



智新 H8

INTELLIGENT NEW H8 SERIES

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H8M

Moulded Case Circuit Breaker



Application

H8M series moulded case circuit breaker is applied to the circuit with frequency of AC50Hz, rated voltage up to 690 V, and rated current up to 800A, for overload, under-voltage, short circuit protection. It can also be used for infrequent motor start.

The product accords with IEC60947-2.

Normal operation condition

1. Ambient temperature: -5°C~+45°C
2. Altitude: ≤2000m
3. Humidity: The air relative humidity under the highest temperature +40°C cannot surpass 50%; Under the lowest temperature has a higher relative humidity, the wettest month' average lowest temperature cannot surpass +25°C, and the average relative humidity cannot exceed 90%;
4. Pollution degree: class3
Mounted at places without explosive risk, without gases that may be corrosive to metal or gases that may cause damage to the insulation, and with little conducting dust
5. Mounting category: III
6. Breaker terminal "1.3.5.N1" shall connect to power supply; "2.4.6.N2" to load.
7. The breaker usually adopts vertical installation, with power supply terminal up, and load terminal down; horizontal installation is also available.

1. Neutral pole type of 4P circuit breaker (N pole)

Code	Type	Explanation
A	A type	N pole does not install over-current release and switch on all the time, not switch on/off with other three poles.
B	B type	N pole does not install over-current release and switch on/off with other three poles.



2. Over-current release type

Code	Type	Explanation
1	Time delay release	With protection characteristic of over current inverse time delay
2	Instantaneous release	Namely electromagnetic release, with protection characteristic of over current instantaneous operation
3	Duplex release	Both of the functions mentioned above

3. Internal accessories code

Frame size rated current Inm(A)	I		II		III		Note
	Code	Explanation	Code	Explanation	Code	Explanation	
63 100 250	0	None	0~2	Auxiliary contact group quantity	0~2	Alarm contact group quantity	
	1	Shunt release	0~1		0~1		
	2	Under voltage release	0~1		0~1		
400	0	None	0~5		0~2		II + III ≤ 7
	1	Shunt release	0~3		0~2		II + III ≤ 5
	2	Under voltage release	0~3		0~2		II + III ≤ 5
	3	Shunt release and under voltage release	0~1		0~1		II + III ≤ 2
630 800	0	None	0~8		0~3		II + III ≤ 11
	1	Shunt release	0~6		0~3		II + III ≤ 8
	2	Under voltage release	0~6		0~3		II + III ≤ 8
	3	Shunt release and under voltage release	0~3		0~2		II + III ≤ 5

Main technical parameter

1.H8M-63~250 series moulded case circuitbreaker

Product														
Frame size rated current I _{nm} (A)	63			100				250						
Model	H8M-63S	H8M-100C	H8M-100S	H8M-100H	H8M-100U	H8M-250C	H8M-250S	H8M-250H	H8M-250U					
Rated current I _n (A)	10,16,20,25,32,40,50,63	16,25,32,40,50,63,80,100						100,125,150,160,175,200,225,250						
Pole	3	3	4	3	4	3	3	3	4	3	4	3	3	
Rated insulating voltage U _i (V)	AC600			AC800				AC800						
Rated impulse withstand voltage: U _{imp} kV	8													
Flashover distance (mm)	≤50(0)*			≤50(0)*				≤50(0)*						
Rated ultimate /service short circuit breaking capacity I _{cu} /I _{cs} (kA)	AC690V	—	—	5/3	10/5	10/5	—	5/5	10/5	10/5				
	AC400V	35/35	30/15	55/55	85/85	125/125	30/15	55/55	85/85	125/125				
	AC230V	50/38	50/25	100/50	125/125	200/200	50/25	100/50	125/125	200/200				
Operating times	Electrify	8500			8500				3000					
	Non-electrify	8500			8500				7000					
Outline dimension (mm)	a	75	90	120	90	120	90	90	105	140	105	140	105	105
	b	130	155	155	155	216	165	165	165	165	165	165	240	240
	c	68	68	68	68	68	68	68	68	68	68	68	68	68
Weight (kg)	0.75	1.0	1.3	1.1	1.4	1.8	1.8	1.5	1.9	1.5	1.9	2.6	2.6	2.6
Rated operating frequency times/h	120			120				120						

Note: please give clear indication of zero flashover distance when place an order.

