HIITIO®

HCM5 Series
Molded Case Circuit Breaker Catalogue

ZHEJIANG HIITIO NEW ENERGY CO.,LTD.

Zhejiang Hecheng Sma rt Electric Co, Ltd. (referred to as Hecheng Electric) was established in 2004 and is now head qua rtered at No,1125, Zhixing Road, Xiaoshan Economic and Technological De velopment Zone, Hangzhou City Zhejiang P rovince. Hechengheadqua rters base 30000 squa re meters. Hecheng is a leading supplier of new ene rgy indust ry and industrial cont rol solutions in the word. At p resent, another la rge p roduction base of Hecheng Electric isoca ted in Mingguang. Anhui P rovince, with an a rea of 14 acresand a plant a rea of 20000 squa re meters. Hecheng Electric focuses on new ene rgy vehicles, pho tovoltaic, ene rgy storage, H VAC/R,industrial cont rol, etc. Hecheng 's main R&D p roduction and operation p roducts include: ceramic high- voltage DC relay/contac tor.high- voltage DC fuse, ali rconditioning contac tor, IEC contactor, UL 489 ci rcuit b reaker and disconnect b ox, etc. Hecheng 's products allha ve passed UL, CSA, INTERTEK CE,CCC and other ce rtifications.

Hecheng Electric aims at p roduct research and de velopment, 10% of the com pany's annual revenue is spent on R&D and 2% onIT penetration Cu rentl y, the p ropo rtion of R&D pe rsonnel with mo re than 10 years of working experience in the industy is as high as35%.

In addition, Hecheng Electric has int roduced ad vanced au tomatic p roduction lines and ad vanced labora tory testing equipment. We stricty implemen ted the I ATF16949 system in the whole p rocess. PLM + ERP + MES technology realizesthe digitalization andin tellectualization of the fac tory. The whole p rocess of R& D, production and sales is able to betraced.

Series	Rated current	Tripping Method
HCM5	16A/20A/25A/32A/40A/50A/63A/80A/100A/125A/160A /250A/400A/500A/630A/700A/800A	Thermomagnetic
HCM5E	16A/20A/25A/32A/40A/50A/63A/80A/100A/125A/160A /250A/400A/500A/630A/700A/800A	Electronic

Scope of Application and Uses

The HCM5 series circuit breakers (hereinafter referred to as circuit breakers) are designed for use in circuits operating at 50 Hz or 60 Hz AC, with a rated working voltage up to AC 690 V and a rated working current up to 800 A, suitable for infrequent switching operations and infrequent motor startups.

Product Features

Breakers are classified into three grades—L-type (standard), M-type (high-breaking capacity), and H-type (ultra-high-breaking capacity)—based on their rated maximum short-circuit breaking capacity (Icu). These breakers feature compact size, high breaking capability, short arc duration, and excellent vibration resistance.

The circuit breaker can be quickly installed using pre-packaged accessories, allowing prompt response to user requirements without any adjustments.

Stanards

IEC 60947-1 and GB/T 14048.1: General requirements for low-voltage switchgear and control equipment

IEC 60947-2 and GB/T 14048.2: Low-voltage switchgear and control equipment – Circuit breakers

IEC 60947-4-1 and GB/T 14048.4: Low-voltage switchgear and control equipment – Electromechanical contactors and motor starters (including motor protectors)

Electrical symbol

All circuit breakers in the series feature isolation functionality, indicated by the corresponding symbol:

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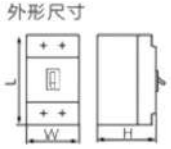
Category Description

ZHEJIANG HIITIO NEW ENERGY CO.,LTD.

HC M5 □ - □ □ □ / □ □ □ □ □ □ □ □
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Code	Code | Name	Meaning
1	Enterprise Code	HIITIO Low-Voltage Electrical Appliances
2	Product Categories	Plastic housing circuit breaker
3	Design Code	Series 5
4	type of production	No code: Thermomagnetic type M: Single-magnetic type E: Electronic type L:Thermomagnetic leakage current detector LE: Electronic leakage current detector
5	Shack Grade	See Table 1 and Table 2
6	Fracture Resistance Level	L: normalized form M: Higher fracture type
		H: High-score discontinuous type
7	rated current In	See Table 1 and Table 2
8	poles	3,4
9	Tripping Method (Thermomagnetic)	0: No release mechanism
		1: Only instantaneous tripping device
		2: Thermomagnetic Trip Device
	Tripping Method (Electronic)	0: Standard Basic Type
		1: Conventional Grounded Type
		2: Basic Communication Type
		3: Communication Grounding Type
10	Attachment Code	See the attachment code correspondence table.
11	Use Code	No Code: Distribution Type
		2: Motor Protection Type
12	4P Product – Type of N Pole	Type A: No overcurrent trip device is installed on the N terminal, and the N terminal remains normally connected.
		Type B: No overcurrent trip device is installed on the N terminal, and the N terminal closes or opens together with the other three terminals.
		Type C: An overcurrent trip unit is installed at the N terminal, and the N terminal closes or opens together with the other three terminals.
		Type D: The N terminal is equipped with an overcurrent trip element and remains continuously connected.
13	mode of operation	No code: Control directly
		P: Electric operation
		Z: turning handle
14	mode of connection	No code: Fixed anterior plate
		R: Fixed rear panel
		F: Insertable front panel
		P: After inserting the plate
		C: Drawer-type (The 125 shell rack does not have a drawer type)
15	Special Function Code	No Code: Standard Product
		i: Overload alarm without tripping function

Table 1: Main Performance and Technical Parameters of HCM5

Product Type	HCM5-125			HCM5-250			HCM5-400			HCM5-630			HCM5-800	
Product frame size	125			250			400			630			800	
Rated current In (A)	16、20、25、32、40、50、63、80、100、125			100、125、140、160、180、200、225、250			225、250、315、350、400			400、500、630			630、700、800	
Rated insulation voltage Ui (V)	1000V													
Rated impact withstand voltage Uimp (V)	8kV													
use classes	A class													
Number of poles	3P/4P													
Breaking capacity Level	L	M	H	L	M	H	L	M	H	L	M	H	M	H
Rated operating voltage Ue (V)	AC400V/415V													
Rated limit short-circuit breaking capacity Icu (kA)	36	50	70	50	70	85	50	70	100	50	70	100	70	70
Service short-circuit breaking capacity during operation Ics (kA)	25	36	50	36	50	65	50	70	75	50	70	75	50	50
Rated operating voltage Ue (V)	AC690V													
Rated limit short-circuit breaking capacity Icu (kA)	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Service short-circuit breaking capacity during operation Ics (kA)	10	10	10	10	10	10	15	15	15	10	10	15	10	10
Electrical Endurance (times)	5000			5000			2000			2000			600	
Mechanical Endurance (times)	10000			10000			5000			5000			4000	
Arc Distance (mm)	≤50			≤50			≤100			≤100			≤100	
外形尺寸 	L(mm)	150		165			258			271			280	
	W(mm) 3P/4P	92/122		107/142			150/200			180/240			210/280	
	H(mm)	86		106			111			111			115	
Packaging Dimensions: 3P	108*166*128			130*174*140			245*285*175			230*295*180			260*305*180	
Weight 3P	1603 g			2550g			5797g			7728g			7728g	
Packaging Dimensions: 4P	130*173*128			180*185*145			260*378*298			290*295*180			325*305*180	
Weight 4P	2000 g			3300 g			7109 g			11200g			11200g	

- **Applicable ambient temperature**

Operating range: -35°C to +70°C, with the 24-hour average temperature not exceeding +35°C. When ambient temperature exceeds +40°C, users must reduce the operating capacity according to the "HCM5 Plastic-Encased Circuit Breaker Temperature-Dependent Capacity Reduction Factor Table".

- **Storage temperature: -40°C to +75°C**
- **height**

The installation location must not exceed an altitude of 2000 m; refer to the "HCM5 Plastic-Encased Circuit Breaker High Altitude Capacity Reduction Factor Table" for specific values.

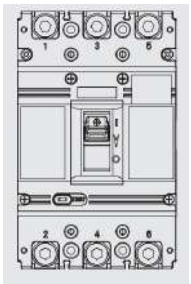
- **Use/Storage Relative Humidity**

The relative humidity of the air at the installation site shall not exceed 50% at the highest temperature of +40°C; higher relative humidity may be permitted at lower temperatures, such as up to 90% at 20°C. Special measures should be taken for condensation occasionally caused by temperature fluctuations.

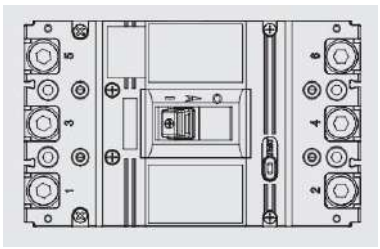
- **Pollution Level: Level 3**
- **Installation Type**
  - The installation category of the circuit breaker in the main circuit is Class III (for distribution and control levels).
  - The installation category for the auxiliary circuit and control circuit is Class II (load level).
- **Installation Environment**

The circuit breaker shall be installed in environments free from explosive hazards, where the medium does not corrode metals or damage insulation (e.g., gases and conductive dust), and away from areas exposed to rain or snow.

- **Installation Direction**
  - The product is installed vertically, with the installation surface inclined at ≤ ±22.5° relative to the vertical plane.
  - Horizontal Installation



Vertical Installation



Horizontal Installation

Product type		HCM5-125	HCM5-250	HCM5-400	HCM5-630	HCM5-800
Tripping protection type						
Tripping tye		Heat-Magnetism	Heat-Magnetism	Heat-Magnetism	Heat-Magnetism	Heat-Magnetism
over current protection	long-time delay	■	■	■	■	■
short-circuit protection	short time delay	—	—	—	—	—
	instantaneous	■	■	■	■	■
Neutral Line Protection		□	□	□	□	□
ground protection		—	—	—	—	—
Indication and Control Accessories						
SD		■	■	■	■	■
OF		■	■	■	■	■
MN		■	■	■	■	■
MX		■	■	■	■	■
Basic Accessories (Standard)						
Terminals		■	■	■	■	■
phase separator		■	■	■	■	■
■Default ; □ Optional ; _Not available						

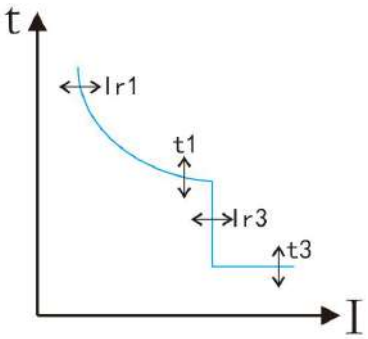
Table 2: Main Performance and Technical Parameters of HCM5E

Product type	HCM5E-125		HCM5E-250		HCM5E-400		HCM5E-630		HCM5E-800	
Frame size	125		250		400		630		800	
Rated Current In (A)	32A (12A-32A) 63A (25A-63A) 125A (50A-125A)		250A (100A-250A)		400A (160A-400A)		630A (250A-630A)		800A (315A-800A)	
Rated insulation voltage Ui (V)	1000V									
Rated impact withstand voltage Uimp (V)	8kV									
Product class	A class		B class							
Number of poles	3P/4P									
Breaking capacity Level	M	H	M	H	M	H	M	H	M	H
Rated operating voltage Ue (V)	AC400V/415V									
Rated limit short-circuit breaking capacity Icu (kA)	35	35	50	50	70	70	70	70	70	70
Service short-circuit breaking capacity during operation Ics (kA)	25	25	50	50	50	50	50	50	50	50
Rated operating voltage Ue (V)	AC690V									
Rated limit short-circuit breaking capacity Icu (kA)	20	20	20	20	20	20	20	20	20	20
Service short-circuit breaking capacity during operation Ics (kA)	10	10	10	10	15	15	15	15	15	15
Electrical endurance (times)	5000		5000		2000		2000		600	
Mechanical endurance (times)	10000		10000		5000		5000		4000	
Arc Distance (mm)	≤50		≤50		≤100		≤100		≤100	
L(mm) 3P/4P	150		165		258		271/280		280	
W(mm) 3P/4P	92/122		107/142		150/200		180/280		210/280	
H(mm)	92		92		110		115		115	
Packaging Dimensions: 3P	110*170*125		130*175*130		198*277*177		230*295*180		260*310*175	
Weight 3P	2100g		2219g		5712g		7728g		10267g	
Packaging Dimensions: 4P	130*175*130		180*180*145		250*280*180		/		325*300*180	
Weight 4P	2750g		2826g		7429g		/		13103g	

Product Type		HCM5E-125	HCM5E-250	HCM5E-400	HCM5E-630	HCM5E-800
Tripping type		electronic	electronic	electronic	electronic	electronic
over current protection	long time delay	■	■	■	■	■
short-circuit protection	short time delay	■	■	■	■	■
	instant trip	■	■	■	■	■
Overload Pre-alarm		□	□	□	□	□
Neutral Line Protection		■	■	■	■	■
ground protection		□	□	□	□	□
Indication and Control Accessories						
SD		■	■	■	■	■
OF		■	■	■	■	■
MN		■	■	■	■	■
MX		■	■	■	■	■
Basic Accessories (Standard)						
Teminals		■	■	■	■	■
phase separators		■	■	■	■	■
■Default ; □Optional ; _Not available						

Note: The dimensions (including accessory dimensions) of the 630 chassis 4P electronic unit (HCM5E-630) are identical to those of the 800 chassis 4P electronic unit (HCM5E-800).

HCM5 Product Protection Unit



Rated current (A)	Anti-time-reversal action characteristics (ambient air temperature +40°C)		Instantaneous trip current (A)	Remarks
	1.05 In (cold state): No tripping time (h)	1.3 In (hot state) triping time (h)		
16≤ In≤ 63	1	1	10 I n ± 20%	Distribution Type
63 < In≤ 800	2	2		
16≤ In≤ 800	1.0 In (cold state): No tripping time (h)	1.2 In (hot state) tripping time (h)	12 I n ± 20%	Electric Motor Protection Type
	2	2		
*Note: For HCM5 products, the instantaneous operating current value for 40 A and below is 400 A ± 20%.				

