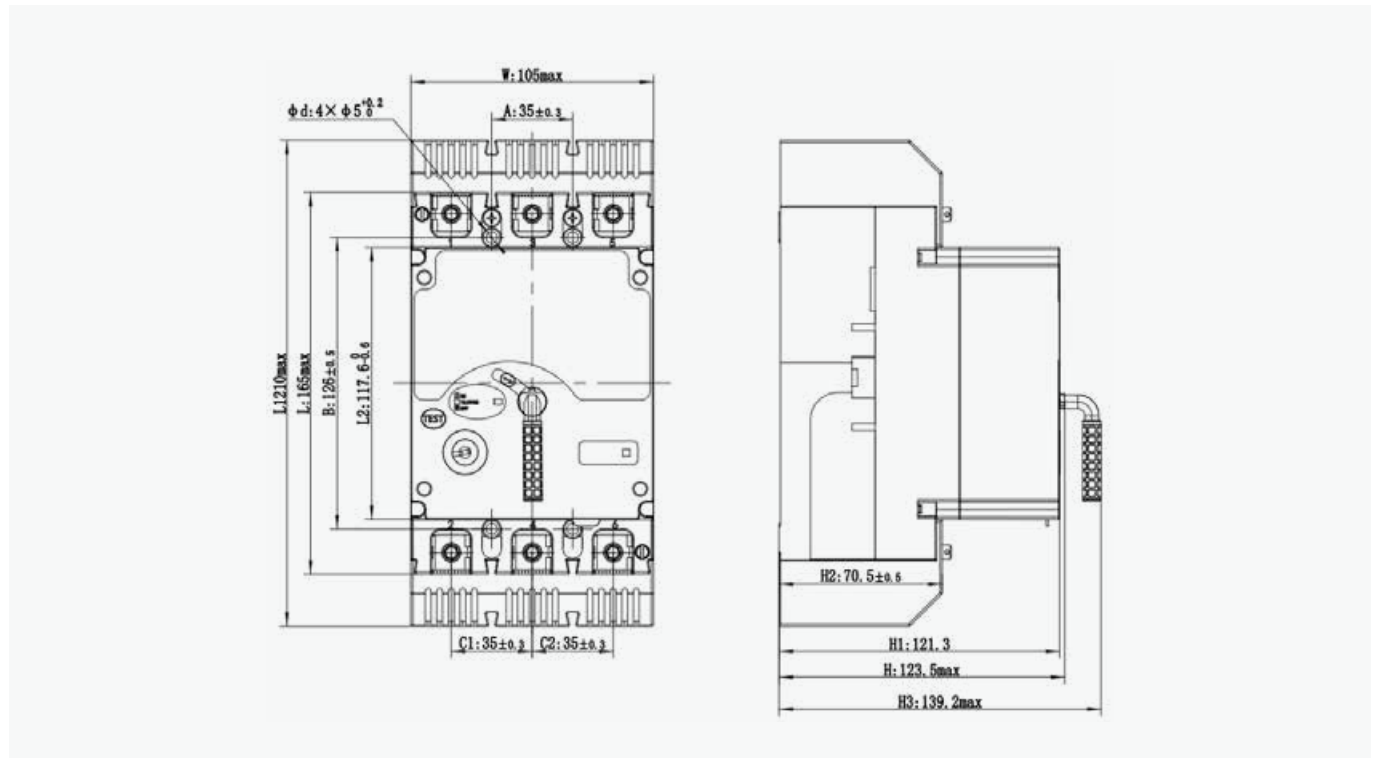
1000A Temperature compensation curve

Distribution Apparatus

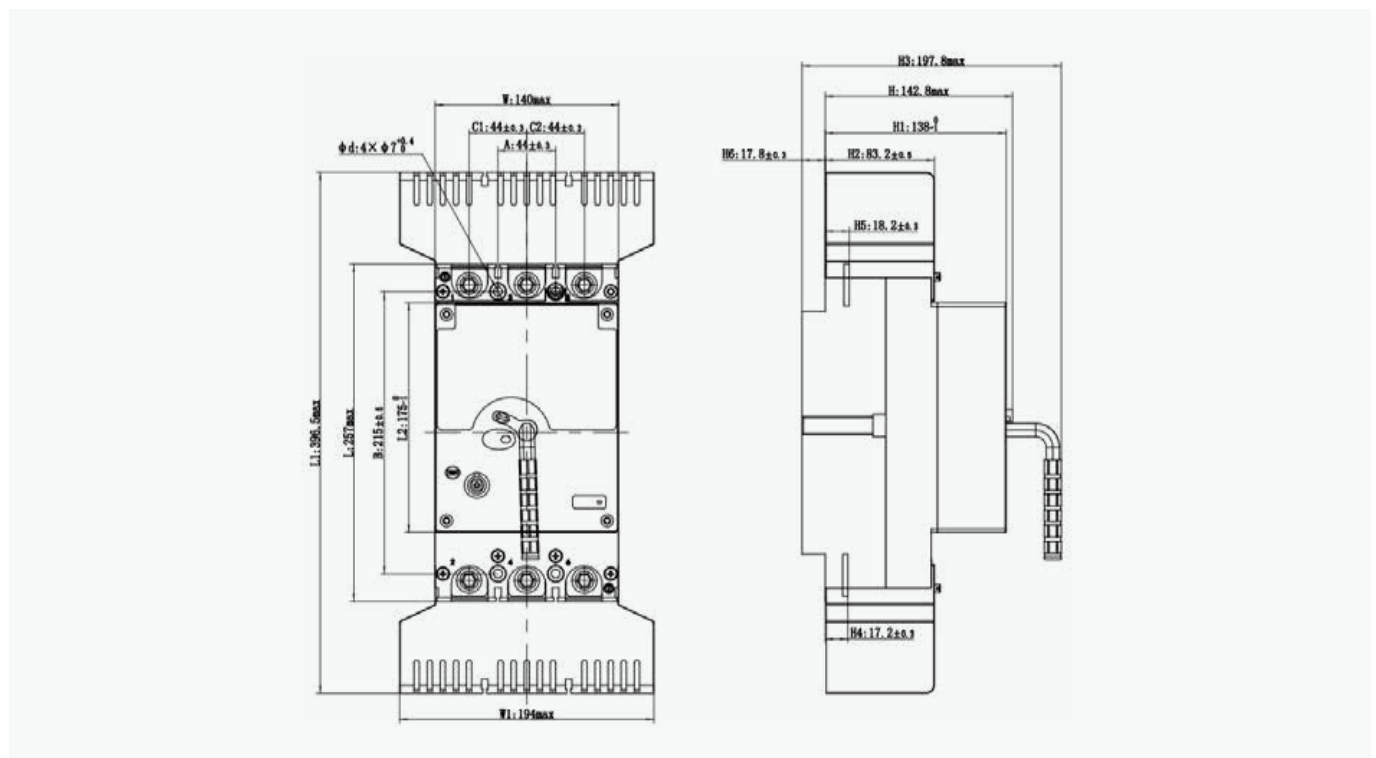
YCM8C-J External Circuit Breaker

Overall and mounting dimensions

YCM8C-250SJ Installation Dimension



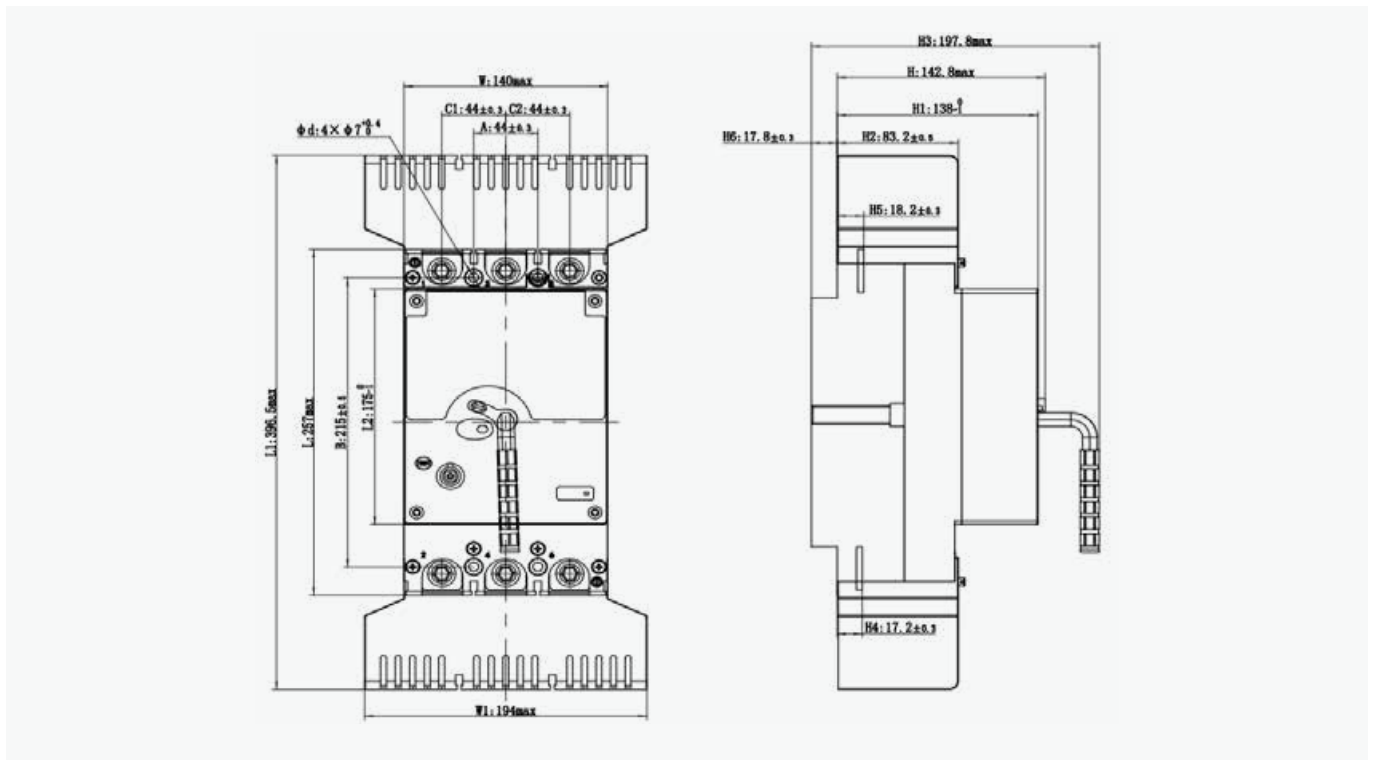
YCM8C-400SJ Installation Dimension



Distribution Apparatus

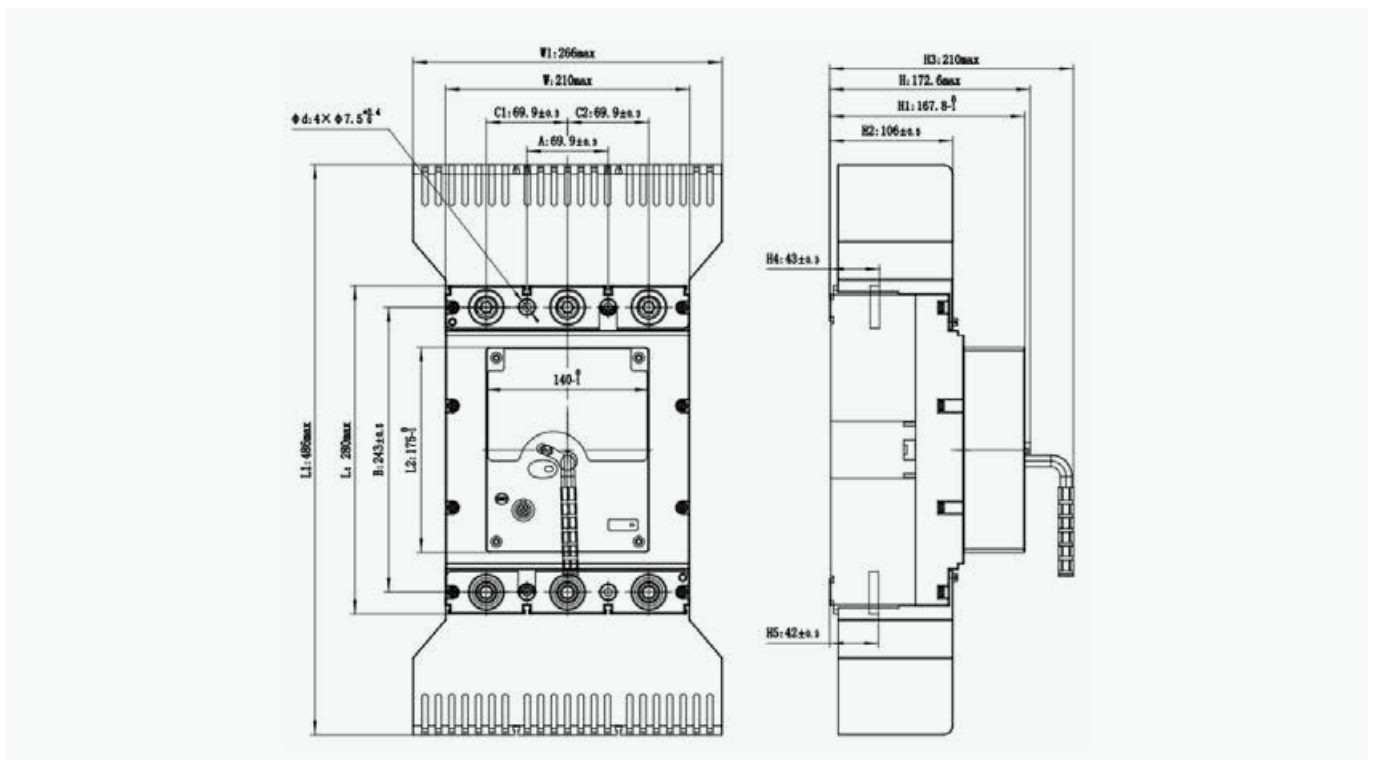
YCM8C-J External Circuit Breaker

YCM8C-630SJ Installation Dimension



B

YCM8C-1000SJ Installation Dimension



Distribution Apparatus

YCM8C-J External Circuit Breaker

Table 2 installation and wiring screws and nuts

Model	Mounting screws	Mounting screw torque	Nut Installation	Terminal screw	Terminal screw torque
250	M4×62	1.5N•m	M4	5mm	12N•m
400	M6×75	7.5N•m	/	10mm/8mm	25N•m
600	M6×90	7.5N•m	/	8mm	30N•m
1000	M6×75	7.5N•m	M6	12mm	35N•m

Table 3 recommended sectional area of copper conductor

Rated current (A)	Recommended sectional area of copper conductor(mm ²)
125	70
150	70
200	95
250	95
300	185
400	240
500	300
600	400
800	500
1000	600

Note: make sure that the wiring screw is tightened according to the specified torque, and conduct regular inspection and maintenance; after wiring, check that the connection between the wire terminal and the other end is reliable without looseness, and clean up the foreign matters in the meter box.

Distribution Apparatus

YCM8LZ Automatic Reclosing MCCB



General

The YCM8LZ Automatic Reclosing MCCB is a circuit breaker that integrates residual current relay, contactor, and molded case circuit breaker functions. It is suitable for three-phase four-wire neutral-grounded power supply and distribution systems, providing protection against grounding faults, undervoltage, overcurrent, short circuits, instantaneous and residual currents in circuits or electrical equipment. It can also prevent electrical fires and equipment damage caused by grounding faults, as well as provide indirect contact protection against electric shock hazards to individuals.

B

Type designation

YCM8LZ - 250 S / 3P+N LED

Model	Shell frame	Breaking capacity	Number of poles	Display type
YCM8LZ	250	S	3P+N	LED
YCM8LZ	250(100~250) 400(250~400) 630(400~630) 800(630~800)	Standard breaking	3	LED

Operating Conditions

1. The ambient temperature ranges from -5°C to +40°C, with an altitude not exceeding 2000 meters.
2. Relative air humidity: The monthly average humidity in the wettest month does not exceed 25°C, and the maximum relative humidity for that month does not exceed 90%, taking into account condensation occurring on the product surface due to temperature variations.
3. External magnetic fields at the installation site must not exceed 5 times the strength of the earth's magnetic field, and the product should be kept away from strong electromagnetic interference (such as high-power motors or inverters). There should be no explosive or corrosive gases, no exposure to rain or snow, and the environment should be dry and well-ventilated;
4. Pollution level: level 3; installation category: category III.

Distribution Apparatus

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Technical data

Type	-	YCM8LZ-250	YCM8LZ-400	YCM8LZ-630	YCM8LZ-800
Rated current In(A) adjustable	-	100A-250A	250-400A	400A-630A	630A-800A
Poles	-	3P+N			
Working voltage Ue(V)		AC400V			
Rated insulation voltage Ui(V)		AC1000V			
Rated impulse withstand voltage Uimp(KV)		8KV			
Arcing distance	mm	≤50mm		≤100mm	
Limit short-circuit breaking capacity Icu (KA)	KA	50		65	
Working short-circuit breaking capacity Ics (KA)	KA	35		42	
Rated residual short-circuit making (breaking) capacity (KA)	KA	25%Icu			
Type(wave form of the earth leakage sensed)	-	AC			
Product applicable category		Category B			
Rated short-time withstand current	s	5KA/1s		8KA/1s	
Rated residual current operation	-	50/100/200/300/500/800mA/1000mA/2000mA Auto Can be set as needed (optional)			
Delay characteristics	-	S type (adjustable)			
Ultimate non-drive time	s	0.06			
Breaking time	s	< 0.3/0.5			
Automatic reclosing time	s	20-60s			

Product feature configuration

TEST: The switch performs residual current trip testing function under normal operating conditions.

UP: In setting mode, the switch scrolls up on the menu or increases data. In normal operating mode, press this button for 2-3 seconds to enter the remote communication address setting mode.

SET: In any state, pressing this button enters the main menu interface of the controller.

ENTER: In setting mode, pressing this button selects a menu item or stores set data; in normal operating mode, press this button for 4-5 seconds to enter the automatic correction interface for current, voltage, and residual current (this function is only used for automatic calibration coefficient adjustment during product production and debugging!).

Close: The switch is in the open state, the main circuit voltage is normal, and pressing this button achieves the function of closing the switch.

Break: The switch is in the closed state, and pressing this button achieves the function of opening the switch.

BACK: In setting mode, pressing this button exits the setting menu operation; also used to unlock and return to normal operating mode when the switch is in a locked state; also used to abandon data storage in setting mode; also used to return to the previous menu level in submenus.

DOWN: In setting mode, the switch scrolls down on the menu or decreases data.

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Product Features Table

Functions	Reclosing function	Auto-close on power-up	•
		Automatic reclosing for residual current protection	•
		Automatic reclosing for voltage protection	•
		Residual current automatic reclosing interlocking	•
	Residual current protection	Residual current protection	•
		Residual current automatic tracking protection	-
		Residual current self-test	•
		Residual current alarm output	○
		Residual current sudden change protection	○
		Residual current special waveform recognition	○
	Current protection	Overload long delay protection	•
		Short circuit short delay protection	•
		Short circuit instantaneous protection	•
		Overload pre-alarm	•
	Voltage protection	Undervoltage and overvoltage protection	•
		Phase loss protection	•
		Power supply side open circuit protection	•
		Power supply side under voltage trip	•
	External DI/O port function	Communication auxiliary power input	•
		Two DI/O programmable control inputs	•
		One passive contact output	○
	Fault record	10 trip fault storage	•
		512 residual current operation records can be stored	-
		30-day voltage, current, leakage maximum/minimum value record	•
		Daily recording of 96-point residual current curve	•
		10 protector self-test event records	•
		80 protection function trip/close event records	•
		10 circuit breaker position change event records	•
		10 alarm event records	•
	10 High voltage loss/restoration event records	•	
	HPLC communication	Equipped with an embedded HPLC broadband power line carrier chip, it can communicate in real-time with TTUs, fusion terminals, or concentrators, enabling the uploading of various perception events and edge computing data to achieve real-time IoT at key points in the power grid. It has the same communication data transmission and reception functions as RS-485 and infrared communication interfaces.	○
	RS-485 communication	1 isolated RS-485 communication interface, which by default supports the DL/T 645-2007 protocol and optionally customizable Modbus-RTU protocol, enabling the implementation of "four-remote" communication functions for switches locally or remotely. By configuring an external display header, all product functions can be synchronized and operated on the distribution cabinet panel. It has the same communication data transmission and reception functions as HPLC and the infrared communication interface.	•
Infrared communication	1 infrared transmission and reception communication interface, realizing on-site wireless communication and maintenance functions for the product. It has the same communication data transmission and reception functions as HPLC and RS-485 interfaces.	○	

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Functions	GPS and Beidou satellite positioning	The product can be optionally equipped with GPS and Beidou positioning function modules according to user needs, achieving real-time positioning of product location information. (Customization option supported)	○
	Residual current harmonic elimination	The product features real-time sampling and harmonic elimination of residual current, with a built-in high-precision signal sampling circuit. Combined with software algorithms, it achieves harmonic analysis and elimination of residual current waveforms, preventing false triggers caused by real-time residual current sampling errors due to equipment with variable frequency drives or harmonic interference in the load. This enhances the accuracy and stability of the product's residual current protection.	●
	AC sampling	Equipped with a high-precision metering chip, it enables the measurement of electrical parameters such as voltage, current, power, power factor, voltage frequency, and voltage-current harmonic content. Voltage range: 0.5Ue to 1.5Ue, $\pm 0.5\%$; current range: 0.002In to 0.01In, $\pm 0.75\%$, 0.01In to 1.15In, $\pm 0.5\%$; frequency measurement range: 45Hz to 55Hz, $\pm 0.1\text{Hz}$; power factor measurement range: 0.5 to 1.0, ± 0.005 . The active energy metering accuracy is Class 0.5s.	●
	Meter box management	If the equipment is installed inside the meter box, real-time management of the meters inside the box can be achieved, including automatic meter detection, reporting of meter additions and removals, theft of electricity alarm for the meter box, power outage alarm before the meter, circuit breaker trip alarm after the meter, energy meter measurement error diagnosis, loop impedance analysis, etc. (Requires selection of corresponding HPLC module)	○
	Automatic recognition of substation topology	Combined with TTUs, fusion terminals, and concentrators, it can automatically achieve real-time substation topology identification with an identification accuracy of up to 99%, including household transformer relationship identification, phase identification, and branch identification. (Requires selection of corresponding HPLC module and topology module)	○
	Accurate verification and integration of operation and distribution data	It can achieve precise identification of substation archives from bottom to top without needing to download archives to concentrators or fusion terminals, enabling accurate identification of substation archives.	○
	Power outage event reporting	It can achieve power outage and disconnection of meter and post-switch: configuration is required (HPLC module can only monitor meter disconnection but not post-switch disconnection), meter box disconnection, disconnection of various levels of branches, substation disconnection, and other levels of power outage events for real-time reporting. The reported data includes the geographical location information of the outage nodes, facilitating quick navigation for repair personnel to the location of the incident.	○
	Hierarchical line loss accounting	It can achieve multi-level line loss calculation between the main meter and branches, branches and sub-branches, sub-branches and meter boxes, and meter boxes and individual meters, refining the distribution line losses to branch line losses and meter box line losses at the substation level.	○
	Real-time theft of electricity alert	By utilizing built-in sensors and edge computing, it can instantly detect meter-box-level electricity theft, branch-level electricity theft, and substation-level electricity theft, accurately pinpointing the areas of theft and promptly reporting them to the backend system.	○
	Automatic fault diagnosis	By using built-in temperature measurement points, alarms are triggered when the terminal temperatures are too high. Through edge computing, issues with equipment in which branch of the substation can be identified in real-time. Additionally, the meters inside the meter box can be monitored in real-time for accuracy deviations.	●
	Digital control	Utilizing a microprocessor-based intelligent digital control circuit, it conducts real-time signal processing and intelligent control, enabling remote signaling, remote measurement, remote adjustment, and infrared remote control functions.	●
	Circuit protection	It has overload long delay, short-circuit short delay, short-circuit instantaneous, overvoltage, undervoltage, phase loss, power supply side zero crossing, leakage, over-temperature at the input/output terminals, voltage three-phase imbalance, current three-phase imbalance protection, etc., with event-based protection/alarm functions and corresponding event logging.	●
	Remote tripping and closing	Support remote communication for remote control switch on/off operation.	●
Clock function	It has overload long delay, short-circuit short delay, short-circuit instantaneous, overvoltage, undervoltage, phase loss, power supply side zero crossing, leakage, over-temperature at the input/output terminals, voltage three-phase imbalance, current three-phase imbalance protection, etc., with event-based protection/alarm functions and corresponding event logging.	●	

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Functions	Alarm function	To facilitate line inspection and enhance operational efficiency, the product supports online residual current alarms and withdrawal settings, enabling real-time detection and analysis of residual current changes in the circuit. The LCD display interface can show the current residual current magnitude and indicate whether the residual current is in operation status.	•
	Residual current automatic tracking	Supports real-time monitoring of residual current online, automatically adjusting the residual current protection threshold based on the operating status of the line over a period of time. This ensures the real-time effectiveness of residual current protection, reducing the occurrence of false triggers in switches caused by inherent leakage in the line due to weather and seasonal changes.	•
	Residual current automatic reclosing	Supports automatic reclosing and manual reclosing for residual current, allowing for the free switching between the two modes of operation.	•
	Self-recovery over-voltage and under-voltage protection	Support for enabling and disabling the automatic reclosing function for voltage protection, adapting to the automatic reclosing function requirements for voltage protection in different usage scenarios, improving the effectiveness of load voltage protection and power supply stability. The automatic reclosing function of voltage protection is only used when overvoltage, undervoltage, or phase loss faults occur on the power supply side. After the fault is cleared and the voltage returns to the normal operating range, the product automatically implements the reclosing function. The product does not have automatic reclosing function for power supply side zero-crossing faults.	•
	Temperature detection	It can detect the temperature of the incoming lines A, B, C, N, and the outgoing lines A, B, C, N, as well as the internal circuit board temperature of the circuit breaker, with an accuracy of $\pm 1^{\circ}\text{C}$. It also provides over-temperature protection with trip function.	•
	External input and output ports	It has 1 channel of active energy pulse output, 1 channel of reactive energy pulse output, 1 channel of second pulse output, 1 group of RS-485 communication interface, 2 channels of programmable input control interfaces (supporting external hard remote control switch on/off, prepayment, knife gate interlocking functions), 1 group of normally open and normally closed switch status output interfaces (used for external switch status indication or other fire linkage expansion functions), 1 group of DC12V output interfaces (used for configuring external display headers, can also be optionally configured as an external DC12V input function for connecting to backup power supply after a power outage to support communication, product disconnection, and other IoT control functions).	•
	Harmonic analysis	It has voltage and current 31st harmonic analysis function, which can upload real-time voltage and current harmonic content of the line through communication.	○
	Photovoltaic anti-islanding	By monitoring real-time voltage and current operating states, the product's photovoltaic anti-islanding protection function is achieved through software algorithms.	•
	Seamless switchover to backup power supply	It has a seamless switchover to backup power supply after a power outage, ensuring that within 30 to 60 seconds after a power outage, it achieves metering data storage, recording, and communication of relevant status events.	•

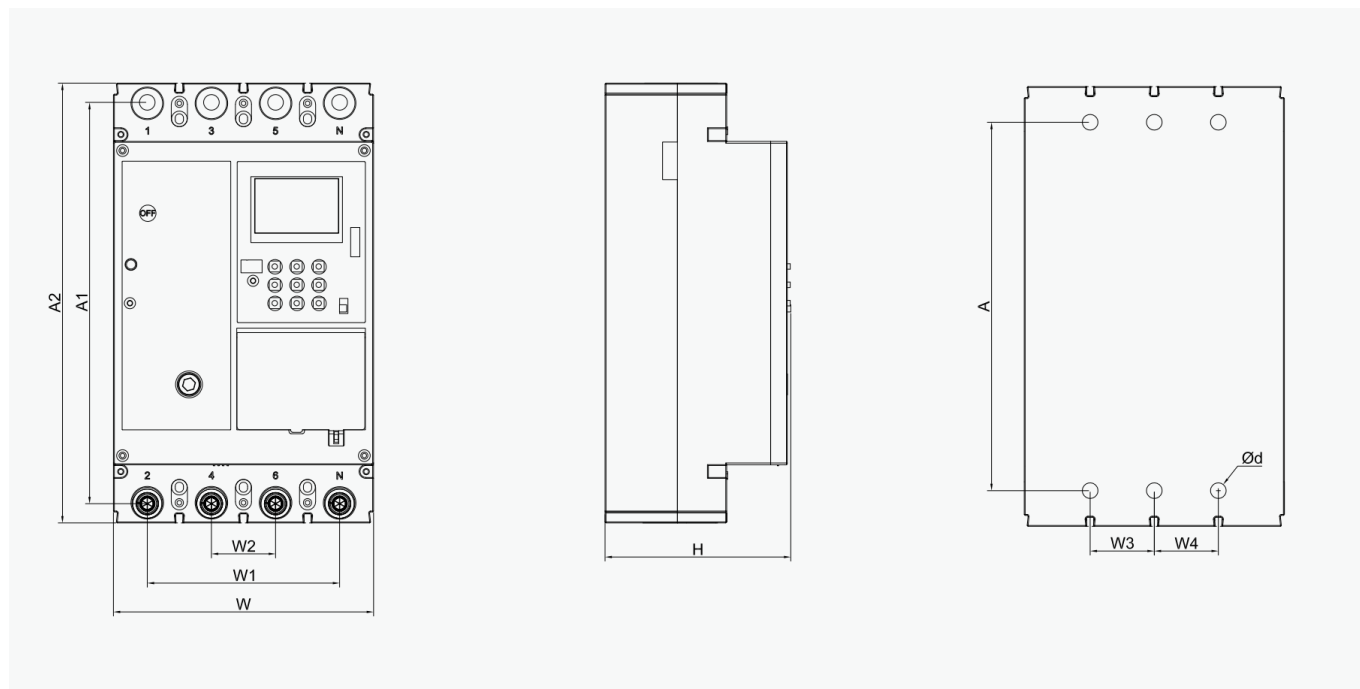
Note: The symbol "•" indicates that the function is available; the symbol "○" indicates that the function is optional; the symbol "-" indicates that the function is not available.

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Distribution Apparatus

YCM8LZ Automatic Reclosing MCCB

Overall and mounting dimensions



Type	YCM8LZ-250	YCM8LZ-400	YCM8LZ-630	YCM8LZ-800
A	201	272	272	243
A1	218	303	303	243.5
A2	240	336	336	275.5
B	12.5	12.5	12.5	12.5
B1	22	38	38	36.5
B2	39.5	100	100	64
B3	40	40	40	40
W	142	198	198	280
W1	105	144	144	210
W2	35	48	48	70
W3	35	48	48	70
W4	35	48	48	70
H	100	157	157	172.8
d	Φ4.5	Φ8	Φ8	Φ8

YCM8 Series

Distribution Apparatus



- Multi-function choices
- Design for small size
- Modular accessories for easy and convenient installation

Distribution Apparatus

YCM8 Series MCCB



YCM8-250S



YCM8-T/A-125S



YCM8RT-250S



YCM8LE-250S

General

YCM8 Series circuit breakers are developed according to domestic and international market demand, as well as similar products.

Its rated insulation voltage is up to 1000V, suitable for AC 50-60Hz distribution network circuit whose rated operation voltage is up to 690V, rated operation current from 10A to 1600A. It can distribute power, protect the circuit and power supply devices from the damage of overload, short circuit and under voltage, etc.

This series of circuit breaker is featured as high breaking capacity and short arcing. It can be installed vertically (namely vertical installation) and also installed horizontally (namely horizontal installation).

Standards: IEC60947-2.

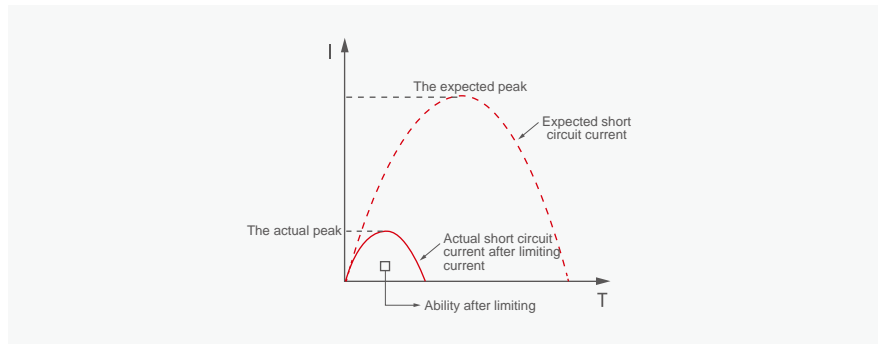
Feature

Feature 1: Current limiting ability

Limiting the rise of short circuit current of circuit. The peak short circuit current and I²t power are much lower than the value expected.

U shape fixed contact design

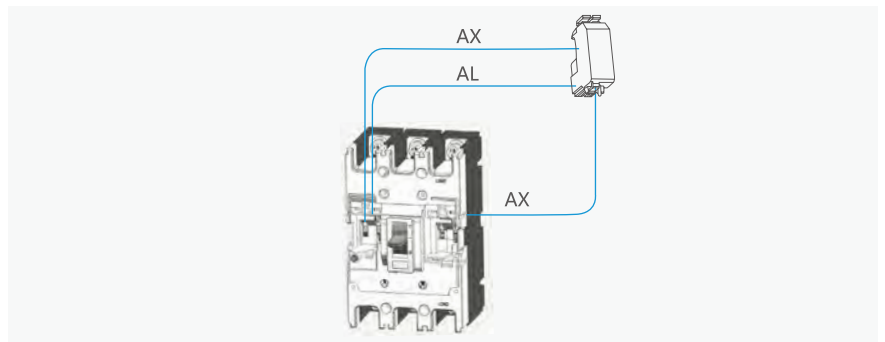
The U shape fixed contact design achieves the technique of pre-breaking: When the short circuit current goes through the contact system, there are forces that repel each other on the fixed contact and moving contact. The forces are produced with short circuit current and will enlarge synchronously when short circuit current enlarges. They elongate the electric arcing to enlarge their equivalent resistance to limit the rise of short circuit current.



Feature 2: Modular accessories

The size of accessories is same for YCM8 with same frame.

You can choose the accessories according to your needs to extend the function of YCM8.

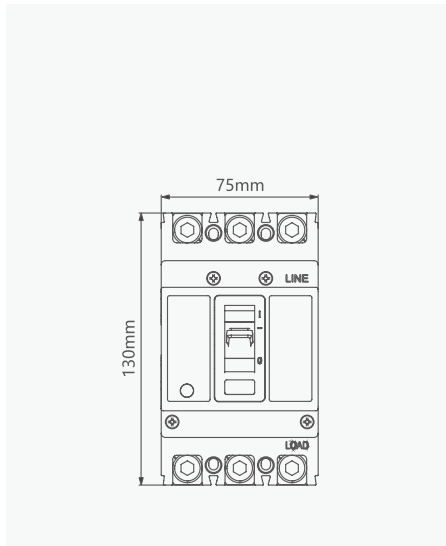


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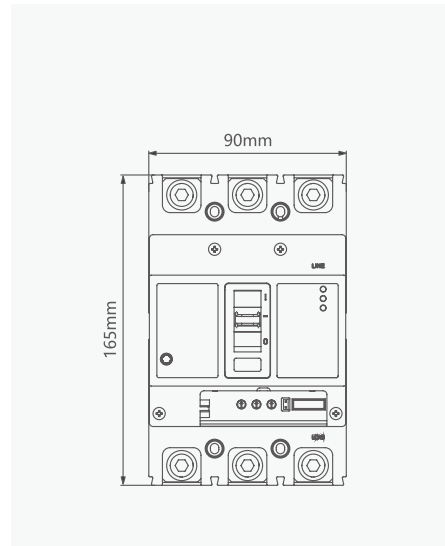
YCM8 Series MCCB

Feature 3: Frame miniaturization

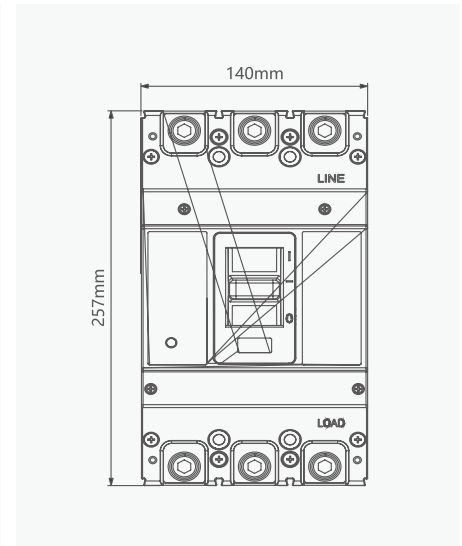
5 frame class: 125 type, 160 type, 250 type, 630 type, 800 type
 The rated current of YCM8 series: 10A~1250A.



The outlook size of 125 frame is same as the original 63 frame, width is only 75mm.



The outlook size of 160 frame is same as the original 100 frame, width is only 90mm.



The outlook size of 630 frame is same as the original 400 frame, width is only 140mm.



Feature 4: Contact repulsion

The technical scheme:

See figure1, this new contact device is mainly consist of fixed contact, moving contact, shaft 1, shaft 2, shaft 3 and spring.
 When the circuit breaker is closed, shaft 2 is at the right of spring angle. When there is large fault current, the moving contact rotates around the shaft 1 under the electric repulsion caused by current itself. When shaft 2 rotate over the top of spring angle, the moving contact rotate upward quickly under the reaction of spring and breaking the circuit fast. The breaking capacity is improved with the optimized contact structure.

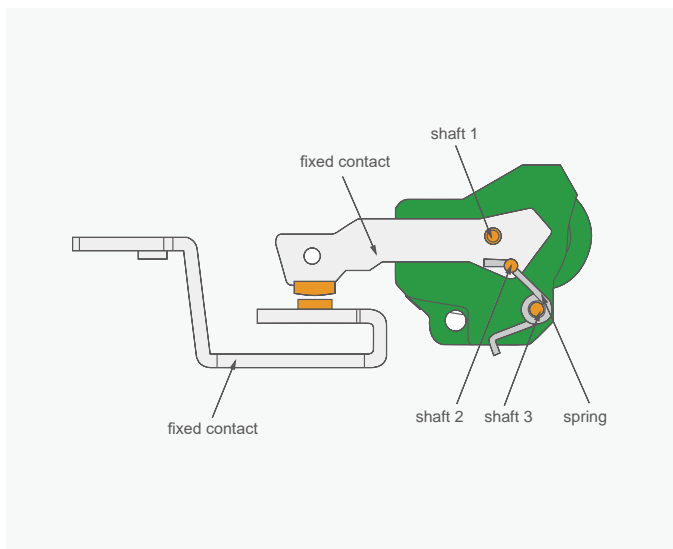


figure1

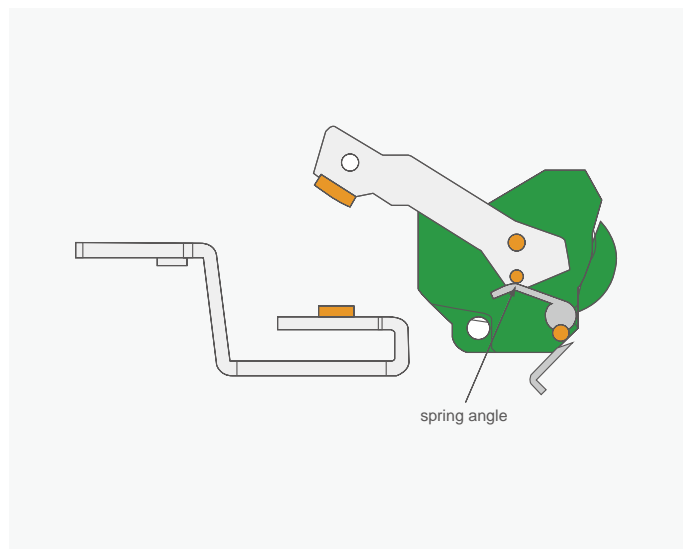


figure2 (at the situation of breaking)

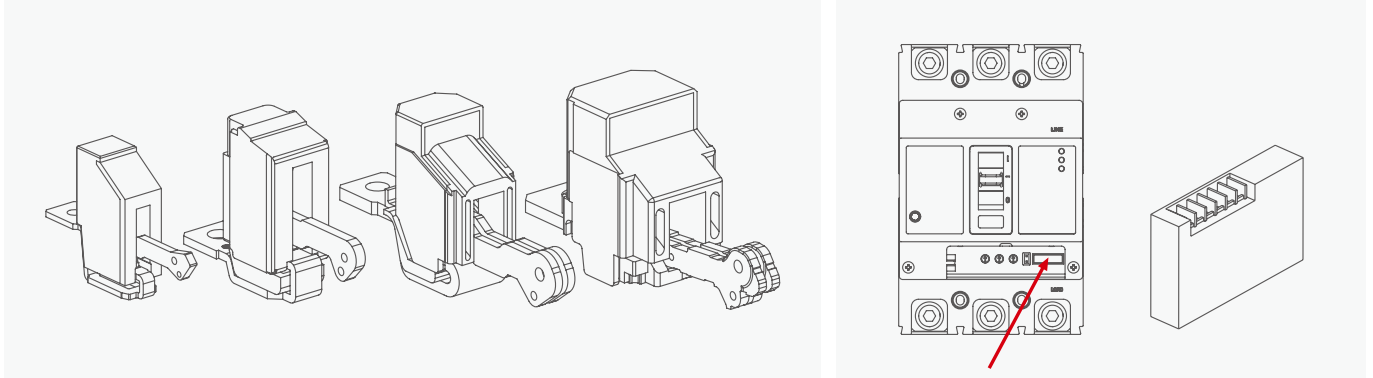
Distribution Apparatus

YCM8 Series MCCB

Feature 5: Intelligent

YCM8 can be connected to Modbus communication system with special wire easily. With communication function, it can match with monitoring unit accessories to realize the door display, reading, setting and control.

Feature 6: Arc extinguishing system is modular

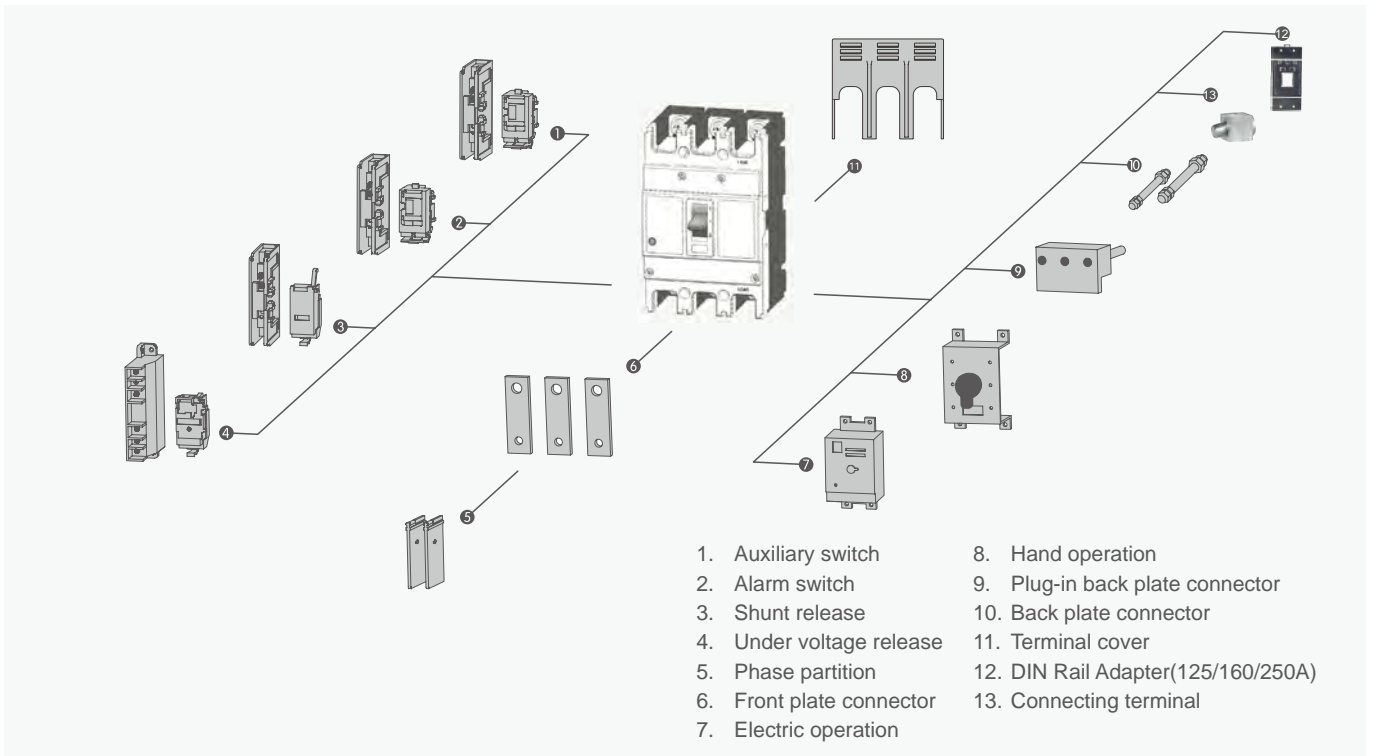


The communication is placed outside the body.

Operating conditions

- Altitude: Below 2000m
- Temperature: The temperature of media is not higher than 40°C (+45°C for marine products) and not lower than -5°C.
- Can withstand the bad environment of damp air, mold, radiation.
- The maximum inclination is 22.5 degree.
- Can work reliably under normal vibration of ship.
- Can work reliably under earthquake(4g).
- Should be no rain and snow hit.
- The media should be no explosion danger and no gas which can corrode the metal or destroy the insulating or conductive dust.

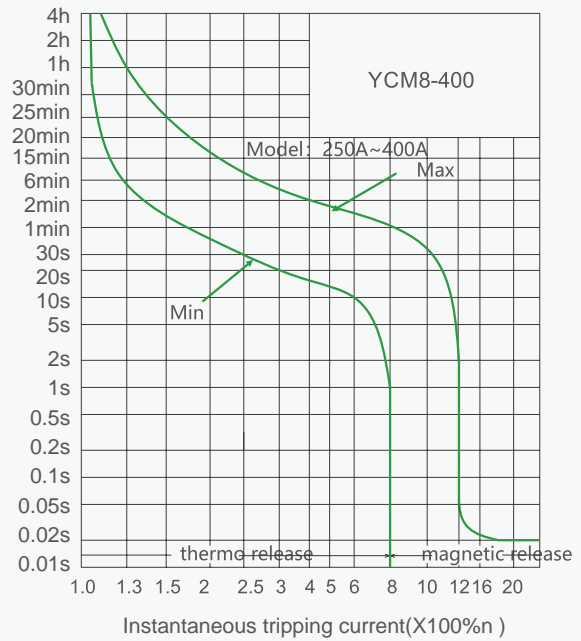
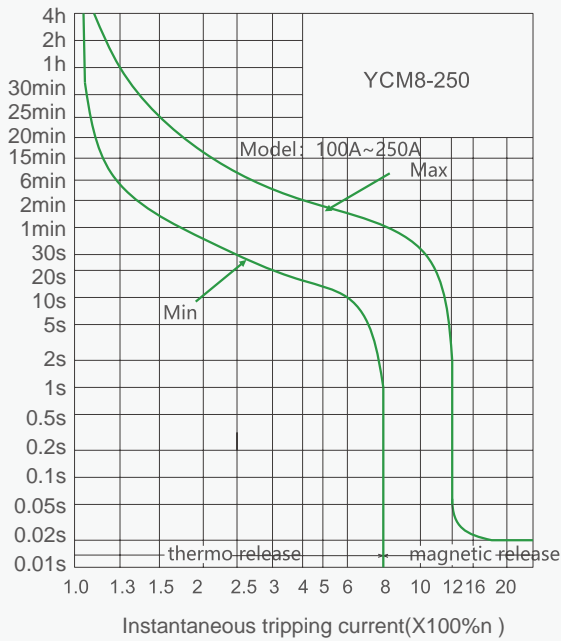
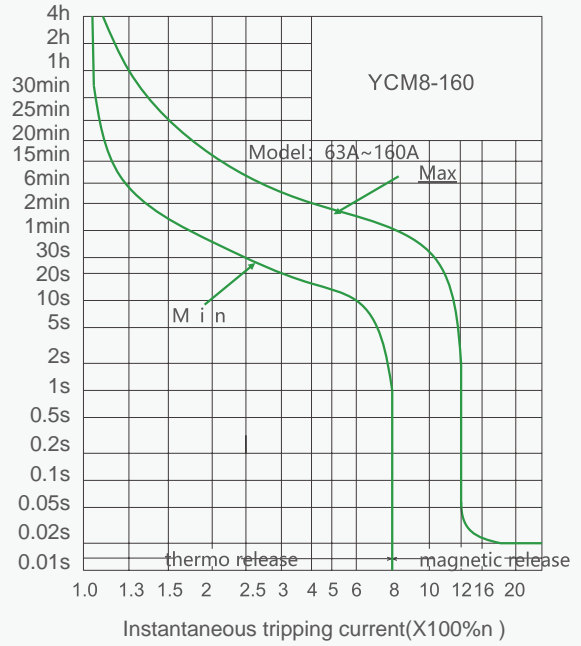
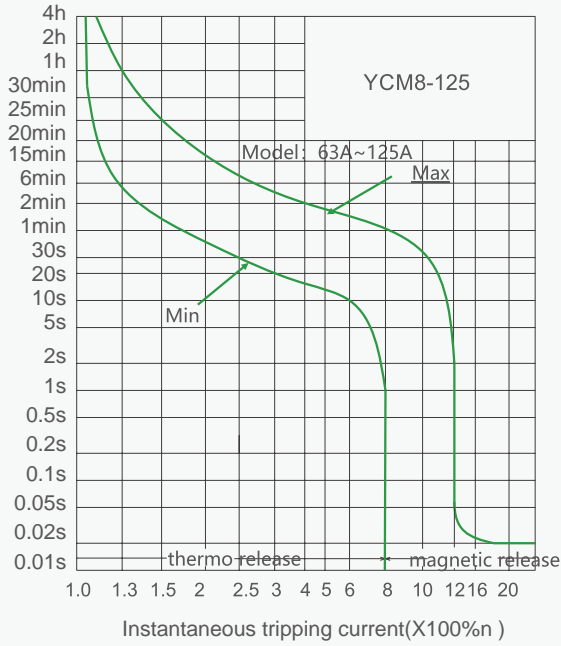
Overview



Distribution Apparatus

YCM8 Series MCCB

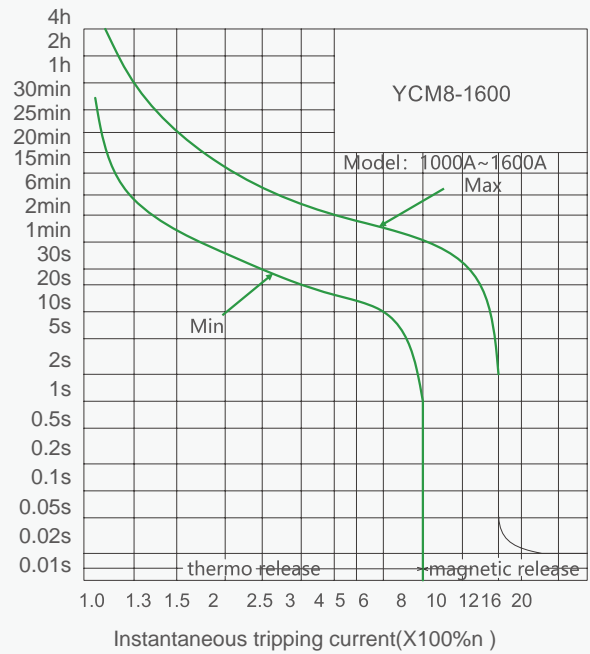
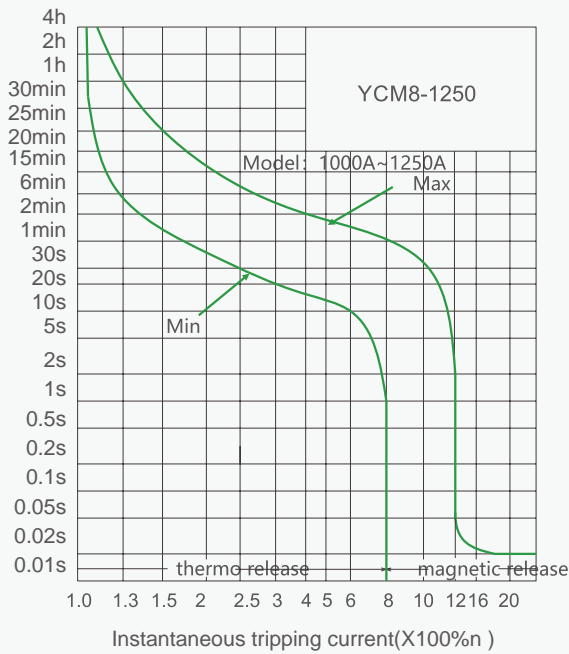
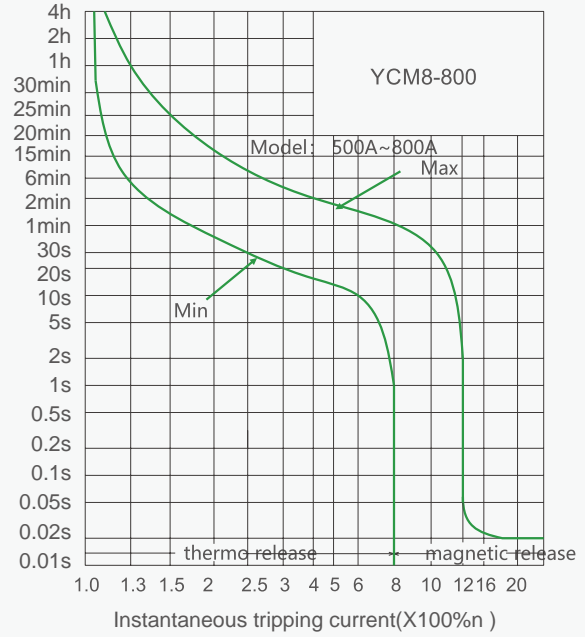
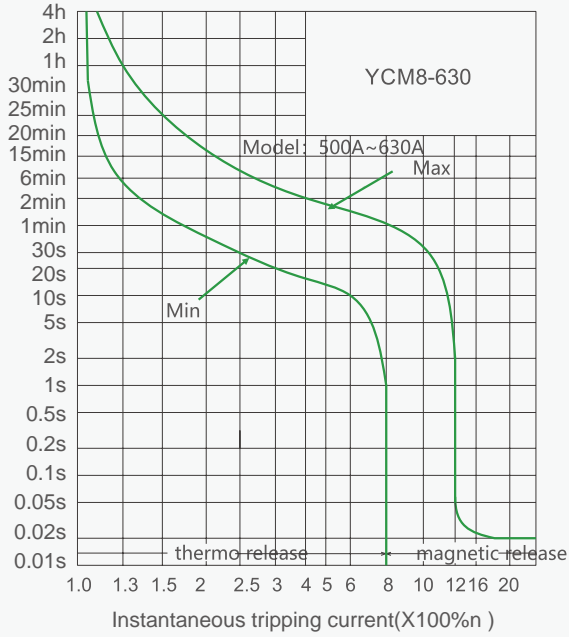
Curve



Distribution Apparatus

YCM8 Series MCCB

Curve



Distribution Apparatus

YCM8 MCCB

Type designation

YCM8 - 125 H P / 4 300 2 A 125A Q1 D1 Q 2

Type	Frame Inm	Breaking capacity Icu/Ics(kA)	Operation	Poles
YCM8	125	H	P	4
MCCB	800: 500,600,700,800 1250: 1000,1250,1600 Note: 125 is the upgraded 63 frame, 160 is the upgraded 100 frame, 250 is the upgraded 225 frame, 630 is the upgraded 400 frame	125 S M 160 15/10 25/18 250 25/18 35/25 400 25/18 35/25 630 35/25 50/35 800 35/25 50/35 1600 - 50/35 - 60/50	P: Motor-driven Z: Rotary handle W: operate directly	2: two poles 3: three poles 4: four poles

B

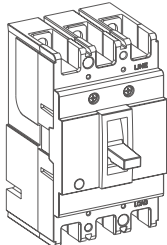
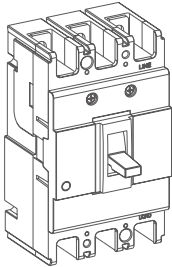
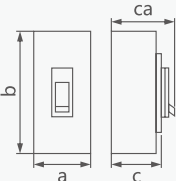
Tripping mode and inner accessory	Application	Option for 4P MCCB	Rated current(A)
300	2	A	125A
The first number indicate release mode 2: only with the instantaneous release device 3: complex release Note: the last two numbers are attachment code (see attachment table)	1: for distribution 2: for protecting the motor	A: N pole without protection, can not switch B: N pole without protection, can switch C: N pole without protection, can switch D: N pole without protection, can not switch	125 10,16,20,32,40,50,63,80,100,125 160 10, 16, 20, 32, 40, 50, 63,80,100, 125, 140, 160 250 100, 125, 140, 160, 180,200, 225, 250 400 250, 300, 315, 350, 400 630 400, 500, 630 800 500, 630, 700, 800 1000 1000 1250 1250 1600 1000,1250,1600

Accessory voltage	Motor-driven operation voltage	Connection	With the connection plate or not
Q1	D	Q	2
Under Voltage Release Q1: AC220V Q2: AC240V Q3: AC380V Q4: AC415V Shunt Release F1: AC220V F2: AC380V F3: DC110V F4: DC24V	DC3 D5:AC220V D6:AC110V D7:DC220V D8:DC110V D9:AC110~240V D10: DC100~220V	Q: Front H: Rear C: Plug-in	1: not 2: yes

Distribution Apparatus

YCM8 MCCB

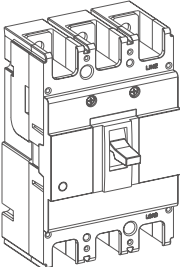
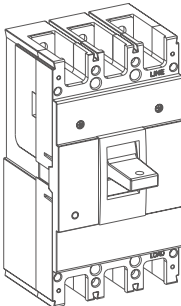
Technical data

Frame Current(A)		125		160		
Type		YCM8-125S	YCM8-125H	YCM8-160S	YCM8-160H	
Number of poles		2,3,4		2,3,4	3,4	
Products						
Rated current In (A)		10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125		10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 140, 160		
Rated voltage Ue(V)		AC220/230V,400V		AC220/230V,400,690V		
Rated insulation voltage Ui(V)		AC1000V		AC1000V		
Short Circuit Breaking Capacity (kA) Icu/Ics	AC220V	18/12	35/25	35/25	50/35	
	AC400V	15/10	25/18	25/18	35/25	
	AC690V	-	-	-	8/4	
Operating Circle Times	ON	600		3000		
	OFF	9000		7000		
Dimension(mm) a-b-c-ca		2P	50-130-68-94		60-155-68-94	60-155-82-108
		3P	75-130-68-94		90-155-68-94	90-155-82-108
		4P	100-130-68-94		120-155-68-94	120-155-82-108
		Weight(kg)	2P	0.5	0.55	1.0
	3P	0.55	0.65	1.1	1.2	
	4P	0.65	0.8	1.4	1.5	
Electric operating device (MD)		•		•		
External drive handle		•		•		
Automatic release		Thermal electromagnetic type		Thermal electromagnetic type		

Distribution Apparatus

YCM8 MCCB

Technical data

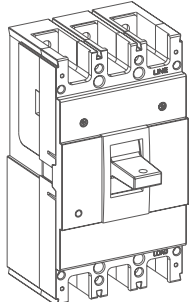
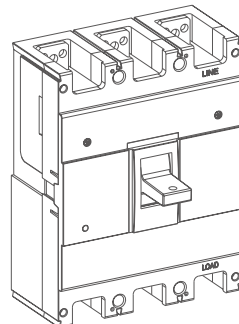
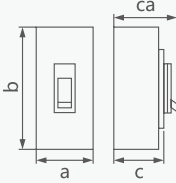
Frame Current(A)		250		400	
Type		YCM8-250S	YCM8-250H	YCM8-400S	YCM8-400H
Number of poles		3,4		3,4	
Products					
Rated current In (A)		100, 125, 140, 160, 180, 200, 225, 250		250, 315, 350, 400	
Rated voltage Ue(V)		AC220/230V, 400V, 690V		AC220/230V, 400V, 690V	
Rated insulation voltage Ui(V)		AC1000V		AC1000V	
Short Circuit Breaking Capacity (kA) Icu/Ics	AC220V	35/25	50/35	50/35	75/50
	AC400V	25/18	35/25	35/25	50/35
	AC690V	-	8/4	8/4	10/7.5
Operating Circle Times	ON	3000		2000	
	OFF	7000		4000	
Dimension(mm) a-b-c-ca	3P	105-165-68-96	105-165-88-116	140-257-103-152	
	4P	140-165-68-96	140-165-88-116	184-257-103-152	
Weight(kg)	3P	1.5		5.5	
	4P	1.9		7.0	
Electric operating device (MD)		•		•	
External drive handle		•		•	
Automatic release		Thermal electromagnetic type		Thermal electromagnetic type	

B

Distribution Apparatus

YCM8 MCCB

Technical data

Frame Current(A)	630		800	1000	1250	1600	
Type	YCM8-630S	YCM8-630H	YCM8-800H	YCM8-1000H	YCM8-1250H	YCM8-1600H	
Number of poles	3,4		3,4				
Products							
Rated current In (A)	250, 315, 350, 400, 500, 630		500, 630, 700, 800	1000	1250	1000, 1250, 1600	
Rated voltage Ue(V)	AC220/230V, 400V, 690V		AC220/230V, 400V, 690V				
Rated insulation voltage Ui(V)	AC1000V		AC1000V				
Short Circuit Breaking Capacity (kA) Icu/Ics	AC220V	50/35	75/50	75/50			
	AC400V	35/25	50/35	50/35			
	AC690V	8/4	10/7.5	15/10		20/15	
Operating Circle Times	ON	2000		1500			
	OFF	4000		4000			
Dimension(mm) a-b-c-ca		3P	140-257-103-152		210-275-103-152		210-340-141-244
		4P	184-257-103-152		280-275-103-153		280-340-141-244
Weight(kg)	3P	5.7		9.5			
	4P	7.5		12.5			
Electric operating device (MD)	•		•				
External drive handle	•		•				
Automatic release	Thermal electromagnetic type		Thermal electromagnetic type				

Aluminum terminal block

Built-in type



Frame	Number of holes	Wide	Wiring aperture	Maximum wiring
400A	1	30mm	Φ24	250 mm ²
250A	1	23mm	Φ16	180mm ²
160A	1	15.9mm	Φ10	78mm ²
125A	1	14mm	Φ8	40mm ²

External type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
1600A	1600A	4	63mm	Φ13.5	400mm ²
1250A	1250A	4	58mm	Φ13	254mm ²
1250A	1000A	3	58mm	Φ13	254mm ²
800A	800A	3	30mm	Φ20	300mm ²
630A	630A	2	30mm	Φ20	300mm ²
400A	400A	1	28mm	Φ20	300mm ²
250A	250A	1	23mm	Φ16	180mm ²
160A	160A	1	15.9mm	Φ14	70mm ²
125A	125A	1	15.9mm	Φ11	60mm ²
63A	63A	1	12.7mm	Φ8	40mm ²

B

Distribution Apparatus

YCM8LE Earth Leakage MCCB

Type designation

YCM8LE - 160 S P / 4 300 2 A 160A L1 Y1 Q1 D1 Q 2

Type	Frame Inm	Breaking capacity Icu/lcs(kA)	Operation	Poles	Tripping mode and inner accessory
YCM8LE	160	H	P	4	300
Earth Leakage MCCB	125,160,250, 400,800	M,H 30/25 65/42 65/50	P: electric drive operation Z:rotational handle W: operate directly	3: three poles 4: four poles	The first digit represents release type 2: has instantaneous release only; 3:complex release Note:Later two digits are the code of accessories(see accessory table)

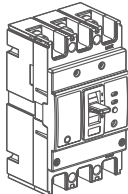
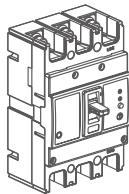
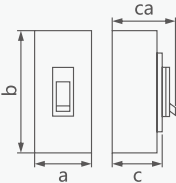
Application	Option for 4P MCCB	Rated current(A)	Rated residual operating current (mA)
2	A	160A	L1
none: power protection 2: motor protection	A: N-pole without protection,cannot close or open B:N-pole without protection,can close and open C:N-pole with protection,can close and open D:N-pole with protection,cannot close or open Note: Unless otherwise mentioned,4-pole products will be classified as CAT. B by default.	125 10,16,20,32,40,50,63,80, 100,125 160 10, 16, 20, 32, 40, 50, 63,80, 100, 125, 140, 160 250 100, 125, 140, 160, 180,200, 225, 250 400 250, 300, 315, 350, 400 800 500, 630, 700, 800	160:50mA, 100mA, 300mA, 500mA 250:50mA,100mA, 300mA,500mA 400-1250:80mA, 100mA, 300mA, 500mA

Rated delay time(if selected)	Accessory voltage	Motor-driven operation voltage	Connection	With the connection plate or not
Y1	Q1	D1	Q	2
0.1s,0.45s,1s,2s	Under Voltage Release Q1: AC220V Q2: AC240V Q3: AC380V Q4: AC415V Shunt Release F1: AC220V F2: AC380V F3: DC110V F4: DC24V	DC3 Electric Operating D5:AC230V D6: AC110V D7: DC220V D8: DC110V D9: AC110-240V D10: DC100-220V	Q: Front-board H: Back-board C: Plug-in type	1: not 2: yes

Distribution Apparatus

YCM8LE Earth Leakage MCCB

Technical data

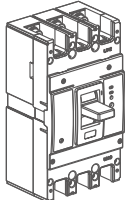
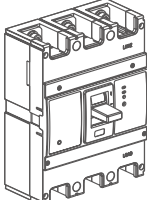
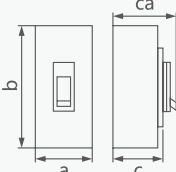
Frame Current(A)		160	250
Type		YCM8LE-160S	YCM8LE-250S
Number of poles		1P+N,3,4	3,4
Products			
Power supply system	3P	3Φ3W, 1Φ2W, 1Φ3W	3Φ3W, 1Φ2W, 1Φ3W
	4P	3Φ4W	3Φ4W
Rated current In (A)		10, 16, 20, 32, 40, 50, 63, 80, 100, 125, 140, 160	100, 125, 140, 160, 180, 200, 225, 250
Rated voltage Ue(V)		AC400V	AC400V
Rated insulation voltage Ui(V)		AC690V	AC690V
Leakage indication system		Button	Button
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	25/18	25/18
	AC690V	-	-
Operating Circle Times	ON	8000	8000
	OFF	15000	15000
Quick type	Rated residual operating current	30, 100, 500 (adjustable)	30, 100, 500 (adjustable)
	Max. actuation time	0.1	0.1
Delay type	Rated residual operating current	100, 300, 500 (adjustable)	100, 300, 500 (adjustable)
	Max. actuation time	-	-
	Max. actuation time under 21Δn (s)	0.45, 1.0, 2.0 (adjustable)	0.45, 1.0, 2.0 (adjustable)
	Inertia non-actuation time under 21Δn (s)	0.1, 0.5, 1.0	0.1, 0.5, 1.0
Dimension(mm) a-b-c-ca		4P 120-155-68-90	4P 140-165-68-92
Weight(kg)	4P	1.2	2.5
Electric operating device (MD)		•	•
External drive handle		•	•
Automatic release		Thermal electromagnetic type	Thermal electromagnetic type

B

Distribution Apparatus

YCM8LE Earth Leakage MCCB

Technical data

Frame Current(A)		400	800
Type		YCM8LE-400S	YCM8LE-800H
Number of poles		3,4	3,4
Products			
Rated current In (A)		250, 315, 350, 400	500, 630, 700, 800
Rated voltage Ue(V)		AC400/690V	AC400/690V
Rated insulation voltage Ui(V)		AC690V	AC690V
Leakage indication system		Button	Button
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	35/25	50/35
	AC690V	8/4	15/10
Operating Circle Times	ON	2000	2000
	OFF	4000	4000
Quick type	Rated residual operating current	30, 100, 500 (adjustable)	30, 100, 500 (adjustable)
	Max. actuation time	0.1	0.1
Delay type	Rated residual operating current	100, 300, 500 (adjustable)	100, 300, 500 (adjustable)
	Max. actuation time	-	-
	Max. actuation time under 21Δn (s)	0.45, 1.0, 2.0 (adjustable)	0.45, 1.0, 2.0 (adjustable)
	Inertia non-actuation time under 21Δn (s)	0.1, 0.5, 1.0	0.1, 0.5, 1.0
Dimension(mm) a-b-c-ca	4P	185-257-103-155	280-275-103-155
			
Weight(kg)	4P	8.4	17.5
Electric operating device (MD)		•	•
External drive handle		•	•
Automatic release		Thermal electromagnetic type	Thermal electromagnetic type

Distribution Apparatus

YCM8T/A,RT Thermomagnetic Adjustable MCCB

Type designation

YCM8 RT - 160 H Z / 3 300 2 A 160A Q1 Q 2

Type	The adjustable type	Frame Inm	Breaking capacity Icu/Ics(-kA)	Operation	Poles															
YCM8	RT	160	H	Z	3															
Moulded-case circuit breaker (MCCB)	RT:Thermal and Magnetic adjust type T/A:Only thermal adjust	160, 250, 400, 630, 800	<table border="1"> <tr> <td>160</td> <td>S</td> <td>H</td> </tr> <tr> <td>225</td> <td>25/18</td> <td>35/25</td> </tr> <tr> <td>400</td> <td>25/18</td> <td>35/25</td> </tr> <tr> <td>630</td> <td>35/25</td> <td>50/35</td> </tr> <tr> <td>800</td> <td>35/25</td> <td>50/35</td> </tr> </table>	160	S	H	225	25/18	35/25	400	25/18	35/25	630	35/25	50/35	800	35/25	50/35	Dc1, DC2, DC3 P: electric drive operation Z:rotational handle W: operate directly ① Electric operation DC3	3: three poles 4: four poles
160	S	H																		
225	25/18	35/25																		
400	25/18	35/25																		
630	35/25	50/35																		
800	35/25	50/35																		

B

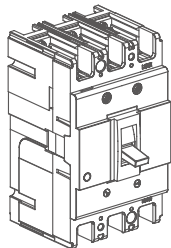
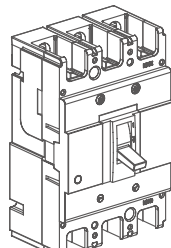
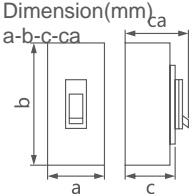
Tripping mode and inner accessory	Application	Option for 4P MCCB	Rated current(A)										
□00	2	A	160A										
The first digit represents release type 2: has instantaneous release only; 3:complex release Note:Later two digits are the code of accessories(see accessory table)	1: power protection 2: motor protection	A: N-pole without protection,cannot close or open B:N-pole without protection,can close and open C:N-pole with protection,can close and open D:N-pole with protection,cannot close or open	<table border="1"> <tr> <td>125</td> <td>20-25, 25-32, 32-40, 40-50, 50-63, 63-80, 80-100, 100-125, 125-160</td> </tr> <tr> <td>250</td> <td>100-125, 125-160, 160-200, 200-250</td> </tr> <tr> <td>400</td> <td>200-250, 250-320, 320-400</td> </tr> <tr> <td>630</td> <td>400-500, 500-630</td> </tr> <tr> <td>800</td> <td>500-630, 630-800,1250</td> </tr> </table>	125	20-25, 25-32, 32-40, 40-50, 50-63, 63-80, 80-100, 100-125, 125-160	250	100-125, 125-160, 160-200, 200-250	400	200-250, 250-320, 320-400	630	400-500, 500-630	800	500-630, 630-800,1250
125	20-25, 25-32, 32-40, 40-50, 50-63, 63-80, 80-100, 100-125, 125-160												
250	100-125, 125-160, 160-200, 200-250												
400	200-250, 250-320, 320-400												
630	400-500, 500-630												
800	500-630, 630-800,1250												

Accessory voltage	Motor-driven operation voltage	Connection	With the connection plate or not
Q1	D1	Q	2
Under Voltage Release Q1: AC220V Q2: AC240V Q3: AC380V Q4: AC415V Shunt Release F1: AC220V F2: AC380V F3: DC110V F4: DC24V Auxiliary Alarm J1: AC125V J2: AC250 V J3: DC125V J4: DC24V	DC3 Electric Operating D5:AC230V D6: AC110V D7: DC220V D8: DC110V D9: AC110-240V D10: DC100-220V	Q: Front-board H: Back-board C: Plug-in type	1: not 2: yes

Distribution Apparatus

YCM8T/A,RT Thermomagnetic Adjustable MCCB

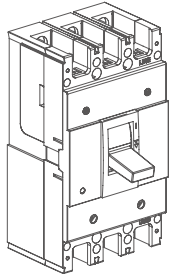
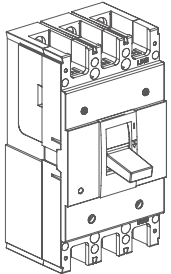
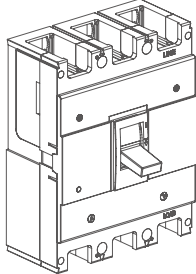
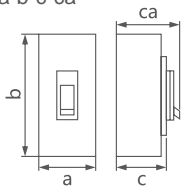
Technical data

Type	YCM8T-160S YCM8T/A-160S		YCM8T-160H YCM8T/A-160H		YCM8T-250S YCM8T/A-250S		YCM8T-250H YCM8T/A-250H	
Type	160				250			
Number of poles	3,4				3,4			
Products								
Rated current In (A)	20-25, 25-32, 32-40, 40-50, 50-63, 63-80,80-100, 100-125, 125-160				100-125, 125-160, 160-200, 200-250			
Rated voltage Ue(V)	AC400/690V				AC400/690V			
Rated insulation voltage Ui(V)	AC1000V				AC1000V			
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	25/18	35/25	25/18	35/25			
	AC690V	-	8/4	-	8/4			
Operating Circle Times	ON	3000			3000			
	OFF	7000			7000			
Dimension(mm) 	3P	90-155-68-94	90-155-82-108	105-165-68-96	105-165-88-116			
	4P	120-155-68-94	120-155-82-108	140-165-68-96	140-165-88-116			
Weight(kg)	3P	1.0	1.0	1.5				
	4P	1.1	1.4	1.9				
Electric operating device (MD)	•				•			
External drive handle	•				•			
Automatic release	Thermal electromagnetic type				Thermal electromagnetic type			

Distribution Apparatus

YCM8T/A,RT Thermomagnetic Adjustable MCCB

Technical data

Type	YCM8T-400S YCM8T/A-400S	YCM8T-400H YCM8T/A-400H	YCM8T-630S YCM8T/A-630S	YCM8T-630H YCM8T/A-630H	YCM8T-800H YCM8T/A-800H	YCM8T-1250H YCM8T/A-1250H
Type	400		630		800	1250
Number of poles	3,4		3,4		3,4	3,4
Products						
Rated current In (A)	200-250, 250-320, 320-400		400-500, 500-630		400-500, 500-630, 630-800	800-1000, 1000-1250
Rated voltage Ue(V)	AC400/690V		AC400/690V		AC400/690V	
Rated insulation voltage Ui(V)	AC1000V		AC1000V		AC1000V	
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	35/25	50/35	35/25	50/35	50/35
	AC690V	8/4	10/7.5	8/4	10/7.5	15/10
Operating Circle Times	ON	2000		2000		1500
	OFF	4000		4000		4000
Dimension(mm) a-b-c-ca		3P	140-257-103-152		210-275-103-152	
		4P	185-257-103-152		280-275-103-152	
Weight(kg)	3P	5.5		5.7		9.5
	4P	7.0		7.5		12.5
Electric operating device (MD)	•		•		•	
External drive handle	•		•		•	
Automatic release	Thermal electromagnetic type		Thermal electromagnetic type		Thermal electromagnetic type	

B

YCM8E Electronic Adjustable Circuit Breaker



General

YCM8E series electronic circuit breakers are applicable for low-voltage power systems of AC 50-60Hz, rated operating voltage up to 1000V and rated operating current from 16A to 1600A.

Operating conditions

1. Altitude up to 2000m;
2. Ambient medium temperature should be within -5°C to $+40^{\circ}\text{C}$ ($+45^{\circ}\text{C}$ for marine products);
3. It can withstand the effect of damp air;
4. It can withstand the effect of salt fog or oil mist;
5. It can withstand the effect of moulds;
6. It can withstand the effect of nuclear radiation;
7. The max inclination is 22.5°C .
8. It still can work reliably when the ship subjects to normal vibration;
9. It can still work reliably if the product subjects to the earthquake (4g).
10. Places where the surrounding medium is free from explosion danger, and far away from gas or conductive dust that would erode the metal or destroy the insulation;
11. Keep away from rain or snow.

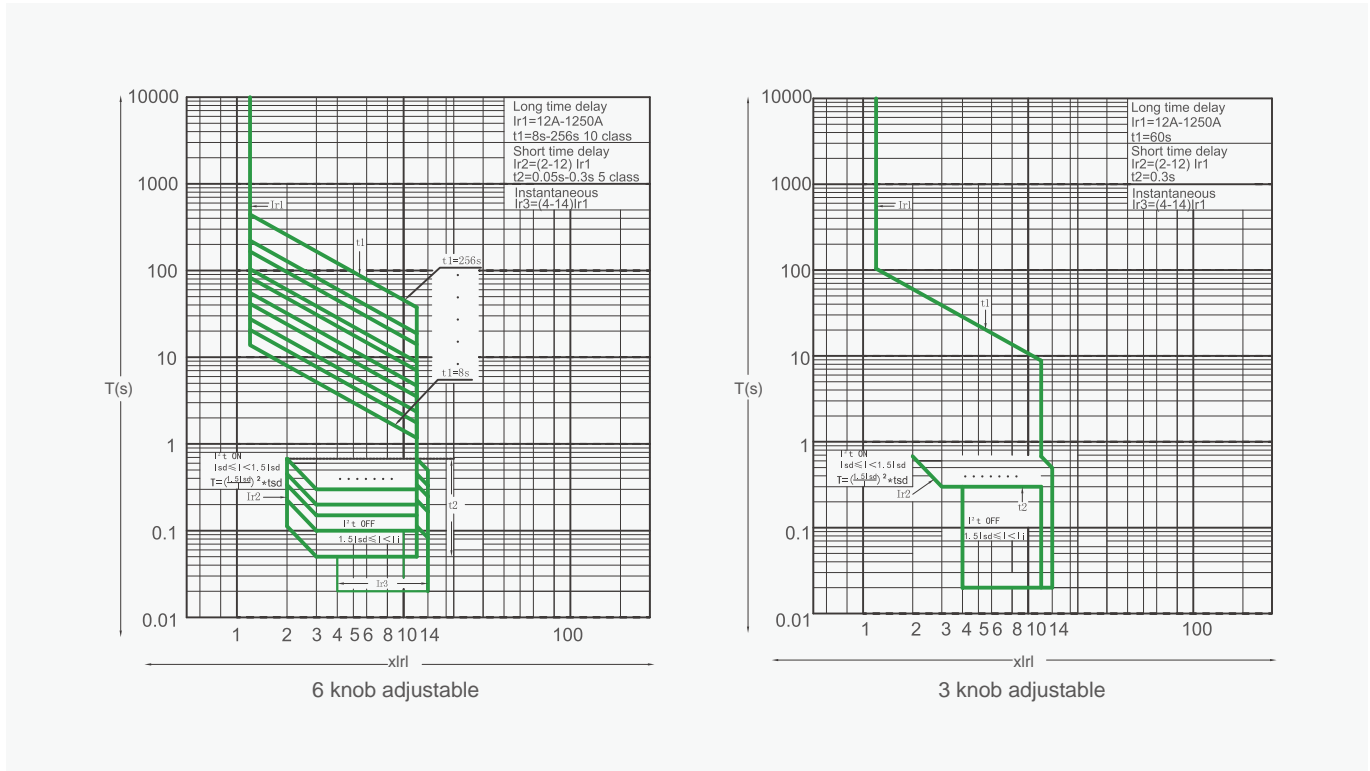
Features

1. Circuit breaker can be equipped with undervoltage release, shunt release, auxiliary contacts, alarm contacts, electric operating mechanism, rotary operating handle and other accessories.
2. Circuit breaker has protection functions of overload long delay, short-circuit short delay and short-circuit instantaneous protection, the user can set the required protection characteristics (user only needs to operate the DIP switch for settings of protection function parameters).
3. Circuit breaker has ground fault and thermal analog protection functions, pre-alarm indication over-current indication, load current indication, digital current analysis technology, and it can achieve a higher level of protection.

Distribution Apparatus

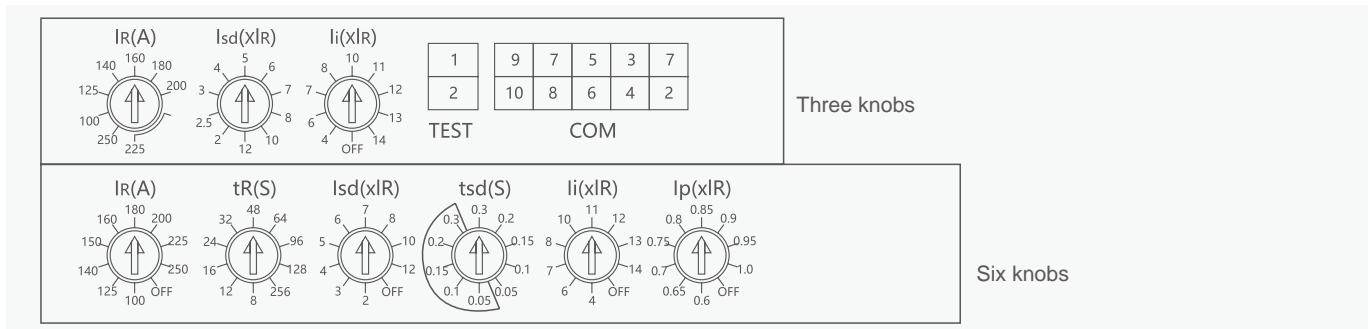
YCM8E Electronic Adjustable Circuit Breaker

Curve



Panel and function description

Intelligent release panel



Tripping test port (TEST)

1 Tripping test input DC12V(+); 2 Tripping test input DC12V(-)

Panel adjustment knob as follows in turn:IR(A) Isd(xIR) li(xIR)

- R: Overload long delay tripping setting current;
- Isd: Short-circuit short delay tripping setting current;
- li: Short-circuit instantaneous tripping setting current;

The rest parameters are set by factory default, or set by remote communication, as follows:

- tR: Overload long delay setting time, factory default: 60s;
- tsd: Short-circuit short delay setting time, factory default: 0.1s;
- Ip: Overload pre-alarm setting current, factory default: 0.85*IR;

Distribution Apparatus

YCM8E Electronic Adjustable Circuit Breaker

Type designation

YCM8 E - 160 H / 3 400 2 A 63A~160A Three knobs

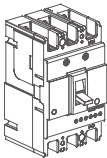
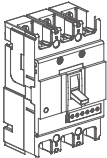
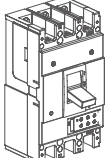
Type	The adjustable type	Frame Inm	Code of operating mode	Poles
YCM8	E	160	H	3
MCCB	E: electronic adjustable	Inm=160 Inm=250 Inm=400 Inm=800 Inm=1000 Inm=1250 Inm=1600		3: three poles 4: four poles

Tripping mode and inner accessory	Application	Option for 4P MCCB	Number of knobs
400	2	A	Three knobs
The intelligent tripping device Accessory code, see accessory table	1: for distribution 2: for protecting the motor	A: N-pole without protection, cannot close or open B: N-pole without protection, can close and open C: N-pole with protection, can close and open D: N-pole with protection, cannot close or open Note: Unless otherwise mentioned, 4-pole products will be classified as CAT. B by default.	Three knobs or Six knobs

Distribution Apparatus

YCM8E Electronic Adjustable Circuit Breaker

Technical data

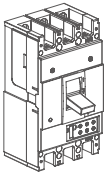
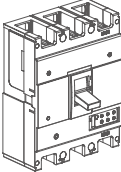
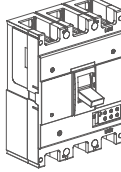
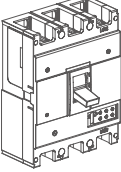
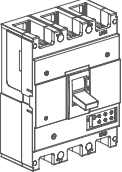
Frame Current(A)	160	250	400
Type	YCM8E-160H	YCM8E-250H	YCM8E-400H
Number of poles	3,4	3,4	3,4
Products			
Rated current In (A)	12-32, 25-63, 40-100, 63-160	100-250	200-400
Rated voltage Ue(V)	AC400/690V	AC400/690V	AC400/690V
Rated insulation voltage Ui(V)	AC1000V	AC1000V	AC1000V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	35/25	50/35
	AC690V	8/4	10/7.5
Operating Circle Times	ON	1500	1000
	OFF	7000	7000
Dimension(mm) a-b-c-ca	3P	90-155-88-115	105-165-88-115
	4P	120-155-88-115	140-165-88-115
Weight(kg)	3P	1.6	2.1
	4P	2.1	2.7
Electric operating device (MD)	•	•	•
External drive handle	•	•	•
Automatic release	Thermal electromagnetic type	Thermal electromagnetic type	Thermal electromagnetic type

B

Distribution Apparatus

YCM8E Electronic Adjustable Circuit Breaker

Technical data

Frame Current(A)		630	800	1000	1250	1600
Type		YCM8E-630H	YCM8E-800H	YCM8E-1000H	YCM8E-1250H	YCM8E-1600H
Number of poles		3,4	3,4	3,4	3,4	3,4
Products						
Rated current In (A)		400-630	400-630, 500-800	630-1000	850-1250	500-1250, 630-1600
Rated voltage Ue(V)		AC400V	AC400V	AC400V	AC400V	AC400V
Rated insulation voltage Ui(V)		AC1000V	AC1000V	AC1000V	AC1000V	AC1000V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	50/35	50/35	50/35	50/35	65/50
	AC690V					
Operating Circle Times	ON	1000	1000	1000	1000	1000
	OFF	4000	4000	4000	4000	4000
Dimension(mm) a-b-c-ca	3P	140-257-103-152	210-257-103-152	210-275-103-152		210-340-141-244
	4P	185-257-103-152	280-257-103-152	280-275-103-152		280-340-141-244
Weight(kg)	3P	5.4	8.3	9.9	9.9	16.8/17.1/18.82
	4P	7.3	11.1	13.2	13.2	21.9/23.2/24.5
Electric operating device (MD)		•	•	•	•	•
External drive handle		•	•	•	•	•
Automatic release		Thermal electromagnetic type	Thermal electromagnetic type	Thermal electromagnetic type	Thermal electromagnetic type	Thermal electromagnetic type

Distribution Apparatus

YCM8YV Series Electronic MCCB



General

The rated insulation voltage of YCM8YV series electronic liquid crystal molded case circuit breaker is 1000V. It is suitable for the distribution network with AC 50-60Hz, rated voltage of 400V and below and rated current up to 800A. Under normal circumstances, the circuit breaker can be used for infrequent switching of circuits and infrequent starting of motors. It can protect the circuits from overload and short circuit, as well as over-voltage, under-voltage and phase loss.

Standards: IEC60947-2

B

Type designation

Product name	Frame current	Number of poles	Tripping mode and inner accessory	Rated current
YCM8YV -	250 /	3	300	250A
YCM8YV	250 400 630 800	3:3P 4:4P		250:100~250A 400:160~400A 630:252~630A 800:320~800A

Operating Conditions

1. The ambient temperature is -5°C~+40°C, and the altitude is no more than 2,000m.
2. Atmospheric conditions: the max. temperature is 40°C, and the relative humidity of air is not more than 50%; higher relative humidity can be allowed at lower temperature like 90% at 20°C. Special measures shall be taken for occasional condensation due to temperature change.
3. The external magnetic field of the installation site shall not exceed 5 times of the geomagnetic field in any direction, avoid large electromagnetic interference (such as high-power motor or frequency converter) near the product, explosive and corrosive gas, as well as invasion by rain and snow, and keep the place dry and ventilated.
4. Class of pollution: Class 3; installation category: III.

Features

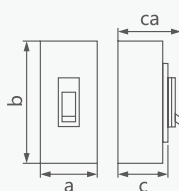
1. Environmental protection, Wide range of application.
2. Easy to operate, Maintenance-free, High security.
3. Clearly visible real isolation break.
4. Single cabinet structure, field-configurable, and expandable as desired.
5. Replace SF6 load switch ring main unit.

Distribution Apparatus

YCM8YV Series Electronic MCCB

Technical data

Type		YCM8YV-250	YCM8YV-400	YCM8YV-630	YCM8YV-800
Frame Current(A)		250	400	630	800
Pole number		3,4	3,4	3,4	3,4
Rated Current (A)		100-250	160-400	252-630	252-630,320-800
Rated voltage Ue(V)		AC400/690V	AC400/690V	AC400/690V	AC400/690V
Rated insulation voltage Ui(V)		AC1000V	AC1000V	AC1000V	AC1000V
Short Circuit Breaking Capacity (kA) Icu/Ics	AC400V	35/25	50/35	50/35	50/35
	AC690V	8/4	10/7.5	10/7.5	15/10
Operating Circle Times	ON	1000	1000	1000	1000
	OFF	7000	4000	4000	4000
Dimension(mm) a-b-c-ca	3P	105-165-88-115	140-257-103-155	140-257-103-155	210-275-103-155
	4P	140-165-88-115	185-257-103-155	185-257-103-155	280-275-103-155



Distribution Apparatus

YCM8YV Series Electronic MCCB

Spec. & Functions			
Classification	Description		
Display Mode	LCD+LED indicator light	•	
Interface operation	Key	•	
Protective functions	Current protection	Overload long time delay protection	•
		Short-circuit short time delay protection	•
		Short-circuit instantaneous protection	•
		Overload pre-alarm function	-
	Voltage protection	Under-voltage and over-voltage protection functions	-
		Phase loss protection function	•
		Protection function of fault neutral line at power supply side	○
		Protection function of voltage loss and trip at power supply side	•
	Communication function	DL/T 645-2007 Multi-functional meter communication protocol	○
		Modbus-RTU communication protocol	○
		Communication hardware 1-channel RS-485	-
	Function of external DI/O port	Auxiliary communication power input	•
		1-channel DI/O programmable control input	•
		1-channel passive contact output	-
	Fault record	Storage of 10 times of trip faults (the upper computer needs to read the feedback information uploaded each time for query of more records.)	•
		Record of max./min. voltage and current in 30 days	•
		Record of 10 self-check events of protector	-
		Record of 80 protection function enable/disable events	•
		Record of 10 gate position change events	•
		Record of 10 alarm events	•
Time function	Record of 10 times of high voltage power loss and recovery	•	
	With the function of real-time clock which consists of YY, MM, DD, hh, mm and ss.	•	

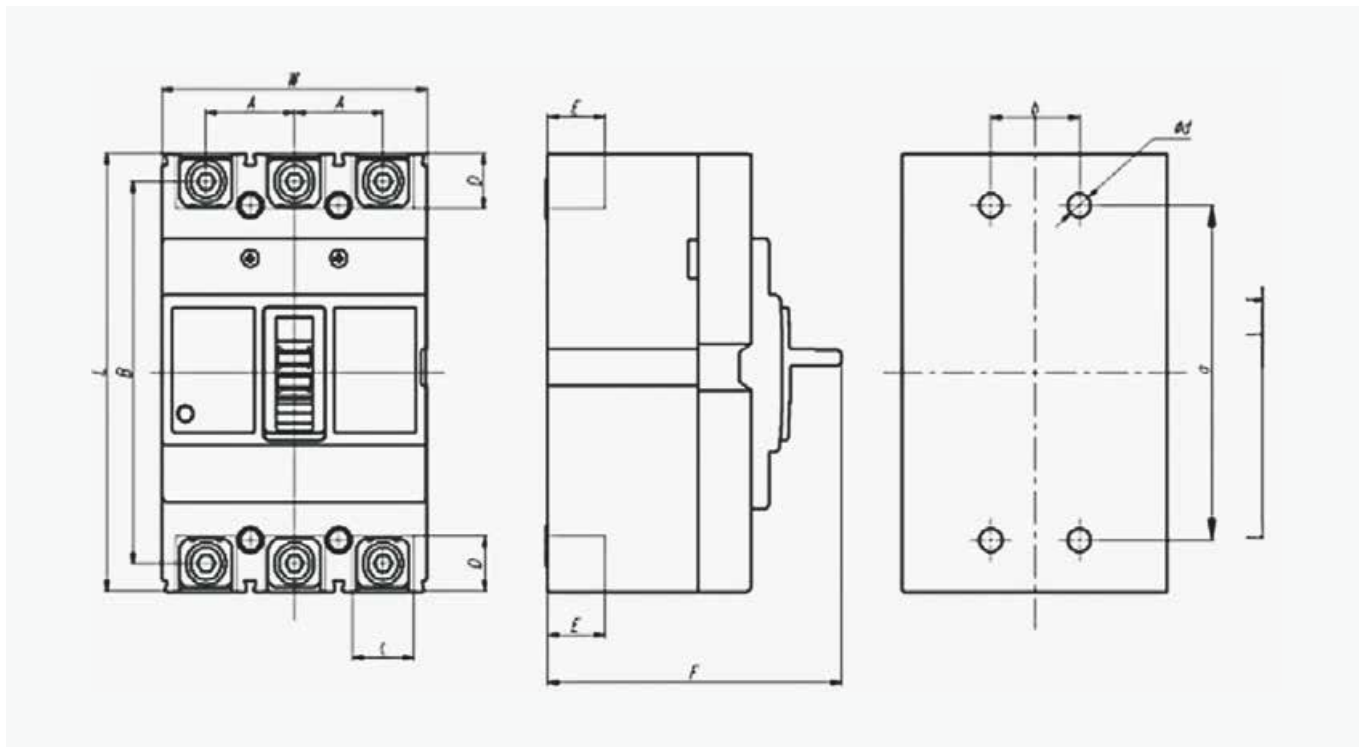
Notes: symbol "•" indicates that this function is available; symbol "○" indicates that this function can be selected; and symbol "-" indicates that this function is not available.

B

Distribution Apparatus

YCM8YV Series Electronic MCCB

Overall and mounting dimensions



Model	YCM8YV-250		YCM8YV-400		YCM8YV-630		YCM8YV-800	
	3P	4P	3P	4P	3P	4P	3P	4P
L	165		257		275.5		275.5	
w	105	140	140	184	210	280	210	280
A	35		43.5		70		70	
B	144		230		243.5		243.5	
C	24		31		45		45	
D	21		29		30		30	
E	22.5		31.5		24		26	
F	116		155		155		155	
a	126		194		243		243	
b	35		44		70		70	
Φd	4xΦ4.5		4xΦ7		4xΦ8		4xΦ8	

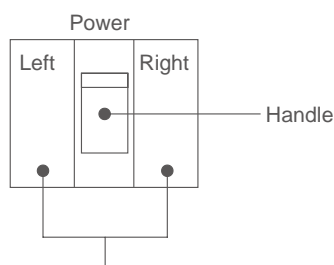
Distribution Apparatus

YCM8YV Series Electronic MCCB

Inner accessories

Accessories of YCM8, YCM8LE, YCM8T/A, YCM8RT, YCM8E are the same.

Model		YCM8-125	YCM8-160	YCM8-250	YCM8-400/630	YCM8-800 YCM8-1000 YCM8-1250 YCM8-1600
Breaking capacity		S,H	S,H	S,H	S,H	H
No. of poles		2,3,4	2,3,4	3,4	3,4	3,4
Code	Accessory name					
208, 308	Alarm contact(SD)					
210, 310	Shunt release(MX)					
220, 320	Auxiliary contact(OF)					
230, 330	Under-voltage release(MN)					
240, 340	Shunt auxiliary contact(MX+MN)					
260, 360	Two groups auxiliary contacts(2OF)					
270, 370	Auxiliary contact UVT(OF+MN)					
218, 318	Shunt alarm contact(MX+SD)					
228, 328	Auxiliary alarm contact(OF+SD)					
238, 338	UVT alarm contact(MN+SD)					
248, 348	Shunt auxiliary alarm contact(MX+OF+SD)					
268, 368	Two groups aux alarm contact(2OF+SD)					
278, 378	Aux contact UVT alarm contact(OF+MN+SD)					
280, 380	Two groups aux contact and shunt(2OF+MX)					



The blank area cannot be equipped with accessory

● Alarm switch ○ Auxiliary switch □ Shunt release ■ Undervoltage release(UVT)

Note:

- The company can provide three new products of right auxiliary switch, left shunt release and left undervoltage release for choice.
- Within 220, 320, 240, 340, 270 and 370 specifications, auxiliary switch can be supplied with two pair switches, please specify in the order.
- P switches of YCM8LE and YCM8E can not be equipped with right auxiliary switch, right shunt release and right undervoltage release.
- 125, 160, 2-pole products only have 208,210, 220, 308,310, 320.

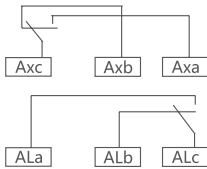
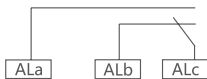
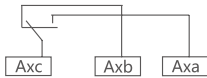
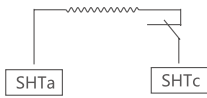
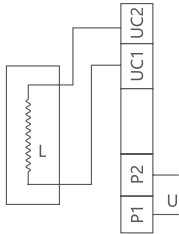
B

Distribution Apparatus

YCM8 Series MCCB Accessories

Inner accessories

Internal accessories of YCM8, YCM8LE, YCM8RT, YCM8E series include undervoltage release, shunt release and auxiliary alarm release, their main technical parameters and wiring diagram are as follows:



Undervoltage release	
Rated voltage of power supply	Main features
AC220,AC240 AC380,AC415	<p>A. Undervoltage release should act when voltage drops to within 70% and 35% of the rated voltage.</p> <p>B. The undervoltage release should not be able to close to prevent the circuit breaker from closing when voltage is lower than 35% of the rated voltage.</p> <p>C. The undervoltage release should ensure to be closed and ensure reliable closing of the circuit breaker when voltage is equal to or greater than 85% of the rated voltage.</p>
Shunt release	
Rated voltage of power supply	Main features
DC24,DC110 AC220,AC380	Shunt release can work reliably when the rated voltage value is at 70% and 110%.
Auxiliary alarm contact	
Rated voltage of power supply	Main features
Auxiliary switch	Shunt release can work reliably when the rated voltage value is at 70% and 110%.
AC 125V 5A, AC 250V 3A DC 125V0.4A, DC 125V0.2A	
Alarm switch	Provide differentiated signals for the circuit breaker at "normal work" and "fault free trip" positions.
AC 125 5A, AC 250V 3A DC 125V0.4A, DC 125V 0.2A	
Auxiliary alarm switch	Provide differentiated signals for the circuit breaker at close", "open" and "fault free trip" positions.
AC 125V 5A, AC 250V 3A DC 125V0.4A.DC125V0.2A	

Distribution Apparatus

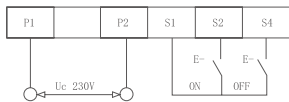
YCM8 Series MCCB Accessories

External accessories

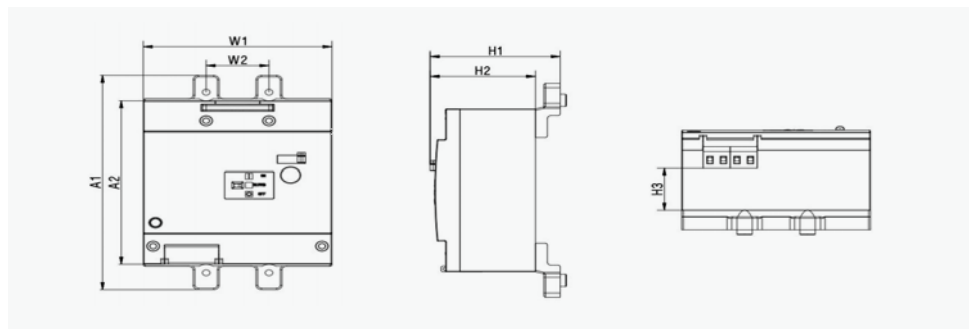
The main technical parameters, dimensions and installation diagrams of external accessories for YCM8, YCM8LE, YCM8RT, YCM8T/A and YCM8E series are as follows:
DC3 electric operating mechanism.



Wiring diagram



Model & Spec.	DC6-125	DC6-160	DC6-250	DC6-400-630	DC6-800	DC6-1000-1250	DC6-1600
Applicable model	YCM8-125	YCM8-160 YCM8LE-160 YCM8RT-160 YCM8T/A-160 YCM8E-160	YCM8-250 YCM8LE-250 YCM8RT-250 YCM8T/A-250 YCM8E-250	YCM8-400 YCM8LE-400 YCM8RT-400 YCM8T/A-400 YCM8E-400 YCM8-630 YCM8LE-630 YCM8RT-630 YCM8T/A-630 YCM8E-630	YCM8-800 YCM8LE-800 YCM8RT-800 YCM8T/A-800 YCM8E-800	YCM8-1000 YCM8RT-1000 YCM8T/A-1000 YCM8-1250 YCM8RT-1250 YCM8T/A-1250 YCM8E-1000 YCM8E-1250	YCM8-1600 YCM8E-1600
Rated voltage (V)	DC24V/AC23V/AC400V						
Starting current (A)	≤0.5			≤2			
Mechanical life (times)	15000		12000		10000		8000
Power (W)	14			35			



Model Dimensions (mm)	DC6-125	DC6-160	DC6-250	DC6-400	DC6-630	DC6-800	DC6-1250	DC6-2000
A	130	155	166	257	257	257.5	257.5	340
A1	122	144	149.6	212	212	264	264	/
A2	109.5	109.5	114	177	177	174	174	174
W	75	90	105	140	140	210	210	210
W1	90	90	105	140	140	210	210	210
W2	25	30	35	44	44	70	70	70
H	140	151	153.5	170.5	170.5	190.5	190.5	225
H1	78.5	76	72	74	74	93	93	/
H2	62	62	59	61	61	78	78	78
H3	34.2	34.2	29.5	32.5	32.5	45	45	45

Distribution Apparatus

YCM8 Series MCCB Accessories

Thermo-magnetic release

1. The circuit breaker (for power distribution) has reverse time breaking characteristics of overcurrent release in all pole states and is energized simultaneously at room temperature 40°C.

