POWERPRODUCTS

USER MANUAL

YEM1 SERIES

Moulded Case Circuit Breaker

Installation, operation and maintenance instructions



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Keep this manual available for installation, commissioning and service personnel.

Thank you for using the YEM1 series molded case circuit breaker of our company. Please read this operation instruction carefully before installation, circuit connected, operation, maintenance, to insure the proper use.

1.0 Installation attention

Note

- Please do the operation according to the relevant provisions required, to avoid accidents.

Warning

- Please install it on the metal or some flame retardant things.
- Do not install it in the environment of containing gas explosion, otherwise it will explode danger.
- Do not install it in the moist environment.

Note

- Do not install it in the external magnetic field is 5 times large then the geomagnetic field place, otherwise the breaker can't work normally.
- Do not install it in the place that vibration is greater 5g.
- Do not install it in the place of gas medium can corrode metal and destroy the insulation.

1.1. Relevant wiring

- Must be the professionally qualified staff to carry out the wiring work. Set the circuit breaker in the state of disconnected before wiring operation.

- Circuit breaker wiring must comply with the rule of up input and down output, that is 1,3,5 wiring termination connect with power line,2,4,6 wiring termination connect with Load line, No allowed to confuse.

1.2. Relevant operation

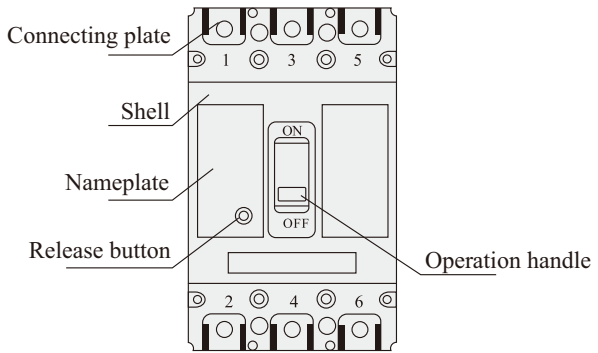
- Wet hands can not operate circuit breaker, or possible will happen the electric shock accident.
- Do not operate the circuit breaker frequently ,or will shorten the life of circuit breaker.
- The circuit breaker go with Under-voltage release, the release should be electricity, then allow the circuit break.
- If the circuit breaker installed with shunt release, the circuit breakershould be switch on., then supply the shunt release with rated voltage, circuit breakers should be reliable release.

2.0. relevant matters of before using

2.1.Notes before you check the box:

- When you received the circuit breaker you purchased, please check the following items.
- check the appearance whether there are some losses occurred in the course of the transport. such as the damaged shell, and so on.
- In the box, there are not only the circuit breaker body, working instructions, product certification, but also have the screws, nuts, and parts, please check one by one in the packing list.

2.2 The appearance of the product and the name of the parts



2.3 Storage Environment

Item	Specification
Ambient Temperature	-25˚C ~ +55˚C
Relative Humidity	When the environment temperature is 25˚C)<=95%

3.0 Installation

3.1 Insulation Test

According to the standards, the circuit breaker need to take the insulation test before out of factory .Because the circuit breaker has the electronic circuit boards. If you want to retest, must according to the following steps:

(1)use 1000VDC megger (Note:YEM1-63,YEM1-100,YEM1-225. 2 Pole use 500VDC)

(2)Insulation resistance should be not less than 20MΩ.

(3)Test the circuit breaker between the contacts, alternate with assemblages shell.

(2)Set the circuit breaker in the state of disconnected, take the test between the connecting plate of 1-2,3-4,5-6 and the shell

(3)Link the under-voltage release of circuit breaker to the input line and the shell If the users do not have megger, can replace it with frequency voltage tester.

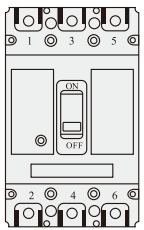
3.2 Using Environment

The environmental requirement where the circuit breaker install:

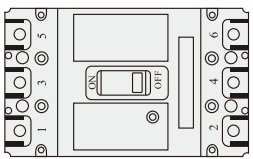
Item	Specification
Ambient Temperature	-5˚C~ +40˚C,and average of 24h is not more than 35˚C
Relative Humidity	When the temperature is 40˚C,do not more than 50%, in the most wet month, the average can not higner than 25˚C,and also the biggest average relative humidity can not more than 90%,thinking the change of the temperature when the frost on surface of the products
Altitude	No more than 2000m
Pollution	3 Series

