

YCM1 Series Distribution Apparatus



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

CNC
ELECTRIC

Distribution Apparatus

YCM1 MCCB



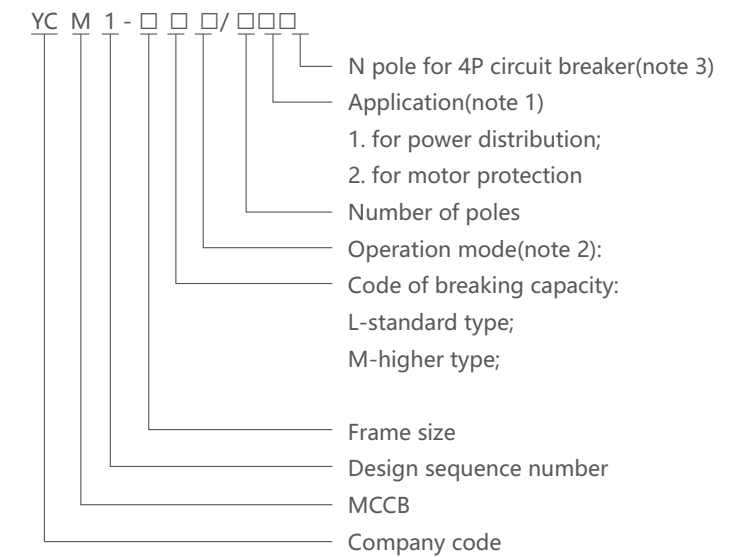
General

YCM1 series moulded case circuit breaker(herein after called circuit breaker) adopts international advanced design and manufactural 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 50Hz, 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.

Type designation

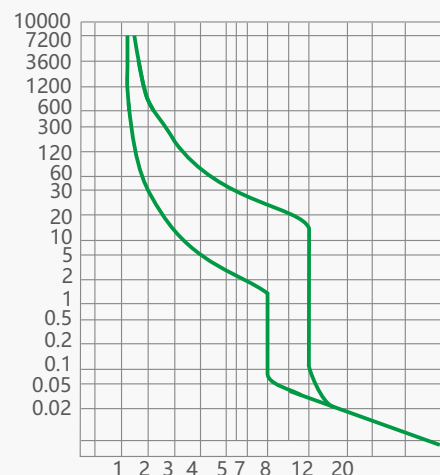


Note:

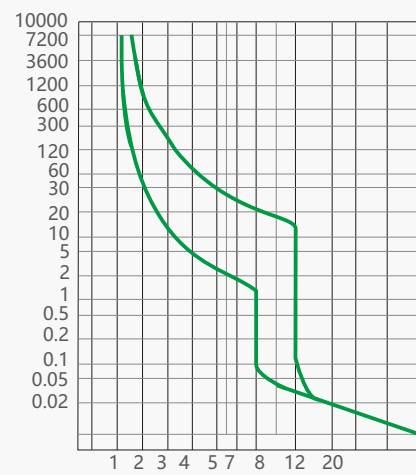
1. Blank for power distribution,2 for motor protection
2. Blank for direct operation with handle, Z for operation with rotary handle, P for motor-driven operation.
3. There are 2 types of N-pole for 4P breaker:
A:Without current release components, N-Pole is always at making status(not breakers);
B:Without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

B

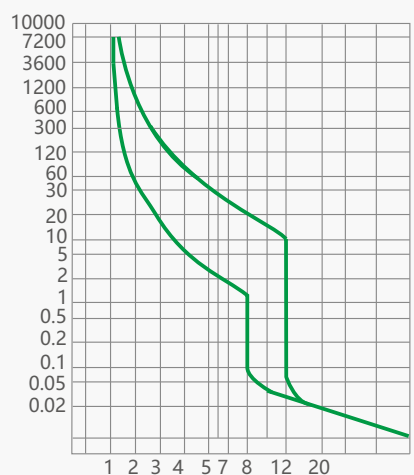
Curve



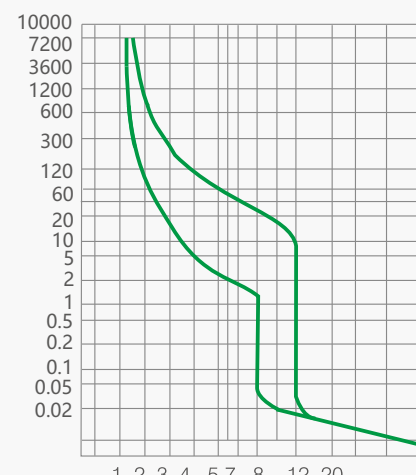
YCM1-63(10~32), YCM1-125(25~32)
Characteristic Curve



