# SECTION 26 01 40

# WIRING DEVICES

## PART 1 – GENERAL

### 1.1 DESCRIPTION OF WORK

A. The extent of wiring device work is indicated by drawings, schedules and specifications. Wiring devices are defined as single discrete units of the electrical distribution system which are intended to carry but not utilize electric energy.

B. Types of electrical wiring devices in this section include the following:

Receptacles.
Switches.
Device plates.
Energy Control Devices

### 1.2 SUBMITTALS

A. Product Data: Submit manufacturer's data on electrical wiring devices.

## PART 2 – PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products of one of the following (for each type of wiring device):
Legrand Co.
Hubbell, Inc.
Leviton Mfg. Co.
Lutron Electronics Co., Inc.
Watt Stopper Sensor Switch

### 2.2 FABRICATED WIRING DEVICES

A. Provide factory fabricated wiring devices, in types, styles, colors, and electrical ratings for applications indicated and complying with NEMA Standards Pub. No. WD 1. Where types and grades are not indicated, provide proper selection as determined by Installer to fulfill wiring requirements, and complying with NEC and NEMA Standards for wiring devices. Provide ivory color devices and wall plates except as otherwise selected; color selection to be verified by Contractor with Architect/Engineer.

### 2.3 RECEPTACLES

A. Heavy-Duty Simplex: Provide single-duty type receptacles, 2 pole, 3 wire grounding, with green hexagonal equipment ground screw, 20 amperes, 125 volts with metal plaster ears, side wiring, NEMA configuration 5-20R unless otherwise indicated.

B. Heavy-Duty Duplex Standard Style: Provide extra heavy-duty industrial series duplex receptacles, 2 pole, 3 wire grounding type with green hexagonal equipment ground screw, 20 amperes, 125 volts with metal plaster ears, side wiring, NEMA configuration 5-20R unless otherwise indicated. Similar to Hubbell Series HBL Series, or approved substitute.

C. Special Purpose Receptacles: Provide polarized grounding type special purpose receptacles of the required amperage and voltage ratings for the duty intended. Device shall include a green hexagonal equipment ground screw.

D. Ground Fault Receptacle: Provide hospital grade heavy duty duplex receptacle, 2 pole, 3 wire grounding type with green hexagonal equipment, ground screw and integral ground fault circuit interrupter, UL rated Class A, Group 1, 20 amperes, 125 volts, 60 Hertz with metal plaster ears, side wiring, NEMA Configuration 5-20R. Device shall include solid state ground-fault sensing and signalling, with a 5 milliampere ground fault trip level, plus or minus 1 milliampere. Similar to Hubbell Cat. No. GFR8300H Series, or approved substitute.

1. Whether indicated or not on the floor plans, the Electrical Contractor shall furnish and install GFI protected devices in commercial kitchen areas next to lavs, on rooftop equipment, on exterior walls; and as indicated by the N.E.C., it shall be the discretion of the Electrical Contractor to provide GFI receptacles or GFI circuit breaker.

2.4 SWITCHES

A. Toggle Switch: Provide extra heavy duty, industrial series flush toggle, 1 pole, 2 pole, 3-way, 4-way AC quiet switch rated 20 amperes @ 120/277 volts with green hexagonal equipment ground screw, metal plaster earls, and side wired screw terminals. Similar to Hubbell Series HBL Series or approved substitute.

2.5 DEVICE PLATES

A. Provide switch and receptacle outlet wall plates for wiring devices, of types, sizes, and with ganging and cut outs required by the devices being installed. Construct with metal screws for securing plates to devices; screw heads colored to match finish of plates; plates colored to match wiring devices to which attached. Provide device plates possessing the following additional construction features: Receptacle outlet plates to be permanently marked with panel designation and circuit number on back side of plate.

1. Metal Plates to be stainless steel of non-corrosive and non-magnetic 302 alloy, .032" nominal thickness. Plates shall have brushed satin finish.

B. Weatherproof device plates shall have spring-hinged waterproof cap suitably configured for each application, including face plate gaskets and corrosion-resistant fasteners. Provide device plates possessing the following construction materials and finishes:

1. Cast Aluminum Plates shall be die-cast, copper-free aluminum construction with a baked-on lacquer finish.

2.6 ENERGY CONTROL DEVICES (Occupancy Sensors)

A. Line Voltage:

1. Combination wall switch and sensor shall be Dual Technology Passive Infrared and Ultrasonic with a coverage of 180° for 20 feet. Device shall be suitable for 120/277 dual voltage operation. Device shall be similar to Sensor Switch Cat. No. WSD-PDT or approved substitute.

2. Ceiling sensor shall be Dual Technology Passive Infrared and Ultrasonic 360° coverage. Self Contained Relay Device shall be suitable for 120/277 Dual Voltage operation. Device shall be similar to Sensor Switch Cat. No. CMR-PDT or approved substitute.

B. Low Voltage:

1. Ceiling mounted sensor shall be Dual Technology Passive Infrared and Ultrasonic with 360° coverage up to 2o feet. Device accepts 12 to 24 volt AC or DC. Device shall be similar to Sensor Switch Cat. No. CM-PDT or approved substitute.

2. Sensor power pack shall be a low voltage power supply with an input of either 120 volts or 277 volts AC and an output of 24 volts DC @ 150 mA. Device shall contain a 20 AMP isolated load control relay. When relay is used, power supply output shall be reduced to 24 volts DC @ 114 mA. Device shall be similar to Sensor Switch PP-20 or approved substitute.

**PART 3 – EXECUTION**

3.1 INSTALLATION OF WIRING AND CONTROL DEVICES

A. Install wiring devices as indicated, in compliance with manufacturer's written instructions, applicable requirements of NEC and NECA's "Standard of Installation", and in accordance with recognized industry practices to fulfill project requirements.

B. Coordinate with other work, including painting, electrical box and wiring work, as necessary to interface installation of wiring devices with other work.

C. Install wiring devices only in electrical boxes which are clean, free from building materials, dirt and debris.

D. Provide electrical connections for wiring and control devices.

E. Delay installation of all wiring and control devices until wiring work is completed.

F. Isolated Ground Receptacle Devices shall be connected to the system ground by way of an insulated ground conductor color coded green with a yellow stripe.

3.2 PROTECTION OF WALL PLATES AND RECEPTACLES

A. At time of Substantial Completion, replace those items which have been damaged, including those burned and scorched by faulty plugs.

3.3 GROUNDING

A. Provide electrically continuous, tight grounding connections for wiring and control devices.

3.4 TESTING

A. Prior to energizing circuitry, test wiring devices for electrical continuity and proper polarity connections. After energizing circuitry, test wiring devices to demonstrate compliance with requirements.

B. After energizing circuitry, the Electrical Contractor shall test and adjust all control devices to provide optimum operation and performance.

**END OF SECTION 26 01 40**