



# Division 262817

# Enclosed Circuit Breakers

## DESIGN GUIDE

## 1 General

### 1.1 Introduction

- A. This section applies to the following:
  - 1. Molded-case enclosed circuit breakers

## 2 Materials

### 2.1 General

- A. Manufacturers: Eaton Electrical, General Electric, or Square D.
- B. Type: Enclosed circuit breakers shall be provided with dead-front enclosures. The circuit breaker handle or operating mechanism shall be accessible through the front cover.
- C. Neutral Bus: A full-size insulated neutral bar shall be included in each enclosed circuit breaker indicated with neutral.
- D. Ground Bus: A copper ground bus capable of being isolated shall be included in each enclosed circuit breaker.
- E. Enclosures: Enclosures located indoors shall be minimum NEMA Type 1 general purpose enclosures, and enclosures located outdoors shall be minimum NEMA Type 3R rain-tight enclosures.



## 2.2 Short Circuit Ratings

- A. Each enclosed circuit breaker shall be labeled with a UL integrated equipment short circuit rating. All circuit breakers shall have the interrupting capacity rating as indicated without relying upon series-connected ratings, except as otherwise specifically indicated on the drawings and/or associated schedules.
- B. Enclosed circuit breakers applied at 240 volts or less shall have short circuit ratings not less than 10,000 amperes RMS symmetrical.
- C. Enclosed circuit breakers applied at 480 volts or less shall have short circuit ratings not less than 14,000 amperes RMS symmetrical.

## 2.3 Circuit Breakers

- A. Circuit breakers shall be molded-case type, with inverse time and instantaneous tripping characteristics.
- B. Where serving NEC 700, 701 or 702 systems, circuit breakers shall be equipped with an electronic trip unit with adjustments for:
  - 1. Long-time pick-up and delay
  - 2. Short-time pick-up and delay
  - 3. Instantaneous pick-up

# 3 Execution

## 3.1 Installation

- A. Install enclosed circuit breakers plumb. Anchor enclosed circuit breakers to structure.
- B. Mounting Height: maximum 60 inches to operating handle.
- C. Neatly arrange and lace conductors in enclosures.



## **3.2 Adjustment and Testing**

- A. Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for equipment connectors. Check tightness of bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver per manufacturer's instructions. Record date and torque values and include in O&M manuals.

# **4 Appendix**

## **4.1 Reserved for future.**

