





Commercial occupancy sensors and controls for every application

Occupancy sensors maximize energy savings by ensuring that lights are turned off when spaces are unoccupied.

WattStopper’s sensors provide convenient automatic-on or manual-on control and are packed with innovative features and options. Many models are available in line or low voltage for flexibility in placement and wiring. Sensors use passive infrared, ultrasonic and WattStopper’s patented dual technology.

Additional controls, including plug load controls, time switches and hotel card-key switches, round out this comprehensive product line.



Sensors use passive infrared, ultrasonic and dual technology

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Occupancy sensors return maximum energy savings and more

Because occupancy sensors ensure that lighting is only on when people are present, energy savings with sensors exceed savings provided by other control solutions.

Meet energy codes with WattStopper Occupancy Sensors

WattStopper, the pioneer of energy-efficient lighting controls, continues to develop new sensors that not only save energy, but facilitate achieving multiple design goals.

Energy code compliance

Automatic-on or manual-on occupancy sensors meet the automatic-off requirement of all major energy codes, including ASHRAE 90.1 (2007 and earlier), IECC and California's Title 24.

ASHRAE 90.1-2010 includes new requirements for manual-on control, or automatic-on to not more than 50%, and WattStopper offers a wide range of compliant sensors.



Sustainable design

Employing occupancy sensors beyond the requirements of energy codes provides greater energy savings, contributing to sustainable building practices. By optimizing a building's energy performance, design teams can earn points for LEED certification.

Lighting tax deduction

Using occupancy sensors can help building owners earn a Commercial Building Tax Deduction (CBTD) under the Energy Policy Act of 2005 (EPAAct). To qualify, a building must exceed the energy performance required by reference codes. In 2009, the EPAAct program was extended until 2013.

| Actual energy savings attributed to occupancy sensor installation | |
|---|-----------------------------|
| Application | Range of documented savings |
| Break Room | 17-29% |
| Classroom | 36-52% |
| Conference Room | 22-65% |
| Private Office | 25-50% |
| Restroom | 30-75% |

Sources: U.S. Environmental Protection Agency (EPA), Lighting Research Center (LRC) and California Energy Commission (CEC) publications.



Safety and convenience

WattStopper has refined its sensing technologies and manufacturing techniques to provide superior performance, from instant on response to product reliability and longevity. This attention to detail ensures security as well as occupant comfort and satisfaction for years to come.

Compatible with all standard lighting types

Our sensors work with every standard commercial lighting type, enabling you to bring savings to every application.

Lighting control best practices

As occupancy sensor use has become mainstream, engineers, code developers and researchers have learned a great deal about how to increase energy savings while also improving occupant comfort. Cutting edge designs now employ bi-level switching coupled with manual-on control, and most WattStopper products include this functionality.

Bi-level automatic-on control

Bi-level switching has the potential to save energy by enabling occupants to use just as much lighting as needed, and is required by EAct and California's Title 24.



Bi-level automatic-on control delivers the greatest savings. This is when one zone is turned on automatically and the other zone must be turned on manually.

This strategy has been shown to use 52% less energy than automatic-on occupancy sensors. And, most occupants are comfortable working in lower lighting levels — a win-win for workers and energy managers.*

*Based on California Lighting Technology Center research

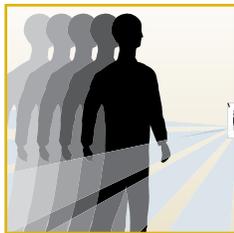


Choice of technologies and features ensure optimal performance

By expanding its already extensive line of commercial sensors, WattStopper gives engineers and facility managers more control options than ever before, offering sensors that are the best fit for any application.

Sensors featuring **PIR, ultrasonic or dual technology** are ideally suited to different applications.

Passive infrared (PIR) technology detects occupancy by sensing the difference between heat emitted from a human body in motion and the background space. Relying on a clear line of sight, PIR sensors feature precise cut-off of coverage.



Ultrasonic technology works by transmitting ultrasonic sound waves throughout an area and measuring the speed at which they return. Occupant movements change the frequency of the waves. Ultrasonic sensors can detect movement around partitions.



WattStopper invented and patented dual technology, which combines PIR and ultrasonic detection. Dual technology sensors ensure maximum sensitivity and coverage for hard to sense spaces for optimal reliability and energy savings.



Low-profile sensors leave any space clean and uncluttered.

Next-generation sensors feature fixed or plug-in wiring **terminals for fast, easy installation.**



Most sensors support **manual-on or automatic-on** operation, and most single relay wall switch sensors now default to manual-on.

A choice of **single or dual relay** sensors allows control of one or two zones of lighting from a single-gang box, potentially reducing wall clutter and simplifying retrofits.

Multi-way sensors enable true three- and four-way lighting control in rooms with more than one entrance, or any area with multiple switch locations.

Line and **low voltage** models are available to accommodate the special wiring needs of different applications.

Selectable **fixed time delays** help installers maximize savings while eliminating the callbacks associated with an automatically adjusted delay option.

Integral **nightlighting** with field-selectable color and intensity serves to gently illuminate enclosed spaces or provide a sense of security and preserve night vision in hotel guest bathrooms.

WattStopper occupancy sensors also feature:

- Zero crossing circuitry
- Test mode, walk-through and service modes
- Audible and/or visual shutoff warnings
- Light level sensor
- Selectable trigger mode (dual technology)
- Color matched lens



Applying Occupancy Sensors

PIR best applications

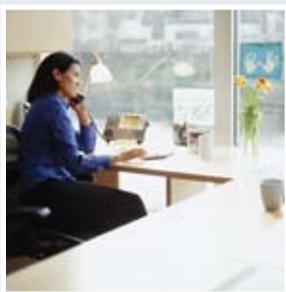
- Small offices
- Warehouses
- High ceiling locations
- Library bookstacks or other aisles
- Common areas
- Lobbies
- Computer rooms

Ultrasonic best applications

- Restrooms
- Open office spaces
- Enclosed hallways
- Stairways

Dual technology best applications

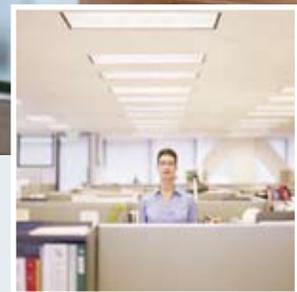
- Classrooms
- Large conference rooms
- Large offices
- Lunch rooms



In **offices** where the wall switch has a complete view of the work space, replace the switch with a passive infrared wall switch sensor. Take advantage of the built-in light level feature to keep lights off when ample daylight is present.



Control lighting in **restrooms** with ultrasonic sensors and eliminate hours of unneeded on-time. Ceiling-mounted ultrasonics can sense motion around restroom stalls for reliable coverage.



In **open or partitioned offices**, use ultrasonic or dual technology sensors. Placed on the ceiling, these sensors cover the area in zones that overlap.



TIP!

Combine occupancy sensors with other controls such as lighting control panels or daylighting controls. **Layering control strategies** can help you meet energy codes and sustainability guidelines as well as maximize energy savings.



In large **conference rooms**, occupants may be still for long periods of time. Dual technology sensors will be able to detect small motions and keep lights on as long as the space is occupied.



Spaces such as **copy rooms** are ideal for occupancy-based control, with a passive infrared sensor placed in the corner of the ceiling or as a wall switch replacement. Hours of wasted lighting energy can be saved each day.



In **warehouses**, a passive infrared sensor mounted to the ceiling or a fixture will control aisleway lighting so that lights in unoccupied areas will turn off or turn to a lower level. Users can achieve this control with fluorescent as well as HID lighting.



Designing with Occupancy Sensors

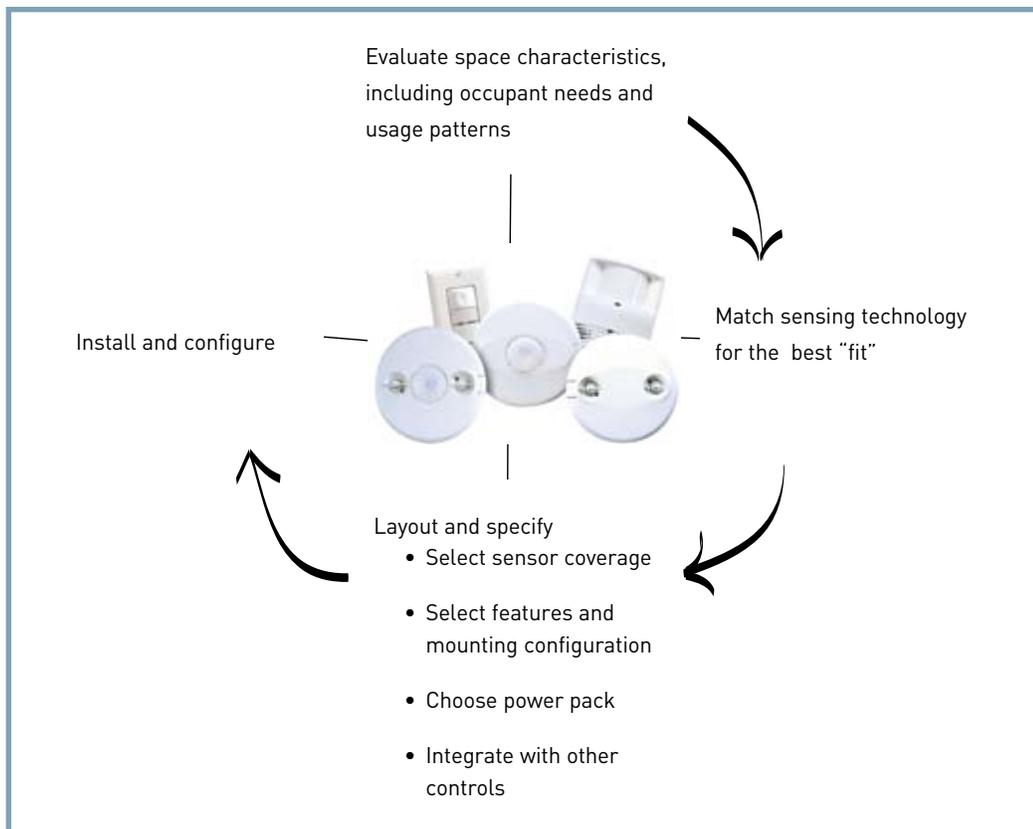
Is occupancy sensing the appropriate control strategy?

Certain usage patterns are particularly suited to occupancy-based control. If you answer “Yes” to some or all of these questions, occupancy sensors are a viable control choice.

- Are there periods of time when the space is unoccupied?
- Is energy wasted due to lights being left on when no one is present?
- Are lights left on after business hours?
- Is the space intermittently used?



- Can lights (or portions of lighting) be turned off during the day?





1. Evaluate space characteristics

Evaluate space characteristics, especially the following qualities, because these will influence sensor product selection:

- Room/space dimensions and shape
- Location of main occupant activity
- Location of walls, doors, windows and drapes
- Ceiling height, partition height and location
- Location of shelves, file cabinets and large equipment
- Large objects that could block or alter a sensor's coverage
- Location of HVAC ducts and fans
- Availability of daylight for added light level sensing

- Location of desk/workspace; orientation with regard to walls, etc.
- Special attention to high levels of air flow/vibration, extreme temperature conditions, unusually low levels of activity

From The Tool Box:

Auditing tools such as the IT-200 IntelliTimer Pro

Logger can help identify the energy saving potential in specific spaces. The IT-200 clips onto the ceiling and tracks when the space is vacant/occupied and when the lights are on/off. Download the data to a PC and generate a report to find out the savings potential (See pages C113-C114).





Designing with Occupancy Sensors

2. Choose sensing technology

Select the sensing technology that best “fits” the space characteristics of the application.



| Occupancy sensor matrix | | | | |
|-------------------------|-----------------------------|-----------------------------------|--|---|
| | Technology/ Product type | Coverage type | Compatible application characteristics | Incompatible application characteristics |
| PIR | wall switches | - line of sight - clear cutoff | - smaller, enclosed spaces | - very low motion levels by occupants - obstacles blocking sensor view |
| | ceiling/wall sensors | - line of sight - clear cutoff | - spaces where the sensor has a view of the activity | - very low motion levels by occupants - obstacles blocking sensor view |
| Ultrasonic | wall switches | - no clear cutoff | - smaller, enclosed spaces | - high level of air flow |
| | ceiling sensors | - volumetric - no clear cutoff | - open spaces - spaces with obstacles | - high ceilings - high levels of vibration or air flow |
| Dual Technology | wall switches | - complete coverage | - spaces with low or variable motion levels by occupants | - high level of air flow |
| | ceiling/wall sensors | - complete coverage | - spaces with low or variable motion levels by occupants | - high levels of air flow |



3. Layout and specify the project

Coverage pattern

Once the technology choice is made, many different coverage sizes and shapes are available. See the product matrix on pages C19-C20 to identify which WattStopper sensors are recommended for the application. Then see product cut sheets for detailed drawings of each sensor's coverage patterns.

Keep in mind whether occupants will be engaged in major motions, such as walking, or minor motions, such as computer work or reading. Coverages change depending on motion type. You also need to remain aware of cutoff needs. An enclosed room has different needs than an open office area.

Sensor coverage tested according to NEMA guidelines

WattStopper truly believes repeatability and uniformity in testing is important to producing quality products for our customers. Therefore, we closely adhere to the recommended methods for testing all our sensors' coverage patterns as described in Guide Publication WD 7-2000 from the National Electrical Manufacturers Association (NEMA).



This guide, which promotes uniformity for the definition and measurement of characteristics relevant to the use and application of occupancy sensors, characterizes minor and major motion as the two basic types of testing coverage patterns. It defines minor motion as the movements of a person sitting at an office desk reaching for a telephone, turning the pages of a book, opening a file folder or picking up a coffee cup and major motion as the movement of a person walking through an area.



Designing with Occupancy Sensors

Features

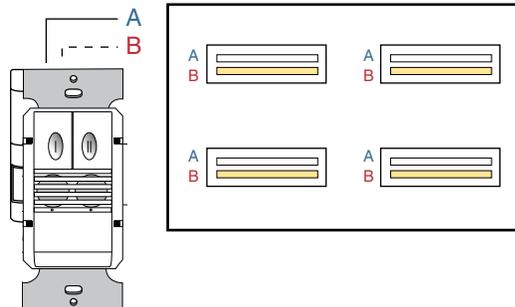
We've developed different sensor features so you can select the right combination for your applications. Consider the benefits of the following features for your project.



| Occupancy sensor features | |
|---------------------------|---|
| Feature | Benefit |
| Isolated Relay | Enables interfacing with a facility's HVAC, BAS or monitoring system |
| Light Level Sensing | Increased energy savings in areas with abundant natural light |
| Terminal Wiring | Simplified installation |
| Manual-ON/Auto-ON | Options to meet code and maximize energy savings for different applications |
| Dual Relays | Enables occupancy-based bi-level switching for increased energy savings and code compliance |
| Zero Crossing | Reduced stress on sensor relay and increased sensor life |
| Low Voltage | Flexibility in wiring |
| Line Voltage | No need for power pack |
| Walk-through Mode | Increased energy savings by turning lights off after transient occupancy |
| Alerts | Visual or audible warning of impending shutoff |
| Multi-way Capability | Facilitates control in spaces with multiple entrances |
| Dimming | Added energy savings and comfort |
| Nightlight | Added comfort and safety |

TIP!

Bi-level lighting control from a single switch can facilitate compliance with some codes. This is accomplished using a wall switch sensor with dual relays.





Mounting configuration

Some sensors are recommended for ceiling mount use, such as the CI series, W series, WT series, UT series, and WPIR. Others, such as the CX and DT-200 can

either be ceiling or wall mounted. This is important for applications where one of the surfaces may be unsuitable for sensor installation.

Wall switches

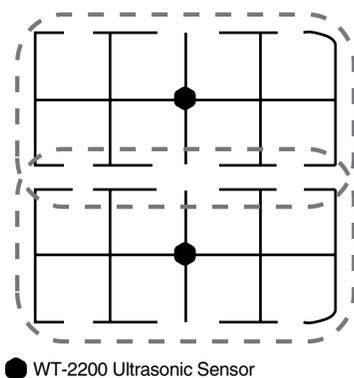
- Replace existing wall switches
- Utilize PIR, Ultrasonic and Dual Technology
- Best suited to small enclosed offices or rooms
- Give users manual control via the pushbutton
- PW/UW/DW single relay sensors default to manual-on; dual relay sensors default to auto-on to 50% for maximum energy savings

Ceiling or wall mount sensors

- Flexibility in sensor mounting facilitates broader coverage for most applications
- Low voltage sensors require power packs; line voltage options available
- Choice of sensing technologies, range of features and coverage patterns
- Can offer manual control

TIP!

Expand sensor coverage of large spaces by creating control zones. Link multiple sensors together to control lighting in a coordinated way. When creating zones of coverage, take care to ensure that individual sensor coverages overlap by 10-20%, as illustrated here.



● WT-2200 Ultrasonic Sensor



Designing with Low Voltage Occupancy Sensors

Choose power packs

Power packs are a key component of most occupancy sensor projects, providing power to low voltage sensors and other control devices, responding to signals from those devices and switching relays to control connected loads.

See pages C83 to C97 for power pack product information.

Power packs can also provide advanced features such as switched inputs, inputs for scheduling, and dimming control. Think about these factors when choosing a power pack:

Voltage

When selecting a power pack, consider the voltage of the electrical systems. Pay attention to the input ratings of the power pack.

Low voltage output needs

Be sure the power pack provides enough current to power all of the connected devices.

Relay ratings

Power packs have specific ratings for different load types (i.e., incandescent, fluorescent, motor). Make sure the relay is rated for the type of load to be controlled and the load being switched does not exceed the load rating of the power pack.



Relay type

The power pack relay is vital. Many power packs feature an isolated relay that offers greater switching flexibility in some applications. Some power packs also have different types of relays so a project designer can implement customized switching (i.e., increased switching flexibility with a form C relay, two or more isolated relays, or smaller, low voltage rated relays used to signal other systems such as security or HVAC systems).



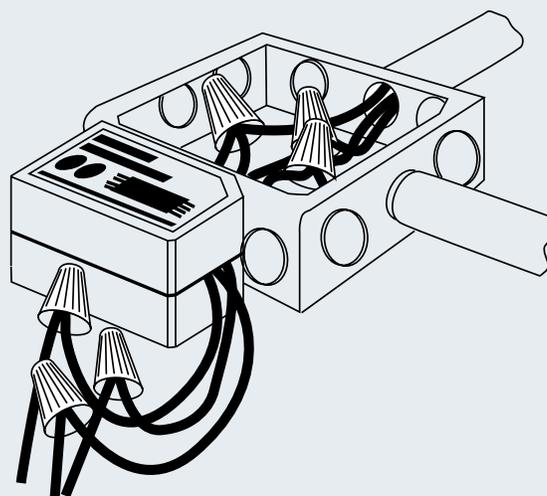


Mounting options

Power packs are often mounted to the outside of a junction box, placing them in the plenum space, so make sure the power pack is plenum rated. Smaller power packs can be installed inside a standard junction box.

Signaling from multiple devices

Intelligent power packs provide inputs so that multiple control devices can be connected. This enables customization of control scenarios for different applications and end user preferences. Use intelligent power packs when multi-device, manual switching, and dimming applications are desired.



TIP!

To protect against the potentially damaging effects of high inrush current common in newer electronic ballasts, select power packs with zero crossing.



Designing with Occupancy Sensors

Integrating occupancy sensors with other controls

For increased flexibility and energy savings, occupancy sensors seamlessly integrate with many lighting controls.

Lighting control panels

Integrating occupancy sensors with lighting control panels provides convenience and savings benefits. Rather than the panel's system clock signalling all lights to turn off at a specific time, occupancy sensor control takes over during after hours. Here, lights remain on only in spaces that are occupied, and turn off after the space is vacated.

Daylighting controls

Occupancy sensors also integrate well with daylighting controls in building spaces that receive daylight. When used together, the occupancy sensors can keep lights off in unoccupied spaces, even when the daylighting controls signal that there is not adequate daylight and would otherwise turn lighting on.



TIP!

Digital Lighting Management (DLM) products are also recommended for projects incorporating layered control strategies. DLM can simplify installation and configuration. See Section A for information on DLM.



4. Install the sensors

When installing sensors, contractors should:

- Position sensor so it has the best view of the entire coverage area, while minimizing the possibility of false ONs or OFFs
 - Wire sensor according to instructions to eliminate any functional problems or sensor damage (i.e., some wall switch sensors require grounding for proper functioning. If an installer fails to properly ground it, the sensor will not work as designed.)
 - If necessary, adjust sensor settings (i.e., sensitivity, time delay) to match activity levels in the controlled space. Lengthen time delay settings for spaces with lower activity levels; shorten time delay settings for high activity areas and highest energy savings.
- 
- Make post-installation adjustments as needed. This is not uncommon, and is often due to last minute changes in furniture or fixture placement.



Occupancy Sensors

Product Matrix

| Wall Switch Occupancy Sensors | | | | | |
|-------------------------------|--|------------------|--|---|--|
| | Model # | Pages | Voltage | Description | Typical Applications |
| Passive Infrared |  WS-250 WS-250-347 NEW! | C23-24 | 120/277 VAC, 60 Hz 347 VAC, 60 Hz | PIR Wall Switch Sensor | Small offices, small and medium conference rooms, utility/storage rooms |
| |  PW-100 PW-100-347 PW-100-24 | C25-26 C27-28 | 120/277 VAC, 50/60 Hz 347 VAC, 50/60 Hz 24 VDC | PIR Wall Switch Sensor | Small offices, small conference rooms, individual restrooms, lunch/ break rooms |
| |  PW-103N NEW! | C29-30 | 120/277 VAC, 50/60 Hz | PIR Multi-way Wall Switch Sensor with Nightlight | Small offices, small conference rooms, individual restrooms, lunch/ break rooms, hotel guest bathrooms |
| |  PW-200 PW-200-347 | C31-32 | 120/277 VAC, 50/60 Hz 347 VAC, 50/60 Hz | PIR Dual Relay Wall Switch Sensor | Small offices, small conference rooms, individual restrooms, lunch/ break rooms |
| |  PW-203 NEW! | C33-34 | 120/277 VAC, 50/60 Hz | PIR Multi-way Dual Relay Wall Switch Sensor | Small offices, small conference rooms, individual restrooms, lunch/ break rooms |
| |  WD Series | C35-36 | 120 or 277 VAC, 60 Hz | PIR Dimmable Wall Switch Sensor | Small offices and small conference rooms |
| Ultrasonic |  UW-100 UW-100-347 UW-100-24 | C37-38 C39-40 | 120/277 VAC, 50/60 Hz 347 VAC, 50/60 Hz 24 VDC | Ultrasonic Wall Switch Sensor | Individual restrooms, two-stall restrooms, utility/storage rooms |
| |  UW-200 | C41-42 | 120/277 VAC, 50/60 Hz | Ultrasonic Dual Relay Wall Switch Sensor | Individual restrooms, two-stall restrooms, utility/storage rooms |
| Dual Technology |  DW-100 DW-100-347 DW-100-24 | C43-44 C45-46 | 120/277 VAC, 50/60 Hz 347 VAC, 50/60 Hz 24 VDC | Dual Technology Wall Switch Sensor | Small and executive offices, small and medium conference rooms, lunch/break rooms |
| |  DW-103 NEW! | C47-48 | 120/277 VAC, 50/60 Hz | Dual Technology Multi-way Wall Switch Sensor | Small and executive offices, small and medium conference rooms, lunch/break rooms |
| |  DW-200 | C49-50 | 120/277 VAC, 50/60 Hz | Dual Technology Dual Relay Wall Switch Sensor | Small and executive offices, small and medium conference rooms, lunch/break rooms |
| |  DW-203 NEW! | C51-52 | 120/277 VAC, 50/60 Hz | Dual Technology Multi-way Dual Relay Wall Switch Sensor | Small and executive offices, small and medium conference rooms, lunch/break rooms |



| Ceiling and Wall Mount Occupancy Sensors | | | | | |
|--|--|------------------|---------------------------------------|-------------------------------------|--|
| | Model # | Pages | Voltage | Description | Typical Applications |
| Passive Infrared |  CX-100 Series | C53-54 | 24 VDC | PIR Ceiling/Wall Sensor | Large offices, warehouses, computer rooms, open offices, classrooms, aisleways |
| |  WPIR | C55-56 | 24 VDC | PIR Ceiling Sensor | Small offices, copy rooms, break rooms, library book stacks |
| |  CB-100 | C57-58 | 24 VDC | Low Temperature PIR Sensor | Cold storage, freezers, unconditioned spaces |
| |  CI-300 Series CI-355 Series | C59-60 C61-62 | 24 VDC 120/277/347 VAC, 50/60Hz | PIR Ceiling Sensor | Open offices, conference rooms, computer rooms, classrooms, warehouses |
| |  CI-200 Series | C63-64 | 24 VDC | PIR Ceiling Sensor | Open offices, conference rooms, computer rooms |
| |  CI-12 CI-24 | C65-66 | 12 VDC 24 VDC | PIR HVAC/BAS Ceiling Sensor | Open offices, conference rooms, computer rooms |
| Ultrasonic |  UT-300 Series UT-355 Series | C67-68 C69-70 | 24 VDC 120/277/347 VAC, 50/60Hz | Ultrasonic Ceiling Sensor | Open offices, restrooms, conference rooms, large offices |
| |  WT Series | C71-72 | 24 VDC | Ultrasonic Ceiling Sensor | Open offices, restrooms, storage areas, conference rooms, hallways |
| |  W Series | C73-74 | 24 VDC | Ultrasonic Ceiling Sensor | Open offices, restrooms, storage areas, conference rooms, hallways |
| Dual Technology |  DT-200 Series | C75-76 | 24 VDC | Dual Technology Ceiling/Wall Sensor | Classrooms, conference rooms, training rooms |
| |  DT-300 Series DT-355 Series | C77-78 C79-80 | 24 VDC 120/277/347 VAC, 50/60Hz | Dual Technology Ceiling Sensor | Classrooms, conference rooms, training rooms, large offices, computer rooms |



Occupancy Sensors

Matrix

| Power Packs | | | | | | | |
|--|--------|--|----------------------------------|----------------------|----------------------|-----------------------|--|
| Model # | Pages | Description | Voltage | Load Rating | | | Low Voltage Output |
| | | | | Ballast(A) | Incan(A) | Motor(HP) | |
|  BZ-50 | C81-82 | Universal Voltage Power Pack | 120/277 VAC, 50/60 Hz | 20 | 20 | 1 | 24 VDC; 150 mA (relay connected) |
|  BZ-50RC | C83-84 | Universal Voltage Power Pack with RJ45 connector | 120/277 VAC, 50/60 Hz | 20 | 20 | 1 | 24 VDC; 150 mA (relay connected) |
|  BZ-150 | C85-86 | Universal Voltage Power Pack for manual-on control | 120/277 VAC, 50/60 Hz | 20 | 20 | 1 | 24 VDC; 150 mA (relay connected) |
|  BZ-480 | C87-88 | 2-phase Power Pack | 480 VAC, 60 Hz | 6 | - | 1 | 24VDC; 150mA (130mA with relay connected) |
|  B347D-P | C89-90 | Power Pack | 347 VAC, 60Hz | 15 | - | - | 24 VDC; 150 mA, (114 mA with relay connected) |
|  S120/277/347E-P | C89-90 | Auxiliary Relay Pack | 120/277/347 VAC, 60Hz | 20@120/277 15@347 | 13@120 | 1@120 | |
|  A120C-P A277C-P | C95 | Form C Power Pack | 120 VAC, 60 Hz 277 VAC, 60 Hz | 8NO/5NC 6NO/3 NC | 5NO/3NC 5NO/2.5NC | 1NO/.25NC 2NO/.5NC | 24 VDC; 100 mA (64 mA with relay connected) |
|  C120E-P C277E-P | C95 | 2-relay Power Pack | 120 VAC, 60 Hz 277 VAC, 60 Hz | 20 | - | - | 24VDC; 150mA (114mA - 1 relay, 78mA - both relays connected) |
|  AT-120 AT-277 | C95 | Power Supply | 120 VAC, 60 Hz 277 VAC, 60 Hz | - | - | - | 24VDC; up to 800mA |
|  BD-100 BD-100M | C91-92 | DIN Rail Mounted Power Pack | 120/277 VAC, 50/60 Hz | 20 20 | 20 20 | 1 1 | 24VDC; 175mA (relay connected) |
|  LC-100 | C93-94 | Intelligent Power Pack | 120/277 VAC, 50/60 Hz | 20 | 20 | 1 | 24VDC; 150mA |



| Time Switches | | | | |
|--|--------------------------------------|---|---|---|
| Model # | Pages | Voltage | Description | Typical Applications |
|  TS -400 TS-400-24 | C97-98 C99-100 | 120/277 VAC, 50/60 Hz 24 VDC | Digital Time Switch | Utility/storage rooms |
| Hotel Card Key Switches | | | | |
|  HS-100 HS-150 | C101-102 | 24 VAC/VDC 120/277 VAC, 50/60Hz | Low Voltage Card Key Switch Line Voltage Card Key Switch | Hotel guest rooms |
| Plug Load Control | | | | |
|  IDP-3050 | C103-104 | 120 VAC, 50/60 Hz, 15A | Eight outlet power strip with personal sensor | Cubicles, small and large offices, computer rooms, training rooms |
| Outdoor Sensors | | | | |
|  EW-200-120 EW-200-277 EW-205-24 EW-205-120 | C105-106 C107-108 C105-106 | 120 VAC, 60Hz 277 VAC, 60 Hz 24 VDC 120 VAC, 60 Hz | EW Outdoor Motion Sensor | Walkways, entryways, dock lighting, doorways, parking lots, garages, warehouses |
| Accessories | | | | |
| Model # | Pages | Description | | |
|  MB-1 MB-2 | C109 | MB sensor mounting brackets | | |
|  WC-1 WC-2 WC-3 WC-4 | C110 | Protective cage for occupancy sensors | | |
| Auditing Tool | | | | |
| Model # | Pages | Operation | Description | Typical Applications |
|  IT-200 | C111-112 | Lithium battery operated | Intelitimer ProLogger | Auditing any building space |

WS-250 Passive Infrared Wall Switch Sensor

180° coverage,
maximum of 900 ft²

Shallow (1") back housing and
flying leads for easy installation

Built-in light level sensor



Button provides positive
tactile feedback

Dual voltage model,
120/277 VAC

Compatible with all
electronic ballasts

PROJECT

LOCATION/TYPE

Product Overview

Description

The WS-250 Passive Infrared (PIR) Wall Switch Sensor turns lighting on and off based on occupancy and ambient light level. It replaces existing wall switches and fits behind a standard decorator wall plate. The WS-250 improves on the WS-200, featuring a shallower housing, flying leads and new control button.

