

**SECTION 262816-ENCLOSED SWITCHES****PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes fusible and non-fusible safety switches.
- B. Related Sections:
  - 1. Section 262816 - Fuses.

**1.2 REFERENCES AND QUALITY ASSURANCE**

- A. NECA (National Electrical Contractors Association) -Standard of Installation.
- B. NEMA FU 1 (National Electrical Contractors Association).- Low Voltage Cartridge Fuses.
- C. NEMA KS 1 (National Electrical Contractors Association).- Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum).
- D. NETA ATS (International Electrical Testing Association) - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (International Electrical Testing Association).
- E. UL 98
- F. Underwriters Laboratory
- G. NFPA 70

**1.3 SUBMITTALS**

- A. Section 013300 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit switch ratings and enclosure dimensions.

**1.4 CLOSEOUT SUBMITTALS**

- A. Section 017700 - Closeout procedures.
- B. Project Record Documents: Record actual locations of enclosed switches and ratings of installed fuses.

**1.5 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

**1.6 QUALITY ASSURANCE**

- A. Perform Work in accordance with the National Electric Code and the Ohio Building Code, UL 98, and all other codes and ordinances.

## PART 2 PRODUCTS

### 2.1 FUSIBLE SWITCH ASSEMBLIES

- A. Manufacturers:
  - 1. GE Electrical.
  - 2. Square "D".
  - 3. Cutler Hammer
  - 4. Siemens.
- B. Product Description: NEMA KS 1, Type HD heavy duty with externally operable handle interlocked to prevent opening front cover with switch in ON position, enclosed load interrupter knife switch. Handle pad lockable in OFF position. Totally enclosed with external operating handle and mechanical cover interlock. Internal ground lug
- C. Fuse clips: Designed to accommodate NEMA FU 1, Class R fuses.
- D. Enclosure: NEMA KS 1, to meet conditions. Fabricate enclosure from steel finished with manufacturer's standard gray enamel.
  - 1. Interior Dry Locations: Type 1.
  - 2. Exterior Locations: Type 3R.
- E. Service Entrance: Switches identified for use as service equipment are to be labeled for this application. Furnish solid neutral assembly and equipment ground bar.
- F. Furnish switches with entirely copper current carrying parts.
- G. Rating shall be suitable for use

### 2.2 NONFUSIBLE SWITCH ASSEMBLIES

- A. Manufacturers:
  - 1. GE Electrical.
  - 2. Square "D".
  - 3. Westinghouse Electric Corp.
  - 4. Siemens.
- B. Product Description: NEMA KS 1, Type HD with externally operable handle interlocked to prevent opening front cover with switch in ON position enclosed load interrupter knife switch. Handle lockable in OFF position.
- C. Enclosure: NEMA KS 1, to meet conditions. Fabricate enclosure from steel finished with manufacturer's standard gray.
  - 1. Interior Dry Locations: Type 1.
  - 2. Exterior Locations: Type 3R.

- D. Service Entrance: Switches identified for use as service equipment are to be labeled for this application. Furnish solid neutral assembly and equipment ground bar.
- E. Furnish switches with entirely copper current carrying parts.

### 2.3 SWITCH RATINGS

- A. Switch Rating: Horsepower rated for AC or DC as indicated on Drawings.
- B. Short Circuit Current Rating: See one line, otherwise use UL listed for 10,000 rms symmetrical amperes when used with or protected by Class H or K fuses (30-600 ampere). 200,000 rms symmetrical amperes when used with or protected by Class R or Class J fuses (30-600 ampere switches employing appropriate fuse rejection schemes). 200,000 rms symmetrical amperes when used with or protected by Class L fuses (800-1200 ampere).

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install in accordance with NECA "Standard of Installation."
- B. Install enclosed switches plumb. Provide supports in accordance with Section 260529.
- C. Height: 5 ft to operating handle.
- D. Install fuses for fusible disconnect switches.
- E. Install engraved nameplates in accordance with Section 260553.
- F. Apply adhesive tag on inside door of each fused switch indicating NEMA fuse class and size installed.

### 3.2 FIELD QUALITY CONTROL

- A. Refer to Division 1 requirements.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.5.

END OF SECTION 262816

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