3.3 Installation Method

3.3.1 Circuit breaker can be installed vertically, but also horizontally



installed vertically



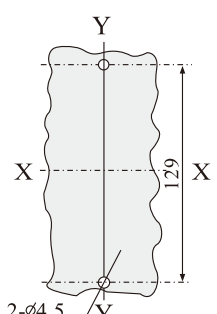
installed horizontally

3.3.2 Installation and connection

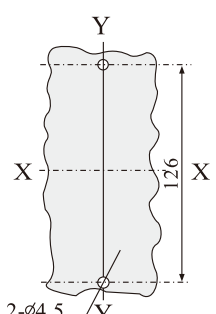
3.3.2.1 The pening of Installation board

1）Front board wiring

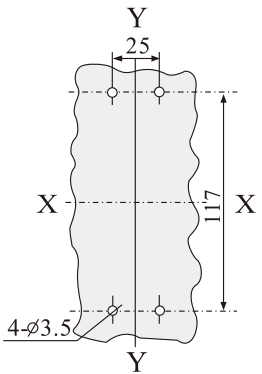
(X-X、Y-Y is the center of the 3 pole or 2 Pole circuit breaker)



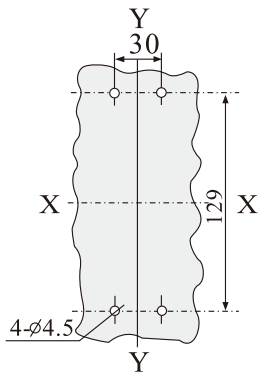
YEM1-100(2Pole)



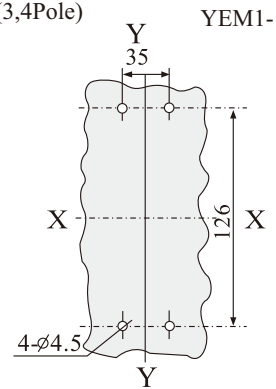
YEM1-225(2Pole)



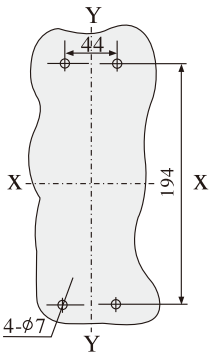
YEM1-63(3,4Pole)



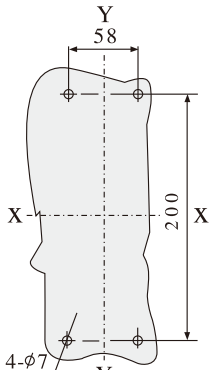
YEM1-100(3,4Pole)



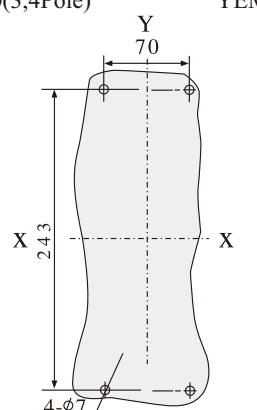
YEM1-225(3,4Pole)



YEM1-400(3,4Pole)



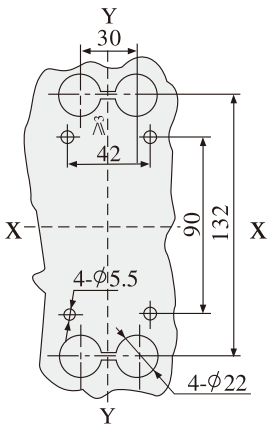
YEM1-630(3,4Pole)



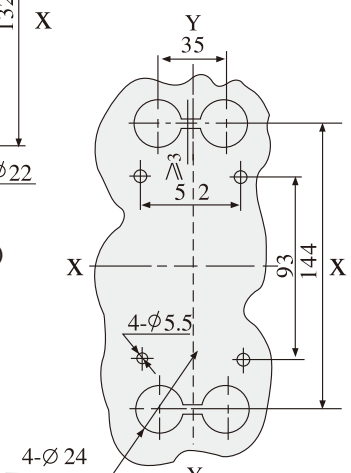
YEM1-800(3,4Pole)

2) back board wiring

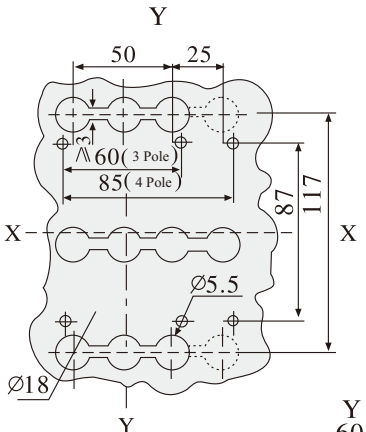
(X-X、Y-Y is the center of the 3 pole or 2 Pole circuit breaker)



