



DAM2(CM1)

Moulded Case Circuit Breaker catalogue

Shanghai DaDa Electric Co.,Ltd
www.dada-ele.com

Application

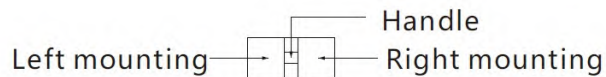
DAM2 (CM1) series the rated insulation voltage of the circuit breaker is 800V, it is suitable for the distribution network of AC 50Hz / 60Hz, rated working voltage of 690V and rated current of 1250A, to distribute power and protect circuit and power equipment from being damaged caused by overload, short-circuit, under-voltage and other fault. Also for protection infrequent conversion of the circuits and infrequent start of motor and overload, short circuit, under voltage. DAM2 circuit breaker can be mounted vertically (upright) or horizontally (transverse). DAM2 MCCB is suitable for isolation and the symbol is " ". DAM2 MCCB meets the standard: IEC60947-2 "low-voltage switchgear and control equipment, Part 2: circuit breakers."

Normal operating conditions

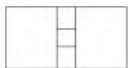
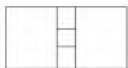
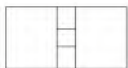
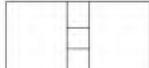
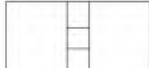

- Ambient air temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$, and average temperature in 24h is below $+35^{\circ}\text{C}$.
- Altitude: The altitude of the installation site is not more than 2000m.
- Atmospheric conditions: The air relative humidity in the highest temperature $+40^{\circ}\text{C}$ is not more than 50%; In the low temperature can have higher relative humidity. The maximum average relative humidity is 90%, while the average monthly minimum temperature is $+25^{\circ}\text{C}$, and consider the temperature changes in product on the surface of the gel.
- Pollution Degree: 3.

Main technical parameters

- Alarm contact ●
- Shunt release ○
- Auxiliary contact ■
- Undervoltage release ▲



Trip mode and accessory code, flashover distance contains horizontal and vertical installation.

Accessory name	Accessory code		Accessory installation and lead mode					
	Instantaneous release	Double release	63A, 100A	63A, 100A, 225A, 400A		630A		800A
			2-poles	3-poles	4-poles	3-poles	4-poles	3-poles
Without accessory	200	300						

Alarm contact	208	308				
Shunt release	210	310				
Pre-paid meter dedicated release	210Y	310Y				
Auxiliary contact	220	320				
Undervoltage release	230	330				
Shunt release	240	340	—			
Auxiliary contact	240Y	340Y	—			
Shunt release	250	350	—			
Undervoltage release	250Y	350Y	—			
Two sets of auxiliary contacts	260	360	—			
Auxiliary contact, Undervoltage release	270	370	—			
Shunt release	218	318	—			
Alarm contact	218Y	318Y	—			

Auxiliary contact, Alarm contact	228	328	—		—		—	
Undervoltage release, Alarm contact	238	338	—		—		—	
Shunt release, Auxiliary contact	248	348	—		—		—	
Alarm contact	248Y	348Y						
Shunt release, Undervoltage release, Alarm contact	258	358	—	—	—	—	—	—
Two sets of auxiliary contacts, Alarm contact	268	368	—		—		—	
Auxiliary contact, Undervoltage release, Alarm contact	278	378	—		—		—	

A. 200 means circuit-breaker with electromagnetic release; 300 means thermodynamic+electromagnetic release; and 000 means circuit-breaker without release and internal accessory.

B. 125, 250, 400, 2-pole products only have 210, 220, 230, 310, 320, 330.

C. Only DAM2-63, DAM2-100, DAM2-225, DAM2-400 with pre-paid meter dedicated release.

Selection of instructions

According to the pole, it classifies four types:

Type A: N-pole without over-current release components, and N-pole has been connected all along, and does not act with other three poles to turn on or off;

B-type: N-pole without over-current release components, and N-pole could act with other three poles (N-pole turn-on prior to turn-off);

Type C: N-pole fixed with over-current release components, and N-pole could act with other three poles (N-pole turn-on prior to turn-off);

Classification according to rated current of over-current release:

DAM2-63 **MCCB** has nine: 6,10,16,20,25,32,40,50,63 A;

DAM2-100 **MCCB** has nine: 16,20,25,32,40,50,63,80,100 A;

DAM2-250 **MCCB** has seven: 100,125,140,160,180,200,225,250A;

DAM2-400 **MCCB** has five: 225,250,315,350,400 A;

DAM2-630 **MCCB** has three: 400,500,630 A;

DAM2-800 **MCCB** has three: 630,700,800A;

DAM2-1250 **MCCB** has three: 800,1000,1250A.

Remark: 6A only has electromagnetic (instantaneous) type, is not recommended specifications.

According to the wiring method: wiring in front of board, wiring on back of board, insertion type of the board.

According to over-current release pattern: thermodynamic-electromagnetic (double) type, electromagnetic (instantaneous) type.

According to the outfit, it has two types: with or without outfit.

The outfit include inner accessories and outside accessories: The inner accessories have shunt release, under-voltage release, auxiliary contact and alarm contact. The outside accessories are turning handle operation mechanism, power-driven operation mechanism and so on.

According to the breaking capacity: L-standard breaking type; M-second high breaking type; H-high breaking type

Technical parameters

1, Instantaneous action characteristic setting value of the circuit breaker for distribution is $10I_n \pm 20\%$, DAM2-1250 is $7I_n \pm 20\%$; Instantaneous action characteristic set value of the circuit breaker for motor protection is $12I_n \pm 20\%$.

2, The rated value of the circuit breaker in Table 2.

3, In the ambient temperature of $+40^\circ\text{C}$, the circuit breaker for distribution over-current release action characteristics shown in Table 3, the circuit breaker for motor protection over-current release action characteristics shown in Table 4.

Model	Pole	Rated current (A)	Rated operating voltage (V)	Rated insulation voltage (V)	Rated ultimate short - circuit breaking capacity (Icu)			Flashover distance(mm)
					Test voltage (V)	Icu (kA)	Ics (kA)	
DAM2L-63	3	10、16、20、25、 32、40、50、63	400	500	400×1.10	25	18	0
DAM2M-63	3、4					50	35	
DAM2L-100	3、4	16、20、25、32、40、 50、63、80、100	400	800		30	22	≤50
DAM2M-100	2、3、4					50	35	
DAM2H-100	3					85	50	
DAM2L-100	3、4		690			10	5	
DAM2M-100	2、3、4					20	10	
DAM2L-225	3、4					100、125、140、 160、180、200、225	400	
DAM2M-225	2、3、4	50	35					
DAM2H-225	3	85	50					
DAM2L-225	3、4	690	10	5				
DAM2M-225	2、3、4		20	10				
DAM2L-400	3		225、250、315、 350、400	400	800		50	35
DAM2M-400	3、4	65				42		
DAM2H-400	3	100				65		
DAM2L-400	3	690		15		8		

DAM2M-400	3、4					20	10
DAM2L-630	3	400、500、630	400	800		50	35
DAM2M-630	3、4					65	42
DAM2H-630	3					100	65
DAM2L-630	3					15	8
DAM2M-630	3、4					20	10
DAM2M-800	3					630、700、800	400
DAM2H-800	3	100	65				
DAM2M-800	3	4690	30	15			
DAM2-1250	3	800、1000、1250	400	800		85	42
DAM2-1250	3					690	25

Rated value of the circuit break

Note: 2-poles, 4-poles circuit breakers, divided into L, M, H, they have the same breaking index as M-type.

Characteristics of inverse time breaking action of circuit breakers over-current release for power distribution when every pole is power-on at the same time

Instantaneous action characteristic setting value of the circuit breaker for distribution is $10I_n \pm 20\%$, and instantaneous action characteristic setting value of

No.	Test current	I/I _n	Set time	Initial state
1	Conventional non-tripping current	1.05	2h(I _n >63A), 1h(I _n ≤63A)	Cold
2	Conventional non-tripping current	1.30	2h(I _n >63A), 1h(I _n ≤63A)	Immediately after Test 1

the circuit breaker for motor protection is $12I_n \pm 20\%$.

