

## **SECTION 26 27 26**

### **WIRING DEVICES**

#### **PART 1 - GENERAL**

##### 1.1 RELATED DOCUMENTS:

- A. The Conditions of the Contract and applicable requirements of Divisions 0 and 1 and Section 26 00 01, "Electrical General Provisions", govern this Section.

##### 1.2 DESCRIPTION OF WORK:

- A. Work Included: Provide wiring device work as shown, scheduled, indicated, and as specified.
- B. Types: The types of wiring devices required for the project include, but are not limited to, the following:
  - 1. Receptacles.
  - 2. Switches.
  - 3. Wallbox dimmers.
  - 4. Pushbuttons.
  - 5. Wall plates.
  - 6. **[Power poles.]**
  - 7. **[Cord reels.]**

##### 1.3 STANDARDS:

- A. Products shall be designed, manufactured, tested, and installed in compliance with the following standards:
  - 1. NEMA WE 1 General-purpose wiring devices.
  - 2. NEMA WD 5 Specific-purpose wiring devices.

##### 1.4 QUALITY ASSURANCE:

- A. Manufacturers: Provide products complying with these specifications and produced by one of the following:
  - 1. Bryant.
  - 2. Harvey Hubbell, Inc.
  - 3. Intermatic.
  - 4. Leviton.
  - 5. Lightolier, Inc.

6. Lutron, Inc.
7. Pass and Seymour, Inc.
8. Prescolite.
9. Raco.
10. Taymac Corporation.
11. Wiremold Company.

B. UL Label: All wiring devices shall be UL-labeled.

#### 1.5 SUBMITTALS:

- A. Shop Drawings submittals shall include, but not be limited to, the following:
1. Cut sheets of the receptacles, switches, wall box dimmers, and pushbuttons.
  2. Cut sheets of the wall plates.
  3. **[Cut sheets of power poles and cord reels.]**
  4. **[Samples of general use receptacle, switch and coverplate types and colors proposed for the project.]**
  5. Additional information as required in Section 26 00 01, "Electrical General Provisions".

#### 1.6 DELIVERY, STORAGE AND HANDLING:

- A. Deliver wiring devices individually wrapped in factory-fabricated containers.
- B. Handle wiring devices carefully to avoid damage, breaking, and scoring.
- C. Store in a clean dry space and protect from the weather.

### **PART 2 - PRODUCTS**

#### 2.1 WIRING DEVICES:

- A. General: Provide factory-fabricated wiring devices in the type, color, and electrical rating for the service indicated. Where type and grade are not indicated, provide proper selection to correspond with branch circuit wiring and overcurrent protection. Attachment of wires to devices shall be by screw pressure under the head of binding screws. Arrangements depending on spring pressure or tension are not acceptable. All binding screws shall be brass or bronze.
- B. Receptacles: Comply with NEMA Standard WD1 and as follows:
1. General Duty Decorator: Provide simplex or duplex commercial specification grade decorator type receptacles, 2-pole, 3-wire grounding, with green hexagonal equipment ground screw, ground terminals and poles internally connected to mounting yoke, with metal mounting straps, back and side wired with screw type terminals, molded high impact thermoplastic compound, NEMA configuration as indicated.

- |   |  |
|---|--|
| a. 20 amp, 125 volt grounded simplex NEMA #5-20R  | Pass & Seymour #26361-*.<br>Leviton #16351-*   |
| b. 20 amp, 125 volt grounded duplex NEMA #5-20R   | Pass & Seymour #26352-*.<br>Leviton #16352-*   |
| c. 20 amp, 125 volt, Class A, GFCI duplex receptacle with integral ground fault current interrupter, back and side wired with indicator light.                | Pass & Seymour #2095*L.<br>Leviton #7899-*     |
| d. 20 amp, 125 volt, Class A, GFCI duplex receptacle with integral ground fault current interrupter, back and side wired with indicator light hospital grade. | Pass & Seymour #2095HG*L.<br>Leviton #7899-HG* |

\* Color designation, refer to Paragraph 2.3.