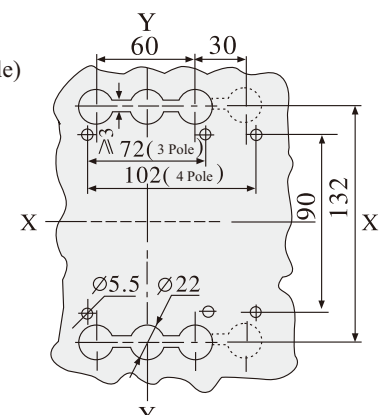
YEM1-100(2Pole)



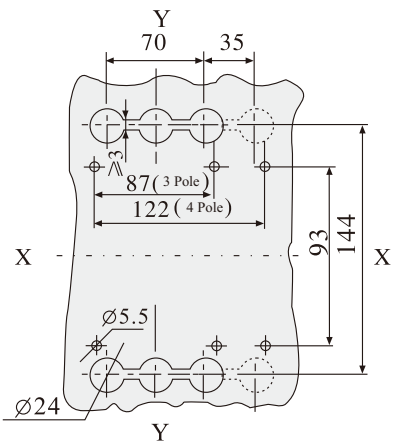
YEM1-225(2Pole)



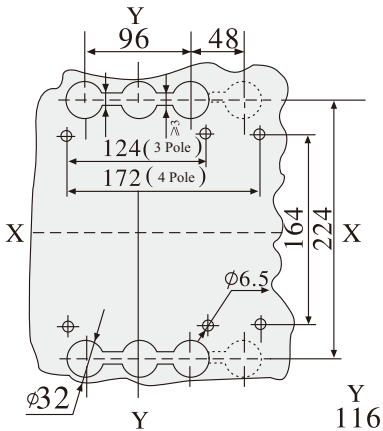
YEM1-63(3,4Pole)



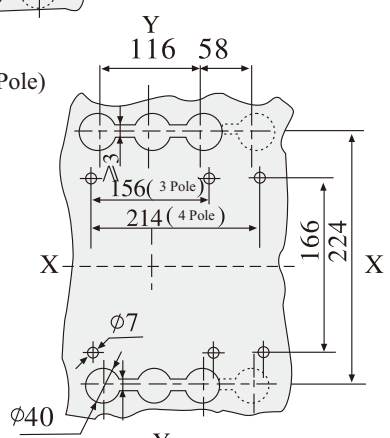
YEM1-100(3,4Pole)



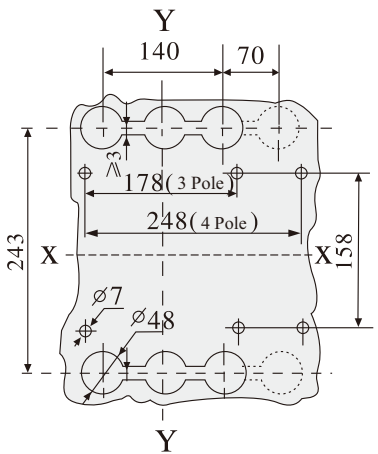
YEM1-225(3,4Pole)



YEM1-400(3,4Pole)

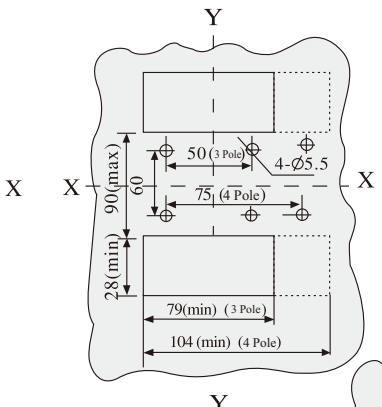


YEM1-630(3,4Pole)

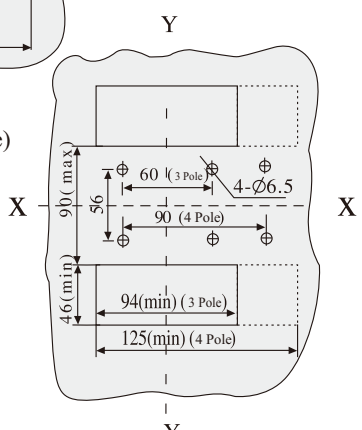


YEM1-800M、H(3,4Pole)