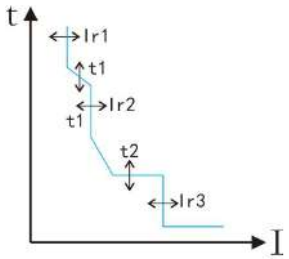
Power loss		Total three-phase power loss (W)	
Circuit breaker Type	rated current （A）	Fixed Front/back wiring	Insertable front/back wiring
HCM5-125	125	20	24
HCM5-250	250	35	40
HCM5-400	400	43	51
HCM5-630	630	49	58
HCM5-800	800	55	65

Temperature Derivation Coefficient							
Circuit breaker Type	Temperature derating parameter						
	40℃	45℃	50℃	55℃	60℃	65℃	70℃
HCM5-125	1	0.977	0.954	0.931	0.907	0.883	0.858
HCM5-250	1	0.982	0.963	0.944	0.924	0.904	0.882
HCM5-400	1	0.981	0.962	0.942	0.922	0.901	0.879
HCM5-630	1	0.979	0.958	0.937	0.915	0.893	0.871
HCM5-800	1	0.98	0.96	0.939	0.918	0.897	0.877

High-altitude derating parameter							
Above sea level （m）	2000	2500	3000	3500	4000	4500	5000
Working Current Correction Factor	1In	1In	0.98In	0.97In	0.95In	0.94In	0.93In
Maximum Operating Voltage (V)	690	690	620	580	550	520	490
Power frequency withstand voltage (V)	3500	3500	3150	3000	2800	2650	2500
Insulation Voltage (V)	1000	1000	900	840	780	730	670

HCM5E Product Protection Unit

Overload Long-Delay Protection

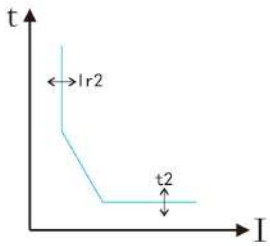


Item	scope	remarks
Long-duration current Ir1	12/14/16/18/20/22/25/28/30/32A 25/28/32/36/40/45/50/56/60/63A 50/63/70/75/80/85/90/95/100/125A	In = 32,63,125 A; default value is In
	100/112/125/140/150/160/180/200/225/250A	In = 250 A, default value: In
	160/180/200/225/250/280/315/350/375/400A	In = 400 A, default value: In
	250/280/315/350/375/400/450/500/560/630A	In = 630 A, default value: In
	315/350/400/450/500/560/630/700/760/800A	In = 800 A, default value: In
Long delay time t1	12-60-80-100-OFF (for shell racks with sizes 125 and 250) 12-60-100-150-OFF (400A,630V,800mm housing size)	@2Ir, defaults to 60s
Action Property (Anti-Time Limit)	T=(2Ir1/I) 2*t1	I: current
No triping current	I≤ 1.05Ir1	I: current
Tripping current	I≥ 1.3Ir1	I: current
Tripping Time Tolerance	±10%	

long time delay tripping conform to inverse time-delay ,the caculation formula : $T = (2Ir_1 /I)^2 t_1$ Example of tripping time calculation:

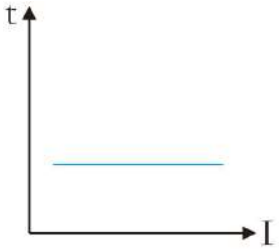
Tripping current	Over current tripping time t1 (S)			
2Ir	12	60	80	100
4Ir	3	15	20	25

Short circuit short-time delay protection



Item	scope	remarks
Short delay current I_r2	(2、 2.5、 3、 4、 5、 6、 7、 8、 10、 12) × Ir1	
Inerse time-delay property	T=(1.5I r2/I) 2* t2	
Time Limit T2	0.06、 0.1、 0.2、 0.3	Default: 0.3s
No tripping current	I≤ 0.9I r2	I: current
Tripping current	I≥ 1.1I r2	I: current
tripping time delay tolerance	0.06: ± 0.02s; 0.1: ± 0.03s; 0.2、 0.3: ±15%	
The short-circuit delay characteristic follows an inverse time-delay: only when $Ir_2 \le I \le 1.5Ir_2$ conform to inverse time-delay; when $1.5Ir_2 < I < Ir_3$ conform to definite time-delay ;		

Instantaneous **Protection**



Item	scope	remarks
Instantaneous current I_r3	(4, 6, 7, 8, 10,11,12,13,14, OFF) × Ir1 (for 125-,250-, and 400-frame sizes) (4, 6, 7, 8, 9, 10,11,12,14; OFF) × Ir1 (for 400 and 630 frame sizes) (4, 5, 6, 7, 8, 9, 10,11,12, OFF) × Ir1 (800-frame size)	
No tripping current	I≤ 0.85I r3	I: current
Tripping current	I≥ 1.15I r3	I: current
Tripping time	<200 ms (including switch operation time)	

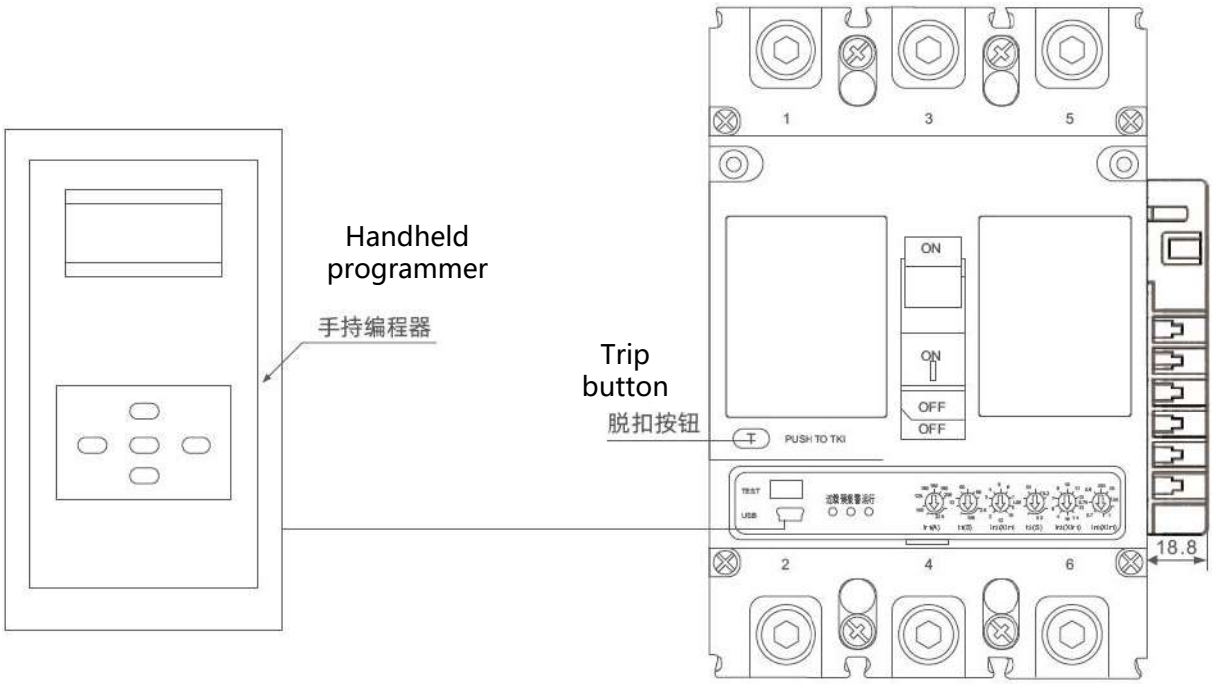
Overload Pre-alarm

Item	scope	remarks
Overload pre-alarm set current I_r0	1*Ir1	
No tripping current	I < 1 I r1	I: Maximum phase current
tripping current	I≥ 1.15I r1	I: Maximum phase current
tripping property	When I ≥ Ir1, the alarm light (yellow) flashes; if the overload current exceeds the threshold T = (2Ir1/I)^(2·t^(1/2)), the yellow light remains continuously lit.	

Protection Characteristics – Setting current in factory

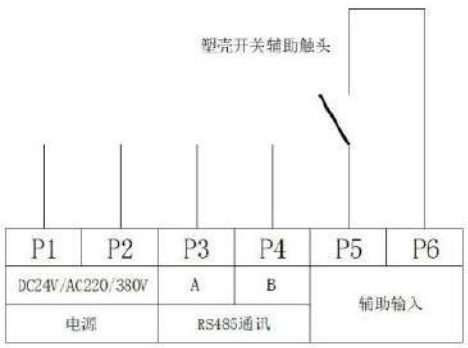
protection feature		Power Distribution Protection	motor protection
Over current Long time trip	Set current Ir1	1.0 × In	1.0 × In
	Set time t1	12s	60s
Short circuit short time delay trip	Set current t1	8 × Ir	10 × Ir
	Set time T2	0.3s	0.3s
Short-circuit instant	Set current Ir3	10 × In	12 × In
Pre-alarm	Set current Ir0	1 × Ir	1 × Ir

Communication interfaces of smart circuit breakers, as well as their applications and networking with external modules



Communication assistance module

Auxiliary contacts of molded case switches

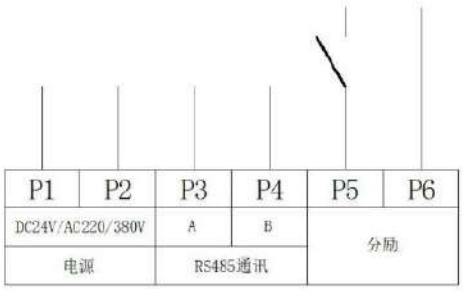


Power supply

RS485 communication

Auxiliary input

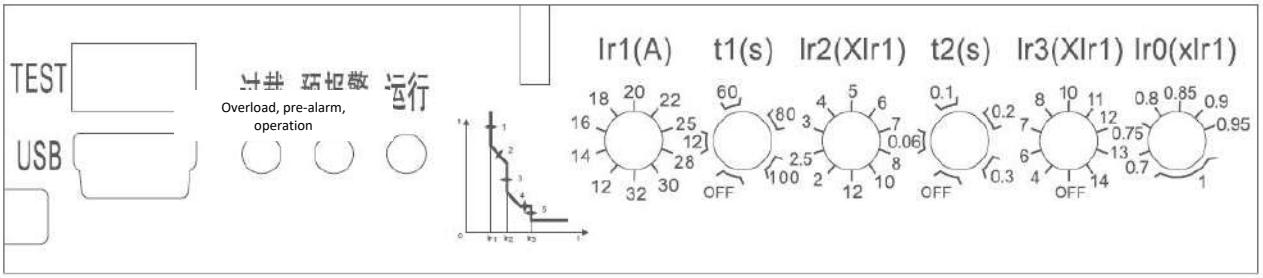
Communication shunt module



Power supply

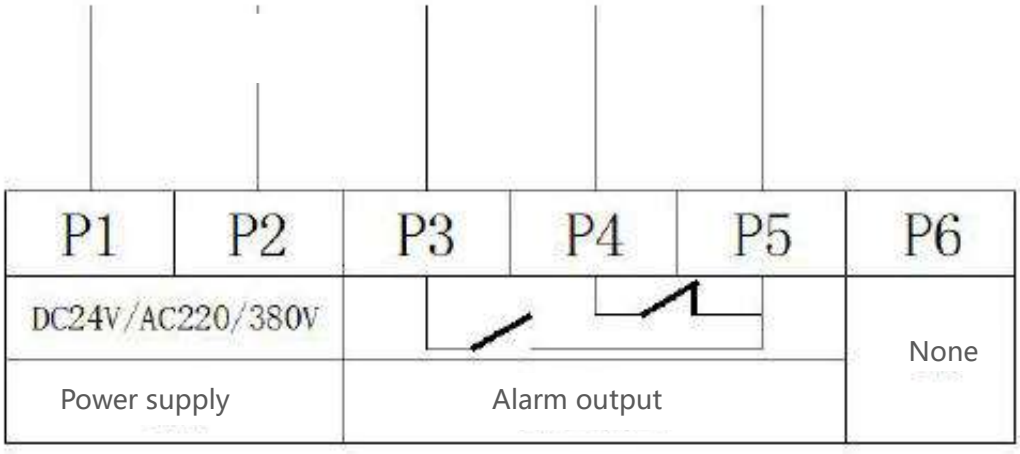
RS485 communication

shunt

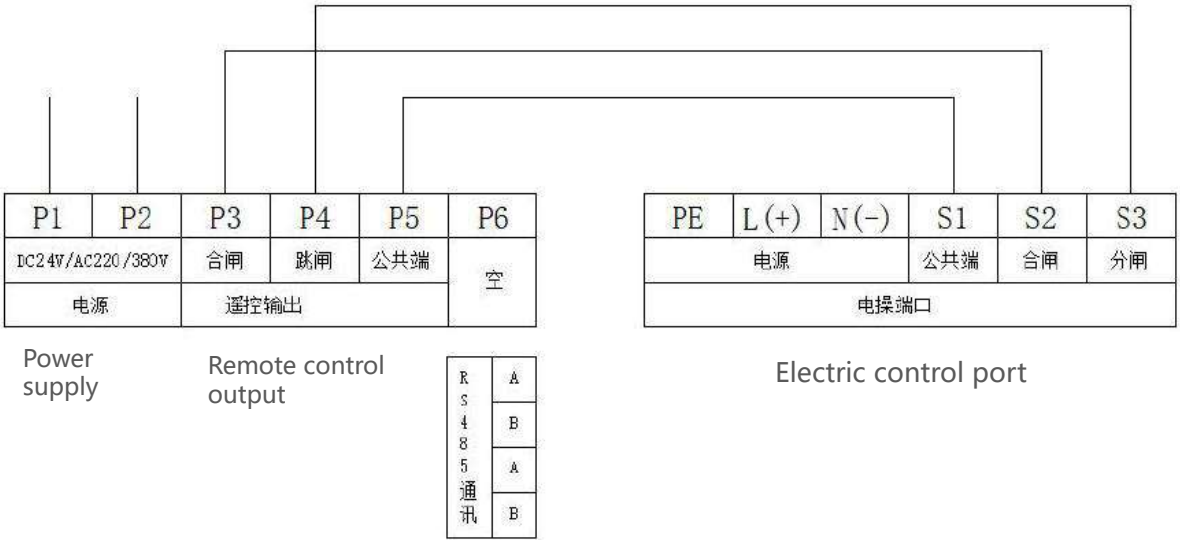


Controller Panel Description	remarks
TSET Test Port: Verifies the reliability of controller operation USB Port: Read data via the iLVS system Ir1: Overload (long delay) current setting value t1: Overload (long delay) time setting value Ir2: Short-circuit (short-duration) current setting value t2: Short-circuit (short delay) time setting value Ir3: Short-circuit (instantaneous) current setting value Ir0: Pre-alarm current setting value I: Operating current value	Pre-alarm Light Early warning indicator light (yellow; does not illuminate during normal operation) Default IP is 1Ir1 When I ≤ 1Ir, the yellow light does not turn on. When the indicator light is between 1 LR and 1.15 LR, it flashes yellow. When the value is ≥ 1.15, the yellow light remains constantly illuminated. trouble light Fault indicator light (red, always on when a fault occurs) Operation Light Work Indicator Light (Green, Always On)

