



# ***iALM7 Series***

*AC/DC High Voltage  
Moulded Case Circuit Breaker*

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**ZHEJIANG  
WOWEI ELECTRIC CO., LTD.**

**iALLway**



Zhejiang Wowe Electric Co., LTD., is "Zhejiang Province science and technology enterprise", located in building C, Yue Shang Innovation Park, Yueqing Economic Development Zone, Zhejiang Province.

The company R & D, production and sales of low-voltage (circuit breaker) series of products, specializing in the production of residual current action circuit breaker, plastic shell type circuit breaker, electronic circuit breaker, intelligent frame circuit breaker, leakage circuit breaker series. The products comply with GB/T14048.2 standard, IEC60947-2 standard, and have obtained ISO9001 quality management system certification, ISO14001 environmental system certification, OHSAS18001 occupational health and safety management system, national mandatory product CCC certification, CQC voluntary certification and CE certification.

Wowe people in the spirit of concentric map governance, pragmatic and innovative spirit, respect, dedication, integrity, passion values, "people-oriented" enterprise development strategy, with a good environment to attract talents, to the cause of the development of talent.

We will be led by the idea of endless rivers and continuous progress, to provide high-quality products and services for domestic and foreign users, and to provide high-quality low-voltage distribution products for intelligent power grids.

**iALLway's spirit**

Concentric, pragmatic and innovative

**iALLway's mission:**

To make electricity use safer

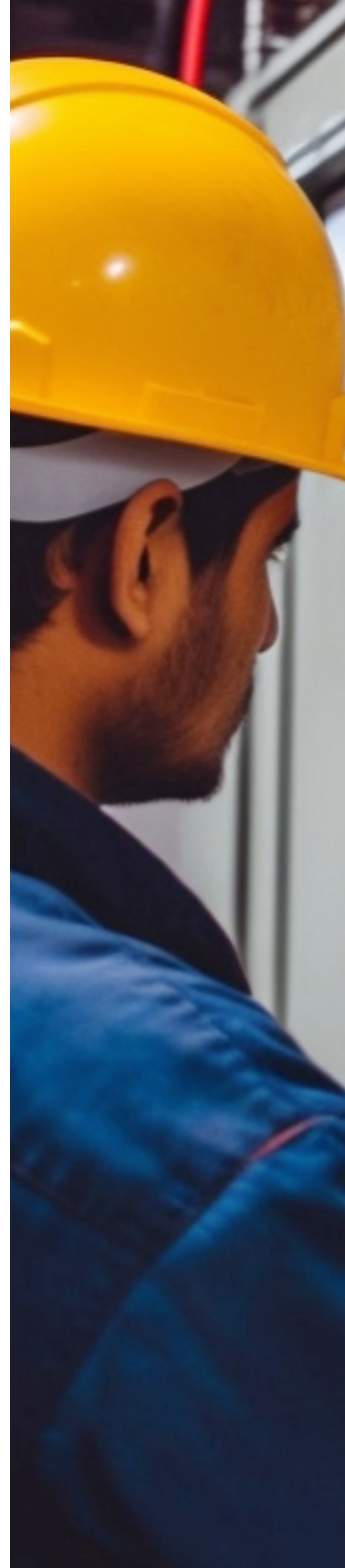
**iALLway's values**

Respect, dedication, team, integrity and passion

**ZHEJIANG  
WOWEI ELECTRIC CO., LTD.**

*About us*

*Coop  
Innov*







*eration Win-win  
rative Development*







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## iALM7 Series AC/DC High Voltage Moulded Case Circuit Breaker



### Function Introduction

Through many years of dedicated research on the actual system operation situation and customer needs of new energy at home and abroad, SHILONG Electric has developed the iALM7HU/DC series of AC and DC Moulded Circuit Breaker for New Energy.

#### Product Characteristic

- iALM7HU series Moulded Circuit Breaker, The maximum rated voltage is AC 1140V, and the maximum current is 800A.
- iALM7HU series Moulded Circuit Breaker, in the voltage of AC 800V, the maximum breaking capacity is 50kA, which can ensure reliable short-circuit protection of the system.
- iALM7DC series Moulded Circuit Breaker, The maximum rated voltage is AC 1500V, and the maximum current is 800A.
- iALM7DC series Moulded Circuit Breaker, in the voltage of DC 1500V, the maximum breaking capacity is 20kA, which can ensure reliable short-circuit protection of the system.

### Standard

iALM7HU/DC series AC/DC Moulded case circuit breakers meet the following standards  
IEC 60947-1 GB/T14048.1 General Provisions  
IEC 60947-2 GB/T14048.2 Circuit Breaker

### Use and Maintenance

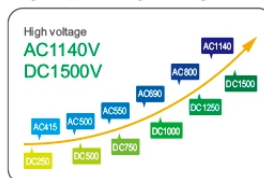
Various characteristics and accessories of the circuit breaker shall be fixed by the manufacturer and shall not be adjusted in the use. Under the compliance with custody and use conditions, from the date of 24 months from the manufacturer delivery and in the situation of the circuit breaker intact seals, if the product is damaged or not used normally due to manufacturing quality problems, the manufacturer shall be responsible for replacement and repair without charge.