Characteristics of inverse time breaking action of circuit breakers over-current release for motor protection when every pole is power-on at the same time

Accessories

No.	I/I _n	Set time	Initial state	Remark
1	1.0	>2h	Cold	
2	1.2	≤2h	Immediately after Test 1	
3	1.5	≤4min	Cold	10≤I _n ≤225
		≤8min		225 < I _n ≤ 630
4	7.2	4s≤T≤10s	Cold	10≤I _n ≤225
		6s≤T≤20s		225 < I _n ≤ 630

Inverse time protection characteristic curve

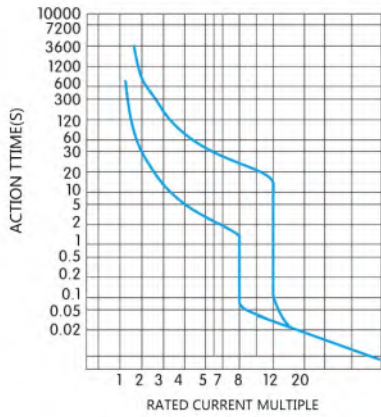


Figure 1 DAM2-63(10-32A),DAM2-125(16-32A)Action characteristic curve

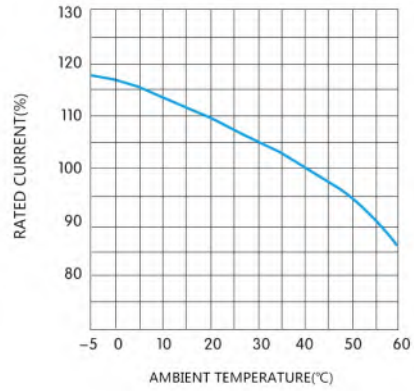


Figure 2 DAM2-63(10-32A),DAM2-125(16-32A)Temperature compensation curve

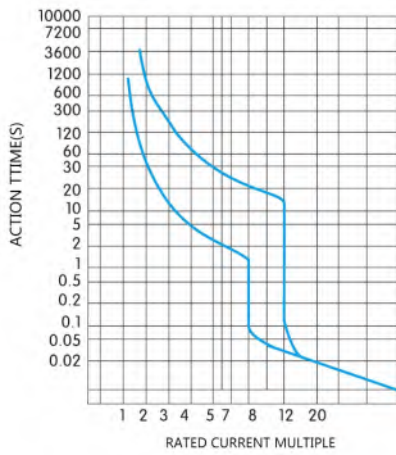


Figure 1 DAM2-63(40-63A),DAM2-100(40-100A)Action characteristic curve

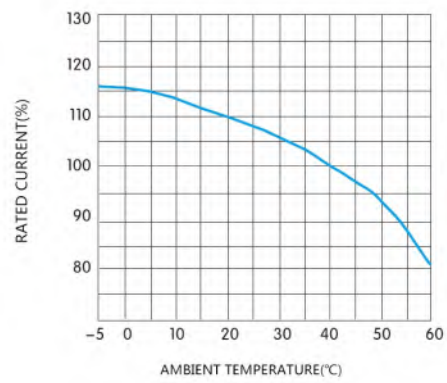


Figure 2 DAM2-63(40-63A),DAM2-100(40-100A)Temperature compensation curve

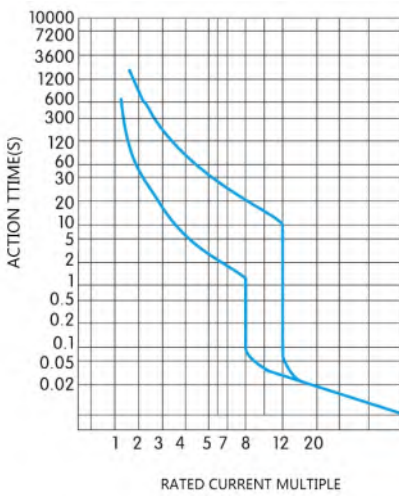


Figure 1 DAM2-250 Action characteristic curve

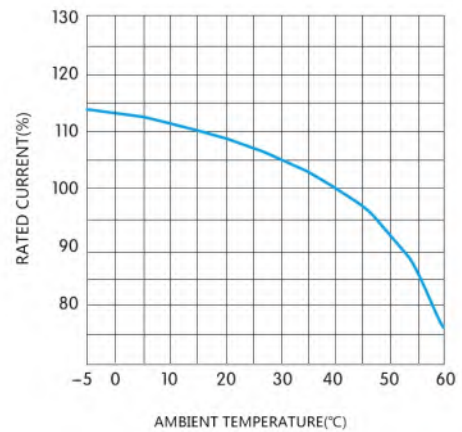


Figure 2 DAM2-250 Temperature compensation curve

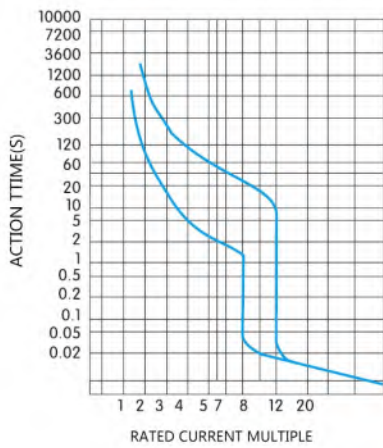


Figure 1 DAM2-400 Action characteristic curve

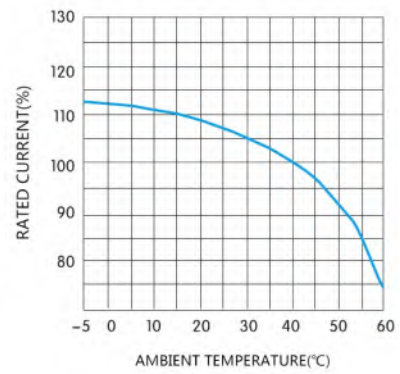


Figure 2 DAM2-400 Temperature compensation curve

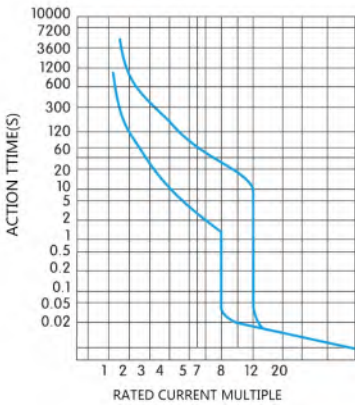


Figure 1 DAM2-630 Action characteristic curve

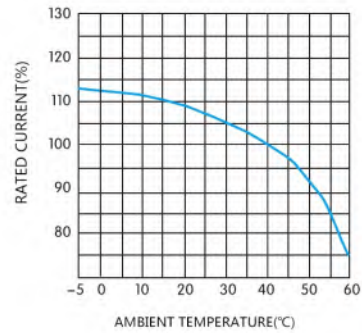


Figure 2 DAM2-630 Temperature compensation curve

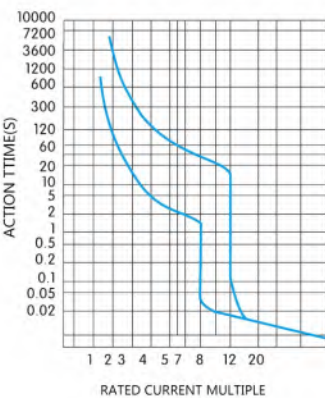


Figure 1 DAM2-1250 Action characteristic curve

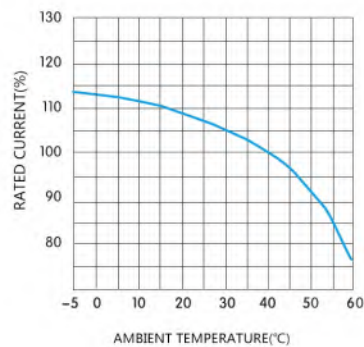


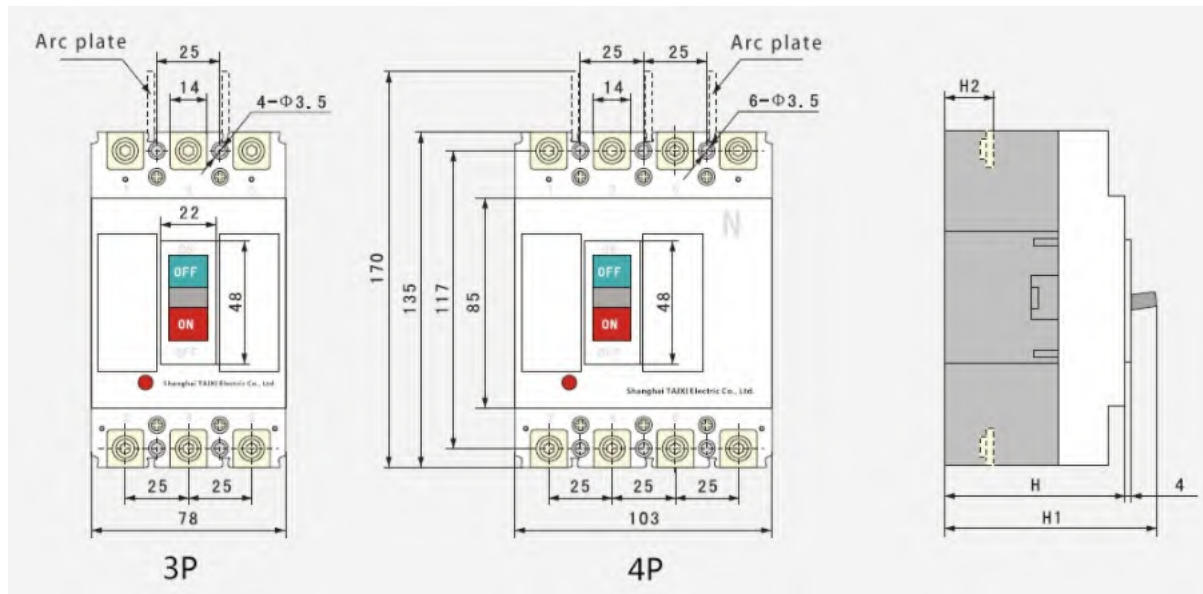
Figure 2 DAM2-1250 Temperature compensation curve

