

Occupancy sensors: A simple solution for better lighting.

Of course, switching lights off is an easy way to reduce energy use. But it can be difficult to get staff to follow through. Occupancy and vacancy sensors are a smart solution. These small units switch lights on or off automatically based on occupancy. If the last person to leave a room forgets to turn off the lights, these sensors will do so automatically, eliminating energy waste. Vacancy sensors, however, must be turned back on manually, which saves even more energy.

Two common types of sensors: Infrared and ultrasonic

Passive infrared (PIR) sensors detect heat, which means they need to see occupants. They might not perform so well in restroom stalls or office cubicles.

PIR sensor features:

- Require a line of sight
- Typically have limited sensitivity to minor (hand) movement at distances greater than 15 feet
- Are most sensitive to movement laterally across the sensor's field of view
- Are most suitable for smaller, enclosed spaces like hallways
- Have a maximum coverage area of 1,000 ft²

Ultrasonic sensors use a form of radar to sense motion. They're good at detecting small movements and don't need to see occupants directly. However, since ultrasonic waves bounce off room surfaces, any movement will alter their return patterns.

Ultrasonic sensor features:

- Can see around corners
- Typically have high sensitivity to minimal (hand) movements up to 25 feet
- Are most sensitive to movement to and from the sensor
- Are most suitable for open spaces, spaces with obstacles, restrooms and spaces with hard surfaces
- Have a maximum coverage area of 2,000 ft²

A hybrid system using a combination of these technologies can minimize false detection and achieve wider coverage. Sensors are available in wall-mounted switch configurations for use in offices and other small areas, or ceiling mounted for larger, open areas. All in all, occupancy sensors can provide savings of 10 to 50 percent, according to U.S. Department of Energy estimates. Plus, reduced lighting energy consumption reduces your carbon footprint and enables green building certification.

Find the right lighting controls for your facility and start saving. Contact your account manager, call 1-800-787-1706, or email efficiency@nationalgrid.com.