PEOPLE
ELECTRIC



RDM8HU series high voltage molded case circuit breaker

Better arc protection

With high performance arc extinguishing cover, using the upper and lower two layers of isolation design arc flying distance is short, can effectively prevent arc flying out caused by line damage.

Double insulation design, safer electricity

The product adopts double-layer electrical insulation design, which improves the safety of user operation.

Stable performance and more durable

With high performance arc extinguishing cover, using the upper and lower two layers of isolation design arc flying distance is short, can effectively prevent arc flying out caused by line damage.

Multiple functions to protect electricity safety

As a line to distribute electrical energy and as aline and power equipment overload, short circuit and undervoltage protec

RDM8HU series high voltage molded case circuit breaker

Product overview

RDM8HU series high voltage molded case circuit breaker (hereinafter referred to as circuit breaker). The circuit breaker is suitable for AC 50/60Hz, Rated insulation voltage 1500V, Rated operational voltage 1140V and below, rated current below 800A distribution network. It is used to distribute power and protect lines and power equipment from overload, short circuit and undervoltage failures. Circuit breakers Rated current630A and below; Can also be used to protect the motor. Under normal circumstances, the circuit breaker can be used as a line to distribute power and as overload, short circuit and undervoltage protection for the line and power equipment。

Circuit breakers for protecting motors, used in distribution networks to break off squirrel-cage motors during starting and running and to protect squirrel-cage motors against overload, short circuit and undervoltage。

Circuit breakers can be installed vertically (i.e. vertical) or horizontally (i.e. horizontal).。

Circuit breakers are suitable for isolation, symbolized as "  "。

The product standard：IEC60947-1IEC60947-2

GB/T14048. 1 Low-voltage switchgear and control equipment - Part 1: General

GB/T14048. 2 Low-voltage switchgear and control equipment - Part 2: Circuit

Selection guide

RDM8HU	400	M	P	3	3	10	AC1140V	125A	AC230V	Board front connection
Product code	Shell level	Breaking ability level	operating mode	Number of poles	Trip mode	Accessory	Rated voltage	Rated current	Accessory voltage	Installation wiring mod
High voltage molded case circuit breaker	250(63~250) 315(280~315) 400(250~400) 630(400~630) 800(630~800)	M: Higher fracture type H: High segment type	Nocode: Direct handle operation P:electrical operation Z:Turnthe handleto operate	3:3 poles	2:Single magnetic type 3:Thermo magnetic type	00: No accessories 08: Alarm contact 10: Shunt release 18: Shunt release, alarm contact 20: auxiliary contact 02: auxiliary contact 28: auxiliary contact, alarm contact 40: Shunt release, auxiliary contact 12: Shunt release, auxiliary contact 48: Shunt release, auxiliary alarm contact 60: two sets of auxiliary contacts 68: Double auxiliary contact, alarm contact	AC800V AC1000V AC1140V	63、80、100、125、140、160、180、200、225、250、280、300、315、350、400、500、630、700、800	Shunt release DC24V AC230V AC400V	Board front connection (no code) Backboard connection

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Normal working conditions and installation conditions

□The altitudeof the installation site does not exceed 2000m;

□Allow the ambient temperature is not higher than +40°C, not lower than -5°C; (Over +40°C capacity reduction, specific consultation with the manufacturer)。

Atmospheric conditions: When the ambient temperature is 40 ℃, the relative humidity of the atmosphere does not exceed 50%, and a higherrelative humidity is allowed at a lowertemperature, such as 90% at 20 ℃, and considering the condensation that occurs on the surface of the product due to temperature changes；

□The pollution level：level 3；

□Installation category：II;

□The magnetic field of the installation position should not exceed 5 times the geomagnetic field in any direction；

□In a medium that is not at risk of explosion, and in which there is no gas or conductive dust sufficient to corrode metal and destroy insulation；

□No erosion from wind and snow；

□Can be installed horizontally and vertically；

□There should be no significant impact and vibration at the installation place, and it should not be installed in flammable and explosive places。

