

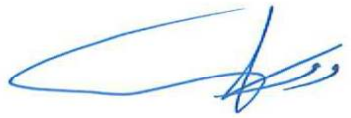

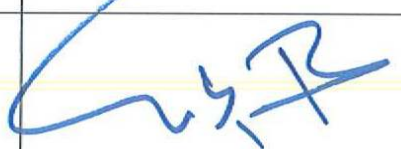
## SEC DISTRIBUTION MATERIAL SPECIFICATION

37-SDMS-03

REV. 01

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### SPECIFICATIONS FOR MOLDED CASE CIRCUIT BREAKER FOR LOW VOLTAGE PMT CABINETS.

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# SPECIFICATIONS FOR MOLDED CASE CIRCUIT BREAKER FOR LOW VOLTAGE PMT CABINETS.

*Saudi Electricity Company*

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## 1.0 SCOPE

This material standard specification is an additional technical requirements for ( 200A, 300A, 400A,) 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 Equipment/ Materials", 37-SDMS-01 (latest revision) for "Low Voltage Molded Case Circuit Breakers" and 31-SDMS-03A (latest revision) for "400/231V low voltage cabinet with aluminum bus bars for pole mounted transformers", 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 Circuit breakers described in this specification shall be suitable for operation in 400/231V, 60 Hz, 4 wires distribution system with solidly earthed neutral.
- 4.2 Circuit 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:
  - 4.2.1 Break trip free-mechanism as per 37-SDMS-01 (latest revision).
  - 4.2.2 Breakers can be equipped by an electronic solid state trip-control unit for overload and short circuit protection.
  - 4.2.3 Breakers shall be with current limiting functions.



- 4.2.4 Breakers 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.
- 4.2.5 Breakers shall have instantaneous short circuit tripping characteristics such that the fault will trip the breaker in a fraction of a second.
- 4.2.6 Outgoing terminals shall be suitable for direct connection with cables according to cable sizes mentioned in Table-2 as per 31-SDMS-03A (latest revision) with the use of cable lugs.
- 4.2.7 Incoming terminals shall be designed to accept a size of busbar suitable for the breaker rated current as per SEC Specification No: 31-SDMS-03A (latest revision).
- 4.2.8 All outgoing terminals shall be equipped with terminal separators and terminal covers.
- 4.2.9 All breakers shall be without lock or locking device.
- 4.2.10 All MCCB's shall be easily interchangeable with at least 3 SEC approved manufacturers.

## 5.0 CONTINUOUS CURRENT RATINGS

- 5.1 The Circuit Breakers shall be in fixed capacities as following:
  - 200 A.
  - 300 A.
  - 400 A.
- 5.2 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 230 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".