PROFESSIONAL CIRCUIT BREAKER MANUFACTURER

# VCM1 series MCCB







#### General introduction

#### **Function**

VCM1 series MCCB applies to AC 50HZ,rated insulation voltage up to 800V (VCM1-63 only up to 500V), working voltage up to 690V (VCM1-63 only up to 400V) ,rated current up to 1250A, functions as non frequently switching in a circuit and non frequently starting a motor. MCCB is mainly used in a building power distribution system, protection against short-circuit, overload and under voltage, as well as non frequently switching. MCCB can be classified into L (standard) ,M (medium) and H (high) according to its low

Further, neutral line and phase line can be opened and closed simultaneously to avoid the high potential transmission, which could ensure the safety the operator. In addition to the protection in circuit and motor, other protection and control functions can be realized by installing under voltage relay ,shunt relay, alarm contact and electrical mechanism.

#### Working conditions

Altitude 2000 meters and below;

Ambient temperature not higher than 40 ℃ .not lower than -5 ℃ :

Resistance of the influence of moist air;

Resistance of the influence of smog and oil smog;

Resistance of the influence of fungus;

Max gradient ± 22.5°

Workable under normal vibration in ships;

Workable when an earthquake (4g) break outs;

Without explosion medium, and medium not strong enough to corrode metal box to destroy insulated air or conductive dust;

The site without rain or snow coming in.

#### MCCB classifications

As per poles:1p,2p,3p and 4p.

As per rated current(A):6, 10,16,2,25,32,40,50,63,80,100,125,160,200,225,250,4 00,630,800,1000 and 1250.

As per connection ways: front connection, rear connection and plug-in connection.

As per release type: thermal-magnetic, magnetic and electronic.



## Protection feature of power distribution breakers

Rated current of the breaker (A)	Tripping time of the thermal magne				
	1.05ln(cold state)	1.3ln(heat state)	Electromagnetic release tripping current(A)		
	not tripping time (h)	tripping time(h)			
10≤In≤63	≥1	<1	10ln ± 20%		
63 <in≤100< td=""><td>≥2</td><td>&lt;2</td><td colspan="3">10III ± 20%</td></in≤100<>	≥2	<2	10III ± 20%		
100 < In≤800	≥2	<2	5ln ± 20% 10ln ± 20%		

## Protection feature of motor protection breakers

Rated current of the breaker (A)	Tripping time of t	he thermal magne			
	1.05ln(cold state)not tripping time(h)	1.3ln(heat state) tripping time(h)	1.3in(heat state)tripping time(min)	7.2ln(heat state)tripping time(min)	Electromagnetic release tripping current(A)
10≤ln≤225	≥2	<2	4	4 < Tp≤10	12In ± 20%
225 < In≤800	22	\ <u>\</u>	8	6 <tp≤20< td=""><td>12111 ± 20%</td></tp≤20<>	12111 ± 20%

#### Technical datasheet

Code	Frame	Rated current(A)	Rated working	Rated insulation voltage(V)	Icu	Ics	(	Outline size	es		ounting si	
	(A)		voltage(V)				L	W3/4P	Н	Α	В	4-
VCM1-63L	63	(6)、10、16、20、25、	AC400V	AC500V	25	18	135	78	73.5	25	117	ф 3.5
VCM1-63M	00	32、40、50、63	A0400V		50	35	135	78/103	81.5	25	117	Ψ 3.3
VCM1-100L		(10)、16、20、25、		AC800V	35	18	150	92	68		129	
VCM1-100M	100	32、40、50、63、80、	AC690V		50	35	150	92/122	86	30		ф 4.5
VCM1-100H		100			85	50	150	92/122				
VCM1-160L			AC690V	AC800V	35	18	165	107	86			
VCM1-160M	160	100、125、140、160			50	35	165	107/142	103	35	126	ф 4.5
VCM1-160H					85	50	103					
VCM1-225L		100 105 110 100	AC690V	AC800V	35	18	165	107	86	35	126	ф 4.5
VCM1-225M	225	100、125、140、160、 180、200、225			50	35	165	5 107/142	103			
VCM1-225H		1001 2001 223			85	50	105		103			
VCM1-400L		205 250 245 250		AC800V	50	35	257	150/198	105			ф7
VCM1-400M	400	225、250、315、350、 400	AC690V		65	45	257	150	106.5	44	194	
VCM1-400H		400			100	65	257	150	100.5			
VCM1-630L					50	35	270	182/240	110			
VCM1-630M	630	400、500、630	AC690V	AC800V	65	45	270	182	110	58	200	ф7
VCM1-630H					100	65	275	210	115.5			
VCM1-800M	800	630、700、800	AC690V	AC800V	75	50	275	210	115.5	70	243	ф7
VCM1-800H	000	030, 700, 600	70901	70000	100	65	213	210	115.5	/ 0	243	Ψ'