Table 1 Capacity reduction factor for ambient temperature changes

Model number	Rated current	+40°C	+45°C	+55°C	+60°C	+65°C
		Capacity reduction factor	Capacity reduction factor	Capacity reduction factor	Capacity reduction factor	Capacity reduction factor
RDM8HU-250 RDM8HU-315	Under 250A	1In	0.94In	0.9In	0.82In	0.74In
	280A、300A、315A	1In	0.93In	0.89In	0.81In	0.7In
RDM8HU-400 RDM8HU-630 RDM8HU-800	250A、315A 350A、400A	1In	0.96In	0.94In	0.92In	0.89In
	500A、630A	1In	0.93In	0.91In	0.89In	0.85In
	700A	1In	0.9In	0.88In	0.86In	0.81In
	800A	1In	0.88In	0.83In	0.8In	0.75In

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Table 2 Capacity reduction factor of altitude

Model number	Rated current	2000m	2500m	3000m	3500m	4000m	4500m	5000m
		Capacity reduction factor	Capacity reduction factor	Capacity reduction factor	Capacity reduction factor	Capacity reduction factor	Capacity reduction factor	Capacity reduction factor
RDM8HU-250 RDM8HU-315	Below 250A	1In	1In	0.97In	0.96In	0.93In	0.9In	0.88In
	280A、300A、315A	1In	1In	0.97In	0.96In	0.93In	0.9In	0.88In
RDM8HU-400 RDM8HU-630 RDM8HU-800	250A、315A、350A、400A	1In	1In	0.97In	0.96In	0.93In	0.9In	0.88In
	500A、630A	1In	1In	0.97In	0.96In	0.93In	0.9In	0.88In
	700A	1In	1In	0.97In	0.96In	0.93In	0.9In	0.88In
	800A	1In	1In	0.97In	0.96In	0.93In	0.9In	0.88In

Table 3 Release mode and accessory

□Alarm switch ■ Auxiliary switch ●Shunt release →Lead direction

Handle
Left side installation Right side installation

Code	Attachment name	RDM8HU
00	No internal accessories	
08	Alarm contact	
10	Shunt release	
18	Shunt release device, alarm contact	
20	Auxiliary contact	
28	Auxiliary contact, alarm contact	
40	Shunt release device, auxiliary contact	
48	Shunt release device, auxiliary alarm contact	
60	Two sets of auxiliary contacts	
68	Two sets of auxiliary contacts	

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Main technical parameter

Table4

Model		RDM8HU				
Specification		250	315	400	630	800
Number of pole		3				
Breaking ability level		M、H				
Rated current In(A)		63、80、100 125、140、160 200、225、250	280、300 315	250、315 350、400	400、500 630	630、700 800
Rated insulation voltage Ui(V)		1500		1500		
Rated impulse withstand voltage Uimp(kV)		12		12		
Rated operational voltage Ue(V)		AC800、1000、1140				
Arcing distance(mm)		+50(0)		+100(0)		
Rated limit short-circuit breaking capacity Icu(kA)	AC800V	M:36.5	H:50	M:36.5	H:50	
	AC1000V	M:20	H:20	M:20	H:20	
	AC1140V	M:10	H:15	M:10	H:15	
ated operating short-circuit breaking capacity Ics(kA	AC800V	M:25	H:35	M:25	H:37.5	
	AC1000V	M:12	H:15	M:12	H:15	
	AC1140V	M:10	H:15	M:10	H:15	
Electrical life(times)		1500	1000	1000	800	500
Mechanical life(times)[2]	Maintenance free	10000	10000	7000	7000	7000
	Maintenance required	15000	5000	10000	10000	10000
Outline dimension(length×width×height)		288×107×135		320×182×156		
Reference ambient temperature°C		40				

The over-current trip device consists of a thermal long-delay trip device with inverse time-limit characteristics and an instantaneous electromagnetic trip device, whose operating characteristics are shown in Table5.

