

H. How to ensure the RCD is always in good and working order

Make it as culture. RCD need to be tested at least once a month by pressing the Test button on the RCD. Once the test button pressed, the supply will be instantaneously cut off, means the RCD is in good and working order. Otherwise, please consult a registered electrical contractor to replace it with an approved RCD.

I. Rated and Sensitivity of RCD

RCD has different sensitivity according to its usage. The installation of RCD in the final circuits is as follows:-

1. for incoming supply up to 40A/63A, single phase or depends on the need of supply and capacity of main switch, a rated RCD not exceeding 100mA is required.
2. for hand held equipment, a rated RCD not exceeding 30mA is required.
3. for a place of public entertainment and a place where is likely to be wet, a rated RCD not exceeding 10mA is required.
4. for incoming supply exceed 63A, three-phase, a rated RCD not exceeding 100mA is required.

RESIDUAL CURRENT DEVICE (RCD)

Avoid from electric shock

ELECTRICAL SAFETY BEGINS WITH YOU

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Current Operated RCD

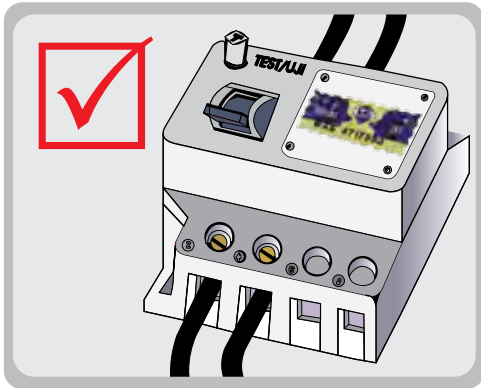


Figure A
Residual Current Device

A. What is Residual Current Device (RCD)?

RCD is a protection device to protect consumer from electric shock. This device **MUST** be installed in each electrical installation.

B. What is electrical shock?

Electrical shock is a hazard that occurs when electric current flows through a person's body either accidentally touched or held:-

1. non insulation wire or tear insulation wire which expose its conductor. This is known as Direct Contact, as shown in **Figure B**.
2. a broken electrical equipment where its body is made of metal which flowing electric current known as Indirect Contact, as shown in **Figure C**.

C. How electric shock can occur?

Most of electrical shock cause by:

1. Consumer's attitude and negligence in handling electrical equipment.
2. Electrical equipment which is not safe and has no approval from Energy Commission.
3. Electrical equipment which has been modified by the consumer.
4. Consumer has no knowledge, lack of skills and awareness of electrical hazards.

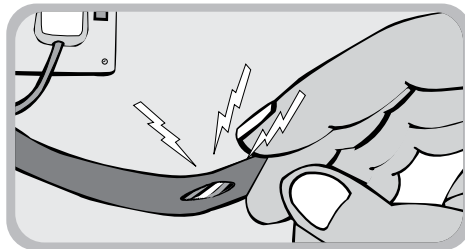


Figure B
Direct Contact

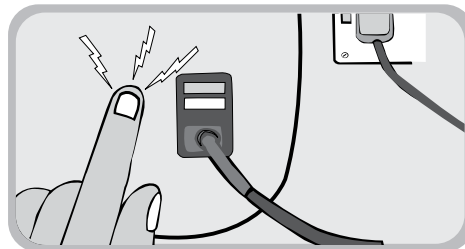


Figure C
Indirect Contact

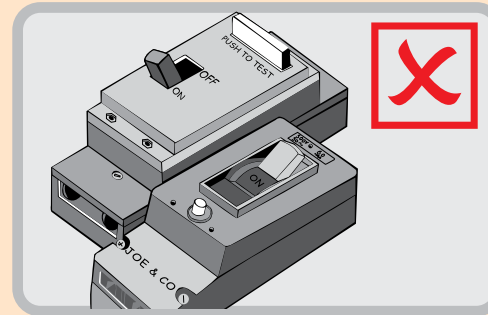


Figure D
Voltage Operated breaker has been prohibited

D. Where is RCD installed?

RCD must be installed in every house in the distribution board as shown in **Figure E** to prevent the incident of electrical accidents.

E. Two types of Circuit Breaker

There are two types of circuit breaker which are current operated and voltage operated. The current operated breaker is as shown in **Figure A**. The voltage operated breaker which has been prohibited is as shown in **Figure D**.

F. What type of breaker that is suitable and safe to be used?

A long time ago, usage of circuit breaker used in house is a voltage type. Recently, it has been prohibited due to its ineffectiveness. The voltage operated breaker **shall be** replaced to current operated breaker immediately as shown in **Figure A**. This is because the current operated breaker is more sensitive to detect the fault in electrical installation or electrical equipment. Service from electrical contractor which registered with Energy Commission is require to carry out the work of replacing this current operated breaker.

G. How does RCD operate?

RCD current operated is a protection device that can detect electric fault and cut down power supply instantaneously if there is electric fault occurs in electrical installation or electrical equipment. For example, earth leakage current can occur when a live conductor in contact with metal body of electrical equipment.



Figure E