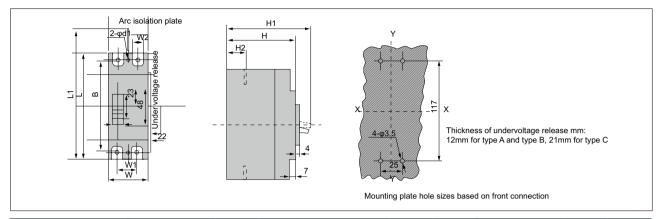
Remarks: all the data for the above 3 forms only for reference, the real data may vary more or less due to different raw materials used, testing conditions,etc.

#### Wire cross sectional area and its matched rated current

Rated current(A)	10	16,20	25	32	40,50	63	80	100	125	160	180,200,225	250	315,350	400
Wire cross sectional area(mm²)	1.5	2.5	4	6	10	16	25	35	50	70	95	120	185	240

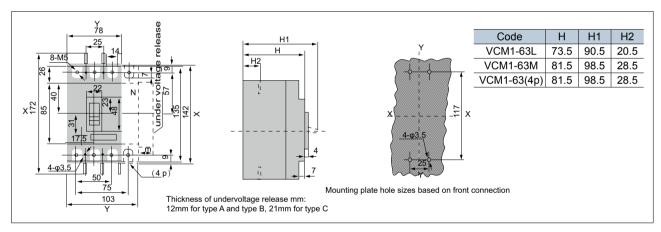
Rated current(A)	Wire		copper bar				
Rateu current(A)	Cross sectional area(mm²)	Quantity (pc)	Size(mm × mm)	Quantity (pc)			
500	150	2	30 × 5	2			
630	185	2	40 × 5	2			
700,800	200	2	40 × 5	2			

## Front connection(2p)X-X,Y-Y,2p breaker center for VCM1-100-250

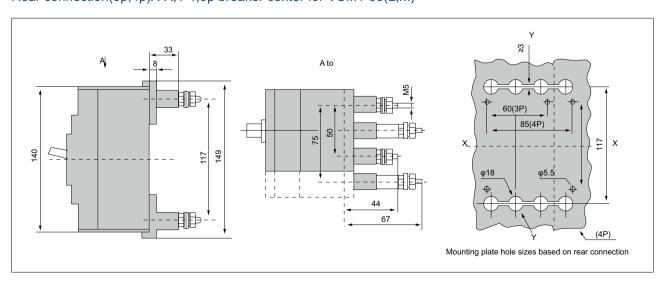


Code	Front connection sizes									Mounting sizes				
	W	L	Н	H1	W1	L1	H2	W2	X	Y	В	d		
VCM1-100/250	65	150	68	86	30	200	24	17	23	51	129	4.5		
VCM1-100/250	74.5	165	86	110	35	230	24	23	23	53	126	5		

