

## 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 50Hz, rated insulation voltage 800V, rated working current up to 800A, which is for electric energy distribution, circuit protection, protection power supply facility from destroying by the fault of overloading, short circuit and undervoltage, meanwhile it is also used for protection from unrequent starting, over loading, short circuit and undervoltage of the motor.

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

This breaker comply with standard IEC60947-2.

#### Product Features

1. Miniaturization design  
Product volume miniaturization can meet the customer's personality needs of the product installation size.
2. Size uniform  
The same shell level, different breaking capacity (S, M), different functions (air, leakage) product installation size is completely consistent.
3. The function of the 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.

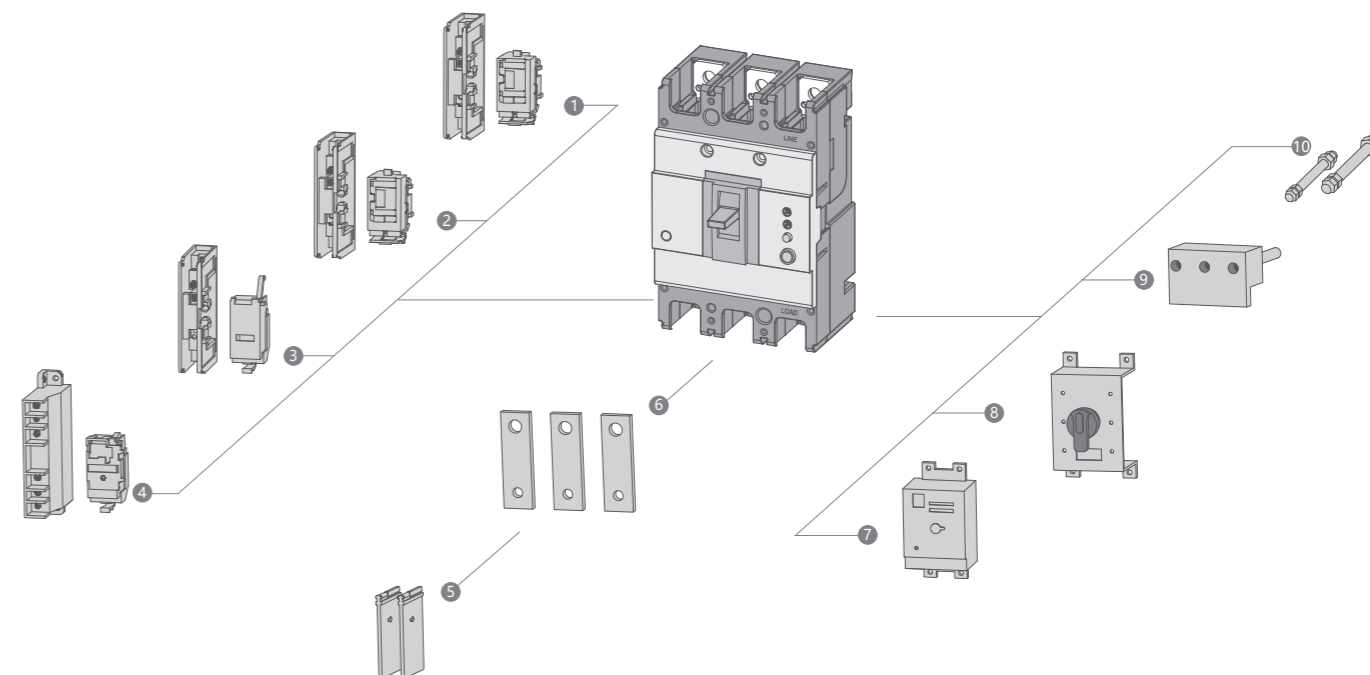
#### Suitable Working Environment and Mstallation Condition

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. Nuelear radiation resistance
6. Max lean degree is 22.5 degree.
7. Can operate normally when it comes to vibrataion 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.