Derating factors table of temperature changes

Model/Coefficient/Temperature	+40°C	+45°C	+50°C	+55°C	+60°C
DAM2-63	1	0.94	0.88	0.80	0.72
DAM2-100	1	0.95	0.89	0.84	0.76
DAM2-225	1	0.96	0.91	0.87	0.82
DAM2-400	1	0.94	0.84	0.80	0.73
DAM2-630	1	0.93	0.88	0.83	0.76
DAM2-800	1	0.93	0.88	0.83	0.76
DAM2-1250	1	0.88	0.83	0.79	0.76

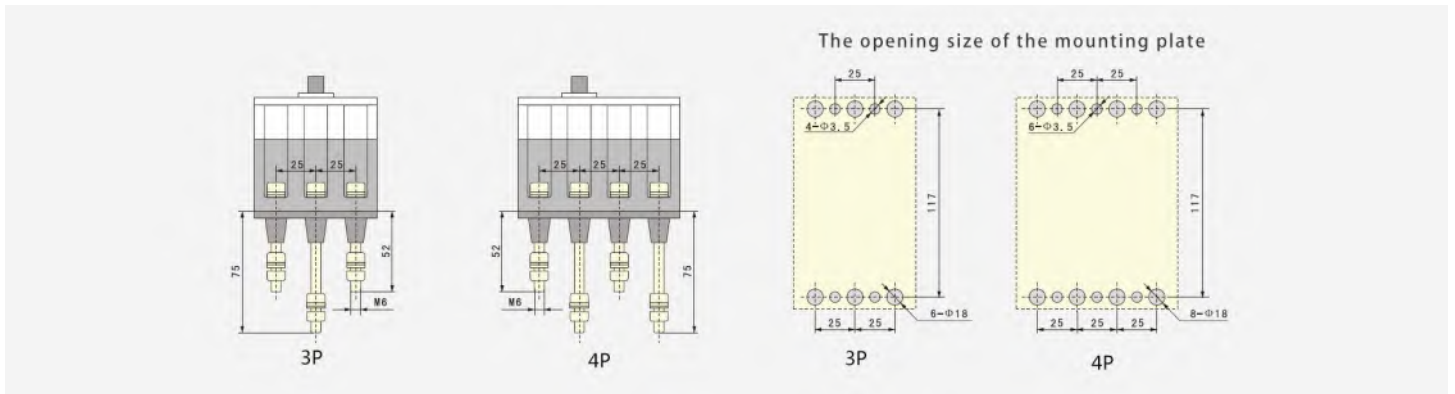
Outline and installation dimensions

Dimension of wiring in front of the board

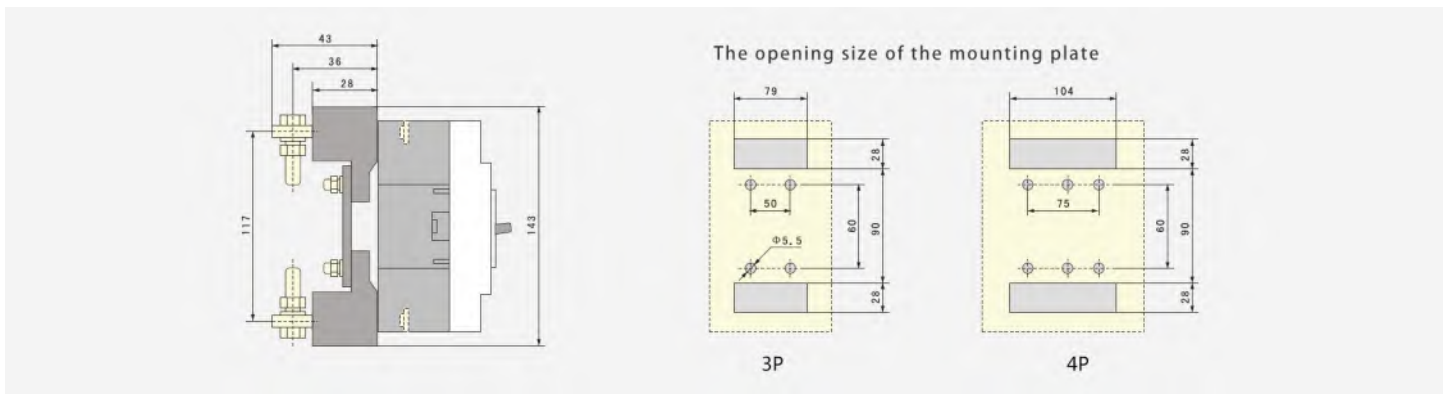


Model	H	H1	H2
DAM2-63L/3P	74	89	19
DAM2-63M/3P	82	98.5	28.5
DAM2-63H/3P	82	98.5	28.5
DAM2-63L/4P	-	-	-
DAM2-63M/4P	-	-	-
DAM2-63H/4P	-	-	-

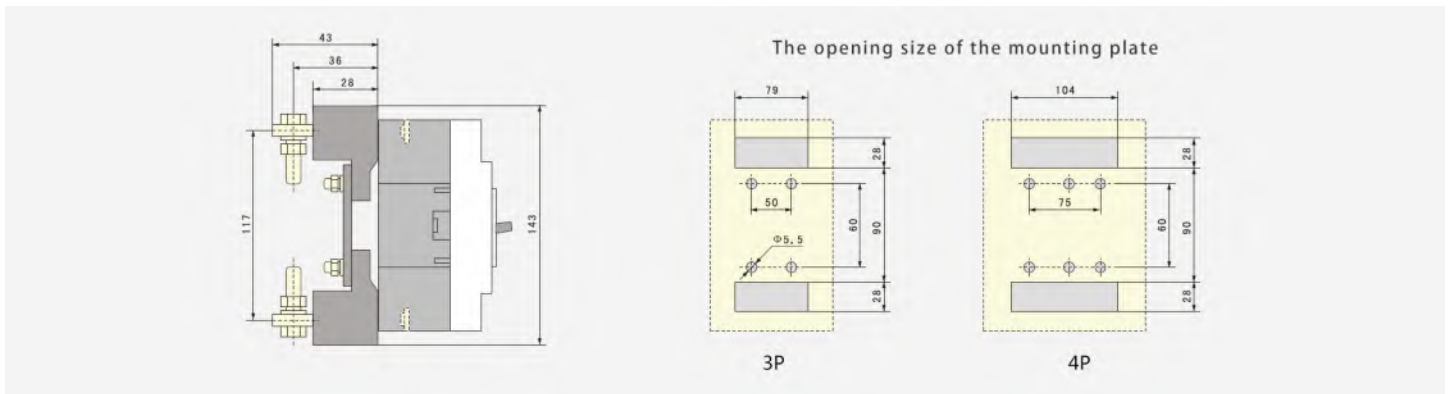
Dimension of wiring on back of the board



Dimension of plug-in wiring



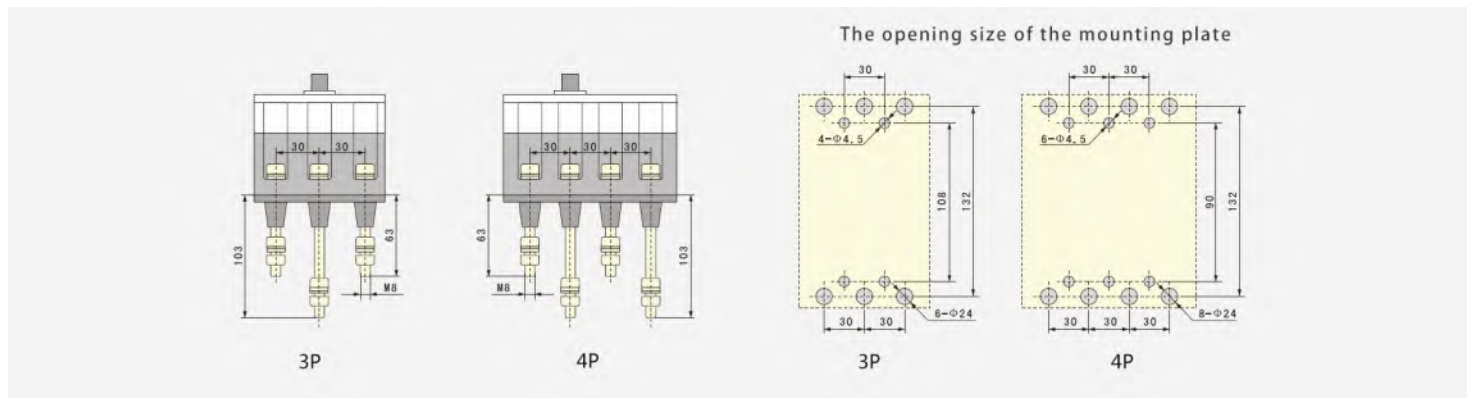
Dimension of wiring in front of the board