Test current	Current time	Conventional time		Initial status
		$I_n \leq 63$	$I_n < 63$	
Conventional non-trip current	1.05	1h	2h	Cold status
Conventional trip current	1.30	<1h	<2h	Hot status

2. When ambient temperature is +40°C for electromotor protection breaker, power on for every pole, inverse time limit characteristic of no temperature compensation is in the following sheet.

Test current	Current time	Conventional time		Initial status
		$I_n \leq 800$		
Conventional non-trip current	1.0	2h		Cold status
Conventional trip current	1.2	<2h		Hot status

3. Action property of the short-circuit release of the breaker

- ◆ Instant trip (for power distribution) $I = 10I_n$
- ◆ Instant trip (for motor protection) $I = 12I_n$
- ◆ Current setting accuracy $\pm 20\%$

Order guide

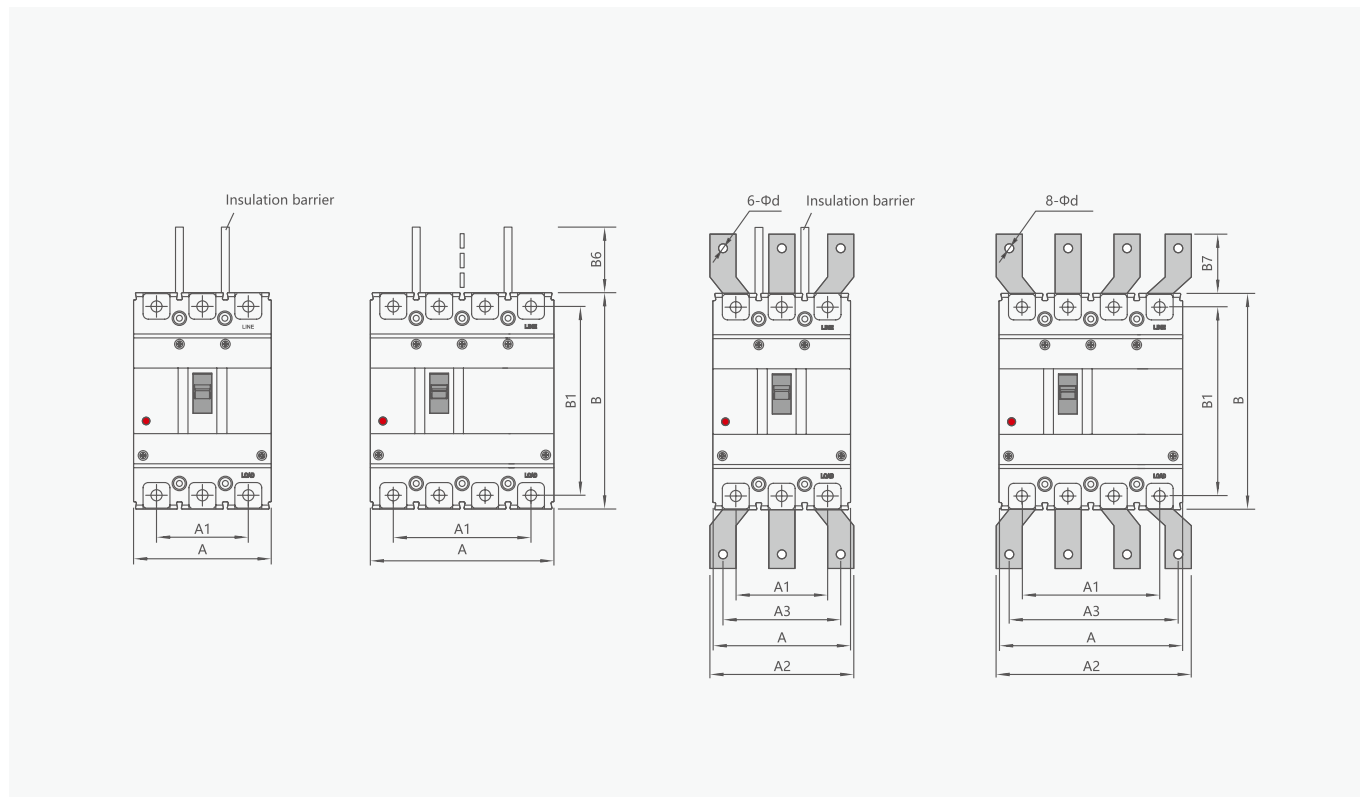
- Name and model of circuit breaker;
- Rated current and setting multiple of circuit breaker;
- Accessory name and rated voltage.

eg.: Order 50 sets of circuit breaker of power distribution 125 type, with rated current 100A standard type AC 380V undervoltage release, complex release, N-pole is not installed with overcurrent release and will close and open together with other three poles. Please write like this: YCM8-125L74370 100A1 B Q 3, circuit breaker 50 sets.

Distribution Apparatus

YCM8 Series MCCB Accessories

Overall and mounting dimensions



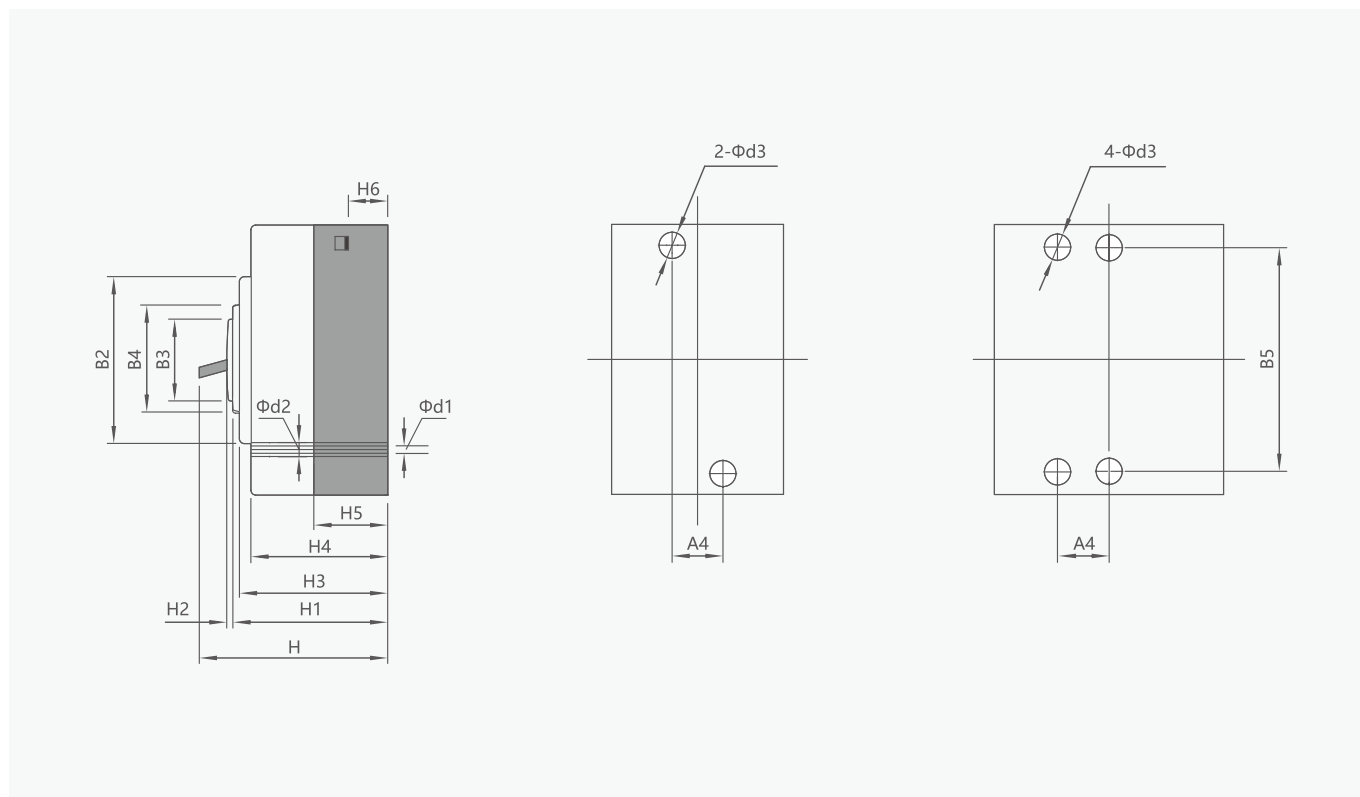
B

Mode				Outline dim.							
Moulded-case circuit breaker(MCCB)	Residual-current circuit breaker(RCCB)	Thermomagnetic adjustable circuit breaker	Electronic adjustable circuit breaker	A		A1		A2		A3	
				3P	4P	3P	4P	3P	4P	3P	4P
YCM8-125S	YCM8LE-125S	-	-	75	100	50	75	-	-	-	-
YCM8-125H	YCM8LE-125H	-	-	75	100	50	75	-	-	-	-
YCM8-160S	YCM8LE-160S	YCM8(RT-T/A)-160S	YCM8E-160H	90	120	60	90	-	-	-	-
YCM8-160H	YCM8LE-160H	YCM8(RT-T/A)-160H		90	120	60	90	-	-	-	-
YCM8-250S	YCM8LE-250S	YCM8(RT-T/A)-250S	YCM8E-250H	105	140	70	105	-	-	-	-
YCM8-250H	YCM8LE-250H	YCM8(RT-T/A)-250H		105	140	70	105	-	-	-	-
YCM8-400S	YCM8LE-400S	YCM8(RT-T/A)-400S	YCM8E-400H	140	184	88	132	140	196	112	168
YCM8-400H	YCM8LE-400H	YCM8(RT-T/A)-400H		140	184	88	132	140	196	112	168
YCM8-630S	YCM8LE-630S	YCM8(RT-T/A)-630S	YCM8E-630H	140	184	88	132	140	196	112	168
YCM8-630H	YCM8LE-630H	YCM8(RT-T/A)-630H		140	184	140	132	140	196	112	168
YCM8-800S	-	YCM8(RT-T/A)-800S	YCM8E-800H	210	140	140	210	180	250	140	210
YCM8-800H	YCM8LE-800H	YCM8(RT-T/A)-800H		210	140	140	210	180	250	140	210
YCM8-1000H			YCM8E-1000H	210	140	140	210	180	250	140	210
YCM8-1250H			YCM8E-1250H	210	140	140	210	180	250	140	210
YCM8-1600H			YCM8E-1600H	210	167	167	237	245	315	220	290

Distribution Apparatus

YCM8 Series MCCB Accessories

Overall and mounting dimensions(mm)

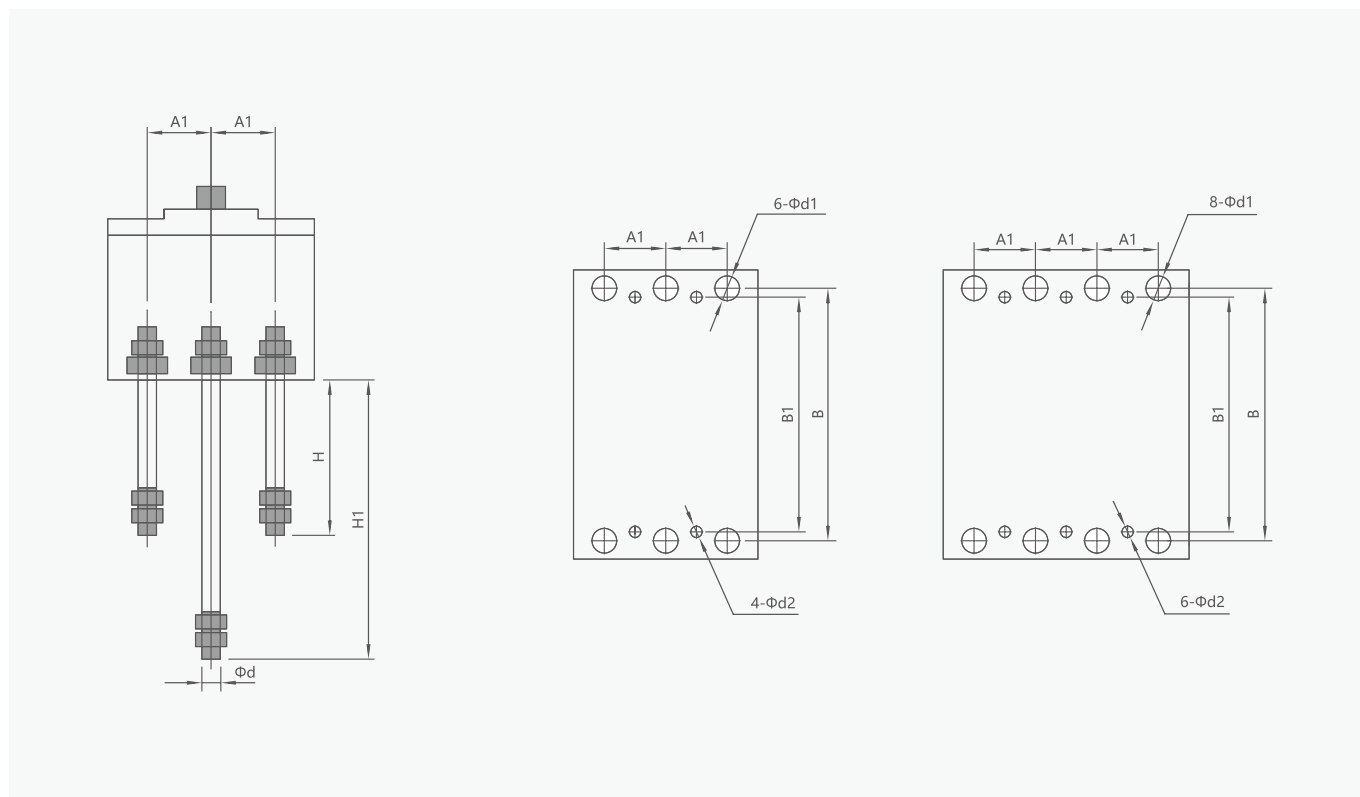


Outline dim.																	Installation dim.		Terminal screw	
B	B1	B2	B3	B4	B6	B7	H	H1	H2	H3	H4	H5	H5	Φd	$\Phi d1$	$\Phi d2$	$\Phi d3$	4A		B5
130	114	84	50	59	50	-	90	72	4	68	61	40	23	-	4.5	8.5	5	25	111	M6/M8
130	114	84	50	59	50	-	90	72	4	68	61	40	23	-	4.5	8.5	5	25	111	M6/M8
155	134	102	50	59	50	-	90	72	4	68	61	40	23	-	4.5	8.5	5	30	132	M8
155	134	102	50	59	50	-	90	72	4	68	61	40	23	-	4.5	8.5	5	30	132	M8
165	134	102	50	59	50	-	115	91	4	68	61	40	23	-	4.5	8.5	5	30	132	M8
165	144	102	50	59	100	-	92	72	4	68	61	40	23	-	4.5	8.5	5	35	126	M8
257	144	102	50	59	100	-	92	72	4	68	61	40	23	-	4.5	8.5	5	35	126	M8
257	144	102	50	59	100	-	115	91	4	88	81	60	23	14	4.5	8.5	5	35	126	M8
257	230	150	90	99	110	43	155	107	5	103	97	64	30	14	7	13	7	44	194	M10
257	230	150	90	99	110	42	155	107	5	103	97	64	30	14	7	13	7	44	194	M10
275	230	150	90	99	110	43	155	107	5	103	97	64	30	14	7	13	7	44	194	M10
275	230	150	90	99	110	42	155	107	5	103	97	64	30	14	7	13	7	44	194	M10
275	243	150	90	99	110	87	155	107	5	103	97	64	26	14	8	14	7	70	243	M12
275	243	150	90	99	100	87	155	107	5	103	97	64	26	-	8	14	7	70	243	M12
340	310	255	105	105	108	63	244	163	6	153	141	100	58	11	7	13	15	70	303	M10

Distribution Apparatus

YCM8 Series MCCB Accessories

Overall and mounting dimensions(mm)



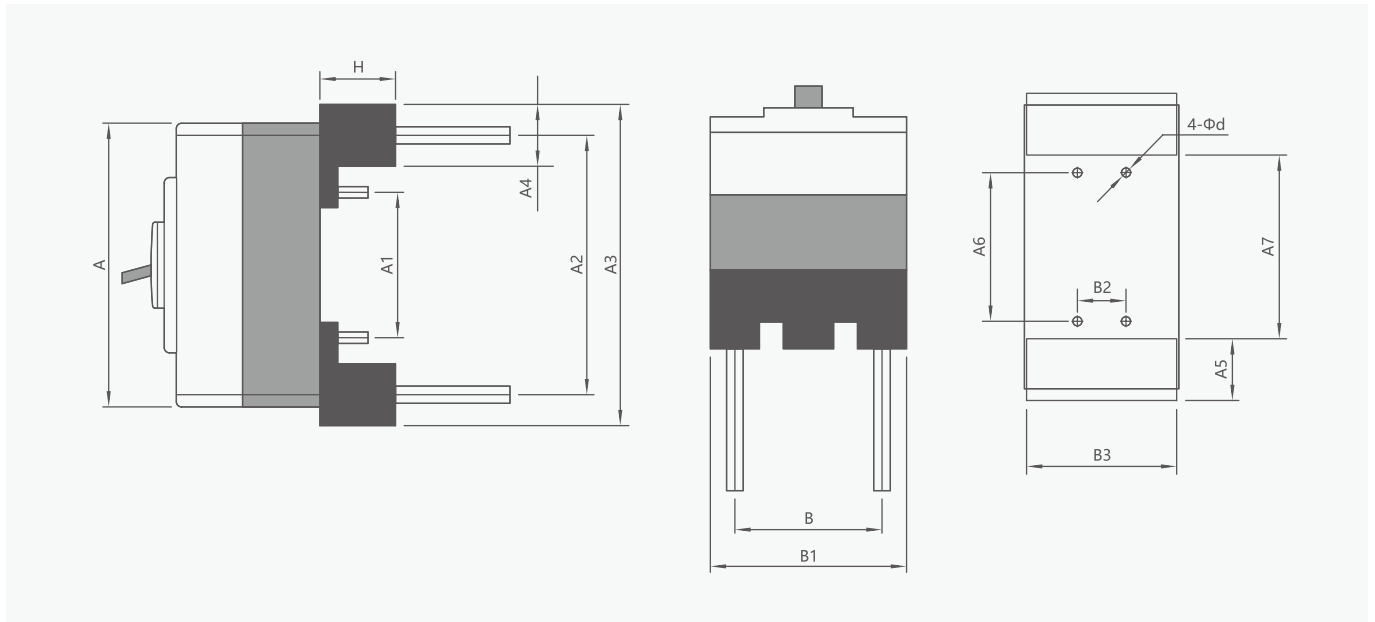
B

Mode				Outline dim.							
Moulded-case circuit breaker(MCCB)	Residual-current circuit breaker(RCCB)	Thermomagnetic adjustable circuit breaker	Electronic adjustable circuit breaker	A1	B	B1	H	H1	Φd	Φd1	Φd2
YCM8-125S	YCM8LE-125S	-	-	25	114	111	62	87	6	14	5
YCM8-125H	YCM8LE-125H	-	-	25	114	111	62	87	6	14	5
YCM8-160S	YCM8LE-160S	YCM8(RT-T/A)-160S	YCM8E-160H	30	134	132	72	112	8	18	5
YCM8-160H	YCM8LE-160H	YCM8(RT-T/A)-160H		30	134	132	72	112	8	18	5
YCM8-250S	YCM8LE-250S	YCM8(RT-T/A)-250S	YCM8E-250H	35	144	126	87	126	12	24	5
YCM8-250H	YCM8LE-250H	YCM8(RT-T/A)-250H		35	144	126	87	126	12	24	5
YCM8-400S	YCM8LE-400S	YCM8(RT-T/A)-400S	YCM8E-400H	44	230	194	83	136	18	35	5
YCM8-400H	YCM8LE-400H	YCM8(RT-T/A)-400H		44	230	194	83	136	18	35	7
YCM8-630S	YCM8LE-630S	YCM8(RT-T/A)-630S	YCM8E-630H	44	230	194	83	136	18	35	7
YCM8-630H	YCM8LE-630H	YCM8(RT-T/A)-630H		44	230	194	83	136	18	35	7
YCM8-800S	-	YCM8(RT-T/A)-800S	YCM8E-800H	70	243	243	174	243	26	48	7
YCM8-800H	YCM8LE-800H	YCM8(RT-T/A)-800H		70	243	243	174	243	26	48	7
YCM8-1000H			YCM8E-1000H	70	243	243	174	243	26	48	7
YCM8-1250H			YCM8E-1250H	70	243	243	174	243	26	48	7
YCM8-1600H			YCM8E-1600H	/	/	/	/	/	/	/	7

Distribution Apparatus

YCM8 Series MCCB Accessories

Overall and mounting dimensions(mm)



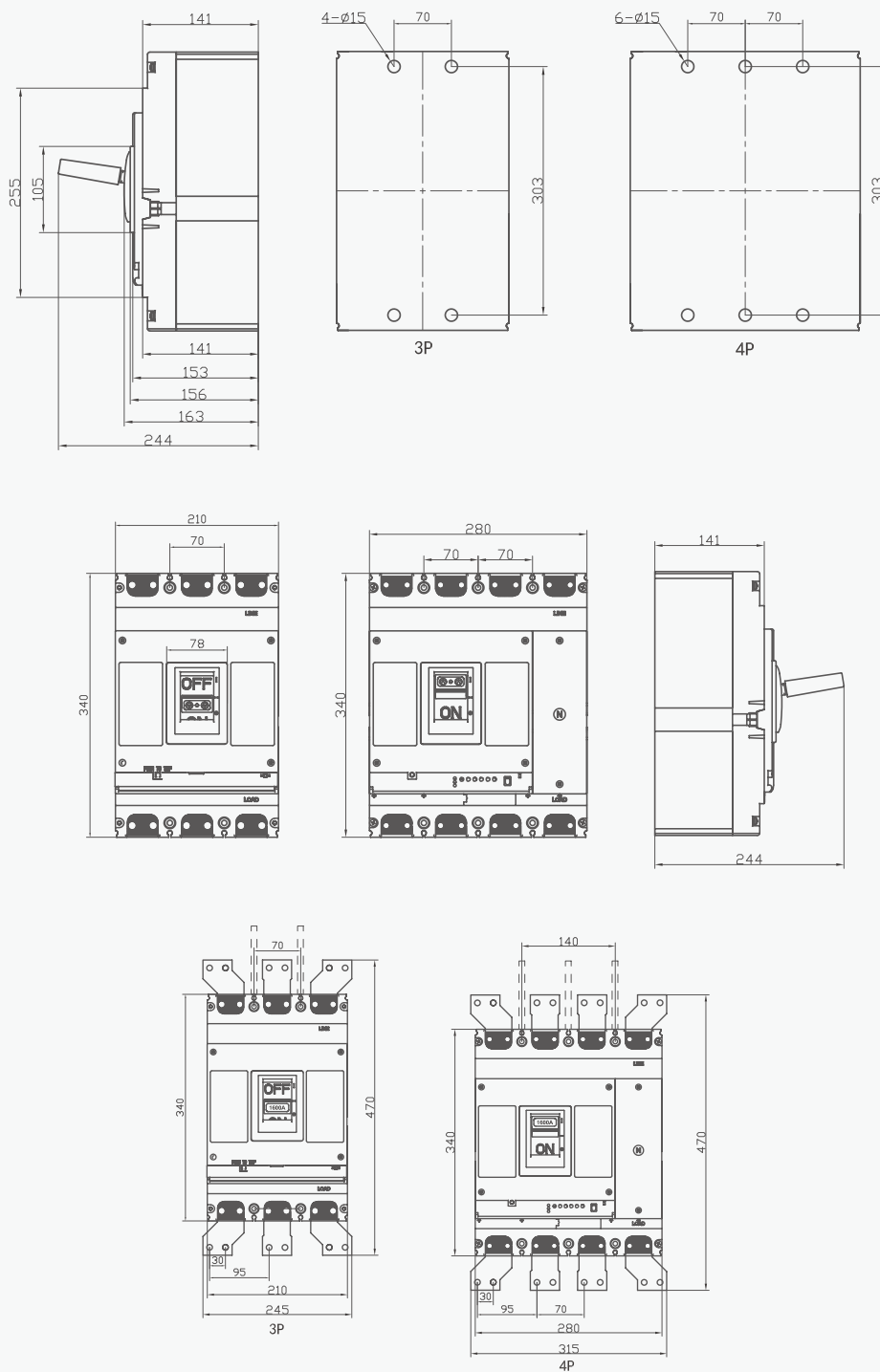
Mode				Outline dim.													
Moulded-case circuit breaker(MCCB)	Residual-current circuit breaker(RCCB)	Thermomagnetic adjustable circuit breaker	Electronic adjustable circuit breaker	A	A1	A2	A3	A4	A5	A6	A7	H	B	B1	B2	B3	Φd2
YCM8-125S	YCM8LE-125S	-	-	130	54	114	140	29	31	54	80	48	75	50	25	78	5.2
YCM8-125H	YCM8LE-125H	-	-	130	54	114	140	29	31	54	80	48	75	50	25	78	5.2
YCM8-160S	YCM8LE-160S	YCM8(RT-T/A)-160S	YCM8E-160H	155	54	134	168	38	40	54	92	52	90	60	30	93	6.5
YCM8-160H	YCM8LE-160H	YCM8(RT-T/A)-160H		155	54	134	168	38	40	54	92	52	90	60	30	93	6.5
YCM8-250S	YCM8LE-250S	YCM8(RT-T/A)-250S	YCM8E-250H	155	54	114	182	45	47	54	90	50	105	70	70	108	6.5
YCM8-250H	YCM8LE-250H	YCM8(RT-T/A)-250H		165	54	114	182	45	47	54	90	50	105	70	70	108	6.5
YCM8-400S	YCM8LE-400S	YCM8(RT-T/A)-400S	YCM8E-400H	257	140	230	282	55	55	140	171	60	134	87	44	136	8.2
YCM8-400H	YCM8LE-400H	YCM8(RT-T/A)-400H		257	140	230	282	55	55	140	171	60	134	87	44	136	8.2
YCM8-630S	YCM8LE-630S	YCM8(RT-T/A)-630S	YCM8E-630H	257	140	230	282	55	55	140	171	60	134	87	44	136	8.2
YCM8-630H	YCM8LE-630H	YCM8(RT-T/A)-630H		257	140	230	282	55	55	140	171	60	134	87	44	136	8.2
YCM8-800S	-	YCM8(RT-T/A)-800S	YCM8E-800H	275	155	243	298	55	56	155	187	60	206	140	70	208	8.2
YCM8-800H	YCM8LE-800H	YCM8(RT-T/A)-800H		275	155	243	298	55	56	155	187	60	206	140	70	208	8.2
YCM8-1000H			YCM8E-1000H	275	155	243	298	55	56	155	187	60	206	140	70	208	8.2
YCM8-1250H			YCM8E-1250H	275	155	243	298	55	56	155	187	60	206	140	70	208	8.2
YCM8-1600H			YCM8E-1600H	/	/	/	/	/	/	/	/	/	/	/	/	/	/

Distribution Apparatus

YCM8 Series MCCB Accessories

Overall and mounting dimensions(mm)

of YCM8-1600H and YCM8E-1600H



B

Aluminum terminal block

Built-in type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
400A	400A	1	30mm	Φ24	250 mm ²
250A	250A	1	23mm	Φ16	180mm ²
160A	160A	1	17.8mm	Φ14	125mm ²
125A	125A	1	15.9mm	Φ10	78mm ²

External type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
1600A	1600A	4	63mm	Φ24	350mm ²
1250A	1250A	4	55mm	Φ21	300mm ²
1000A	1000A	4	55mm	Φ21	300mm ²
800A	800A	2	38mm	Φ24	325mm ²
		1	44mm	Φ27	480mm ²
400A	400A	1	28mm	Φ20	300mm ²
250A	250A	1	23mm	Φ16	180mm ²
630A	630A	2(short)	30mm	Φ22	250mm ²
		2(long)	30mm	Φ20	250mm ²
400A	400A	1	30mm	Φ19.5	250mm ²
250A	250A	2	23mm	Φ16	180mm ²
		1	23mm	Φ16	180mm ²
160A	160A	1	17mm	Φ13.5	125mm ²
125A	125A	1	15.9mm	Φ11	80mm ²

Distribution Apparatus

YCM3 Series MCCB



YCM3T/A



YCM3RT



YCM3E

General

YCM3 Series moulded case circuit breaker, is new products, with small compact, modular, high break, double breakpoints, zero arcing, green environmental protection. Suitable for AC 50Hz, 60Hz, rated operating voltage 690V and below, rated current 12.5A to 1600A distribution network, used to distribute electrical energy and protection lines and power supply equipment from overload, short circuit and undervoltage failure hazards. It can also be used as a non-frequent conversion of the line under normal conditions and in the infrequent start of the motor.

YCM3 circuit breaker equips with intelligent controller as well, which not only makes its current adjustable but also grants protection against overload(long delay), short-circuit(short delay), short-circuit(instantaneous) & undervoltage. It'll certainly improve the entire power system's reliability, continuity & security. RS485 interface,MODBUS-RTU protocol.With MODBUS modul equipped,customers can choose options as below. Remote signal: Switching ON/OFF, tripping, alarm & malfunctional singal indication.

Remote control: Switching ON/OFF,reset.Remote test: 3-phase currect & N-pole current, grounding current. Remote adjustment: accept and execute remote command to debug remote control .Tripping unit memory recording function, last three time' tripping records can be well traced. YCM3 circuit breaker also obtains isolation function(Can be used as an alternative load switch).

Standard: IEC 60947-2.

Operating conditions

1. The altitude of the installation site does not exceed 2000m;
2. The YCM3 thermomagnetic type with temperature of the surrounding medium is $-5^{\circ}\text{C}\sim +40^{\circ}\text{C}$, and the average temperature of 24 h is not more than $+35^{\circ}\text{C}$. The relative humidity of the air at the installation site does not exceed 50% at a maximum temperature of $+40^{\circ}\text{C}$; at lower temperatures, there may be a higher relative humidity; the average minimum temperature of the wettest month does not exceed $+25^{\circ}\text{C}$ for the average of the month The maximum relative humidity is not more than 90%, and the condensation on the surface of the product due to temperature changes is considered.
3. YCM3 intellgent type with temperature of the surrounding medium is $40^{\circ}\text{C}\sim +80^{\circ}\text{C}$.
4. The product is used in non-explosive hazardous media, and the media does not have enough to corrdre metals and destroy insulating gases and conductve dust.
5. In places where there is rain protection and no water vapor.
6. The installation category is Class III.
7. The pollution level is level 3.
8. The basic installation of the circuit breaker is vertical (ie vertical) or horizontal (ie horizontal).
9. The incoming line is either the up line or the down line.
- 10.Circuit breakers can be divided into fixed and plug-in types.

Distribution Apparatus

YCM3 Series MCCB



YCM3Y

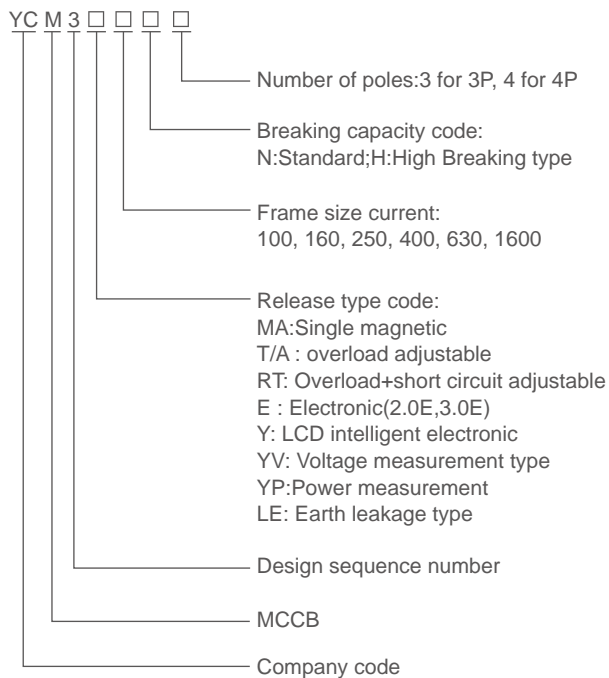


YCM3Y
With communication



YCM3LE
With residual current module

Type designation



Note:

Other requirements at the time of ordering are subject to textual instructions.

Release

The type of stripper is divided into: thermal magnetic stripper and Intelligent stripper

1. Thermal magnetic stripper is divided into types according to protection type
Distribution Protection Code: TM; Motor (single-magnetic) protection Code: MA.
2. Intelligent stripper According to the function is divided into three kinds: ordinary type, liquid crystal type and with voltage detection type.

Distribution Apparatus

YCM3 Series MCCB

Circuit breaker protection settings are shown in table 1

Table 1

Type of Stripper	Type	Overload long delay setting current(IR)	Overload long delay (6-IN) Fix buckle time	Short-circuit shorter delay tuning current (ISD)	Short-circuit shorter delay setting time (TSD)	Short-circuit transient tuning current (Ii)	Grounding Protection setting current (IG)	Grounding Protection setting time (TG)
MA: Single magnetic	YCM3MA-100 YCM3MA-160 YCM3MA-250 YCM3MA-400 YCM3MA-630	/	/	/	/	12In	/	/
T/A Overload adjustable	YCM3T/A-100 YCM3T/A-160 YCM3T/A-250	(0.8~1)In	/	/	/	10In	/	/
RT:Overload+short circuit adjustable	YCM3RT-250 (200~250A)	(0.8~1)In	/	/	/	(5~10)In	/	/
	YCM3RT-400 YCM3RT-630	(0.7~1)In						
E(2.0E): Electronic 2.0E	YCM3E-100 2.0E YCM3E-160 2.0E YCM3E-250 2.0E YCM3E-400 2.0E YCM3E-630 2.0E	(0.4~1)In	/	(1.5~10)lr		12In	/	/
	YCM3E-1250 2.0E YCM3E-1600 2.0E	(0.4~1)In	0.5~24s	(1.5~10)lr	/	12In	/	/
E(3.0E): Electronic 3.0E	YCM3E-100 3.0E YCM3E-160 3.0E YCM3E-250 3.0E YCM3E-400 3.0E YCM3E-630 3.0E	(0.4~1)In	0.5~12s	(1.5~12)lr	0.1s~0.4s	(2~15)In	(20%~100%) In	/
	YCM3E-1250 3.0E YCM3E-1600 3.0E	(0.4~1)In	0.5~24s	(1.5~10)lr	0.1s~0.4s	(2~15)In	Optional	/
Y:LCD display, Current type YV:LCD display, Voltage type YP:LCD display, Power type	YCM3Y(YV,YP)-100 YCM3Y(YV,YP)-160 YCM3Y(YV,YP)-250 YCM3Y(YV,YP)-400 YCM3Y(YV,YP)-630	(0.4~1)In	0.5~12s	(1.5~12)lr	0s~0.4s	(2~15)In	(20%~100%) In	0s~0.4s
	YCM3Y(YV,YP)-1250 YCM3Y(YV,YP)-1600	(0.4~1)In	0.5~24s	(1.5~12)lr	0s~0.4s	(2~15)In	(20%~100%) In	0s~0.4s

B

Distribution Apparatus

YCM3 Series MCCB

YCM3 parameter measurement function is shown in table 2

Table 2

function type	functional category	Specific functions	Monomagnetic	Thermomagnetic		Electronic					
			MA	T/A	RT	2.0E	3.0E	Y	YV	YP	
Protection function	Current (A)	overload protection	/	■	■	■	■	■	■	■	■
		Short circuit short time delay protection	/	/	/	■	■	■	■	■	■
		Instantaneous protection	■	■	■	■	■	■	■	■	■
		Overload warning	/	/	/	■	■	■	■	■	■
		Neutral line protection	□	□	□	□	□	□	□	□	□
		Grounding protection	/	/	/	/	/	■	■	■	■
		Current imbalance protection	/	/	/	/	/	/	■	■	■
	Voltage (V)	Zero break protection	/	/	/	/	/	/	/	■	■
		Voltage imbalance protection	/	/	/	/	/	/	/	■	■
		Overfrequency and underfrequency protection	/	/	/	/	/	/	/	■	■
		Phase sequence protection	/	/	/	/	/	/	/	■	■
	Measurement function	Current (A)	Phase current	/	/	/	/	/	■	■	■
			Neutral current	/	/	/	/	/	□	□	□
			Percentage of ground faults	/	/	/	/	/	/	■	■
Current imbalance rate of each phase			/	/	/	/	/	/	■	■	
Voltage (V)		Line voltage	/	/	/	/	/	/	■	■	
		Phase voltage	/	/	/	/	/	/	■	■	
		Average line voltage	/	/	/	/	/	/	■	■	
		Average phase voltage	/	/	/	/	/	/	■	■	
		Voltage imbalance rate	/	/	/	/	/	/	■	■	
		phase sequence	/	/	/	/	/	/	■	■	
		frequency	/	/	/	/	/	/	■	■	
Power		Meritorious	/	/	/	/	/	/	/	■	
		Reactive power	/	/	/	/	/	/	/	■	
		Apparent	/	/	/	/	/	/	/	■	
		Power factor and	/	/	/	/	/	/	/	■	
Quantity of electricity		Active, reactive, apparent	/	/	/	/	/	/	/	■	
Maintenance function		Accumulated function	Various types of protection tripping times, displacement times, etc	/	/	/	/	/	/	■	■
	Event recording	Trip records, alarm records, displacement records, etc	/	/	/	/	/	/	■	■	
	Contact wear	Contact wear record	/	/	/	/	/	/	■	■	
	Number of operations	Record of operation times	/	/	/	/	/	/	■	■	
	RTC function	Real time clock	/	/	/	/	/	/	■	■	
	Auxiliary/alarm detection function	Auxiliary, alarm detection, and display of circuit breaker status	/	/	/	/	/	/	□	□	
	Electric operation control function	Remote electric operation control function	/	/	/	/	/	/	■	■	
	human-computer interaction	LED indication	/	/	/	/	/	■	■	■	
		LCD display	/	/	/	/	/	■	■	■	
		Key settings	/	/	/	/	/	■	■	■	
	communication function	Moedbus RTU DL/T645	/	/	/	/	/	□	■	■	

Distribution Apparatus

YCM3 Series MCCB

Technical data

1.The basic parameters of the circuit breaker are shown in Table 2.

2.The overload delay and short-circuit transient protection action characteristics of the circuit breaker are shown in Table 4 and Table 3.

Table 3

Type		YCM3-100		YCM3-160		YCM3-250	
Number of poles		3P, 4P		3P, 4P		3P, 4P	
Shell frame maximum rated current $I_{nm}(A)$		100		160		250	
Rated current $I_n(A)$		12.5/16/20 25/32/40 50/63/80/100	100	16/20/25/32 40/50/63/80 100/125/160	160	100/160/180 200/225/250	250
Type of Stripper		Thermal or single- magnetic	Intelligent type	Thermal or single- magnetic	Intelligent type	Thermal or single- magnetic	Intelligent type
Rated insulation voltage $U_i(V)$		800		800		800	
Rated impulse withstand voltage $U_{imp}(kV)$		8		8		8	
Rated voltage $U_e(V)$ 50-60Hz		AC415/500/690		AC415/500/690		AC415/500/690	
Flying arc Distance(mm)		0		0		0	
Short circuit breaking capability level		N	H	N	H	N	H
Rated limit Short circuit Breaking capacity $I_{cu}(kA)$	AC220V	75	100	75	100	75	100
	AC415V	50	80	50	85	50	85
	AC500V	35	50	50	60	50	60
	AC690V	6	6	6	6	6	6
Rated running short circuit Breaking capacity $I_{cs}(kA)$	AC220V	75% I_{cu}					
	AC415V						
	AC500V						
	AC690V						
Rated short time resistant current $I_{cw}(kA)$ (1s)		/	3	/	3	/	3
Working with categories		A		A		A	
Remaining Current protection		Additional Residual current protection module (See P78-79 LE remaining current module for specific parameters)					
Electrical Life Test	AC415V	10000	10000	8000	8000	8000	8000
	AC690V	1500	1500	1500	1500	1500	1500
Number of mechanical life		20000	20000	20000	20000	20000	20000
Dimensions	Wide(3P/4P)	105/140		105/140		105/140	
	Long	161		161		161	
	High	86		86		86	
Mode of operation		Manual Direct operation, Rotate handle operation, Electric operating mechanism					
Mounting method		Fixed type(front of plate), Fixed type(rear of plate), Plug-in(front of plate), Plug-in(rear of plate)					

B

Distribution Apparatus

YCM3 Series MCCB

Renew Table 3

Type		YCM3-400		YCM3-630		YCM3-1600	
Number of poles		3P, 4P		3P, 4P		3P, 4P	
Shell frame maximum rated current $I_{nm}(A)$		400		630		1600	
Rated current $I_n(A)$		250/315/ 350/400	400	400/500/ 600/630	630	800/1000/1250/1600	
Type of Stripper		Thermal or single- magnetic	Intelligent type	Thermal or single- magnetic	Intelligent type	Intelligent type	
Rated insulation voltage $U_i(V)$		1000		1000		1000	
Rated impulse withstand voltage $U_{imp}(kV)$		8		8		8	
Rated voltage $U_e(V)$ 50-60Hz		AC415/500/690		AC415/500/690		AC415/500/690	
Flying arc Distance(mm)		0		0		0	
Short circuit breaking capability level		N	H	N	H	N	
Rated limit Short circuit Breaking capacity $I_{cu}(kA)$	AC220V	75	100	75	100	75	
	AC415V	50	85	50	85	50	
	AC500V	35	50	35	50	35	
	AC690V	10	15	10	100	20	
Rated running short circuit Breaking capacity $I_{cs}(kA)$	AC220V	75% I_{cu}					
	AC415V						
	AC500V						
	AC690V						
Rated short time resistant current $I_{cw}(kA)$ (1s)		/	5	/	8	8	
Working with categories		A	B	A	B	B	
Remaining Current protection		Additional Residual current protection module (See P78-79 LE remaining current module for specific parameters)					
Electrical Life Test	AC415V	600	600	5000	5000	1500	
	AC690V	1000	1000	1000	1000	1000	1000
Number of mechanical life		10000	10000	10000	10000	10000	10000
Dimensions	Wide(3P/4P)	140/185		140/185		210/280	
	Long	255		255		327	
	High	110		110		147	
Mode of operation		Manual Direct operation, Rotate handle operation, Electric operating mechanism					
Mounting method		Fixed type(front of plate), Fixed type(rear of plate), Plug-in(front of plate), Plug-in(rear of plate)					

Distribution Apparatus

YCM3 Series MCCB

Technical data

Table 4

Serial number	Distribution breaker			Circumstance temperature	
	Test current(times)	Tripping time	Status		
1	1.05In	1h non-tripping (In≤63A) 2h non-tripping (In>63A)	Initial	-40°C±2°C	
2	1.3In	1h tripping (In≤63A) 2h tripping (In>63A)	Following serial 1		
3	10In±20%	8In	> 0.2s Tripping	Initial	Any suitable temperature
4		12In	≤ 0.2s Tripping		

Table 5

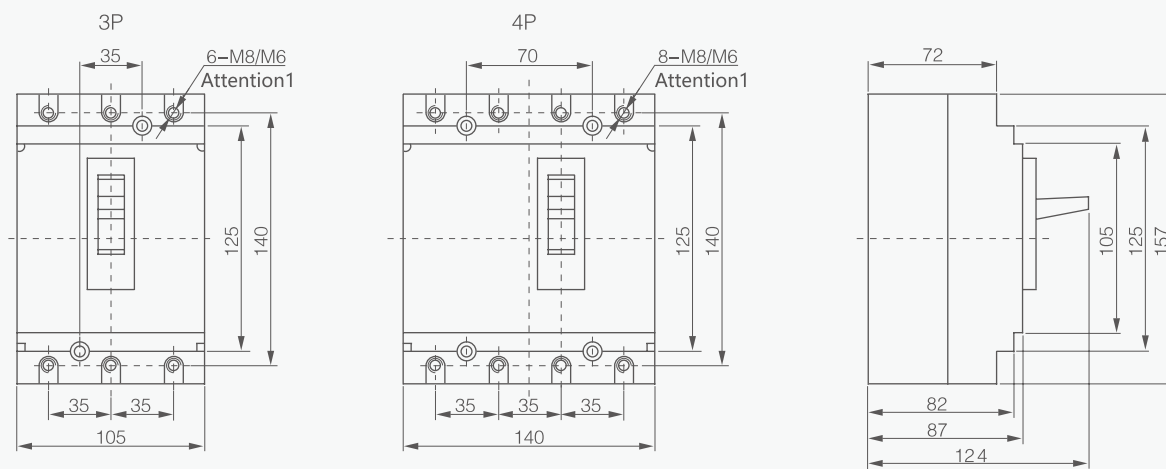
Serial number	Distribution breaker			Circumstance temperature	
	Test current(times)	Tripping time	Status		
1	1.05In	2h non-tripping	Initial	-40°C±2°C	
2	1.2In	2h tripping	Following serial 1		
3	1.5In	4min tripping	The order 1 current reaches the thermal equilibrium and begins		
4	7.2In	2~10s Tripping	Initial		
5	12In±20%	8In	> 0.2s Tripping	Initial	Any suitable temperature
6		12In	≤ 0.2s Tripping		

B

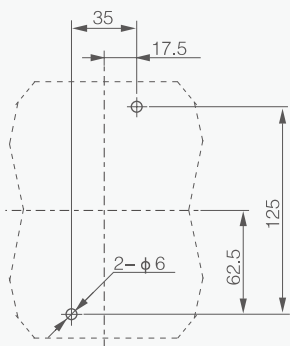
Distribution Apparatus

YCM3 Series MCCB

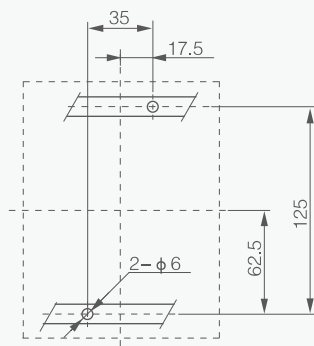
YCM3-100,160,250 Overall and mounting dimensions(mm)



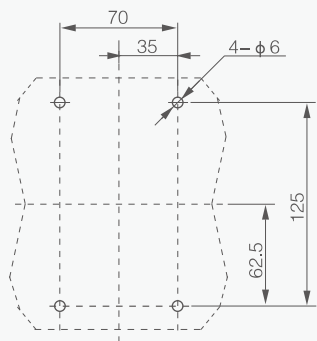
Attention1: when $I_n > 100A$, Fixing screw size should be M8, When $I_n \leq 100A$, fixing screw size should be M6.



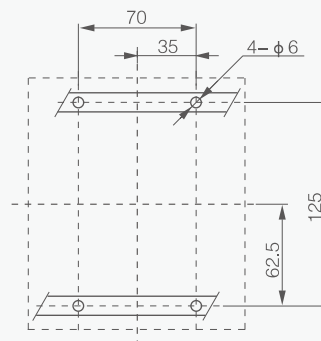
3P : Installed on the panel



3P : Installed on leading rails



4P : Installed on the panel

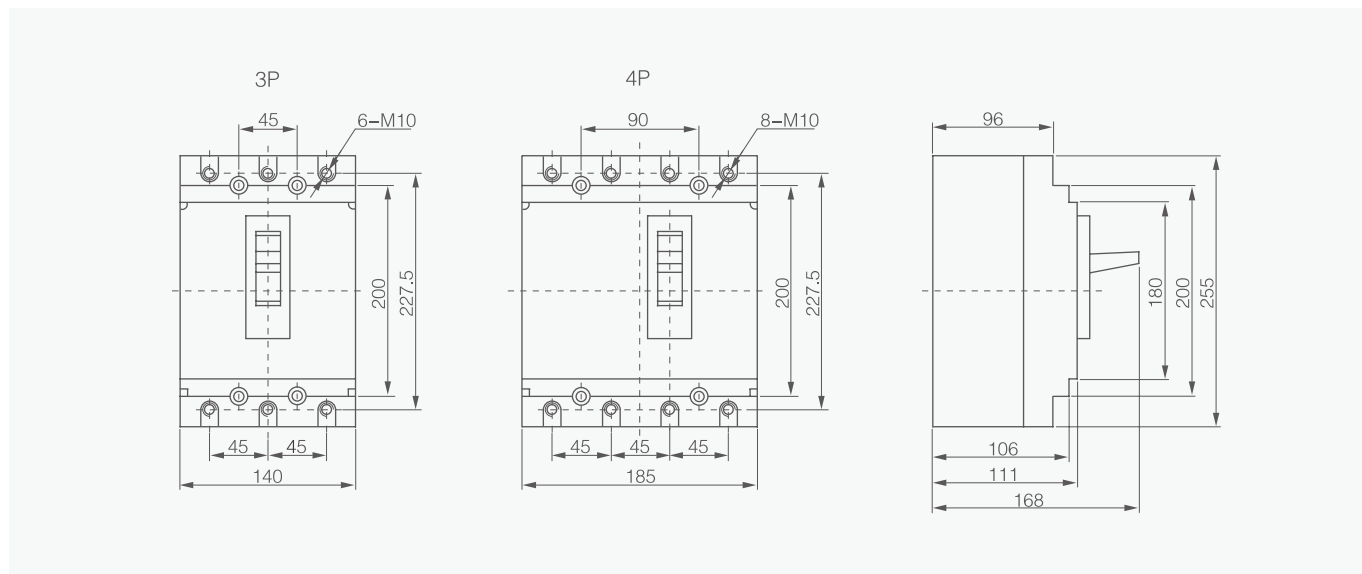


4P : Installed on leading rails

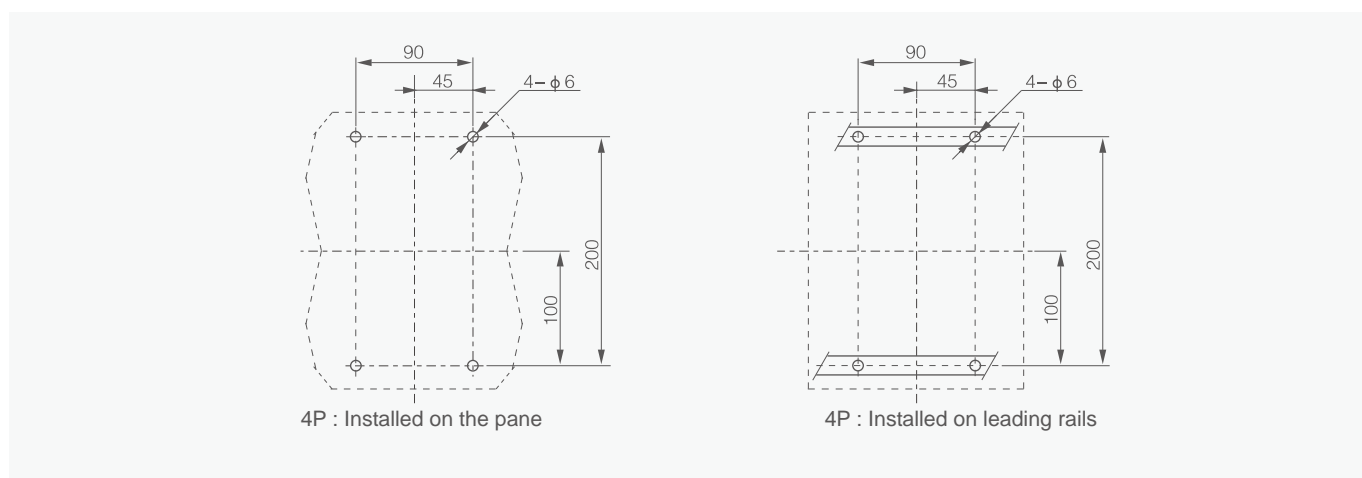
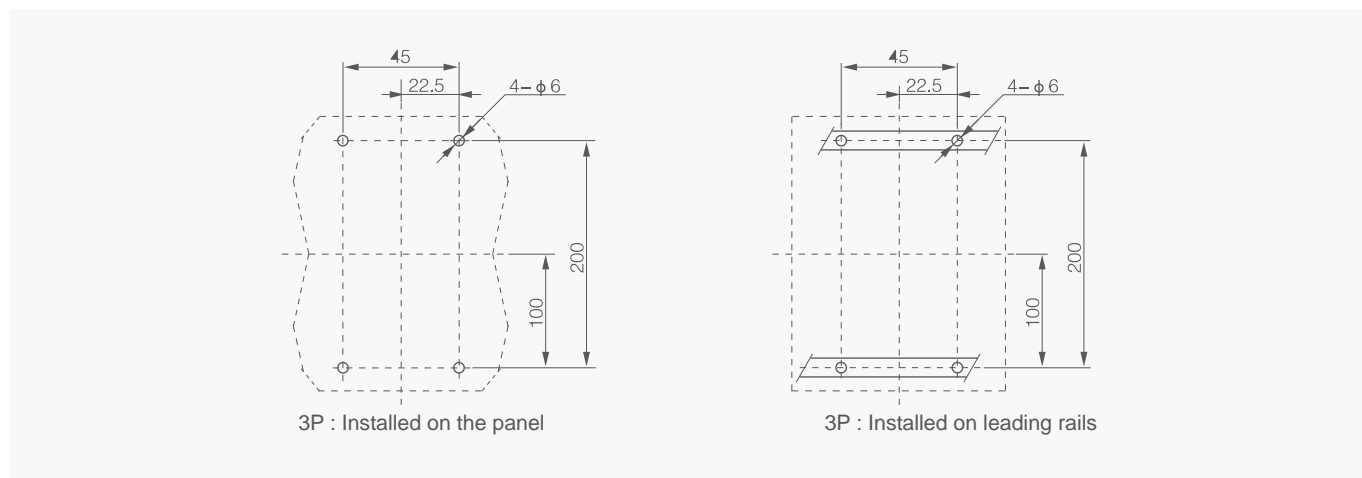
Distribution Apparatus

YCM3 Series MCCB

YCM3-400,630 Overall and mounting dimensions(mm)



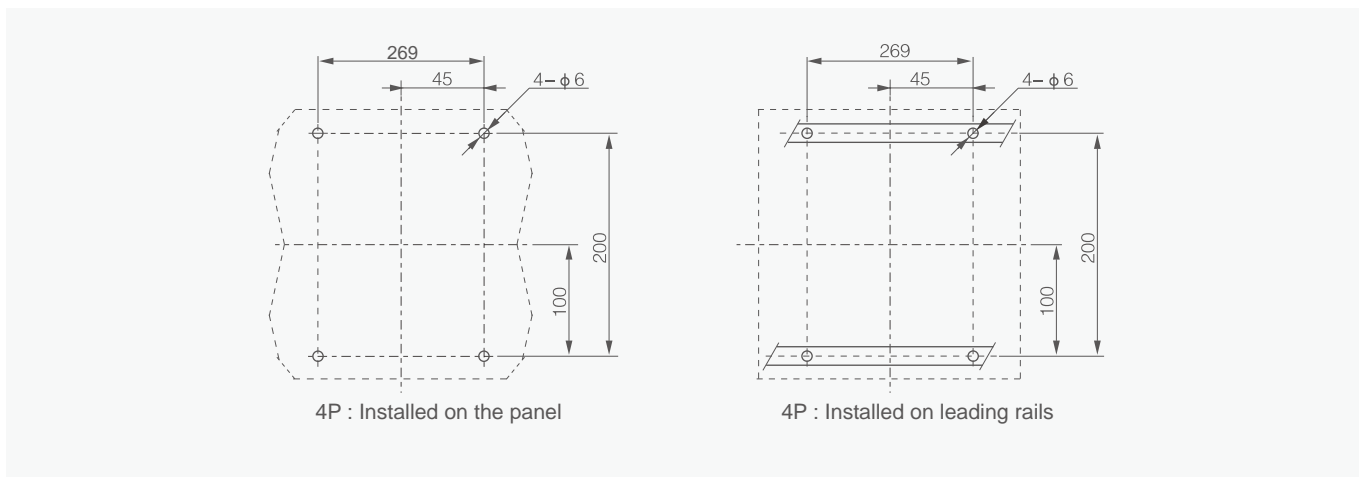
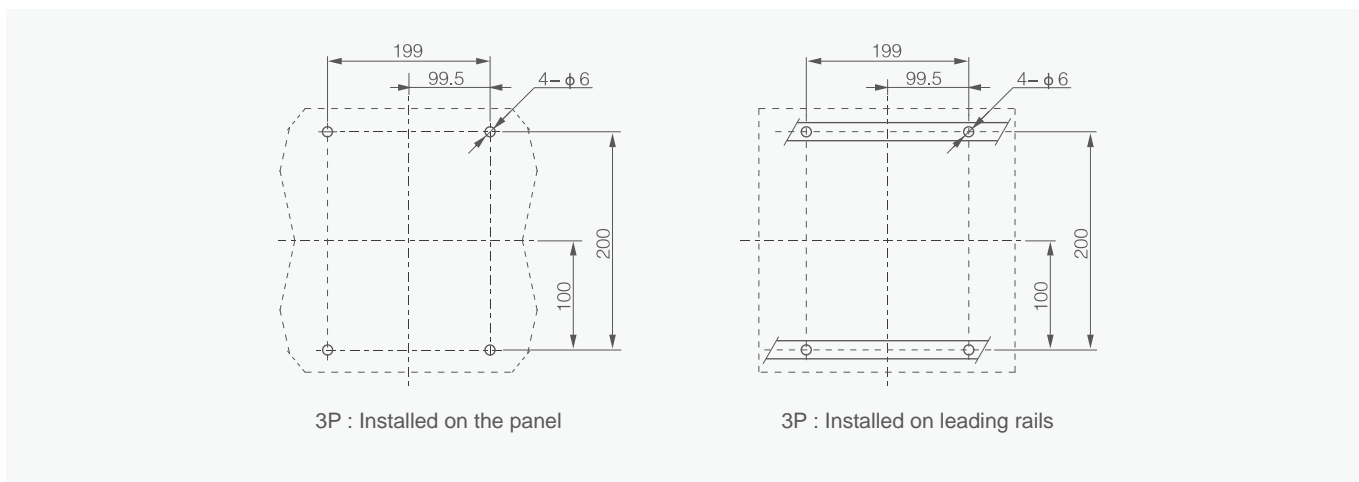
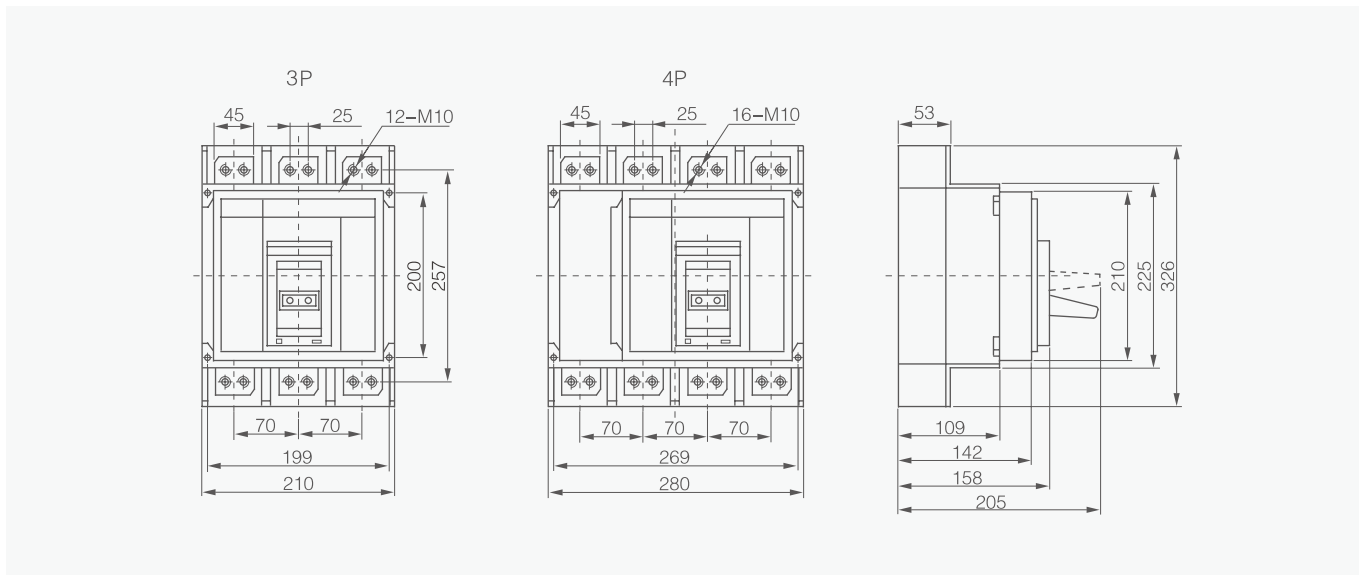
B



Distribution Apparatus

YCM3 Series MCCB

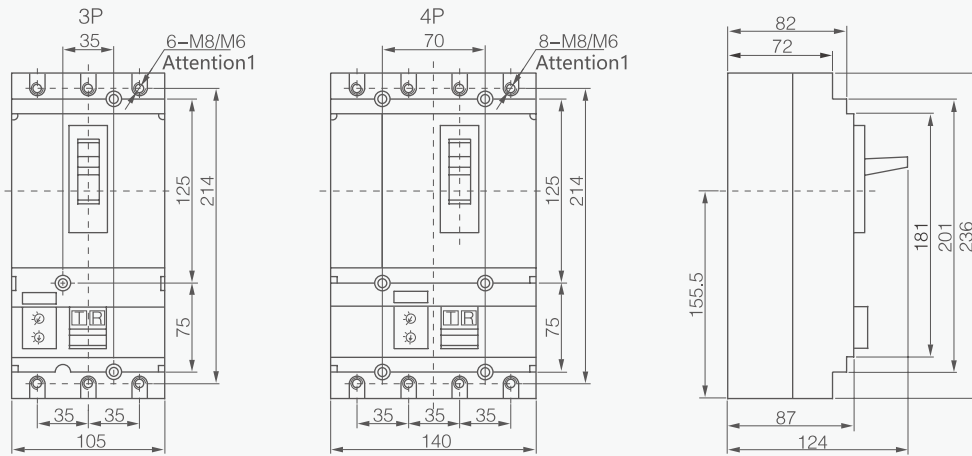
YCM3-1600 Overall and mounting dimensions(mm)



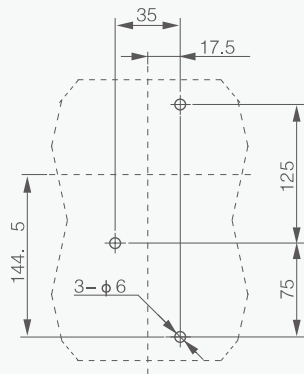
Distribution Apparatus

YCM3 Series MCCB

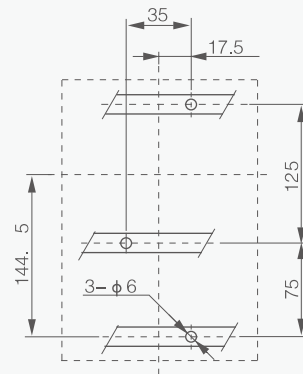
YCM3-100,160,250 (with residual current module) Overall and mounting dimensions(mm)



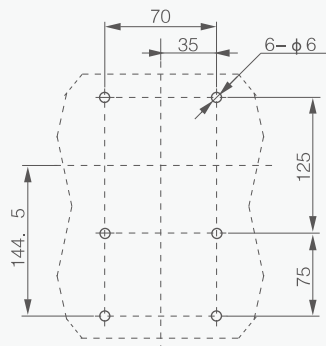
Attention1: when $I_n > 100A$, Fixing screw size should be M8, When $I_n \leq 100A$, fixing screw size should be M6.



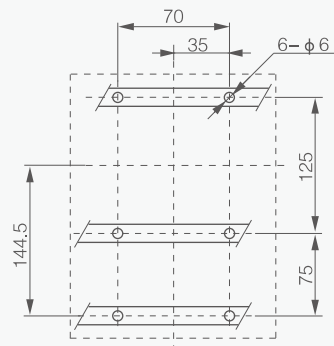
3P : Installed on the panel



3P : Installed on leading rails



4P : Installed on the panel



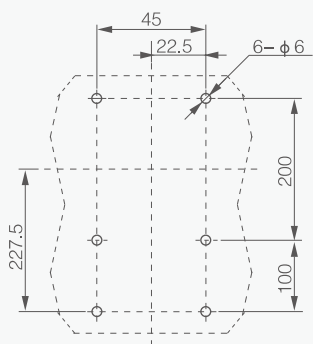
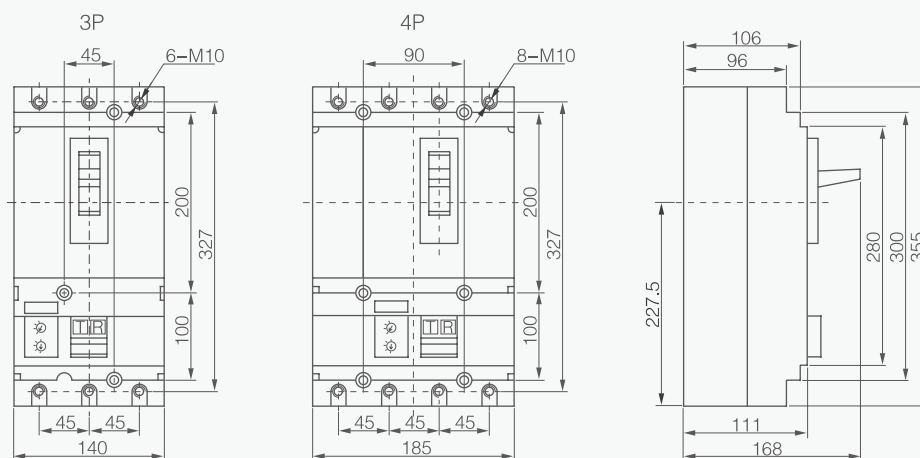
4P : Installed on leading rails

B

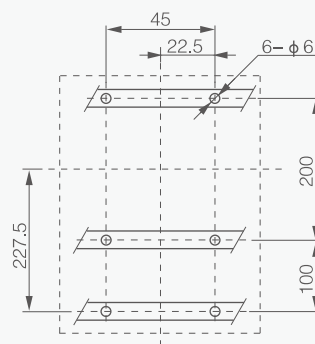
Distribution Apparatus

YCM3 Series MCCB

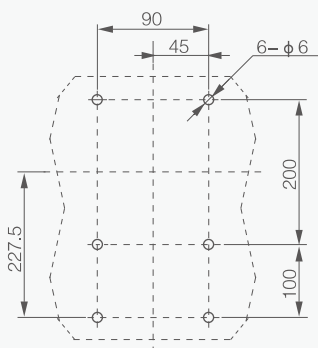
YCM3-400,630 (with residual current module) Overall and mounting dimensions(mm)



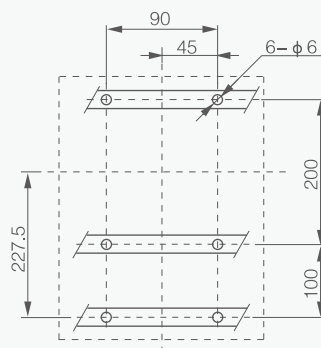
3P : Installed on the panel



3P : Installed on leading rails



4P : Installed on the panel



4P : Installed on leading rails

Distribution Apparatus

YCM3 Series MCCB

LE Residual current Action Protection device module (Leakage protection module)

Provides leakage protection for all three-pole or four-pole YCM3-100 to 630 circuit breakers. The circuit breaker with LE residual current protection module realizes the leakage protection function under the premise of maintaining the overall characteristics of the circuit breaker, and the LE module can directly act on the stripping unit.

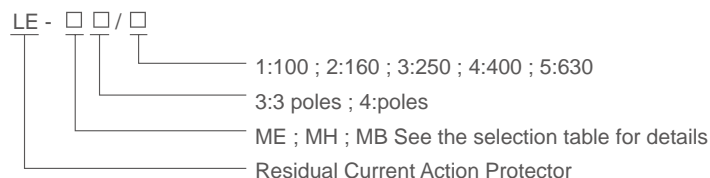
Remote indication:

The LE module can be fitted with an auxiliary contact, which can remotely transmit the buckle caused by leakage fault.

Power:

The LE module can be powered by the power distribution system itself, eliminating the need for any external power supply. It can continue to operate even with AC two-phase power supply.

Type designation



Note: LE modules can not be sold separately.

Selection of LE modules

Model	LE-MH	LE-MB
Polar number	3,4 ⁽¹⁾	3,4 ⁽¹⁾
YCM3-100	Yes	No
YCM3-160	Yes	No
YCM3-250	Yes	No
YCM3-400	No	Yes
YCM3-630	No	Yes
Protective features		
Sensitivity I _n (A)	Adjustable 0.03-0.3-1-3-10	Adjustable 0.3/1/3/10/30
Whether the delay is adjustable	Adjustable	Adjustable
Delay settings	0-60(2)-150(2)-310(2)	0-60-150-310
Maximum break time(ms)	<40<140<300<800	<40<140<300<800
Rated voltage AC50V/60Hz	200...440-440...500	200...440-440...500

If the sensitivity is set to 30mA, the stripper is instantaneous clasp.



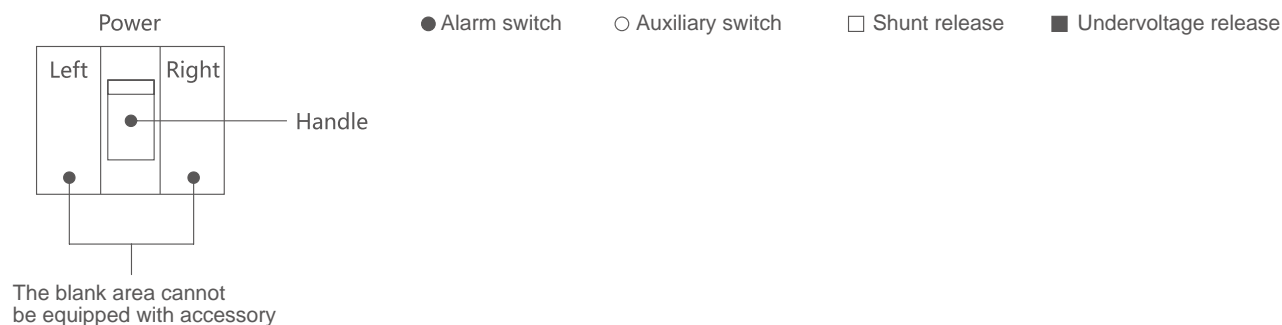
Distribution Apparatus

YCM3 Series MCCB

Inner accessories

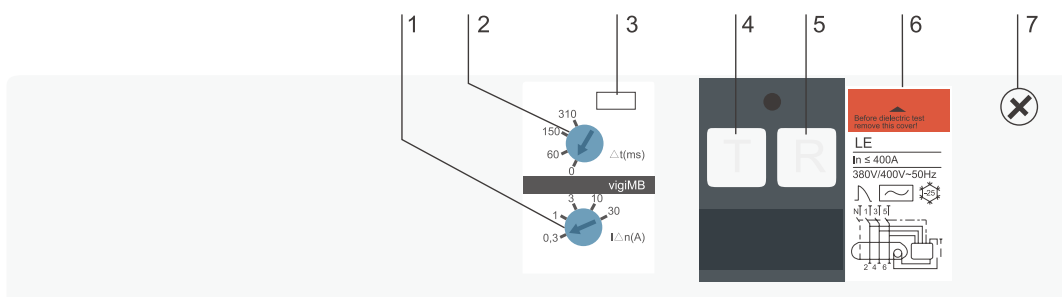
Accessories of YCM3 are the same.

Model		YCM3-100	YCM2-160	YCM3-250	YCM3-630	YCM3-1600
No. of poles		3,4	3,4	3,4	3,4	3,4
Code	Accessory name					
208, 308	Alarm contact(SD)					
210, 310	Shunt release(MX)					
220, 320	Auxiliary contact(OF)					
230, 330	Under-voltage release(MN)					
240, 340	Shunt auxiliary contact(MX+MN)					
260, 360	Two groups auxiliary contacts(2OF)					
270, 370	Auxiliary contact UVT(OF+MN)					
218, 318	Shunt alarm contact(MX+SD)					
228, 328	Auxiliary alarm contact(OF+SD)					
238, 338	UVT alarm contact(MN+SD)					
248, 348	Shunt auxiliary alarm contact(MX+OF+SD)					
268, 368	Two groups aux alarm contact(2OF+SD)					
278, 378	Aux contact UVT alarm contact(OF+MN+SD)					
280, 380	Two groups aux contact and shunt(2OF+MX)					



Distribution Apparatus

YCM3 Series MCCB






1. Sensitivity setting
2. Delay setting(for selective leakage protection)
3. Calibration of the seal Sleeve
4. Test button-used to simulate leakage failure, to periodically check leakage protection function
5. Reset button(after leakage fault buckle must be reset)
6. Nameplate
7. Location of secondary contacts

Operational safety

LE Modular A user-friendly device that requires regular testing by the user (tested every 6 months)

Accessories

The internal accessories of the circuit breaker are installed in the inner cavity of the cover plate, and the shunt release, undervoltage release, auxiliary contact and alarm contact are all made into separate modules. Therefore, the installation is simple, convenient, safe and reliable, and the user can install the corresponding position of the circuit breaker by himself. The attached picture is as follows:

Accessory name	Rated operating voltage	Applicable shell frame
 <p>MX Shunt release</p>	AC220/230V AC380/400V DC220V DC110V	YCM3-100 YCM3-160 YCM3-250 YCM3-400 YCM3-630
 <p>MJ Undervoltage release</p>	AC220/230V AC380/400V	YCM3-100 YCM3-160 YCM3-250 YCM3-400 YCM3-630
	AC220/230V AC380/400V	YCM3-1600

B


Distribution Apparatus

YCM3 Series MCCB

Accesspry name	Rated operating voltage	Applicable shell frame
 <p>AX</p> <p>Auxiliary contact</p>	AC220/230V AC380/400V DC220V DC110V	All shells
 <p>AL</p> <p>Alarm contact</p>	AC220/230V AC380/400V DC220V DC110V	All shells
 <p>LE</p> <p>Remaining Current protection module</p>	Sensitivity I n(A) adjustable range 0.03,0.3,1,3,10. Note: The circuit breaker can be provided as needed by the user. Only the alarm does not trip.	YCM3-100 YCM3-160 YCM3-250
		YCM3-400 YCM3-630
 <p>P</p> <p>Electric operating mechanism</p>	AC220/230V AC380/400V DC220V DC110V	YCM3-100 YCM3-160 YCM3-250
 <p>P</p> <p>Electric operating mechanism</p>	AC220/230V AC380/400V DC220V DC110V	YCM3-400 YCM3-630

Distribution Apparatus

YCM3 Series MCCB

Accesspry name	Applicable shell frame
 <p>Economical extended rotating handle</p>	<p>YCM3-100 YCM3-160 YCM3-250 YCM3-400 YCM3-630</p>
 <p>Extended rotating handle</p>	<p>YCM3-100 YCM3-160 YCM3-250 YCM3-400 YCM3-630 YCM3-1600</p>
 <p>Rear connecting plate</p>	<p>YCM3-100 YCM3-160 YCM3-250 YCM3-400 YCM3-630</p>
 <p>Plug-in base (board front or behind)</p>	<p>YCM3-100 YCM3-160 YCM3-250 YCM3-400 YCM3-630</p>
 <p>Drawer base</p>	<p>YCM3-100 YCM3-160 YCM3-250 YCM3-400 YCM3-630</p>
 <p>DIN Rail Adapter</p>	<p>YCM3-100 YCM3-160 YCM3-250</p>

B

Distribution Apparatus

YCM3 Series MCCB

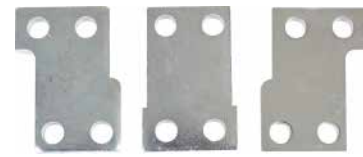
Circuit breaker accessories



1. YCM3-100, 160, 200
Outer connecting plate



2. YCM3-400, 630
Outer connecting plate

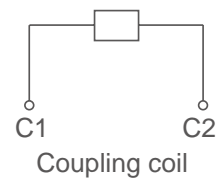


3. YCM3-1600
Outer connecting plate

Note: Thermomagnetic and electronic dimensions, mounting dimensions and accessories are identical.

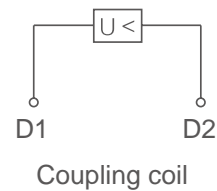
Shunt release

For remote control of the circuit breaker opening, the shunt release can reliably open the circuit breaker between 70% and 110% US. The shunt release should be prohibited from being energized for a long time ($\leq 5s$).



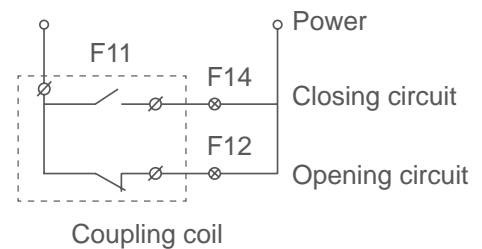
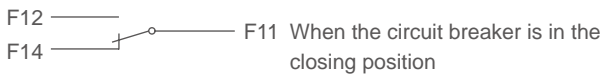
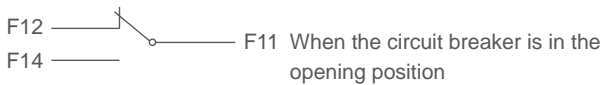
Undervoltage release

When the control voltage drops to 35% to 70%, the undervoltage release should trip and the circuit breaker should be reliably disconnected. When the control voltage is greater than or equal to 85%, the circuit breaker should be reliably closed. When the control voltage is less than 35%, it should be able to prevent the circuit breaker from closing.



Auxiliary contact

Function: Indicates the opening and closing state of the circuit breaker.



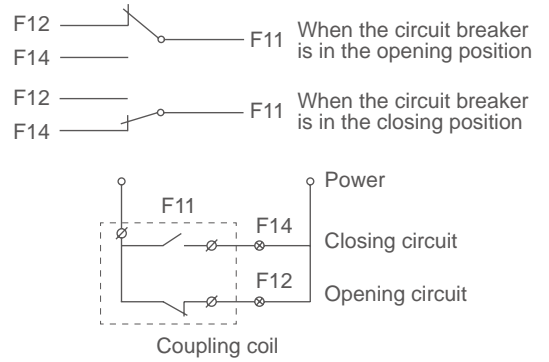
Distribution Apparatus

YCM3 Series MCCB

Alarm contact

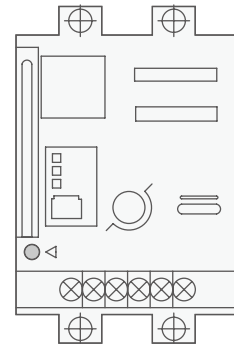
Function: Indicates the possible cause of tripping of the circuit breaker
 a: overload ; b: short circuit ; c: ground fault ; d: undervoltage trip operation ;
 e: free trip.

When the circuit breaker is normally closed or opened, the alarm contact does not move, and only after the trip or fault trip occurs, The position of the contact changes, that is, the normally open becomes normally closed, and the normally closed becomes normally open. When the circuit breaker is buckled again, the alarm contact returns to its original position.



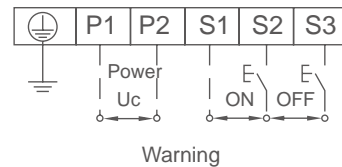
Electric operation

The main technical parameters, dimensions and installation diagrams of external accessories for YCM3 follows:



Wiring diagram

1. Counterclockwise manual operation is prohibited
2. When under manual operation, insert the handle at the starting point and rotate it 180 clockwise



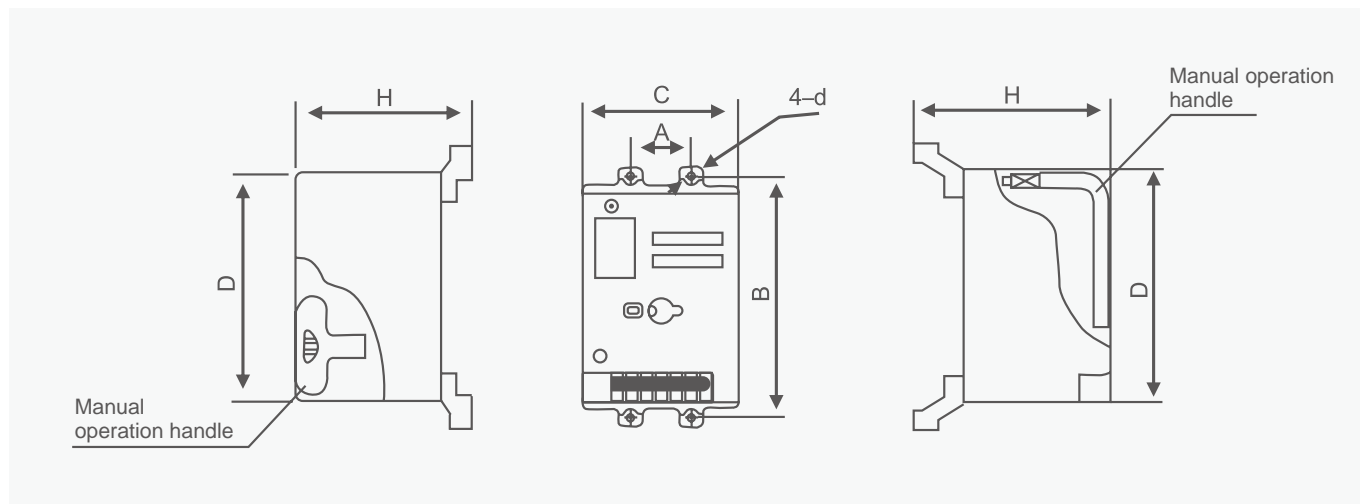
Warning

Rated voltage	DC24V, AC110V/DC110V, AC230V/DC220V, AC400V
Rated insulation voltage	250V (When the rated working voltage is 400V, it is 500V)
Frequency	50/60Hz
Rated working system	Short-time duty
Action time	0.7~1.5s



Distribution Apparatus

YCM3 Series MCCB



Type	Overall and mounting dimensions(mm)						Action current	Mechanical lifespan (times)	Motor Power(W)
	A	B	C	D	H	d			
YCM3-100/160/250	95	152	90	116	109	Φ3.5	≤ 0.5	14000	14
YCM3-400/630	45	200	130	176	152	Φ5.5	≤ 2	6000	35

Aluminum terminal block

Built-in type



Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
400A	400A	1	30mm	Φ24	250 mm ²
250A	250A	1	23mm	Φ16	180mm ²
160A	160A	1	17.8mm	Φ14	125mm ²
100A	100A	1	16mm	Φ10	78mm ²

External type

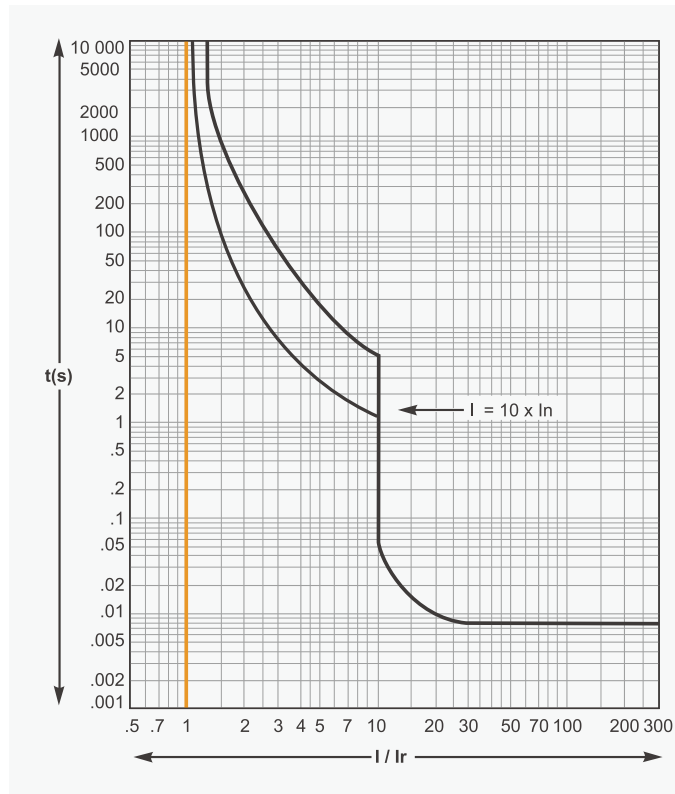


Frame	Maximum rated current	Number of holes	Wide	Wiring aperture	Maximum wiring
1600A	1600A	4	58mm	Φ24	350mm ²
630A	630A	2	30mm	Φ20	250mm ²
400A	400A	2	30mm	Φ22	250mm ²
250A	250A	1	23mm	Φ16	180mm ²
160A	160A	1	17.8mm	Φ14	125mm ²
100A	100A	1	15.9mm	Φ11	80mm ²

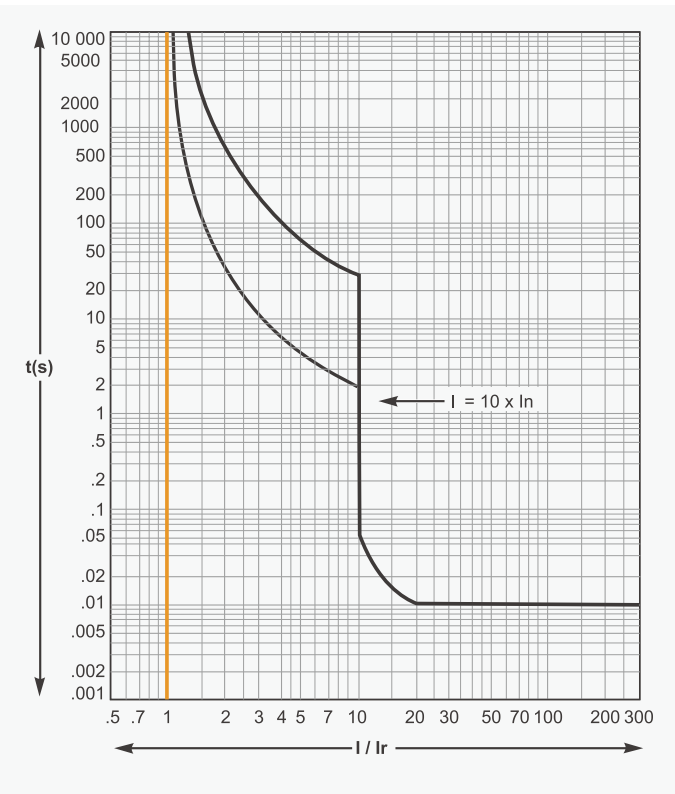
Distribution Apparatus

YCM3 Series MCCB

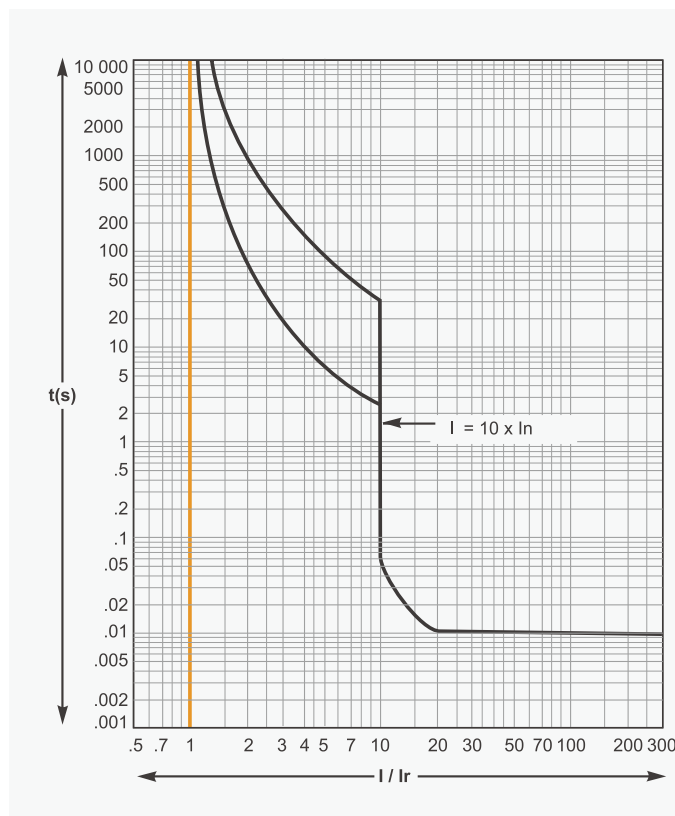
TM12.5A-50A



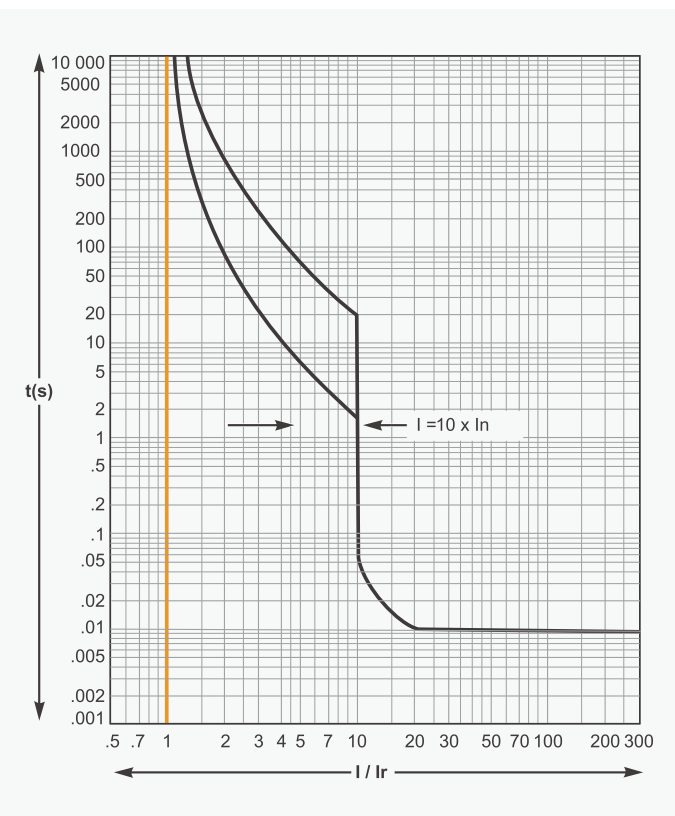
TM63A-100A



TM125A-250A



TM315A-600A

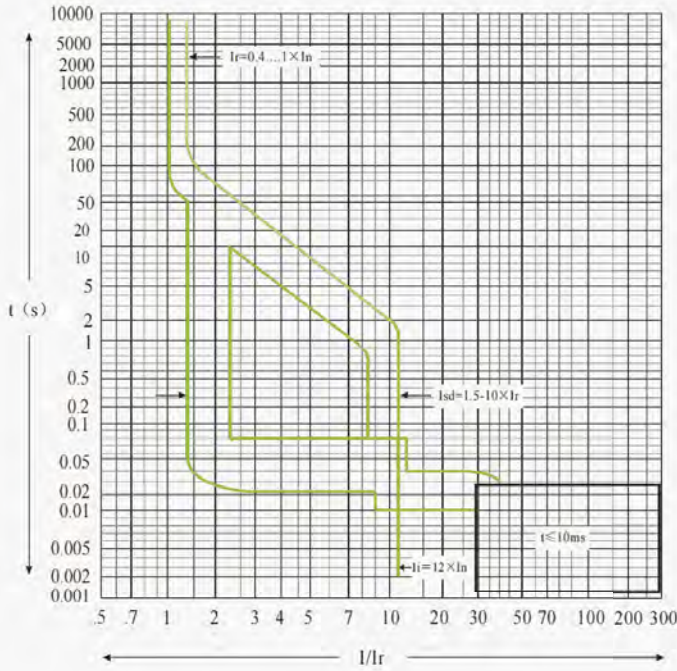


B

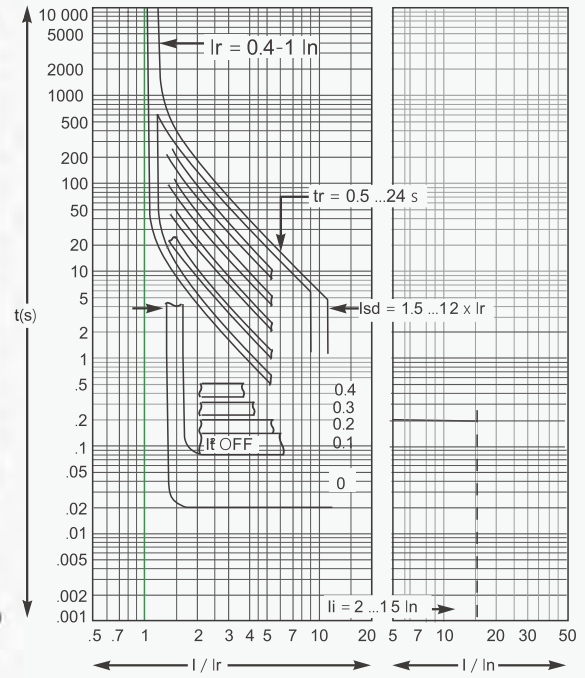
Distribution Apparatus

YCM3 Series MCCB

YCM3E electronic (2.0)100-630A

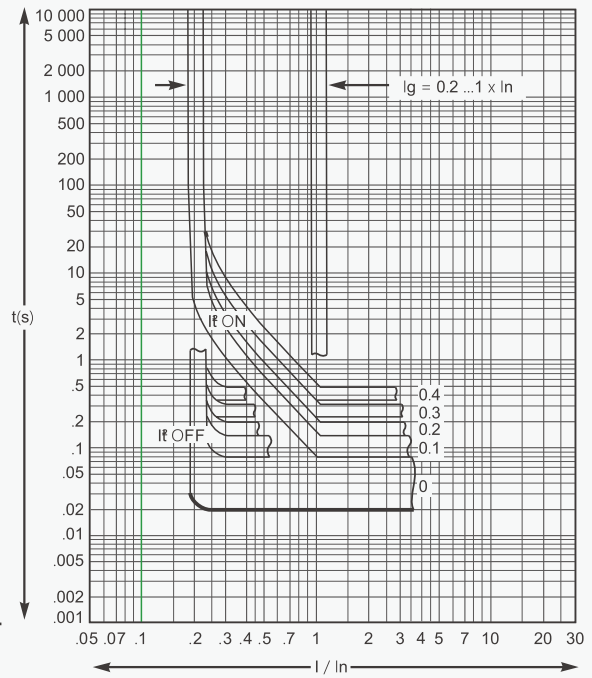
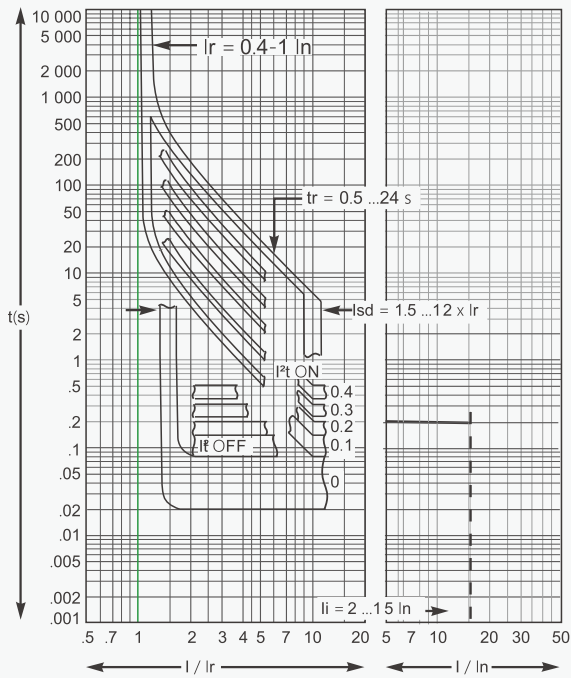


Micrologic 5.0 Tripping curve In100 - 630 A



Micrologic 6.0 tripping curve In100-630 A

(Earth fault protection)



Distribution Apparatus

YCW1 Air Circuit Breaker

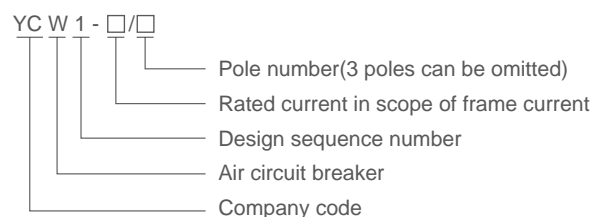


General

YCW1-1000 series 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	YCW1-1000				
Rated short circuit breaking capacity	I _{cu} =42kA 400V I _{cs} =I _{cw} /1s=30kA 400V				
	I _{cu} =25kA 690V I _{cs} =I _{cw} /1s=20kA 690V				
Rated current I _n (A)	200	400	630	800	1000
Pole	3P, 4P				
Rated operation voltage U _e (V)	400				
Rated insulation voltage U _i (V)	690				
N pole max continuous current I _n (A)	100%I _n				
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			

B

Distribution Apparatus

YCW1 Air Circuit Breaker

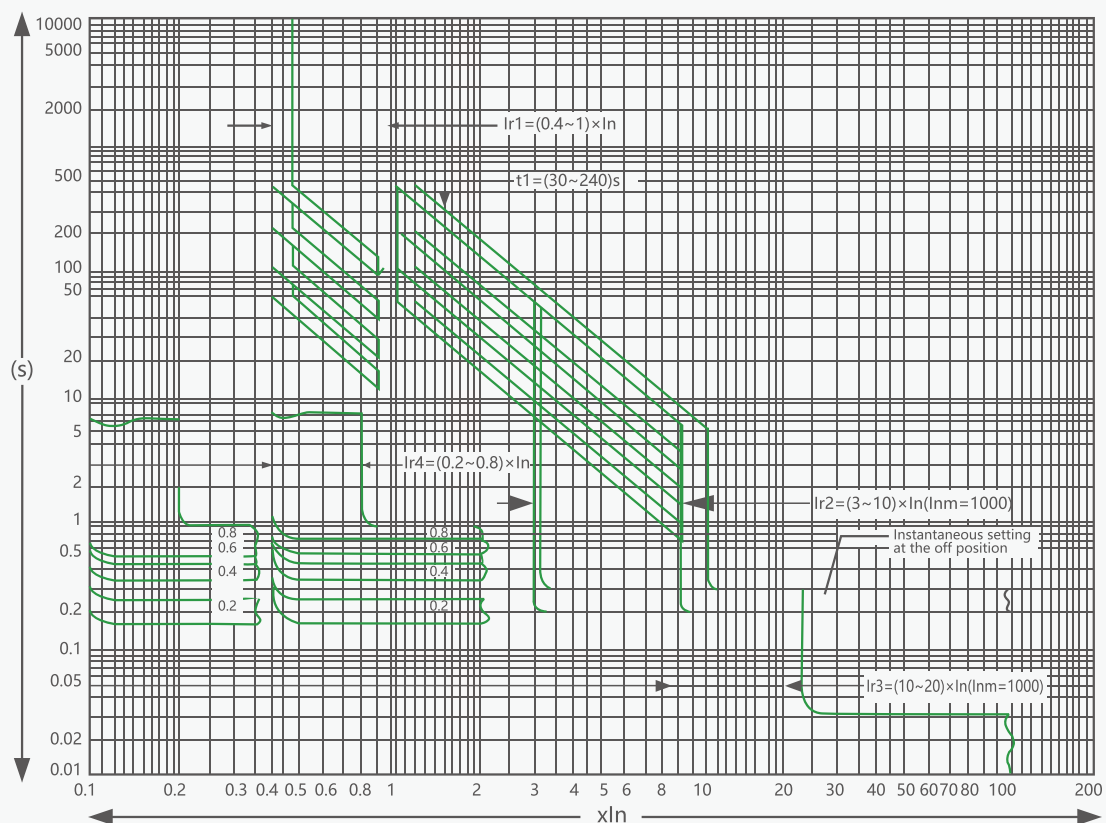
Intelligent controller protection characteristic

Definite setting and error for Intelligent Controller

Long time-delay	Short time-delay		Instantaneous		Earthing fault	
I _{r1}	I _{r2}	Error	I _{r3}	Error	I _{r3}	Error
(0.4~1)I _n	(1.5~15)I _n	±10%	1I _n ~30kA	±15%	(0.2~1)I _n	±10%
(0.4~1)I _n	☆(2~10)I _n	±10%	☆(5~20)I _n	±15%	☆(0.2~0.8)I _n	±10%

Note: L type intelligent controller setting with ☆

Over-current and earthing fault characteristic curve figure



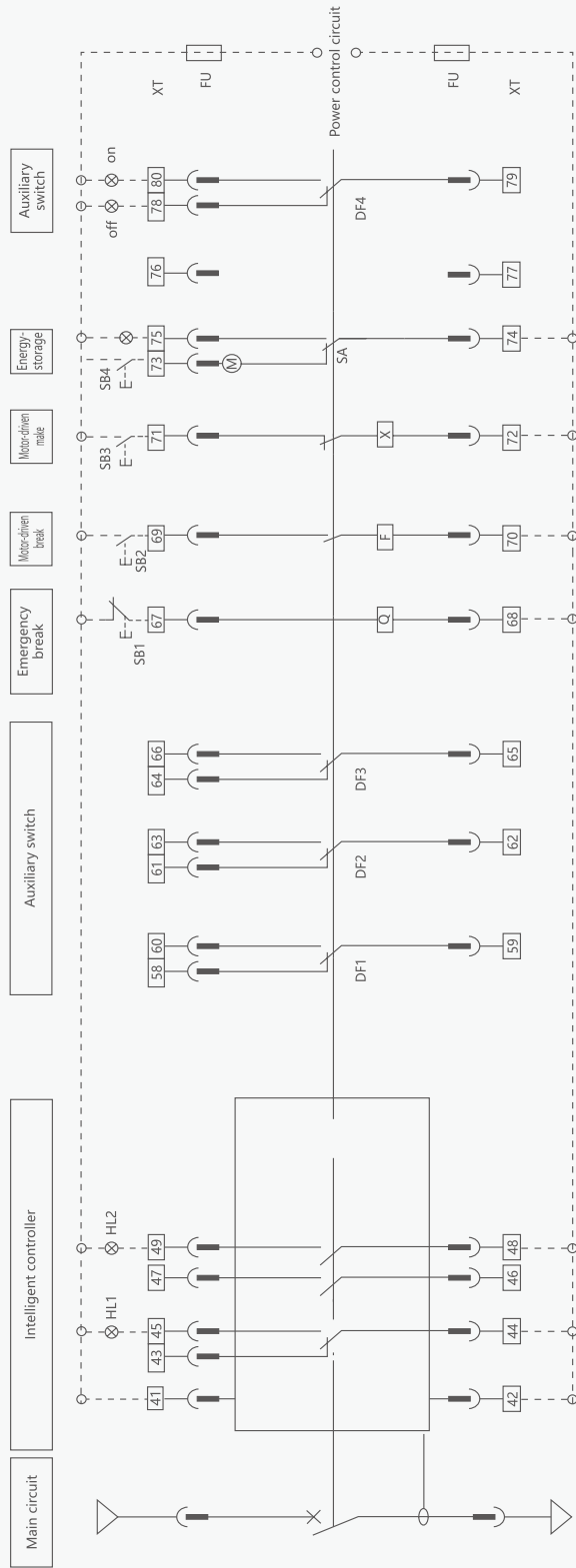
Distribution Apparatus

YCW1 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 releases
- 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

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.

