SECTION 16411

FUSIBLE AND NON-FUSIBLE SWITCH ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes fusible and nonfusible switches.

1.2 REFERENCES

A. NECA (National Electrical Contractors Association) – Standard of Installation.

B. NEMA FU 1 (National Electrical Contractors Association) – Low Voltage Cartridge Fuses.


1.3 SUBMITTALS

A. Section 01330 – Submittal Procedures.

B. Product Data: Submit switch ratings and enclosure dimensions.

1.4 CLOSEOUT SUBMITTALS

A. Section 01770 – Closeout and turnover 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.

PART 2 - PRODUCTS

2.1 FUSIBLE SWITCH ASSEMBLIES

A. Product Description: NEMA KS 1, Type HD or GD dead front construction with quick-make, quick-break operating handle and mechanism. Externally operable dual interlocked handle to prevent opening front cover with switch in ON position, or closing switch when door is open. Visible load interrupter knife
switch blades in the off position with door open. Handle lockable in OFF position.

B. Fuse clips: As designed.

C. Enclosure: NEMA KS 1, as required to meet conditions. Provide listed enclosure from steel finished with manufacturer’s standard gray.

1. Interior Dry Locations: Type 1.
2. Exterior Locations: Type 3R or 4
3. Industrial Locations: Type as designed.
4. Switchboard Assemblies: Type 1.

D. Service Entrance: Switches identified for use as service equipment are to be labeled for this application. Provide solid neutral assembly and equipment ground bar.

E. Applications

1. Fusible switch assemblies may be installed individually as fusible safety switches, in switchboards as branch or main devices or on busway systems as distribution devices.

2.2 NONFUSIBLE SWITCH ASSEMBLIES

A. Product Description: NEMA KS 1, Type HD or GD dead front construction with quick-make, quick-break operating handle and mechanism externally operable dual interlocked handle to prevent opening front cover with switch in ON position or closing switch when door is open. Visible load interrupter knife switch blades in the off position with door open. Handle lockable in OFF position.

B. Enclosure: NEMA KS 1, as required to meet conditions. Provide listed enclosure from steel finished with manufacturer’s standard gray.

1. Interior Dry Locations: Type 1.
2. Exterior Locations: Type 3R or 4.
3. Industrial Locations: Type as designed.

C. Applications

1. Non-fusible switch assemblies may be installed individually as equipment disconnecting means.

2.3 BOLTED PRESSURE CONTACT SWITCHES

A. Switch Ratings

1. Switch Rating: Horsepower rated for AC and/or DC as indicated.
2. Short Circuit Current Rating: 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)].

2.4 ACCESSORIES

A. Install accessories as designated for the project:

1. Shunt trip: 120 vac U.O.N.
2. Auxiliary contact switch 1A/1A U.O.N.
5. Ground fault protection.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with NECA “Standard of Installation.”

B. Install enclosed switches plumb. Provide supports as specified elsewhere in Electrical specifications.

C. Height: 5 ft to operating handle.

D. Provide fuses for fusible disconnect switches as specified elsewhere in Electrical specifications.

E. Locate and install engraved plastic nameplates as specified elsewhere in Electrical specifications.

F. Apply adhesive tag on inside door of each fused switch indicating NEMA fuse class and size installed.

G. Where a fusible or non-fusible disconnect switch is installed for a motor or piece of equipment served by an adjustable speed drive. The disconnect shall be furnished with an auxiliary contact switch connected to the drive to inhibit drive operation when the switch is open.

3.2 FIELD QUALITY CONTROL

A. Section 01450 – Quality Requirements: Testing and Inspection Services.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Perform inspections and tests listed in NETA ATS, Section 7.5.
3.3 EXISTING WORK

A. Disconnect and remove abandoned enclosed switches. All enclosed switches which are to be reused or reinstalled shall be cleaned and repaired.

B. Ensure access to existing enclosed switches and other installations with remain active and which require access. Modify installation or provide access panel as appropriate.

END OF SECTION