H-MOSS®
Hubbell Motion Sensing Switches

Sensors for an Energy Conscious World
Smart Technologies for Smart Buildings
H-MOSS® Occupancy Sensors combine innovative technologies for industry proven performance.

Adaptive Technology
Adaptive Technology is a Hubbell breakthrough that delivers benefits to both building owners and occupants. The building owner achieves reduced energy costs, fewer adjustments and less maintenance, and the building occupant experiences fewer false-offs and disturbances.

Adaptive technology occupancy sensors use microprocessors that make all the decisions for setting adjustments. Internal software constantly monitors the controlled area and automatically adjusts the sensitivity and timer based on environmental history. This means that instead of manually adjusting the sensor for seasonal changes, modified airflow, furniture layout or occupancy pattern changes, the sensor automatically adjusts itself. These automatic adjustments eliminate the need for multiple manual adjustments by maintenance personnel or outside contractors. Hubbell offers adaptive technology throughout its product offering—wall switches, ceiling and wall mount sensors—in conjunction with dual technology, ultrasonic and passive infrared products.

How to Select the Right Technology for the Proper Application

Dual Technology
Dual technology occupancy sensors combine both passive infrared (PIR) and ultrasonic (US) technologies for maximum reliability. Because US and PIR need to both detect occupancy to turn lighting on, dual technology sensors minimize the risk of lights coming on when the space is unoccupied—false triggering. Continued detection by only one technology then keeps lighting on as necessary. Dual technology sensors offer the best performance for most applications.

Ultrasonic (US)
Ultrasonic (US) technology senses occupancy by bouncing sound waves (32 kHz - 45 kHz) off of objects and detecting a frequency shift between the emitted and reflected sound waves. Movement by a person or object within a space causes a shift in frequency, which the sensor interprets as occupancy. While US occupancy sensors have a limited range, they are excellent at detecting even minor motion such as typing and filing, and they do not require an unobstructed line-of-sight. This makes US technology sensors ideal for an application like an office with cubicles or a restroom with stalls.

Passive Infrared (PIR)
Passive infrared (PIR) technology senses occupancy by detecting the movement of heat emitted from the human body against the background space. Unlike US technology, PIR sensors require an unobstructed line-of-sight for detection. These sensors use a segmented lens, which divides the coverage area into zones. Movement between zones is then interpreted as occupancy. PIR sensors are ideal for detecting major motion (e.g. walking), and they work best in small, enclosed spaces with high levels of occupant movement.

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Energy Savings with Occupancy Sensors

Hubbell Occupancy Sensors Play a Key Role

In the U.S., lighting consumes 22% of electricity and represents $40 billion a year in energy costs. Using advanced technology, Hubbell’s H-MOSS® Occupancy Sensors are doing their part to save energy and provide sustainability by automatically and effectively turning lights on when a room is occupied and off when a room is vacant. In a typical office building, where lighting accounts for 35 to 45% of energy use, H-MOSS Occupancy Sensors have the potential to reduce wasted lighting by 13 to 90% for a significant return on investment (ROI).

Hubbell offers a broad range of occupancy and vacancy sensors and lighting controls that meet the latest codes and standards, including ASHRAE/IESNA 90.1 and California Energy Commission (CEC) Title 24. H-MOSS Occupancy Sensors can also provide LEED® points in categories like Sustainable Sites, Energy and Atmosphere, Indoor Environmental Quality and Innovative Design Process.

Backed by Hubbell Service and Support

H-MOSS® Occupancy Sensors are backed by Hubbell’s GreenWise™ sustainability initiative and superior service and support including:

- Valuable online H-MOSS ROI worksheet for calculating energy savings
- Detailed H-MOSS online e-learning courses that can be taken anywhere, anytime
- Product selection guide for choosing the right H-MOSS Occupancy Sensor and technology
- Online specification assistance through spec wizard, AutoCAD drawings, templates, BIM objects and documentation
- Comprehensive design assistance for deploying occupancy sensors in a variety of applications
- Highly knowledgeable network of specification professionals and trained, dedicated sales staff
- Backed by Hubbell who is committed to safeguarding the environment through environmental stewardship, innovative products and efficient operations

Typical Applications

<table>
<thead>
<tr>
<th>Application</th>
<th>Sensor Technology</th>
<th>Sensor Style</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adaptive</td>
<td>Dual</td>
</tr>
<tr>
<td>Office</td>
<td>Small</td>
<td>✓+</td>
</tr>
<tr>
<td></td>
<td>Large</td>
<td>✓+</td>
</tr>
<tr>
<td>Open Office</td>
<td>✓+</td>
<td>✓+</td>
</tr>
<tr>
<td>Storage/</td>
<td>Small</td>
<td>✓+</td>
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<tr>
<td>Warehouse</td>
<td>Large</td>
<td>✓+</td>
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<tr>
<td>Rest Room</td>
<td>Small</td>
<td>✓+</td>
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<tr>
<td></td>
<td>Large</td>
<td>✓+</td>
</tr>
<tr>
<td>Conference</td>
<td>Small</td>
<td>✓+</td>
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<tr>
<td>Room</td>
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<td>✓+</td>
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<td>Classroom</td>
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<td></td>
<td>Large</td>
<td>✓+</td>
</tr>
<tr>
<td>Hall</td>
<td>✓+</td>
<td>✓+</td>
</tr>
</tbody>
</table>

Applications are generalized. Consult your Hubbell representative for the type of technology and products that fit your needs.

Typical Applications

Wall Switch  Ceiling Sensor  Wall Sensor

Energy Savings Percentage Range

10%  20%  30%  40%  50%  60%  70%  80%  90%

Source: E Source

Private Office  Conference Room  Storage Room  Restroom

www.hubbell-wiring.com
**Office Solutions**

**Energy Saving Locations:**
Supply Closets
Restrooms
Break Rooms
Conference Rooms
Offices
Open Offices
Hallways

**Pro Tip:**
Sensors with photocells provide additional savings in areas with sufficient natural light by turning off lights whenever possible.

**Success Factors:**
- Reduce installation and maintenance labor by eliminating manual adjustments with adaptive sensors.
- Maximize savings with Hubbell’s daylight harvesting products which precisely control lighting in response to available natural light.
- Open office spaces provide many placement and product selection challenges. Contact your local Hubbell sensor professional for layout and product assistance.

**Typical Office Electricity Usage and Savings**

- Lighting Uses 39% of Total Electricity
- Potential electricity bill savings**

**Application ROI Index**

- Faster Payback Based on average occupancy and installation complexity.

**Eliminate energy waste and improve the bottom line.**
Companies have always had to make tough decisions regarding resource allocation. In the past, energy consumption was often treated as a fixed overhead cost. With new regulations and the need for sustainable building design, this no longer holds true. Lighting is responsible for much of an office’s electricity use, and occupancy sensors can provide significant energy savings by only lighting where and when it’s needed.

**Enhance reputation and maintain employee satisfaction.**
Companies with LEED-certified facilities have a higher standing within their communities and among industry peers. LEED-certified work environments also result in higher levels of employee satisfaction and retention due to healthier, brighter working conditions. Hubbell’s H-MOSS sensors can help gain LEED points and illustrate a company’s commitment to protecting the environment.

**Typical Office Electricity Usage and Savings**

<table>
<thead>
<tr>
<th>Application</th>
<th>Potential Electricity Bill Savings**</th>
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</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>16%</td>
</tr>
<tr>
<td>Other</td>
<td>14%</td>
</tr>
<tr>
<td>Refrigeration</td>
<td>5%</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>15%</td>
</tr>
<tr>
<td>Climate Control</td>
<td>27%</td>
</tr>
</tbody>
</table>

** Based on 40% lighting savings from sensors. Actual results may vary.
Education Solutions

Electricity doesn’t educate—teachers do.
Electricity bills are second only to payroll in today’s restricted school budgets. Most of the electricity goes to keeping the lights on, even when they are not needed. Systematically turning lights off whenever possible significantly reduces a school’s utility bill.

Regain budget control with Hubbell.
H-MOSS® sensors provide a simple, automated and transparent system to make sure that lighting energy is used as needed. This protects school budgets from rate fluctuations, allowing educational institutions to more freely invest in teachers, programs and supplies that directly affect the quality of education.

Typical Education Electricity Usage and Savings*

Typical Education Electricity Usage and Savings*

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage of Total Electricity</th>
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</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>31%</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>10%</td>
</tr>
<tr>
<td>Climate Control</td>
<td>47%</td>
</tr>
<tr>
<td>Other</td>
<td>12%</td>
</tr>
</tbody>
</table>

Average electricity bill savings**

Savings 12%

Other 12%

Pro Tip:
Dual technology sensors enhance minor motion detection reducing false off situations during periods of reading or testing.

Success Factors:

- Provide advanced lighting control of two zones for projector use with dual circuit switches.
- Increase sensor longevity by specifying AD or AP series switch sensors with vandal resistant hard lenses or ultrasonic sensors.
- Simplify retrofits by eliminating the need to run new wires by utilizing line voltage wall switch and ceiling sensors.