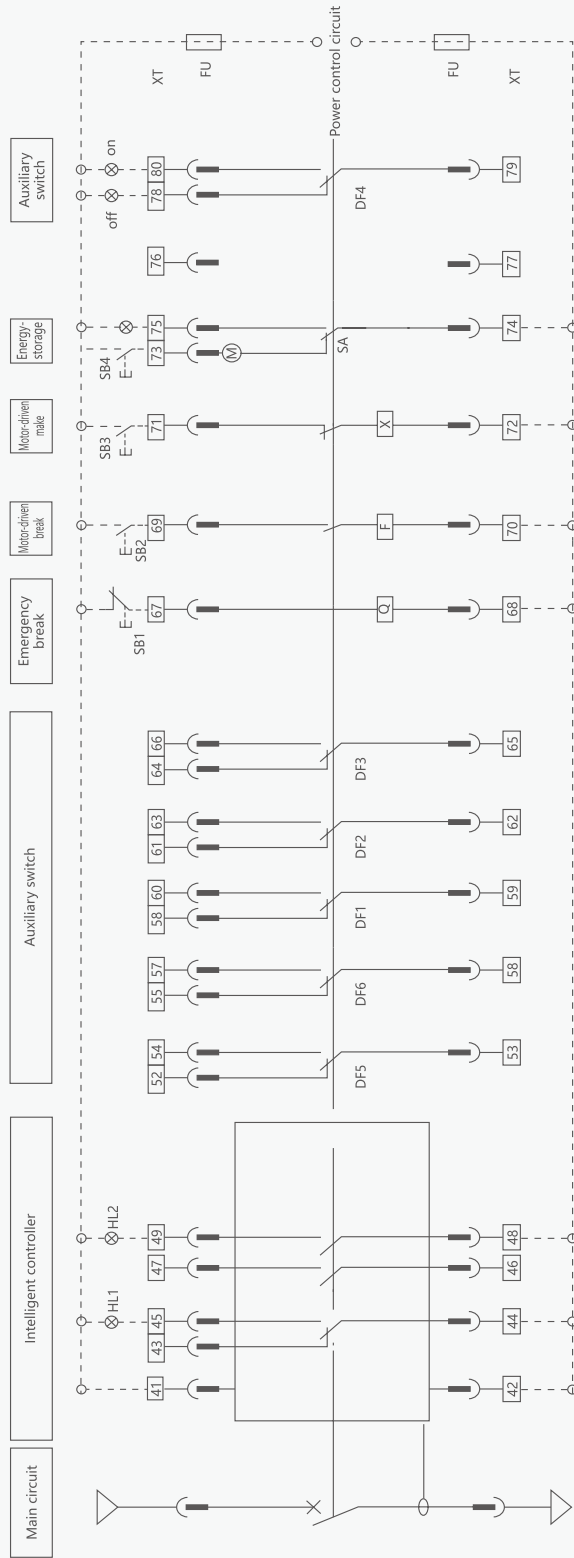
Picture 1 YCW1-1000 Intelligent Air circuit breaker Secondary circuit wiring



Distribution Apparatus

YCW1 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 (self-prepared by user)
- SB4-Energy storage (self-prepared by user)
- Q-Under-voltage (instantaneous or delayed) release
- F-Shunt release

- 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

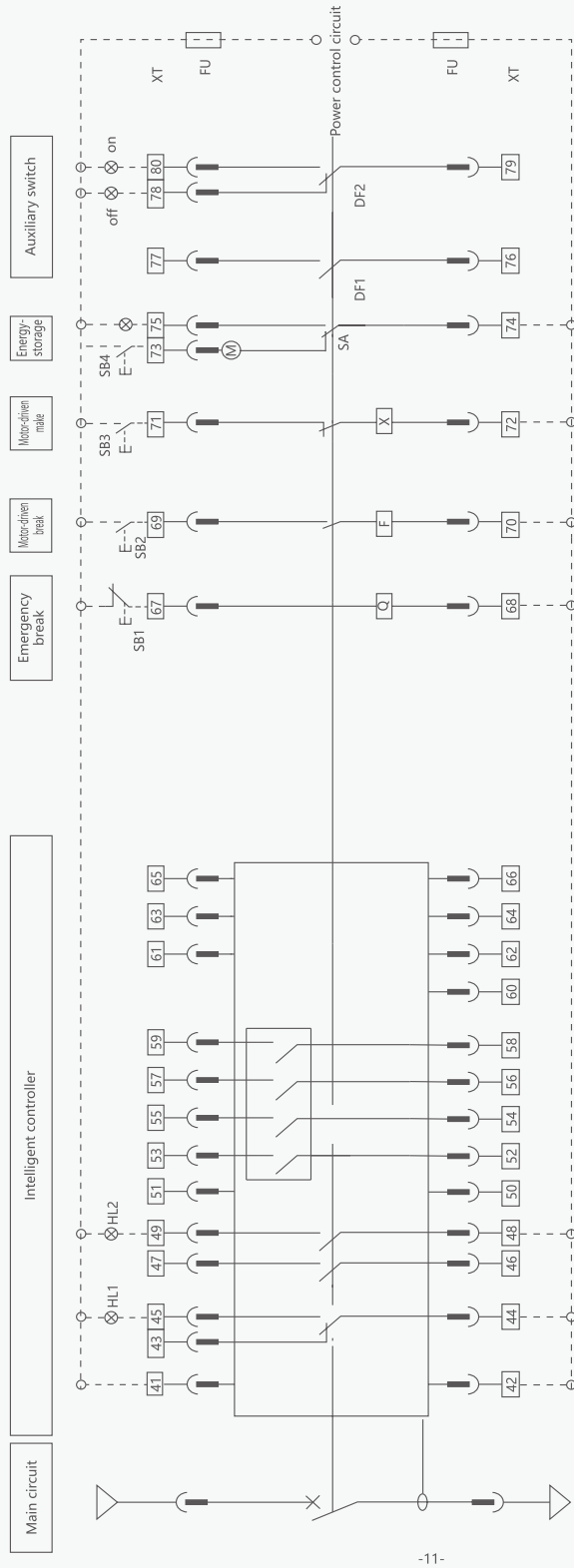
73-can be directly connected to power (automatic pre-storing energy), alternatively connect power after connecting NO button(manul-controlled pre-storing energy).
 Note:If control voltage of Q,F,X,M is different from each other, they can be connected to different power.

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

Distribution Apparatus

YCW1 Air Circuit Breaker

H Type Intelligent circuit wiring



- | | | |
|--|---|---|
| HL1: Failure indicator | XT: Terminal connector | 56,57: Signal of remote control break |
| HL2: Close indicator | Indicator (self-prepared by user) | 58,59: Signal of remote control make |
| SB1- Under-voltage button (if no need, please short circuit) | FU-Fuse | 60: PE line |
| SB2- Shunt button (self-prepared by user) | DF1-DF4: Auxiliary switch | 61: N phase input |
| SB3- Close button (self-prepared by user) | 41,42: Power input | 62,63,64: A,B,C three phase voltage input |
| SB4- Energy storage (self-prepared by user) | 43,44,45: Fault trip contact output(44 common terminal) | 65,66: Connect to the N phase current transformer input |
| Q- Under-voltage (instantaneous or delayed) release | 46,47 Normal open contact | 67,68 Undervoltage release |
| F- Shunt release | 48,49 Making indicator (Normal open contact) | 69,70 Shunt release |
| X- Closing electromagnet | 50,51: Communication output | 71,72 Closing electromagnet |
| M- Energy storage magnet | 52,53: Load control 1 output(Signal of relay contact) | 73,74,75 Energy storage motor |
| SA- Motor limit switch | 54,55: Load control 2 output(Signal of relay contact) | 76-80: Auxiliary contact |

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.

Picture 3 YCW1-1000H Intelligent air circuit breaker secondary connection diagram

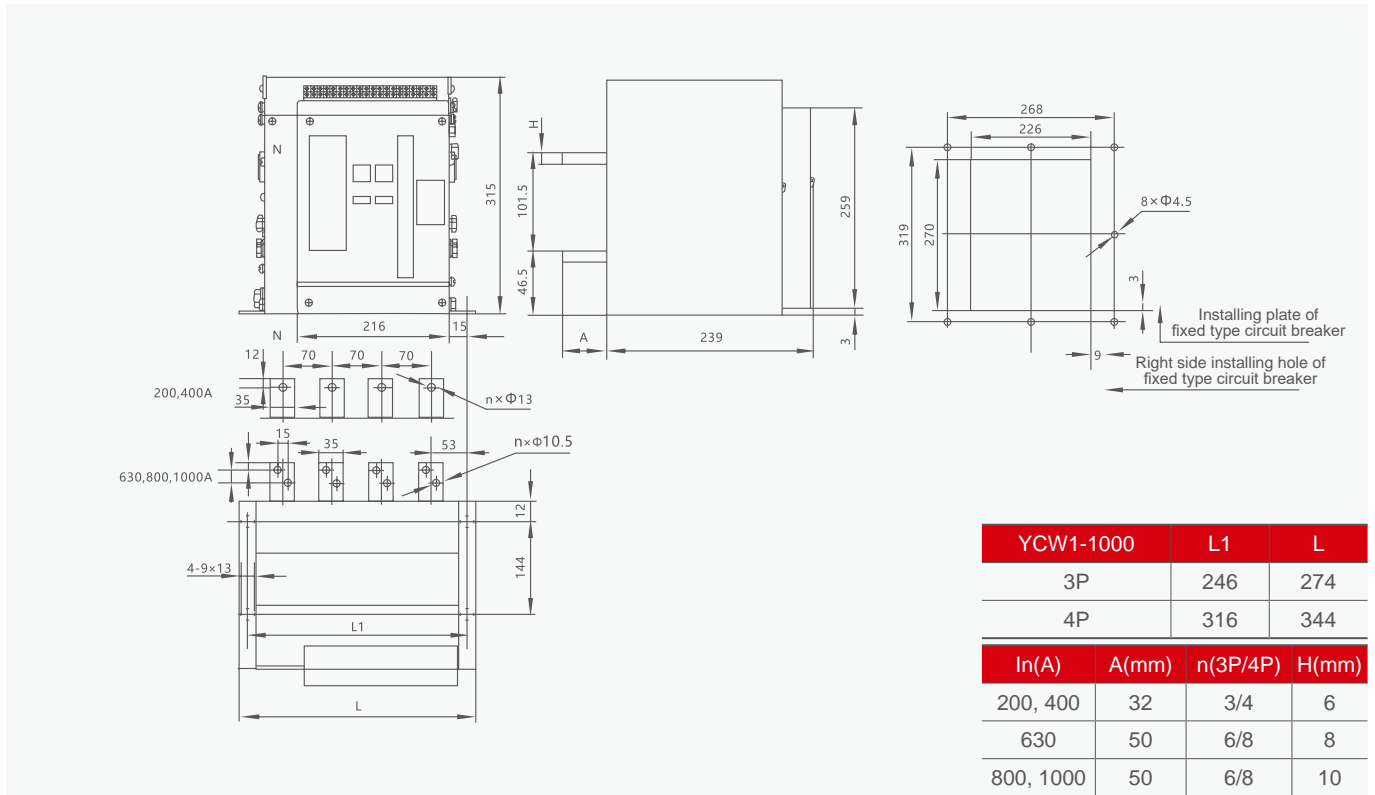


Distribution Apparatus

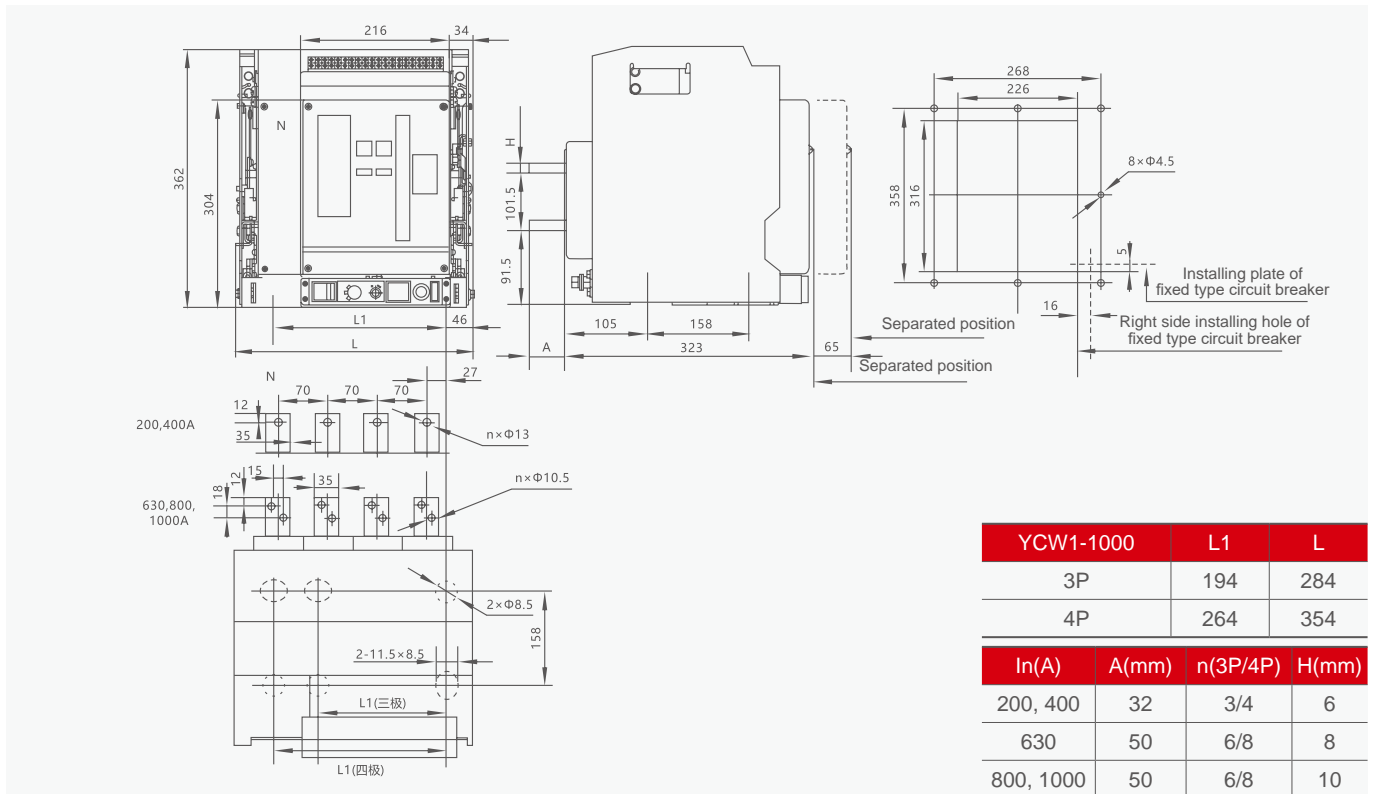
YCW1 Air Circuit Breaker

Overall and mounting dimensions(mm)-

YCW1-1000 Fixed type



YCW1-1000 Draw out type



Distribution Apparatus

YCW1 Series Air Circuit Breaker



General

YCW1 series intelligent air circuit breakers (hereinafter called ACB) are applied for the network circuit of AC 50-60Hz, 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.

B

Type designation

YCM1 - 2000 / 3 + Installation + Control unit + Common use accessory + Optional accessory

Type	Rated current in scope of frame current	Number of poles	Installation
YCM1	2000	3	Installation
MCCB	2000 Type-in: 630A, 800A, 1000A, 1250A, 1600A, 2000A; 3200 Type-in: 2000A, 2500A, 3200A; 6300 Type-in: 4000A, 5000A, 6300A	3-default, 4-4 pole	Fixed type-horizontal, vertical Draw out type-horizontal, vertical Note: 2000 type have vertical wiring, others are horizontal wiring

Control unit	Common use accessory	Optional accessory
Control unit	Common use accessory	Optional accessory
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).	Closing electromagnet-AC230V, AC400V, DC220V Undervoltage release-AC230V, AC400V, undervoltage instantaneous undervoltage time-delay Release(close) magnetic iron- AC230V, AC400V, DC220 VElectric operation mechanism-AC230V, AC400V, DC110V, DC220V Auxiliary contact-standard type.(4a4b), special type (5a5b, 6a6b)Note:a-normal open, b-normal close	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

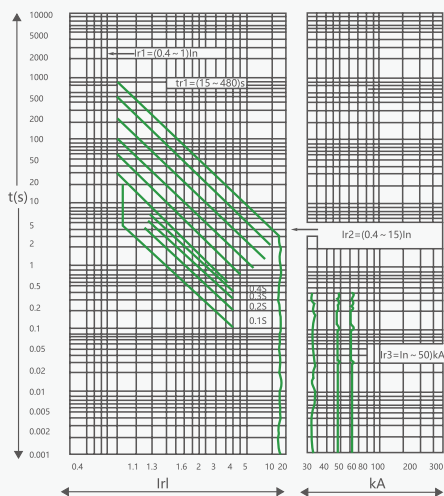
Distribution Apparatus

YCW1 Series Air Circuit Breaker

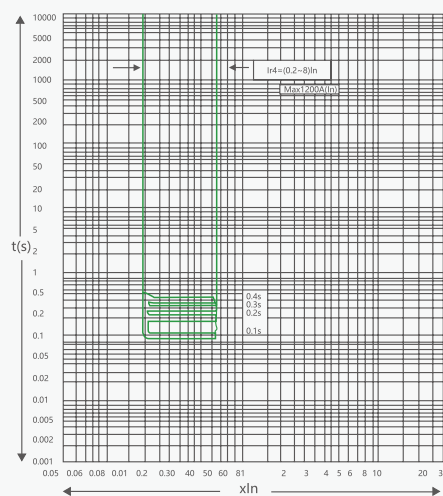
Operating conditions

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

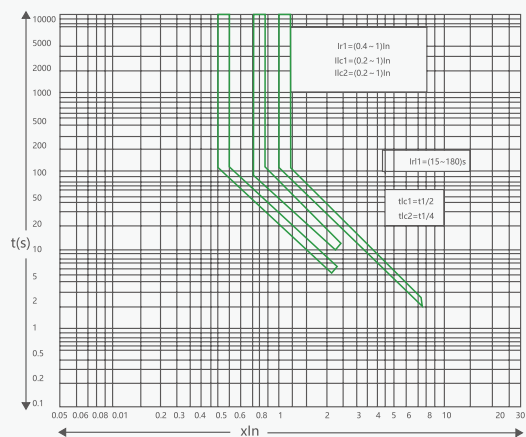
Curve



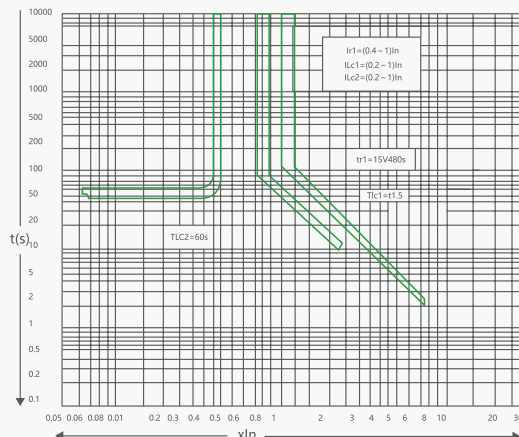
YCW1-2000-6300 Over current release time/current characteristic curve



YCW1-2000-6300 Earth fault protection time/current characteristic curve



YCW1-Load monitoring (1) time/current characteristic curve



YCW1-Load monitoring (2) time/current characteristic curve

Distribution Apparatus

YCW1 Series Air Circuit Breaker

Technical data

Type			YCW1-2000	YCW1-3200	YCW1-6300
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
Operation life	Per hour	times	20	20	500
	Electrical	times	1000	500	5000
	Mechanical	times	10000	5000	20~30
Full breaking time		ms	20~30	20~30	55~70
Full closing time		ms	55~70	55~70	2000
Power consumption	3P	W	360	1200	2300
	4P	W	450	1750	-
Resistance of each pole	Fixed type	$\mu\Omega$	11	9	10
	Draw out type	$\mu\Omega$	20	14	
Dimensions (LxWxH)	3P fixed type	mm	362x323x402	422x323x402	
	3P draw out type	mm	375x461x452	435x471x452	
	4P fixed type	mm	457x323x402	537x323x402	
	4P draw out type	mm	470x461x452	550x471x452	
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

B

Distribution Apparatus

YCW1 Series Air Circuit Breaker

Overload protection data

Overload protection		YCW1-2000-6300					
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		YCW1-2000-6300					
Adjust scope Ir1 Ir2		(0.4-15)In (pole difference 2%)					
Delay time tr2	ms	100, 200, 300, 400					
Accuracy	%	±15					

Short circuit, instantaneous		YCW1-2000	YCW1-3200	YCW1-6300
Adjust scope Ir1 Ir3		1In-50kA	1In-75kA	1In-100kA
Accuracy	%	±15	±15	±15

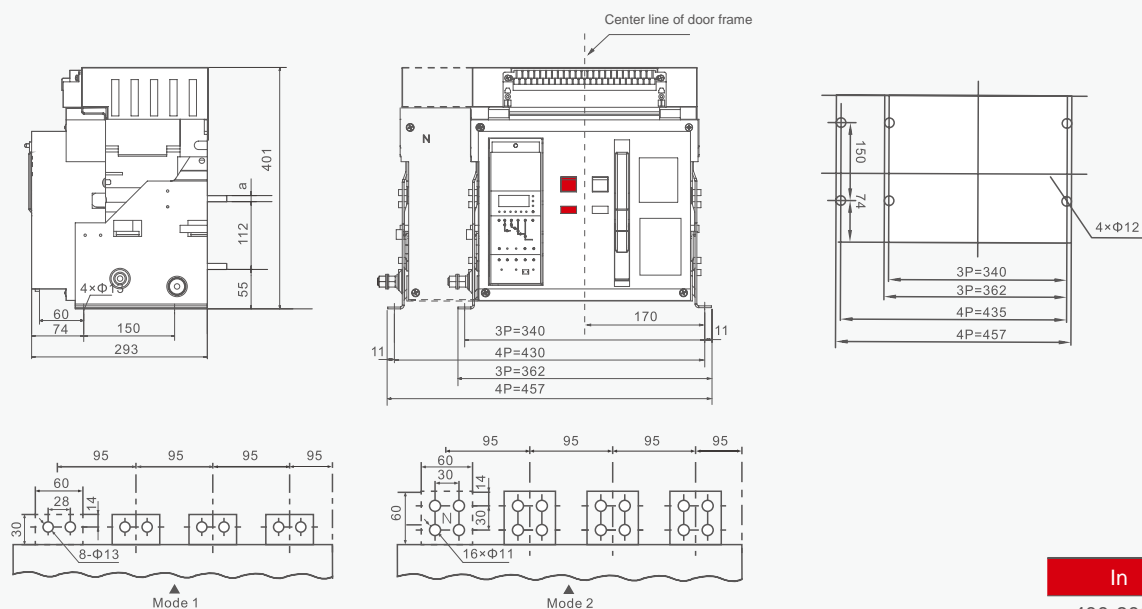
Load monitoring output		YCW1-2000-6300					
Load adjust scope Ic1		(0.2-1)In (pole difference 2%)					
Delay time tc1		tr1×0.5					
Load adjust scope Ic2		(0.2-1)In (pole difference 2%)					
Delay time tc2		tr1×0.25 (anti-time limit)					
Accuracy		60 (set time limit)					
	%	±10					

Distribution Apparatus

YCW1 Series Air Circuit Breaker

Overall and mounting dimensions(mm)

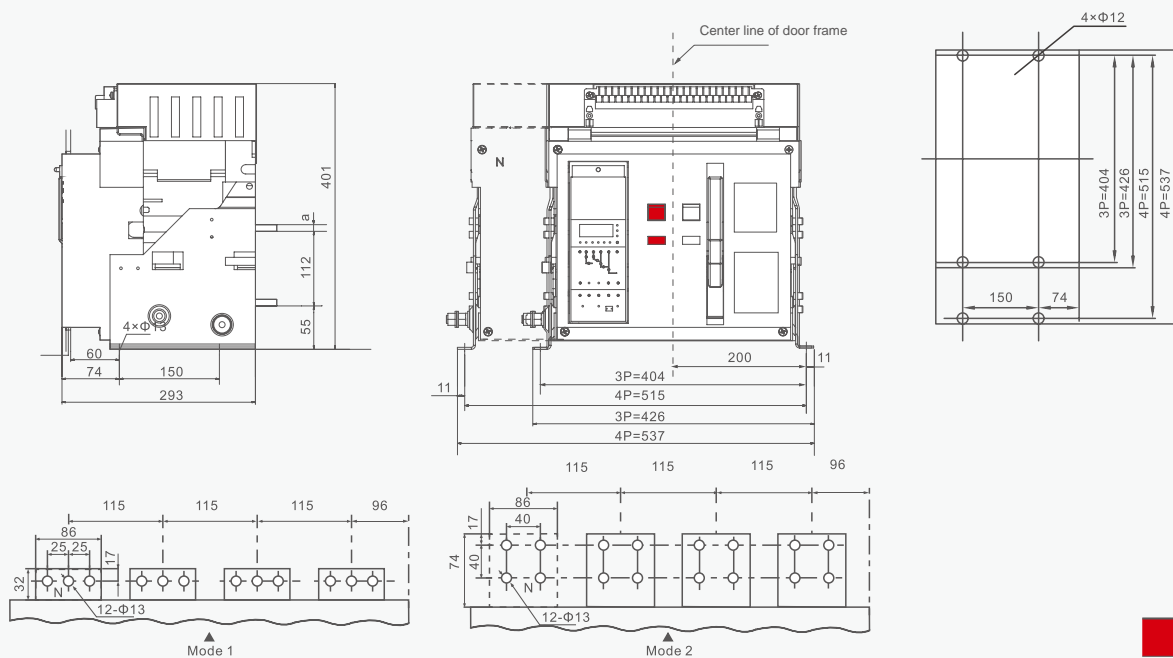
YCW1-2000A Fixed circuit-breaker installation and overall dimensions are shown



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

In	a mm
400-800A	10
1000-1600A	15
2000A	20

YCW1-3200A Fixed circuit-breaker installation and overall dimensions are shown



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

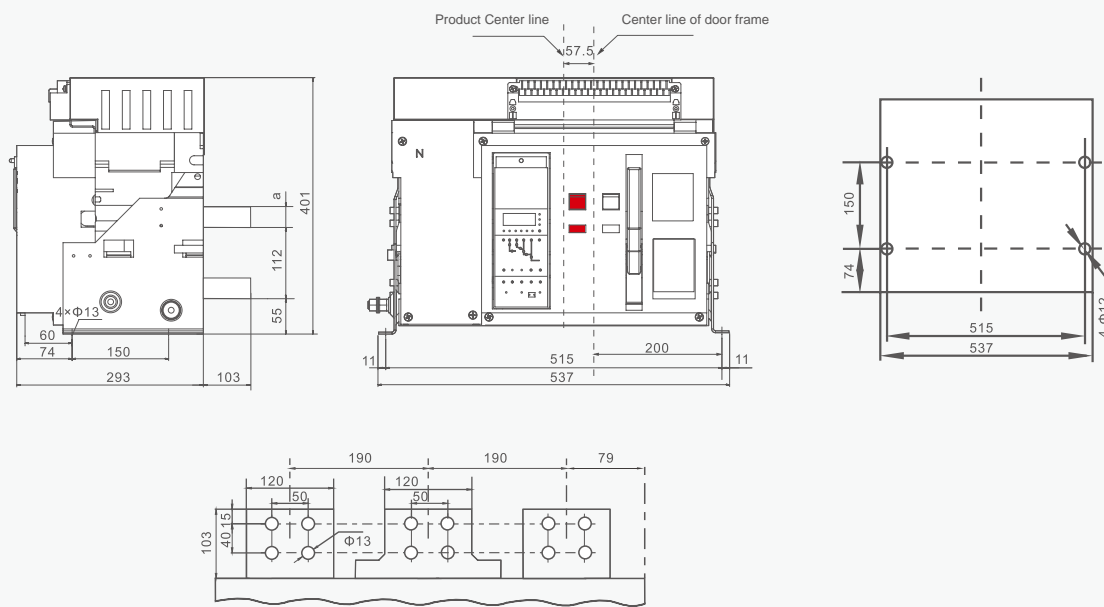
In	a mm
2000A,2500A	20
2900A,3200A	30

B

Distribution Apparatus

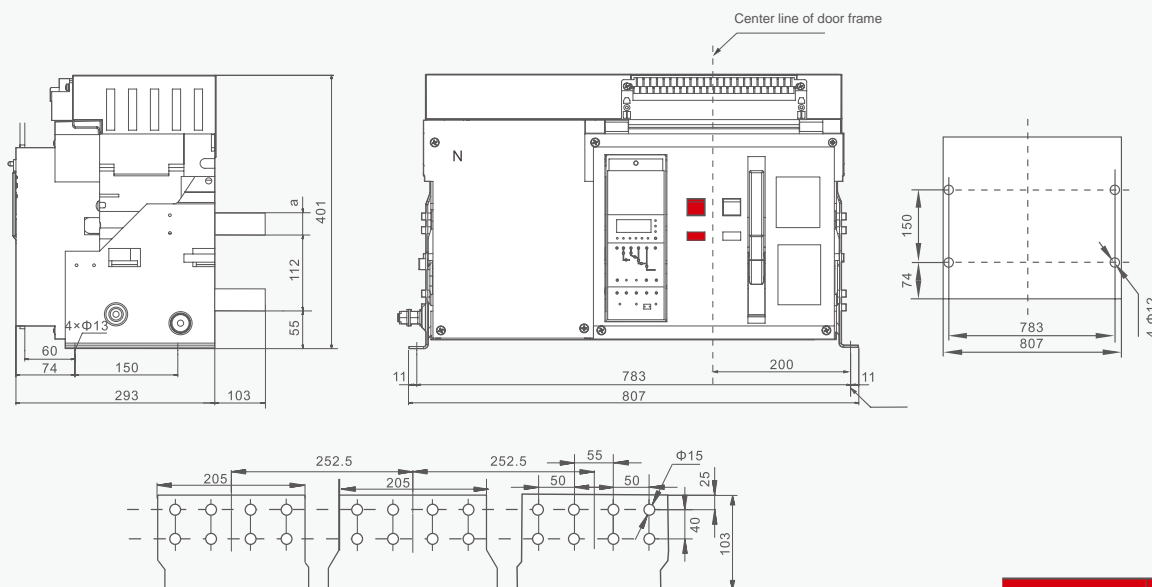
YCW1 Series Air Circuit Breaker

YCW1-4000A Fixed circuit-breaker installation and overall dimensions are shown



In	a mm
2500-4000A	30

YCW1-6300/3P Fixed circuit breaker and overall dimension are shown



In	a mm
4000A	20
5000A	30

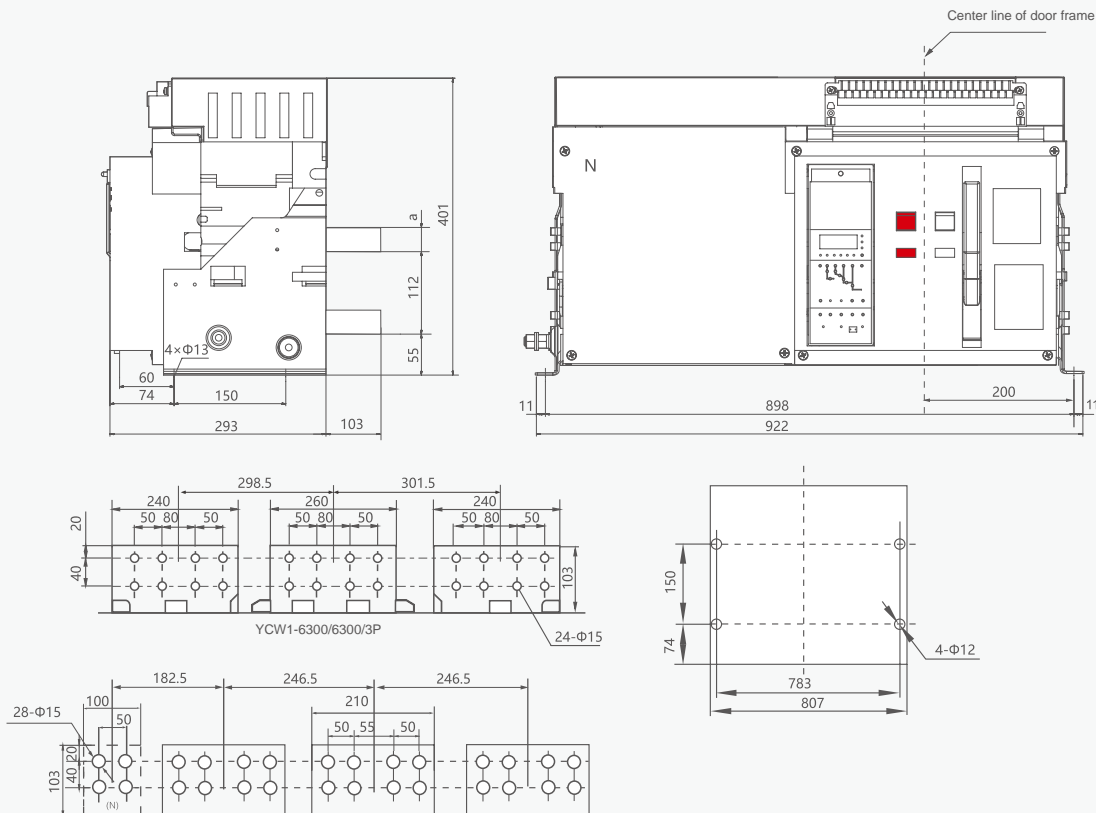
YCW1-6300/4000A, 5000A/3P

Distribution Apparatus

YCW1 Series Air Circuit Breaker

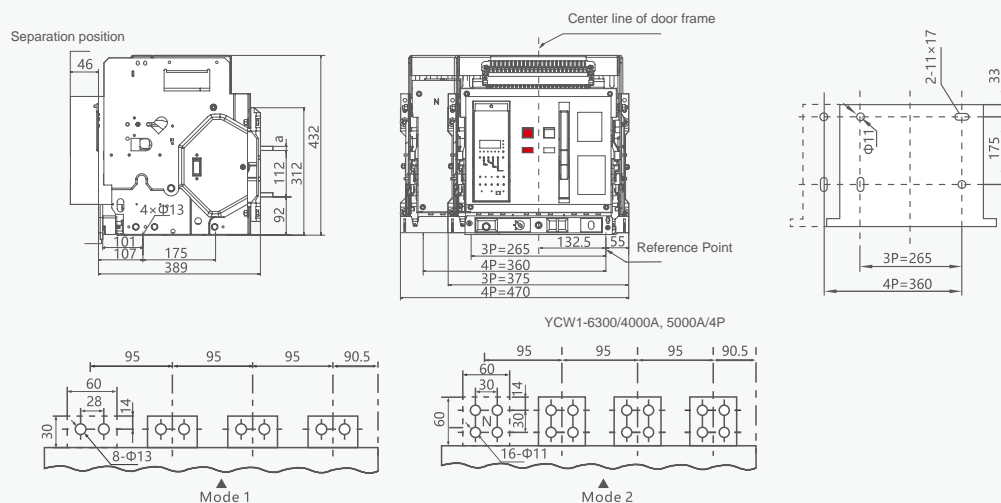
B

YCW1-6300A Fixed circuit breaker and overall dimension are shown



In	a mm
4000A	20
5000A	30
6300A	

YCW1-2000A Drawer circuit breaker and overall dimension are shown

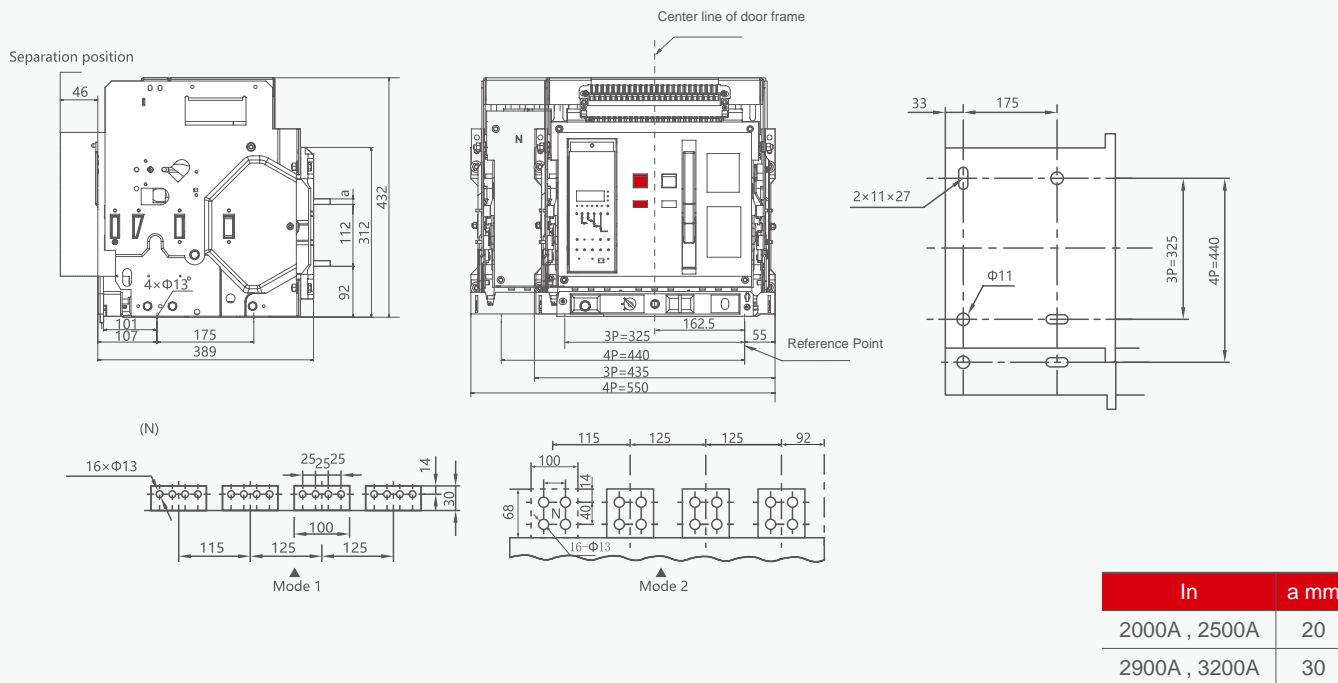


In	a mm
400-800A	10
1000-1600A	15
2000A	20

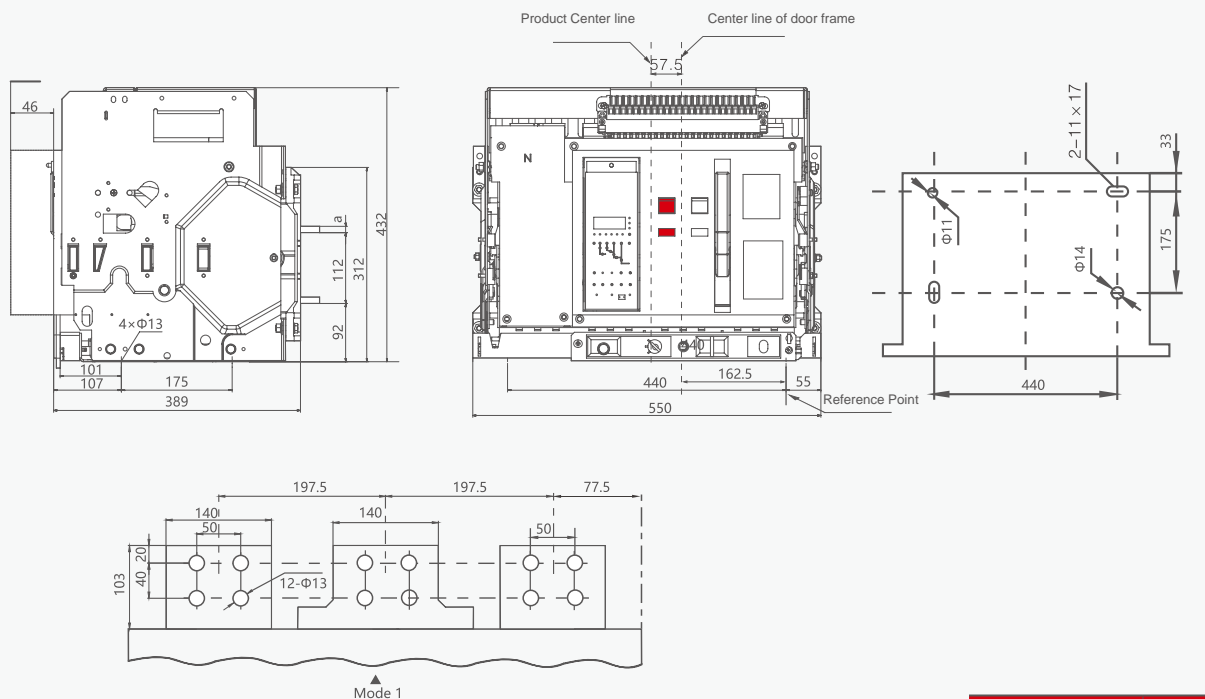
Distribution Apparatus

YCW1 Series Air Circuit Breaker

YCW1-3200A Drawer circuit breaker and installation size are shown



YCWI-4000A Drawer circuit breaker and installation size are shown



Installation of drawer circuit breaker and overall dimension (Imn = 4000A three-pole)

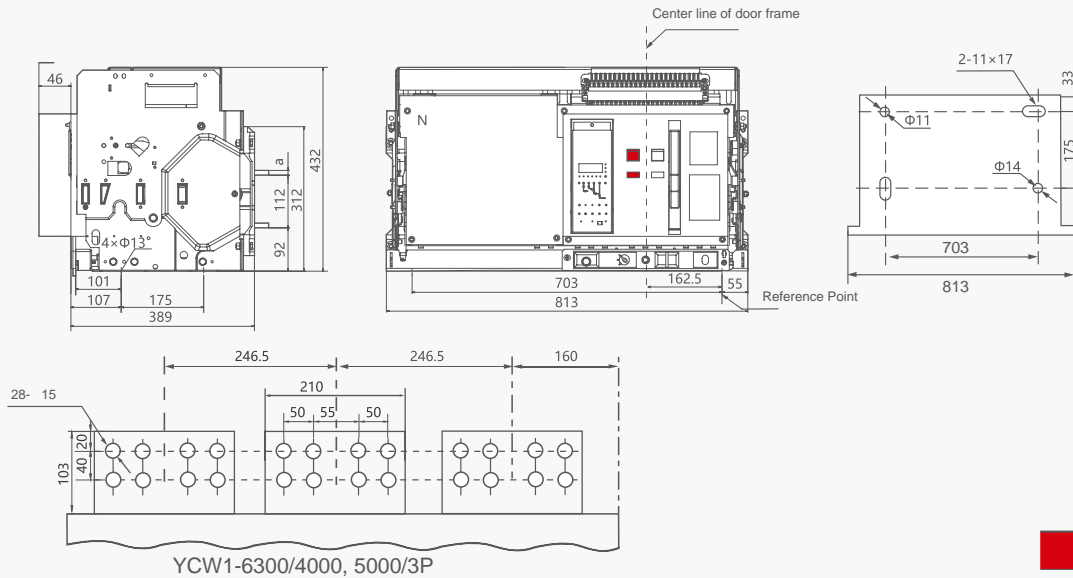
In	a mm
2000A , 2500A	20
3200A , 4000A	30

Distribution Apparatus

YCW1 Series Air Circuit Breaker



YCW1-6300 /3P Drawer circuit breaker (quadropole) and installation size.



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

In	a mm
4000A	20
5000A	30

YCWI-6300A Drawer circuit breaker and overall dimension are shown

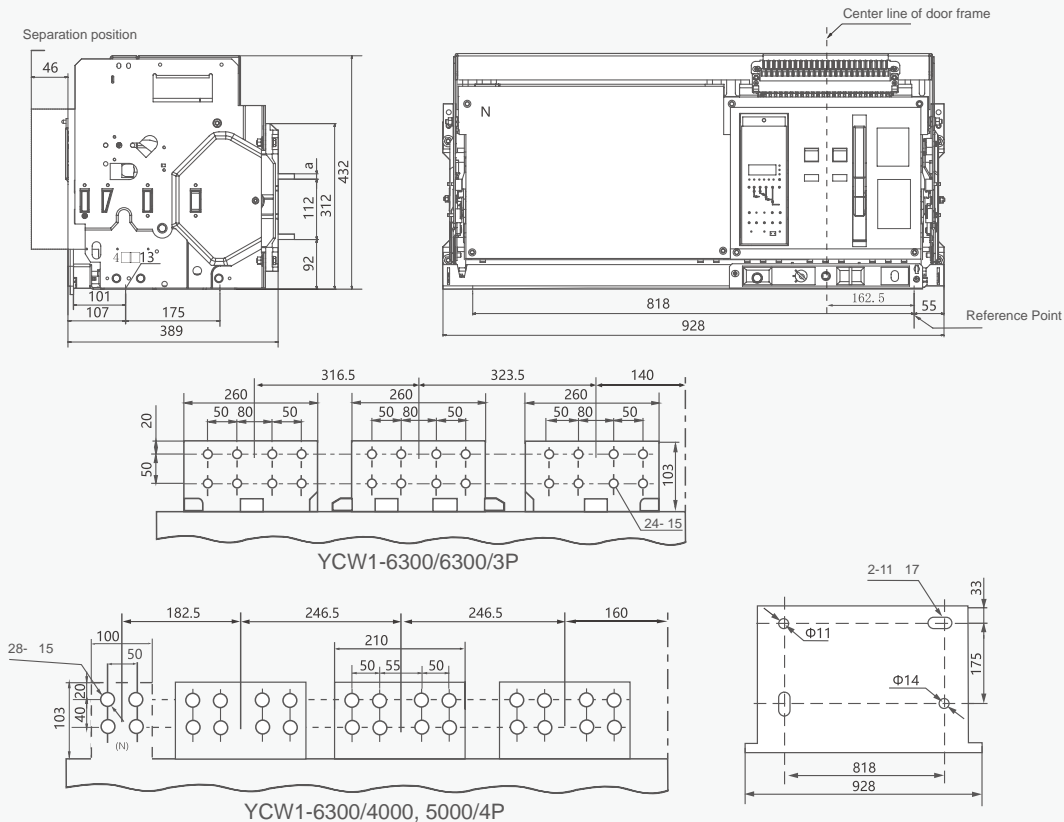


Figure 24 Drawer circuit breaker installation and overall dimension (Inm=6300A) (4000A, 5000A three-pole and quadropole as well as 6300 A three-pole)

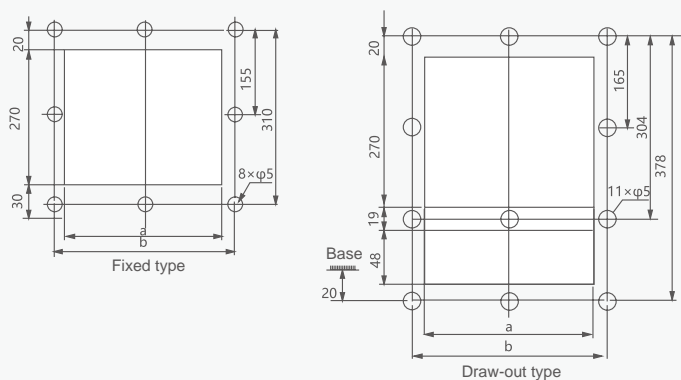
In	a mm
4000A	20
5000A	30

Distribution Apparatus

YCW1 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

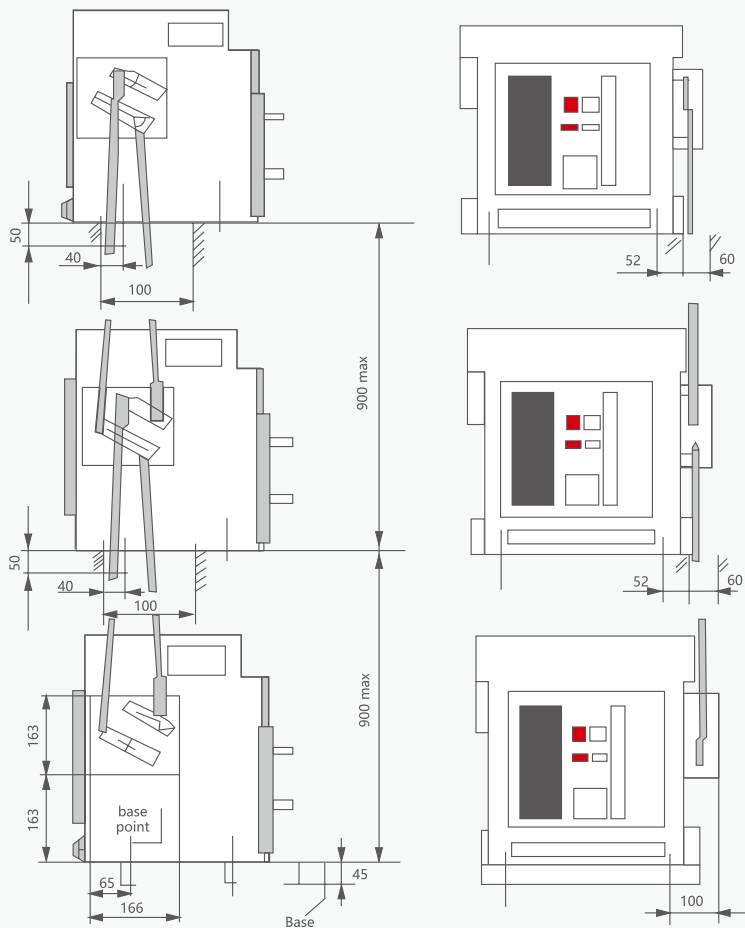


Installation dimension of panel hole

Type	a mm	b mm
YCW11-2000	306	346
YCW11-3200-6300	366	406

Interlock device of circuit breaker is shown in the picture Unit:mm

Vertical installation of interlocking circuit breaker devices



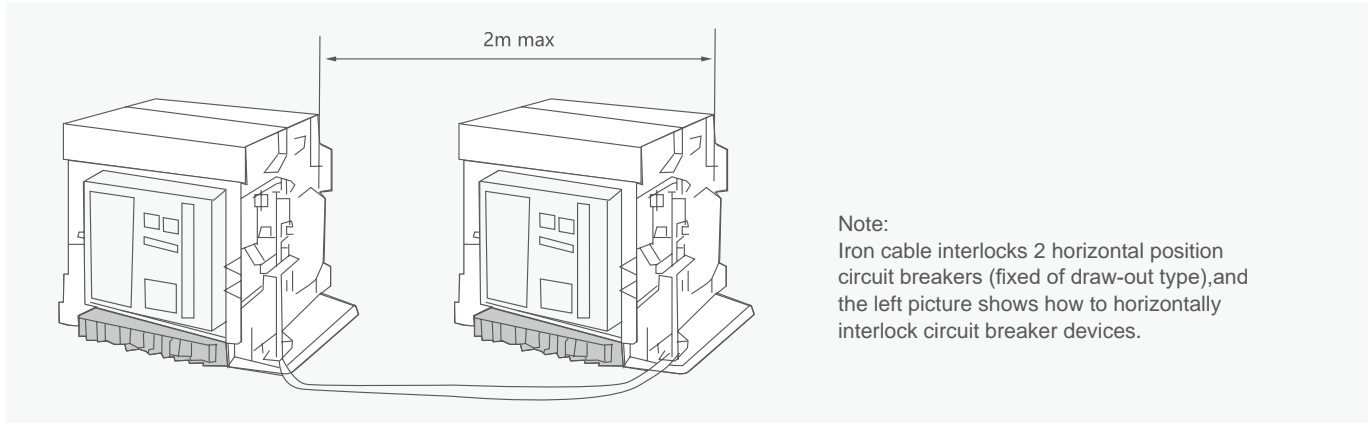
Note:

The left figure shows how to vertically install 3 circuit breaker interlocking devices and just removes the top one if only 2 circuit breakers needed.

Distribution Apparatus


YCW1 Series Air Circuit Breaker

Horizontal installation of interlocking circuit breaker devices



B

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		


Basic function		
Current (select 1)	Digital display	Can display L1, L2, L3, I _{max} IG(earth), IG(Neutral)
Voltage (select 2) Power (select 2)	Digital display	Can display U ₁₂ , U ₂₃ , U ₃₁ , U _{min} 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


Distribution Apparatus


YCW1 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 condition
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)	$\leq 0.335U_e$
	Power loss	12VA (YCW1-1000 5VA)
	RS485 (communication) I/O	User should consult with the manufacturer

Under-voltage 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

Distribution Apparatus

YCW3 Air Circuit Breaker



General

YCW3 series air circuit breaker(hereinafter called ACB) is suitable for the circuit of AC 50Hz/60Hz with rated service voltage 400V, 690V and rated service current between 200A and 6300A. It is mainly used to distribute electric energy and protect circuits and electric equipment against over-load, under-voltage, short-circuit and singlephase 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.

B

Type designation

YCW3 - □ / □ + Installation + Control unit + Common use accessory + Optional accessory

Type	Rated current in scope of frame size	Number of poles	Installation
YC 3	□	□	Installation
MCCB	1600 Type In: 200A,400A,630A,800A,1000A,1250A,1600A 2000 Type In: 630A,800A,1000A,1250A,1600A,2000A 2500 type In:630A,800A,1000A,1250A,1600A,2000A,2500A 3200 Type In: 2000A,2500A,3200A 4000 Type In: 2500A,3200A,4000A 6300 Type In: 4000A,5000A,6300A	3-default, 4-4 pole	Fixed type-horizontal, vertical Drawout type-horizontal, vertical
Control unit	Common use accessory	Optional accessory	
Intelligent controller	Common use accessory	Optional accessory	
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.	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	Mechanical interlock; One circuit breaker (1lock+1key) Two circuit breakers(steel cable interlock, connecting rod interlock,2lock+1key) Three circuit breakers (3lock+2keys, connecting rod interlock) Automatic power transfer system Current transformer connected with neutral load	


Distribution Apparatus

YCW3 Air Circuit Breaker

Operating conditions

Item	Description
Ambient temperature	-5°C~+40°C;the average value within 24h shall not exceed +35°C; L type and M type controller can be used under -40°C~+70°C
Altitude	≤2000m
Pollution grade	3
Safety category	Main circuit and undervoltage tripping coil is IV,other auxiliary and control circuit is III
Installation position	Vertically installed, inclination between the mounting plane and the vertical plane should not exceed ±5°

Technical data

Item	Description
Number of Poles	3,4
Rated voltage Ue(V)	400/415, 660/690
Rated insulation voltage Ui(V)	1000
Rated impulse withstand voltage Uimp(kV)	12
Rated frequency(Hz)	50/60
Have function of switch disconnecter	

Distribution Apparatus

YCW3 Air Circuit Breaker

Frame size rated current

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

B

Breaking capacity

Rated current In(A)		1600	2000	2500	3200	4000	6300
Rated ultimate short circuit breaking capacity I _{cu} (kA)	400/415V	65	80	100	100	120	135
	660/690V	50	65	70	85	85	100
Rated service short circuit breaking capacity I _{cs} (kA)	400/415V	55	65	80	80	100	135
	660/690V	42	65	70	70	85	100
Rated short time withstand current I _{cw.1s} (kA)	400/415V	50	65	80	80	100	135
	660/690V	42	65	70	70	85	100
Rated short circuit making and breaking capacity I _{cm} (kA)	400/415V	110	176	220	220	264	297
	660/690V	77	143	154	154	187	220
Electric life		8000	8000	8000	8000	600	1500
Mechanical life (Maintenance)		30000	30000	30000	20000	20000	5000
Mechanical life (Non-maintenance)		20000	15000	15000	12500	10000	2500
Dimension(mm) WxHxL							
Drawout type	3P	254x297x354	375x389x432	375x389x432	435x389x432	435x389x432	813x389x432
	4P	324x297x354	470x389x432	470x389x432	550x389x432	550x389x432	928x389x432
Fixed type	3P	269x195x324	362x293x401	362x293x401	426x293x401	426x293x401	807x293x401
	4P	339x195x324	457x293x401	457x293x401	537x293x401	537x293x401	922x293x401

Note: 6300A only has 3P drawout type.

Distribution Apparatus

YCW3 Air Circuit Breaker

Protection features of intelligent controller

Digital display intelligent controller

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

- 01 bottom fixing position
- 02 rated current
- 03 digital display window
- 04 "set" switch to setting menu
- 05 base plate
- 06 indicator



LCD display intelligent controller

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

- 01 bottom fixing position
- 02 rated current
- 03 LCD display window
- 04 "set" switch to setting menu
- 05 base plate
- 06 indicator



Distribution Apparatus

YCW3 Air Circuit Breaker

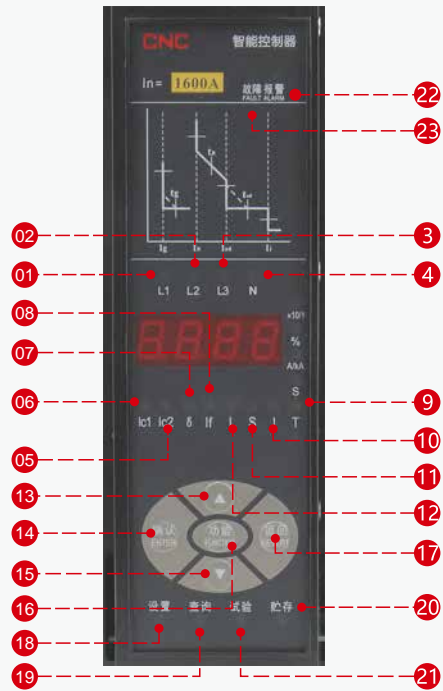
M/H (standard type) intelligent controller

Indicator Instruction

- 01 Current of phase A
- 02 Current of phase B
- 03 Current of phase C
- 04 Current of phase N
- 05 Load monitoring 2
- 06 Load monitoring 1
- 07 Unbalanced current protection
- 08 Earth fault protection
- 09 Self-diagnosis by the intelligent controller
- 10 Short circuit instantaneous protection
- 11 Short circuit short-time delay protection
- 12 Overload long-time delay protection
- 18 Set indicator
- 19 Check indicator
- 20 Save indicator
- 21 Test indicator
- 22 Alarm indicator
- 23 Fault indicator

Button Instruction

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



B

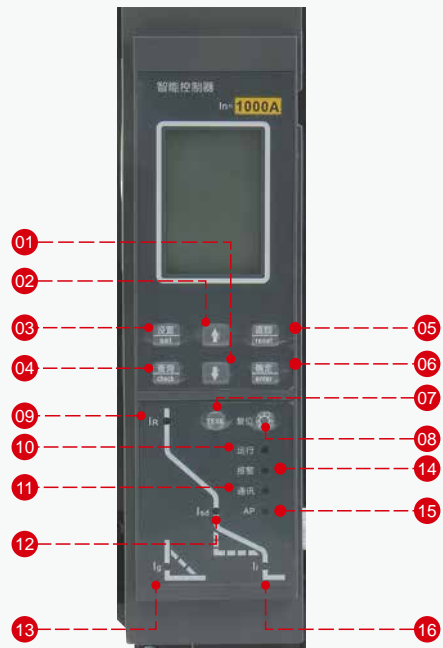
3M/3H(LCD) intelligent controller

Button Instruction

- 01 -/down
- 02 +/-up
- 03 Set
- 04 Check
- 05 Return
- 06 Enter
- 07 Test
- 08 Reset

Indicator Instruction

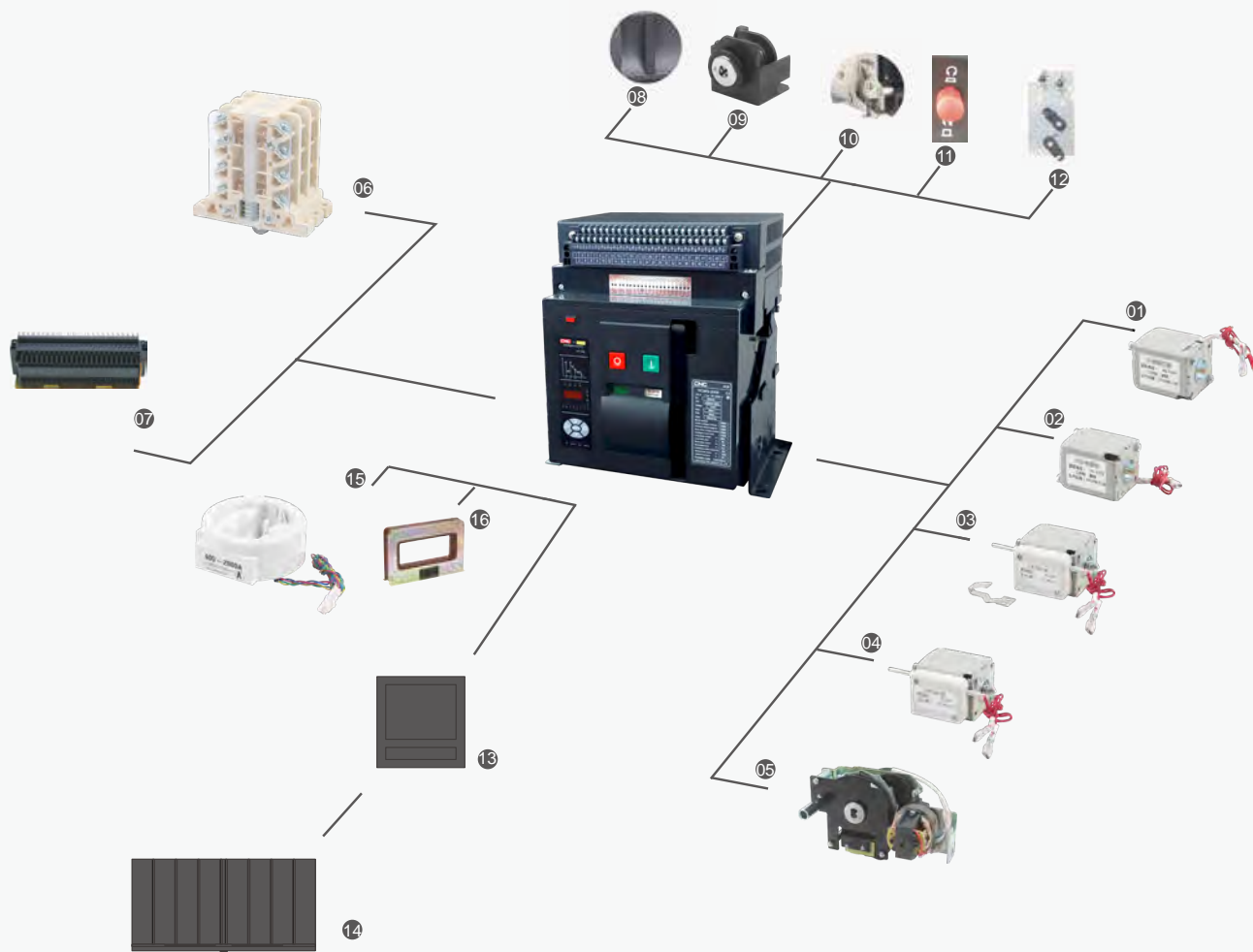
- 09 Overload long-time delay protection
- 10 Run indicator
- 11 Communication indicator
- 12 Short circuit short-time delay protection
- 13 Earth fault protection
- 14 Alarm indicator
- 15 Over-voltage protection
- 16 Short circuit instantaneous protection



Distribution Apparatus

YCW3 Air Circuit Breaker

Accessories



Remote operation

- 01 shunt release
- 02 closing electromagnet
- 03 under-voltage release instantaneous type
- 04 under-voltage release time-delay type
- 05 motor-driven energy-storage mechanism

Lock and connection

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

Indication contact

- 06 auxiliary contact
- 07 secondary wiring terminal

Operation and protection

- 13 phases barrier

Current transformer

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

Distribution Apparatus

YCW3 Air Circuit Breaker

Accessories of YCW3

Shunt release

Shunt release can realize the remote control to break the circuit breaker.

- rated control power voltage $U_s(V)$ AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage (0.7~1.1) 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 finishes the energy storage, closing release can instantly close the circuit breaker.

- rated control power voltage $U_s(V)$ AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage (0.85~1.1) 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 to close the circuit breaker instantly after breaking the circuit breaker.

- rated control power voltage $U_s(V)$ AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage (0.85~1.1) U_s
- power loss 75W(1600A), 85W(2000A), 110W(3200A, 4000A), 150W(6300A)
- energy-storage time <5s



B

Distribution Apparatus

YCW3 Air Circuit Breaker



Auxiliary contact

Standard model: 4NO/4NC

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

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

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



Lock

Key lock

The OFF button of the circuit breaker can be locked in the depressed position and the circuit breaker cannot be closed in that case; when the user selects the option, the factory provides locks and keys; One breaker is provided with one lock and one key for the lock; two breakers are provided with two locks and one key for the locks; three breakers are provided with three same locks and two same keys for the locks.

Note: It is necessary to firstly press the OFF key and turn it anticlockwise before pulling out the key for the air circuit breaker with key lock equipped.

"Disconnected" position locking device for the draw-out type

For the "disconnected" position of the draw-out circuit breaker, a lock rod can be pulled out to lock the matter, and the breaker locked will be unable to be turned towards the TEST or CONNECTION position. Padlocks have to be provided by users themselves.

Three position locking device for the draw-out

It is the locking device for three positions(disconnected, test, connection) of drawout type. Three positions of circuit breaker is indicated by the indicator, the driving and the reversing handle which is locked in the exact position, and the lock can be released by the reset button.

Distribution Apparatus

YCW3 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).

B



Phases barrier (optional)

Installed between the bus-bars to increase the creepage distance.



Controller accessories

Leakage current transformer

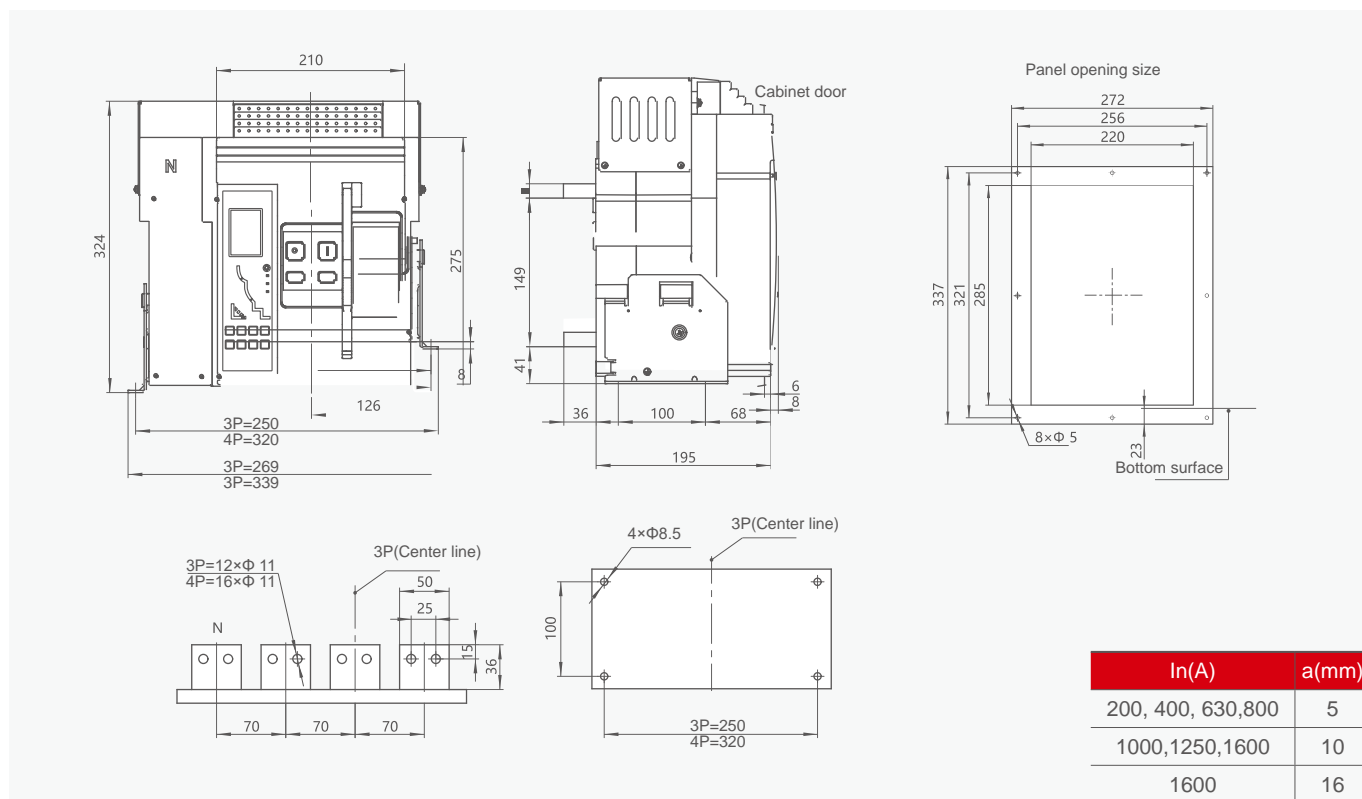
1. If the grounding protection is the leakage type, then a rectangular transformer will be needed.

Distribution Apparatus

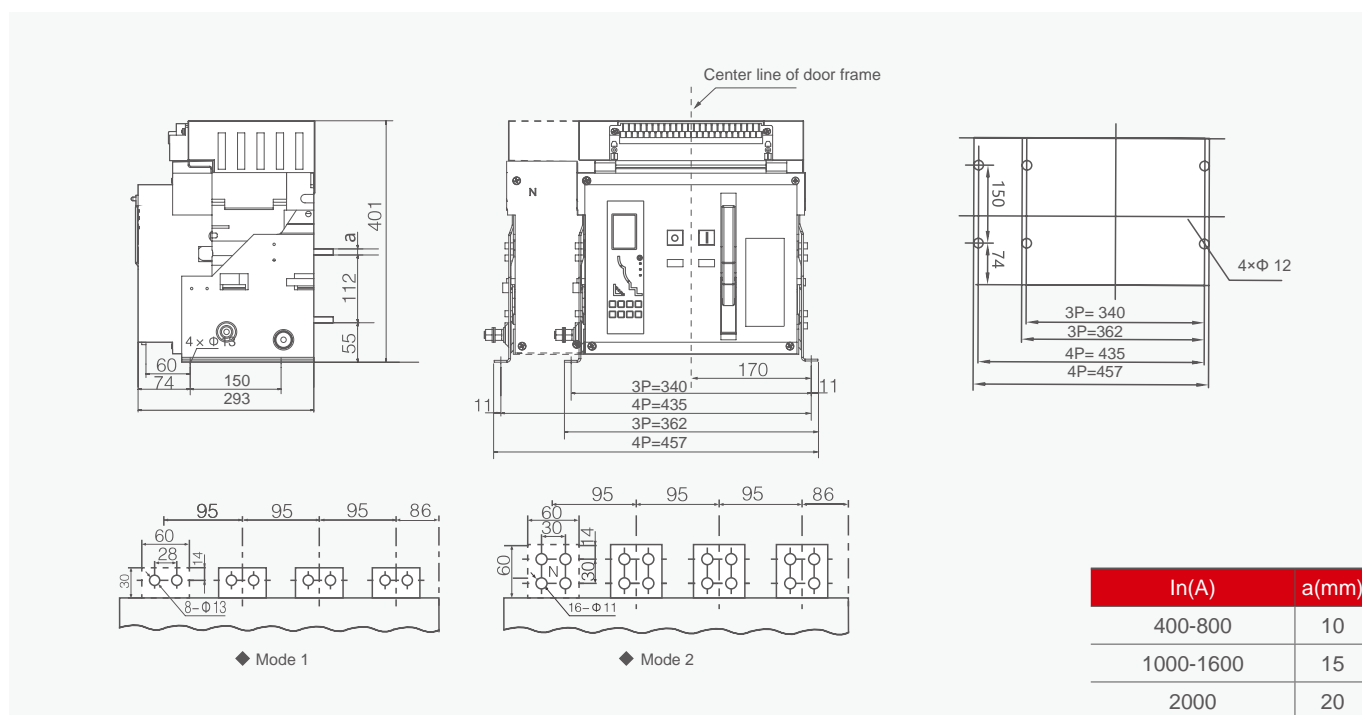
YCW3 Air Circuit Breaker

Overall and mounting dimensions(mm)

YCW3-1600A Fixed circuit-breaker



YCW3-2000A Fixed circuit-breaker



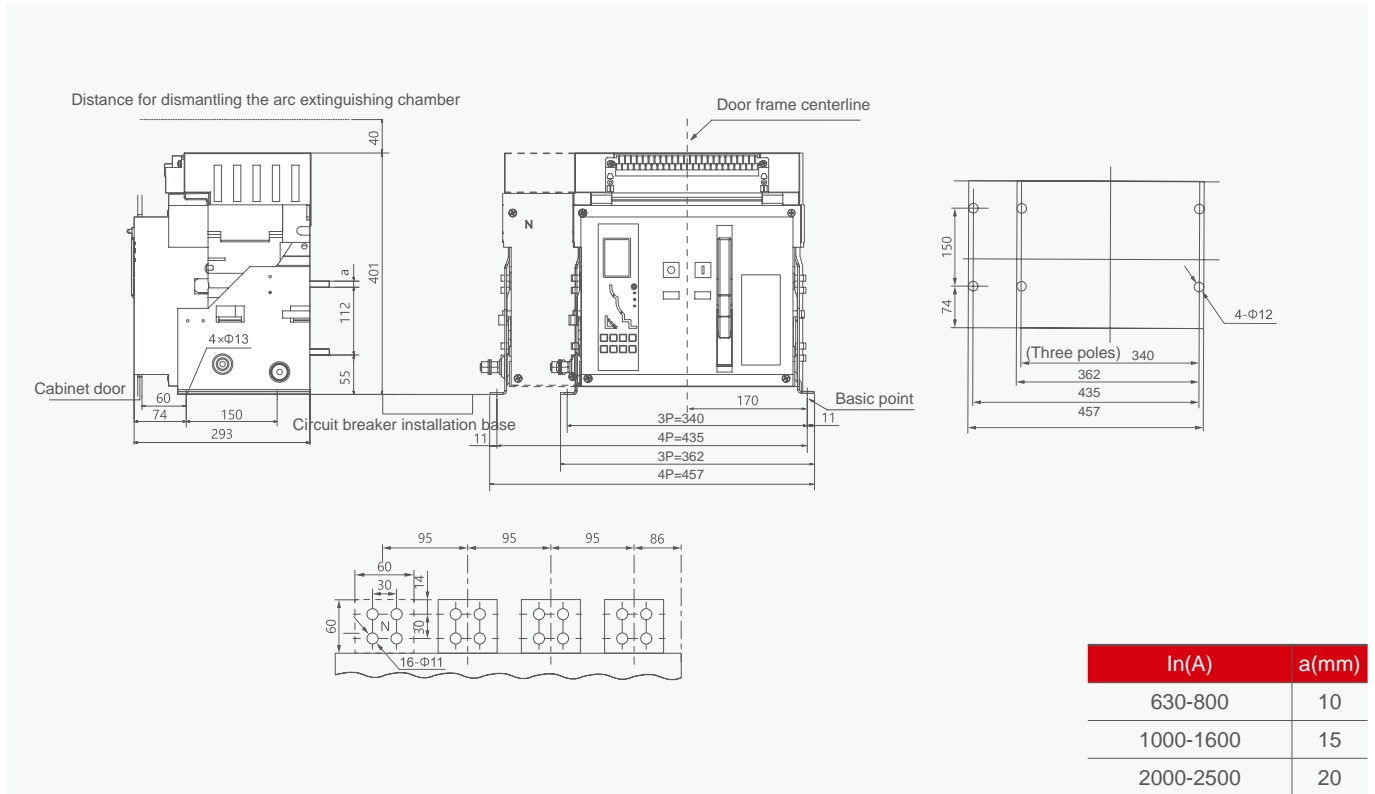
Note: Regular default Mode 1;When using Mode 2, please remark the extended busbar after the model to place an order

Distribution Apparatus

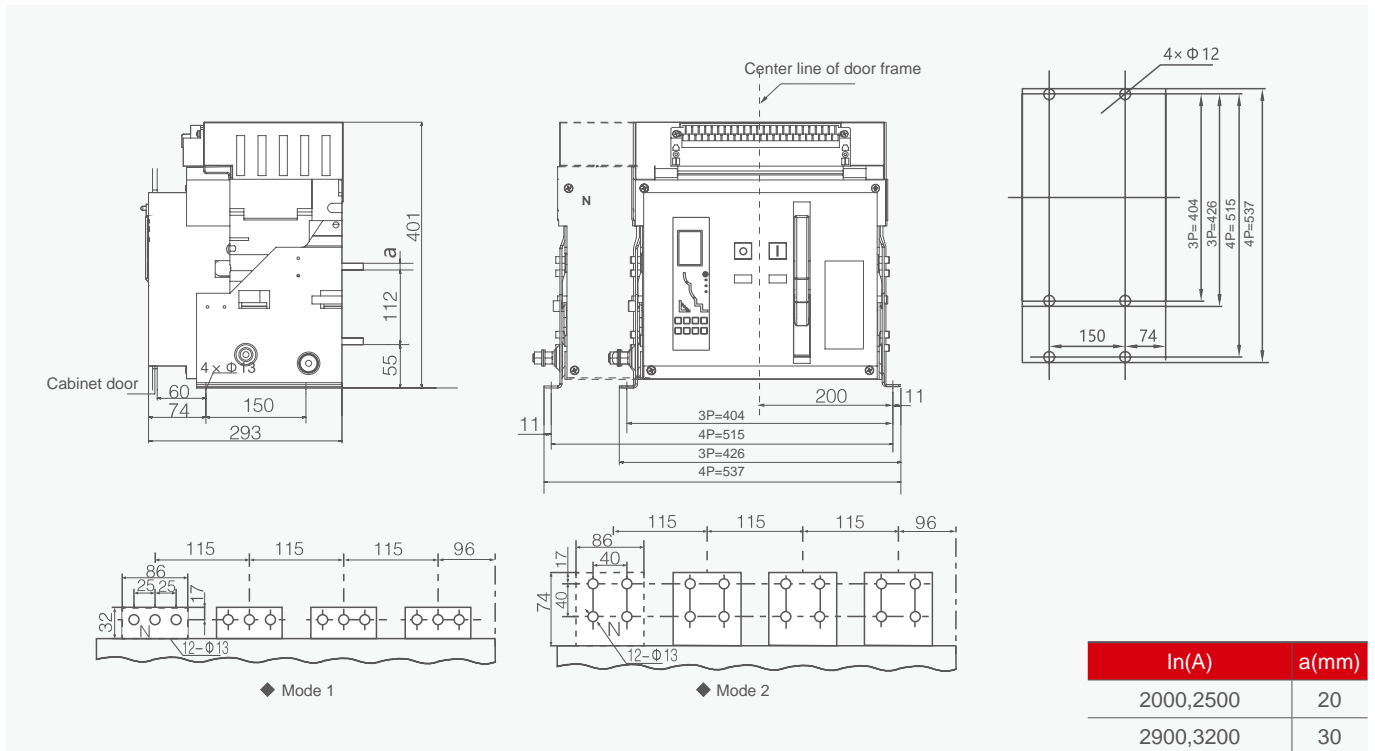
YCW3 Air Circuit Breaker

Overall and mounting dimensions(mm)

YCW3-2500A Fixed circuit-breaker



YCW3-3200A Fixed circuit-breaker



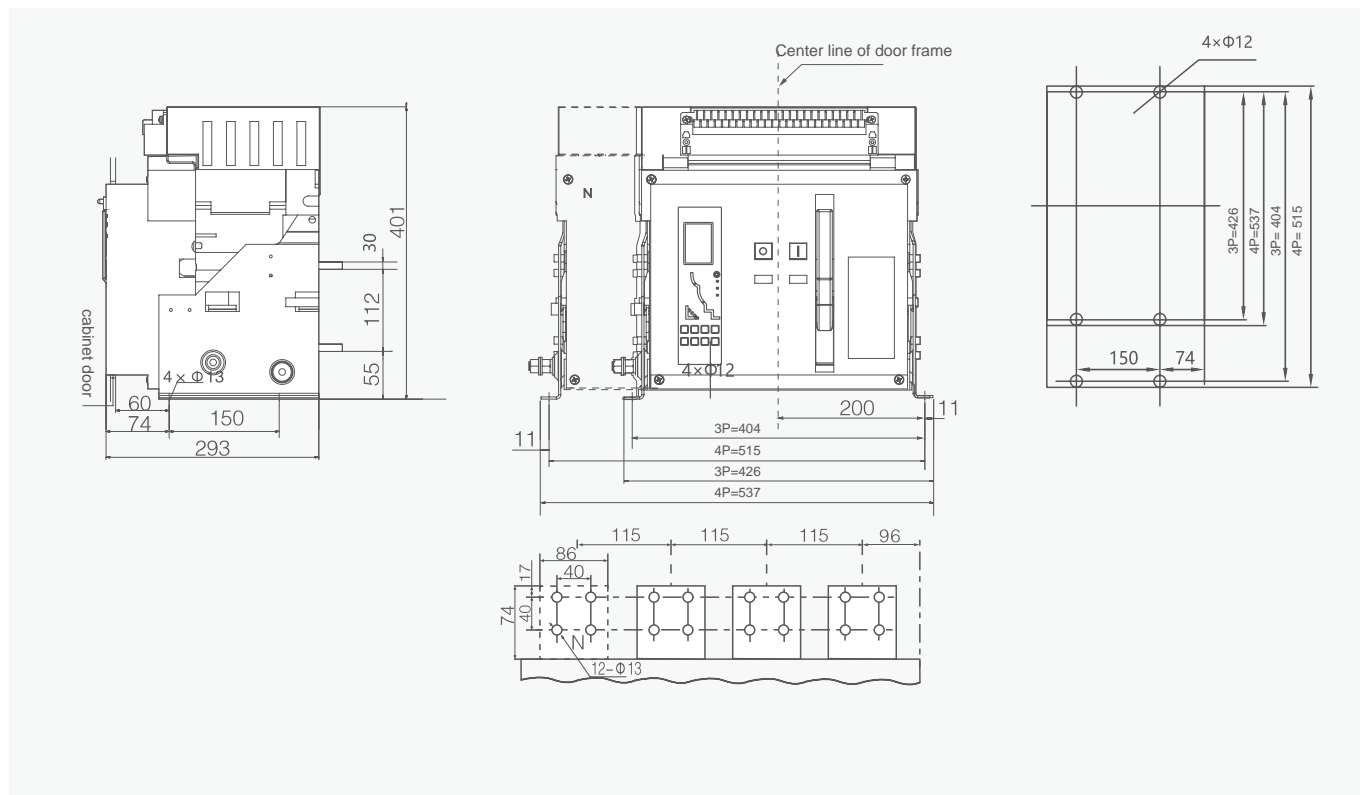
Note: Regular default Mode 1;When using Mode 2, please remark the extended busbar after the model to place an order

B

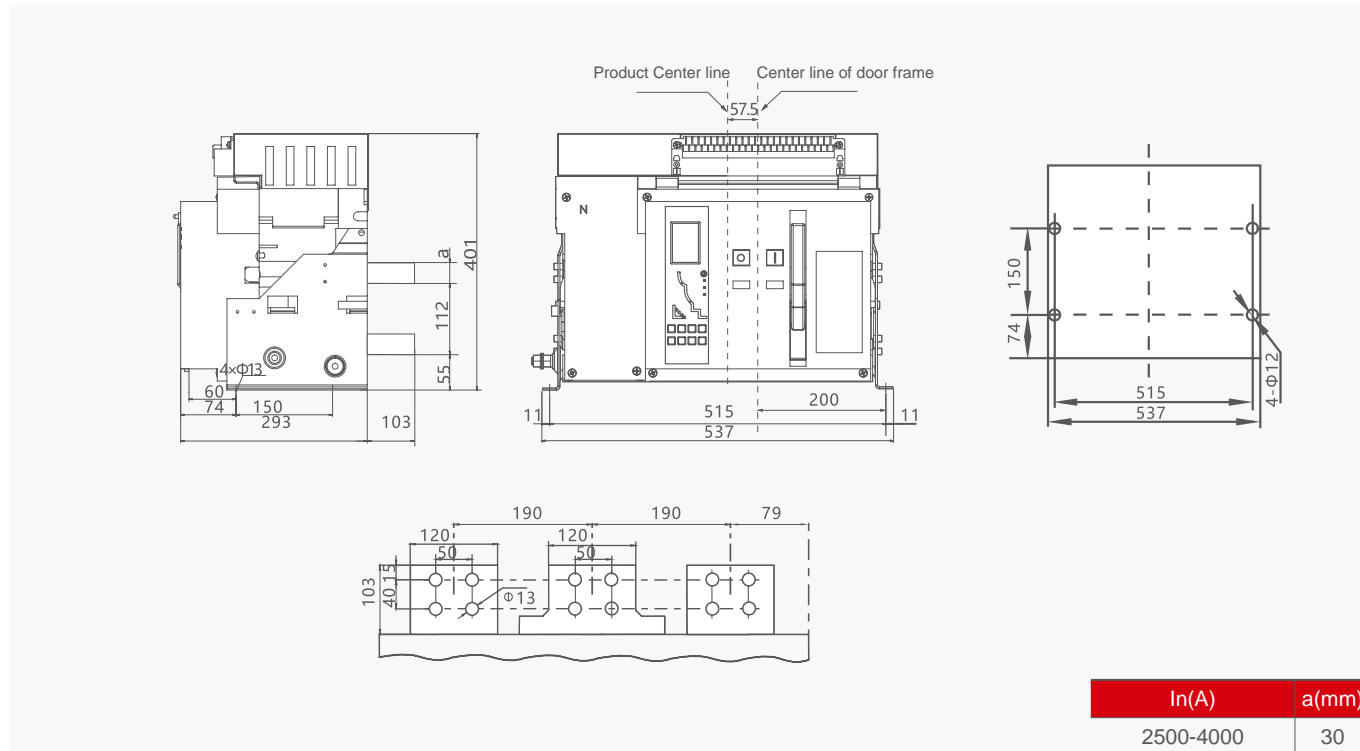
Distribution Apparatus

YCW3 Air Circuit Breaker

YCW3-4000A Fixed circuit-breaker



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

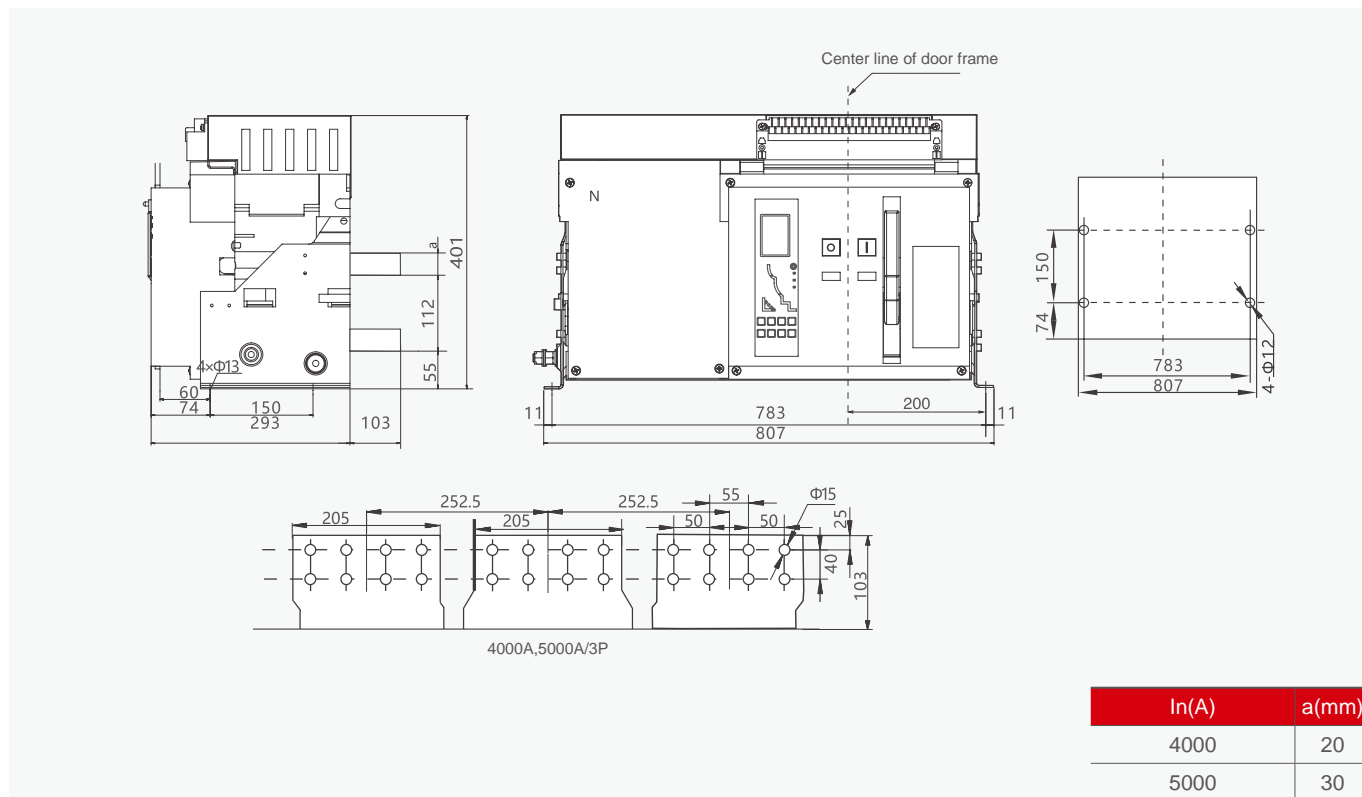


Distribution Apparatus

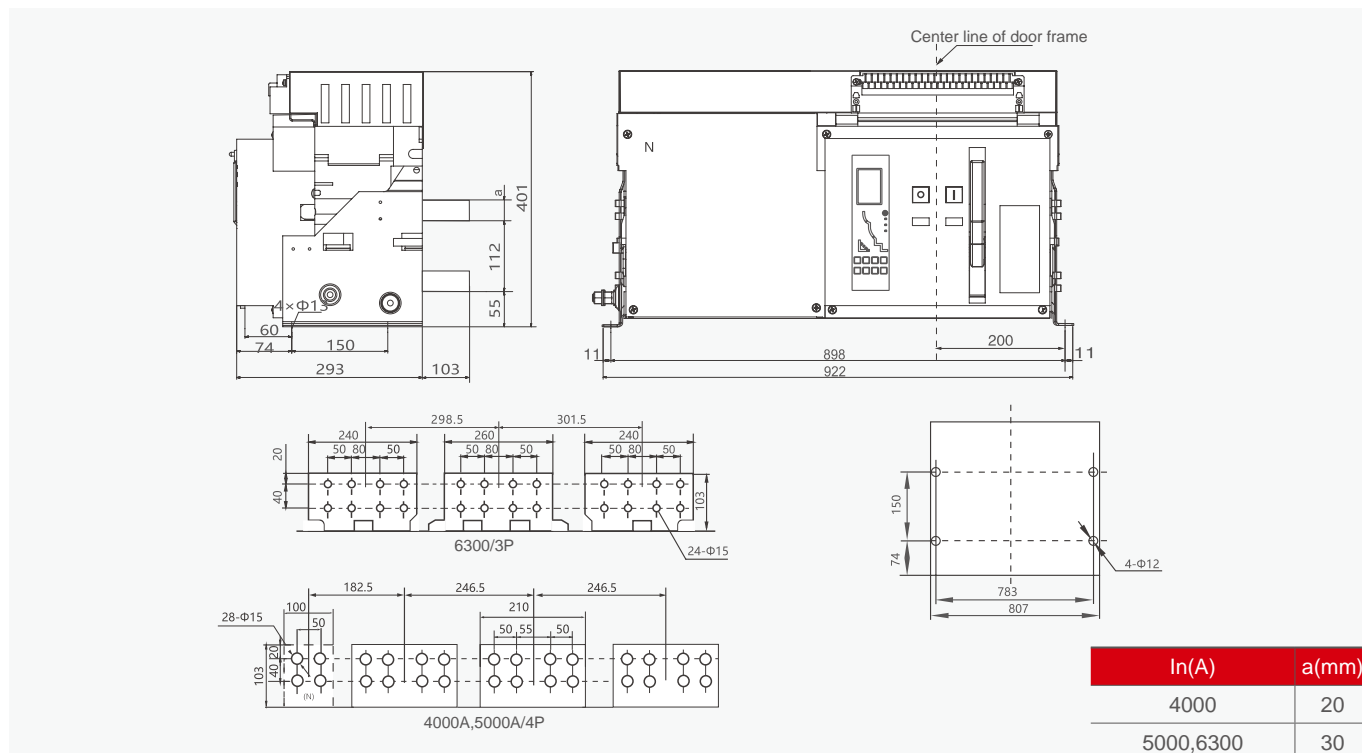
YCW3 Air Circuit Breaker

Overall and mounting dimensions(mm)

YCW3-6300/3P Fixed circuit-breaker



YCW3-6300A Fixed circuit breaker

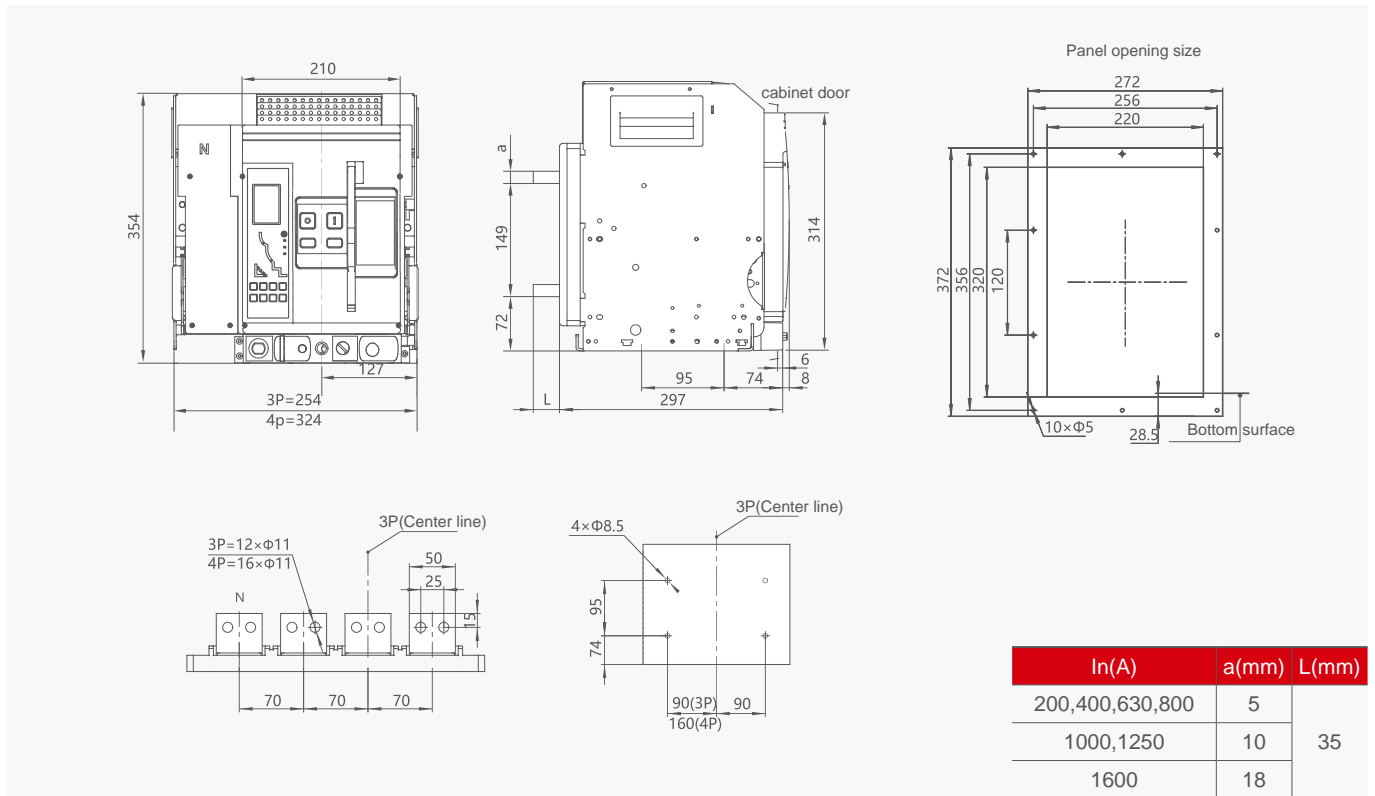


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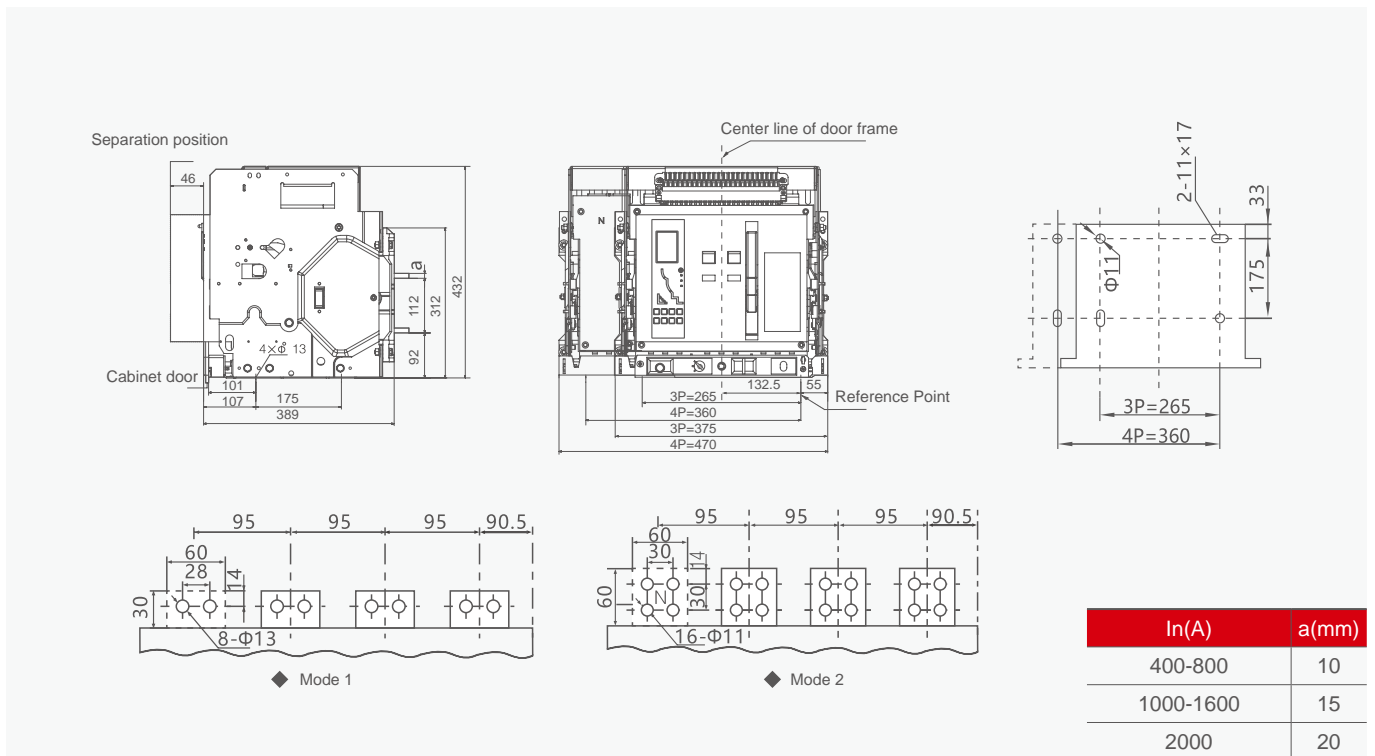
Distribution Apparatus

