PEOPLE
ELECTRIC

RDM8DC series DC molded case circuit breaker

High-quality materials, reliable electricity

The shell is made of polyamide material with high flame retardant, high strength, corrosion resistance, high temperature resistance and safe insulation。

Applies to various scenarios

It can be used in new energy, electric power, industrial control, real estate, telecommunications,rail transit and other industries。

Better protection and selectivity

250, 315, 400, 630, 800 five shell frame to provide more selectivity, impact pressure 12kV, to meet more industry requirements。

Panel removable design

Panel modular detachable design, complete selection of electrical installation accessories to meet different needs。

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Product overview

RDM8DC series DC circuit breaker (hereinafter referred to as circuit breaker) is used in the Rated voltageDC250V~DC1500V, rated working current 63A~800A DC power grid circuit, this circuit breaker has overload long delay, short circuit instantaneous protection function. Used to distribute power and protect lines and power equipment from overload, short circuit and other faults。

The product standard: IEC60947-1IEC 60947-2
GB/T14048.1 "Low voltage switchgear and control equipment - Part 1: General Provisions"
GB/T14048.2 "Low voltage switchgear and control equipment - Part 2: Circuit

Selection guide

RDM8DC	400	P	3	3	10	DC1500V	125A	AC230V	Board front connection
Product code	Shell level	operating mode	Number of poles	Trip mode	Accessory	Rated voltage	Rated current	Accessory voltage	Installation wiring mod
RDM8DC DC molded case ciercuit breaker RDM8PV molded case circuit breaker for photovoltaic	250(63~250) 315(280~315) 400(250~400) 630(400~630) 800(630~800)	No code: Direct handle operation P: electrical operation Z: Turn the handle to operate	2:2 poles 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	DC250V DC500V DC750V DC1000V DC1250V DC1500V	63、80 100、125 140、60 180、200 225、250 280、300 315、350 400、500 630、700 800	Shunt release DC24V、DC400V	Board front connection (No code) Backboard connection

Note: Attached 2P products are only available in 08, 10, 20, 28(under 400 shell)

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Normal working conditions and installation

□The altitude of the installation site does not exceed 2000m;

□Allow the ambient temperature is not higher than +50℃, not lower than -5℃; (Over +50℃ capacity reduction use, specific consultation with the manufacturer)。

□Atmospheric conditions: When the ambient temperature is 50 ℃, the relative humidity of the atmosphere does not exceed 50%, and a higher relative humidity is allowed at a lower temperature, 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；

□The 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；

□an be installed in horizontal and vertical；

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

Table 1 Capacity reduction factor for ambient temperature changes

Model number	Rated current	+50°C	+55°C	+60°C	+65°C	+70°C
		Capacity reduction factor	Capacity reduction factor	Capacity reduction factor	Capacity reduction factor	Capacity reduction factor
RDM8□-250 RDM8□-315	Below 250A	1In	0.94In	0.9In	0.82In	0.74In
	280A、300A、315A	1In	0.93In	0.89In	0.81In	0.7In
RDM8□-400 RDM8□-630 RDM8□-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
		Derating factor	Derating factor	Derating factor	Derating factor	Derating factor	Derating factor	Derating factor
RDM8□-250 RDM8□-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
RDM8□-400 RDM8□-630 RDM8□-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

□Alarmswitch ■Auxiliaryswitch ●Shuntrelease →Leaddirection

Handle
Left side installation Right side installan

Code	Attachment name	RDM8
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 and alarm contacts	

Note: 2P products are only available under 08, 10, 20, 28(under 400 shell)