**[Wiring devices connected to emergency power circuits shall be as specified hereinabove except that wiring devices shall be red in color with coverplates color-matching other devices in the room.]**

2. **[Hospital Grade Decorator: Provide duplex Hospital grade decorator type receptacles, 2-pole, 3-wire grounding, with green hexagonal equipment ground screw, ground terminals and poles internally connected to mounting yoke, with metal mounting straps, back and side wired with screw type terminals, nylon or compound, NEMA configuration as indicated.**
- |  |                                      |
|--|--------------------------------------|
| a. 20 amp, 125 volt grounded duplex NEMA #26332HG-*. #5-20R  | Pass & Seymour<br>Leviton #16362HG-* |
| b. 20 amp, 125 volt, Class A, GFCI duplex #2095HG*L. receptacle with integral ground fault current interrupter, back and side wired with indicator light . | Pass & Seymour<br>Leviton #8898HG-*  |

**[Wiring devices connected to emergency power circuits shall be as specified hereinabove except that wiring devices shall be red in color with coverplates color-matching other devices in the room.]**

3. General Duty Standard: Provide simplex or duplex commercial specification grade standard type receptacles, 2-pole, 3-wire grounding, with green hexagonal equipment ground screw, ground terminals and poles internally connected to mounting yoke, with metal mounting straps, back and side wired with screw type terminals, molded high impact thermoplastic compound, NEMA configuration as indicated.
- |  |  |
|--|--|
| a. 20 amp, 125 volt grounded simplex NEMA #5-20R | Pass & Seymour #5361-*.<br>Leviton #5891-* |
| b. 20 amp, 125 volt grounded duplex NEMA #5-20R  | Pass & Seymour #5352-*.<br>Leviton #BR20-* |

- c. 20 amp, 125 volt, Class A, GFCI duplex receptacle with integral ground fault current interrupter, back and side wired with indicator light. Pass & Seymour #2095\*L.  
Leviton #8898-\*
- d. 20 amp, 125 volt, Class A, GFCI duplex receptacle with integral ground fault current interrupter, back and side wired with indicator light hospital grade. Pass & Seymour #2094HG\*L.  
Leviton #8898HG-\*

\* Color designation, refer to Paragraph 2.3.

**[Wiring devices connected to emergency power circuits shall be as specified hereinabove except that wiring devices shall be red in color with coverplates color-matching other devices in the room.]**

4. **[Hospital Grade Standard: Provide simplex or duplex Hospital Grade grade standard type receptacles, 2-pole, 3-wire grounding, with green hexagonal equipment ground screw, ground terminals and poles internally connected to mounting yoke, with metal mounting straps, back and side wired with screw type terminals, molded high impact nylon compound, NEMA configuration as indicated.**

- a. 20 amp, 125 volt grounded duplex NEMA #8300H-\*. Pass & Seymour  
#5-20R Leviton #8300-\*
- b. 20 amp, 125 volt grounded duplex NEMA #TR63H-\*. Pass & Seymour  
#5-20R Tamper resistant. Leviton #8300SG-\*
- c. 20 amp, 250 volt grounded duplex NEMA #8800H-\*. Pass & Seymour  
#6-20R Leviton #8400-\*
- d. 20 amp, 125 volt, Class A, GFCI duplex #2095HG\*L. Pass & Seymour  
receptacle with integral ground fault current interrupter, back and side wired with indicator light. Leviton #8898HG-\*

\* Color designation, refer to Paragraph 2.3.]

5. **[Wiring devices connected to emergency power circuits shall be as specified hereinabove except that wiring devices shall be red in color with coverplates color-matching other devices in the room.]**
6. Heavy-duty Simplex: Provide single heavy-duty type receptacles, with green hexagonal equipment ground screw, with metal mounting straps, back wiring, black molded phenolic compound, NEMA configuration as indicated.
- a. 30 amp, 125 volt grounded single NEMA #5-30R Hubbell #HBL9308 with #S703 stainless steel wall plate.