YCW3 Air Circuit Breaker

YCW3-1600A Drawer circuit breaker



YCW3-2000A Drawer circuit breaker



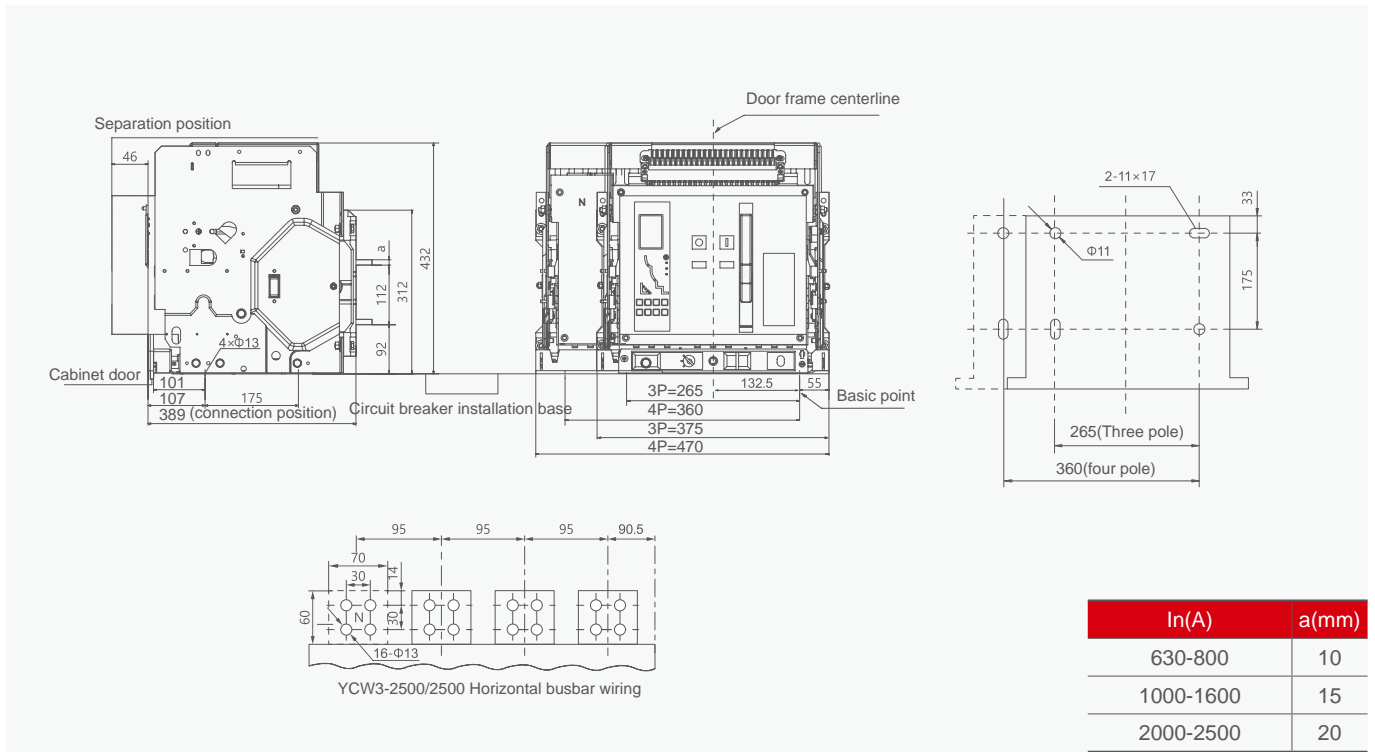
Note: Regular default Mode 1; When using Mode 2, please remark the extended busbar after the model to place an order

Distribution Apparatus

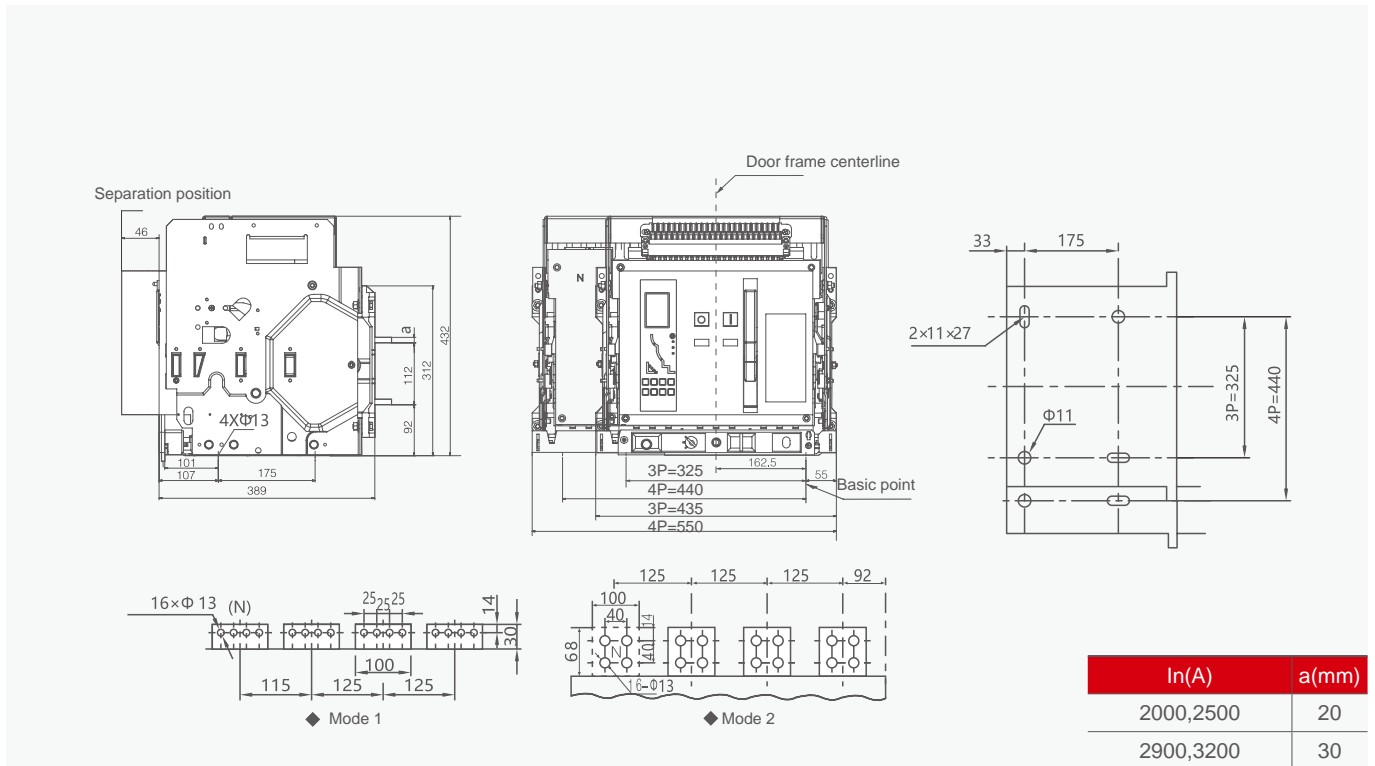
YCW3 Air Circuit Breaker

Overall and mounting dimensions(mm)

YCW3-2500A Drawer circuit breaker



YCW3-3200A Drawer circuit breaker



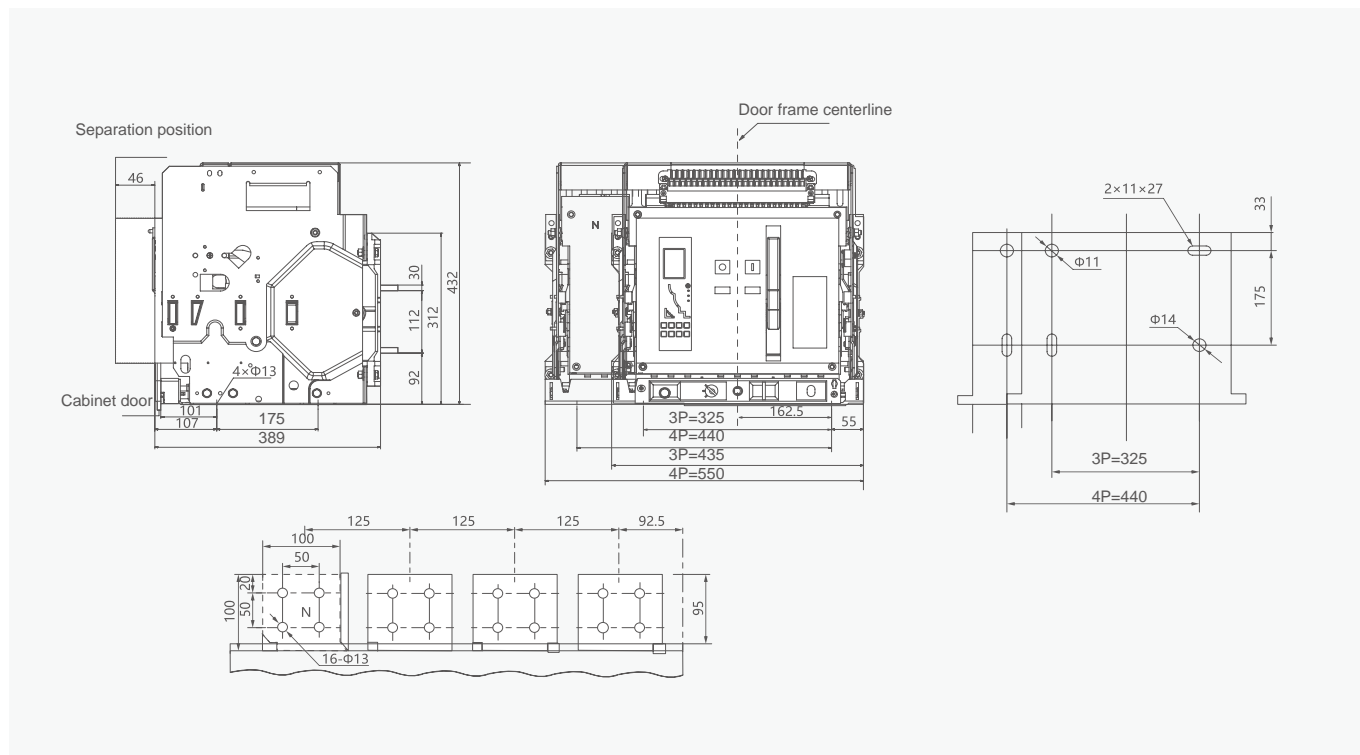
Note: Regular default Mode 1;When using Mode 2, please remark the extended busbar after the model to place an order

B

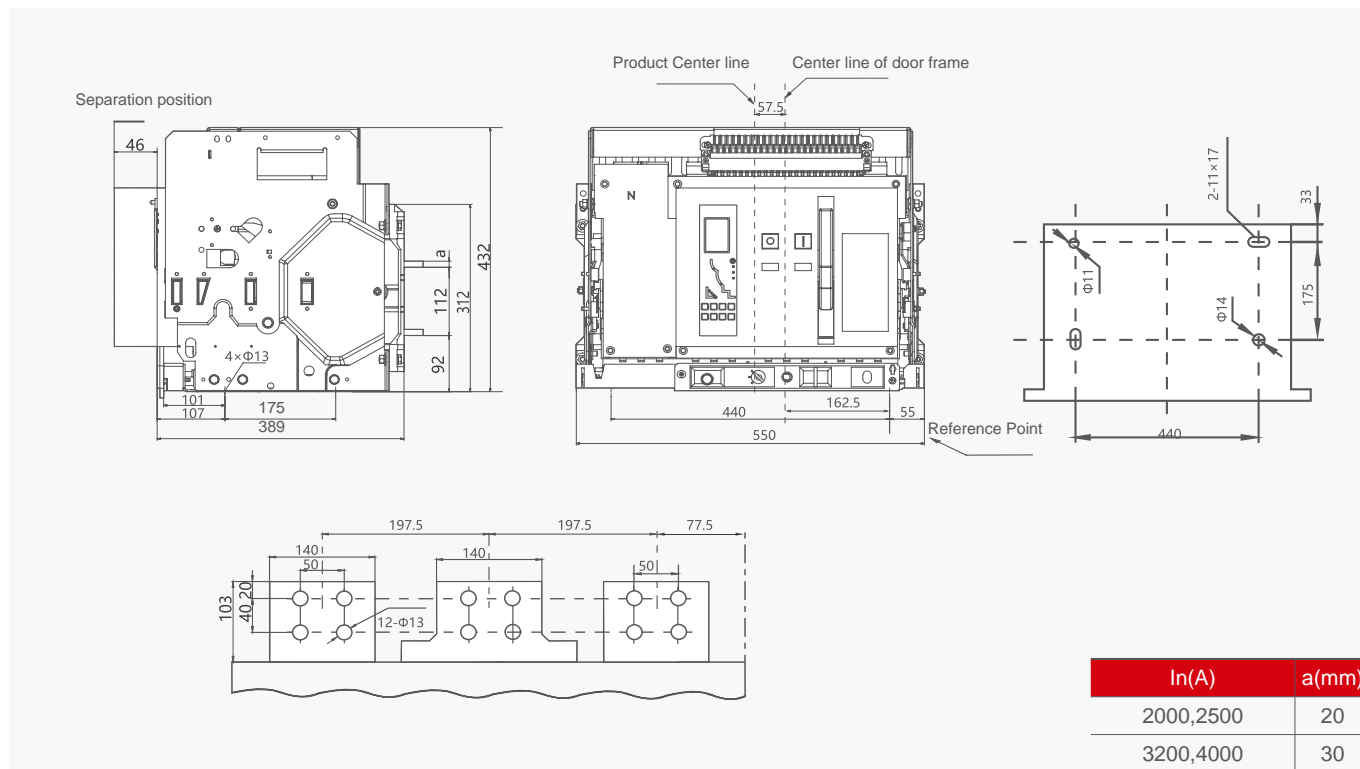
Distribution Apparatus

YCW3 Air Circuit Breaker

YCW3-4000A Drawer circuit breaker



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

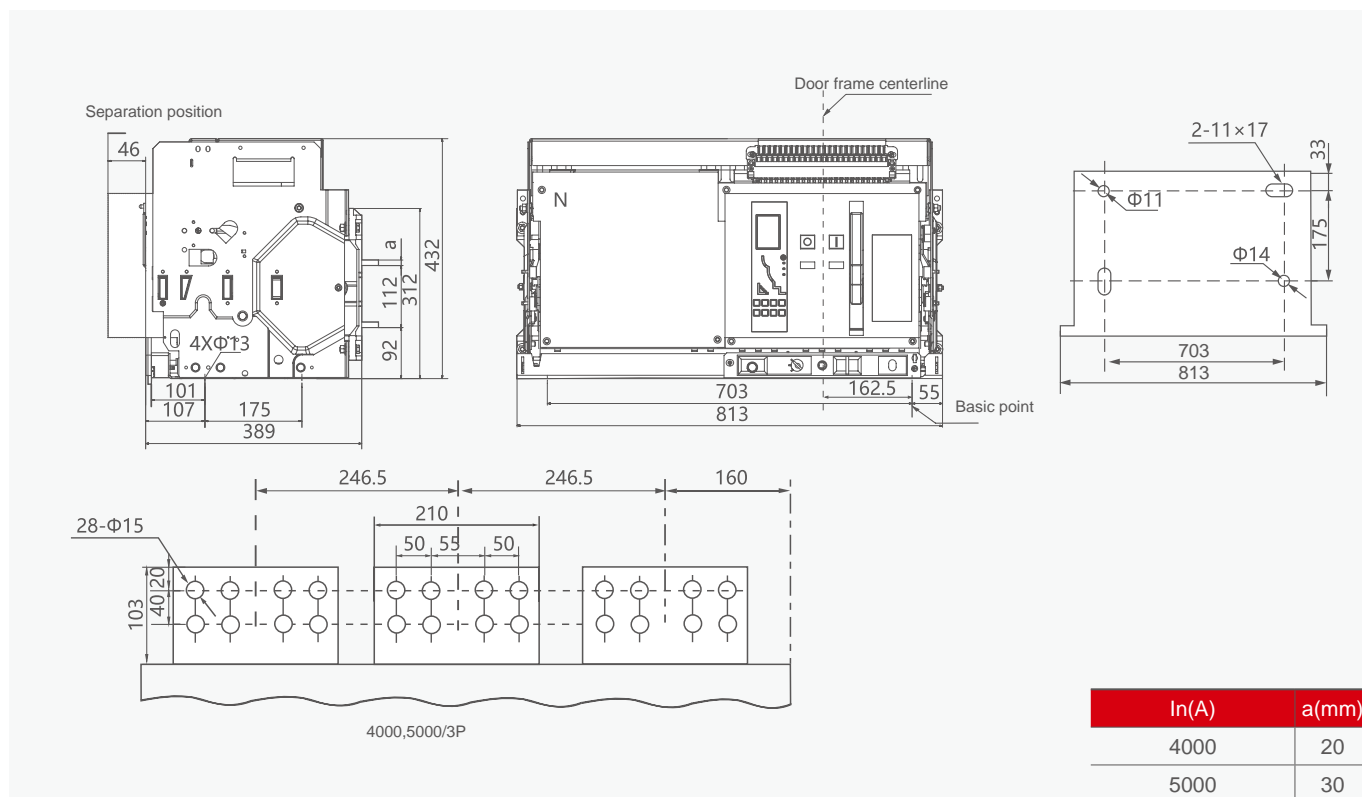


Distribution Apparatus

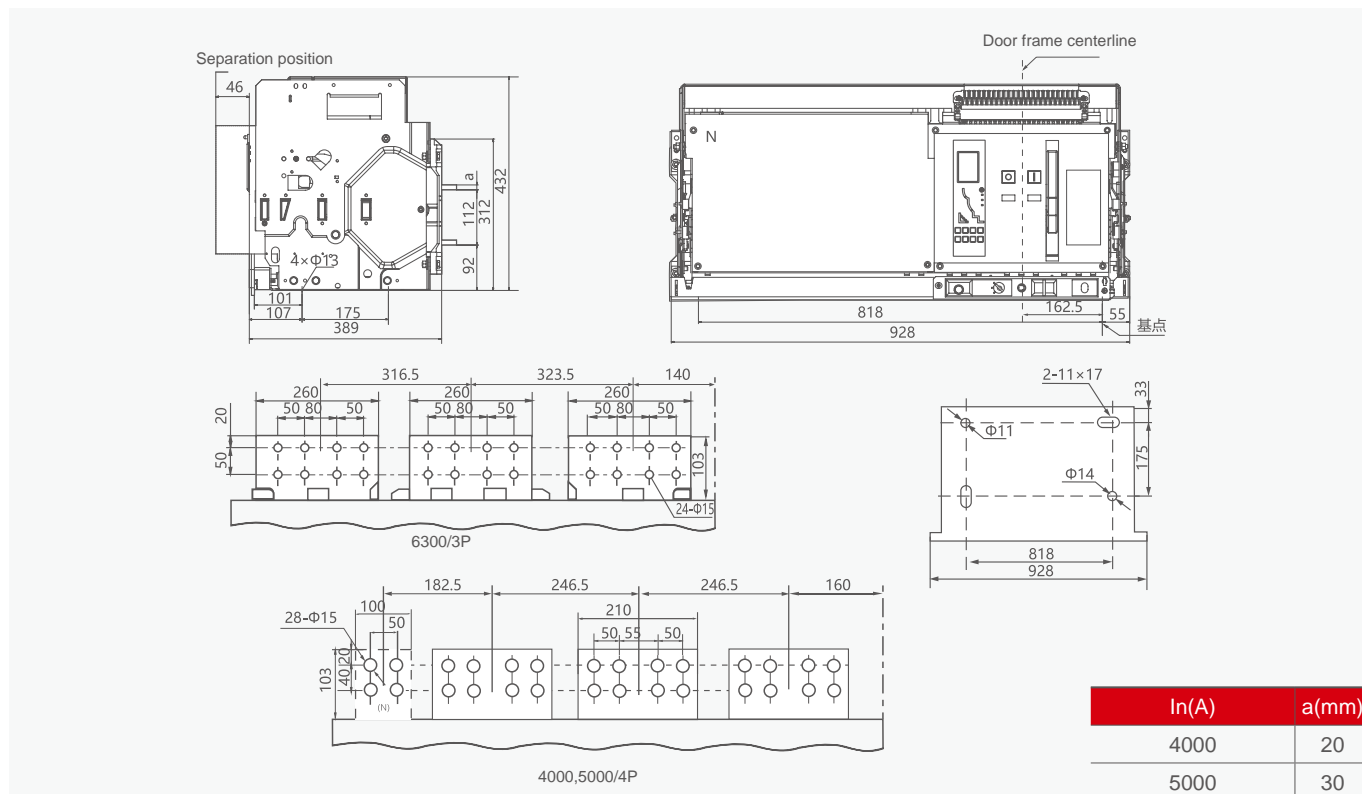
YCW3 Air Circuit Breaker

Overall and mounting dimensions(mm)

YCW3-6300 /3P Drawer circuit breaker



YCW3-6300A Drawer circuit breaker

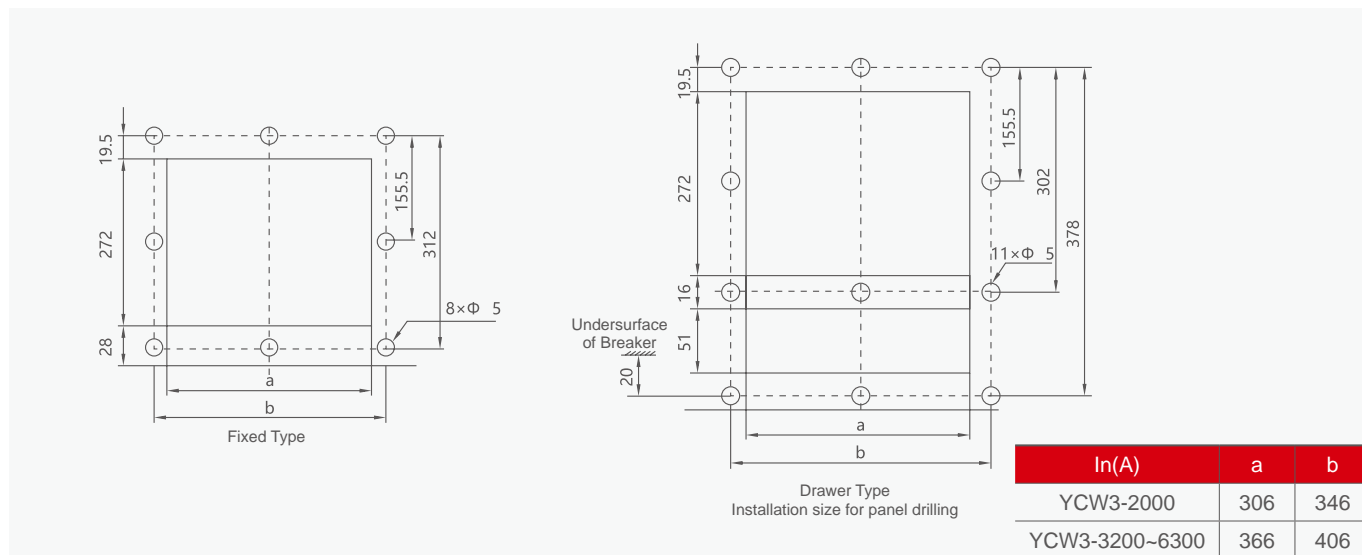


B

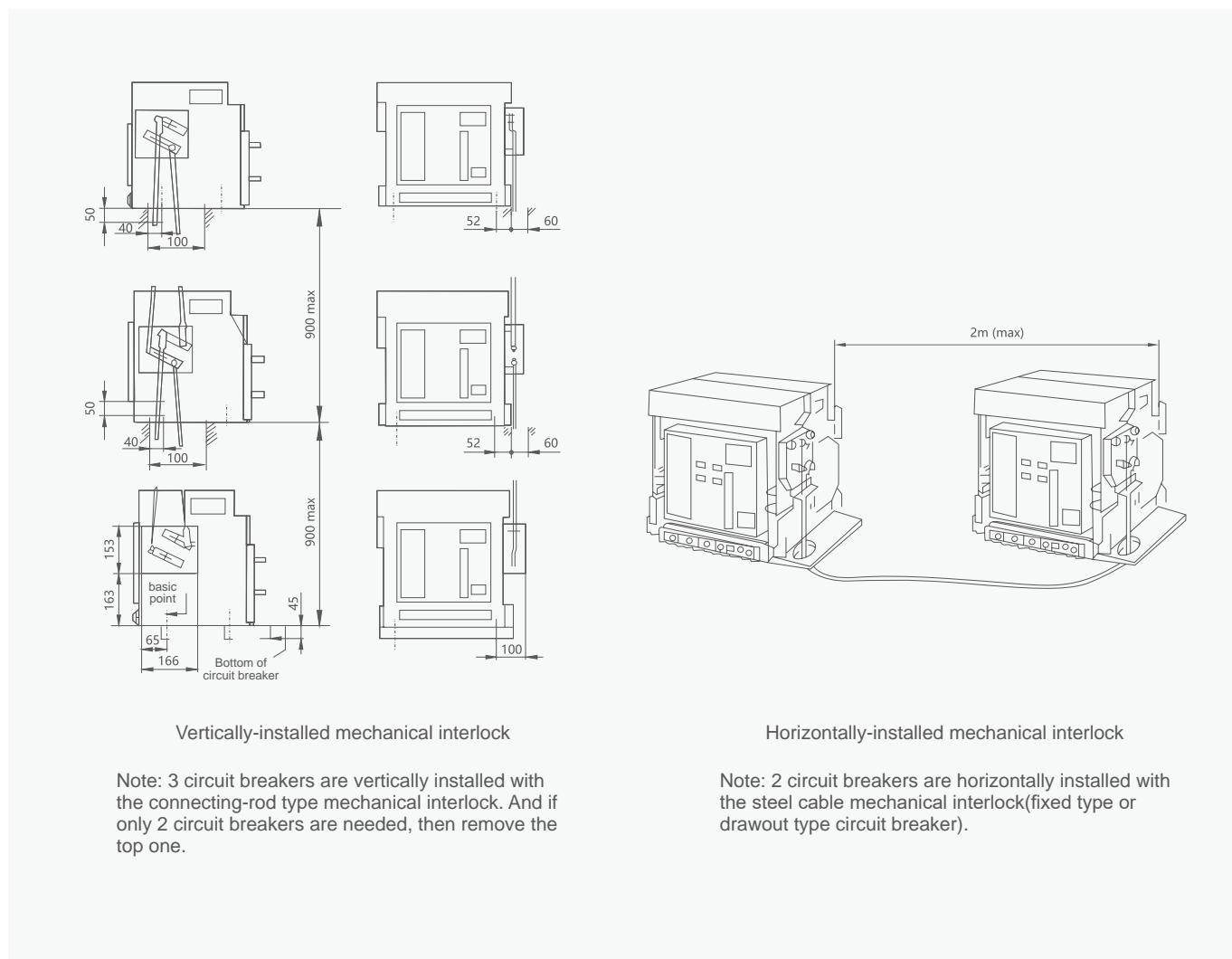
Distribution Apparatus

YCW3 Air Circuit Breaker

Boring dimension of doorcase



Mechanical interlock



Distribution Apparatus

YCW3 Air Circuit Breaker

Ordering information

		Quantity Set			
Model	Available type and rated current	Rated voltage	<input type="checkbox"/> AC400V	<input type="checkbox"/> AC690V	
YCW3-1600	<input type="checkbox"/> 200 <input type="checkbox"/> 400 <input type="checkbox"/> 600 <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"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles	
YCW3-2000	<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"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles	
YCW3-2500	<input type="checkbox"/> 630 <input type="checkbox"/> 800 <input type="checkbox"/> 1000 <input type="checkbox"/> 1250 <input type="checkbox"/> 1600 <input type="checkbox"/> 2000 <input type="checkbox"/> 2500	Quantity Set	<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles	
YCW3-3200	<input type="checkbox"/> 2500 <input type="checkbox"/> 2900 <input type="checkbox"/> 3200	Quantity Set	<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles	
YCW3-4000	<input type="checkbox"/> 3200 <input type="checkbox"/> 3600 <input type="checkbox"/> 4000	Quantity Set	<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles	
YCW3-6300	<input type="checkbox"/> 4000 <input type="checkbox"/> 5000 <input type="checkbox"/> 6300	Quantity Set	<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <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			
Standard configuration	<input type="checkbox"/> Shunt release	<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"/> 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			
Optional configuration	<input type="checkbox"/> Under-voltage release	<input type="checkbox"/> AC 220V <input type="checkbox"/> AC 380V			
	<input type="checkbox"/> Auxiliary contact	<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 only 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 as usual.
3. The operational function of the intelligent controller and special requirement require additional cost.

B

Distribution Apparatus

YCW6 Air Circuit Breaker



General

YCW6 series intelligent air circuit breakers are applied for AC 50/60Hz, rated voltage 400V, 690V and rated current 200A to 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.

Standards. IEC60947-1, IEC60947-2

Type designation

YCW6 - 2000 / 3 1000A + Installation + Control unit + Common use accessory + Optional accessory

Type	Frame Size Current	Number of poles	Rated current
YCW6 -	2000	3P	1000A
ACB	1000,1600,2000,3200,4000,6300	3P: 3 pole 4P: 4 pole	1000: 200A, 400A, 630A,800A,1000A 1600: 630A, 800A, 1000A, 1250A, 1600A 2000: 630A, 800A, 1000A, 1250A, 1600A, 2000A; 3200: 2000A, 2500A, 2900A, 3200A; 4000: 4000A; 6300: 4000A, 5000A, 6300A;

Installation	Control unit
Draw out type-horizontal	M type
Fixed type-horizontal, vertical Draw out type-horizontal, vertical	M type (default) H type

Common use accessory	Optional accessory
Common use accessory	Optional 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	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

Distribution Apparatus

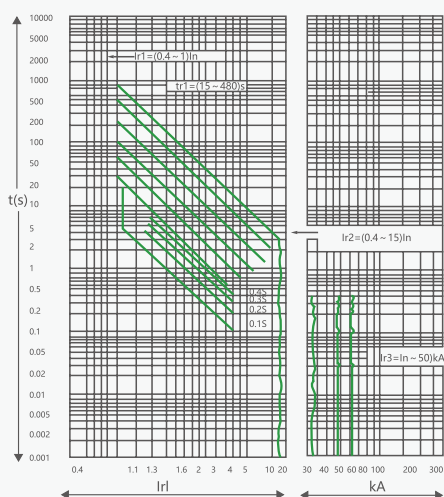
YCW6 Air Circuit Breaker

Operating conditions

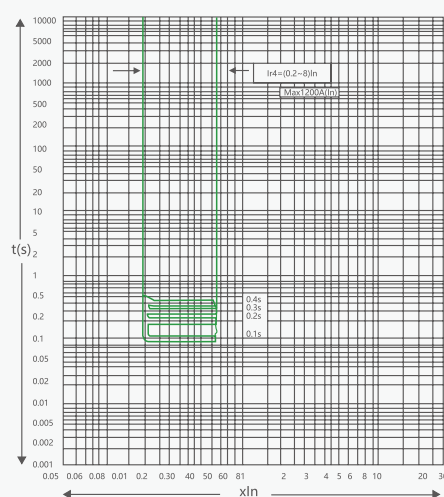
Item	Description
Ambient temperature	-5°C~+40°C (except special order products)
Altitude	≤2000m
Pollution grade	3
Safety category	Main circuit and undervoltage tripping coil is IV, other auxiliary and control circuit is III
Installation position	Vertical installed, tilt not exceed 5 degree
Environmental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



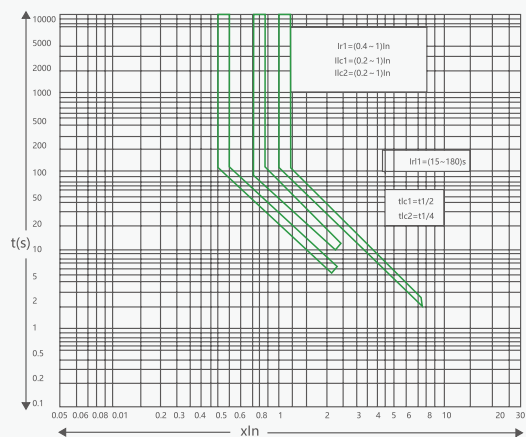
Curve



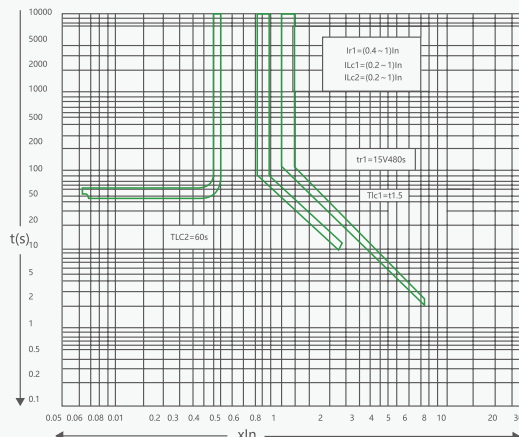
YCW6-1000-6300 Over current release time/current characteristic curve



YCW6-1000-6300 Earth fault protection time/current characteristic curve



YCW6-Load monitoring (1) time/current characteristic curve



YCW6-Load monitoring (2) time/current characteristic curve

Distribution Apparatus

YCW6 Air Circuit Breaker

Technical data

Type			YCW6-1000	YCW6-1600	YCW6-2000	YCW6-3200	YCW6-4000	YCW6-6300	
Pole			3P, 4P	3P, 4P	3P, 4P	3P, 4P	3P	3P, 4P	
Using category			B	B	B	B	B	B	
Rated current In		A	200,400,630, 800,1000	630, 800, 1000, 1250, 1600	630, 800, 1000 1250,1600,2000	2000, 2500 2900, 3200	4000	4000, 5000, 6300	
Rated frequency		Hz	50/60						
Rated operation voltage Ue		V	400, 690	400, 690	400, 690	400, 690	400, 690	400, 690	
Rated insulation voltage Ui		V	800	800	800	800	800	800	
Arcing distance		mm	0	0	0	0	0	0	
Rated impulse withstanding voltage Uimp		V	8000	8000	8000	8000	8000	8000	
Rated limiting short circuit breaking capacity Icu (O-t-CO)	400V	kA	42	65	80	80	100	120	
	690V	kA	25	50	50	65	65	85	
Rated operation short circuit breaking capacity Ics (O-t-CO)	400V	kA	30	50	50	80	80	100	
	690V	kA	20	40	40	50	50	75	
Rated short time withstanding current Icw (O-t-CO, AC400V 1S)		kA	30	50	50	65	65	85	
Operation life	Electrical	times	1000	1000	1000	500	500	500	
	Mechanical	times	10000	10000	10000	5000	5000	5000	
Full breaking time		ms	20~30						
Full closing time		ms	55~70						
Dimensions (LxWxH)	3P fixed type	mm	266x289x316	260x240x310	362x323x402	422x323x402	537x364x402		
	3P draw out type	mm	284x375x362	275x330x345	375x461x452	435x471x452	550x489x432	813x493x432	
	4P fixed type	mm	336x289x316	330x240x310	457x323x402	537x323x402			
	4P draw out type	mm	354x375x362	345x330x345	470x461x452	550x471x452		928x493x432	
Approximate weight	3P fixed type	kg	22	22	41	55	55		
	3P draw out type	kg	38	38	71	95	95	245	
	4P fixed type	kg	26.5	26.5	51.5	65			
	4P draw out type	kg	55	55	86	115		260	

Distribution Apparatus

YCW6 Air Circuit Breaker

Overload protection data

Overload protection		YCW6-1000-6300					
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		YCW6-1000-6300					
Adjust scope Ir1 Ir2		(0.4-15)In (pole difference 2%)					
Delay time tr2	ms	100, 200, 300, 400					
Accuracy	%	±15					

Short circuit, instantaneous		YCW6-1000	YCW6-1600	YCW6-2000	YCW6-3200	YCW6-4000	YCW6-6300
Adjust scope Ir1 Ir3		1In-30kA	1In-50kA	1In-50kA	1In-75kA	1In-75kA	1In-100kA
Accuracy	%	±15	±15	±15	±15	±15	±15

Load monitoring output		YCW6-1000-6300					
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		60 (set time limit)					
	%	±10					

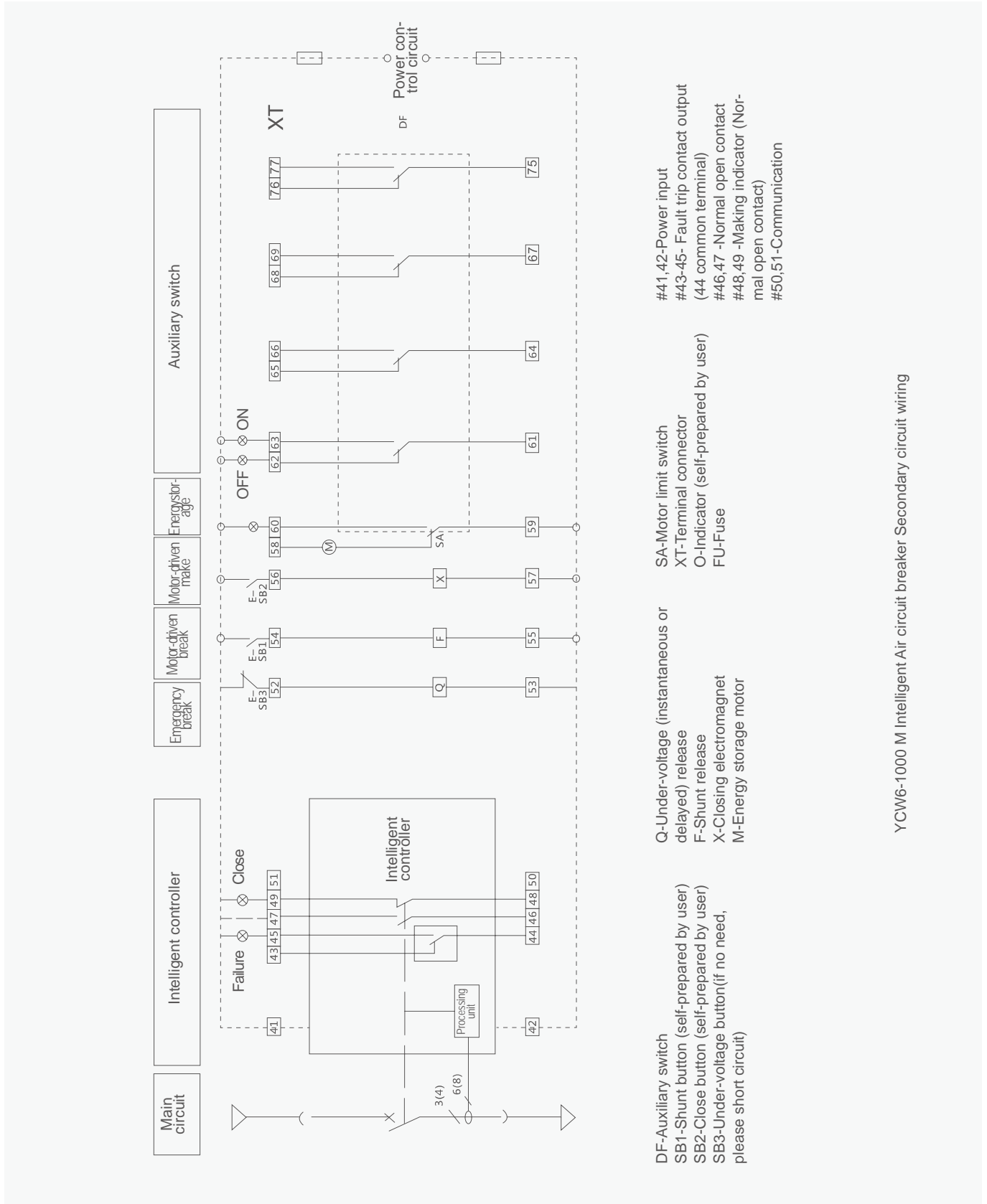
B

Distribution Apparatus

YCW6 Air Circuit Breaker

Secondary circuit wiring

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

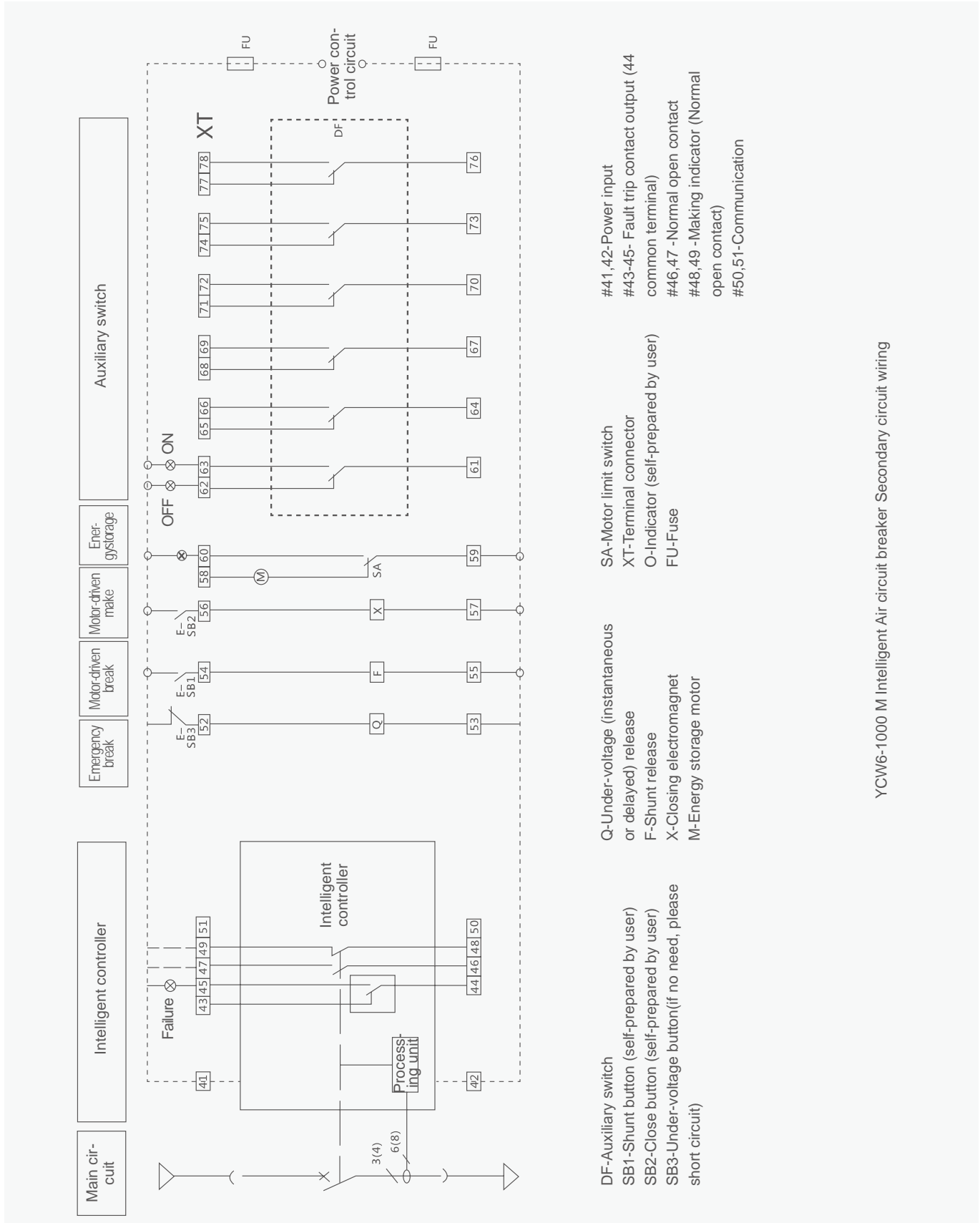


YCW6-1000 M Intelligent Air circuit breaker Secondary circuit wiring

Distribution Apparatus

YCW6 Air Circuit Breaker

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

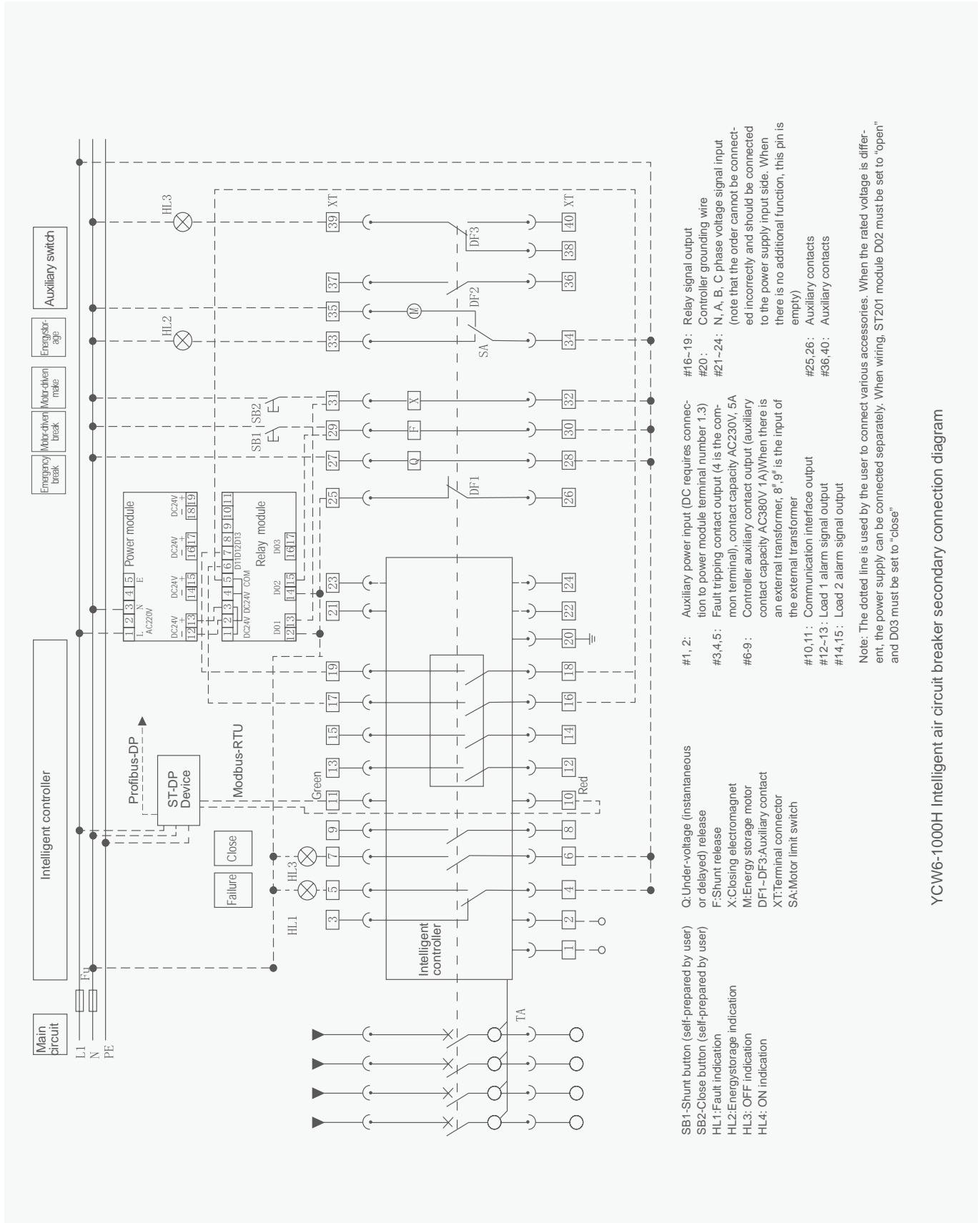


YCW6-1000 M Intelligent Air circuit breaker Secondary circuit wiring

Distribution Apparatus

YCW6 Air Circuit Breaker

H Type Intelligent circuit wiring

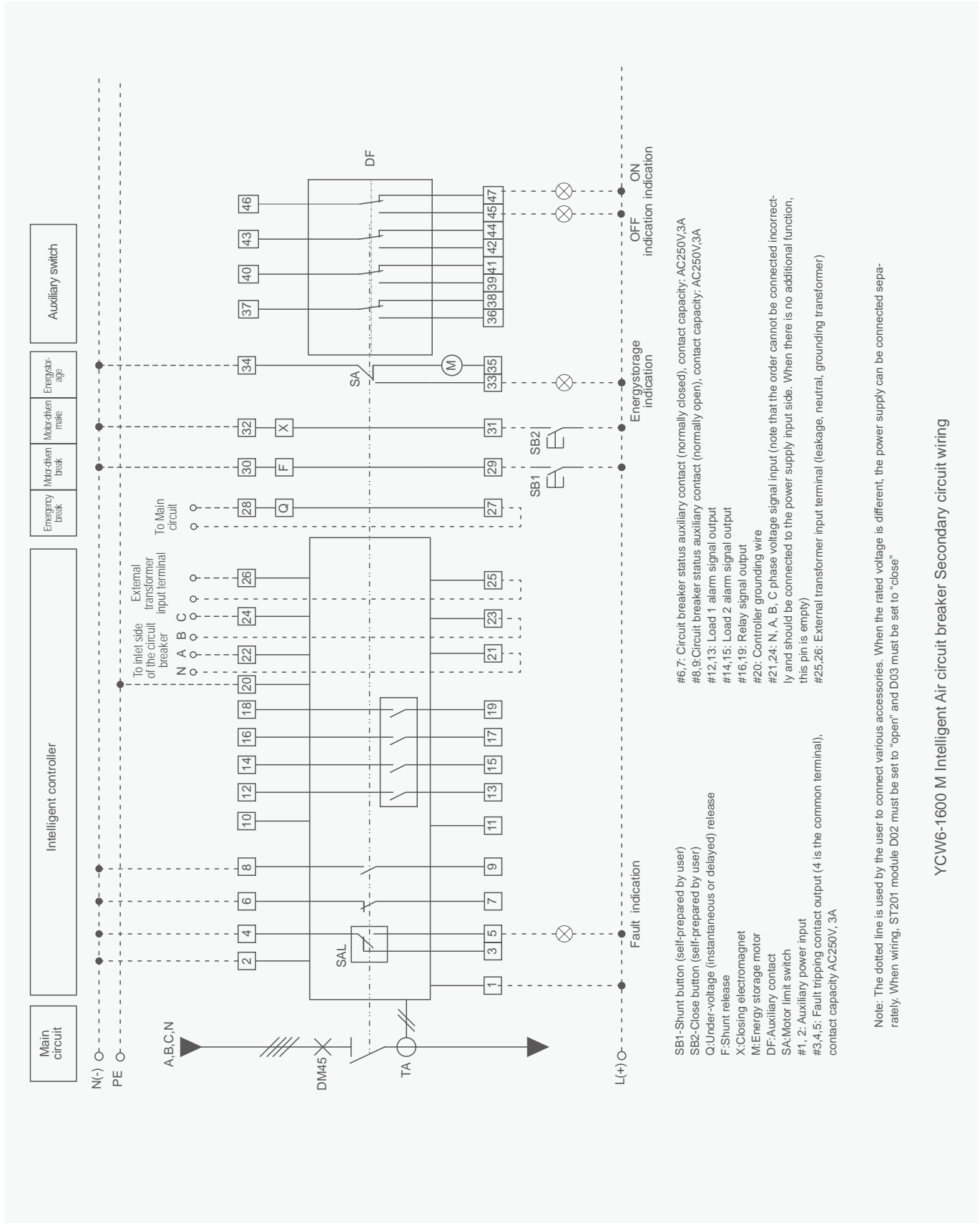


YCW6-1000H Intelligent air circuit breaker secondary connection diagram

Distribution Apparatus

YCW6 Air Circuit Breaker

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

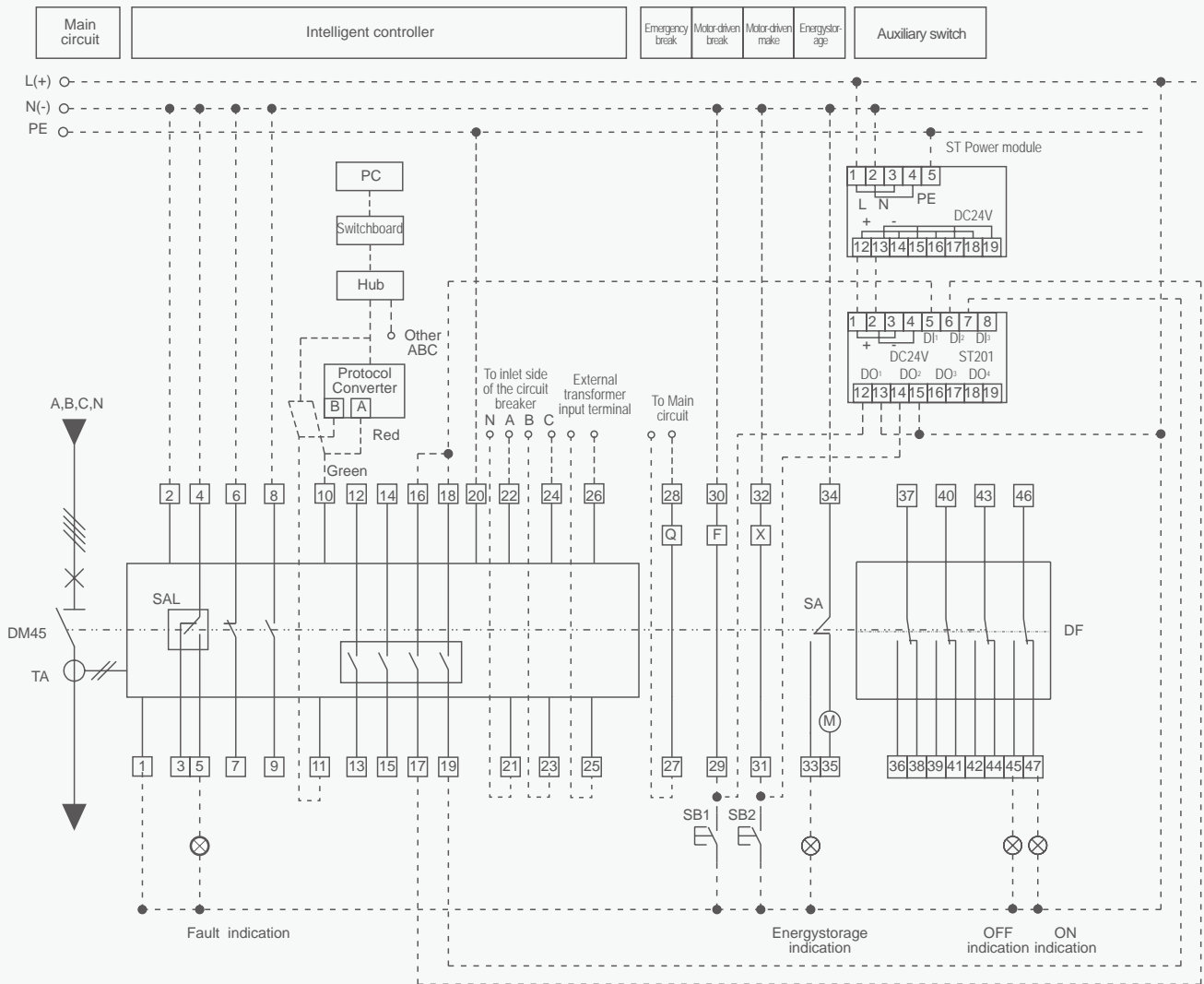


YCW6-1600 M Intelligent Air circuit breaker Secondary circuit wiring

Distribution Apparatus

YCW6 Air Circuit Breaker

H Type Intelligent circuit wiring



SB1:Shunt button (self-prepared by user)
 SB2:Close button (self-prepared by user)
 Q:Under-voltage (instantaneous or delayed) release
 F:Shunt release
 X:Closing electromagnet
 M:Energy storage motor
 DF:Auxiliary contact
 SA:Motor limit switch
 #1, 2: Auxiliary power input
 #3, 4,5: Fault tripping contact output (4 is the common terminal), contact capacity AC250V, 3A

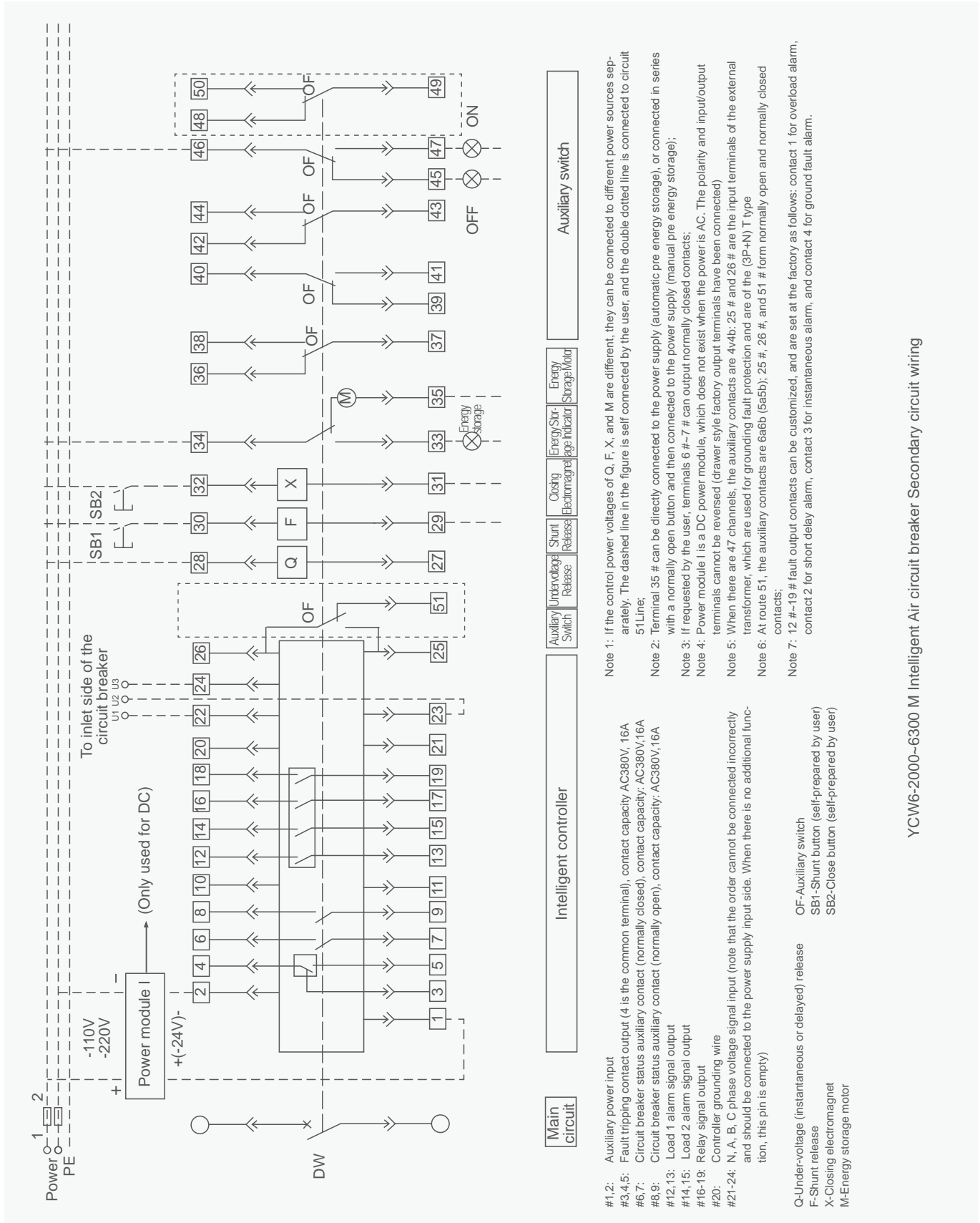
#6,7: Circuit breaker status auxiliary contact (normally closed), contact capacity: AC250V,3A
 #8,9:Circuit breaker status auxiliary contact (normally open), contact capacity: AC250V,3A
 #12,13: Load 1 alarm signal output
 #14,15: Load 2 alarm signal output
 #16,19: Relay signal output
 #20: Controller grounding wire
 #21,24: N, A, B, C phase voltage signal input (note that the order cannot be connected incorrectly and should be connected to the power supply input side. When there is no additional function, this pin is empty)
 #25,26: External transformer input terminal (leakage, neutral, grounding transformer)

Note: The dotted line is used by the user to connect various accessories. When the rated voltage is different, the power supply can be connected separately. When wiring, ST201 module D02 must be set to "open" and D03 must be set to "close"

YCW6-1600 H Intelligent Air circuit breaker Secondary circuit wiring

Distribution Apparatus

YCW6 Air Circuit Breaker



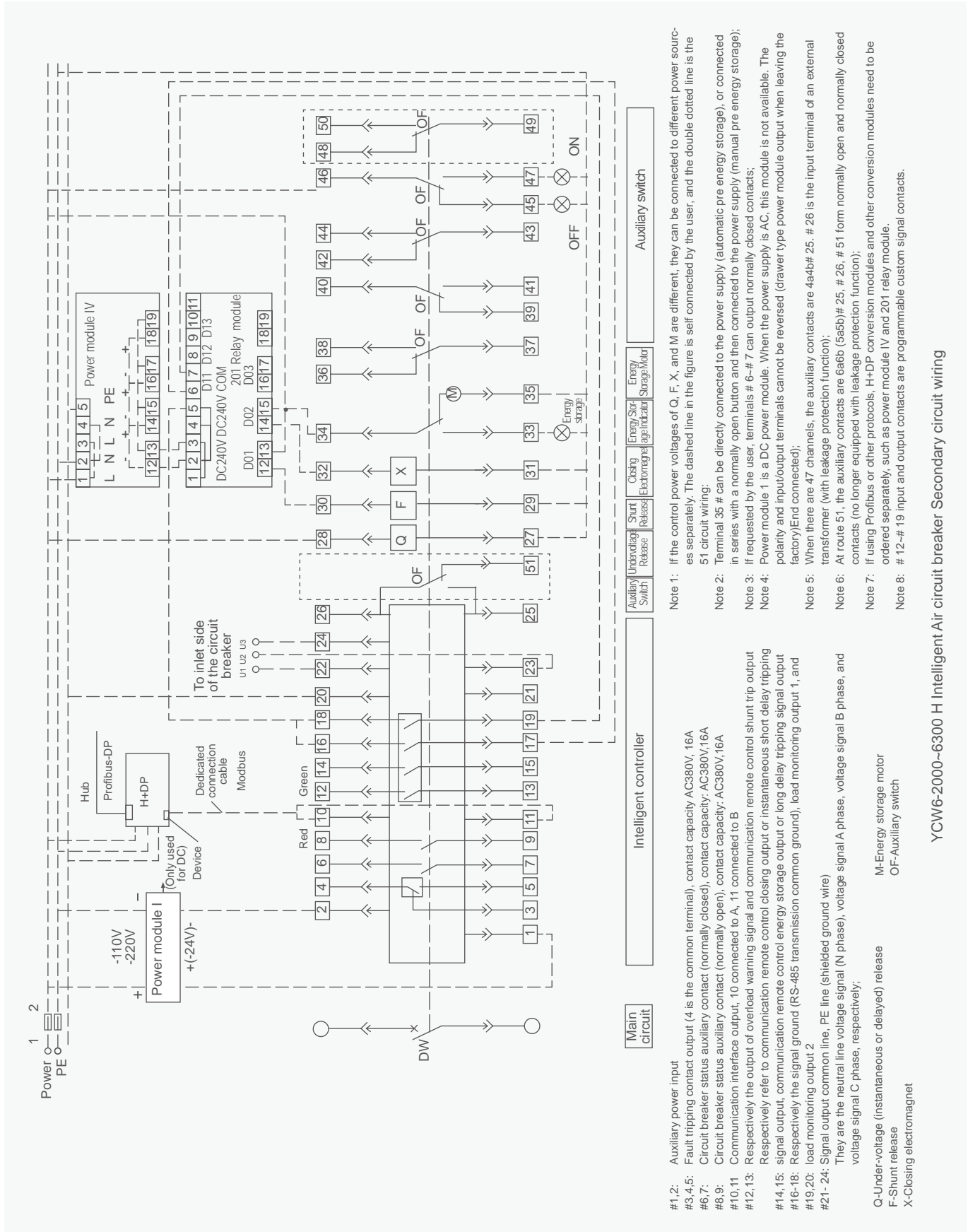
- #1,2: Auxiliary power input
 - #3,4,5: Fault tripping contact output (4 is the common terminal), contact capacity AC380V, 16A
 - #6,7: Circuit breaker status auxiliary contact (normally closed), contact capacity: AC380V,16A
 - #8,9: Circuit breaker status auxiliary contact (normally open), contact capacity: AC380V,16A
 - #12,13: Load 1 alarm signal output
 - #14,15: Load 2 alarm signal output
 - #16-19: Relay signal output
 - #20: Controller grounding wire
 - #21-24: N, A, B, C phase voltage signal input (note that the order cannot be connected incorrectly and should be connected to the power supply input side. When there is no additional function, this pin is empty)
- Q-Under-voltage (instantaneous or delayed) release
 F-Shunt release
 X-Closing electromagnet
 M-Energy storage motor
- OF-Auxiliary switch
 SB1-Shunt button (self-prepared by user)
 SB2-Close button (self-prepared by user)
- Note 1: If the control power voltages of Q, F, X, and M are different, they can be connected to different power sources separately. The dashed line in the figure is self connected by the user, and the double dotted line is connected to circuit 51Line.
- Note 2: Terminal 35 # can be directly connected to the power supply (automatic pre energy storage), or connected in series with a normally open button and then connected to the power supply (manual pre energy storage);
- Note 3: If requested by the user, terminals 6 #-7 # can output normally closed contacts;
- Note 4: Power module I is a DC power module, which does not exist when the power is AC. The polarity and input/output terminals cannot be reversed (drawer style factory output terminals have been connected)
- Note 5: When there are 47 channels, the auxiliary contacts are 4v4b; 25 # and 26 # are the input terminals of the external transformer, which are used for grounding fault protection and are of the (3P+N) T type
- Note 6: At route 51, the auxiliary contacts are 6a6b (6a5b); 25 #, 26 #, and 51 # form normally open and normally closed contacts;
- Note 7: 12 #-19 # fault output contacts can be customized, and are set at the factory as follows: contact 1 for overload alarm, contact 2 for short delay alarm, contact 3 for instantaneous alarm, and contact 4 for ground fault alarm.

YCW6-2000~6300 M Intelligent Air circuit breaker Secondary circuit wiring



Distribution Apparatus

YCW6 Air Circuit Breaker



- Note 1:** If the control power voltages of Q, F, X, and M are different, they can be connected to different power sources separately. The dashed line in the figure is self connected by the user, and the double dotted line is the 51 circuit wiring.
- Note 2:** Terminal 35 # can be directly connected to the power supply (automatic pre energy storage), or connected in series with a normally open button and then connected to the power supply (manual pre energy storage);
- Note 3:** If requested by the user, terminals # 6-# 7 can output normally closed contacts;
- Note 4:** Power module 1 is a DC power module. When the power supply is AC, this module is not available. The polarity and input/output terminals cannot be reversed (drawer type power module output when leaving the factory)End connected;
- Note 5:** When there are 47 channels, the auxiliary contacts are 4a4b# 25. # 26 is the input terminal of an external transformer (with leakage protection function);
- Note 6:** At route 51, the auxiliary contacts are 6a6b (5a6b)# 25, # 26, # 51 form normally open and normally closed contacts (no longer equipped with leakage protection function);
- Note 7:** If using Profibus or other protocols, H+DP conversion modules and other conversion modules need to be ordered separately, such as power module IV and 201 relay module.
- Note 8:** # 12-# 19 input and output contacts are programmable custom signal contacts.
- # 1, 2:** Auxiliary power input
- # 3, 4, 5:** Fault tripping contact output (4 is the common terminal), contact capacity: AC380V, 16A
- # 6, 7:** Circuit breaker status auxiliary contact (normally closed), contact capacity: AC380V, 16A
- # 8, 9:** Circuit breaker status auxiliary contact (normally open), contact capacity: AC380V, 16A
- # 10, 11:** Communication interface output, 10 connected to A, 11 connected to B
- # 12, 13:** Respectively the output of overload warning signal and communication remote control shunt trip output
- # 14, 15:** signal output, communication remote control closing output or instantaneous short delay tripping
- # 16-18:** Respectively the signal ground (RS-485 transmission common ground), load monitoring output 1, and load monitoring output 2
- # 19, 20:** load monitoring output 2
- # 21- 24:** Signal output common line, PE line (shielded ground wire)
- They are the neutral line voltage signal (N phase), voltage signal A phase, voltage signal B phase, and voltage signal C phase, respectively;
- Q-Under-voltage (instantaneous or delayed) release
 F-Shunt release
 X-Closing electromagnet
- M-Energy storage motor
 OF-Auxiliary switch

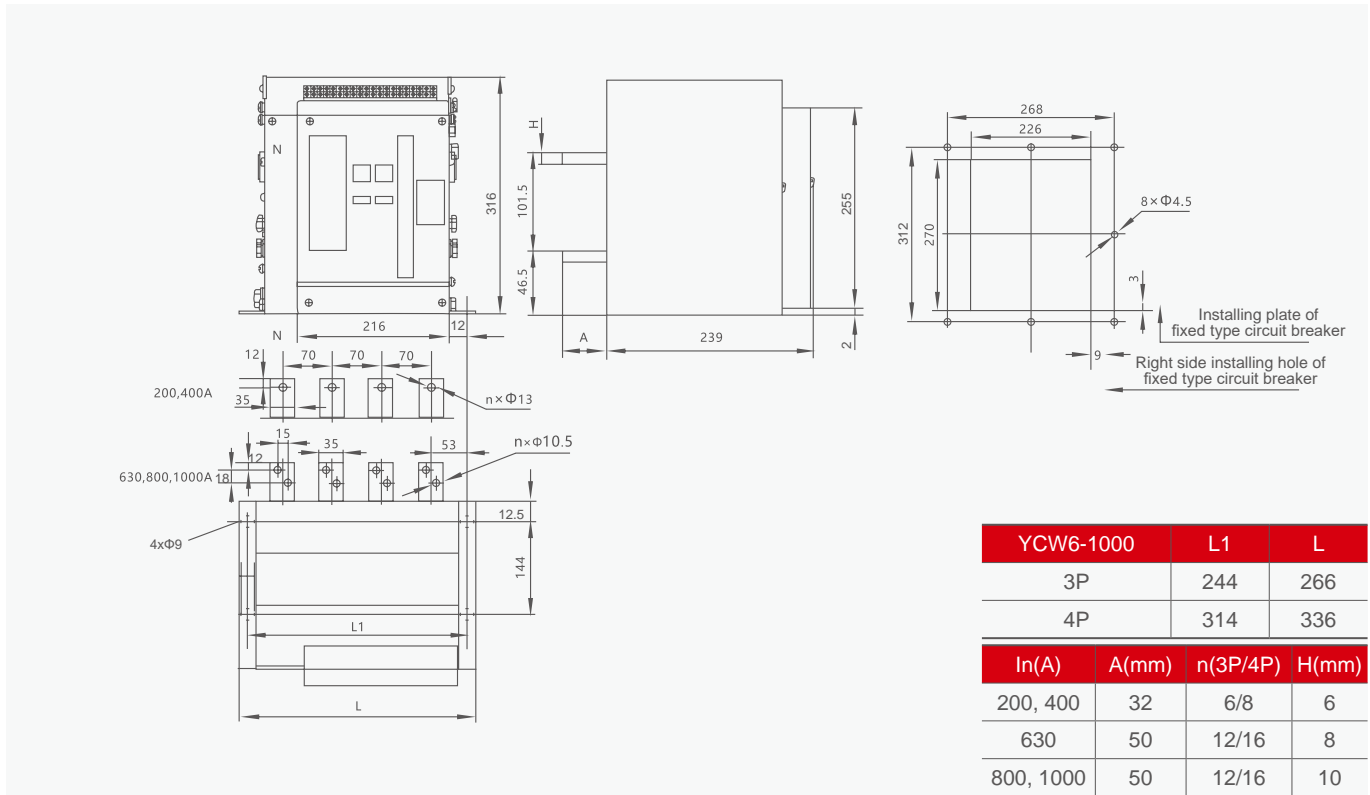
YCW6-2000-6300 H Intelligent Air circuit breaker Secondary circuit wiring

Distribution Apparatus

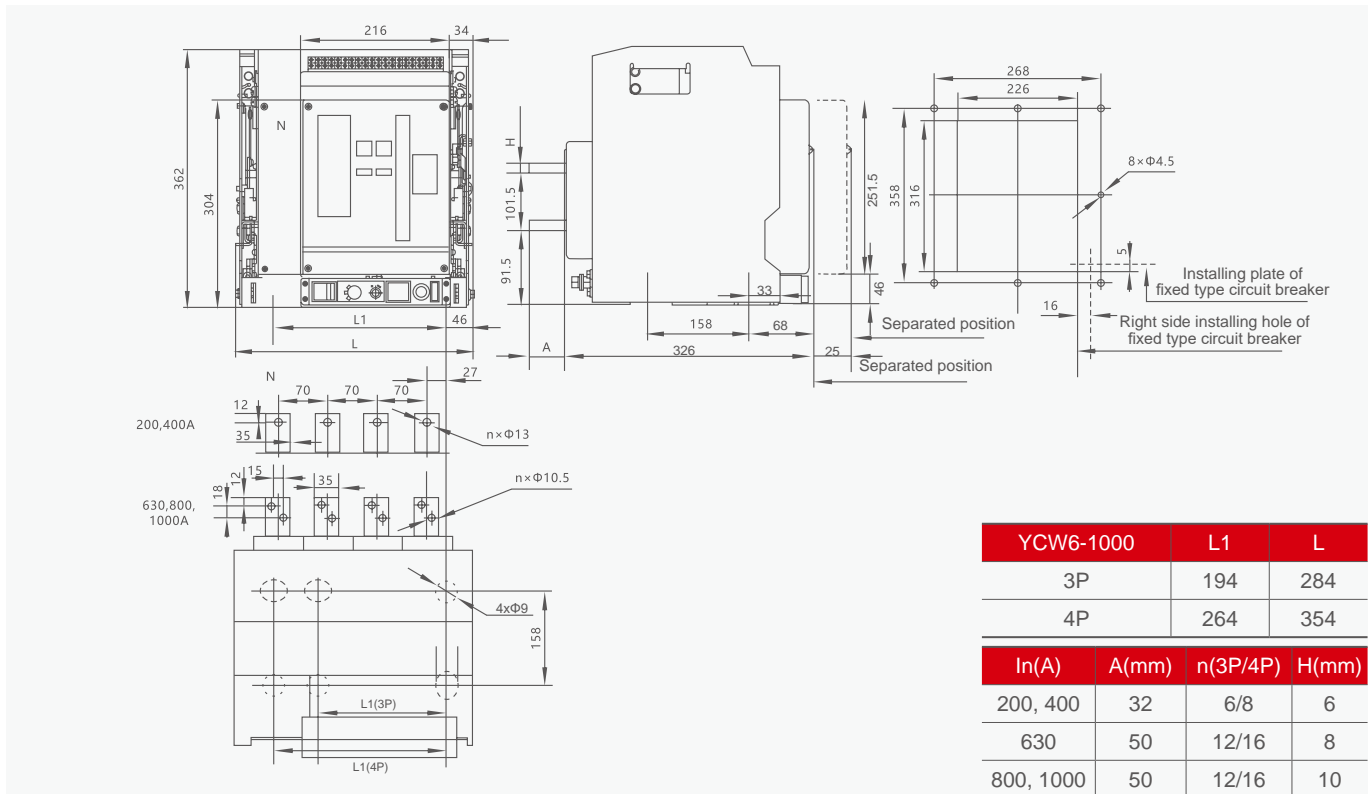
YCW6 Air Circuit Breaker

Overall and mounting dimensions(mm)

YCW6-1000 Fixed type



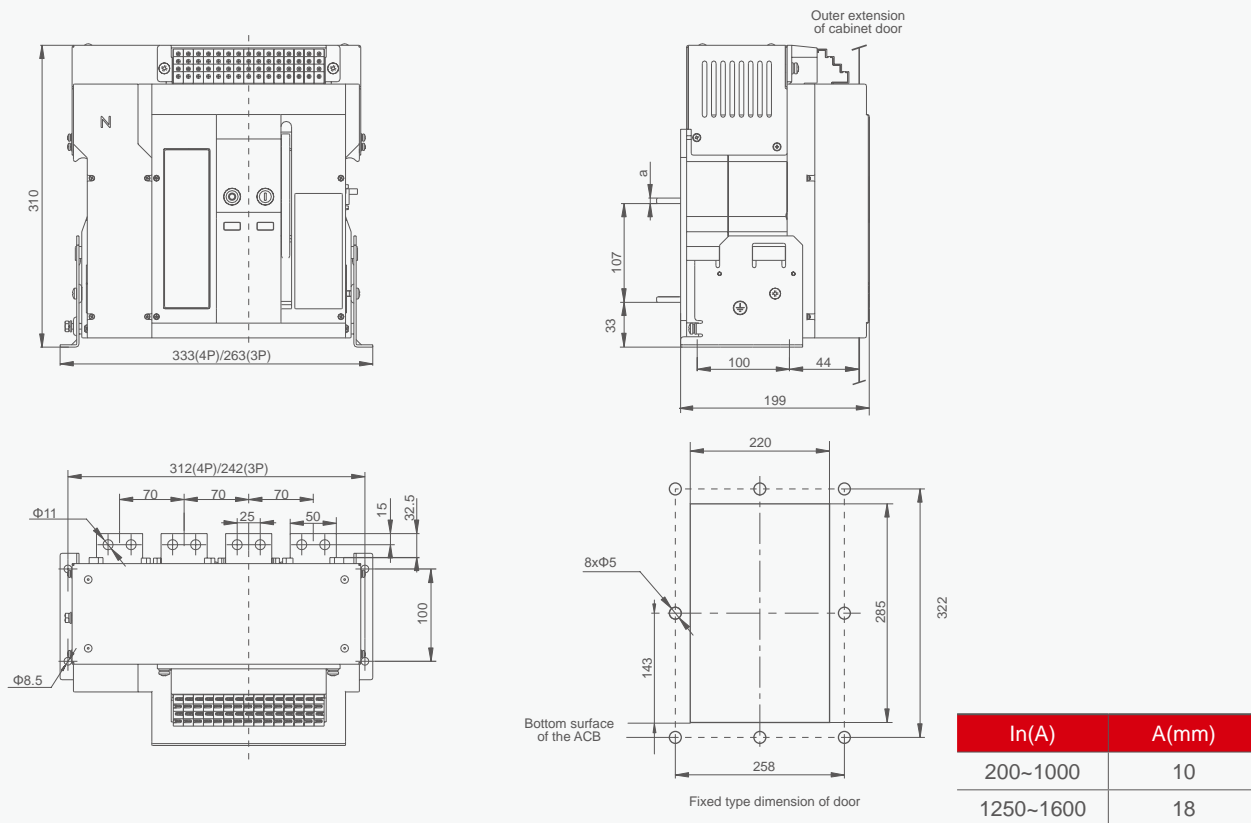
YCW6-1000 Draw out type



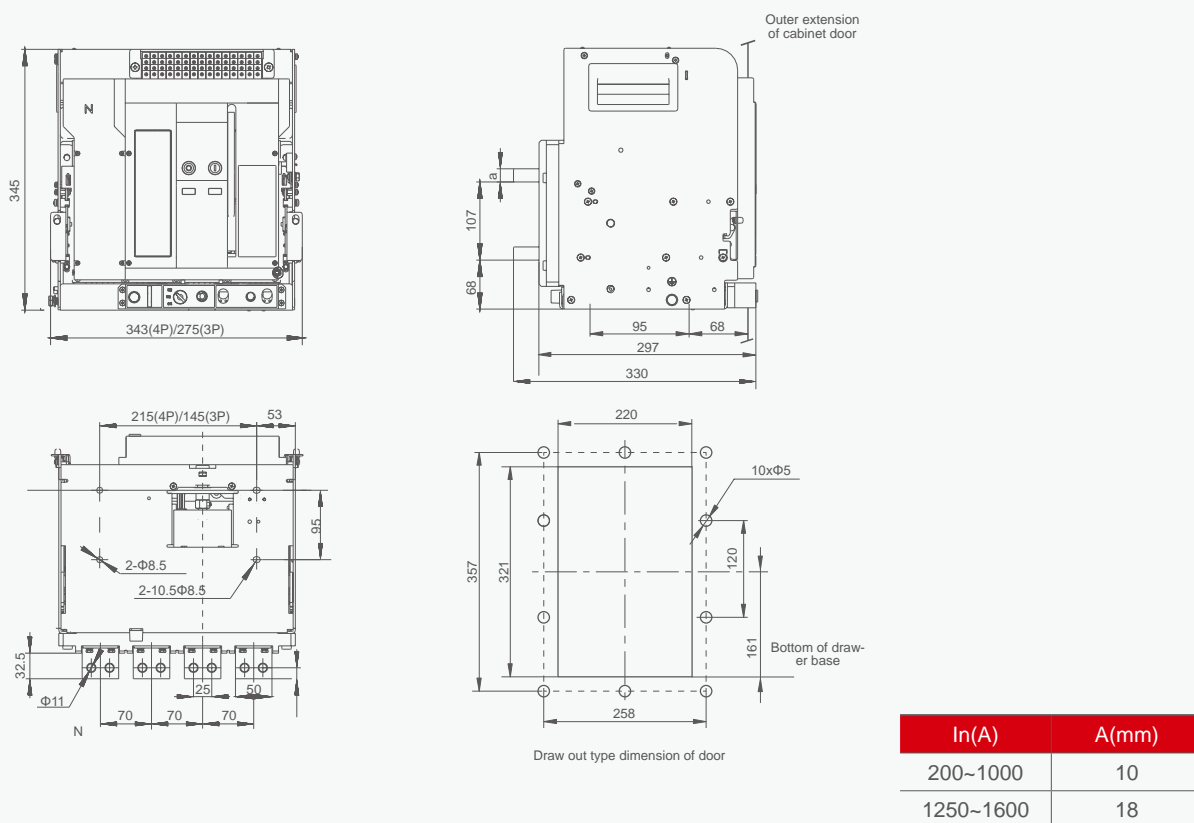
Distribution Apparatus

YCW6 Air Circuit Breaker

YCW6-1600 Fixed type



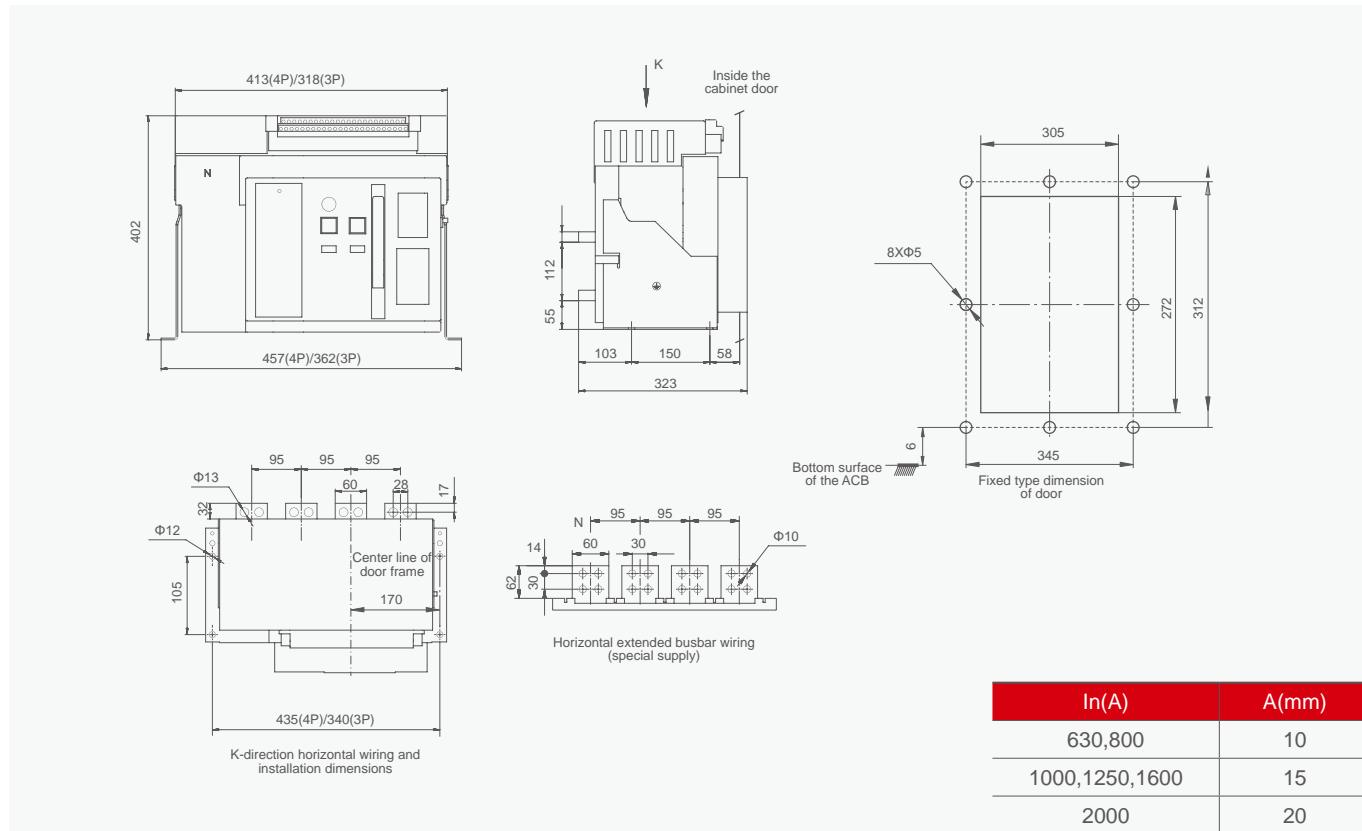
YCW6-1600 Draw out type



Distribution Apparatus

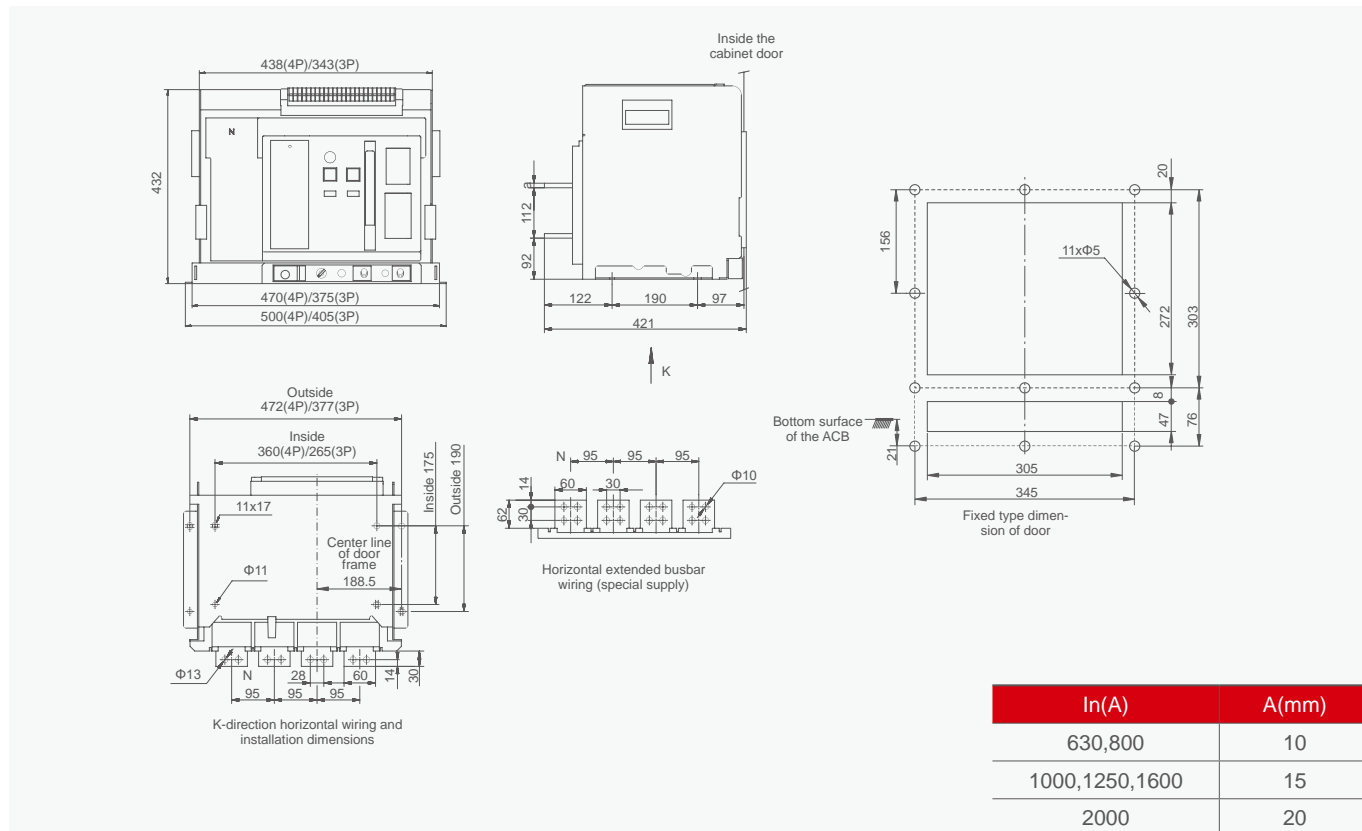
YCW6 Air Circuit Breaker

YCW6-2000 Fixed type



B

YCW6-2000 Draw out type

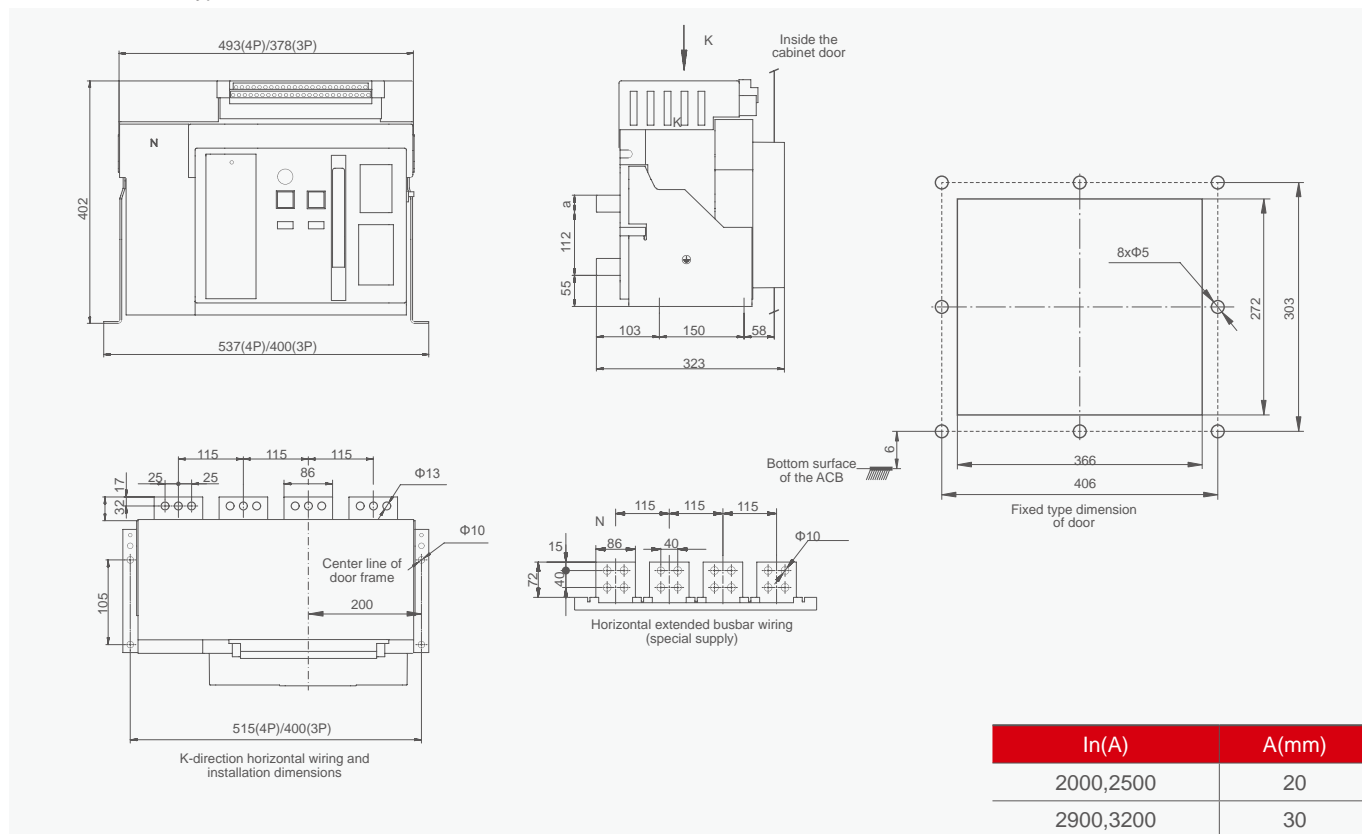


B190

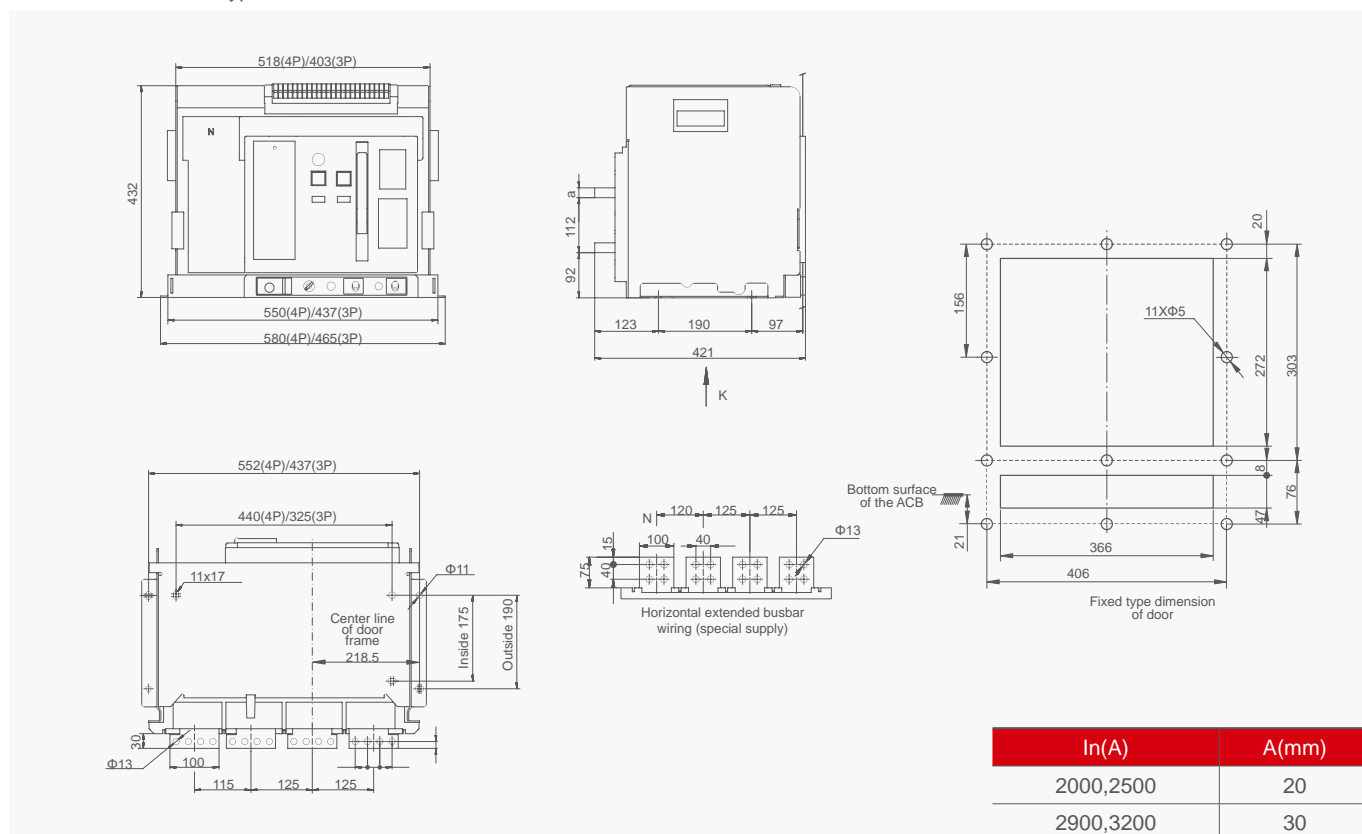
Distribution Apparatus

YCW6 Air Circuit Breaker

YCW6-3200 Fixed type



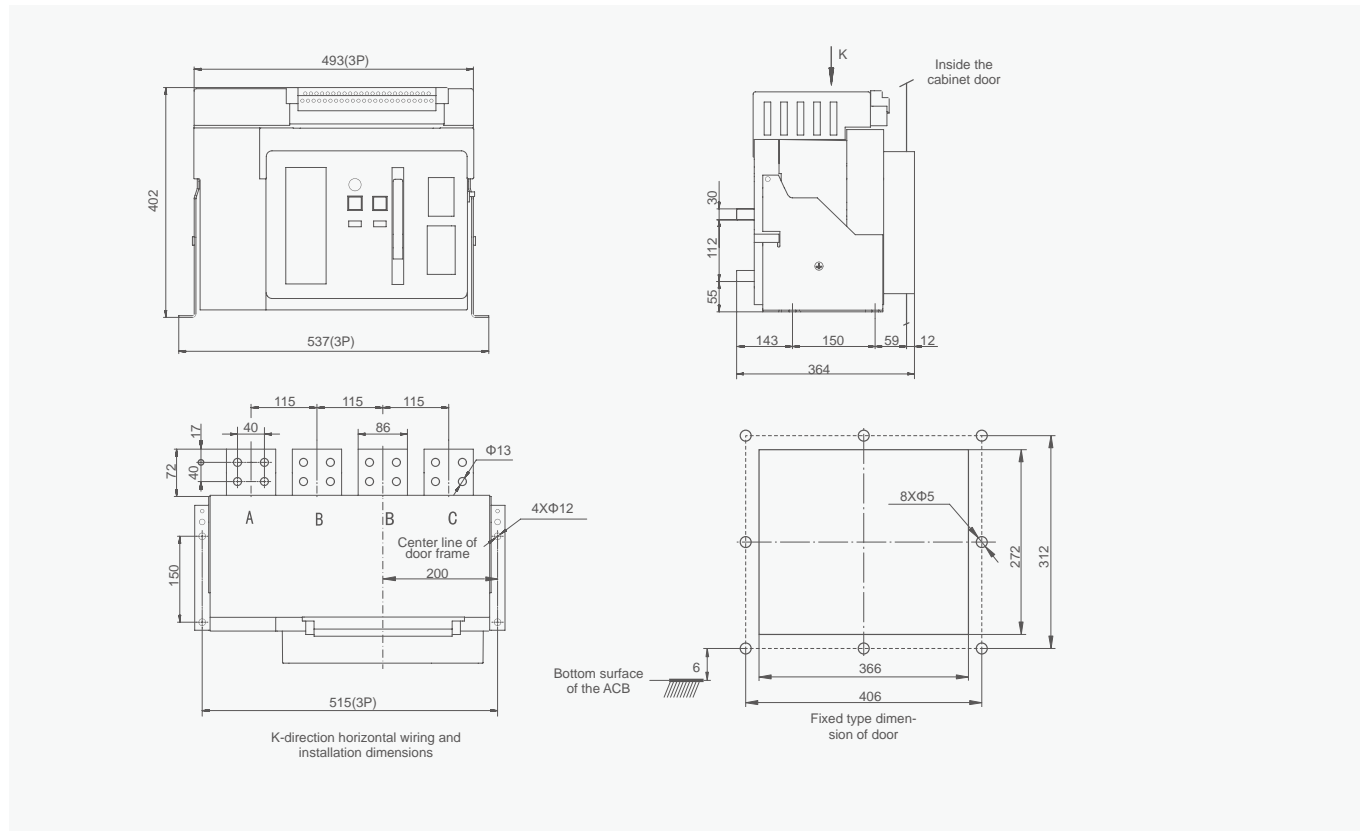
YCW6-3200 Draw out type



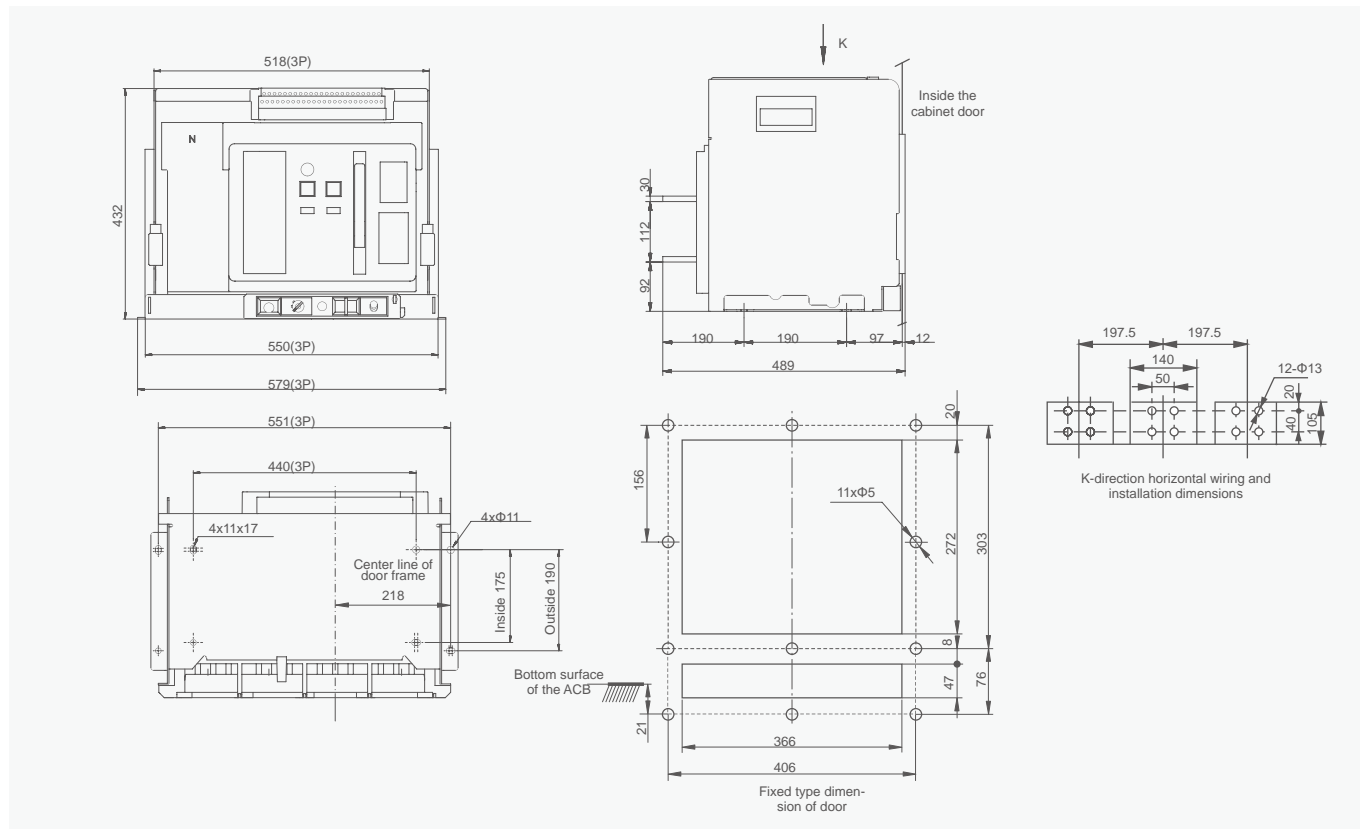
Distribution Apparatus

YCW6 Air Circuit Breaker

YCW6-4000 Fixed type



YCW6-4000 Draw out type

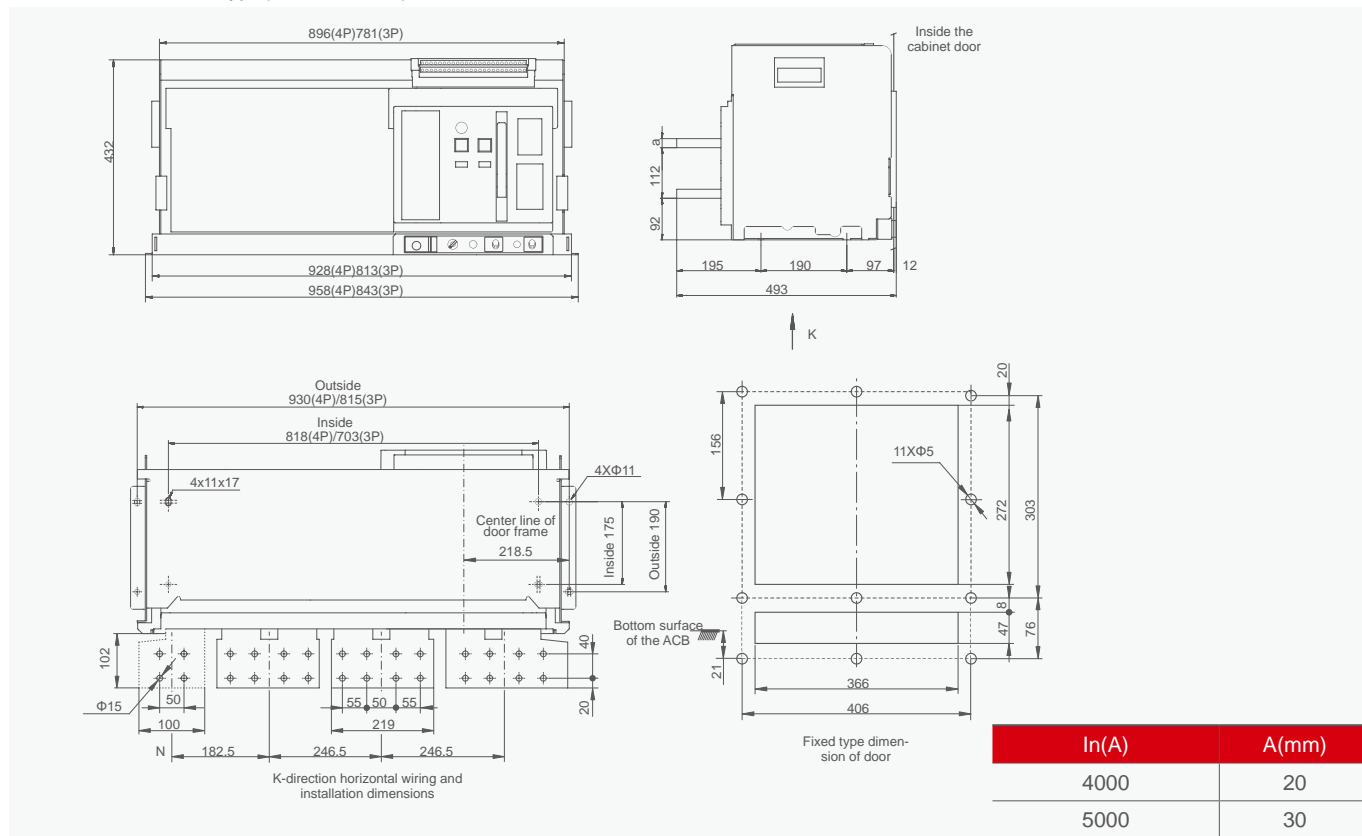


B

Distribution Apparatus

YCW6 Air Circuit Breaker

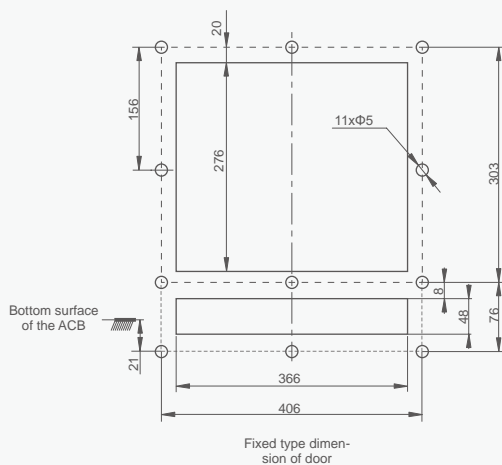
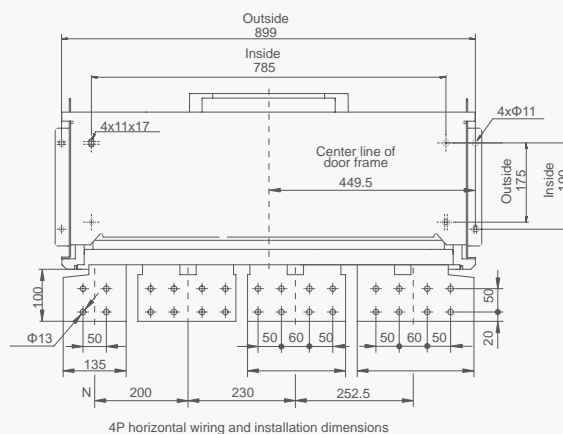
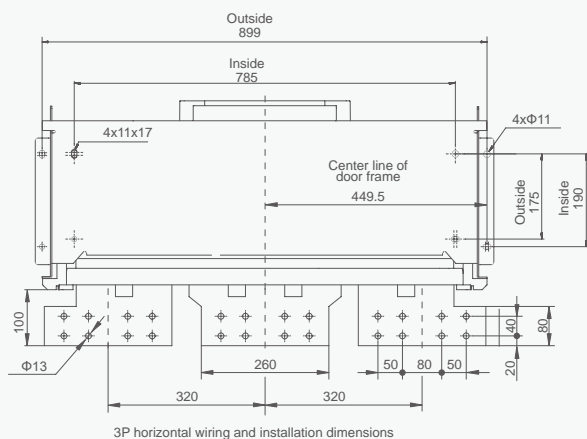
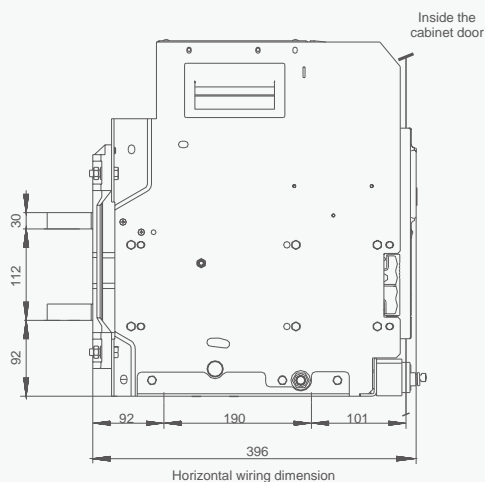
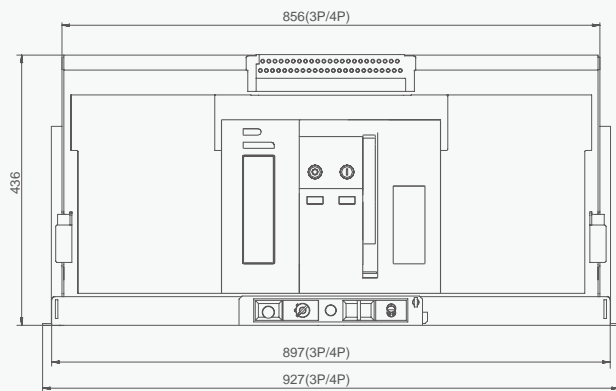
YCW6-6300 Draw out type(In=4000,5000)



Distribution Apparatus

YCW6 Air Circuit Breaker

YCW6-6300 Draw out type(In=6300)

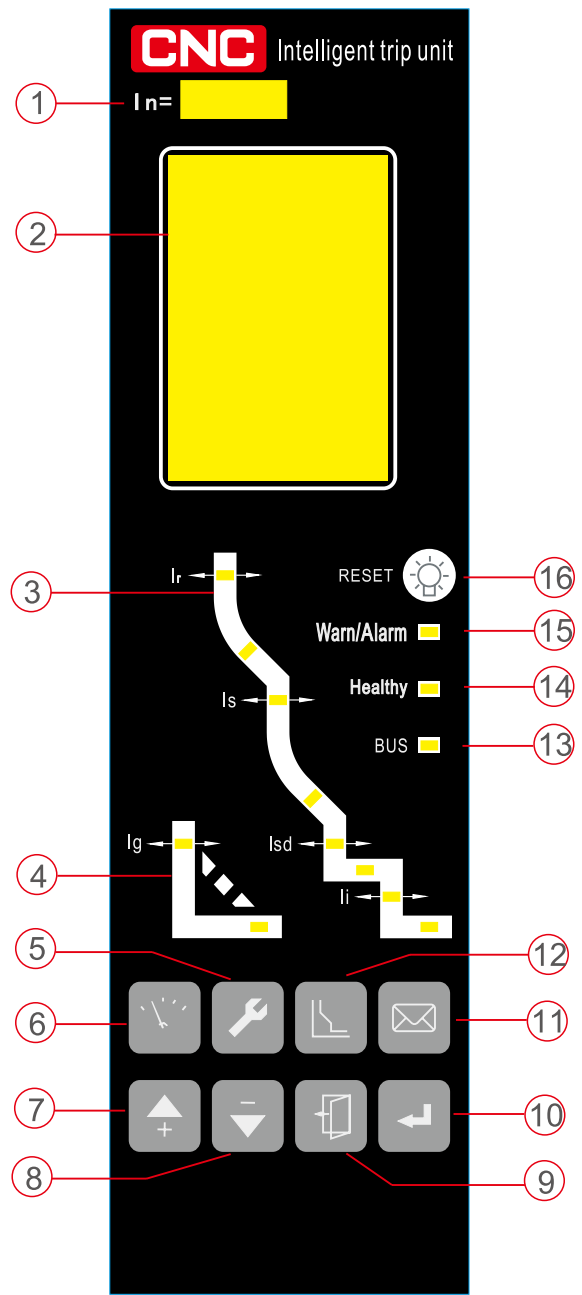
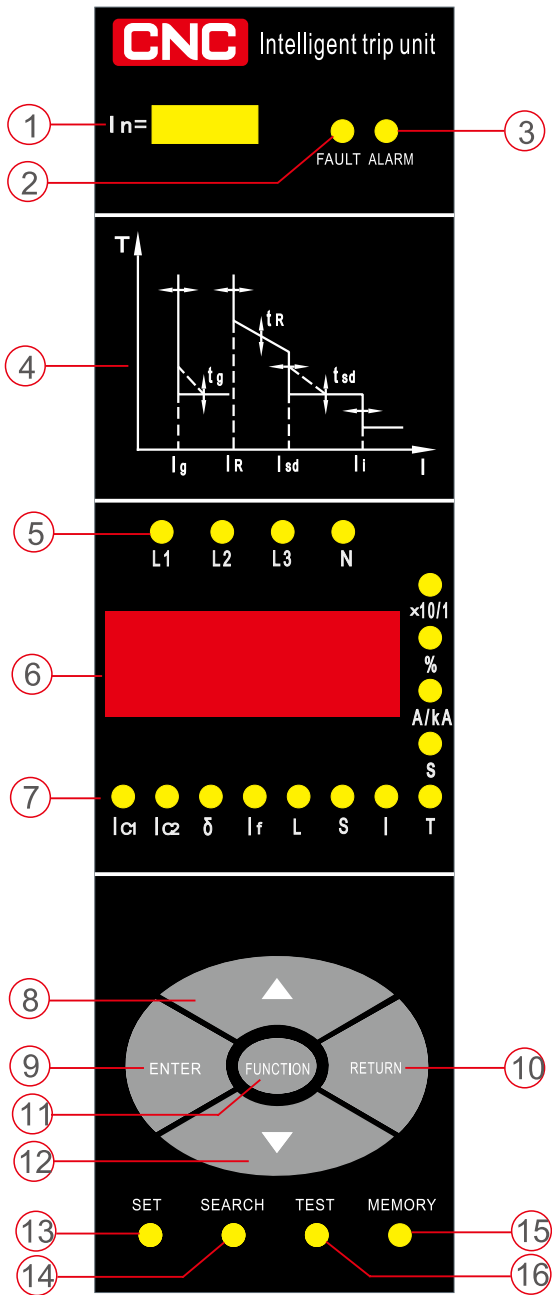


B

Distribution Apparatus

YCW6 Air Circuit Breaker

Characteristic of intelligent controller



Distribution Apparatus

YCW6 Air Circuit Breaker

Controller type	M-type (digital)	H-type (LED)
Standard Features	<ul style="list-style-type: none"> • Long delay protection • Short delay protection • Short circuit instantaneous protection • Grounding protection (vector sum type) • Parameter tuning • Digital display • Test release • Effective value protection • Test function • Fault memory • Fault self diagnosis • Hot memory • More protection functions, six characteristic curves to choose from • Contact wear and mechanical life indication • Load monitoring (Method 1) 	<ul style="list-style-type: none"> • Short circuit instantaneous protection • Short delay time limited protection • Multi curve short delay inverse time protection • Multi curve long delay protection • Current imbalance protection • Grounding protection (vector sum type) • Neutral phase protection • MCR and HSISC protection • Load monitoring (Method 1) • Undervoltage protection • Overvoltage protection • Voltage imbalance protection • Communication function (H-type) • Hot memory • Three (four) phase current • Asymmetric grounding current • Long delay thermal capacity • Phase and line voltage • Voltage imbalance • Frequency • Phase sequence • Power • Power factor • Current waveform • Harmonic influence coefficient of power grid • graphic LCD display • LED status indication • Keyboard operation • Eight fault records • Eight alarm records • Eight displacement records • Wear equivalent of main contact • Number of operations • Number of trips • System clock • Testing&Locking • Fault self diagnosis • Self diagnosis of wire breakage
Optional function	<ul style="list-style-type: none"> • Four sets of signal contact outputs • MCR and HSISC protection • Menu functions • Measurement: voltage, frequency, power factor, active power • Power, active energy • Power grid parameter history recording function 	<ul style="list-style-type: none"> • Four sets of contact outputs • Leakage protection (equipped with dedicated transformers) • Note: Without grounding protection when equipped with leakage protection • Measurement and protection of required values • Temperature control monitoring and protection • Regional selective chain • Overfrequency protection • Phase sequence protection • Reverse power protection • Recloser • Underfrequency protection



Characteristic of intelligent controller

● Close electromagnetic iron

When the circuit breaker has completed the energy storage operation and is in the normal off state, the circuit breaker can be quickly closed by remotely controlling the closing electromagnet.



