



## RDB8DC-63 Series DC miniature circuit breaker



### Adapt to more application scenarios

Suitable for photovoltaic, new energy, industry, communication and infrastructure applications.



### Good environmental protection and durable materials

Using thermoplastic shell, flame retardant high temperature resistance, strong impact resistance, recyclable environmental protection materials.



### Responsive with multiple protections

With overload protection, short circuit protection function, sensitive performance, fast power off, protect power safety.



### Safe and reliable electric protections

Integrated front cover design, beautiful and safe, prevent arc overflow, ensure safe operation.

# RDB8DC-63 series DC miniature circuit breaker

## Product overview

RDB8DC-63 series DC miniature circuit breaker(hereinafter referred to as circuit breaker), mainly used in the rated DC operating voltage does not exceed 1000V, rated DC current does not exceed 63A, rated short circuit breaking capacity does not exceed 10000A protection distribution line, as the line is not frequently connected, broken and converted. With overload, short circuit protection function. At the same time, it has a powerful auxiliary function module, such as auxiliary contact, contact with alarm indication.

RDB8DC series circuit breaker is a circuit breaker product with high current limiting ability and high reliability, which is specially developed for the communication industry. It is mainly used for power distribution systems such as main cabinets, power supply cabinets, distribution cabinets, and outdoor cabinets in the communications industry.

Products comply with: GB/T14048.2 standard.

## Selection guide

RDB8DC	63	6	2	C	63	OF
Product code	Shell level	Breaking capacity	Number of poles	Trip type	Rated voltage	Electric attachments
DC miniature circuit breaker	63	6kA 10kA	1P 2P 3P 4P	C D	1P:DC125V/250V 2P:DC250V/500V 3P:DC300V/750V 4P:DC500V/1000V	Auxiliary contact:OF Alarm contact:SD

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## Normal working conditions and installation conditions

- The upper limit of ambient air temperature shall not exceed +40°C, the lower limit shall not be lower than -5°C, and the average temperature of 24h shall not exceed +35°C;
- The elevation of the installation site should not exceed 2000m;
- The relative humidity of the atmosphere does not exceed 50% when the ambient air temperature is +40°C, and a higher relative humidity is allowed at a lower temperature. For example, 90% at +20°C. Special measures should be taken for condensation that occasionally occurs on the product due to temperature changes;
- When wiring, the correct pole of the power supply must be connected to the positive pole of the circuit breaker, and the negative extreme must be connected to the negative pole of the circuit breaker. Reverse connection is not allowed;
- Pollution level: Level 2;
- Installation conditions: Installed in a place without significant impact, vibration, and in a medium without danger (explosion);
- Installation method: Using TH35-7.5 mounting rail;
- Installation category: Class II, Class III.

## Product classification

- According to the number of poles: 1P2P3P4P;
- According to the instantaneous tripping current form: Type C ( $8In \pm 20\%$ ) Type D ( $12In \pm 20\%$ );
- According to the rated current: 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A and 63A;
- According to the rated operating voltage: 125V/250V DC(1P) 250V/500V DC(2P) 300V/750V DC(3P) 500V/1000V DC(4P).

## Main technical data

Overcurrent trip characteristics: When the circuit breaker is installed under normal conditions and the ambient temperature (30-35 °C), the overcurrent trip characteristics comply with the provisions of Table 1.

The rated short-circuit breaking capacity of the circuit breaker is shown in Table 2

Table 1

Trip type	Test current In	Appointed time	Expected result	Initial state	Annotation
Type C	$8In \times 80\%$	$t \leq 0.2s$	Non-trip	Cold State	Close the auxiliary switch and turn on the power
	$8In \times 120\%$	$t < 0.2s$	trip		
Type D	$12In \times 80\%$	$t \leq 0.2s$	Non-trip	Cold State	The current rises to the specified value within 5S
	$12In \times 120\%$	$t < 0.2s$	trip		
Type C/D	1.05In	$t \leq 1h$	Non-trip	Cold State	-----
	1.3In	$t < 1h$	trip	Hot state	

Table 2

Trip type	Rated current A	Rated short-circuit breaking capacity
Type C/D	$6 \leq In \leq 63$	6000(1P 250V, 2P 500V, 3P 750V, 4P 1000V) 10000(1P 125V, 2P 250V, 3P 300V, 4P 500V)

## RDB8DC-63 series miniature circuit breaker

Mechanical electrical life:

Circuit breaker under the specified rated voltage, switch on and break the rated current, power factor is 0.85~0.9, operating cycle 120 times per hour ( $>32A$ ) or 240 times ( $\leq 32A$ ) frequency test, its mechanical and electrical life is 10000 times, electrical life DC 1500 times.

Structure and working principle:

The circuit breaker consists of contact system, arc extinguishing system, electromagnetic system, tripping mechanism, operating mechanism and housing.

The working principle of the circuit breaker. under normal working conditions, pull the operating mechanism, at this time the release mechanism is locked, and the dynamic and static contacts contact to make the power connected. When the line is overloaded, the bimetal sheet of the electromagnetic system produces deformation, pushes the lock to release the mechanism, and moves the contact to disconnect and cutoff the power supply. When the circuit is short-circuited, the electromagnetic system draws the iron core, and the iron core top rod pushes the lock to make the mechanism release, completing the breaking protection function of the circuit breaker.