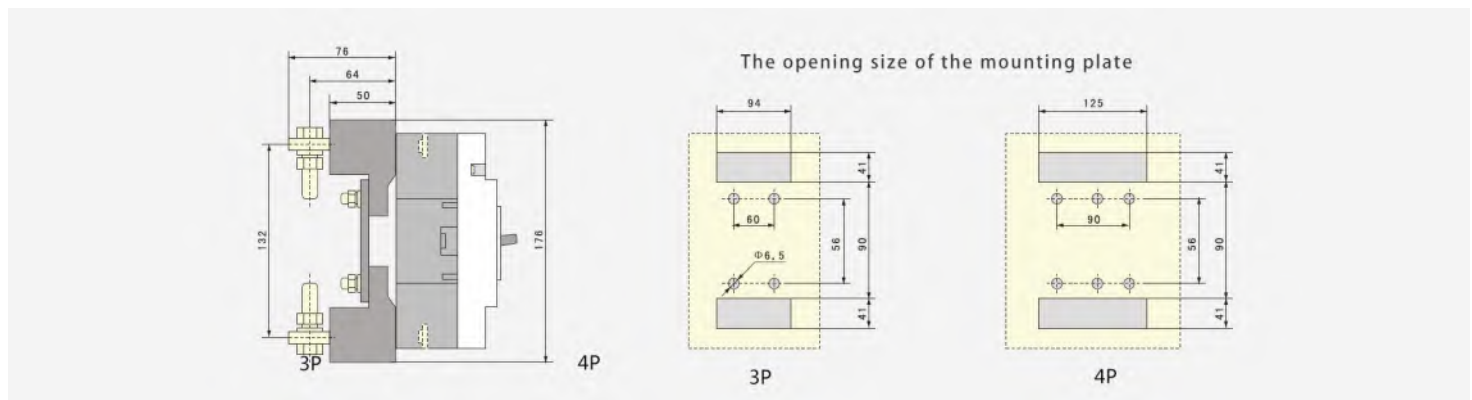
Model	H	H1	H2
DAM2-100L/2P	86	104	24
DAM2-100L/3P	68	86	24
DAM2-100M/3P	86	104	24
DAM2-100H/3P	86	104	24
DAM2-100M/4P	86	104	24

DAM2-100H/4P	86	104	24
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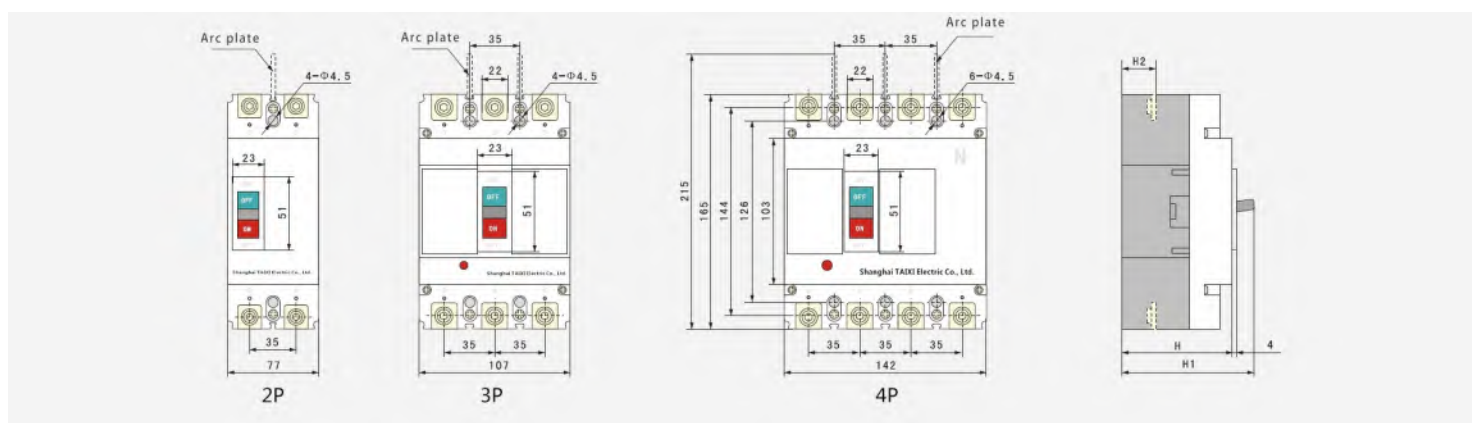
Dimension of wiring on back of the board



Dimension of plug-in wiring



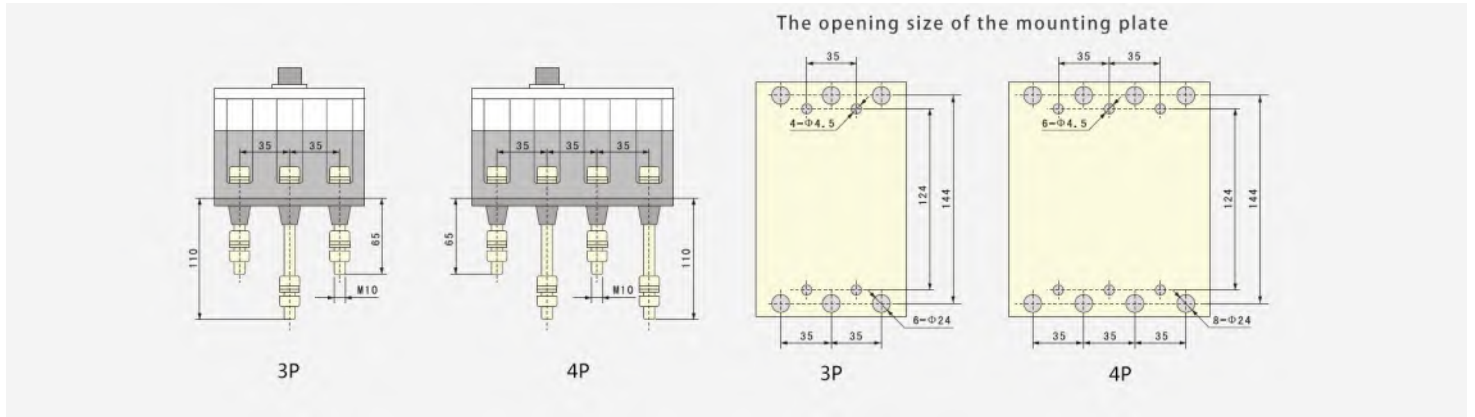
Dimension of wiring in front of the board



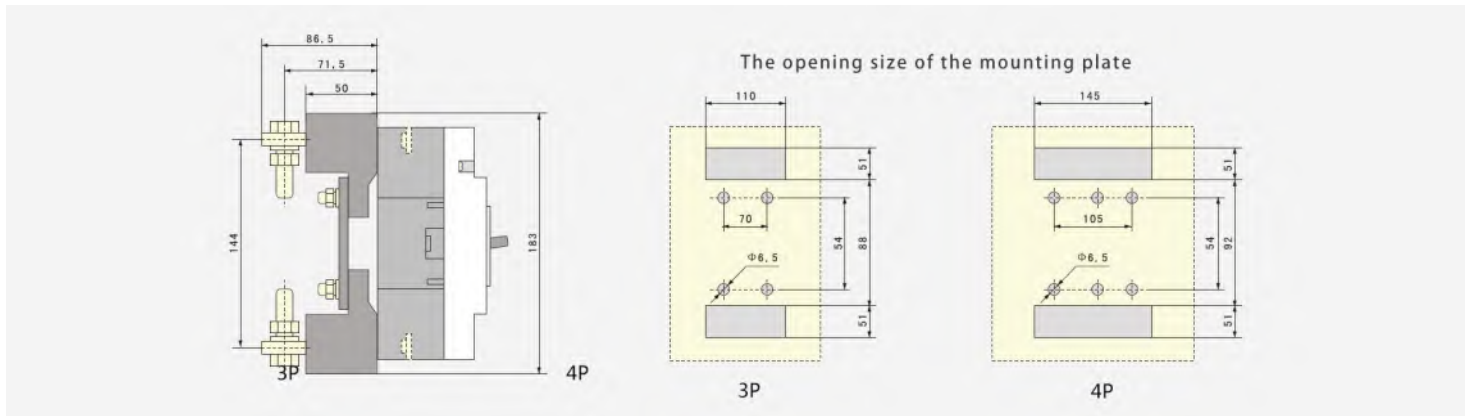
Model	H	H1	H2
DAM2-225L/2P	104	127	24
DAM2-225L/3P	86	110	24
DAM2-225M/3P	103	127	24