Operating voltage U_s	AC220V	AC380V	DC220V	DC110V
Action voltage range	(85 - 110)% U_s			
Starting current	1.3A	0.7A	1.3A	2.5A
Engagement time	≤60ms			

● Shunt release

When the circuit breaker is in the closed state, it can be quickly disconnected by remotely controlling the split excitation trip device.



Operating voltage U_s	AC220V	AC380V	DC220V	DC110V
Action voltage range	(70 - 110)% U_s			
Starting current	1.3A	0.7A	1.3A	2.5A
Engagement time	≤30ms			

● Under-voltage release

When the under-voltage trip is not supplied with power, the circuit breaker cannot be closed.



Operating voltage U_e	AC220V	AC380V
Action voltage range	(35 - 70)% U_e	
Reliable closing voltage range	(85 - 110)% U_e	
The voltage range in which the switch cannot be closed	≤35% U_e	
Power consumption	20VA	
Delay tripping time	Instantaneous, 0.5 seconds, 1 second, 3 seconds, 5 seconds	

Note 1: Within the 1/2 time-delay tripping time, when the operating voltage recovers to above 85% of U_e , the circuit breaker will not disconnect.

Note 2: In areas with frequent lightning and unstable power grids, it is recommended to use the delayed under-voltage trip to prevent the circuit breaker from disconnecting due to short-term voltage reduction.

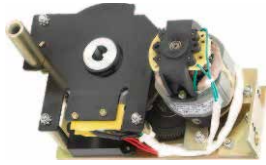
● Phase spacer

The vertical installation between the phase busbars of the circuit breaker is used to enhance the insulation capability between the phases of the circuit breaker.



Distribution Apparatus

YCW6 Air Circuit Breaker



• Energy storage motor

Realize the electric energy storage of the circuit breaker and the automatic re-energy storage operation after the circuit breaker is closed, so that the re-closing operation can be carried out immediately after the circuit breaker is opened.

Operating voltage U_s	AC220V	AC380V	DC220V	DC110V
Operating voltage range	(85 - 110)% U_s			
Energy storage time	(5 to 7) seconds			
DW45-2000 power consumption	110VA		110W	
DW45-3200 and above	150VA		150W	

Note: Manual energy storage operation can also be carried out during the maintenance of the circuit breaker.



• Auxiliary switch

Default configuration: Convert four normally open and four normally closed

Other types: Independent four normally open and four normally closed, conversion six normally open and six normally closed, independent five normally open and five normally closed, independent six normally open and six normally closed

Rated operating voltage	AC220V	AC380V	DC220V	DC110V
Agreed heating current	6A			
Rated control capacity	300VA		60W	

• Breaking and locking device

The trip button of the circuit breaker is locked in the depressed position, and at this time, the circuit breaker cannot perform the closing operation.

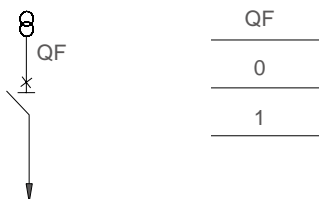
Note 1: When it is necessary to pull out the key, the key must be pulled out by holding down the off-switch button first and rotating counterclockwise.

Note 2: The following listed items in the power supply mode are for reference only. The installation of interlocks can be carried out according to the actual power supply system requirements on site. Consultation with the manufacturer can also be conducted for negotiation.



Mode 1: One power supply and one load interlock

Circuit Diagram Possible modes of operation



One lock, one key: A circuit breaker is equipped with one lock and one key. The circuit breaker is not allowed to be closed when it is locked. Note 1: 0 indicates the circuit breaker is off; 1 indicates the circuit breaker is closed.

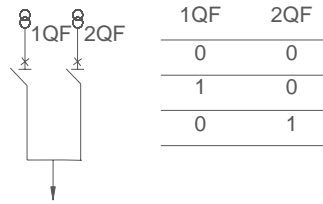
B

Distribution Apparatus

YCW6 Air Circuit Breaker

Mode 2: Two powersupplies and one load interlock

Circuit Diagram Possible modes of operation

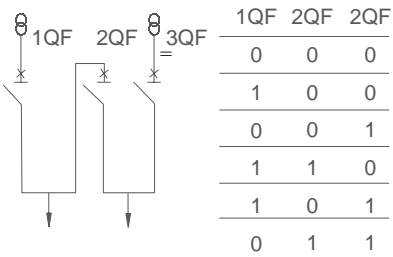


1QF	2QF
0	0
1	0
0	1

Two locks and one key: Two circuit breakers with two identical locks and one key, only one circuit breaker is allowed to close

Method 3: Two-power two-load interlock

Circuit Diagram Possible modes of operation

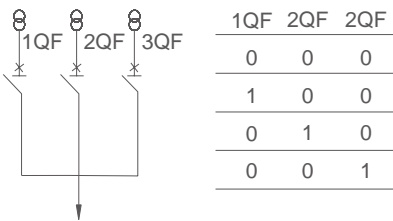


1QF	2QF	2QF
0	0	0
1	0	0
0	0	1
1	1	0
1	0	1
0	1	1

Three locks and two keys: three circuit breakers with three identical locks and two keys, only two circuit breakers are allowed to close

Method 4: Three-way power supply One way load interlock

Circuit Diagram Possible modes of operation



1QF	2QF	2QF
0	0	0
1	0	0
0	1	0
0	0	1

Three locks and one key: Three circuit breakers with three identical locks and one key, allowing only one circuit breaker to close



• Door frame

The doorframe is installed on the door where the circuit breaker is installed in the power distribution cabinet, which plays a sealing and beautiful role and the protection level can reach IP40.



• Drawer operated padlock

When the body of the drawer operation padlock drawer circuit breaker is in the "separate" position, pull out the card plate and lock it with the hanging lock. After locking, the body will not be able to roll to the "test" or "connect" position. (Padlock user's own)



• Relay module

Input voltage: DC24V
Contact capacity: AC250V 10A; DC28V 10A

When the load capacity of the control circuit breaker is large, it needs to be controlled after conversion through the relay module. The installation method adopts 35mm standard guide rail or direct installation in two ways.

Distribution Apparatus

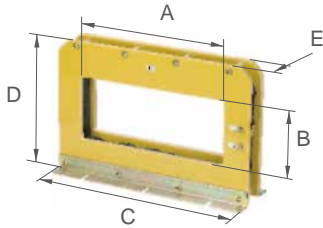
YCW6 Air Circuit Breaker

B



● Position door interlock

When the drawer-type circuit breaker body is in the “test” or “connected” position, the cabinet door is prohibited from being opened. When the circuit breaker body is in the “separated” position, the cabinet door is allowed to be opened.



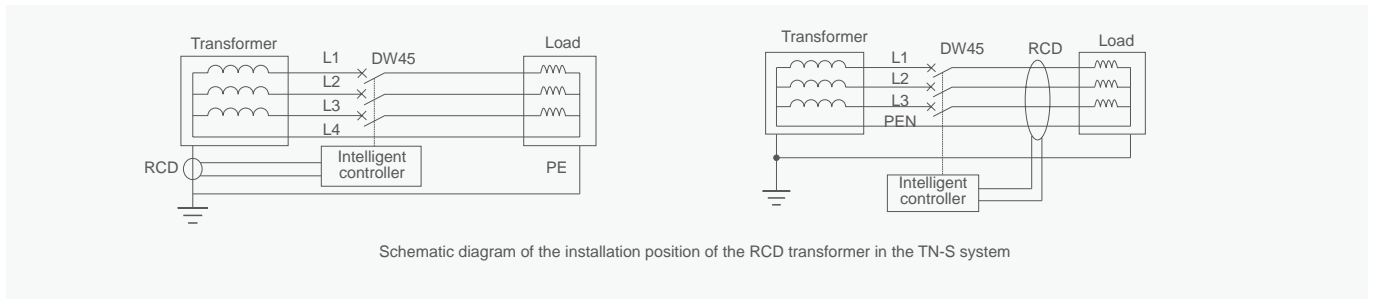
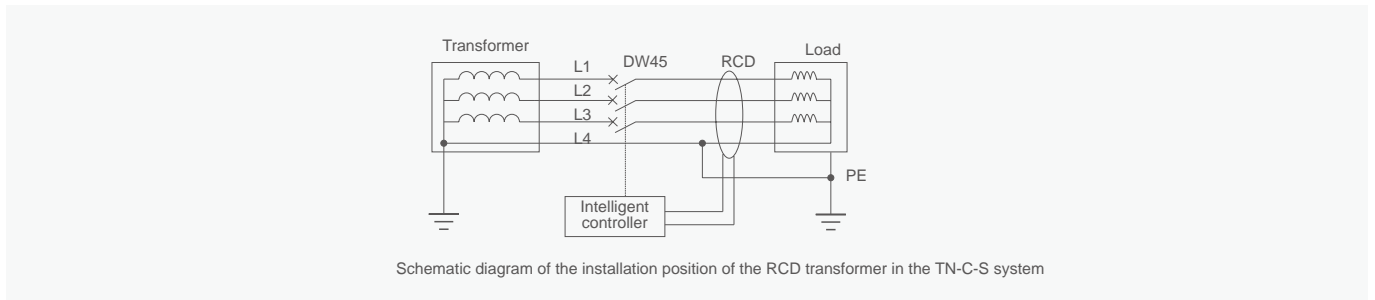
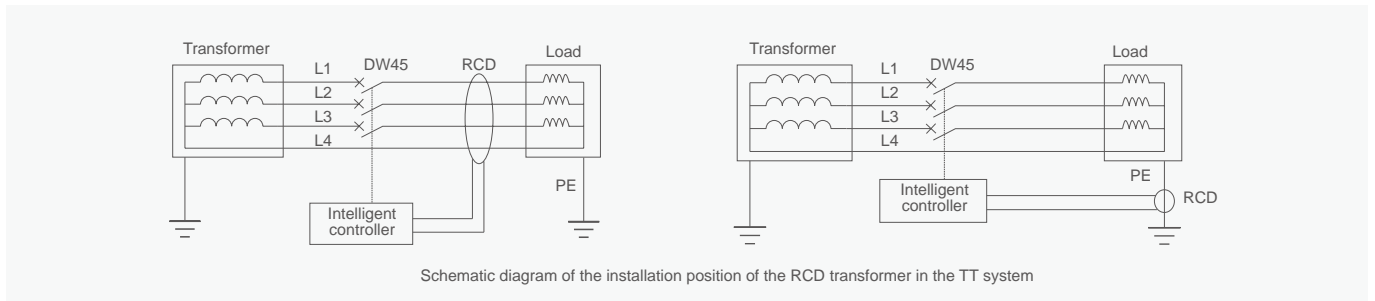
● RCD residual current transformer

When the grounding protection is of the residual current type, an additional zero-sequence current transformer is required. The signal sampling mode is the vector sum of the current of each phase. It is suitable for the protection of smaller currents.

Shape and installation dimensions (unit: mm)

Model number	A	B	C	D	E	Transformer ratio	Applicable products
BH-0.66CT-120×50	121.5	52	215	140	83	30A / 0.3A	Each current grade
BH-LMB-280×120	280	120	380	250	72		1000A enclosure
BH-LMB-370×120	370		465				2000A shell frame
BH-LMB-390×120	390		485				
BH-LMB-480×120	480		575				customize

Schematic diagram of the installation locations of leakage protection transformers for different grounding systems

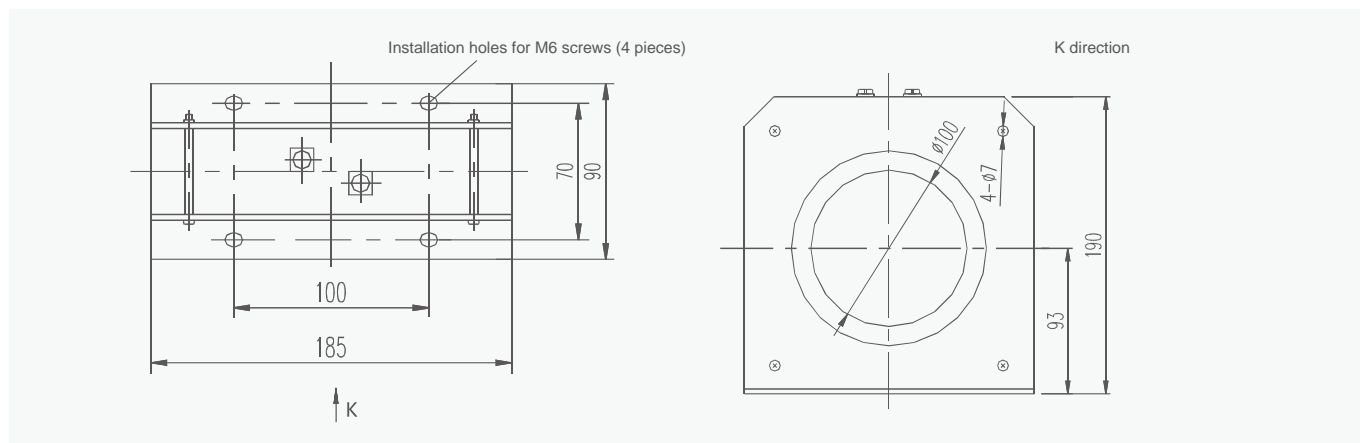


Distribution Apparatus

YCW6 Air Circuit Breaker

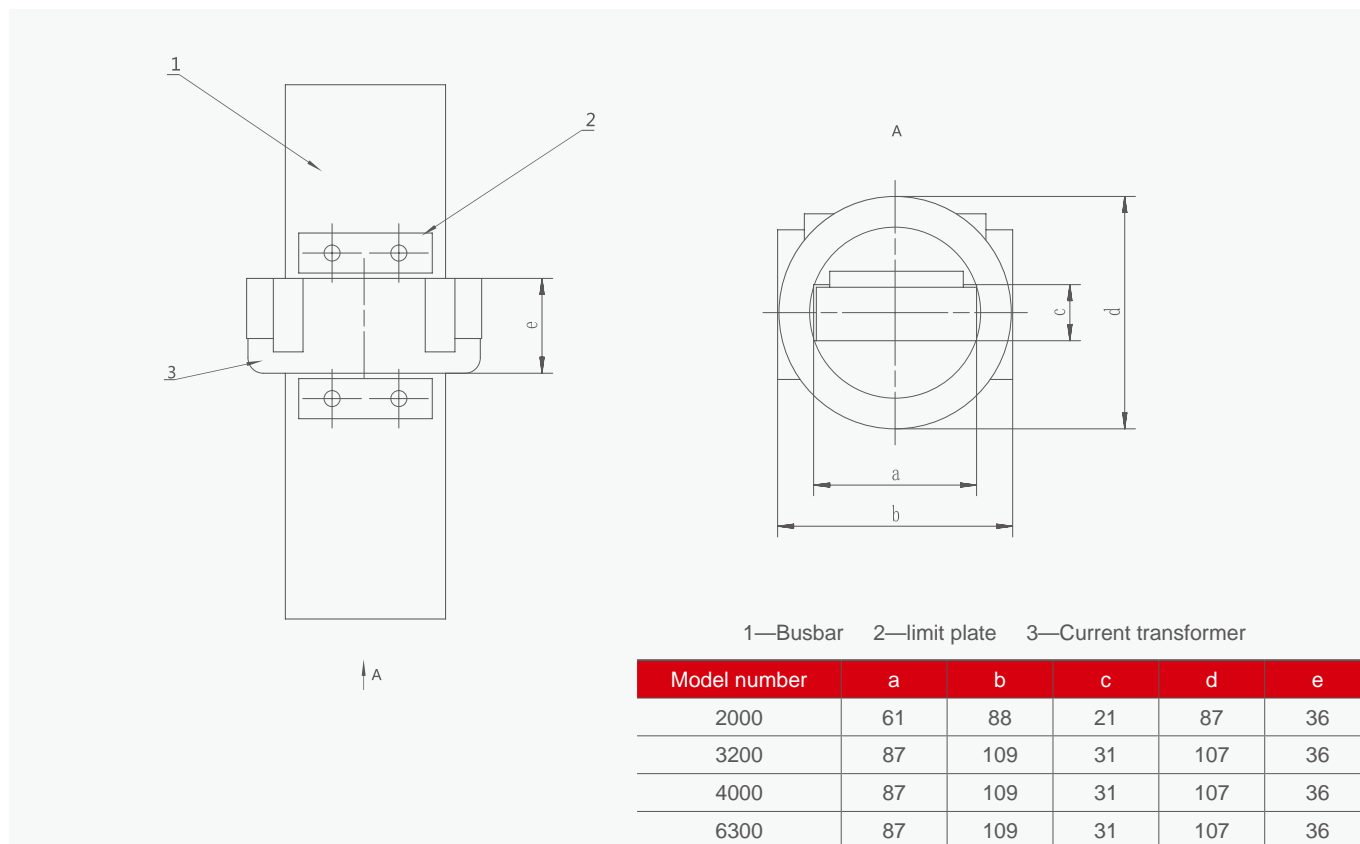
ZT100 Grounding Transformer

When the grounding mode is the ground current return type (W), the additional transformer is installed with the dimensions as shown in the following figure.



External connection of N mutual inductors (3P + N mode)

When the controller is 3P + N with an additional neutral transformer, the external dimension is shown in the following figure.



Distribution Apparatus

YCW6 Air Circuit Breaker



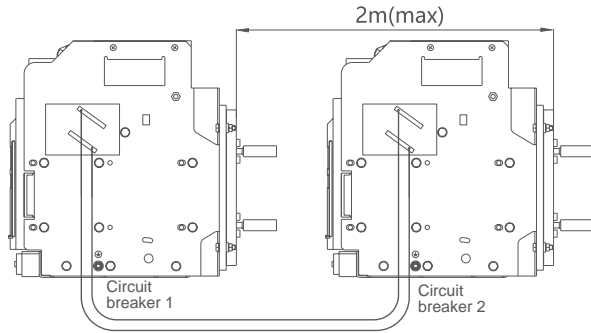
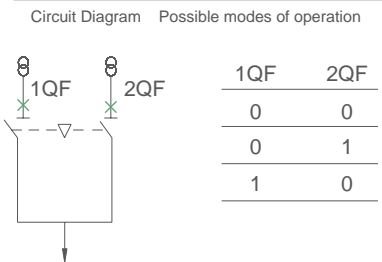
• Mechanical interlock

The steel cable interlock of two horizontally placed circuit breakers or the connecting rod interlock of two vertically stacked circuit breakers.

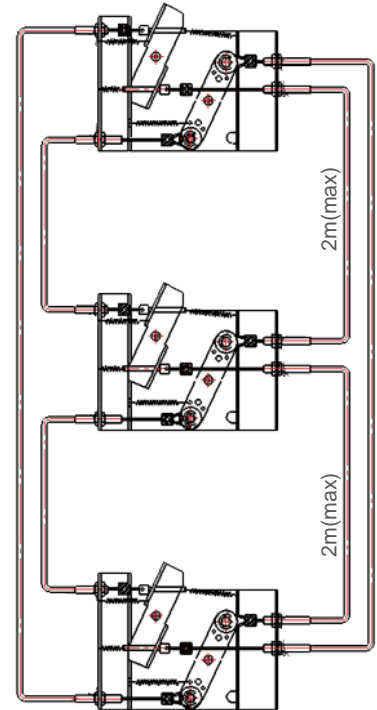
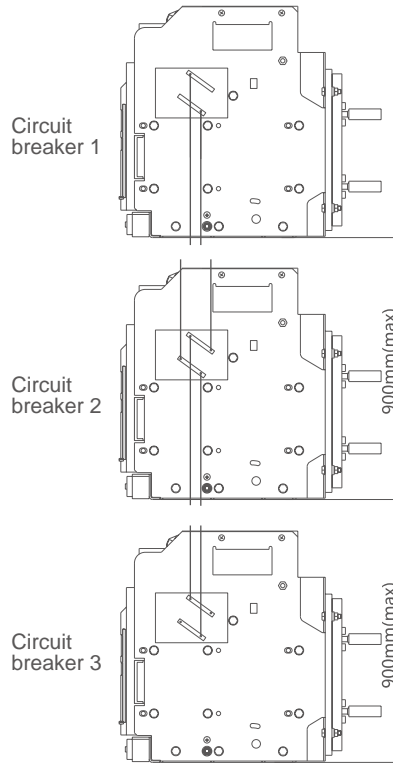
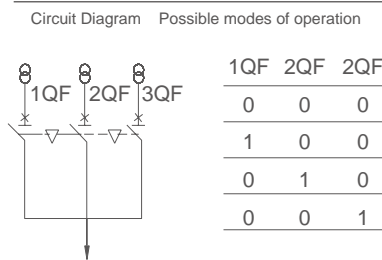
Steel cable interlock or tie-bar interlock of the two sectionalizing switches



Only one circuit breaker can be used for each load of the two power supplies



Three power circuits and one load can only be combined in one circuit breaker



Schematic diagram of the lever triple lock

Diagram of a steel cable triple lock

QF: Circuit Breaker

Note: The transition arc at the interlocking bending point of the steel cable shall not be less than R120min.

Distribution Apparatus

YCW6 Air Circuit Breaker

Ordering information

		Quantity Set						
Model		Available type and rated current				Rated voltage	<input type="checkbox"/> AC400V	<input type="checkbox"/> AC690V
	YCW6-1000	<input type="checkbox"/> 200 <input type="checkbox"/> 1000	<input type="checkbox"/> 400	<input type="checkbox"/> 630	<input type="checkbox"/> 800	Installation method and number of poles	<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles
	YCW6-1600	<input type="checkbox"/> 630 <input type="checkbox"/> 1000	<input type="checkbox"/> 800 <input type="checkbox"/> 1250	<input type="checkbox"/> 1600			<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles
	YCW6-2000	<input type="checkbox"/> 630 <input type="checkbox"/> 1250	<input type="checkbox"/> 800 <input type="checkbox"/> 1600	<input type="checkbox"/> 1000 <input type="checkbox"/> 2000			<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles
	YCW6-3200	<input type="checkbox"/> 2000	<input type="checkbox"/> 2500	<input type="checkbox"/> 2900	<input type="checkbox"/> 3200		<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles
	YCW6-4000	<input type="checkbox"/> 4000					<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <input type="checkbox"/> Four poles
	YCW6-6300	<input type="checkbox"/> 4000	<input type="checkbox"/> 5000	<input type="checkbox"/> 6300			<input type="checkbox"/> Fixed <input type="checkbox"/> Three poles	<input type="checkbox"/> Draw-out <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						
Standard configuration	<input type="checkbox"/> Shunt release	<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"/> 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						
Optional configuration	<input type="checkbox"/> Under-voltage release	<input type="checkbox"/> AC 220V <input type="checkbox"/> AC 380V						
	<input type="checkbox"/> Auxiliary contact	<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 (YCW6-1600 only 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 as usual.
3. The operational function of the intelligent controller and special requirement require additional cost.

Distribution Apparatus

YCW8-□HU Air Circuit Breaker



General

YCW8-□HU series air circuit breaker (hereinafter called ACB) is suitable for the circuit of AC 50Hz/60Hz with rated service voltage 800V, 1140V and rated service current between 630A and 4000A. 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.

Standard: IEC 60947-2, IEC 60947-4-1

B

Type designation

YCW8 - 4000 HU / 3 2500 D H M

Type	Shell frame current	Breaking Capacity	number of poles
YCW8	4000	HU	3
YCW8	2500(630~2500A) 4000(2000~4000A)	HU:AC800 /1140V	3:3P 4:4P
Rated current	Installation type	Connection	controller type
2500	D	H	M
630 2500 800 2900 1000 3200 1250 3600 1600 3900 2000 4000	D: Drawer style F: Fixed	H: Horizontal wiring V: Vertical wiring	M: LED display 3M: LCD display 3H: LCD display with communication

Operating conditions

Item	a(mm)
Ambient temperature	-5°C~+40°C; the average value within 24h shall not exceed +35°C; L type and M type controller can be used under -40°C~+70°C
Altitude	≤2000m
Pollution grade	3
Safety category	Main circuit and undervoltage tripping coil is IV, other auxiliary and control circuit is III
Installation position	Vertically installed, inclination between the mounting plane and the vertical plane should not exceed ±5°

Distribution Apparatus

YCW8-□HU Air Circuit Breaker

Operating conditions

Item		a(mm)	
Shell current I_{nm} (A)		2500	4000
Rated working current I_n (A)		630,800,1000 1250,1600,2000,2500	2000, 2500, 2900, 3200, 3600, 3900, 4000
Rated working voltage U_e (V)		800/1140	
Rated insulation voltage U_i (V)		1140	
Rated impulse withstand voltage U_{imp} (KV)		12	
Power frequency withstand voltage (V) for 1 minute		3500	
Number of poles		3P,4P	
Rated limit short breaking capacity I_{cu} (KA)	800/1140V	50	50
Rated operating short-circuit breaking capacity I_{cs} (KA)	800/1140V	50	50
Rated short time withstand current for 1s ICW (KA)	800/1140V	50	50
Full power interruption time (without additional delay) (ms)		12~18	
Closing time (ms)		≤60	
Electrical lifespan		2000	
Mechanical life (maintenance free)		10000	
Mechanical life (with maintenance)		20000	

Basic and optional functions of the controller



M-type digital display

Basic function	Optional function
Overload long delay, short circuit short delay, and short circuit instantaneous protection	Signal contact output
Functional testing	MCR and over limit tripping
Fault memory	Load monitoring
Thermal memory	Voltage measurement
Self diagnosis	
Current measurement	
Fault status indication and numerical display	
Earth fault protection	

Distribution Apparatus

YCW8-□HU Air Circuit Breaker



3M/3H type digital displa

Basic function	Optional function
Overload long delay, short circuit short delay, and short circuit instantaneous protection	Current imbalance protection
Functional testing	Signal contact output
Fault memory	MCR and over limit tripping
Thermal memory	Load monitoring
Self diagnosis	power measurement
Current measurement	Power factor measurement
Fault status indication and numerical display	Electric energy measurement
Communication function (3H)	Regional interlocking
Contact wear indicator (3H)	Harmonic measurement
Operation fault protection record (3H)	Voltage protection
Earth fault protection	Voltage measurement

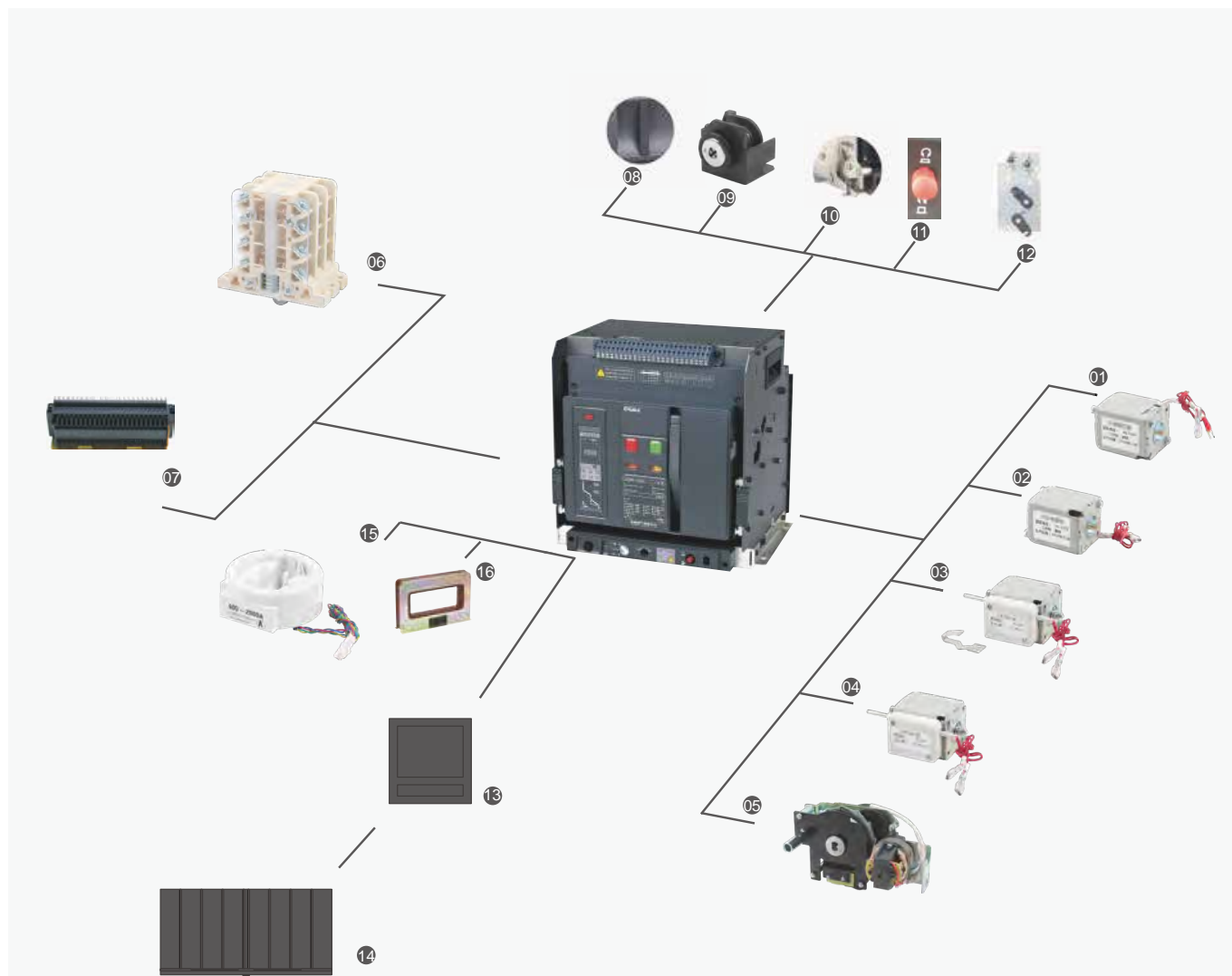
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Item	M	3M	3H
Overload long delay protection	■	■	■
Short circuit short time delay protection	■	■	■
Short circuit instantaneous protection	■	■	■
Earth fault protection	■	■	■
Current imbalance protection	-	□	□
Functional testing	■	■	■
Fault memory	■	■	■
Signal contact output	□	□	■
Thermal memory	■	■	■
Self diagnosis	■	■	■
MCU working instructions	-	-	-
Current column display	-	-	-
Current measurement	■	■	■
MCR and over limit tripping	□	□	□
Load monitoring	□	□	□
Fault status indication and numerical display	■	■	■
Voltage measurement	□	□	■
Power factor measurement	-	□	■
power measurement	-	□	□
Electric energy measurement	-	□	□
Communication function	-	□	■
Contact wear indication	-	□	■
Regional interlocking	-	□	□
Harmonic measurement	-	□	□
Voltage protection	-	□	□
Record of operation times	-	□	■

Distribution Apparatus

YCW8-□HU Air Circuit Breaker

Accessories



Remote operation

- 01 shunt release
- 02 closing electromagnet
- 03 under-voltage release instantaneous type
- 04 under-voltage release time-delay type
- 05 motor-driven energy-storage mechanism

Lock and connection

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

Indication contact

- 06 auxiliary contact
- 07 secondary wiring terminal

Operation and protection

- 13 phases barrier

Current transformer

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

Accessories of YCW3

Shunt release

Shunt release can realize the remote control to break the circuit breaker.

- rated control power voltage $U_s(V)$ AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage (0.7~1.1) 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 finishes the energy storage, closing release can instantly close the circuit breaker.

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

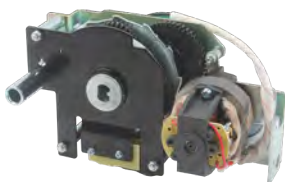
Make sure there is power supply on the under-voltage release before making the circuit breaker.



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 to close the circuit breaker instantly after breaking the circuit breaker.

- rated control power voltage $U_s(V)$ AC220V/230V, AC380V/400V, DC220V, DC110V
- work voltage (0.85~1.1) U_s
- power loss 75W(1600A), 85W(2000A), 110W(3200A, 4000A), 150W(6300A)
- energy-storage time <5s



Distribution Apparatus

YCW8-□HU Air Circuit Breaker



Auxiliary contact

Standard model: 4NO/4NC

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

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

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



Lock

Key lock

The OFF button of the circuit breaker can be locked in the depressed position and the circuit breaker cannot be closed in that case; when the user selects the option, the factory provides locks and keys; One breaker is provided with one lock and one key for the lock; two breakers are provided with two locks and one key for the locks; three breakers are provided with three same locks and two same keys for the locks.

Note: It is necessary to firstly press the OFF key and turn it anticlockwise before pulling out the key for the air circuit breaker with key lock equipped.

"Disconnected" position locking device for the draw-out type

For the "disconnected" position of the draw-out circuit breaker, a lock rod can be pulled out to lock the matter, and the breaker locked will be unable to be turned towards the TEST or CONNECTION position. Padlocks have to be provided by users themselves.

Three position locking device for the draw-out

It is the locking device for three positions(disconnected, test, connection) of drawout type. Three positions of circuit breaker is indicated by the indicator, the driving and the reversing handle which is locked in the exact position, and the lock can be released by the reset button.

Distribution Apparatus

YCW8-□HU 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).

B



Phases barrier (optional)

Installed between the bus-bars to increase the creepage distance.



Controller accessories

Leakage current transformer

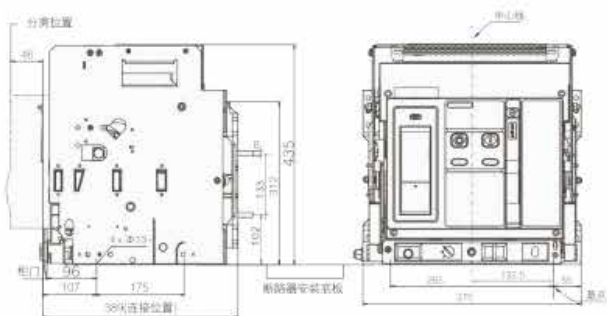
1. If the grounding protection is the leakage type, then a rectangular transformer will be needed.

Distribution Apparatus

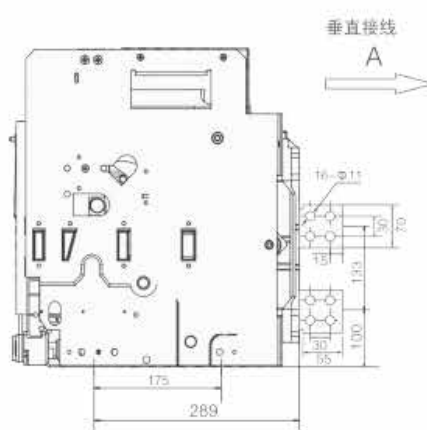
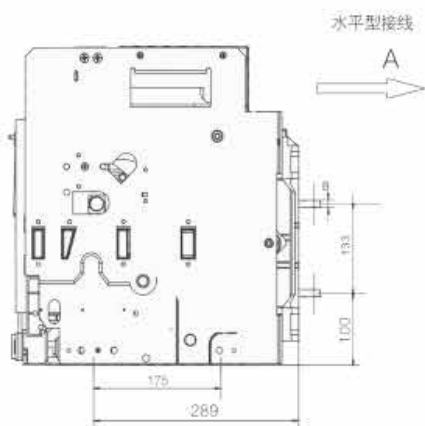
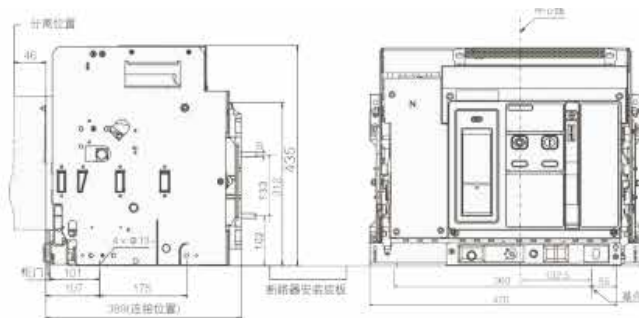
YCW8-□HU Air Circuit Breaker

Overall and mounting dimensions(mm)

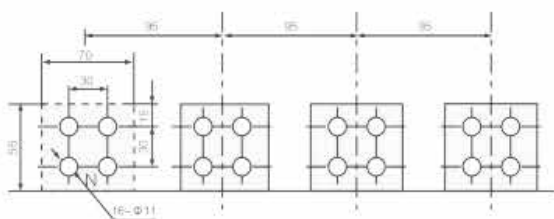
YCW8-2500HU 3P drawer type



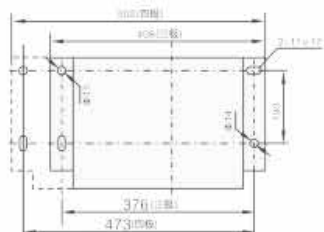
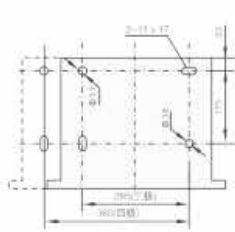
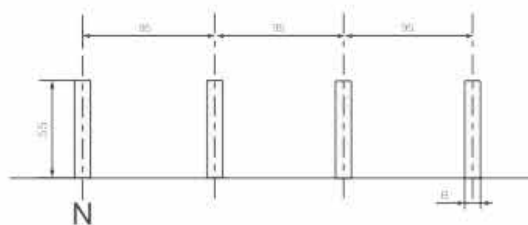
YCW8-2500HU 4P drawer type



◆标准型水平接线



◆垂直接线



内部安装尺寸

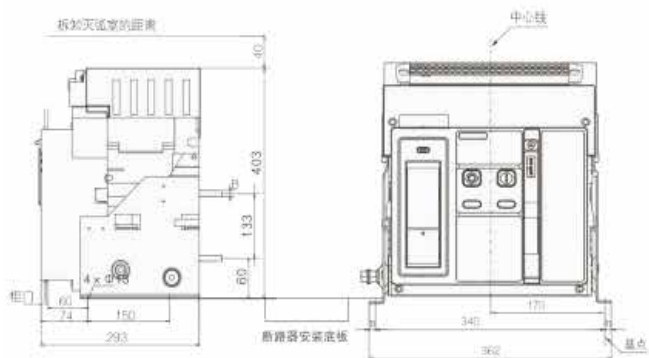
外部安装尺寸

Rated current (A)	Dimension B (mm)
600~800	10
1000~1600	15
2000~2500	20

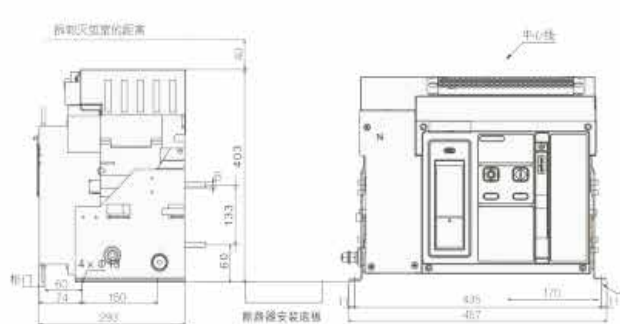
Distribution Apparatus

YCW8-□HU Air Circuit Breaker

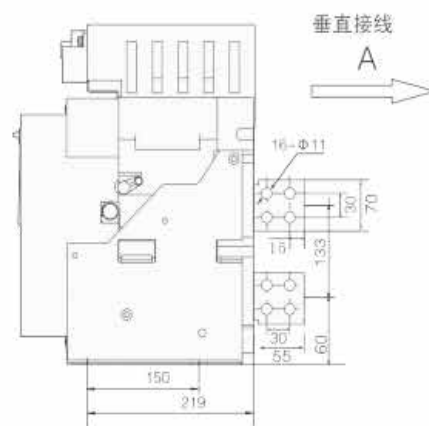
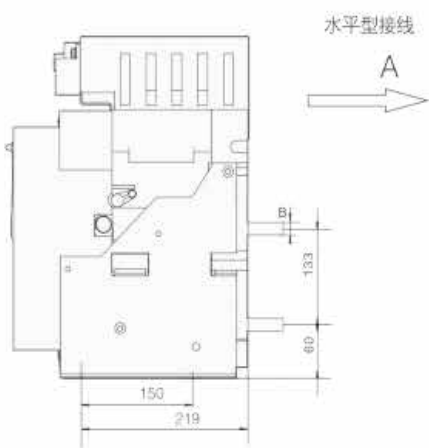
YCW8-2500HU 3P fixed type



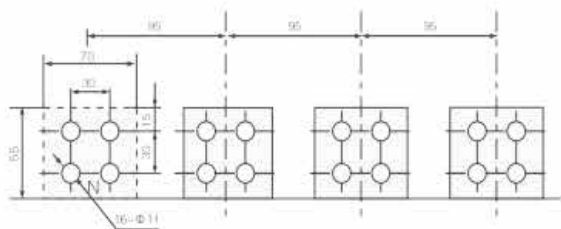
YCW8-2500HU 4P fixed type



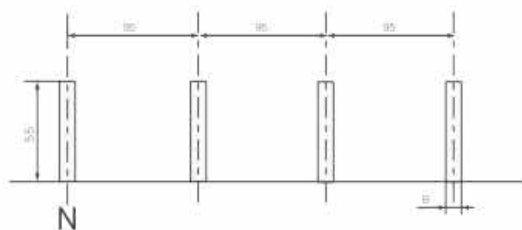
B



◆ 标准型水平接线



◆ 垂直接线



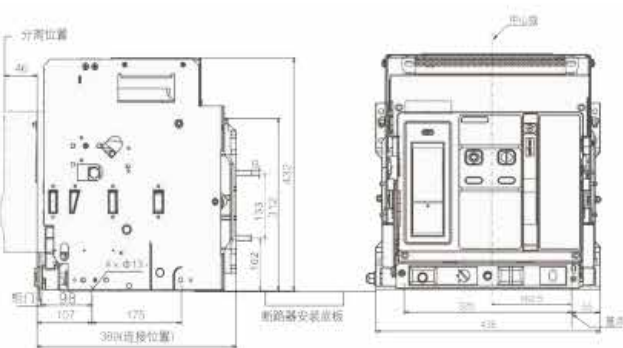
安装尺寸

Rated current (A)	Dimension B (mm)
600~800	10
1000~1600	15
2000~2500	20

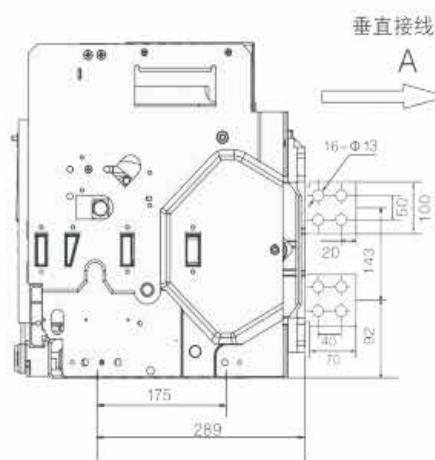
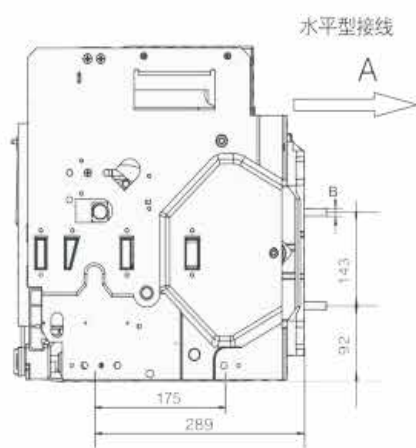
Distribution Apparatus

YCW8-□HU Air Circuit Breaker

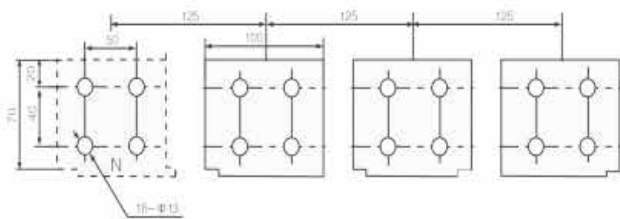
YCW8-4000HU 3P drawer type



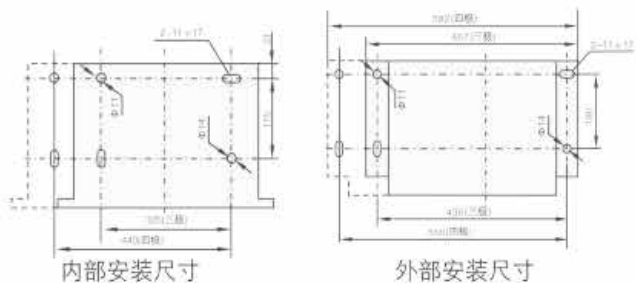
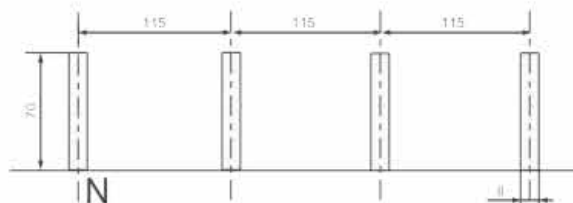
YCW8-4000HU 4P drawer type



◆ 标准型水平接线



◆ 垂直接线

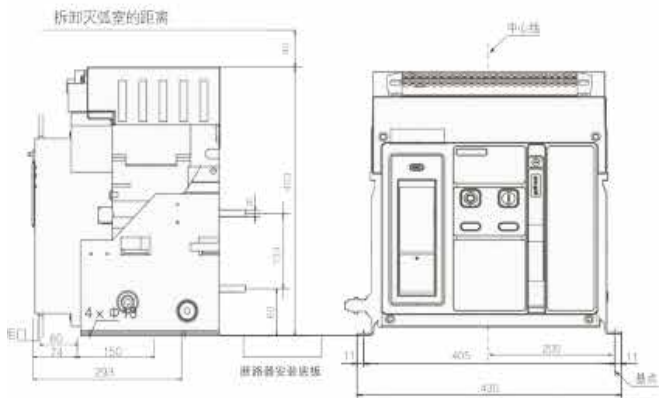


Rated current (A)	Dimension B (mm)
2000,2500	20
2900,3200	30
3600,4000	

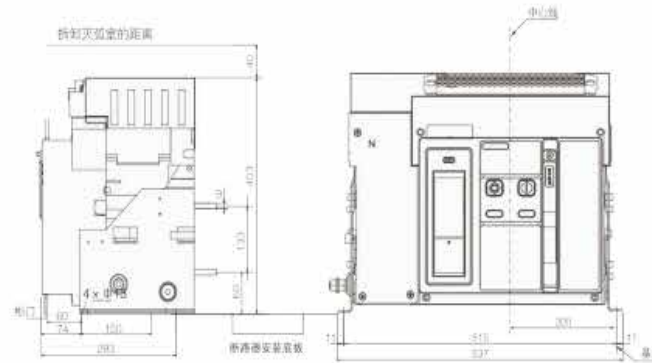
Distribution Apparatus

YCW8-□HU Air Circuit Breaker

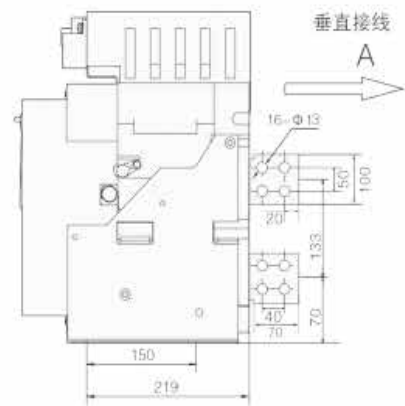
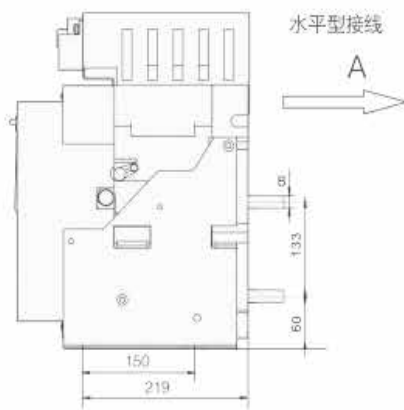
YCW8-4000HU 3P fixed type



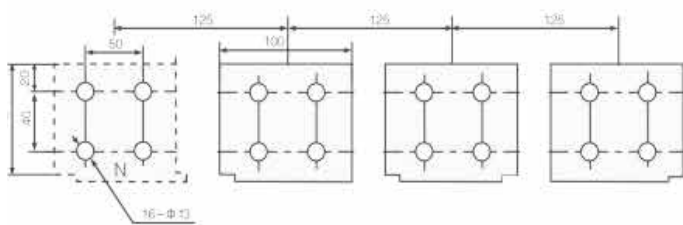
YCW8-4000HU 4P fixed type



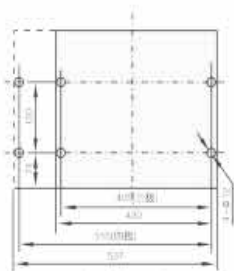
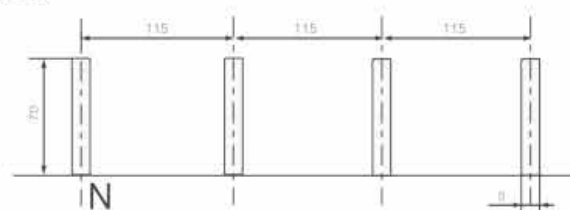
B



▶ 标准型水平接线



◆ 垂直接线



安装尺寸

Rated current (A)	Dimension B (mm)
2000,2500	20
2900,3200	30
3600,4000	

Distribution Apparatus

YCW8-□HU Air Circuit Breaker

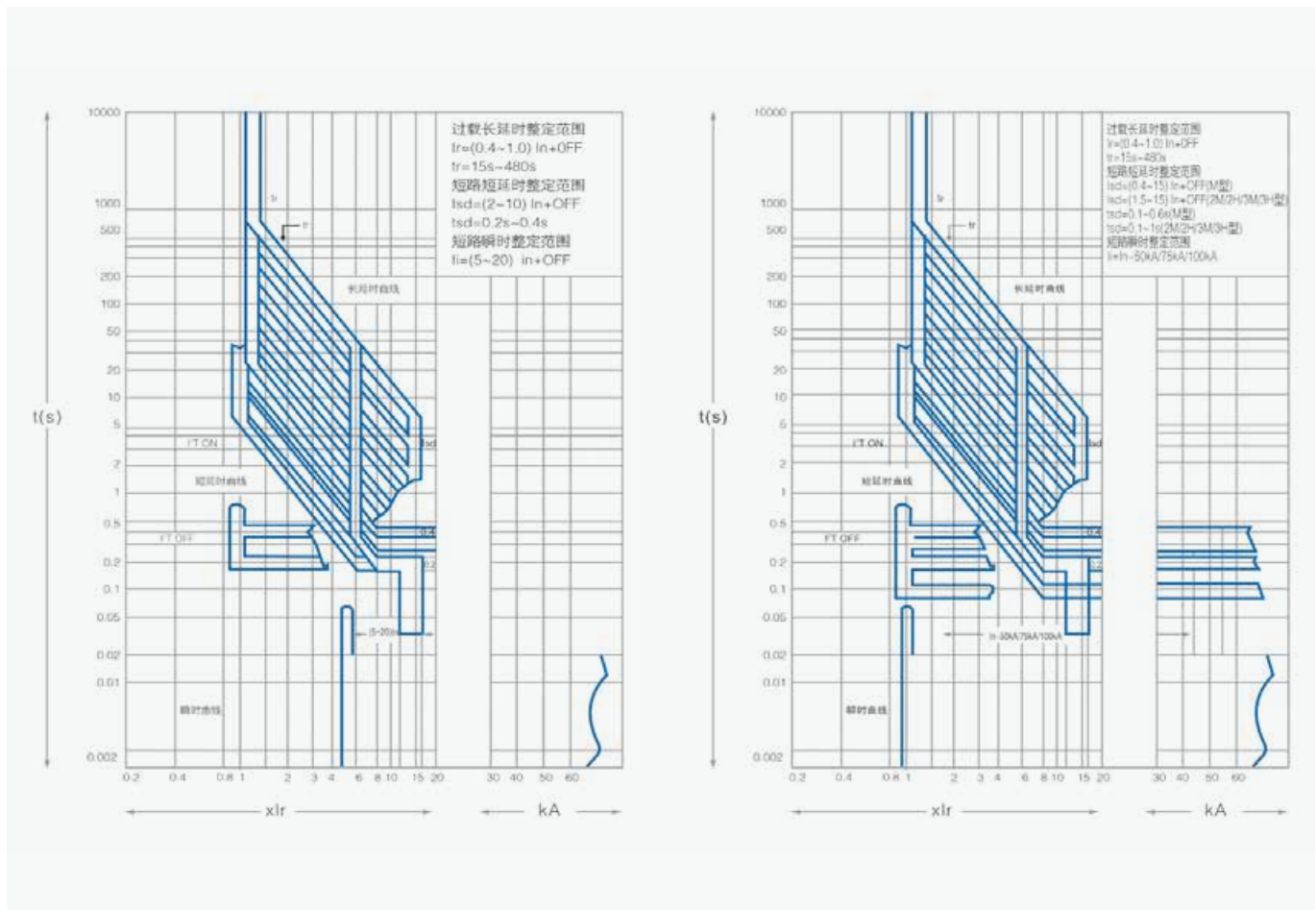
Operating conditions

Surrounding working environment temperature	Continuous current carrying capacity	
	$I_{nm}=2500A$	$I_{nm}=4000A$
+40 °C	$1I_{nm}$	$1I_{nm}$
+45 °C	$0.97I_{nm}$	$0.96I_{nm}$
+50 °C	$0.91I_{nm}$	$0.90I_{nm}$
+55 °C	$0.87I_{nm}$	$0.86I_{nm}$
+60 °C	$0.82I_{nm}$	$0.80I_{nm}$

If the altitude exceeds 2000m in the applicable working environment, the power frequency withstand voltage can be corrected according to the following table:

Altitude(m)	Power frequency withstand voltage (V)	Operating current correction factor	Correction coefficient for short-circuit breaking capacity
2000	3500	1	1
3000	3150	0.93	0.93
4000	2500	0.88	0.71
5000	2000	0.82	0.63

Tripping curve



Distribution Apparatus

YCW9X Integrated Circuit Breaker



General

Integrated circuit breaker is one of the new circuit breakers developed by advanced technology, the product is suitable for general distribution system, new energy distribution system, multi-energy distribution network, inverter and distributed power rotary motor power supply grid-connected operation and protection and other occasions, it has isolation function and small size, high breaking capacity, and other multi-functional characteristics.

Standards: IEC60947-1 ,IEC60947-2

Operating Conditions

The ambient air temperature is -5 °C ~ +40 °C(beyond the range can be reduced capacity use), and the average value of 24h does not exceed +35°C ;

The elevation of the installation site does not exceed 2000m, more than 2000m capacity reduction use;

The relative humidity of the air at the installation site does not exceed 50% when the maximum temperature is +40°C , and can have a higher relative humidity at lower temperatures, such as 90% at 20°C .Special measures should be taken for condensation occasionally caused by temperature changes;

Pollution level is level 3;

Circuit breaker main circuit installation category IV, the rest of the auxiliary circuit and control circuit installation category III;

The circuit breaker should be installed in a place where there is no explosion risk, no conductive dust,no rain and snow attack, and no enough to corrode metal and destroy insulation.

Type designation

YC W9X - 1600 / □ □ □ □

Company Code	Design code	Frame grade current	Number of poles	Rated current	Controller type	Control voltage
YC	W9X	1600	/ □	□	□	□
CNC	Plastic frame integrated circuit breaker	1600A	3P,4P	200, 400,630,800 1000,1250,1600A	M(default),F,3M,3H	AC220V;AC380V

B

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Technical data

Type	YCW9X-1600	
Bracket rating Current $I_{nm}(A)$	1600	
Rated current $I_n(A)$	200,400,630,800,1000,1250,1600	
Rated operating voltage $U_e(V)$	AC400V,AC800V	
Rated insulation voltage $U_i(V)$	1000	
Rated impulse withstand voltage $U_{imp}(kV)$	12	
Power frequency withstand voltage $U(V)1min$	3500	
Number of poles	3,4	
N-pole rated current $I_n(A)$	100% I_n	
Rated limit short-circuit breaking capacity $I_{cu}(kA)(valid\ value)$	AC400V	60
	AC800V	32
Rated operating short-circuit breaking capacity $I_{cs}(kA)(valid\ value)$	AC400V	50
	AC800V	20
Rated short-circuit ability $I_{cm}(kA)$ (Peak)	AC400V	143
	AC800V	105
Rated short-time withstand current $I_{cw}(kA)/1s(valid\ value)$	AC400V	50
	AC800V	20
Total breaking time (no additional delay)(ms)	25	
Closing time(ms)	Max70	
Electrical life (s)	AC400V	maintenance-free 1500
		maintenance-free 4500
	AC800V	maintenance-free 1200
		Be maintained 3500
Mechanical life (second)	Maintenance-free	4500
	Be maintained	8500

B

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Overload long delay protection

The overload and long delay protection function generally protects the cable from overload.

Overload long delay protection parameter setting

Overload protection parameter setting table

Parameter name	Adjustment range	Remark
Action current set value I_r	$= (0.2 \sim 1.0) I_n + \text{OFF}$, Adjust the step $= 1A$.	
Protection curve type	Curve 1: Standard inverse time Curve 2: Fast inverse time Curve 3: Express inverse time (general distribution protection) Curve 4: Express inverse time limit (for motor protection) Curve 5: High voltage fuse compatibility Curve 6: Universal inverse time (I^2t)	For distribution protection, the upper limit of I_r is $1.0I_n$. For generator protection, the upper limit of I_r is $1.25I_n$. "OFF" indicates that the function is out.
Delay time set T_r	C01~C16	
Cooling time setting	Instantaneous, 10min, 20min, 30min, 45min, 1h, 2h	

Peculiarity	Current multiple ($n=I/I_r$)	Action characteristic	Delay error
Inactive characteristic	$n \leq 1.05$	>2h No action	
Action characteristic	$n > 1.2$	< 1h action	
Delay characteristic	$n > 1.2$	Characteristic curve, factory default characteristic curve 3 EI(G)	$\pm 10\%$

peculiarity	Current multiple ($n=I/I_r$)	Action characteristic	Delay error
Inactive characteristic	$n \leq 0.95$	>2h No action	
Action characteristic	$n > 1.05$	< 1h action	
Action delay	$n > 1.05$	Characteristic curve 6, generator protection characteristic curve: $t = t_r \cdot \left(\frac{1.2}{n}\right)^2$	$\pm 10\%$

The controller provides 6 overload protection characteristic curves, which are expressed as follows:

Curve 1. Standard inverse time (SI):
$$t = \frac{1.2}{n^{0.02-1}}$$

Curve 2, Fast inverse time (VI):
$$t = \frac{1.2}{n-1}$$

Curve 3, Express inverse time (general purpose) EI(G):
$$t = \frac{1.2}{n^2-1}$$

Curve 4, Express inverse time (motor use) EI(M):
$$t = \frac{K}{1.15} \cdot \ln \frac{N^2}{N^2-1.15}$$

Curve 5, High Voltage fuse Compatibility (HV):
$$t = \frac{1.2}{n^4-1}$$

Curve 6, universal inverse time (I^2t):
$$t = \frac{K}{n^2}$$

In the above 6 formulas: t: inverse time delay action time (seconds, s)

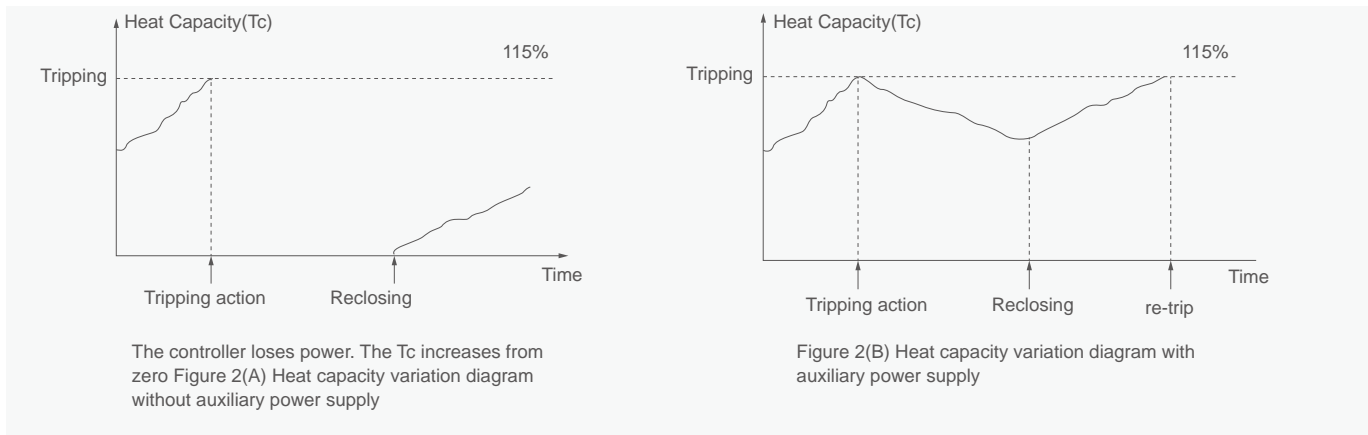
K: curve rate;

n: The multiple of the actual fault current relative to the long delay protection setting, that is, $n = \frac{1}{I_r}$

t_r : The delay time when n is equal to some eigenvalue (seconds, s)

Distribution Apparatus

YCW9X Integrated Circuit Breaker



B

Protection function

Thermal memory function

In order to prevent repeated or periodic overload, the controller tracks and records the thermal effect of the load current. When the thermal effect of the overload accumulates to a predetermined level, the trip will be caused. The way the heat capacity changes is determined by the curve chosen.

The heat capacity increases when the measured current value is greater than 1.1I_r. When the circuit breaker returns from overload state to non-overload state after tripping due to overload long delay fault or inverse time short circuit fault, the heat capacity decreases exponentially. Users can set the heat capacity cooling time: instantaneous, 10 minutes, 20 minutes, 30 minutes, 45 minutes, 1 hour, 2 hours. When the controller does not use the auxiliary power supply, the heat capacity is cleared to zero after the circuit breaker is broken, and the heat capacity accumulation is shown in Figure 2(A).

When the controller uses auxiliary power supply, the heat capacity decreases according to the heat dissipation law after the breaker is broken, and the heat capacity continues to change according to the current at this time on the basis of the original after re-closing. The change of heat capacity is shown in Figure 2(B).

Short circuit delay protection

Short circuit delay protection is set for Class B circuit breaker to achieve selective protection, for medium strength short circuit fault. Users can choose either fixed time mode or inverse time mode according to their needs.

3H type controller short delay protection can be optional area interlock function, when the short circuit fault occurs in the circuit breaker outlet side, short circuit delay will jump the circuit breaker instantaneously; When the short-circuit fault occurs on the outgoing side of the next level circuit breaker, the short-circuit delay is tripped after the agreed delay time. The implementation of this function needs to be combined with the use of programmable IO ports (DI and DO), DI is used to detect the area interlock signal of the next level circuit breaker, and DO is used to send the interlock signal of the upper level circuit breaker.

Short circuit delay protection parameter

Setting current: I _{sd}		I _{sd} =1.25~15I _r +OFF, OFF Indicates that the short delay protection is disabled	
Constant time-lag Inverse time lag	Setting time tsd Setting time tsd	tsd=d0.1s~d1.0s+OFF, A d before the time indicates a definite time limit	
	Action time (s)	T=tsd	
Inverse time lag	Setting time tsd	tsd=0.1s~1.0s+OFF, OFF Indicates alarm only without tripping	
	Action characteristic	Actions between 0.9 and 1.1 I _{sd}	≤ 0.9: No action
$T = \max \left\{ T_{sd}, \left(\frac{s \cdot I_R}{I} \right)^2 \times T_{sd} \right\}$	> 1.1: Delay action		
precision		Accuracy ±10% (inherent error ±40ms)	
Thermal memory function		15min+OFF (Factory default OFF, only valid for inverse time limit)	

Note: I_r=OFF when I_{sd}=1.25~15I_n+OFF;

Type 2, type 3 short delay inverse time delay characteristic curve 1~6, with overload long delay, but the curve speed is 10 times faster;

Distribution Apparatus

YCW9X Integrated Circuit Breaker

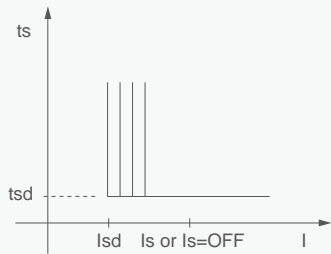


FIG.3(A) Short-circuit short-delay fixed time diagram

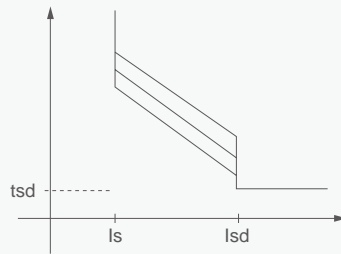


Figure 3(B) Inverse time diagram of short circuit delay

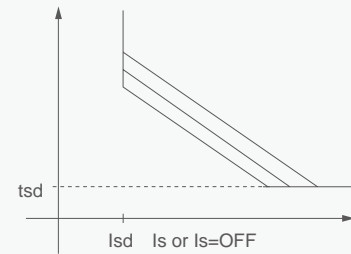


FIG.3(C) Inverse time diagram of short circuit delay when Isd=OFF

Use tips

- type 2 and type 3 short delay inverse time delay characteristics are the same as overload long delay delay characteristics, only the action delay time is 1/10 of the long delay.
- When the fault occurs, the protection is in a cold state (that is, the heat capacity =0), whether it is a long delay action or a short delay action, the action delay time is not less than the short delay time set value. In this case, the delay characteristic of short delay protection Is related to the Isd and IS setting values:
 - When $I_{sd} < 1s$ or $1s = \text{OFF}$, the controller only has a time-limit function; See Figure 3(A).
 - When $I_{sd} > 1s$, the controller has both inverse time limit and fixed time limit protection functions; See Figure 3(B).
 - When $I_s \neq \text{OFF}, I_{sd} = \text{OFF}$, the controller only has the inverse Time protection function, then the inverse time characteristic curve is called IDMT (Inverse Definite Minimum Time) inverse time characteristic. See Figure 3(C). For IDMT inverse time feature, refer to GB14048.1-2006 for the note 2.4.27.
 - When $I_{sd} = I_s = \text{OFF}$, the short delay protection function is disabled.
- When the fault occurs, the protection is in a hot state (that is, the heat capacity $\neq 0$), then the action delay time is not limited by the set value of the short delay time limit time.

Short circuit instantaneous protection

The instantaneous protection function is to prevent the solid short circuit of the distribution system, such faults are generally phase faults, short circuit current is relatively large, need to be quickly disconnected.

Characteristic parameters of short circuit instantaneous protection

Setting current I_i (A)	box I	1.0In~50kA+OFF
	box II	=1.0In~75kA+OFF
	box III	=1.0In~100kA+OFF
Action characteristic	0.85~1.15Ii In-between action	$\leq 0.85 I_{action}$
		> 1.15 Instantaneous action (natural action time $\leq 50\text{ms}$)

MCR and HSISC Protection

The on-off/off (MCR) and off-limit trip (HSISC) functions are instantaneous protection functions. MCR protection protects the switching ability of the circuit breaker to prevent the switch damage caused by exceeding the switching limit current when the circuit breaker is switched on. The protection works in the moment of opening and closing of the circuit breaker (within 100ms). HSISC protection protects the limit carrying capacity of the circuit breaker, prevents the switch from carrying more than the limit breaking current, and takes effect after closing 100ms.

MCR and HSISC Protection parameter setting table

Parameter name	Parameter name	Set the step size
MCR Operation current set value	30~100kA+OFF	1kA
HSISC Operation current set value	30~100kA+OFF	30~100kA+OFF 1kA

Use tips

- MCR and HSISC setting values are generally set when the circuit breaker is delivered, according to the breaking capacity of the circuit breaker, and are not adjustable by the end user.
- M-type controller factory default MCR=OFF, HSISC=OFF; H type factory default MCR=30kA, HSISC=50kA.

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Protection function

Neutral line protection

Neutral line protection is designed to adapt to the increasingly complex distribution system and the increasing number of neutral line faults. It is suitable for 3P+N or 4P circuit breaker configurations. The controller provides five neutral line protection modes: 50%N, 100%N, 160%N, 200%N and OFF. When the neutral line is thin, it can be protected by 50%N method; When the neutral line is the same as other phase lines, it can be protected by 100%N. When the harmonics in the power grid are relatively serious, 160%N or 200%N can be used for protection. The neutral line protection characteristic is the same as the overload long delay action characteristic.

Neutral line protection parameter setting table

Protection mode	Long delay	Short time delay	Instantaneous movement	Ground connection	Scope of application
50%N	$I_r/2$	$I_{sd}/2$	I_i	I_g	Distribution system where the cross-sectional area of the neutral line is equal to 1/2 of the cross-sectional area of the phase line
100%N	I_r	I_{sd}	I_i	I_g	Distribution system in which the cross-sectional area of the neutral line is equal to the cross-sectional area of the phase line
160%N	$1.6I_r$	$1.6I_{sd}$	I_i	I_g	Distribution system where the cross-sectional area of the neutral line is 1.6 times that of the phase line
200%N	$2I_r$	$2I_{sd}$	I_i	I_g	Distribution system where the cross-sectional area of the neutral line is twice the cross-sectional area of the phase line
OFF	/	/	/	/	The neutral protection function is disabled

Use tips

1. The 1/2N mode is used as an example to illustrate the actual situation of neutral line protection: If a circuit breaker sets $I_r=2000A, I_{sd}=8000A, I_i=24000A, I_g=600A$, the neutral line $I_r=1000A, I_{sd}=4000A, I_i=24000A, I_g=600A$. When the current of the neutral line is greater than $1200A(1.2I_r)$, the neutral line long delay protection is enabled.
2. The fundamental (50Hz) currents in the neutral line of the three-phase load balancing circuit cancel each other, but 3, 9, 15... Odd times of equal order third harmonic currents are not cancelled but superimposed, which is why neutral lines are often overloaded (1). Therefore, the neutral line protection plays an effective role in protecting the cable heating aging caused by the 3n harmonics of the neutral line. IEC60364 Neutral line protection is required in this case.
3. The use of neutral line protection in 3P+N structure should pay attention to the design requirements of the distribution system. If the design requirements of the distribution system cannot break the neutral line but still have specific requirements for the neutral line overcurrent protection, the protection function can be activated.
4. In the IEC60364 standard also stipulates that for TT, TN-S, IT systems, if the neutral line cross-sectional area is smaller than the phase line, neutral line overcurrent protection should be used; Neutral line protection should not be used in TN-C systems.

Earth fault protection

The IEC60364 grounding fault is defined as a short circuit fault between the phase line and the ground or grounded metal pipe structure or device shell. Ground fault protection applies to the TN system, that is, the power distribution system where the neutral point of the power supply is grounded and the device enclosure is connected to the neutral line. The ground fault current can reach kA level strength.

It varies according to the specific details of the TN system and the circuit breaker configuration. There are three main modes of ground fault protection:

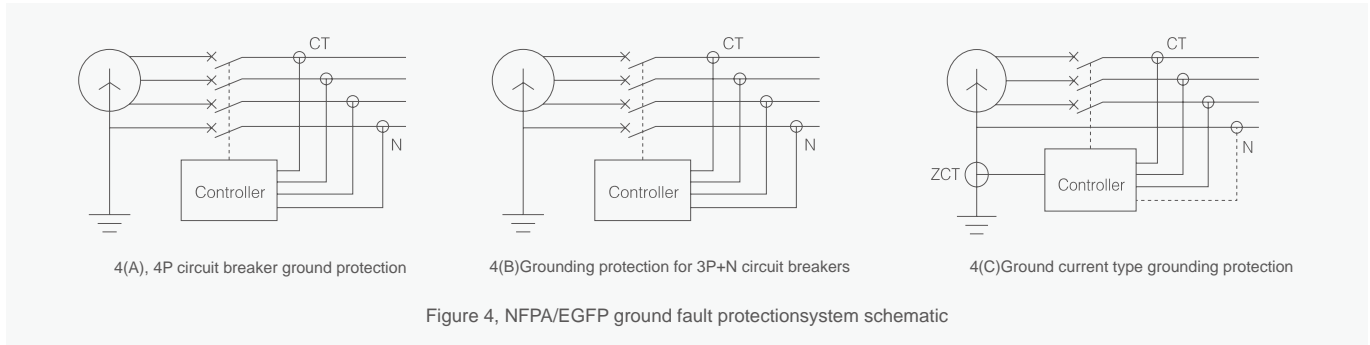
First, NFPA/EGFP mode;

Second, limited (REF)/ unrestricted (UEF) grounding protection;

Third, standby ground protection (SEF).

Distribution Apparatus

YCW9X Integrated Circuit Breaker



Protection function

NFPA/EGFP Ground protection mode

1. This Protection mode is a protection policy developed by the National Fire Protection Association for TB systems in the NFPA70 standard, called Ground Fault Protection of Equipment (EGFP). It has the following points:
2. The neutral point of the distribution system must be directly Grounded (Solidly Grounded), and the grounding circuit cannot be strung into any resistance or reactance.
3. The maximum current setting value of the protection cannot exceed 1200A; When the fault current is greater than 1200A, neither the inverse time limit nor the fixed time limit delay shall exceed 1s.
4. There are two types of NFPA/EGFP ground fault protection: First, the vector sum mode (also known as residual current mode, type T), that is, the ground fault current is equal to the vector sum of the phase line and neutral line current. Figure 4(A) and 4(B) show the vector sum mode of the ground current of 4P and 3P+N respectively. Second, the Ground current mode (W type), that is, an independent current transformer detects the current of the Ground Return circuit of the power supply, and the current detected by other phase line transformers does not participate in the protection. As shown in Figure 4(C).

Use tips

1. The location of the ZCT configuration in the ground current mode is very important for the effectiveness of protection. It must be installed in the Ground Return circuit of the power supply (transformer). The ground return circuit refers to the neutral point of the transformer grounding wire, and the neutral line is the circuit between the point and the earth.
2. If the 3P circuit breaker is configured in a TN system and requires ground fault protection, it must be used in 3P+N mode (as shown in Figure 4(B)) or ground current mode (as shown in Figure 4(C)). Otherwise, disable the grounding fault protection function to prevent the controller from misoperating.
3. In the case of FIG. 4(B) and 4(C), the maximum distance between the neutral line CT or ZCT and the circuit breaker is less than 10 meters. Interference caused by excessively long signal transmission may lead to misoperation.

NFPA Ground protection mode characteristic parameters

Setting current (I _g)		I _n ≤ 1200A I _n > 1200A	I _g = (0.2~1)I _n + OFF; I _g = 240~1200A + OFF;	Step: 1A. OFF indicates that the function is disabled
Action characteristic		0.8~1.0I _g I _n -between action	≤ 0.8 I _g Inaction ≥ 1.0 I _g Delay action	
Setting time (t _g)		0.1~1.0s		
Action time	Inverse time lag	$T = \max \left\{ \left(\frac{1}{n} \right)^2 T_g, T_g \right\}; n = \frac{1}{I_{gm}}; I_{gm} = \begin{cases} = I_n, I_n < 1200A \\ = 1200A, I_n \geq 1200A \end{cases}$ Error: ±15% (inherent ±40ms)		
	Constant time-lag	T = T _g ; Rerror: ±40ms ≤ 0.9; No action		
Ground area interlock (ZSI)	The controller must be equipped with ZSI function to have this; One switch output (DO) is set to ZSI output; One switch input (DI) is set to ZSI input;			

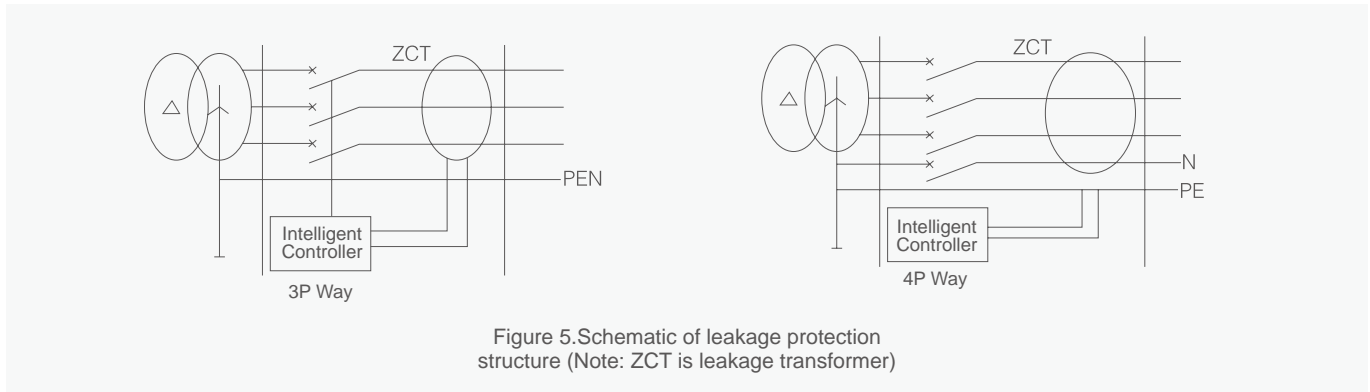
Use tips

1. The factory default protection mode of the controller is NFPA. When current (I_g) is set to OFF, the function is turned off;
2. In order to facilitate switching between inverse time limit and fixed time limit mode, when setting T_g parameters, if 0.10~1.00 is displayed, it means that the current setting value is inverse time limit. If the value d0.10 to d1.00 is displayed, the current value is a specified time limit.
3. For vector and form, transformer breakage will directly lead to serious deviation of current vector and sum, resulting in misoperation. Therefore, once the controller self-diagnosis function detects the fault of the transformer broken line, the protection mode will be automatically shielded and the self-diagnosis alarm will be started.

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Protection function



Earth alarm

The ground alarm function and the ground protection function of the Type 3 controller are independent of each other, and exist at the same time, with different setting parameters.

Leakage protection

Leakage protection is applicable to the leakage fault caused by insulation damage or the leakage fault caused by human contact with the conductive part of the leakage. The leakage current $I_{\Delta n}$ is directly expressed in amperes and has nothing to do with the rated current of the circuit breaker. The zero-sequence sampling method is adopted, and a zero-sequence current transformer is required. This kind of transformer has high sampling accuracy, high sensitivity and is suitable for small current protection.

Leakage protection characteristic parameters

Setting current (A)	$I_{\Delta n}$	0.5~30A+OFF (Level difference 0.1A, OFF indicates exit)	
	Action characteristic	in $(0.8-1.0)I_{\Delta n}$ In-between action	$\leq 0.8I_{\Delta n}$ action $>1.0I_{\Delta n}$ Delay action
Delay (s)	Tg(s)	0.06, 0.08, 0.17, 0.25, 0.33, 0.42, 0.5, 0.58, 0.67, 0.75, 0.83, instantaneous	
	precision	$\pm 10\%$ (Inherent 40ms)	

Setting value of leakage protection delay time

Setting time	0.06	0.08	0.17	0.25	0.33	0.42	0.5	0.58	0.67	0.75	0.83	Instantaneous
Multiple of fault current	Max disconnect time (s)											
$I_{\Delta n}$	0.36	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	0.02
$2I_{\Delta n}$	0.18	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	0.02
$5I_{\Delta n}/10I_{\Delta n}$	0.072	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	0.02

Leakage protection can also be divided into two sections, inverse time limit and fixed time limit; When $I/I_{\Delta n} < 5$ is the inverse time limit, when $I/I_{\Delta n} \geq 5$ is the fixed time limit; Leakage protection characteristic curve and protection conditions are as follows:

$$T = \begin{cases} \left(\frac{I_{\Delta n}}{I}\right) \times 6 \times T_g & (I/I_{\Delta n} < 5) \\ (6 \times T_g)/5 & (I/I_{\Delta n} \geq 5) \end{cases}$$

For example, if the leakage delay time is set to $T_g=0.06s$, when $I=I_{\Delta n}$, $t=0.36s$; When $I=2I_{\Delta n}$, $t=0.18s$; When $I \geq 5I_{\Delta n}$, $t=0.072s$;

Load monitoring

Load monitoring can be used to forecast alarms and control branch loads. Action basis can be based on power or current action, there are two modes of action: Mode 1: Two loads can be independently controlled. When the operating parameters exceed the setting value, the corresponding load monitors the DO delay action (the corresponding DO function needs to be set), and controls the load splitting of two branches to ensure power supply for the main system. Mode 2: Generally used to control the load of the same branch, when the operating parameter exceeds the starting value, "load one" DO delay action (the action form can be pulse mode or level mode) to break the branch load; If the running parameter value is lower than the return value after breaking, and after the delay setting time, "load 1" DO return, "load 2" DO action (the action form can be pulse mode or level mode), switch on the broken load, and restore the system power supply.

Distribution Apparatus

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Measuring function

Current measurement

The controller can measure three line currents (I_a, I_b, I_c), neutral line current (I_N), ground current (I_g) or leakage current (I_{□n}) in real time, suitable for 50Hz/60Hz power grids. Measurement method: true RMS value or fundamental RMS value; Measuring range :I_a, I_b, I_c, I_N not less than 25 times I_n(circuit breaker rated current). Measurement accuracy: within the range of 2I_n, the measurement error is ±1.5%; ±5% above 2I_n;
(Use tip) : When the measured value is less than the lower limit of the range, 0 is displayed.

Voltage measurement

Real-time measurement of line voltages (U_{ab}, U_{bc}, U_{ca}, U_{MAx}) and phase voltages (U_{an}, U_{bn}, U_{cn}) for 50/60Hz power grids. Voltage measurement depends on the grid structure and circuit breaker configuration.

Measurement method: true effective value;

Measuring range :30V ~ 1200V(when the voltage is lower than the lower limit, it is displayed as 0V);

Measurement accuracy :±1.5%.

Self-diagnostic information recording

The self-diagnosis function of the controller is mainly used for the inspection and maintenance of its own operating status. It can detect the transformer broken line, magnetic flux broken line, circuit breaker rejection, contact maintenance, AD fault, XT clock fault, E2ROM fault and other own faults in real time. When the self-diagnosis fault occurs, the current self-diagnosis fault information can be found in the "Current alarm" menu option A DO alarm signal can be sent, and the self-diagnostic information is recorded in the alarm record.

Self-diagnostic fault information table

Self-diagnosis fault display content	Self-diagnostic fault description	Troubleshooting method
E-L1 E-L2 E-L3 E-LN	Indicates that the current transformer L1, L2, L3, and L _n are disconnected	Check whether L1, L2, L3, L _n wires of the secondary end of the current transformer are broken or broken, or whether the connection between L1, L2, L3, L _n and the circuit board is loose.
E-CT E-11	The controller trip coil is disconnected	Check whether the tripping magnetic flux and the circuit board are properly connected;
E-JD E-12	The controller does not detect that the circuit breaker is successfully opened	Check whether the small switch detection mechanism works normally;
E-13	Contact wear value >100%	The main contact needs to be maintained. After the maintenance is complete, manually reset the contact Contact wear value is restored to 0
E-02	The system A/D sampling circuit is faulty.	The controller cannot be used. Contact the manufacturer
E-01	The external memory chip is faulty	Power off and restart to see whether the fault disappears. If the fault still exists, it is required To replace the external E2ROM memory chip

Distribution Apparatus

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DO Feature

The controller has four sets of independent programmable I/O ports, which can be set according to the needs of the customer, and the internal relay contact output (contact capacity of 250VAC/5A,30VDC/5A). Relay definable functional states:

F and M controllers output DO parameter Settings				
Function setting	Short circuit instantaneous fault trip	Ground or leakage fault trip	Ground or leakage fault trip	Short circuit delay fault trip
	Overload long delay fault trip	Fault trip	Load monitoring 1 Unload the output	Load monitoring 2 Unload output
	The system self-diagnoses faults	Power grid fault state alarm	Remote switching	Remote closing
Execution mode	The fault trip switch signal, after the fault disappears, press the light clearing key to return		Others are 100ms pulse signal output	

3H controller output DO parameter setting				
Function setting	Be common	Give an alarm	Fault trip	Self-diagnostic alarm
	Load I unloading	Load II unloading	N-phase fault	Long delay trip
	Short delay trip	Instantaneous trip	MCR trip	HSISC trip
	Ground trip	Leakage trip	The lunbal trip	A trip is required
	B trip is required	A C trip is required	N trip is required	Undervoltage trip
	Overvoltage trip	The Uunbal trips	Underfrequency trip	Overfrequency tripping
	Phase sequence trip	Reverse power trip	Overload warning	Earth alarm
	Leakage alarm	lunbal call the police	Call the police with "A"	Call the "B" alarm
	Need to use C alarm	Need N alarm	Undervoltage alarm	Overvoltage alarm
	Uunbal, call the police	Underfrequency alarm	Overfrequency alarm	Reverse power alarm
	Phase sequence alarm	Communication failure	ZS1 Output	Remote switching
	Remote closing			
Execution mode	Normally open level	Normally closed level	Normally open pulse	Normally closed pulse

B

Distribution Apparatus

YCW9X Integrated Circuit Breaker

DI Input function Area Selective Interlocking (ZSI)

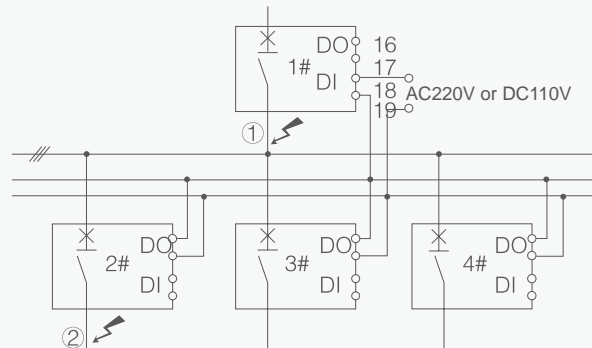


Figure 6 Schematic diagram of regional interlocking

Zone selective interlocking (ZSI) includes short circuit interlocking and ground interlocking, where two or more circuit breakers are connected as shown in Figure 15:

1. when the short circuit or ground fault occurs in the position of the lower circuit breaker (2# ~ #4circuit breaker) outlet side (such as position 2), the lower circuit breaker instantaneously trips, and sends a regional interlock trip signal to the upper circuit breaker (#1 circuit breaker); The upper circuit breaker receives the regional interlock trip signal and delays according to the parameters set by the short circuit or ground protection. If the fault current is cancelled during the delay of the upper circuit breaker, the protection returns and the upper circuit breaker does not operate. If the fault current does not cancel after the lower circuit breaker trips, the upper circuit breaker acts according to the set parameters of short circuit or ground protection to cut out the fault line.
2. When the short circuit or ground fault occurs between the upper circuit breaker (#1 circuit breaker) and the lower circuit breaker (2# ~ #4 circuit breaker) (such as position ①), the upper circuit breaker does not receive the regional interlock signal, and therefore the instantaneous trip, quickly cut the fault line.

Use tips

The ZSI function must be equipped with a set of DO(ZSI output in level mode) and a set of DI(ZSI input) as the electrical connection of the upper and lower circuit breakers; Please inform the manufacturer when ordering. Zone interlock is only available on 3H products.

Zonal selective interlocking (ZSI) is designed to reduce the fault stress that electrical distribution equipment suffers during short circuits or ground faults. The ZSI system works with a pre-collaborative(coordination of operating parameters between distribution devices) distribution system, which reduces the stress (damage) caused by faults by reducing fault clearance time, and maintains coordination between short-circuit or ground fault protection devices in the system.

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Test function

The controller can simulate the instantaneous trip action for the trip test during field debugging, regular inspection or overhaul to check the cooperation between the controller and the circuit breaker. After the completion of the test, display the mechanism action time or test state.