## Front connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-63

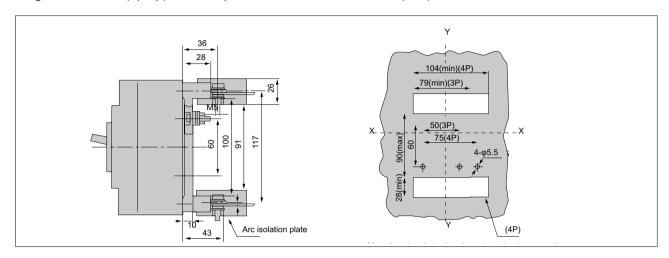


## Rear connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-63(L,M)

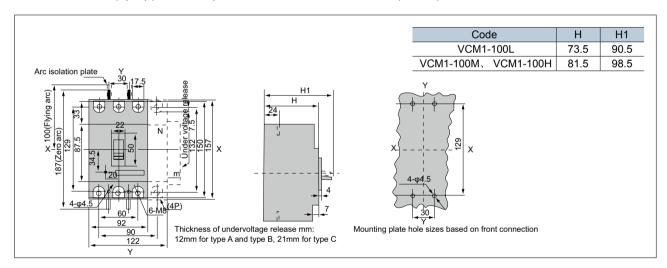




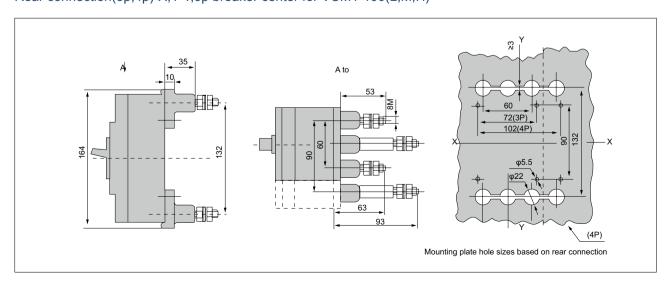
# Plug-in connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-63(L,M)



## Front connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-100(L,M,H)



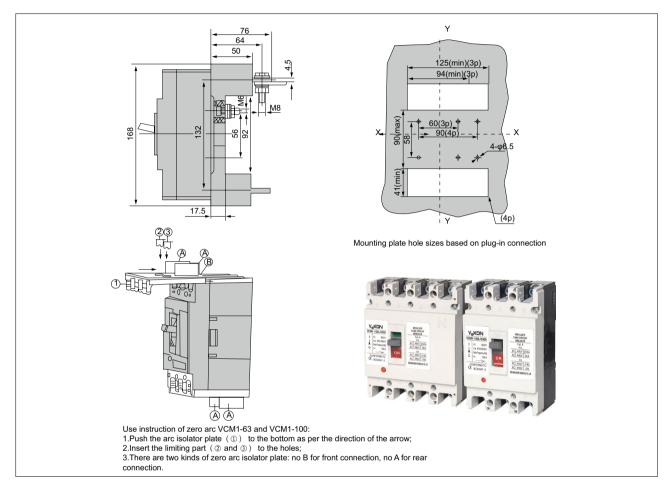
## Rear connection(3p,4p)-X,Y-Y,3p breaker center for VCM1-100(L,M,H)



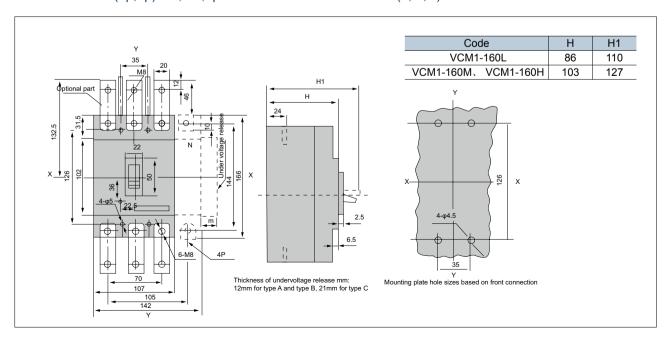
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#### Overall and mounting sizes(mm)

