

- b. The circuit breaker shall have quick break and quick make trip-free switching mechanism so as not to withhold the contacts closed against short circuits and abnormal currents.
 - c. Facility for padlocking without the use of loose components.
 - d. At least one unused volt free changeover auxiliary contact, wired down to outgoing terminals, for remote indication.
 - e. Adjustable Magnetic and thermal inverse time delay protective device to protect against sustained overloads and instantaneous tripping under heavy overloads and short circuits. An additional facility shall be provided to prevent unauthorized adjustment of thermal and magnetic settings.
 - f. Rated duty short circuit breaking capacity should be same as rated ultimate short circuit braking capacity.
 - g. Shunt trip and/or under voltage release as applicable.
- B. Each MCCB shall be housed in a separate Compartment with the operating handle door interlocked when used as an Incomer, feeder or starter, so that access can only be gained to the Compartment with the MCCB in the OFF position. Padlocking shall be provided in the OFF position only. When the MCCB is used for control transformers, distribution or ICA compartments the handle shall be internally mounted with appropriate shrouding and warning labels.
- C. Each MCCB shall be complete with 2 N/O and 2 N/C spare auxiliary contacts (10A, 230v rating) in addition to those required for the Contract.
- D. Each MCCB used as an Incomer or feeder shall have facilities for electrical as well as mechanical interlock.
- E. All incoming circuit breakers shall be provided with electrical & mechanical interlocking scheme to ensure that only one incoming supply can be energized at any one time where more than one supply is available.

1.3.13.3 Miniature Circuit Breakers (MCB)

- A. These shall be suitable for the type of load they feed. MCB's shall comply with Type B, of BS EN 60898. They shall include the following minimum features:
- a. Magnetic and thermal trip elements
 - b. Trip-free mechanisms