Operation

The WS-250 utilizes advanced PIR technology to detect occupancy. Detection occurs when the WS-250 senses the difference between infrared energy from a human body in motion and the background space. Lighting automatically turns on when occupancy is detected. After a user-specified length of time when no occupancy is detected, lighting automatically switches off. The sensor can also be used with line voltage switches for multi-level lighting.

Light Level Sensor

The WS-250 features a built-in light level sensor. This feature holds lighting systems off when natural light levels are above the preset level. Once lights are switched on, the sensor will not switch them off even if daylight levels increase. Using the light level feature is optional and the setting is adjustable by the user.

Applications

The WS-250 has the flexibility to work in a variety of applications including offices, conference rooms, break rooms and utility rooms. Energy savings for these areas can be as high as 60% since lighting will no longer remain on once the room is vacant. With a competitive price, low installation cost, and high energy savings, paybacks are usually well under two years.

Features

- ASIC technology reduces components and enhances reliability; includes proprietary chip designed by WattStopper
- Pulse Count Processing eliminates false offs without reducing sensitivity
- Detection Signature Processing eliminates false triggers; provides immunity to RFI and EMI
- Zero crossing circuitry reduces stress on the relay and results in increased sensor life
- Time delay adjustment from 30 seconds up to 30 minutes
- Adjustable unit sensitivity from 20% to 100%
- Light level sensor holds lights off when ambient lighting is above the preset level
- Custom two-tier Fresnel lens enhances detection at the desktop level
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Patented voltage drop protection
- For safety, there is no leakage to load in the off mode and sensor is safety grounded
- LED indicates occupancy detection
- Compatible with decorator wall plates
- Qualifies for ARRA-funded public works projects

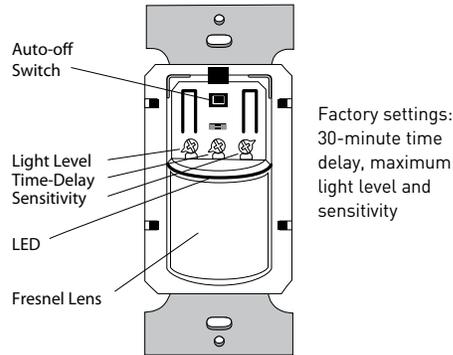


Specifications

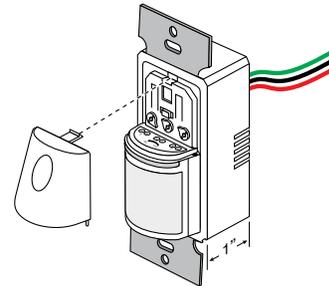
- 120/277 VAC, 60 Hz, or 347 VAC, 60 Hz
- Time delay adjustable from 30 seconds up to 30 minutes
- Adjustable unit sensitivity from 20% to 100%
- Adjustable light level setting of 2 to 200 foot-candles (21.5 to 2,153 lux)
- Compatible with all electronic ballasts and PL lamp ballasts
- Coverage: Major motion 35' x 30'
Minor motion 20' x 15'
- Dimensions: 2.6" x 1.7" x 1.55" (66.0mm x 43.1mm x 39.4mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Installation

Product Controls



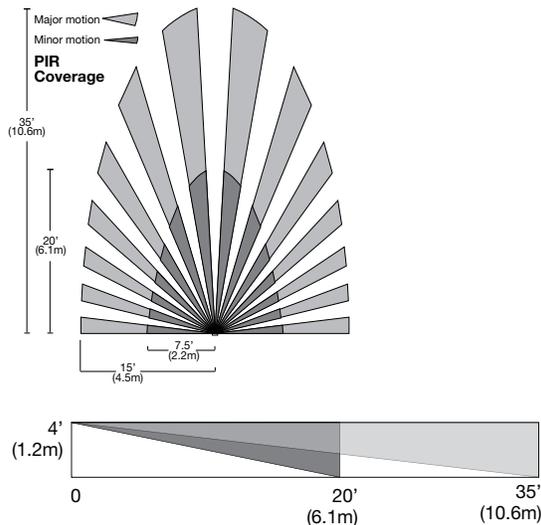
Installation



Extremely shallow (1") back housing and 6" flying leads facilitate quick installation in standard wall box

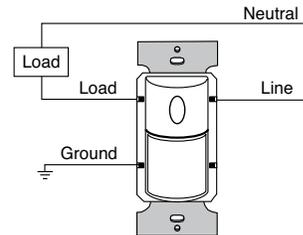
Coverage & Wiring

Coverage Pattern

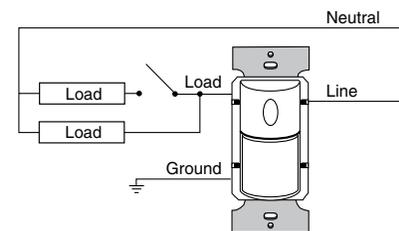


For best performance, WattStopper recommends using this sensor in spaces no larger than 15' x 12'.

Single Level Lighting



Manual Bi-level Lighting



Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|---------------------------------------|--------------|--|--|
| <input type="checkbox"/> WS-250-W | White | 120 VAC; 60 Hz or 277 VAC; 60 Hz | @ 120 VAC, 0-800 W ballast or tungsten or 1/6 hp @ 277 VAC 0-1200 W ballast |
| <input type="checkbox"/> WS-250-W-U | | | |
| <input type="checkbox"/> WS-250-W-FTA | | | |
| <input type="checkbox"/> WS-250-LA | Light Almond | | |
| <input type="checkbox"/> WS-250-I | Ivory | | |
| <input type="checkbox"/> WS-250-I-U | | | |
| <input type="checkbox"/> WS-250-I-FTA | | | |
| <input type="checkbox"/> WS-250-G | Gray | | |
| <input type="checkbox"/> WS-250-B | Black | | |
| <input type="checkbox"/> WS-250-347-W | White | 347 VAC; 60 Hz | 0-1200 W ballast |
| <input type="checkbox"/> WS-250-347-I | Ivory | | |
| <input type="checkbox"/> WS-250-347-G | Gray | | |
| <input type="checkbox"/> WS-250-347-B | Black | | |

Order wall plate separately.

PW-100 Passive Infrared Wall Switch Sensor

High sensitivity and dense coverage for exceptional performance

Color-matched lens and low profile for appealing design



Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Defaults to Manual-ON operation for maximum energy savings

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

PROJECT

LOCATION/TYPE

Product Overview

Description

The PW-100 passive infrared (PIR) wall switch sensor can turn lights OFF and ON based on occupancy. It is characterized by high sensitivity to small and large movements, appealing aesthetics, and a variety of features.

Operation

The PW-100 replaces existing wall switches and fits in a single gang junction box. It uses advanced PIR technology to detect occupancy and keep lighting ON when it is needed. Once the space is vacated and the time delay elapses, lights automatically turn OFF. DIP switch settings allow for a variety of control options such as Auto-ON operation, walk-through and test modes.

Manual-on Control

Factory default operation is for Manual-ON, so that users turn lights on only when needed. This control strategy is proven to save more energy than Auto-ON, and will be required where the ASHRAE 90.1-2010 energy code is adopted. If desired, the PW-100 may be reconfigured to turn lights on automatically.

Applications

The PW-100 sensor is well suited for small, enclosed spaces with clear line of sight of the occupant. Common applications include small office, small conference room and lunch/break rooms.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- LED indicates occupancy detection
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- 2-wire and 3-wire models available for applications with or without neutral wire
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates
- Qualifies for ARRA-funded public works projects

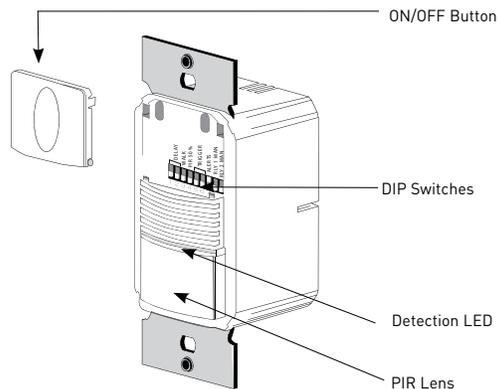


Specifications

- PW-100, PW-101: 120/277 VAC; 50/60 Hz @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast
- PW-100-347: 347 VAC; 50/60Hz; 0-1500 W ballast
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Coverage: Major motion 35' x 30' Minor motion 20' x 15'
- Sensitivity adjustment: PIR (high/low)
- Dimensions: 2.73" x 1.76" x 1.83" (69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| | | | |
|-------------------|---|---|---|
| Time Delay | 1 | 2 | 3 |
| Test | ↓ | ↓ | ↓ |
| 5 minutes | ↓ | ↓ | ↓ |
| 10 minutes | ↓ | ↓ | ↓ |
| 15 minutes | ↓ | ↓ | ↓ |
| 20 minutes | ↓ | ↓ | ↓ |
| 25 minutes | ↓ | ↓ | ↓ |
| 30 minutes | ↓ | ↓ | ↓ |
| Service | ↑ | ↑ | ↑ |

| | |
|---------------------|---|
| Walk-Through | 4 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|------------------------|---|
| PIR Sensitivity | 5 |
| High | ↓ |
| Low, 50% | ↑ |

| | |
|----------------------|---|
| Visible Alert | 6 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|----------------------|---|
| Audible Alert | 7 |
| Disabled | ↓ |
| Enabled | ↑ |

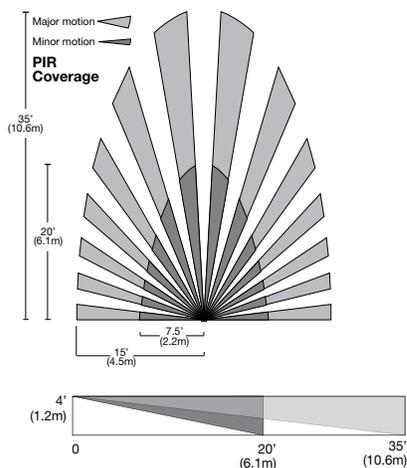
| | |
|----------------|---|
| ON Mode | 8 |
| Auto On | ↓ |
| Manual On | ↑ |

Switch 9 is not used
↑=ON ↓=OFF
◀=Factory Setting

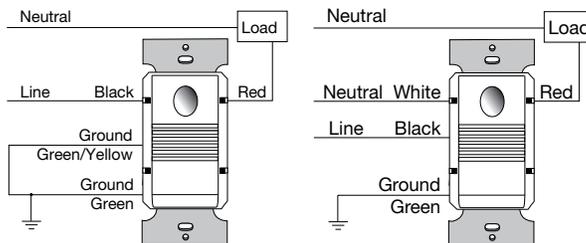
⊙ Service bypasses occupancy & light level functions. Control the load manually using ON/OFF button.

Coverage & Wiring

Coverage Pattern



Wiring Diagrams



Wiring for PW-100 with no neutral wire run to the switch box.

Wiring for PW-101 with a neutral connection in the switch box.

For best performance, WattStopper recommends using this sensor in spaces no larger than 15' x 12'.

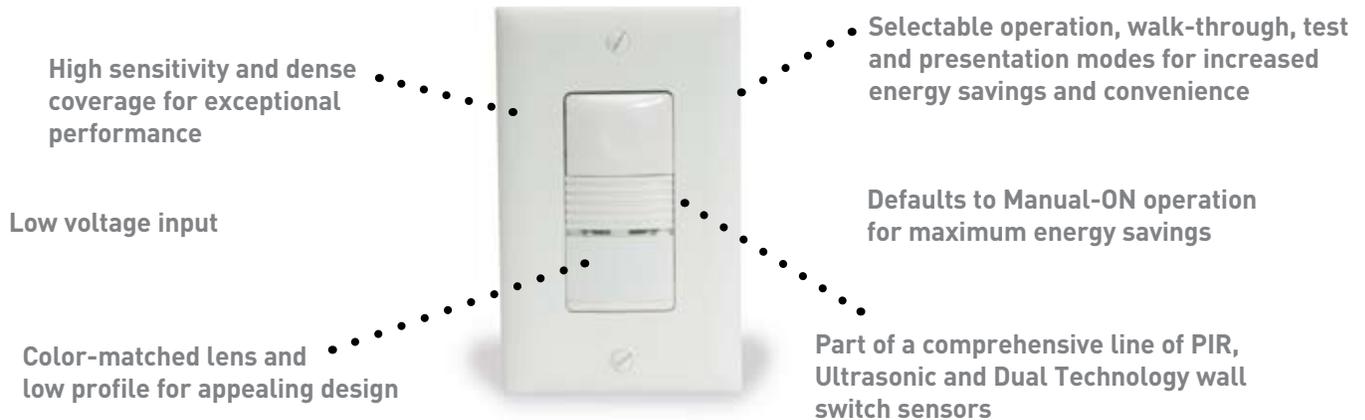
Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|--|------------|---|---|
| <input type="checkbox"/> PW-100-W | White | 120/277 VAC; 50/60 Hz 2-wire sensor; no neutral connection | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> PW-100-W-U | | | |
| <input type="checkbox"/> PW-100-W-FTA | | | |
| <input type="checkbox"/> PW-100-LA | Lt. Almond | 120/277 VAC; 50/60 Hz 3-wire sensor; requires neutral connection | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> PW-100-I | | | |
| <input type="checkbox"/> PW-100-I-U | | | |
| <input type="checkbox"/> PW-100-I-FTA | Ivory | 347 VAC; 50/60 Hz | 0-1500 W ballast |
| <input type="checkbox"/> PW-100-G | | | |
| <input type="checkbox"/> PW-100-B | | | |
| <input type="checkbox"/> PW-101-W | White | 120/277 VAC; 50/60 Hz 3-wire sensor; requires neutral connection | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> PW-101-LA | | | |
| <input type="checkbox"/> PW-101-I | | | |
| <input type="checkbox"/> PW-101-G | Grey | 347 VAC; 50/60 Hz | 0-1500 W ballast |
| <input type="checkbox"/> PW-101-B | | | |
| <input type="checkbox"/> PW-100-347-W | | | |
| <input type="checkbox"/> PW-100-347-LA | | | |
| <input type="checkbox"/> PW-100-347-I | | | |
| <input type="checkbox"/> PW-100-347-G | Grey | 347 VAC; 50/60 Hz | 0-1500 W ballast |
| <input type="checkbox"/> PW-100-347-B | | | |

Order wall plate separately.



PW-100-24 Passive Infrared Low Voltage Wall Switch Sensor



PROJECT

LOCATION/TYPE

Product Overview

Description

The PW-100-24 passive infrared (PIR) low voltage wall switch sensor can turn lights OFF and ON based on occupancy. It is characterized by high sensitivity to small and large movements, appealing aesthetics, and a variety of features.

Operation

Factory default operation is for Manual-ON, so that users turn lights on only when needed. The PW-100-24 uses advanced PIR technology to detect occupancy and keep lighting ON when it is needed. Once the space is vacated and the time delay elapses, lights automatically turn OFF. DIP switch settings allow for a variety of control options such as Auto-ON operation, walk-through and test modes.

Low Voltage

Low voltage wall switch sensors can offer advantages over line voltage models. Using an isolated form-C relay output, the PW-100-24 sensor integrates seamlessly with VAV or other building systems for greater energy savings. Multiple PW-100-24 sensors can also be connected on a single circuit and can switch loads that exceed the rating of a standard line voltage switch. In addition, low voltage sensor installations do not require the use of conduits reducing installation costs and making relocation easier.

Applications

The PW-100-24 is the perfect choice for locations where line voltage wiring is not possible or for jurisdictions prohibiting the use of 277V switches. It is well suited for small enclosed spaces with clear line of sight of the occupant. Common applications include small offices, small conference rooms, and lunch/break rooms.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- LED indicates occupancy detection
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

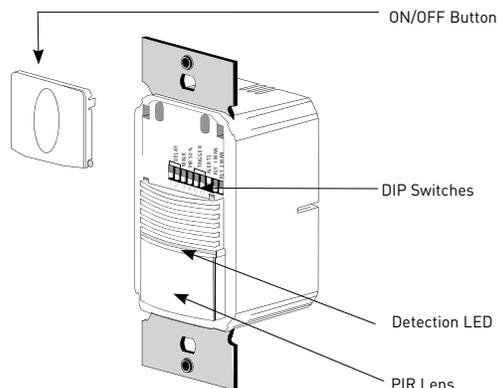


Specifications

- 18-24 VDC, 24 VAC and halfwave rectified AC
- Current consumption: 20 mA
- PW-100-24 contains single-pole, double-throw isolated relay rated for 1 A @ 30 VDC
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Coverage: Major motion 35' x 30'
Minor motion 20' x 15'
- Sensitivity adjustment: PIR (high/low)
- Dimensions: 2.73" x 1.76" x 1.83"
(69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| | | | |
|-------------------|---|---|---|
| Time Delay | 1 | 2 | 3 |
| Test | ↓ | ↓ | ↓ |
| 5 minutes | ↓ | ↑ | ↑ |
| 10 minutes | ↑ | ↑ | ↑ |
| 15 minutes | ↑ | ↑ | ↑ |
| 20 minutes | ↑ | ↑ | ↑ |
| 25 minutes | ↑ | ↑ | ↑ |
| 30 minutes | ↑ | ↑ | ↑ |
| Service | ↑ | ↑ | ↑ |

| | |
|---------------------|---|
| Walk-Through | 4 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|------------------------|---|
| PIR Sensitivity | 5 |
| High | ↓ |
| Low, 50% | ↑ |

| | |
|----------------------|---|
| Visible Alert | 6 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|----------------------|---|
| Audible Alert | 7 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|----------------|---|
| ON Mode | 8 |
| Auto On | ↓ |
| Manual On | ↑ |

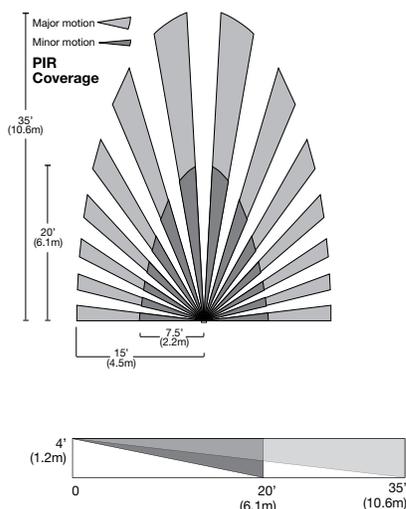
Switch 9 is not used

↑ = ON ↓ = OFF
◀ = Factory Setting

⊗ Service bypasses occupancy & light level functions. Control the load manually using ON/OFF button.

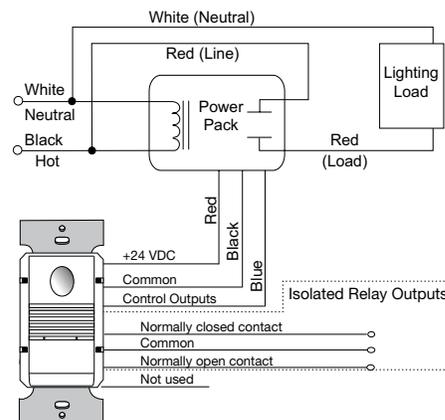
Coverage & Wiring

Coverage Pattern



For best performance, WattStopper recommends using this sensor in spaces no larger than 15' x 12'.

PW-100-24 Low Voltage Wiring



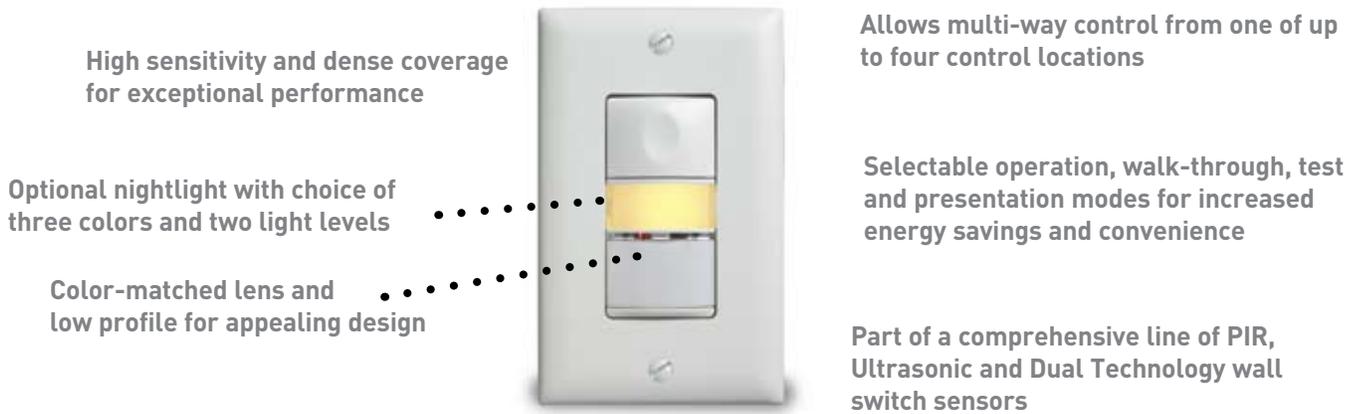
Ordering Information

| Catalog No. | Color | Voltage |
|---------------------------------------|------------|---|
| <input type="checkbox"/> PW-100-24-W | White | 18-24 VDC, 24 VAC and halfwave rectified AC |
| <input type="checkbox"/> PW-100-24-LA | Lt. Almond | |
| <input type="checkbox"/> PW-100-24-I | Ivory | |
| <input type="checkbox"/> PW-100-24-G | Grey | |
| <input type="checkbox"/> PW-100-24-B | Black | |

Order wall plate separately.



PW-103N Passive Infrared Multi-way Wall Switch Sensor with Nightlight



High sensitivity and dense coverage for exceptional performance

Optional nightlight with choice of three colors and two light levels

Color-matched lens and low profile for appealing design

Allows multi-way control from one of up to four control locations

Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

PROJECT

LOCATION/TYPE

Product Overview

Description

The PW-103N passive infrared (PIR) multi-way wall switch sensor can turn lights OFF and ON based on occupancy. It provides high sensitivity to small and large movements, appealing aesthetics, a field selectable nightlight and a variety of features.

Operation

The PW-103N replaces existing wall switches and fits in a single gang junction box. It uses advanced PIR technology to detect occupancy and keep lighting ON when it is needed. Once the space is vacated and the time delay elapses, lights automatically turn OFF. DIP switch settings allow control options including Auto-ON operation, walk-through and test modes. The PW-103N has an LED nightlight that can be set to high or low intensity and to amber, white or blue, or to off. Multiple PW-103N sensors may be used for control of one or more loads from up to four locations.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- LED indicates occupancy detection
- Field selectable high or low intensity amber, white or blue nightlight
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

Multi-way Control

The PW-103N offers true multi-way functionality. When connected sensors are in Manual-ON mode (default), an occupant must press the ON/OFF button of one of the sensors to turn the load ON. When sensors are in Auto-ON mode, the load will automatically turn ON when occupancy is detected by one of the sensors. Lights will remain ON as long as occupancy is detected. The last sensor to detect occupancy will turn the load OFF after the time delay has elapsed. In either operating mode, an occupant may turn the load OFF manually.

Applications

The PW-103N sensor is well suited for spaces with multiple doorways or switch locations, or spaces that would benefit from nightlighting. Common applications include private offices, small conference rooms, lunch/break rooms, individual restrooms and hotel guest bathrooms.

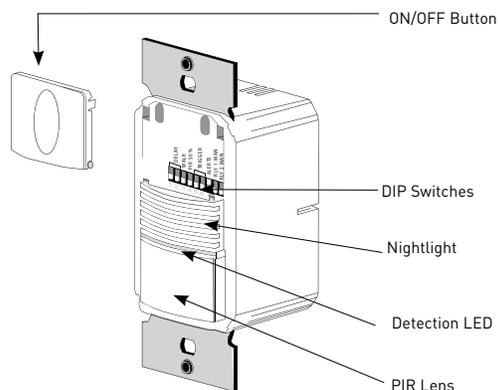


Specifications

- PW-103N: 120/277 VAC; 50/60 Hz
@ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp
@ 277 VAC, 0-1200 W ballast
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Coverage: Major motion 35' x 30'
Minor motion 20' x 15'
- Sensitivity adjustment: PIR (high/low)
- Dimensions: 2.73" x 1.76" x 1.83"
(69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| Time Delay | 1 | 2 | 3 |
|------------|---|---|---|
| Test | ↓ | ↓ | ↓ |
| 5 minutes | ↓ | ↓ | ↑ |
| 10 minutes | ↓ | ↓ | ↑ |
| 15 minutes | ↓ | ↑ | ↑ |
| 20 minutes | ↑ | ↑ | ↓ |
| 25 minutes | ↑ | ↑ | ↓ |
| 30 minutes | ↑ | ↑ | ↓ |
| Service | ↑ | ↑ | ↑ |

| Walk-Through | 4 |
|--------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

| PIR Sensitivity | 5 |
|-----------------|---|
| High | ↓ |
| Low, 50% | ↑ |

| Visible Alert | 6 |
|---------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

| Audible Alert | 7 |
|---------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

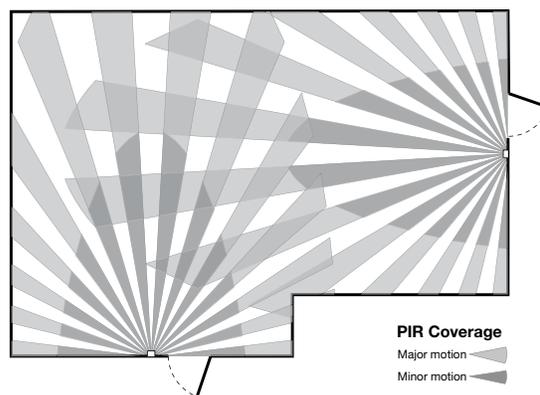
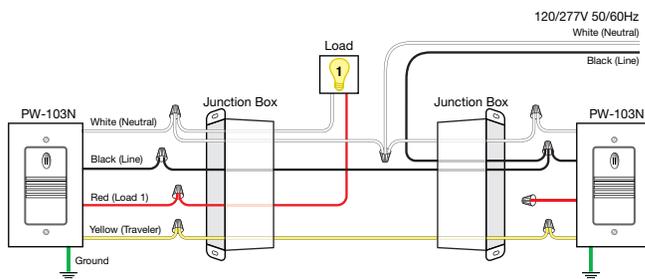
| On Mode | 8 |
|-----------|---|
| Auto On | ↓ |
| Manual On | ↑ |

| Nightlight | 9 |
|------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

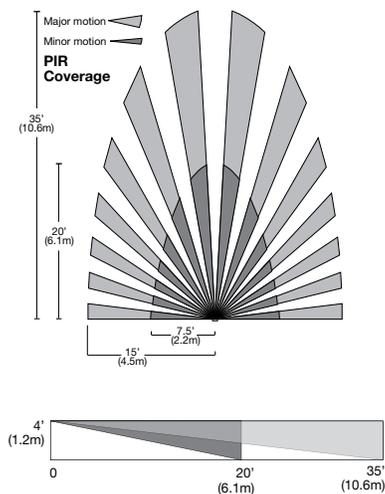
Service bypasses occupancy & light level functions. Control the load manually using ON/OFF button. ↑=ON ↓=OFF ◀=Factory Setting

Coverage & Wiring

Multi-way Wiring Diagram



Coverage Pattern



For best performance in single location applications, WattStopper recommends using this sensor in spaces no larger than 15' x 12'. In multi-way applications, each connected sensor expands the coverage area.

Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|-------------------------------------|------------|-----------------------|---|
| <input type="checkbox"/> PW-103N-W | White | 120/277 VAC; 50/60 Hz | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> PW-103N-LA | Lt. Almond | | |
| <input type="checkbox"/> PW-103N-I | Ivory | | |
| <input type="checkbox"/> PW-103N-G | Grey | | |
| <input type="checkbox"/> PW-103N-B | Black | | |

Order wall plate separately.



PW-200 Passive Infrared Dual Relay Wall Switch Sensor

High sensitivity and dense coverage for exceptional performance

Two relays for control of two separate lighting loads or circuits

Color-matched lens and low profile for appealing design

Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Defaults to Auto-ON to 50% operation for maximum energy savings

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The PW-200 passive infrared (PIR) wall switch sensor turns lights ON and OFF based on occupancy. It contains two relays for controlling two independent lighting loads or circuits, and a variety of features.

Operation

The PW-200 replaces existing wall switches and fits in a single gang junction box. Each of the PW-200's relays can control a separate lighting load. It uses advanced PIR technology to detect occupancy and turn the first relay ON. Once the space is vacated and the time delay elapses, lights automatically turn OFF. Dual ON/OFF buttons allow the user to manually turn on and off each of the loads. DIP switch settings allow for a variety of control options such as Manual-ON or Auto-ON for each relay, walk-through and test modes.

Bi-Level Control

The PW-200 features a built-in light level sensor that controls the second (secondary) relay. If adequate daylight is present, the sensor will hold secondary lights off until daylight levels drop, providing increased energy savings. The PW-200 satisfies energy codes requiring bi-level or daylight control switching. The two relays in the sensor give it the ability to control two lighting loads independently. This provides A/B switching where the user can achieve half-lighting (or another desired portion) from a single switch.

Applications

The PW-200 sensor is well suited for small, enclosed spaces with a clear line of sight of the occupant. In addition, its dual relays allow bi-level switching or control of a secondary load. Common applications include small office, small conference room and lunch/break rooms.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing on both relays for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation, selectable for each relay
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- LED indicates occupancy detection
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates
- Qualifies for ARRA-funded public works projects

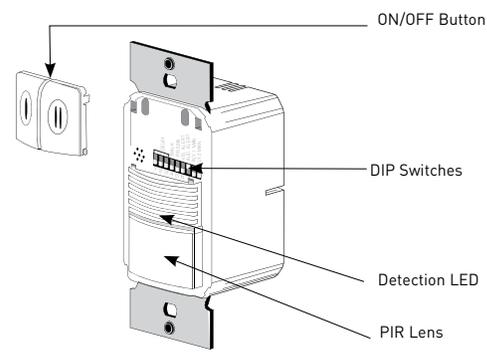


Specifications

- PW-200: 120/277 VAC; 50/60 Hz
@ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp
@ 277 VAC, 0-1200 W ballast
- PW-200-347: 347 VAC; 50/60 Hz; 0-1500 W ballast
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Coverage: Major motion 35' x 30'
Minor motion 20' x 15'
- Sensitivity adjustment: PIR (high/low)
- Dimensions: 2.73" x 1.76" x 1.83"
(69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| | | | |
|-------------------|---|---|---|
| Time Delay | 1 | 2 | 3 |
| Test | ↓ | ↓ | ↓ |
| 5 minutes | ↓ | ↓ | ↓ |
| 10 minutes | ↓ | ↓ | ↓ |
| 15 minutes | ↓ | ↓ | ↓ |
| 20 minutes | ↓ | ↓ | ↓ |
| 25 minutes | ↓ | ↓ | ↓ |
| 30 minutes | ↓ | ↓ | ↓ |
| override | ↑ | ↑ | ↑ |

| | |
|---------------------|---|
| Walk-Through | 4 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|----------------------|---|
| Visible Alert | 6 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|------------------------|---|
| PIR Sensitivity | 5 |
| High | ↓ |
| Low, 50% | ↑ |

| | |
|----------------------|---|
| Audible Alert | 7 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|---------------------|---|
| Relay 1 Mode | 8 |
| Auto On | ↓ |
| Manual On | ↑ |

| | |
|---------------------|---|
| Relay 2 Mode | 9 |
| Auto On | ↓ |
| Manual On | ↑ |

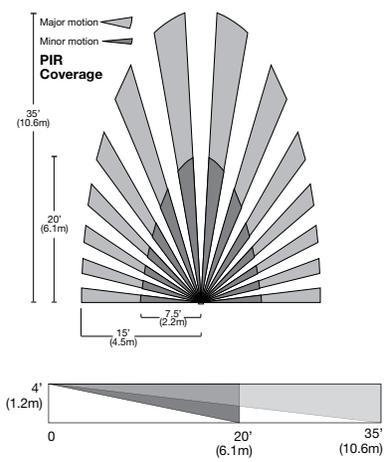
↑=ON ↓=OFF

⊗ Bypass occupancy & light level functions. Loads are manually controlled with PW-200 buttons.

Factory Settings:
 ◀ All models
 ▲ PW-100 series
 ▲ PW-200 series

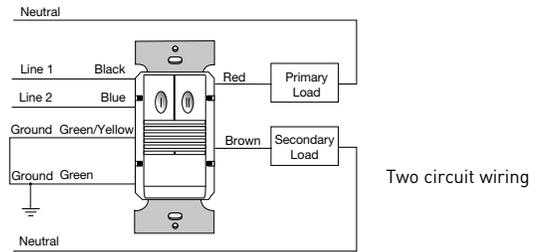
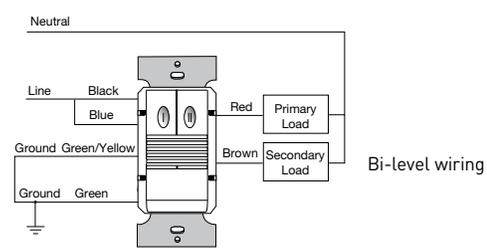
Coverage & Wiring

Coverage Pattern



For best performance, WattStopper recommends using this sensor in spaces no larger than 15' x 12'.

Wiring Diagrams



Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|--|---|-----------------------|---|
| <input type="checkbox"/> PW-200-W <input type="checkbox"/> PW-200-W-U <input type="checkbox"/> PW-200-W-FTA | White | 120/277 VAC; 50/60 Hz | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> PW-200-LA | Lt. Almond | | |
| <input type="checkbox"/> PW-200-I <input type="checkbox"/> PW-200-I-U <input type="checkbox"/> PW-200-I-FTA | Ivory | | |
| <input type="checkbox"/> PW-200-G | Grey | | |
| <input type="checkbox"/> PW-200-B | Black | | |
| <input type="checkbox"/> PW-200-347-W <input type="checkbox"/> PW-200-347-LA <input type="checkbox"/> PW-200-347-I <input type="checkbox"/> PW-200-347-G <input type="checkbox"/> PW-200-347-B | White Lt. Almond Ivory Grey Black | 347 VAC; 50/60 Hz | 0-1500 W ballast |

Order wall plate separately.



PW-203 Passive Infrared Multi-way Dual Relay Wall Switch Sensor



High sensitivity and dense coverage for exceptional performance

Two relays for control of two separate lighting loads

Color-matched lens and low profile for appealing design

- Allows multi-way control from one of up to four control locations

Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The PW-203 passive infrared (PIR) multi-way wall switch sensor turns lights ON and OFF based on occupancy. It contains two relays for controlling two independent lighting loads and a variety of features.

Operation

The PW-203 replaces existing wall switches and fits in a single gang box. Each of the PW-203's relays can control a separate lighting load. It uses advanced PIR technology to detect occupancy and turn the first relay ON. Once the space is vacated and the time delay elapses, lights automatically turn OFF. Dual ON/OFF buttons allow the user to manually switch each of the loads, and each relay can be set for Manual-ON or Auto-ON. The PW-203 features a built-in light level sensor that controls the second relay. If adequate daylight is present, the sensor will hold the second relay off until daylight levels drop for increased energy savings.

Multi-way Control

Multiple PW-203 sensors may be connected for control from up to four locations, and provide true multi-way functionality. When Manual-ON mode is active, an occupant must press an ON/OFF button on one of the sensors to turn a load ON. When Auto-ON mode is active, the load will automatically turn ON when occupancy is detected by one of the sensors. Lights will remain ON as long as occupancy is detected. The last sensor to detect occupancy will turn the loads OFF after the time delay has elapsed. In either operating mode, an occupant may turn the load OFF manually.

Applications

The PW-203 sensor is well suited for spaces requiring bi-level lighting control, or control of two independent loads, that have multiple doorways or switch locations. Common applications include small offices, small conference rooms and lunch/break rooms.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing on both relays for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation, selectable for each relay
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- LED indicates occupancy detection
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

WD Passive Infrared Dimmable Wall Switch Sensor

Occupancy sensing
dimmable wall switch

Slide dimmer adjusts
light level

Low profile, flat
decorator design



Works with dimming
ballasts* or incandescent lamps

Vandal resistant,
hard lens

ASIC enhances
reliability and helps to
eliminate false triggers

PROJECT

LOCATION/TYPE

Product Overview

Description

The WD sensors are decorator style, dimmable automatic wall switches. They replace standard wall switches and work with fluorescent fixtures using ballasts with line voltage phase control input or Advance® Mark X™ electronic dimmable ballasts as well as incandescent fixtures.

Operation

The WD sensors use passive infrared (PIR) technology to turn lights on when the controlled space is occupied. The WD-170 and WD-180 automatically turn off once the space is vacated and the user-adjustable time delay elapses. The WD-270 and WD-280 have a dim-before-disconnect feature where once the space is vacated and the fixed 15 minute time delay elapses, lights dim to the minimum level. Then, lights turn completely off after a secondary, adjustable time delay. For all models, lights can be turned off manually by pressing the auto/off button.

Dimming Feature

The WD's slide dimmer adjusts the lighting from a minimum of 10% to a maximum of 100%. The position of the slide dimmer determines the light level that turns on upon occupancy. The combination of dimming and occupancy sensing provides a high degree of energy savings, as well as enhanced user control over the lighting environment.

Applications

The WD can be used in many spaces including private offices, small conference rooms, and copy rooms. Offices in public spaces can also use the WD because of the vandal resistant hard lens. The product's flat, low-profile appearance adds to the aesthetics in any location.

Features

- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false offs without reducing sensitivity
- Detection Signature Analysis eliminates false triggers; provides immunity to RFI and EMI
- Hard lens makes the unit resistant to vandalism
- Zero Voltage Turn ON/OFF increases life of sensor
- Line voltage dimmable; does not require extra control wiring to the ballast for the dimming function
- Patented voltage drop protection
- For safety, there is no leakage to load in the off mode and sensor is safety grounded
- LED indicates occupancy detection
- Compatible with decorator wall plates

*Compatible with electronic dimming ballasts with line voltage phase control input as well as with incandescent fixtures

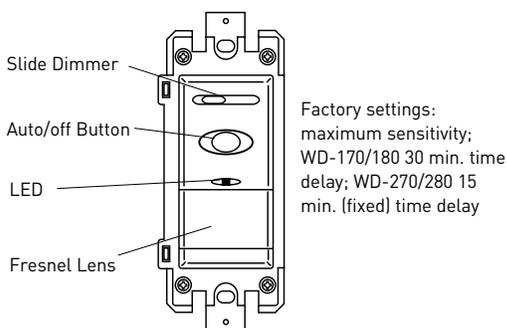


Specifications

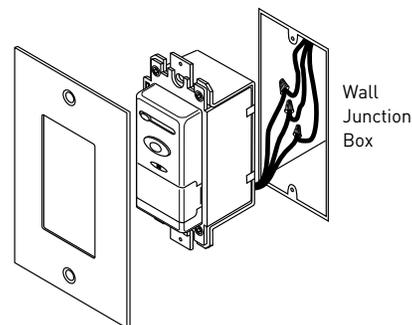
- WD-170, WD-270 operate at 120 VAC; WD-180, WD-280 operate at 277 VAC
- Maximum 300 ft² (27.8 m²); 150 ft² (13.9 m²) for desktop activity
- 1.0 mm hard poly IR 2 lens
- WD-170, WD-180: time delay adjustable during installation from 30 seconds up to 30 minutes
- WD-270, WD-280: fixed initial 15 min time delay after which lights will dim to minimum level; secondary adjustable time delay from 5 min to 30 min after which lights turn off
- Dimensions: 2.7" x 1.8" x 2.2" (68.6mm x 45.7mm x 55.9mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Installation

Product Controls

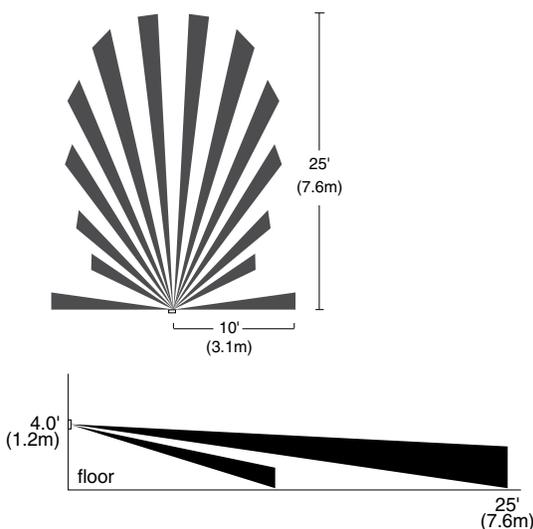


Installation



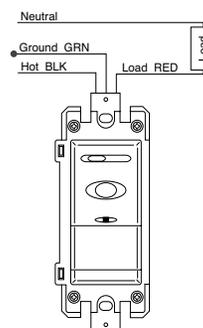
Coverage & Wiring

Coverage Pattern

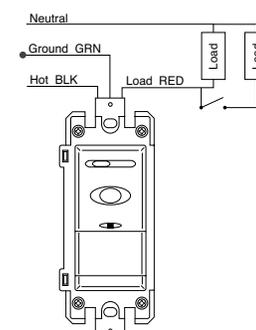


The 2-level lens provides superior coverage at a desk-top level by allowing the sensor to detect vertical as well as horizontal motion.

Single Level Lighting



Manual Bi-level Lighting

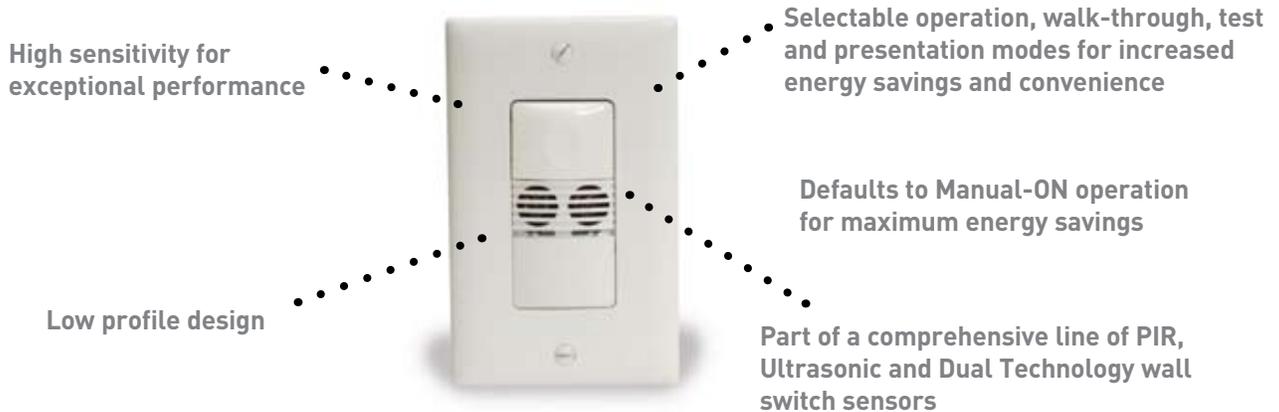


Ordering Information

| Catalog No. | Color | Voltage | Load Rating | Coverage | OFF Mode |
|-----------------------------------|--------|----------------|--------------------------------------|--|--------------------|
| <input type="checkbox"/> WD-170-W | White | 120 VAC; 60 Hz | 10-500 W Ballast 0-500W Tungsten | 180°, 300 ft ² [27.9 m ²] | Automatic-OFF |
| <input type="checkbox"/> WD-170-A | Almond | | | | |
| <input type="checkbox"/> WD-170-I | Ivory | | | | |
| <input type="checkbox"/> WD-180-W | White | 277 VAC; 60 HZ | 10-500 Watt Ballast | 180°, 300 ft ² [27.9 m ²] | Automatic-OFF |
| <input type="checkbox"/> WD-180-A | Almond | | | | |
| <input type="checkbox"/> WD-180-I | Ivory | | | | |
| <input type="checkbox"/> WD-270-W | White | 120 VAC; 60 Hz | 10-500 W Ballast, 0-500W Tungsten | 180°, 300 ft ² [27.9 m ²] | Dim-bef-disconnect |
| <input type="checkbox"/> WD-270-A | Almond | | | | |
| <input type="checkbox"/> WD-270-I | Ivory | | | | |
| <input type="checkbox"/> WD-280-W | White | 277 VAC; 60 HZ | 10-500 Watt Ballast | 180°, 300 ft ² [27.9 m ²] | Dim-bef-disconnect |
| <input type="checkbox"/> WD-280-A | Almond | | | | |
| <input type="checkbox"/> WD-280-I | Ivory | | | | |

Order wall plate separately.

UW-100 Ultrasonic Wall Switch Sensor



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The UW-100 ultrasonic wall switch sensor can turn lights OFF and ON based on occupancy. It is characterized by high sensitivity to small and large movements, appealing aesthetics, and a variety of features.

Operation

The UW-100 fits in a single junction box. It uses high frequency (40kHz) ultrasound to detect occupancy and keep lighting ON when it is needed. Once the space is vacated and the time delay elapses, lights automatically turn OFF. DIP switch settings allow for a variety of control options such as Auto-ON operation, walk-through and test modes.

Manual-on Control

Factory default operation is for Manual-ON, so that users turn lights on only when needed. This control strategy is proven to save more energy than Auto-ON, and will be required where the ASHRAE 90.1-2010 energy code is adopted. If desired, the UW-100 may be reconfigured to turn lights on automatically.

Applications

The UW-100 sensor is ideal for applications where the sensor may have a partially obstructed line of sight of the occupant. Common applications include individual restrooms, restrooms with two stalls and utility/storage rooms.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- LED indicates occupancy detection
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

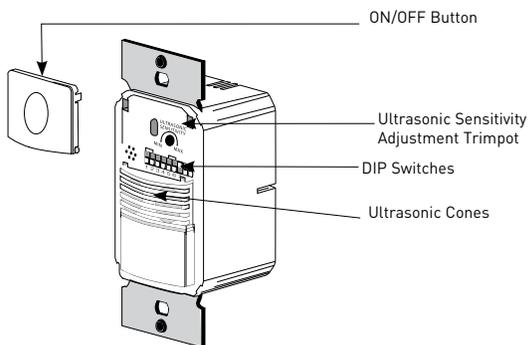


Specifications

- UW-100: 120/277 VAC; 50/60 Hz
@ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp
@ 277 VAC, 0-1200 W ballast
- UW-100-347: 347 VAC; 50/60Hz, 0-1500 W ballast
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Coverage: Major motion 20' x 20'
Minor motion 15' x 15'
- Sensitivity adjustment: Ultrasonic (fully variable)
- Dimensions: 2.73" x 1.76" x 1.83"
(69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| Time Delay | 1 | 2 | 3 |
|------------|---|---|---|
| Test | ↓ | ↓ | ↓ |
| 5 minutes | ↓ | ↓ | ↑ |
| 10 minutes | ↓ | ↓ | ↑ |
| 15 minutes | ↓ | ↓ | ↑ |
| 20 minutes | ↑ | ↓ | ↑ |
| 25 minutes | ↑ | ↓ | ↑ |
| 30 minutes | ↑ | ↓ | ↑ |
| Service | ↑ | ↑ | ↑ |

| Audible Alert | 6 |
|---------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

| ON Mode | 7 |
|-----------|---|
| Auto On | ↓ |
| Manual On | ↑ |

| Walk-Through Visible Alert | 4 |
|----------------------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

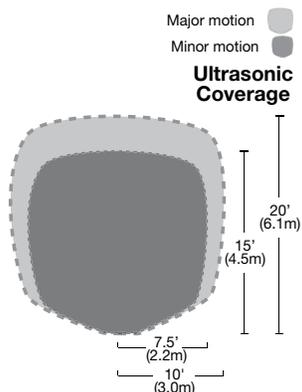
| Visible Alert | 5 |
|---------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

Switches 8 & 9 are not used.
↑=ON ↓=OFF
◀=Factory Setting

ⓘ Service bypasses occupancy & light level functions. Disables ultrasonic transmissions. Manual load control with ON/OFF button.

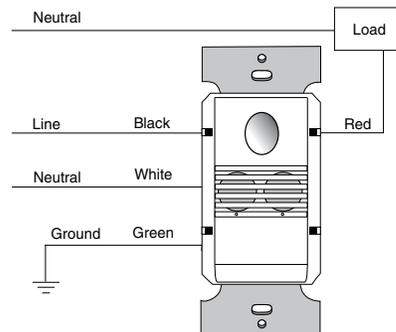
Coverage & Wiring

Coverage Pattern



For best performance, WattStopper recommends using this sensor in spaces no larger than 15' x 15'.

Wiring Diagram



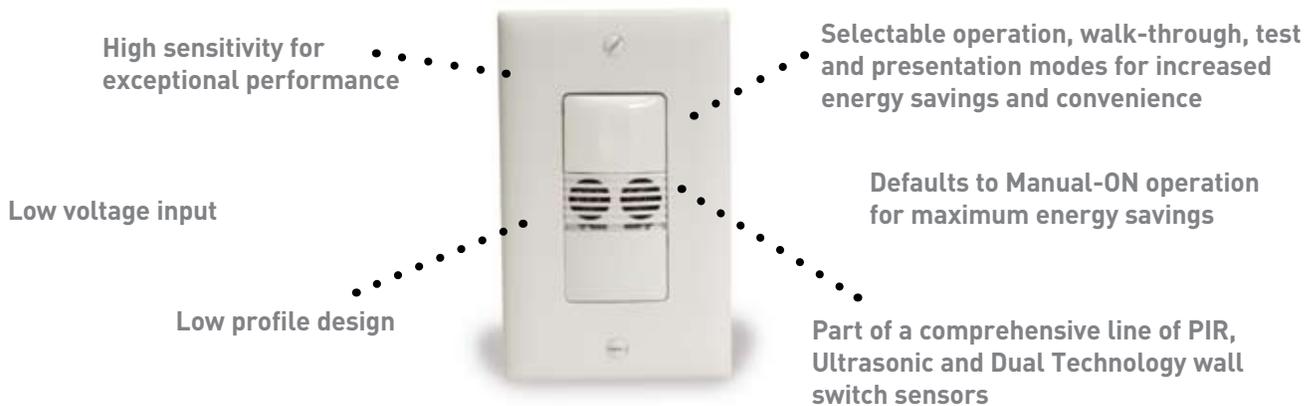
Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|--|------------|-----------------------|---|
| <input type="checkbox"/> UW-100-W | White | 120/277 VAC; 50/60 Hz | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> UW-100-LA | Lt. Almond | | |
| <input type="checkbox"/> UW-100-I | Ivory | | |
| <input type="checkbox"/> UW-100-G | Grey | | |
| <input type="checkbox"/> UW-100-B | Black | | |
| <input type="checkbox"/> UW-100-347-W | White | 347 VAC; 50/60 Hz | 0-1500 W ballast |
| <input type="checkbox"/> UW-100-347-LA | Lt. Almond | | |
| <input type="checkbox"/> UW-100-347-I | Ivory | | |
| <input type="checkbox"/> UW-100-347-G | Grey | | |
| <input type="checkbox"/> UW-100-347-B | Black | | |

Order wall plate separately.



UW-100-24 Ultrasonic Low Voltage Wall Switch Sensor



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The UW-100-24 ultrasonic low voltage wall switch sensor can turn lights OFF and ON based on occupancy. It is characterized by high sensitivity to small and large movements, appealing aesthetics, and a variety of features.

Operation

Factory default operation is for Manual-ON, so that users turn lights on only when needed. The UW-100-24 uses high frequency (40kHz) ultrasound to detect occupancy and keep lighting ON. Once the space is vacated and the time delay elapses, lights automatically turn OFF. DIP switch settings allow for a variety of control options such as Auto-ON operation, walk-through and test modes.

Low Voltage

Low voltage wall switch sensors can offer advantages over line voltage models. Using an isolated form-C relay output, the UW-100-24 sensor integrates seamlessly with VAV or other building systems for greater energy savings. Multiple UW-100-24 sensors can also be connected on a single circuit and can switch loads that exceed the rating of a standard line voltage switch. In addition, low voltage sensor installations do not require the use of conduits reducing installation costs and making relocation easier.

Applications

The UW-100-24 is the perfect choice for locations where line voltage wiring is not possible or for jurisdictions prohibiting the use of 277V switches. It is well suited for applications where the sensor may have a partially obstructed line of sight of the occupant such as individual restrooms, restrooms with two stalls and utility/storage rooms.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- LED indicates occupancy detection
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

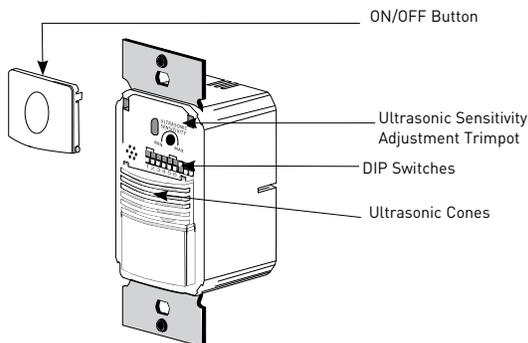


Specifications

- 18-24 VDC, 24 VAC and halfwave rectified AC
- Current consumption: 35 mA
- UW-100-24 contains single-pole, double-throw isolated relay rated for 1 A @ 30 VDC
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Coverage: Major motion 20' x 20'
Minor motion 15' x 15'
- Sensitivity adjustment: Ultrasonic (fully variable)
- Dimensions: 2.73" x 1.76" x 1.83"
(69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| Time Delay | 1 | 2 | 3 |
|------------|---|---|---|
| Test | ↓ | ↓ | ↓ |
| 5 minutes | ↓ | ↓ | ↑ |
| 10 minutes | ↓ | ↑ | ↑ |
| 15 minutes | ↓ | ↑ | ↑ |
| 20 minutes | ↑ | ↓ | ↑ |
| 25 minutes | ↑ | ↓ | ↑ |
| 30 minutes | ↑ | ↓ | ↑ |
| Service | ↑ | ↑ | ↑ |

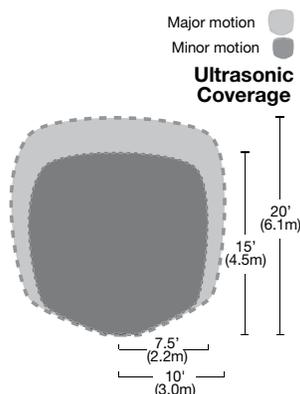
| Audible Alert | 6 |
|---------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

| ON Mode | 7 |
|-----------|---|
| Auto On | ↓ |
| Manual On | ↑ |

Switches 8 & 9 are not used.
↑=ON ↓=OFF
←=Factory Setting

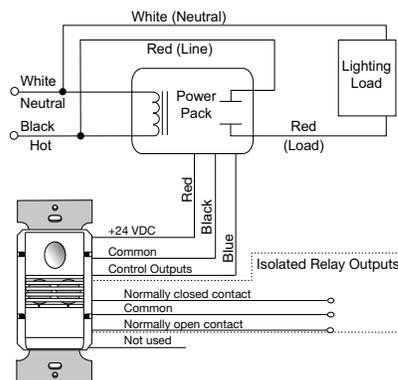
Coverage & Wiring

Coverage Pattern



For best performance, WattStopper recommends using this sensor in spaces no larger than 15' x 15'.