#### Plug-in connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-100(L,M,H)

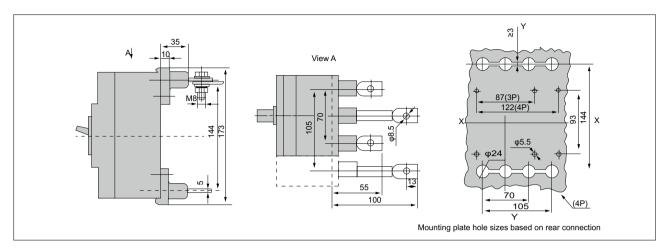


## Front connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-160(L,M,H)

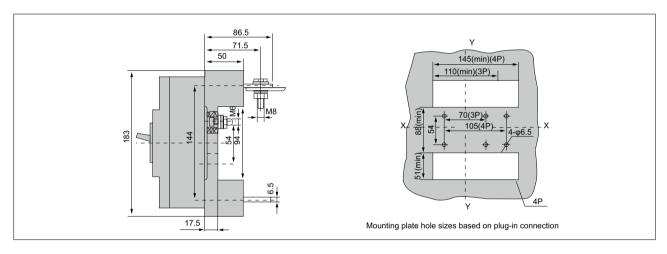




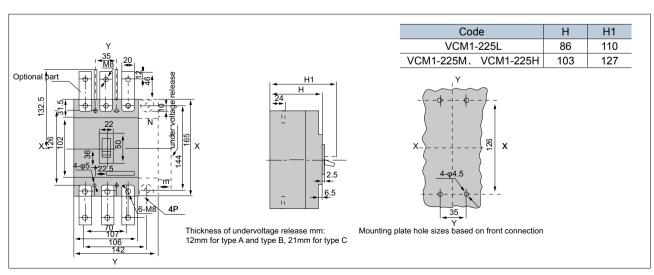
## Rear connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-160(L,M,H)



## Plug-in connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-160(L,M,H)



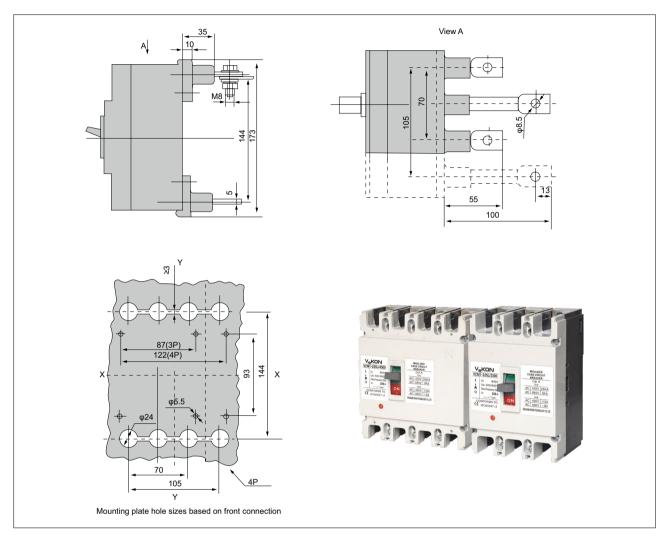
## Front connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-225(L,M,H)



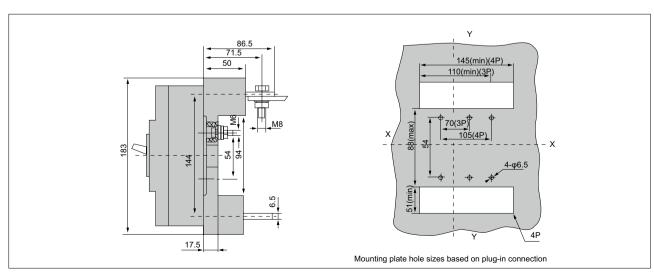
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## Overall and mounting sizes(mm)