** Based on 40% lighting savings from sensors. Actual results may vary.

Application ROI Index

Based on average occupancy and installation complexity.

Faster Payback

Storerooms
Restrooms
Cafeterias
Administration
Classrooms
Media Center
Halls
Turning lights off should be the least of the worries. Hospitals are a 24/7 operation where decisions and actions regarding the wellness of patients are critical. Consequently, lights are often left on when not needed. There are several areas throughout hospitals that can realize substantial efficiency improvements with little investment like administration offices, storerooms, closets and break rooms. Private practices, medical labs and outpatient care facilities have lower occupancy rates than hospitals and can further benefit from occupancy sensors.

Promote healthier environments. Light switches are one of the most commonly touched surfaces, spreading diseases and bacteria. Installing occupancy sensors where appropriate eliminates the need to touch a switch, which can help reduce the spread of pathogens. At the same time, healthcare staff benefit from a simple, user-friendly method of controlling the lights.

Pro Tip: Adaptive Technology will automatically adjust for changes in shifts, usage, and seasons eliminating the need for manual adjustments and improving system performance.

Success Factors:
- Prevent lights from coming on at night in patient rooms by setting AP, AD, and AU series products to manual-on mode.
- Minimize privacy curtains and carts from preventing sensor activation by utilizing Dual Technology or Ultrasonic sensors.
- Healthcare facilities have many special requirements and unique environments. Contact your local Hubbell sensor professional for layout and product selection assistance.

** Based on 40% lighting savings from sensors. Actual results may vary.
Hospitality Solutions

Turn the lights off to keep the lights on.
Over 50% of a hotel’s electricity bill goes to keeping lights on, even when guests are away from their rooms. This results in substantial waste that reduces an establishment’s financial efficiency and sustainability. With occupancy sensors, the waste can be eliminated without affecting customer comfort and convenience.

Manual-on mode automates savings.
Hotel guests are on the go and often away from their rooms. As a result, room lights are often left on, even in broad daylight. Specifically developed with the hospitality industry in mind, manual-on mode provides guests with a traditional on/off light control experience but then automatically turns off lights once a room is unoccupied for a period of time. This provides a simple and transparent method to ensuring that lights are off when necessary, significantly increasing a hotel’s energy efficiency.

Pro Tip:
Utilize manual-on setting to maximize savings by making sure lights are turned off when rooms are unoccupied while giving patrons a traditional on/off experience.

Success Factors:
• Let guests have traditional control by setting sensors to manual-on mode on AP, AD, and AU series products.
• Utilize free sunlight to light your lobbies and atriums with Hubbell’s atrium daylight harvesting sensor.
• Provide nighttime illumination with nightlight sensors.

Typical Hospitality Electricity Usage and Savings*

Average electricity bill savings**

Climate Control 22%
Water Heating 5%
Refrigeration 5%
Other 15%
Lighting 53%
Savings 21%

Faster Payback

Based on average occupancy and installation complexity.

Energy Saving Locations:
Supply Closets
Restrooms
Exercise Rooms
Break Rooms
Meeting Rooms
Guest Rooms
Food Service
Hallways

** Based on 40% lighting savings from sensors. Actual results may vary.


www.hubbell-wiring.com
Occupancy trends are changing. Due to the increased use of flexible work hours, telecommuting and adaptable workspaces, modern office spaces experience constant changing occupancy patterns. These trends have increased the amount of unnecessary illumination in today’s offices, which can be minimized through proper utilization of occupancy sensors.

Modern technology for modern offices. The ever-changing nature of today’s office space poses challenges for traditional occupancy sensors. Hubbell’s H-MOSS® sensors, equipped with adaptive technology, constantly monitor and adjust to changing occupancy patterns, layouts and environmental conditions. H-MOSS takes the guesswork out of setup and operation by providing an “install-and-forget” experience.

Typical Layouts and Coverage Patterns

Small Office

Technology
Adaptive Dual Technology
(Recommended)

Suggested Installation
Make sure sensor is not obscured by an open door.

Energy Saving Areas:
Open Office
Administration
Private Offices
Teaming Areas

Pro Tip:
Line voltage ceiling sensors simplify retrofits. Also note door location and swing radius to position wall switch sensors correctly.

Products
Recommended
Wall Switch:
AD1277x1 Series

Alternative
Wall Switches:
WS1277x Series
AP1277x1 Series

Ceiling Sensors:
ATD500C
ATP600C
(Must use a Control Unit CU300A)
LVPR1500R
(No control unit needed)
**Large Office**

**Technology**
Adaptive Dual Technology
(Recommended)

**Suggested Installation**
Place sensor to view into the room and not "see" hallway traffic.

**Open Office**

**Technology**
Adaptive Ultrasonic Technology
(Recommended)

**Suggested Installation**
Position and angle sensors to maximize minor motion detection over work space concentrations.

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**Products**

**Recommended**
Wall Switch:
AD1277x1 Series

**Alternative**
Ceiling Sensor:
ATU1000C
(Must use a Control Unit CU300A)

**Recommended**
Ceiling Sensor:
ATU2000C
Must use Control Unit CU300A

**Alternative**
Ceiling Sensor:
LVDT2000R
(No control unit needed)
Restroom Design Guide

Energy Saving Areas:
- Single Person
- Multi Person
- Locker Rooms
- Powder Rooms

Pro Tip:
Dual circuit sensors can allow for control of lights and exhaust fan simplifying installation. Contact technical services regarding load and motor types supported.

Products
Recommended
Wall Sensors: AU1277X1 Series

Alternative
Wall Switches: WS1277x Series
AP1277x1 Series

Ceiling Sensors:
ATU500C (Must use a Control Unit CU300A)
LVPR1500R (No control unit needed)

Occupied or not?
Restrooms are typically occupied less than 50% of the day, and lights are often left on while no one is present. Restrooms are also isolated, making it difficult to determine if lights have been left on inadvertently. Significant savings can be achieved by systematically turning lights off when possible.

Promote savings and health.
H-MOSS® sensors intelligently sense occupation and control lights accordingly so facility managers no longer have to ensure that the lights are turned off in restrooms or when closing up. And because a switch is a common touch point for transmitting germs in bathrooms, using H-MOSS sensors helps promote healthy buildings.

Typical Layouts and Coverage Patterns

Small Single Restroom

Technology
Adaptive Ultrasonic Technology (Recommended)

Suggested Installation
Mount switch in location that limits chance for damage.
Large Restroom

Technology
Adaptive Ultrasonic Technology (Recommended)

Suggested Installation
Place sensor closer to stalls to maximize minor motion detection.

Large Restroom with Locker Room

Technology
Adaptive Ultrasonic Technology (Recommended)

Suggested Installation
Multiple sensors provide complete coverage and allow selective lighting based on occupancy.

Products

**Recommended**
Ceiling Sensor: ATU500C
Must use a Control Unit CU300A

**Alternative**
Ceiling Sensors:
- LVUS2000R
- LVUS1500R
(No control unit needed)

**Products**

**Recommended**
Ceiling Sensor: ATU500C
Must use a Control Unit CU300A

**Alternative**
Wall Sensor:
- ATU2000C
(Must use Control Unit CU300A)
- LVUS1500R
(No control unit needed)

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H-MOSS®—the teacher’s new pet.

Lighting classrooms consumes a substantial amount of the education budget. However, significant savings can be realized by turning off lights when they are not needed. Occupancy sensors provide an inexpensive way to guarantee that energy waste is kept to a minimum. They can further enhance savings by using optional photo sensors that turn off the lights when enough natural light is detected.

Design for change.

Classrooms are multi-use spaces that accommodate school-day activities and after school programs. Field trips, vacations, events and cancellations all affect occupancy patterns. At the same time, seasonal environmental conditions are always changing. Hubbell’s patented Adaptive Technology automatically adjusts to these changes to minimize inadvertent activation and maximize savings. Hubbell provides one of the most complete sensor lines for effectively managing project cost and performance in educational institutions.
Library

Technology
Adaptive Dual Technology (Recommended for sitting area)
Adaptive Ultrasonic Technology (Recommended for browsing area)

Suggested Installation
Utilize ultrasonic sensors between book case stacks to eliminate blind spots.

Lower Grade Elementary Class

Technology
Adaptive Dual Technology (Recommended for classroom)
Adaptive Ultrasonic Technology (Recommended for bathroom)

Suggested Installation
Provide teachers with manual override switches to turn off lights for quiet times.

Products
Recommended
Ceiling Sensor:
ATD2000C

ATU2000C
Both must use a Control Unit CU300A

Ceiling Sensor: ATD2000C
Must use a Control Unit CU300A

Wall Switches:
AU1277x1 Series
AU1277X1N Series

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Laboratories Design Guide

Energy Saving Areas:
- Pharmaceutical Labs
- Quality Control Areas
- Product Development Labs
- Rapid Prototyping Shops

Pro Tip:
Use Dual Technology or Ultrasonic in labs with obstructions such as large filing cabinets or air flow hoods.