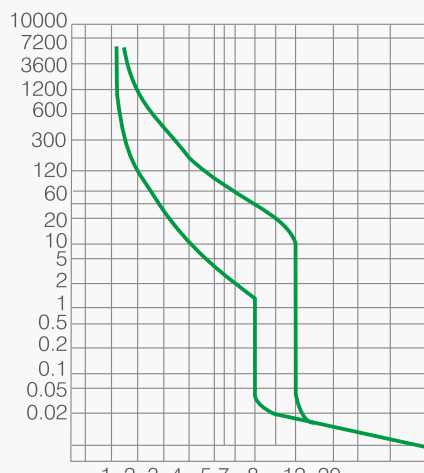
YCM1-63(40~63), YCM1-125(40~125)
Characteristic Curve



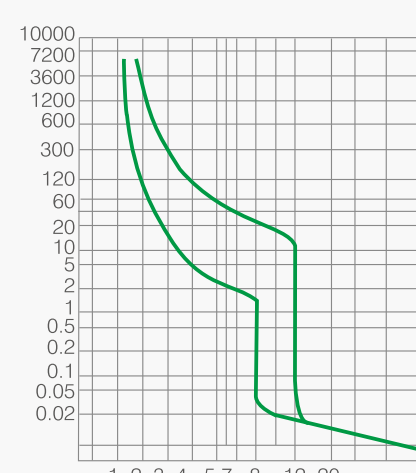
YCM1-160, YCM1-250
Characteristic Curve



YCM1-400
Characteristic Curve



YCM1-630, YCM1-800
Characteristic Curve



YCM1-1250, YCM1-1600
Characteristic Curve

Operating conditions

1. Temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$; the average value within 24h shall not exceed $+35^{\circ}\text{C}$. For the circuit breaker with thermo-magnetic release, $+40^{\circ}\text{C}$ is set to be the standard temperature for ratings. For temperature not between $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$, 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 $+40^{\circ}\text{C}$, higher relative humidity is allowable under lower temperature. For example, RH could be 90% at $+20^{\circ}\text{C}$. 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	23	3,4	3	2,3,4	34	34	3,4	3	3									
Rated current I_n	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, 225, 250	225, 250, 315, 350, 400	400, 500, 630	630, 700, 800	800, 1000, 1250	1600											
Rated insulation voltage U_i	V	500		800																	
Rated impulse withstand voltage U_{imp}	V	6000		8000																	
Rated operation voltage U_e	V	AC400		AC400/690																	
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 I_{cu}	kA	230V	35	50	35	50	35	35	50	50	75	50	75	-	-	-	-	-	-	85	
		400V	25	35	25	50	35	35	50	50	65	50	65	75	75	85	85	75	85		
		690V	-	-	8	10	8	8	10	10	20	10	20	-	30	-	30	-	30		
Working short-circuit breaking capacity I_{cs}	kA	230V	18	50	18	50	22	22	50	50	50	50	50	-	-	-	-	-	-	50	
		400V	18	22	18	25	18	18	25	35	32.5	35	42.5	50	50	50	50	36	50		
		690V	-	-	4	5	4	4	5	5	10	5	10	-	15	-	15	-	15		
Arcing distance	mm	50																100			
Operating frequency	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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YCM1 MCCB

