**section 26 27 29**

**elevator Distribution Equipment**

**BASED ON DFD MASTER ELECTRICAL SPEC DATED 03/01/23**

***This section has been written to cover most (but not all) situations that you will encounter. Depending on the requirements of your specific project, you may have to add material, delete items, or modify what is currently written. The Division of Facilities Development expects changes and comments from you.***

**PART 1 - GENERAL**

**SCOPE**

The work under this section includes elevator disconnect switches and distribution panels with integral shunt trip and fire safety interface. Included are the following topics:

PART 1 – GENERAL

Scope

Related Work

References

Submittals

Extra Materials

PART 2 – PRODUCTS

Acceptable Manufacturers

Elevator Distribution Equipment

Enclosures

PART 3 – EXECUTION

Shipping, Delivery, Storage and Handling

Examination and Preparation

Installation

Construction Verification Items

**RELATED WORK**

Applicable provisions of Division 1 govern work under this Section.

Section 26 05 19- Low Voltage Electrical Power Conductors and Cables

Section 26 05 33- Raceway and Boxes for Electrical Systems

Section 26 27 02- Equipment Wiring Systems

Section 28 31 00- Fire Detection and Alarm

Section 01 91 01 or 01 91 02 – Commissioning Process

**REFERENCES**

NECA (National Electrical Contractors Association) "Standard of Installation"

NEMA ICS 2 – Industrial Control Devices, Controllers, and Assemblies

NEMA KS 1 – Enclosed Switches

UL 50 – Enclosures for Electrical Equipment

UL 98 – Enclosed and Dead-front Switches

ANSI/ASME A17.1 – Safety Code for Elevators and Escalators

NFPA 72 – National Fire Alarm Code

**SUBMITTALS**

For Approval:

Shop Drawings: Indicate front and side views of enclosures with overall dimensions shown; conduit entrance locations and requirements; nameplate legends.

Product Data: Provide electrical characteristics including voltage, trip ratings, fault current withstand ratings, and time‑current curves of all equipment and components.

Schematic Wiring Diagrams: Provide complete diagrams for device.

For Record Purposes:

As-built/Record Drawings shall accurately indicate the location of the equipment and the equipment shall be identified with the final designation as directed by the Owner.

Record actual fuse sizes and type installed.

**EXTRA MATERIALS**

Spare Materials: Provide three fuses of each size, type and rating.

Maintenance Materials: Provide two fuse pullers.

**PART 2 - PRODUCTS**

**ACCEPTABLE MANUFACTURERS**

Eaton/Cutler-Hammer, Bussmann Power Module, Little Fuse POWR series, Mersen or equal as approved by Engineer prior to bidding.

**ELEVATOR DISTRIBUTION EQUIPMENT**

Power Module Disconnect Switch (PMS):

Provide Elevator Disconnect Switch in a single NEMA enclosure with all necessary relay(s), control transformer and other options (as listed below), and as shown on drawings. The PMS shall be constructed, listed, and certified to the standards as listed in above.

The PMS shall have an ampere rating as shown on the Contract Drawings, and shall include a horsepower rated fusible switch with shunt trip capabilities. The ampere rating of the switch shall be based upon elevator manufacturer requirements and utilize Class J Fuses or equivalent protection.

The control power transformer shall be 100 VA minimum with primary and secondary fuses. The primary voltage rating shall be as indicated in the Equipment Connection Schedule with a 120 volt secondary and an isolation relay (3PDT, 10 amp, 120Vac).

The coil of the isolation relay shall be 120 Vac with a coil burden of 30 VA maximum. A normally open dry contact shall be provided by the Fire Alarm Safety System to energize the isolation relay and activate the shunt trip solenoid.

The switch shall include a 120 volt key test switch and a 1-NO/1-NC mechanically interlocked auxiliary contact rated 5A, 120 Vac.

