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## 26 27 26\_WIRING DEVICES

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Wall switches.
- B. Receptacles.
- C. Occupancy Sensor Wall Switch Sensor
- D. Wall plates.

#### 1.2 SUMMARY

- A. This standard includes wiring devices and cover plates used for Academic Buildings, and Residence rooms.
- B. The use of split wired receptacles is NOT permitted.
- C. The intent of these standards are to provide input to the design team on the University's preference of manufacturers, design, equipment options, and quality assurance to maintain the longevity of its assets.

#### 1.3 RELATED REQUIREMENTS

- A. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- B. Section 26 05 37 – Boxes for Electrical Systems.
- C. Section 26 05 53 - Identification for Electrical Systems.

#### 1.4 DESIGN REQUIREMENTS

- A. All wiring devices shall be 20-amp minimum commercial specification grade.
- B. Academic Buildings.
  - 1. All receptacles shall use the following standard color code:
    - a. Emergency: Red
    - b. Isolated Ground: Orange
    - c. Normal Power: Color as selected by Architect

C. Residence Rooms.

1. All receptacles shall use the following standard color code:
  - a. Ground Fault Circuit Interrupter GFCI: Color as selected by Architect.
  - b. Normal Power: Match the raceway (Usually Ivory or Gray) or Color as selected by Architect.
  - c. Arc-Fault Circuit Interrupter AFCI: Color as selected by Architect.
2. Provide at least one USB dual charger duplex receptacle per Residence Room.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Hubbell
- B. Hubbell Incorporated: [www.hubbell-wiring.com](http://www.hubbell-wiring.com).
- C. Leviton Manufacturing Company, Inc: [www.leviton.com](http://www.leviton.com).
- D. Pass & Seymour, a brand of Legrand North America, Inc: [www.legrand.us](http://www.legrand.us)

2.2 WALL SWITCHES

- A. All wall switches:
  1. AC only, quiet operating, general use snap switch with silver alloy contacts.
  2. 20 amp minimum
  3. 120/277 volt
  4. Separate ground terminal screw
  5. Color as selected by Architect
- B. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring.
- C. Occupancy Sensor Wall Switch Sensor
  1. Line voltage or part of a digital lighting control system.
  2. Adjustable settings.
  3. Dual Technology sensing.

2.3 RECEPTACLES

- A. All Receptacles:
  1. 20 amp minimum.
  2. 125 volt minimum.
  3. Separate ground terminal screw.

4. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring.
- B. Standard Convenience Receptacles: Commercial specification grade, 20A, 125V, NEMA 5-20R, single or duplex as indicated on the drawings.
- C. Isolated Ground Convenience Receptacles: Commercial specification grade, 20A, 125V, NEMA 5-20R, with ground contacts isolated from mounting strap; isolated ground triangle mark on device face; single or duplex as indicated on the drawings.
- D. GFI Receptacles:
  1. All GFI Receptacles: Provide with feed-through protection, light to indicate ground fault tripped condition and loss of protection, and list as complying with UL 943, class A.
  2. GFI Receptacles: Commercial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style.
- E. AFCI Receptacles:
  1. AFCI Receptacles:
    - a. 20 amp minimum
    - b. 125 volt minimum
    - c. Separate ground terminal screw.
    - d. Feed-thru where required.
    - e. Tamper resistant.
    - f. Provide combination AFCI/GFCI where GFCI is required.
    - g. Diagnostics:
      - 1) Visual Notification: Provide indicator light to report functional status of surge protection.
- F. USB Dual Charger Duplex Receptacle.
  1. Specification Grade, 20-amp, 125 volt, NEMA 5-20R, duplex receptacle with two USB type 2.0 charger ports.

## 2.4 WALL PLATES

- A. All Wall Plates:
  1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
  2. Size: Standard.
  3. Screws: Metal with slotted heads finished to match wall plate finish.
  4. Provide label with panel and circuit number.
- B. Nylon Wall Plates: To be used in residence rooms only. Smooth finish, high-impact

thermoplastic. Color to match wiring device.

- C. Stainless Steel Wall Plates: Brushed satin finish, beveled edge, Type 302 stainless steel.
- D. Weatherproof Covers for Damp Locations: Gasketed, cast aluminum, with self-closing hinged cover and corrosion-resistant screws; listed as suitable for use in wet locations with cover closed.
- E. Weatherproof Covers for Wet Locations: Gasketed, cast aluminum, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected and identified as extra-duty type.
  - 1. Plastic weatherproof in use with attachment plugs cover plates are not permitted.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Perform work in a neat and workmanlike manner.
- B. Coordinate locations of outlet boxes provided under Section 26 05 37 as required for installation of wiring devices provided under this section.
- C. Install wiring devices in accordance with manufacturer's instructions.
- D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
- E. Connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.
  - 1. Wiring devices shall not be used as a feed-through device.
    - a. Exception: GFCI receptacles or AFCI receptacles. See note I below.
- F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.
- G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
- H. For isolated ground receptacles, connect wiring device grounding terminal only to identified branch circuit isolated equipment grounding conductor. Do not connect grounding terminal to outlet box or normal branch circuit equipment grounding conductor.
- I. Unless otherwise indicated, GFCI receptacles or AFCI receptacles may be connected to provide feed-through protection to downstream devices. Label such devices to indicate they are protected by upstream GFCI or AFCI protection.

- J. Install wiring devices plumb and level with mounting yoke held rigidly in place.
- K. Install single pole toggle wall switches with OFF position down.
- L. Install vertically mounted receptacles with equipment grounding pole on top, and horizontally mounted receptacles with the equipment grounding pole on left.
- M. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.
- N. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

### 3.2 FIELD QUALITY CONTROL

- A. Perform field inspection, testing, and adjusting.
- B. Inspect each wiring device for damage and defects.
- C. Operate each wall switch with circuit energized to verify proper operation.
- D. Test each receptacle to verify operation and proper polarity.
- E. Test each GFCI and AFCI receptacle for proper tripping operation according to manufacturer's instructions.
- F. Inspect each surge protection receptacle to verify surge protection is active.
- G. Correct wiring deficiencies and replace damaged or defective wiring devices.

### 3.3 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

## PART 4 END OF SECTION