Labs have unique requirements
Laboratory spaces are unique environments that have uncommon usage patterns and requirements, such as clean room classification. Lab technicians and scientists often have their hands occupied dealing with equipment, chemicals or biomaterials. In addition, occupancy constantly changes in labs. Even though lighting is often not needed for prolonged periods of time, lights are often left on.

Sensors—clean and efficient.
Hubbell's H-MOSS occupancy sensors provide a helpful way of automating energy savings. At the same time, they enhance the operation of the lab environment by allowing users to focus on their work instead of managing the lights. Ideal for the clean room environment, sensors have fewer moving parts that minimize foreign particulate generation and smooth surfaces that can be more easily cleaned. Hubbell's H-MOSS sensors not only save money, they provide a more efficient work environment.

Typical Layouts and Coverage Patterns

Small Laboratories

Technology
Adaptive Ultrasonic Technology
(Recommended)

Suggested Installation
Utilize PIR to prevent detection of minor equipment motions.

Products
Recommended
Wall Switches:
- AU1277x1 Series
- AU1277X1N Series

Alternative
Wall Switches:
- WS1277x Series
- AP1277x1 Series
Ceiling Sensors:
- ATU500C
  (Must use a Control Unit CU300A)
- LVPR1500R
  (No control unit needed)
### Large Laboratories

**Technology**
Adaptive Dual Technology (Recommended)

**Suggested Installation**
Determine equipment placement to position sensors accordingly. Multiple sensors may be required if large equipment is present.

### Computer Lab

**Technology**
Adaptive Dual Technology (Recommended)

**Suggested Installation**
Centering sensor over the seating area maximizes detection of minor motion like typing.

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**Products**

**Recommended**
Ceiling Sensor: ATD2000C
Must use a Control Unit CU300A

**Alternative**
Ceiling Sensor: LVDT2000R
(No control unit needed)

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**Products**

**Recommended**
Ceiling Sensor: ATD2000C
Must use a Control Unit CU300A

**Alternative**
Ceiling Sensor: LVDT2000R
(No control unit needed)
Conference Room Design Guide

Energy Saving Areas:
Large Boardrooms
Small Boardrooms
Training Rooms
Teaming Areas

Pro Tip:
Use sensors with manual on/off control for projection of presentations.

Products
Recommended
Wall Switch:
AD1277x1 Series

Alternative
Ceiling Sensor:
ATD1000C
(Must use a Control Unit CU300A)

A place of purpose
Conference rooms are critical, bringing great minds together to develop strategies for success, but these meetings of the minds don’t always happen all day long. People come and go, and even day-long meetings often break for significant periods of time. Still, lights are often left on when meetings adjourn and conference rooms are left empty. In addition, productivity increases with natural light, often making lighting unnecessary where windows can take over.

Portraying the right image
The irregular occupancy pattern of conference rooms makes these spaces ideal for Hubbell occupancy sensors. The use of photocell sensors ensures productive natural light is utilized when detected. Manual controls avoid lights coming on during audio-visual projection despite movement in the room. Because conference rooms are also often frequented by guests, they portray an image to meeting guests and attendees. No better image could be portrayed than a commitment to the environment through the use of occupancy sensors.

Typical Layouts and Coverage Patterns

Small Conference Room

Technology
Adaptive Dual Technology (Recommended)

Suggested Installation
Make sure sensor is not obscured by presentation equipment like screens or easels.
Large Conference Room

Technology
Adaptive Dual Technology (Recommended)

Suggested Installation
Dual circuit wall switches can be used to allow accent lighting during presentations if room size allows.

Products
Recommended
Ceiling Sensor: ATD1000C
Must use a Control Unit
CU300A

Alternative
Ceiling Sensor: LVDT2000R
(No control unit needed)
Storage Area Design Guide

Energy Saving Areas:
- Warehouses
- Supply Closets
- Storerooms
- Utility Closets
- Network Closets

Pro Tip:
Set short delays for small supply closets and store rooms to maximize savings.

Products
Recommended
Wall Switch: WS1277x Series

Alternative
Ceiling Sensor: ATP600C (Must use a Control Unit CU300A)

Frequently forgotten
Closets and storerooms offer one of the best environments for occupancy savings due to intermittent use. Furthermore, people leaving these spaces are often carrying supplies or merchandise, making turning off lights difficult. People then move on to the task at hand. Going back to turn off lights is frequently forgotten. Like restrooms, closets and storerooms are normally isolated, and it’s difficult to determine if lights have been left on.

Easy in, easy out
With occupancy sensors, entering or leaving a storeroom with hands full is easily accomplished without worrying about the lights staying on and wasting energy. Hubbell H-MOSS breadth of products includes occupancy sensors with passive infrared technology that are ideal for small spaces of major movement, as well as options for covering large warehouse aisles and high-bay applications with 120-foot linear coverage.

Typical Layouts and Coverage Patterns

Small Closet/Storeroom

Technology
Adaptive Passive Infrared Technology (Recommended)

Suggested Installation
Position sensor close to door to make sure lights come on when the door is opened.
Large Closet/Storeroom

Technology
Adaptive Dual Technology
(Recommended)

Suggested Installation
Use a wall mount sensor if ceiling height is above 12ft.

Warehouse

Technology
Passive Infrared Adaptive Technology
(Recommended)

Suggested Installation
Utilize fixture mount high bay sensors in larger areas or where wall sensors are not feasible.

Products

**Recommended**
Wall Mount Sensor: ATU1000C
Must use a Control Unit CU300A

**Alternative**
Ceiling Sensor: ATU2000C
(Must use a Control Unit CU300A)

**Recommended**
Ceiling Sensor: HMHB2xU Series

**Alternative**
Wall Mount Sensor: ATP120HB

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Adaptive Dual Technology Wall Switches
Features and Benefits

- Available in ivory, white, light almond, black and gray
- Dual technology sensing combines the individual advantages of passive infrared and ultrasonic detection
- Impact resistant hard lens is standard and color matched to the switch
- Designed for use on 120 or 277V AC circuits. No neutral needed for fast retrofits
- Adaptive technology - “Install and forget” operation, analyzes environment and adjusts sensitivity and timer, eliminating the need for manual adjustment
- Built in photocell with manual super saver mode for daylight harvesting
- Auto or manual “On” operating modes. Available in either single relay or dual relay versions for enhanced savings with bi-level switching applications

Adaptive Passive Infrared Wall Switches
Features and Benefits

- Ivory and white models available to match office decor
- High density 1200 square foot coverage with color matched lens
- Two-color LED provides instant feedback of sensor status
- Front press switch allows the occupant to switch the sensor from automatic operation to momentary off mode. The sensor returns to automatic operation mode 30 minutes after the last detected motion
- Designed for use on 120 or 277V AC circuits. No neutral needed for fast retrofits
- Heavy-duty relay controls up to 1800 watts at 120V AC or 4155 watts at 277V AC
- Soft tone alert provides audible indication of sensor time-out 12 seconds prior to switching lights out
- Digital pushbutton ambient light level control located behind cover allows for quick, accurate setting of ambient light threshold
Wall Switches
Featuring Adaptive Technology

Adaptive Technology
- Adaptive technology - "Install and forget" operation
- All digital sensing technology
- Dual 120/277V AC operation. No neutral required
- Auto or manual "On" operating modes
- No minimum load requirements
- Hard lens (dual technology, passive infrared)
- Zero arc point switching
- Built in photocell with manual super saver mode for daylight harvesting
- Bi-level switching or dual load control (AD, AP AU1277x2, 2N series)
- cULus, CEC Title 24 Certified

Dual (Ultrasonic and Passive Infrared)
1000 square foot coverage with photocell, 800W Incandescent, 1000W Fluorescent at 120V AC, 1800W Fluorescent at 277V AC, 50/60Hz

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Circuit; 1 Button for manual/auto control</td>
<td>AD1277I1</td>
</tr>
<tr>
<td>Single Circuit; Auto control with no button</td>
<td>AD1277I1N</td>
</tr>
<tr>
<td>Dual Circuit; 2 Buttons for manual/auto control</td>
<td>AD1277I2</td>
</tr>
<tr>
<td>Dual Circuit; Auto control with no button</td>
<td>AD1277I2N</td>
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Ultrasonic
400 square foot coverage with photocell, 800W Incandescent, 1000W Fluorescent at 120V AC, 1800W Fluorescent at 277V AC, 50/60Hz

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<td>Single Circuit; 1 Button for manual/auto control</td>
<td>AU1277I1</td>
</tr>
<tr>
<td>Single Circuit; Auto control with no button</td>
<td>AU1277I1N</td>
</tr>
<tr>
<td>Dual Circuit; 2 Buttons for manual/auto control</td>
<td>AU1277I2</td>
</tr>
<tr>
<td>Dual Circuit; Auto control with no button</td>
<td>AU1277I2N</td>
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</tbody>
</table>

Passive Infrared
1000 sq. ft. coverage with photocell, 800W Incandescent, 1000W Fluorescent at 120V AC, 1800W Fluorescent at 277V AC, 50/60Hz

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
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<tbody>
<tr>
<td>Single Circuit; 1 Button for manual/auto control</td>
<td>AP1277I1</td>
</tr>
<tr>
<td>Single Circuit; Auto control with no button</td>
<td>AP1277I1N</td>
</tr>
<tr>
<td>Dual Circuit; 2 Buttons for manual/auto control</td>
<td>AP1277I2</td>
</tr>
<tr>
<td>Dual Circuit; Auto control with no button</td>
<td>AP1277I2N</td>
</tr>
</tbody>
</table>

Note: Sensors are also available in: LA (Light Almond), GY (Gray) or BK (Black). These colors have minimum lead times. Please call Customer Service for further information. Wallplates are sold separately.