### Applied Environment

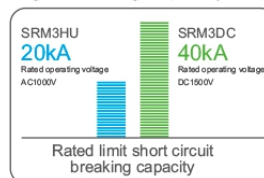
1. The altitude is not higher than 5500 m;
2. It is resistant to damp air (three-proof type)
3. It is resistant to the influence of salt fog and oil fog (three - proof type);
4. It is resistant to the influence of mold (three - proof type);
5. In a medium without explosion risk, and the medium is not enough to corrode the metal and destroy the insulation of the gas and conductive dust.

Note: The three-prevention products should be specially customized, please indicate TH.

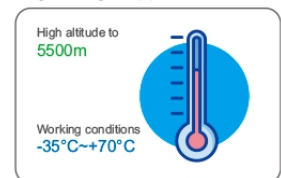
#### High operating voltage



#### High breaking capacity



#### High range applications





## iALM7 Series AC/DC High Voltage Moulded Case Circuit Breaker



### Model preparation meaning

iAL	M	7	DC	-	250	H-R	/	3	300	D	DC1500V	200A
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪		

Code name	Meaning
①	WOWEI
②	Moulded Case
③	Design No.
④	HU-AC, DC-DC
⑤	Shell frame gradecurrent 250, 320, 400, 630, 800
⑥	Rated short-circuit breaking capacity rating H: high speed breaker R: current limiting type
⑦	Phase No.
⑧	Stripper mode and attachment code (see Table)
⑨	External accessories D: Auto operation Z: Manual operation
⑩	Rated voltage AC415V, AC550V, AC690V, AC800V, AC1000V, AC1140V DC250V, DC500V, DC750V, DC1000V, DC1250V, DC1500V
⑪	Rated current: 20~800A

### Class

According to operation mode:



1. Direct operation
2. Electric operator mechanism operation
3. Rotary handle operation

According to the protection form:

1. Line protection
2. Line isolation

## iALM7HU Series AC High Voltage Molded Case Circuit Breaker


### Main technical parameter

Appearance									
Model		iALM7HU-320				iALM7HU-400			
Rated current of shell frame grade Inm(A)		320				400			
Rated current In(A)		20, 32, 63, 80, 100, 125, 140, 160, 180, 200, 225, 250, 280, 315, 320				250, 280, 300, 315, 350, 400			
Pole Number		3				3			
Rated working voltage Ue (V)AC		415	500/690	800	1000/1140	415	500/690	800	1000/1140
Rated insulation voltage Ui (V)		1150				1150			
Rated impulse withstand voltage Uimp (kV)		8				12			
Extreme short-circuit breaking capacity Icu (kA)	H Type	85	50	36.5	15	85	50	36.5	10
	R Type	/	/	/	/	100	60	50	15
Extreme short-circuit breaking capacity Ics (kA)		Ics=100%Icu							
Mechanical life (Total times)		20000				20000			
Electrical life (Total times)		3000	3000	3000	2000	3000	3000	3000	2000
Insolation feature		Yes							
Standard		IEC 60947-2, GB/T 14048.2							
Allowable ambient temperature		-35~+70°C							
Levels of protection		IP20							
Quality certificate		CE、TUV certificate							
With accessories		Auxiliary, alarm, off load, Hand operation, Electric operation							
Arcing distance (mm)		≤50 (Zero arc, with arcing cover)							
Transient Action value		10In							
Overall dimension's L×W×H(mm)	L	180				250			
	W	107				182			
	H	126				165			

Note: 320 shell frame is not divided into H: high breaking, R: current limiting type.





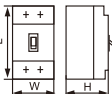
**iALM7HU Series AC/DC High Voltage Molded Case Circuit Breaker**

Appearance									
Model		iALM7HU-630				iALM7HU-800			
Rated current of shell frame grade Inm(A)		630				800			
Rated current In(A)		500 630				700 800			
Pole Number		3				3			
Rated working voltage Ue (V)AC		415	500/690	800	1000/1140	415	500/690	800	1000/1140
Rated insulation voltage Ui (V)		1150				1150			
Rated impulse withstand voltage Uimp (kV)		12				12			
Extreme short-circuit breaking capacity Icu (kA)	H Type	85	50	36.5	10	85	50	36.5	10
	R Type	100	60	50	15	100	60	50	15
Extreme short-circuit breaking capacity Ics (kA)		Ics=100%Icu							
Mechanical life (Total times)		5000				5000			
Electrical life (Total times)		1000	1000	1000	700	1000	1000	1000	700
Insolation feature		Yes							
Standard		IEC 60947-2, GB/T 14048.2							
Allowable ambient temperature		-35~+70°C							
Levels of protection		IP20							
Quality certificate		CE、TUV certificate							
With accessories		Auxiliary, alarm, off load, Hand operation, Electric operation							
Arcing distance (mm)		≤50 (Zero arc, with arcing cover)							
Transient Action value		10In							
Overall dimension's L×W×H(mm)	L	250				250			
	W	182				182			
	H	165				165			

Note: 320 shell frame is not divided into H: high breaking, R: current limiting type.