UW-100-24 Low Voltage Wiring

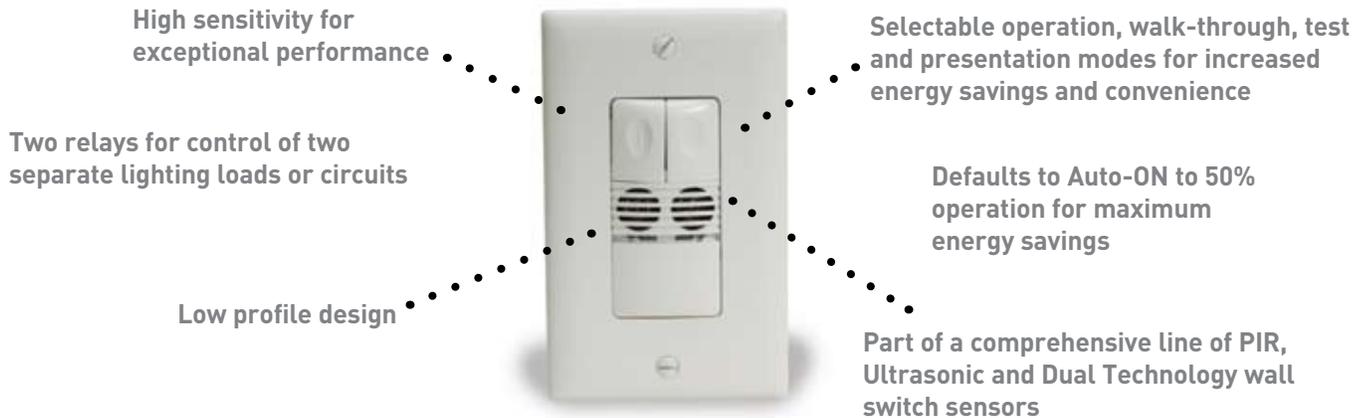


Ordering Information

| Catalog No. | Color | Voltage |
|---------------------------------------|------------|---|
| <input type="checkbox"/> UW-100-24-W | White | 18-24 VDC, 24 VAC and halfwave rectified AC |
| <input type="checkbox"/> UW-100-24-LA | Lt. Almond | |
| <input type="checkbox"/> UW-100-24-I | Ivory | |
| <input type="checkbox"/> UW-100-24-G | Grey | |
| <input type="checkbox"/> UW-100-24-B | Black | |

Order wall plate separately.

UW-200 Ultrasonic Dual Relay Wall Switch Sensor



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The UW-200 ultrasonic wall switch sensor turns lights ON and OFF based on occupancy. It contains two relays for controlling two independent lighting loads or circuits and a variety of features.

Operation

The UW-200 fits in a single gang junction box. Each of the UW-200's relays can control a separate lighting load. It uses high frequency (40kHz) ultrasound to detect occupancy and turn the first relay ON. Once the space is vacated and the time delay elapses, lights automatically turn OFF. Dual ON/OFF buttons allow the user to manually turn on and off each of the loads. DIP switch settings allow for a variety of control options such as Manual-ON or Auto-ON for each relay, walk-through and test modes.

Bi-Level Control

The UW-200 features a built-in light level sensor that controls the second (secondary) relay. If adequate daylight is present, the sensor will hold secondary lights off until daylight levels drop, providing increased energy savings. The UW-200 satisfies energy codes requiring bi-level or daylight control switching. The two relays in the sensor give it the ability to control two lighting loads independently. This provides A/B switching where the user can achieve half-lighting (or another desired portion) from a single switch.

Applications

The UW-200 sensor is ideal for applications where the sensor may have a partially obstructed line of sight of the occupant. In addition, its dual relays allow bi-level switching or control of a secondary load such as an exhaust fan. Common applications include individual restrooms, restrooms with two stalls and utility/storage rooms.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing on both relays for long relay life
- Choice of Manual-ON or Auto-ON operation, selectable for each relay
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible and/or visual alerts for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- LED indicates occupancy detection
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

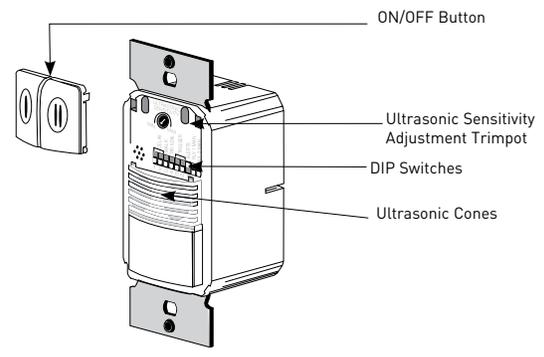


Specifications

- 120/277 VAC; 50/60 Hz
 @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp
 @ 277 VAC, 0-1200 W ballast
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Coverage: Major motion 20' x 20'
 Minor motion 15' x 15'
- Sensitivity adjustment: Ultrasonic (fully variable)
- Dimensions: 2.73" x 1.76" x 1.83"
 (69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| Time Delay | 1 | 2 | 3 |
|------------|---|---|---|
| Test | ↓ | ↓ | ↓ |
| 5 minutes | ↓ | ↓ | ↑ |
| 10 minutes | ↓ | ↑ | ↑ |
| 15 minutes | ↓ | ↑ | ↑ |
| 20 minutes | ↓ | ↑ | ↑ |
| 25 minutes | ↑ | ↑ | ↑ |
| 30 minutes | ↑ | ↑ | ↑ |
| Service | ↑ | ↑ | ↑ |

| Walk-Through | 4 |
|--------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

| Visible Alert | 5 |
|---------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

| Audible Alert | 6 |
|---------------|---|
| Disabled | ↓ |
| Enabled | ↑ |

| Relay 1 Mode | 7 |
|--------------|---|
| Auto On | ↓ |
| Manual On | ↑ |

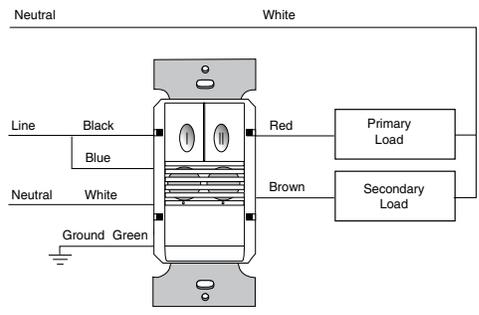
| Relay 2 Mode | 8 |
|--------------|---|
| Auto On | ↓ |
| Manual On | ↑ |

| No Function | 9 |
|-------------|---|
|-------------|---|

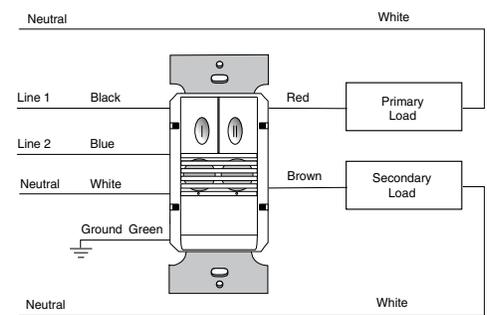
Factory Settings:
 ▲ All models
 ▲ UW-100 series
 ▲ UW-200 series

Wiring

UW-200 Bi-level Wiring

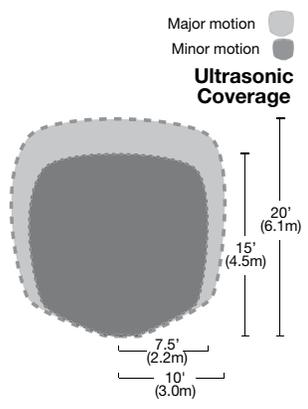


UW-200 Two Circuit Wiring



Coverage

Coverage Pattern



For best performance, WattStopper recommends using this sensor in spaces no larger than 15' x 15'.

Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|------------------------------------|------------|-----------------------|---|
| <input type="checkbox"/> UW-200-W | White | 120/277 VAC; 50/60 Hz | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> UW-200-LA | Lt. Almond | | |
| <input type="checkbox"/> UW-200-I | Ivory | | |
| <input type="checkbox"/> UW-200-G | Grey | | |
| <input type="checkbox"/> UW-200-B | Black | | |

Order wall plate separately.

DW-100 Dual Technology Wall Switch Sensor

High sensitivity and dense coverage for exceptional performance

Color-matched lens and low profile for appealing design



Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Defaults to Manual-ON operation for maximum energy savings

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

PROJECT

LOCATION/TYPE

Product Overview

Description

The DW-100 dual technology wall switch sensor combines the benefits of passive infrared (PIR) and ultrasonic technologies, and can turn lights OFF and ON based on occupancy. It is characterized by high sensitivity to small and large movements, appealing aesthetics, and a variety of features.

Operation

The DW-100 fits in a single gang junction box. Once the lights are ON, detection by either technology holds lights ON until occupancy is no longer detected and the time delay elapses. DIP switch settings allow for a variety of control options including Auto-ON operation, walk-through and test mode. By default, Auto-ON turns lighting on when both PIR and ultrasonic technologies detect occupancy. Additional DIP switch settings allow the user to choose which sensing technologies turn-ON and hold-ON the lighting.

Manual-on Control

Factory default operation is for Manual-ON, so that users turn lights on only when needed. This control strategy is proven to save more energy than Auto-ON, and will be required where the ASHRAE 90.1-2010 energy code is adopted. If desired, the DW-100 may be reconfigured to turn lights on automatically.

Applications

WattStopper's dual technology has the flexibility to work in a variety of applications where one technology alone may not be sufficient. Common applications include small and executive offices, small and medium conference rooms and lunch/break rooms. In addition, dual technology sensors are the perfect choice for ADA-compliant buildings due to lower mounting height requirements.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible alert for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Four occupancy logic options give users the ability to customize control to meet application needs
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates
- Qualifies for ARRA-funded public works projects



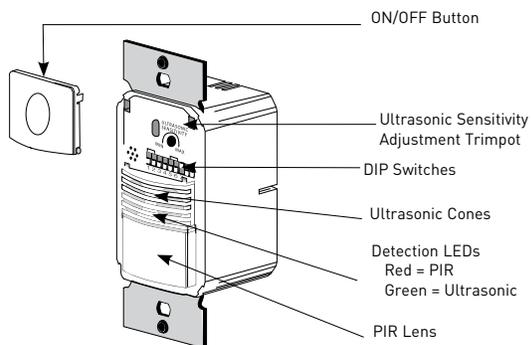
Specifications

- DW-100: 120/277 VAC; 50/60 Hz
@ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp
@ 277 VAC, 0-1200 W ballast
- DW-100-347: 347 VAC; 50/60Hz, 0-1500 W ballast
- Time delays: 5, 15 or 30 minutes, walk-through, test-mode

- Coverage:
Major motion, PIR 35' x 30', Ultrasonic 20' x 20'
Minor motion, PIR 20' x 15', Ultrasonic 15' x 15'
- Sensitivity adjustment: PIR (high/low), Ultrasonic (fully variable)
- Dimensions: 2.73" x 1.76" x 1.83"
{69.3mm x 44.7mm x 46.5mm} L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| | | | |
|-------------------|---|---|--|
| Time Delay | 1 | 2 | |
| Test | ↓ | ↓ | |
| 5 minutes | ↓ | ↑ | |
| 15 minutes | ↑ | ↑ | |
| 30 minutes | ↑ | ↑ | |

| | | |
|---------------------|---|--|
| Walk-Through | 3 | |
| Disabled | ↓ | |
| Enabled | ↑ | |

| | | |
|------------------------|---|--|
| PIR Sensitivity | 4 | |
| High | ↓ | |
| Low, 50% | ↑ | |

| | | |
|----------------------|---|--|
| Audible Alert | 7 | |
| Disabled | ↓ | |
| Enabled | ↑ | |

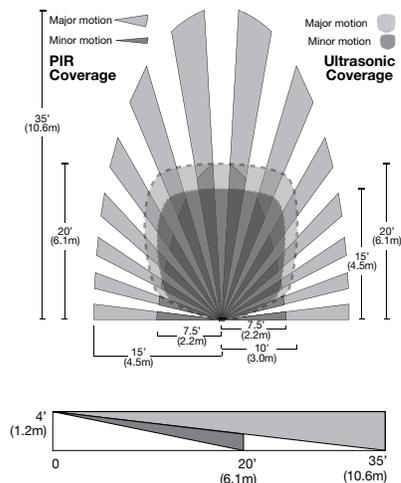
| | | |
|----------------|---|--|
| ON Mode | 8 | |
| Auto On | ↓ | |
| Manual On | ↑ | |

| | | | |
|---------------------|------|--------|-----------|
| Trigger Mode | 5 | 6 | |
| Standard | Both | Either | Either(S) |
| Option A | PIR | PIR | PIR |
| Option B | PIR | PIR | PIR |
| Option C | Both | Both | Both |

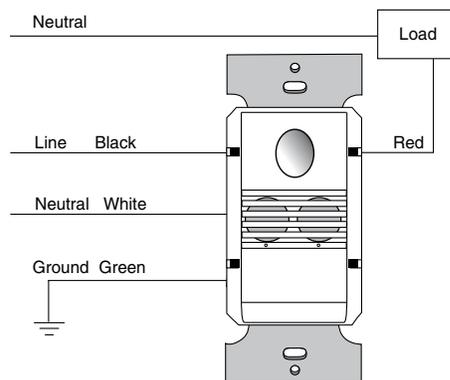
Switch 9 is not used
 ↑ = ON ↓ = OFF
 ◀ = Factory Setting

Coverage & Wiring

Coverage Pattern



Wiring Diagram



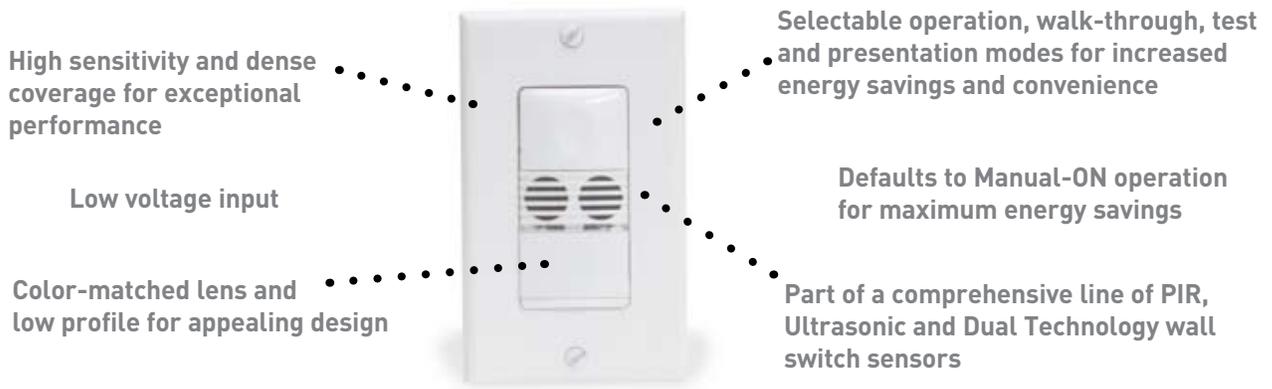
For best performance, WattStopper recommends using this sensor in spaces no larger than 18' x 15'.

Ordering Information

| Catalog No. | Color | Voltage | Load Rating | | |
|--|---|-----------------------|---|-------------------|------------------|
| <input type="checkbox"/> DW-100-W <input type="checkbox"/> DW-100-W-U <input type="checkbox"/> DW-100-W-FTA | White | 120/277 VAC; 50/60 Hz | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast | | |
| <input type="checkbox"/> DW-100-LA | Lt. Almond | | | | |
| <input type="checkbox"/> DW-100-I <input type="checkbox"/> DW-100-I-U <input type="checkbox"/> DW-100-I-FTA | Ivory | | | | |
| <input type="checkbox"/> DW-100-G | Grey | | | | |
| <input type="checkbox"/> DW-100-B | Black | | | | |
| <input type="checkbox"/> DW-100-347-W <input type="checkbox"/> DW-100-347-LA <input type="checkbox"/> DW-100-347-I <input type="checkbox"/> DW-100-347-G <input type="checkbox"/> DW-100-347-B | White Lt. Almond Ivory Grey Black | | | 347 VAC; 50/60 Hz | 0-1500 W ballast |

Order wall plate separately.

DW-100-24 Dual Technology Low Voltage Wall Switch Sensor



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The DW-100-24 dual technology low voltage wall switch sensor combines the benefits of passive infrared (PIR) and ultrasonic technologies to turn lights OFF and ON based on occupancy. It is characterized by high sensitivity to small and large movements, appealing aesthetics, and a variety of features.

Operation

Factory default operation is for Manual-ON, so that users turn lights on only when needed. Once the lights are ON, detection by either technology holds lights ON until occupancy is no longer detected and the time delay elapses. DIP switch settings allow for a variety of control options including Auto-ON operation, walk-through and test mode. By default, Auto-ON turns lighting on when both PIR and ultrasonic technologies detect occupancy. Additional DIP switch settings allow the user to choose which sensing technologies turn-ON and hold-ON the lighting.

Low Voltage

Low voltage wall switch sensors can offer advantages over line voltage models. Using an isolated form-C relay output, the DW-100-24 sensor integrates seamlessly with VAV or other building systems for greater energy savings. Multiple DW-100-24 sensors can also be connected on a single circuit and can switch loads that exceed the rating of a standard line voltage switch. In addition, low voltage sensor installations do not require the use of conduits reducing installation costs and making relocation easier.

Applications

WattStopper's dual technology has the flexibility to work in a variety of applications where one technology alone may not be sufficient. The DW-100-24 is the perfect choice for locations where line voltage wiring is not possible or for jurisdictions prohibiting the use of 277V switches. Common applications include small and executive offices, small and medium conference rooms and lunch/break rooms.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible alert for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Four occupancy logic options give users the ability to customize control to meet application needs
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates
- Qualifies for ARRA-funded public works projects

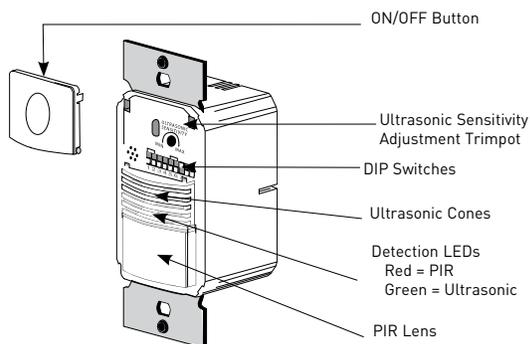


Specifications

- 18-24 VDC, 24 VAC and halfwave rectified AC
- Current consumption: 35 mA
- DW-100-24 contains single-pole, double-throw isolated relay rated for 1 A @ 30 VDC
- Time delays: 5, 15 or 30 minutes, walk-through, test-mode
- Coverage:
 - Major motion, PIR 35' x 30', Ultrasonic 20' x 20'
 - Minor motion, PIR 20' x 15', Ultrasonic 15' x 15'
- Sensitivity adjustment: PIR (high/low), Ultrasonic (fully variable)
- Dimensions: 2.73" x 1.76" x 1.83" (69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| | | |
|-------------------|----------|----------|
| Time Delay | 1 | 2 |
| Test | ↓ | ↓ |
| 5 minutes | ↑ | ↑ |
| 15 minutes | ↑ | ↑ |
| 30 minutes | ↑ | ↑ |

| | |
|---------------------|----------|
| Walk-Through | 3 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|------------------------|----------|
| PIR Sensitivity | 4 |
| High | ↓ |
| Low, 50% | ↑ |

| | | |
|---------------------|----------|----------|
| Trigger Mode | 5 | 6 |
| Standard | Both | Either |
| Option A | PIR | PIR |
| Option B | PIR | PIR |
| Option C | Both | Both |

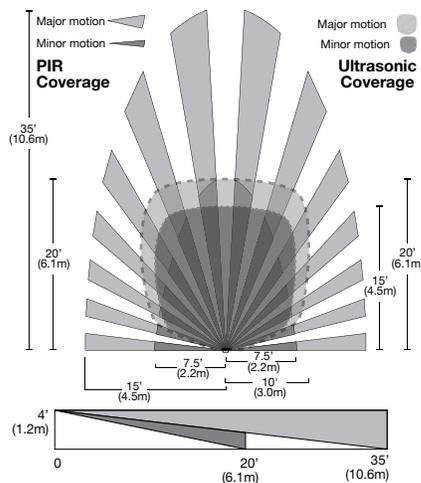
| | |
|----------------------|----------|
| Audible Alert | 7 |
| Disabled | ↓ |
| Enabled | ↑ |

| | |
|----------------|----------|
| ON Mode | 8 |
| Auto On | ↓ |
| Manual On | ↑ |

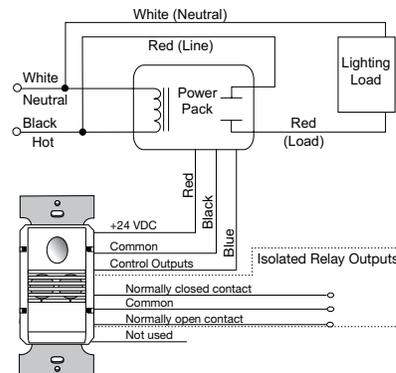
Switch 9 is not used
 ↑=ON ↓=OFF
 ◀=Factory Setting

Coverage & Wiring

Coverage Pattern



DW-100-24 Low Voltage Wiring



For best performance, WattStopper recommends using this sensor in spaces no larger than 18' x 15'.

Ordering Information

| Catalog No. | Color | Voltage |
|--|------------|---|
| <input type="checkbox"/> DW-100-24-W | White | 18-24 VDC, 24 VAC and halfwave rectified AC |
| <input type="checkbox"/> DW-100-24-W-U | | |
| <input type="checkbox"/> DW-100-24-W-FTA | | |
| <input type="checkbox"/> DW-100-24-LA | Lt. Almond | |
| <input type="checkbox"/> DW-100-24-I | Ivory | |
| <input type="checkbox"/> DW-100-24-G | Grey | |
| <input type="checkbox"/> DW-100-24-B | Black | |

Order wall plate separately.

DW-103 Dual Technology Multi-way Wall Switch Sensor

High sensitivity and dense coverage for exceptional performance

Defaults to Manual-ON operation for maximum energy savings

Color-matched lens and low profile for appealing design



Allows multi-way control from one of up to four control locations

Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

PROJECT

LOCATION/TYPE

Product Overview

Description

The DW-103 dual technology multi-way wall switch sensor combines the benefits of passive infrared (PIR) and ultrasonic technologies, and can turn lights OFF and ON based on occupancy. It provides high sensitivity to small and large movements, appealing aesthetics and a variety of features.

Operation

The DW-103 replaces existing wall switches and fits in a single gang junction box. Factory default operation is for Manual-ON, and detection by either technology keeps lights ON until occupancy is no longer detected and a time delay elapses. DIP switch settings allow control options including Auto-ON operation, walk-through and test modes. Additional DIP switches determine which sensing technologies turn-ON and hold-ON the lighting. Multiple DW-103 sensors may be used for control of one or more loads from up to four locations.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible alert for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Four occupancy logic options give users the ability to customize control to meet application needs
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

Multi-way Control

The DW-103 offers true multi-way functionality. When connected sensors are in Manual-ON mode, an occupant must press the ON/OFF button of one of the sensors to turn the load ON. When sensors are in Auto-ON mode, the load will automatically turn ON when occupancy is detected by one of the sensors. Lights will remain ON as long as occupancy is detected. The last sensor to detect occupancy will turn the load OFF after the time delay has elapsed. In either operating mode, an occupant may turn the load OFF manually.

Applications

WattStopper's dual technology is recommended for spaces where one technology alone may not be sufficient. Common applications include private offices, conference rooms and lunch/break rooms. Additionally, dual technology sensors may be mounted at a height suitable for ADA compliance.

DW-200 Dual Technology Dual Relay Wall Switch Sensor

High sensitivity and dense coverage for exceptional performance

Two relays for control of two separate lighting loads or circuits

Color-matched lens and low profile for appealing design



Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Defaults to Auto-ON to 50% operation for maximum energy savings

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

Product Overview

Description

The DW-200 dual technology wall switch sensor combines the benefits of passive infrared (PIR) and ultrasonic technologies to turn lights ON and OFF based on occupancy. It contains two relays for controlling two independent lighting loads or circuits and a variety of features.

Operation

The DW-200 fits in a single gang junction box. Each of the DW-200's relays can control a separate lighting load. By default, when both PIR and ultrasonic technologies detect occupancy, relay 1 turns ON automatically. Detection by either technology holds lights ON. When occupancy is no longer detected and the time delay elapses, lights automatically turn OFF. Dual ON/OFF buttons allow the user to manually turn on and off each of the loads. DIP switch settings allow for a variety of control options such as Auto-ON or Manual-ON for each relay, walk-through, and test mode.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing on both relays for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation, selectable for each relay
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible alert for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Four occupancy logic options give users the ability to customize control to meet application needs
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates
- Qualifies for ARRA-funded public works projects

PROJECT

LOCATION/TYPE

Bi-Level Control

The DW-200 features a built-in light level sensor that controls the second (secondary) relay. If adequate daylight is present, the sensor will hold secondary lights off until daylight levels drop, providing increased energy savings. The DW-200 satisfies energy codes requiring bi-level or daylight control switching. The two relays in the sensor give it the ability to control two lighting loads independently. This provides A/B switching where the user can achieve half-lighting (or another desired portion) from a single switch.

Applications

The DW-200 has the flexibility for applications where one technology alone may not be sufficient. In addition, its dual relays allow bi-level switching or control of two loads. Applications include small and executive offices, small and medium conference rooms and lunch/break rooms. This sensor is also a perfect choice for ADA-compliant buildings due to lower mounting height requirements.

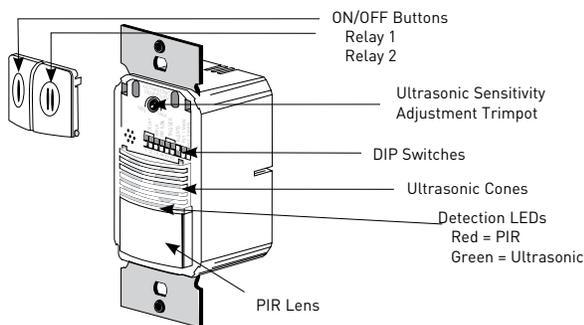


Specifications

- 120/277 VAC; 50/60 Hz
 @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp
 @ 277 VAC, 0-1200 W ballast
- Time delays: 5, 15 or 30 minutes, walk-through, test-mode
- Coverage:
 Major motion, PIR 35' x 30', Ultrasonic 20' x 20'
 Minor motion, PIR 20' x 15', Ultrasonic 15' x 15'
- Sensitivity adjustment: PIR (high/low), Ultrasonic (fully variable)
- Dimensions: 2.73" x 1.76" x 1.83" (69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| | | | |
|--------------------------|----------|---|---|
| Time Delay 1 2 | Test | ↓ | ↑ |
| 5 minutes | ↓ | ↑ | |
| 15 minutes | ↑ | ↓ | |
| 30 minutes | ↑ | ↓ | |
| Walk-Through 3 | Disabled | ↓ | ↑ |
| Enabled | ↑ | ↓ | |
| PIR Sensitivity 4 | High | ↓ | ↑ |
| Low, 50% | ↑ | ↓ | |

| | | | |
|---------------------|-------------------|--------------------|-------------------------------|
| Trigger Mode | Initial Occupancy | Maintain Occupancy | Re-trigger (seconds duration) |
| Standard | Both | Either | Either(S) |
| Option A | PIR | PIR | PIR |
| Option B | PIR | PIR | PIR |
| Option C | Both | Both | Both |

| | | | |
|--------------------------|----------|---|---|
| Audible Alert 7 | Disabled | ↓ | ↑ |
| Enabled | ↑ | ↓ | |
| Relay 1 ON Mode 8 | Auto On | ↓ | ↑ |
| Manual On | ↑ | ↓ | |

DW-203 only:

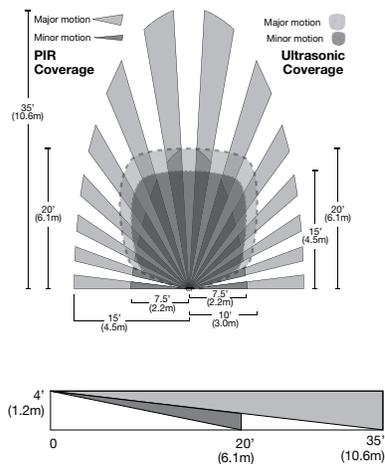
| | | | |
|--------------------------|---------|---|---|
| Relay 2 ON Mode 9 | Auto On | ↓ | ↑ |
| Manual On | ↑ | ↓ | |

Factory Settings:
 ◀ All models
 ▲ DW-100 series
 ▴ DW-200 series

↑ = ON ↓ = OFF

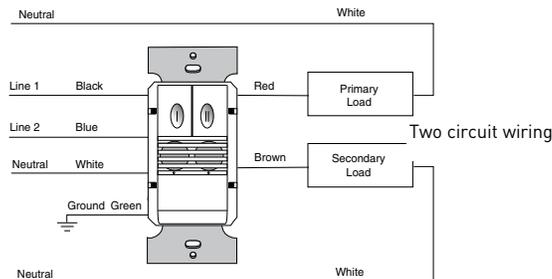
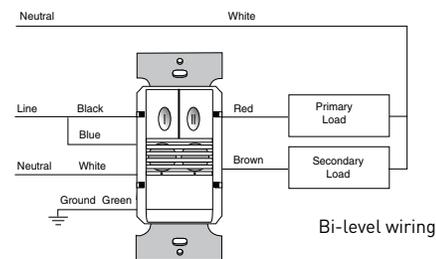
Coverage & Wiring

Coverage Pattern



For best performance, WattStopper recommends using this sensor in spaces no larger than 18' x 15'.