DAM2-225H/3P	103	127	24
DAM2-225M/4P	103	127	24
DAM2-225H/4P	103	127	24

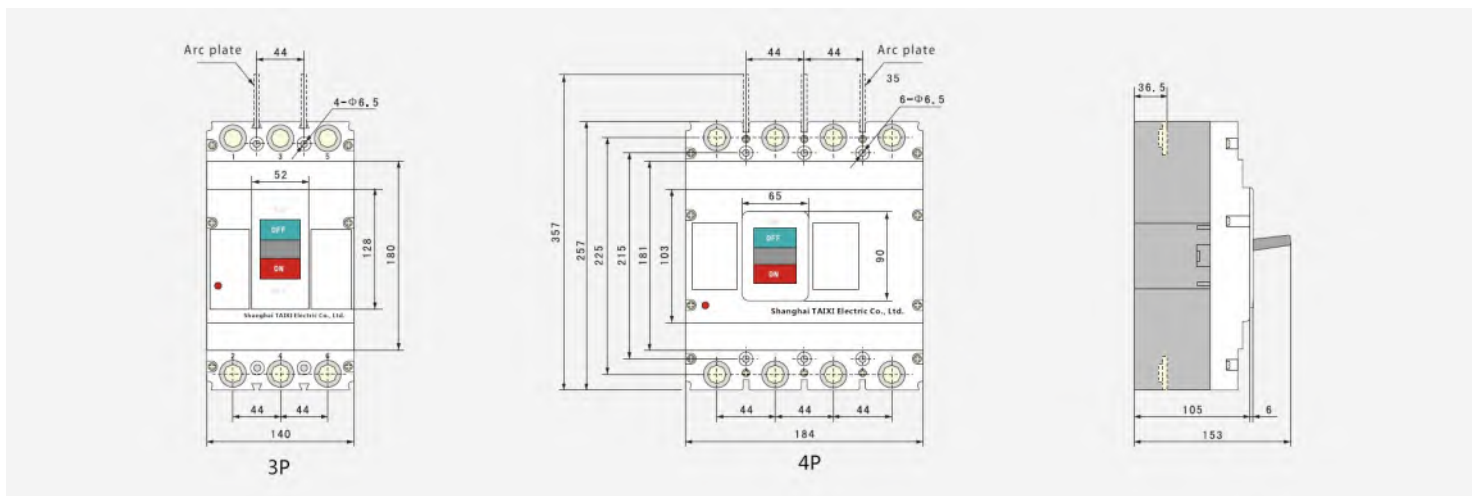
Dimension of wiring on back of the board



Dimension of plug-in wiring

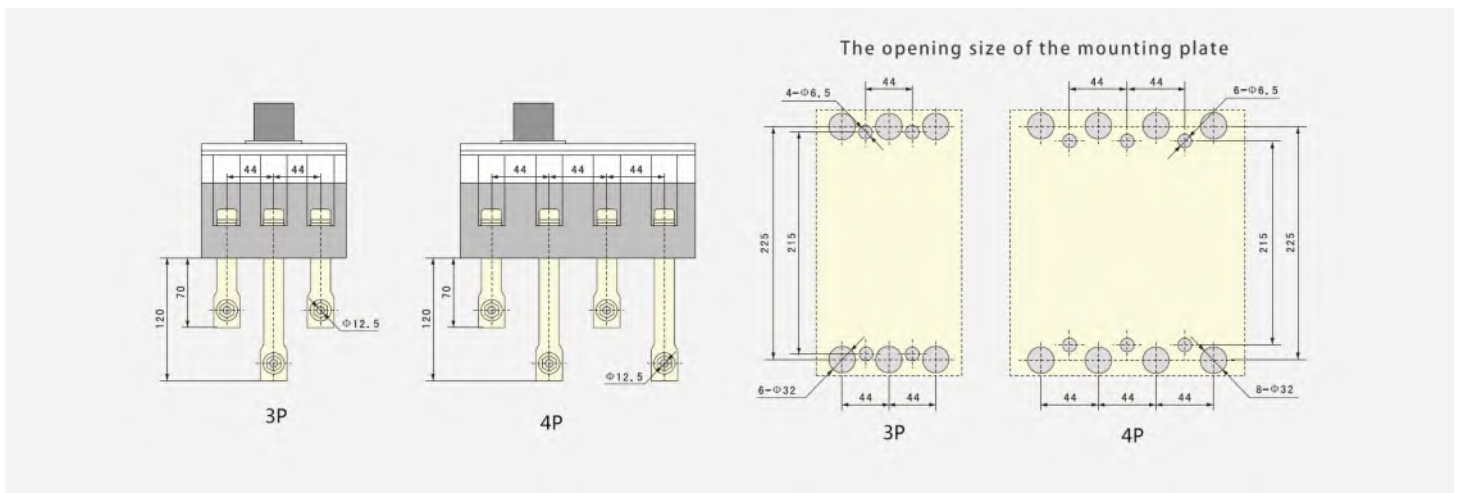


Dimension of wiring in front of the board

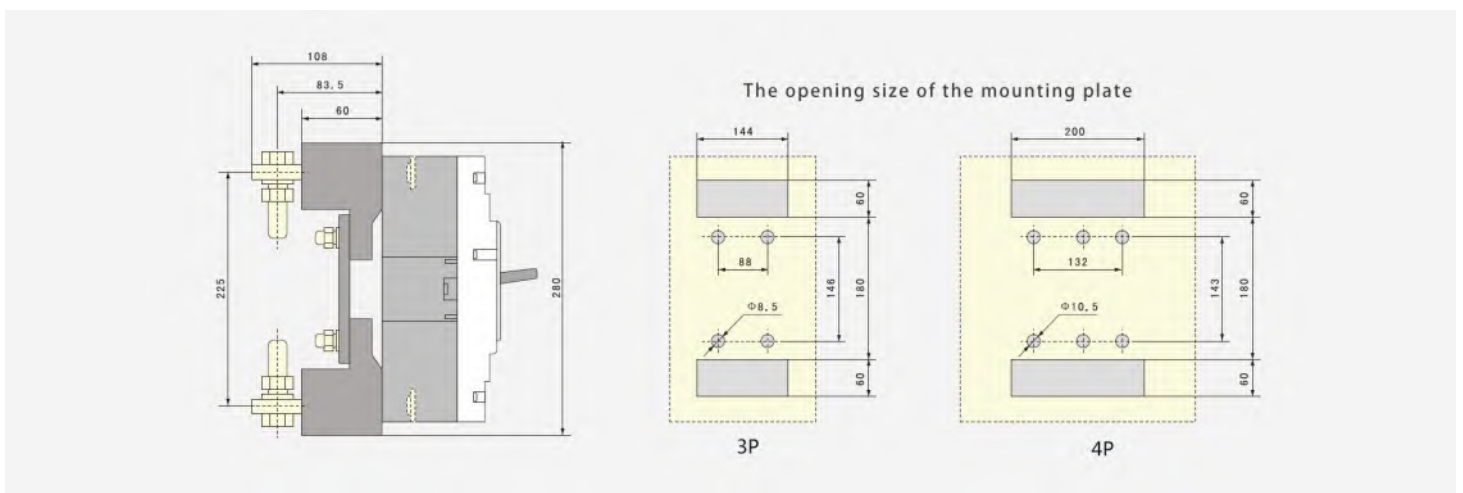


Model	H	H1	H2
DAM2-400L/3P	-	-	-
DAM2-400M/3P	-	-	-
DAM2-400H/3P	-	-	-
DAM2-400L/4P	-	-	-
DAM2-400M/4P	-	-	-
DAM2-400H/4P	-	-	-

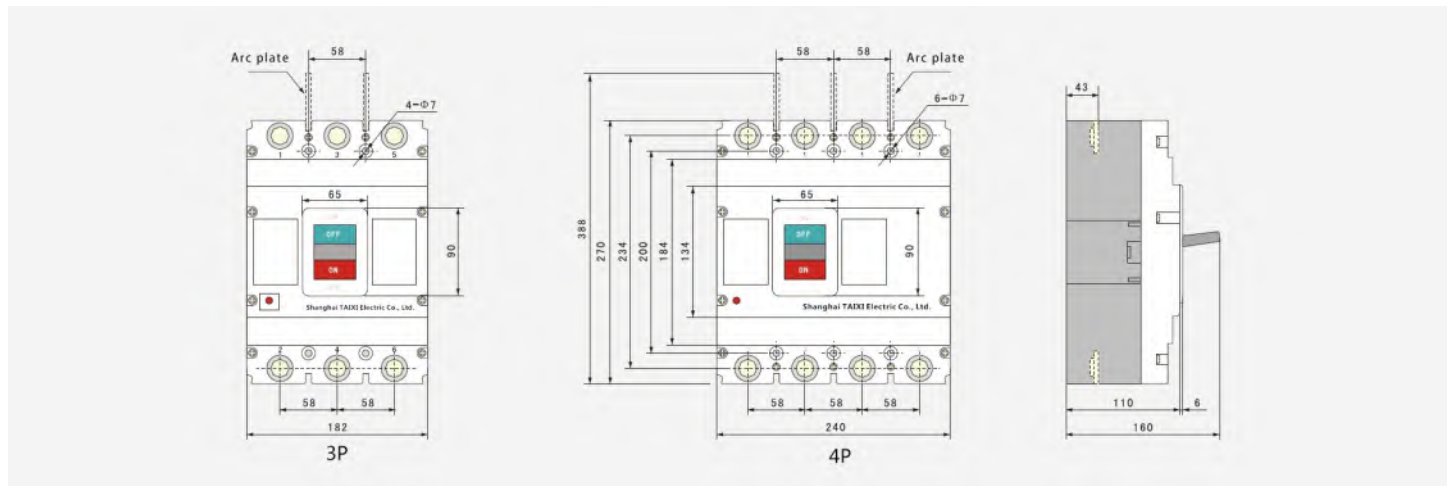
Dimension of wiring on back of the board



