

## PART 1 - GENERAL

### 1.1 SUMMARY

- A. This section includes switches, receptacles, dimmers, device plates and multi-outlet assemblies.
- B. Related sections include 26 09 23 - Lighting Control Devices.

### 1.2 REFERENCES

- A. National Electrical Manufacturers Association (NEMA).
- B. Underwriters Laboratories (UL).

### 1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.
- C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
- D. RFI: Radio-frequency interference.
- E. TVSS: Transient voltage surge suppressor.
- F. UTP: Unshielded twisted pair.

### 1.4 SUBMITTALS

- A. Make submittals in accordance with Section 26 05 00 - Common Work Results For Electrical. Submit product data for each device utilized in the project.

### 1.5 COORDINATION

- A. Provide receptacles to match plug configurations for Owner-furnished equipment.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Subject to compliance with requirements, provide products by one of the manufacturers listed in the following paragraphs. All devices utilized on the project shall be from the same manufacturer.

### 2.2 RECEPTACLES

- A. Extra Heavy Duty Hospital Grade (20 amp) Plug-in Connector Receptacles: Duplex NEMA 5-20R configuration (20 amp, 120 volt), Federal Specification WC-596F, nylon face, with plug in connector to allow receptacle to be replaced with the circuit energized. Hubbell

SNAP8300I, Leviton M8300-I, Pass & Seymour PT8300-I. Illuminated type: Hubbell SNAP8300IL, Leviton M8300-ILI or equivalent by manufacturer listed above in 2.2A. Where connected to an isolated power system, provide with type XHHW wiring leads.

- B. Isolated Ground Receptacle: Hospital Grade, NEMA 5-20R configuration, orange face and isolated ground terminal. Leviton M8300-IG, or equivalent by manufacturer listed in 2.2A.
- C. Ground Fault Circuit Interrupter Receptacles (GFCI): Heavy Duty Hospital grade, NEMA 5-20R configuration, duplex receptacle with 4 - 6 milliamps leakage current trip level. Comply with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection. Leviton M7899-HGI, or equivalent by manufacturer listed in 2.2A.
- D. Surge Protection Receptacles: Hospital grade, NEMA 5-20R (20 amp, 120 volt), rectangular duplex configuration with built in surge protection and monitor/indicator lights. Surge protection receptacles shall be UL 1449 2.5 edition listed for both categories A and B and shall comply with ANSI/IEEE C62.41. Devices shall suppress transients in both normal mode (line to neutral) and common modes (line to ground and neutral to ground). Energy dissipation shall be 240 joules minimum with 15000 amp peak surge current. Cooper 8300BLS, Hubbell HBL 8362SA, Pass & Seymour 8300BLSP, Leviton 8380-I.
- E. Safety Receptacles: Safety type (tamper resistant) plug-in receptacles for designated areas shall be hospital grade, with safety shutters to make it necessary for both plug blades to be inserted to complete a circuit. NEMA 5-20R configuration. Safety receptacles are the same as tamper resistant receptacles.
  - 1. Hospital Grade Duplex NEMA 5-20R configuration (20 amp, 120 volt). Leviton M8300-SGI or equivalent by manufacturer listed in 2.2A.
  - 2. Combination Ground Fault Circuit Interrupter/Safety Receptacles (GFCI): Hospital grade, tamper resistant, NEMA 5-20R configuration, duplex receptacle with 4 - 6 milliamps leakage current trip level. Feed through type to protect downstream receptacles on the same circuit. Comply with UL Standard 943 dated July 28, 2006. Leviton MT789-HGI or equivalent by manufacturer listed in 2.2A.
- F. Combination Receptacles/USB Chargers: Duplex NEMA 5-15R configuration (15 amp, 120 volt) with two USB charging ports. Comply with NEMA WD 1, NEMA WD 6, configuration 515R, UL498 and FS W-C-596. USB rated for 2A minimum at 5V (10VA) of charging power. Hubbell USB15x2, Cooper TR7745 or equivalent by manufacturer listed above in 2.2A.
- G. 208 Volt Receptacles: NEMA 6-20R configuration (20 amp, 208 volt) duplex configuration, 2 pole, 3 wire grounding, unless otherwise indicated. Hubbell HBL5462-I, Pass & Seymour 5862-AI, or equivalent by manufacturer listed in 2.2A.
- H. Weather Resistant Receptacles, 125V, 15 A, listed as weather resistant type per NEC Article 406.8. Hubbell HBL5261IWR or equivalent by manufacturer listed in 2.2A.

## 2.3 SWITCHES

- A. Specification Grade, Federal Specification WS-896, back and side wired, rated 277 volt, 20 amp. Single pole, double pole, keyed, 3- way, pilot light, locking type as required or as noted. Bryant 4901-I, Cooper 1221V, Hubbell 1221-I, Leviton 1221-I, or Pass & Seymour 20AC1-I.

- B. Interchangeable type rated same as above.
- C. Momentary Contact Line Voltage Switches: Single pole, double throw, 3-wire, spring return to open. Rating same as above.
- D. Pilot light switches: Lighted handle when "ON", or with separate pilot light.