Coverage Patterns

<table>
<thead>
<tr>
<th>Minor Motion:</th>
<th>Ultrasonic</th>
<th>PIR</th>
<th>Major Motion:</th>
<th>Ultrasonic</th>
<th>PIR</th>
</tr>
</thead>
</table>

AD1277 Series

AU1277 Series

AP1277 Series

www.hubbell-wiring.com
Wall Switches and Digital Timer
Featuring Passive Infrared Technology

Adaptive Technology, Passive Infrared
- Adaptive technology - “Install and forget” operation
- Passive infrared technology
- Dual 120/277V AC operation, no neutral required
- Heavy duty relay (AT1277)
- Audible alarm before turning lights off (AT1277)
- 1200 sq. ft. coverage
- Built in photocell for daylight harvesting
- Nylon wallplate included
- cULus, CEC Title 24 Certified

<table>
<thead>
<tr>
<th>Description</th>
<th>Coverage</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Button</td>
<td>1800W Incandescent</td>
<td>4155W Fluorescent</td>
<td>Ivory</td>
</tr>
<tr>
<td></td>
<td>1200W Fluorescent</td>
<td></td>
<td>White</td>
</tr>
<tr>
<td>One Button</td>
<td>800W Incandescent</td>
<td>1200W Fluorescent</td>
<td>Ivory</td>
</tr>
<tr>
<td></td>
<td>800W Fluorescent</td>
<td></td>
<td>White</td>
</tr>
</tbody>
</table>

Passive Infrared Wall Switches
- Passive infrared technology
- Manual adjustment time delay
  (WS1277 - 20 sec. to 30 min.)
  (WS120/WS277 - 30 sec. to 30 min.)
- Photocell (WS1277I, WS1277W)
- Bi-level switching (WS1277W2)
- Wallplate included
- No neutral required
- cULus, CEC Title 24 Certified

<table>
<thead>
<tr>
<th>Description</th>
<th>Coverage</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>One button;</td>
<td>1200 sq. ft.</td>
<td>800W</td>
<td>Ivory</td>
</tr>
<tr>
<td>120/277V AC</td>
<td></td>
<td></td>
<td>White</td>
</tr>
<tr>
<td>One button;</td>
<td>900 sq. ft.</td>
<td>800W Incandescent</td>
<td>N/A</td>
</tr>
<tr>
<td>120V AC</td>
<td></td>
<td></td>
<td>Ivory</td>
</tr>
<tr>
<td>One button;</td>
<td>900 sq. ft.</td>
<td>N/A</td>
<td>1800W Fluorescent</td>
</tr>
<tr>
<td>277V AC</td>
<td></td>
<td></td>
<td>White</td>
</tr>
<tr>
<td>Double pole;</td>
<td>1000 sq. ft.</td>
<td>600W</td>
<td>1800W Fluorescent</td>
</tr>
<tr>
<td>120/277V AC</td>
<td></td>
<td></td>
<td>Fluorescent</td>
</tr>
</tbody>
</table>

Digital Timer Wall Switch
- Dip switch enabled preset intervals
  - 5, 15 or 30 minutes
  - 1, 3, 6, 9 or 12 hours
- Includes an on/off momentary push button switch feature

<table>
<thead>
<tr>
<th>Description</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dip switch enabled preset intervals</td>
<td>800W</td>
<td>DT1277W</td>
</tr>
<tr>
<td>- 5, 15 or 30 minutes</td>
<td>1200W</td>
<td></td>
</tr>
<tr>
<td>- 1, 3, 6, 9 or 12 hours</td>
<td>White</td>
<td></td>
</tr>
</tbody>
</table>

Coverage Patterns
- Minor Motion: PIR
- Major Motion: PIR

Vertical Coverage
- AT1277, ATP1277
- WS120, WS277
- WS1277W2

Coverage Patterns
- Mounting Height
  - 42" to 54" (106.7 to 137.2cm)
- See Horizontal View for Range

Adaptive Technology, Passive Infrared
- Adaptive technology - “Install and forget” operation
- Passive infrared technology
- Dual 120/277V AC operation, no neutral required
- Heavy duty relay (AT1277)
- Audible alarm before turning lights off (AT1277)
- 1200 sq. ft. coverage
- Built in photocell for daylight harvesting
- Nylon wallplate included
- cULus, CEC Title 24 Certified
Wall Switches
Residential Occupancy and Vacancy Sensors

Residential Occupancy Sensors - Passive Infrared

- Passive infrared technology. No neutral required
- Photocell equipped for daylight harvesting
- Auto-on, auto-off
- Time delay adjustment, 30 seconds to 30 minutes
- Patent pending “alert to off” dims lights prior to going off (RMS101 & 121)
- Wallplate included
- cULus

<table>
<thead>
<tr>
<th>Description</th>
<th>Coverage</th>
<th>120V AC</th>
<th>277V AC</th>
<th>Color</th>
<th>Catalog Number</th>
<th>Standard</th>
<th>Nightlight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch with button; 150° view</td>
<td>800 sq. ft.</td>
<td>500W</td>
<td>Incandescent only</td>
<td>Ivory/White/Almond/Lt. Almond</td>
<td>RMS101/121</td>
<td>RMS101LI/L121LI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS101W/121W</td>
<td>RMS101ILW/RMS121ILW</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS101AL/121AL</td>
<td>RMS101ILLAL/RMS121ILLAL</td>
<td></td>
</tr>
<tr>
<td>Switch with dimming; 150° view</td>
<td>500W</td>
<td>Incandescent only</td>
<td>N/A</td>
<td>Ivory/White/Almond/Lt. Almond</td>
<td>RMS121/141</td>
<td>RMS121LI/L141LI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS121W/141W</td>
<td>RMS121ILW/RMS141ILW</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS121AL/141AL</td>
<td>RMS121ILLAL/RMS141ILLAL</td>
<td></td>
</tr>
<tr>
<td>Heavy duty switch; 180° view</td>
<td>800 sq. ft.</td>
<td>800W</td>
<td>Fluorescent</td>
<td>Ivory/White/Almond</td>
<td>RMS140</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS140W</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS140AL</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

Vacancy Sensors - Passive Infrared

- Passive infrared technology. No neutral required
- Manual-on, auto-off
- Time delay adjustment, 30 seconds to 30 minutes
- Patent pending “alert to off” dims lights prior to going off (RMS100 & 120)
- Wallplate included
- cULus, CEC Title 24 Certified

<table>
<thead>
<tr>
<th>Description</th>
<th>Coverage</th>
<th>120V AC</th>
<th>277V AC</th>
<th>Color</th>
<th>Catalog Number</th>
<th>Standard</th>
<th>Nightlight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch with button; 150° view</td>
<td>800 sq. ft.</td>
<td>500W</td>
<td>Incandescent only</td>
<td>Ivory/White/Almond/Lt. Almond</td>
<td>RMS100/120</td>
<td>RMS100LI/L120LI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS100W/120W</td>
<td>RMS100ILW/RMS120ILW</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS100AL/120AL</td>
<td>RMS100ILLAL/RMS120ILLAL</td>
<td></td>
</tr>
<tr>
<td>Switch with dimming; 150° view</td>
<td>500W</td>
<td>Incandescent only</td>
<td>N/A</td>
<td>Ivory/White/Almond/Lt. Almond</td>
<td>RMS120/140</td>
<td>RMS120LI/L140LI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS120W/140W</td>
<td>RMS120ILW/RMS140ILW</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS120AL/140AL</td>
<td>RMS120ILLAL/RMS140ILLAL</td>
<td></td>
</tr>
<tr>
<td>Heavy duty switch; 180° view</td>
<td>800 sq. ft.</td>
<td>800W</td>
<td>Fluorescent</td>
<td>Ivory/White/Almond</td>
<td>RMS140</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS140W</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMS140AL</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