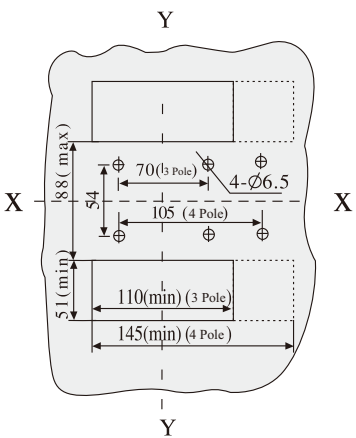
3) Plug in type of front board wiring
(X-X、Y-Y is the center of the 3 pole circuit breaker)



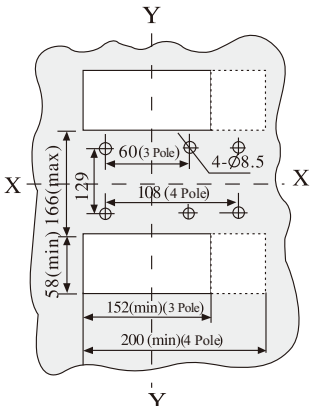
YEM1-63(3,4Pole)



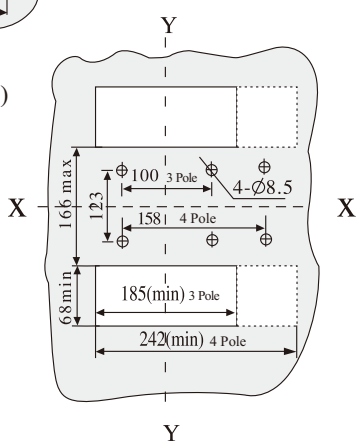
YEM1-100(3,4Pole)



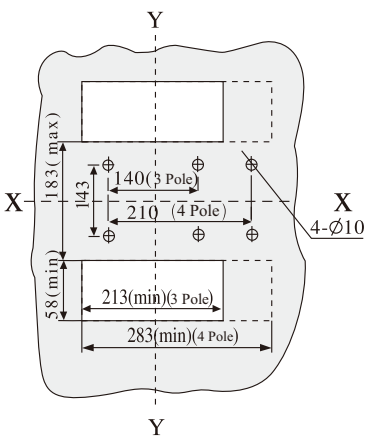
YEM1-225(3,4Pole)



YEM1-400(3,4Pole)



YEM1-630(3,4Pole)



YEM1-800M、H(3,4Pole)

3.3.2.2.Fix the body of the circuit breaker、master(back board wiring used)、pedestal（plug in wiring used）on the installation board.

3.3.2.3.connection with the main circuit

①choose the connecting wires.

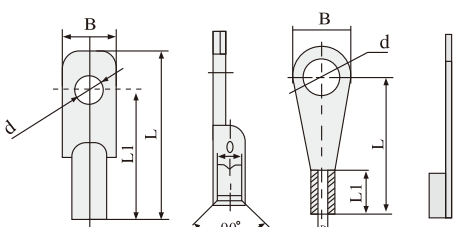
The cross-sectional area which used for the connect wires must be adapted to the rated current table

Rated Current（A）	10	16 20	25	32	40	63	80	100	125 140	160	180、200 225	315	400
Cross Sectional Area(mm)	1.5	2.5	4	6	10	16	25	35	50	70	95	185	240

Rated Current（A）	Cable		Copper Row	
	Quantity	Section Area（mm）	Quantity	Dimension (mm*mm)
500	2	150	2	30X 5
630	2	185	2	40X 5
700、800	2	240	2	50X 5

②Select the connecting terminal

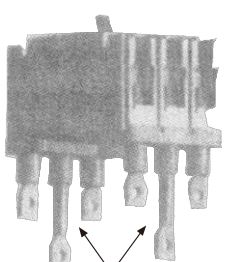
YEM1E circuit breaker has three types of connecting terminal: JGC type JBG type or JBC type (Offered by Users order), follows are the Specifications