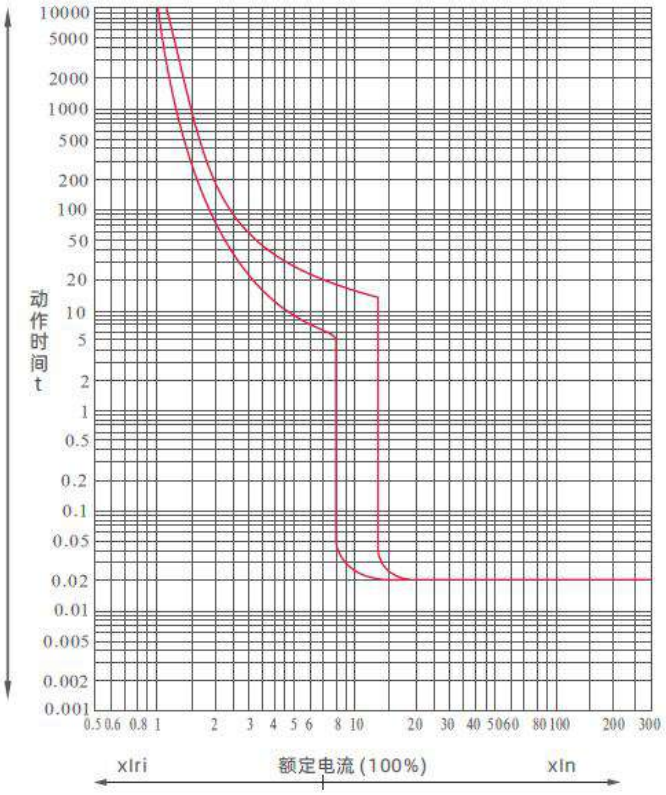
Alarming Module



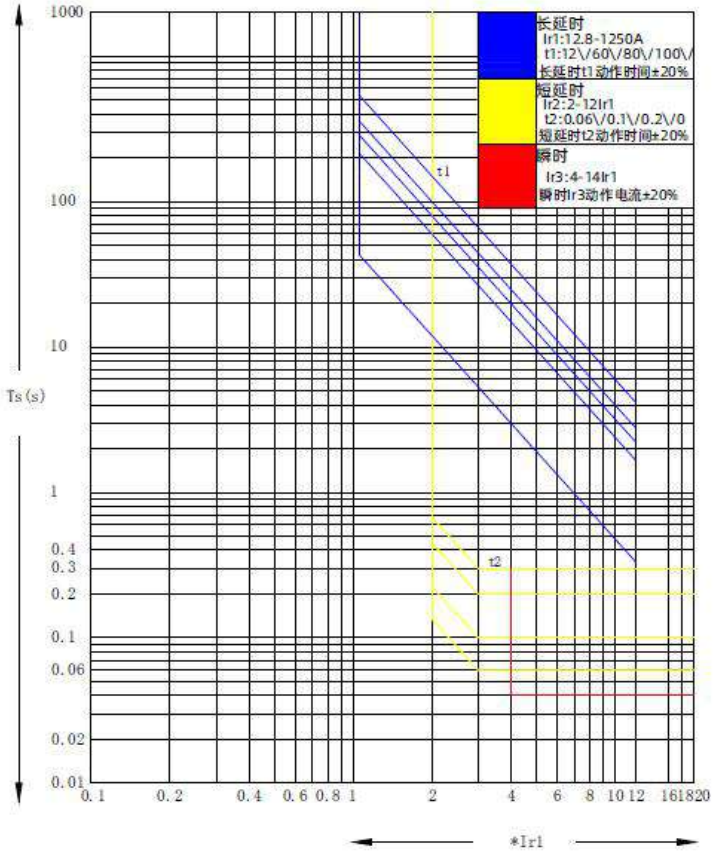
Remote Control Module



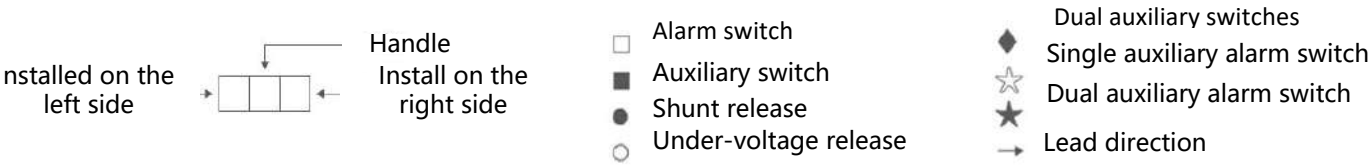
Product Protection Characteristics Curve



HCM5 Time/Current Characteristic Curve

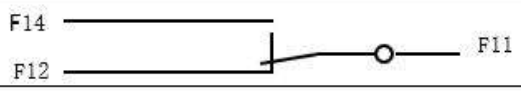
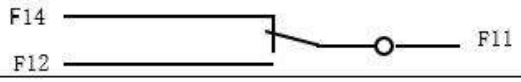


HCM5E Time/Current Characteristic Curve



Shack Grade		125 Shell Frame		250 Shell Frame		400 Shell Frame		630 Shell Frame		800 Shell Frame	
Product Pole Count		3-pole	4-pole	3-pole	4-pole	3-pole	4-pole	3-pole	4-pole	3-pole	4-pole
Attachment Code	Attachment Name										
08	alarm switch										
10	shunt release										
20	auxiliary switch										
02	Dual Auxiliary Switch										
30	Undervoltage Trip Device										
40	auxiliary switch shunt release										
12	Dual Auxiliary Switch shunt release										
50	Undervoltage Trip Device shunt release										
60	Two sets of auxiliary switches										
22	auxiliary switch Dual Auxiliary Switch										
23	Two sets of dual-assisted switches										
70	Undervoltage Trip Device Dual Auxiliary Switch										
18	alarm switch shunt release										
28	Single auxiliary alarm switch										
38	Undervoltage Trip Device alarm switch										
48	Single auxiliary alarm switch shunt release										
68	Single auxiliary alarm switch auxiliary switch										
05	Dual Auxiliary Alarm Switch auxiliary switch										
78	Undervoltage Trip Device Single auxiliary alarm switch							/		/	
79	Undervoltage Trip Device Dual Auxiliary Alarm Switch	/		/		/					

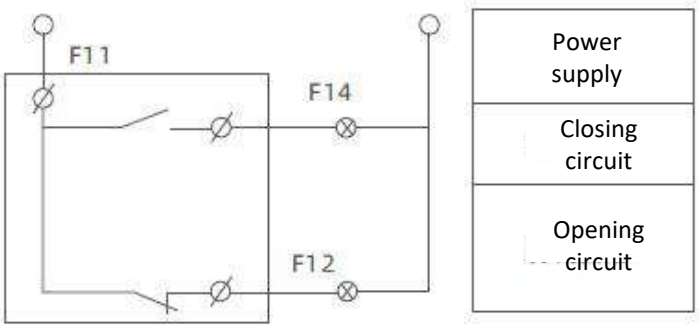
auxiliary contact

The circuit breaker is in the \"off\" or \"free trip\" position	
he circuit breaker is in the \"closed\" position	

Auxiliary contact current parameters

Classify	Shackling Grade Current (A)	Agreed heating current (A)	Rated operating current (A)	
			AC400V	DC220V
Auxiliary contact	125、 250	3	0.3	0.15
	400、 630、 800	3	0.4	0.15

Auxiliary Contact Wiring diagram



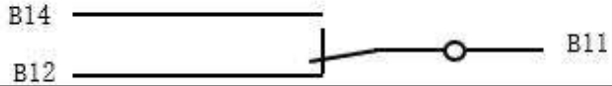
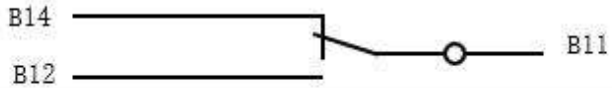
Electrical lifespan of auxiliary contacts

use classes	put through			disjunction			number of times	operation frequency (times/hour)	Power On Time
	I/Ie	U/ Ue	cosφ	I/Ie	U/ Ue	cosφ			
AC-15	10	1	0.3	1	1	0.3	6050	360	≥0.05s
DC-13	1	1	6Pe	1	1	6Pe			≥0.95s

The connection and disconnection capabilities of auxiliary contacts

use classes	put through			disjunction			number of times	operation frequency (times/hour)	Power On Time
	I/Ie	U/Ue	cosφ	I/Ie	U/Ue	cosφ			
AC-15	10	1.1	0.3	1	1.1	0.3	10	120	≥0.05s
DC-13	1 .1	1.1	6Pe	1.1	1.1	6Pe			≥0.95s

Alarm contacts and their combinations

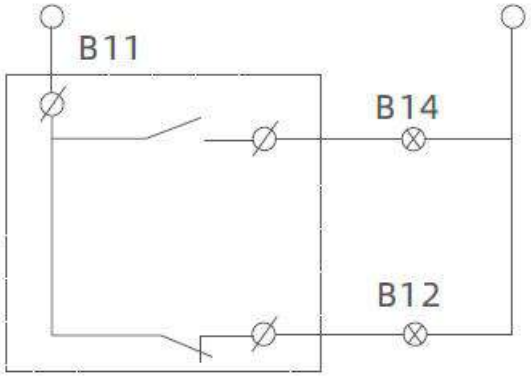
The position of the circuit breaker when it is in the \"open\" or \"closed\" state	
The position of the circuit breaker when it is in the "free trip" state	

Alarm contact current parameters

classify	Shack Grade Current (A)	Agreed heating current (A)	Rated operating current (A)	
			AC400V	DC220V
Alarm Contact	125、 250	3	0.3	0.15
	400、 630、 800	3	0.4	0.15

Alarm Contact Wiring Diagram

During normal operation of a circuit breaker, the contacts remain stationary; they only return to their original positions—normally open contacts closing and normally closed contacts opening—after a free trip (or fault trip). The contacts revert to their initial state once the breaker is closed again.



Under-voltage trip device

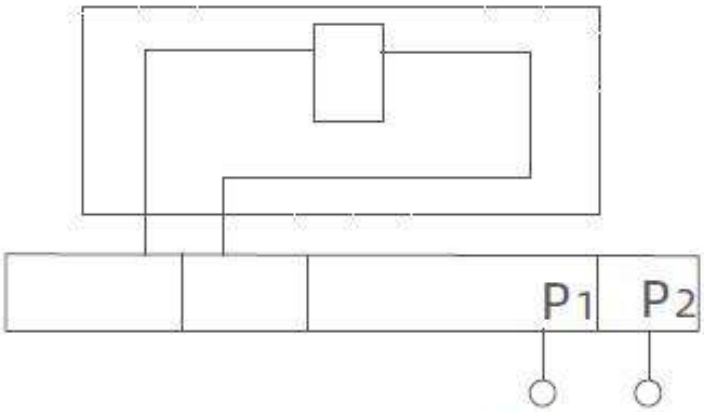
When the supply voltage is between 35% and 70% of the rated control voltage, the undervoltage trip device shall operate reliably and open the circuit breaker. When the voltage falls below 35% of the rated value, it must reliably prevent the circuit breaker from closing; when the voltage reaches or exceeds 85% of the rated voltage, it must ensure the circuit breaker can close successfully.
Control Voltage: AC 230V

Note: The under-voltage trip device must be energized first for the circuit breaker to trip and close; otherwise, the circuit breaker may be damaged.

The instantaneous current and power consumption of the undervoltage trip device

model	Pulsating current value (A)	power dissipation (W)
	AC230V	AC230V
HCM5-125	14.25	3.23
HCM5-250	14.75	3.34
HCM5-400	11	2.53
HCM5-630	11	2.53
HCM5-800	7.25	1.67

Undervoltage Trip Device Circuit Diagram

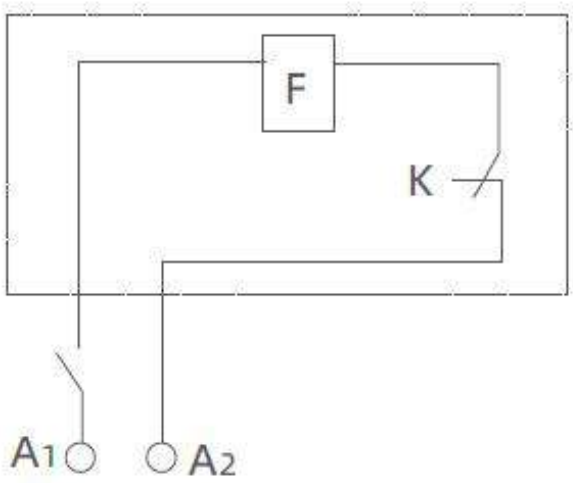


Power input

Shunt release

At voltages ranging from 70% to 110% of the rated control power supply voltage, the split-excitation trip device shall reliably trip the circuit breaker under all operating conditions.
Control Voltage: AC 230V,50/60 Hz

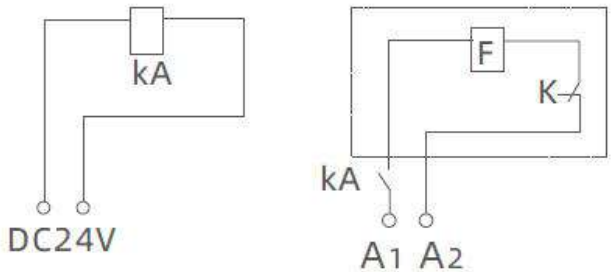
Wiring diagram for a split-current trip device



Power input

Note: When the control circuit operates on a DC 24 V power supply, the sub-excitation control circuit design shown in the figure below is recommended.