**[Wiring devices connected to emergency power circuits shall be as specified hereinabove except that wiring devices shall be red in color with coverplates color-matching other devices in the room.]**

9. Transient Voltage Surge Suppression Receptacles: Provide duplex commercial specification grade decorator type receptacles, 2-pole, 3-wire, grounding, with integral surge suppression, green hexagonal equipment ground screw, back and side wired with screw type terminals, NEMA configuration as indicated. Surge suppressor shall provide an equal surge protection of not less than 80 joules in all three modes (hot to neutral, hot to ground, and neutral to ground), minimum 7:1 RFI and EMI noise suppression and a front face LED indicator for positive indication of surge protection. Surge suppression receptacles shall comply with LIL 1449 (Category A&B) and ANSI/IEEE 62.41-1991.
- |  |  |
|--|--|
| a. 20 amp, 125 volt, surge suppression duplex, NEMA #5-20R                 | Pass & Seymour #6362-*-SP.<br>Leviton #8380-*      |
| b. 20 amp, 125 volt, isolated ground surge suppression duplex, NEMA #5-20R | Pass & Seymour #IG 6362-*-SP.<br>Leviton #8380-IG* |

\* Color designation, refer to Paragraph 2.3.

10. General Duty Clock Simplex: Provide single commercial specification grade type receptacles, 2-pole, 3-wire grounding, recessed to contain male plug and permit clock to cover outlet, with metal hook for supporting clock, ivory molded phenolic compound, side wired with screw type terminals, NEMA configuration as indicated.
- |  |  |
|--|--|
| a. 20 amp, 125 volt, grounded single NEMA #5-15R | Pass & Seymour #S3713-I.<br>Leviton #688-I |
|--|--|
11. Specific-use receptacles shall have volts, amps, poles, and NEMA configuration as noted on Drawings.

C. Switches: Comply with NEMA Standard WD1 and as follows:

1. Rocker: Provide commercial specification grade flush rocker switches, with mounting yoke insulated from mechanism, equipped with plaster ears, white switch rocker and side-wired screw terminals.
- |  |   |
|--|---|
| a. Single pole, 120/277 volt, 20 amp switch                      | Pass & Seymour #2621*.<br>Leviton #5621-2*. |
| b. Three-way, 120/277 volt, 20 amp switch                        | Pass & Seymour #2623*.<br>Leviton #5623-2*. |
| c. Four-way, 120/277 volt, 20 amp switch                         | Pass & Seymour #2624*.<br>Leviton #5624-2*. |
| d. Single Pole, 120/277 volt, 20 amp switch, illuminated when on | Pass & Seymour #2629*.<br>Leviton #5628-2*. |

\* Color designation, refer to Paragraph 2.3.

**[Wiring devices connected to emergency power circuits shall be as specified hereinabove except that wiring devices shall be red in color with coverplates color-matching other devices in the room.]**

2. Toggle: Provide commercial specification grade flush toggle switches, with mounting yoke insulated from mechanism, equipped with plaster ears, white switch handle, side-wired terminals, horsepower rated.
- |  |  |
|--|--|
| a. Single pole, 120/277 volt, 20 amp switch, key-operated                                | Pass & Seymour #PS20AC1-KL.<br>Leviton #1221-2K*L. |
| b. Single pole, 120/277 volt, 20 amp switch  | Pass & Seymour #20AC1-*.<br>Leviton #CSB1-20*.     |
| c. Three-way, 120/277 volt, 20 amp switch  | Pass & Seymour #20AC3-*.<br>Leviton #CSB3-20*.     |
| d. Single pole, 120/277 volt, 20 amp switch, red pilot light                             | Pass & Seymour #20AC1-RPL.<br>Leviton #1221-PLR.   |
| e. Single pole, double throw, momentary contact, center off, 120/277 volt, 20 amp switch | Pass & Seymour #1091-*.<br>Leviton #1285-*         |

\* Color designation, refer to Paragraph 2.3.