Use tips

1. This function can only be used during field debugging or maintenance of the circuit breaker, do not use it at will during normal operation;
2. Before each closing, the red reset button on the control panel must be pressed to close the circuit breaker again and put into operation;

Fault record and query function

When a fault trip occurs, the controller automatically records the fault current and operation time. You can press "Search" to query the fault record.

Self-diagnostic function

The self-diagnosis function of the controller is mainly used for the inspection and maintenance of its own operating status, and can detect the transformer signal breakage, magnetic flux breakage, circuit breaker rejection, and self-fault in real time.

Indicator full display function

The controller can light up all the nixie tubes and indicators, this function is used to check whether all the light emitting devices are normal.

Real-time Clock (RTC) function (optional)

The controller provides the real-time clock function to display the current date and time and record the fault time when a fault occurs.

Voltmeter function (optional)

The controller can be equipped with voltmeter, voltmeter can display the current three-phase line voltage U_{ab} , U_{bc} , U_{ca} , phase voltage U_{an} , U_{bn} , U_{cn} , voltage frequency F in real time;

Temperature protection function (optional F)

Control can be optional circuit breaker bus temperature protection function, through the external temperature acquisition module of the company, each pole bus is installed with a temperature sensor, the module can collect 3 or 4 pole circuit breakers; The controller and the temperature acquisition module are connected by RS485, and the collected temperature is displayed on the controller. When the temperature is detected to reach the setting

Value initiates delay and trip action.

Temperature Start value =25 to 160 ° C +OFF. OFF indicates that the temperature protection function is disabled and the return difference is 5 ° C.

Protection start delay =1~1800s+OFF,OFF indicates only alarm but no action.

(Usage instructions) : When the temperature alarm only does not trip, the alarm starting value = the set temperature starting value, the starting delay of 1s, the return difference is 5 ° C ; Alarm Lcd backlight yellow, self-diagnosis display E-03; If the relay output is required, the relay can be set to 11.09 system selfdiagnosis fault;

Distribution Apparatus

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Pressure recloser function (F type optional)

According to the Notice of the State Grid Corporation on the issuance of distributed power grid-connected opinions and Specifications, the special switch should have the function of losing voltage opening and checking voltage closing, and the setting value of losing voltage opening should be adjusted to 20%UN, 10 seconds, and the setting value of detecting voltage should be adjusted to greater than 85%UN. According to the requirements of the code, the intelligent controller adds the function of "loss of pressure opening and detection of pressure closing".

Loss of pressure opening function

When the minimum value of the three line voltages is less than the set value of the no-voltage start, after the set delay time, the switch control passive contact action, the output mode is 100ms pulse, and the window displays "U-F".

If the failure of opening is caused by the abnormal control loop in the process of opening, "E-09" will be displayed in the self-detection information, and the opening pulse signal will not be output at this time.

After checking and eliminating the fault of the opening loop, press the reset key to recover

Pressure loss switching function parameter table

Parameter name	Adjustment range	Adjust step size	Factory default	Remark
Protect startup settings	60V~1200V	1V	80V	$80V=(20\% \times UN)=(20\% \times 400V)$
Delay time set value	0.2~60s	0.1s	3.0s	
Execution mode	Switch off/switch off		Off	
Output mode	Switching relay 100ms pulse output			

Pressure closing function

When the minimum value of the three line voltages is less than the set value of the no-voltage start, after the setting delay time, the closing control passive contact action, the output mode is 100ms pulse, and the window displays "U-H".

If the closing failure is caused by the abnormal control loop during the closing process, "E-09" will be displayed in the self-detection information, and the closing pulse signal will not be output at this time. After checking and eliminating the fault of the closing loop, press the reset key to recover.

Pressure closing function parameter table

Parameter name	Adjustment range	Adjust step size	Factory default	Remark
Protect startup settings	60V~1200V	1V	340V	$340V=(85\% \times UN)=(85\% \times 400V)$
Delay time set value	0.2 ~ 60 s	0.1s	1.0s	
Execution mode	Turn off/turn off		Close	
Output mode	Closing relay 100ms pulse output			

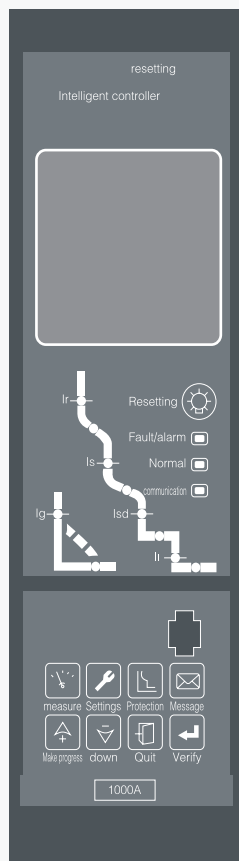
Communication function

H-type controller can realize telemetry, remote control, remote adjustment, remote communication and other functions by MODBUS protocol through communication port. The output of communication port adopts photoelectric isolation device, which is suitable for strong electrical interference environment. For details of the communication, see Type H Communication Protocol.

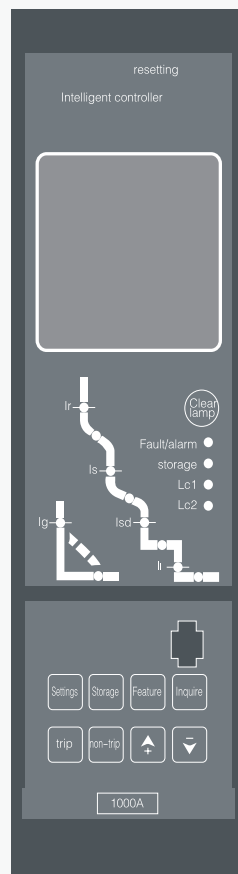
Distribution Apparatus

YCW9X Integrated Circuit Breaker

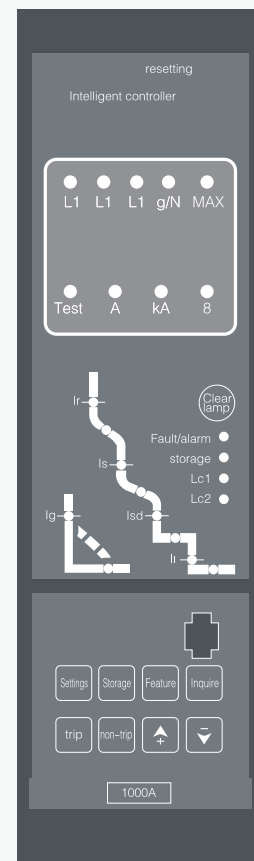
Controller panel diagram



3M,H Type controller panel diagram



F-type controller panel diagram



M Controller panel diagram

B

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Controller selection function list

Type specification	M Type	F Type	3M Type	3H Type	Temperature controller
Panel feature	Nixie tube +LED+ button	Liquid crystal display +LED+ button	Liquid crystal display +LED+ button	Liquid crystal display +LED+ button	Nixie tube +LED+ button
Basic protection (four-stage protection)	LSIG	LSIG	LSIG	LSIG	Can cooperate with our company F Series intelligent controller Used in combination or independently Use to achieve temperature mining Set, overtemperature protection or alarm Alarm output, data remote And other functions.
Long delay protection curve selection	●	●	●	●	
Neutral line overcurrent protection	●	●	●	●	
Load monitoring	○	○	○	●	
Programmable relay output	○	○	○	●	
Protection for MCR/HSIOC	○	○	○	○	
Current imbalance protection			●	●	
Leakage protection	○	○	○	○	
It needs to be measured by electric current			●	●	
The maximum current protection is required			●	●	
Voltage measurement		○	○	●	
Voltage protection (over/under voltage)			○	●	
Voltage unbalance protection			○	●	
Power/power factor measurement			○	●	
Reverse power protection			○	●	
Power protection is required			○	●	
System frequency measurement or protection		○	○	●	
Harmonics, waveform measurement			●	●	
The detection has the function of pressure coincidence		○			
Temperature protection		○			
485 Communication function		○		●	
Breaker contacts are worn			●	●	
Transformer broken line self-diagnosis	●	●	●	●	
Magnetic rupture self-diagnosis	●	●	●	●	

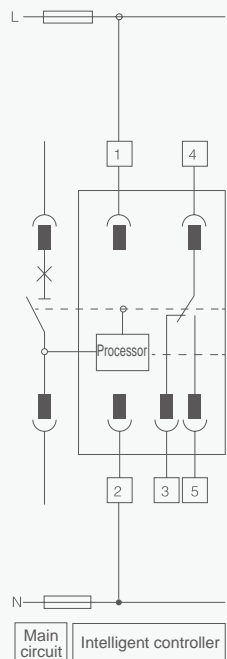
Note: ● - Basic function; ○ - co-option function;

Distribution Apparatus

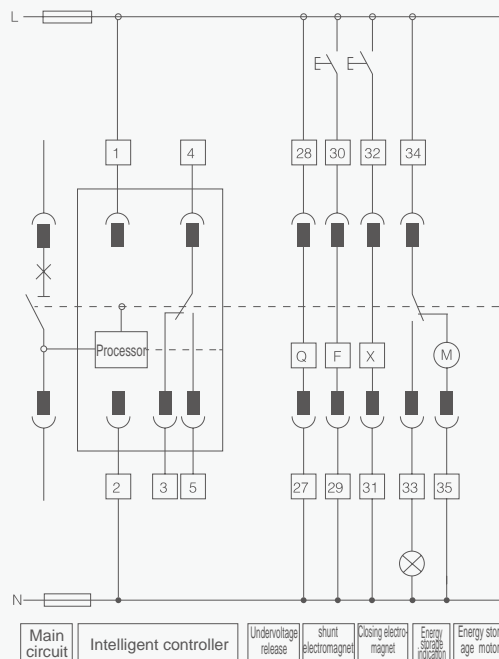
YCW9X Integrated Circuit Breaker

Wiring diagram

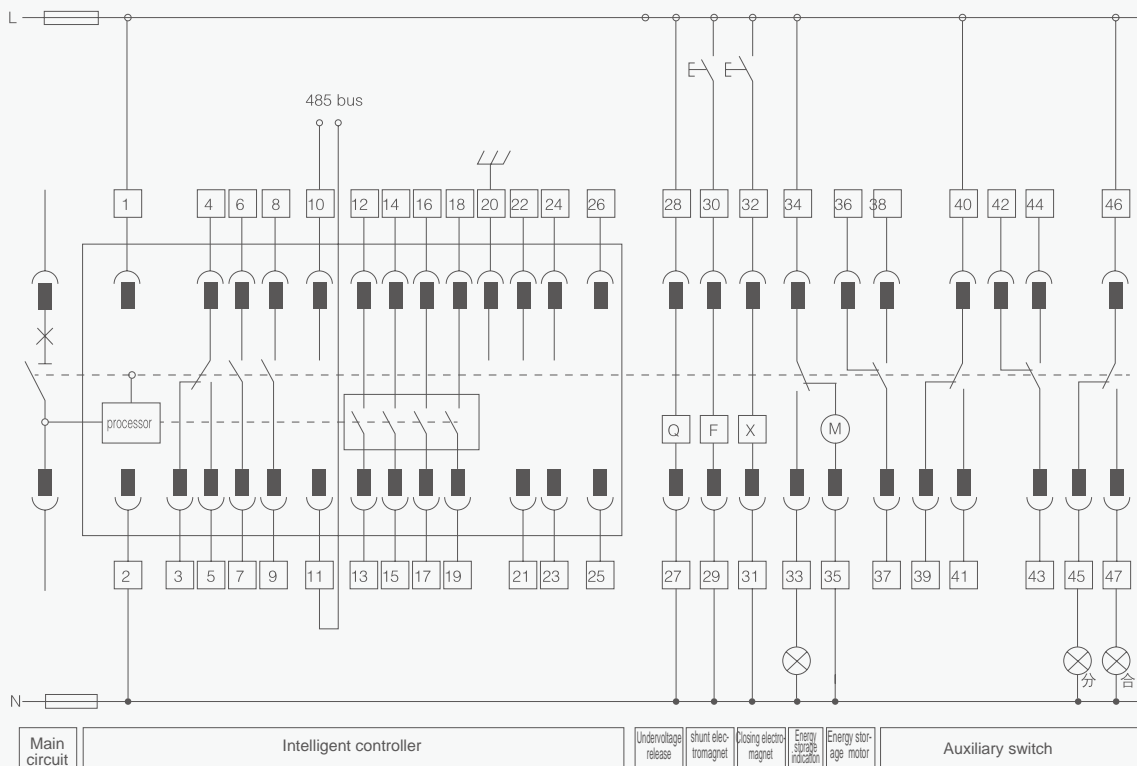
B



Manual secondary wiring diagram



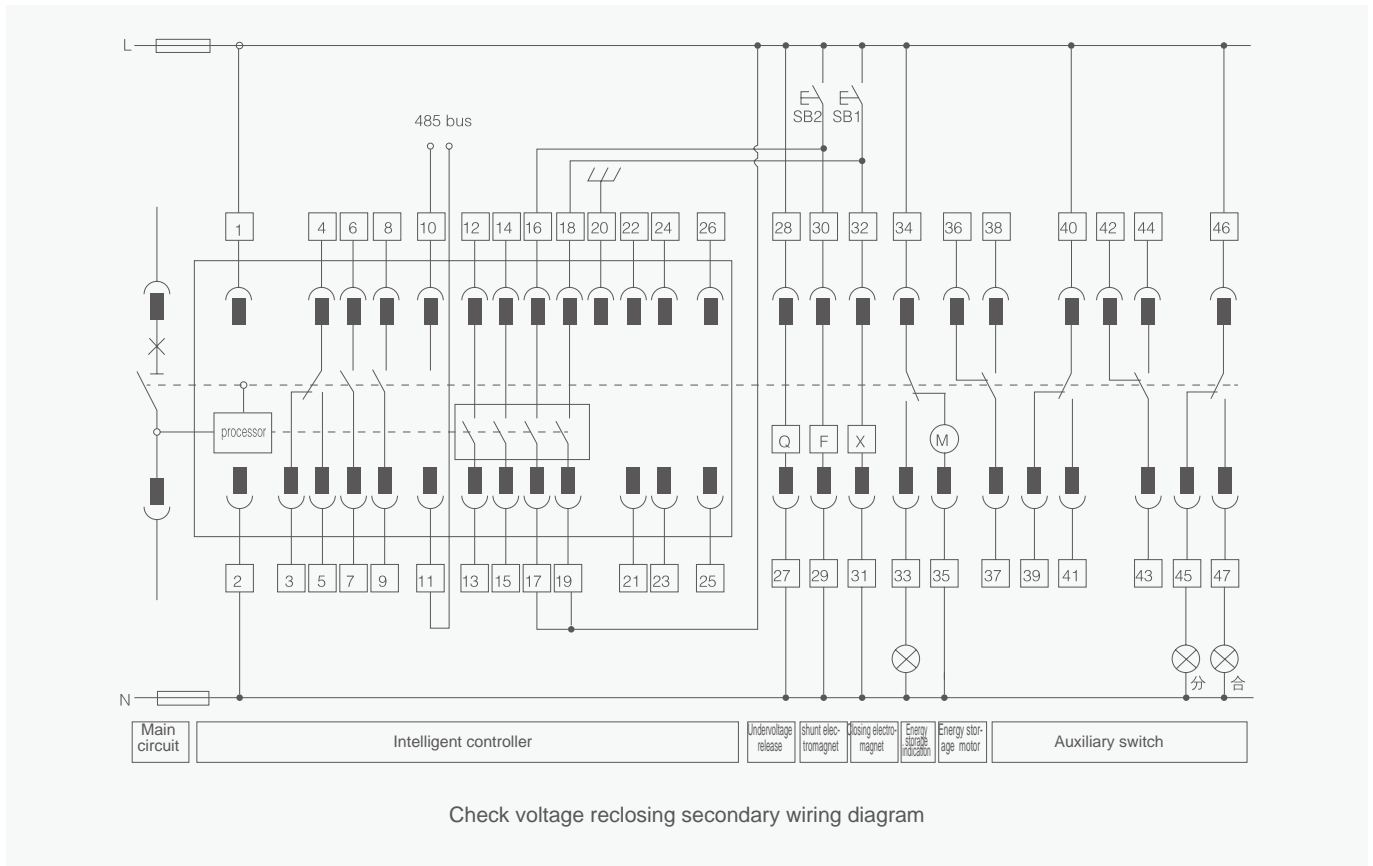
Electric secondary wiring diagram



Fully functional secondary wiring diagram

Distribution Apparatus

YCW9X Integrated Circuit Breaker



Controller terminal definition

Serial number	Wire number	Function description	Remark
1	1,2	Auxiliary power input	M type factory default (serial number 1-5) H type factory default (serial number 1-11)
2	3,4,5	Fault trip contact output (4# is the common end)	
3	6,7	Circuit breaker status auxiliary contact 1 Output	
4	8,9	Circuit breaker status auxiliary contact 2 output	
5	20	Protected area (PE)	
6	10,11	RS485 communication port leads terminals A and B	
7	12,13	Relay (D01) contact output	
8	14,15	Relay (D02) contact output	
9	16,17	Remote control tripping relay contact Output (D03)	
10	18,19	Remote closing relay contact output (D04)	
11	21,22,23,24	Voltage measurement input: N, A, B, C	
12	25,26	3P+N structure is connected to the neutral line transformer; Connect the leakage transformer ZCT1 for leakage protection	Order specification

Use tips

Q- undervoltage release device (can be connected to the “emergency stop” button when in use); X-closed electromagnet (normally closed auxiliary contact can be connected in series when in use); SB2- manual switch button; F-shunt trip device (normally open auxiliary contact can be connected in series when in use);M- motor; SB1- Manual closing button;

Communication network

For details about the communication network of the controller, see the Communication Network Description of the Controller 3.

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Precautions for operation and maintenance of the controller are as follows:

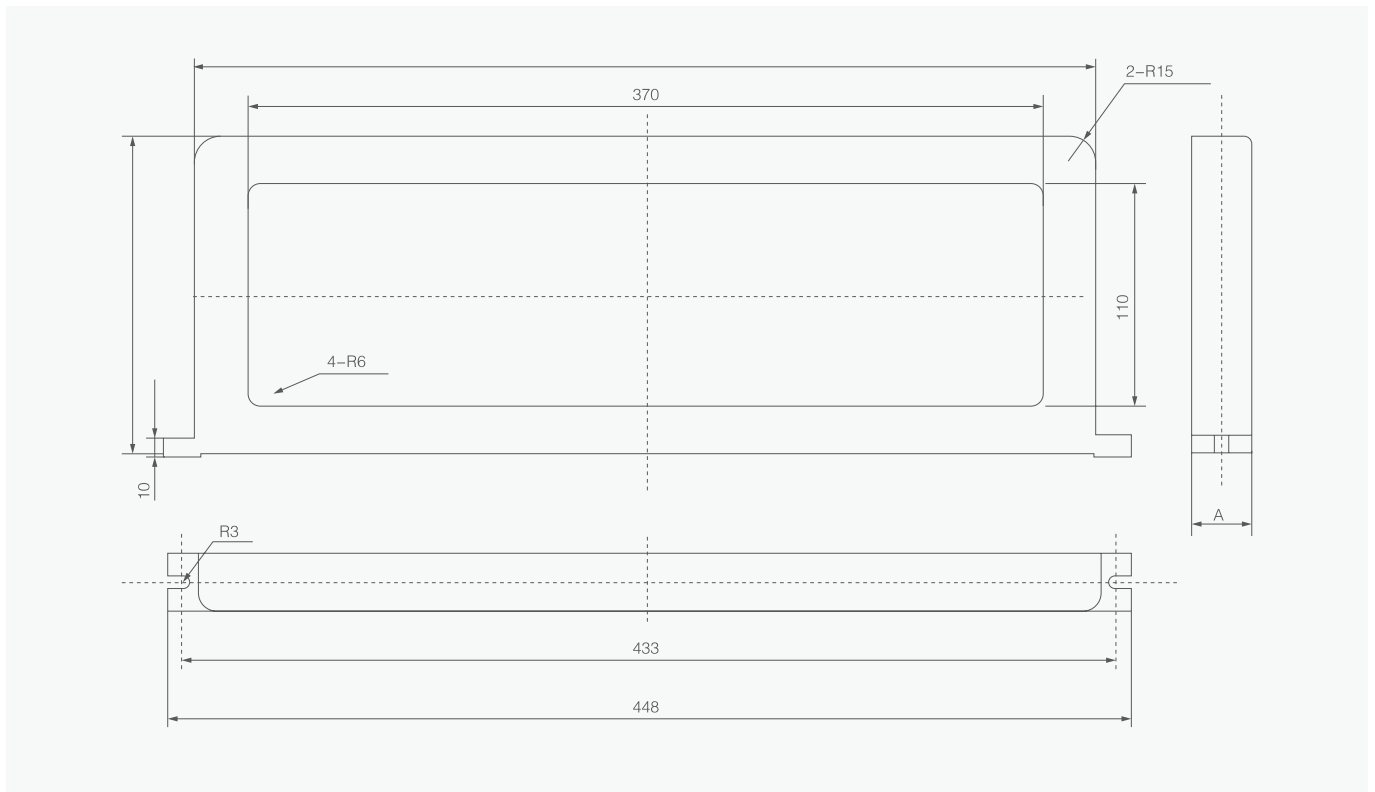
1. The controller shall be operated carefully according to the requirements of this Manual.
2. After assembling with the circuit breaker, the protective cover should be sealed during normal operation to prevent panel damage.
3. the normal operation should often check the controller system self-diagnosis information or alarm information, found problems should be analyzed and processed in time.
4. Should regularly check the fastening of the connection parts, if loose should be tightened in time.
5. After the fault trip, the cause of the fault should be carefully analyzed, and the red mechanical reset button on the panel can be put into use again after the fault is removed.

B

Attachments

Leakage transformer

When the earth protection selects the leakage type, it is necessary to add the leakage transformer (ZCT), and its installation size is shown in the figure:

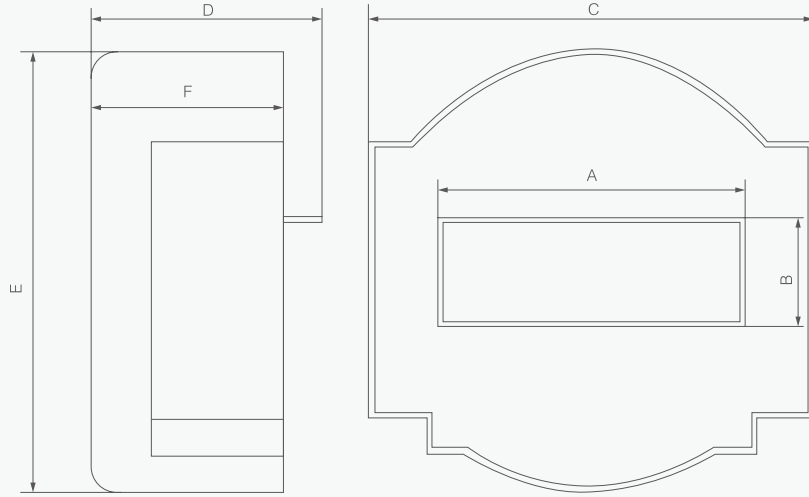


Distribution Apparatus

YCW9X Integrated Circuit Breaker

3P+N Configured neutral line transformer

When the controller is 3P+N, the external neutral transformer installation dimensions are shown in the following figure.

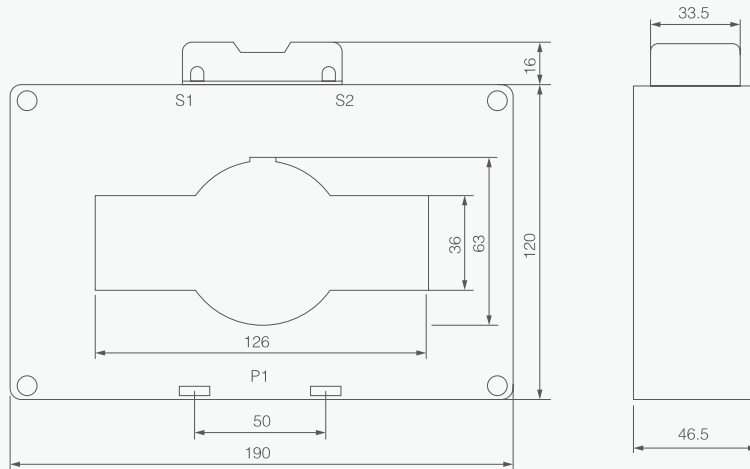


Standard 3P+N pole transformer appearance diagram

3P+N External neutral wire transformer installation size table (size unit mm)

	A	B	C	D	E	F
Box I transformer	60	20	90	44	90	37
Box II & III transformer	90	30	108	44	105	37

Special custom external N-pole transformer



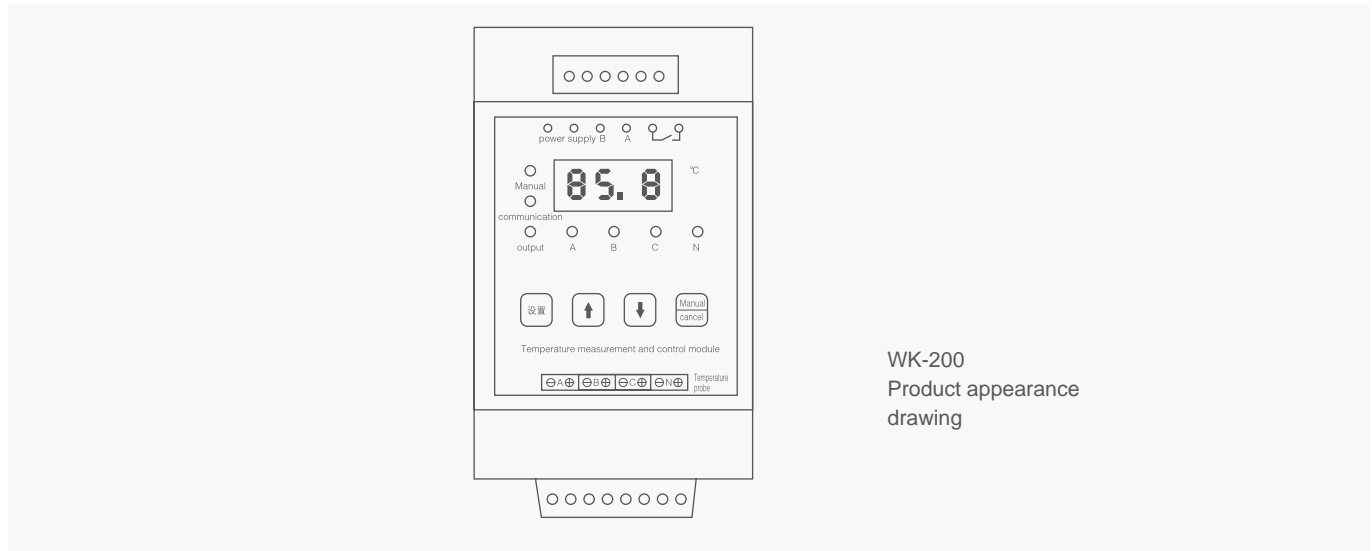
Hint

1. N pole transformer only hollow transformer, no speed saturation transformer; The cable length between the controller and the controller is less than 10m.
2. If you have any other size requirements, please contact us.

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Temperature protection module



WK-200 temperature acquisition module is a newly developed module for circuit breaker temperature measurement and control. Its characteristics are as follows:

1. Can be used with the company's series of intelligent controller or independent use, to achieve temperature collection, overtemperature protection or alarm output, data remote and other functions.
2. With the temperature sensor, the temperature of up to 4 busbars can be collected (with 3-pole or 4-pole switch).
3. Equipped with one RS485(using MODBUS protocol) interface, you can achieve data communication with the company's controller or other equipment.
4. This module can set temperature protection parameters independently, equipped with 1 relay output contact; According to user requirements can be used for over-temperature alarm/start cooling/overtemperature
5. switch and other functions.

Hint

1. N pole transformer only hollow transformer, no speed saturation transformer; The cable length between the controller and the controller is less than 10m.
2. If you have any other size requirements, please contact us.

Product parameter

1. Working power supply :AC220V or DC24V, $\leq 2W$, error $\pm 20\%$ (instructions when ordering)
2. Input specifications :1~4 temperature probes (instructions when ordering)
3. Relay capacity :AC250V/10A or DC30V/10A
4. Measuring range :0~200°C , error $\pm 1\%$
5. Communication: one RS485 communication (support Modbus communication protocol)
6. Overall size :L102xW55xH45mm

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Set parameters

item	Set range	Initial value	remarks
Temperature protection start value	10°C ~160°C	150°C	If the current temperature is higher than the start value, control the output
Temperature protection returned value	9C~159C	145°C	If the current temperature is lower than the returned value, the output stops
Correspondence address	1~255	1	
Communication baud rate	/	9.6 k	1.2k,2.4k,4.8k,9.6k,19.2k

Operation instruction

1. Temperature query: The main screen displays the current maximum temperature of TA,TB,TC,TN. Press (up) or (Down) to switch the temperature of TA,TB,TC,TN.
2. Parameter modification: click (Setting) to enter parameter setting; If the digital tube is blinking and A is steady on, it indicates that the parameters are being set.
Press (Up) or (Down) to modify the current parameter. Click (Settings) to save the current parameter and switch to the next parameter.
Tip: Click (Settings) when A,B,C,N cycle light,A represents the start value,B represents the return value,C represents the communication address,N represents the communication baud rate); Click the (Manual/Cancel) key to cancel the current setting and exit the setting state.
3. Relay manual output: in the main interface, click (manual/cancel) key to switch manual/automatic relay output; 【 Manual 】 , 【 Output 】 light is lit to manual output mode; (Manual) When the lamp is off, it is in automatic working mode, and the output is automatically controlled according to the temperature parameter set by the module. When there is (output), the lamp is on.
4. Temperature sensor disconnected detection: When a phase temperature sensor is disconnected or not connected, (--) is displayed when querying the phase temperature, please remove the exception in time.

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Frame/plastic integrated circuit breaker structure diagram

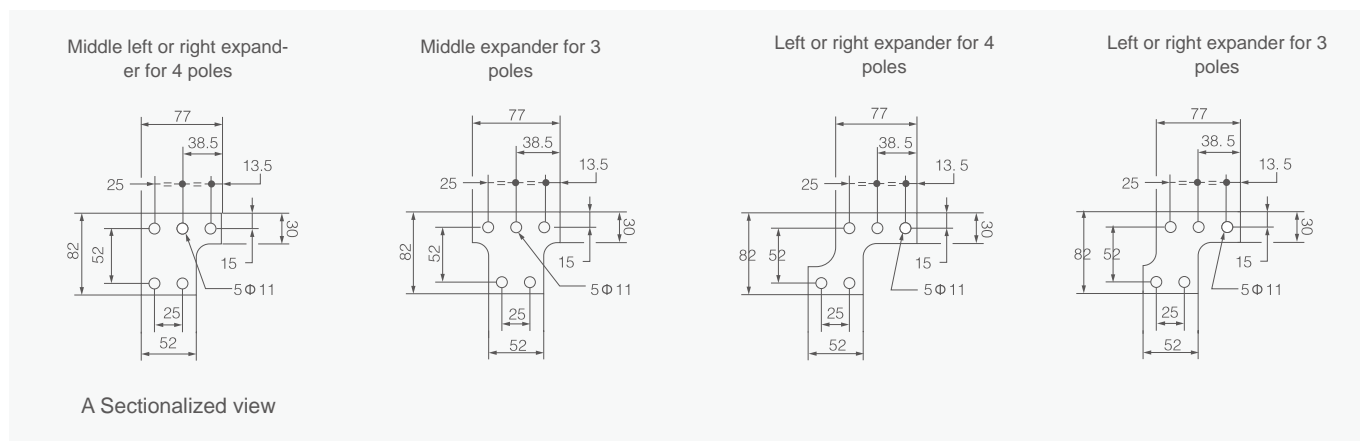
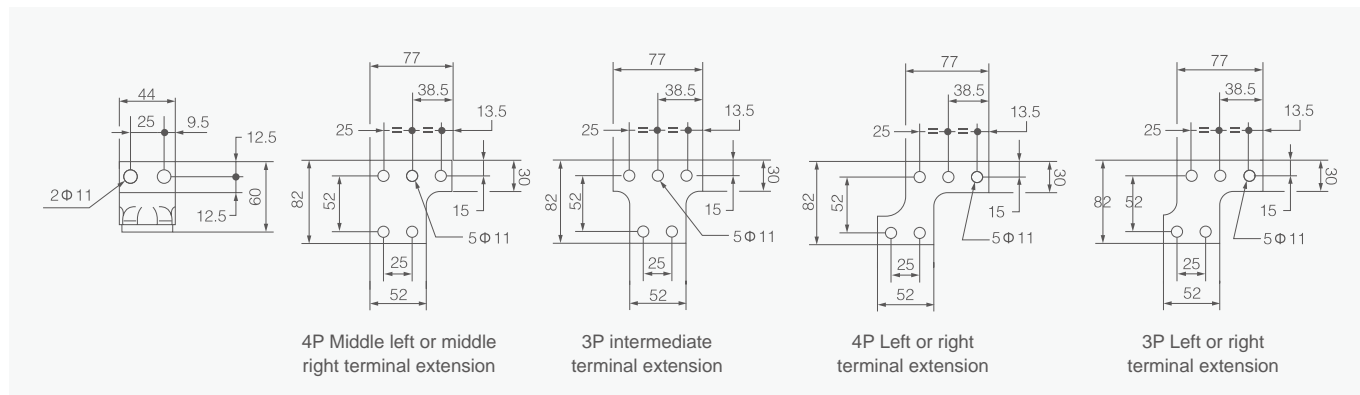


B

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Adapter bar Size (optional)



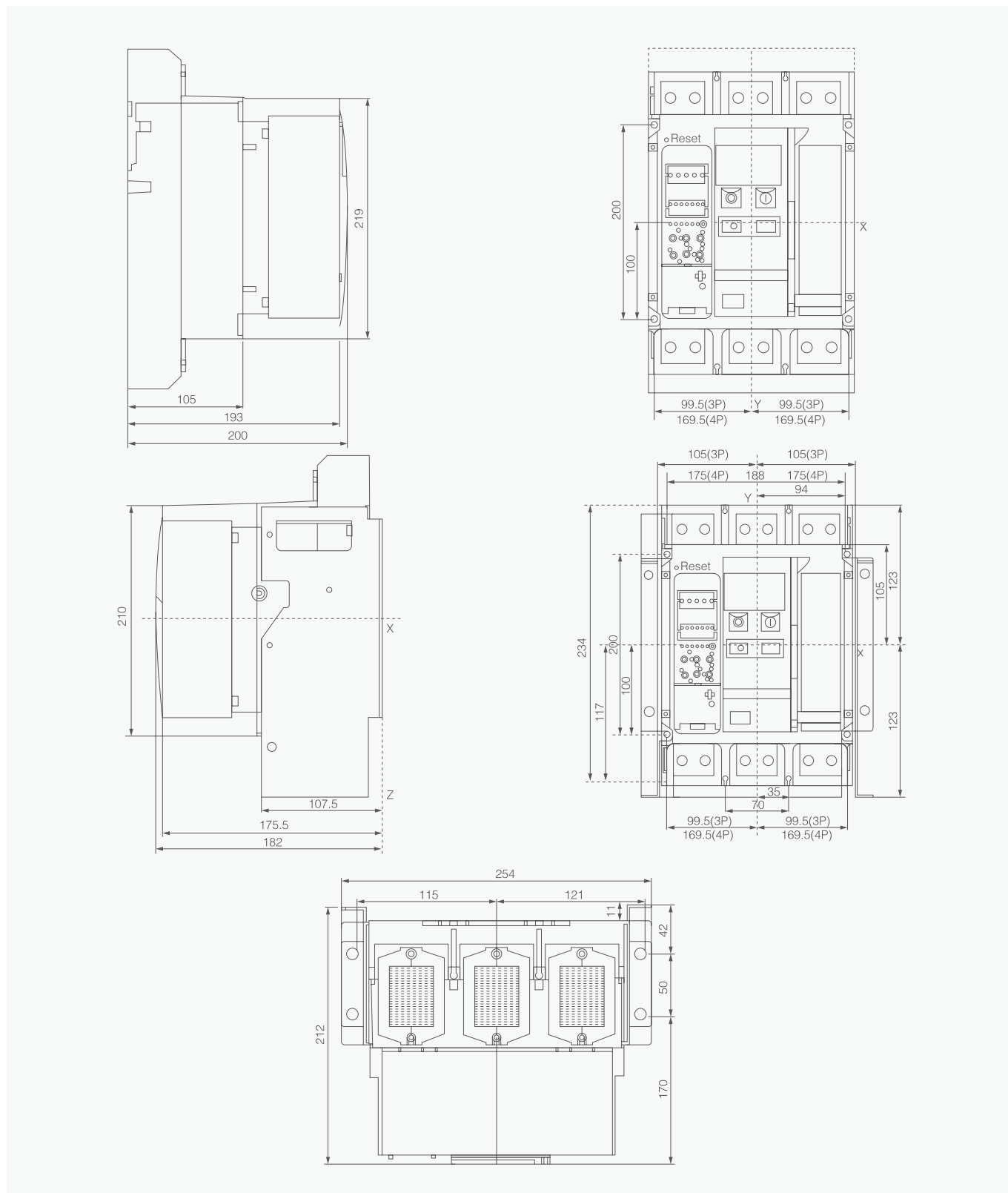
Recommended size and quantity of external bronze plate

Model number	Maximum working current	T:40°C Number of busbars		T:50°C Number of busbars		T:60°C Number of busbars	
		5mm thickness	10mm thickness	5mm thickness	10 mm thickness	5mm thickness	10mm thickness
800A	800	2b.50×5	1b.50×10	2b.50×5	1b.50×10	2b.50×5	1b.50×10
1000~1250A	1000~1250	3b.50×5	1b.50×10	3b.50×5	2b.50×10	3b.50×5	2b.50×10
1600A	1600	3b.50×5	2b.40×10	3b.50×5	2b.50×10	4b.50×5	2b.50×10

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Installation dimensions of the frame-plastic integrated circuit breaker



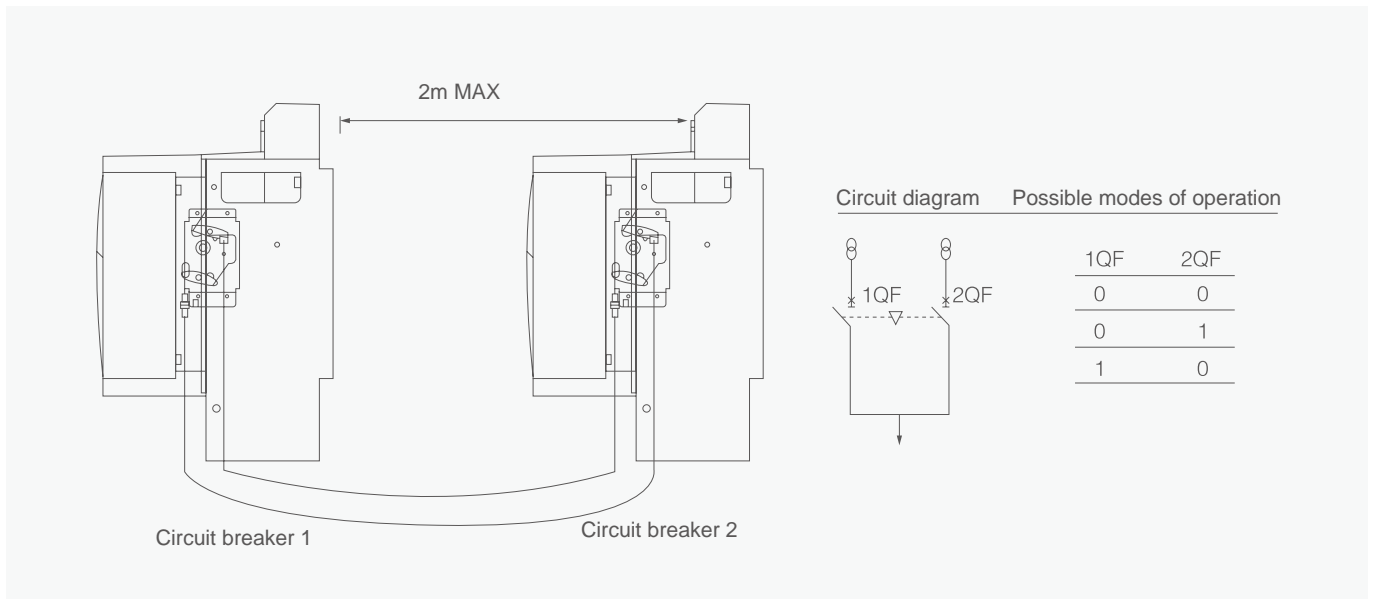
B

Distribution Apparatus

YCW9X Integrated Circuit Breaker

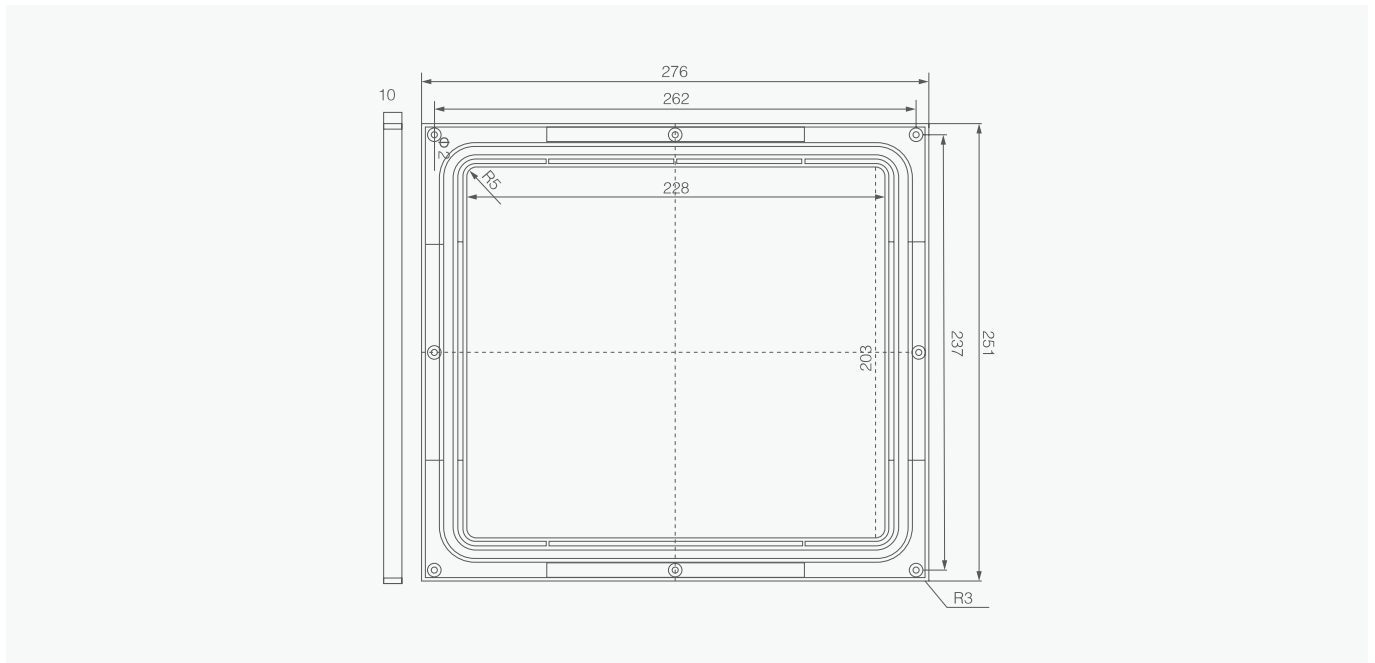
Installation dimensions of the frame-plastic integrated circuit breaker

Interlocking of two flat or stacked circuit breakers



Note: The cable length of interlocking steel cable is generally 2.5m, and 1.5m steel cable can also be provided, but the user needs to indicate when ordering.

Door frame size

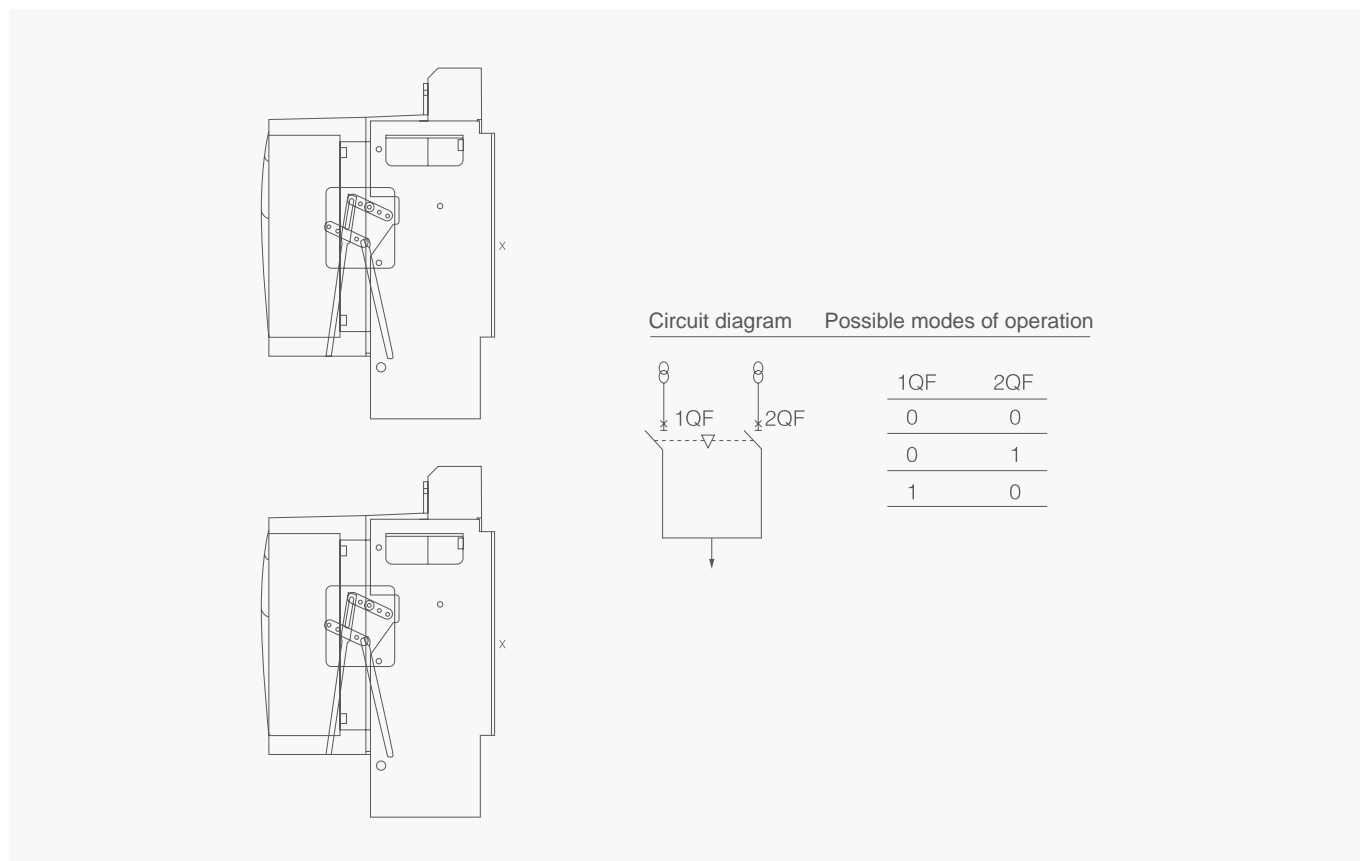


Distribution Apparatus

YCW9X Integrated Circuit Breaker

Installation dimensions of the frame-plastic integrated circuit breaker

Two bar interlocks for stacked circuit breakers



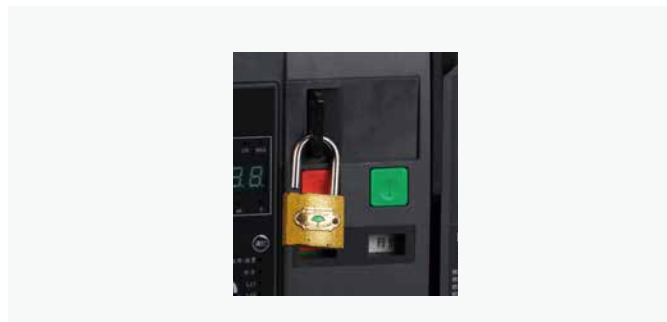
B

“Break” locking device

The “off” lock device locks the off button of the circuit breaker in the pressed position, at which time the circuit breaker will not close. After the user chooses the installation, the factory provides the lock and key; Three circuit breakers with three identical locks and two keys



When optional, the manufacturer will install the circuit breaker.



Optional (lock should be brought by the user)
When the lock is damaged, the user can replace it by himself.

Distribution Apparatus

YCW9X Integrated Circuit Breaker

Order specification				(Please make a ✓ in your		
User unit		Number of units ordered		Order date /		
Type specification	YCW9X-1600	Number of poles	<input type="checkbox"/> 3P <input type="checkbox"/> 4P	Installation mode	<input type="checkbox"/> Fixed <input type="checkbox"/> Fixed (with mounting bracket)	
Rated operating voltage	<input type="checkbox"/> AC400V <input type="checkbox"/> AC800V	Rated current In= A				
Intelligent controller	Type	<input type="checkbox"/> M	<input type="checkbox"/> 3M	<input type="checkbox"/> 3H	<input type="checkbox"/> F (pressure reclosing)	
	Basic function	<input type="checkbox"/> Overload long delay protection <input type="checkbox"/> Short circuit instantaneous protection <input type="checkbox"/> Fault memory function		<input type="checkbox"/> Short circuit delay protection <input type="checkbox"/> Grounding or leakage protection <input type="checkbox"/> Test function		
	Co-option function	<input type="checkbox"/> Ammeter function <input type="checkbox"/> Communication function <input type="checkbox"/> Area lock function		<input type="checkbox"/> Thermal simulation function <input type="checkbox"/> Load monitoring <input type="checkbox"/> MCR function <input type="checkbox"/> Self-diagnosis function		
	Grounding mode	<input type="checkbox"/> 3PT	<input type="checkbox"/> 4PT	<input type="checkbox"/> (3P+N)T Need external transformer ★		
	Controller power supply	<input type="checkbox"/> AC400V				
		<input type="checkbox"/> AC230V				
Optional Accessories	Shunt release	<input type="checkbox"/> AC400V		<input type="checkbox"/> AC230V		
	Closing electromagnet	<input type="checkbox"/> AC400V		<input type="checkbox"/> AC230V		
	Electric operating mechanism	<input type="checkbox"/> AC400V		<input type="checkbox"/> AC230V (include Shunt release and Closing electromagnet)		
	Auxiliary switch	<input type="checkbox"/> Normal form		<input type="checkbox"/> 4 sets of conversion+47 bit terminal blocks		
	Undervoltage release	<input type="checkbox"/> AC400V		<input type="checkbox"/> Undervoltage transient trip device		
		<input type="checkbox"/> AC230V		<input type="checkbox"/> Undervoltage delay release <input type="checkbox"/> 1s <input type="checkbox"/> 2s <input type="checkbox"/> 3s		
	Break position lock	<input type="checkbox"/> One lock one key (manufacturer installed) <input type="checkbox"/> Two locks and one key (manufacturer installed) <input type="checkbox"/> Three locks two keys (manufacturer installed) <input type="checkbox"/> One lock and one key (own) <input type="checkbox"/> Two locks and one key (brought by oneself) <input type="checkbox"/> Three locks two keys (self)				
	Mechanical interlocking	<input type="checkbox"/> Steel cable interlock (two sets)		<input type="checkbox"/> Lever interlock two switches		
Other accessories	<input type="checkbox"/> Expansion row		<input type="checkbox"/> Other			

Note: If the customer has other special requirements, please negotiate with the manufacturer.

Distribution Apparatus

YCQ1B Automatic Transfer Switch



General

The dual power automatic switch is used to switch between two power sources. It is divided into common power supply and standby power supply. When the common power supply is powered off, the standby power supply is used. When the common power supply is called, the common power supply is restored, if you do not need automatic switching in special circumstances, you can also set it to manual switching (this type of manual / automatic dual-use, arbitrary adjustment).

B

Type designation

Model	Automatic transfer switch	Design number	Mini circuit breaker	Frame current	Poles
YC	Q	1	B	63	□
CNC	/	/	/	/	2P 3P 4P

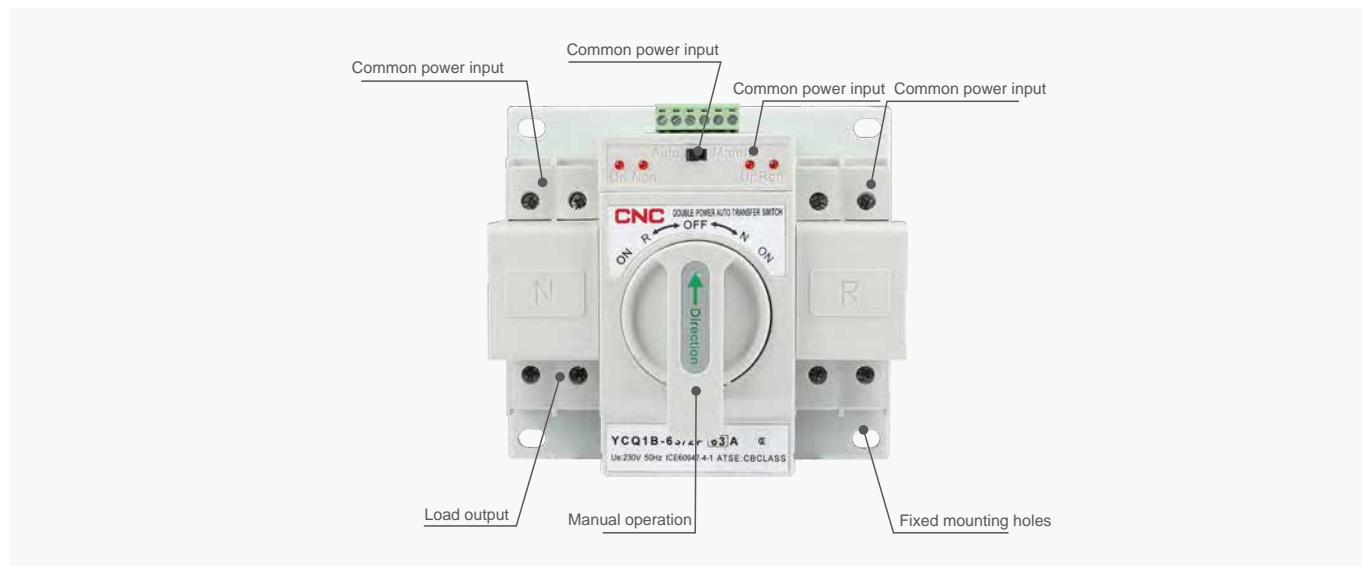
Technical data

Type	YCQ1B-63
Working frequency	50Hz/60Hz
Rated voltage	AC400V
Operating Voltage	AC220V
Standards compliant	IEC60947-6-1
Product Size	185mm×138mm×115mm
Operation method	Automatic and manual
ATS level	CB
Conversion time	≤2s
Current specifications	10A-63A
Conversion method	Self-return

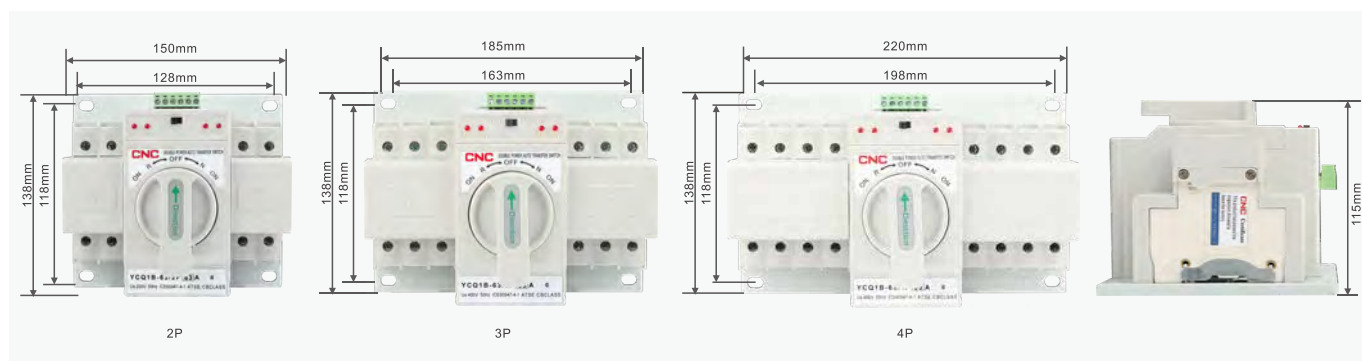
Distribution Apparatus

YCQ1B Automatic Transfer Switch

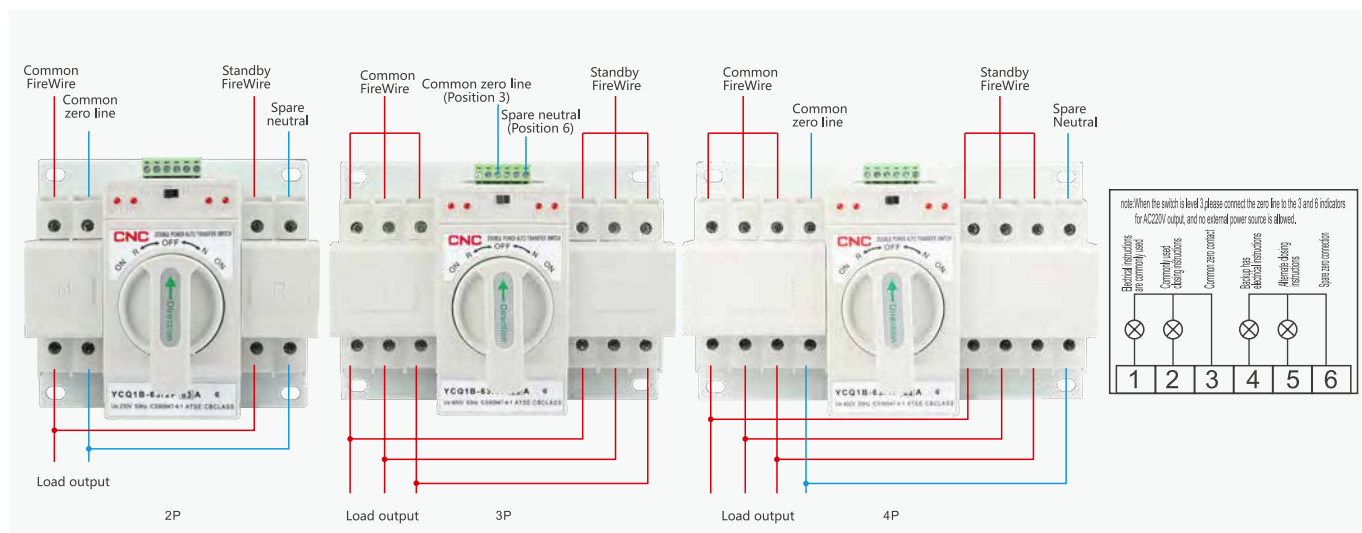
Product Overview



Overall and mounting dimensions(mm)



Wiring diagram



YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)



YCQ1F-63/2P



YCQ1F-63/3P



YCQ1F-250/3P



YCQ1F-630/4P

General

The YCQ1F series automatic transfer switch consists of a load isolation switch (without overload and short-circuit protection mechanism) and an intelligent controller. The switch adopts an excitation type transfer mechanism, which provides faster switching speed. It also employs a new microcomputer control system for intelligent monitoring and control, strong electromagnetic compatibility, long-term continuous operation, and stability and reliability. The split-type product can be equipped with an LCD display controller, which is easy to operate, has clear indications, and provides a user-friendly human-machine interface.

The YCQ1F series automatic transfer switch is suitable for single-phase two-wire/three-phase four-wire dual power supply networks with AC 230V/AC 400V rated operating voltage and rated current up to 630A. It is used to disconnect the load circuit from one power source and connect it to another power source. The transfer switch has self-action and optional manual operation features.

Standards: IEC 60947-6-1

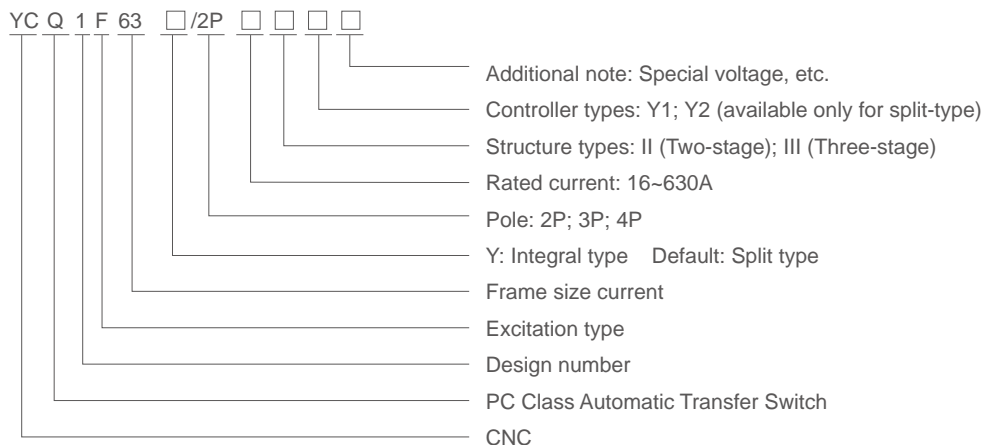
Features

The product consists of two parts: the switch body and the intelligent ATS controller. The switch body with an electrical and mechanical interlock. The product used solenoid actuate, double wire loop DC pulse operation, The operation power of the conversion controller adopts the line voltage 220V of main standby power supply.No additional control power.

Distribution Apparatus

YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)

General



Operating conditions

1. Ambient air temperature
Limit of temperature: $-5^{\circ}\text{C}\sim+40^{\circ}\text{C}$.
The average no more than $+35^{\circ}\text{C}$ within 24 hours.
2. Transportation and storage
Limit of temperature: $-25^{\circ}\text{C}\sim+60^{\circ}\text{C}$,
The temperature can be up to $+70^{\circ}\text{C}$ within 24 hours.
3. Altitude $\leq 2000\text{m}$
4. Atmospheric condition
When the temperature is $+40^{\circ}\text{C}$, the air relative humidity should not exceed 50%, only under lower temperature can allow for higher relative humidity. If the temperature is 20°C , the air relative humidity could up to 90%, Special measures should be taken for occasional condensation due to humidity changes.
5. Pollution level: Grade 3
6. Electromagnetic compatibility: Environment B

Distribution Apparatus

YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)

Operating conditions

Type	YCQ1F-63	YCQ1F-125	YCQ1F-250	YCQ1F-400	YCQ1F-630	
Positions	II					
Insulation Voltage (V)	AC690V					
Rated voltage Ue (V)	AC400V					
Structure Type	Y: Integral type Default: Split type					
Pole	2P/3P/4P					
Rated current (A)	16,20,25,32,40,50,63	80,100,125	125,140,160,180,200,225,250	225,250,315,350,400	400,500,630	
Rated control current (A)	5		7			
Control power voltage (V)	AC120V/AC230V					
Rated short circuit current (kA)	10					
The rated impulse withstand voltage (kV)	8					
Contact transfer time (ms)	≤50					
Operating transfer time (ms)	300-500					
Using Category	AC33B					
Auxiliary switch	I, II power: 2 normal open; 2 normal closed; Capacity: 10A/AC250V					
Service life	Mechanical	20000	20000	17000	17000	17000
	Electric	600	600	600	600	600

Type	YCQ1F-63	YCQ1F-125	YCQ1F-250	YCQ1F-400	YCQ1F-630	YCQ1F-63	YCQ1F-125	YCQ1F-250	YCQ1F-400	YCQ1F-630	
Positions	III					III					
Insulation Voltage (V)	AC690V					AC690V					
Rated voltage Ue (V)	AC400V					AC400V					
Structure Type	Y: Integral type					Y: Integral type					
Pole	2P/3P/4P					2P/3P/4P					
Rated current (A)	16,20,25,32,40,50,63	80,100,125	125,140,160,180,200,225,250	225,250,315,350,400	400,500,630	16,20,25,32,40,50,63	80,100,125	125,140,160,180,200,225,250	225,250,315,350,400	400,500,630	
Rated control current (A)	6		8			6			8		
Control power voltage (V)	AC120V/AC230V					AC120V/AC230V					
Rated short circuit current (kA)	10		12.6			5	10		12.6		
The rated impulse withstand voltage (kV)	8					8					
Contact transfer time (ms)	≤150					≤150					
Operating transfer time (ms)	300-500					300-500					
Using Category	AC33iB					AC33iB					
Auxiliary switch	I, II power: 2 normal open & 2 normal closed; Capacity: 10A/AC250V					I, II power: 2 normal open & 2 normal closed; Capacity: 10A/AC250V					
Service life	Mechanical	20000	20000	20000	4000	4000	20000	20000	20000	4000	4000
	Electric	600	600	600	1000	1000	600	600	600	1000	1000

Distribution Apparatus

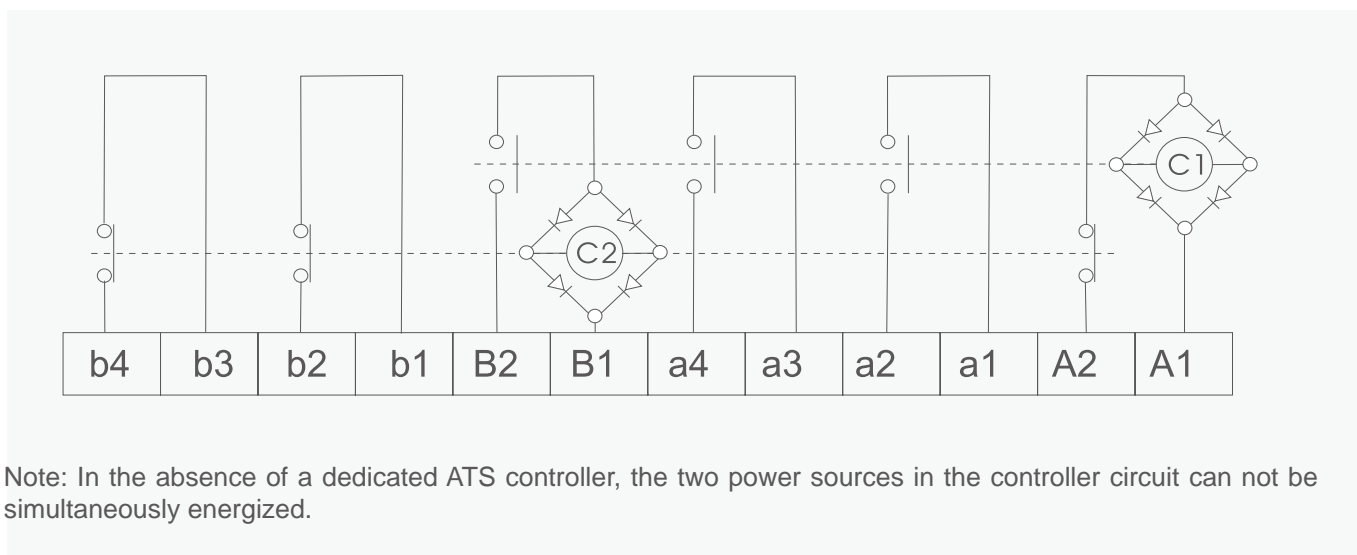
YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)

Controller function

Products Type	Y1	Y2
Installation method	Split type	
Display mode	Indicator light	Display mode
Rated duty	Uninterruptd duty	
Self-input and self restore	■	■
Self-input and without self restore	■	■
Normal port and standby port share to each other	■	■
Generator auto-start function	■	■
Normal power detect	Four-phase lacking phase detection,three-phase over-voltage/under-voltage detection	
Standby power detect		
Passive fire protection input	■	■
Active fire protection input(DC9-36V)	■	■
Active fire control input	■	■
Voltage real-time display	□	■
Normal power and standby power indication	■	■
Normal power and standby power over-voltage/under-voltage adrustable	■	■
Generator start and stop time adjustable	■	■ (F/F1)
Programmable output	□	■
RS485 communicating function	□	■

Wiring diagram

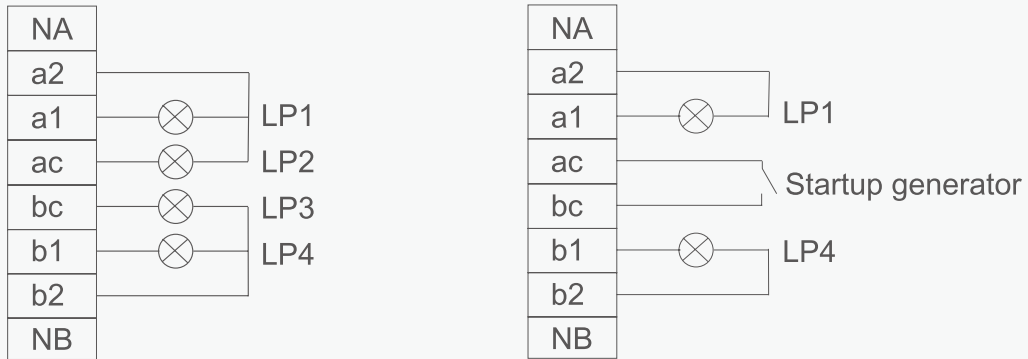
II Split type



Distribution Apparatus

YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)

II Integral type



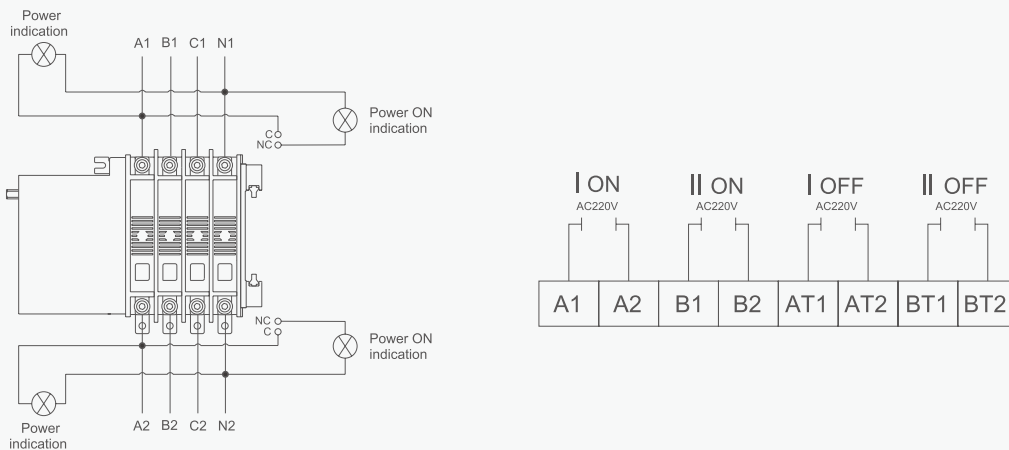
a:Power grids to Power grids

b :Power grids to generator

- .NA:It is neutral terminal of normal power for 3poles ATS;
- .LP1:Normal Power supply indicator light;
- .LP2:Normal Power indicator light;
- .LP3:Standby Power indicator light;
- .LP4:Standby Power supply indicator light;
- .NB:It is neutral terminal of standby power for 3 poles ATS;

B

III Splie type

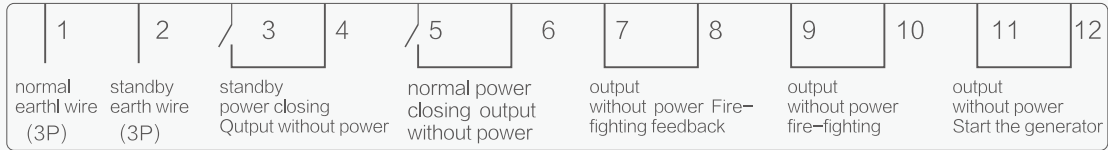


Connection diagram of power indication and power ON indication

Distribution Apparatus

YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)

II Integral type



1. Start generator: when fault occurs in the normal power, this port will connect after delaying some time.
2. Fire-fighting: Connect the fire-fighting port, double disconnecting light is on, the ATS double disconnect. Remove the connection, push the automatic/manual pushbutton to reset.
3. Fire-fighting feedback: When ATS is in double-disconnecting state, the fire-fighting port connects.
4. Normal close: When the normal power of ATS is in closing state, closing signal without power is output from this port.
5. Standby close: When the standby power of ATS is in closing state, closing signal without power is output from this port.
6. Normal earth wire: When ATS are 3 phases, the normal earth wire is connected into this port.
7. Standby earth wire: When ATS are 3 phases, the standby earth wire is connected into this port.

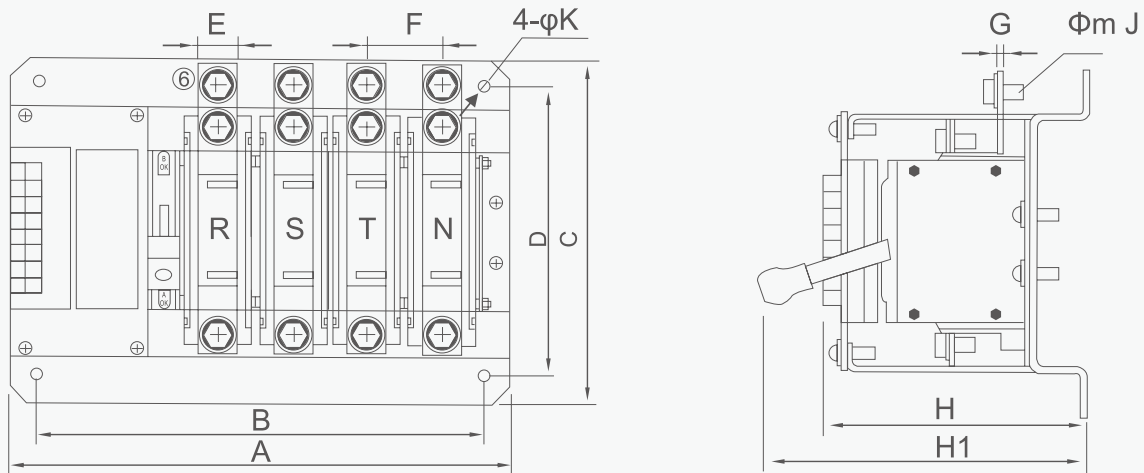
Remark: The normal earth wire and standby earth wire is just suitable for ATS of 3 phases.

Overall and mounting dimensions(mm)

Overall and mounting dimensions(mm)

II Split type

63A,125A Product Installation Dimension

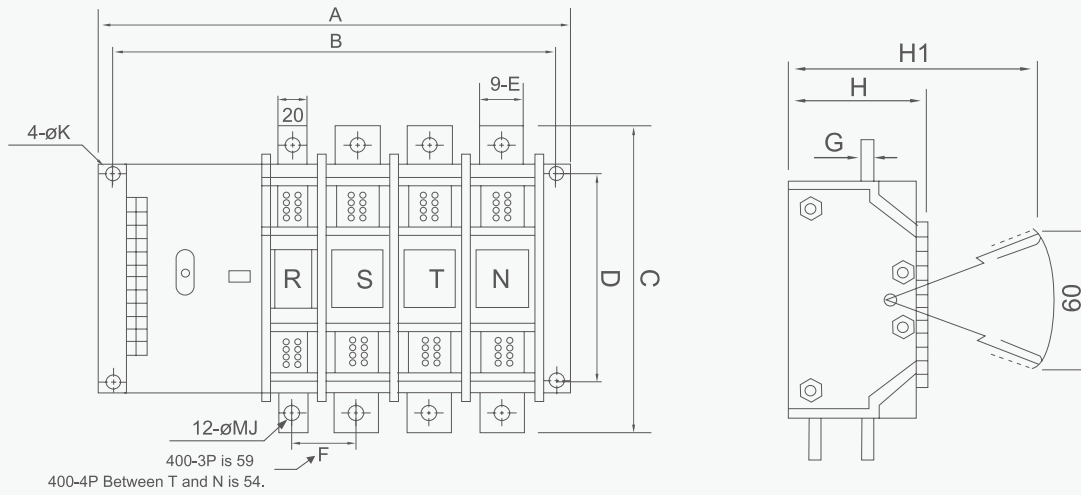


Specification	Dimensions		A			B			C	D	E	F	G	H	H1	J	K
	2P	3P	4P	2P	3P	4P											
63A	170	197	224	150	177	204	184	167	12	27	3	110	155	5	9		
125A	191	228	265	171	208	245	184	167	20	37	3	110	155	8	9		

Distribution Apparatus

YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)

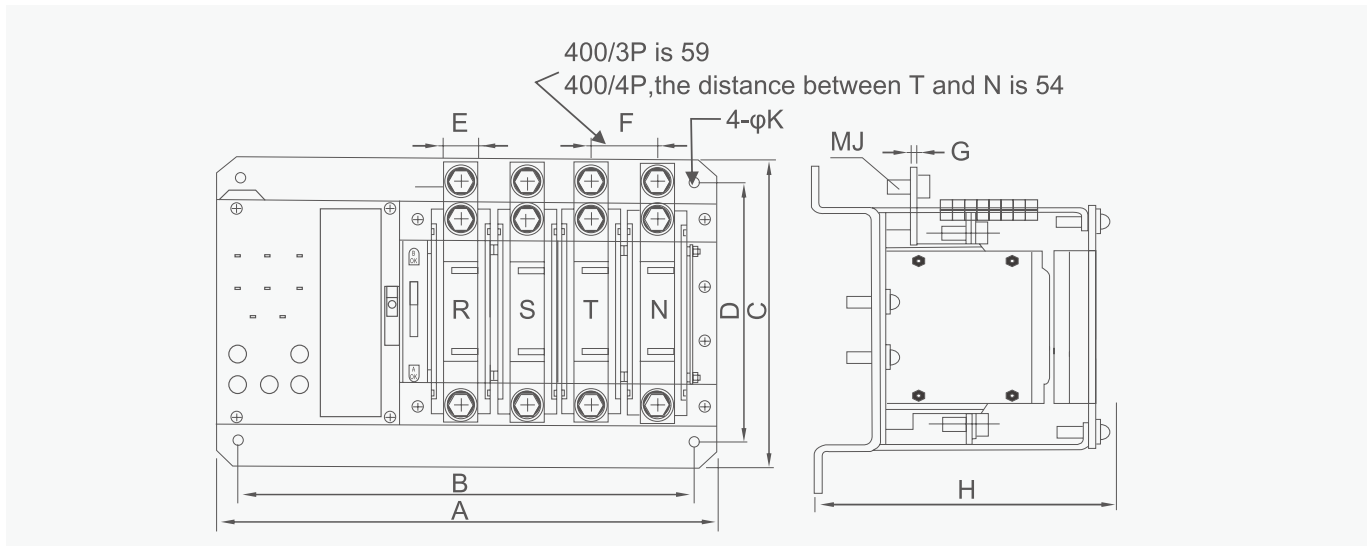
250A,400A,630A Product Installation Dimension



B

Specification	Dimensions		A		B		C	D	E	F	G	H	H1	J	K
	3P	4P	3P	4P											
250A	352	372	302	352	294	200	20	49	5	146	295	8	10		
400A	352	402	302	382	294	200	30	59	6	146	295	10	10		
630A	352	412	302	392	294	200	35	59	6	146	295	12	10		

II Integral type



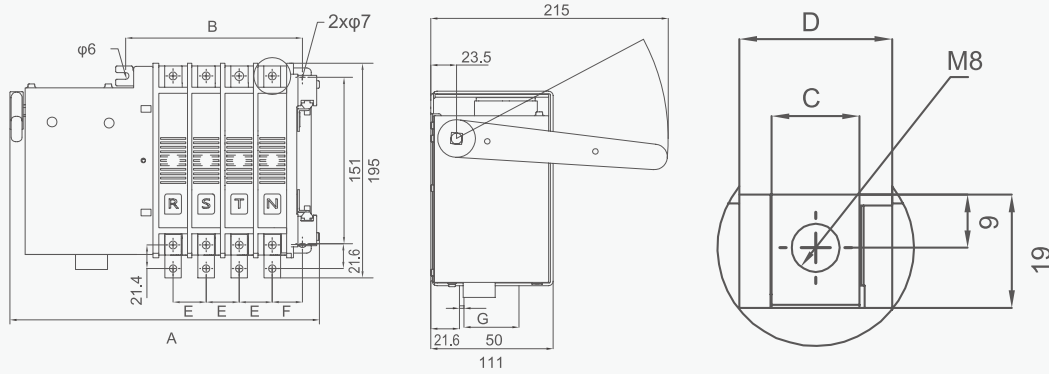
Specification	Dimensions			A			B			C	D	E	F	G	H	J	K
	2P	3P	4P	2P	3P	4P											
63A	216	243	243	196	223	250	184	167	12	27	3	110	5	9			
125A	237	274	311	217	254	291	184	167	20	37	3	110	8	9			
250A	/	322	372	/	302	352	290	200	20	49	5	146	8	10			
400A	/	352	402	/	332	382	294	200	30	59	6	146	10	10			
630A	/	352	412	/	332	382	294	200	35	59	6	146	12	10			

Distribution Apparatus

YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)

III Split type

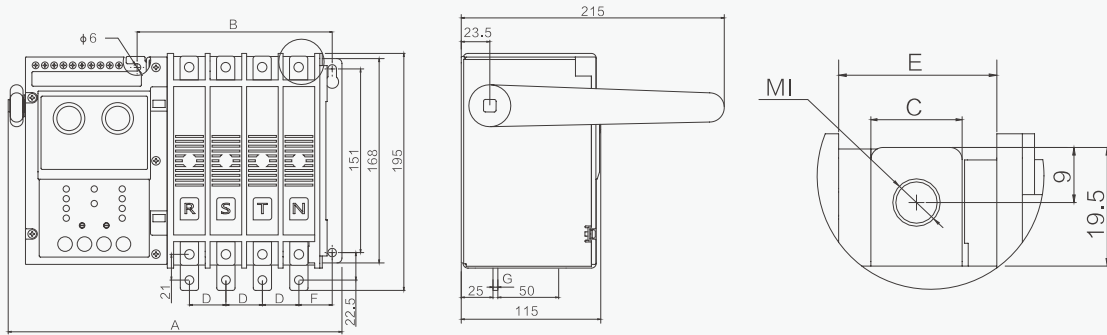
63A,125A,250A Product Installation Dimension



Specification	Dimensions			A			B		
	2P	3P	4P	2P	3P	4P	2P	3P	4P
400A	295	357	419	168	230	292			
630A	295	357	419	168	230	292			

III Integral type

63A,125A,250A Product Installation Dimension

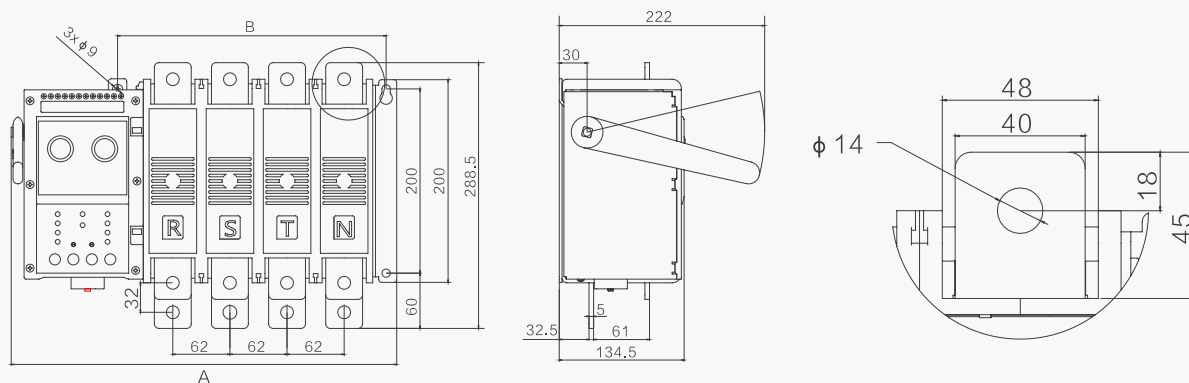


Specification	Dimensions			A			B			C	D	E	F	G	I
	2P	3P	4P	2P	3P	4P	2P	3P	4P						
63A	205	223	243	91	131	131	12	20	15	33.5	2	M5			
125A	223	253	283	100	160	160	15	30	26	27.5	4	M8			
250A	231	266	301	111	181	181	20	31	31	30	4	M8			

Distribution Apparatus

YCQ1F Series Excitation Type Automatic Transfer Switch (ATS)

400A,630A Product Installation Dimension



B

Specification	Dimensions	A			B		
		2P	3P	4P	2P	3P	4P
400A		295	357	419	168	230	292
630A		295	357	419	168	230	292

Distribution Apparatus

YCQ9B-63(CB Class) Automatic Transfer Switch



General

This series of Automatic transfer switch is suitable for AC 50Hz/60Hz, rated working voltage 230V/400V and below power distribution and control circuit. The current up to 63A. It is mainly used as the main switch of terminal electrical appliances, and can also be used to control various types of motors, low-power electrical appliances, lighting and other places.

Standard: IEC60947-6-1

Features

1. This product adopts modular design, the execution components, transmission mechanism, control circuit is completely independent. So it's easy to replace.
2. The intelligent Automatic transfer switch is composed of two parts, the controller and the main device, and has a simplified structure in which two sets of circuit breakers are assembled in a switch shell.
3. The mechanical interlocking device adopts gear drive, which completely eliminates the possibility of closing at the same time.
4. The appearance of product is small. Appearance patent product.
5. The control circuit layout of the controller adopts the separation of working voltage and sampling power supply from MCU control, which overcomes the electromagnetic interference from the hardware structure.
6. The product with complete functions, including starting generator, fire control, fire feedback signal, main power and emergency power closing passive signal output, three phase detection of main power and emergency power.
7. Modular design. Good interchangeability of components. Convenient installation.

Type designation

Model	Shell frame	Number of poles	Rated current
YCQ9B	63	2P	16A
Automatic transfer switch(CB class)	63(16~63A)	2:2P 3:3P 4:4P	16A 20A 25A 32A 40A 50A 63A

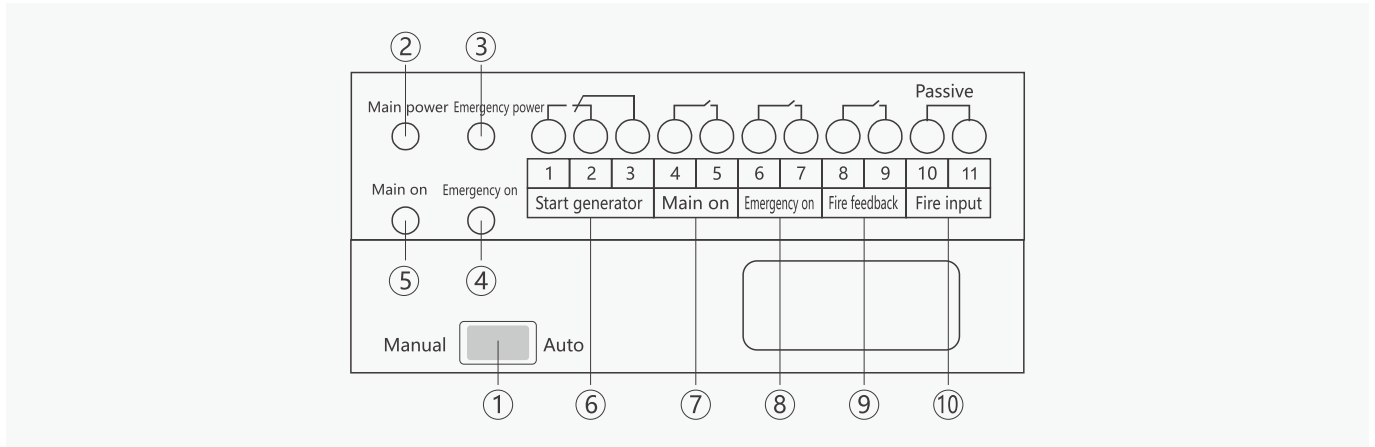
Technical data

Type	YCQ9B-63
Rated current(A)	6,10,16,20,25,32,40,50,63
Pole	2P,3P,4P
Rated working voltage(V)	Single phase 230
	Three phase 400
Rated insulation voltage U_i	500V
Rated impulse withstand voltage U_{imp}	4kV
Rated short-circuit making capacity I_{cm}	7.5kA, Power-on time 0.1s
Rated making and breaking capacity I_{cn}	5kA, $1.05U_e, \cos\Phi=0.65$
Mechanical life	10000 times
Electrical life	600 times
Transfer action time	$\leq 5s$
Undervoltage/Overvoltage action value	165/270 \pm 5V

Distribution Apparatus

YCQ9B-63(CB Class) Automatic Transfer Switch

Control panel description



1. Auto/Manual mode control switch: When the control switch at the right position, it's in automatic mode, and when the control switch at the left position, it's in manual mode.
2. Main power indicator: When the main power voltage is normal, this indicator on. It turns off when main power phase is missing, flashes rapidly at 10Hz when main power overvoltage, and flashes slowly at 2Hz when main power undervoltage.
3. Emergency power indicator: When the emergency power voltage is normal, this indicator on. It turns off when emergency power phase is missing, flashes rapidly at 10Hz when emergency power overvoltage, and flashes slowly at 2Hz when emergency power undervoltage.
4. Emergency on indicator: When the emergency circuit breaker is closed, this indicator on. Flashes slowly at 2Hz when the emergency circuit breaker trips.
5. Main on indicator: When the main circuit breaker is closed, this indicator on. Flashes slowly at 2Hz when the main circuit breaker trips.
6. Terminal 1, 2 and 3 is start generator output terminal: When the main power supply is normal, port 3 and 2 will turn off. And port 3 and 1 will turn on. When the main power supply abnormal, port 3 and 2 will turn on. And port 3 and 1 will turn off. It is recommended to connect normally closed contacts port 3 and port 2.
7. Terminal 4-5: Main power on state passive output port.
8. Terminal 6-7: Emergency power on state passive output port.
9. Terminal 8-9: Fire feedback: It is a passive output port. When the fire signal is connected and the product is powered off successfully, this port is closed.
10. Terminal 10-11 Fire input: Passive input signal, short-circuit this port, switch transfer to power off position. And the main power on indicator light and the emergency power on indicator light flashes alternately. If you need to remove the fire status, you can manually flip the "manual/automatic" switch, and turn the switch to the "automatic" state after completion.

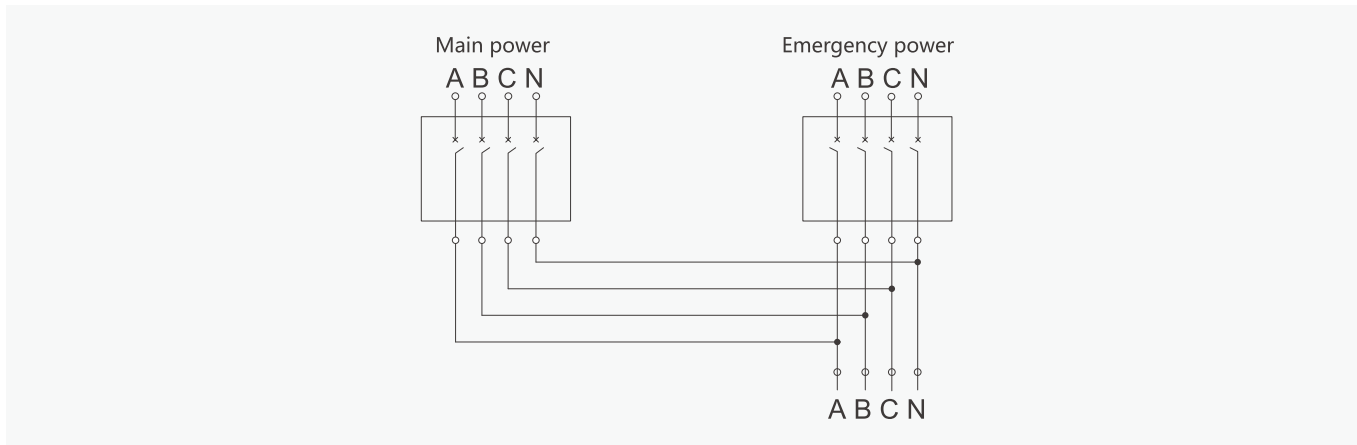
Notice:

If the Main on or Emergency on indicator flashes. At this time, it is necessary to manually check and confirm that the load side is normal, and then toggle the Manual/Auto switch to release the fault signal, and in manual mode state rotate the operation handle to perform an opening and then closing operation.

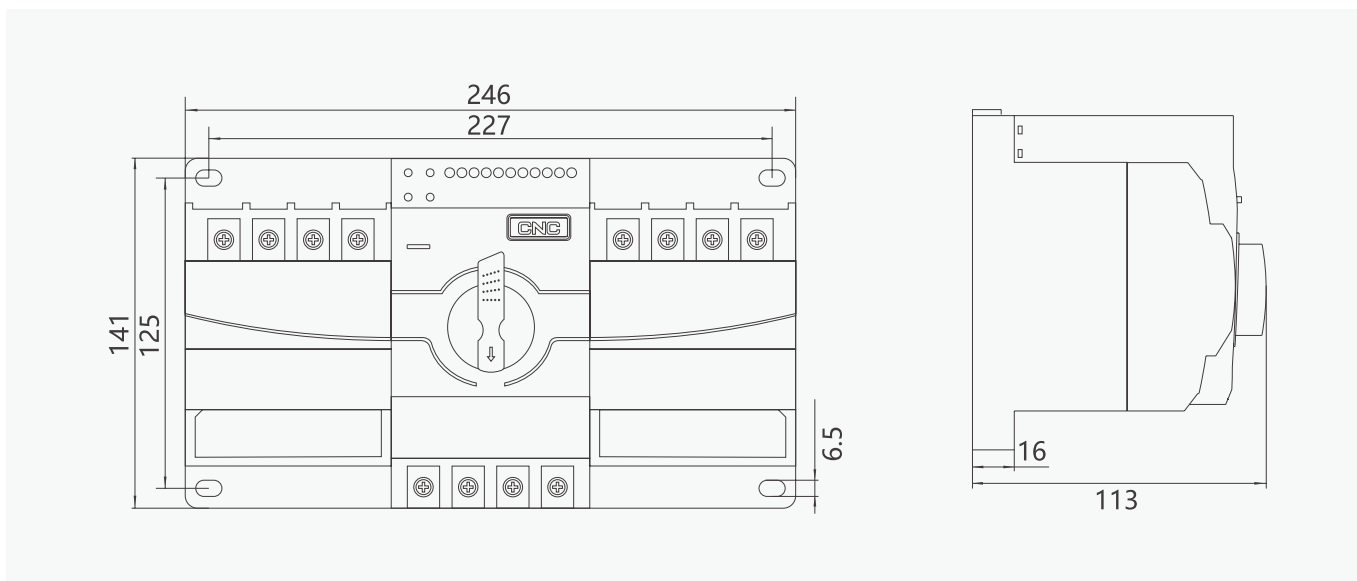
Distribution Apparatus

YCQ9B-63(CB Class) Automatic Transfer Switch

Wiring diagram principle



Overall and mounting dimensions(mm)



Distribution Apparatus

YCQ9HB Automatic Transfer Switch



General

YCQ9HB ATS appliances are suitable for AC 50Hz, rated working voltage 400V and below, rated current 10A to 63A dual power supply system, the power supply system of the two power sources: common power supply (N) and standby power supply (R) at the same time detection, when the power supply occurs undervoltage, phase failure power supply failure that is, automatic switching from the abnormal power supply to the normal power supply (can also be manually switched), to enhance the continuity and reliability of the power supply system in the use of the premises. This improves the continuity, safety and reliability of the power supply system at the place of use.

Switching appliances are widely used in power systems, hospitals, postal and telecommunication, fire fighting, hotels, banks, airports, wharves, residential neighborhoods, TV stations, military facilities, shopping malls and other important places where the continuity of power supply is required.

Standards: IEC 60947-6-1.

B

Type designation

Company Code	Product cod	Design number	Frame current	Number of poles	Control mode	Circuit Breaker Disconnect Type	Rated Current	Function codes
YC	Q	9HB	63					
CNC	ATS	CB class	63A	2-2 poles; 3-3 poles; 4-4 poles	R-Auto transfer and auto retransfer, S-Auto transfer and non-auto retransfer, I- Mutual backup	C-C type; D-D type	10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A	F-grid-to-generation; T-communication

Operating conditions

1. The ambient air temperature is -5 °C ~ +40 °C, and the average temperature within 24h does not exceed 35 °C.
2. The altitude of the installation site does not exceed 2000m above sea level.
3. The relative humidity of the air at the installation site should not exceed 50% at an ambient temperature of +40°C. Higher relative humidity is possible at lower temperatures. For example, in the wettest month with an average minimum temperature of +20°C, the monthly average maximum relative humidity for that month can be up to 90%. Appropriate measures should be taken to prevent condensation due to temperature changes
4. The pollution level is 3. There is no danger of explosion in the surrounding air, and there are no gases or conductive dust that could corrode metals and destroy insulation.
5. The installation category is III.
6. The two power lines are connected to the upper end of the switching appliance and the load line is connected to the lower end, and must not be reversed.
7. The installation site should be free from significant vibration and shock.

Distribution Apparatus

YCQ9HB Automatic Transfer Switch

Technical data

Technical data	Model Specification	YCQ9HB-63
Rated working current Ie		10A, 16A, 20A, 25A, 32A, 40A, 63A
Rated working voltage Ue		AC 230V/50Hz (2P), AC 400V/50Hz (3P, 4P)
Rated insulation voltage Ui		500V
Rated impulse withstand voltage Uimp		4kV
Rated short-circuit making capacity		9.18kA
Rated making and breaking capacity		6kA
Mechanical life		10,000 times
Electrical life		3000 times
Usage category		AC-33iB
Electrical grade		CB grade
Pole		2P, 3P, 4P
Delay time		0 ~ 30s adjustable
Electromagnetic compatibility environmen		Environment B
Pollution degree		3
protection class		IP30
Installation		Vertical Fixed Installation
operating method		Automatic / Manual
switch position		Common position (I), Standby position (II), Disconnect position (0)
Rated control power		AC 230V/50Hz
Power supply voltage		Undervoltage switching: 165V±10%
Control		Loss of voltage/phase out, undervoltage, overvoltage switching

Distribution Apparatus

YCQ9HB Automatic Transfer Switch

Controller Functions

Control function	
Auto/Manual Conversion Mode	■
dichotomous	■
Grid - Power Grid	■
Grid -- generators	□
self-referral	■
abandon oneself and not return	△
serve as a backup	△
Monitor common power supplies and failover	■Phase failure/loss of voltage, undervoltage, overvoltage faults
Monitor backup power and failover	■Phase failure/loss of voltage, undervoltage, overvoltage faults
Fire control input (passive)	■
Fire Feedback Output	■
Adjustable delay time	■
conversion delay	0s-30s adjustable
Return delay	0s-30s adjustable
Common and standby closing indication	■
Common and standby power indication	■
malfunction alarm	■
overvoltage conversion	■
Undervoltage conversion	■
Loss of Pressure Conversion	■
Out-of-phase conversion	■
communication function	□
Display Module	light-emitting diode

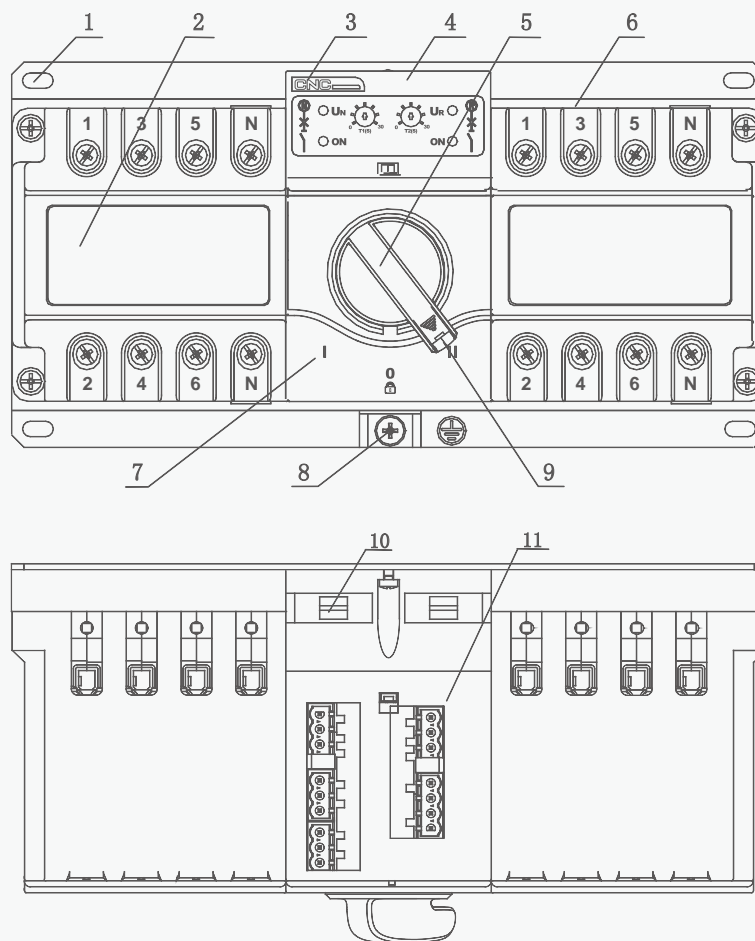
Note: " ■ " means this function is available; " □ " means this function is optional; " △ " means Customers require factory adjustments.