Dimension of plug-in wiring

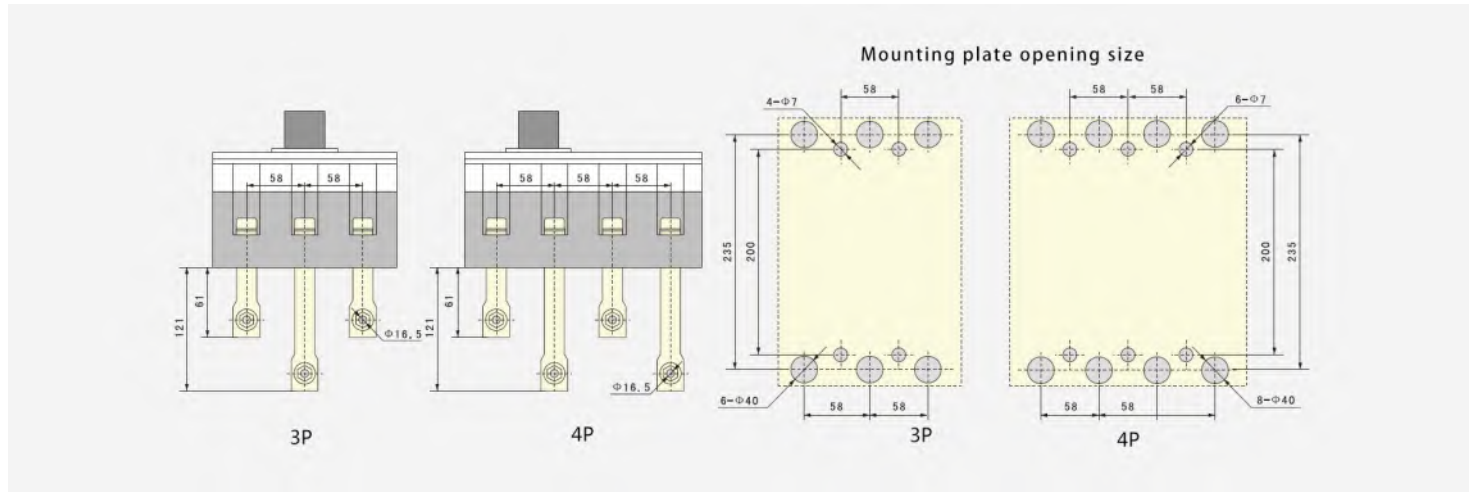


Dimension of wiring in front of the board

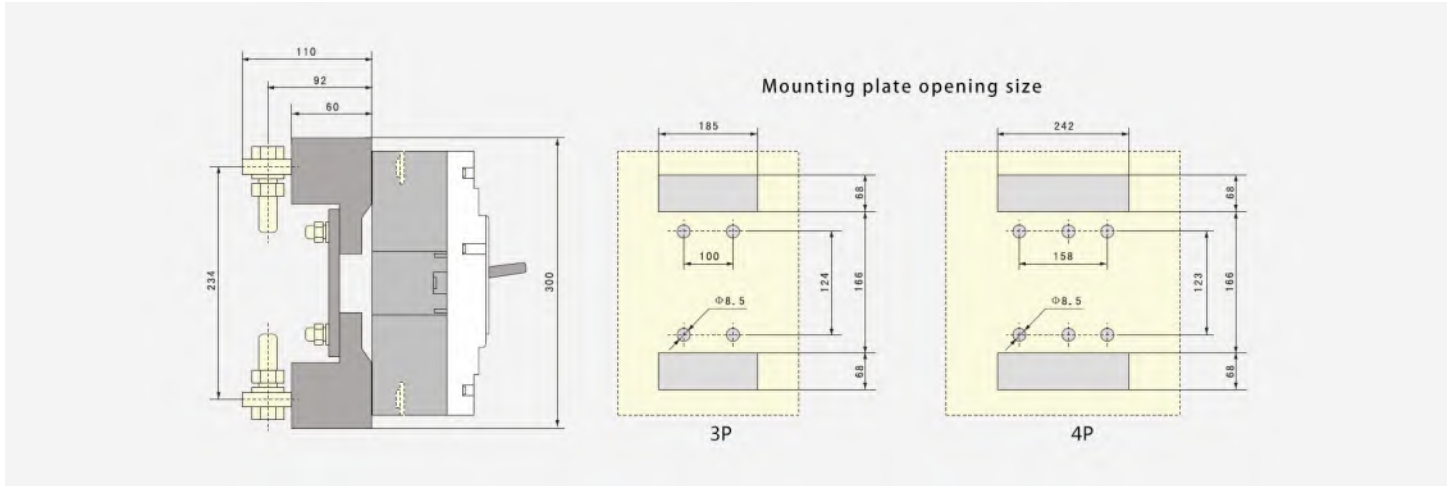


Model	H	H1	H2
DAM2-630M/3P	-	-	-
DAM2-630H/3P	-	-	-
DAM2-630M/4P	-	-	-
DAM2-630H/4P	-	-	-

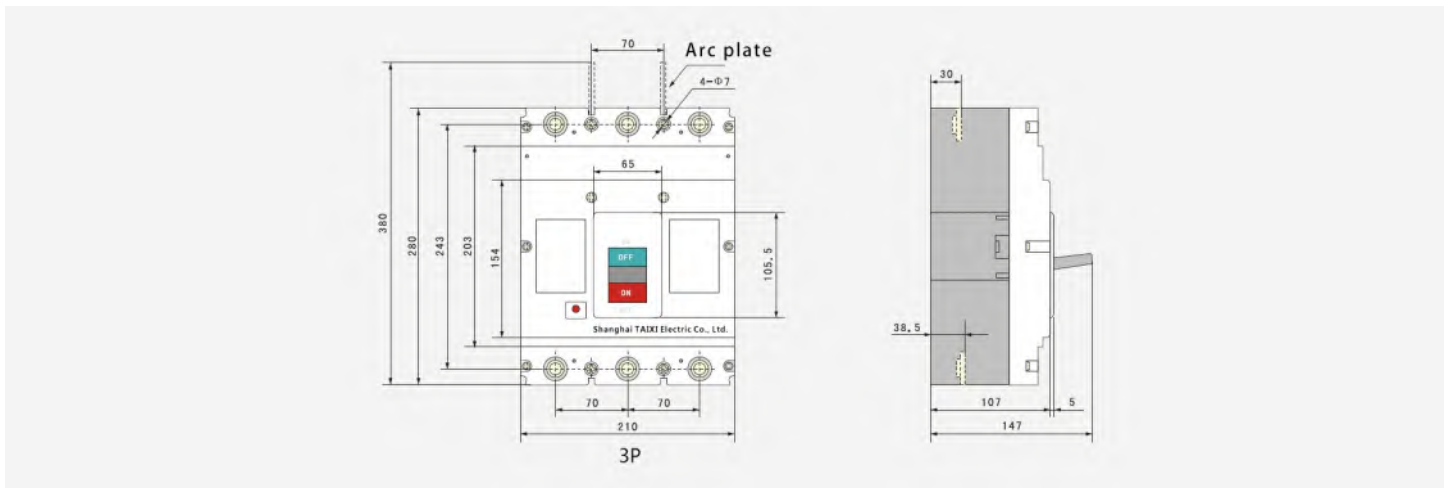
Dimension of wiring on back of the board



