

YCB7-63N series


Miniature Circuit Breaker

OPERATION INSTRUCTION

Standard: IEC 60898-1

CNC

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

YCB7-63N series

Miniature Circuit Breaker Instruction

1.General

YCB7-63N miniature circuit breaker (circuitbreaker) is applicable to the circuit with AC50Hz/60Hz, rated voltage of no more than 400V, and rated current up to 63 A for overload protection and short circuit protection. This product can be applied to various places such as industrial, commercial, tall buildings, and residential houses.

Standard: IEC60898-1

2.Operating conditions

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

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

2.3 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.

2.4 The installation category is II, III.

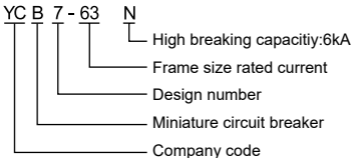
2.5 The circuit breaker shall be installed on DINrail EN 60715 (35mm), which shall meet the A1.1 TH 35-7.5 steel mounting rail requirements.

2.6 Pollution grade: 2

2.7 Mounting conditions: inclination between mounting plane and vertical plane not exceed ± 50 .

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

3.Type designation



3.1 The basic specifications and main technical parameters of the circuit breaker are shown in Table 1; The overcurrent protection characteristics are shown in Table 2.

Table 1

U _i	500V	
Number of poles	1P/2P	3P/4P
Rated frequency Hz	50/60	
Rated voltage U _e	AC230V/400V	AC400V
Rated Current I _n	6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A	
Thermo-magnetic release characteristic	B/C/D	
Rated short circuit breaking capacity I _{cn}	6kA	

Table 2

	Test	Test estcurrent	Initial status	Time limit for tripping or not tripping	Expected result	Testing environment temperature	Remarks
a	BCD	1.13In	cold state	$t \leq 1h$	Not tripping	30°C~35°C	current Increase steadily within 5s
b	BCD	1.45In	Right after test number a	$t < 1h$	Tripping		
c	BCD	2.55	cold state	$1s < t < 60s$ (In $\leq 32A$) $1s < t < 120s$ (In $> 32A$)	Tripping		
d	BCD	3In 5In 10In	cold state	$t \leq 0.1s$	Not tripping		Turn on the power supply by closing the auxiliary switch
e	BCD	5In 10In 20In	cold state	$t < 0.1s$	Tripping		Turn on the power supply by closing the auxiliary switch

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

3.2 Mechanical and Electrical lifeshown in Table 3

Table 3

Item	Times	Operation Frequency times/h	Rated current(A)
Electrical life	10000	240	1~32
		120	40 ~ 63
Mechanical life	20000	240	1~63

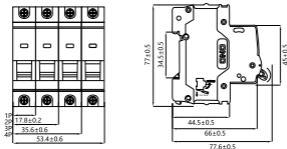
3.3 Wire connection

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 max 2.5N·m. The sectional area of connecting wire can refer to Table 4.

Table 4

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



5. Accessory Name, Function and Standard

Accessory name	Code	Function
Auxiliary contact	SD	Provide auxiliary signal and control auxiliary circuit
Alarm contact	MX	When the circuit breaker is disconnected due to the fault, the alarm signal shall be provided.
Shunt release	MX+OF	Over the range of 70% ~ 110% of the rated control supply voltage, the release should trip the circuit breaker to protect the circuit.
Shunt release + Auxiliary contact	MX+OF	Remote control of circuit and control the auxiliary circuit by auxiliary contact.
Over-voltage an under-voltage release	MV+MN	When the rated voltage 230V increase to 270V+/-5% or reduce to 170V+/-5%, the circuit breaker should trip for over-voltage and under-voltage protection.

Standard: IEC60947-5-1

6. Installation

All the electrical accessories should install in the side of circuit breaker. Details as the figure below. (Remark: each MCB max install with 3 indicate accessories(OF or SD), 2 release accessories.)