KA: A DC 24V intermediate relay with a contact current capacity of 1 A
K: A miniature switch connected in series with the coil inside the split-current trip unit, functioning as a normally closed contact when the circuit breaker
After opening, the contact opens automatically; when closing, it closes.



Power input

instantaneous current and power consumption of the split-current trip device

model	Pulsating current value (A)	power dissipation (W)
	AC230V	AC230V
HCM5-125	0.46	105.8
HCM5-250	0.46	105.8
HCM5-400	0.26	60
HCM5-630	0.26	60
HCM5-800	0.26	60

The thermal overload alarm does not trip.

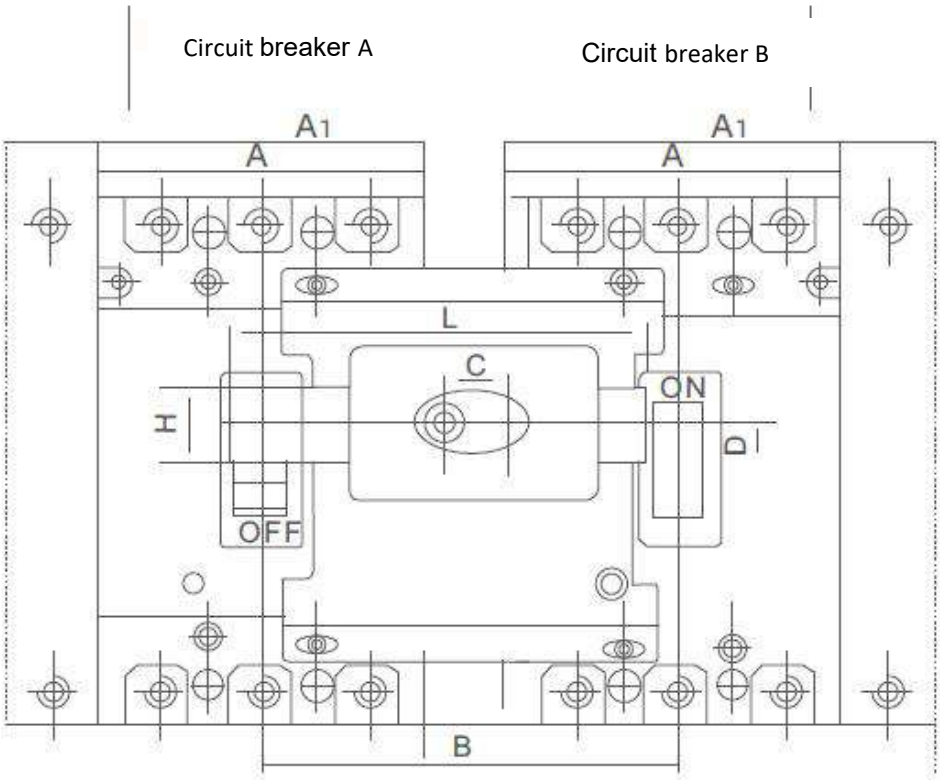
The HCM5 series products feature overload alarm functionality without tripping; the wiring diagram for its alarm switch is shown below:

The circuit breaker is not under overload.	
The circuit breaker is in an overload alarm state.	RB11 and RB12 switch from closed to open state, while RB11 and RB14 switch from open to closed state.

Note: 1. When an overload alarm occurs, the circuit breaker does not trip and the main circuit remains closed.

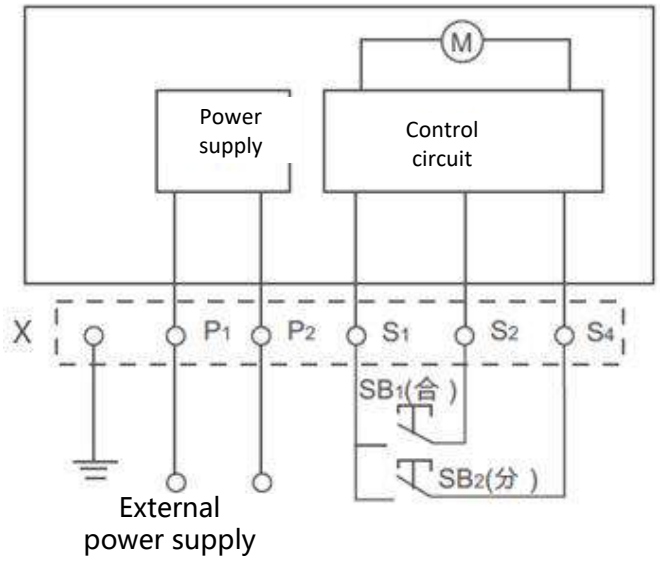
2. Thermomagnetic four-pole circuit breakers with neutral pole types C or D do not possess this function.

Mechanical interlock



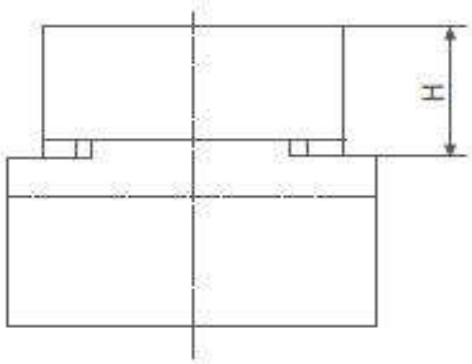
Product model	Number of poles	Outline dimension					
		A	A1	B	C	L	H
HCM5-125 HCM5E-125	3	92	/	120	38	120	22
	4	/	122	152	38	140	22
HCM5-250 HCM5E-250	3	107	/	135	48	138	22
	4	/	142	173	48	174	22
HCM5-400 HCM5E-400	3	150	/	190	58	190.5	28
	4	/	200	181	58	235.5	28
HCM5-630	3	180	/	230	58	241	28
	4	/	240	230	58	293	28
HCM5E-630	3	180	/	230	58	293	28
	4	/	280	280	58	324	28
HCM5-800 HCM5E-800	3	210	/	252	58	251	28
	4	/	280	280	58	324	28

Motor



symbol description：
SB1, SB2: Operation buttons (provided by the user)
X: Terminal strip
P1, P2: External power supply
Voltage specifications: AC 50/60 Hz at 110 V, 230 V, and 400 V;
DC 24V、 110V、 220V

Technical parameters of the electric operating mechanism

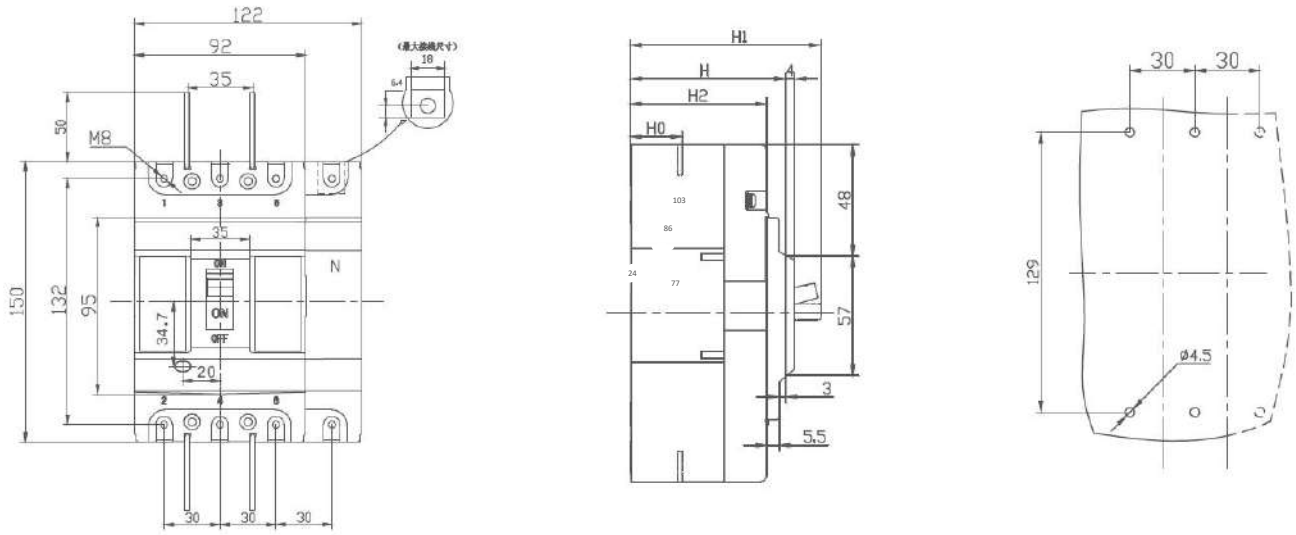


Shack Grade	Action Current (A)	Electric Power (W)	Life Span/次数	Operation mechanism height: H/mm
125 Shell Frame	≤0.5	14	20000	90
250 Shell Frame	≤0.5	14	20000	92
400 Shell Frame	≤2	35	10000	149
630 Shell Frame	≤2	35	10000	147
800 Shell Frame	≤2	35	5000	151

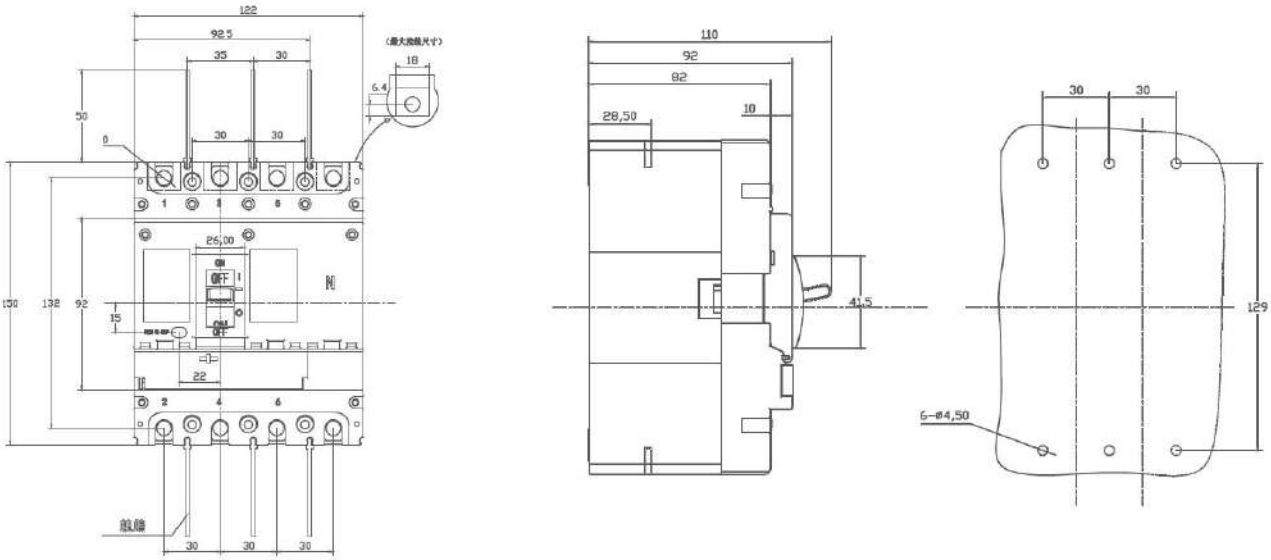
product model	Manual Operation Model	Handle Type	Number of poles	outline dimension			
				H	A	B	C
HCM5-125 HCM5E-125	CS1-125	A/F	3	57	129	30	15
			4				
HCM5-250 HCM5E-250	CS1-250	A/F	3	57	142	35	15
			4				
HCM5-400 HCM5E-400	CS1-400	A/F	3	88	194	137	22
			4	87	194	185	22
HCM5-630	CS1-630	A/F	3	88	200	170	22
			4	90	200	226	22
HCM5E-630	CS1-630	A/F	3	88	194	137	22
			4	90	243	270	24
HCM5-800 HCM5E-800	CS1-800	A/F	3	88	243	198	22
			4	90	243	270	24
HCM5-125 HCM5E-125	CS2-125	A/F	3	/	/	11.5	11.5
			4				
HCM5-250 HCM5E-250	CS2-250	A/F	3	/	/	11.5	11.5
			4				
HCM5-400 HCM5E-400	CS2-400	A/F	3	59	194	137	68
			4	/	/	/	68
HCM5-630	CS2-630	A/F	3	/	/	/	68
			4				
HCM5E-630	CS2-630	A/F	3	/	/	/	68
			4	/	/	/	78
HCM5-800 HCM5E-800	CS2-800	A/F	3	59	243	198	78
			4	/	/	/	78

HCM5-125-3P/4P; HCM5E-125-3P/4P – Appearance, installation dimensions, and wiring configuration

- Front panel wiring (three-pole, four-pole): X-X and Y-Y are located at the center of the three-pole circuit breaker.