JGC type　　JBC type

Model	Current	Corss-sectional Area (mm^2)	Model of terminal	B	L	L1	D	d
YEM1-63	63	16	JGC16-5	12.5	38	31.5	Φ6	Φ5.2
YEM1-100	10、16、20	2.5	JGC2.5-8	15	24.5	8.5	Φ2.6	Φ8.2
	25、32	6	JBC6-8	15	24.5	10	Φ3.5	Φ8.2
	40、50	10	JBC10-8	15	24.5	11	Φ4.5	Φ8.2
	63	16	JGC16-8	12.5	41	33.5	Φ6	Φ8.2
	80	25	JGC25-8	14	46	38.5	Φ7	Φ8.2
	100	35	JGC35-8	15.5	52	44.5	Φ8	Φ8.2
YEM1-225	125	50	JGC50-8	17	54	45	Φ10	Φ8.2
	160	70	JGC70-8	21.6	61	52	Φ11	Φ8.2
	180、200、225	95	JGC95-8	22.8	66	57	Φ13	Φ8.2

Note:YEM1-63 the Specifition of current 10A,16A,20A adopt JB2.5-5; specification of 32A adopt JB6-5; Specification of 40A, 50A adopt JB10-5 Wiring terminal.

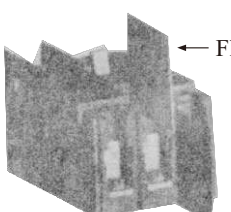


Insulatio Covering

④Use the bolts (bolts must be set into the flat pad and a spring washer) to connect with a well pressed wire and the conduct of circuit breaker, torque wrench and tighten the bolt, impose the size of the Torque.

Model	Specification of the bolts	Torque(N.m)
YEM1-100	M8	8.8~10.8
YEM1-225	M8	8.8~10.8
YEM1-400	M10	17.7~22.6
YEM1-630	M12	31.4~39.2
YEM1-800	M12	31.4~39.2

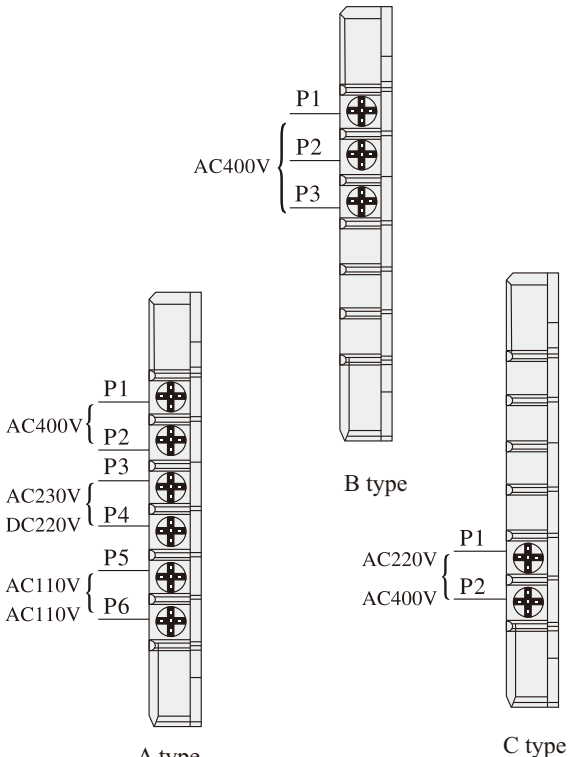
3.32.4 Install the flash barrier between the circuit breaker



3.3.2.5 The electrical wiring of the internal accessories in the circuit breaker

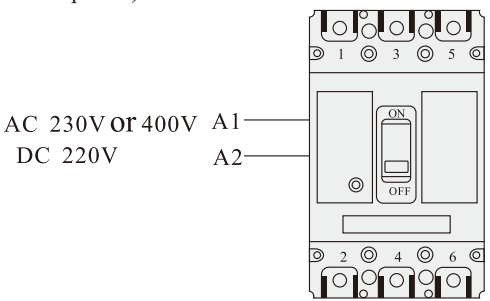
(1) Under-voltage release

According to the number of the connecting terminal in the Plug-in model, then connect it to the power(No need to distinguish between positive and negative when it is DC power)



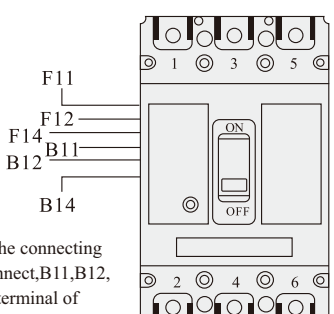
(2) Shunt release

According to the number of the input wire, then connect it to the power.（No need to distinguish between positive and negative when it is DC power)



(3) Auxiliary contact and Alarm contact

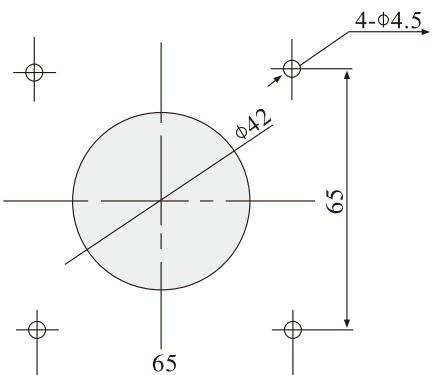
According to the number of output wires, connect them to the correspond circuit of the external control.