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#### Circuit Breaker Component



- |                         |                                     |
|-------------------------|-------------------------------------|
| 1. Auxiliary contact    | 6. Front connection plate           |
| 2. Alarm contact        | 7. Motor driven operation mechanism |
| 3. Shunt release        | 8. Extended manual operation handle |
| 4. Undervoltage release | 9. Plug in rear connection          |
| 5. Interphase barrier   | 10. Rear connection plate           |

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#### Selection Guide

YCM7 - 125 M P / 4 300 - 125A 2 A Q1 D1 Q 2

Type	Frame Inm	Breaking capacity ICU/ICS(kA)	Operation	Poles																					
YCM7	125	M	P	4																					
MCCB	125, 160, 250, 630, 800	<table border="1"> <thead> <tr> <th>Frame Inm</th> <th>S</th> <th>M</th> </tr> </thead> <tbody> <tr> <td>125</td> <td>15/8</td> <td></td> </tr> <tr> <td>160</td> <td>25/18</td> <td></td> </tr> <tr> <td>250</td> <td>25/18</td> <td></td> </tr> <tr> <td>400</td> <td>35/25</td> <td>50/35</td> </tr> <tr> <td>630</td> <td></td> <td>50/35</td> </tr> <tr> <td>800</td> <td></td> <td>50/35</td> </tr> </tbody> </table>	Frame Inm	S	M	125	15/8		160	25/18		250	25/18		400	35/25	50/35	630		50/35	800		50/35	P: Motor-driven Z: Rotary handle W: Direct	3: 3P 4: 4P
Frame Inm	S	M																							
125	15/8																								
160	25/18																								
250	25/18																								
400	35/25	50/35																							
630		50/35																							
800		50/35																							
Remark:																									
125 Frame upgrade from 63																									
160 Frame upgrade from 125																									
250 Frame upgrade from 225																									
630 Frame upgrade from 400																									

Tripping mode and inner accessory	Rated current(A)	Application	Option for 4P MCCB														
300	125A	2	A														
First figure means tripping unit way 2: Only with magnetic release 3: Thermal release+,magnetic release body	<table border="1"> <thead> <tr> <th>Frame Inm</th> <th>Rated current(A)</th> </tr> </thead> <tbody> <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> </tbody> </table>	Frame Inm	Rated current(A)	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	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
Frame Inm	Rated current(A)																
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																
Remark: The last two figures means accessory code (see accessories list)																	

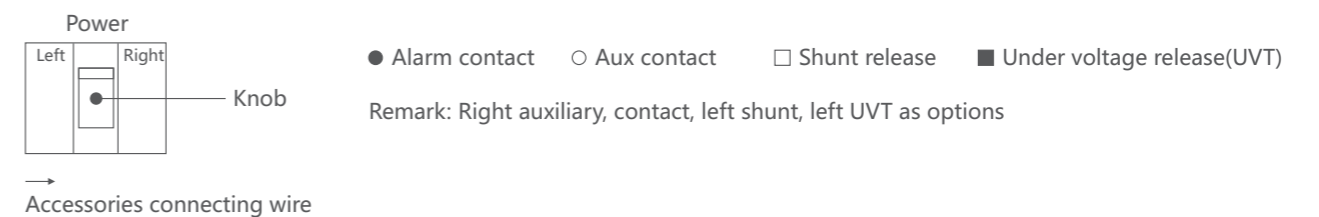
Accessory voltage	Motor-driven operation voltage	Connection	Connection plate																													
Q1	D1	Q	2																													
<table border="1"> <thead> <tr> <th>UVT</th> <th>Shunt</th> <th>Auxiliary</th> </tr> </thead> <tbody> <tr> <td>Q1: AC220V</td> <td>F1: AC220V</td> <td>J1: AC125V</td> </tr> <tr> <td>Q2: AC240V</td> <td>F2: AC380V</td> <td>J2: AC250V</td> </tr> <tr> <td>Q3: AC380V</td> <td>F3: DC110V</td> <td>J3: DC125</td> </tr> <tr> <td>Q4: AC415V</td> <td>F4: DC24V</td> <td>J4: DC24V</td> </tr> </tbody> </table>	UVT	Shunt	Auxiliary	Q1: AC220V	F1: AC220V	J1: AC125V	Q2: AC240V	F2: AC380V	J2: AC250V	Q3: AC380V	F3: DC110V	J3: DC125	Q4: AC415V	F4: DC24V	J4: DC24V	<table border="1"> <thead> <tr> <th>DC1</th> <th>DC3</th> </tr> </thead> <tbody> <tr> <td>D1: AC220V</td> <td>D5: AC220V</td> </tr> <tr> <td>D2: AC230V</td> <td>D6: AC110V</td> </tr> <tr> <td>D3: AC380V</td> <td>D7: DC220V</td> </tr> <tr> <td>D4: AC400V</td> <td>D8: DC110V</td> </tr> <tr> <td></td> <td>D9: AC110~240V</td> </tr> <tr> <td></td> <td>D10: DC100~220V</td> </tr> </tbody> </table>	DC1	DC3	D1: AC220V	D5: AC220V	D2: AC230V	D6: AC110V	D3: AC380V	D7: DC220V	D4: AC400V	D8: DC110V		D9: AC110~240V		D10: DC100~220V	Q: Front H: Rear C: Plug-in	1: W/O 2: W
UVT	Shunt	Auxiliary																														
Q1: AC220V	F1: AC220V	J1: AC125V																														
Q2: AC240V	F2: AC380V	J2: AC250V																														
Q3: AC380V	F3: DC110V	J3: DC125																														
Q4: AC415V	F4: DC24V	J4: DC24V																														
DC1	DC3																															
D1: AC220V	D5: AC220V																															
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	D9: AC110~240V																															
	D10: DC100~220V																															