2.H8M-400~630 series moulded case circuit breaker

Product															
Frame size rated current I _{nm} (A)	400						630								
Model	H8M-400C	H8M-400S	H8M-400H	H8M-400U	H8M-630C	H8M-630S	H8M-630H	H8M-630U							
Rated current I _n (A)	250,300,350,400						400,500,630								
Pole	3	4	3	4	3	3	3	3	4	3	4	3	3		
Rated insulating voltage U _i (V)	AC800						AC800								
Rated impulse withstand voltage: U _{imp} kV	8														
Flashover distance (mm)	≤100(0)*						≤100(0)*								
Rated ultimate /service short circuit breaking capacity I _{cu} /I _{cs} (kA)	AC690V	10/10	10/10	15/10	35/35	10/10	15/15	20/15	35/35						
	AC400V	45/45	75/75	100/100	125/125	45/45	75/75	100/100	125/125						
	AC230V	85/85	100/100	150/100	200/200	85/85	100/100	150/100	200/200						
Operating times	Electrify	2500						2500							
	Non-electrify	4000						4000							
Outline dimension (mm)	a	140	185	140	185	140	140	210	280	210	280	210	210		
	b	257	257	257	257	297	297	275	275	275	275	322	322		
	c	103	103	103	103	200	200	103	103	103	103	200	200		
Weight (kg)	5.5	7.5	5.7	7.5	16.7	16.7	9.4	12.5	10.9	14.2	26.7	26.7	26.7		
Rated operating frequency times/h	60						20								

Note: please give clear indication of zero flashover distance when place an order.

3. H8M-800~1250 series moulded case circuit breaker

Product								
								
Frame size rated current I_n (A)	800							
Model	H8M-800C	H8M-800S	H8M-800H	H8M-800U				
Rated current I_n (A)	630, 700, 800							
Pole	3	4	3	4	3	3		
Rated insulating voltage U_i (V)	AC800							
Rated impulse withstand voltage: U_{imp} (kV)	8							
Flashover distance (mm)	$\leq 100(0)^*$							
Rated ultimate /service short circuit breaking capacity I_{cu}/I_{cs} (kA)	AC690V	10/10	15/15	20/15	35/35			
	AC400V	45/45	75/75	100/100	125/125			
	AC230V	85/85	100/100	150/100	200/200			
Operating times	Electrify	1500						
	Non-electrify	2500						
Outline dimension (mm)	a	210	280	210	280	210	210	
	b	275					322	
	c	103					200	
Weight (kg)	9.9	13	11.4	15.7	27.3	27.3		
Rated operating frequency times/h	20							

Note: please give clear indication of zero flashover distance when place an order.

Thermal and electromagnetic over-current release

1. Long time delay release setting current I_{r1}

The setting current I_{r1} is the same as rated current I_n .

The neutral pole of four-poles circuit breaker does not installed with over-current release. The conventional thermal current is the same with other poles.

2. Over-current protection characteristic of circuit breaker for power distribution

Rated current I_n (A)	Thermal release (ambient temperature $+40^\circ\text{C}$)		Electromagnetic release operating current
	1.05 I_n non operation time(h) cold state	1.30 I_n operation time(h) heat state	
≤ 63	> 1	≤ 1	$(10 \pm 2)I_n$ (Note)
> 63	> 2	≤ 2	

Note: The operating current of magnetic release (H8M-630, 800) is $(5-14)I_n$, adjustable.
Reference value: low $(4-6)I_n$; relatively low $(6-8.3)I_n$; relatively high $(8.3-10.9)I_n$; high $(10.9-14)I_n$.

3. Over-current protection characteristic of circuit breaker for motor

Rated current I_n (A)	Thermal release (ambient temperature $+40^\circ\text{C}$)				Electromagnetic release operating current
	1.01 I_n non operation time(h) cold state	1.21 I_n operation time(h) heat state	1.5 I_n operation time(min) heat state	7.2 I_n operation time T_p (s) cold state	
$I_n \leq 63$			≤ 2	$2 < T_p \leq 10$	$(12 \pm 2.4)I_n$ (Note)
$63 < I_n \leq 250$	> 2	≤ 2	≤ 4	$4 < T_p \leq 10$	
$250 < I_n \leq 800$			≤ 8	$6 < T_p \leq 20$	

Note: The operating current of magnetic release (H8M-630, 800) is $(5-14)I_n$, adjustable.
Reference value: low $(4-6)I_n$; relatively low $(6-8.3)I_n$; relatively high $(8.3-10.9)I_n$; high $(10.9-14)I_n$.