Inner accessories

Table 1

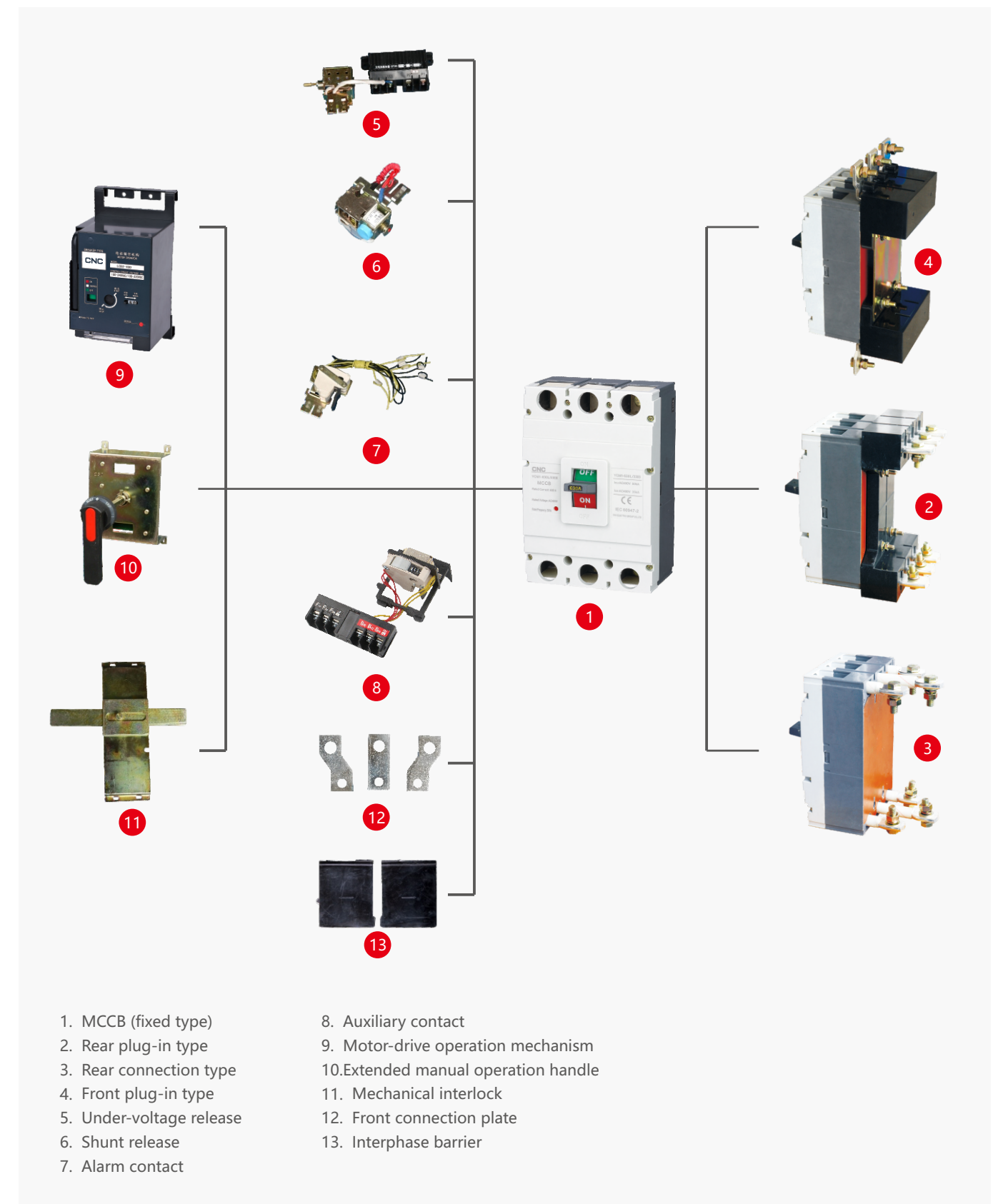
Accessories name	Release method and accessories code		Accessories installation and down-leads			
	Electromagnetic release	Complex release	YCM1-63 YCM1-125	YCM1-160 YCM1-250	YCM1-400 YCM1-630	YCM1-800 YCM1-1250
Without parts	200	300				
Alarm contact	208	308	◀ □ ▶	◀ □ ▶	◀ □ ▶	◀ □ ▶
Shunt release	210	310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