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#### Inner Accessories

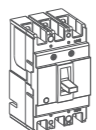
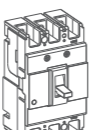
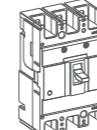
Model	YCM7-125	YCM7-160	YCM7-250	YCM7-400/630	YCM7-800
Breaking capacity	S	S	S	S, M	M
No. of poles	3,4	3,4	3,4	3,4	3,4
Code	Accessory name				
208, 308	Alarm contact				
210, 310	Shunt release				
220, 320	Auxiliary contact				
230, 330	Under-voltage release				
240, 340	Shunt auxiliary contact				
260,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

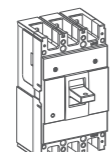
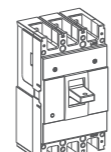
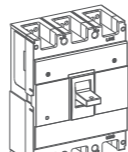


## Distribution Apparatus

### YCM7 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(A)		63, 80, 100, 125	63, 80, 100, 125, 140, 160	100, 125, 140, 160, 180, 200, 225, 250
Rated voltage Ue(V)		AC400V/AC690V	AC400V/AC690V	AC400V/AC690V
Rated insulation voltage Ui(V)		AC800V	AC800V	AC800V
Short-circuit breaking capacity Icu/1cs(kA)	AC400V	15/8	25/18	25/18
Operation life (cycle)	ON	1000	1000	1000
	OFF	7000	7000	7000
Motor-driven operation		•	•	•
External rotary handle		•	•	•
Automatic tripping device		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				
Rate current(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 Icu/1cs(kA)	AC400V	35/25 50/35	50/35	50/35
Operation life (cycle)	ON	1000	1000	500
	OFF	4000	4000	2500
Motor-driven operation		•	•	•
External rotary handle		•	•	•
Automatic tripping device		Thermo-magnetic	Thermo-magnetic	Thermo-magnetic

• Means accessory as option

## Distribution Apparatus

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#### Characteristic Feature

1. Inverse time breaking action property of the over current release of the breaker (for power distribution) at the status that all poles and electrified simultaneously under abrent temp 40°C.