Dimension of plug-in wiring

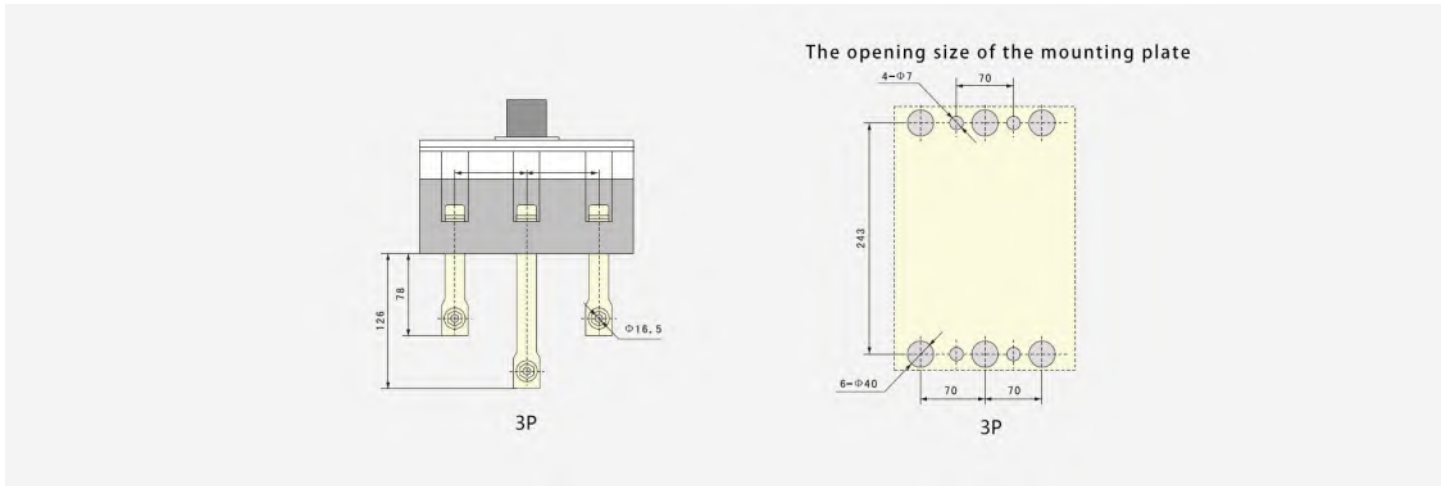


Dimension of wiring in front of the board

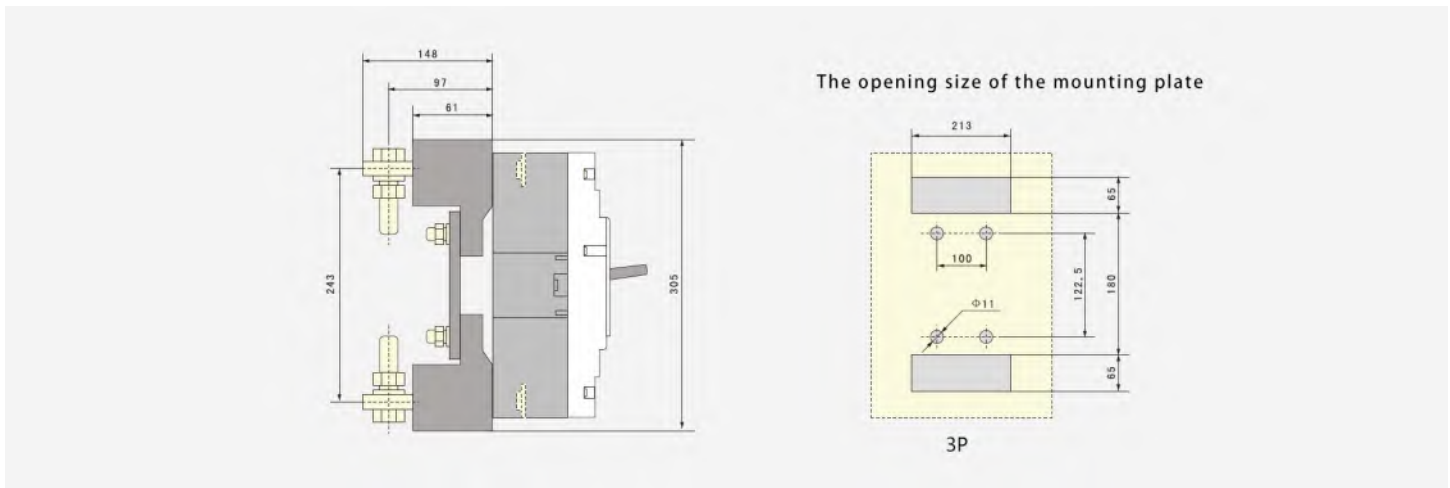


Model	H	H1	H2
DAM2-800H/3P	-	-	-
DAM2-800H/4P	-	-	-

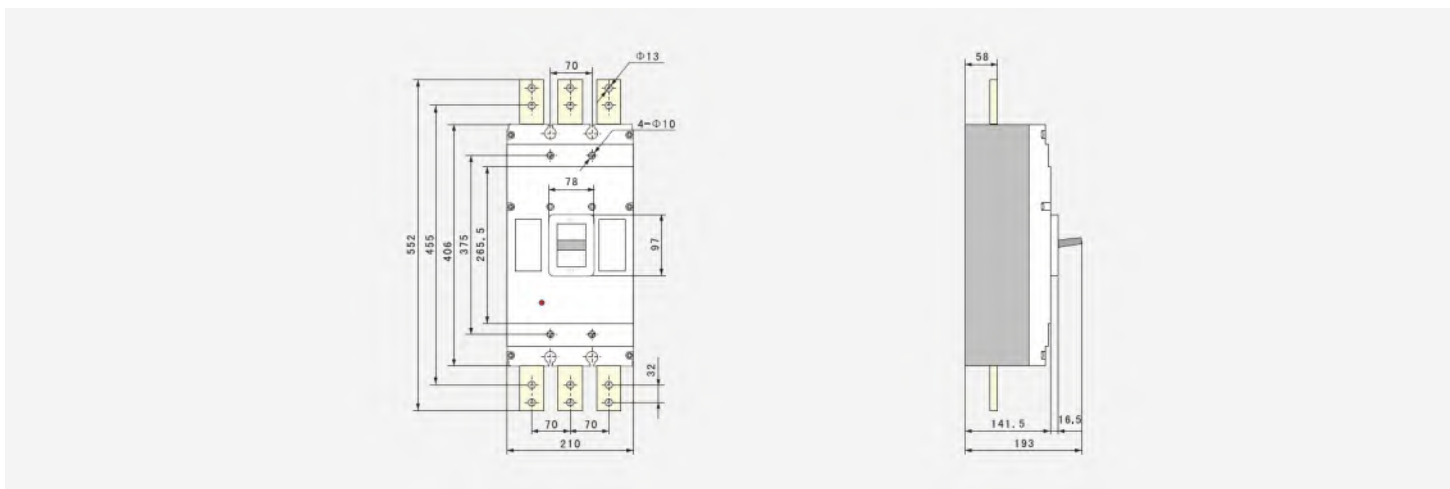
Dimension of wiring on back of the board



Dimension of plug-in wiring



Dimension of wiring in front of the board



1、 Internal accessory of circuit breakers

1.1 Shunt release

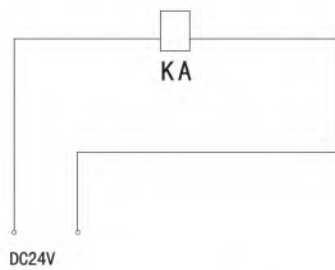
Rated control supply voltage of the shunt release: AC50Hz, 230V, 400; DC110V, 220V, 24V; When between 70%~110%, can break the circuit breaker reliably.<

When rated control supply voltage of the shunt release is DC24V, the maximum length of copper wire should meet the following requirements

If the requirements of the above table are not met, it is recommended to design the shunt release control circuit using the following figure

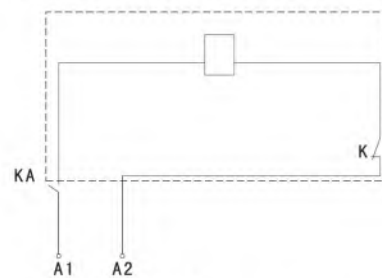
Rated control supply voltage U_c (DC24V)/Conductor area	1.5mm ²	2.5mm ²
100% U_c	150m	250m
85% U_c	100m	160m

If the requirements of the above table are not met, it is recommended to design the shunt release control circuit using the following figure



KA: for DC24V intermediate relay
The contact current capacity is 1A

The schematic diagram of the shunt circuit is the shunt trip



Power input

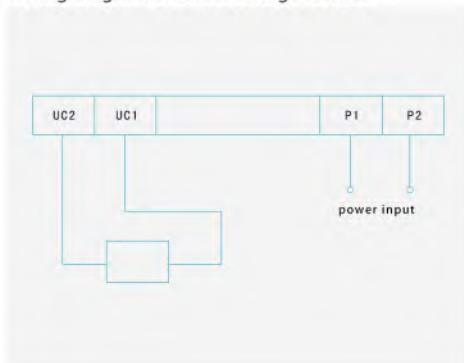
Power input voltage specifications:
AC50Hz, 230V, 400V

1.2 Under-voltage release

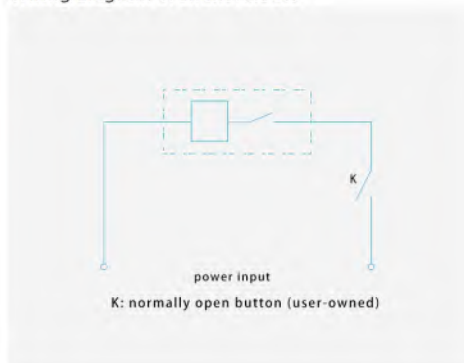
When the power supply voltage drops to under-voltage release rated voltage of 70% to 35% of the range, the under-voltage release circuit breaker reliable break; when the supply voltage is below the rated voltage undervoltage release 35% , Under-voltage release to prevent the circuit breaker is closed; when the supply voltage is higher than 85% of the rated voltage of the under-voltage release, the under-voltage release ensures that the circuit breaker is closed. The undervoltage releases are rated at AC50Hz, 230V, 400V.

Special Note: The circuit breaker with undervoltage release, only in the under-voltage with rated voltage, which can open and close normally.

Wiring diagram of undervoltage release



Wiring diagram of shunt release



1.3 Pre-paid meter dedicated release

The rated operating voltage U_e of the pre-paid meter dedicated release is AC230/50Hz, it can work normally in the range of (65% ~ 110%) U_e . When the Ctrl is cut off, the circuit breaker will delay 0.5s ~ 2s to be opening.

