

Switchboards & Circuit Protection Equipment

Clipsal's 4 Series caters for residential, commercial or industrial switchboard requirements. Included in the range are switchboards, miniature circuit breakers (MCBs), residual current devices (RCDs), MCB/RCD combinations, isolating switches, changeover switches and busbar systems. A huge variety of accessories are also available to complement the range.

Miniature Circuit Breakers and Isolators

A **miniature circuit breaker (MCB)** is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by overload or short circuit. Its basic function is to detect a fault condition and, by interrupting continuity, to immediately discontinue electrical flow. Unlike a fuse, which operates once and then has to be replaced or rewired, a circuit breaker can be reset (either manually or automatically) to resume normal operation.

An **isolator** mounted on a switchboard is used to make sure that an electrical circuit can be completely de-energised for service or maintenance.

Requirements of MCBs and Isolators:

- All MCBs and isolators shall be suitable for DIN rail mount
- MCBs shall allow line or load cables to be connected at either top or bottom
- MCBS over 6kA shall be fitted with both cog-rail (for busbar connection) and cable terminals
- MCBs and isolators shall be available in one, two and three-pole formats
- MCBs and isolators one, two and three modules wide shall measure 18mm, 36mm and 54mm respectively
- Triple pole MCBs with current ranges above 80A shall be four and a half modules wide, measuring 81mm
- MCBs and isolators one and a half modules wide shall measure 27mm
- MCBs and isolators three modules wide shall measure 54mmmm
- MCBs shall have a current range from 1A to 63A in both 240Vac and 415Vac voltages
- MCBs shall have current range from 6A to 40A in both 250Vdc and 500Vdc voltages. These MCBs to be available in both single and two-pole with 6kA rating.
- Isolators shall have current ranges from 40A, 80A and 100A in both 240V and 415V voltages
- MCBs shall have kA ratings including 4.5kA, 6kA and 10kA for C-Curve (general applications)
- D-Curve circuits with high inrush currents (e.g. motors) shall utilise MCBs with 10kA ratings (refer manufacturer's specification for installation and selection guidelines)
- MCBs and isolators shall have combination head (Phillips and slotted) captive screws in each terminal
- Isolation circuit breakers as defined in AS 60947-2 to guarantee "isolation with fully visible breaking" and this is to be evidenced by a green strip on the MCB or isolator handle (in addition to "O-OFF"). Note green window is not acceptable
- A tested, guaranteed impulse resistance (Uimp) shall be marked on the products
- MCB mechanism is free tripping and cannot be held in the ON position against a fault.