

SECTION 26 14 00 - WIRING DEVICES

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide all labor, materials, tools, and equipment required for the complete installation of work called for in the Contract Documents.

1.2 DESCRIPTION OF WORK

- A. This section includes minimum requirements for the following:
 - 1. Receptacles
 - 2. Switches
 - 3. Dimmers
 - 4. Occupancy Sensors
 - 5. Coverplates

1.3 QUALITY ASSURANCE

- A. All wiring devices shall be installed neatly, and parallel with building lines. Recessed devices shall be flush with the face of the wall. Provide extension rings on outlet boxes as required. All methods of construction that are not specifically described or indicated in the contract documents shall be subject to the control and approval of the Owner's Representative. Equipment and materials shall be of the quality and manufacture indicated. The equipment specified is based upon the acceptable manufacturers listed. Where "approved equivalent" is stated, equipment shall be equivalent in every way to that of the equipment specified and subject to approval.

1.4 SUBMITTALS

- A. Provide five (5) sets or electronic files of product data for all wiring devices and cover plates.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Wiring devices shall be specification grade as a minimum.
- B. Wiring device color shall be as selected by Owner and architect.
- C. Suitable for installation in a 2-1/2" deep outlet box.
- D. All receptacles and switches shall be from the same manufacturer.
- E. Acceptable Manufacturers:
 - 1. Hubbell

2. Pass & Seymour/Legrand
3. Arrow Hart
4. Bryant
5. General Electric
6. Or Approved Equivalent

2.2 CONVENIENCE DUPLEX RECEPTACLES

- A. 125 volt, 20 ampere, two pole, three wire, grounding, straight blade, NEMA 5-20R.
- B. Side and back wiring.
- C. 0.32" thick brass three prong power contacts and #8 brass screws
- D. Brass center rivet
- E. All brass grounding system
- F. Nylon face with glass reinforced nylon back
- G. Heavy duty, specification grade, color selection by architect
- H. Terminals Identified in accordance with U.L 498
- I. UL94V-2 Flame rating
- J. 2000V withstand rating
- K. Design Make: Hubbell HBL5352 series

2.3 GFI DUPLEX RECEPTACLES

- A. 125 volt, 20 ampere, two pole, three wire, grounding, straight blade, NEMA 5-20R.
- B. Match requirements in Section 2.2
- C. Designed to trip at maximum 6mA leakage current to ground.
- D. Suitable for feed through protection.
- E. Design Make:
 1. Hubbell GF5362. (Specification Grade)

2.4 CORROSION RESISTANT DUPLEX RECEPTACLES

- A. 125 volt, 20 ampere, two pole, three wire, grounding, straight blade, NEMA 5-20R.
- B. Match requirements in Section 2.2.
- C. High impact, arc and moisture resistant "Rynite" construction.
- D. Yellow in color.

- E. Design Make: Hubbell catalog No. HBL53CM62.

2.5 SWITCHES

- A. 120-277 VAC, 20 ampere rated.
- B. Side or back wired.
- C. Heavy duty, specification grade, color by owner and architect.
- D. One piece rivetless, copper alloy spring contact arm and terminal plate with silver cadmium oxide contacts.
- E. One piece integral mounting strap with grounding terminal and #8 brass screw.
- F. Heavy duty nylon toggle.
- G. Quiet operation.
- H. Single pole, three way, and four way as called for on the plans.
- I. Design Make:
 - 1. Single pole: Hubbell catalog no. HBL1221
 - 2. Three way: Hubbell catalog no. HBL1223
 - 3. Four way: Hubbell catalog no. HBL1224

2.6 MOMENTARY SWITCHES

- A. 120-277 VAC, 20 ampere rated.
- B. Momentary contact.
- C. 2 circuit, 3 position, "center off".
- D. Match requirements in Section 2.11
- E. Design Make: Hubbell catalog no. HBL1557

2.7 OCCUPANCY SENSORS

- A. General
 - 1. All occupancy sensor layouts are based on the "design make" sensors. Contractor shall be responsible for providing additional sensors and all associated equipment required to provide coverage for required areas if substitute is used.

B. Wall mounted Sensors

1. Switchbox type (single circuit):

- a) 120-277 volt, 800/1200 watts
- b) 900 sq. ft. of coverage, 180 degree viewing angle.
- c) Passive infrared technology.
- d) Adjustable time delay from 30 seconds to 30 minutes.
- e) Adjustable sensitivity from 20% to 100%.
- f) Manual off switch.
- g) Decorator style, ivory color.
- h) Install in single gang switch box.
- i) Design Make: Wattstopper WS series.
- j) Acceptable Manufacturers:
 - (1) Wattstopper
 - (2) Unenco
 - (3) Hubbell