Auxiliary contact + Alarm contact + Shunt release + Shunt release + Auxiliary contact + Over-voltage and under-voltage release + Circuit breaker

7. Working environment and installation

- Ambient temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$;
- Altitude: Below 2000m;
- Environment: The medium should be no risk of blasting and can't corrode the metal and damage insulating gas as well as conductive dust;
- Installation: 35mm standard din rail.

8.Main technical parameters

Auxiliary contact and Alarm contact technical parameters

Accessory name	Rated current(A)			Number of contacts	Diagram
	AC 380V	AC 220V	AC 110V		
Auxiliary contact OF	3	6	1	1NO 1NC	
Alarm contact SD	3	6	1	1NO 1NC	

Shunt release, Shunt release + Auxiliary contact technical parameters

Accessory name	Rated insulation voltage U_i	Rated control voltage U_s	Tripping power consumption (W or VA)	Operation voltage U_s	Diagram
Shunt release	415V	AC/DC: 220~380V 110~220V	240	0.7~1.1	
		AC/DC: 24~48V	120		
Shunt release + Auxiliary contact MX+OF	415V	AC/DC: 220~380V 110~220V	240	0.7~1.1	
		AC/DC: 24~48V	120		

Under-voltage & Over-voltage Release technical parameters

Accessory name	Rated working voltage U_e	Trip voltage	Diagram
Over-voltage and under-voltage release MV+MN	AC230V	Under-voltage: $170V \pm 5\%$ Over-voltage: $270V \pm 5\%$	
	AC380V	Under-voltage: $300V \pm 5\%$ Over-voltage: $460V \pm 5\%$	

9. Temperature drop correction table

The maximum allowable current of the circuit breaker is related to the ambient temperature of the circuit breaker. The ambient temperature refers to the temperature in the distribution box or switch cabinet where the circuit breaker is installed. The reference temperature of various circuit breakers can be found in the values of the colored rows in the table.

Product standard: GB/T10963.1 IEC60898-1
(household standard)

temperature (°C)	-5	0	5	10	15	20	25	30	35	40	45
Rated current											
1A	1.16	1.14	1.11	1.09	1.07	1.05	1.02	1.00	0.98	0.95	0.92
2A	2.30	2.26	2.22	2.18	2.13	2.08	2.04	2.00	1.96	1.92	1.88
4A	4.72	4.63	4.53	4.43	4.32	4.22	4.11	4.00	3.89	3.77	3.65
6A	6.97	6.84	6.71	6.57	6.43	6.29	6.15	6.00	5.85	5.69	5.53
10A	12.25	11.95	11.65	11.34	11.02	10.69	10.35	10.00	9.64	9.26	8.86
16A	18.72	18.35	17.98	17.60	17.22	16.82	16.42	16.00	15.57	15.13	14.68
20A	23.24	22.80	22.36	21.91	21.45	20.98	20.49	20.00	19.49	18.97	18.44
25A	29.12	28.57	28.01	27.43	26.85	26.24	25.63	25.00	24.35	23.69	23.01
32A	37.18	36.49	35.78	35.05	34.32	33.56	32.79	32.00	31.19	30.36	29.50
40A	46.66	45.77	44.86	43.93	42.98	42.01	41.02	40.00	38.96	37.88	36.78
50A	58.57	57.43	56.26	55.06	53.84	52.59	51.31	50.00	48.65	47.27	45.84
63A	74.73	73.17	71.57	69.94	68.27	66.56	64.81	63.00	61.14	59.22	57.24

10. Ordering instruction

10.1 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: YCB7-63N C25 3P 880pcs.

10.2 Customers can negotiate separately if you have special requirements.



CERTIFICATE

Product Model : YCB7-63N

Standard : IEC 60898-1

Inspector : CNC 001

Production date: Printed on the product
or package.

This product is qualified according
to the delivery inspection

CNC

YCB7-6 3N series

CNC ELECTRIC

Tel: 0086-577-61989999 Fax: 0086-577-61891122

www.cncele.com E-mail: cncele@cncele.com