Table5

Distribution circuit				Circuit breakers for protecting motors			
Rated current In(A)	thermal overload release		Electromagnetic trip operating current(A)	Rated current In(A)	thermal overload release		Electromagnetic trip operating current(A)
	1.05Inconventional non-tripping time(h)(cold)	1.30Inconventional non-tripping time(h)(thermal)			1.0Inconventional non-tripping time(h)(cold)	1.2Inconventional tripping current(h)(cold)	
63＜In≤125	2	2	10In±20%	63≤In≤630	2	2	12In±20%
125＜In≤800	2	2	5In±20% 10In±20%				

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Shunt releaser

The rated control power supply voltage of shuntreleaseis:AC230V; 400V; DC24V;Thecircuit breaker can be reliably disconnected under 70% ~ 110% rated control power supply voltage.SeeFigure1 for the user connection。

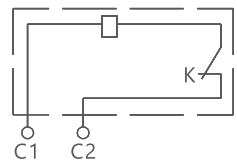


Figure1 AC 230V、400V、DC 24V Wiring diagram

The auxiliarycontacts of the circuit breaker are divided into two groups, each group of auxiliary contacts is not separated electrically; Auxiliary contact parameters are showninTable8.User connections are shownin Table6.

Table6

The circuit breaker is in the "off" position	F14 F12 F11 F24 F22 F21	Chassis class current 400A and above circuit breakers
	F14 F12 F11	Chassis class current 250A and above circuit breakers
The circuit breaker is in the "on" position	When "off", the contact in the connected state turns to the disconnected state, When "off", the contact in the disconnected state turns into the connected state	

The rated working voltage and related parameters of alarm contacts are shown in Table 8, and the wiring diagram is shown in Table 7. The alarm contact of the circuit breaker does not operate when the circuit breaker is in normal closing, and the contact changes its original position only after free tripping or fault tripping。

Table7

The circuit breaker is in the position of "off" "on"	B14 B12 B11
The circuit breaker is in the position when the "free trip" alarm is issued	B11,B12 contact from the connected state to the disconnected state B11, B14 contact from the disconnected state to the connected state

Table8 Auxiliary contact,alarm contact parameters

Table8

Classification	Shell level rating current	Conventiona l thermal current A	AC-15			DC-13	
			Rated operating voltageV	Rated frequencyHz	Rated current A	Rated operating voltage V	Rated current A
Auxiliary contact	Inm≤250	3	400	50	0.3	230	0.15
	Inm≥400	3			0.4		0.15
Alarm contact	63≤Inm≤800	3			0.3		0.15

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Outline and Installation dimension

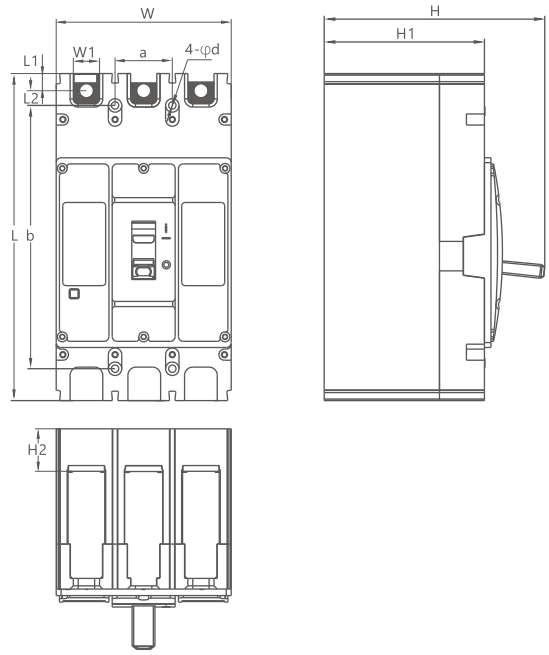
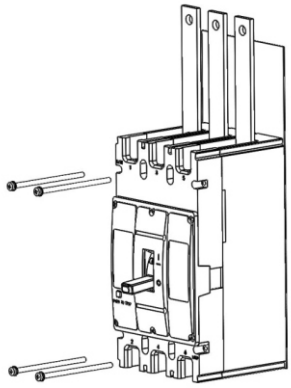


