26 2816 - Enclosed Switches and Circuit Breakers

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Non-fusible switches
2. Molded case circuit breakers (MCCBs)
3. Enclosures

1.2. DEFINITIONS

A. GD: General Duty

B. GFCI: Ground-Fault Circuit Interrupter

C. HD: Heavy Duty

D. RMS: Root Mean Square.

E. SPDT: Single Pole, Double Throw

1.3. SUBMITTALS

A. Product Data: For each type of enclose switch, circuit breaker, accessory, and component indicated, include dimensioned elevations, sections, weights, and manufacturers, technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

1. Enclosure types and details for types other than NEMA 250, Type 1.
2. Current and voltage ratings.
3. Short-circuit current ratings (interrupting and withstand, as appropriate).
4. Series rating of devices is not allowed. Each device shall be fully rated.
5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.

B. Shop drawings: For enclosed Switches and circuit breakers, include plans, elevations, sections, details, and attachments to other work.

1. Wiring diagrams: for power, signal, and control wiring.

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1.4. QUALITY ASSURANCE

A. Testing Agency Qualifications: Member company of NETA or an NRTL.

1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site test-ing.

B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. Comply with NFPA 70.

E. UL Listed.

1.5. PROJECT CONDITIONS

A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:

1. Ambient Temperature: Not less than minus 22 deg F and not exceeding 104 deg F.

2. Altitude: Not exceeding 6600 feet.

1.6. COORDINATION

A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. The Contractor shall provide all breakers included in the scope of work, the TCC curves and required information to the Coordination Study Engineer for incorporation into the coordination study. This submittal cannot be approved until a final coordination study is submitted and approved.

PART 2 - PRODUCTS

2.1. FUSIBLE AND NONFUSIBLE SWITCHES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following :

1. Square D; a brand of Schneider Electric. Basis of design.

2. Substitutions by 10 day prior approval.

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B. Type HD, Heavy Duty, Single Throw,600-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horse-power rated, with clips or bolt pads to accommodate specified fuses, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.

C. Non-fusible Switch, 600-Vac, 1200A and Smaller: NEMA KS1, Type HS, lockable handle with ca-pability to accept two padlocks, and interlock with cover in closed position.

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. Auxiliary Contact Kit: Auxiliary set of contacts arranged to open before switch blades open.

PART 3 - EXECUTION

3.1. EXAMINATION

A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.

3.2. INSTALLATION

A. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.

B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

C. Comply with NECA 1.

3.3. IDENTIFICATION

A. Comply with requirements in Division 26 Section “Identification for Electrical Systems.”

1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.

2. Label each enclosure with engraved metal or laminated-plastic nameplate.

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3.4. FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

3.5. ADJUSTING

A. Set field-adjustable switches and circuit-breaker trip ranges as shown in the final approved coordination study.

3.6. CLEANING

A. On completion of installation, vacuum dirt and debris from interiors; do not use compressed air to assist in cleaning.

B. Inspect exposed surfaces and repair damaged finishes.

End of 26 2816 - Enclosed Switches and Circuit Breakers