## iALM7DC Series DC High Voltage Molded Case Circuit Breaker



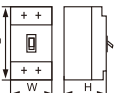
### Main technical parameter

Appearance								
Model		iALM7-320			iALM7-400			
Rated current of shell frame grade Inm(A)		320			400			
Rated current In(A)		20, 32, 63, 80, 100, 125, 140, 160, 180, 200, 225, 250, 280, 315, 320			225, 250, 315, 350, 400			
Pole Number		2		3	2		3	
Rated working voltage Ue (V)AC		500	1000	1500	415	500/690	800	1000/1140
Rated insulation voltage Ui (V)		1250		1500	1150			
Rated impulse withstand voltage Uimp (kV)		8		12	12			
Extreme short-circuit breaking capacity Icu (kA)	H Type	50	20	20	65	35	15	15① 20②
	R Type	/	/	/	70	40	20	20① 25②
Running short-circuit breaking capacity Ics (kA)	H Type	Ics=100%Icu						
	R Type							
Wiring mode		Up incoming and Down outcoming, Down incoming and Up outcoming (2P, 320/3P) Down incoming and Down outcoming, Up incoming and Up outcoming (3P)						
Mechanical life (Total times)		20000			20000			
Electrical life (Total times)		3000	2000	1500	1000	1000	700	500
Insolation feature		Yes						
Standard		IEC 60947-2, GB/T 14048.2						
Allowable ambient temperature		-35~+70°C						
Levels of protection		IP20						
Quality certificate		CE、TUV certificate						
With accessories		Auxiliary, alarm, off load, Hand operation, Electric operation						
Arcing distance (mm)		≤50 (Zero arc, with arcing cover)						
Transient Action value		10In						
Overall dimensions L×W×H(mm)		L	180	180	250		250	
		W	76	107	124		182	
		H	126	126	165		165	

Note: 320 shell frame is not divided into H: high breaking, R: current limiting type.