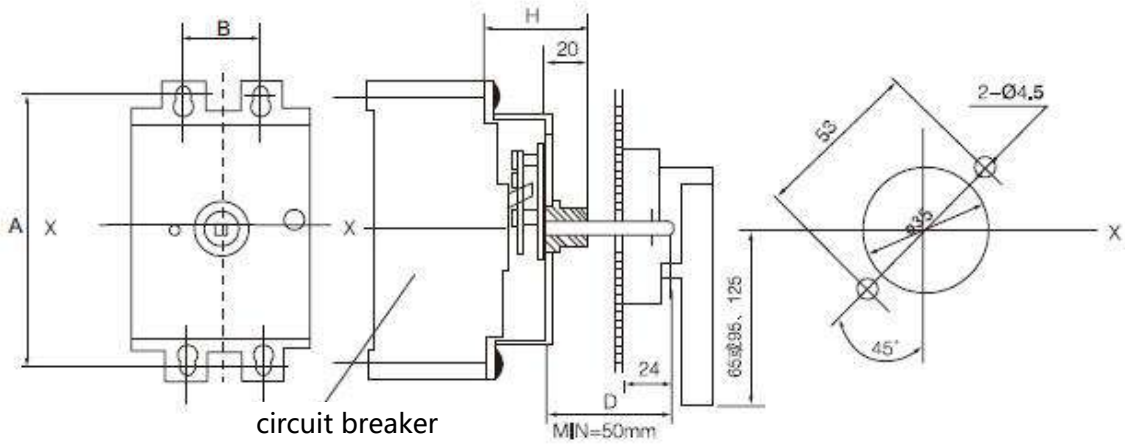


HCM5-125-3P/4P



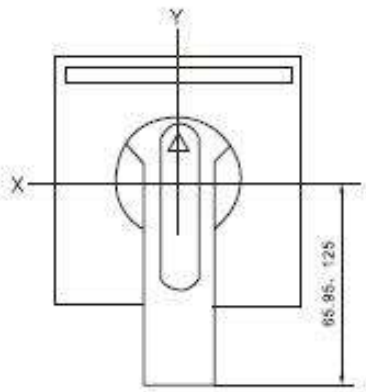
HCM5E-125-3P/4P

Manual

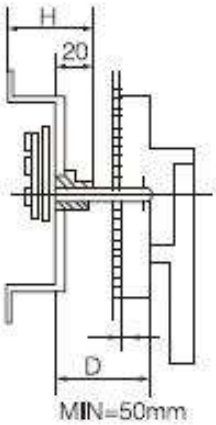


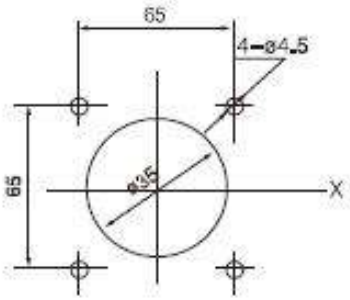
Note: Type A features a circular handle

Schematic diagram of the mounting hole for the CS1-A type handle

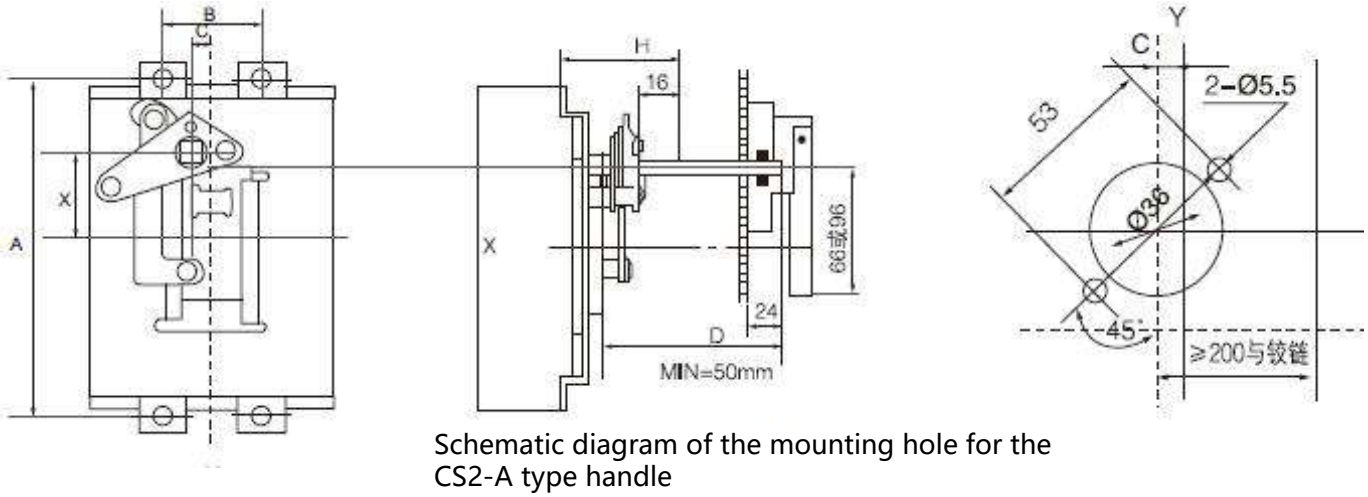


Note: The F type features a square handle

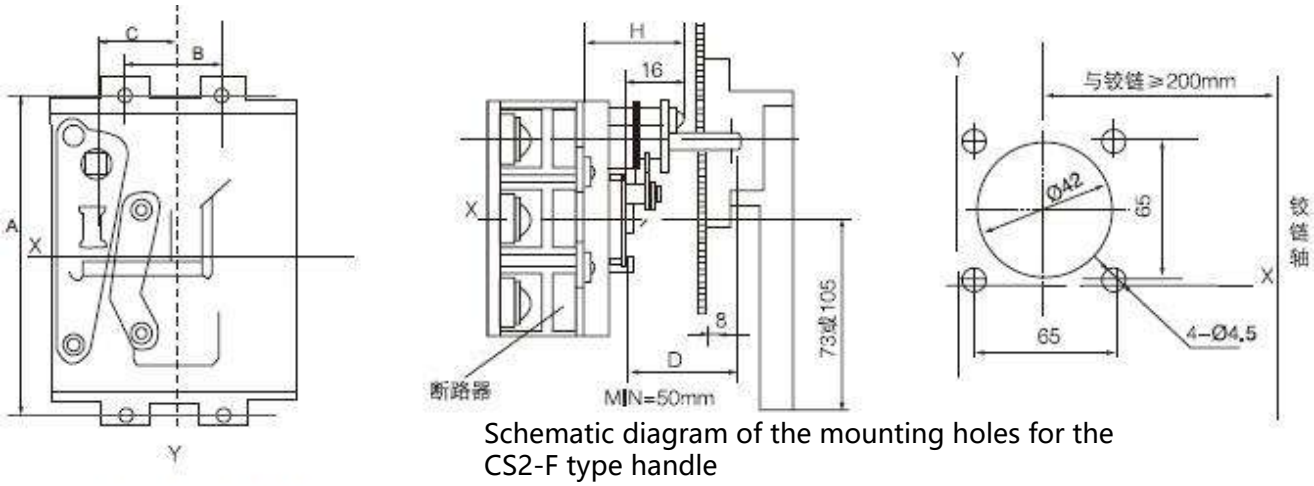




Schematic diagram of the mounting hole for the CS1-F type handle



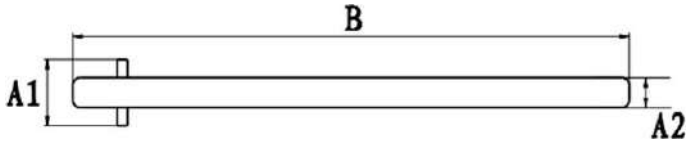
Schematic diagram of the mounting hole for the CS2-A type handle



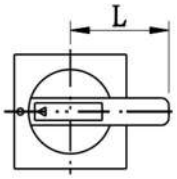
Schematic diagram of the mounting holes for the CS2-F type handle

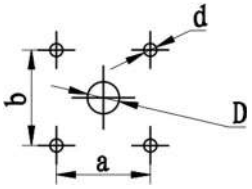
Note: The F type features a square handle

Handheld Device Installation Dimension Diagram

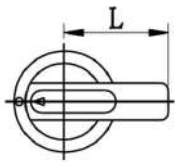


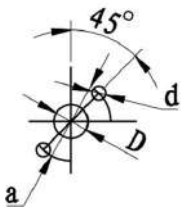
Frame- size rated current (A)	External mounting dimensions of square shaft (mm) A1	A2	B
125、250	18	7.8	150
400、630、800	17.7	9.9	150





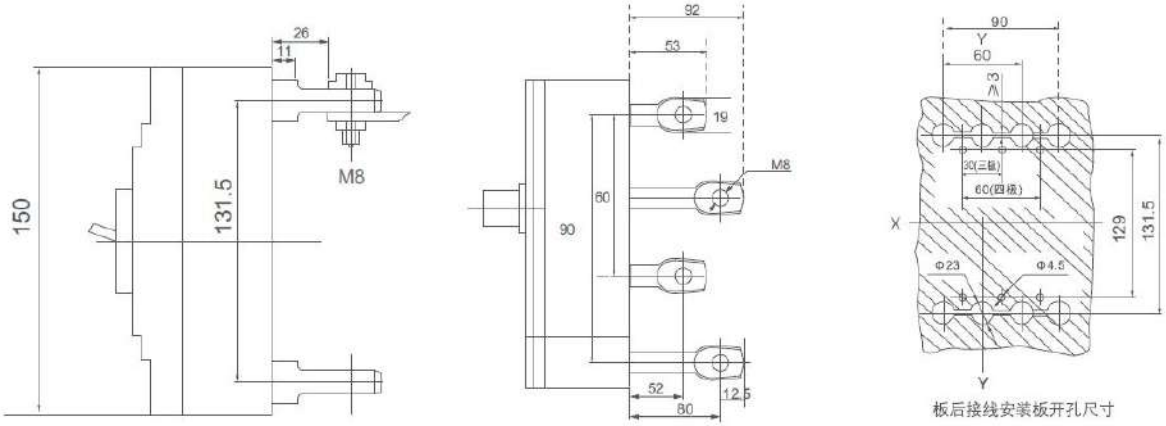
Shackling Grade Current (A)	Installation dimensions for Type A handle shape (mm)				
	D	d	a	b	L
125	⌀ 27	⌀ 4.5	65	65	6 5
250	⌀ 27	⌀ 4.5	65	65	9 5
400、 630、 800	⌀ 27	⌀ 4.5	65	65	12 5



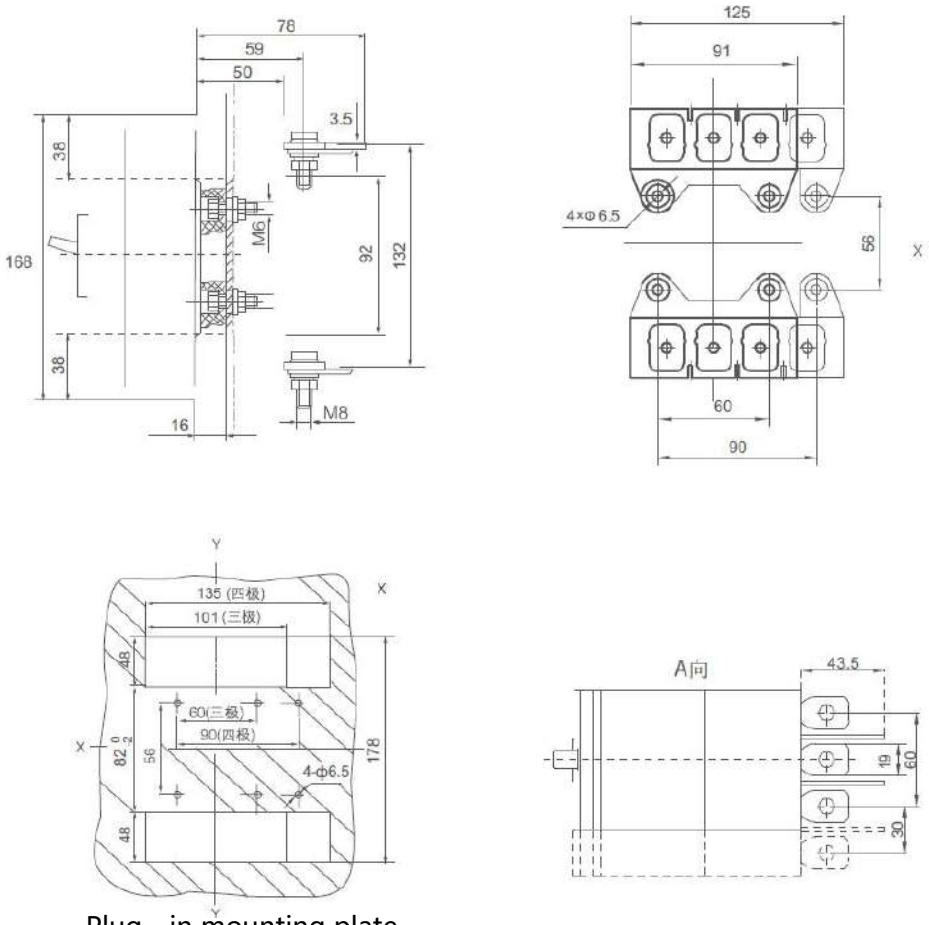


Shell frame rating current (A)	Installation dimensions for the B-type handle shape (mm)			
	D	d	a	L
125	⌀ 27	⌀ 4.5	⌀ 54	65
250	⌀ 27	⌀ 4.5	⌀ 54	95
400、 630、 800	⌀ 27	⌀ 4.5	⌀ 54	125

◆ R: Post-panel wiring (three-pole, four-pole) (X–X and Y–Y are located at the center of the three-pole circuit breaker).



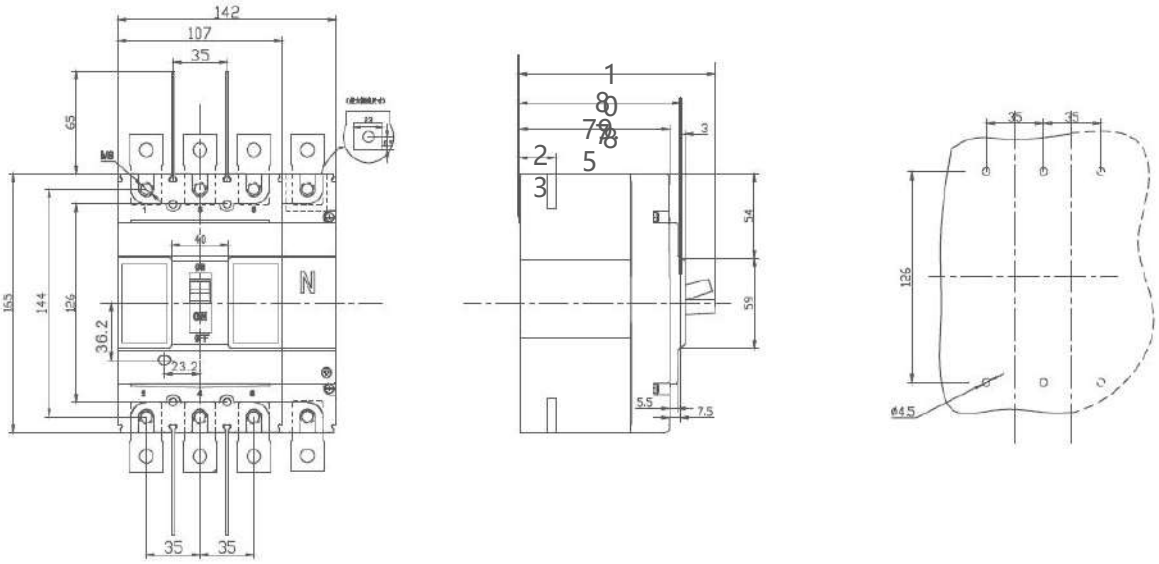
◆ P: Post-installation wiring for insert-type panels (three-phase or four-phase configurations); X–X and Y–Y represent the center points of the three-phase circuit breaker.



