## 1.1. <u>GENERAL</u>

- 1.1.1. The Occupancy Sensor system shall sense the presence of human activity within the desired space and fully control the on/off function of the loads automatically. Sensors shall turn on the load within 2 feet of entrance and shall not initiate on outside of entrance.
- 1.1.2. Sensing technologies shall be completely passive in nature, in that the occupancy sensor system shall not emit or interfere with any other electronic device, or human characteristic. Acceptable known technologies are Passive Infrared (PIR), or Microphonic.
- 1.1.3. Upon detection of human activity by the detector, a Time Delay shall be initiated to maintain the light on for a pre-set period. The Time Delay setting shall be factory preset for typical applications, and field adjustable from 30 seconds to 20 minutes. The timing circuit shall be analog providing adjustment by simple rotation only.
- 1.1.4. All sensors shall have non-adjustable factory calibrated sensitivity for maximum performance. Time Delay and Photocell field adjustments shall be provided as needed.
- 1.1.5. Proper coverage of the area for all types of human activity, and any necessary relays or miscellaneous devices is the responsibility of the contractor.
- 1.1.6. System installation shall be in accordance with all national and local electrical codes.
- 1.1.7. Installation shall be warranted for a period of one year from completion, and product shall be warranted for 5 years.
- 1.1.8. All sensors, power packs, and relays shall be UL Listed under either Industrial Control Equipment, or Energy Management Equipment. Appliance Control listing shall not be accepted.

## 1.2. OCCUPANCY SENSORS

- 1.2.1. Sensitivity: Detect occurrences of 150 mm (6-inch) minimum movement of any portion of a human body that presents a target of not less than 232 sq. cm (36 sq. in), and detect a person of average size and weight moving not less than 305 mm (12 inches) in either a horizontal or a vertical manner at an approximate speed of 305 mm/s (12 inches).
- 1.2.2. Wall mounted occupancy sensors shall be rated 600 watts minimum, 180 degrees coverage, 300 sq. ft. minimum coverage, infrared type, heavy duty, specification grade, with SCR power switching devices, adjustable range or sensitivity, adjustable time delay, integral manual override switches, and suitable for mounting in single gang wall mounted boxes.

- 1.2.3. Ceiling mounted occupancy sensors shall be rated 1000 watts minimum, 180 degrees coverage, 1000 sq. ft. minimum coverage, infrared type, heavy duty, specification grade, with SCR power switching devices, adjustable range or sensitivity, adjustable time delay, and suitable for mounting in ceiling mounted boxes.
- 1.2.4. Sensors shall utilize low voltage control circuits and be interlocked with the switch circuit for local auto/off control.
- 1.2.5. Dual technology occupancy sensors shall be rated 1000 watts minimum, 180 degrees coverage, 1000 sq. ft. minimum coverage, and combination ultrasonic/infrared type. The ultrasonic component shall be of a frequency compatible with hearing aids. The overall occupancy sensor shall be heavy duty, specification grade, with SCR power switching devices, adjustable range or sensitivity, adjustable time delay, and suitable for mounting in ceiling mounted boxes. Sensors shall utilize low voltage control circuits and be interlocked with the switch circuit for local auto/off control.
- 1.2.6. Sensors must be designed to work in conjunction with remote power packs, relays, or other control systems. Sensors must operate with a Class 2, low voltage wiring strategy. Sensors must be capable of being parallel wired for multi-sensor applications.
- 1.2.7. Sensors must accept 12 to 24 volts AC or DC. Sensor must provide a transistor output, returning the voltage input rectified to DC, to control remote power packs, relays, or other control systems.
- 1.2.8. Sensor must have optional single pole, double throw signal relay capable of being wired open on occupancy, or closed on occupancy.
- 1.2.9. Sensor must provide optional photocell output for daylight override. Sensor shall not consume more than 14 milliamps of current.
- 1.2.10. Sensor Time Delay shall be factory set for typical applications, and field adjustable from 30 seconds to 20 minutes.
- 1.2.11. Photocell override shall be factory set in the off mode, but be field adjustable. All adjustments shall be concealed once installed.
- 1.2.12. Sensor shall provide a green LED motion indicator. Red LED denoting life safety shall not be permitted.