## iALM7DC Series DC High Voltage Molded Case Circuit Breaker

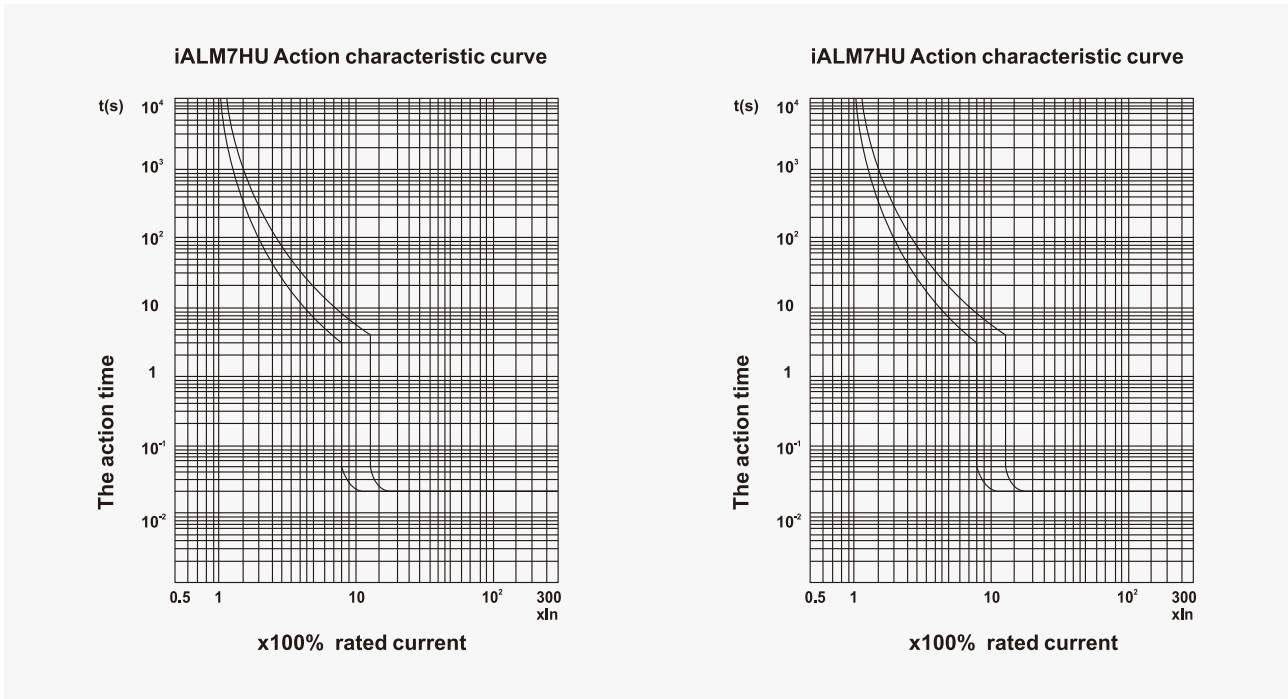
Appearance									
Model		iALM7DC-630				iALM7DC-800			
Rated current of shell frame grade Inm(A)		630				800			
Rated current In(A)		500 630				700 800			
Pole Number		2		3		2		3	
Rated working voltage Ue (V)AC		250/500	750/1000	1250/1500	1250/1500	250/500	750/1000	1250/1500	1250/1500
Rated insulation voltage Ui (V)		1500				1500			
Rated impulse withstand voltage Uimp (kV)		12				12			
Extreme short-circuit breaking capacity Icu(kA)	H Type	65	35	15	15① 20②	65	35	15	15① 20②
	R Type	70	40	20	20① 25②	70	40	20	20① 25②
Running short-circuit breaking capacity Ics (kA)	H Type	Ics=100%Icu							
	R Type								
Wiring mode		Up incoming and Down outcoming, Down incoming and Up outcoming (2P, 320/3P) Down incoming and Down outcoming, Up incoming and Up outcoming (3P)							
Mechanical life (Total times)		5000							
Electrical life (Total times)		1000	1000	700	500	1000	1000	700	500
Insolation feature		Yes							
Standard		IEC 60947-2, GB/T 14048.2							
Allowable ambient temperature		-35~+70°C							
Levels of protection		IP20							
Quality certificate		CE、TUV certificate							
With accessories		Auxiliary, alarm, off load, Hand operation, Electric operation							
Arcing distance (mm)		≤50 (Zero arc, with arcing cover)							
Transient Action value		10In							
Overall dimensions L×W×H(mm)		L	250		250	250		250	
		W	124		182	124		182	
		H	165		165	165		165	

Note: 320 shell frame is not divided into H: high breaking, R: current limiting type.

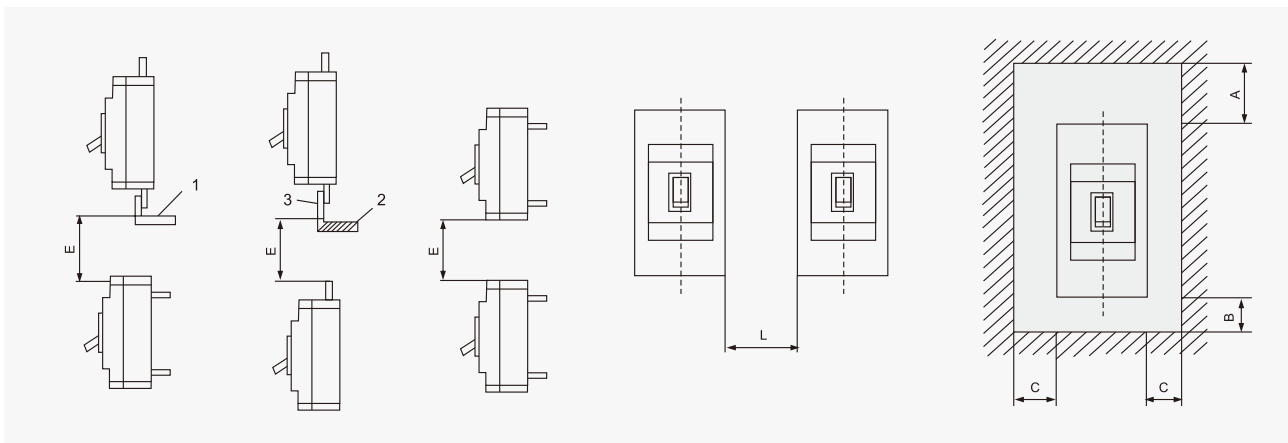
## iALM7 Series AC/DC High Voltage Molded Case Circuit Breaker

### Action characteristic curve of the circuit breaker

Action characteristic curve



### Safe distance during circuit breaker installation



Type	L	A		B	C	E	
		Without zero arcing cover	With zero arcing cover			Without zero arcing cover	With zero arcing cover
iALM7-320	40	50	65	25	25	50	130
iALM7-400	70	100	65	25	25	100	130
iALM7-630		100	65	25	25	100	130
iALM7-800		100	65	25	25	100	130

In above picture, there is 1. No insulated links 2. Insulated wires 3. Cable terminals



