

**Saudi Electricity Company**



**الشركة السعودية للكهرباء**

**SEC DISTRIBUTION MATERIALS SPECIFICATION**

**37-SDMS-03**

**DATE: 23-01-2006G**

**37-SDMS-03**

**SPECIFICATIONS**

**FOR**

**MOLDED CASE CIRCUIT BREAKER  
FOR LOW VOLTAGE PMT CABINET  
200 AMPS**

**This specification is property of SEC and  
subject to change or modification without any notice**



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**1.0 SCOPE:**

This material standard specification is an additional technical requirements for a 200Amps circuit breakers specified in a SEC Specification No: 37-SDMS-01 (latest revision) for "Low Voltage Molded Case Circuit Breakers", to achieve the minimum technical requirements for design, engineering, manufacture, inspection, testing and performance of outgoing Circuit Breaker, intended to be used for protection of the outgoing feeders of the low voltage pole mounted transformer (PMT) cabinets used in the distribution system of Saudi Electricity Company (SEC) in Saudi Arabia

**2.0 CROSS REFERENCES:**

This material standard specification shall be read in conjunction with SEC Specification No: 01-SDMS-01 (latest revision for "General Requirements for all Equipments/ Materials", 37-SDMS-01 (latest revision) for "Low Voltage Molded Case Circuit Breakers" and 31-SDMS-03 (latest revision) for "low voltage cabinet for pole mounted transformer", which shall be considered as an integral part of this SDMS.

This SDMS shall also be read in conjunction with SEC Purchase Order requirements.

**3.0 APPLICABLE CODES & STANDARDS:**

See SEC Specification No: 37-SDMS-01 (latest revision) for "Low Voltage Molded Case Circuit Breakers".

**4.0 DESIGN & CONSTRUCTION REQUIREMENTS:**

4.1 Breakers described in this specification are suitable for operation in 400 or 230V, 60 Hz, 4 wires distribution system with solidly earthed neutral.

4.1 Breakers shall be in accordance with SEC Specification No: 37-SDMS-01 (latest revision) for "Low Voltage Molded Case Circuit Breakers" with the following additional requirements:

4.1.1 Break trip free-mechanism as per 37-SDMS-01 (latest revision).

4.1.2 Breaker can be equipped by an electronic solid state trip-control unit for overload and short circuit protection.

4.1.3 Breakers should be with current limiting functions.



- 4.1.4 The breaker shall be able to sustain short-time overloads without tripping, so that magnetic in-rush current experienced by the starting of inductive loads such as air-conditioner compressor will not affect operation.
- 4.1.5 The breaker shall have instantaneous short circuit tripping characteristics such that the fault will trip the breaker in a fraction of a second.
- 4.1.6 Outgoing terminals shall be suitable for direct connection of 120mm<sup>2</sup> Al. Quadruplex overhead cables as per SEC spec. 11-SDMS-02 without the use of cable lugs.
- 4.1.7 Incoming terminals shall be designed to accept a size of busbar suitable for the breaker rated current.
- 4.1.8 All outgoing terminals shall be equipped with terminal separators and terminal covers.
- 4.1.9 All breakers shall be without lock or locking device.
- 4.1.10 These MCCB's shall be easily interchangeable with at least 3 SEC approved manufacturers, if possible.

#### **5.0 CONTINUOUS CURRENT RATINGS:**

- 5.1 The Circuit Breakers shall be in one fixed capacity of 200 amps, adjustable type is not acceptable.
- 5.2 The breakers shall be designed to work at full rating in an ambient temperature of 55°C.

#### **6.0 INTERRUPTING RATING:**

The Circuit Breaker must have minimum ultimate interrupting rating of 50 KA symmetrical at 220 Volts.

#### **7.0 ADDITIONAL REQUIREMENTS:**

Name plate, Testing, Inspection, Packing & Shipping, Guarantee and Submittals shall be according to SEC Specification No: 37-SDMS-01 (latest revision) for "Low Voltage Molded Case Circuit Breakers".