B

Distribution Apparatus

YCQ9HB Automatic Transfer Switch

Product Structure Schematic

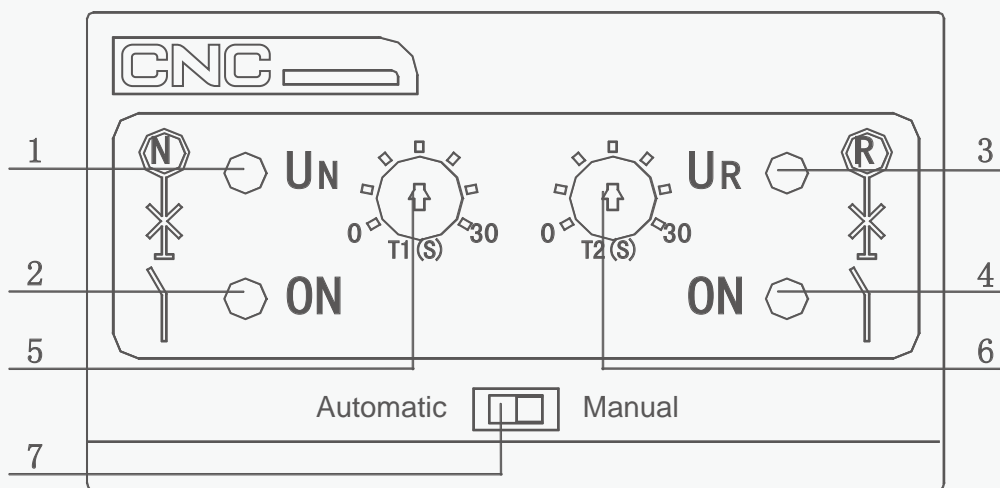


- | | | |
|------------------|-----------------------------------|-----------------------------|
| 1-Mounting hole; | 5-Operating handle; | 9-Handle padlock; |
| 2-Product model; | 6-Wiring terminal; | 10-Fuse tube; |
| 3-Company logo; | 7-Changeover position indication; | 11-Secondary terminal block |
| 4-Controller; | 8-Grounding screw; | |

Distribution Apparatus

YCQ9HB Automatic Transfer Switch

Controller Panel and Description



- 1- Common power indicator;
- 2- Common closing indicator;
- 3- Standby power indicator;
- 4- Standby closing indicator;

- 5-Normal to backup conversion delay setting;
- 6-Backup to normal return delay setting;
- 7-Auto/Manual switching gear.

Description of Controller Indicator Messages

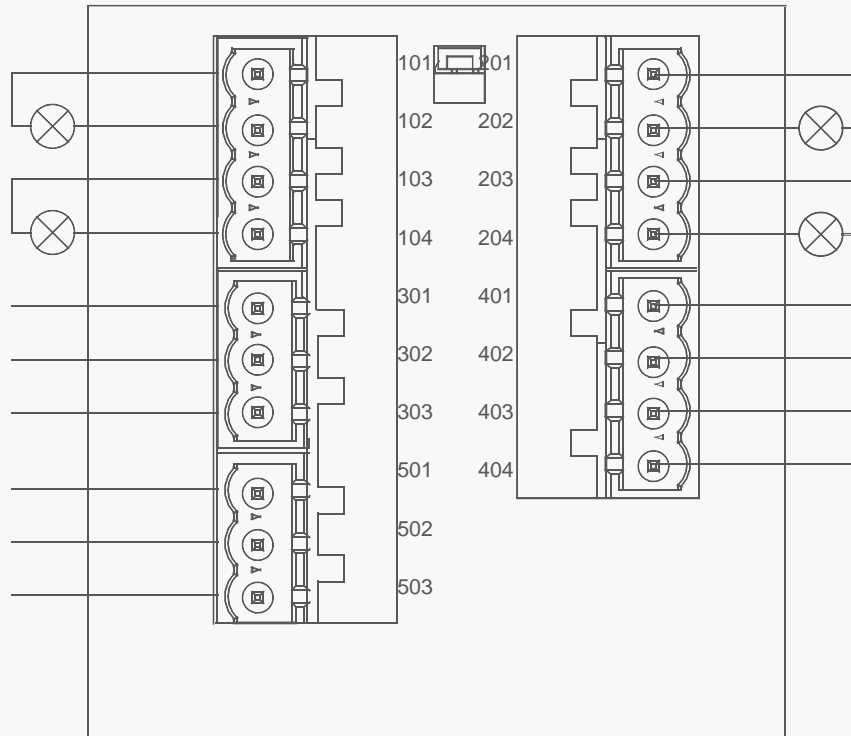
Product status	1	2	3	4
Common power supply normal	Ever Bright			
Common power closing		Ever Bright		
Backup power supply normal			Ever Bright	
Standby power closed				Ever Bright
Commonly used circuit breaker release	Adorable	Adorable		
Spare circuit breaker release			Adorable	Adorable
Standby conversion delay				Adorable
Standby constant return delay		Adorable		
Product Conversion Failure	Adorable		Adorable	
Fire switch		Adorable		Adorable

B

Distribution Apparatus

YCQ9HB Automatic Transfer Switch

Controller secondary wiring terminal wiring instructions

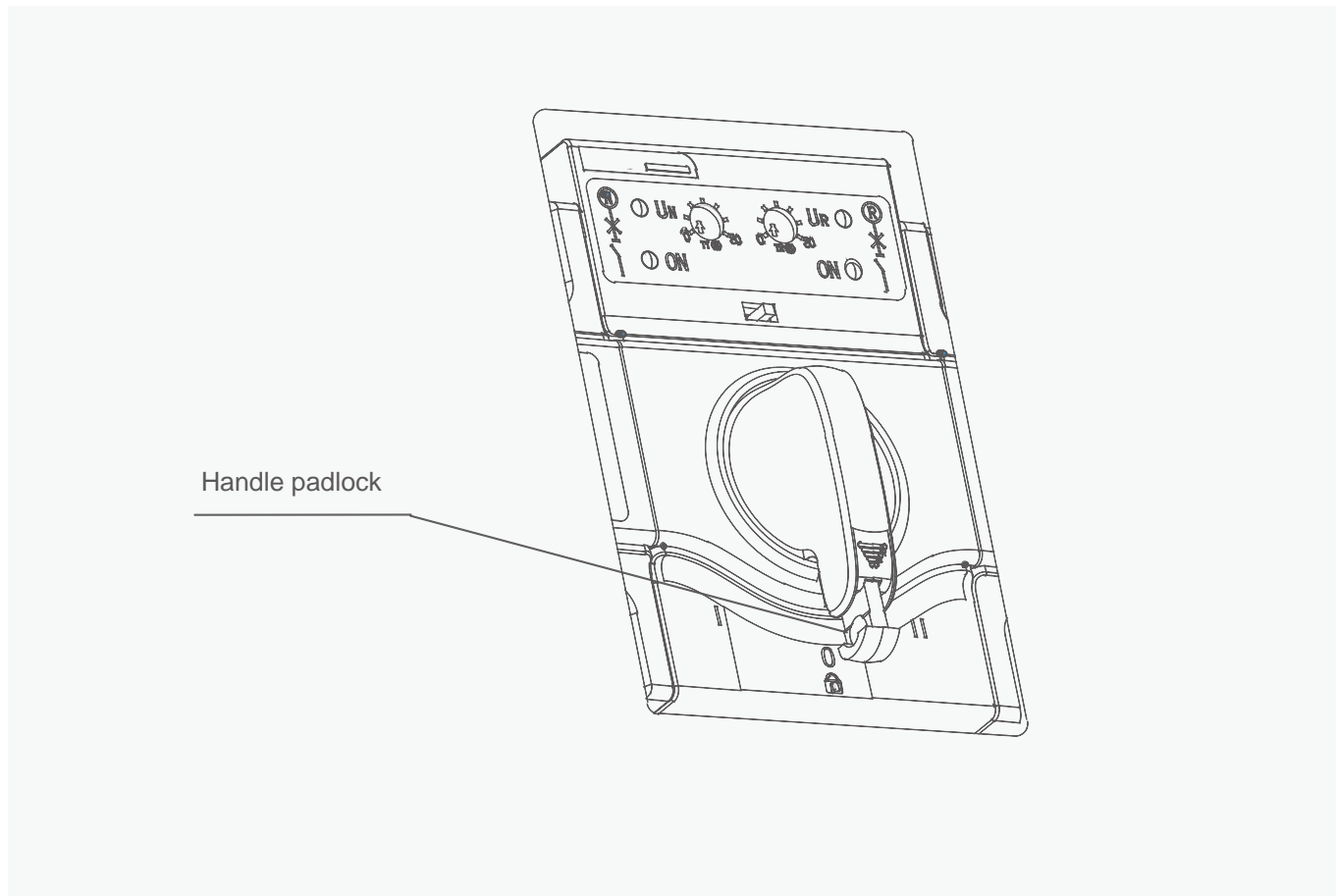


- 101#, 102# commonly used power supply external indication signal output (AC220V/0.5A active), 3P products commonly used zero line connected to the 101# terminal ;
- 103#, 104# common closing external indication signal output (AC220V/0.5A active) ;
- 201#, 202# standby power external indication signal output (AC220V/0.5A active), 3P products standby zero line connected to 201# terminal ;
- 203#, 204# common closing external indication signal output (AC220V/0.5A active) ;
- 301#, 302#, 303# for generator start control signal passive output terminal, 301# for the public terminal, 302# for the normally closed terminal ; 303# for the normally open terminal, common power supply is normal when 303# and 301# closed, 302# and 301# disconnected ; common power supply is abnormal when 302# and 301# closed, 303# and 301# disconnected ;
- 401 #, 402 # for the fire linkage signal passive input, the port can only be connected to a set of external passive normally open contacts (if the fire signal is an active signal, must be transferred through a small relay relay normally open contacts into the port) when the external contact closure controller immediately after control
- 403# and 404# are passive output terminals for fire fighting feedback signals. Under normal condition, the ports are normally open, and 403# and 404# are closed when there is a fire fighting signal input to the controller to make the switch switch switch to the breaking position ;
- 501#, 502#, 503# are communication function consoles.

Distribution Apparatus

YCQ9HB Automatic Transfer Switch

Description of the handle padlock function



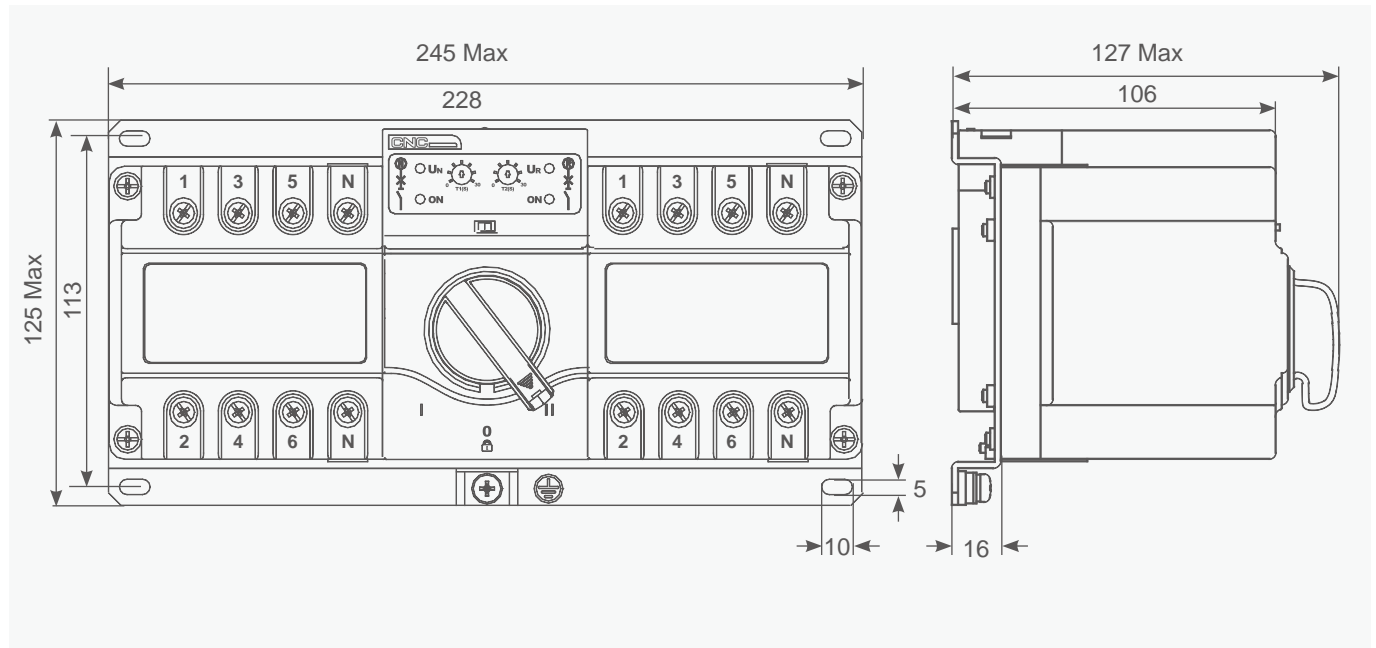
Line maintenance and fault repair, first switch the switching appliances automatic / manual switching gear to manual, and then switch the switching appliances to the double points position ; pull the handle padlock and lock, can prevent accidents, the diameter of the lock hole is $\text{Ø}5.5$.

B

Distribution Apparatus

YCQ9HB Automatic Transfer Switch

Overall and mounting dimensions(mm)



Distribution Apparatus

YCQ9Ms Automatic Transfer Switch



General

YCQ9Ms series dual power automatic transfer switch is suitable for power supply system with AC 50/60Hz, rated working voltage AC400V, rated working current 800A and below.

It is possible to select and switch between two power sources according to requirements, ensuring uninterrupted operation of key power sources. When one power supply has over-voltage, undervoltage or phase loss, it will automatically switch to another power supply or start the generator.

Built-in RS485 communication interface, communication protocol MODBUS-RTU, realize real-time data upload, remote data configuration and status monitoring, as well as remote control, telemetry, remote control and remote adjustment functions.

Mainly used in hospitals, shopping malls, banks, hotels, high-rise buildings, fire protection and other places that do not allow long-term power outages with uninterrupted power supply required.

Standard: IEC 60947-6-1

Operating Conditions

1. Can work in the environment of -5°C~40°C.
2. The altitude of the installation site does not exceed 2000m.
3. When the highest temperature is +40°C, the relative humidity of the air should not exceed 50%.
4. Higher humidity is allowed at lower temperature, 20°C~90%

Type designation

YCQ9Ms - 125 M 3 100A W2

Product name	Shell frame grade	Breaking capacity	Number of poles	Rated current	Controller code
YCQ9Ms	125	M	3	YCQ9Ms	YCQ9Ms
Dual power automatic transfer switch	63: (10-63A) 125: (16-125A) 250: (100-250A) 400: (250-400A) 630: (400-630A) 800: (630-800A)	Standard type	3:3P 4:4P	10,16,25,32,40,50,63, 80,100,125,140,160, 180,200,225,250,315, 400,500,630,800	Default: LED Y: LCD W2: Split LED display W3: Split LED display

B

Distribution Apparatus

YCQ9Ms Automatic Transfer Switch

Technical data

Type	YCQ9Ms					
Serial number definition	63	125	250	400	630	800
Rated working current In(A)	10, 16, 20, 25, 32, 40, 50, 63	16, 20, 25, 32, 40, 50, 63, 80, 100, 125	100, 125, 140, 160, 180, 200, 225, 250	250, 315, 350, 400	400, 500, 630	630, 800
Number of poles	3, 4					
Electrical class	Class CB					
Use category	AC33iB					
Rated working voltage Ue(V)	AC380, 400					
Rated insulation voltage Ui(V)	AC690					AC800
Rated impulse withstand voltage Uimp(KV)	8					
Rated short-circuit breaking capacity Icn(KA)	15	25	25	35	35	35
Electrical life	1000			1000	500	
Mechanical life	5000			3000	2500	
Rated working system	Uninterrupt working system					
Overvoltage transfer setpoint	AC230V-AC300V					
Undervoltage transfer setpoint	AC150V~AC210V					
Contact switch time	< 4s					
Disconnection delay	1s-240s continuously adjustable					
Shutdown delay	1s-240s continuously adjustable					



Serial number definition

1. Handle	7. Alternative power input and power sampling line
2. Nameplate	8. Controller display
3. Main contact position indication	9. Controller control button
	10. Fixed screw holes
	11. Alternative power load side
4. Trademark	12. Power indication, closing indication, fault indication output terminal
5. Normal power input and power sampling line	13. Normal power load side
6. Signal terminal: Fire voltage input, generator start signal output	14. Enclosure grounding terminal

YCQ9Ms Automatic Transfer Switch



Technical data

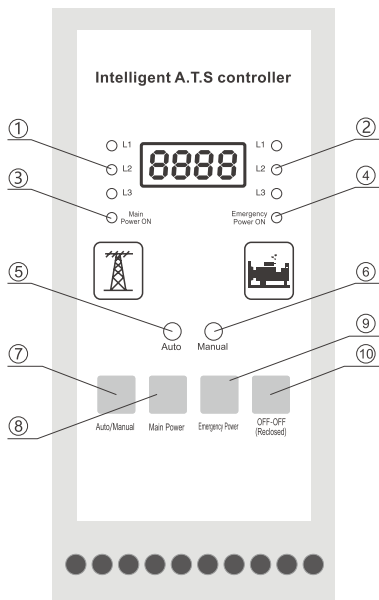
Function	Full-function type
Manual mode	■
Automatic mode	■
Motor protection function	■
Main contact working position(performing circuit reaker)	
Normal power supply closed	■
Reserve power supply closed	■
Double break	■
Automatic control	
Monitoring normal power supply	■
Monitoring reserve power supply	■
Self-throwing and self-reset	■
Self-throwing and non self-reset	■
Reserve for each other	■
Power grid-power grid	■
Power grid-power generation	■
Phase failure instantaneous protection	■
Under-voltage protection 150-210V	adjustable
Over-voltage protection 230-300V	adjustable
Fire control function	■
Changeover time delay 0-240s continuously adjustable	■
Returning time delay 0-240s continuously adjustable	■
Frequency display	■
Communication function	optional
Indication	■
N on/R on/double break indication	■
Normal power supply indication	■
Reserve power supply indication	■
Fault tripping indication	■
Parameter setting indication	■
Voltage real time indication	■
Normal three phase voltage protection	three phase
Reserve three phase voltage protection	three phase

B

Distribution Apparatus

YCQ9Ms Automatic Transfer Switch

Serial number definition	YCQ2-125/250	YCQ2-400	YCQ2-630/800/1250
Mechanical life	5000	3000	2500
Electric life	1000	1000	500
Rated working system	Uninterrupted working system		
Over voltage transfer adjustable value	270VAC		
Set the adjustable range of under voltage	(70%~85%)Ue Adjustable continuously		
Transfer time of contact	4s		
Open-transition delay time t1	0.5~30s Adjustable continuously		
Open-transition delay time t2	0.5~30s Adjustable continuously		



Y type controller panel instruction

1. Normal power L1, L2, L3 phase power indicator
2. Alternative power L1, L2, L3 phase power indicator
3. Indicator light for normal power on.
4. Indicator light for alternative power on.
5. Indicator light for automatic working status.
6. Indicator light for manual working status
7. Automatic/Manual button
8. Main power
9. Emergency power
10. OFF-OFF(reclosed) button

Controller

Automatic transfer switch according power supply condition and the parameter that user set to choose if transfer from one power to the other power. It's function depends on the controller. There are 3 types(Y, w2 and w3) of controller. The features and functionality of controller as following.



W2
(CONTROLLER)



W3
(CONTROLLER)

Distribution Apparatus

YCQ9Ms Automatic Transfer Switch

Technical data

Controller	Y type Controller	W2 type Controller	W3 type Controller
Working power supply	AC160-250V 50/60Hz	DC12V (Provided by the in side OF y TYPE CONTROLLER)	
Installation	Integral type	Split type	
Position	3 Positions		
Mode of operation	Auto, manual and electro-manual operation		
Voltage monitoring function	3 phase over-voltage, under-voltage and phase loss monitoring		
Frequency monitoring function	Frequency monitoring		
Generator control	A set of 3A relay dry contact		
Fire linkage control	Passive contact input, with a set of normally open passive signal feedback contact		
Mode of conversion	According to users requirement could set at A uto Can set at Auto transfer and auto recover,Auto transfer and non-auto recovery or utility generator type mode according to user's requirement.		
Display	LED display		LCD display
Conversion time delay	0.5s-60s continuously adjustable		
Return time delay	0.5s-60s continuously adjustable		

Model	Match circuit breaker	Pole	Rated short circuit making capacity(Icm)	Rated short circuit breaking capacity(Icn)	Rated current of circuit breaker (A)	Rated insulation voltage(V)
YCQ9Ms-63	YCM1-63	3	31.5	15	10, 16, 20, 32, 40, 50, 63	690
		4	31.5	15		
YCQ9Ms-125	YCM1-125	3	52.5	25	16, 20, 32, 40 ,50, 63, 80, 100, 125	690
		4	52.5	25		
YCQ9Ms-250	YCM1-250	3	52.5	25	125, 160, 180, 200, 225, 250	690
		4	52.5	25		
YCQ9Ms-400	YCM1-400	3	73.5	35	250, 315, 350, 400	690
		4	73.5	35		
YCQ9Ms-630	YCM1-630	3	73.5	35	500, 630	LCD display
		4	73.5	35		
YCQ9Ms-800	YCM1-800	3	73.5	35	700, 800	800
		4	73.5	35		

B

Distribution Apparatus

YCQ9Ms Automatic Transfer Switch

Installation and wiring

Switching device installation: After fixing the switching device, according to the rated current to choose the appropriate wires to wire.

Note: The phase sequence of main power and emergency power must be consistent.

Split type controller installation:

Use 2 strutting pieces to fix the split type controller on the panel.

Please check if the controller has been plugged into switching device and fastening screw.

Please check whether each electric contact part is reliable and the fuse if good.

If user wants to withstand voltage test, please remove the controller first. Otherwise the controller will be broken down.

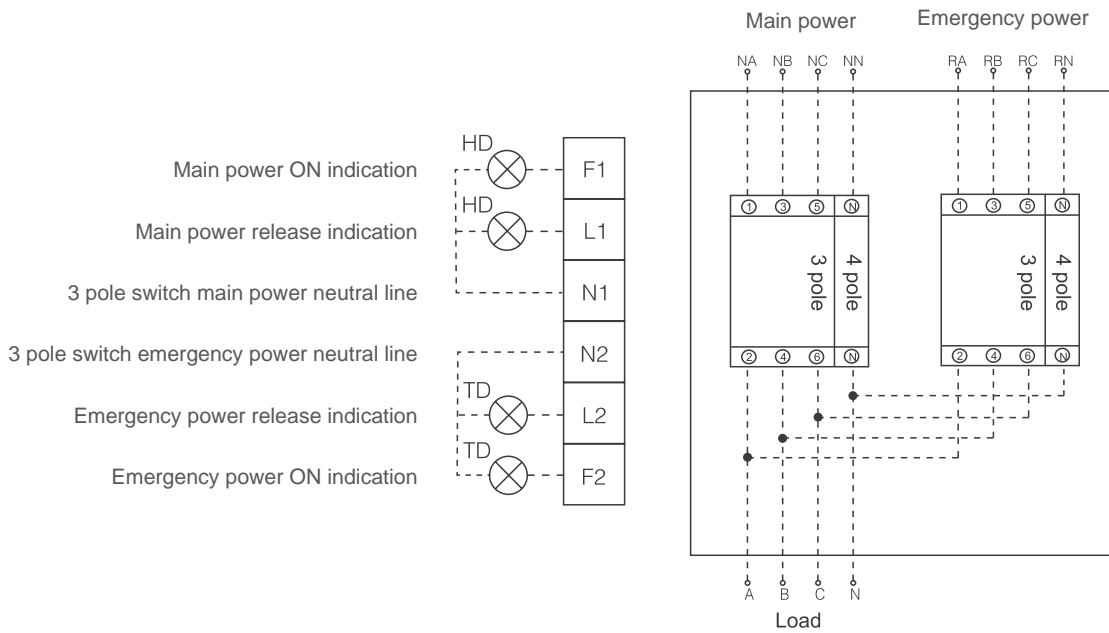
For the 3 pole switch, user needs to connect main power neutral line to terminal N1 port.

Connect emergency power neutral line to terminal N2 port. Neutral line must be reliable and don't connect wrong so that ATS could proper work.

For the 4 pole switch, main and emergency power neutral line must be connected to the corresponding circuit breaker N pole.

In addition, switching device should ground connection at the grounding mark.

User could connect indicator light to the terminal for observation. Refer to the wiring diagram below.



Note:

This diagram applies to three-phase four-wire. When using three-phase three-wire system, the neutral line of main power connects to terminal N1 port, neutral line of emergency power connects to terminal N2 port.

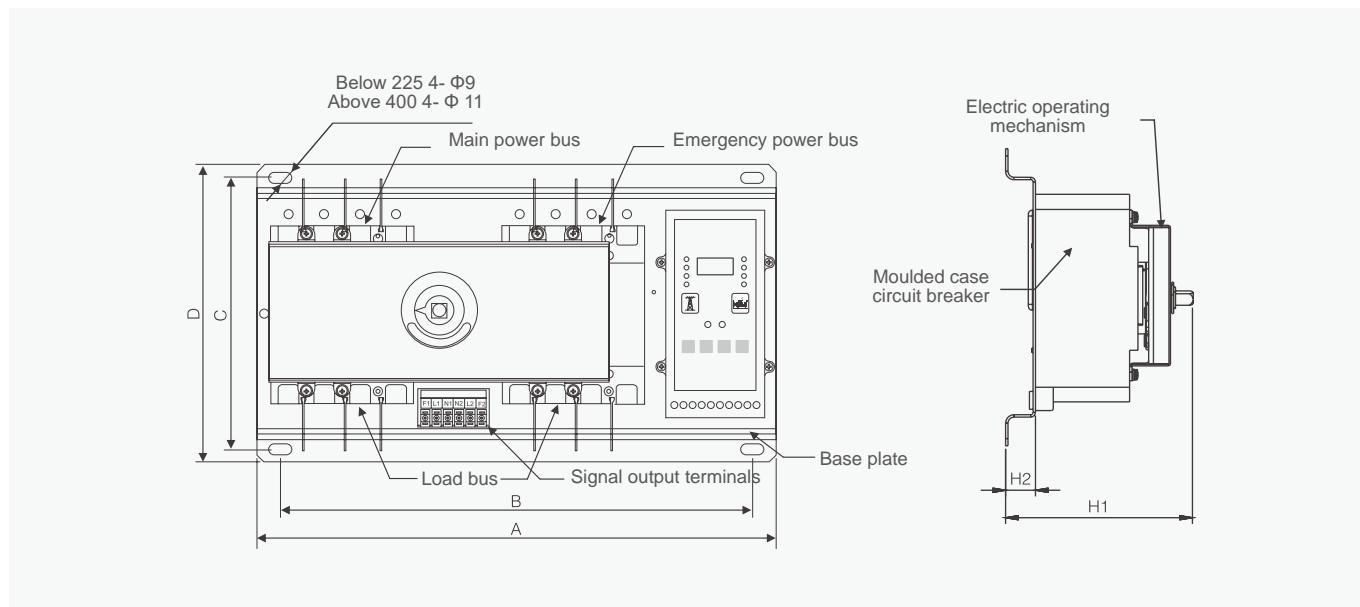
HD main power indication AC220V(User-provided).

TD main power indication AC220V(User-provided).

Distribution Apparatus

YCQ9Ms Automatic Transfer Switch

Overall and mounting dimensions(mm)



B

Model	A		D	A		C	H1	H2
	3P	4P		3P	4P			
YCQ9Ms-63	380	405	250	340	365	230	<160	25
YCQ9Ms-125	405	435	250	365	395	230	<170	25
YCQ9Ms-250	450	480	250	410	440	230	<190	25
YCQ9Ms-400	570	620	330	510	560	300	<200	25
YCQ9Ms-630	680	740	330	620	680	300	<250	25
YCQ9Ms-800	750	820	330	690	760	300	<250	25

Distribution Apparatus

YCQ9 Automatic Transfer Switch



General

YCQ9 series automatic transfer switch is suitable for AC 50Hz, rated working voltage AC400V, rated operating current up to 630A three-phase four-wire dual-circuit power supply grid, automatically connect one or several load circuits from one power supply to another to ensure load normal power supply of the circuit. This product is suitable for industrial, commercial, high-rise and residential buildings, etc. more important places.

Standard: IEC 60947-6

Features

1. Full range of dual-input single-output(up in and down out),convenient wiring and cost-saving.
2. Handle front operation for convenience and labor-saving.
3. Compact size for space saving.
4. Two controllers to meet different user needs.
5. Low main circuit impedance and energy consumption.
6. Reliable double interlock protection function.
7. Instantaneous structural design, cleverly driven by dual springs, with a simple and stable structure.
8. Rotary contact structure, circular arc extinguishing device design, good arc extinguishing performance, and long contact working life.



- | | | |
|--|--------------------------|--------------------|
| 1. Conversion position indication window | 5. Indicator | 10. Model |
| 2 ¹ . Terminal on the normal supply side | 6. Phase partition | 11. Technical data |
| 2 ² . Terminal on the alternative supply side | 7. Operating handle | |
| 3. Manual/automatic operation button | 8. Company trademark | |
| 4. Mounting hole | 9. Operating handle hole | |

- Control voltage: switch control voltage level is 230V
- Position indication: Indicates the position of the switch working state (I, O, II)
- Main body of the switch: the front part is the I road, which is connected to the "normal power supply"; the rear part is the II road, which is connected to the "standby power supply"

Distribution Apparatus

YCQ9 Automatic Transfer Switch

Type designation

Model	Shell frame	Number of poles	Controller type	Rated current	Function
YCQ9	63	3	A	16A	FFD
Automatic transfer switch(PC class)	63(16~63A) 125(50~125A) 250(125~250A) 630(250~630A)	2: 2P (Only below 250A) 3: 3P 4: 4P	A: Economy B: Standard	16A 20A 25A 32A 40A 50A 63A 80A 100A 125A 160A 200A 225A 250A 315A 350A 400A 450A 500A 630A	/
					/:Fire control linkage FF:Fire feedback D:Generator FFD:Fire feedback, Generator

B

Distribution Apparatus

YCQ9 Automatic Transfer Switch

Technical data

Model	YCQ9-63	YCQ9-125	YCQ9-250	YCQ9-630
Function	Isolation, switch			
Structure	Integrated			
Electric equipment level	PC class			
Utilization category	AC-33B			
Number of poles	2P, 3P, 4P			
Electrical performance				
Rated insulation voltage U_i (V)	AC800			AC1000
Rated operating voltage U_e (V)	AC400 (2P product AC230)			AC415
Rated current I_e (A)	16,20,25,32, 40,50,63	50,63,80, 100,125	125,160,200, 225,250	250,315,350,400, 450,000,000
Rated operating frequency (Hz)	50			
Rated impulse withstand voltage U_{imp} (kV)	8		12	
Rated impulse withstand current I_{cw} (kA)	5/30ms	10/30ms		25/1ms
Rated short-circuit making capacity I_{cm} (kA)	8	17		52.5
Contact transfer time(s)	0.6±20%			
Operating transfer time(s)	1.3±10%			
Return time(s)	1.3±10%			
Power outage time(s)	0.6±20%			
Operation method	Auto/Manual			
Switch position	Normal(I),Power outage(O),Standby(II)			
Mechanical endurance (times)	8000(*)		4000(*)	
Electrical endurance (times)	2000(*)		1000(*)	
Applicable environmental conditions and installation				
Working temperature(°C)	-5~+40			
Altitude(m)	≤2000			
Atmospheric conditions	The relative humidity of the atmosphere shall not exceed 50% at the highest ambient temperature of +40°C. At lower temperatures, there can be higher relative humidity, such as reaching 90% at+20°C. Special measures should be taken for occasional condensation caused by temperature changes;			
Pollution degree	3			
Installation environment	Places without obvious vibration and impact			
EMC environment	Environment B			
Protection degree	IP20			
Power supply voltage deviation range(V)	160±10%			
Normal working voltage range	85% U_e ~110% U_e			
Installation	Vertical fixed installation			
Wiring method	Screw wiring			
Connection	Front connection			
Maximum number of conductors allowed to be clamped in	1		2	
Maximum screw torque	2.5	2.5	10	22

Distribution Apparatus

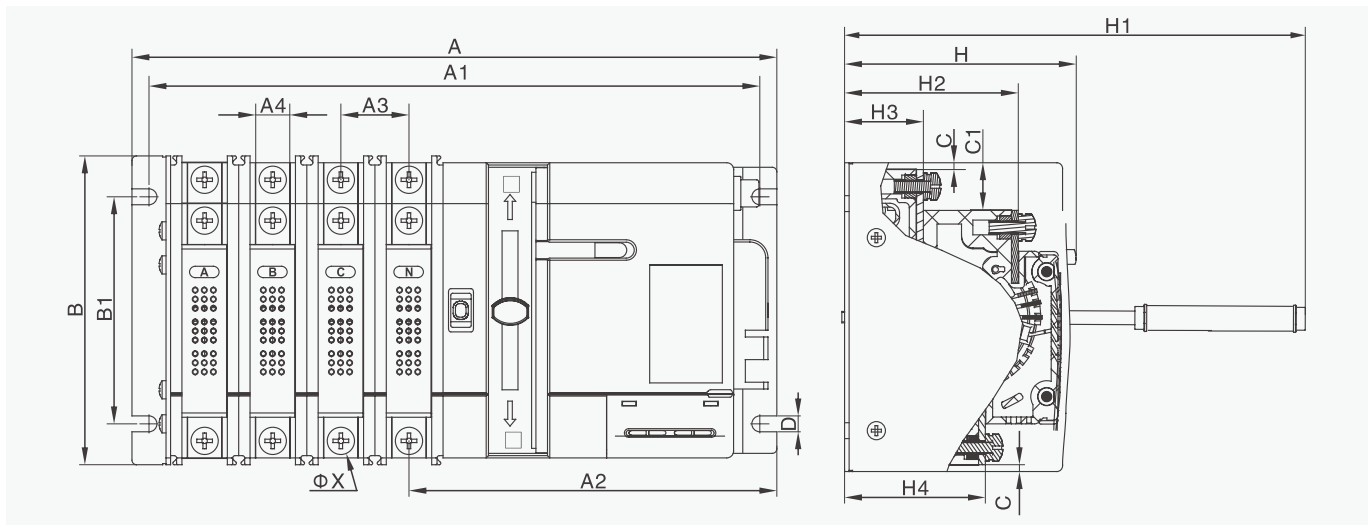
YCQ9 Automatic Transfer Switch

Parameters of controller

Type	Type A	Type B
Power supply and opening/closing indication	■	■
Automatically transfer and restore operation	■	■
Grid-grid	■	■
Grid-generator(start/stop)	-	□
Three-phase monitoring commonly used to detect phase loss in power supply	■	■
Three-phase monitoring commonly used to detect power loss in power supply	■	■
Single-phase monitoring commonly used to detect phase loss in power supply	■	■
Single-phase monitoring commonly used to detect power loss in power supply	■	■
Handle manual operation	■	■
External wiring terminal of indicator light	■	■
Fire control linkage(24VDC)	-	□
Fire feedback	-	□

Note: "■" Standard, "□" Optional, "-"No.

Overall and mounting dimensions



Specifications	A			B	H	A1			B1	A1	A2	A4	H1	H2	H3	H4	C	C1	D	ΦX
	2P	3P	4P			2P	3P	4P												
63	171	193	218	138	68	44	66	88	106	136	22	13	152	52	24	43	2	13	5.2	6
125	229	259	289	136	102	214	244	274	100	162	30	15	240	77	35	62	4	21	7	6
250	302	347	393	170	128	283	328	374	125	207	45.5	25	257	96	44	79	4	22	9	8
630	/	528	255	250	192	/	501	569	188	325	68	49	367	144	65	118	6	40	13	120

Note: The operating handle is usually removed and used for emergency or manual operation.

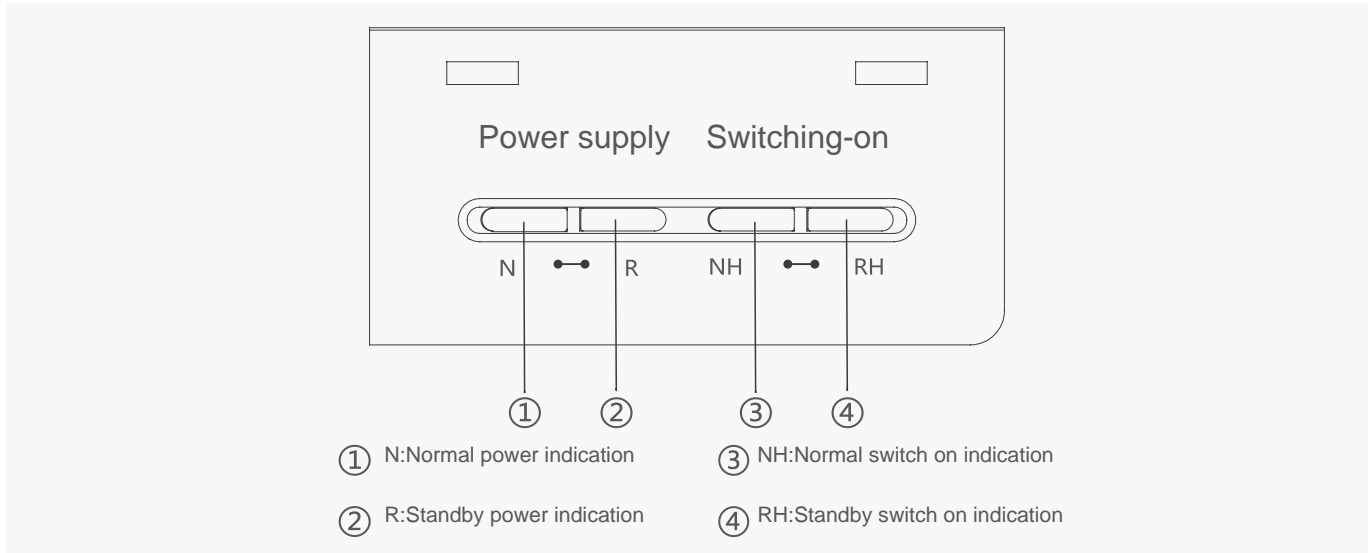
B

Distribution Apparatus

YCQ9 Automatic Transfer Switch

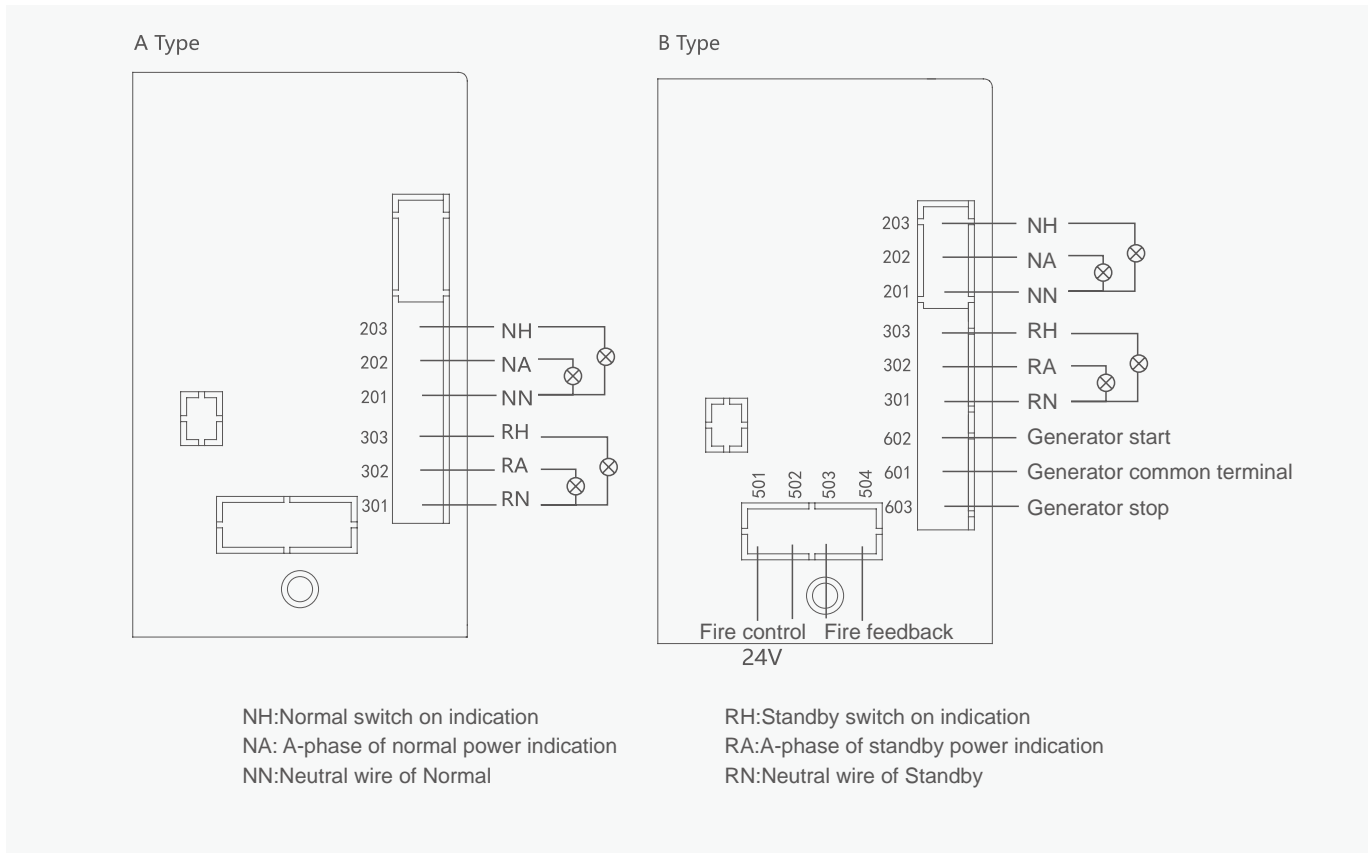
Controller

Interface of the display module of controller



Controller action flow

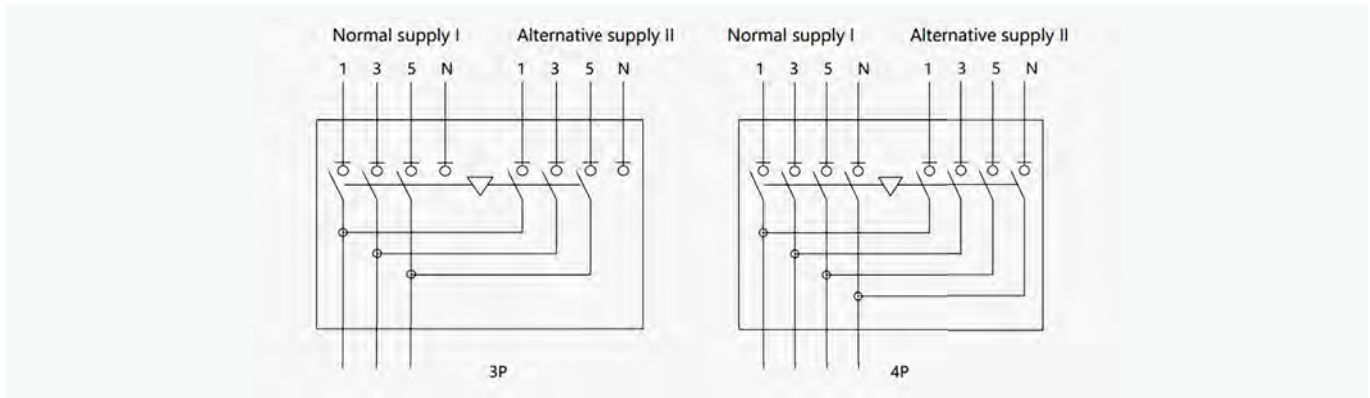
Secondary wiring diagram of economyl and basic controllers



Distribution Apparatus

YCQ9 Automatic Transfer Switch

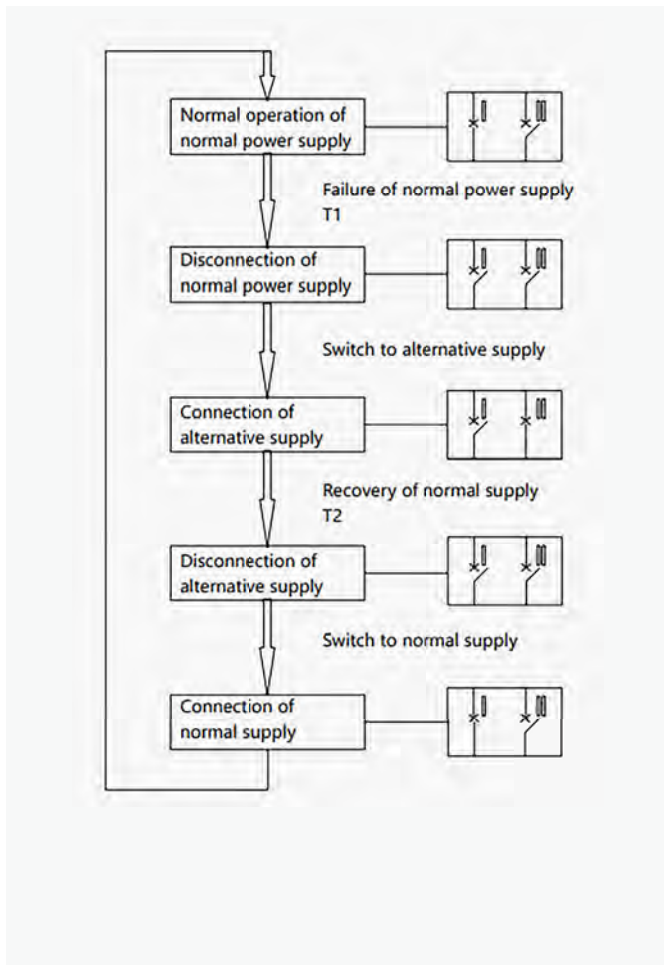
Wiring diagram



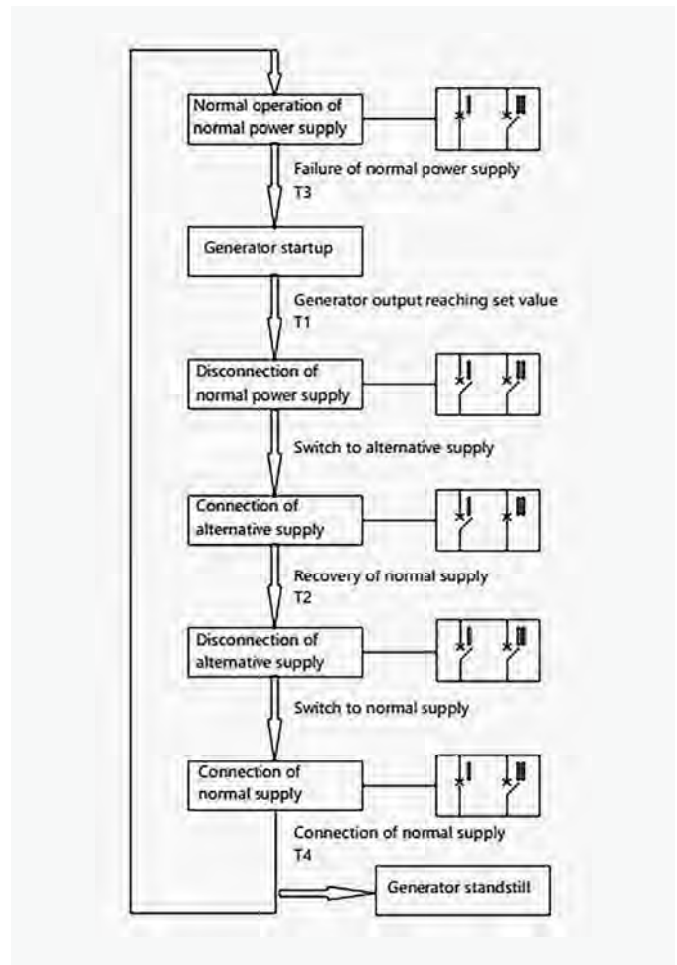
Note: Three-pole products must have the neutral wire connected to the controller(Normal neutral wire access 101)(Standby neutral wire access 201)

Controller action flow

Automatically transfer and restore operation (power grid-power grid) work flow diagram of controller



Automatically transfer and restore operation (power grid-generator) work flow diagram of controller



Distribution Apparatus

YCQ9E Automatic Transfer Switch



General

YCQ9E series automatic transfer switch, rated working current 16A to 630A, to be used in power systems for ensuring the continuity of the supply, by transferring a load between two power supply sources. The switch has three working positions of "Main (I) closing", "Standby (II) closing" and "Double-of (0)", which can be used for fire-fighting linkage and infrequent connection and disconnection of power supply systems. Mainly used in hospitals, shopping malls, banks, chemical industry, metalurgy, high-rise buildings, military facilities and fire-fighting occasions where power failure is not allowed.

Standards: IEC 60947-6-1

Type designation

YC Q 9 E - 125 / 3 □ □

Enterprise code	Product code	Design number	/
YC	Q	9	E
CNC	PC Class Automatic Transfer Switch	/	LCD type
Frame size current	Pole	Function code	Rated current
125	3	□	□
125, 250, 630	3P; 4P	A:Without RS485 B:With RS485	16~630A

Function

1. Source I/II over/under-voltage monitoring
2. Source I/II over/under frequency monitoring
3. Source I/II power ON running status LED indication
4. When the switch is working normally, the LCD displays the switch information. When inquiring/adjusting the parameters, it displays the parameter settings; before transfer operation, transfer delay timer is displayed in a countdown mode.
5. Fire-fighting linkage function: The controller has a set of passive fire-fighting signal input terminals, which can accept external passive fire-fighting signals, and transfer to double of position, also has a set of passive feedback signal output terminals, which can return the switch's in-position signal to the firefighting equipment.
6. Generator control function: The controller has a set of relay dry contacts to control the start and stop of the generator, and can set the start delay and stop delay of the generator (need to be connected to the auxiliary power supply DC24V).
7. Communication function: Configure RS485 communication port, Modbus-RTU communication protocol, which can realize remote signaling, remote measurement, remote control, and remote adjustment (D-type controller).

Distribution Apparatus

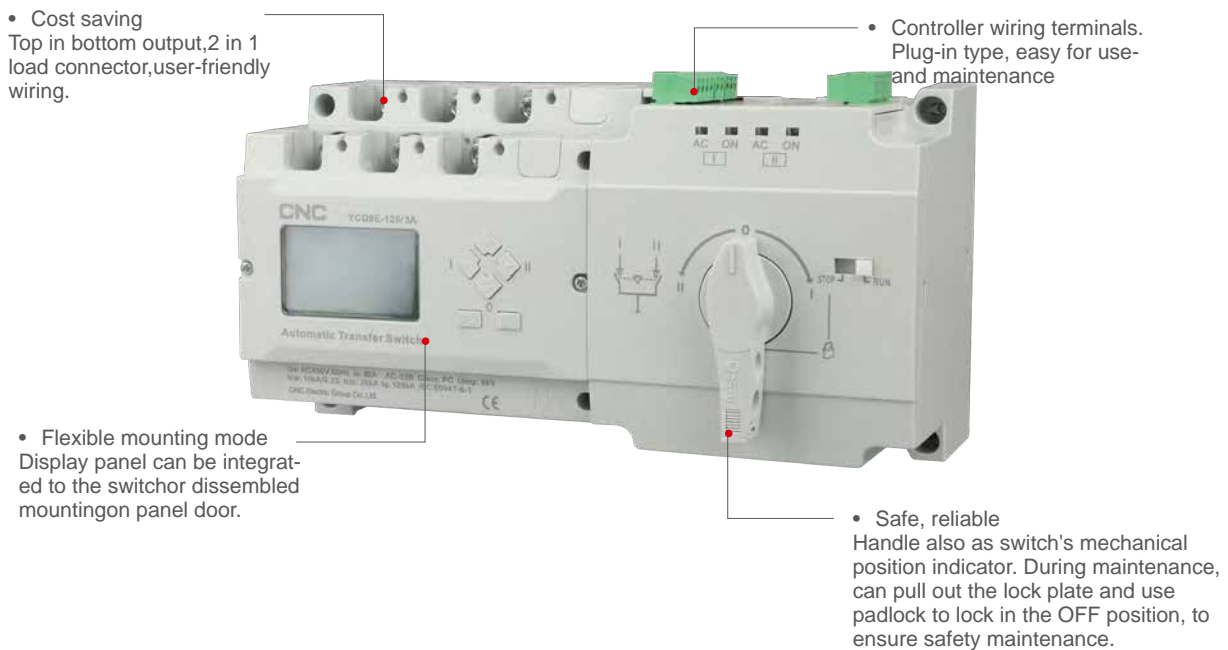
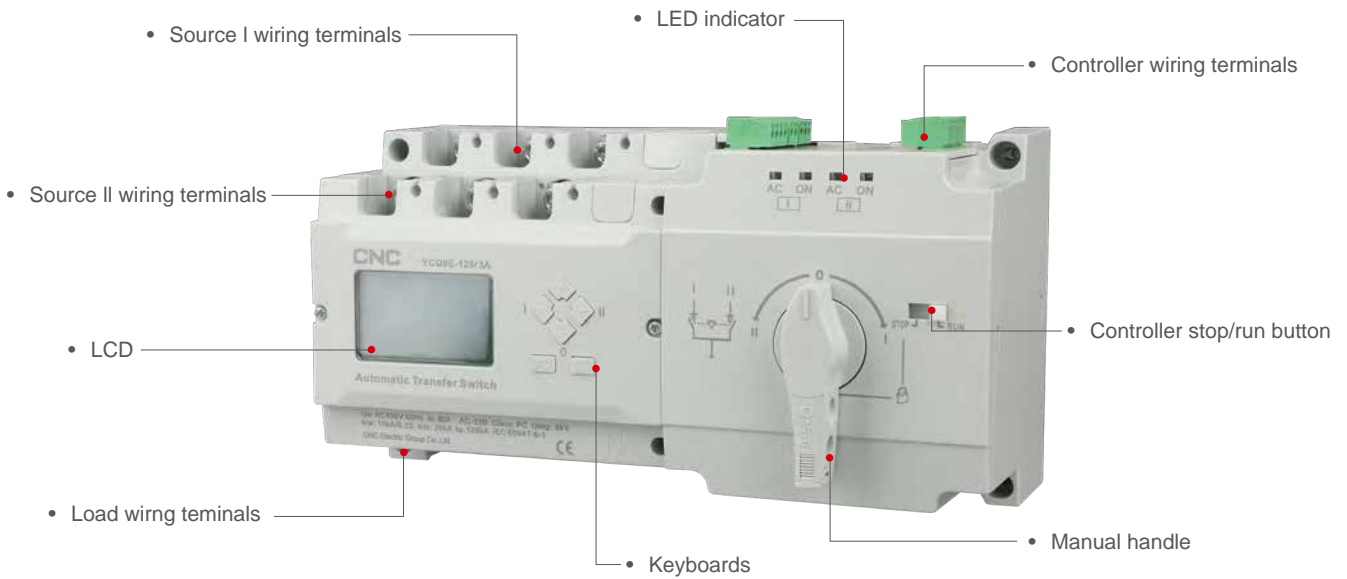
YCQ9E Automatic Transfer Switch

Operating conditions

1. Ambient temperature: -5°C ~ $+40^{\circ}\text{C}$, average temperature within 24h does not exceed $+35^{\circ}\text{C}$.
2. Humidity. When the highest temperature is $+40^{\circ}\text{C}$, the relative humidity in the air does not exceed 50%, higher relative humidity is allowed at lower temperatures, for example, up to 90% at $+25^{\circ}\text{C}$. Special measures should be taken for the occasional condensation due to temperature changes.
3. Installation altitude: The altitude of the installation site does not exceed 2000m.
4. Pollution degree: Pollution degree is level 3.
5. EMC electromagnetic compatibility: Class B (public).

Note: If the usage environment does not meet the above conditions, it should be explained to the manufacturer.

Structure introduction



Distribution Apparatus

YCQ9E Automatic Transfer Switch

Technical data

Frame size	125	250	630
Number of poles (P)	3, 4	3, 4	3, 4
Rated working current Ie(A)	16, 20, 25, 32, 40, 63, 80, 100, 125	140, 160, 200, 225, 250	315, 350, 400, 500, 630
Rated working voltage Ue(V)	AC400V/415V 50Hz		
Rated insulation voltage Ui(V)	690		
Rated impulse withstand voltage Uimp(kV)	8		
Utilization Category	AC-33B		
Rated short time with stand current Icw(kA)	10	10	25
Rated short time making capacity Icm(kApeak)	20	30	50
Rated control voltage Us (V)	AC230V/50Hz		
Contacts transfer time(s)	0.6±50%	1.0±10%	1.5±10%
Transfer time(s)	1.25±10%	2.1±10%	3.3±10%
Recovery transfer time(s)	(1.25+time-delay)±10%	(2.1+time-delay)±10%	(3.3+time-delay)±10%
Power-off duration (s)	(0.6±20%)+time-delay)±10%	(1.0+time-delay)±10%	(1.5+time-delay)±10%
Operation cycles	Without load	8500	7000
	With load	1500	1000
	Total	10000	8000
Dimension(mm)LxWxH	245x130x122	295x175x175	430x272x228
Weight (kg)	4.3	9	22.5

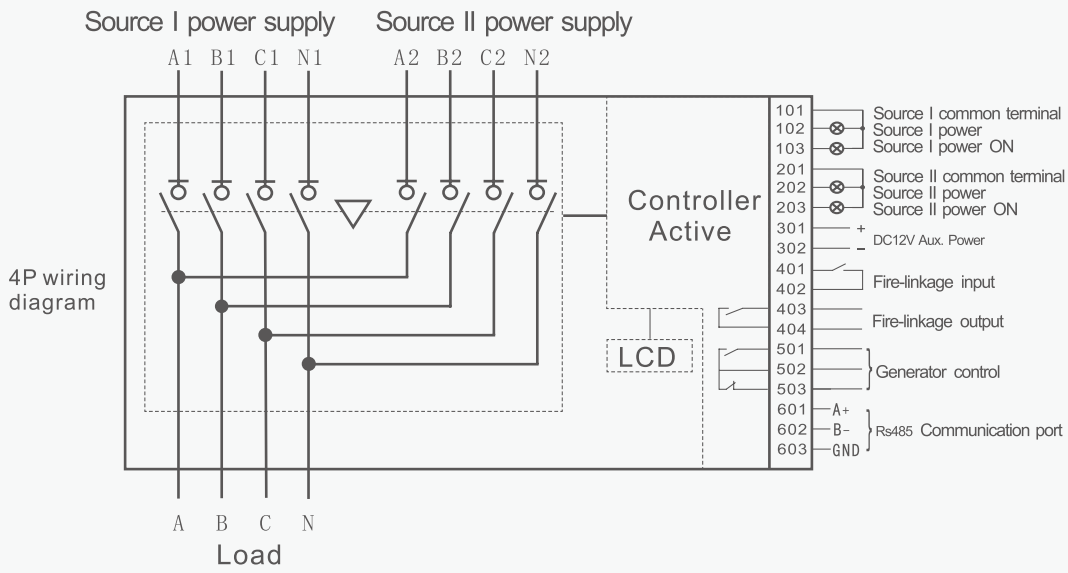
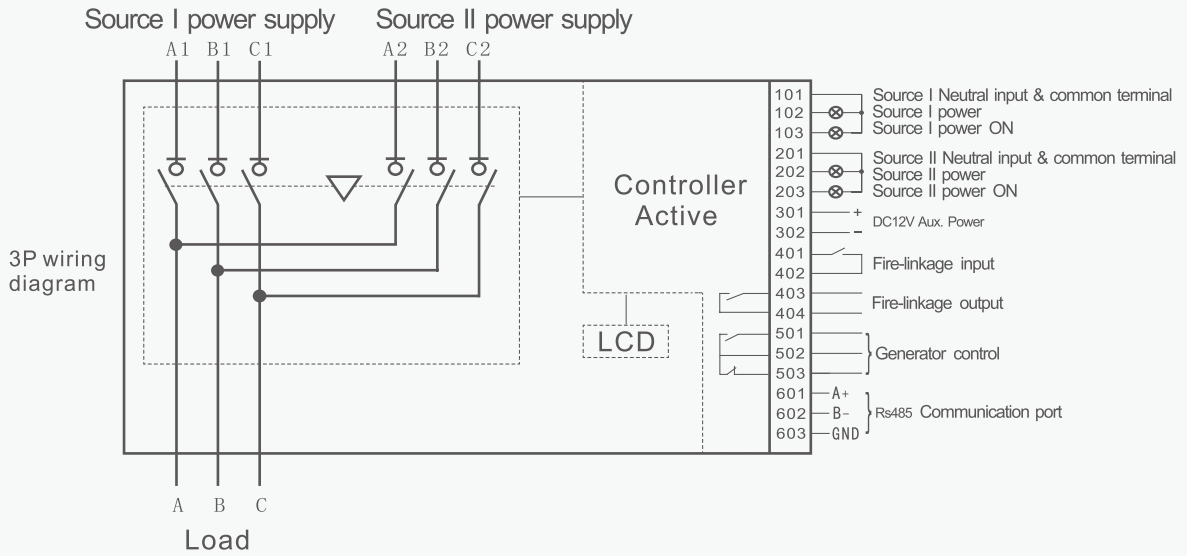
Controller function

Control voltage	AC230V 50/60Hz
Aux.Power	DC 24V
Power consumption	≤ 10W
Working position	Three working positions of "Main (I) closing", "Standby (II) closing" and "Double-of (0)"
Operation mode	Auto mode, manual operation, control panel operation, remote operation, Rs485 communication
Transfer mode	Auto transfer auto recovery/Auto transfer no auto recovery
Display mode	LCD
Source I monitoring	Under-voltage,over-voltage,power loss monitoring(A,B,C three phase)
Source II monitoring	Under-voltage,over-voltage,power loss monitoring(A,B,C three phase)
Generator control	Yes(Generator start and stop)
Fire-linkage control	One group voltage-free signal to cut-off both power, and 1 group voltage-free feedback
Frequency monitoring	No
Engine exerciser	No
Transfer delay timer(S)	Default:5s, 0~180s adjustable
Recovery delay timer(S)	Default:5s,0~180s adjustable
Under-voltage range	Default:187V,154~198V adjustable
Over-voltage range	Default:263V,242~330V adjustable
Source priority	Source I priority(default),SourceII priority,No priority
Rs485 Communicaiton	B type
LCD	Yes, LCD is sperable

Distribution Apparatus

YCQ9E Automatic Transfer Switch

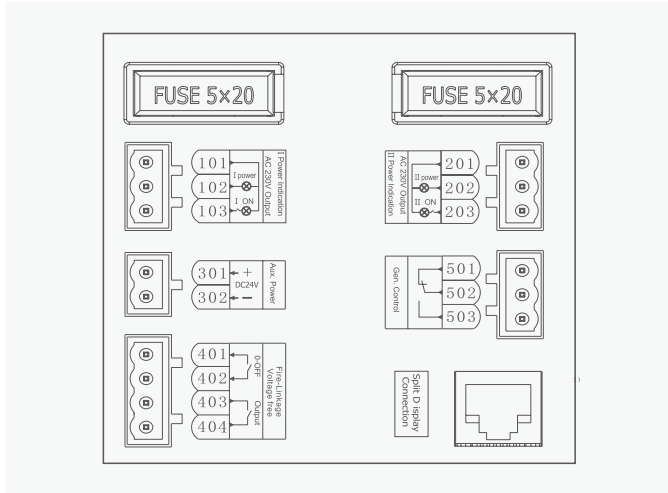
Wiring diagram



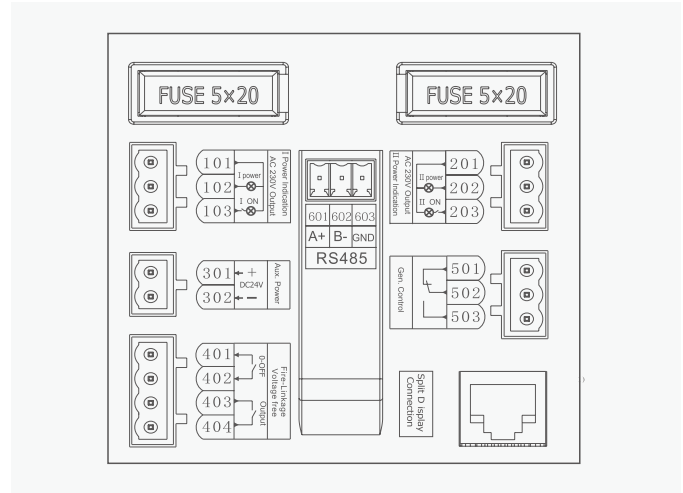
Distribution Apparatus

YC9E Automatic Transfer Switch

A type Controller



B type Controller



Control terminals instruction

- 101~103:Source I power supply signal output (active output AC230V/0.5A)
 - 101-Source I external LED indicator common neutral line and 3P neutral line input termina
 - 101, 102-Source (I) power signal indication
 - 101, 103-Source (I) Closing signal indication
- 201~203:Source II power supply signal output (active output AC230V/0.5A)
 - 201-Source II external LED indicator common neutral line and 3P neutral line input terminal
 - 201, 202-Source (II) power signal indication
 - 201, 203- Source (II) closing signal indication
 - Note: 101-"N1" and 201-"N2" are control power neutral wires for 3P products.
- 301~302 auxiiary power input port (DC12V/24V)

The purpose of connecting the auxiliary power supply is to control the stat delay timer of the generator when the switch is in the gridgenera-tion mode. If there is no auxiliary power supply, the start delay time of the generator is 0s.
If the generator delay function is not needed, the auxiliary power supply is not needed.
- 401~402 Fire linkage control port (passive)
 - 401, 402- firefighting linkage signal input: 401, 402 ports can only be connected to a set of normally open passive contacts, when the normal-ly open contacts are closed, the controller immediatly controls the switch transfer to double of position, cut off the load power.(Note: If the fire signal is acive, the signal must be transfer via a small relay then connect the normally open contact to the controller port)
 - 403, 404-fire linkage signal output: Inside pors 403 and 404 are a set of passive contacts that are normally open, which are used for the feed-back signal of fire fighting acions. Ports 403 and 404 are normally open, when the fire signal is input and the switch is switched to the double off position, the contacts 403 and 404 are closed. (Note: When the fire-fighting function is activated, the switch is in the double off position. If the switch needs to resume normal opeaion, press any key on the controller panel to remove the fire-fighting signal)
- 501~503 generator signal output port (passive)

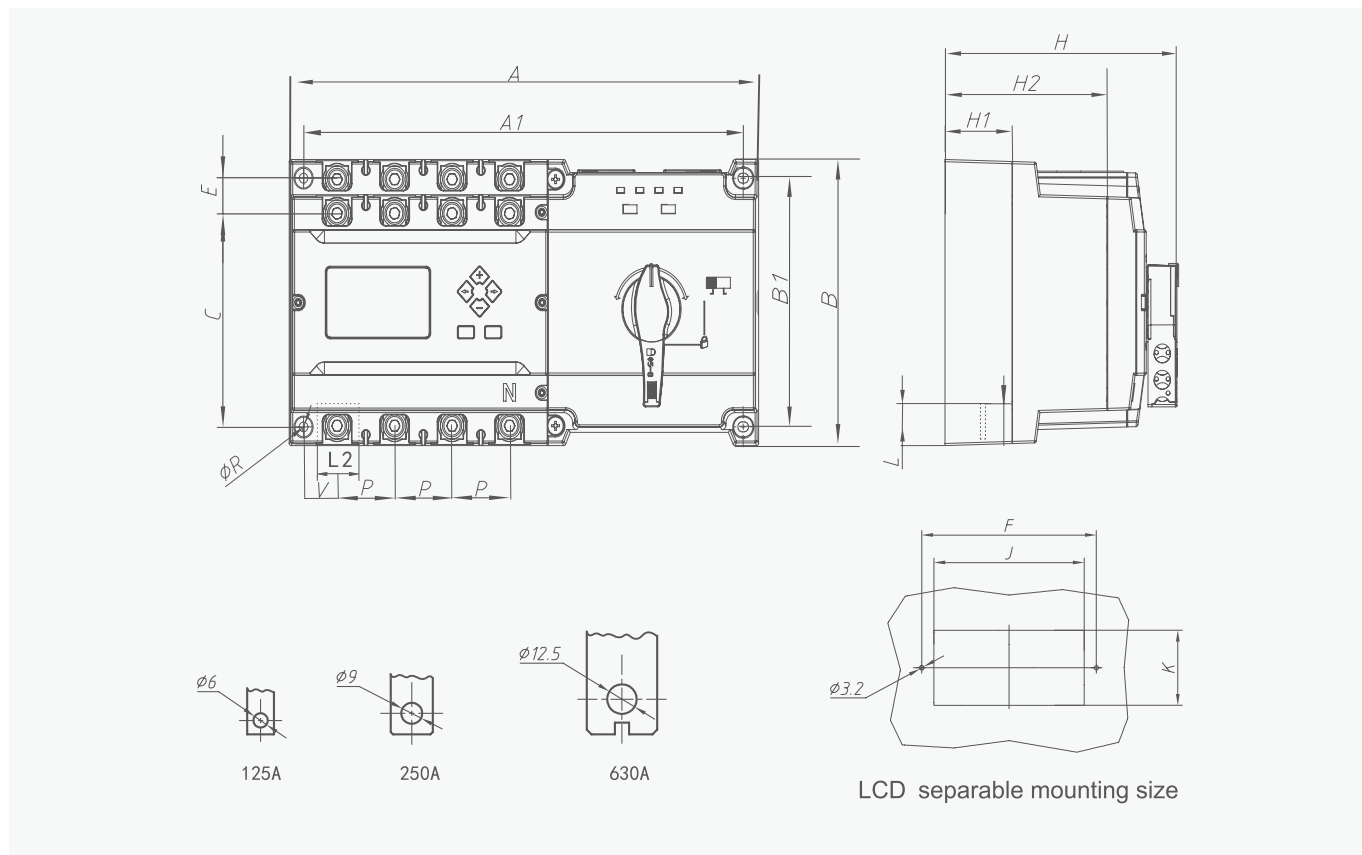
When the backup (II) power supply is a generator group, user can realize the automatic start fuction after connecting to the generator controller through terminals 501~503, inside pors of 501~503 are a group passive relay dry contact, 502 is the common terminal, 501 is the normally open point, and 502 is the normally closed point.

In the grid-generator working mode and the controller is in AUTO mode, when the main power supoy is normal. 502-501 is closed, and 502 -503 is disconnected, if the main power supply fails, and when the standby is out of power, 502-503 will be closed after the generator start delay timer, and 502-501 will be disconnected at the same time, and send signal to stat the generator. After the transfer delay timer is over, the switch will first switch to the double position. When the power generation group comes in, the controller will execute the generator warm-up delay timer.After the delay, the switch wil automatically switch to the standby power supply side. During the standby side erator power supply process,when the main power supply is restored, if it is nommal, the controller will control the switch to transfer to the main power supply after the retum delay timer. Ater the main power ON, 502-501 will be closed after generator stop delay timer. At the same time, 502 503 will be disconnected and send signal to stop generator. Action flow can be referred to 8.2 Grid-generator mode.
- 601~603 RS485 communication port
 - 601—A+ 602—B- 603—GND, communication protocol MODBUS-RTU.

Distribution Apparatus

YCQ9E Automatic Transfer Switch

Overall and mounting dimensions(mm)



B

Size	Outline Dimension(mm)			Mounting Size(mm)											LCD mounting size		
	A	B	H	A1	B1	H1	H2	C	E	R	V	P	L	L2	F	J	K
125	245	130	122	230	113	31	71	97.5	15.5	4.5	25	30	16	21.5	127	112	56
250	295	175	175	275	152	29	99	132	20	6	32	35	29	27			
630	430	272	228	400	240	41	131	207	30	9	50	58	38	42			

Distribution Apparatus

YCQ6 Automatic Transfer Switch



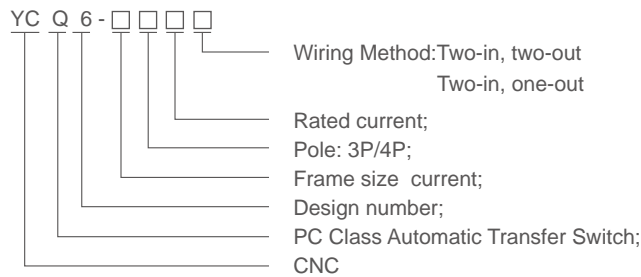
General

1. YCQ6 series automatic transfer switch is applicable in AC50/60Hz, rated voltage of AC400V, and distribution the rated current from 16A to 3200A. In motor network, there is a primary and standby power, or as the utility to generator in loading changeover. Meanwhile, it used to insulate in unfrequent connection break circuit as the standby power.
2. This products are widely used in hospitals, banks, high-rise architecture and so on where are very important places with no electric failure allowed for power supply, distribution and automatic system.

PS: when using bridge type connection, please instruct if it applies to the line end or the outlet end.

Standard: IEC 60947-6-1

Type designation



Features

1. Double row composite contact, side pull mechanism, micromotor pre-storage and microelectronic control technology are adopted to achieve zero flash (no arc extinguishing chamber).
2. Reliable electromechanical interlock, and each component is implemented independently with isolation switch for safe and reliable use.
3. Using over zero technology, the state of emergency can be enforced under the zero (cut down the 2 ways in the meanwhile) to meet the needs of Fire Fighting.
4. The execution load isolation switch is driven by a single motor, and the conversion is reliable, smooth, no noise and small impact.
5. The operator only implements the isolated drive of the electrical load by switching the transient current, and it can work stably without providing current, and the energy saving is significant.
6. Executive load disconnecter chain with a mechanical device used to ensure that reliable standby power of non-interference in each other.
7. Obvious off position indicator, padlocks and other functions, high reliability and service life of more than 8000 times.
8. Mechatronics design, switching conversion accurate, flexible, smooth and adopt international advanced logic control technology, anti-interference capability, without external interference.
9. Cooperation with the main power on and standby power off, or the main power off and standby on, the main power and standby power are both off, three kinds stability working. (I-O-II)
10. Easy to install and the control circuit uses direct plug terminal.
11. Four operation modes: emergency manual operation, electric remote control operation, emergency disconnected operation under the automatic state, automatic control operation.

Distribution Apparatus

YCQ6 Automatic Ttransfer Switch

Technical data

Frame class	100									160		250		630		1600				3200		
Rated current In(A)	16	20	25	32	40	50	63	80	100	125	160	200	250	400	630	800	1000	1250	1600	2000	2500	3200
Rated insulation voltage(Ui)	500V														800V							
Rated concussion withstand voltage(Uimp)	6KV														8KV							
Rated working voltage(Ue)	AC400V																					
Using category	AC-33iB																					
Rated short-circuit connection capacity	8KA									17KA				67KA								
Rated short-time withstand current(Icw)	5KA/30ms									10KA/60ms				12.6KA /60ms								
Transfer time I-II or II-I	≤ 3s														≤ 5s							
Control voltage	AC230V																					
Rated frequency	Start	20W									325W		355W	400W	440W		600W					
	Normal										62W		74W	90W	98W		120W					

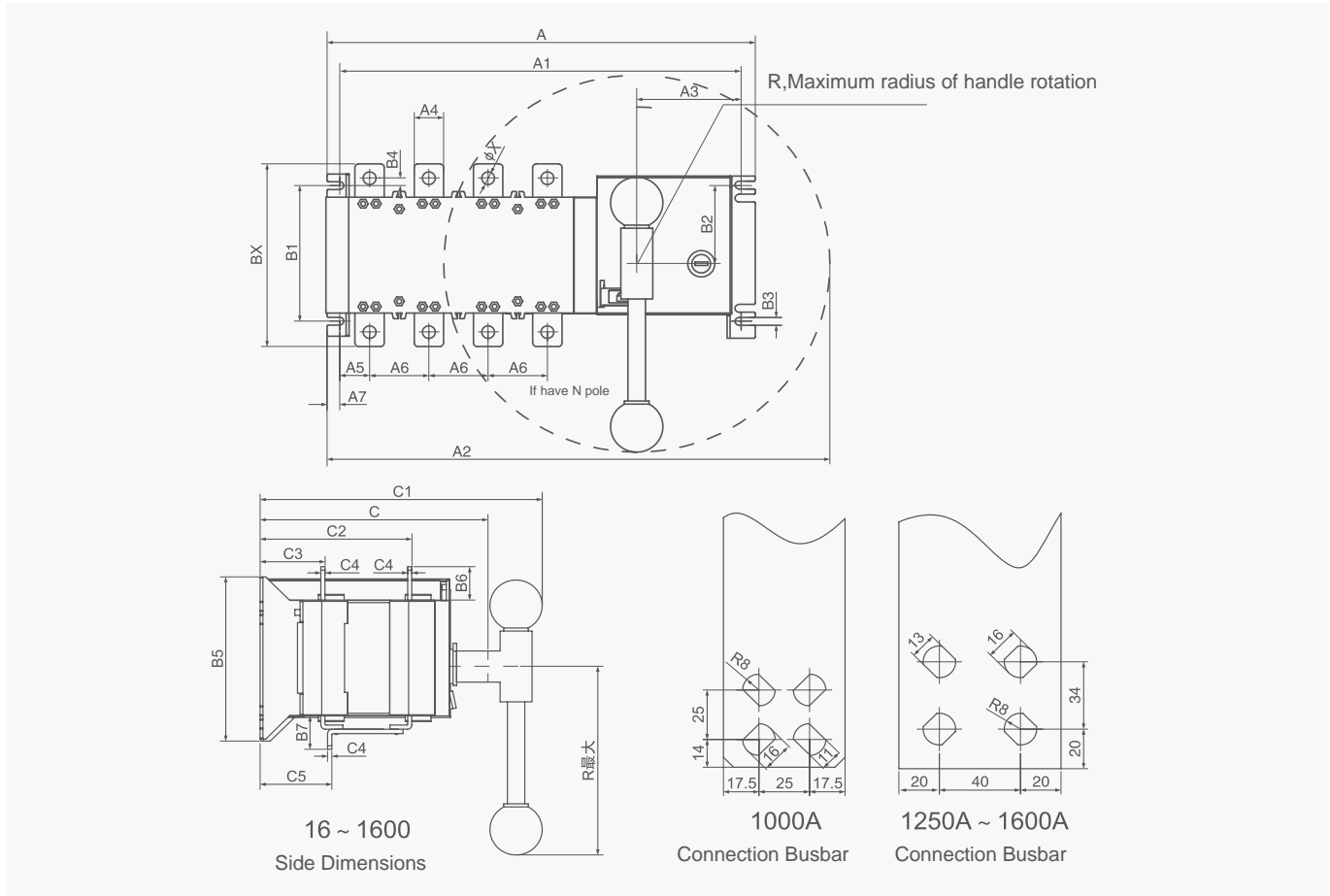
B

Distribution Apparatus

YCQ6 Automatic Transfer Switch

Overall and mounting dimensions(mm)

Installation dimensions(16~1600A)

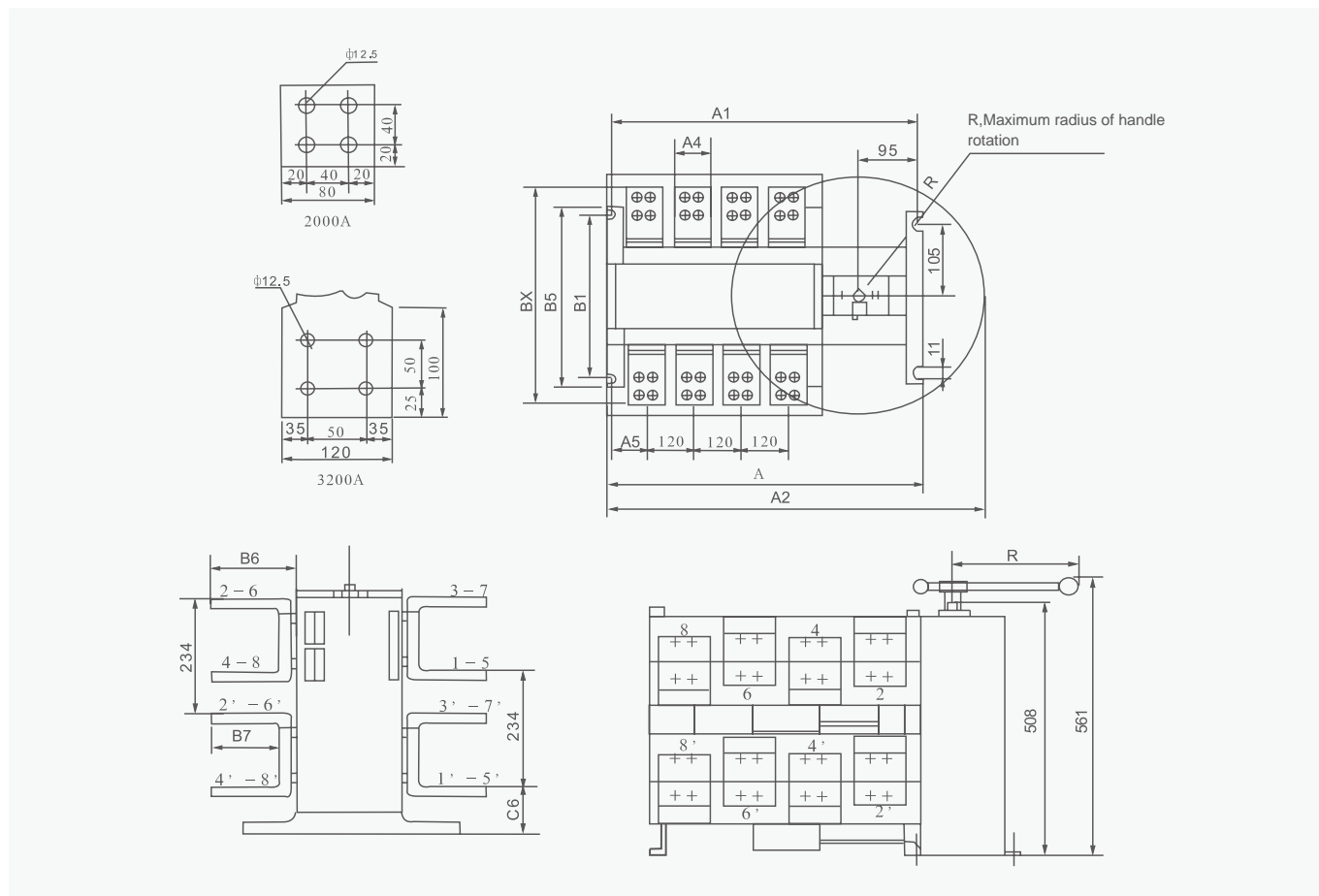


Specification	Total size																							
	A	A1	A2	A3	A4	A5	A6	A7	BX	B1	B2	B3	B4	B5	B6	B7	C	C1	C2	C3	C4	C5	ΦX	R
100A/3P	232	222	258	83	14	15	30	5	128	84	43	7		106			146	169	92	40	2.5	67.5	6	114
100A/4P	244	234	268	83	14	15	30	5	128	84	43	7		106			146	169	92	40	2.5	67.5	6	114
250A/3P	270	252	325	95	20	20	36	7	143	103	52	6.4	4	141	25	33	194	230	126	56	3.5	59	8.5	153
250A/4P	308	288	352	98	20	22	36	7	143	101	52	6.4	4	141	25	33	194	230	129	59	3.5	62	8.5	153
400A/3P	315	300	366	93	25	28	50	7	184	107	52	6.4	16	141	30	44	209	247	146	64	3.5	67	10.7	153
400A/4P	369	350	413	97	25	28	50	7	184	108	52	6.4	16	141	30	44	211	249	145	63	3.5	67	10.7	153
630A/3P	374	358	608	92	32	39	65	7	262	179	95	8.7	17	218	40	62	273	313	196	84	5	84	11	335
630A/4P	433	416	663	95	32	39	65	7	262	179	97	8.7	17	218	40	62	273	313	197	84	5	84	11	335
800A/3P	374	358	608	92	40	39	65	7	269	179	95	8.7	17	218	48	61	273	313	196	84	5	84	12	335
800A/4P	433	416	663	95	40	39	65	7	269	179	97	8.7	17	218	48	61	273	313	197	84	5	84	12	335
1000A/3P	520	500	867	85	60	65	120	9	343	220	112	11		250	53	90	330	385	253	110	8	110		440
1000A/4P	633	613	980	85	60	65	120	9	343	220	112	11		250	53	90	330	385	253	110	8	110		440
1250A/3P	520	500	867	85	80	65	120	9	367	220	112	11		250	69	98	330	385	253	110	8	110		440
1250A/4P	633	613	980	85	80	65	120	9	367	220	112	11		250	69	98	330	385	253	110	8	110		440
1600A/3P	520	500	867	85	80	65	120	9	372	220	112	11		250	69	102	330	385	254	111	10	111		440
1600A/4P	633	613	980	85	80	65	120	9	372	220	112	11		250	69	102	330	385	254	111	10	111		440

Distribution Apparatus

YCQ6 Automatic Transfer Switch

Installation dimensions(2000~3200A)



Specification	A	A1	A2	A4	A5	BX	B1	B5	B6	B7	C6	R
2000A/3P	534	493	855	80	15	446	220	250	123	94	102	438
2000A/4P	649	608	970	80	15	446	220	250	123	94	102	438
2500A/3P	534	493	855	80	20	460	220	250	128	94	102	438
2500A/4P	649	608	970	80	22	460	220	250	128	94	102	438
3200A/3P	534	493	855	120	28	496	220	250	147	112	105	438
3200A/4P	649	608	970	120	28	496	220	250	147	112	105	438

Distribution Apparatus

YCQ4E/YCQ4R PC Type Automatic Transfer Switch

General

The dual power automatic switch is a newly developed miniature household power switch, which is mainly used to test whether the main power supply or standby power supply is normal. When the normal power supply is abnormal, the standby power supply starts to work immediately, which ensures the continuity, reliability and safety of power supply. This product is specially designed for household rail installation and is specially used for Pz30 distribution box.

The dual power automatic switch is suitable for emergency power supply systems with 50 or 60 Hz and rated 400V AC. ATS has the characteristics of solid structure, reliable conversion, convenient installation and maintenance and long service life. It is widely used in various occasions where power failure cannot be sustained, and can be operated by electricity or manually. ATS is composed of TSE and controller.

Standard : IEC 60947-6-1



YCQ4-100E

Operating conditions

Ambient air temperature

The maximum temperature shall not exceed 40°C the minimum temperature shall not be lower than -5°C, and the average temperature within 24 hours shall not be higher than 35 °C.

Altitude

The altitude of the installation site should not be higher than 2000m.

Atmospheric conditions

When the maximum temperature reaches 40°C, the relative humidity of the installation site should not exceed 50%; when the temperature is the minimum temperature -5°C, the relative humidity is higher, for example, the temperature is 25°C, and the relative humidity is 90%. Due to the temperature change, special measures should be taken to deal with the occasional condensation on the surface of the product.

Pollution degree

The pollution degree of ATS conforms to degree 3 specified in IEC 60947-6-1 Installation category. The installation type of ATS conforms to the category specified in IEC 60947-6-1.

Installation conditions

ATS can be installed vertically in control cabinet or distribution cabinet. Make sure the installation distance meets the requirements in Figure 8.

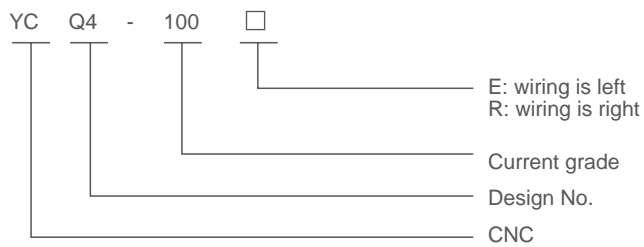


YCQ4-100R

Distribution Apparatus

YCQ4E/YCQ4R PC Type Automatic Transfer Switch

Type designation



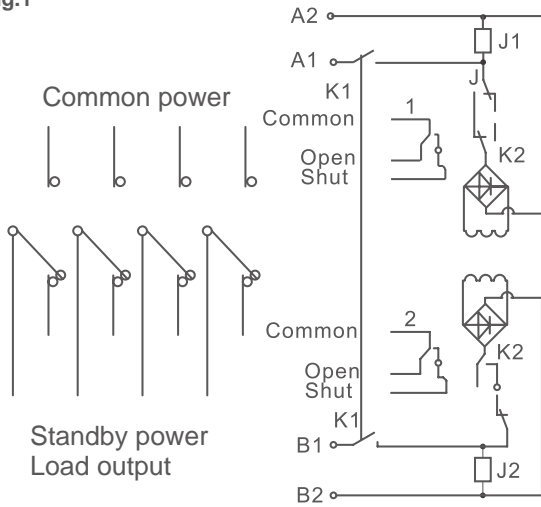
Technical data

Specification	100A		
Rated current I_n (A)	16,20,25,32,40,50,63,80,100		
Insulation voltage U_i	AC690V,50Hz		
Rated voltage U_e	AC400V,50Hz		
Classification	PC class:can be manufactured withstood without short circuit current		
Utilization category	AC-33iB		AC-31B
Pole No.	2P	3P	4P
Weight(kg)	1.7	2.1	2.6
Electrical life	2000 times; Manual operation: 5000 times		
Rated short circuit current I_q	50kA		
Short circuit protection device(fuse)	RT16-00-63A		
Rated impulse withstand voltage	8kV		
Control circuit	Rated control voltage U_s :AC220/50Hz Normal working conditions: 85-110% U_s		
Auxiliary circuit	2 relays,each with two sets of contact converter contact capacity:AC200V/50Hz $I_e=5y$		
Conversion time of contactor	<50ms		
Operation conversion time	<50ms		
Return conversion time	<50ms		
Power off time	<50ms		

Distribution Apparatus

YCQ4E/YCQ4R PC Type Automatic Transfer Switch

Fig.1

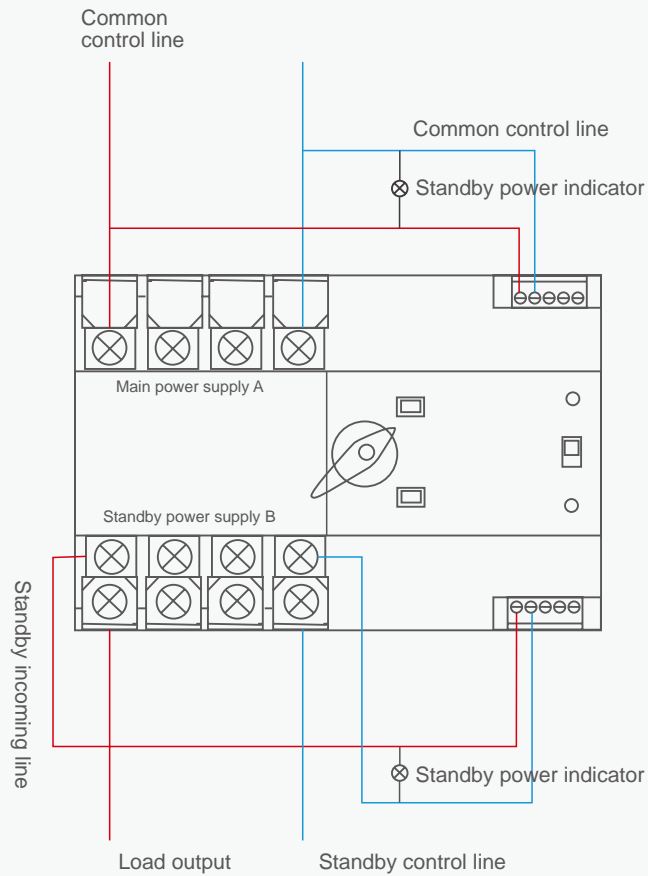


Wiring diagram

- K1: manual/automatic selector switch K2, K3: internal valve position switch
- J1: common 220V A power relay
- J2: standby 220V B power relay
- 1: passive signal output of A power supply
- 2: passive signal output of B power supply

Wiring diagram of YCQ4E

Fig.2



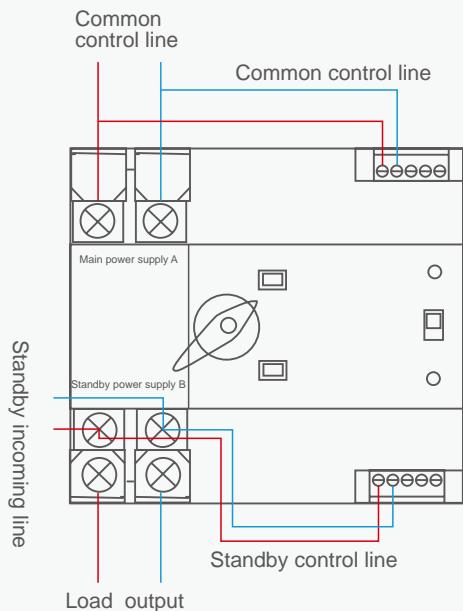
Distribution Apparatus

YCQ4E/YCQ4R PC Type Automatic Transfer Switch

B

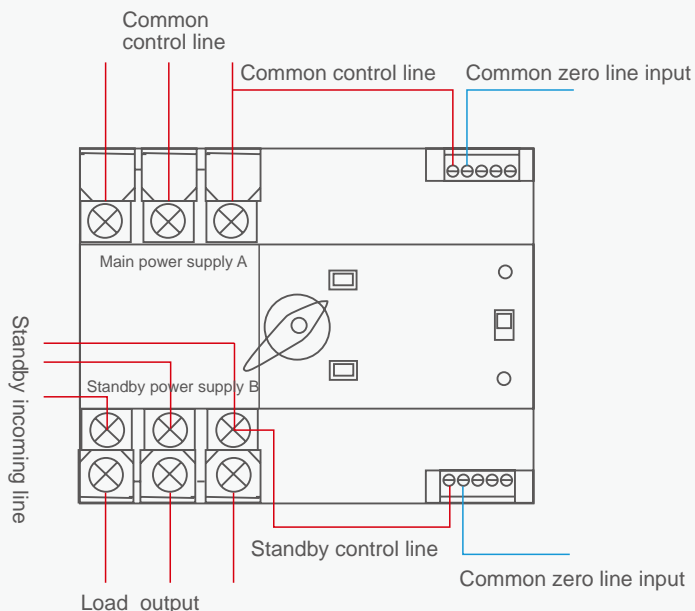
100/2P wiring diagram of YcQ4E

Fig.3



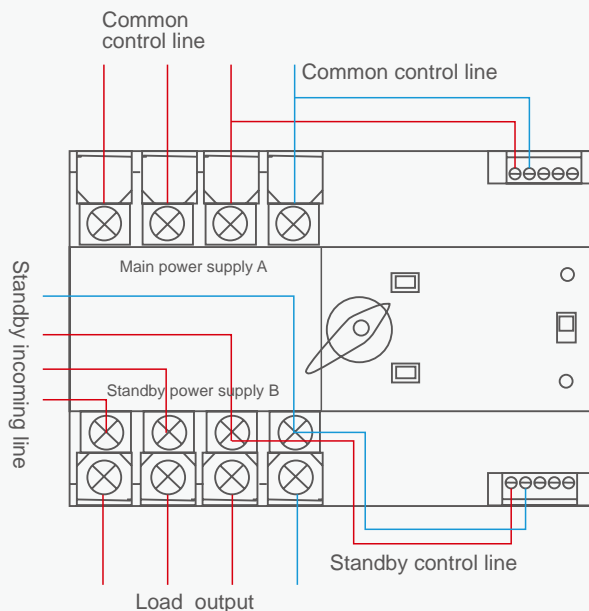
100/3P wiring diagram of YcQ4E

Fig.4



100/4P wiring diagram of YcQ4E

Fig.5

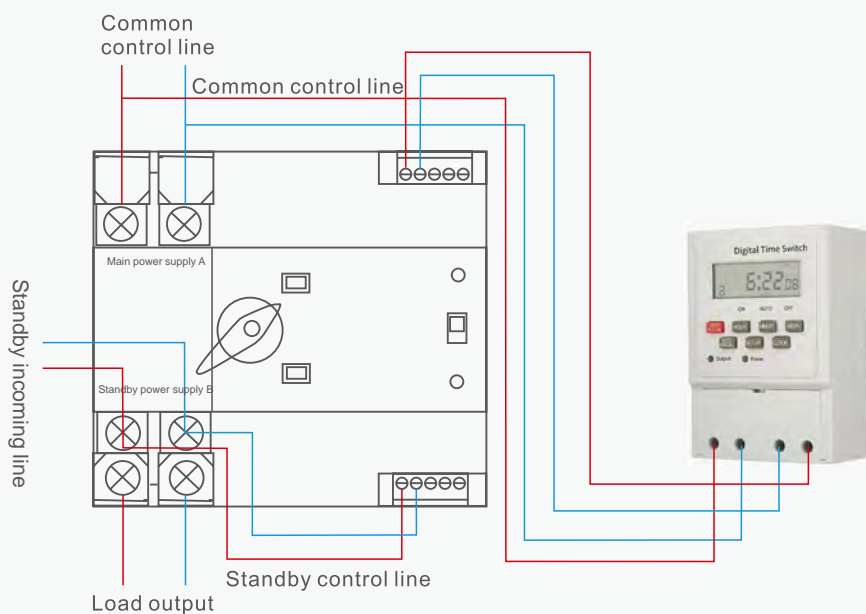


Distribution Apparatus

YCQ4E/YCQ4R PC Type Automatic Transfer Switch

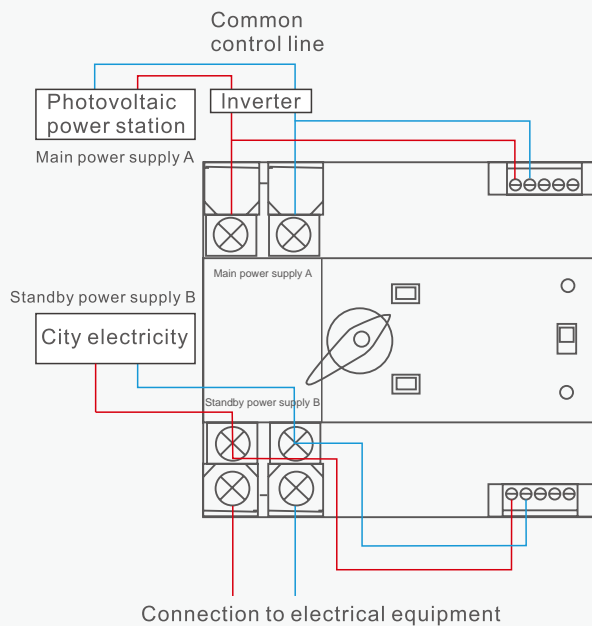
Timing switching connection mode of YCQ4E

Fig.6



Special connection mode of photovoltaic inverter of YCQ4E

Fig.7

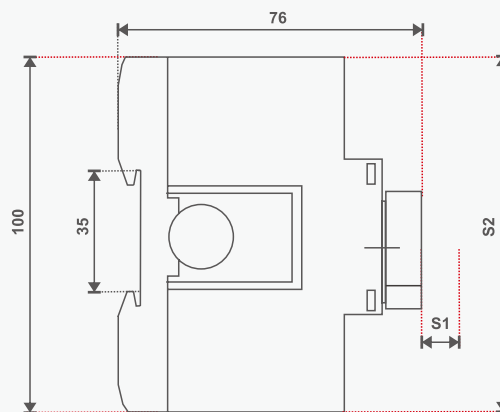
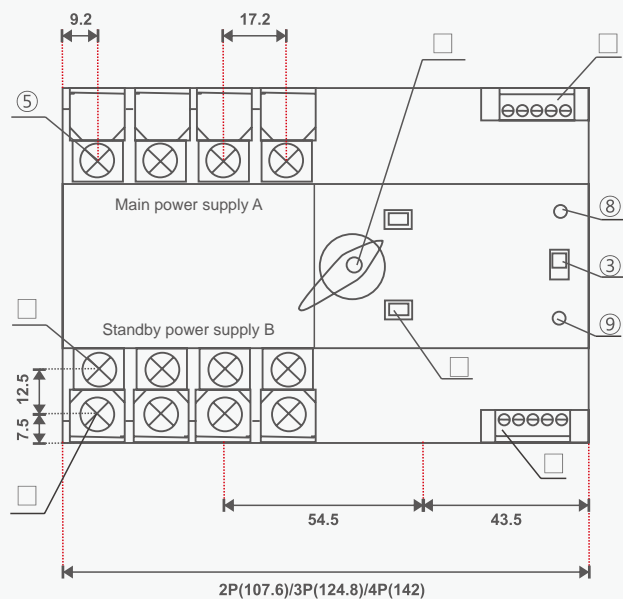


Distribution Apparatus

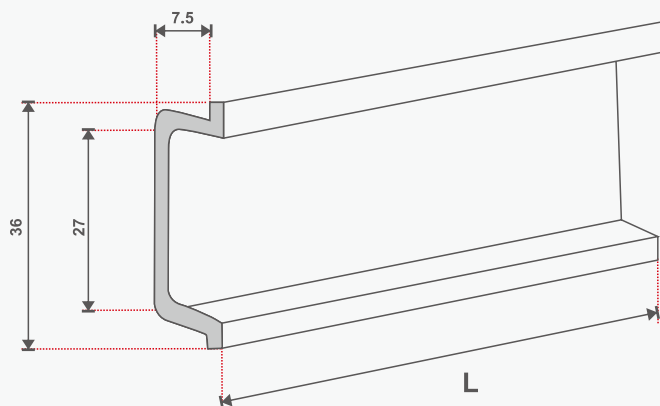
YCQ4E/YCQ4R PC Type Automatic Transfer Switch

Overall and mounting dimensions(mm) of YcQ4E

Fig.8



Safe distance: S1: $\geq 30\text{mm}$ S2: $\geq 203\text{mm}$



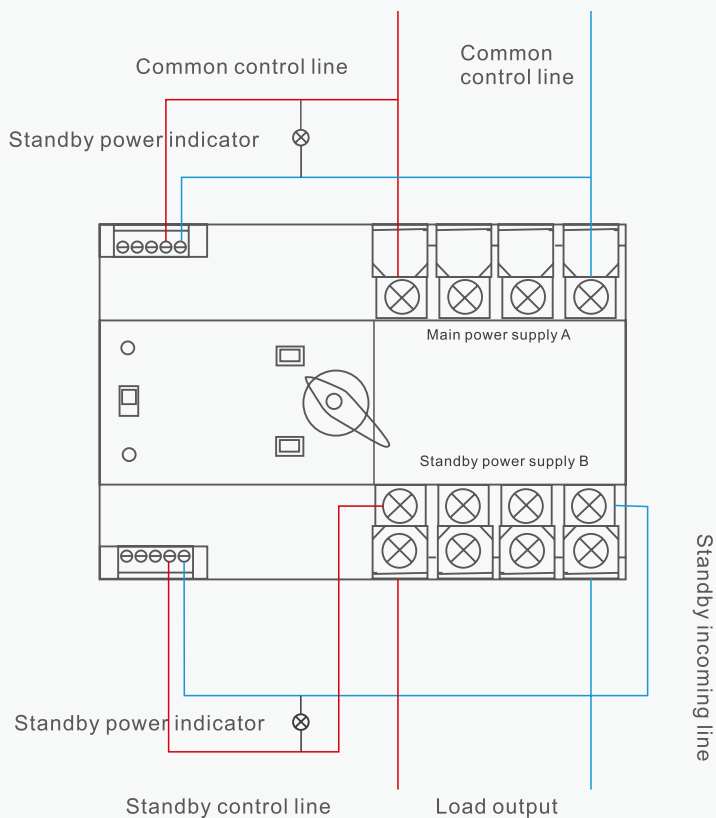
1. Status position indication
2. Main power terminal and passive signal(AC220V)
3. Manual/automatic switch
4. Manual handle
5. Main terminal of common power side
6. Main terminal of standby power side
7. Main terminal of load connection side
8. A power indicator
9. B power indicator
10. Standby power terminal and passive signal(AC220V)

B

YCQ4E/YCQ4R PC Type Automatic Transfer Switch

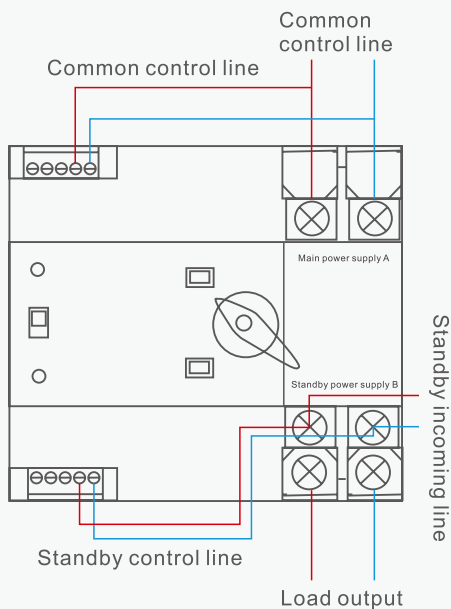
Controller wiring diagram of YCQ4R

Fig.1



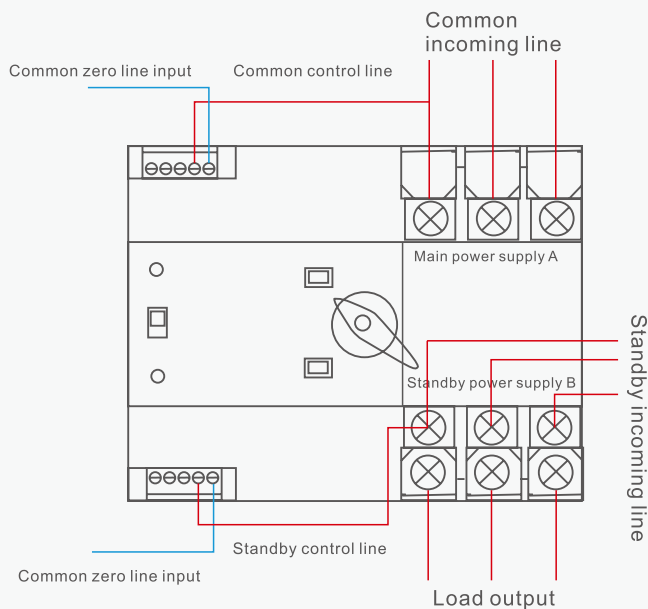
100/2P wiring diagram of YcQ4R

Fig.2



100/3P wiring diagram of YcQ4R

Fig.3

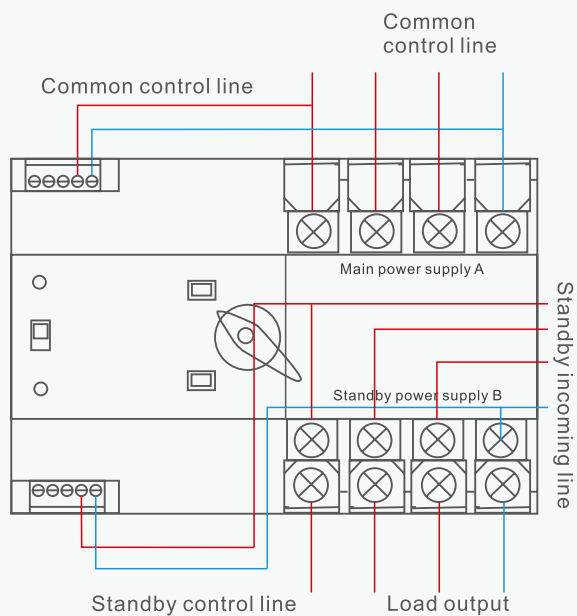


Distribution Apparatus

YCQ4E/YCQ4R PC Type Automatic Transfer Switch

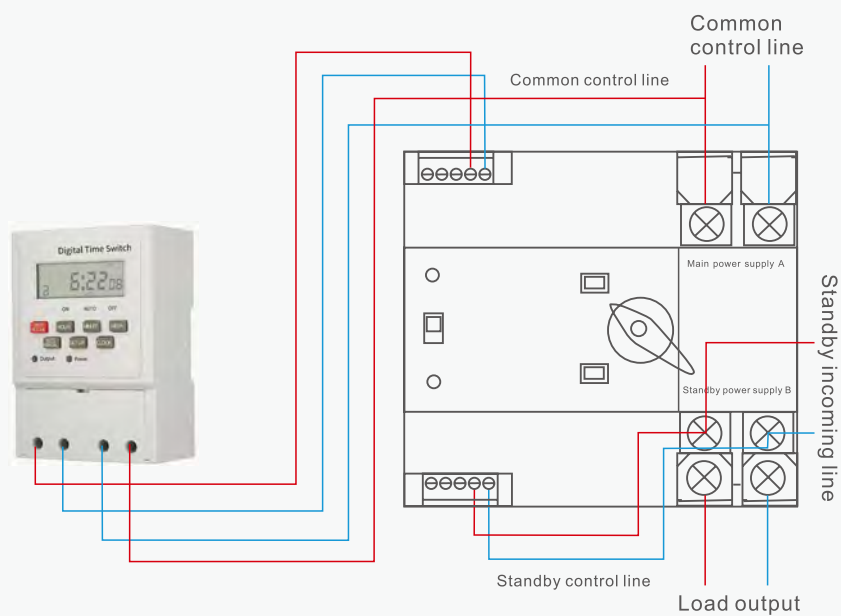
100/4P wiring diagram of YcQ4R

Fig.4



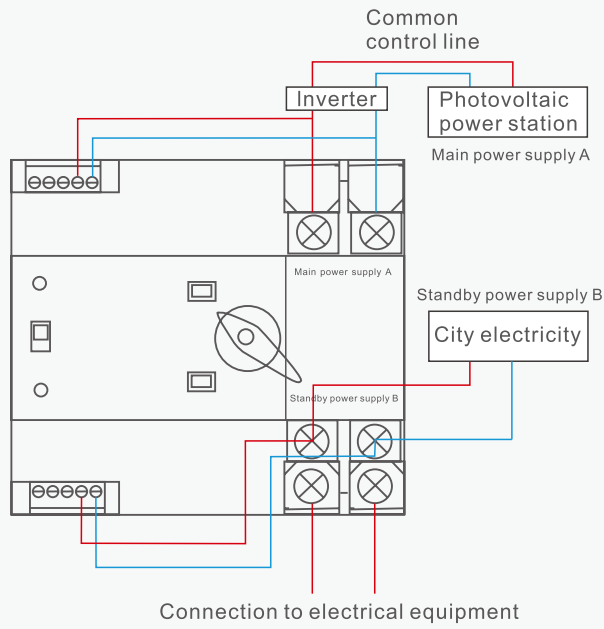
Timing switching connection mode of YcQ4R

Fig.5



Special connection mode of photovoltaic inverter of YCQ4R

Fig.6

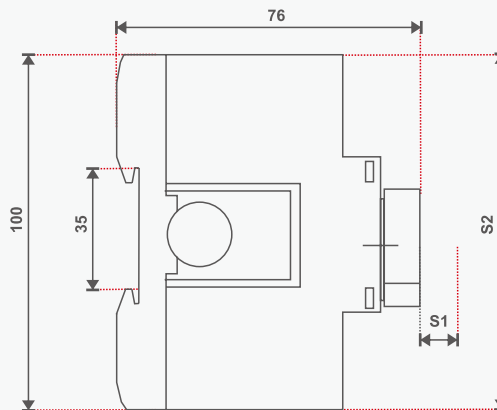
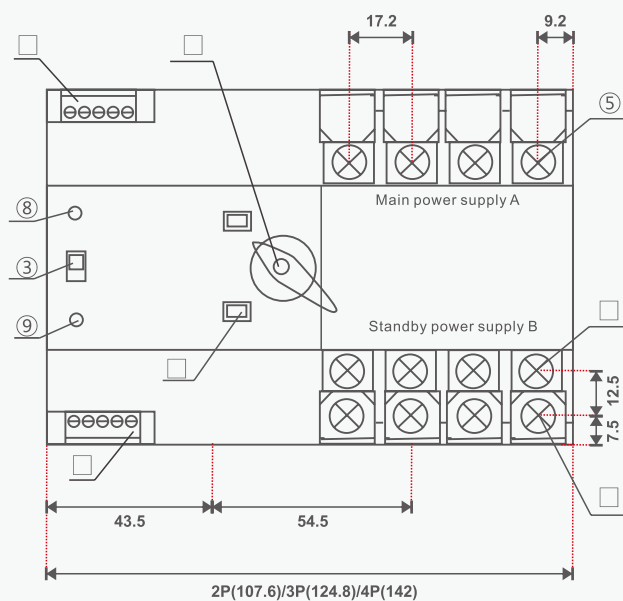


Distribution Apparatus

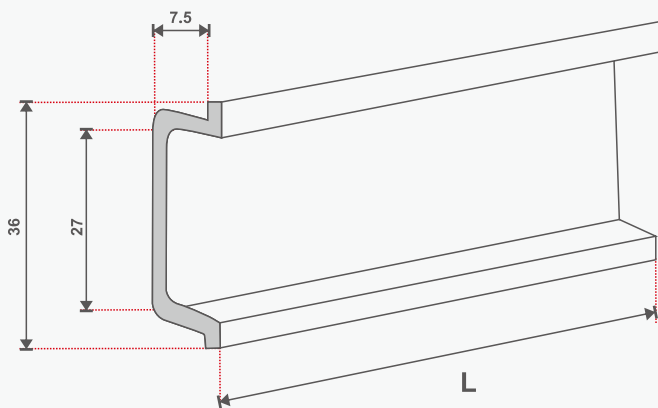
YCQ4E/YCQ4R PC Type Automatic Transfer Switch

Overall and mounting dimensions(mm) of YCQ4R

Fig.7



Safe distance: S1: $\geq 30\text{mm}$ S2: $\geq 203\text{mm}$



1. Status position indication
2. Main power terminal and passive signal(AC220V)
3. Manual/automatic switch
4. Manual handle
5. Main terminal of common power side
6. Main terminal of standby power side
7. Main terminal of load connection side
8. A power indicator
9. B power indicator
10. Standby power terminal and passive signal(AC220V)

B

Distribution Apparatus

ATS220 ATS Controller



General

ATS220 is one controller with YCQ4 ATS system of Mains and genset power, which can control the YCQ4 ATS switch by auto or manual mode to apply for mains and gens power. It is with 4 digits LED tube which can display the single-phase gens voltage, gens frequency, mains voltage, mains frequency. YCQ4 ATS switch working status can be also shown by LED.