2. Switchbox type (two circuit):

- a) 120-277 volt, 800/1200 watts
- b) 900 sq. ft. of coverage, 180 degree viewing angle.
- c) Passive infrared technology.
- d) Adjustable time delay from 30 seconds to 30 minutes.
- e) Adjustable sensitivity from 20% to 100%.
- f) Two manual off switches for independent control of two separate circuits.
- g) Decorator style, ivory color.
- h) Install in single gang switch box.
- i) Design Make: Unenco SOM-1000-A2
- j) Acceptable Manufacturers:
 - (1) Unenco
 - (2) Hubbell

C. Ceiling Mounted Sensors

1. Type 1 **[for use in areas under 500 sq. ft.]**

- a) Minimum 500 square feet of coverage, 360 degree viewing angle.
- b) Passive infrared technology.
- c) Adjustable time delay from 30 seconds to 30 minutes.
- d) Adjustable sensitivity.
- e) Manual sensor bypass
- f) Install semi-flush in single gang switch box above the ceiling.
- g) Provide with relay power pack.
- h) Design make: Wattstopper CI-200
- i) Acceptable Manufacturers:
 - (1) Wattstopper
 - (2) Unenco
 - (3) Hubbell

2. Type 2 **[for use in areas over 500 sq ft.]**
 - a) Minimum 1500 square feet of coverage, 360 degree viewing angle.
 - b) Dual technology (Ultrasonic/PIR).
 - c) Adjustable digital time delay from 15 seconds to 30 minutes.
 - d) Adjustable sensitivity.
 - e) Manual sensor bypass.
 - f) Install surface mounted in single gang switch box above the ceiling.
 - g) Provide with relay power pack.
 - h) Design make: Wattstopper DT-200, DT-205
 - i) Acceptable Manufacturers:
 - (1) Wattstopper
 - (2) Unenco
 - (3) Hubbell
3. Type 3 **[for use in corridors]**
 - a) Nominal 10' X 75' of coverage for corridors.
 - b) Ultrasonic technology.
 - c) Adjustable time delay from 30 seconds to 15 minutes.
 - d) Adjustable sensitivity.
 - e) Manual sensor bypass.
 - f) Install surface mounted in single gang switch box above the ceiling.
 - g) Provide with relay power pack.
 - h) Design make: Wattstopper W-2000H
 - i) Acceptable Manufacturers:
 - (1) Wattstopper
 - (2) Unenco
 - (3) Hubbell

2.8 COVERPLATES

- A. Provide type 302 stainless steel cover plates with satin finish for general purpose flush devices.
- B. Provide utility cover plates for surface mounted devices in mechanical rooms.
- C. Provide gasketed cover plates with a hinged cover on a cast aluminum outlet box for all devices in wet areas designated "WP".

PART 3 - EXECUTION

3.1 GENERAL

- A. Install devices generally where called for.
- B. Coordinate exact locations of all devices with equipment, millwork, counters, fin radiation, windows, etc and adjust locations as required as part of this contract.

- C. Install all devices in a steel box.
- D. Install receptacles and switches vertical, with the toggle up in the on position.
- E. Install all switches on the strike side of the door, with the edge of the outlet box approximately 3" from the door frame.
- F. Do not install devices "back to back."
- G. Provide plaster rings on all outlet boxes to permit flush installation of devices.
- H. In all wet or damp areas, provide a surface mounted cast aluminum outlet box with threaded connections, gasketed cover, and stainless steel screws.
- I. Prior to installation and as part of the contract, relocate any device a distance of 5 feet in any direction at the request of the Owner.
- J. Size outlet boxes in accordance with the NEC, based on the number and size of wires in the box.
- K. Provide a coverplate on all devices.
- L. Coordinate exact poke-through locations with equipment (above and below floor), all trades and Owner's Representative.

3.2 EQUIPMENT MOUNTING HEIGHTS:

- A. Unless otherwise noted, install devices and outlet boxes at the following heights, as measured from the finished floor to the top of the outlet box.
 - 1. Switches, occupancy sensors 48"
 - 2. Receptacles 18"
 - 3. Receptacles, equipment rooms 48"
 - 4. Receptacle outlets, hazardous locations 54"
 - 5. Receptacle outlets, exterior 24"
 - 6. Voice/Data outlets 18"
 - 7. Voice outlets (wall mounted) 54"
 - 8. Television outlets 18"
 - 9. Boiler shutdown switches 48"

3.3 OCCUPANCY SENSORS

- A. Provide all necessary mounting brackets, wiring, low voltage transformers and control relays required to provide control of areas indicated.
- B. Provide initial time delay and sensitivity settings per owner's representative

3.4 LABELING

- A. Provide permanent labels indicating panelboard and circuit on the inside of all device coverplates. Dymo tape is not acceptable.

3.5 TESTING

- A. Test all receptacles for proper voltage, polarity, and grounding.
- B. Test all GFI receptacles for proper voltage, polarity, grounding, and verify the receptacle trips at 6 milliamperes or less.
- C. Rewire receptacles as required until receptacles test properly.

END OF SECTION

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