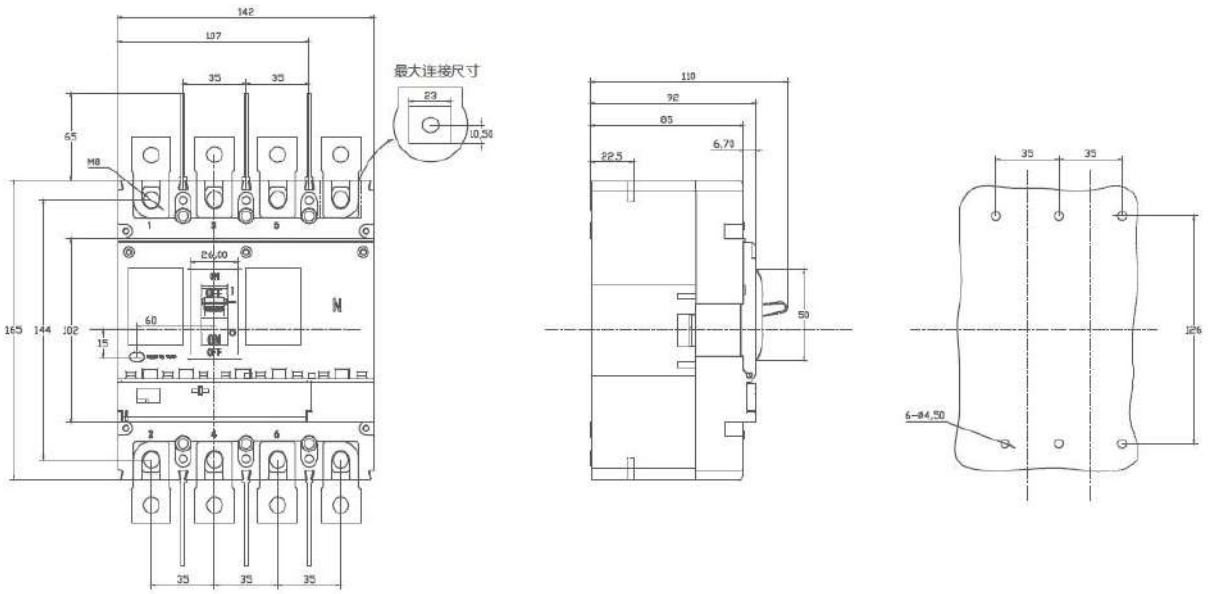
Plug- in mounting plate dimensions

HCM5-250-3P/4P; HCM5E-250-3P/4P – Appearance, installation dimensions, and wiring configuration

◆ Front panel wiring (three-pole, four-pole): X-X and Y-Y represent the center positions of the three-pole circuit breaker.

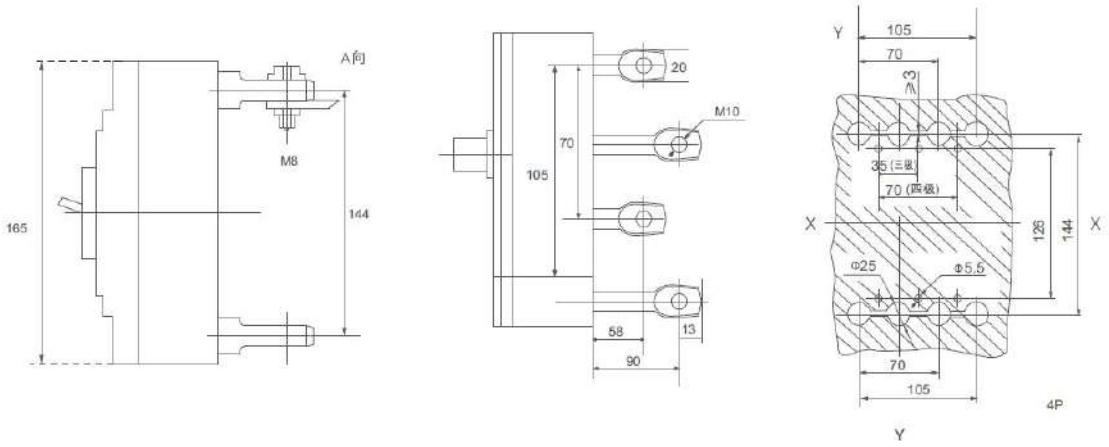


HCM5-250-3P/4P



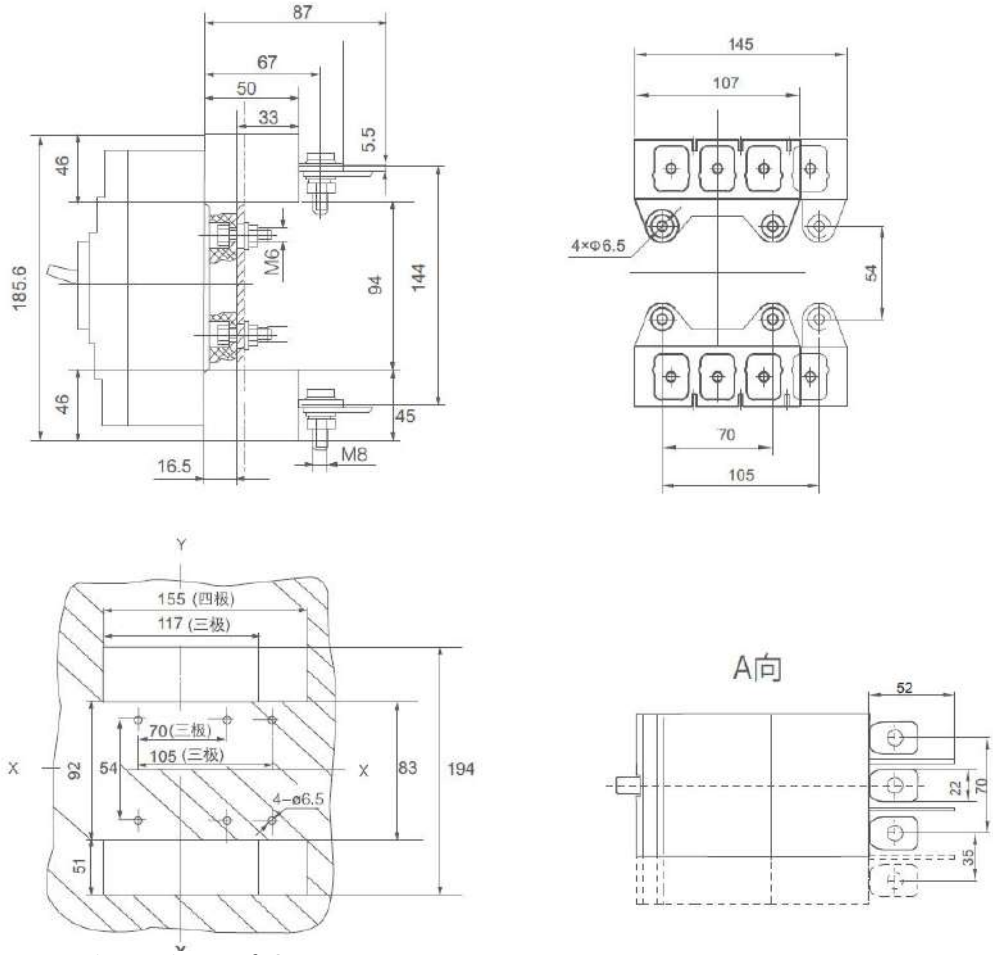
HCM5E-125-3P/4P

◆ R: Post-panel wiring (three-phase, four-phase) (X–X and Y–Y are located at the center of the three-phase circuit breaker).



Opening size of the wiring installation plate behind the panel

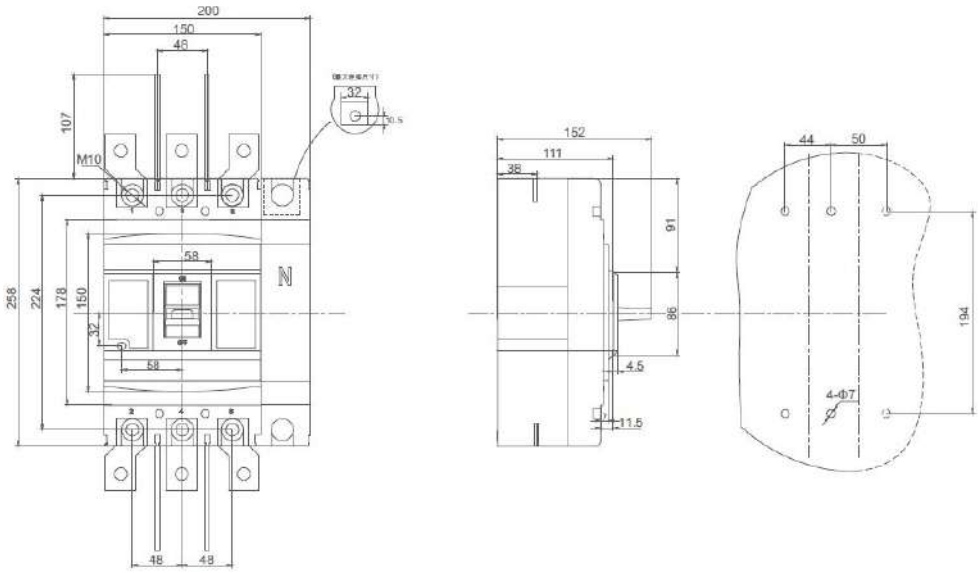
◆ P: Post-installation wiring for insert-type panels (three-phase, four-phase configurations); X–X and Y–Y represent the center points of three-phase circuit breakers.



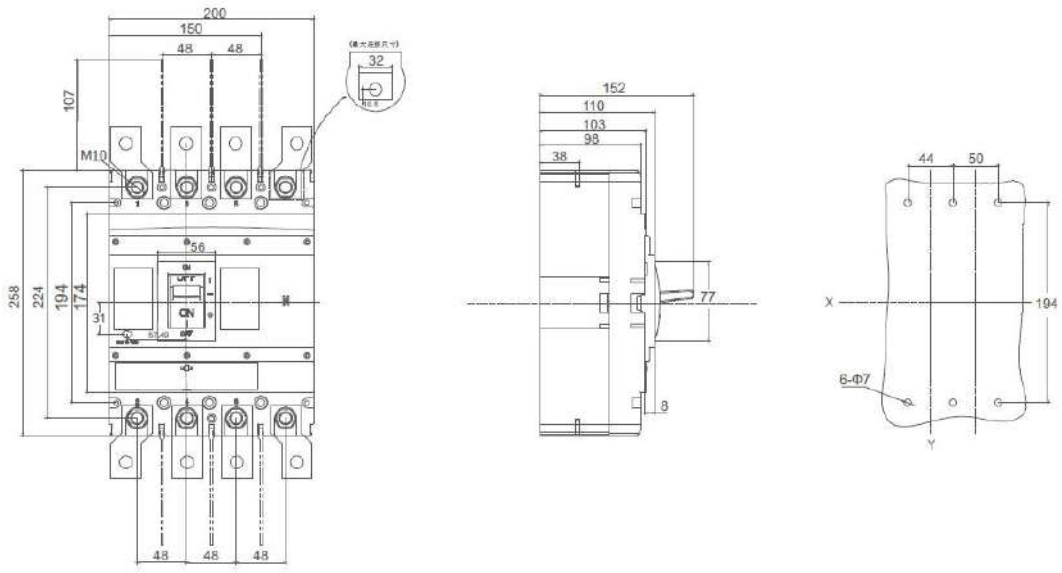
Dimensions of the plug-in mounting plate

HCM5-400-3P/4P; HCM5E-400-3P/4P – Appearance, installation dimensions, and wiring configuration

- Front panel wiring (three-pole, four-pole): X-X and Y-Y are located at the center of the three-pole circuit breaker.