Table 9

Type specification	Outline dimension(mm)								Installation dimension(mm)		
	L	W	H	L1	L2	W1	H1	H2	a	b	4-Ød
RDM8HU-250/3 RDM8HU-315/3	200	107	135	10.5	9.5	22	98	26	35	164	4.5
RDM8HU-400/3 RDM8HU-630/3 RDM8HU-800/3	270	182	156	18	18	41	118	29	58	200	7

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Terminal cover installation instruction



1.Use mounting screws to secure the product to the cabinet

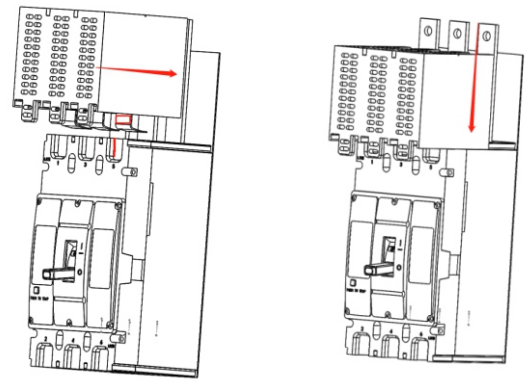


Figure 2

2. After the assembled flarc cover is flush with the red marked surface on the middle cover, slide the flarc cover to the product side according to Figure 2, so that the flarc cover and the base are clamped

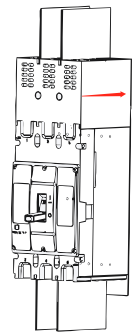


Figure 3

3. After the arcing cover is clamped between the base and the middle cover according to Figure 2, apply force in the direction marked in red according to Figure 3 to move the arcing cover. After installation, proceed as shown in Figure 3

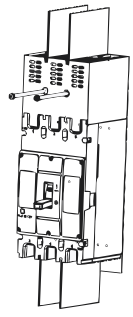


Figure 4

4.Finally, use screws to fix the arc baffle on the arc hood, as shown in Figure4

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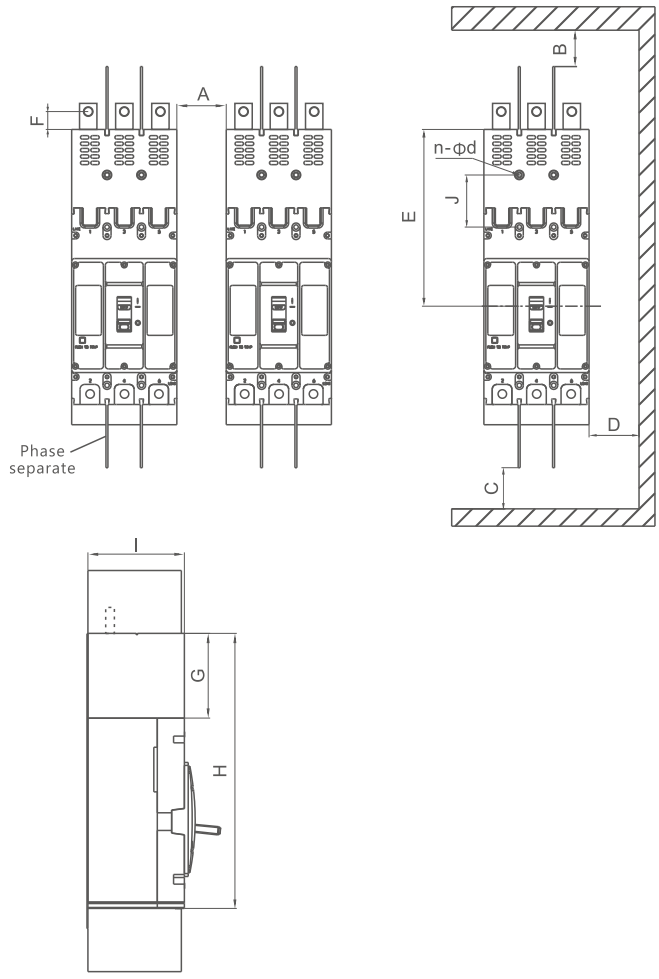