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Main technical parameters

Table4

Model		RDM8DC/PV-250/315	RDM8DC/PV-400/630/800
Rated current(A)		250: 63、80、100、125、140、160、180、200、225、250 315: 280、300、315	400:250、315、350、400 630:400、500、630 800:630、700、800
Number of pole		Two poles, three poles	
Rated insulation voltage Ue(DC:V)		250/500/750/1000/1500(2poles outline) 1000/1250/1500(3 poles outline)	250/500/750/1000/1500(2 poles outline) 1000/1250/1500(3 poles outline)
Rated insulation voltage Ui(V)		1500	1500
Rated impulse withstand voltage Uimp(kV)		12	12
Rated limit/operating short-circuit breaking capacity cu/Ics(kA)	DC250V/500V(2 poles)	50/50	50/50
	DC750V/1000V(2 poles)	25/25	25/25
	DC1500V(2 poles)	7.5/7.5	10/10
	DC1000V/1250V/1500V (3 poles)	25/25	1000:40/40 1500:30/30
Operating performance (times)	Electrify	1000	1000
	No electricity	7000	4000
Outline dimension mm (length X width X height)		200X76X135(2P) 200X107X135 (3P)	270X130X156 270X182X156

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 Table 5.

Table5

Distribution circuit breaker			
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)	
In≤63	1	1	5In±20%
63<1n≤800	2	2	

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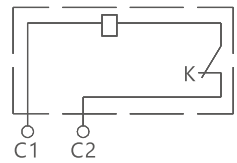
Shunt release

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。



Powerinput

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	Shell level circuit breaker with 400A or higher current
	F14 F12 F11	Shell level circuit breaker with 250A or higher current
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 operational 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 breakeris 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"or"on"	B14 B12 B11
The circuit breaker is in the position when the "free free tripping	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 operational voltage	Rated frequency Hz	Rated current A	Rated operational 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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Connection mode

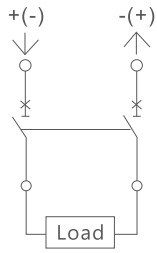


Figure1

Two pole product wiring diagram

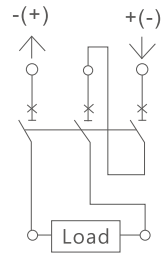


Figure 2

250/315 Three pole wiring diagram

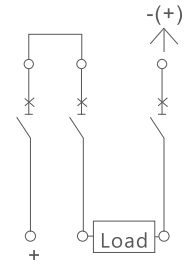
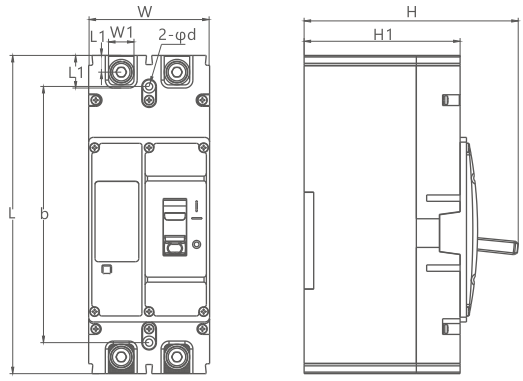


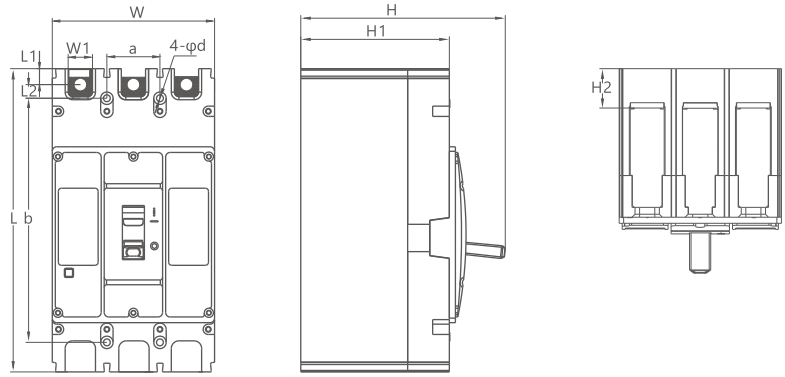
Figure 3

400/630/800 Three pole wiring diagram

Outline and Installation dimension



2P outline



3P outline

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Table 9

Type specification	Outline dimension(mm)								Installation dimension(mm)		
	L	W	H	L1	L2	W1	H1	H2	a	b	4-Ød
RDM8□-250/2 RDM8□-315/2	200	76	135	10.5	9.5	22	98	26	/	164	4.5
RDM8□-250/3 RDM8□-315/3	200	107	135	10.5	9.5	22	98	26	35	164	4.5
RDM8□-400/2 RDM8□-630/2 RDM8□-800/2	270	130	156	18	18	41	118	29	/	200	7
RDM8□-400/3 RDM8□-630/3 RDM8□-800/3	270	182	156	18	18	41	118	29	58	200	7