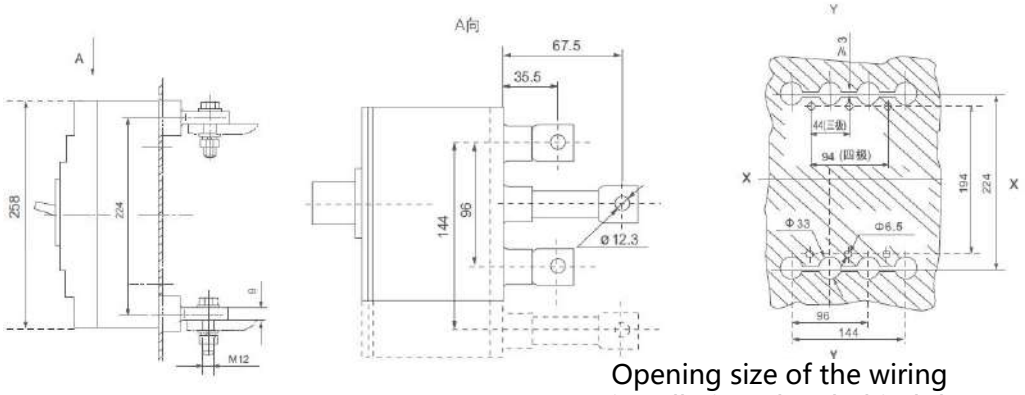


HCM5-400-3P/4P



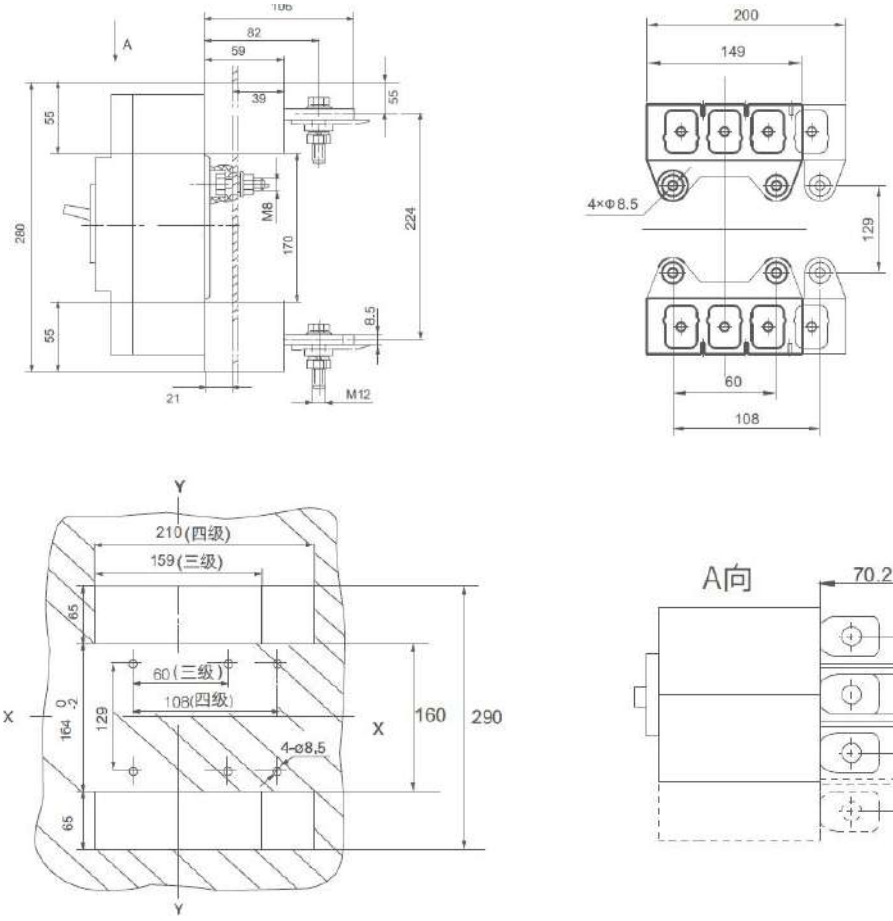
HCM5E-400-3P/4P

◆ R: Post-panel wiring (three-pole, four-pole) (X–X and Y–Y are located at the center of the three-pole circuit breaker).



Opening size of the wiring installation plate behind the panel

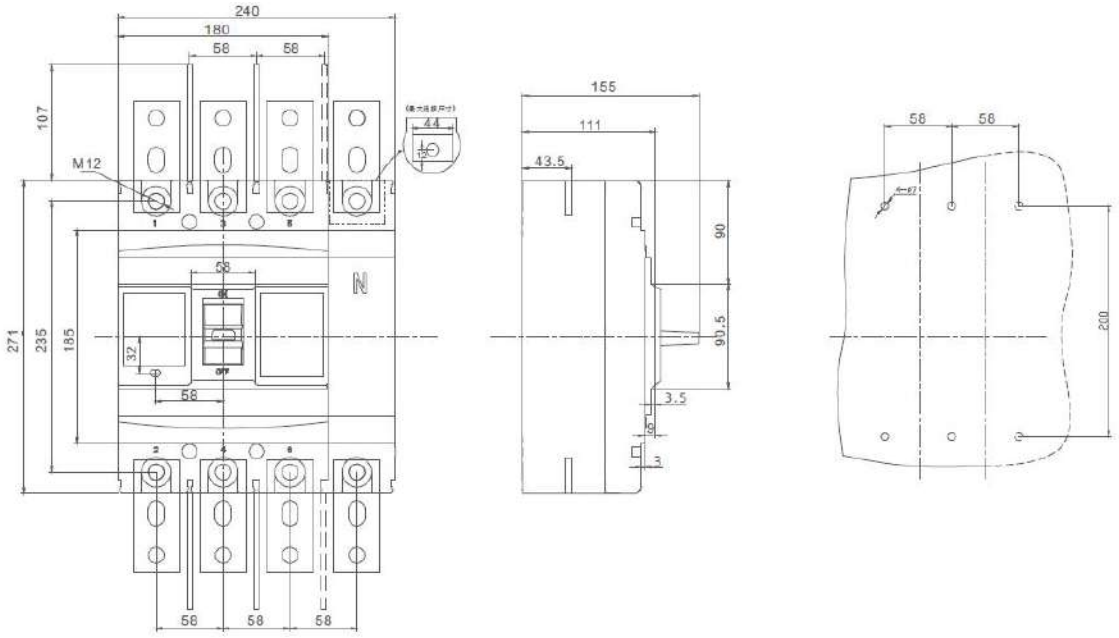
◆ P: Post-installation wiring for insert-type panels (three-phase or four-phase configurations); X–X and Y–Y represent the center points of the three-phase circuit breaker.



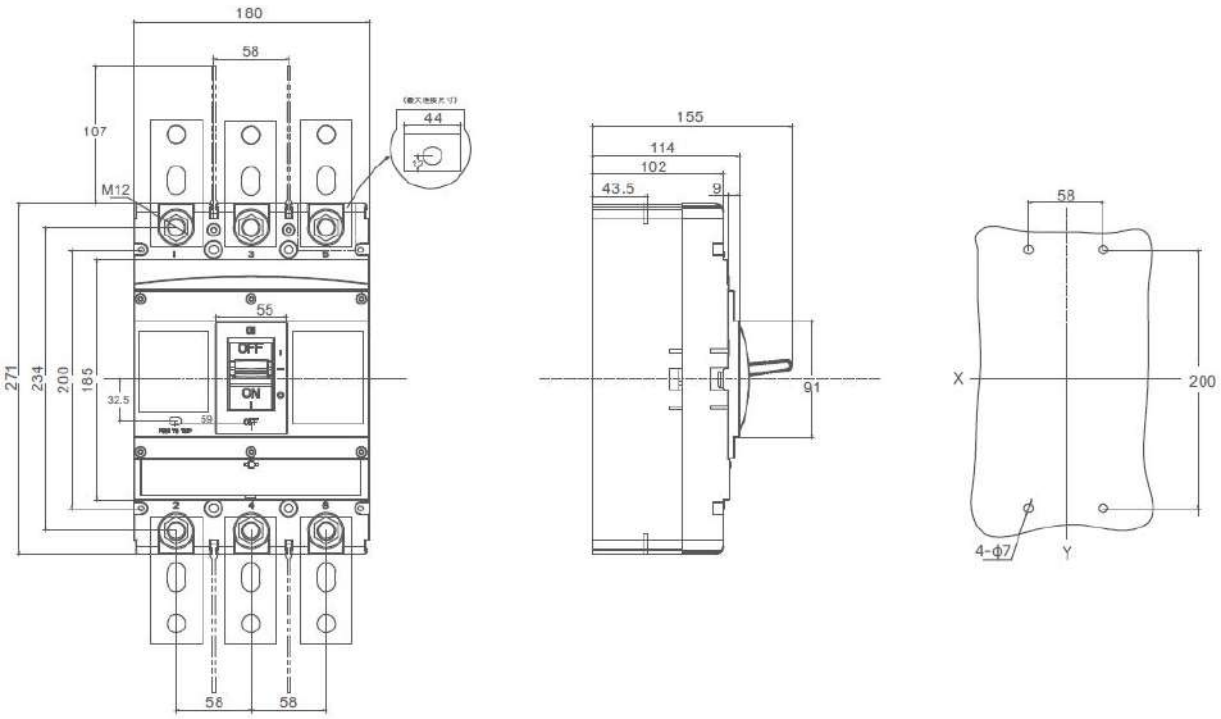
Dimensions of the plug-in mounting plate

HCM5-630-3P/4P; HCM5E-630-3P – Appearance, installation dimensions, and wiring configuration

- Front panel wiring (three-pole, four-pole): X-X and Y-Y are located at the center of the three-pole circuit breaker.

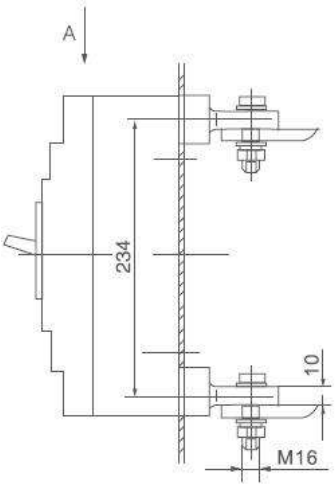


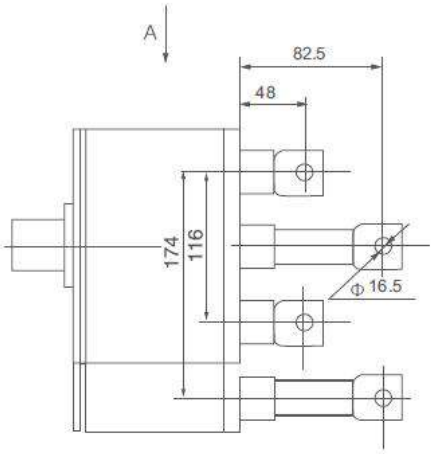
HCM5-630-3P/4P

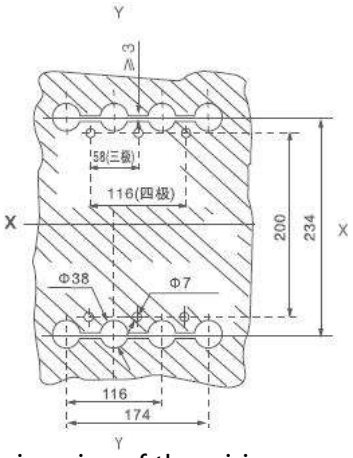


HCM5E-630-3P

◆ R: Post-panel wiring (three-pole, four-pole) (X–X and Y–Y are located at the center of the three-pole circuit breaker).

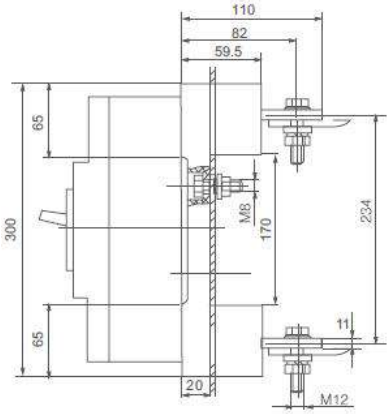


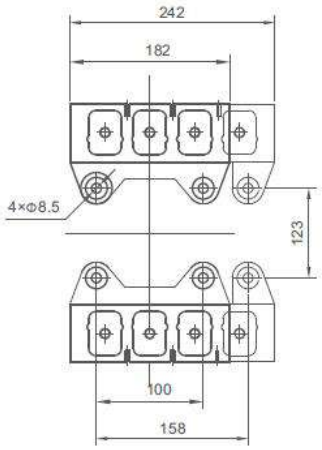


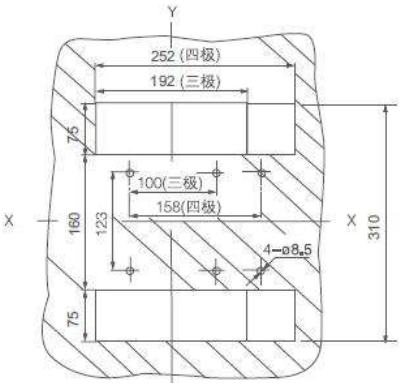


Opening size of the wiring installation plate behind the panel

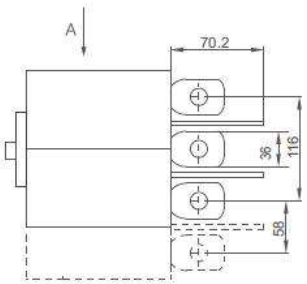
◆ P: Post-installation wiring for insert-type panels (three-phase, four-phase configurations; X–X and Y–Y lines indicate the center of the three-phase circuit breaker).





