

# YCB7LE-125 series


Residual Current Operated  
Circuit Breaker

OPERATION INSTRUCTION

Standard: IEC 60947-2

**CNC**

Deliver  
Power For Better Life

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

# **YCB7LE-125 series**

## **Residual Current Operated Circuit Breaker Instruction**

### **1 General**

YCB7LE-125 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 100A, 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 60947-2.

## **2 Operating conditions**

2.1 Ambient temperature:  $-25^{\circ}\text{C}\sim+60^{\circ}\text{C}$ .

2.2 Air conditions: At mounting site, relative humidity not exceed 50% at the maximum temperature of  $+40^{\circ}\text{C}$ . For the wettest month, the maximum relative humidity averaged shall be 90% while the lowest temperature averaged in that month is  $+20^{\circ}\text{C}$ , special measures should be taken to occurrence of condensation.

2.3 Altitude:  $\leq 2000\text{m}$ .

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

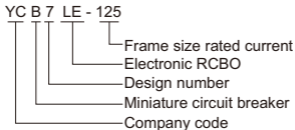
2.7 Mounting conditions: inclination between mounting plane and vertical plane not exceed  $\pm 5^{\circ}$ .

2.8 The external magnetic field of the installation site should not exceed 5 times of the geomagnetic field in any direction.

2.9 The product should locate in the places where there are no obvious impact and shake.

### 3 Type designation

#### 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

Poles	Rated residual operating current $I_{\Delta n}$	Frequency Hz	Rated voltage $U_e/V$	Rated current $I_n/A$	Tripping type	Rated short circuit capacity $I_{cn}$
1P+N:1 pole 2 wires	$I_{\Delta no} = 0.5I_{\Delta n}$	50/60	AC230	63, 80, 100	(C) $I_i = 8I_n$ , (D) $I_i = 12I_n$	6kA
2P: 2 poles			AC230			
3P: 3 poles			AC400			
3P+N:3 pole 4 wires			AC400			
4P: 4 poles			AC400			

Table 2

In(A)	IΔn(A)	Breaking time when the residual current is the following values (s)				
		IΔn	2IΔn	5IΔn a	5A~200A 500A b	IΔt c
63, 80, 100	0.03/ 0.1/ 0.3	0.1	0.05	0.04	0.04	0.04

a. For general RCBO with  $I_{\Delta n} \leq 0.03A, 0.25A$  can be used instead of  $5I_{\Delta n}$ .

b. The test of  $5A \sim 200A, 500A$  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  $I_{\Delta n}$  being equal to the lower limit of the over-current instantaneous tripping range for Type C or Type D.

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

Table 3

Test	Rated current	Type	Test current	Initial status	Tripping type	Expected result	Remarks
a	63A, 80A,	C,D	1.05In	Cold state	$t \leq 1h(In \leq 63A),$ $t \leq 2h(In > 63A)$	Not tripping	Current increase steadily within 5s
b		C,D	1.3In	Right after test number a	$t \leq 1h(In \leq 63A),$ $t \leq 2h(In > 63A)$	Tripping	
c		C,D	2.55In	Cold state	$1s < t < 120s$	Tripping	
d	100A	C	$8In \times 80\%$	Cold state	$t \leq 0.2s$	Not tripping	The power supply is turned on by closing the auxiliary switch
		D	$12In \times 80\%$				
e		C	$8In \times 120\%$	Cold state	$t < 0.2s$	Tripping	
		D	$12In \times 120\%$				

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

Electrical life: 1500 times

Mechanical life: 8500 times

### 3.5 Wire connection

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 max3.5~5N·m. The sectional area of connecting wire can refer to Table4.

Table 4

Rated current In A	Conductor cross section S mm <sup>2</sup>
63	16
80	25
100	35

## 4 Overall and mounting dimensions

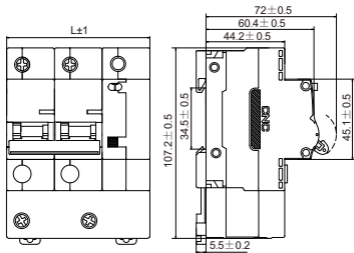


Table 5

Poles	L(mm)
1P+N	53.6
2P	80.4
3P	107.2
3P+N	107.2
4P	134



## **5 Ordering instruction**

5.1 When ordering, the customer shall indicate the product type, tripping curve, rated current, number of poles, accessories and quantity of the circuit breaker. For example: YCB7LE-125 3P C100 1000pcs.

5.2 Customers can negotiate separately if you have special requirements .



# CERTIFICATE

Product Model: YCB7LE-125

Standard: IEC 60947-2

Inspector : **CNC003**

Production date: Printed on the product  
or package.

This product is qualified according  
to the delivery inspection

A red vertical rectangle containing the white text 'CNC'.

YCB7LE-125 series

## CNC ELECTRIC

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