**[Wiring devices connected to emergency power circuits shall be as specified hereinabove except that wiring devices shall be red in color with coverplates color-matching other devices in the room.]**

- D. Decorator Wall Box Dimmers: Provide commercial specification grade linear slide dimmers with separate positive on/off button and LED indicator, voltage compensation circuitry for constant light output and toroidal filters for suppression of RFI and lamp sing. Dimmers shall be "decorator face" size and shall gang with standard decorator rocker switches. Wall box dimmers shall be as follows:

- |  |                        |
|--|------------------------|
| 1. Single pole, 120 volt, 600 watt dimmer                                    | Lightolier #ZP600-*    |
| 2. Single pole, 120 volt, 1,000 watt dimmer                                  | Lightolier #ZP1000-*   |
| 3. Single pole, 120 volt, 600 watt inductive load dimmer                     | Lightolier #ZP600VA-*  |
| 4. Single pole, 120 volt, 1,000 watt inductive load dimmer                   | Lightolier #ZP1000VA-* |
| 5. Single pole, 120 volt, 260 watt electronic transformer low voltage dimmer | Lightolier #ZP260QE-*  |
| 6. Single pole, 120 volt, 425 watt electronic transformer low voltage dimmer | Lightolier #ZP425QE-*  |
| 7. Multiple location remote on-off switch                                    | Lightolier #ZPR-3-*    |

\* Color designation, refer to Paragraph 2.3.

- E. Custom Wall Box Dimmers: Provide commercial specification grade linear slide dimmers with separate positive on-off switch with LED indicator, voltage compensation circuitry for constant light output and toroidal filters for suppression of RF and lamp sing. Matching switches shall be available for ganging with dimmers. Ganged dimmers and/or switches shall

be provided with a single coverplate to match the installed configuration. Wall box dimmers shall be as follows:

- |   |  |
|---|--|
| 1. Single pole, 120 volt, 600 watt dimmer                                     | Lightolier #MP600-*                        |
| 2. Single pole, 120 volt, 1000 watt dimmer                                    | Lightolier #MP1000-*                       |
| 3. Single pole, 120 volt, 1500 watt dimmer                                    | Lightolier #MP1500-*                       |
| 4. Single pole, 120 volt, 2000 watt dimmer                                    | Lightolier #MP2000-*                       |
| 5. Single pole, 120 volt, 600 watt inductive load dimmer                      | Lightolier #MP600VA-*                      |
| 6. Single pole, 120 volt, 1000 watt inductive load dimmer                     | Lightolier #MP1000VA-*                     |
| 7. Single pole, 120 volt, 1500 watt inductive load dimmer                     | Lightolier #MP1500VA-*                     |
| 8. Single pole, 120 volt, 2000 watt inductive load dimmer                     | Lightolier #MP2000VA-*                     |
| 9. Single pole, 120 volt, 525 watt electronic transformer low voltage dimmer  | Lightolier #MP525QE-*                      |
| 10. Single pole, 120 volt, 625 watt electronic transformer low voltage dimmer | Lightolier #MP625QE-*                      |
| 11. Multiple location remote on-off remote                                    | Lightolier MRP-3-*                         |
| 12. Matching single pole switch   | Lightolier MP-1P-*                         |
| 13. Matching 3-way switch   | Lightolier MP-3P-*                         |
| 14. Matching 4-way switch   | Lightolier MP-4P-*                         |
| 15. Dimmer ganging faceplates   | Lightolier FB/NFB/<br>Custom as required-* |

\* Color designation, refer to Paragraph 2.3.

- F. Pushbutton: Emergency power off, single pole, 120 volt ac, 20 amp, momentary contact nonilluminated push button, red color cap and guard: Square D Company, Class 9001, KR2RH5 pushbutton, K25 flush stainless steel plate, KN805 legend plate, and K60 cover.

## 2.2 WIRING DEVICE ACCESSORIES:

- A. Wall Plates: Provide switch, duplex outlet and telephone wall plates, with single or multigang cutouts as indicated, [complete with metal screws for securing plates to devices.] [Screw heads shall be colored to match finish of plate.] Wall plates shall possess the following additional construction features:

1. Material and Finish:

- a. Specification grade, smooth, nylon and Lexan for general duty receptacles, data receptacles, and switches. Pass & Seymour #RP series or approved equal. Jumbo plates are not acceptable.
- b. Specification grade, Type 302, satin-finished stainless steel, 0.1" thick for heavy duty receptacles and kitchen receptacles.
- c. Specification grade, weatherproof, coverplate, gasketed UV stabilized polycarbonate with hinged gasketed device cover, for exterior and wet area receptacles. Coverplates shall be NEMA 3R rated and shall be watertight when in use. **[Coverplates shall be of a tamper resistant design with a key lock.]** Coverplates shall be as manufactured by Taymac Corporation, RACO, Intermatic or an approved equal.
- d. **[Specification grade, Type 302 or Type 430, satin-finished stainless steel, 0.030" thick for general duty receptacles and switches for elevator lobbies, entrance lobbies, restrooms, and public areas.]**
- e. **[Specification grade, smooth, [nylon or Lexan] for emergency power receptacles and switches.]**
- f. **[Specification grade, smooth, [high impact nylon or Lexan] for hospital receptacles and switches.]**
- g. **[Data power receptacles shall be engraved and black paint filled or permanently stamped black letters to indicate "DATA POWER".]**

### 2.3 WIRING DEVICE/COVERPLATE COLORS:

- A. General: Provide general duty wiring devices and coverplates in colors as follows:

**[EDIT TO SUIT PROJECT]**

1. Painted Drywall: Provide white general use receptacles and switches and gray data receptacles with matching white thermoplastic coverplates in occupied areas and white Lexan coverplates in mechanical/electrical and maintenance areas.
2. **[Wood and Stone Wainscoting: Provide brown receptacles and switches with metal coverplates with an oiled-bronze finish color, as approved by the Architect.]**
3. **[Kitchen: Provide white wiring devices with stainless steel coverplates above 36" above finished floor and weatherproof Lexan coverplates below 36" above finished floor.]**

### 2.4 [POWER POLES:

- A. **General**: Provide [satin anodized] aluminum power poles to provide power and voice/data service to free standing [desk] [workstation] locations where shown on the Drawings.
- B. **Construction**: Poles shall be a square section aluminum extrusion with two separate compartments for power wiring and voice/data wiring. Pole base shall incorporate a

**scuff base and velcro mounting system for carpet or tile floors. Pole shall be furnished with hardware for attachment to the ceiling grid and an above ceiling service junction box with divider separating connections to the two wiring compartment in the pole.**

- C. **Power Provisions: Each pole shall have two NEMA 5-20a duplex receptacles installed and prewired, with three No. 12 copper conductors to the junction box at the top of the pole.**
- D. **Voice/Data Provisions: Each pole shall have knockouts for installation of a [modular voice/data outlet as specified in Section 27 10 05, "Voice/Data System Provisions/Cabling"]. The pole width and available depth shall be adequate to accommodate the voice/data outlets which will be installed.**
- E. **Manufacturers: Poles shall be similar to Wiremold No. AMTP/ALTP-4 or an approved equal by Walker or Hubbell.]**

## 2.5 [CORD REELS

- A. **General: Provide lift, pick-up and suspension duty cord reels with 25 feet of 3 #12 awg SO cord, 4 roller outlet, ball stop and NEMA 5-20R connector on cable end. Appleton No. RL103J-123-25 with No. R01A 4 roller outlet, No. BS 604 ball stop and Leviton #8319C NEMA 5-20R connector.]**

## PART 3 - EXECUTION

### 3.1 INSPECTION:

- A. Installer must examine the areas and conditions under which wiring devices and floor boxes are to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Inspect devices for physical damage. Do not proceed with the work until unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION OF WIRING DEVICES:

- A. **General:**
  - 1. Install wiring devices where shown, in accordance with manufacturer's written instructions, applicable requirements of NEC and in accordance with recognized industry practices to ensure that products serve intended function. Delay installation of devices until wall construction and wiring is completed.
  - 2. Special purpose switches and/or outlets not covered by the specifications, but noted on the Drawings shall be of the amperage, voltage rating, and NEMA configuration indicated. The switches and/or outlets shall be specification grade of the same quality as those specified.
  - 3. When "**EQUIPMENT ONLY**" or "**JUNCTION BOX ONLY**" is indicated for equipment, it shall be the responsibility of the Electrical Subcontractor to obtain from the supplier, the complete data as related to the electrical portion of the equipment, including rough-ins, mounting height, type of outlet, items furnished by the supplier, etc. The Electrical

Subcontractor shall be responsible for furnishing and installing all materials which are usually the Electrical Subcontractor's responsibility with the installation of the equipment.