Wiring Diagrams



Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|---|------------|-----------------------|---|
| <input type="checkbox"/> DW-200-W <input type="checkbox"/> DW-200-W-U <input type="checkbox"/> DW-200-W-FTA | White | 120/277 VAC; 50/60 Hz | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> DW-200-LA | Lt. Almond | | |
| <input type="checkbox"/> DW-200-I <input type="checkbox"/> DW-200-I-U <input type="checkbox"/> DW-200-I-FTA | Ivory | | |
| <input type="checkbox"/> DW-200-G | Grey | | |
| <input type="checkbox"/> DW-200-B | Black | | |

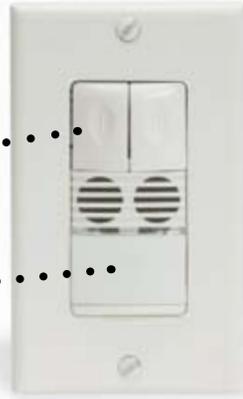
Order wall plate separately.

DW-203 Dual Technology Multi-way Dual Relay Wall Switch Sensor

High sensitivity and dense coverage for exceptional performance

Two relays for control of two separate lighting loads or circuits

Color-matched lens and low profile for appealing design



Allows multi-way control from one of up to four control locations

Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

PROJECT

LOCATION/TYPE

Product Overview

Description

The DW-203 dual technology multi-way wall switch sensor combines the benefits of passive infrared (PIR) and ultrasonic technologies to turn lights ON and OFF based on occupancy. It has two relays for controlling two independent lighting loads or circuits and a variety of features.

Operation

The DW-203 fits in a single gang box. By default, when both PIR and ultrasonic technologies detect occupancy, it turns the first relay ON. Continued detection by either technology keeps lights ON until occupancy is no longer detected and a time delay elapses. Dual ON/OFF buttons allow the user to manually switch each load, and each relay may be set to Manual-ON or Auto-ON. The DW-203 features a light level sensor that controls the second relay when it is in Auto-ON mode. If adequate daylight is present, the sensor will hold the second relay off until daylight levels drop.

Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation, selectable for each relay
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments

Multi-way Control

Multiple DW-203 sensors may be connected for control from up to four locations, and provide true multi-way functionality. When Manual-ON mode is active, an occupant must press an ON/OFF button on one of the sensors to turn a load ON. When Auto-ON mode is active, the load will automatically turn ON when occupancy is detected by one of the sensors. Lights will remain ON as long as occupancy is detected. The last sensor to detect occupancy will turn the loads OFF after the time delay has elapsed. In either operating mode, an occupant may turn the load OFF manually.

Applications

Dual technology is recommended for spaces where one technology alone may not be sufficient. Applications include private offices, conference rooms and lunch/break rooms with multiple switch locations. Dual technology sensors may be mounted at a height suitable for ADA compliance.

- Selectable audible alert for impending shutoff
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- Four occupancy logic options give users the ability to customize control
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

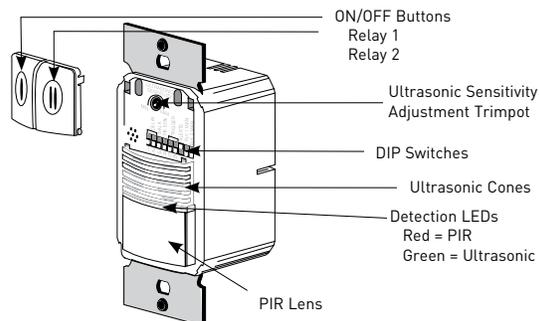


Specifications

- DW-203: 120/277 VAC; 50/60 Hz
@ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp
@ 277 VAC, 0-1200 W ballast
- Time delays: 5, 15, or 30 minutes, walk-through, test-mode
- Coverage:
Major motion, PIR 35' x 30', Ultrasonic 20' x 20'
Minor motion, PIR 20' x 15', Ultrasonic 15' x 15'
- Sensitivity adjustment: PIR (high/low), Ultrasonic (fully variable)
- Dimensions: 2.73" x 1.76" x 1.83" (69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

Controls & Settings

Product Controls



DIP Switch Settings

| | | | | |
|--------------------------|--------------|---------------|----------------|----------------|
| Time Delay 1 2 | Test ↓ ↓ | 5 minutes ↓ ↑ | 15 minutes ↑ ↓ | 30 minutes ↑ ↑ |
| Walk-Through 3 | Disabled ↓ ↓ | Enabled ↑ | | |
| PIR Sensitivity 4 | High ↓ ↓ | Low, 50% ↑ ↑ | | |

| | | | | |
|---------------------|-------------------|--------------------|-------------------------------|---------|
| Trigger Mode | Initial Occupancy | Maintain Occupancy | Re-trigger (minimum duration) | 5 6 |
| Standard | Both | Either | Either | ↓ ↓ ↓ ↓ |
| Option A | PIR | PIR | PIR | ↑ ↑ ↑ ↑ |
| Option B | PIR | PIR | PIR | ↑ ↑ ↑ ↑ |
| Option C | Both | Both | Both | ↑ ↑ ↑ ↑ |

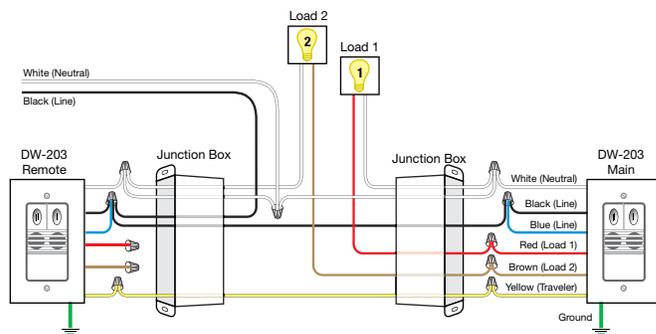
| | | |
|--------------------------|--------------|---------------|
| Audible Alert 7 | Disabled ↓ ↓ | Enabled ↑ ↑ |
| Relay 1 On Mode 8 | Auto On ↓ ↓ | Manual On ↑ ↑ |
| Relay 2 On Mode 9 | Auto On ↓ ↓ | Manual On ↑ ↑ |

↑ = ON ↓ = OFF

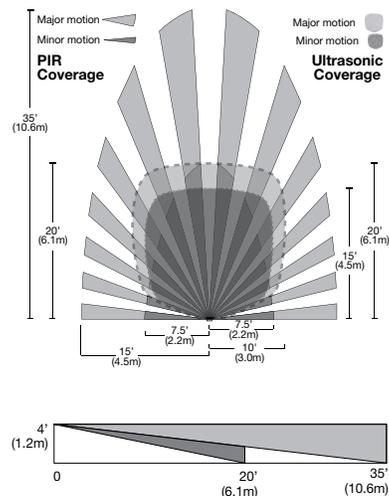
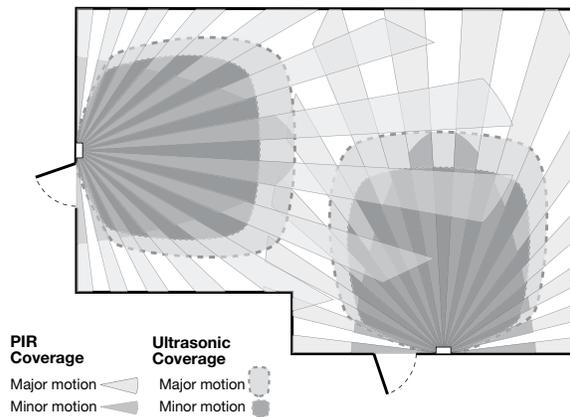
Factory Settings:
 ◀ All models
 ▲ DW-100 series
 ▲ DW-200 series

Wiring & Coverage

Multi-way Bi-level Wiring Diagram



Coverage Patterns



For best performance in single location applications, WattStopper recommends using this sensor in spaces no larger than 18' x 15'. In multi-way applications, each connected sensor expands the coverage area.

Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|------------------------------------|------------|-----------------------|---|
| <input type="checkbox"/> DW-203-W | White | 120/277 VAC; 50/60 Hz | @ 120 VAC, 0-800 W ballast or tungsten, 1/6 hp @ 277 VAC, 0-1200 W ballast |
| <input type="checkbox"/> DW-203-LA | Lt. Almond | | |
| <input type="checkbox"/> DW-203-I | Ivory | | |
| <input type="checkbox"/> DW-203-G | Grey | | |
| <input type="checkbox"/> DW-203-B | Black | | |

Order wall plate separately.

CX-100 Series Passive Infrared Ceiling/Wall Sensors

Turns lights on and off based on occupancy

User-adjustable time delay and sensitivity

ASIC technology reduces components and provides greater reliability



Choice of four coverage patterns

Built-in light level sensor

Isolated relay for use with HVAC or other control systems

Automatic or manual-on operation when used with a BZ-150 Power Pack

PROJECT

LOCATION/TYPE

Product Overview

Description

WattStopper's CX-100 Series Passive Infrared (PIR) Ceiling/Wall Sensors detect occupancy to control lighting in a wide variety of applications. These sensors provide superior coverage and performance with great energy savings.

Operation

CX-100 Series Sensors are 24 VDC and control lighting systems through WattStopper power packs. Utilizing the latest PIR technology, they turn lights on when a difference is detected between infrared energy from a human body in motion and the background space. After the area is vacated and the time delay elapses, lighting automatically turns off.

Features

- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false off without reducing sensitivity
- Detection Signature Analysis eliminates false triggers and provides immunity to RFI and EMI
- Digital time delay adjustable from 15 seconds to 30 minutes
- Adjustable sensitivity enables occupancy detection to match the level of activity for each space
- LED indicates occupancy detection

Coverage Choices

The CX-100 Series Sensors are available with a choice of coverage patterns. The standard lens offers coverage up to 1000 square feet for typical desktop activity. When using the CX-100/105-1 or -3 lens, motion moving toward sensors will begin to be detected at 55 to 60 feet.

Applications

The CX sensors are ideal for large areas and can cover up to 2000 square feet of walking motion. By choosing the proper lens pattern for each application, the sensors can reliably cover large offices, computer rooms, classrooms, aisleways, warehouses and open offices where coverage cut-off is desired. Corner mounting to a wall or ceiling adds versatility and more control to the coverage.

- The CX-100's integrated light level sensor can create bi-level control for added energy savings
- Multilevel Fresnel lens for superior desktop occupancy detection with four lens patterns
- Isolated relay can interface with HVAC, EMS and monitoring systems, or with an additional lighting load
- Dual-element, temperature compensated pyroelectric sensor
- Swivel mounting bracket for convenient corner mounting to wall or ceiling
- Qualifies for ARRA-funded public works projects

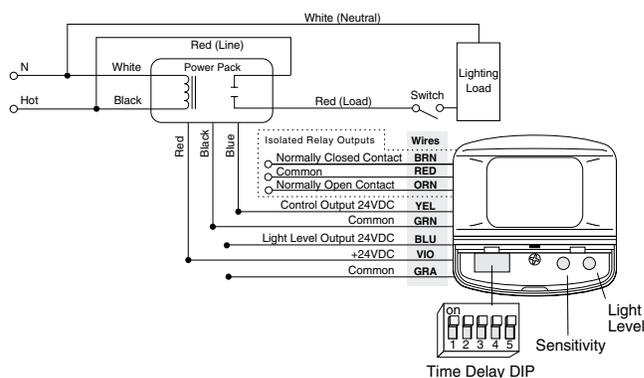


Specifications

- Dual-element, temperature compensated pyroelectric sensor
- CX-100 contains isolated relay with N/O and N/C outputs; rated for 1 Amp at 24 VDC/VAC
- Adjustable time delay: 15 seconds to 30 minutes
- CX-100 integrated light level sensor: three to 200 footcandles (32 to 2,152 lux)
- Max. CX-100s per power pack: B=6, BZ=8
- Max. CX-105s per power pack: B=14, BZ=18
- Dimensions: 3.3" x 3.3" x 2.1" (83.8mm x 83.8mm x 53.3mm) W x L x D
- UL and cUL listed
- Five year warranty

Wiring & Settings

Wiring Diagram



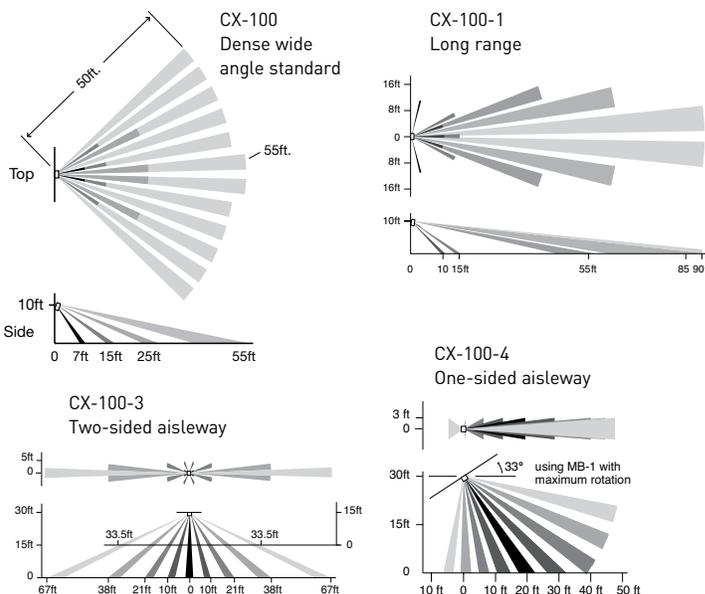
DIP Switch Settings

| Time Delays | DIP Switch # | | | | |
|-------------|--------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 15 seconds | ● | ● | ● | ● | — |
| 2 minutes | — | ● | ● | ● | — |
| 4 minutes | — | — | ● | ● | — |
| 6 minutes | — | — | — | ● | — |
| 8 minutes | — | — | — | — | ● |
| 10 minutes | — | — | — | — | — |
| 12 minutes | — | — | — | — | — |
| 14 minutes | — | — | — | — | — |
| 16 minutes | — | — | — | — | — |
| 18 minutes | — | — | — | — | — |
| 20 minutes | — | — | — | — | — |
| 22 minutes | — | — | — | — | — |
| 24 minutes | — | — | — | — | — |
| 26 minutes | — | — | — | — | — |
| 28 minutes | — | — | — | — | — |
| 30 minutes | — | — | — | — | — |
| Override | — | — | — | — | ● |

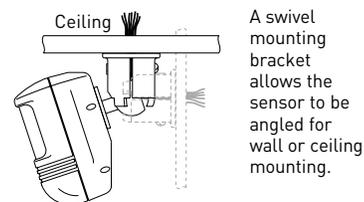
●=on —=off ◆=factory preset

Coverage & Mounting

Coverage Patterns

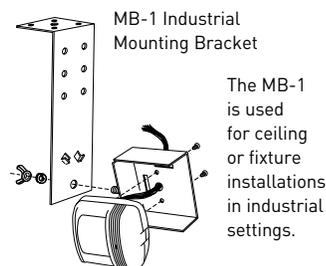


Mounting



Grooves on the bracket help to achieve desired angle for coverage.

Industrial Mounting



Coverages shown are maximum and represent half-step walking motion. Under ideal conditions with no barriers or obstacles, coverage for half-step walking motion with the standard lens can reach up to 2000 ft², while coverage for typical desktop activity can reach up to 1000 ft². When using the CX-100/105-1 or -3 lens, motion moving toward sensors will begin to be detected at 55 to 60 feet.

Ordering Information

| Catalog No. | Voltage | Current | Coverage | Features |
|---|---|---------|--|-----------------------------|
| <input type="checkbox"/> CX-100 | 24 VDC | 19 mA | up to 2000 ft ² (185.8 m ²) | isolated relay, light level |
| <input type="checkbox"/> CX-100-1 | 24 VDC | 19 mA | up to 90 linear ft (27.4 m) | isolated relay, light level |
| <input type="checkbox"/> CX-100-3 | 24 VDC | 19 mA | up to 120 linear ft (36.6 m) | isolated relay, light level |
| <input type="checkbox"/> CX-100-4 | 24 VDC | 19 mA | up to 50 linear ft (15.2 m) | isolated relay, light level |
| <input type="checkbox"/> CX-105 <input type="checkbox"/> CX-105-U <input type="checkbox"/> CX-105-FTA | 24 VDC | 8 mA | up to 2000 ft ² (185.8 m ²) | |
| <input type="checkbox"/> CX-105-1 <input type="checkbox"/> CX-105-1-U <input type="checkbox"/> CX-105-1-FTA | 24 VDC | 8 mA | up to 90 linear ft (27.4 m) | |
| <input type="checkbox"/> CX-105-3 | 24 VDC | 8 mA | up to 120 linear ft (36.6 m) | |
| <input type="checkbox"/> CX-105-4 | 24 VDC | 8 mA | up to 50 linear ft (15.2 m) | |
| <input type="checkbox"/> MB-1 | Industrial Mounting Bracket (recommended for use with -3 and -4 lenses) | | | |
| <input type="checkbox"/> MB-2 | Industrial Mounting Bracket for HID fixtures | | | |

WPIR Passive Infrared Ceiling Sensor

PIR sensor turns lights on and off based on occupancy

User-adjustable time delay of 30 seconds to 30 minutes

Automatic or manual-on operation when used with a BZ-150 Power Pack



ASIC technology reduces components and provides greater reliability

30-segment, multi-element Fresnel lens

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's WPIR Sensor is a versatile ceiling-mount sensor that utilizes the latest passive infrared (PIR) technology to turn lights on and off based on occupancy. The WPIR controls lighting in a wide variety of applications, but is especially adept at controlling small spaces with well-defined coverage.

Operation

The WPIR Ceiling Sensor utilizes the latest PIR technology to detect the difference between the infrared energy from a person in motion and the background space within the controlled area. When occupancy is detected, this 24 VDC sensor turns lighting or HVAC systems on through a WattStopper power pack controlled through low voltage wiring. When occupants leave the area, lighting is switched off after the user-adjustable time delay has elapsed.

Fresnel Lens and Coverage

The WPIR is equipped with a multi-element Fresnel lens that allows the sensor to efficiently collect infrared energy and provides optical gain over a defined field of view. The profile of each groove facet is determined by computer simulation to produce the sharpest images possible from a distant object. The use of a 30-segment lens allows overlapping coverage within the defined field of view. The coverage is partially determined by the view available to the sensor. Mounted to a wall, the WPIR will produce a completely different viewing pattern. Zone 4 and 5 (see diagram on back) are then capable of sensing up to 45 feet.

Applications

The WPIR can effectively cover small offices, utility areas or computer rooms. Additional applications include racquetball courts, garage areas, library aisleways and storage rooms.

Features

- ASIC technology enhances reliability and provides immunity to RFI and EMI
- Uses the latest PIR technology to reliably control lighting in a variety of applications
- User-adjustable time delay of 30 seconds to 30 minutes
- Incorporated daylight filter prevents short-wavelength infrared waves, such as those emitted by the sun, from affecting WPIR
- Multi-element Fresnel lens allows the sensor to efficiently collect infrared energy and provide optical gain over a defined field of view
- Alternate viewing patterns depending on mounting choice
- Optional on override through logic key/on bypass
- LED indicates occupancy detection
- Qualifies for ARRA-funded public works projects

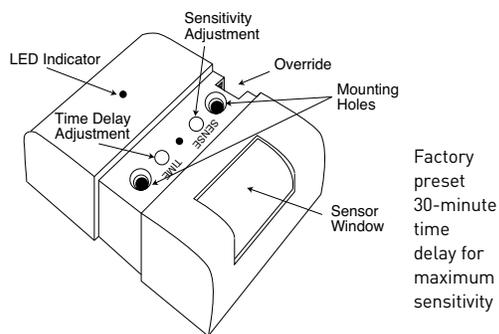


Specifications

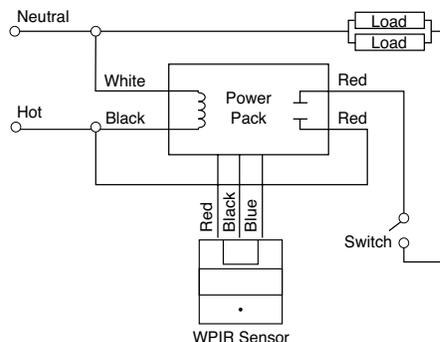
- Dual-element, temperature compensated pyroelectric sensor
- Adjustable time delay: 30 seconds to 30 minutes
- Poly IR4 lens, optical filter material
- Control output: 100mA maximum
- Max. units per power pack: B = eight; BZ = ten
- Dimensions: 2.5" x 2.5" x 1.14" (64mm x 64mm x 29mm) W x L x D
- UL and cUL listed
- Five year warranty

Wiring & Controls

Product Controls

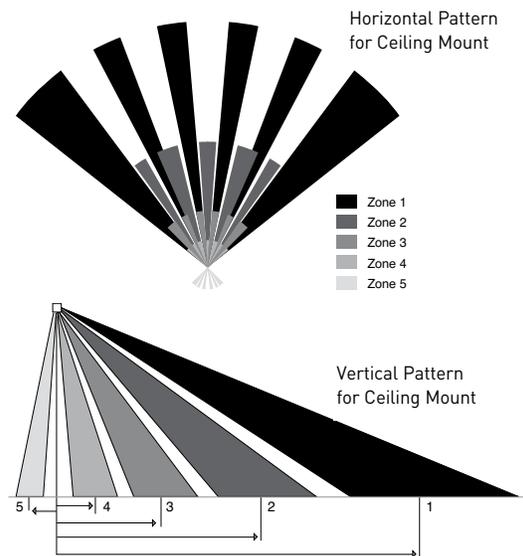


Wiring Diagram

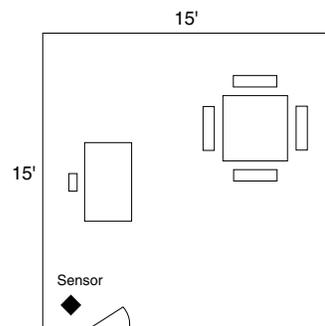


Coverage & Placement

Coverage Pattern

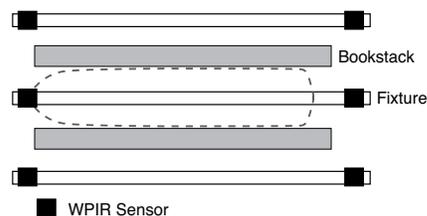


Typical Office Placement



For an enclosed office, the WPIR should be placed in the corner of the room so that it will detect occupants as they enter the room. For the aisleway between bookstacks, the WPIR should be placed at the end of each bookstack to detect occupancy upon entrance to the aisle way from either direction. For longer bookstacks, two or more WPIRs can be used.

Aisleway Library Bookstack Placement



| Ceiling Height | Detection Zones | | | | |
|----------------|-----------------|--------|--------|--------|--------|
| | Zone 5 | Zone 4 | Zone 3 | Zone 2 | Zone 1 |
| 8' | -1 | 1 | 4 | 8 | 15 |
| 10' | -1.5 | 1.5 | 5 | 10 | 19 |
| 12' | -2 | 2 | 6 | 12 | 23 |
| 15' | -2.5 | 2.5 | 8 | 15 | 29 |
| 20' | -3 | 3 | 10 | 18 | 36 |
| 25' | -4 | 4 | 12 | 23 | 45 |
| *8' | 50 | 40 | 25 | 15 | 5 |

* Wall mounted Horizontally

Ordering Information

| Catalog No. | Voltage | Current | Coverage |
|-------------|---------|---------|--|
| □ WPIR | 24 VDC | 14 mA | 300 ft ² (27.9 m ²) |

All units are white and use WattStopper power packs.

CB Low Temperature Passive Infrared Occupancy Sensor

PIR occupancy sensor for areas of extreme low temperature

Watertight enclosure prevents moisture and dust from affecting detection

Isolated relay contact for use with HVAC or other control systems



Choice of three coverage patterns

Convenient DIP switch adjustments of time delay and sensitivity

Ideal for cold storage rooms, freezers and outdoor locations

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The CB-100 passive infrared (PIR) occupancy sensor was engineered for installation in cold and damp conditions including the outdoors. It uses electronic components to allow for reliable operation in extreme temperature and environmental conditions.

Operation

The CB-100 operates on 24 VDC and controls lighting through WattStopper power packs. It is equipped with a swivel mount bracket for convenient installation. The unit detects occupancy and turns lighting on when it senses a change in infrared heat radiated within the controlled area. After the area is vacated and after a user-adjustable time delay, lighting automatically turns off.

Cold Application Engineering

Specifically designed for low temperature applications, the CB-100 features a gasketed, watertight enclosure which prevents moisture and dust from entering the sensor and affecting occupancy detection. By operating in areas as low as -40° F, the CB-100 saves energy in areas that would not typically be suited for occupancy based control.

Applications

The CB-100 has been manufactured for the specification of lighting control in low temperature areas. With this sensor, areas such as cold storage rooms, freezers, and unconditioned spaces subject to extreme low temperatures can receive the same reliable lighting control and energy savings as other building areas. Using the isolated relay contact to interface with HVAC, EMS or other building control systems will also increase savings.

Features

- Operates in areas with temperatures as low as -40°F
- Gasketed, watertight enclosure prevents moisture and dust from entering the sensor and affecting occupancy detection
- Choice of three different coverage patterns depending on needs of the application
- Swivel mount bracket for convenient installation
- Convenient DIP switch adjustable digital time delay of 15 seconds, 5 minutes or 10 minutes
- DIP switch adjustable sensitivity has 4 settings ranging from minimum to maximum
- Isolated relay can interface with HVAC, EMS systems, monitoring systems, or with an additional lighting load
- Red LED indicates occupancy detection

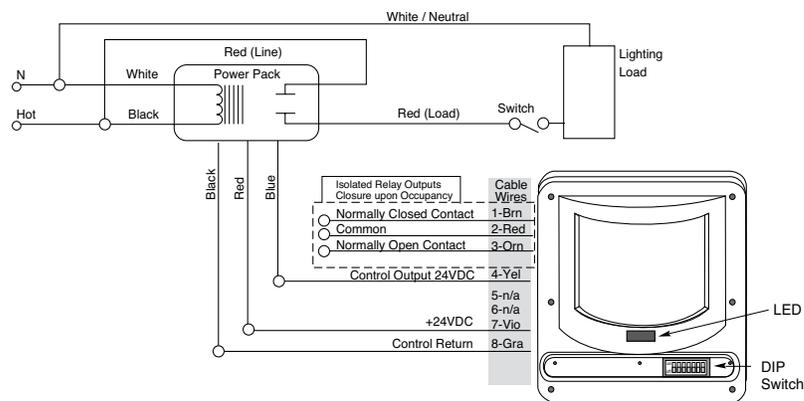


Specifications

- Dual-element, temperature compensated pyro-electric sensor
- Temperature range: -40°F (-40°C) to +95°F (+35°C) (The CB-100 can function at temperatures greater than 95°F but coverage may be reduced)
- Isolated relay with N/O and N/C outputs; rated for 1 Amp at 24 VDC/VAC
- Digital time delay settings of 15 seconds, 5 minutes, or 10 minutes
- Units per power pack: up to 5 (B); up to 7 (BZ)
- Dimensions: 3.94" x 3.74" x 2.36" (100mm x 95mm x 60mm) L x W x D
- UL and cUL listed
- Five year warranty

Wiring, Mounting & Settings

Wiring Diagram



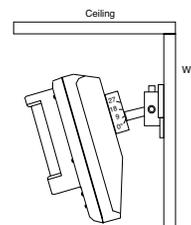
DIP Switch Settings

| Sensitivity | 1 | 2 |
|-------------|---|---|
| Maximum | - | - |
| Med High | - | ● |
| Med Low | ● | - |
| Minimum | ● | ● |

● = ON - = OFF
 ◀ = factory preset

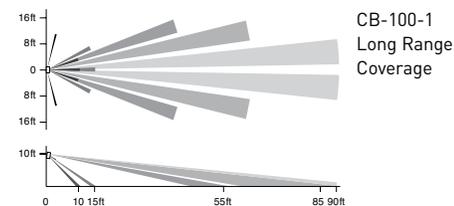
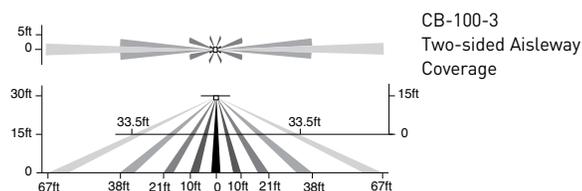
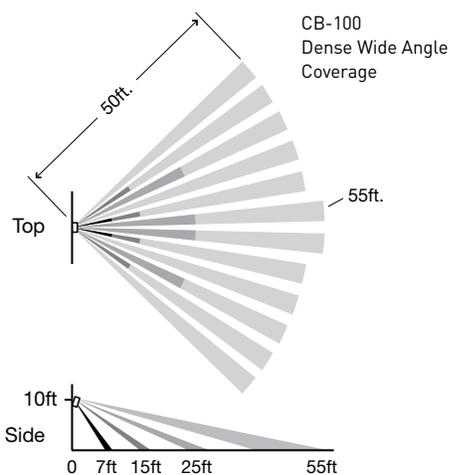
| Time Delay | 3 | 4 |
|------------|---|---|
| 10 minutes | - | - |
| 5 minutes | - | ● |
| 15 seconds | ● | ● |

Wall Mounting



Coverage

Coverage Patterns



Ordering Information

| Catalog No. | Voltage | Current | Coverage |
|-----------------------------------|---------|---------|---|
| <input type="checkbox"/> CB-100 | 24 VDC | 20 mA | up to 2000 ft ² (185.8m ²) |
| <input type="checkbox"/> CB-100-1 | 24 VDC | 20 mA | up to 90 linear ft (27.4m) |
| <input type="checkbox"/> CB-100-3 | 24 VDC | 20 mA | up to 120 linear ft (36.6m) |

Units are beige and use WattStopper power packs

CI-300 Series Passive Infrared Ceiling Sensors



Architecturally appealing low-profile appearance

Auto set automatically selects optimal time delay and sensitivity settings

Automatic or manual-on operation when used with a BZ-150 Power Pack

Plug terminal wiring for quick and easy installation

Accepts low-voltage switch input for manual-on operation

Walk-through mode increases savings potential

360° coverage

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's CI-300 Passive Infrared (PIR) Ceiling Sensors automatically turn lighting on and off based on occupancy. The sensor mounts on the ceiling with a flat, low-profile appearance and provides 360 degrees of coverage.