Coverage Patterns

Minor Motion: PIR  Major Motion: PIR

www.hubbell-wiring.com
Adaptive Dual Technology Ceiling Sensors

Features and Benefits

- Red LED indicates passive infrared detection
- Digital, crystal controlled ultrasonic transmitter and receiver for coverage in each direction for superior sensing of motion
- Off-white ABS enclosure blends with ceiling tile
- Dual element passive-infrared detector and lens sense heat in motion
- Green LED indicates ultrasonic detection
- Isolated relay included on sensors with “RP” suffix for interfacing sensor to auxiliary systems such as HVAC
- Ambient light level control featured on sensors with “RP” suffix to prevent unnecessary lighting usage when natural light is sufficient

ATD2000C

Adaptive Technology Wall Mount Sensors

Features and Benefits

- Dual technology sensing combines the individual advantages of passive infrared and ultrasonic detection
- 110° coverage provides complete room sensing when corner mounted
- Isolated relay included on sensors with “RP” suffix for interfacing with auxiliary systems such as HVAC
- Swivel mounting bracket allows sensor to be easily adjusted in ceiling or wall mount applications
- Green LED indicates ultrasonic detection
- Red LED indicates passive infrared detection
- Ambient light level control featured on sensors with “RP” suffix to prevent unnecessary lighting usage when natural light is sufficient

ATD1600W
Ceiling Sensors
Featuring Adaptive Technology

Adaptive Technology
- Adaptive Technology- “Install and forget”
- All digital sensing technology
- Photocell for daylight harvesting and relay to interface with auxiliary systems such as HVAC (CRP models)
- Mounting base included with sensor
- Non-volatile memory settings retained after power outage
- 24V DC, 33mA
- 32kHz (ATD/ATU500C & CRP - 40kHz)
- cULus, CEC Title 24 Certified

Dual (Ultrasonic and Passive Infrared)
Combines the excellent minor motion detection of ultrasonic with the outstanding passive infrared (PIR) long-range major motion detection

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 sq. ft. with photocell and isolated relay</td>
<td>White</td>
<td>ATD2000CRP</td>
</tr>
<tr>
<td>2000 sq. ft.</td>
<td>White</td>
<td>ATD2000C</td>
</tr>
<tr>
<td>1000 sq. ft. with photocell and isolated relay</td>
<td>White</td>
<td>ATD1000CRP</td>
</tr>
<tr>
<td>1000 sq. ft.</td>
<td>White</td>
<td>ATD1000C</td>
</tr>
<tr>
<td>500 sq. ft. with photocell and isolated relay</td>
<td>White</td>
<td>ATD500CRP</td>
</tr>
<tr>
<td>500 sq. ft.</td>
<td>White</td>
<td>ATD500C</td>
</tr>
</tbody>
</table>

Note: All ATD ceiling sensors must use a CU series control units. See page 27 for details.

Ultrasonic
Excellent minor motion detection

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 sq. ft. with photocell and isolated relay</td>
<td>White</td>
<td>ATU2000CRP</td>
</tr>
<tr>
<td>2000 sq. ft.</td>
<td>White</td>
<td>ATU2000C</td>
</tr>
<tr>
<td>1000 sq. ft. with photocell and isolated relay</td>
<td>White</td>
<td>ATU1000CRP</td>
</tr>
<tr>
<td>1000 sq. ft.</td>
<td>White</td>
<td>ATU1000C</td>
</tr>
<tr>
<td>500 sq. ft. with photocell and isolated relay</td>
<td>White</td>
<td>ATU500CRP</td>
</tr>
<tr>
<td>500 sq. ft.</td>
<td>White</td>
<td>ATU500C</td>
</tr>
</tbody>
</table>

Note: All ATU ceiling sensors must use a CU series control units. See page 27 for details.

Passive Infrared
Outstanding long range major motion detection

<table>
<thead>
<tr>
<th>Description</th>
<th>Coverage</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide view lens</td>
<td>1500 sq. ft. with photocell and isolated relay</td>
<td>White</td>
<td>ATP1500CRP</td>
</tr>
<tr>
<td>Wide view lens</td>
<td>1500 sq. ft.</td>
<td>White</td>
<td>ATP1500C</td>
</tr>
<tr>
<td>High density lens</td>
<td>450 sq. ft. with photocell and isolated relay</td>
<td>White</td>
<td>ATP600CRP</td>
</tr>
<tr>
<td>High density lens</td>
<td>450 sq. ft.</td>
<td>White</td>
<td>ATP600C</td>
</tr>
</tbody>
</table>

Note: All ATP ceiling sensors must use a CU series control units. See page 27 for details.

Coverage Patterns

ATD2000C Series
ATD1000C Series
ATD500C Series
ATP1500C Series
ATP600C Series
ATU2000C Series
ATU1000C Series
ATU500C Series
Hallway Application
Ceiling Sensors
Line Voltage and Low Voltage

Line Voltage Ceiling Sensors
- Adjustable Time Delay/Sensitivity
- Self Contained Power Supply
- Reduced Installation Time
- Connect to Existing Line Voltage Circuits
- cULus, CEC Title 24 Certified

Dual Technology Passive Infrared/Ultrasonic
Combines the excellent minor motion detection of ultrasonic with the outstanding passive infrared (PIR) long-range major motion detection

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Coverage</th>
<th>Load Rating</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>120V AC</td>
<td>2000 sq. ft.</td>
<td>2400W</td>
<td>White</td>
<td>LVDT2000R120</td>
</tr>
<tr>
<td>277V AC</td>
<td>2000 sq. ft.</td>
<td>5000W</td>
<td>White</td>
<td>LVDT2000R277</td>
</tr>
</tbody>
</table>

Ultrasonic
Excellent minor motion detection. 32.7kHz operating frequency

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Coverage</th>
<th>Load Rating</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>120V AC</td>
<td>2000 sq. ft.</td>
<td>2400W</td>
<td>White</td>
<td>LVUS2000R120</td>
</tr>
<tr>
<td>277V AC</td>
<td>2000 sq. ft.</td>
<td>5000W</td>
<td>White</td>
<td>LVUS2000R277</td>
</tr>
<tr>
<td>120V AC</td>
<td>1500 sq. ft.</td>
<td>2400W</td>
<td>White</td>
<td>LVUS1500R120</td>
</tr>
<tr>
<td>277V AC</td>
<td>1500 sq. ft.</td>
<td>5000W</td>
<td>White</td>
<td>LVUS1500R277</td>
</tr>
</tbody>
</table>

Passive Infrared (PIR)
Outstanding long range major motion detection in a compact low profile housing

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Coverage</th>
<th>Load Rating</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>120-347V AC with photocell and isolated relay</td>
<td>1500 sq. ft.</td>
<td>800W Inc. 1000W Fl. @ 120V AC 1800W Fl. @ 277V AC 2200W Fl. @ 347V AC</td>
<td>White</td>
<td>LVPR1500R</td>
</tr>
</tbody>
</table>

Low Voltage Ceiling Sensor
- Adjustable Time Delay/Sensitivity
- Integral photocell control for Daylight Harvesting
- Compact Low Profile Minimizes Visual Impact
- Integrates into Building Automation Systems

Passive Infrared (PIR)
Outstanding long range major motion detection

<table>
<thead>
<tr>
<th>Description</th>
<th>Coverage</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Relay isolated relay</td>
<td>1500 sq. ft.</td>
<td>White</td>
<td>LVPR1500RP</td>
</tr>
</tbody>
</table>

Note: For use with building automation and HVAC systems, power with 24V DC from Hubbell CU series control units.
See page 27 for details.

Coverage Patterns

Major Motion: Ultrasonic PIR
Minor Motion: Ultrasonic PIR

LVDT2000R Series
LVUS2000R Series
LVUS1500R Series
LVPR1500RP
Wall Mount Sensors, Control Units and Accessories

Adaptive Technology Wall Mount Sensors
- Adaptive Technology - “Install and forget” operation
- Swivel mounting bracket included for wall or ceiling mounting
- All digital sensing technology
- Photocell for daylight harvesting and relay interface with auxiliary systems such as HVAC (RP models)
- 24V DC, 33MA
- cULus, CEC Title 24 Certified

Dual (Ultrasonic and Passive Infrared)

<table>
<thead>
<tr>
<th>Description</th>
<th>Coverage</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>32kHz, with photocell and isolated relay</td>
<td>1600 sq. ft.</td>
<td>White</td>
<td>ATD1600WRP</td>
</tr>
<tr>
<td>32kHz</td>
<td>1600 sq. ft.</td>
<td>White</td>
<td>ATD1600W</td>
</tr>
</tbody>
</table>

Passive Infrared

<table>
<thead>
<tr>
<th>Description</th>
<th>Coverage</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>With photocell and isolated relay</td>
<td>1600 sq. ft.</td>
<td>White</td>
<td>ATP1600WRP</td>
</tr>
<tr>
<td></td>
<td>1600 sq. ft.</td>
<td>White</td>
<td>ATP1600W</td>
</tr>
<tr>
<td>For aisle and high bay applications, with photocell and isolated relay</td>
<td>120 linear ft.</td>
<td>White</td>
<td>ATP120HBRP</td>
</tr>
<tr>
<td></td>
<td>120 linear ft.</td>
<td>White</td>
<td>ATP120HB</td>
</tr>
</tbody>
</table>

Note: All wall mount sensors must use a CU series control units. See below for details.