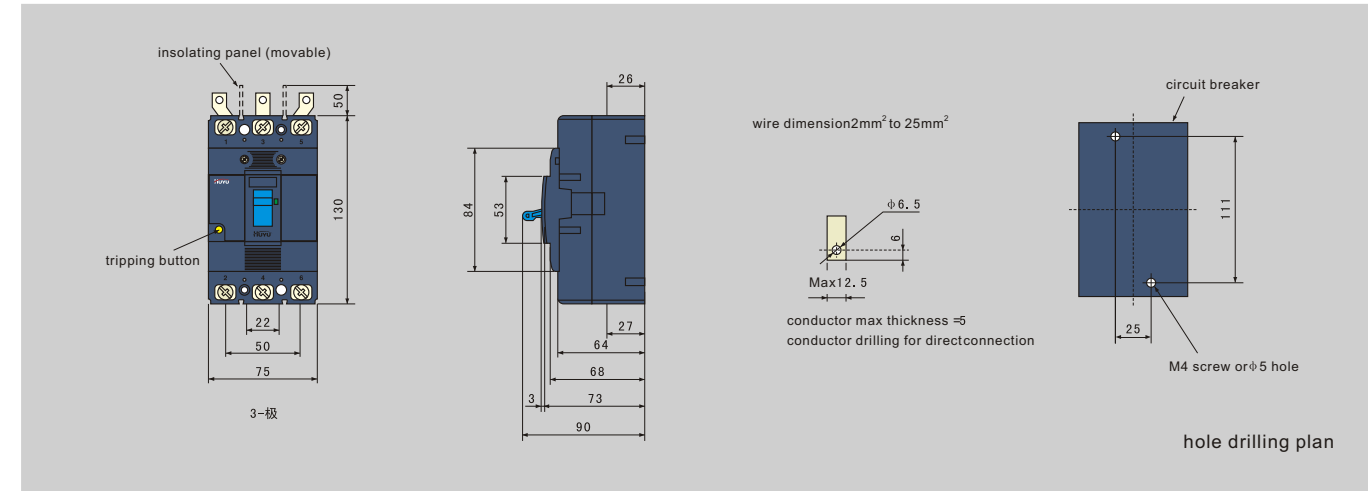
4. Breaker's power loss

Frame size rated current I_n (A)	Rated current I_n (A)	Resistance per pole ($m\Omega$)		Total power loss of three poles (W)			
		C.S type	H.U type	Fixed type		Inserted type or drawble type	
				C.S type	H.U type	C.S type	H.U type
63	63	2.1	—	25	—	—	—
100	100	0.83	1.33	25	40	30	46
250	250	0.32	0.51	60	96	75	135
400	400	0.20	0.33	96	158	120	187
630	630	0.14	0.22	167	262	195	296
800	800	0.11	0.18	211	346	260	389