Operation

CI-300 Series Sensors operate on 24 VDC, VAC or halfwave rectified. Utilizing the latest PIR technology, they automatically turn lighting on when a difference is detected between infrared energy from a human body in motion and the background space. When no occupancy is detected for the length of the time delay, lighting automatically turns off. For manual-on operation, the CI-300 will operate with a low-voltage momentary switch.

Auto Set

The CI-300 Series Sensors require no adjustment at installation. Auto set continuously monitors the controlled space to identify usage patterns. Based on this information, the units automatically adjust time delay and sensitivity settings for optimal performance and energy efficiency. Sensors assign short delays (as low as five minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Applications

CI-300 Series Sensors have the flexibility to work in a variety of applications that include open office spaces, computer rooms, conference rooms, classrooms and warehouses. Areas with high ceilings or with two-level lighting can also be controlled. The convenient mounting system keeps installation costs down to speed up the product's payback.

Features

- Advanced control logic based on RISC microcontroller provides:
 - Detection Signature Processing to eliminate false triggers and provide immunity to RFI and EMI
 - Walk-through Mode turns lights off three minutes after the area is initially occupied – ideal for brief visits such as mail delivery
 - Built-in light level sensor featuring simple, one-step setup
- LED indicates occupancy detection
- CI-300 Series Sensors work with low-voltage momentary switches for manual control
- DIP switch simplifies sensor adjustments
- Clip-mounting system simplifies ceiling tile installation
- Plug terminal wiring system for quick and easy installation
- Available with isolated relay for integration with BAS or HVAC
- Qualifies for ARRA-funded public works projects

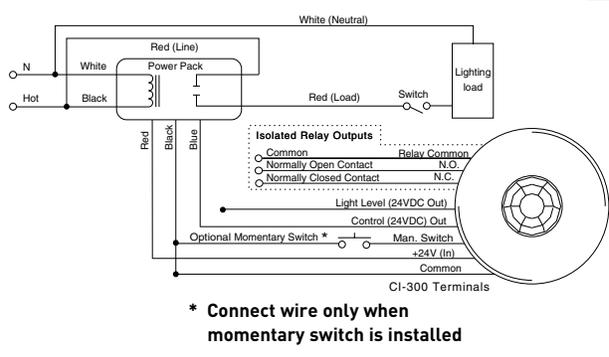


Specifications

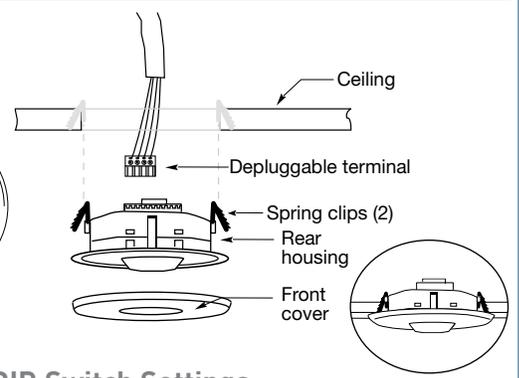
- 24 VDC/VAC
- Time delays: Auto set, fixed (5, 10, 15, 20, or 30 minutes), walk-through, test mode
- Sensitivity adjustment: Auto set or reduced sensitivity
- Multilevel Fresnel lens provides 360° coverage
- CI-300 contains isolated relay with N/O and N/C outputs; rated for 1 Amp at 30 VDC/VAC
- CI-300 built-in light level sensor: 10 to 300 footcandles (107.6 to 3,229.2 lux)
- Mounting options: ceiling tile; 4" square junction box with double-gang mud ring
- Max. CI-300s per power pack: B=5, BZ=7
- Max. CI-305s per power pack: B=12, BZ=16
- Dimensions: 4.5" x 1.02" (114.3mm x 25.9mm) diameter x depth
- UL and cUL listed
- Five year warranty

Wiring & Mounting

Wiring Diagram

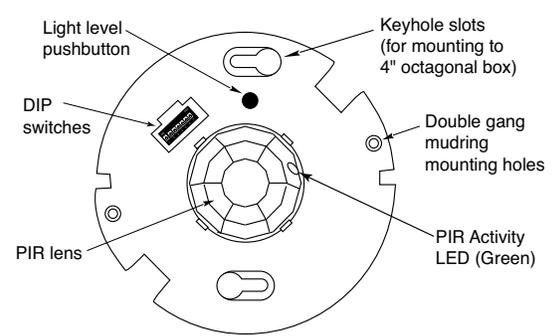


Ceiling Mounting

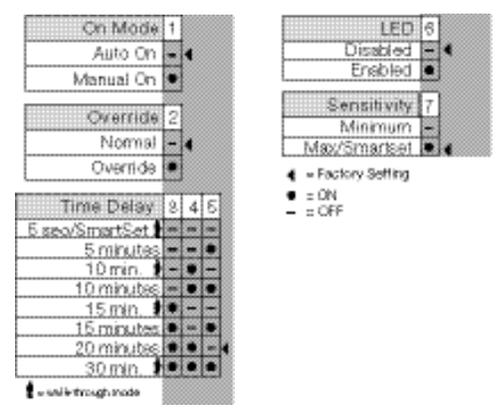


Controls & Settings

Product Controls

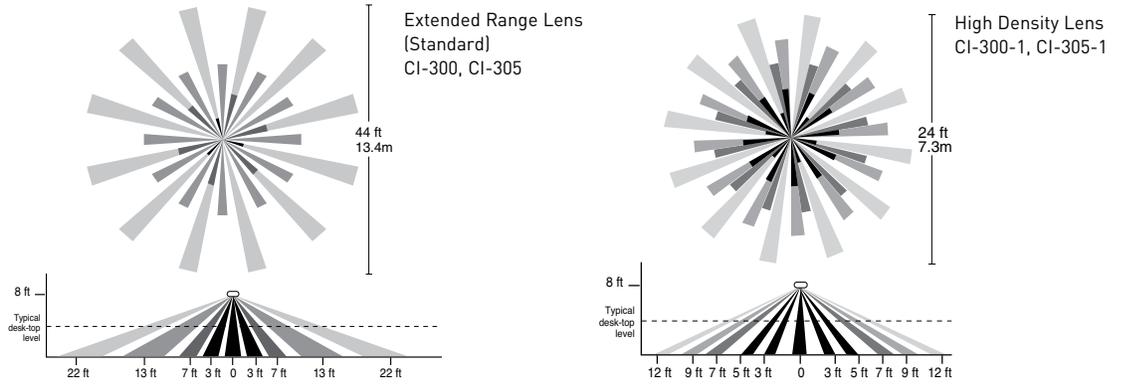


DIP Switch Settings



Coverage

Coverage Patterns



Ordering Information

| Catalog No. | Voltage | Current | Coverage | Features |
|-------------|---------|---------|--|-----------------------------|
| CI-300 | 24 VDC | 20 mA | 360°; up to 1200 ft ² (111.5 m ²) | Isolated relay, light level |
| CI-300-1 | 24 VDC | 20 mA | 360°; up to 500 ft ² (46.5 m ²) | Isolated relay, light level |
| CI-305 | 24 VDC | 9 mA | 360°; up to 1200 ft ² (111.5 m ²) | |
| CI-305-1 | 24 VDC | 9 mA | 360°; up to 500 ft ² (46.5 m ²) | |

Sensors are white.

CI-355 Passive Infrared Line Voltage Ceiling Sensor

Auto set automatically selects optimal time delay and sensitivity settings

Architecturally appealing low profile appearance

360° coverage

Terminal wiring for quick and easy installation

Operates at 120, 277 or 347 VAC, 50/60 Hz

Walk-through mode increases savings potential



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's CI-355 passive infrared (PIR) occupancy sensor automatically turns lighting on and off based on occupancy. The sensor mounts on the ceiling with a flat, low-profile appearance and provides 360 degrees of coverage.

Operation

The CI-355 is line voltage and operates at 120, 277 or 347 VAC. The sensor uses passive infrared technology (PIR) to sense occupancy and automatically turn lighting on. PIR works by sensing the difference between infrared energy from a human body in motion and the background space. When no occupancy is detected for the length of the time delay, lighting automatically turns off.

Auto Set

The CI-355 requires no adjustment at installation. Auto set continuously monitors the controlled space to identify usage patterns. Using this information, it automatically adjusts the time delay and sensitivity settings for optimal performance and energy efficiency. The sensor assigns short delays (as low as 5 minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Applications

The CI-355 works well in open office spaces, computer rooms, conference rooms, classrooms, and warehouses. It is a good choice for areas with high ceilings or with two-level lighting. The convenient mounting system keeps installation costs down. It also eliminates the need for a power pack by using line voltage wiring.

Features

- Advanced control logic based on RISC micro-controller provides:
 - Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
 - Walk-through mode turns lights off 3 minutes after the area is initially occupied – ideal for brief visits such as mail delivery
 - Built-in light level sensor featuring simple, one-step set-up
- LED indicates occupancy detection
- DIP switch simplifies sensor adjustments
- Clip mounting system makes ceiling tile installation simple
- Uses existing line voltage wiring and doesn't require a power pack
- Qualifies for ARRA-funded public works projects

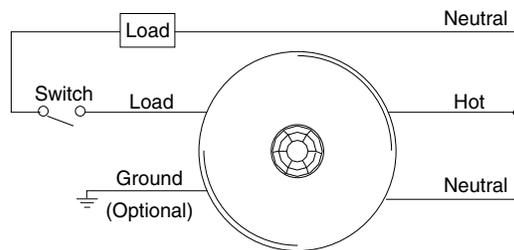


Specifications

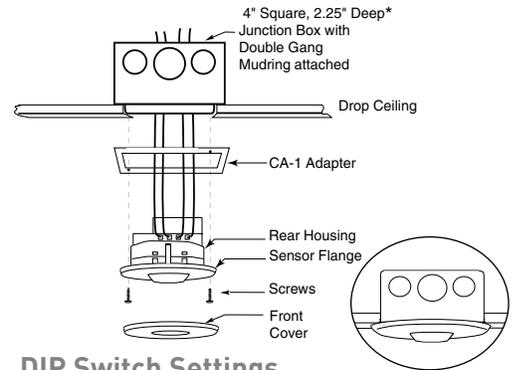
- 120/277/347 VAC, 50/60 Hz
- Time delays: Auto set, fixed (5, 10, 15, 20, or 30 minutes), walk-through, test-mode
- Sensitivity adjustment: Auto set or reduced sensitivity
- Multi-level, 360° Fresnel lens for superior occupancy detection
- Built-in light level sensor – works from 10 to 300 footcandles (107.6 to 3,229.2 lux)
- Mounting options: 4 square junction box with double gang mudring; 4 inch octagonal j-box
- Dimensions: 4.5" diameter x 1.45" deep (114.3mm x 25.9mm)
- UL and cUL listed
- Five year warranty

Wiring & Mounting

Wiring Diagram

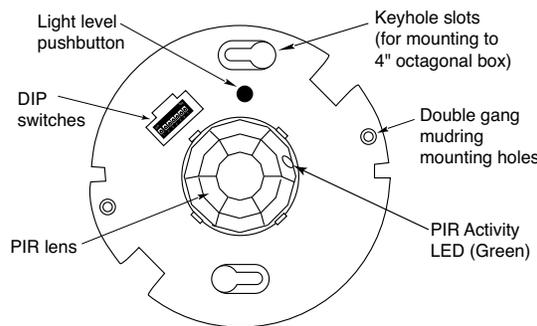


Ceiling Mounting



Controls & Settings

Product Controls



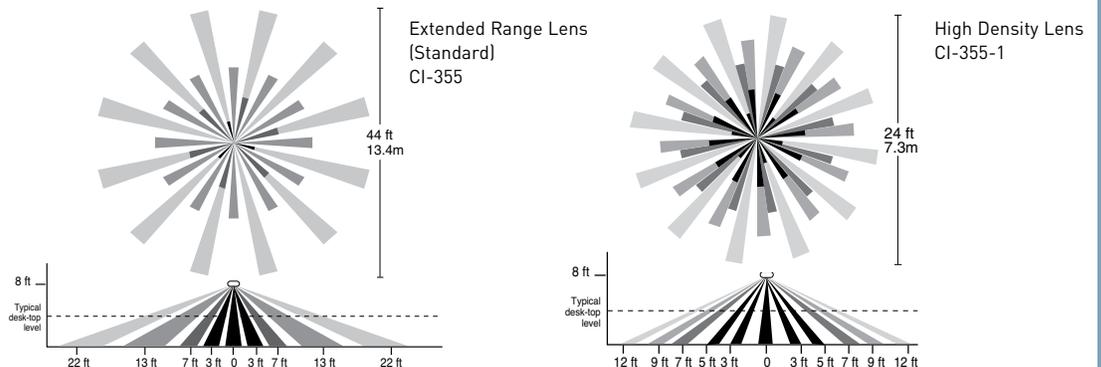
DIP Switch Settings

| | | | |
|----------------|-------|--|---|
| On Mode | 1 | LED | 6 |
| Auto On | - | Disabled | - |
| Manual On | ● | Enabled | ● |
| Override | 2 | Sensitivity | 7 |
| Normal | - | Minimum | - |
| Override | ● | Max/Smartset | ● |
| Time Delay | 3 4 5 | ◀ = Factory Setting ● = ON - = OFF | |
| 5 sec/SmartSet | ↑ - - | | |
| 5 minutes | - - ● | | |
| 10 min. | - ● - | | |
| 10 minutes | - ● ● | | |
| 15 min. | ↑ - - | | |
| 15 minutes | ● - - | | |
| 20 minutes | ● ● - | | |
| 30 min. | ↑ ● ● | | |

↑ = walk-through mode

Coverage

Coverage Patterns



Ordering Information

| Catalog No. | Voltage | Load Rating | Coverage |
|-----------------------------------|--|---|--|
| <input type="checkbox"/> CI-355 | 120 VAC, 50/60 Hz 277 VAC, 50/60 Hz 347 VAC, 50/60 Hz | 0-800W Ballast/Tungsten 0-1200W Ballast 0-1500W Ballast | 360°; up to 1200 ft ² (111.5 m ²) |
| <input type="checkbox"/> CI-355-1 | 120 VAC, 50/60 Hz 277 VAC, 50/60 Hz 347 VAC, 50/60 Hz | 0-800W Ballast/Tungsten 0-1200W Ballast 0-1500W Ballast | 360°; up to 500 ft ² (46.5 m ²) |
| <input type="checkbox"/> CA-1 | Cosmetic adapter for ceiling installations with 4" square j-box or Wiremold #V5752 box | | |

CI-200 Series Passive Infrared Ceiling Sensors



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's CI-200 Series Passive Infrared (PIR) Ceiling Sensors provide 360° coverage to detect occupancy in the controlled area. These low-profile sensors reliably control lighting in a variety of applications.

Operation

The CI-200 Series Sensors are 24 VDC and control lighting through WattStopper power packs. Utilizing the latest PIR technology, they turn lighting on when a difference is detected between the infrared energy from a human being in motion and the background space within the controlled area. After the area is vacated for a user-adjustable time delay, lighting automatically turns off.

Coverage

Coverage from the CI-200 Series Sensors can reach up to 1200 square feet using the Extended Range Lens, and 500 square feet using the High Density Lens (circular pattern) for walking motion. For typical desktop-level activity, coverage can reach up to 300 square feet.

Applications

Applications include open office spaces, computer rooms, conference rooms, classrooms and warehouses. Areas with high ceilings or with two-level lighting can also be controlled. Due to low initial cost and the great energy saving potential, the sensors offer fast paybacks.

Features

- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false off without reducing sensitivity
- Detection Signature Analysis eliminates false triggers and provides immunity to RFI and EMI
- Low-profile design ensures a clean and uncluttered ceiling appearance
- User-adjustable time delay from 15 seconds to 30 minutes by two-minute increments
- Sensitivity is programmed through a DIP switch which has four settings ranging from minimum to maximum
- Light-level output can create bi-level lighting for added convenience and energy savings
- Isolated relay can be used to interface with HVAC, EMS or an additional lighting load
- LED indicates occupancy detection
- Qualifies for ARRA-funded public works projects

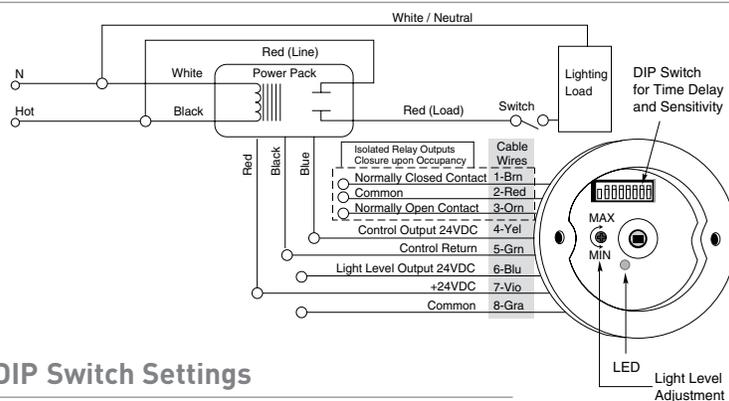


Specifications

- Dual-element, temperature compensated pyroelectric sensor
- CI-200 contains isolated relay with N/O and N/C outputs; rated for 1 Amp at 24 VDC/VAC
- Adjustable digital time delay: 15 seconds to 30 minutes with $\pm 2\%$ tolerance
- Integrated light level sensor: 4-190 footcandles (43-2,045 lux)
- Mounting options: ceiling tile, round mud ring
- Max. CI-200s per power pack: B = 5, BZ = 7
- Max. CI-205s per power pack: B = 10, BZ = 13
- Dimensions: 3.3" x 2.2" (84mm x 56mm) diameter x depth; extends approximately .36" (9.1mm) from ceiling
- UL and cUL listed
- Five year warranty

Wiring, Mounting & Settings

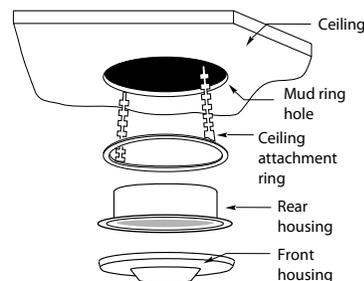
Wiring Diagram



DIP Switch Settings

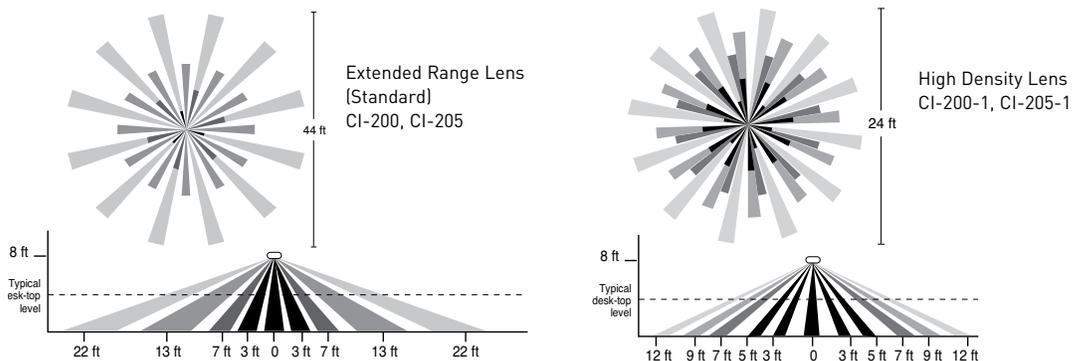
| DIP Switch # | 1 | 2 | 3 | 4 | 5 | 6 | DIP Switch # | 7 | 8 |
|--------------------|---|---|---|---|---|---|---------------------|---|---|
| Time Delays | | | | | | | Sensitivity | | |
| 15 seconds | ● | ● | ● | ● | ● | ● | Minimum | - | - |
| 2 minutes | - | - | ● | ● | ● | ● | Medium Low | - | ● |
| 4 minutes | - | ● | - | ● | ● | ● | Medium High | ● | - |
| 6 minutes | - | - | - | ● | ● | ● | Maximum | ● | ● |
| 8 minutes | - | ● | - | - | ● | ● | ▶ = ON - = OFF | | |
| 10 minutes | - | - | ● | - | ● | ● | ▶ = Factory Presets | | |
| 12 minutes | - | ● | - | - | ● | ● | | | |
| 14 minutes | - | - | - | - | - | ● | | | |
| 16 minutes | - | ● | ● | - | - | ● | | | |
| 18 minutes | - | - | ● | - | - | ● | | | |
| ▶ 20 minutes | - | ● | - | - | - | ● | | | |
| 22 minutes | - | - | - | - | - | ● | | | |
| 24 minutes | - | ● | ● | - | - | ● | | | |
| 26 minutes | - | - | ● | - | - | ● | | | |
| 28 minutes | - | ● | - | - | - | ● | | | |
| 30 minutes | - | - | - | - | - | ● | | | |
| Override | | | | | | | | | |

Mounting



Coverage

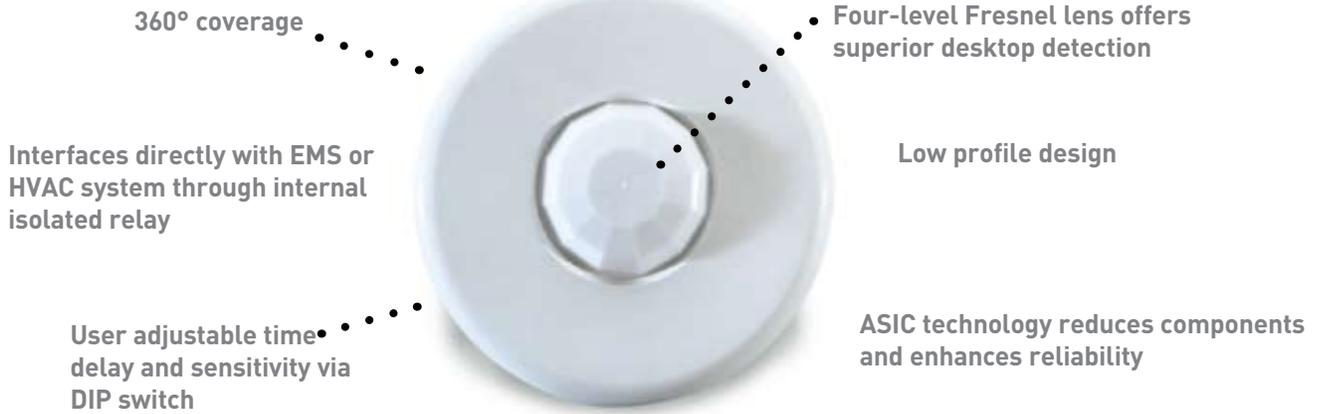
Coverage Patterns



Ordering Information

| Catalog No. | Voltage | Current | Coverage | Features |
|-----------------------------------|--|---------|--|-----------------------------|
| <input type="checkbox"/> CI-200 | 24 VDC | 20 mA | 360°; up to 1200 ft ² (111.5 m ²) | Isolated relay, light level |
| <input type="checkbox"/> CI-200-U | | | | |
| <input type="checkbox"/> CI-200-1 | 24 VDC | 20 mA | 360°; up to 500 ft ² (46.5 m ²) | Isolated relay, light level |
| <input type="checkbox"/> CI-205 | 24 VDC | 11 mA | 360°; up to 1200 ft ² (111.5 m ²) | |
| <input type="checkbox"/> CI-205-U | | | | |
| <input type="checkbox"/> CI-205-1 | 24 VDC | 11 mA | 360°; up to 500 ft ² (46.5 m ²) | |
| <input type="checkbox"/> MB-1 | Industrial Mounting Bracket | | | |
| <input type="checkbox"/> MB-2 | Industrial Mounting Bracket for HID fixtures | | | |

CI-12, CI-24 Passive Infrared HVAC/BAS Ceiling Sensor



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's CI-12 and CI-24 ceiling mount passive infrared occupancy sensors reduce energy waste in unoccupied building spaces by communicating occupancy to EMS and HVAC systems.

Operation

The CI-12 and CI-24 occupancy sensors integrate with building control systems via an internal isolated relay. The isolated relay has normally open and normally closed outputs and is rated for 1 Amp at 24 VAC/VDC. The CI-12 connects directly to 12 VDC building control systems and the CI-24 connects to 24 VAC or 24 VDC building control systems. Power pack use is not necessary. When occupancy is detected, the sensor signals a building control system that then either turns devices on, such as heating or air conditioning, or increases their levels. Likewise, when the controlled area is vacated, the building control system will reduce airflow and fan speed or turn devices off.

Coverage

Coverage for the sensors can reach up to 1200 square feet using the Extended Range lens and 500 square feet using the High Density lens (circular pattern) for walking motion. For typical desktop level activity, coverage can reach up to 300 square feet.

Applications

The CI-12 and CI-24 offer an easy way to reduce energy consumption in a large variety of building spaces. By working directly with a Building Automation System, the cost of purchasing power packs and the cost of labor for power pack installation is eliminated. Furthermore, the sensors' low unit cost and reduction in energy consumption result in fast paybacks.

Features

- ASIC technology reduces components and enhances reliability
- Pulse Count Processing eliminates false offs without reducing sensitivity
- Detection Signature Analysis eliminates false triggers; provides immunity to RFI and EMI
- Digital time delay adjustment from 30 seconds to 30 minutes
- Two levels of sensitivity (minimum or maximum) are selectable through the DIP switch
- Multi-level Fresnel lens for superior desktop detection
- LED indicates occupancy detection
- Qualifies for ARRA-funded public works projects

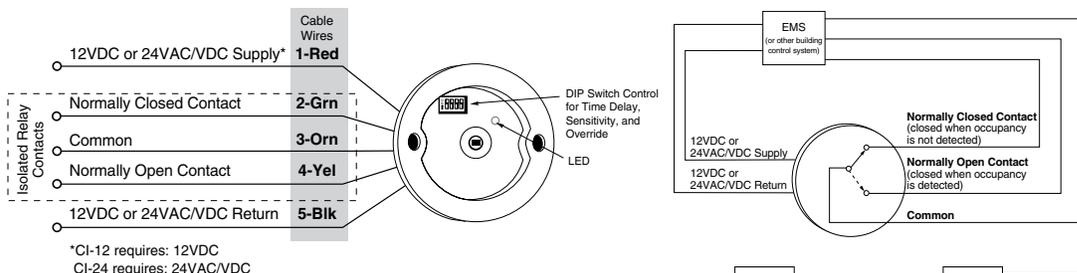


Specifications

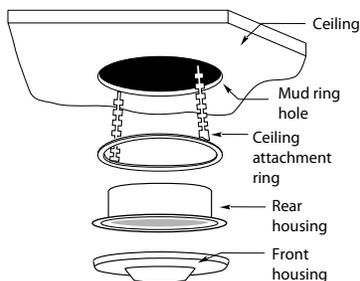
- Dual-element, temperature compensated pyro-electric sensor
- Time delay adjustment from 30 seconds to 30 minutes
- Isolated relay with normally open and normally closed outputs; rated 1 Amp @ 24 VDC/VAC
- Operates at 12 VDC (CI-12); 24 VAC or 24 VDC (CI-24)
- Mounting options: ceiling tile or round mudring
- Dimensions: 3.3" diameter x 2.2" depth (85mm x 56mm), extends approximately 0.36" (9.1mm) from ceiling
- UL and cUL listed
- Five year warranty

Wiring, Mounting & Settings

Wiring Diagram



Mounting



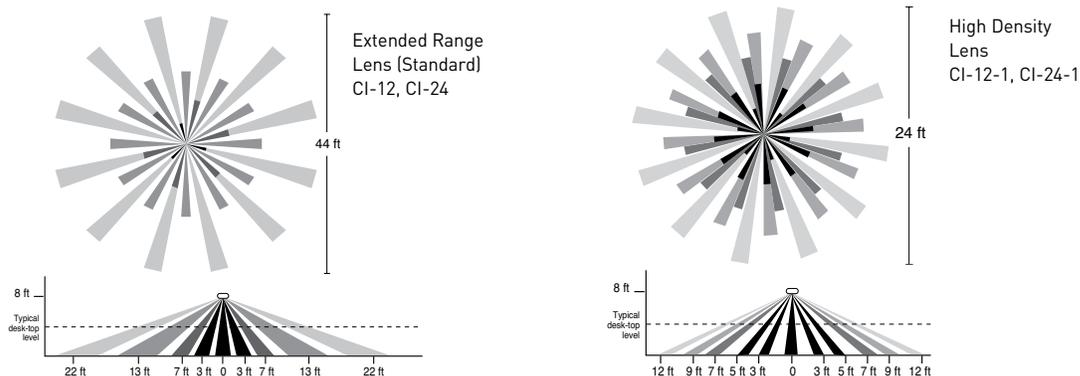
DIP Switch Settings

| DIP Switch # | 1 | 2 | 3 | 4 |
|--------------------|---|---|---|---|
| Time Delays | | | | |
| 30 seconds | ● | ● | | |
| 10 minutes | ● | — | | |
| 20 minutes | — | ● | | |
| 30 minutes | — | — | | |
| Sensitivity | | | | |
| Minimum | | | | — |
| Maximum | | | | ● |
| Override | | | | |
| Normal | | | | — |
| Override | | | | ● |

● = ON — = OFF
◀ = factory presets

Coverage

Coverage Patterns



Coverage shown is maximum and represents coverage for half-step walking motion. Under ideal conditions, with no barriers or obstacles, coverage for half-step walking motion can reach up to 1200 ft² using the Extended Range lens and up to 500 ft² using the High Density lens. For typical desk-top level of activity, coverage can reach up to 300 ft² using the High Density lens.

