



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING



Unit - III

ELECTRICAL WIRING AND SAFTY

1.What is an isolator?

An isolator is a mechanical switching device used for isolating a circuit or equipment from the power source.

2.What is called a main switch?

The main switch is the master switch which isolates all the house electric circuits from the power supply. The output from the energy meter is connected directly to the main switch.

3.What is MCB?

Miniature Circuit Breaker or MCB is an electromechanical device used to protect an electrical circuit from an overcurrent due to short circuit or overload. When the current through the MCB reaches the rated trip current value it trips and breaks the circuit.

MCB can be reset as a normal switch just flip the knob to ON.

4. What is ELCB?

An Earth Leakage Circuit Breaker is a safety device which protects the circuit from earth leakage, an ELCB detects if any voltage is present in the body parts of appliances or any leakage current in the earth line.

5.What is RCCB?

A Residual Current Circuit breaker is a circuit breaker that interrupts the current flow when an earth fault is detected. It operates if there is any considerable change in the current value through the phase and neutral lines. Common RCCB used in house wiring trips for an unbalance of above 30 mA.

6. ELCB or RCCB which is better to use in wiring? Why?

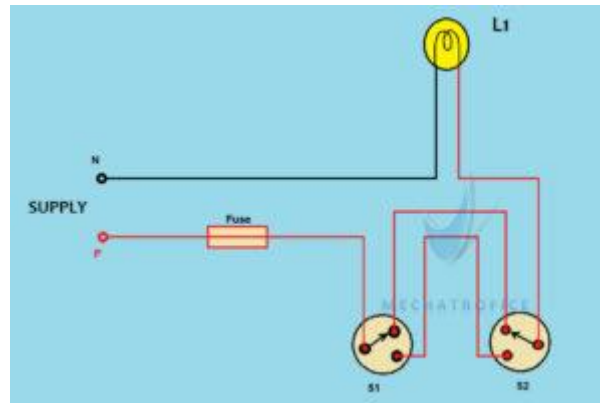
Both ELCB and RCCB detect and protect from earth fault and they are often referred or considered as same. But an ELCB works only when an earth faults cause the leakage of current through the earth line. That is the leakage current must go through the earth line.

Whereas an RCCB operates when any imbalance is detected in the ampere of current through the phase and neutral lines. For any type of earth fault, there will be a difference in the value of incoming current through the phase and the return current through the neutral line.

So, the RCCB offers better protection than ELCB by operating for any type of earth fault irrespective of the path of leakage current.

7. How to wire one lamp controlled by two switches?

By wiring, the load using multiway switching or staircase wiring one lamp can be controlled from two switches placed at different locations like the top and bottom of a staircase, indoor and outdoor of the home, etc.



8. List a few Common types of Switches in electrical wiring?

- Single Pole Single Throw
- Single Pole Double Throw
- Double Pole Single Throw
- Intermediate switch