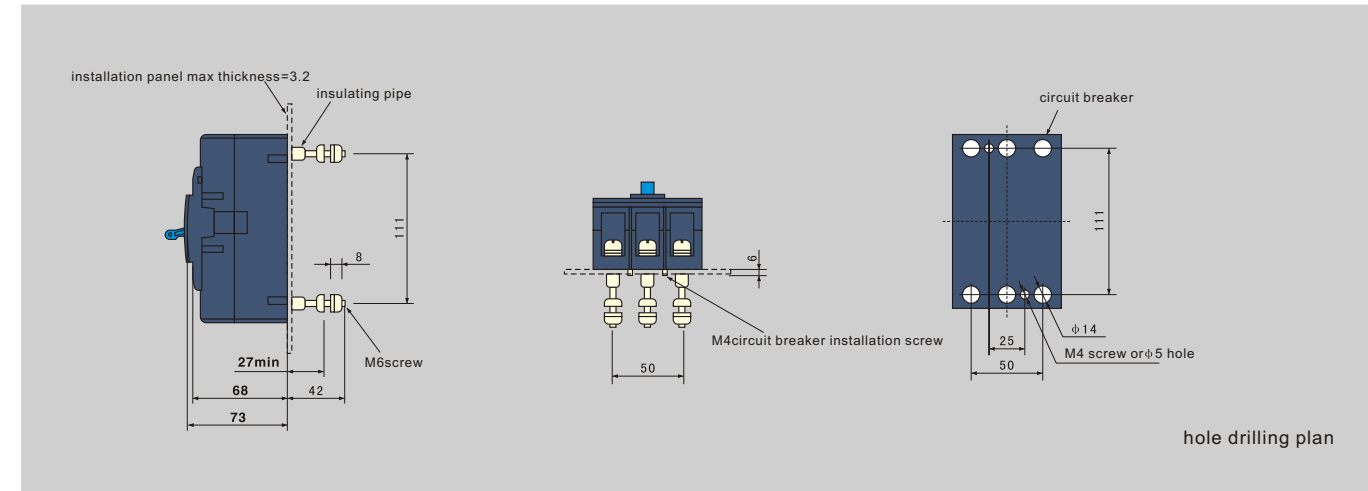
Overall and mounting size

1.H8M-63 overall and mounting size

Front connection plate

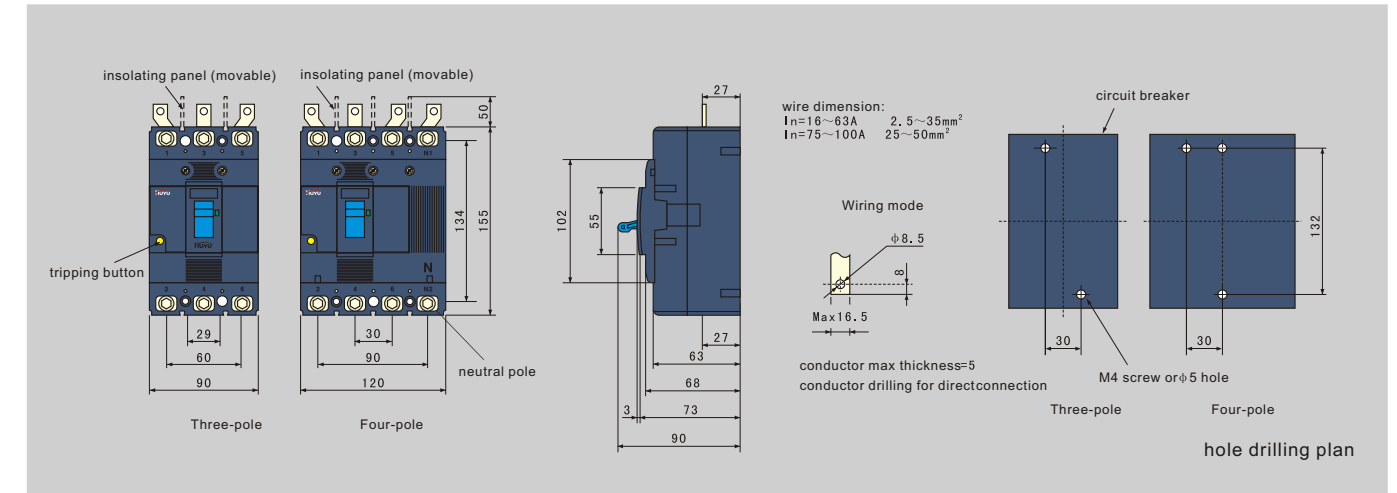


Rear connection plate

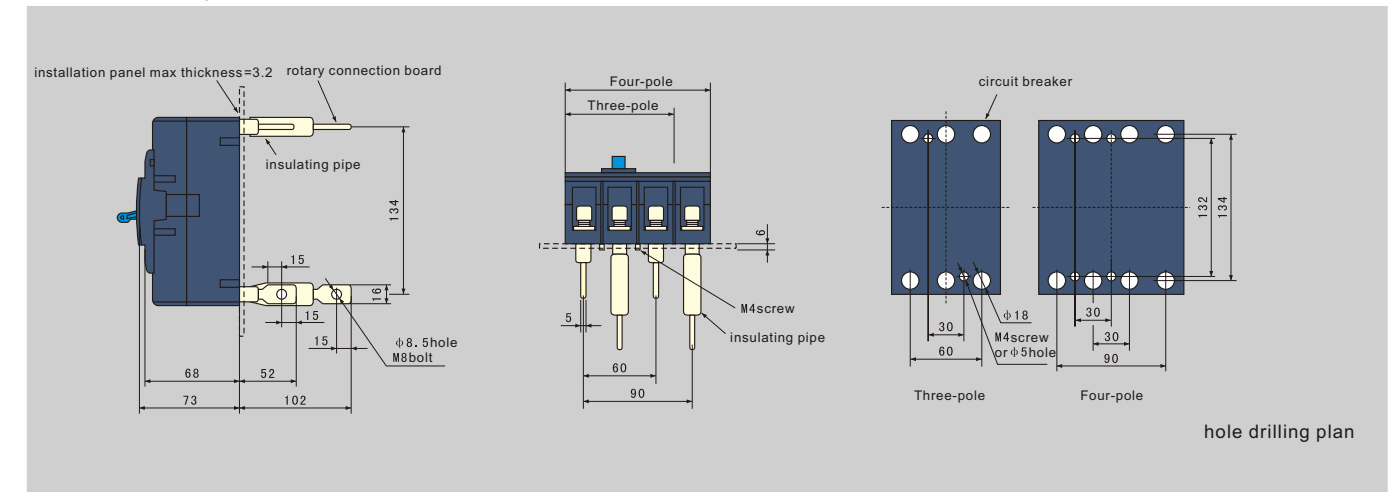