***Note to A/E: Delete the following requirement if not applicable to the project.***

[Provide mechanically interlocked auxiliary contact (5 amp 120Vac rated) for hydraulic elevators with battery backup.]

The switch shall contain the following options:

Green “ON” Pilot Light, nameplate stating “Control Power Energized”

Main Switch Auxiliary Contacts (1 NO/1 NC)

The module shall have been successfully tested to a short circuit rating with Class J fuses at 200,000 amps RMS Symmetrical. Branch circuit fuses shall be selectively coordinated with the upstream over-current protective device.

Power Module Distribution Panel (PMDP):

Provide multiple Elevator Disconnect Switches in a single NEMA enclosure, connected to a common bus with all necessary relay(s), control transformer and other options (as listed below), and as shown on drawings. The Elevator Distribution Panel shall be constructed, listed, and certified to the standards as listed in above.

The PMDP shall have an ampere rating as shown on the Contract Drawings, and shall include a horsepower rated fusible switch with shunt trip capabilities. The ampere rating of the switch shall be based upon elevator manufacturer requirements and utilize Class J Fuses or equivalent protection.

The control power transformer shall be 100 VA minimum with primary and secondary fuses. The primary voltage rating shall be as indicated in the Equipment Connection Schedule with a 120 volt secondary and an isolation relay (3PDT, 10 amp, 120 Vac).

The coil of the isolation relay shall be 120 Vac with a coil burden of 30 VA maximum. A normally open dry contact shall be provided by the Fire Alarm Safety System to energize the isolation relay and activate the shunt trip solenoid.

The switch shall include a 120 volt key test switch and a 1-NO/1-NC mechanically interlocked auxiliary contact rated 5A, 120 Vac.

***Note to A/E: Delete the following requirement if not applicable to the project.***

[Provide mechanically interlocked auxiliary contact (5 amp 120Vac rated) for hydraulic elevators with battery backup.]

Each switch in the panel shall have the following options:

Green “ON” Pilot Light, nameplate stating “Control Power Energized”

Main Switch Auxiliary Contacts (1 NO/1 NC)

The panel shall have been successfully tested to a short circuit rating with Class J fuses at 200,000 amps RMS Symmetrical. Branch circuit fuses shall be selectively coordinated with the upstream over-current protective device.

**ENCLOSURES**

Indoor: NEMA Type 1; code gauge steel with rust inhibiting primer.

Outdoor: NEMA Type 4X, 304 stainless steel.

Enclosure shall include padlocking provisions for the OFF position.

Finish using manufacturer's standard enamel finish, gray color.

**PART 3 - EXECUTION**

**SHIPPING, DELIVERY, STORAGE AND HANDLING**

Inspect and report concealed damage to carrier.

Handle carefully to avoid damage to switch internal components, enclosure and finish.

Store equipment in a clean, dry location. Maintain factory packaging and, as required, provide additional heavy canvas or heavy plastic cover to protect panelboards from dirt, water construction debris and traffic.

**EXAMINATION AND PREPARATION**

Verify equipment dimension match approved submittals.

Examine areas to receive panelboards to assure adequate working clearance for panelboard installation.

**INSTALLATION**

***Note to A/E: Coordinate with Elevator Consultant for controller location for access per NEC 110.26 working space, accessibility, servicing, and longevity of equipment life due to climate exposure.***

All material installation shall be in accordance with manufacturer’s recommendations and the provisions of applicable codes.

Install disconnect switches where indicated on Drawings.

Install equipment plumb. Provide supports in accordance with Section 26 05 29. Do not directly attach to equipment subject to vibration.

Verify fuses comply with Coordination Study if study is specified or with Engineer if study is not specified.

Provide engraved plastic nameplates under the provisions of Section 26 05 53.

**CONSTRUCTION VERIFICATION ITEMS**

Contractor is responsible for utilizing the construction verification checklists supplied under specification Section 01 91 01 or 01 91 02 in accordance with the procedures defined for construction verification checklists.

END OF SECTION