Ordering Information

| Catalog No. | Voltage | Current | Coverage |
|----------------------------------|------------------|---------|--|
| <input type="checkbox"/> CI-12 | 12 VDC | 28 mA | 360°; up to 1200 ft ² [111.5 m ²] |
| <input type="checkbox"/> CI-12-1 | 12 VDC | 28 mA | 360°; up to 500 ft ² [46.5 m ²] |
| <input type="checkbox"/> CI-24 | 24 VAC or 24 VDC | 37 mA | 360°; up to 1200 ft ² [111.5 m ²] |
| <input type="checkbox"/> CI-24-1 | 24 VAC or 24 VDC | 37 mA | 360°; up to 500 ft ² [46.5 m ²] |

Units are white

UT-300 Series Ultrasonic Ceiling Sensors

Architecturally appealing
low-profile appearance

Auto set automatically
selects optimal time
delay and sensitivity

Ultrasonic diffusers give more
comprehensive coverage



Accepts low-voltage switch
input for manual-on operation

Plug terminal wiring for
quick and easy installation

Walk-through mode
increases savings potential

Automatic or manual-on operation
when used with a BZ-150 Power Pack

PROJECT

LOCATION/TYPE

Product Overview

Description

WattStopper's UT-300 Ultrasonic Ceiling Sensors automatically turn lighting on and off based on occupancy. The sensors mount on the ceiling with a flat, unobtrusive appearance and provides 360° coverage.

Operation

UT-300 Series Sensors operate on 24 VDC, VAC or halfwave rectified. They use 40 KHz high frequency ultrasound to sense occupancy and automatically turn lighting on. When no occupancy is detected for the length of the time delay, lighting automatically turns off. For manual-on operation, the units work with a low-voltage momentary switch.

Auto set

The UT-300 requires no adjustment at installation. Auto set continuously monitors the controlled space to identify usage patterns. Based on these patterns, UT sensors automatically adjust time delay and sensitivity settings for optimal performance and energy efficiency. The sensors assign short delays (as low as five minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Application

UT-300 Series Sensors offer excellent control of lighting for many spaces, including restrooms, large offices, open office areas and hallways. They can control large partitioned office spaces when configured in zone patterns. Unit performance combined with ease of installation will provide fast payback and many years of energy savings.

Features

- Advanced control logic based on RISC microcontroller provides:
 - Advanced Signal Processing eliminates false triggers and provides immunity to RFI and EMI
 - Walk-through mode turns lights off three minutes after the area is initially occupied – ideal for brief visits such as mail delivery
- LED indicates occupancy detection
- Coverage 500-2,000 square feet
- Available with isolated relay for integration with BAS or HVAC
- DIP switch simplifies sensor adjustments
- Patented ultrasonic diffusion technology spreads coverage to a wider area
- UT-300 Series Sensors work with low-voltage momentary switches for manual control
- Clip mounting system makes ceiling tile installation simple
- Uses plug terminal wiring system for quick and easy installation
- Qualifies for ARRA-funded public works projects

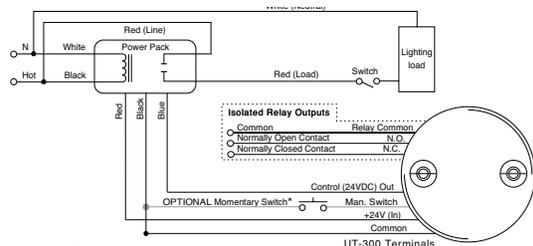


Specifications

- 24 VDC/VAC
- Time delays: Auto set, fixed (5, 10, 15, 20 or 30 minutes), Walk-through/Test Modes
- Ultrasonic frequency: 40 kHz
- UT-300 contains isolated relay with N/O and N/C outputs; rated for 1 Amp at 30 VDC/VAC
- Mounting options: ceiling tile; 4" square junction box with double-gang mud ring
- Max. UT-300s per power pack: B=2, BZ=3
- Max. UT-305s per power pack: B=3, BZ=4
- Dimensions: 4.5" x 1" (114.3mm x 25.9mm) diameter x depth
- UL and cUL listed
- Five year warranty

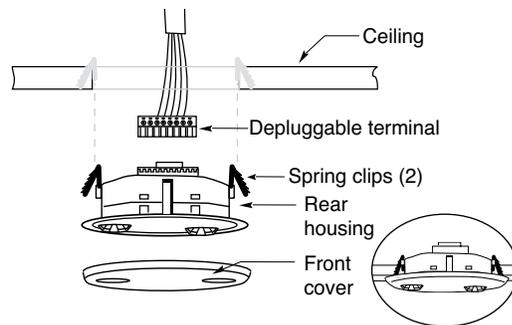
Wiring & Mounting

Wiring Diagram



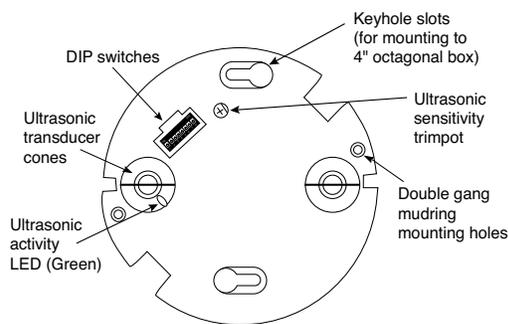
* Connect wire only when momentary switch is installed

Ceiling Mounting

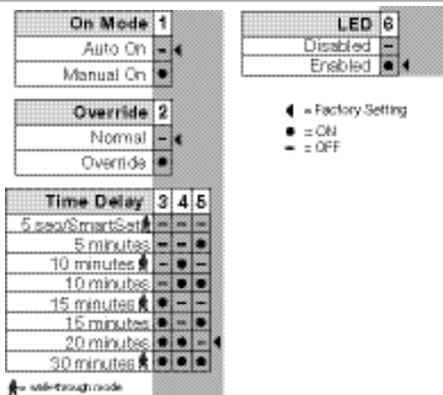


Controls & Settings

Product Controls

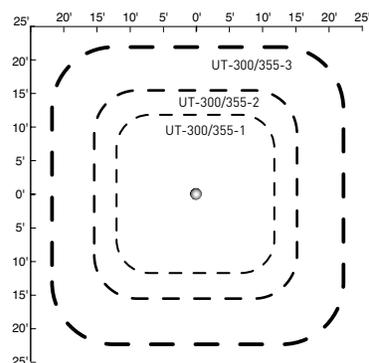


DIP Switch Settings



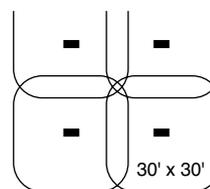
Coverage & Placement

Coverage Patterns



Coverages shown represent half-step walking motion when sensor is mounted 8'-10' high. Actual coverage can vary for each application depending on the shape and use of space and the obstacles present.

Placement

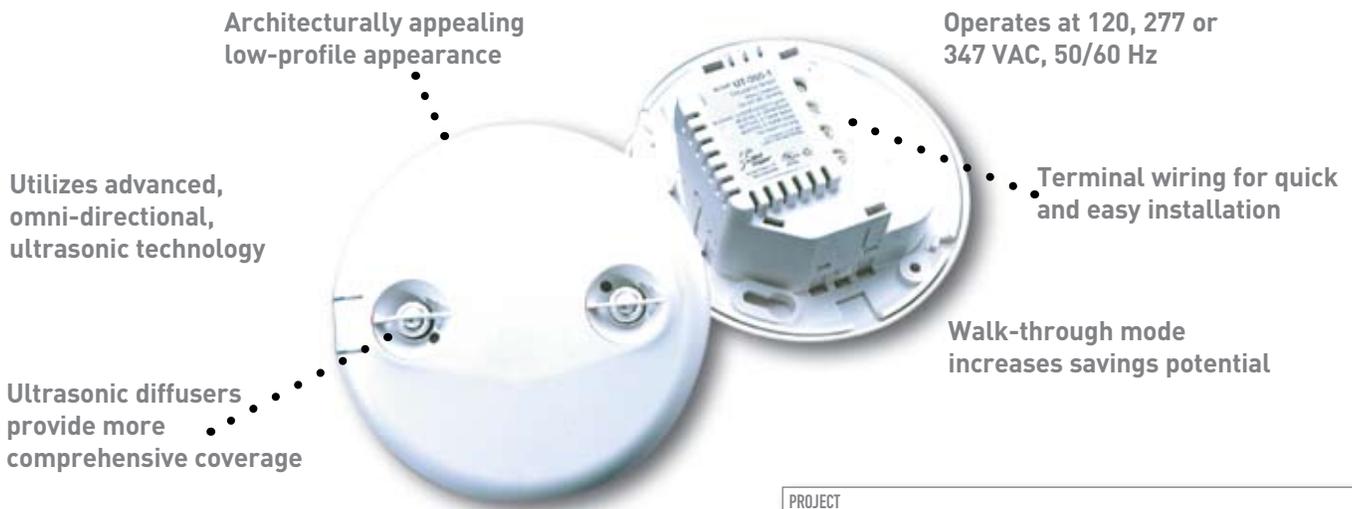


Typical layout for open office space would be to place UT-300-3 sensors so they control zones that overlap. For partitioned spaces, a typical zone is about 25' x 25' with an overlap on the coverage up to 30' x 30'.

Ordering Information

| Catalog No. | Voltage | Current | Coverage | Feature |
|-------------------------------------|---------|---------|--|----------------|
| <input type="checkbox"/> UT-300-1 | 24 VDC | 40 mA | 500 ft ² (46.5 m ²) | Isolated relay |
| <input type="checkbox"/> UT-300-1-U | | | | |
| <input type="checkbox"/> UT-300-2 | 24 VDC | 40 mA | 1000 ft ² (92.9 m ²) | Isolated relay |
| <input type="checkbox"/> UT-300-2-U | | | | |
| <input type="checkbox"/> UT-300-3 | 24 VDC | 45 mA | 2000 ft ² (185.8 m ²) | Isolated relay |
| <input type="checkbox"/> UT-300-3-U | | | | |
| <input type="checkbox"/> UT-305-1 | 24 VDC | 30 mA | 500 ft ² (46.5 m ²) | |
| <input type="checkbox"/> UT-305-2 | 24 VDC | 30 mA | 1000 ft ² (92.9 m ²) | |
| <input type="checkbox"/> UT-305-3 | 24 VDC | 35 mA | 2000 ft ² (185.8 m ²) | |

UT-355 Ultrasonic Line Voltage Ceiling Sensor



Product Overview

Description

WattStopper's low-profile UT-355 Ultrasonic Line Voltage Ceiling Sensor automatically turns lighting on and off based on occupancy. The sensor mounts on the ceiling with a flat, unobtrusive appearance and provides 360° coverage.

Operation

The UT-355 is line voltage and operates at 120, 277, or 347 VAC. It uses high frequency (40 KHz) ultrasound to sense occupancy and automatically turn lighting on. When no occupancy is detected for the length of the time delay, lighting automatically turns off.

PROJECT

LOCATION/TYPE

Auto Set

The UT-355 requires no adjustment at installation. Auto set continuously monitors the controlled space to identify usage patterns. Based on these patterns, UT sensors automatically adjust time delay and sensitivity settings for optimal performance and energy efficiency. The sensor assigns short delays (as low as five minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Application

UT sensors offer excellent control of lighting for many spaces, including restrooms and large offices. The UT sensors' performance and ease of installation will provide fast paybacks and many years of energy savings.

Features

- Advanced control logic based on RISC microcontroller provides:
 - Advanced Signal Processing to eliminate false triggers and provide immunity to RFI and EMI
 - Walk-through Mode to turn lights off three minutes after the area is initially occupied, ideal for brief visits such as mail delivery
- LED indicates occupancy detection
- Coverage 500-2,000 square feet
- DIP switch simplifies sensor adjustments
- Patented ultrasonic diffusion technology spreads coverage to a wider area
- Clip mounting system makes ceiling tile installation simple
- Terminal wiring system provides quick and easy installation
- Qualifies for ARRA-funded public works projects

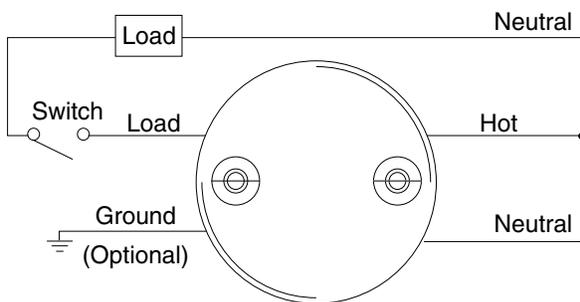


Specifications

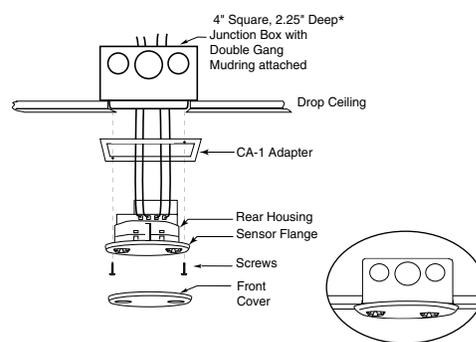
- 120/277/347 VAC, 50/60 Hz
- Time delays: Auto set, fixed (5, 10, 15, 20, or 30 minutes), Walk-through & Test modes
- Sensitivity adjustment: Auto set or reduced sensitivity
- Ultrasonic frequency of 40 kHz
- Mounting options: 4" square junction box with double-gang mud ring; 4" octagonal junction box
- Dimensions: 4.5" x 1.45" (114.3mm x 25.9mm) diameter x depth
- UL and cUL listed
- Five year warranty

Wiring & Mounting

Wiring Diagram

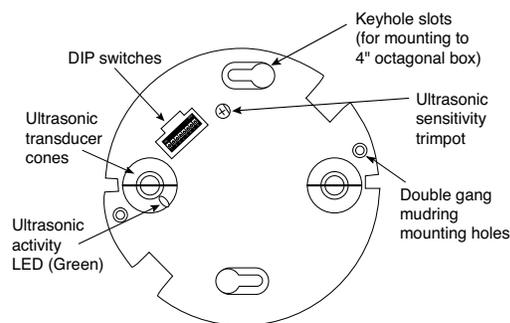


Ceiling Mounting



Controls & Settings

Product Controls



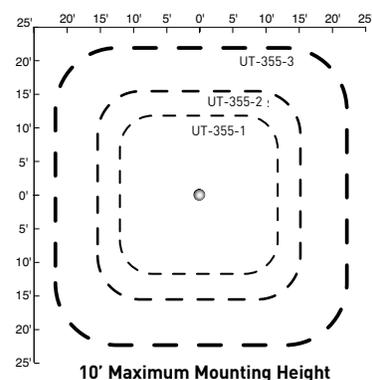
DIP Switch Settings

| On Mode | 1 | Time Delay | | |
|-----------|---|-------------|---|---|
| Auto On | ◀ | 3 | 4 | 5 |
| Manual On | ● | 5 sec/Auto▲ | - | - |
| | | 5 minutes | - | - |
| | | 10 minutes▲ | - | ● |
| | | 10 minutes▲ | - | ● |
| | | 15 minutes▲ | - | ● |
| | | 15 minutes▲ | - | ● |
| | | 20 minutes▲ | - | ● |
| | | 30 minutes▲ | - | ● |
| | | | | |
| Override | 2 | | | |
| Normal | ◀ | | | |
| Override | ● | | | |
| | | | | |
| LED | 6 | | | |
| Disabled | - | | | |
| Enabled | ● | | | |

▲ = walk-through mode
◀ = Factory Setting
● = ON
- = OFF

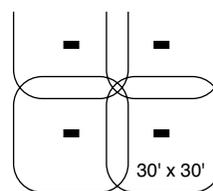
Coverage & Placement

Coverage Patterns



Coverages shown represent half-step walking motion when sensor is mounted 8'-10' high. Actual coverage can vary for each application depending on the shape and use of space and the obstacles present.

Placement



Typical layout for open office space would be to place UT-355-3 sensors so they control zones that overlap. For partitioned spaces, a typical zone is about 25' x 25' with an overlap on the coverage up to 30' x 30'.

Ordering Information

| Catalog No. | Voltage/Description | Load Rating | Coverage |
|-----------------------------------|--|----------------------------|--|
| <input type="checkbox"/> UT-355-1 | 120 VAC, 50/60 Hz; | 0-800 W Ballast/ Tungsten, | 500 ft ² (45.5 m ²) |
| <input type="checkbox"/> UT-355-2 | 277 VAC, 50/60 Hz; or | 0-1200 W Ballast, or | 1000 ft ² (92.9 m ²) |
| <input type="checkbox"/> UT-355-3 | 347 VAC, 50/60 Hz | 0-1500 W Ballast | 2000 ft ² (185.8 m ²) |
| <input type="checkbox"/> CA-1 | Cosmetic adapter for ceiling installations with 4" square j-box or Wiremold #V5752 box | | |

Sensors are white.

WT Ultrasonic Ceiling Sensors

Ultrasonic technology with 32 KHz frequency

Automatic or manual-on operation when used with a BZ-150 Power Pack

Advanced Signal Processing circuitry automatically adjusts detection threshold



User-adjustable DIP switch time delay and sensitivity settings

Hallway and 600, 1100 and 2200 square foot coverages available

Isolated relay allows sensor to interface with building control systems

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's WT Ultrasonic Ceiling Sensors utilize 32 KHz frequency ultrasonic technology to detect occupancy. The sensors are available in several models to control lighting in a wide variety of applications.

Operation

WT Sensors are 24 VDC and utilize advanced, omni-directional, ultrasonic technology. When movement is detected in a controlled area, it switches lighting on through a WattStopper power or auxiliary pack. The sensor controls the power pack through low voltage wiring. Once the area is vacated and the time delay has elapsed, lighting systems automatically switch off.

Advanced Signal Processing (ASP)

WT Sensors use WattStopper's ASP circuitry, which filters out moving air noise by checking for small cyclical changes found in turbulent air. This helps to eliminate false on problems found in sensors without ASP.

Applications

WT sensors offer excellent control of lighting for many areas of a building. The sensors are designed to effectively control offices, restrooms, storage areas and open office areas, and can control large partitioned office spaces when configured in zone patterns. The WT can be used with BD Din Rail Mounted Power Packs and low-voltage momentary wall switches to achieve manual-on/auto-off control. The WT sensors' superior performance and ease of installation will provide fast paybacks and many years of energy savings.

Features

- ASP circuitry helps to eliminate false on
- Advanced, omni-directional, ultrasonic technology for reliable occupancy detection
- Angled transmitter and receiver pairs help optimize sensitivity while eliminating unwanted detection from ceiling air movement
- Coverage ranges from 600 to 2200 square feet, and 90 linear feet for hallways
- Isolated relay can interface with HVAC, EMS or an additional lighting load
- DIP switch-adjustable time delay and sensitivity
- LED indicates occupancy detection
- Qualifies for ARRA-funded public works projects

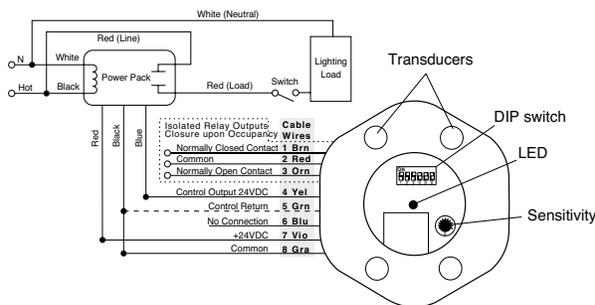


Specifications

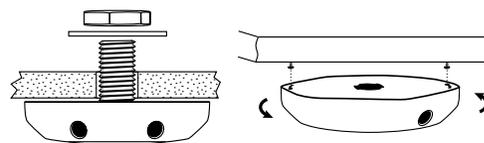
- Solid state, crystal-controlled (32.768 kHz ± 0.002%)
- Omni-directional transmission (360° coverage)
- Temperature and humidity resistant 32 kHz receivers
- Digital DIP switch time delay: 15 seconds to 30 minutes
- Isolated relay with N/O and N/C outputs; rated for 1 Amp @ 30 VDC/VAC
- Mounts to ceiling tile or Wiremold V5738-WH box
- Max. WT-605s per power pack: B=4, BZ=5
- Max. WT-600s per power pack: B= 3, BZ=4
- Max. WT-1105s, WT-2205s, WT-2255s: B=3, BZ=5
- Max. WT-1100s, WT-2200s, WT-2250s: B=2, BZ=3
- Dimensions: 4.8" x 1.5" (122mm x 38mm) diameter x depth
- UL and cUL listed
- Five year warranty

Wiring, Installation & Placement

Wiring & Controls



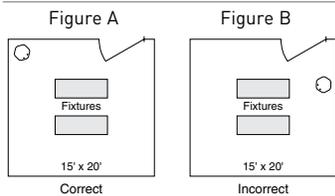
Installation



Mount the sensors to a vibration-free surface with the receivers facing the area of coverage.

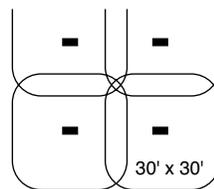
Note: Place 4' away from supply ducts, 6' from horizontal discharge ducts and 6" from power packs.

Enclosed Office Placement



For enclosed spaces, place sensors as in Figure A. Sensors placed as in Figure B may see out the door and cause false triggers.

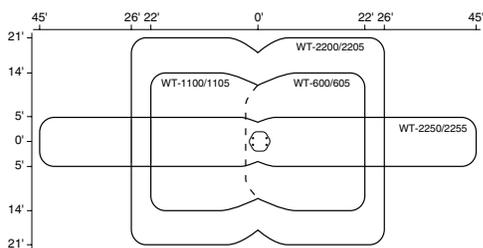
Open Office Placement



A typical layout for an open office space would be to place WT-2200 or WT-2205 sensors so they control zones that overlap. For partitioned spaces, a typical zone is about 25' x 25' with an overlap on the coverages that senses motion up to 30' x 30'.

Coverage & Settings

Coverage Pattern



Coverages shown represent half-step walking motion. Actual coverages can vary for each application depending on the shape and use of space and the obstacles present. Coverage may be reduced if product is mounted greater than 12 feet high.

DIP Switch Settings

◀ = factory preset

| Time Delay | DIP Switch # | | | | | |
|------------|--------------|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 15 seconds | ● | - | - | - | - | - |
| 2 minutes | - | ● | - | - | - | - |
| 4 minutes | - | - | ● | - | - | - |
| 6 minutes | - | - | - | ● | - | - |
| 8 minutes | - | - | - | - | ● | - |
| 10 minutes | - | - | - | - | - | ● |
| 12 minutes | - | - | - | - | - | - |
| 14 minutes | - | - | - | - | - | - |

| | | | | | | |
|----------------|---|---|---|---|---|---|
| 16 minutes | - | - | - | - | - | - |
| 18 minutes | - | - | - | - | - | - |
| 20 minutes | - | - | - | - | - | - |
| 22 minutes | - | - | - | - | - | - |
| 24 minutes | - | - | - | - | - | - |
| 26 minutes | - | - | - | - | - | - |
| 28 minutes | - | - | - | - | - | - |
| 30 minutes | - | - | - | - | - | - |
| Output Disable | - | - | - | - | - | - |
| Override | - | - | - | - | - | ● |

Ordering Information

| Catalog No. | Voltage | Current | Coverage | Feature |
|----------------------------------|---------|---------|--|----------------|
| <input type="checkbox"/> WT-605 | 24 VDC | 27 mA | 180° one-sided, 600 ft ² (55.7 m ²) | |
| <input type="checkbox"/> WT-600 | 24 VDC | 37 mA | 180° one-sided, 600 ft ² (55.7 m ²) | Isolated relay |
| <input type="checkbox"/> WT-1105 | 24 VDC | 30 mA | 360° two-sided, 1100 ft ² (102.2 m ²) | |
| <input type="checkbox"/> WT-1100 | 24 VDC | 40 mA | 360° two-sided, 1100 ft ² (102.2 m ²) | Isolated relay |
| <input type="checkbox"/> WT-2205 | 24 VDC | 30 mA | 360° two-sided, 2200 ft ² (204.4 m ²) | |
| <input type="checkbox"/> WT-2200 | 24 VDC | 40 mA | 360° two-sided, 2200 ft ² (204.4 m ²) | Isolated relay |
| <input type="checkbox"/> WT-2255 | 24 VDC | 30 mA | 360° two-sided, 90 linear ft (27.4 m) | |
| <input type="checkbox"/> WT-2250 | 24 VDC | 40 mA | 360° two-sided, 90 linear ft (27.4 m) | Isolated relay |

All units are white and use WattStopper power packs. Current consumption can be slightly higher when only one sensor per power pack is used.

W Series Ultrasonic Ceiling Sensors

Turns lights on and off based on occupancy to reduce energy costs

Adjustable time delay from 15 seconds to 15 minutes



Hallway and 500, 1000 and 2000 square foot coverage available

Ideal for open office areas, conference rooms and restrooms

Advanced Signal Processing (ASP) circuitry automatically adjusts detection threshold

Automatic or manual-on operation when used with a BZ-150 Power Pack

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's W Series Ultrasonic Ceiling Sensors are versatile motion detectors that control lighting in a wide variety of applications. W Series Sensors can be used individually or as part of an integrated system of WattStopper lighting control products.

Operation

The 24 VDC W Series Sensors utilize advanced omni-directional, ultrasonic technology to sense occupancy. When movement is detected in a controlled area, the W Series Sensors will switch lights on via low-voltage wiring through to a WattStopper power or auxiliary pack. Once the area is vacated and the user-adjustable time delay (15 seconds to 15 minutes) has elapsed, lighting systems automatically switch off.

Manual-on Option

To comply with code or for additional control options, W Series Sensors can be used with a BZ-150 power pack for manual-on/auto-off control. If this option is selected, occupants utilize a low-voltage momentary wall switch to turn on lights. Lights automatically turn off after the area is vacated and the user-adjustable time delay has elapsed.

Applications

Ultrasonic sensors effectively control offices, restrooms, utility areas, open office spaces and warehouses. The W-500A is perfect for offices, conference rooms, restrooms and other areas up to 500 square feet. The W-1000A fits in larger spaces, such as storage areas. The W-2000A is ideal for open office areas or large warehouses and can control partitioned open office spaces when configured in highly versatile zone patterns. The W-2000H reliably covers hallways with walls.