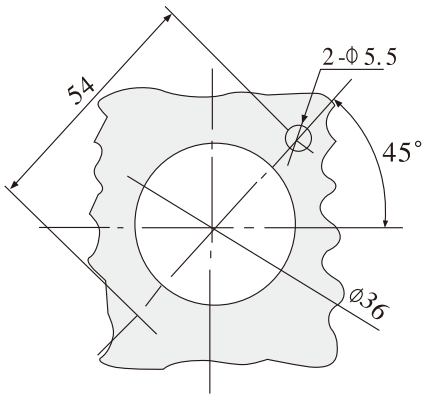
Note: F11,F12,F14 are the connecting terminal of auxiliary connect,B11,B12, B14 are the connecting terminal of Alarm contact.

3.3.2.6 Install the Turning handle of operating mechanism

(1) Before the Installation, there is already a hole for the door of operating handle switch, at the same time, the opening hinge distance from the center is not less than 100mm.



The opening size of T-Type door hand



The opening size of A-Type door hand

(2)Fix the circuit breaker which have already install the operating mechanism in the cover pass

(3)Fix the side-axis joystick in the hole of the operating mechanism.

(4) Close the door which have already open the hole, adjust the location of the circuit breaker so that the center of the side-axis and the center of opening hole in the handle are in the same line.

(5)Close the switch board doors which have already installed the turning handle, try to operate the handle. The handle should be aglity, when it is setted in the position of horizontal,the circuit breaker should switch on .when it is setted in the position of vertical, the circuitbreaker should be Switch off.

4.0 Operation

4.1 Check the following item before running

1) Check the wiring method if it is all correct. (Special check the input terminals(1,3,5) are connected with the power line, and the output terminals(2,4,6) are connected with the load line.No allowed to confuse.)
2) Use the megger to test the circuit breaker between the contacts, alternate with assemblages shell.
3) Confirm that the connecting terminal and the fixed screw are all Fasten without any loosen.
4) Check if the circuit breaker has already installed the flash barrier. The circuit breaker go with Under-voltage release, the release should be electricity, then allow the circuit breaker switch in.

4.2 trying to operate

According to the each item of 4.1 are all confirmed without any abnormal situation,then you can try to operate the circuit breaker.

(1) Pull the handles, the operation should be flexible.

(2) The main circuit breaker must connect with the power, then press the botton of release, circuit breakers should release ,and the operation handle must in the release location.

4.3 running

If you can meet the second points of 4.2, then put into operation.

5.0 After Sales Service

5.1 Warranty

If the users comply the conditions of safekeeping and using and the seal of the circuit breaker is well. from the date of the product delivery, not more than 18 months. If it has the quality problems that caused damage or can not be used normally, our company have the responsibility for repair or replacement. However, as a result of the following reasons for failures, even in the warranty ,it also must paid for repair or replacement

(1) Due to the use error, inappropriate conversion and maintenance

(2) Exceed the standard of requirement

(3)After purchased, the circuit breaker dropped down during the installstion.

(4) Earthquake, fire, lightning, abnormal voltage, and two other natural disasters.

5.2 After-sales service

(1)When the failure occurred, please contact with the supplier or the after-sales service department of the company.

(2)The repair and replacement in the warranty If it is the company's manufacturing problems, that caused the failure, our company have the responsibility of free charge of repair, as well as replacement.

(3)The repair or replacement after warranty, If the circuit break can still work, we can offer the customer repair and replacement with some charge.

CONTACT & SUPPORT

AC Generators (Pty) Ltd

Product enquiries, technical support and after-sales service

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EMAIL	makwena@acgenerators.co.za
WEBSITE	www.acgenerators.com
ADDRESS	80 De Beer Street

MOBILE CONTACT

Cell: 078 494 9739

AFTER-SALES SERVICE Please quote the MCCB model, rated current and serial/batch details when requesting support.