Accessories

Control Units
The CU300A provides a 24V DC power supply for 1 to 4 sensors or sensor/Add-A-Relay combinations or 1 to 3 for CU347A. The control units contain an internal relay for the control of an external lighting load. Control units are plenum rated cULus Listed.

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>120/277V AC, 50/60 Hz for use with ATD, ATU and ATP series ceiling/wall mount sensors</td>
<td>CU300A</td>
</tr>
<tr>
<td>Same as CU300A above, manufactured in U.S.A.</td>
<td>CU300AU</td>
</tr>
<tr>
<td>347V AC, 60 Hz, for use with ATD, ATU and ATP series ceiling and wall mount sensors</td>
<td>CU347A</td>
</tr>
</tbody>
</table>

Add-A-Relay
Hubbell AAR Add-A-Relay contains an internal relay for control of an external lighting load. The AAR requires a 24V DC power supply from the Hubbell CU series control unit. The AAR is typically used when: 1. It is desired to switch more than one circuit when occupancy is sensed. 2. The lighting load exceeds the maximum rating of the control unit.

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>For use with CU series control units and Hubbell ATD, ATU and ATP series ceiling and wall mount sensors</td>
<td>AAR</td>
</tr>
</tbody>
</table>

Ceiling Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling Sensor Infrared NEMA 4X Enclosure</td>
<td>ACIPE</td>
</tr>
<tr>
<td>Ceiling Mount Wire Guard</td>
<td>ACMG</td>
</tr>
<tr>
<td>Ceiling Mount Raceway Adapter</td>
<td>ACMRA</td>
</tr>
</tbody>
</table>

Wall Mount and Switch Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Switch Wire Guard</td>
<td>AWSG</td>
</tr>
<tr>
<td>Wall Mount Wire Guard</td>
<td>AWMG</td>
</tr>
</tbody>
</table>

Coverage Patterns

- Minor Motion: Ultrasonic  PIR
- Major Motion: Ultrasonic  PIR

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H-MOSS®
Hubbell Motion Sensing Switches
for an Energy Conscious World

OPTIMYZER™ High Bay Controls and Daylight Harvesting

OPTIMYZER™ High Bay Controls

- Digital passive infrared (PIR) sensor
- Multiple (single and dual) output versions
- Single and dual timer operation
- Low-profile design
- Supports mounting heights up to 40 ft.
- Area and aisle coverage
- Universal voltage (120/277/347V AC) models available
- No minimum load

Standard

<table>
<thead>
<tr>
<th>Description</th>
<th>Voltage</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent High Bay PIR Sensor, 1 Relay</td>
<td>120-347V AC</td>
<td>HMHB21U</td>
</tr>
<tr>
<td>Fluorescent High Bay PIR Sensor, 2 Relays</td>
<td>120-347V AC</td>
<td>HMHB22U</td>
</tr>
<tr>
<td>Fluorescent High Bay PIR Sensor, 1 Relay</td>
<td>208V AC</td>
<td>HMHB23A</td>
</tr>
<tr>
<td>Fluorescent High Bay PIR Sensor, 1 Relay</td>
<td>480V AC</td>
<td>HMHB23B</td>
</tr>
<tr>
<td>Fluorescent High Bay PIR Sensor</td>
<td>24V DC</td>
<td>HMHB2LV*</td>
</tr>
</tbody>
</table>

Daylight Harvesting (With Photocells)

<table>
<thead>
<tr>
<th>Description</th>
<th>Voltage</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent High Bay PIR Sensor, 1 Relay with Photocell</td>
<td>120-347V AC</td>
<td>HMHB21UP</td>
</tr>
<tr>
<td>Fluorescent High Bay PIR Sensor, 2 Relays with Photocell</td>
<td>120-347V AC</td>
<td>HMHB22UP</td>
</tr>
<tr>
<td>Fluorescent High Bay PIR Sensor, 1 Relay with Photocell</td>
<td>208V AC</td>
<td>HMHB23AP</td>
</tr>
<tr>
<td>Fluorescent High Bay PIR Sensor, 1 Relay with Photocell</td>
<td>480V AC</td>
<td>HMHB23BP</td>
</tr>
<tr>
<td>Fluorescent High Bay PIR Sensor with Photocell</td>
<td>24V DC</td>
<td>HMHB2LVP*</td>
</tr>
</tbody>
</table>

Low Temperature (-40°F, -40°C Min)

<table>
<thead>
<tr>
<th>Description</th>
<th>Voltage</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor, 1 Relay Universal No Photocell</td>
<td>120-347V AC</td>
<td>HMHB21UC</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor, 2 Relays Universal with Photocell</td>
<td>120-347V AC</td>
<td>HMHB21UPC</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor, 2 Relays Universal</td>
<td>120-347V AC</td>
<td>HMHB22UC</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor, 2 Relays Universal with Photocell</td>
<td>120-347V AC</td>
<td>HMHB22UPC</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor, 1 Relay Universal with Photocell</td>
<td>208V AC</td>
<td>HMHB23AC</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor, 1 Relay Universal with Photocell</td>
<td>208V AC</td>
<td>HMHB23APC</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor, 1 Relay Universal with Photocell</td>
<td>480V AC</td>
<td>HMHB23BC</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor, 1 Relay Universal with Photocell</td>
<td>480V AC</td>
<td>HMHB23BPC</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor</td>
<td>24V DC</td>
<td>HMHB2LVC*</td>
</tr>
<tr>
<td>Fluorescent High Bay Low Temp. PIR Sensor with Photocell</td>
<td>24V DC</td>
<td>HMHB2LVP*</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Bay Mounting Extension Adapter</td>
<td>HMHBSA</td>
</tr>
<tr>
<td>External Daylight Control</td>
<td>HMHBEP</td>
</tr>
</tbody>
</table>

Daylight Harvesting

- Multiple calibration options
- Selectable 3- or 8-second dimming rate
- Low-profile design
- Light-sensitivity range of 0–500 foot-candles

<table>
<thead>
<tr>
<th>Description</th>
<th>Voltage</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Zone Continuous Automatic Dimming Control</td>
<td>10V DC</td>
<td>DHADC</td>
</tr>
<tr>
<td>Indoor Photocell</td>
<td>24V DC</td>
<td>DHIP</td>
</tr>
<tr>
<td>Outdoor Photocell</td>
<td>24V DC</td>
<td>DHOP</td>
</tr>
<tr>
<td>Atrium Photocell</td>
<td>24V DC</td>
<td>DHAP</td>
</tr>
<tr>
<td>Skylight Photocell</td>
<td>24V DC</td>
<td>DHSP</td>
</tr>
<tr>
<td>Control Module</td>
<td>24V DC</td>
<td>DHCM</td>
</tr>
</tbody>
</table>

Note: * For use with CU series control units. See page 27 for details.
† For use with 0-10V DC dimming ballasts.
▲ For use with DHCM and CU series control units.
Specifications and Wiring Schematics

Dual Technology and Ultrasonic Wall Switches

Adaptive Dual Technology Wall Switch
AD1277 Series Wall Switches

<table>
<thead>
<tr>
<th>Electrical</th>
<th>AD1277 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>120/277V AC, 50/60Hz</td>
</tr>
<tr>
<td>Load Capacity</td>
<td></td>
</tr>
<tr>
<td>Incandescent</td>
<td>0 to 800 watts</td>
</tr>
<tr>
<td>120V AC Ballast</td>
<td>0 to 1000 watts</td>
</tr>
<tr>
<td>277V AC Ballast</td>
<td>0 to 1800 watts</td>
</tr>
<tr>
<td>Agency Approvals</td>
<td>cULus Listed</td>
</tr>
</tbody>
</table>

Physical

| Housing | High impact plastic (UL-94-5V) |
| Lens | Dual element pyrometer and 12 element cylindrical hard lens |
| Dimensions | Face 2.59"H x 1.73"W, 0.37"D (from wall out) |
| Mounting Height | 42 to 54 inches above floor |

Environmental

| Operating | 32°F to 104°F (0°C to 40°C); 0% to 95% non-condensing relative humidity |

Controls

| Time Delay | Digital, adaptive 4 to 30 minutes |
| Ambient Light | Adjustable ambient light override, 10 to 500 foot candles |
| Front Press Switch | Auto/Off |
| Sensitivity | Adaptive 0% to 100% |
| Service Switch | Air gap off |

Sensing Indicator

| Passive Infrared | Red LED |
| Ultrasonic | Green LED |

Adaptive Technology Ultrasonic

and Passive Infrared Wall Switches

<table>
<thead>
<tr>
<th>Electrical</th>
<th>AP1277 and AU1277 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>120/277V AC, 50/60Hz</td>
</tr>
<tr>
<td>Load Capacity</td>
<td></td>
</tr>
<tr>
<td>Incandescent</td>
<td>0 to 800 watts</td>
</tr>
<tr>
<td>120V AC Ballast</td>
<td>0 to 1000 watts</td>
</tr>
<tr>
<td>277V AC Ballast</td>
<td>0 to 1800 watts</td>
</tr>
<tr>
<td>Agency Approvals</td>
<td>cULus Listed</td>
</tr>
</tbody>
</table>