4. The approximate location of switches, power outlets, floor boxes, etc., is indicated on the Drawings. These Drawings, however, may not give complete and accurate information in regard to locations of such items. Determine exact locations by reference to the general building Drawings and by actual measurements during construction of the building before rough-in, subject to the approval of the Construction Inspector.
- B. Box Condition: Install receptacles and switches only in electrical boxes which are clean, free from excess building materials, debris, and similar matter.
- C. Alignment: Install all wiring devices plumb and aligned in the plane of the wall, floor, or ceiling in which they are installed.
- D. Switches and Dimmers: Install switches and wall box dimmers at a height as specified in Section 26 05 01, "Electrical Basic Materials and Methods", to switch center line, unless otherwise noted on Drawings, on the strike side of doors as hung and in a uniform position so that the same direction will open and close the circuit throughout the project. Where shown near doors, install switches and dimmers not less than 2" and not more than 12" from door trim. Where more than one switch is in the same location, install switches in a multi-gang box with a single coverplate. Use toggle switches for motor disconnect switches (motor rated) only when installed in a ceiling plenum or in a mechanical, electrical, or telephone room.
- E. Receptacles: Install receptacles vertically at a height as specified in Section 26 05 01, "Electrical Basic Materials and Methods", to receptacle center line above finished floor and horizontally at a height as specified in Section 26 05 01, "Electrical Basic Materials and Methods", to receptacle center line above counter tops unless shown or specified otherwise. Where splash backs occur above counters, mount devices horizontally at a height as specified in Section 26 05 01, "Electrical Basic Materials and Methods", to receptacle center line above splash backs. **Receptacles shall be installed with ground pin receiver down.** All devices shall be installed complete with coverplates. Use 20 ampere receptacle when only one receptacle is installed on a branch circuit.**[add where hospital grade receptacle are to be installed]**
- F. Coverplates:
1. Install stainless steel coverplates on all heavy-duty receptacles and wiring devices located in kitchen areas. Coffee bars shall not be considered kitchen areas. Install weatherproof coverplates on all exterior and wet area receptacles. Refer to Paragraph 2.03 for additional requirements.
  2. Multi-gang wall plates shall be used for each group of ganged devices. Mounting screws shall be installed for each device covered by the wall plate.
  3. Wall plates for concealed work shall be flush against the finished wall, and shall completely cover the wall opening. Wall plates shall not be installed until all painting has been completed. Devices shall be protected by masking tape or other coverage until painting is complete. Any device with paint on it shall be replaced at no expense to the Owner. Jumbo plates are not acceptable.

4. Engrave and black paint fill text descriptions and branch circuit numbers on switch and receptacle coverplates where shown on the Drawings or specified herein.

G. **Mounting Heights:** Refer to Section 26 05 01, "Electrical Basic Materials and Methods", for wiring device mounting heights.

H. **Power Poles:** Power poles shall be roughed-in with the project construction, however the actual installation and connection of poles shall be delayed until final furniture locations are determined by the user of the space.]

I. **Cord Reels:** Install cord reels above ceiling with roller outlet protruding through ceiling. Provide miscellaneous metal support above ceiling to support reel and trim plate at ceiling cutout.

### 3.3 PROTECTION OF WALL PLATES AND RECEPTACLES:

A. **General:** Upon installation of wall plates and receptacles, advise Contractor regarding proper and cautious use of convenience outlets. At time of Substantial Completion, replace those items which have been damaged, including those burned and scored by faulty plugs.

### 3.4 IDENTIFICATION:

A. Refer to Section 26 05 53, "Identification for Electrical Systems", for wiring device identification requirements.

### 3.5 TESTING:

A. **General:** Prior to energization, check for continuity of circuits, for short circuits and check grounding connections. After energization, check wiring devices to demonstrate proper operation and receptacle polarization.

**END OF SECTION 26 27 26**