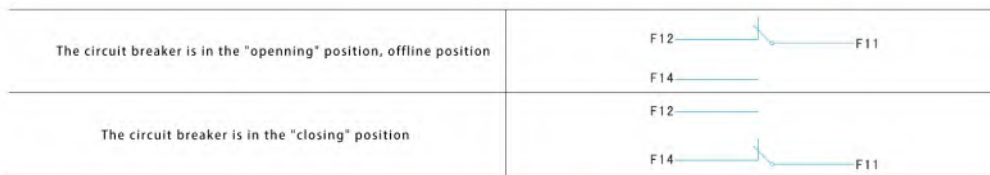
Wiring diagram of pre-paid meter dedicated release



Classification	Conventional thermal current (I _{th})	Rated current when AC 400V I _e (AC-15)	Rated current when DC 220V I _e (DC-13)
Auxiliary contact	3	0.4	0.15
Alarm contact	3	0.3	0.15

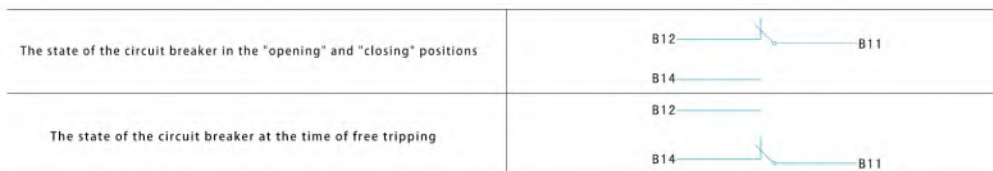
1.4 The rated value of auxiliary contacts and alarm contacts in Table 5

a. Auxiliary contact



b. Alarm contact

Alarm contacts don't act when the circuit breaker opens and closes normally, alarm contacts switch between normal opening and normal closing only after free tripping or fault tripping.



2、 External Accessory for Circuit Breakers

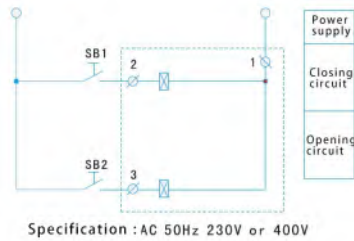
2.1 Motor operating mechanism. The rated value and code are shown in Table 6.

Category/Model	DAM2-63. 125. 250	DAM2-400. 630. 800. 1250
Structure type	Electromagnet	Motor
AC voltage code	AC50Hz、 230V、 400	AC50Hz、 230V、 400

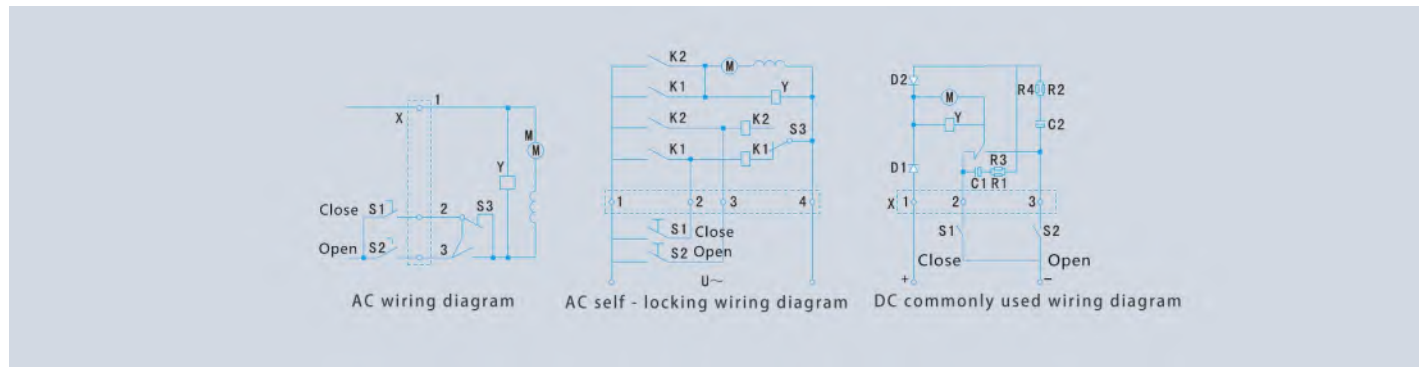
DC voltage code	DC110V、220V	DC110V、220V
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NOTE: After the tripping of circuit-breaker with electric operating mechanism, the electric operating mechanism must make the circuit-breaker buckle again, then it can close.

The principle diagram of the opening and closing of DAM2-63、100、225 electric operating mechanism(AC)

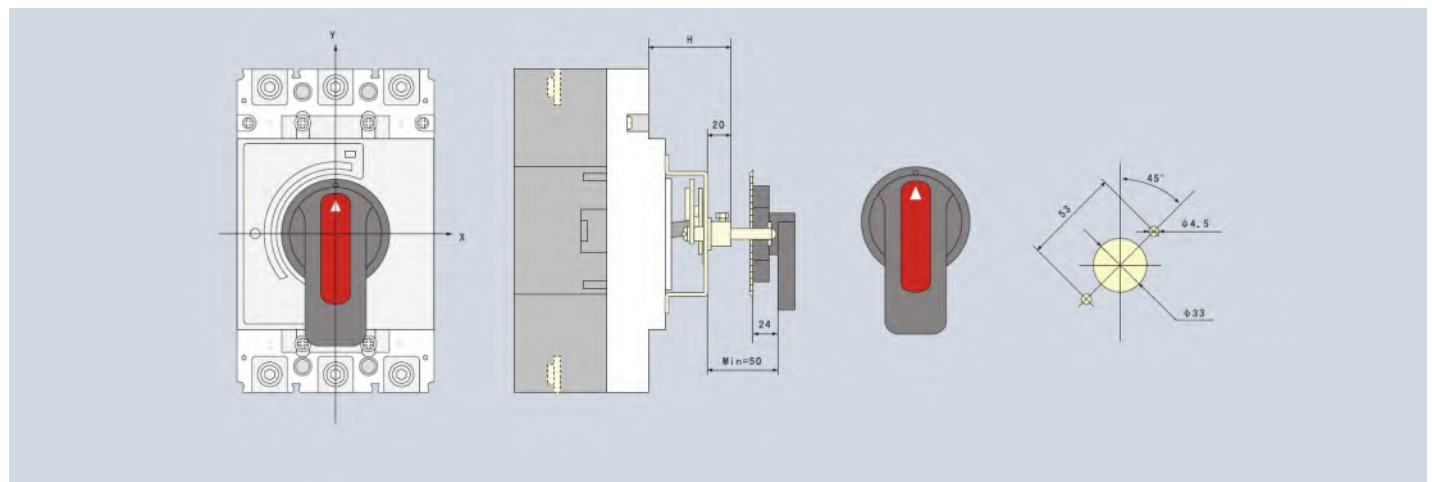


The principle diagram of the opening and closing of DAM2-400、630、800、1250 electric operating mechanism(AC)



2.2 Installation dimensions of manual operating mechanism shown in Table 10

Diagram of handle mounting hole of DAM2-63~800



Total height of electric/manual operating mechanism of circuit breaker (mm)(shown in Table 12)

Model	Total height of electric operating mechanism H	Installation dimensionsof manual operating mechanism H
DAM2L-63	155	49
DAM2M/H-63	164	49
DAM2L-100	152	51
DAM2M/H-100	170	51
DAM2L-225	182	54
DAM2M/H-225	199	54
DAM2L/M/H-400	255	88
DAM2M/H-630	262	89
DAM2M/H-800	261	96
DAM2H-1250	290	103

How to fast Selection Table of DAM2 Series Molded Case Circuit Breaker

DAM2-225 L P/3 3 10 2 T 200A
a b c d e f g h i j

Corresponding letters	Function name	Function corresponding to the model
a	Model features	DAM2 Molded CaseCircuit Breaker
b	Frame rated current code	63A、100A、225A、400A、630A、800A、1250A
c	Breaking capacity characteristic code	L-standard breaking type;M-second high breaking type; H-high breaking type
d	Operation mode code	No code for handle operation;P for electric operation; Z for turning handle operation
e	Pole	2-two poles;3-three poles; 4-four poles

f	Release name	2 Electromagnetic release;3 Double release
g	Accessory	00 Without accessory 08 Alarm contact 10 Shunt release 20 Auxiliary contact 30 Undervoltage release 40 Shunt release, Auxiliary contact 50 Shunt release, Undervoltage release 60 Two sets of auxiliary contacts 70 Auxiliary contact, Undervoltage release 18 Shunt release, Alarm contact 28 Auxiliary contact, Alarm contact 38 Undervoltage release, Alarm contact 48 Shunt release, Auxiliary contact, Alarm contact 58 Shunt release, Undervoltage release, Alarm contact 68 Two sets of auxiliary contacts, Alarm contact 78 Auxiliary contact, Undervoltage release, Alarm contact 10Y Pre-paid meter dedicated release 40Y Pre-paid meter dedicated release, Auxiliary contact 50Y Pre-paid meter dedicated release, Auxiliary contact, Undervoltage release 18Y Pre-paid meter dedicated release, Alarm contact 48Y Pre-paid meter dedicated release, Auxiliary contact, Alarm contact 58Y Pre-paid meter dedicated release, Undervoltage release, Alarm contact
h	Application	No code for distribution;2 for motor protection
i	Conventional products	No code;T for transparent cover products
j	Amperage	10、 16、 20、 25、 32、 63、 80、 100、 125、 160、 180、 200 、 225、 250、 315、 350、 400、 500、 630、 700、 800、 1000 、 1250

Example: DAM2L-100 / 33102 63A means DAM2-type molded case circuit breaker, frame rated current is 100A, breaking capacity is the standard type, handle operation, 3 poles, double release, with shuntrelease, for motor protection, rated current is 63A.

Selection, installation, use should be consistent with the product manual or the relevant national standards.

Note: N-pole type of 4P circuit breaker is divided into A-type, B-type, which is not specified defaults to B type.