## 2.4 WALL BOX DIMMERS

- A. Incandescent Dimmers: Incandescent wall box dimmers rated for incandescent, inductive or low voltage loads, as required by the load served. Dimmer shall have slider preset control and on/ off rocker or tap switch, power failure memory, and RFI filter. Dimmer shall be capable of being controlled from up to four remote locations with on/ off switches. Dimmer shall fit in a standard rectangular decora screw less wall plate and gang with other standard switches and receptacles utilizing standard decora screw less faceplates. Provide dimmer rated for 100% of the maximum wattage that can be installed in the controlled fixtures (minimum). Cooper Decorator Slide Dimmer Series, Leviton Renoir Series, Lightolier Sunrise Series, or Lutron Diva Series.
- B. Fluorescent and LED Lamp Dimmers: Modular; compatible with the dimming ballasts and drivers; trim potentiometer to adjust low-end dimming; dimmer-ballast combination capable of consistent dimming with low end not greater than 10 percent of full brightness. Dimmer shall fit in a standard rectangular decora screw less wall plate and gang with other standard switches and receptacles utilizing standard decora screw less style faceplates Lutron Diva Series or approved.

## 2.5 COLOR

- A. Ivory for switch handles and receptacle faces except as follows;
  - 1. Red for emergency circuits.
  - 2. Orange for isolated ground circuits.

## 2.6 DEVICE PLATES

- A. Configuration: Single and combination type to match corresponding wiring devices.
- B. Attachment Screws: Metal with head color to match plate finish.
- C. Interior Recessed Boxes: stainless steel type 302 with satin finish.
- D. Interior Surface Boxes: Pressed raised steel to match size of outlet box.
- E. Identification: Refer to Section 26 05 53.

## 2.7 CEILING CORD DROPS

- A. Description: Matching, locking type, plug and receptacle body connector, NEMA, Configurations L5-20P and L5-20R, Heavy-Duty grade.
  - 1. Body: Nylon with screw-open cable-gripping jaws and provision for attaching external cable grip.

2. External Cable Grip: Woven wire-mesh type made of high strength galvanized-steel wire strand, matched to cable diameter, and with attachment provision designed for corresponding connector.

## 2.8 CORD AND PLUG SETS

- A. Description: Match voltage and current ratings and number of conductors to requirements of equipment being connected.
  1. Cord: Rubber-insulated, stranded-copper conductors, with type SOW-A jacket. Green-insulated grounding conductor and equipment-rating ampacity plus a minimum of 30 percent.
  2. Plug: Nylon body and integral cable-clamping jaws. Match cord and receptacle type for connection.

## 2.9 POWER/COMMUNICATION RACEWAY

- A. Provide single-channel surface raceway assembly sections including necessary fittings and hardware where shown on the drawings. All power assemblies shall contain green ground wire. Provide with hospital grade duplex receptacles as specified in paragraph 2.2. For communication only sections, provide with covers suitable for openings for communication devices.
- B. Provide two-channel surface raceway assembly complete with barrier between power and communication sections including necessary fittings and hardware. All assemblies shall contain green ground wire. Provide with hospital grade duplex receptacles as specified in 2.2. For communication sections, provide with blank covers with openings for communication devices.
- C. Provide .078" thick aluminum assembly with standard factory satin anodized finish. Single channel nominally 3" high x 2-1/4" deep; Wiremold ALA3800 series or approved. Two channel with dual covers, nominally 6" high x 2-1/4" deep. Wiremold ALA4800 series or approved.

## 2.10 MULTI-OUTLET ASSEMBLY

- A. Provide assemblies complete, including necessary fittings and hardware with circuits as indicated on drawings. Outlet spacing as indicated except a receptacle shall be located within 0'-8" of each end and no receptacles shall be installed over sinks. All assemblies to contain ground wire.
  1. Metal: 4 wire, 2 circuit, 12" outlet spacing, ivory color. Wiremold 20GBA\_12 series or equivalent by Walker or Airey Thompson Co.
  2. Non-metallic: 4 wire, 2 circuit, 12" outlet spacing, ivory color. Wiremold NM20 GBA series.

## PART 3 - EXECUTION

### 3.1 MOUNTING

- A. Rigidly fasten (without play) outlet boxes and devices at proper position with wall to bring receptacle flush with plate or switch handle the proper distance through plate. Align devices and plates plumb.

### 3.2 RECEPTACLES

- A. Hospital Grade Plug-in Connector Receptacles: Provide hospital grade plug-in connector type receptacles in all patient care areas, operating rooms, patient corridors, work rooms, equipment rooms, utility rooms, patient preparation rooms, exam rooms and nurses stations. Provide 20 amp receptacles in all locations.
- B. Provide isolated ground receptacles in the locations shown on the drawings.
- C. Provide safety receptacles in pediatric care areas, exam rooms, public corridors, waiting areas and where noted on the drawings.

### 3.3 ORIENTATION

- A. Set switches with handle operating vertically, up position "ON". Set receptacles vertically with ground pin up or when construction requires horizontal mounting ground pin left.

### 3.4 DEVICE PLATES

- A. Provide for wiring devices, telephone and signal outlets. Plate to cover cutout for device outlet box.
- B. For remodel projects or for additions to existing construction provide new plates on existing outlet boxes unless the existing plate matches new plates in construction and appearance.
- C. Install device plates after painting is complete.
- D. Provide exterior rain tight while in use covers for exterior receptacles in wet locations. Otherwise provide weather resistant covers.

### 3.5 MULTIOUTLET ASSEMBLIES

- A. Rigidly fasten assemblies to the cabinet, wall, casework, or modular casework as indicated. Provide a chase nipple extension between outlet box in the wall and the raceway when the raceways are mounted to the support channels for the modular casework.

### 3.6 DIMMERS

- A. Install wall box dimmers to achieve circuit rating after derating for ganging as required by manufacturer.
- B. Do not share neutral conductor on load side of dimmers.

### 3.7 CLEANING

- A. Remove excess plaster from interior of outlet boxes.
- B. Clean devices and coverplates after painting is complete. Replace stained or improperly painted devices or coverplates.

**END OF SECTION**