Physical

| Housing | High impact plastic (UL-94-5V) |
| Lens | Dual element pyrometer and 12 element cylindrical hard lens (AP1277 only) |
| Dimensions | Face 2.59"H x 1.73"W, 0.37"D (from wall out) |
| Mounting Height | 42 to 54 inches above floor |

Environmental

| Operating | 32°F to 104°F (0°C to 40°C); 0% to 95% non-condensing relative humidity |

Controls

| Time Delay | Digital, adaptive 4 to 30 minutes |
| Ambient Light | Adjustable ambient light override, 10 to 500 foot candles |
| Front Press Switch | Auto/Off |
| Sensitivity | Adaptive 0% to 100% |
| Service Switch | Air gap off |

Sensing Indicator

| Passive Infrared | Red LED (AP1277 only) |
| Ultrasonic | Green LED (AU1277 only) |

Wiring Schematic AD, AU, AP, 1277 Series Wall Switch Sensors

Single Circuit Wiring

120/277 VAC
Red Load 1
Green Ground

Dual Circuit Sensor, Wired for Dual Circuits

Line circuit 1
120/277 VAC
Black Load 1
Green Ground
Red Load 2
Blue Line circuit 2
120/277 VAC
Violet

Single Circuit Sensors, Wired as 3-Way Sensors*

Ground Neutral
Green
Hot
Black Red
Lighting Load A

Dual Circuit Sensors, Wired as 3-Way Sensors*

Ground Neutral
Green
Hot
Black Red
Lighting Load A
Blue
Lighting Load B
Violet

Note: * Load can not exceed the rating of one switch.
Sensor is shipped with all dip switches in the OFF position (factory default).
Specifications and Wiring Schematics
Passive Infrared Wall Switches

Adaptive Technology PIR Wall Switch
AT1277 Series, ATP1277 and WS1277 Series Wall Switches

<table>
<thead>
<tr>
<th>Specifications</th>
<th>AT1277 Series</th>
<th>ATP1277 Series</th>
<th>WS1277</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>120/277V AC, 60Hz</td>
<td>120/277V AC, 60Hz</td>
<td>120/277V AC, 60Hz</td>
</tr>
<tr>
<td>Load Capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incandescent</td>
<td>NA</td>
<td>0 to 800 watts</td>
<td>0 to 800 watts</td>
</tr>
<tr>
<td>120V Ballast</td>
<td>0 to 1800 watts</td>
<td>0 to 800 watts</td>
<td>0 to 800 watts</td>
</tr>
<tr>
<td>277V Ballast</td>
<td>0 to 4155 watts</td>
<td>0 to 1200 watts</td>
<td>0 to 1200 watts</td>
</tr>
<tr>
<td>Agency Approvals</td>
<td>UL Listed, cULus Certified</td>
<td>UL Listed, cULus Certified</td>
<td>UL Listed, cULus Certified</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td>Flame retardant UL 94 V-0 ABS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lens</td>
<td>Polyethylene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>Face 2.61&quot;H x 1.29&quot;W, 0.73&quot;D (from wall out)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting Height</td>
<td>42 to 54 inches above floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>32°F to 122°F (0°C to 50°C) with rate of change not exceeding 20°F (11°C) per hour; 20% to 90% non-condensing relative humidity</td>
<td>32°F to 122°F (0°C to 50°C) with rate of change not exceeding 20°F (11°C) per hour; 20% to 90% non-condensing relative humidity</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>-20°F to 150°F (-29°C to 65°C); 20% to 90% non condensing relative humidity</td>
<td>-40°F to 150°F (-40°C to 65°C); 20% to 90% non condensing relative humidity</td>
<td></td>
</tr>
<tr>
<td><strong>Controls</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Delay</td>
<td>Digital, test (15 seconds), Adaptive 5 to 30 minutes</td>
<td>Digital, test (20 seconds), Adaptive 5 to 30 minutes</td>
<td>Manual 20 seconds to 30 minutes</td>
</tr>
<tr>
<td>Ambient Light</td>
<td>Digital, pushbutton, 30 to 300 foot candles</td>
<td>Digital, pushbutton, 30 to 300 foot candles</td>
<td>Digital, pushbutton, 30 to 300 foot candles</td>
</tr>
<tr>
<td>Front Press Switch</td>
<td>Auto/Momentary Off (30 minutes after last motion, switch returns to automatic mode)</td>
<td>Auto/Momentary Off (30 minutes after last motion, switch returns to automatic mode)</td>
<td>Auto/Momentary Off (30 minutes after last motion, switch returns to automatic mode)</td>
</tr>
<tr>
<td>Service Switch</td>
<td>Auto/Off</td>
<td>Auto/Off</td>
<td>Auto/Off</td>
</tr>
<tr>
<td>Sensing Indicator</td>
<td>Passive Infrared 2-color LED (red, green)</td>
<td>Red LED</td>
<td>Red LED</td>
</tr>
</tbody>
</table>

Wiring Schematic AT1277, ATP1277 and WS1277 Series Wall Switches

Normal Wiring

Sensors Wired as 3-Way Sensors*

Note: * Load can not exceed the rating of one switch.
## Specifications and Wiring Schematics
### Passive Infrared Wall Switches

**WS120 Series, WS277 Series, WS1277W2, RMS140 Series and RMS141 Series**

<table>
<thead>
<tr>
<th>Specification</th>
<th>WS120 Series</th>
<th>WS277 Series</th>
<th>RMS140/141 Series</th>
<th>WS1277W2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>120V AC, 60Hz</td>
<td>277V AC, 60Hz</td>
<td>120/277V AC, 50/60Hz, 1/6 HP</td>
<td>120/277V AC, 60Hz</td>
</tr>
<tr>
<td>Load Capacity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incandescent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120V Ballast</td>
<td>0 to 800 watts</td>
<td>NA</td>
<td>800 watts</td>
<td>0 to 600 watts ea circuit</td>
</tr>
<tr>
<td>277V Ballast</td>
<td>0 to 1000 watts</td>
<td>NA</td>
<td>0 to 1000 watts each fluorescent circuit</td>
<td>0 to 1000 watts ea circuit</td>
</tr>
<tr>
<td><strong>Agency Approvals</strong></td>
<td>UL Listed, cULus Certified</td>
<td>UL Listed, cULus Certified</td>
<td>UL Listed, cULus Certified</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Physical</strong></th>
<th>WS120/WS277 Series</th>
<th>RMS140/141 Series</th>
<th>WS1277W2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>High-impact ABS</td>
<td>High-impact ABS</td>
<td>High-impact ABS</td>
</tr>
<tr>
<td>Lens</td>
<td>Polyethylene</td>
<td>Polyethylene</td>
<td>Polyethylene</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Face 2.6&quot;H x 1.3&quot;W, 0.51&quot;D (from wall out)</td>
<td>Face 2.6&quot;H x 1.3&quot;W, 0.36&quot; (from wall out)</td>
<td>Face 4.54&quot;H x 2.79&quot;W, 0.95&quot;D (from wall out)</td>
</tr>
<tr>
<td>Mounting Height</td>
<td>42 to 54 inches above floor</td>
<td>42 to 54 inches above floor</td>
<td>42 to 54 inches above floor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Environmental</strong></th>
<th>WS120/WS277 Series, WS1277W2 and RMS140/141 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td>32°F to 122°F (0°C to 50°C) with rate of change not exceeding 20°F (11°C) per hour; 20% to 90% noncondensing relative humidity</td>
</tr>
<tr>
<td>Storage</td>
<td>-40°F to 150°F (-40°C to 65°C); 20% to 90% noncondensing relative humidity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Controls</strong></th>
<th>WS120/WS277 Series and RMS140/141 Series</th>
<th>WS1277W2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Delay</td>
<td>30 seconds to 30 minutes</td>
<td>30 seconds to 30 minutes</td>
</tr>
<tr>
<td>Switch</td>
<td>Auto/Off (Front Press)</td>
<td>Auto/Off (Front Rocker)</td>
</tr>
<tr>
<td>Manual Override Bypass</td>
<td>Override ON key provided</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sensing Indicator</strong></th>
<th>WS120/WS277 Series, WS1277W2 and RMS140/141 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive Infrared</td>
<td>Red LED</td>
</tr>
</tbody>
</table>