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

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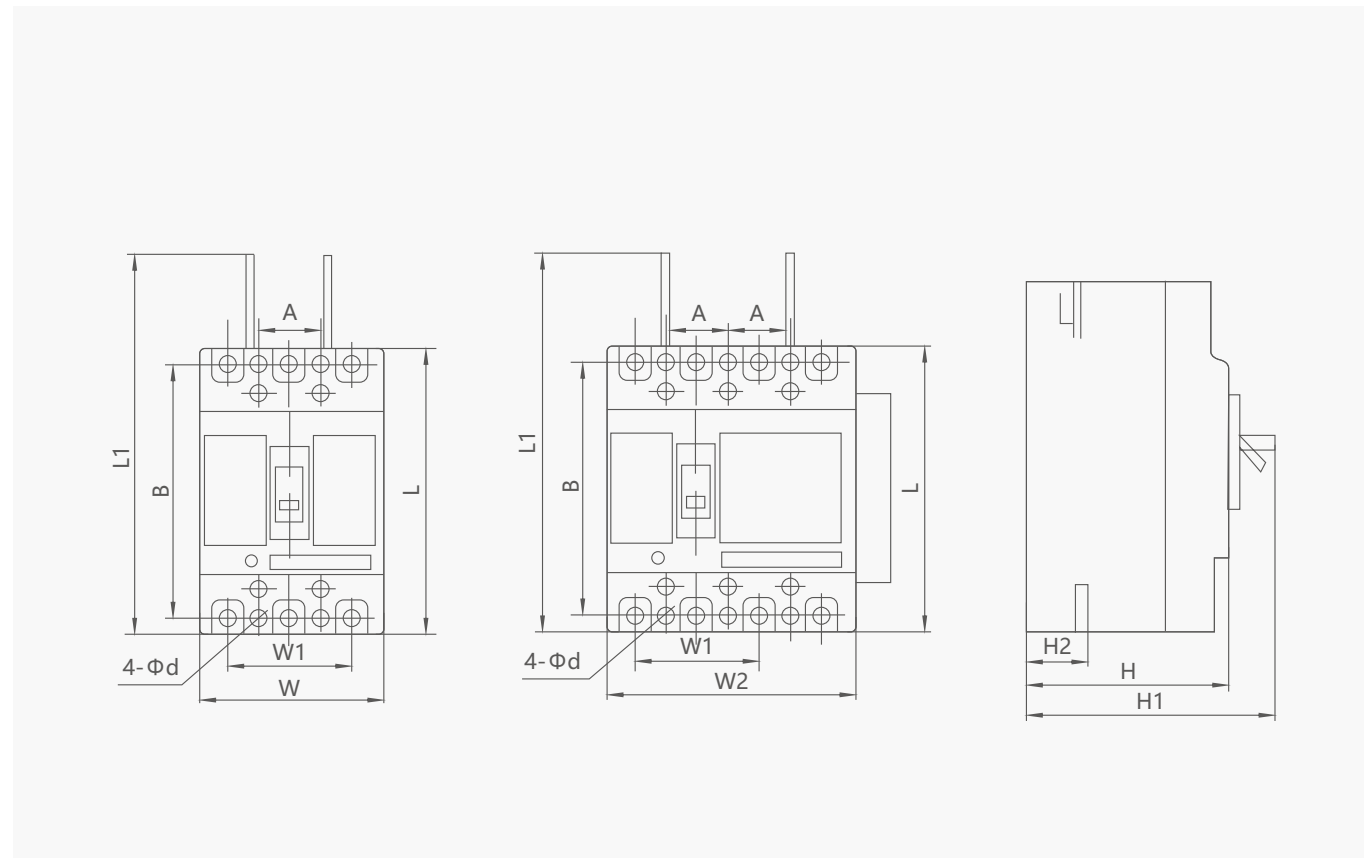
Overview



Distribution Apparatus

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Overall and mounting dimensions(mm)

