

Miniature Circuit Breakers (MCB)

Electrical Distribution needs are continuously evolving in residential, commercial and industrial sectors. Improved operational safety, continuity of service, greater convenience and operating cost have assumed a tremendous significance. Miniature adapt to these changing needs.

Electricity is an inseparable part of our daily life style. Miniature Circuit Breakers are electrical Safety devices used for the protection of electrical installations. MCBs protect installations against sustained overload and short circuit.



RANGE & FRAME SIZE

'B' Curve – 6A to 40A

'C' Curve – 0.5A to 63A

Execution: **SP, SPN, DP, TP, TPN & FP**

SALIENT FEATURES

- Entire range i.e. SP, SPN, DP, TP, TPN, from 0.5 A to 63 A, duly ISI marked as per IS 8828. Unique box type terminals with 35 sq mm input and 25 sq mm output cable capacity.
- Reboundless contact mechanism prevents sparking/erosion of contacts.
- Superior arc runner based on current-limiting blow-out rapid extinction magnetic system, permits exceptionally low let through energy.
- Designed to withstand up to 10 kA short circuit currents.
- Silver graphite tips for fixed contact, silver plated moving contact, incoming & outgoing terminals ensure extended life span and prevent contact welds while withstanding higher short circuit breaking levels.
- Excellent performance as main switch ensures use in locations close to sub-stations and transformers which induce short circuit current up to 10 kA.
- Unique self lubricating special plastics components.

SPECIFICATIONS

Built to high performance specifications with high quality materials and meticulous quality process with assured best operation on the following parameters

Rated Short Circuit Breaking Capacity	10 kA
Characteristic	B&C
Magnetic Release Settings B curve	(3-5)In,
Magnetic Release Setting C Curve	(6-10)In
Rated Operating Voltage (V)	240/415
Rated Insulation Voltage (Ui)	690
Rated Frequency (Hz)	50/60
Utilization Category	AC 23 A
Rated impulse withstand Voltage	6 KV
Protection Class	IP 20

CONFORMS TO STANDARDS

IEC – 60898 – I

APPLICATIONS

- * Power Distribution
- * Manufacturing Process
- * Industrial Building
- * Residential Building
- * Commercial Building
- * Healthcare
- * Internet Data Centers
- * HVAC
- * Tele Communications



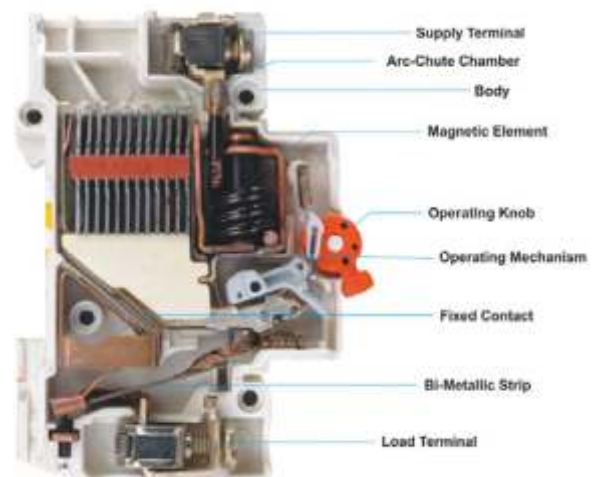
CONSTRUCTION

Miniature Circuit Breakers have precisely formed moulded case & cover of flame retardant high strength thermoplastic material having high melting point, no water absorption, high dielectric strength & temperature withstand. The Switching Mechanism is independent, manual and trip free i.e. the breaker trips internally even if the operating knob is held in ON position.

The Contact Mechanism comprises of fixed & moving contacts specially designed for reliability, long life and anti-weld properties.

The Arc Extinguishing Device comprises of 13 plates arc chute. The arc under the influence of the magnetic field and arc guide is moved into the arc chute where it is rapidly split and quenched. The Tripping mechanism is Thermal Magnetic Type.

CROSS SECTIONAL VIEW OF MCB - 10kA



THERMAL TRIPPING

The thermal operation provides protection from moderate overloads. Under overload condition, a thermometallic element (bimetallic strip) deflects until it operates a latching mechanism allowing the main contacts to open.

MAGNETIC TRIPPING

In magnetic operation, large overloads or short circuit current actuates a solenoid causing a plunger to strike the latching mechanism rapidly opening the main contacts.