Table 10

Type specification	Distance(mm)									
	A	B	C	D	E	G	H	I	J	n-φd
RDM8HU-250/3	30	30	30	30	188	80	280	94	53	2-φ4.5
RDM8HU-315/3										
RDM8HU-400/3	30	30	30	30	185	50	320	118	60	4-φ4.5
RDM8HU-630/3										
RDM8HU-800/3										

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Main circuit connection

A.Wiring before the board: Select the PVC copper wire of the corresponding section specified in Table 11, strip the insulation layer of an appropriate length, insert it into the hole of the wire hoop, compress the outer layer of the wire hoop, wrap the wire tightly, and then tighten the connecting hole of the wire hoop with the wiring end of the circuit breaker with screws (see Table 12 for screw tightening torque); For a copper bar, secure the patch board to the circuit breaker and then to the copper bar.
B.Wiring at the back of the board: Fix the circuit breaker with the wiring stud at the back of the board according to the figure, and then fix it with the corresponding wire.

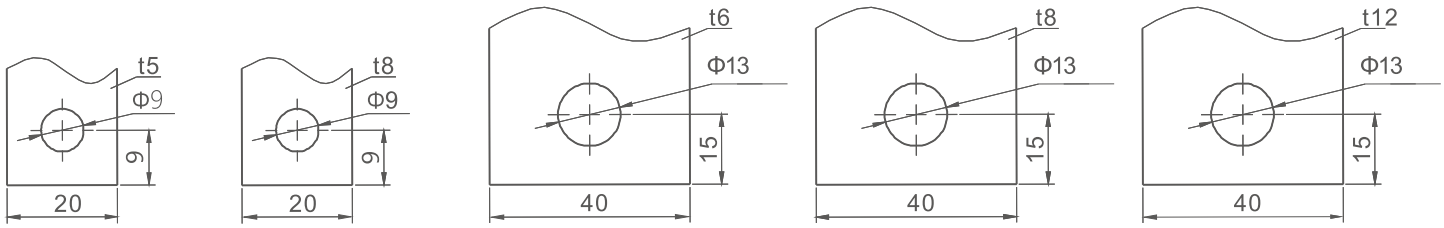
Table 11

Rated current(A)	63	80	100	125/140	160	180/200/225	250	315/350	400
Conductor area mm²	16	25	35	50	70	95	120	185	240
Rated current(A)	Sectional area of cable					Copper bar dimension			
	Number		Sectional area mm²			Number			
500	2		150			2		30×5	
630	2		185			2		40×5	
700,800	2		240			2		50×5	

Table 12 Screw tightening moment

Table 12

Model number	RDM8-250/315	RDM8-400/630/800
Wiring screw spe	M8	M10
Torque(N·m)	12	22



RDM8-250 RDM8-315 RDM8-400 RDM8-630 RDM8-800

RDM8 Series recommended prefabricated copper bar size

Order instructions

The following items must be filled out clearly when ordering
☐Specify circuit breaker model, rated current, short-circuit protection current setting value, operation mode, wiring mode；
☐Trip method and attachment code (Table 1): If it is not indicated when ordering, it shall be supplied without attachment (i.e. 3300); When ordering a circuit breaker with a shunt trip, the rated control supply voltage must be indicated；
☐This series of circuit breaker internal accessories (shunt, auxiliary, alarm) are used lead out of the line, if you need the terminal can be customized；
☐Example: Order RDM8HU-250M, three poles, front board wiring, 200A, quantity 100 units。
It should be written as: RDM8HU-250M/3300200A 100 unitsnt connection, 200A, 100 units.
It should be written as: RDM8PV-250/2300200A, DC1000V,100 units