## iALM7 Series DC High Voltage Molded Case Circuit Breaker

### Release way and accessory code

**300: delay protection + instantaneous protection**



Accessory code	Accessory name	iALM7HU-250/320	iALM7HU-400/630/800	iALM7DC-250/320	iALM7DC-400/630/800
300	Without inner accessory	—	—	—	—
308	Alarm Contact	← □	← □	← □	← □
310	Shunt release	← ●	← ●	← ●	← ●
320	Auxiliary contact (1NO1NC)	← ■	← ■	← ■	← ■
302	Auxiliary contact (2NO2NC)	—	← ■ ■	—	← ■ ■
330	Under voltage releas	—	—	—	—
340	Shunt release + Auxiliary contact (1NO1NC)	← ● ■	← ● ■	← ● ■	← ● ■
312	Shunt release + Auxiliary contact (2NO2NC)	—	—	—	—
350	Shunt Release + Under voltage contact	—	—	—	—
360	Group 2 auxiliary contact (2NO2NC)	← ■ ■	—	← ■ ■	—
322	Group 2 auxiliary contact (3NO3NC)	—	—	—	—
323	Group 2 auxiliary contact (4NO4NC)	—	—	—	—
370	Under Voltage Release + Auxiliary contact (1NO1NC)	—	—	—	—
332	Under Voltage Release + Auxiliary contact (2NO2NC)	—	—	—	—
318	Shunt release + Alarm Contact	—	← ● □	—	← ● □
328	Auxiliary contact (1NO1NC) + Alarm Contact	← ■ □	← ■ □	← ■ □	← ■ □
338	Under voltage releas Alarm Contact	—	—	—	—
348	Shunt release Auxiliary contact (1NO1NC) + Alarm Contact	—	← ● ■ □	—	← ● ■ □
	Shunt release Auxiliary contact (2NO2NC) + Alarm Contact	—	—	—	—
368	Group 2 auxiliary contact (2NO2NC)+ Alarm Contact	← ■ ■ □	← ■ ■ □	← ■ ■ □	← ■ ■ □
	Group 2 auxiliary contact (4NO4NC) + Alarm Contact	—	—	—	—
305	Group 2 auxiliary contact (3NO3NC) + Alarm Contact	—	—	—	—
378	Group 2 auxiliary contact (1NO1NC)- Under voltage releas + Alarm Contact	—	—	—	—
	Group 2 auxiliary contact (2NO2NC)- Under voltage releas + Alarm Contact	—	—	—	—

## iALM7 Series AC/DC High Voltage Molded Case Circuit Breaker

### Product accessories

1. Ontology
2. Undervoltage release (customer purchase)
3. Shunt release (customer purchase)
4. Alarm contact (customer purchase)
5. Auxiliary contact (customer purchase)
6. Electric operating mechanism (customer purchase)
7. Hand-operated mechanism (customer purchase)
8. Terminal guard (customer purchase)
9. Front wiring board (customer option)
10. Arc partition (standard with the main body)



②



⑥

④







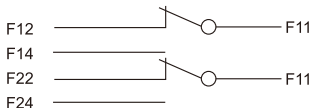
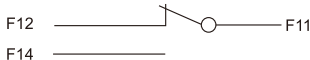
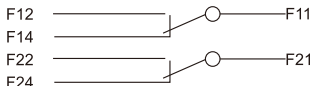
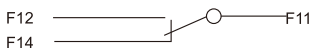
**iALM7 Series AC/DC High Voltage Molded Case Circuit Breaker**

**Auxiliary contact**

**Auxiliary contact current parameters**


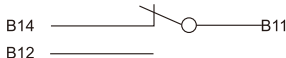
Rated current of shell frame class	Agreed heating current	Rated operating current at AC 400V
Inm<250	3A	0.30A
Inm>400	6A	0.40A

**Auxiliary contact and its combination**

When the circuit breaker is in the "off" position	
	
When the circuit breaker is in the "on" position	
	

**Alarm contact**

**Alarm contact and its combination**

Alarm Contact Ue= 220V,Ith=3A	
When the circuit breaker is in the "off" and "on" position	
When the circuit breaker is in the "free trip" position	

## iALM7 Series AC/DC High Voltage Molded Case Circuit Breaker

### Shunt Release

Generally installed in the circuit breaker A phase, and between 70% -110% of the rated control power supply voltage, the distributo shall reliably buckle the circuit breaker under all operating conditions.

