YCB6HLE-63

Residual Current Operated Circuit Breaker

OPERATION INSTRUCTION

Standard: IEC 61009-1

CNC Deliver Power For Better Life

⚠ Before installing and using this product, please read this manual carefully and pay more attention to safety.

YCB6HLE-63 series

RCBO Instruction

1 General

YCB6HLE-63 residual current operated circuit breaker with over-current protection (hereinafter referred to as RCBO) is suitable for AC 50Hz/60Hz, rated voltage up to 400V, rated current up to 63A, for residual current protection, overload and short circuit protection. When the human body gets an electric shock or the network leak current exceeds the specified value, the residual current operated circuit breaker can rapidly cutoff the human body and the powered equipment. With the function of overload and short circuit protection, the residual current operated circuit breaker can be used to protect the circuit or motor from being damaged by overload and short circuit, and can also be used for not-frequent operational transformation in the circuit under normal condition.

The product meets the standards of IEC 61009-1.

2 Operating conditions

2.1 Ambient temperature: -25℃~+60℃.

2.2 Air conditions: At mounting site, relative humidity not exceed 50% at the maximum temperature of +40℃.For the wettest month, the maximum relative humidity averaged shall be90%while the lowest temperature averaged in that month is +20℃, special

measures should be taken to occurrence of condensation.

2.3 Altitude:≤2000m.

2.4 The installation category is II and III.

2.5 The circuit breaker shall be installed on DIN rail EN 60715(35mm), which shall meet the A1.1 TH 35-7.5 steel mounting rail requirements.

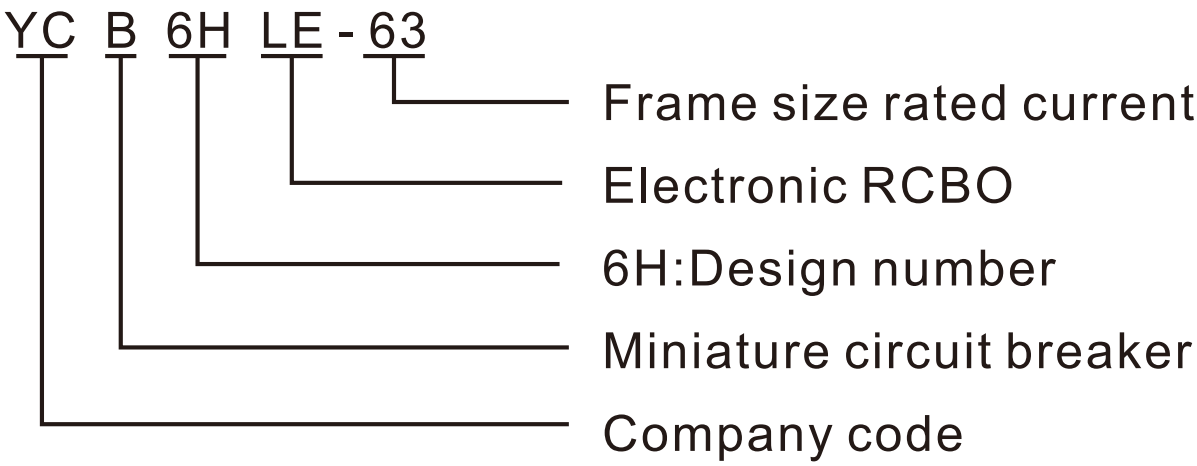
2.6 Pollution grade: 2

2.7 Mounting conditions: inclination between mounting plane and vertical plane not exceed ±5°

2.8 The external magnetic field of the installation site should not exceed 5 times of the geomagnetic field in any direction.2.8 The product should locate in the places where there are no obvious impact and shake.

3 Basic parameters

3.1 Type designation



3.2 The basic specifications and technical parameters of the circuit breaker are shown in Table 1, and breaking time of the residual current operating is shown in Table 2.

Table 1

Pole	Rated residua operating current I△n	Frequency Hz	Rated voltage Ue/V	Rated voltage In/A	Tripping type	Rated residual making and breaking capacity I△m	Rated short circuit capacity Icn
1P+N: 1pole 2wires	0.03A/ 0.05A/ 0.1A I△n0= 0.5I△n	50/60	AC230	6, 10, 16, 20, 25, 32, 40, 50, 63	C type: (5~10)In D type: (10~14)In	2kA	6000A
2P: 2poles			AC230				
3P: 3poles			AC400				
3P+N: 3pole 4wires			AC400				
4P: 4poles			AC400				

Table 2

In(A)	I△n(A)	Breaking time when the residual current is the following values (s)				
		I△n	2I△n	5 I△n a	5A~200A, 500A b	I△n t c
6~63	0.03/ 0.05/ 0.1/0.3	0.1	0.05	0.04	0.04	0.04

a. For general RCBO with I△n≤0.03A, 0.25A can be used instead of 5I△n.
b. The test of 5A ~ 200A, 500A is only performed for the verification of operation, and is not performed for the magnitude of current greater than the lower limit of the over-current instantaneous tripping range.
c. The test is carried out for the current with the I△n being equal to the lower limit of the over-current instantaneous tripping range for Type B ,Type C or Type D.