All the parameters can be set through the front face buttons or PC port.

Features

1. 32 units Micro-procession technology is used;
2. Wide voltage range: 8-36V;
3. 4 digits LED tube which can display mains, voltage, frequency;
4. Totally 7 relay's output, max current is 5A(250VAC);
5. 1 group programmable switch input;
6. Parameters can be set by front face buttons;
7. Standard water-proof rubber, the protection level can reach at IP54;
8. All the connection are installed by European style terminals;
9. Simulated mains function, crank conditions can be chosen.

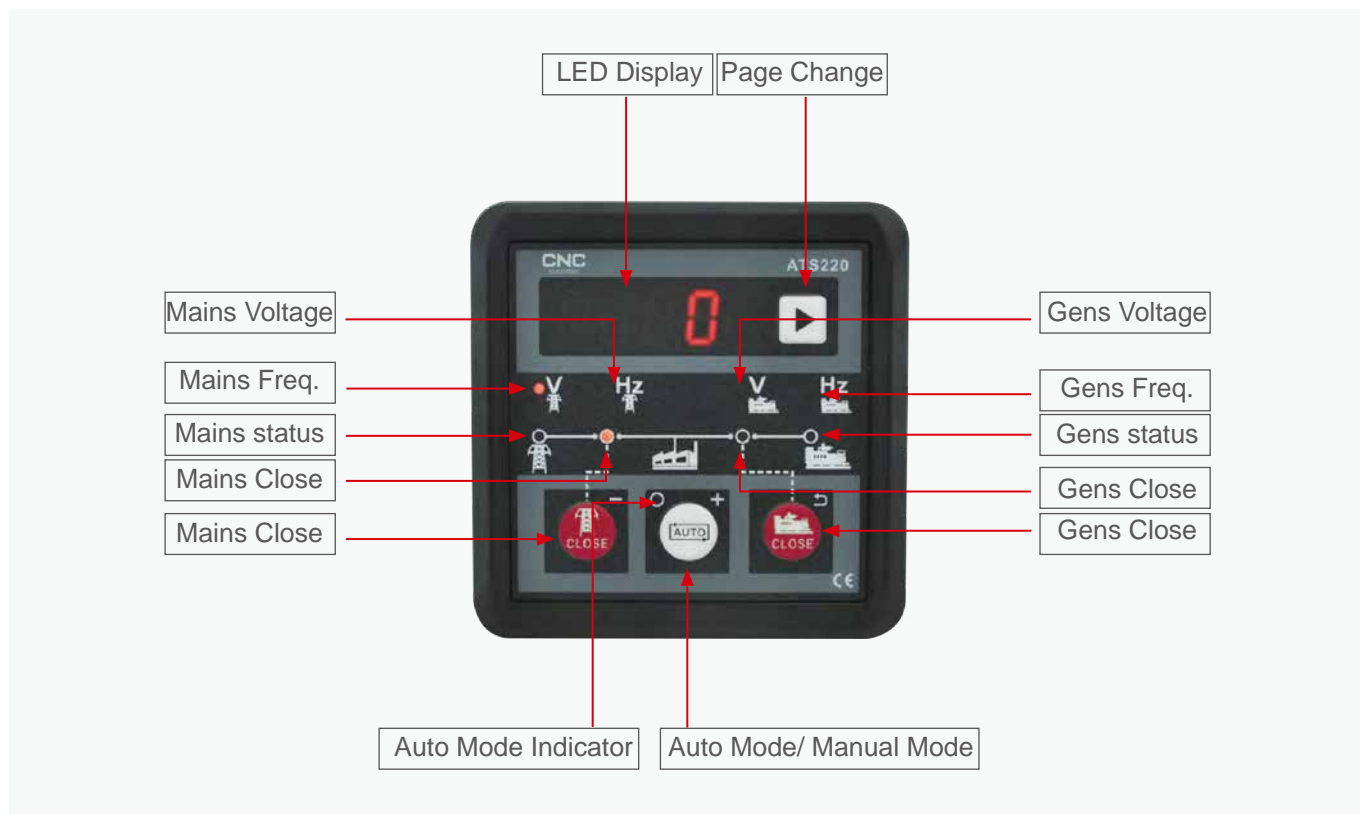
Techniactal data

Options	Parameters
Operation Voltage	DC8-36V Continuous
Power Consumption	Standby:24V:MAX 1W
	Working:24V:MAX 3W
Mains AC Voltage Input	30VAC-300VAC(ph-N)
Gens AC Voltage Input	30VAC-300VAC(ph-N)
Gens Close Output	5Amp(AC250V) free output
Mains Close Output	5Amp(AC250V) free output
Gen Start Relay	5Amp(AC250V) free output
Switch Value Input	Available if connecting with Battery -
Working Condition	-30-70°C
Storage Condition	-40-85°C
Protection Level	IP54:when waterproof rubber gasket is added between controller and its panel
Overall Dimension	78mm*78mm*55mm
Panel Cutout	67mm*67mm
Weight	0.3Kg

Distribution Apparatus

ATS220 ATS Controller

Product Overview



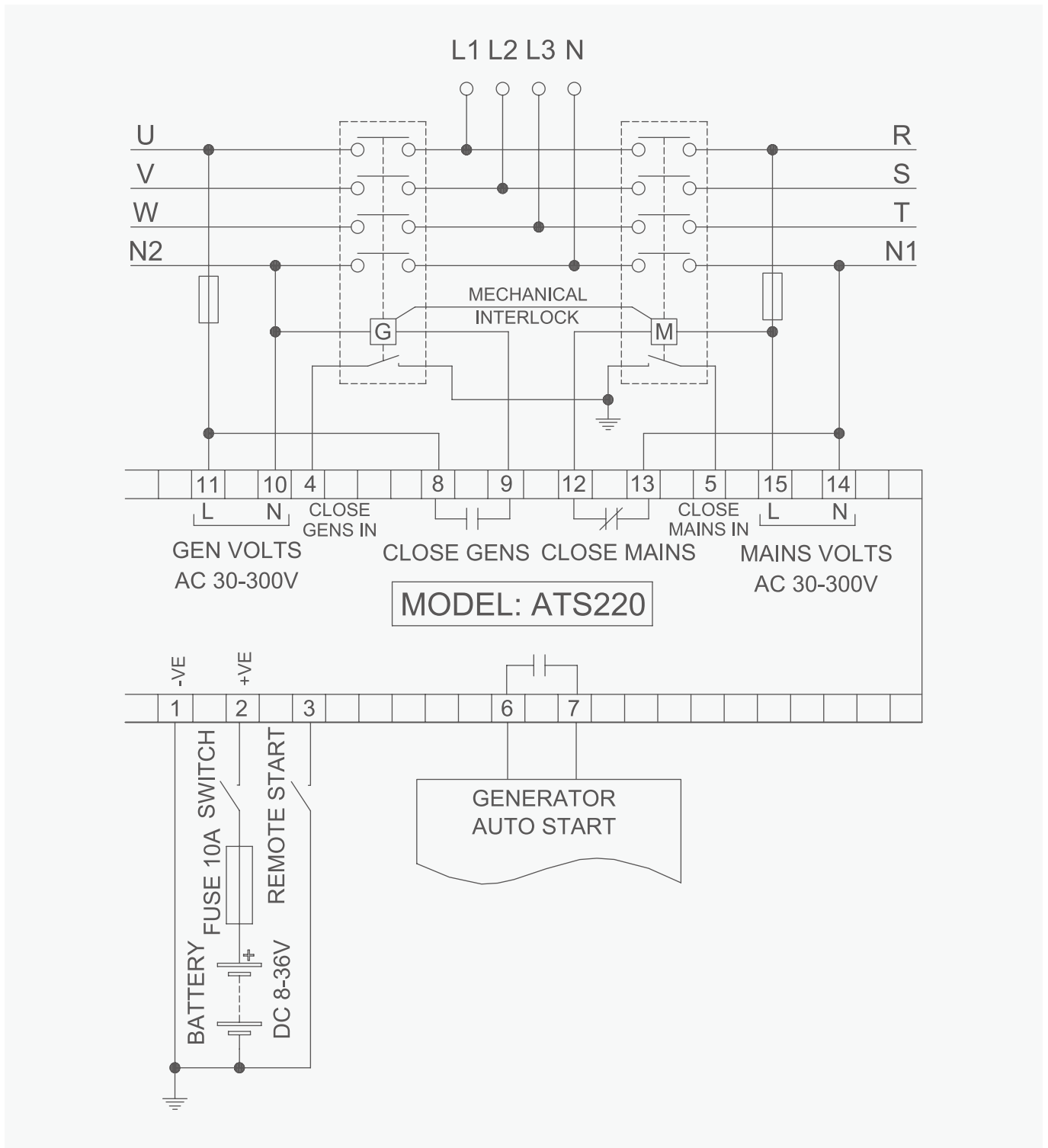
B

Indicator name	Main function
Mains Voltage Indicator	Mains voltage. When the load is switched to the mains supply, the display will display the mains voltage
Mains Frequency Indicator	Mains frequency
Gens Voltage Indicator	Gens voltage. When the load is switched to the gens supply, the display will display the gens voltage
Gens Frequency Indicator	Gens Frequency
Mains status Indicator	LED will be on if the Mains normal and off if Mains off, flash if there is low voltage or high voltage alarm.
Mains Close Indicator	LED will be on if the Mains loading is available.
Gens status Indicator	LED will be on if the Gens normal and off if Gens off, flash if there is low voltage or high voltage alarm.
Gens Close Indicator	LED will be on if the Gens loading is available.
Auto Mode Indicator	LED will be on under auto mode and off under manual mode.

Distribution Apparatus

ATS220 ATS Controller

Wiring of the controller



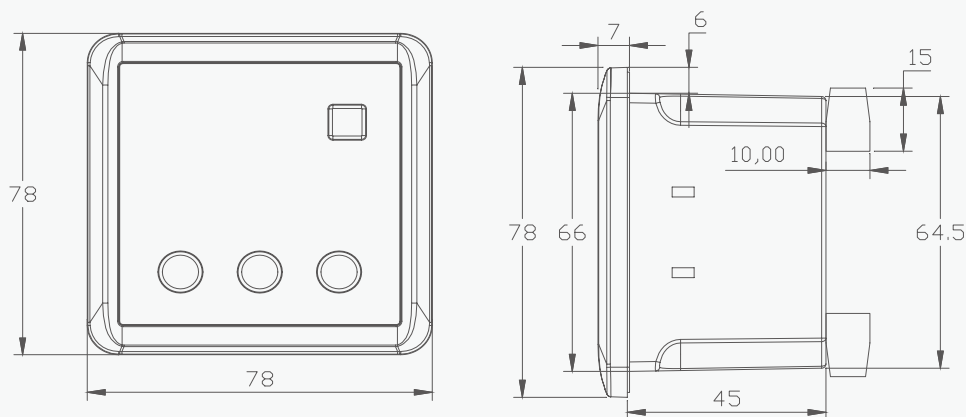
Distribution Apparatus

ATS220 ATS Controller

Function		Cable cross sectional area
Power Input B-	DC8-36V Continuous.	2.5mm ²
Power Input B+		2.5mm ²
Remote Start Input	Ground connection is active.	1.0mm ²
Close Gens input	Ground connection is active.	1.0mm ²
Close Mains input	Ground connection is active.	1.0mm ²
Gens Start Output	Volts free, Relay contact, Normally Open output, Max5A(250VAC)	1.0mm ²
		1.0mm ²
Gens status Indicator	Volts free, Relay contact, Normally Open output, Max5A(250VAC)	1.0mm ²
		1.0mm ²
Gens Voltage Input L	Gens voltage Input, AC30-300V	1.0mm ²
Gens Voltage Input N		1.0mm ²
Mains Close Output	Volts free, Relay contact, Normally Open output, Max5A(250VAC)	1.0mm ²
		1.0mm ²
Mains Voltage Input L	Mains voltage Input, AC30-300V	1.0mm ²
Mains Voltage Input N		1.0mm ²

B

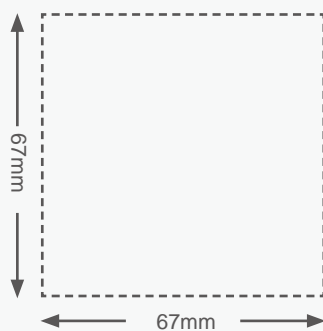
Overall and mounting dimensions(mm)



Installation instruction

The controller should be installed by two accessories and screw.

Panel Cutout: W67mm*H67mm.



Note: If the controller is installed directly in the genset shell or other fluctuated equipment, the rubber pad must be installed.

Distribution Apparatus

YCQR-63 Automatic Transfer Switch



General

YCQR-63 automatic transfer switch is a PC class infrequent change-over switch, with two-station design (commonly used for A and standby for B), suitable for AC systems with AC 50-60Hz and rated current 6A-63A. The main function of the automatic transfer switch is when the main power (common power supply A) fails, the ATS will automatically switch to the backup power (Backup power supply B) to continue working (switching speed <50 milliseconds), which can effectively solve the troubles caused by power outages.

Type designation

Model	Shell frame	Number of poles	Rated current	Voltage
YCQR	63	2P	6A	AC220V
Din-rail installation Automatic transfer switch	63	2P 4P	6A 10A 16A 20A 25A 32A 40A 50A 63A	AC220V AC110V

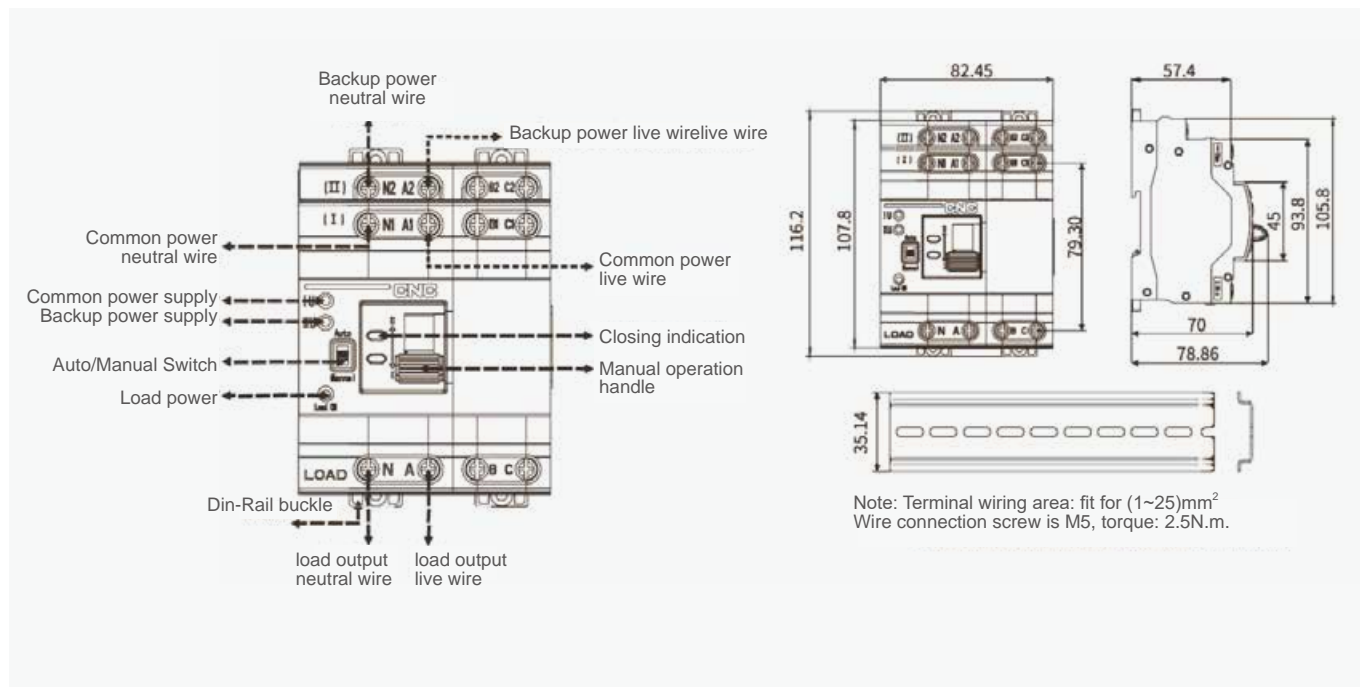
Technical data

Rated current(A)	6,10,16,20,25,32,40,50,63	
Rated current of shell frame grade	63	
Rated operating current Ie(A)	6A/10A/16A/20A/25A/32A/40A/50A/63A	
Rated insulation voltage UI	690V	
Rated impulse withstand voltage Uimp	8kV	
Rated working voltage Ue	AC220V/AC110V	
Rated frequency	50/60Hz	
Class	PC class: can be switched on and loaded without generating short-circuit current	
Pole number	2P	4P
Rated short-circuit current Iq	50KA	
Short circuit protection device (fuse)	RT16-00-63A	
Rated impulse withstand voltage	8kV	
Control circuit	Rated control voltage Us: AC220V, 50Hz Normal working conditions: 85%Us-110%Us	
Auxiliary circuit	AC220V/110V 50 Hz Ie=SA	
Contact change-over time	<50ms	
Operation change-over time	<50ms	
Return change-over time	<50ms	
Power off time	<50ms	
Change-over operation time	<50ms	
Mechanical life	≥8000 times	
Electrical life	≥1500 times	
Usage category	AC-31B	

Distribution Apparatus

YCQR-63 Automatic Transfer Switch

Overall and mounting dimensions



B

Distribution Apparatus

YCHGLZ1-125~3150A Changeover Switch



General

YCHGL series load isolation switches (hereinafter referred to as switches) are suitable for AC 50Hz, rated voltage 660V, and rated current up to 3200A. They are used for infrequent connection and disconnection of circuits and electrical isolation. This product adopts a modular design structure and has flexible and diverse combinations. Switches are widely used in distribution systems and automation systems in construction, power, petroleum, chemical, and other industries.

Standard: IEC60947-3

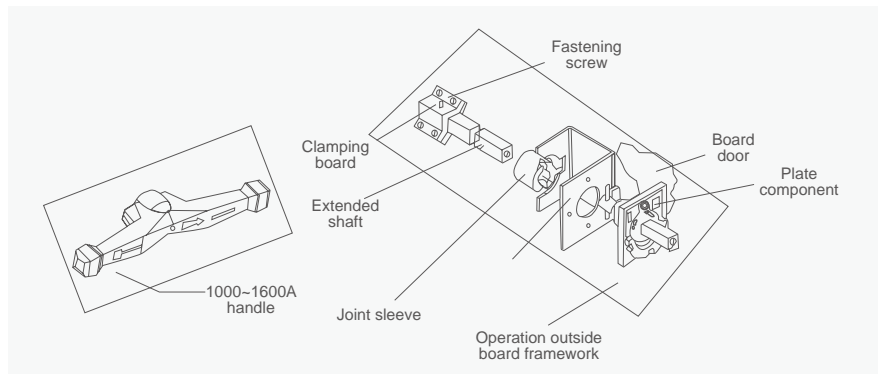
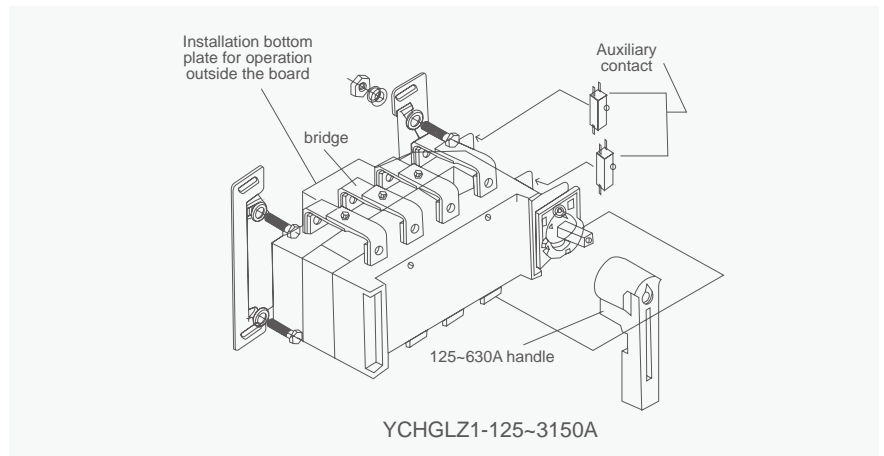
Features

(DMC) for the switch housing, which has high dielectric performance, protection capability, and reliable operating safety. The operating mechanism is a spring-stored energy, instantaneous release acceleration mechanism, with instant connection and disconnection dual-breakpoint contact structure. It is independent of the speed of the operating handle, greatly improving the electrical and mechanical performance.

The side-operated isolation switch adds a side-operated mechanism on the basis of the central front-operated isolation switch, which is suitable for the connection and disconnection circuit and electrical isolation on the side.

The double-throw isolation switch is composed of two isolation switches stacked up and down or arranged side by side, which is suitable for the switching of dual power supply or two load devices, as well as for safety isolation.

The switch has a beautiful and novel appearance, simple structure, and easy operation.



Distribution Apparatus

YCHGLZ1-125~3150A Changeover Switch

Type designation

Name	Derived model	Rated current	Number of poles	Handle installation method	Handle installation method	Auxiliary contact
YCHGL	Z1	100	4	J	K	F11
Isolation Switch	/: Single throw switch C: Side operation Z1: Double throw switch (front and rear) Z2: Double throw switch (left and right)	4~3200A	3P 4P	/: Inside operation J: Outside operation	/: No window K: With window	/: non F11:1NO1NC F22:2NO2NC

B

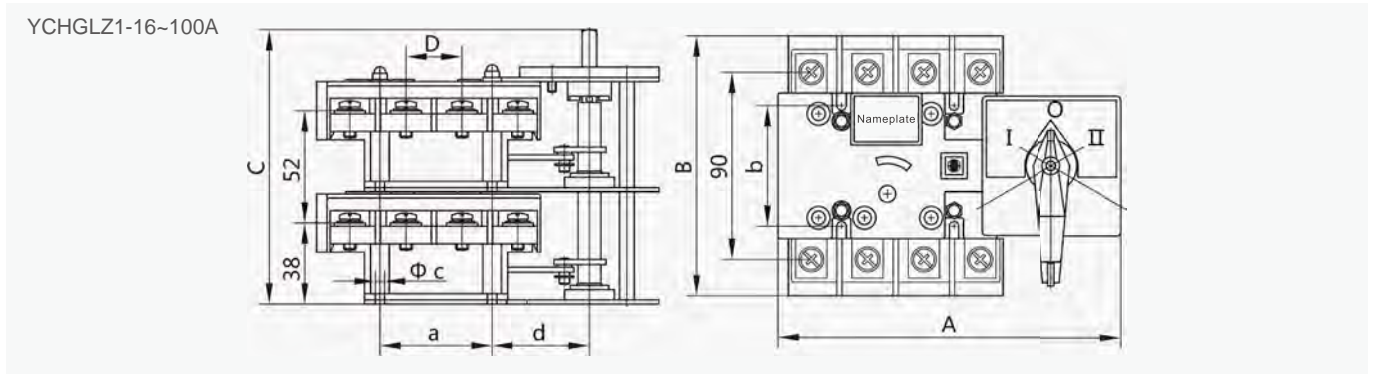
Technical data

Item	Date																	
Conventional thermal current I _{th} (A)	100A	250A				630A				1600A				3200A				
Rated current I _e	16-100A	125A	160A	200A	250A	315A	400A	500A	630A	1000A	1250A	1600A	2000A	2500A	3200A			
Rated insulation voltage U _i (V)	800																	
Rated impulse withstand voltage U _{imp} (KV)	8																	
Rated working current I _e (A)	AC400V	AC-21A	100	125	160	200	250	315	400	500	630	1000	1250	1600	2000	2500	3150	
		AC-22A	100	125	160	200	250	315	400	500	630	1000	1250	1600	2000	2500	3150	
		AC-23A	80	125	160	200	250	315	340	425	500	800	1000	1250	1250	1250	1250	
	AC690V	AC-21A	100	125	160	200	250	315	400	400	500	1000	1000	1600	2000	2500	3150	
		AC-22A	80	125	125	160	160	315	315	315	315	800	800	800	1000	1000	2500	
		AC-23A	63	80	80	100	125	200	200	200	200	500	500	500	800	800	800	
Rated short-time withstand current I _{cw} /1s(KA)	2	12	12	12	12	25	25	25	25	30	30	30	50	50	50			
Rated making capacity AC-22A AC400V	300	375	480	600	750	945	1200	1500	1890	3000	3750	4800	600	7500	9450			
Rated breaking capacity AC-22A AC400V	300	375	480	600	750	945	1200	1500	1890	3000	3750	4800	600	7500	9450			
Rated short-circuit making capacity I _{cm} (KA) Peak value	2.84	24	24	24	24	40	40	40	40	63	63	63	105	105	105			
Operational performance	Mechanical life (number of cycles)	600	5000				3000				2000				1000			
	Electrical life (number of cycles)	1500	1000				600				300				100			
Operating torque	3.5	6.5	6.5	14.4	14.4	18	18	18	18	35	35	35	60	60	60			

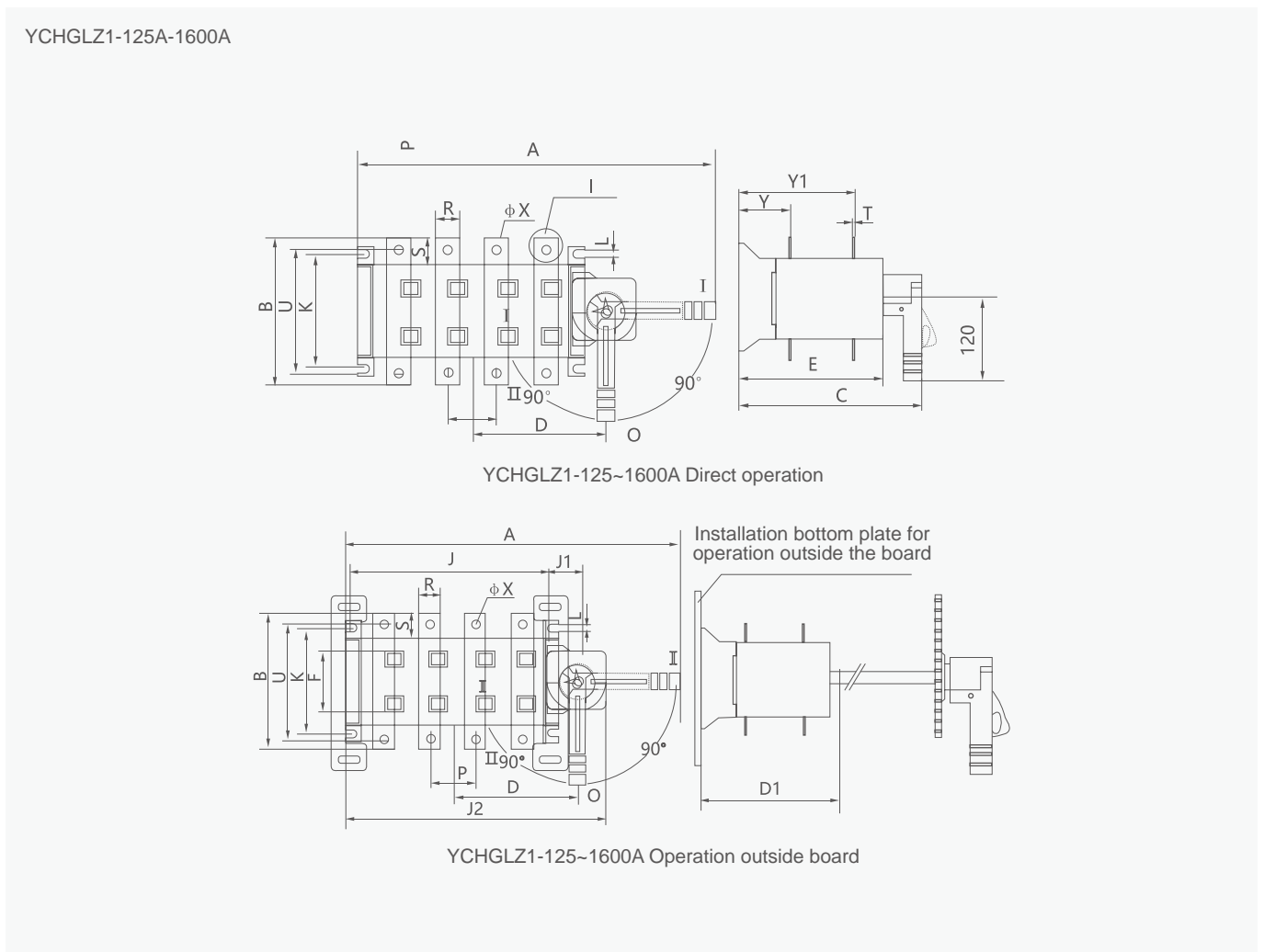
Distribution Apparatus

YCHGLZ1-125~3150A Changeover Switch

Overall and mounting dimensions(mm)



Model	Poles	Overall dimensions(mm)				Mounting dimensions (mm)			
		A	B	C	D	a	b	Φc	d
YCHGLZ1-16~100A	3	142	125	128	27	54	58	4.5	46.5
	4	165	125	128	27	54	58	4.5	46.5



Distribution Apparatus

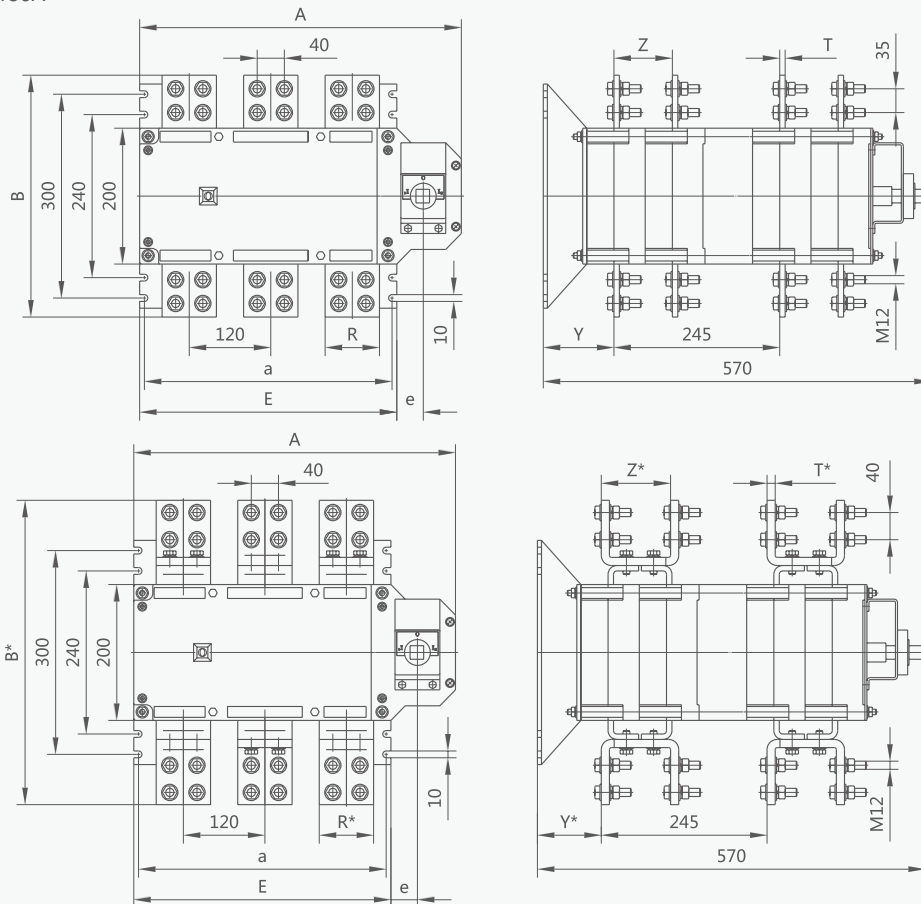
YCHGLZ1-125~3150A Changeover Switch

B

Specification	External Dimension and Installation Dimension																			
	A	B	C	D	D1	E	J	J1	J2	K	L	P	R	S	T	U	ΦX	Y	Y1	F
YCHGLZ1-125A-160A/3	300	135	228	89	190	160	120	37	195	95	7	36	20	25	3.5	115	9	55.5	126.5	49
YCHGLZ1-125A-160A/4	330	135	228	104	190	160	150	37	225	95	7	36	20	25	3.5	115	9	55.5	127.5	49
YCHGLZ1-200A-250A/3	340	165	250	110	215	180	160	37	235	115	9	50	25	28	3.5	140	10.5	63	145	76
YCHGLZ1-200A-250A/4	390	165	250	135	218	180	210	37	285	115	9	50	25	28	3.5	140	10.5	63	147	76
YCHGLZ1-315A-400A/3	410	234	340	150	278	241	211	44.5	198	175	10	65	32	37	5	205	10.5	83	193	94
YCHGLZ1-315A-400A/4	470	234	340	180	278	241	270	44.5	358	175	10	65	32	37	5	205	10.5	83	193	94
YCHGLZ1-500A-630A/3	410	250	340	150	278	241	211	44.5	298	175	10	65	40	45	6	215	12.5	83.5	193.5	94
YCHGLZ1-500A-630A/4	470	250	340	180	278	241	270	44.5	358	175	10	65	40	45	6	215	12.5	83.5	193.5	94

Specification	External Dimension and Installation Dimension													ΦX	Y	Y1
	A	B	C	E	J	J1	J2	K	P	R	S	T				
YCHGLZ1-1000A/3	590	328	390	300	354	53	450	220	120	60	64	8	12.5	110	259	
YCHGLZ1-1000A/4	704	328	390	300	467	53	565	220	120	60	64	8	12.5	110	259	
YCHGLZ1-1250A/3	590	336	390	300	354	53	450	220	120	80	68	8	12.5	110	259	
YCHGLZ1-1250A/4	704	336	390	300	467	53	565	220	120	80	68	8	12.5	110	259	
YCHGLZ1-1600A/3	590	336	390	300	354	53	450	220	120	80	68	10	12.5	111	260	
YCHGLZ1-1600A/4	704	336	390	300	467	53	565	220	120	80	68	10	12.5	111	260	

YCHGLZ1-2000~3150A



Distribution Apparatus

YCHGLZ1-125~3150A Changeover Switch

Specification	External Dimension and Installation Dimension								
	A	B/B*	E	a	e	R/R*	T/T*	Y/Y*	Z/Z*
YCHGLZ1-2000A/3	473	356/502	378	350	40	80/80	8/10	98/85	88/115
YCHGLZ1-2000A/4	593	356/502	498	470	40	80/80	8/10	98/85	88/115
YCHGLZ1-2500A/3	473	356/502	378	350	40	80/80	8/12	98/85	88/115
YCHGLZ1-2500A/4	593	356/502	498	470	40	80/80	8/12	98/85	88/115
YCHGLZ1-3150A/3	473	356/502	378	350	40	80/100	10/15	99/83	88/120
YCHGLZ1-3150A/4	593	356/502	498	470	40	80/100	10/15	99/83	88/120

Distribution Apparatus

YCHGL-63~3150A Isolating Switch



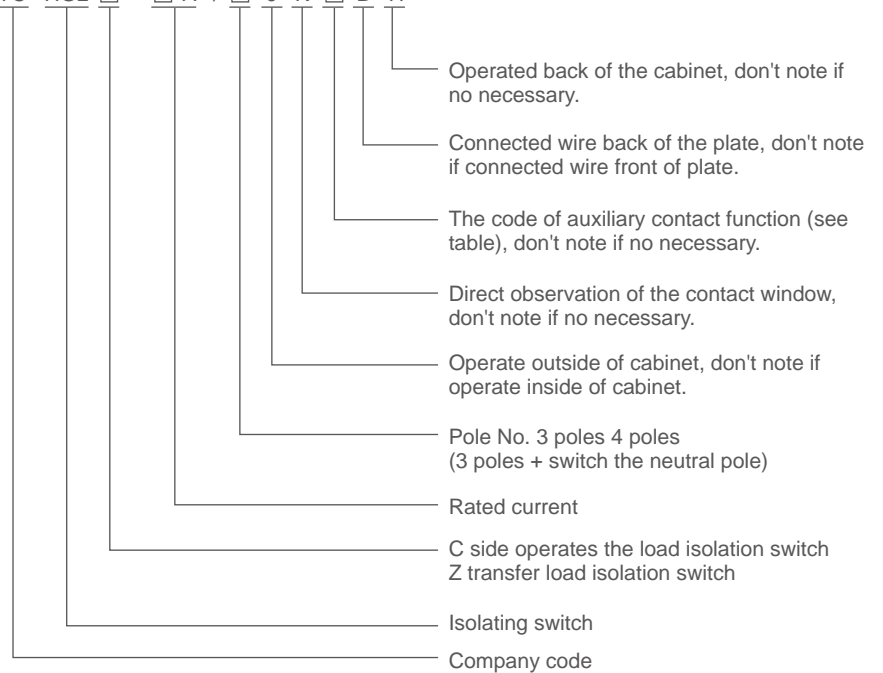
General

AC 50Hz, rated voltage 660V, DC rated voltage 440V, rated current 3150A. It is used for making and breaking circuit not frequently.

Standard: IEC60947-3

Type designation

YC HGL □ - □ A / □ J K □ B H



One NO and one NC	F11	NO+NC
Two NO and Two NC	F22	2NO+2NC

Example for lectotype: Rated current 630A, include neutral pole transferring load isolation switch, YCHGLZ-630A/4J for operating outside of cabinet

Operating conditions

1. YCHGL load-isolation switch can operate under the following conditions
2. Altitude not more than 2000m;
3. The range of ambient temperature is from -5°C to 40°C;
4. Relative humidity not more than 95%;
5. The environment without any explosive medium.
6. The environment without any rain or snow attacking.

If the product is expected to be used in the environment where temperature is over +40°C or below -5°C, users shall tell it to the manufacturer.

Distribution Apparatus

YCHGL-63~3150A Isolating Switch

Technical data

Table 1

Item		Date								
		63A		160A		160A		250A		
Conventional thermal current (A)										
Rated current I _n (A)		40	63	80	100	125	160	200	250	
Rated insulation voltage U _i (V) (installation type IV)		690	690	690	690	690	690	690	690	
Dielectric strength (V)		5000	5000	5000	5000	5000	5000	5000	5000	
Rated surge-resistant voltage U _{imp} kV (installed category IV)		6	6	6	6	6	6	6	6	
Rated working current I _e (A)	400V	AC-21B	40	63	80	80	125	160	200	250
		AC-22B	40	63	80	80	125	160	200	250
		AC-23B	40	50	80	80	125	160	200	250
	660V	AC-21B	40	50	80	80	125	160	200	250
		AC-22B	32	32	50	50	125	160	160	160
		AC-23B	25	25	40	40	80	80	100	125
Motor power P (kW)	400V	18.5	25	40	40	63	80	100	132	
	660V	22	22	33	33	75	75	90	110	
Rated short-time withstand current I _{cw} (kA Rms) 0.1s/1s		2	2	2	2	8	8	12	12	
Rated breaking capability I _{cn} (A Rms) AC23 400V		320	504	640	800	1000	1000	1600	1600	
Rated making capability I _{cm} (A Rms) AC23 400V		400	630	800	1000	1250	1600	2000	2500	
Rated short-current making capability I _{cm} (kA peak value)		2.84	2.84	2.84	2.84	13.6	13.6	17	17	
Mechanical durability 400V		1700	1700	1700	1700	1400	1400	1400	1400	
Electrical durability 400V		300	300	300	300	200	200	200	200	
Operation moment (Nm)		1.2	1.2	1.2	1.2	6.5	6.5	10	10	

Distribution Apparatus

YCHGL-63~3150A Isolating Switch

Technical data

Table 2

Item		Date										
Conventional thermal current (A)		630A				1600A			3150A			
Rated current I _n (A)		315	400	500	630	1000	1250	1600	2000	2500	3150	
Rated insulation voltage U _i (V) (installation type IV)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Dielectric strength (V)		8000	8000	8000	8000	10000	10000	10000	10000	10000	10000	
Rated surge-resistant voltage U _{imp} kV (installed category IV)		6	6	6	6	6	6	6	6	6	6	
Rated working current I _e (A)	400V	AC-21B	315	400	500	630	1000	1250	1600	2000	2500	3150
		AC-22B	315	400	500	630	1000	1250	1600	2000	2500	3150
		AC-23B	315	400	500	630						
	660V	AC-21B	315	400	400	500	1000	1000	1600	2000	2500	2500
		AC-22B	315	315	315	315	800	800	800	1000	1250	1600
		AC-23B										
Motor power P (kW)	400V	160	220	280	315	560	560	560	710	710	710	
	660V	185	185	185	185	475	475	475	750	750	750	
Rated short-time withstand current I _{cw} (kA Rms) 0.1s/1s		25	25	25	25	50	50	50	50	50	50	
Rated breaking capability I _{cn} (A Rms) AC23 400V		2520	3200	4000	5040	3000	3750	4800	600	7500	9450	
Rated making capability I _{cm} (A Rms) AC23 400V		3150	4000	5000	6300	3000	3750	4800	600	7500	9450	
Rated short-current making capability I _{cm} (kA peak value)		40	40	40	40	70	70	70	105	105	105	
Mechanical durability 400V		800	800	800	800	500	500	500	300	300	300	
Electrical durability 400V		200	200	200	200	100	100	100	100	100	100	
Operation moment (Nm)		14.5	14.5	14.5	14.5	37	37	60	60	60	60	

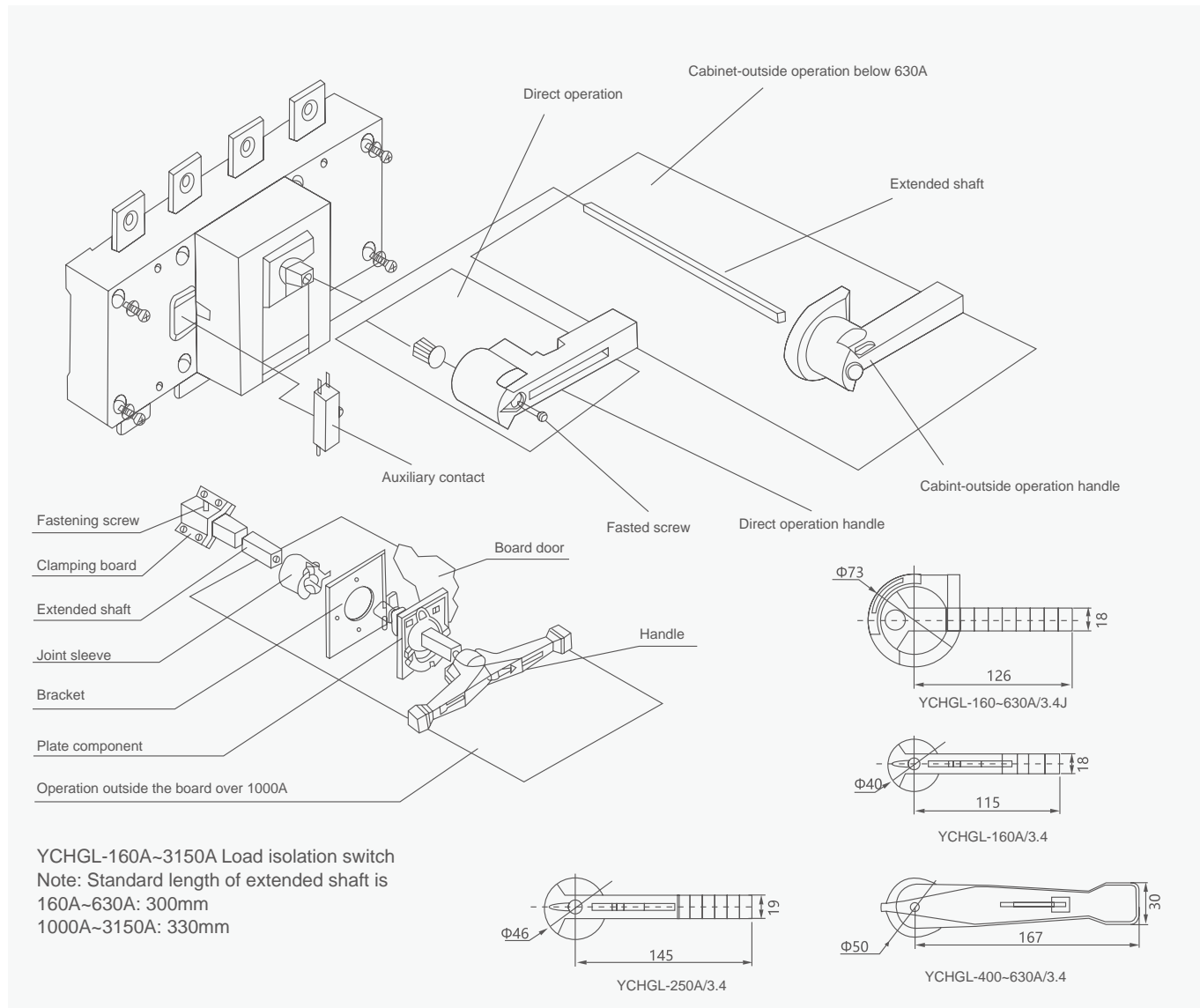
B

Distribution Apparatus

YCHGL-63~3150A Isolating Switch

Operation mode

1. Direct operation: The handle is installed in the middle of the switch.
2. Operation outside the board: The handle is installed outside the door of distributing board.

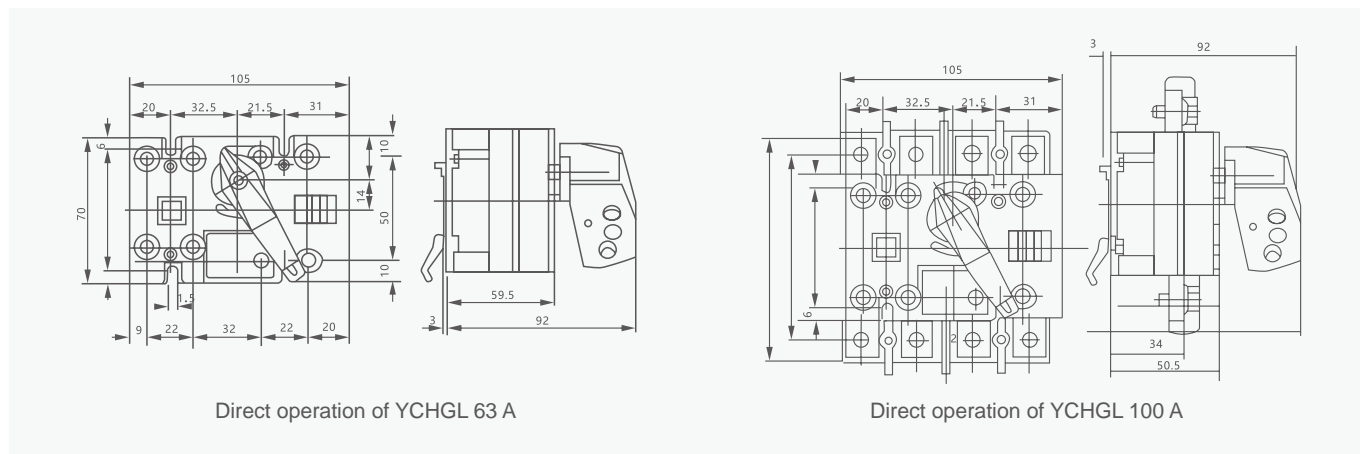


Distribution Apparatus

YCHGL-63~3150A Isolating Switch

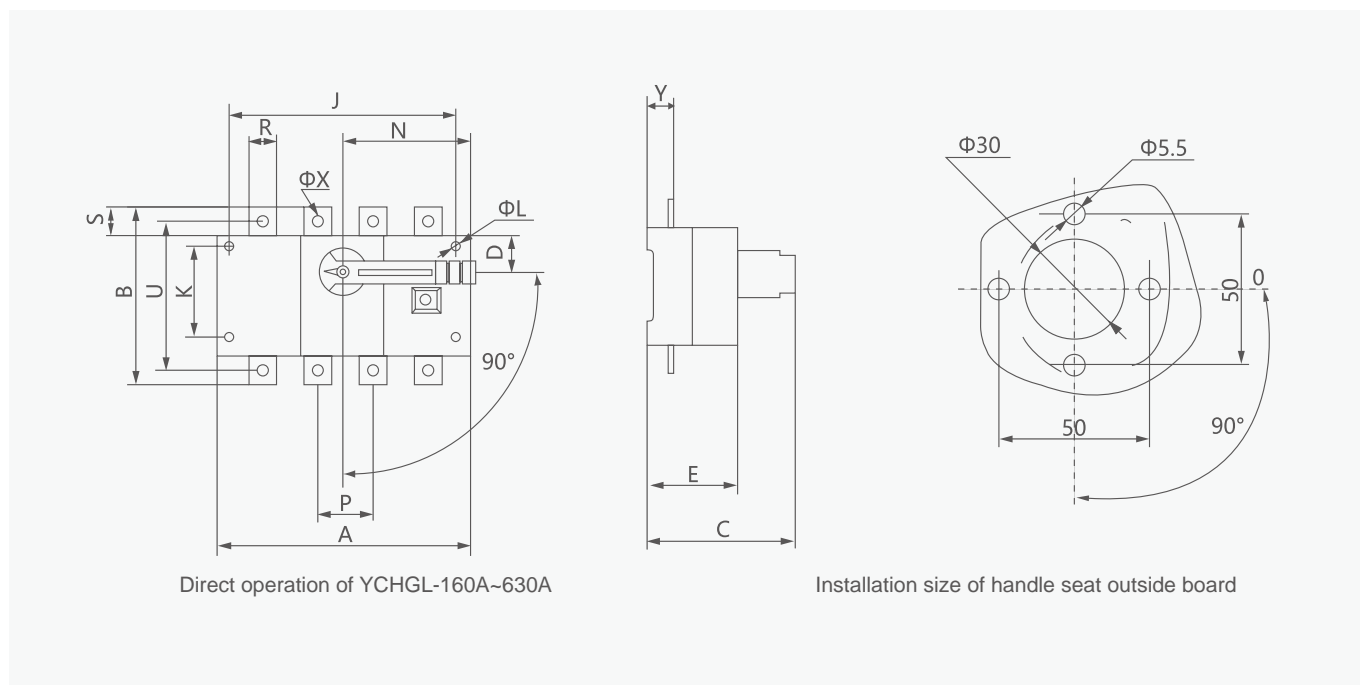
Overall and mounting dimensions(mm)

Load isolation switch side operation load isolation switch of YCHGL-63A~100A



B

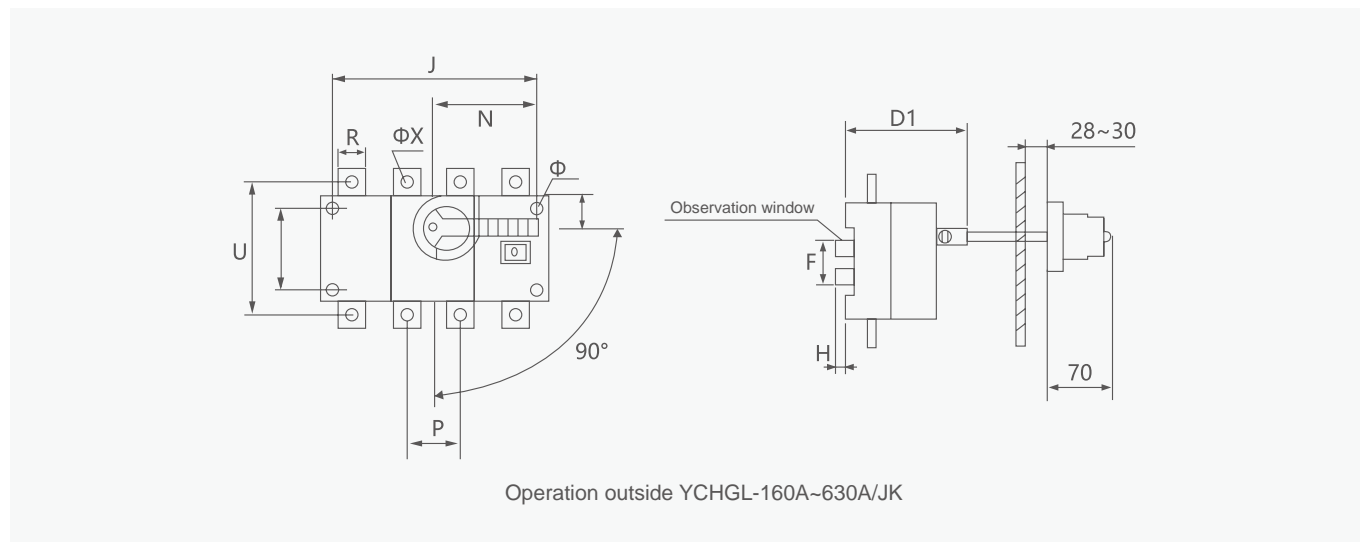
External dimension and installation dimension of YCHGL-160A~630A load isolation switch



Distribution Apparatus

YCHGL-63~3150A Isolating Switch

Overall and mounting dimensions(mm)



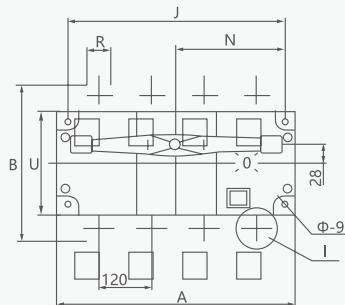
In	A	B	C	D	D1	E	ΦL	J	K	N	P	R	S	U	ΦX	Y	F	H
125A/3	140	135	121	27	93	71	5.5	120	65	75	36	20	25	115	9	24	50	10
125A/4	170	135	121	27	93	71	5.5	150	65	75	36	20	25	115	9	24	50	10
160A/3	140	135	121	27	93	71	5.5	120	65	75	36	20	25	115	9	24	50	10
160A/4	170	135	121	27	93	71	5.5	150	65	75	36	20	25	115	9	24	50	10
200A/3	180	170	144	35	104	84	5.5	160	90	105	50	25	30	140	11	25	79	15
200A/4	230	170	144	35	104	84	5.5	210	90	105	50	25	30	140	11	25	79	15
250A/3	180	170	144	35	104	84	5.5	160	90	105	50	25	30	140	11	25	79	15
250A/4	230	170	144	35	104	84	5.5	210	90	105	50	25	30	140	11	25	79	15
315A/3	230	240	179	50	137	115	7	210	140	135	65	32	40	206	11	37	95	20
315A/4	290	240	179	50	137	115	7	270	140	135	65	32	40	206	11	37	95	20
400A/3	230	240	179	50	137	115	7	210	140	135	65	32	40	206	11	37	95	20
400A/4	290	240	179	50	137	115	7	270	140	135	65	32	40	206	11	37	95	20
500A/3	230	260	179	50	137	115	7	210	140	135	65	40	50	220	13	37.5	95	20
500A/4	290	260	179	50	137	115	7	270	140	135	65	40	50	220	13	37.5	95	20
630A/3	230	260	179	50	137	115	7	210	140	135	65	40	50	220	13	37.5	95	20
630A/4	290	260	179	50	137	115	7	270	140	135	65	40	50	220	13	37.5	95	20

Distribution Apparatus

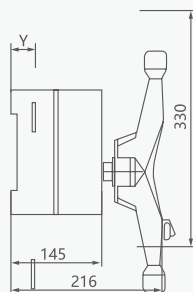
YCHGL-63~3150A Isolating Switch

Load isolation switch side operation load isolation switch of YCHGL-1000A~1600A

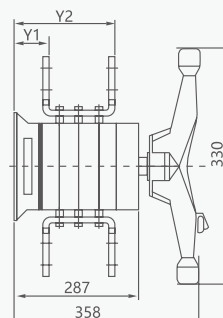
Direct operation



YCHGL-1600A~3150A

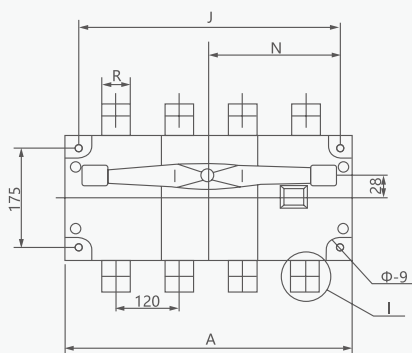


YCHGL-1000A~1600A

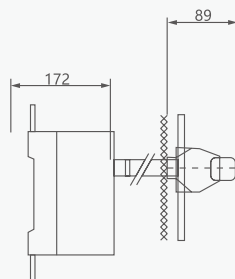


YCHGL-2000A~3150A

Direct operation

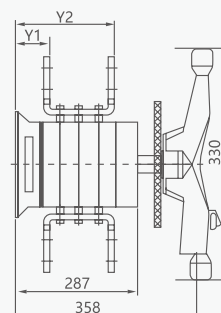


YCHGL-1600A~3150A/JK



YCHGL-1000A~1600A/JK

Direct operation of YCHGL-1600A/JK
(operation outside)



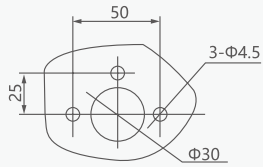
YCHGL-2000A~3150A/JK

B

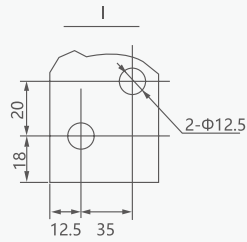
Distribution Apparatus

YCHGL-63~3150A Isolating Switch

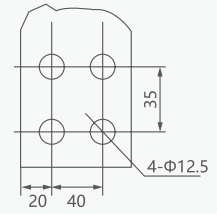
Installation bottom plate for operation outside the board



1000A



1250A~1600A

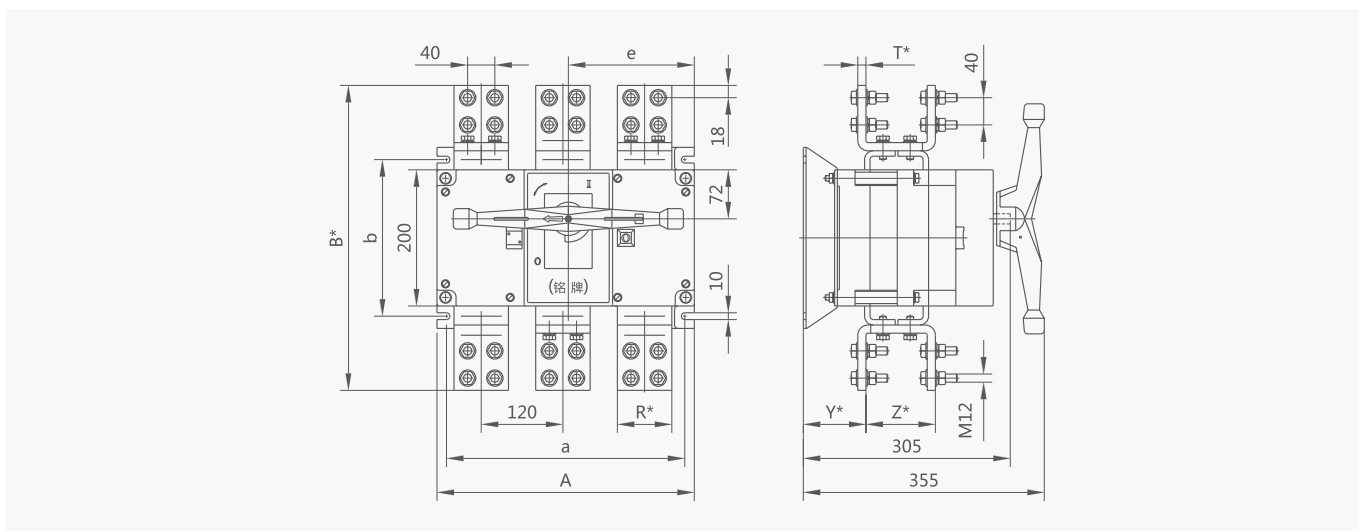
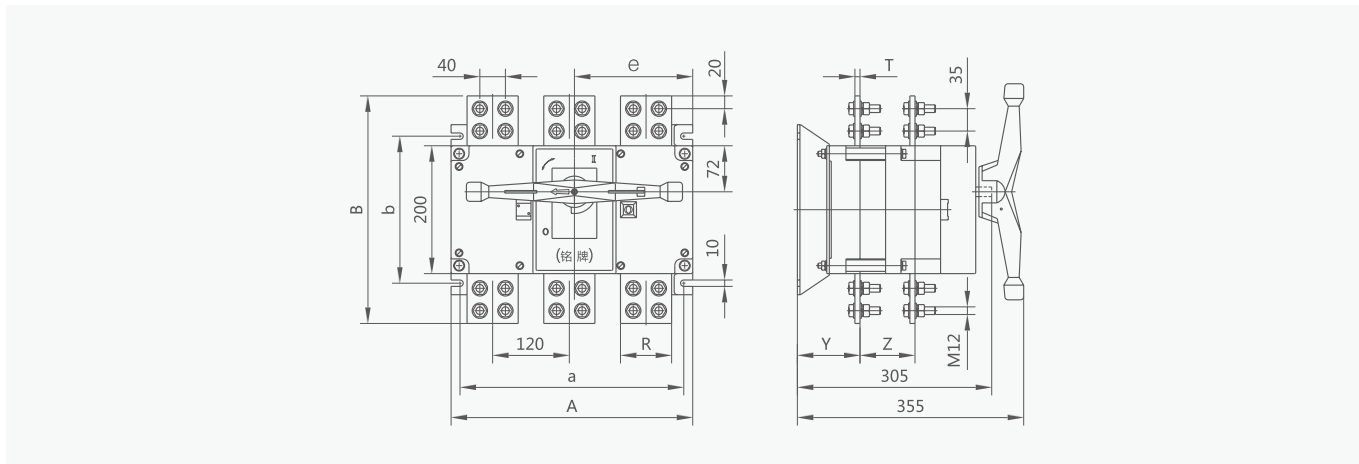


In	A	A1	B	J	N	R	U	Y	Y1	Y2
1000A/3	378	105	310	353	171	60	200	48	50	10
1000A/4	498	105	310	473	231	60	200	48	50	10
1250A/3	378	105	336	353	171	80	200	48	50	10
1250A/4	498	105	336	473	231	80	200	48	50	10
1600A/3	378	105	336	353	171	80	200	49	79	15
1600A/4/4	498	105	336	473	231	80	200	49	95	20

Distribution Apparatus

YCHGL-63~3150A Isolating Switch

Load isolation switch side operation load isolation switch of YCHGL-2000A~3150A



Specification	External Dimension and Installation Dimension								
	A	B/B*	a	b	e	R/R*	T/T*	Y/Y*	Z/Z*
YCHGL-2000A/3	378	306/502	347	212	185	60/60	8/10	98/85	88/115
YCHGL-2000A/4	498	306/502	470	212	249	60/60	8/10	98/85	88/115
YCHGL-2500A/3	378	306/502	347	212	185	80/80	8/12	98/85	88/115
YCHGL-2500A/4	498	306/502	470	212	249	80/80	8/12	98/85	88/115
YCHGL-3150A/3	378	306/502	347	212	185	80/100	10/15	93/83	88/120
YCHGL-3150A/4	498	306/502	470	212	249	80/100	10/15	93/83	88/120

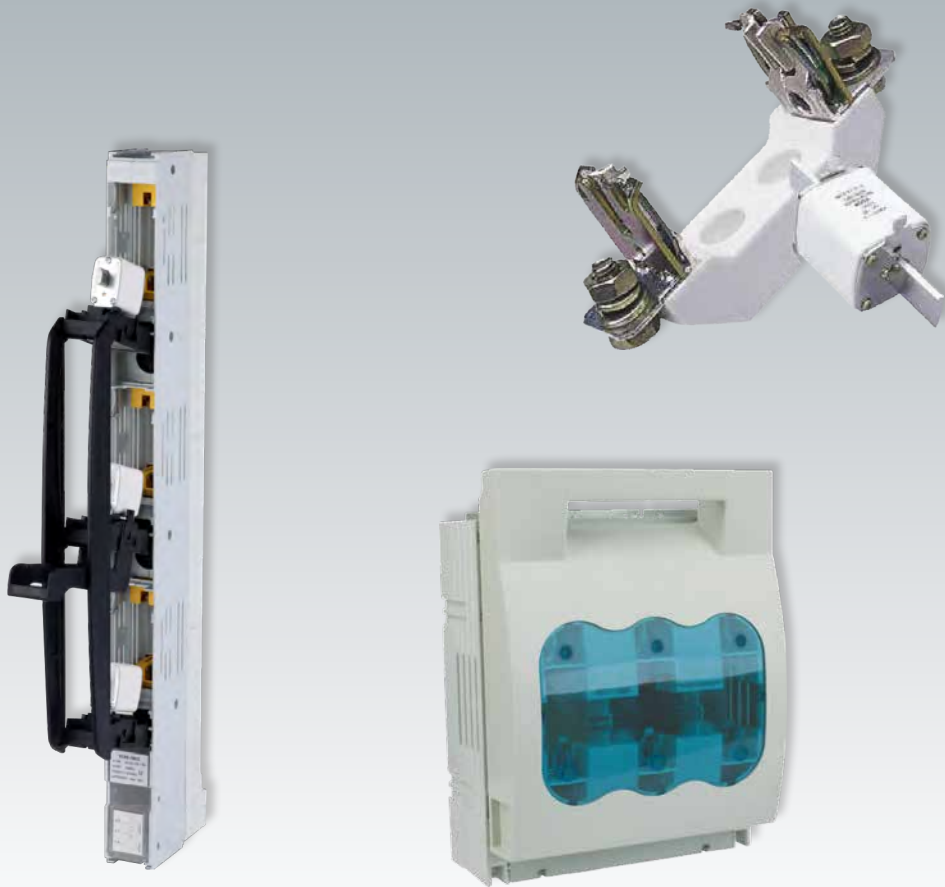
B

NT Series

Low Voltage Fuse

YCHR17

Fuse Switch-Disconnecter



Distribution Apparatus

NT Low Voltage Fuse



General

NT low voltage H.R.C. is featured as features light in weight, small in size, low in power loss and high in breaking capacity. This product has been widely used in overload and short circuit protection of electric installation. This product complies with IEC 60269 and all evaluation standards are at the advanced level in the world.

Technical data

Type	Fuse link				Fuse base	
	Rated current (A)	Rated voltage (V)	Rated power loss (W)	Weight (kg)	Rated current	Weight (kg)
NT00C	2	500,690	0.41	0.15	160	0.2
	4		0.62			
	6		0.81			
	10		1.08			
	16		1.60			
	20		1.81			
	25		2.31			
	32		3.07			
	36		3.17			
	40		4.05			
	50		4.25			
	63		4.70			
	80		5.7			
100	7					
NT00	4	500,600	0.67	0.15	160	0.2
	6		0.89			
	10		1.14			
	16		1.65			
	20		1.94			
	25		2.50			
	32		3.32			
	36		3.56			
	40		4.30			
	50		4.5			
	63	4.6				
	80	6				
	100	7.3				
125	500	7.6				
160		9.6				
NT0	6	500,600	1.03	0.2	160	0.32
	10		1.42			
	16		2.45			
	20		2.36			
	25		2.7			
	32		3.74			
	35		4.3			
	40		4.7			
	50		5.5			
	63		6.9			
	80		7.6			
	100		8.9			
	125	500	10.1			
	160		15.2			

B

Distribution Apparatus

NT Low Voltage Fuse



NT1



NT2



NT3



NT4

Technical data

Type	Fuse link			Weight (kg)	Fuse base	
	Rated current (A)	Rated voltage (V)	Rated power loss (W)		Rated current	Weight (kg)
NT1	80	500,690	6.2	0.36	250	0.8
	100		7.5			
	125		10.2			
	160		13			
	200	500	15.2			
	224		16.8			
	250		18.3			
NT2	125	600	9	0.65	400	1.2
	160		11.5			
	200		15			
	224		16.6			
	250		18.4			
	300		21			
	315		19.2			
	355		24.5			
NT3	400	500,600	26	0.85	630	1.5
	315		21.7			
	355		22.7			
	400	26.8				
	425	28.9				
	500	500	32			
630	40.3					
NT4	800	380	62	1.95	1000	3.45
	1000		75			

Distribution Apparatus

YCHR17 Fuse-switch Disconnecter

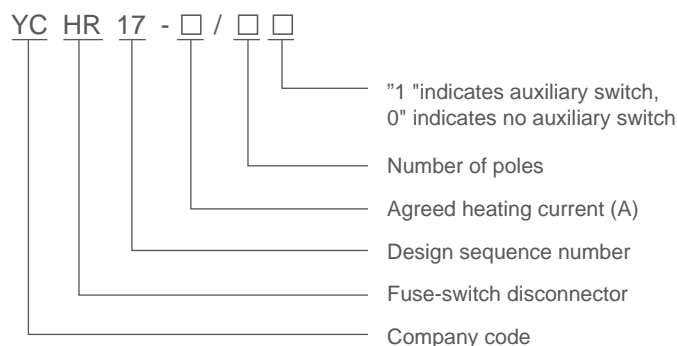


General

YCHR17 series fuse-switch disconnecter is a new product developed by our company. Rated insulation voltage up to 800V, rated operational voltage up to 690V, rated operating current up to 630A, rated frequency 50Hz, in the distribution circuit and motor circuit which has high short-circuit current as the power switch, isolating switch, emergency switch as well as circuit protection, but normally it is not used to make and break a single motor directly.

Standard: IEC/EN 60947-3.

Type designation



Technical data

Type		40	63/100	160	250	400	630	
Rated voltage (Ue)		660V a.c 380V a.c	660V a.c 380V a.c	660V a.c 380V a.c	660V a.c 380V a.c	660V a.c 380V a.c	660V a.c 380V a.c	
Rated insulation voltage(Ui)		800V	800V	800V	800V	800V	800V	
Rated impulse voltage strength (Uimp)		6kV	6kV	6kV	6kV	6kV	6kV	
Rated current (Ie)	AC 380V	AC-21B	40A	63/100A	160A	250A	400A	630A
		AC-22B	40A	63/100A	160A	250A	400A	630A
		AC-23B	-	-	160A	250A	400A	630A
	AC 660V	AC-21B	-	-	160A	250A	400A	630A
		AC-22B	-	-	100A	160A	315A	425A
Rated short-circuit current		20kA (peak 105kA)	20kA (peak 105kA)	50kA (peak 105kA)	50kA (peak 105kA)	50kA (peak 105kA)	50kA (peak 105kA)	

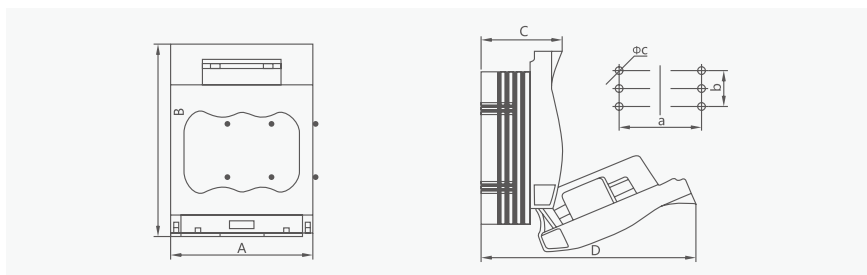
B

Distribution Apparatus

YCHR17 Fuse-switch Disconnecter



Overall and mounting dimensions(mm)



Technical data

Model	Poles	Overall (mm)				Installation (mm)		
		A	B	C	D	a	b	Φc
YCHR17-40	3P	76	116	76	150	42	/	Φ6
YCHR17-63	3P	105	116	76	150	62	/	Φ6
YCHR17-100	3P	105	116	76	150	62	25	Φ6
YCHR17-160	224	106	200	83	205	66	25	Φ7
	250	138	200	83	205	100	25	Φ7
YCHR17-250	3P	185	247	110	295	114	50	Φ11
	4P	242	247	110	295	172	50	Φ11
YCHR17-400	3P	210	290	125	340	130	50	Φ11
	4P	276	290	125	340	195	50	Φ11
YCHR17-630	3P	256	300	145	360	162	50	Φ11
	4P	340	300	145	360	243	50	Φ11

Matching relationship between switch and fuse

Conventional heating current Ith	Matching fuse size	Fuse rated current(A)
40A	Rt14	2, 4, 6, 8, 10, 12, 16, 20, 25, 32, 40
63A/100A	RT14	10, 12, 16, 20, 25, 32, 40, 50, 63
160A	NT100	10, 16, 25, 32, 40, 50, 63, 80, 100, 125, 160
250A	NT1	80, 100, 125, 160, 200, 225, 250
400A	NT2	125, 160, 200, 225, 250, 300, 315, 355, 400
630A	NT3	315, 355, 400, 425, 500, 630

Distribution Apparatus

YCH5 Vertical Fuse-switch Disconnecter



YCH5L



YCH5 With operating mechanism



YCH5J Without operating mechanism

General

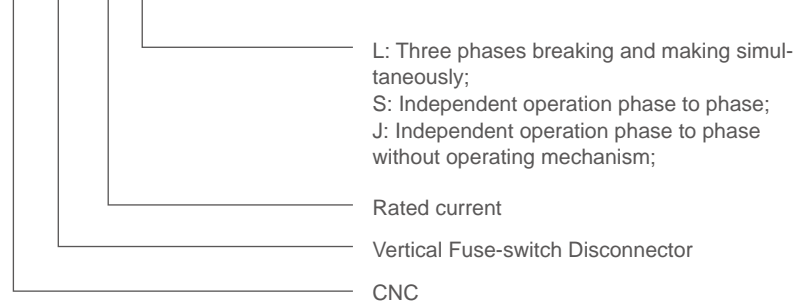
YCH5 series vertical fuse-switch disconnecter is applicable in the circuit of rated voltage AC690V and below, rated current AC 160A-630A, rated frequency of 50Hz. YCH5 series are infrequently manually operated multipolar fuse combination switches.

They disconnect or turn off loads and provide secure isolation and protection against over-current for any voltage electrical circuit.

Standard: IEC 60947-3.

Type designation

YC H5 □ □



Features

- Structure: The switch consist of underpan, base, cover, handle and shield.
- NT series fuse link is installed in the cover to act as knife of active contact.
- The handle moves fan-shaped with the underpan as the axis to allow the cover and fuse make and break together, which is designed with enough space and remarkable disconnection point that meets the requirements of the isolation switch.
- It is convenient to dismount the base and underpan for mounting the base to the busbar safely and reliably.
- There is the arc extinguisher on the underpan, which ensures breaking capacity of the switch.

Distribution Apparatus

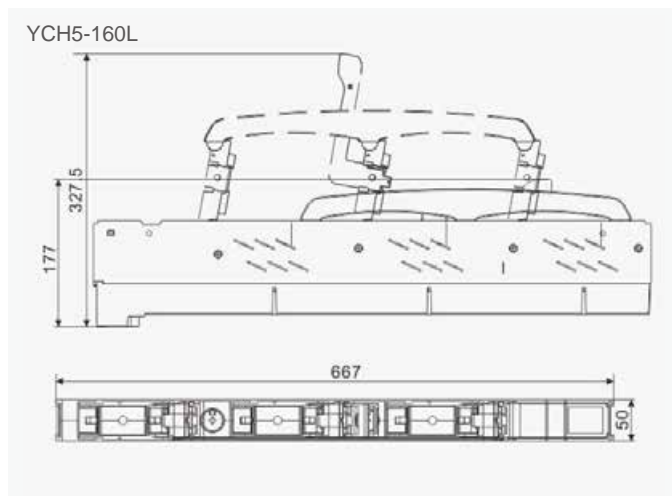
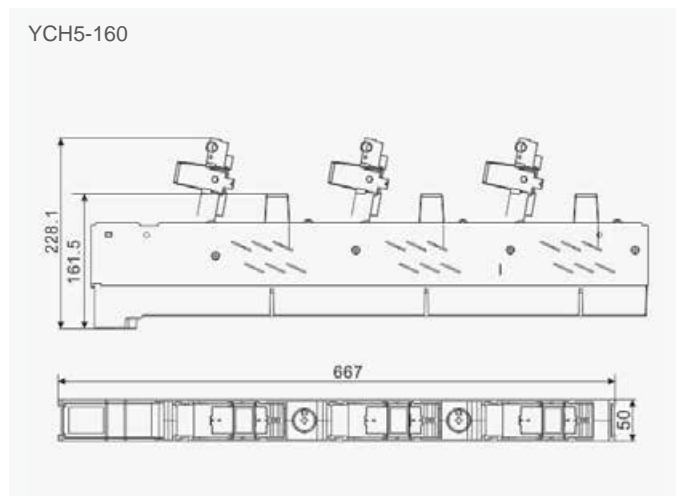
YCH5 Vertical Fuse-switch Disconnecter

Technical data

Conventional thermal current(A)	Rated insulation voltage(V)	Rated current(A)												Specification of a ssoociated fuse		
		400V	AC20	400V	AC21	400V	AC22	690V	AC20	690V	Ac21	690V	AC22	Model	400V Rated current of fuse (Breaking capacity) A	690V Rated current of fuse (Breaking capacity) A
160	800	160	160	160	160	160	160	100	100	00	/	Φ6				
250		250	250	250	250	250	200	200	1	25	Φ6					
400		400	400	400	400	400	315	315	2	25	Φ7					
630		630	630	630	630	630	425	315	3	50	Φ11					

Overall and mounting dimensions(mm)

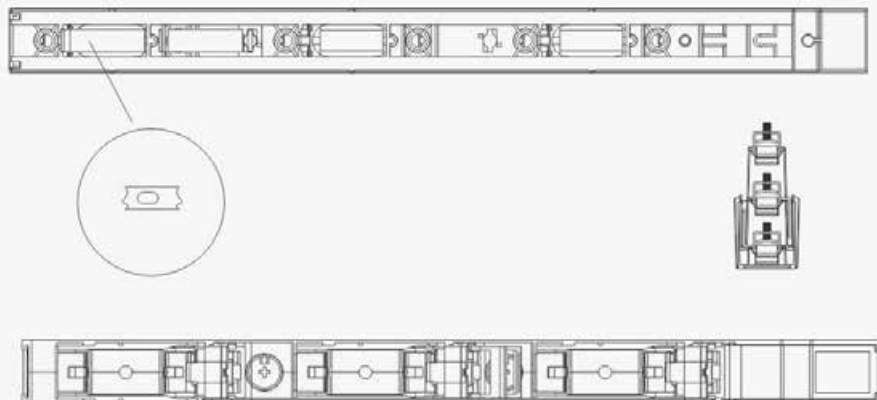
Model	Bus bar(mm)	Fuse link	Note
YCH5-160	185	NT00	Independent operation phase to phase
YCH5-160L	185	NT00	Three phases breaking and making simultaneously



Distribution Apparatus

YCH5 Vertical Fuse-switch Disconnecter

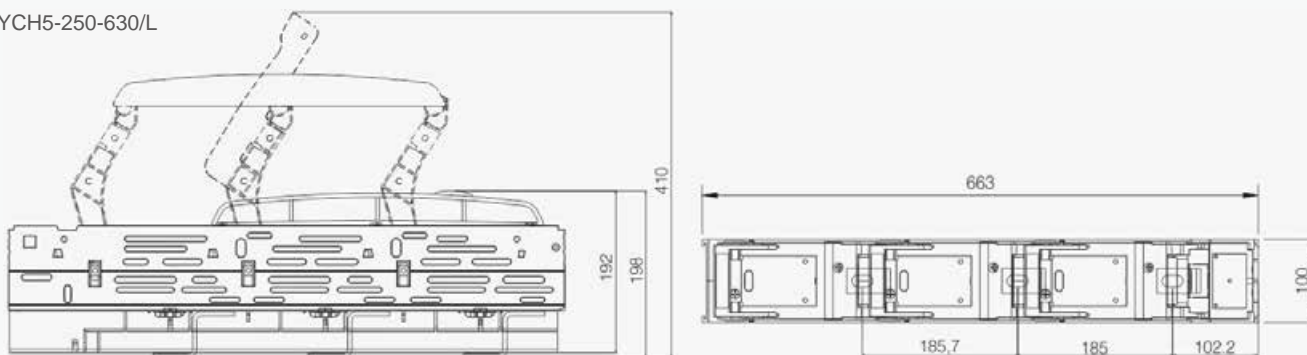
The base of YCH5-400-630



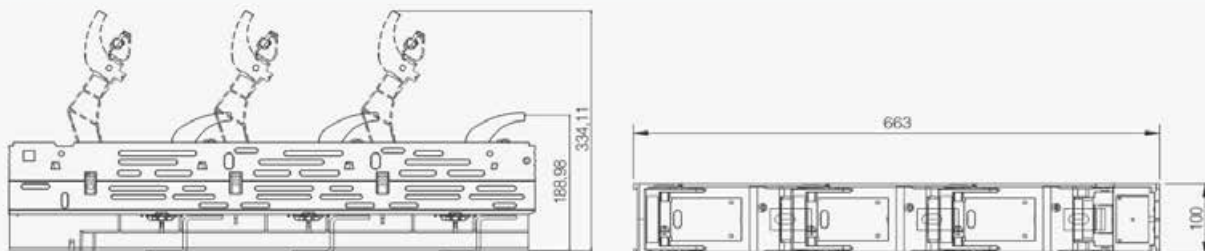
B

Model	Bus bar(mm)	Fuse link	Note
YCH5-250L	185	NH1	Three phases breaking and making simultaneously
YCH5-400L	185	NH2	
YCH5-630L	185	NH3	
YCH5-250	185	NH1	Independent operation phase to phase
YCH5-400	185	NH2	
YCH5-630	185	NH3	

YCH5-250-630/L



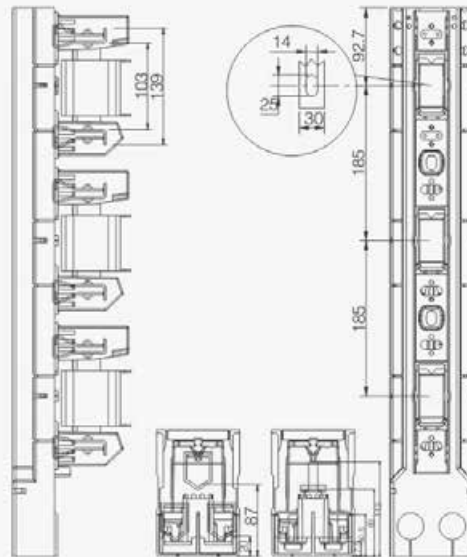
YCH5-250-630



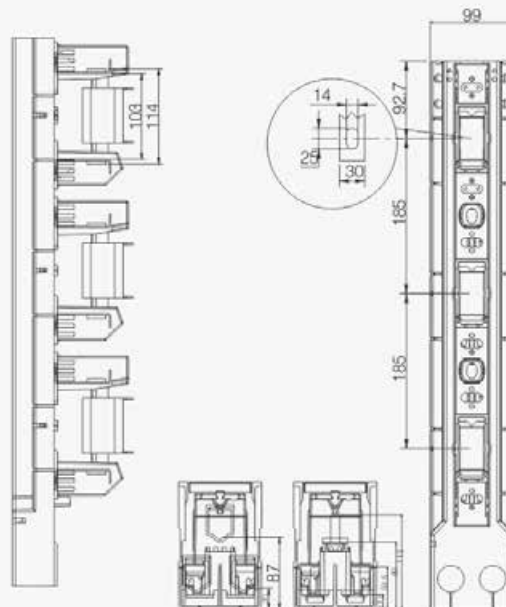
Distribution Apparatus

YCH5 Vertical Fuse-switch Disconnecter

The base of YCH5-400-630



The base of YCH5-250



Distribution Apparatus

ISBox-Z1 Series Isolation Switch Box

General

ISBox-Z1 series conversion isolation switch box adopts YCHGLZ1 conversion isolation switch, with standard configuration of two in and one out, installed with a bottom plate, and operated outside the cabinet.

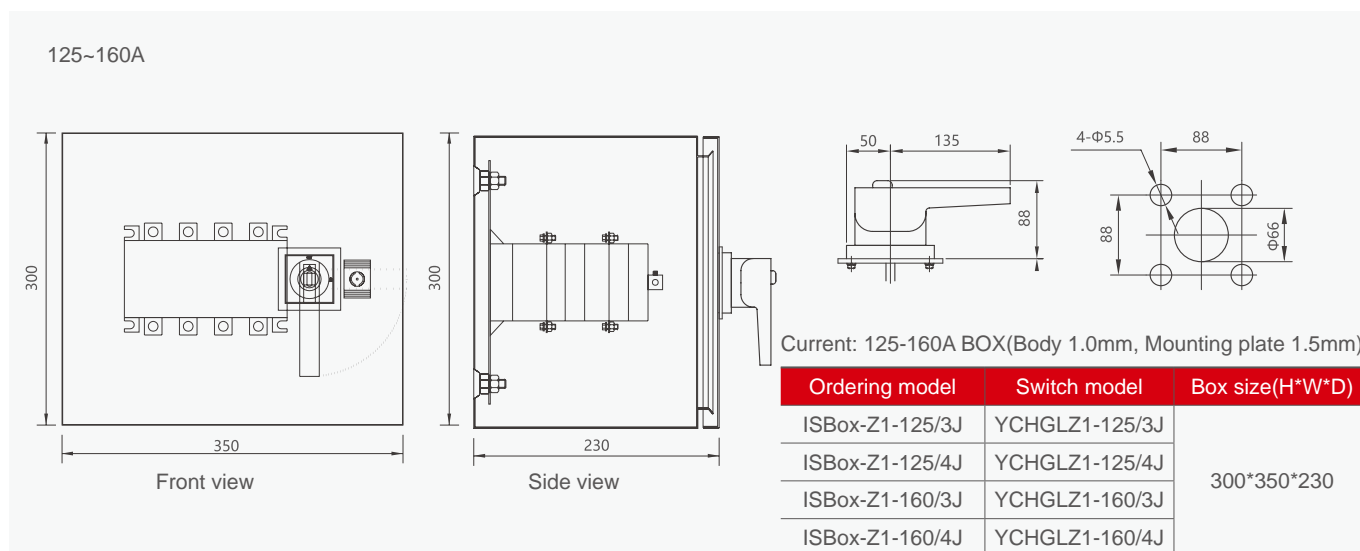
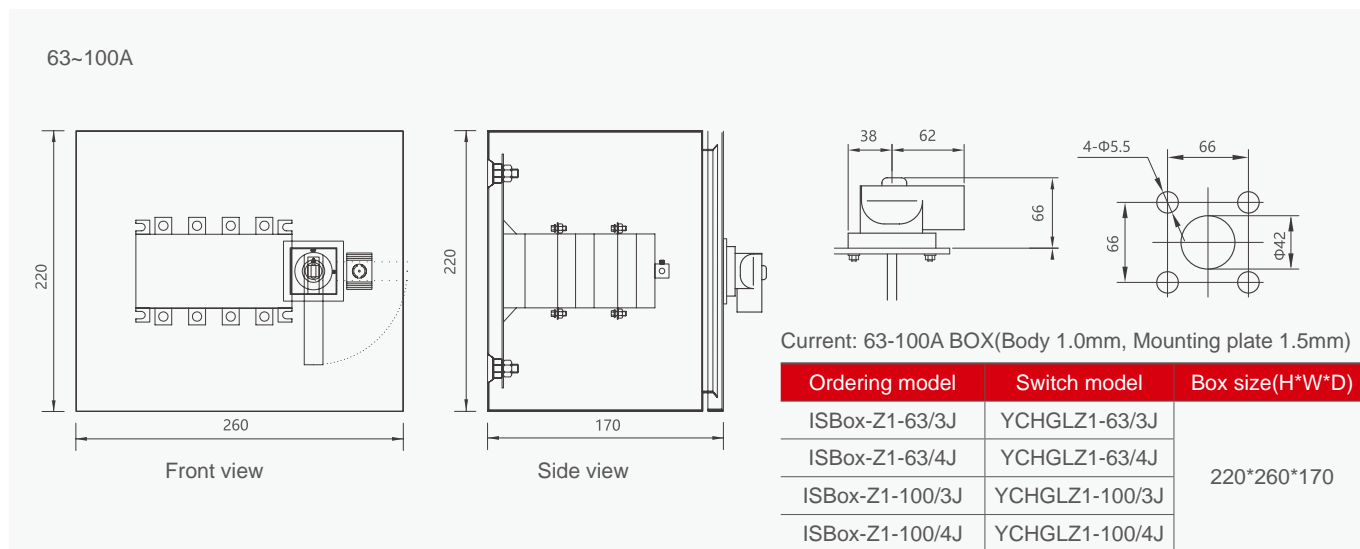
Optional features (please note when placing an order)

- Top in and bottom out (default), top in and top out, bottom in and bottom out.
 - Two in and one out (default), one in and two out, two in and two out.
 - With mounting plate (default), without mounting plate.
- Please specify other special requirements.



B

Overall and mounting dimensions(mm)



Distribution Apparatus

ISBox-Z1 Series Isolation Switch Box

200~250A

Current: 200-250A BOX (Body 1.0mm, Mounting plate 1.5mm)

Ordering model	Switch model	Box size(H*W*D)
ISBox-Z1-200/3J	YCHGLZ1-200/3J	350*400*260
ISBox-Z1-200/4J	YCHGLZ1-200/4J	
ISBox-Z1-250/3J	YCHGLZ1-250/3J	
ISBox-Z1-250/4J	YCHGLZ1-250/4J	

315~630A

Current: 315-630A BOX (Body 1.0mm, Mounting plate 1.5mm)

Ordering model	Switch model	Box size(H*W*D)
ISBox-Z1-315/3J	YCHGLZ1-315/3J	500*500*330
ISBox-Z1-315/4J	YCHGLZ1-315/4J	
ISBox-Z1-400/3J	YCHGLZ1-400/3J	
ISBox-Z1-400/4J	YCHGLZ1-400/4J	
ISBox-Z1-630/3J	YCHGLZ1-630/3J	
ISBox-Z1-630/4J	YCHGLZ1-630/4J	

Distribution Apparatus

ISBox-Z1 Series Isolation Switch Box

B

800-1600A

Current: 800-1600A BOX(Body 1.2mm, Mounting plate 2.0mm)

Ordering model	Switch model	Box size(H*W*D)
ISBox-Z1-800/3J	YCHGLZ1-800/3J	670*750*430
ISBox-Z1-800/4J	YCHGLZ1-800/4J	
ISBox-Z1-1000/3J	YCHGLZ1-1000/3J	
ISBox-Z1-1000/4J	YCHGLZ1-1000/4J	
ISBox-Z1-1250/3J	YCHGLZ1-1250/3J	
ISBox-Z1-1250/4J	YCHGLZ1-1250/4J	
ISBox-Z1-1600/3J	YCHGLZ1-1600/3J	
ISBox-Z1-1600/4J	YCHGLZ1-1600/4J	

2000-3200A

Current: 2000-3200A BOX(Body 1.2mm, Mounting plate 2.0mm)

Ordering model	Switch model	Box size(H*W*D)
ISBox-Z1-2000/3J	YCHGLZ1-2000/3J	800*800*630
ISBox-Z1-2000/4J	YCHGLZ1-2000/4J	
ISBox-Z1-2500/3J	YCHGLZ1-2500/3J	
ISBox-Z1-2500/4J	YCHGLZ1-2500/4J	
ISBox-Z1-3200/3J	YCHGLZ1-3200/3J	
ISBox-Z1-3200/4J	YCHGLZ1-3200/4J	