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

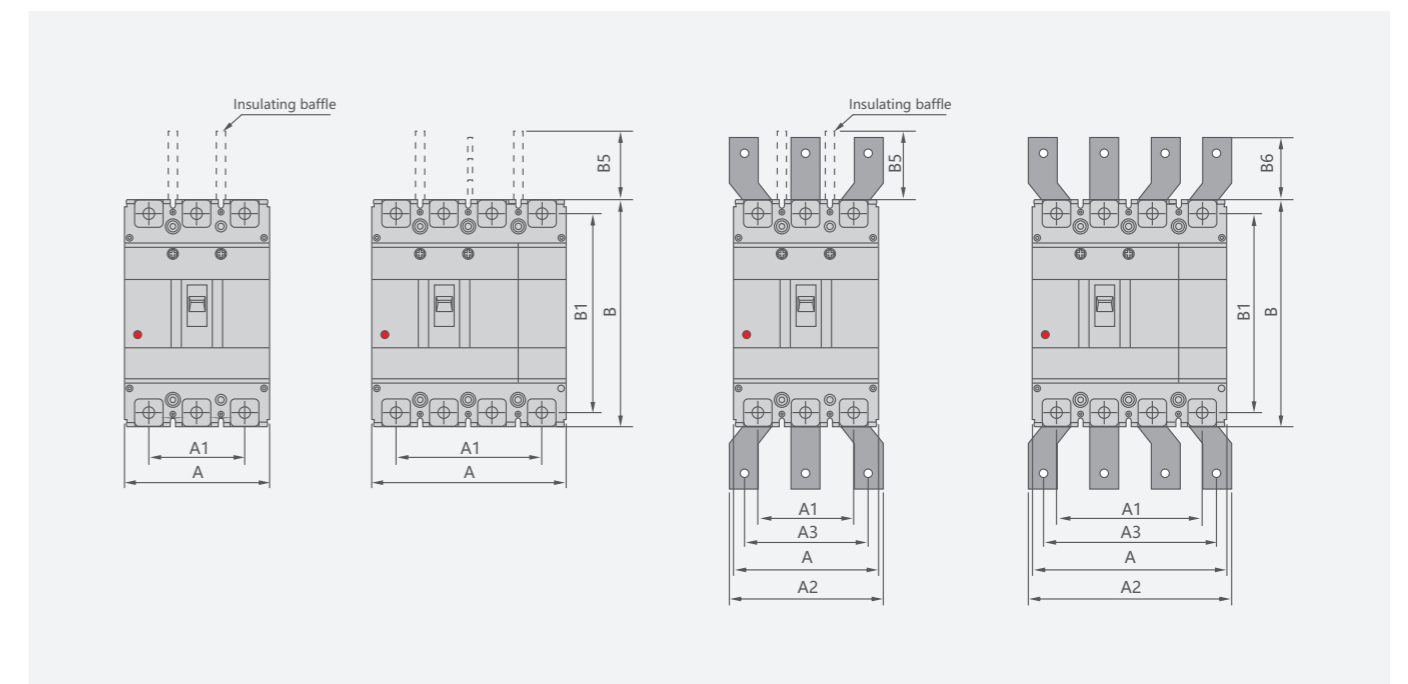
2. When ambient temperature is  $\pm 40^\circ C$  for electromotor protection breaker, power on for every pole, inverse time limit characteristic of no temperature compensation is in the following sheet.

Test current	Current time	Conventional time	Initial status
		$I_n \leq 800$	
Conventional non-trip current	1.0	$\geq 2h$	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  $\pm 20\%$