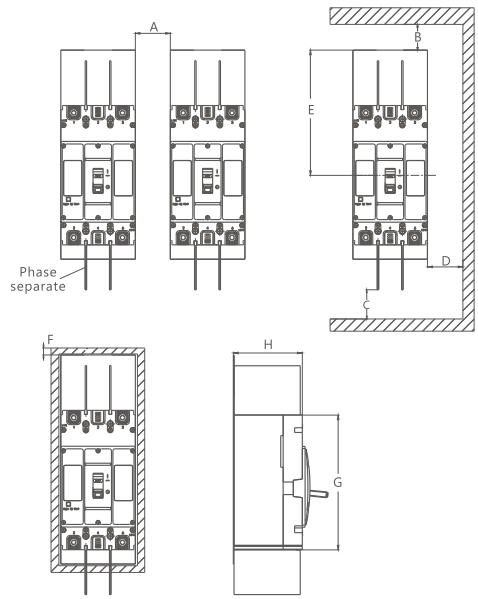

Table10

Type specification	Distance(mm)								
	A	B	C	D	E	F	G	H	n-φd
RDM8□-250	30	30	30	30	188	13	80	280	2-φ4.5
RDM8□-315									
RDM8□-400	30	30	30	30	185	13	50	320	4-φ4.5
RDM8□-630									
RDM8□-800									

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Main circuit connection

A.Board front connection：Select the PVC copper conductor of the corresponding section specified in Table 11, strip off 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 tighten the connecting hole of the wire hoop with the wiring end of the circuit breaker using 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.Backboard connection：Fix the circuit breaker to the Backboard connection stud as shown, and then fix it with the corresponding wire。

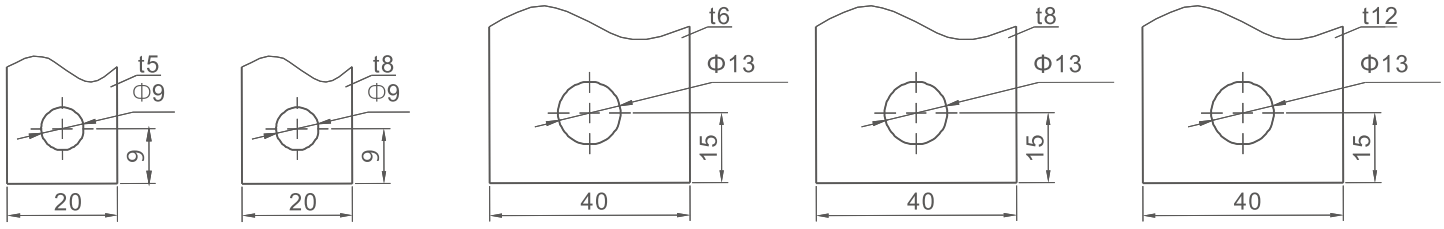
Table 11

Rated current(A)	63	80	100	125/140	160	180/200/225	250	315/350	400
Conductor area mm^2	16	25	35	50	70	95	120	185	240
Rated current(A)	Sectional area of cable					Copper bar dimension			
	Number		Sectional area mm^2			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 number, Rated current, short-circuit protection current setting value, operating mode, wiring mode；

□Trip mode and attachment code (see Table 1): If it is not specified when ordering, the goods shall be delivered without attachment (i.e. 2300 or 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 RDM8-250, photovoltaic DC1000V, two poles, Board front connection, 200A, 100 units.

It should be written as: RDM8PV-250/2300200A, DC1000V,100 units