### Outline dimensions and installation dimension

Outline dimensions and installation dimensions of the circuit breaker are shown in Figure1.

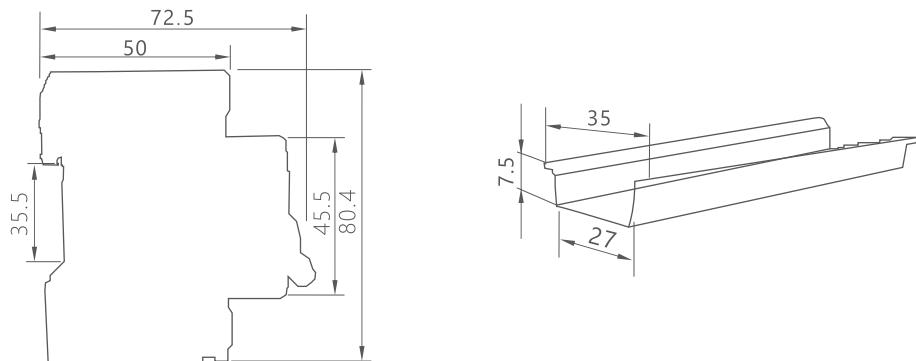
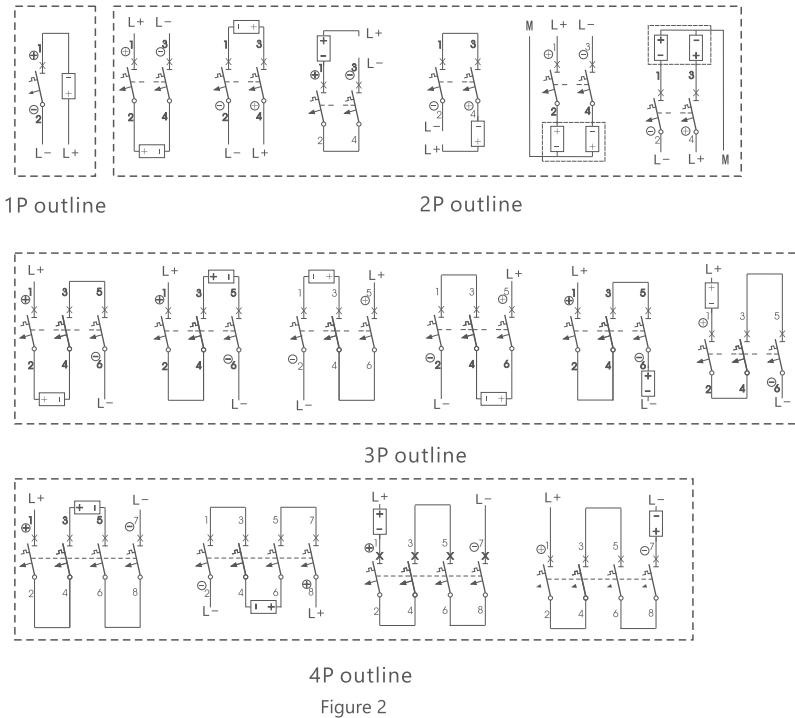


Figure1

Size	1P	2P	3P	4P
L(mm)	$18_{-0.5}^0$	$36_{-1.0}^0$	$54_{-1.5}^0$	$72_{-2.0}^0$

## RDB8DC-63 series miniature circuit breaker

### DC wiring diagram



### Installation and adjustment

Note the following before installing the circuit breaker:

- Check the circuit breaker to ensure that it is intact and flexible.
- Check whether the label content of the circuit breaker is consistent with the actual use conditions.

When installing the circuit breaker, pay attention to the sign of the wiring end. The setting current cannot be adjusted by itself and no maintenance is required. The circuit breaker is installed using the mounting rail as shown in Figure 3.

### Order instruction

When ordering circuit breakers, the following points should be specified: 1) Product model and specification; 2)

The number of poles of the circuit breaker; 3) Rated current; 4) Release type; 5) Order quantity

Example: Set RDB8DC-63 miniature circuit breaker rated current is 32A, 1P, C type, 1000 sets.

It should be written as small circuit breaker RDB8DC-63 C321P, 1000 sets.

Wiring diagram specification:  
 1、L+: Positive power supply, L-:Negative power supply  
 2、+:Circuit breaker positive, -:Circuit breaker negative  
 3、四-load;  
 4、DC power supply usually: L- earthing, positive and negative power supply system polarity M earthing.

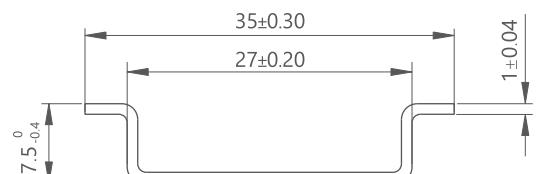


Figure 3 Dimensions of mounting rail