3.3 Over-current protection characteristic is shown in Table 3.

Table 3

Test	Type	Testing current	Initial state	Time limit for tripping or not tripping	Expected result	Testing environment temperature	Remarks
a	C/D	1.13In	Cold state	t≤1h (In≤63A)	Not tripping	30°C~35°C	Current is rising within 5s
b	C/D	1.45In	Right after test a	t<1h (In≤63A)	Tripping		
c	C/D	2.55In	Cold state	1s<t<60s(In≤32A) 1s<t<120s(In>32A)	Tripping		
d	C D	5In 10In	Cold state	t≤0.1s	Not tripping		Turn on the power supply by closing the auxiliary switch
e	C D	10In 14In	Cold state	t<0.1s	Tripping		

Note: The terminology “Cold state” means that the test is performed at the base calibration temperature with no load prior to the test.

3.4 Mechanical and electrical life is shown in Table 4.

Table 4

Item	Times	Operating frequency (times/hour)	Power factor
Electrical life	4000	240 times per hour (In≤25A)	Cos Φ = 0.85~0.9
Mechanical life	10000	120 times per hour (In>25A)	

3.5 Wiring

Before installation, check whether technical parameter of the circuit breaker is in conformity with user's requirement.

The conductor of power supply shall be connected to the up terminal of circuit breaker. During installation, the tightening torque is max2.5N-m. The sectional area of connecting wire can refer to Table 5.

Table 5

Rated current In A	Conductor cross section S mm^2
6	1
10	1.5
16, 20	2.5
25	4
32	6
40, 50	10
63	16

4 Overall and mounting dimensions

Overall and mounting dimensions of the circuit breaker are shown in Fig. 1 and Table 6.

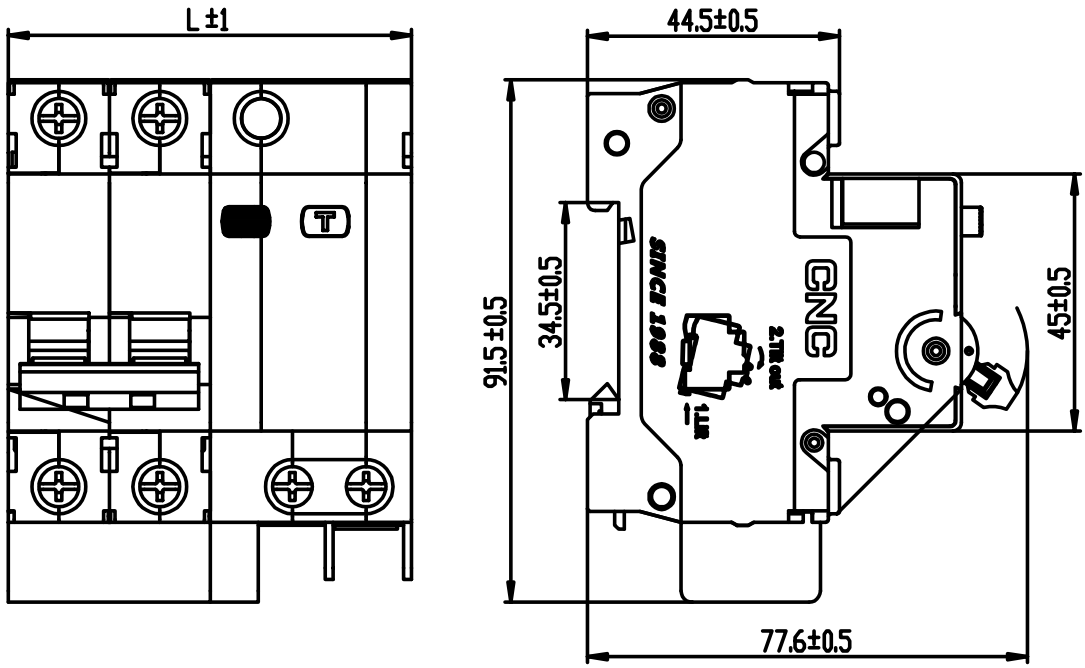


Fig. 1 Overall and mounting dimensions

Table 6

Number of current loops	Number of poles	Size L
Single pole two wire	1P+N	53.3
Two poles	2P	71.11
Three poles	3P	101. 9
Three poles four wire	3P+N	114.9
Four poles	4P	132.7

5 Ordering instructions

5.1 When ordering, the customer shall indicate: the product name of RCBO, model, rated current, rated residual operating current, instantaneous tripping type, number of poles, quantity. For example: YCB6HLE-63 C63 1P+N 0.03A 880 units.

5.2 Special requirements of customers can be negotiated separately.

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CERTIFICATE

Product Model: YCB6HLE-63

Standard: IEC 61009-1

Inspector : CNC003

Production date: Printed on the product or package.

This product is qualified according to the delivery inspection

CNC ELECTRIC

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