2.H8M-100C、H8M-100S overall and mounting size

Front connection plate



Rear connection plate

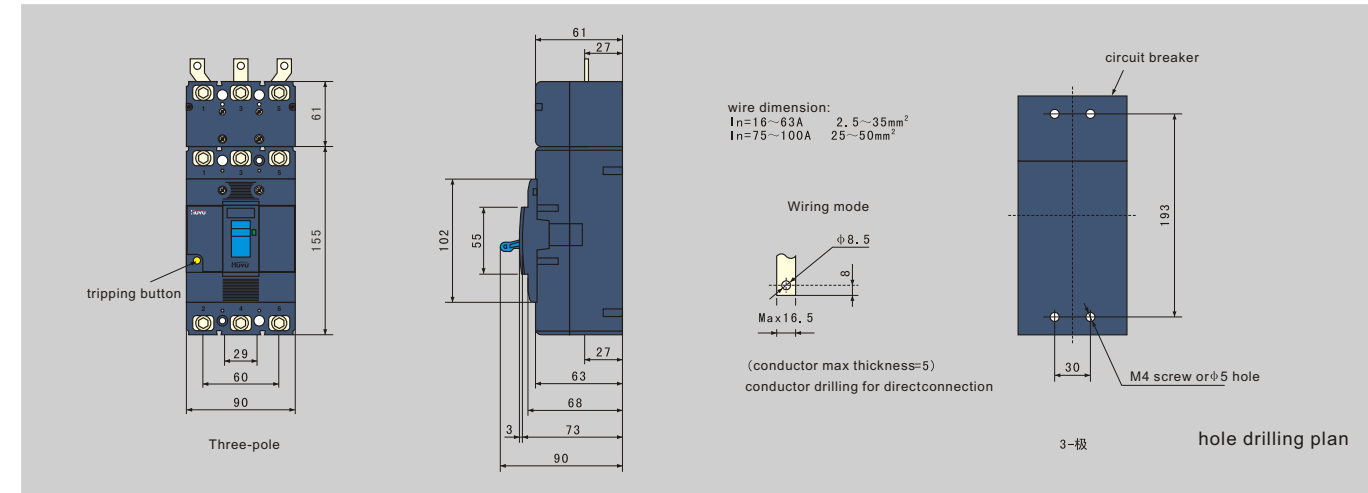


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Series Moulded Case Circuit Breaker