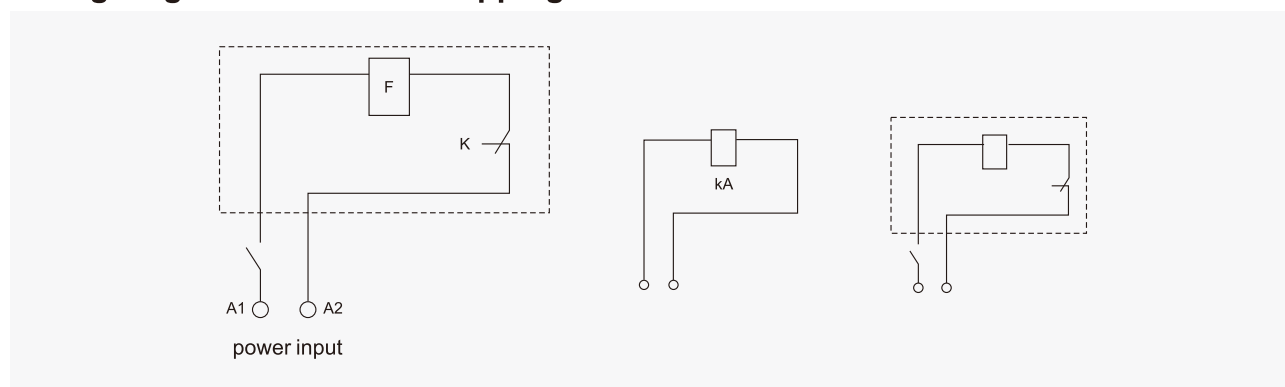
Control voltage: General: AC50Hz, 110V, 230V, 400V, DC 24V, 100V, 220V

Note: when the control circuit power supply is DC24V, it is recommended to use the following figure for the excitation control circuit design.

KA: is a DC24V intermediate relay with a contact current capacity of 1A.

The micro switch in series between the K: tap and the coil is normally closed contact. When the circuit breaker is disconnected, the contact is disconnected by itself and closed when closed.

### Wiring diagram of excitation tripping

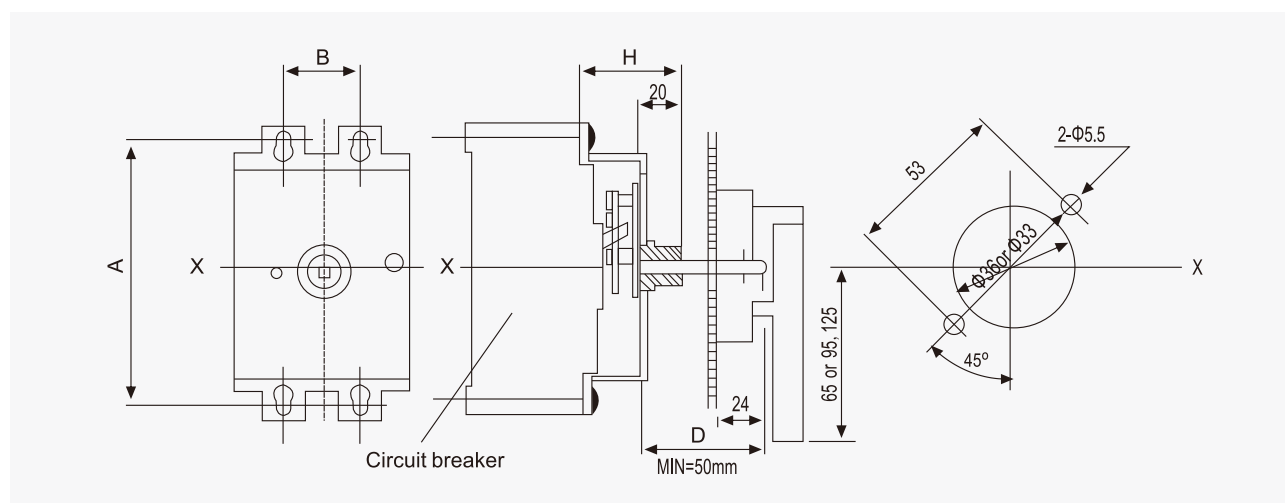


### Installation method and overall dimension of external accessories

Turning the operating handle mechanism type and specification

Model	installation dimension (mm)				Operator handle relative to circuit breaker center value (mm)
	A	B	H	D	
CZ2-320/iALM7	157	35	55	50-150	0
CZ2-400/iALM7	224	48	78	50-150	±5

