

## **SECTION 26 28 16.16 - ENCLOSED SWITCHES**

### **PART 1 - GENERAL**

#### **1.1 SUBMITTAL REQUIREMENTS**

##### **A. Product Data**

1. For each type include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes. Include current ratings, voltage ratings, short circuit current ratings, accessories, features, etc.

### **PART 2 - PRODUCTS**

#### **2.1 SWITCHES**

##### **A. Acceptable Manufacturers: Subject to being equivalent and subject to compliance with requirements, provide product by one of the manufacturers listed below. If not listed, submit as substitution.**

1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
3. Siemens Industry, Inc.
4. Square D; a brand of Schneider Electric.

##### **B. Characteristics:**

1. 50 through 60 Hz., with 200,000 RMS symmetrical interrupting current rating.
2. 250VAC rated, for projects with service-entrance line to line voltage not exceeding 240V.
3. 600VAC rated, for projects with service-entrance line to line voltage not exceeding 600V.

##### **C. Type HD, Heavy Duty: UL 98 and NEMA KS 1, horsepower rated, with clips or bolt pads to accommodate required fuses where applicable, lockable handle with capability to accept three padlocks, interlocked with cover in closed position, single or double throw as indicated on drawings.**

##### **D. Accessories:**

1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.

3. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
4. Lugs: Mechanical type, suitable for number, size, and conductor material.
5. Service-Rated Switches: Labeled for use as service equipment.
6. Auxiliary Contact Kit: One NO/NC (Form "C") auxiliary contact(s), arranged to activate before switch blades open.

## 2.2 ENCLOSURES

- A. Enclosed Switches: NEMA AB 1, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location. Refer to drawings for NEMA type. Provide the following enclosure types if not noted on drawings, or if not noted otherwise on drawings.
  1. Indoor, Dry and Clean Locations: NEMA 250, Type 1.
  2. Outdoor Locations: NEMA 250, Type 3R.
  3. Wash-Down Areas: NEMA 250, Type 4X, Stainless Steel.
  4. Other Wet or Damp, Indoor Locations: Type 3R.
  5. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 12.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install individual wall-mounted units with tops at uniform height unless otherwise indicated, or unless units must be stacked vertically, or unless field conditions otherwise dictate.
- B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- C. Install fuses in fusible devices.
- D. Comply with NECA 1.
- E. Install disconnect switches within sight of controller position unless otherwise indicated.
- F. Size units according to load being served or as noted on drawings, whichever requirement is larger. Provide units with horsepower ratings suitable to the loads where applicable. Install fuses and accessories as necessary to fulfill requirements of each application as applicable.
- G. Subsequent to completion of installation of equipment, energize circuits and demonstrate capability and compliance with requirements. Begin by demonstrating switch operation through six opening/closing cycles with circuit unloaded. Open each switch enclosure

and inspect interiors, inspect mechanical and electrical connections, inspect fuse installations, and verify accuracy of type and rating of fuses installed. Correct deficiencies then retest to demonstrate compliance. Remove and replace defective units with new units and retest.

- H. Provide fuses of types specified in Section 262813.00, and of ratings as indicated on drawings.

**END OF SECTION 26 28 16.16**