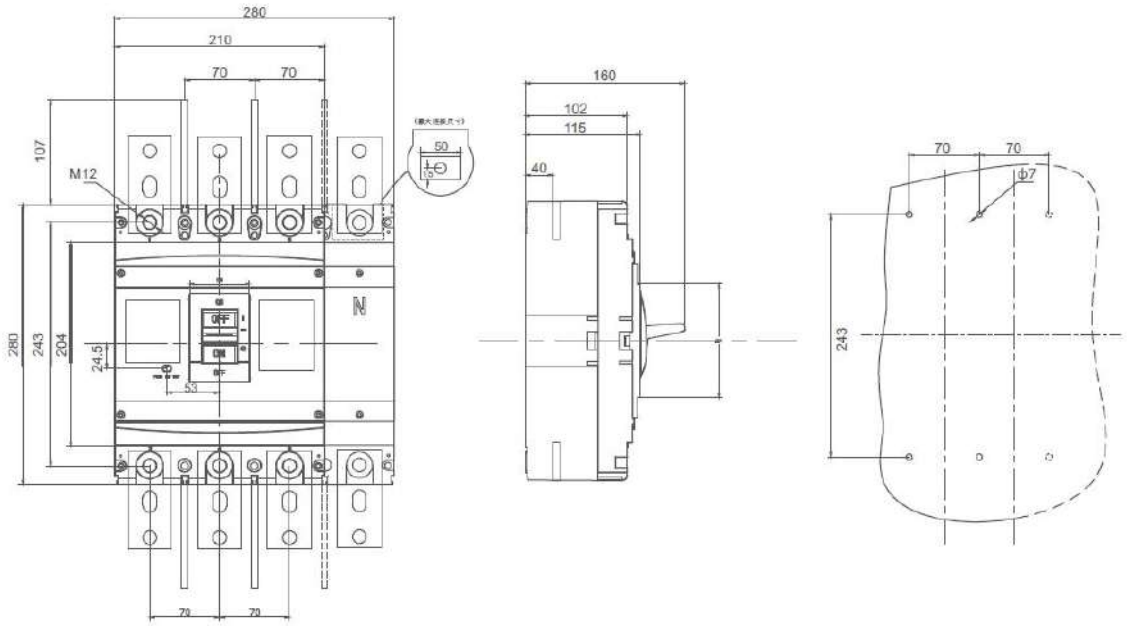


Dimensions of the plug-in mounting plate

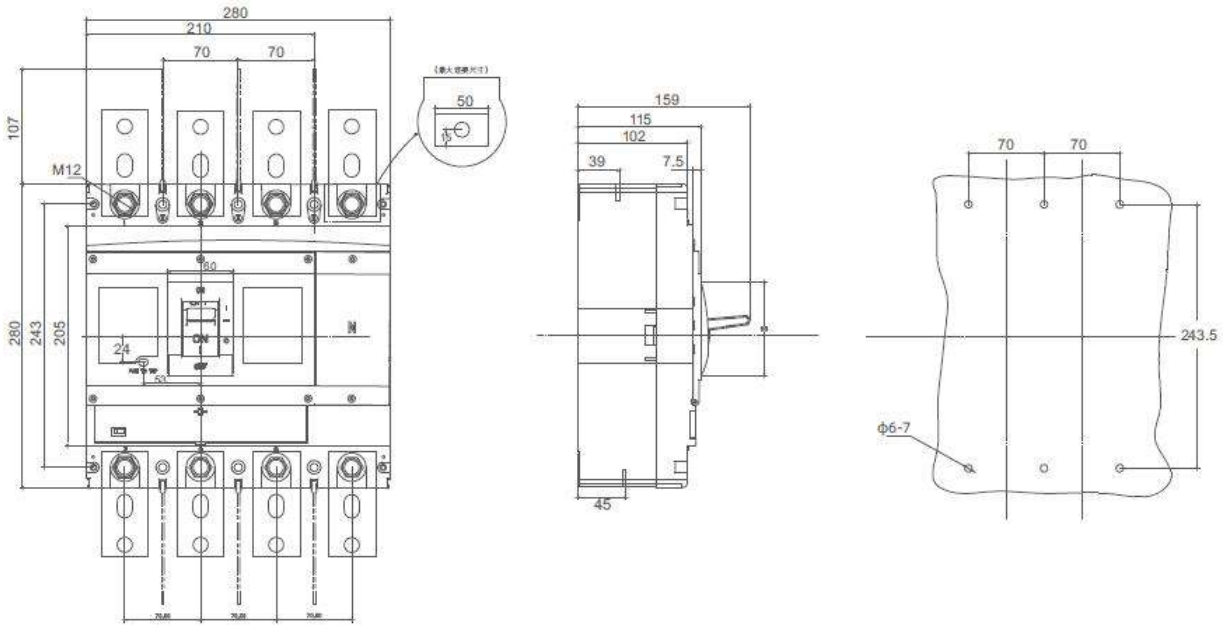


HCM5-800-3P/4P; HCM5E-630-4P, HCM5E-800-3P/4P – Appearance, installation dimensions, and wiring configuration

◆ Front panel wiring (three-pole, four-pole): X-X and Y-Y are located at the center of the three-pole circuit breaker.

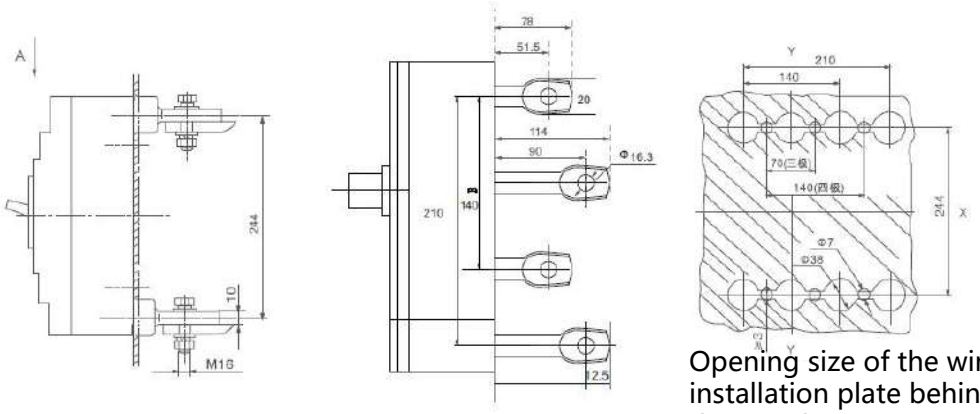


HCM5-800-3P/4P



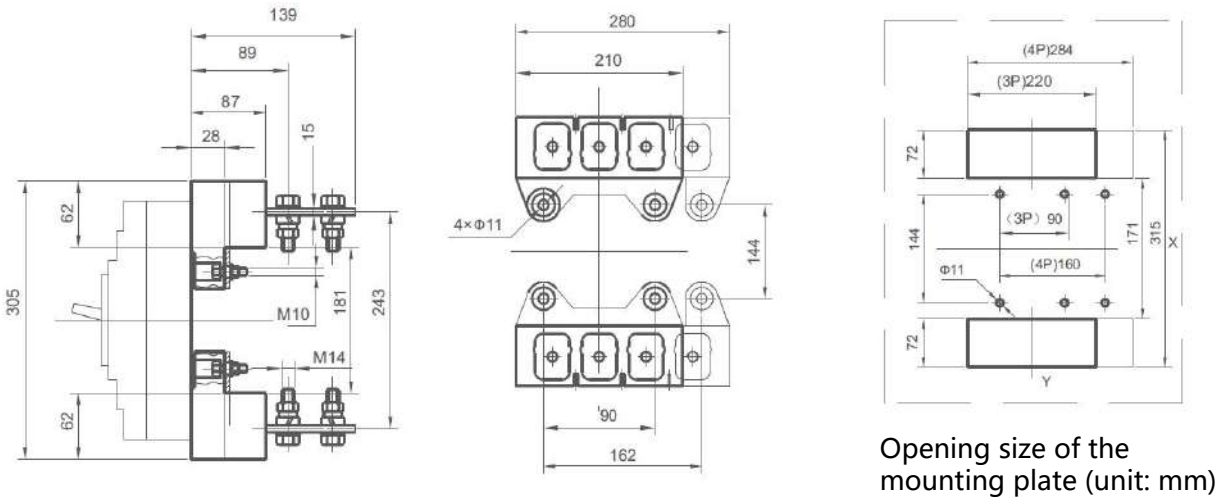
HCM5E-630-4P，HCM5E-800-3P/4P

◆ R: Post-panel wiring (three-pole, four-pole) (X–X and Y–Y are located at the center of the three-pole circuit breaker).



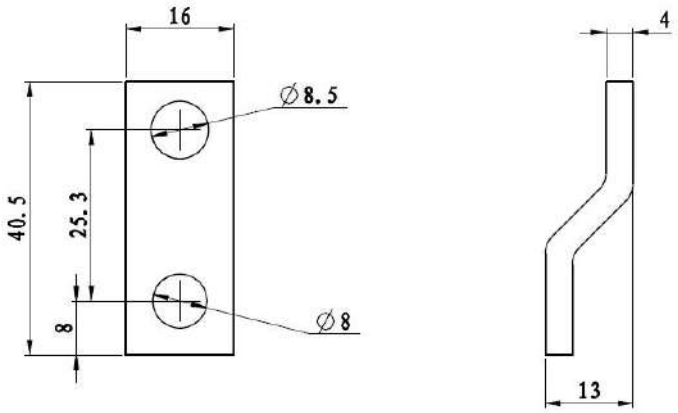
Opening size of the wiring installation plate behind the panel

◆ P: Post-installation wiring for insert-type panels (three-phase or four-phase configurations); X–X and Y–Y represent the center points of the three-phase circuit breaker.

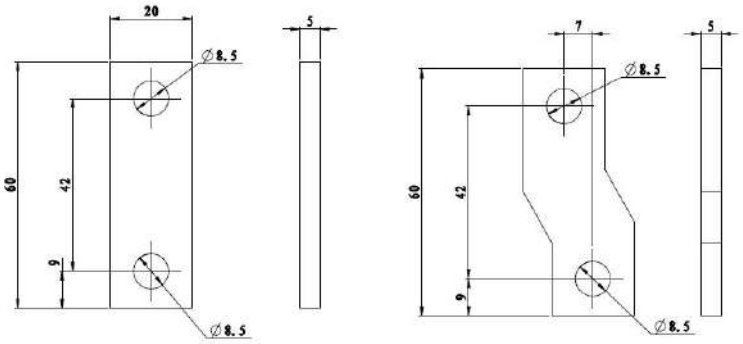


Opening size of the mounting plate (unit: mm)

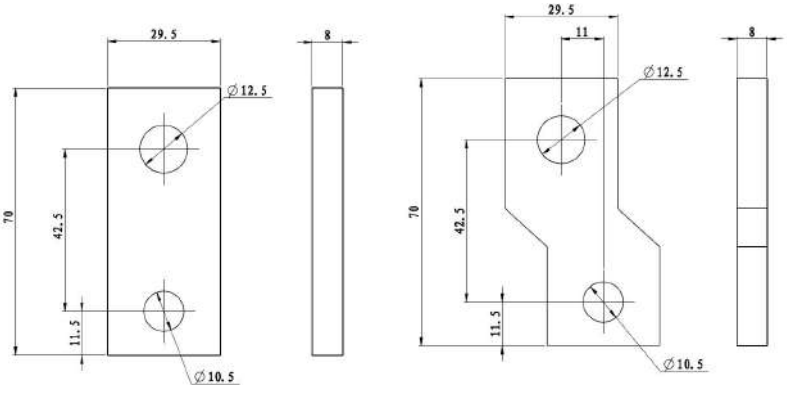
Extended terminal block



125 Shell Frame

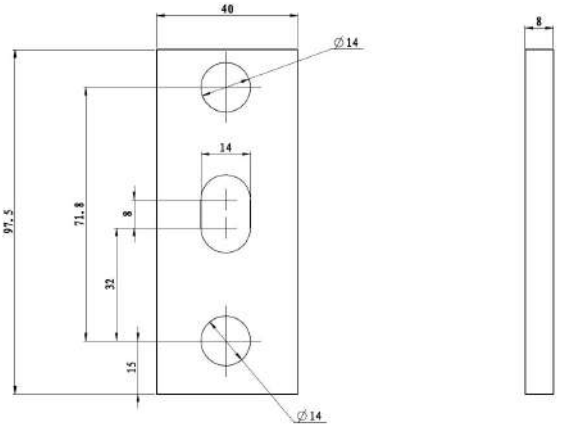


250 Shell Frame

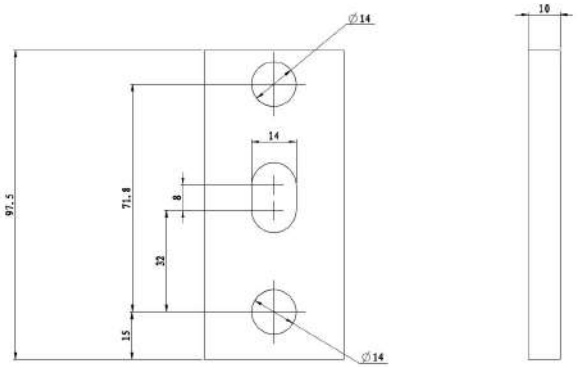


400 Shell Frame

Order Specifications					
Order Unit Name		Order Date		amount on order	
model	□ HCM5 □ HCM5E	□ 3P rated current: _____ A □ 4P			
Shack Grade	□125 Shell Frame, □250 Shell Frame, □400 Shell Frame, □630 Shell Frame, □800 Shell Frame				
Fracture Capacity Level	□ L (Standard type), □ M (Highly fragmented type), □ H (Highly fragmented type)				
Quadrupole Product: N-Type Polarization	□ Type A: No overcurrent trip device is installed on the N terminal, and the N terminal remains continuously connected				
	□ Type B: No overcurrent trip device is installed on the N terminal, and the N terminal closes/disses with other three-phase terminals (default)				
	□ Type C: An overcurrent trip device is installed on the N terminal, and the N terminal closes or opens together with the other three terminals.				
	□ Type D: The N terminal is equipped with an overcurrent trip element and remains continuously connected.				
product use	□ Power distribution protection; □ Motor protection				
Tripping Method	Thermagnetic: □ No trip device, □ Only instantaneous trip device, □ Thermagnetic trip device (default)				
	Electronics: □ Standard Basic Type (Default), □ Standard Basic Type, □ Communication Basic Type, □ Communication Grounded Type				
mode of operation	Direct controller operation (default) Electrical Control Mechanism: □ AC230V, □ AC400V, □ DC24V Hand-operated mechanism: □ CS1 center, □ CS2 eccentric, □ F-square handle, □ A-round handle Wiring terminals: □ None (default); □ JBC; □ JGC Connection Order: □ None (Default); □ Add Mechanical Interlock: □ None (default); □ Add Base for front wiring rail installation: □ None (default); □ Add				
mode of connection	□ Fixed front panel (default), □ Fixed rear panel, □ Insertable front panel, □ Insertable rear panel □ Drawer-type (The 125 shell rack does not have a drawer type)				
appendix	□ Auxiliary contact, □ Alarm contact, □ Split-excitation trip unit, □ Undervoltage trip unit				
	□ Dual auxiliary contacts, □ Single auxiliary alarm contact, □ Dual auxiliary alarm contacts				
shunt release	□AC230V, □AC380V/400V, □ DC220V, □ DC24V				
Undervoltage Trip Device	□AC230V, □AC380V/400V, □DC220V, □ DC24V				
Extended Handle	□ None (default); □ Add				



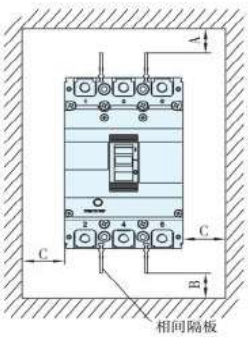
630 Shell Frame



800 Shell Frame

Safe installation distance for circuit breakers

Minimum distance between the circuit breaker and the top or side panels



Shack Grade	A/mm		B/mm	C/mm
	Without a zero-degree arc shield	Zero-flight arc shield with zero tolerance		
125 Shell Frame	10	0	0	25
250 Shell Frame	10	0	0	25
400 Shell Frame	10	0	0	25
630 Shell Frame	10	0	0	25
800 Shell Frame	10	0	0	25

HIITIO®

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