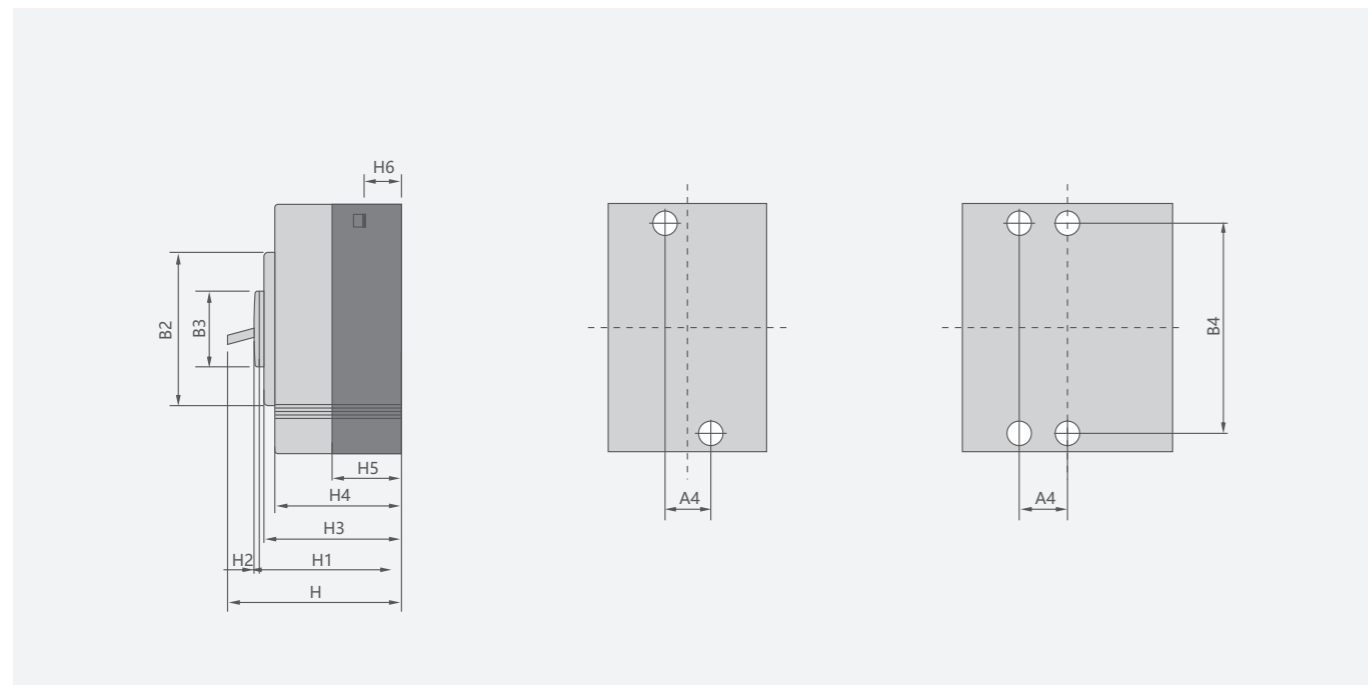
#### Front Connection & Overall



## Distribution Apparatus

### YCM7 MCCB

#### Outline Overall and Installing Dimensions



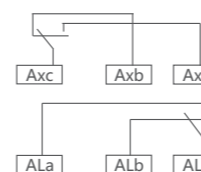
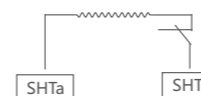
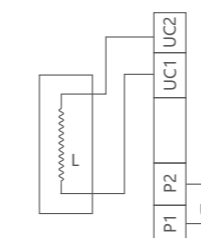
Moulded case Circuit breaker	Overall dimensions																		Installing dimensions		Bolt			
	A		A1		A2		A3		B	B1	B2	B3	B5	B6	H	H1	H2	H3	H4	H5		H6	A4	B4
	3P	4P	3P	4P	3P	4P	3P	3P																
YCM7-125S	75	100	50	75	-	-	-	-	130	114	85	50	50	-	92	72	4	68	61	41	24	25	111	M8/M6
YCM7-160S	90	120	60	90	-	-	-	-	155	134	103	50	50	-	94	72	4	68	61	41	24	30	132	M8
YCM7-250S	105	140	70	105	-	-	-	-	165	144	103	50	100	-	96	72	4	68	61	46	24	35	126	M8
YCM7-400S	140	185	88	132	140	196	112	168	257	230	179	90	110	43	155	107	5	105	97	64	36	44	194	M10
YCM7-400M	140	185	88	132	140	196	112	168	257	230	179	90	110	43	155	107	5	105	97	64	36	44	194	M10
YCM7-630M	140	185	88	132	140	196	112	168	257	230	179	90	110	42	155	107	5	105	97	64	36	44	194	M10
YCM7-800M	210	280	140	210	180	250	140	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 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	
Rated voltage of power supply	Main features
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	
Rated voltage of power supply	Main features
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.

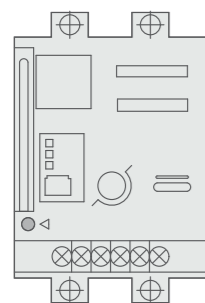
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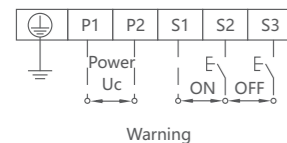
#### External accessories

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. Manually prohibit counterclockwise operation
2. When it is manual operation, insert the handle at the starting point, clockwise rotate it 180°

Model & Spec.		DC3-63/30	DC3-100/30	DC3-250/30	DC3-400/30	DC3-630/30
Applicable model	YCM7-125	YCM7-160	YCM7-250	YCM7-400	YCM7-800	
	YCM7RT-125	YCM7RT-160	YCM7RT-250	YCM7RT-400	YCM7RT-800	
		YCM7E-160	YCM7E-250	YCM7E-400	YCM7E-800	
				YCM7-630		
				YCM7RT-630		
				YCM7E-630		
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, DC24			AC230, DC220 or AC110, DC110, DC24		
Starting current (A)	≤0.5			≤2		
Mechanical life (times)	14000		10000	5000		
Power (W)	14			35		