## Rear connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-225(L,M,H)

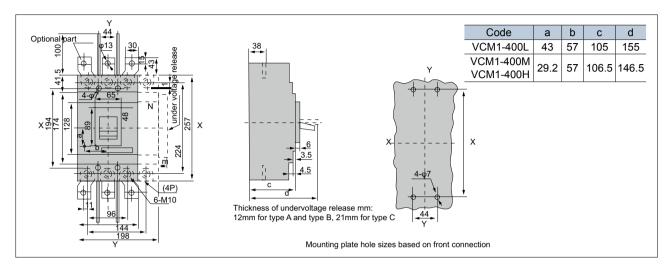


## Plug-in connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-225(L,M,H)

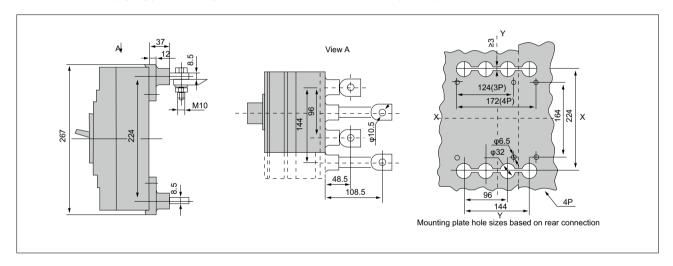




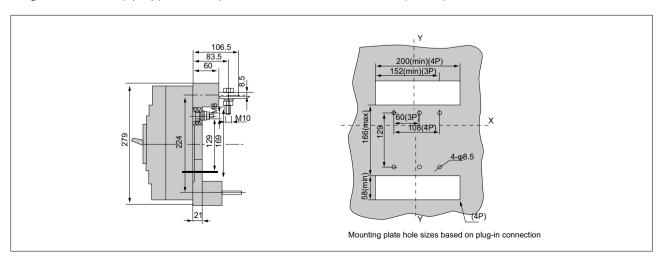
#### Front connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-400(L,M,H)



## Rear connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-400(L,M,H)



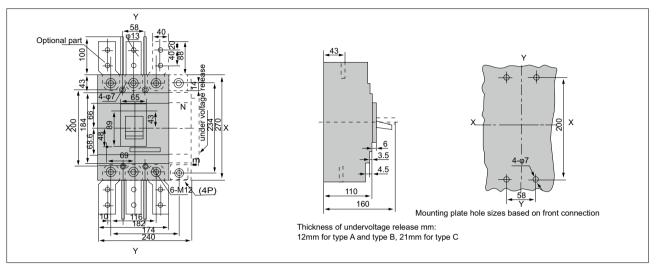
## Plug-in connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-400(L,M,H)



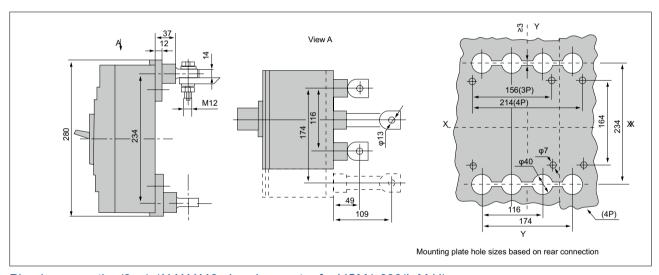
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## Overall and mounting sizes(mm)

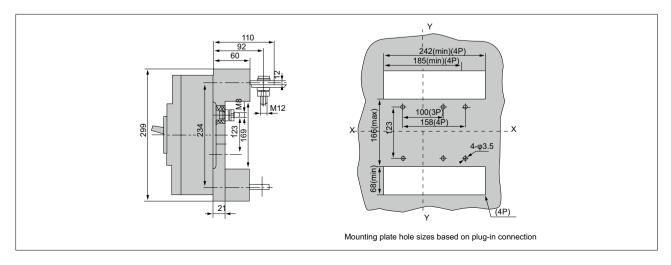
## Front connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-630(L,M,H)



## Rear connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-630(L,M,H)

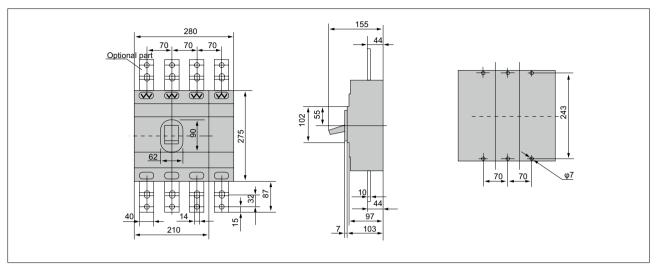


## Plug-in connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-630(L,M,H)

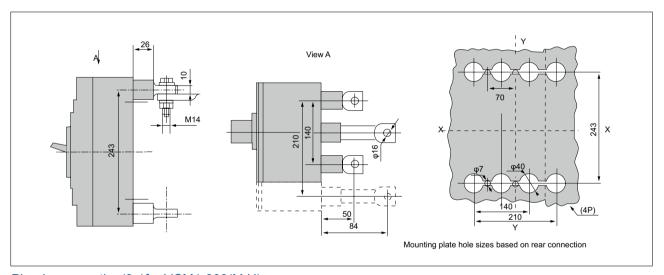




## Front connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-800(M,H)



## Rear connection(3p,4p)X-X,Y-Y,3p breaker center for VCM1-800(M,H)



## Plug-in connection(3p)for VCM1-800(M,H)