Schematic of CS1-A handle



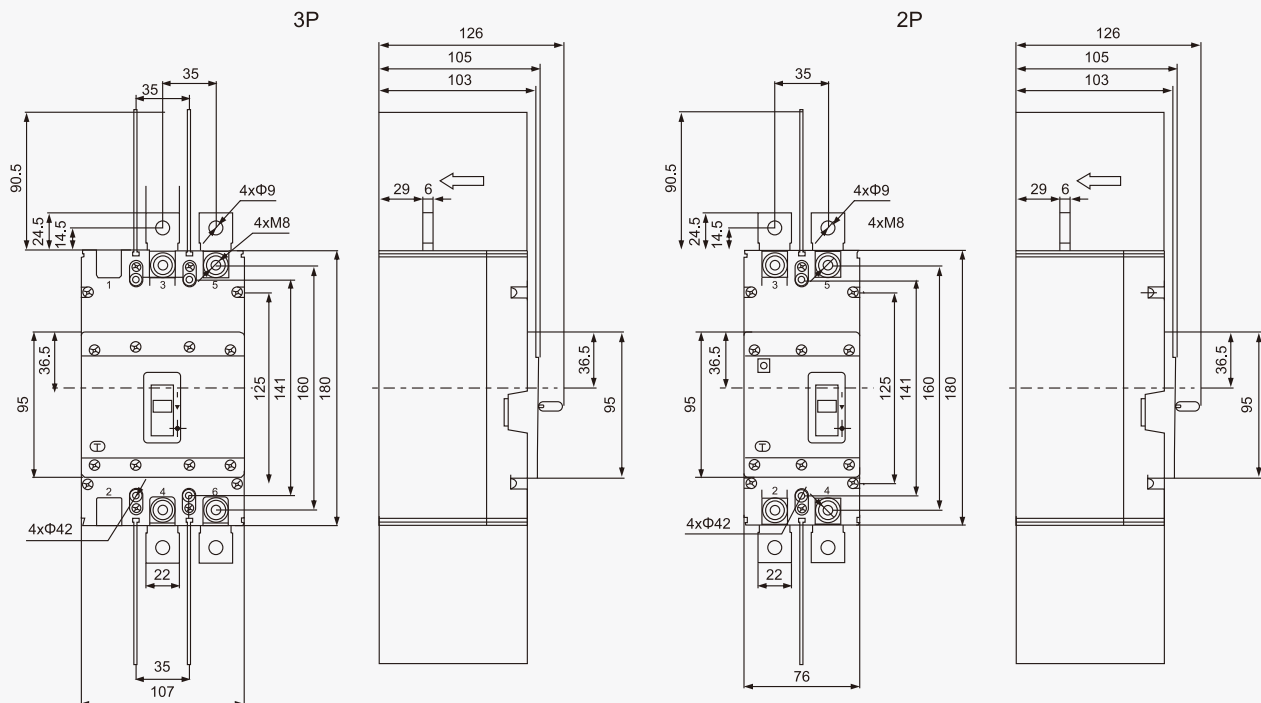




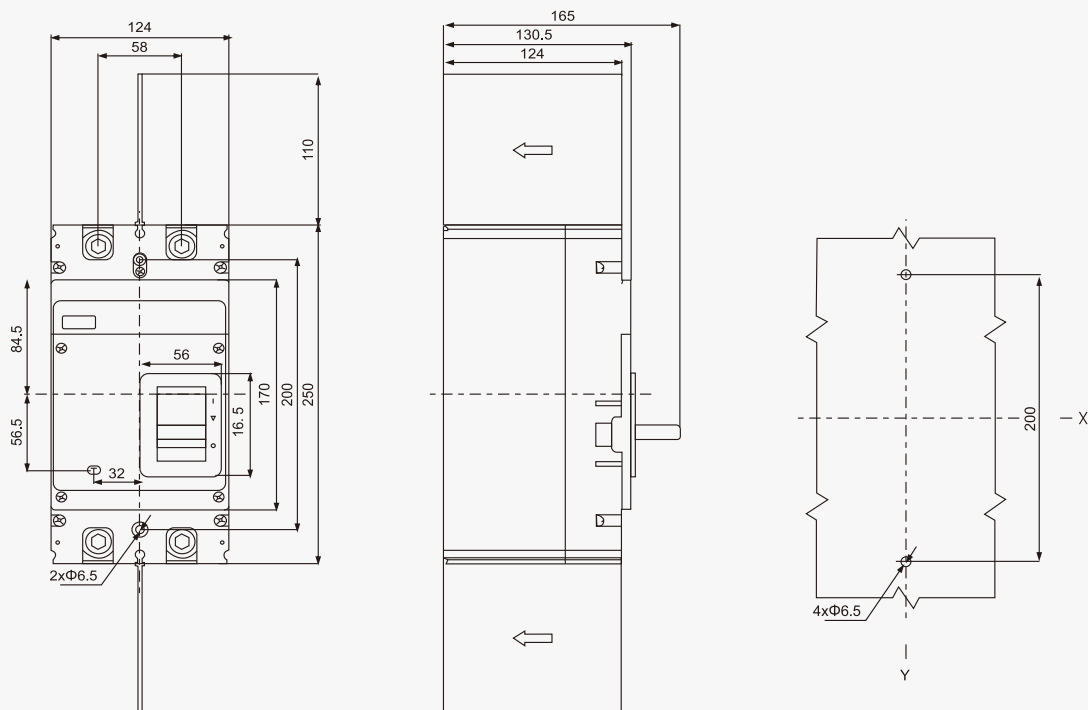
## iALM7 Series AC/DC High Voltage Molded Case Circuit Breaker