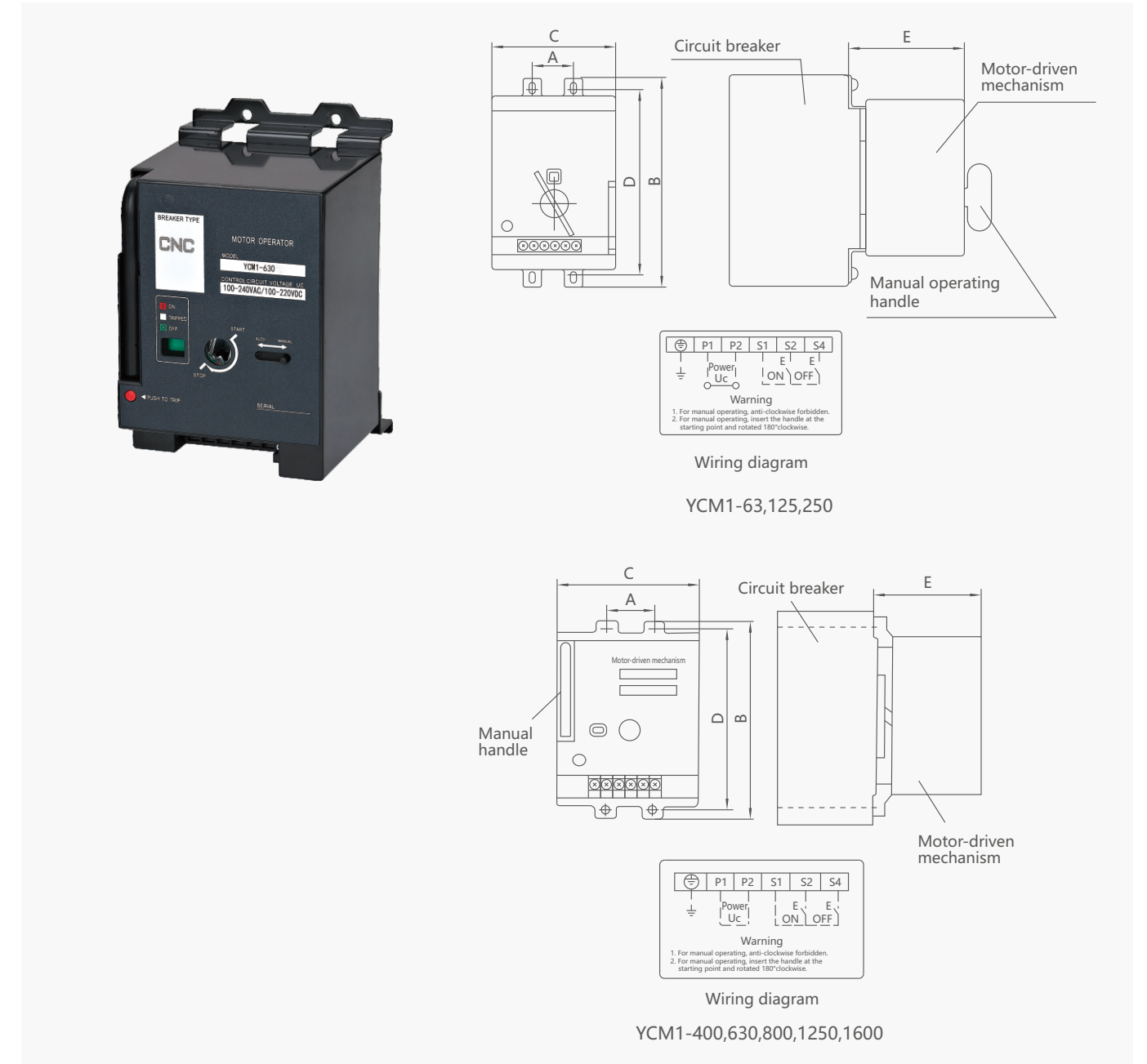


Type	Overall size (mm)								Installation size (mm)		
	W	L	H	W1	W2	L1	H1	H2	A	B	Φd
YCM1-63L	78	135	74	50	-	156	92	28	25	117	3.5
YCM1-63M	78	135	82	50	103	156	100	28	25	117	3.5
YCM1-125L	92	150	68	60	-	200	88	24	30	129	4.5
YCM1-125M	92	150	86	60	122	200	105	24	30	129	4.5
YCM1-160L	93	151	76	60	-	200	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
YCM1-800M	210	280	116	140	280	385	168	42	70	243	7
YCM1-1250M	210	406	158	140	-	610	193	60	70	375	11
YCM1-1600M											

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Overall and mounting dimensions(mm)





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B

Model	Dimensions					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
YCM1-100	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