3.H8M-100H、H8M-100U overall and mounting size

Front connection plate

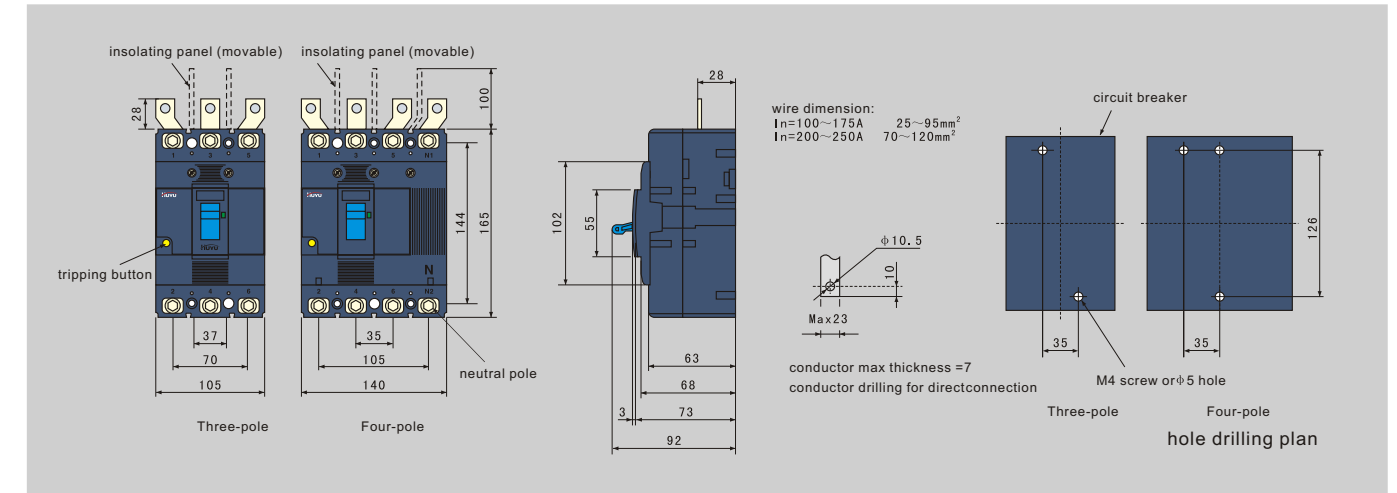


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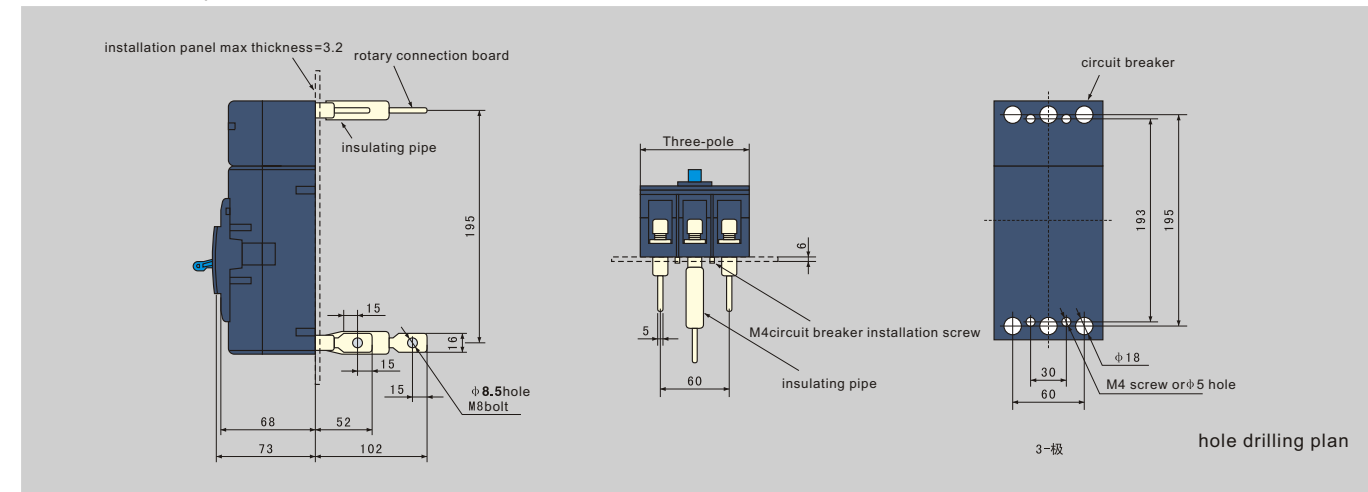
Series Moulded Case Circuit Breaker