### Outline and installation dimension method and its overall dimension

iALM7DC-250/320、iALM7HU-320 Outline and installation of hole opening dimensions

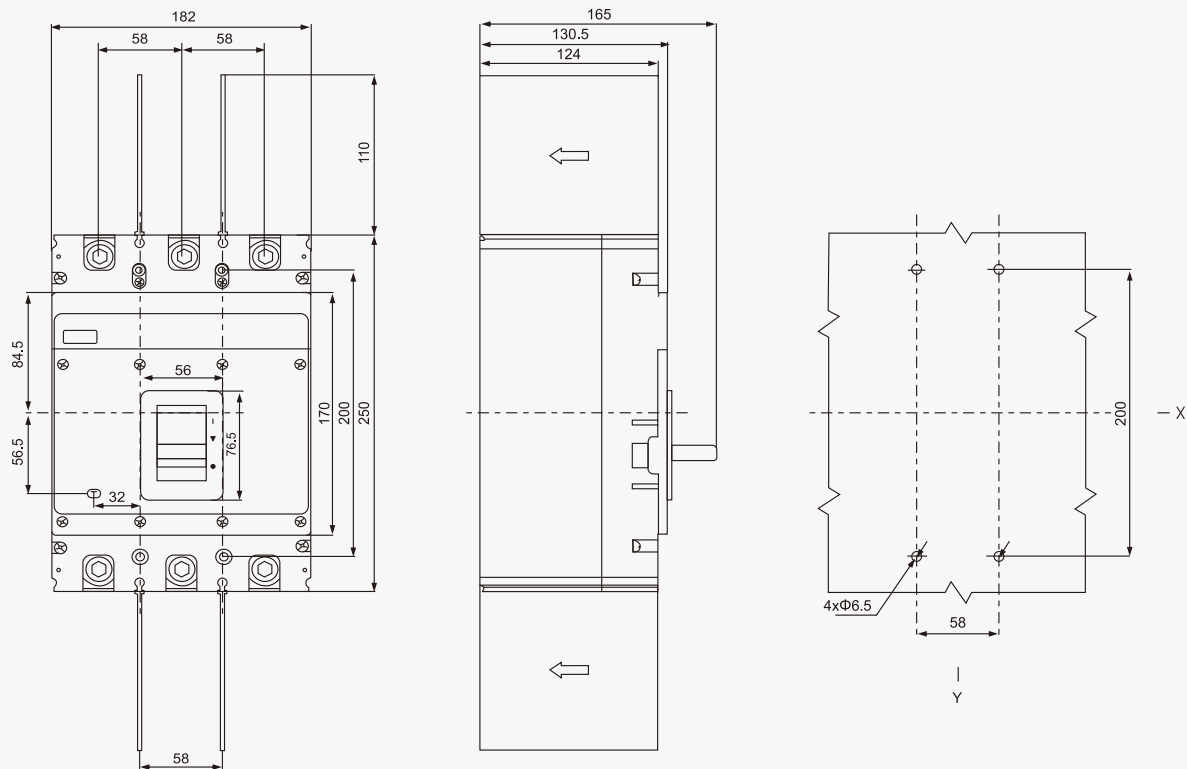


iALM7DC-400/630/800 Outline and installation of hole opening dimensions (2P)



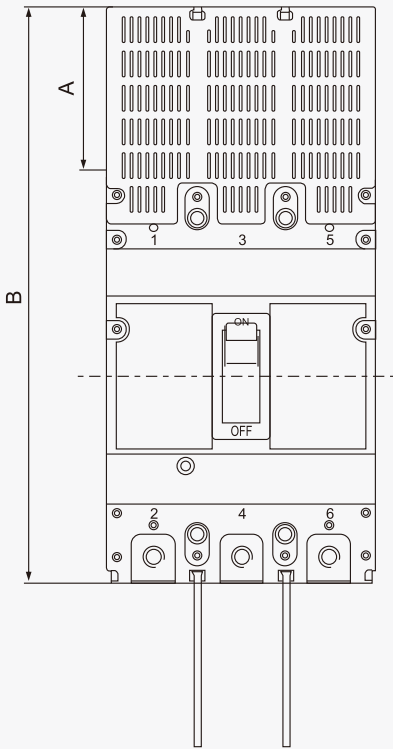
**iALM7 Series AC/DC High Voltage Molded Case Circuit Breaker**

iALM7DC-400/630/800、 iALM7HU-400/630/800 Outline and installation of hole opening dimensions (3P)



iALM7 with arc cover installation drawing

Circuit breaker	Arcing cover length: A	Total length : B
iALM7-320	64	245
iALM7-400/630/800	64	314



**ZHEJIANG  
WOWEI ELECTRIC CO.,LTD.**

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