

SECTION 262416.00 - PANELBOARDS**PART 1 - GENERAL****1.1 SUBMITTAL REQUIREMENTS****A. Product Data**

1. For each provide bus configuration, current ratings, voltage ratings, SCCR Ratings, overcurrent protective device(s), surge suppression device(s), accessory, and components indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

PART 2 - PRODUCTS**2.1 GENERAL REQUIREMENTS FOR PANELBOARDS**

- A. Manufacturers: Subject to compliance with requirements, provide products by the following, to match existing equipment:
 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit
- B. Future Devices: Provide all mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.
- C. Fault Current Ratings
 1. Provide electrical distribution related equipment with appropriately braced bussing and properly rated breakers, fuses, etc. for the available fault currents.
 2. In existing buildings where fault current values are not indicated on drawings, coordinate with existing "upstream" distribution equipment, and provide equipment AIC ratings that meet or exceed same.
- D. Provide panelboard branches as scheduled on the drawings. Provide circuit breaker panelboard bus assemblies with distributed (sequence) type bussing throughout, so that any two adjacent single-pole breakers, or spaces, are replaceable by a two-pole internal common trip breaker, and so that any three adjacent single-pole breakers, or spaces, are replaceable by a three-pole internal common trip breaker. This applies for branch breakers sized 15-amp through 70-amp inclusive, without disturbing any other breaker.
- E. Provide integral factory-installed power supply system(s) to prevent electronic-trip breakers from tripping under conditions where load current may at any time fall below operational thresholds. Provide factory-wired power supply system(s), powered from the respective panelboard with integral overcurrent protection, control power transformer(s), etc. as necessary for complete operational system(s) without requiring any external or field wiring.

2.2 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Molded-Case Circuit Breakers (MCCB): Comply with UL 489, with series-connected rating interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 - 2. Molded-Case Circuit-Breaker (MCCB) Features and Accessories:
 - a. Standard frame sizes, trip ratings, and number of poles.
 - b. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
 - c. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge (HID) lighting circuits.
 - d. Multipole units enclosed in a single housing or factory assembled to operate as a single unit.
 - e. Handle Padlocking “Lock-Out/Tag-Out” Device: Fixed attachment, for locking circuit-breaker handle in off position.
 - f. Handle Clamp: Loose attachment, for holding circuit-breaker handle in on position.
 - g. Mounting: Designed to be mounted and operated in any physical position, and to be operated in a minimum ambient temperature of 40 degrees C.; with mechanical screw type removable connector lugs, AL/CU rated.
 - h. Size: Full size, no "tandem" or "split" breakers.
 - i. Position: All load-side box lugs of each breaker in the same gutter.
 - j. Common Trip: Common trip for multi-pole breakers so overload on one pole will trip all poles simultaneously. Provide multi-pole breakers with common trip (or with handle-ties, only if needed because breakers are existing) for applications where it is determined that a common disconnecting means is required for multi-wire branch circuits serving, or within, the same enclosure, outlet box, equipment, or device.
 - k. SWD Type: Provide for 15 and 20 ampere branch circuit breakers (UL Listed).
 - l. HACR Type: Provide for 15 through 70 ampere branch circuit breakers.
 - m. Spares: Place all spare circuit breakers in the ‘OFF’ position, provide with breaker locks, and schedule them as “Spare” on directory card.

2.3 ACCESSORY COMPONENTS AND FEATURES

- A. Provide panelboard accessories and devices including, but not necessarily limited to, overcurrent protection devices, ground-fault protection, etc., as recommended by panelboard manufacturer for ratings and applications indicated. Provide distribution equipment with ground bus bars. Provide a minimum of 20 handle, lock-on devices of the non-padlocking type for life safety, special systems and other essential circuits.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Mount top of trim 90 inches above finished floor unless top-most breaker handle would end up being above 79 inches in which case the top of trim shall be mounted so that the top-most breaker handle will be below 79 inches. Install overcurrent protective devices and controllers not already factory installed. Set field-adjustable, circuit-breaker trip ranges and other applicable settings. Arrange conductors in gutters into groups. Install filler plates in unused spaces.
- B. Provide neatly computer-typed/printed circuit directory card for each panel upon completion of installation work. Include the actual room names/numbers that are selected for interior signage and/or designation. Scheduling shown on drawings is shown to indicate feeder and branch circuiting requirements. Determine exact numbering sequence of circuits in field after performing final balancing.

End of Section 262416.00