4.H8M-250C、H8M-250S overall and mounting size

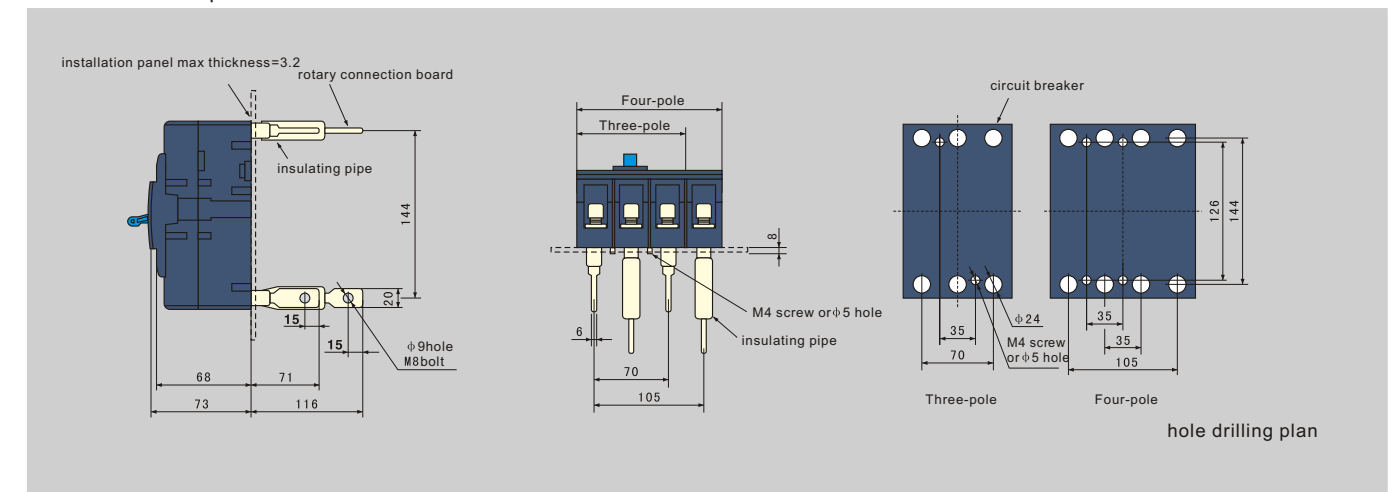
Front connection plate



Front connection plate

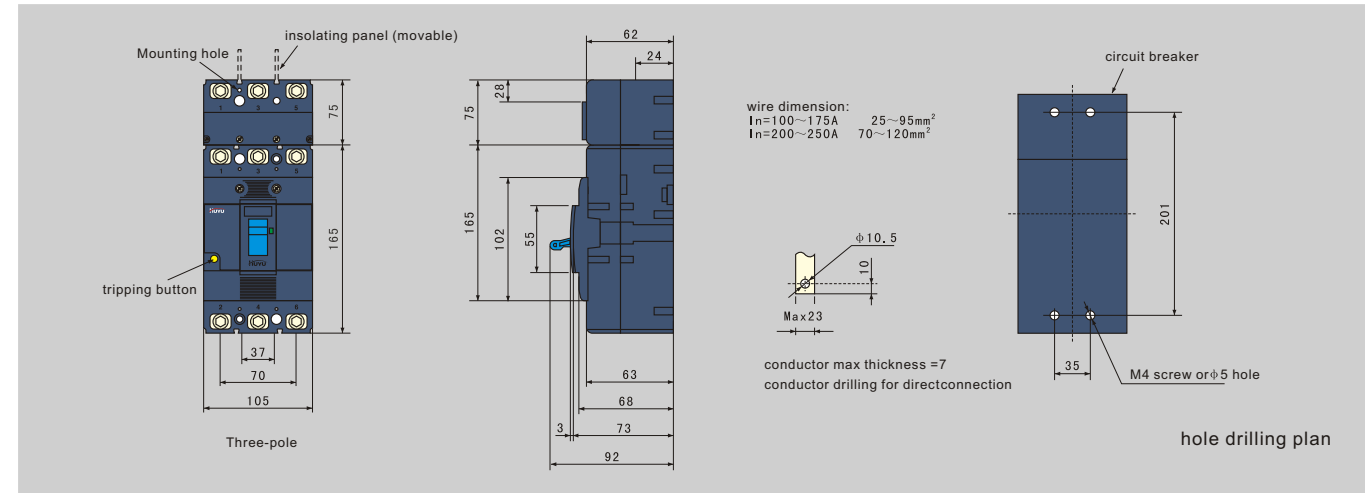


Front connection plate

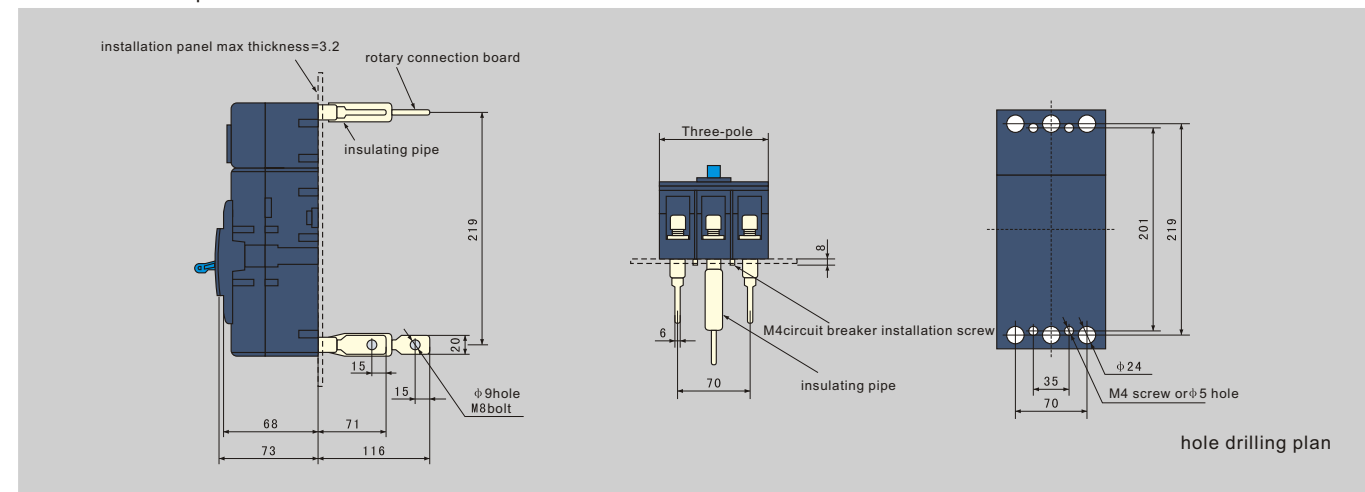


5.H8M-250H、H8M-250U overall and mounting size

Front connection plate



Rear connection plate



Accessories

1. Accessories are divided into internal accessories and external accessories.

1.1 Internal accessories are: auxiliary contact, alarm contact, shunt release, under-voltage release. All the accessories can be installed in a special accessories box, which has special connecting terminal base.

1.2 Model table for internal accessories

Type	Frame size rated current	Specification	Remarks
Shunt release	H8M-63	FL1	AC: 110V, 230V, 400V DC: 24V, 48V, 110V
	H8M-100	FL2	
	H8M-250	FL3	
	H8M-400	FL4	
	H8M-630	FL4	
	H8M-800	FL4	
Under-voltage release	H8M-63	QY1	AC: 110V, 230V, 400V DC: 24V, 48V, 110V
	H8M-100	QY2	
	H8M-250	QY3	
	H8M-400	QY4	
	H8M-630	QY4	
	H8M-800	QY4	
Auxiliary contact	H8M-63	F1	
	H8M-100	F2	
	H8M-250	F3	
	H8M-400	F4	
	H8M-630	F4	
	H8M-800	F4	
Alarm contact	H8M-63	B1	
	H8M-100	B2	
	H8M-250	B3	
	H8M-400	B4	
	H8M-630	B4	
	H8M-800	B4	

1. Push tripping button to break circuit
2. Remove the screws on front cover
3. Install internal accessories
4. Close the front cover and tighten the screws



Notice: Please trip the circuit breaker before installation