Division 262416 Panelboards
DESIGN GUIDE

1 General

1.1 Introduction

A. This section applies to the following:

1. Distribution Panelboards
2. Branch Circuit Panelboards

B. Panelboards shall be located throughout each building to minimize length of wiring for branch circuits and to promote future flexibility for building adds and changes. House panels for mechanical and lighting loads can be in centralized closets. Panels serving specific groups of space types shall be located near the spaces which they serve.

C. Avoid locating panelboards within instructional spaces. Where approved by the ELSM, panelboards can be located in public circulation areas, such as hallways.

D. Avoid locating panelboards behind doors.

2 Materials

2.1 General

A. Manufacturers: Eaton Electrical, General Electric, Square D or approved equal.

B. Energy Metering: Where required by the energy code, panelboards shall include energy metering integrally mounted in the panelboard enclosure. Metering shall be compatible with the Building Management System (BMS). Energy meters shall be networked to the BMS for data reporting.

C. Types: Panelboards shall be dead-front design with door in door panelboard enclosures. Panelboards shall be circuit breaker type.

D. Interiors: Panelboard interiors shall be completely factory assembled with bolt-on devices.

1. Main bus bars shall be copper.

2. Full-size insulated neutral bars shall be included for panelboards indicated with neutral.

3. A copper ground bus capable of being isolated shall be included in each panelboard.

E. All panelboard locks shall be keyed alike.

F. Enclosures: Panelboard enclosures shall be NEMA Type 1 general purpose enclosures with true door in door construction.

G. Service Equipment: Panelboards used as service-entrance equipment shall be UL listed and labeled as suitable for such use.

H. Circuit breakers shall be molded-case type, with inverse time and instantaneous tripping characteristics.

I. Seismic Construction: The equipment shall be constructed to meet the project seismic requirements.

2.2 Distribution Panelboards

A. Enclosures: Enclosures for distribution panelboards shall be at least 11 inches deep and 36 inches wide. Distribution panelboards shall be provided with door in door construction.

1. Distribution panelboard trims shall cover all live parts. Switching device handles shall be accessible.

B. Bolt-On Alternative: In lieu of bolt-on circuit breakers, circuit breakers equipped with line terminal jaws, equal to Square D I-Line type, are acceptable.

C. Circuit breakers shall be provided with engraved nameplates for identification of load served.

2.3 Branch Circuit Panelboards

A. Enclosures: Enclosures for lighting and appliance branch circuit panelboards shall be provided with door in door construction.

1. Doors shall be flush with panelboard trim.

2. All panelboard locks shall be keyed alike.

B. Panel Index: A directory card with a clear plastic cover shall be supplied and mounted on the inside of each door.

2.4 Short Circuit Ratings

A. Each panelboard shall be labeled with a UL integrated equipment short circuit rating. All overcurrent protective devices shall have the interrupting capacity rating as indicated without relying upon series-connected ratings. Minimum AIC ratings are follows:

1. Panelboards 240V or less: 10,000 amperes RMS symmetrical

2. Panelboards 480V or less: 14,000 amperes RMS symmetrical

3 Execution

3.1 Installation

A. Each recessed panelboard shall be provided within minimum (4) 1” spare conduits with pull string to accessible ceiling space.

B. Provide a typewritten circuit directory for each branch circuit panelboard.

C. Provide a label on every panelboard which contains the following information:

1. Panel Name
2. Voltage and Phase
3. Panel Feeder Size
4. AIC Rating
5. Fed From ‘SWBD XX’.

3.2 Electrical Meter Installation

A. The installing division 26 electrical contractor shall verify current transducers are the correct ration and verify arrows point to the load on all phases as applicable.

B. The installing division 26 contactor shall verify meter readings with an external handheld meter +/-5% prior to demonstration to the commissioning agent.

C. Calibration will be verified in the CX process-even for factory calibrated meters.

3.3 Adjustment and Testing

A. Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer’s published torque tightening values for equipment connectors. Check tightness of bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver per manufacturer’s instructions. Record date and torque values and include in O&M manuals.

4 Appendix

4.1 Reserved for future.