### Wiring Schematic

**WS120, WS277 and RMS Series Wall Switches**

**Normal Wiring**

```
Hot  Blue  SW-2
  Green  Red  SW-1
  Black  Black

Neutral
```

**Sensors Wired as 3-Way Sensors**

```
Hot  Blue  SW-2
  Green  Red  SW-1
  Black  Black

Neutral
```

### Wiring Schematic

**WS1277W2 Wall Switch**

**Dual Level Switching of a Single Circuit**

```
Line (Hot)  Blue  SW-2
  Green  Red  SW-1
  Black  Black

Neutral
```

**Dual Level Switching of Two Circuits**

```
Line (Hot) Circuit #1  Blue  SW-2
  Green  Red  SW-1
  Black  Black

Neutral
```

```
Line (Hot) Circuit #2  Blue  SW-2
  Green  Red  SW-1
  Black  Black

Neutral
```
## Specifications
### Ceiling and Wall Mount Sensors
#### ATD, ATU, ATP Series Ceiling and Wall Mount Sensors

**Electrical**
- **Power Requirements**: 24V DC nominal, 33mA from Hubbell CU series control unit
- **Isolated Relay**: Normally open and normally closed (sensors with RP suffix)
- **Agency Approvals**: UL Listed

<table>
<thead>
<tr>
<th>Physical</th>
<th>Ceiling Sensors</th>
<th>Wall Mount Sensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>Flame retardant UL 94 V-0 ABS</td>
<td>Flame retardant UL 94 V-0 ABS</td>
</tr>
<tr>
<td>Lens</td>
<td>Polyethylene</td>
<td>Polyethylene</td>
</tr>
<tr>
<td>Dimensions</td>
<td>1.5’H x 4.5”D</td>
<td>6”H x 2”W x 1.5”D</td>
</tr>
<tr>
<td>Color</td>
<td>Office white</td>
<td>Office white</td>
</tr>
<tr>
<td>Mounting Height</td>
<td>8 to 12 feet</td>
<td>8 to 12 feet, 8 to 30 feet (ATP120HB series)</td>
</tr>
</tbody>
</table>

**Environmental**
- **Operating**: 32°F to 104°F (0°C to 40°C) with rate of change not exceeding 20°F (11°C) per hour; 0% to 95% non condensing relative humidity.
- **Storage**: -20°F to 150°F (-29°C to 65°C); 0% to 95% non-condensing relative humidity.

**Controls**
- **Time Delay**: Test (8 seconds), adaptive 8 to 40 minutes.
- **Ambient Light**: 1 to 1000 foot candles.
- **Sensitivity**: Adaptive 0 to 100%.

<table>
<thead>
<tr>
<th>Sensing Indicators</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasonic (ATD and ATU Series)</td>
<td>Green LED.</td>
</tr>
<tr>
<td>Passive Infrared (ATD and ATP Series)</td>
<td>Red LED.</td>
</tr>
</tbody>
</table>

### High Bay Specifications
#### HMHB21U, HMHB22U

**Electrical**
- **Power Requirements**: Line voltage units: 120/277/347V AC, 60Hz.
- **Load Capacity**: 120V AC: 0–800W ballast or tungsten
  - 277V AC: 0–1,200W ballast
  - 347V AC: 0–1,500W ballast
- **¾-HP motor load**
- **Agency Approvals**: ETL, Conforms to UL STD 916, Certified to CAN/USA STD 22.2 No. 61010-1-04 and Title 24 Compliant

<table>
<thead>
<tr>
<th>Physical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing</td>
<td>High-impact injection-molded plastic</td>
</tr>
<tr>
<td>Size</td>
<td>4.4 inch x 3.6 inch x 2.0 inch</td>
</tr>
<tr>
<td>Weight</td>
<td>7 oz.</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Mounting</td>
<td>Fixture mount</td>
</tr>
</tbody>
</table>

**Environmental**
- **Operating**: Indoor use only
  - 32°F to 104°F (0°C to 40°C) with rate of change not exceeding 20°F (11°C) per hour; 0% to 95% noncondensing relative humidity.
- **Storage**: -20°F to 150°F (-29°C to 65°C); 0% to 95% non-condensing relative humidity.

**Controls**
- **Time Delay**
  - **Primary**: 8-second test mode – 4, 8, 16 and 30 minute time-outs
  - **Secondary**: Can be disabled – 30, 60 and 90 minute time-outs
## Specifications and Wiring Schematics
### Control Units and Add-A-Relay

### CU Series Control Units
CU300A(U) and CU347A

<table>
<thead>
<tr>
<th>Electrical</th>
<th>CU300A(U)</th>
<th>CU347A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>120 to 277V AC, 50/60Hz</td>
<td>347V AC, 60Hz</td>
</tr>
<tr>
<td>Power Output</td>
<td>24V DC, 150mA</td>
<td>24V DC, 100mA</td>
</tr>
<tr>
<td>Load Capacity Incandescent</td>
<td>0 to 1800 watts</td>
<td>NA</td>
</tr>
<tr>
<td>120V Ballast</td>
<td>0 to 2400 watts</td>
<td>NA</td>
</tr>
<tr>
<td>230V Ballast</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>277V Ballast</td>
<td>0 to 5540 watts</td>
<td>NA</td>
</tr>
<tr>
<td>347V Ballast</td>
<td>NA</td>
<td>0 to 5205 watts</td>
</tr>
<tr>
<td>AT Sensor/AAR Capacity</td>
<td>1 to 4 combined</td>
<td>1 to 3 combined</td>
</tr>
<tr>
<td>Agency Approvals</td>
<td>UL Listed, cULus Certified</td>
<td>UL Listed, cULus Certified</td>
</tr>
</tbody>
</table>

### Physical
- **Housing**: Flame retardant UL 94-5V thermoplastic
- **Dimensions**: 3.69”L x 2.33”W x 1.36”H
- **Color**: Black

### Environmental
- **Operating**: 32°F to 104°F (0°C to 40°C); 0% to 90% non condensing relative humidity
- **Storage**: -20°F to 150°F (-29°C to 65°C); 0% to 90% non condensing relative humidity

### Add-A-Relay
**AAR**

<table>
<thead>
<tr>
<th>Electrical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Input</td>
<td>24V DC nominal, 33mA from Hubbell CU series control unit.</td>
</tr>
<tr>
<td>Load Capacity Incandescent</td>
<td>0 to 1800 watts</td>
</tr>
<tr>
<td>120V Ballast</td>
<td>0 to 2400 watts</td>
</tr>
<tr>
<td>230V Ballast</td>
<td>0 to 3680 watts</td>
</tr>
<tr>
<td>277V Ballast</td>
<td>0 to 5540 watts</td>
</tr>
<tr>
<td>347V Ballast</td>
<td>0 to 5205 watts</td>
</tr>
<tr>
<td>Agency Approvals</td>
<td>UL Listed</td>
</tr>
</tbody>
</table>

### Physical
- **Housing**: Flame retardant UL 94-5V thermoplastic
- **Dimensions**: 3.69”L x 2.33”W x 1.36”H
- **Color**: Black

### Environmental
- **Operating**: 32°F to 104°F (0°C to 40°C); 0% to 90% non condensing relative humidity
- **Storage**: -20°F to 150°F (-29°C to 65°C); 0% to 90% non condensing relative humidity

www.hubbell-wiring.com
Wiring Schematics
Ceiling and Wall Mount Sensors

Adaptive Dual Technology, Ultrasonic, and Passive Infrared Ceiling and Wall Mount Sensors
ATD, ATU and ATP Series Ceiling and Wall Mount Sensors

Single Circuit Application:
1 to 4 sensors wired to control unit with optional override off switch.

Two Circuit Application:
1 to 4 sensors wired to control unit and Add-A-Relay (control unit switches circuit 1, Add-A-Relay switches circuit 2).

Single Circuit Application:
Two control units wired in parallel to operate 5 to 8 sensors in a single zone. Maximum 4 sensors per control unit any sensor will activate lighting.

Two Circuit Application:
Two control units wired in two circuits to operate 2 to 8 sensors in a single zone. Maximum 4 sensors per control unit any sensor will activate both lighting loads.

** For wiring sensors with isolated relay and photocell option (models with “RP” suffix): Photocell Option: Cap off Blue sensor wire. Connect Grey sensor wire to Blue control unit wire. Isolated Relay Option: Common-Blue/White wire, Normally Closed-Black/White wire, Normally Open-Yellow/White wire.
Wiring Schematics
Ceiling and Wall Mount Sensors

Adaptive Technology Dual, Ultrasonic, and Passive Infrared Ceiling and Wall Mount Sensors
ATD, ATU and ATP Series Ceiling and Wall Mount Sensors

Single Circuit, Dual Level Switching Application:
1 to 4 sensors wired to control unit with optional override off switches.

Single Circuit, 3-Way Switching Application:
1 to 4 sensors wired to control unit with optional override off switches.

Multi-Circuit Application:
1 to 4 sensors wired to control unit that is wired to a multi-pole lighting contactor.

Single Circuit, 4-Way Switching Application:
1 to 4 sensors wired to control unit with optional override off switches.

** For wiring sensors with isolated relay and photocell option (models with “RP” suffix): Photocell Option: Cap off Blue sensor wire. Connect Grey sensor wire to Blue control unit wire. Isolated Relay Option: Common-Blue/White wire, Normally Closed-Black/White wire, Normally Open-Yellow/White wire.