Features

- ASP circuitry helps to eliminate false on
- Utilizes advanced omni-directional, ultrasonic technology for reliable occupancy detection
- Omni-directional transmission provides 360° of coverage
- Time delay adjustable from 15 seconds to 15 minutes
- 500, 1000, 2000-square foot and hallway coverage available to fit needs of specific applications
- Optional on override by installing the Override Pin provided with the sensor
- LED indicates occupancy detection
- Qualifies for ARRA-funded public works projects

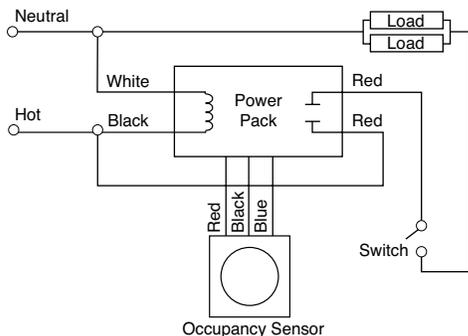


Specifications

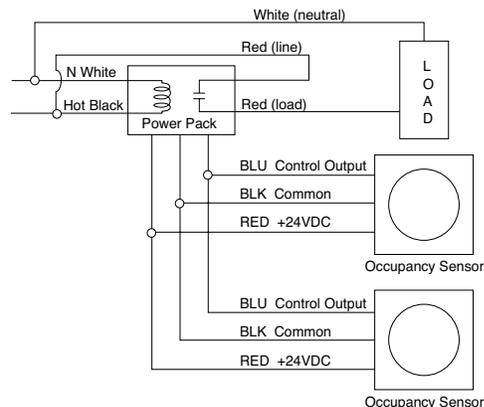
- Solid state, crystal-controlled (25 kHz ± 0.005%)
- Temperature and humidity-resistant 25 kHz receivers: W-500A contains one receiver, other models contain two receivers
- Adjustable time delay: 15 seconds to 15 minutes
- Mounting options: ceiling tile, 4" sq. junction box
- Max. units per power pack: B = seven; BZ = nine
- Dimensions: 4.5" x 4.5" x 1.25" (115mm x 115mm x 32mm) W x L x D
- UL listed
- Five year warranty

Wiring

Standard Wiring Diagram

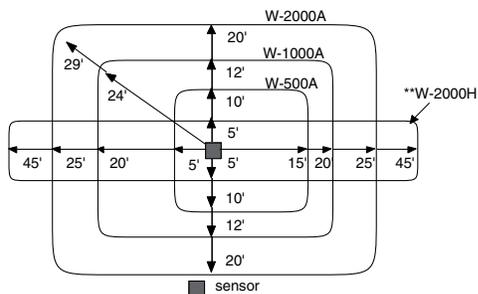


Multiple Sensor Wiring Diagram



Coverage, Installation & Placement

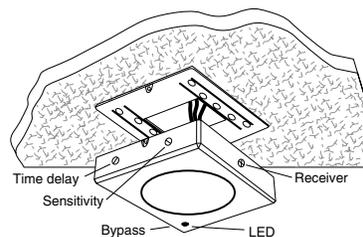
Coverage Pattern



Coverage shown represent half-step walking motion. Actual coverage can vary for each application depending on the shape and the use of space and the obstacles present. Coverage may be reduced if product is mounted greater than 12 feet high.

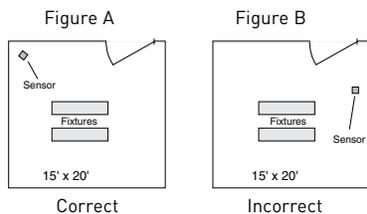
The W-2000H drawing is not drawn to scale. Coverage is 10' x 90' in a hallway; enclosed spaces enhance coverage.

Installation



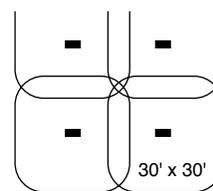
Attach sensor to a vibration-free surface. Mount the sensors with the receivers facing the area of coverage. Note: Ultrasonic sensors should be placed 4' away from supply ducts, 6' from horizontal discharge ducts, and 6" from power packs.

Enclosed Office Sensor Placement



For enclosed spaces, place sensors as in Figure A. Sensors placed as in Figure B may see out the door and cause false triggers.

Open Office Sensor Placement



A typical layout for an open office spaces would be to place W-2000A sensors so they control zones that overlap. For partitioned spaces, a typical zone is about 25' x 25' with an overlap on the coverage that senses motion up to 30' x 30'.

Ordering Information

| Catalog No. | Voltage | Current | Coverage |
|--|---------|---------|--|
| <input type="checkbox"/> W-500A <input type="checkbox"/> W-500A-FTA <input type="checkbox"/> W-500A-U | 24 VDC | 16 mA | 360°; 500 ft ² (46.5 m ²) |
| <input type="checkbox"/> W-1000A <input type="checkbox"/> W-1000A-FTA <input type="checkbox"/> W-1000A-U | 24 VDC | 16 mA | 360°; 1000 ft ² (92.9 m ²) |
| <input type="checkbox"/> W-2000A <input type="checkbox"/> W-2000A-FTA <input type="checkbox"/> W-2000A-U | 24 VDC | 16 mA | 360°; 2000 ft ² (185.8 m ²) |
| <input type="checkbox"/> W-2000H <input type="checkbox"/> W-2000H-FTA <input type="checkbox"/> W-2000H-U | 24 VDC | 16 mA | 360°; 90 linear ft (27.4 m)** |

All units are white and use WattStopper power packs.

**Coverage for an enclosed hallway is 10' x 90' (see pattern above).



DT-200 Series Dual Technology Ceiling/Wall Sensors

Combines passive infrared (PIR) and ultrasonic technologies

Auto set automatically selects optimal settings for each space

Walk-through mode increases savings potential



Built-in light level sensor

Accepts low-voltage switch input for manual-on operation

Automatic or manual-on operation when used with a BZ-150 Power Pack

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's DT-200 Series Dual Technology Ceiling Sensors combine PIR and ultrasonic technologies into one unit to achieve precise coverage in detecting occupancy.

Operation

Low voltage DT-200 Series Sensors utilize a WattStopper power pack to turn lights on when both PIR and ultrasonic technologies detect occupancy. They can also work with a low voltage switch for manual-on operation. PIR technology senses motion via a change in infrared energy within the controlled area, whereas ultrasonic uses 40 kHz high frequency ultrasound. Once on, detection by either technology holds lights on. When no occupancy is detected for the length of the time delay, lights turn off. DT-200 Series Sensors can also be set to trigger lights on when either technology or both detect occupancy, or to require both technologies to hold lighting on.

Auto set

The DT-200 requires no adjustment at installation. Auto set continuously monitors the controlled space to identify usage patterns. Based on these patterns, units automatically adjust time delay and sensitivity settings for optimal performance and energy efficiency. Sensors assign short delays (as low as five minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Application

DT-200 Series Sensors have the flexibility to work in a variety of applications. Mounted at ten feet, the sensors can cover up to 2000 square feet of walking motion and 1000 square feet of desktop motion. The sensors are designed to control lighting in difficult applications where one technology alone could encounter false triggers. The DT-200 works well in classrooms, warehouses, large offices, open office spaces and computer rooms.

Features

- Advanced control logic based on RISC microcontroller provides:
- Detection Signature Processing to eliminate false triggers and provides immunity to RFI and EMI
- Walk-through Mode turns lights off three minutes after the area is initially occupied – ideal for brief visits, such as mail delivery
- Available with built-in light level sensor featuring simple, one-step setup
- Sensors work with low-voltage momentary switches to provide manual control
- LEDs indicate occupancy detection
- Eight occupancy logic options provide the ability to customize control to meet application needs
- Available with isolated relay for integration with BAS or HVAC
- Swivel mounting bracket for convenient corner mounting to wall or ceiling
- Qualifies for ARRA-funded public works projects

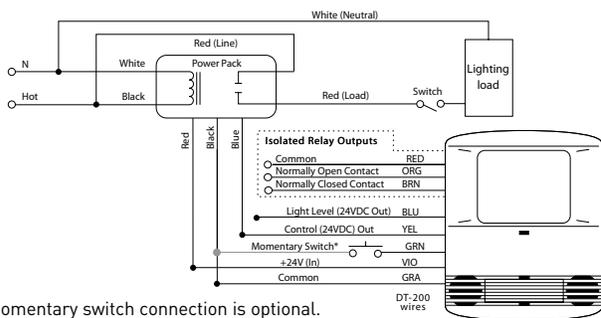


Specifications

- 24 VDC/VAC and halfwave rectified AC
- 40 kHz frequency ultrasonic transmission
- Time delays: Auto set, fixed (5, 10, 15, 20 or 30 minutes), Walk-through/Test Modes
- Sensitivity adjustment: Auto set; reduced sensitivity (PIR); variable with trim pot (ultrasonic)
- Built-in light level sensor: 2 to 200 footcandles (21 to 2,152 lux)
- Low voltage, momentary switch input for manual operation
- DT-200 contains an isolated relay with N/O and N/C outputs; rated for 1 Amp at 24 VDC/VAC
- 2000 ft² of walking motion mounted at 10 ft; 1000 ft² of desktop motion
- Max. DT-200s per power pack: B=2, BZ=3
- Max. DT-205s per power pack: B=3, BZ=4
- Dimensions: 4.4" x 3.4" x 2" (110.3mm x 85.9mm x 49.6mm) L x W x D
- UL and cUL listed
- Five year warranty

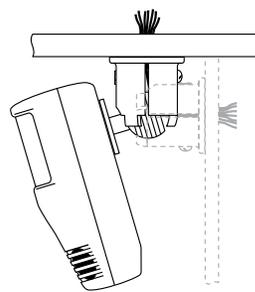
Wiring & Mounting

Wiring Diagram



*Momentary switch connection is optional.
Connect only when momentary switch is installed.

Mounting



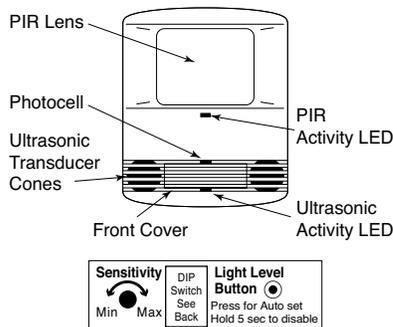
A swivel mounting bracket attached to the sensor allows the sensor to be angled for wall or ceiling mounting.

Grooves on the bracket help to achieve desired angle for coverage.

Mount to mud ring.

Controls & Settings

Product Controls



DIP Switch Settings

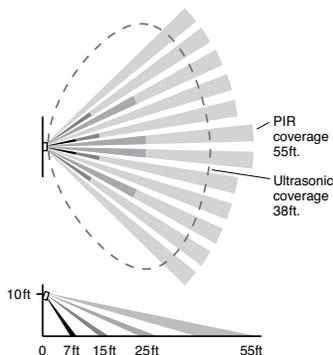
◀ = Factory Setting
● = ON
- = OFF

| | | Switch# | | |
|-----------------|----------------|---------|---|---|
| | | 1 | 2 | 3 |
| Occupancy Logic | Standard | - | - | - |
| | Option 1 | ● | - | - |
| | Option 2 | - | - | - |
| | Option 3 | ● | ● | - |
| | Option 4 | - | - | ● |
| | Option 5 | ● | - | ● |
| | Option 6 | - | - | ● |
| | Option 7 | ● | ● | ● |
| Time Delay | 4 | - | - | - |
| | 5 sec/SmartSet | - | - | - |
| | 5 minutes | - | ● | - |
| | 10 min. | - | ● | - |
| PIR Sensitivity | 10 minutes | - | ● | - |
| | 15 min. | - | ● | - |
| | 15 minutes | ● | - | - |
| | 20 minutes | ● | - | - |
| | 30 min. | ● | ● | - |
| LEDs | 7 | - | - | - |
| | Disabled | - | - | - |
| | Enabled | ● | - | - |
| PIR Sensitivity | 8 | - | - | - |
| | Minimum | - | - | - |
| Max./SmartSet | 8 | - | - | - |
| | Max./SmartSet | ● | - | - |

♣ = walk-through mode

Coverage

Coverage Pattern



Coverages shown are maximum and represent half-step walking motion. Under ideal conditions with no barriers or obstacles, coverage for half-step walking motion can reach up to 2000 ft², while coverage for typical desktop activity can reach up to 1000 ft².

Ordering Information

| Catalog No. | Voltage | Current | Coverage | Features |
|---------------------------------|---------|---------|--|-----------------------------|
| <input type="checkbox"/> DT-200 | 24 VDC | 43 mA | 2000 ft ² (185.8 m ²) | light level, isolated relay |
| <input type="checkbox"/> DT-205 | 24 VDC | 35 mA | 2000 ft ² (185.8 m ²) | |

Sensors are white and use WattStopper power packs. Current consumption can be slightly higher when only one sensor per power pack is used.



DT-300 Series Dual Technology Ceiling Sensors

Architecturally appealing
low-profile appearance

Auto set automatically
selects optimal settings
for each space

Walk-through mode
increases savings potential

Ultrasonic diffusers give more
comprehensive coverage



Plug terminal wiring for
quick and easy installation

Accepts low-voltage
switch input for
manual-on operation

Automatic or manual-on operation
when used with a BZ-150 Power Pack

PROJECT

LOCATION/TYPE

Product Overview

Description

The DT-300 Series Dual Technology Ceiling Sensors combine the benefits of passive infrared (PIR) and ultrasonic technologies to detect occupancy. Sensors have a flat, unobtrusive appearance and provide 360 degrees of coverage.

Operation

Low voltage DT-300 Series sensors utilize a WattStopper power pack to turn lights on when both PIR and ultrasonic technologies detect occupancy. They can also work with a low voltage switch for manual-on operation. PIR technology senses motion via a change in infrared energy within the controlled area, whereas ultrasonic uses 40KHz high frequency ultrasound. Once lights are on, detection by either technology holds them on. When no occupancy is detected for the length of the time delay, lights turns off. DT-300 Series Sensors can also be set to trigger lights on when either technology or both detect occupancy, or to require both technologies to hold lighting on.

Auto Set

The DT-300 requires no adjustment at installation. Auto set continuously monitors the controlled space to identify usage patterns. Based on these patterns, the unit automatically adjusts time delay and sensitivity settings for optimal performance and energy efficiency. Sensors assigns short delays (as low as five minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Application

DT-300 Series Dual Technology Sensors have the flexibility to work in a variety of applications, where one technology alone could cause false triggers. Ideal applications include classrooms, open office spaces, large offices and computer rooms. The DT-300 Series mounting system makes them easy to install in ceiling tiles or to junction boxes, providing the flexibility to be used in a wide range of spaces.

Features

- Advanced control logic based on RISC microcontroller provides:
 - Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
 - Walk-through mode turns lights off three minutes after the area is initially occupied – ideal for brief visits such as mail delivery
 - Available with built-in light level sensor featuring simple, one-step setup
- Sensors work with low-voltage momentary switches to provide manual control
- Patented ultrasonic diffusion technology spreads coverage to a wider area
- LEDs indicate occupancy detection
- Uses plug terminal wiring system for quick and easy installation
- Eight occupancy logic options provide the ability to customize control to meet application needs
- Available with isolated relay for integration with BAS or HVAC
- Qualifies for ARRA-funded public works projects

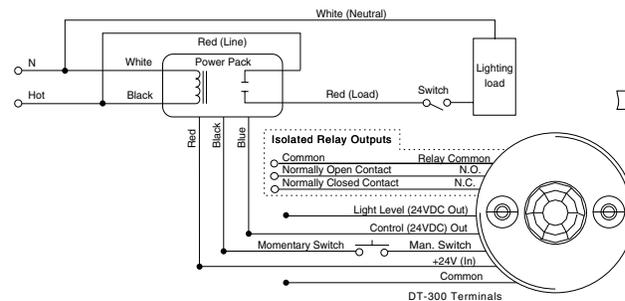


Specifications

- 24 VDC/VAC
- Ultrasonic frequency: 40kHz
- Time delays: Auto set, fixed (5, 10, 15, 20, or 30 minutes), Walk-through/Test Modes
- Sensitivity adjustment: Auto set; reduced sensitivity (PIR); variable with trim pot (ultrasonic)
- Built-in light level sensor: 10 to 300 footcandles (107.6 to 3,229.2 lux)
- Low-voltage, momentary switch input for manual on or off operation
- DT-300 contains an isolated relay with N/O and N/C outputs; rated for 1 Amp @ 30 VDC/VAC
- Multi-level Fresnel lens provides 360° coverage
- Mounting options: ceiling tile; 4" octagonal J-box, 1.5" deep
- Max DT-300s per power pack: B=2 , BZ=3
Max DT-305s per power pack: B=3, BZ=4
- Dimensions: 4.50" diameter x 1.02" deep (114.3mm x 25.9mm)
- UL and cUL listed
- Five year warranty

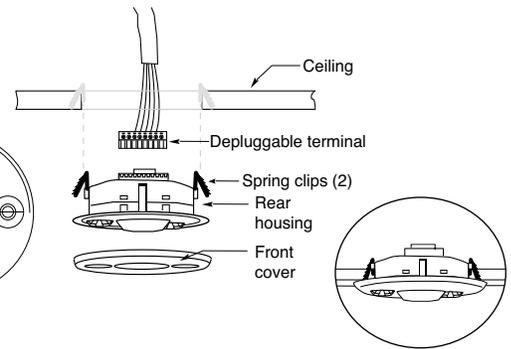
Wiring & Mounting

Wiring Diagram



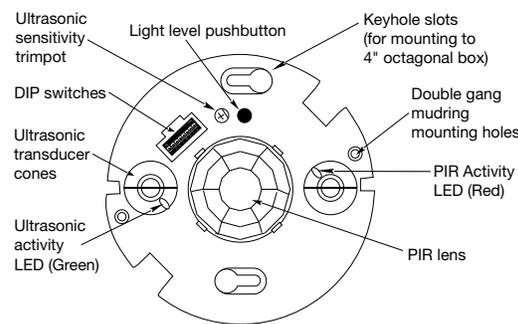
*Momentary switch connection is optional.
Connect only when momentary switch is installed.

Ceiling Mounting



Controls & Settings

Product Controls



DIP Switch Settings

◀ = Factory Setting
● = ON
-- = OFF

| Occupancy Logic | Switch# | | |
|-----------------|---------|----|----|
| | 1 | 2 | 3 |
| Standard | -- | -- | -- |
| Option 1 | ● | -- | -- |
| Option 2 | -- | ● | -- |
| Option 3 | -- | -- | ● |
| Option 4 | ● | ● | -- |
| Option 5 | ● | ● | ● |
| Option 6 | ● | ● | ● |
| Option 7 | ● | ● | ● |

| Occupancy Logic | Trigger | | |
|-----------------|-------------------|--------------------|-------------------------------|
| | Initial Occupancy | Maintain Occupancy | Re-trigger (seconds duration) |
| Standard | Both | Either | Either(5) |
| Option 1 | PIR | Either | Either(5) |
| Option 2 | Both | Both | Both(5) |
| Option 3 | PIR | PIR | PIR(5) |
| Option 4 | Ultra | Ultra | Ultra(5) |
| Option 5 | Man. | Either | Either(30) |
| Option 6 | Man. | Both | Both(30) |
| Option 7 | Man. | Both | Both(30) |

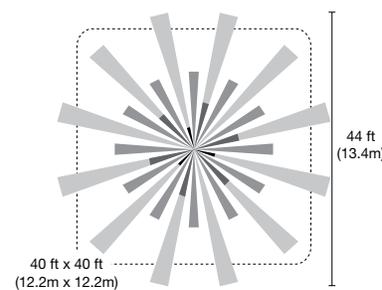
| LEDs | 7 |
|----------|----|
| Disabled | -- |
| Enabled | ● |

| PIR Sensitivity | 8 |
|-----------------|----|
| Minimum | -- |
| Max./SmartSet | ● |

⬆ = walk-through mode

Coverage

Coverage Pattern



Coverage shown is maximum and represents half-step walking motion. Under ideal conditions, coverage for half-step walking motion can reach up to 1000 ft².

Ordering Information

| Catalog No. | Voltage | Current | Coverage | Features |
|-----------------------------------|------------|---------|---|-----------------------------|
| <input type="checkbox"/> DT-300 | 24 VDC/VAC | 43 mA | up to 1000 ft ² (92.9 m ²) | Isolated relay, light level |
| <input type="checkbox"/> DT-300-U | 24 VDC/VAC | 43 mA | up to 1000 ft ² (92.9 m ²) | |
| <input type="checkbox"/> DT-305 | 24 VDC/VAC | 35 mA | up to 1000 ft ² (92.9 m ²) | |
| <input type="checkbox"/> DT-305-U | 24 VDC/VAC | 35 mA | up to 1000 ft ² (92.9 m ²) | |

Sensors are white and use WattStopper power packs. Current consumption can be slightly higher when only one sensor per power pack is used.

DT-355 Dual Technology Line Voltage Ceiling Sensor

Architecturally appealing,
low profile appearance

Auto set automatically
selects optimal settings
for each space

Ultrasonic diffusers give
more comprehensive
coverage



Operates at 120, 277 or
347 VAC, 50/60 Hz

Terminal wiring
for quick and easy
installation

Walk-through mode
increases savings potential

PROJECT

LOCATION/TYPE

Product Overview

Description

WattStopper's low profile DT-355 dual technology occupancy sensor combines the benefits of passive infrared (PIR) and ultrasonic technologies. The sensor mounts on the ceiling with a flat, unobtrusive appearance and provides 360 degrees of coverage.

Operation

The DT-355 is line voltage and operates at 120, 277 or 347 VAC. The sensor turns lighting on when both PIR and ultrasonic technologies detect occupancy. PIR technology senses the difference between infrared energy from a human body in motion and the background space. Ultrasonic technology uses high frequency (40KHz) ultrasound to sense motion within the space. Once lighting is on, detection by either technology holds lighting on. When no occupancy is detected for the length of the time delay, lighting turns off. The DT-355 can also be set so that only one technology is needed to trigger or both technologies are needed to hold lighting on.

Auto Set

The DT-355 requires no adjustment at installation. Auto set continuously monitors the controlled space to identify usage patterns. Using this information, it automatically adjusts the time delay and sensitivity settings for optimal performance and energy efficiency. The sensor assigns short delays (as low as 5 minutes) for times when the space is usually vacant, and longer delays (up to 30 minutes) for busier times.

Application

WattStopper's patented dual technology has the flexibility to work in a variety of applications, where one technology alone could encounter false triggers. Ideal applications include classrooms, open office spaces, large offices, and computer rooms. In addition, because the DT-355 can be mounted onto a variety of junction boxes, the sensor has the flexibility to be used in a wide range of spaces. The sensors eliminate the need for a power pack by using line voltage wiring.

Features

- Advanced control logic based on RISC micro-controller provides:
 - Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
 - Walk-through mode turns lights off 3 minutes after the area is initially occupied – ideal for brief visits such as mail delivery
 - Built-in light level sensor featuring simple, one-step setup
- Ultrasonic diffusion technology spreads coverage to a wider area (patent pending)
- DIP switch simplifies sensor adjustments
- LEDs indicate occupancy detection
- Uses existing line voltage wiring and doesn't require a power pack
- Six occupancy logic options give users the ability to customize control to meet application needs
- Qualifies for ARRA-funded public works projects

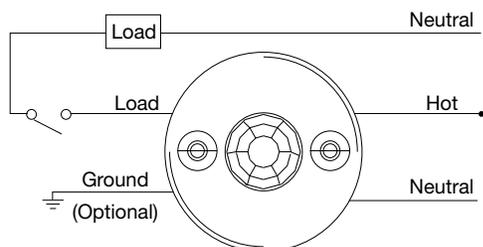


Specifications

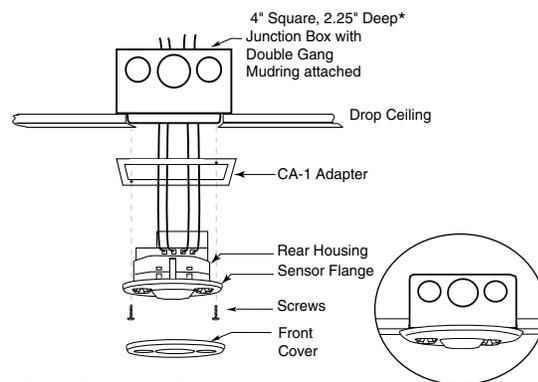
- 120/277/347 VAC, 50/60 Hz
- Ultrasonic frequency of 40kHz
- Time delays: Auto set, fixed (5, 10, 15, 20, or 30 minutes), walk-through, test-mode
- Sensitivity adjustment: Auto set or reduced sensitivity (for PIR sensitivity); ultrasonic sensitivity is variable with trimpot
- Built-in light level sensor – works from 10 to 300 footcandles (107.6 to 3,229.2 lux)
- Multi-level, 360° Fresnel lens for superior occupancy detection
- Mounting options: 4 square junction box with double gang mudring; 4 inch octagonal junction box
- Dimensions: 4.50" diameter x 1.45" deep (114.3mm x 25.9mm)
- UL and cUL listed
- Five year warranty

Wiring & Mounting

DT-355 Wiring Diagram

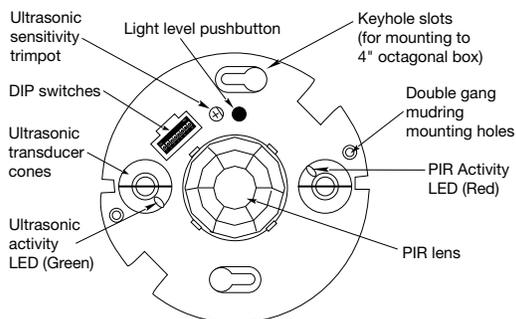


Ceiling Mounting



Controls & Settings

Product Controls



DIP Switch Settings

◀ = Factory Setting
● = ON
- = OFF

| Logic | Switch# | | |
|----------|---------|---|---|
| | 1 | 2 | 3 |
| Standard | - | - | - |
| Option 1 | ● | - | - |
| Option 2 | - | ● | - |
| Option 3 | ● | ● | - |
| Option 4 | - | - | ● |
| Option 5 | - | ● | ● |
| Option 6 | ● | ● | ● |
| Option 7 | ● | ● | ● |

| Occupancy | Time Delay | | |
|----------------|------------|---|---|
| | 4 | 5 | 6 |
| 5 sec/SmartSet | - | - | - |
| 5 minutes | - | - | ● |
| 10 min. | - | ● | - |
| 10 minutes | - | ● | ● |
| 15 min. | ● | - | - |
| 15 minutes | ● | - | ● |
| 20 minutes | ● | ● | - |
| 30 min. | ● | ● | ● |

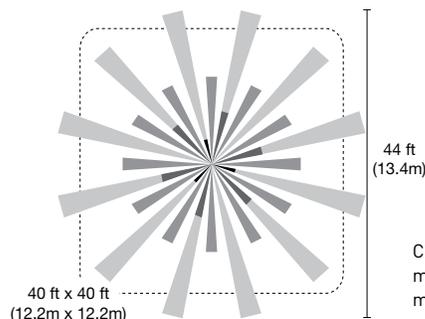
| LEDs | 7 | |
|------|----------|---------|
| | Disabled | Enabled |
| LEDs | - | ● |

| PIR Sensitivity | 8 | |
|-----------------|---------|---------------|
| | Minimum | Max./SmartSet |
| PIR Sensitivity | - | ● |

⚡ = walk-through mode

Coverage

Coverage Pattern



Coverage shown is maximum and represents half-step walking motion. Under ideal conditions, coverage for half-step walking motion can reach up to 1000 ft² (92.9 m²).

The technology control (occupancy logic) options are adjustable by user. The standard setting (recommended for most applications) is both technologies to trigger on, either to hold on.

Ordering Information

| Catalog No. | Voltage | Load Rating | Coverage |
|-----------------------------------|--|------------------------------------|---|
| <input type="checkbox"/> DT-355 | 120 VAC, 50/60 Hz | 0-800W Ballast/Tungsten | up to 1000 ft ² , (92.9 m ²) |
| <input type="checkbox"/> DT-355-U | 277 VAC, 50/60 Hz 347 VAC, 50/60 Hz | 0-1200W Ballast 0-1500W Ballast | |
| <input type="checkbox"/> CA-1 | Cosmetic adapter for ceiling installations with 4" square j-box or Wiremold #V5748-2 box | | |

Sensors are white.

BZ-50 Universal Voltage Power Pack



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The BZ-50 Universal Voltage Power Pack provides 24 VDC operating voltage to WattStopper's low-voltage occupancy sensors. This device is constructed with environmentally friendly materials and is RoHS-compliant.

Operation

The BZ-50 consists of a high-efficiency switching power supply and a high-current relay. It has an input of 120/277 VAC, 50/60Hz, and an output of 24VDC, 225mA. It turns the connected load on and off automatically based on occupancy sensor input.

Plenum Rated

The BZ-50 Power Pack is comprised of Teflon-coated low-voltage leads and an ABS, UL 2043 and 94V-0 plastic resin enclosure that is plenum-rated. As a result, the BZ-50 does not require installation into the junction box, but can be cost-effectively installed directly into the plenum.

Applications

The BZ-50 Power Pack is designed to be flexible enough to control almost any lighting or HVAC load, such as lighting circuits, self-contained air conditioners, pumps, fans, motors, VAV systems, motorized damper controls and setback thermostats. The BZ-50 is well-suited for any application which requires high-voltage switching through low-voltage controls. By linking power packs and sensors, an almost unlimited number of configurations can be obtained.

Features

- Self-contained power supply relay system
- Efficient switching power supply providing optimized current output based on number of sensors
- LED indicates status of relay or if there is a low-voltage overcurrent
- RoHS-compliant
- Zero crossing circuitry for reliability and increased product life
- UL 2043 plenum rated for cost-effective installation
- 1/2" snap-in nipple attaches to standard electrical enclosures through 1/2" knockouts
- 14 AWG wires on the relay for 20A operation
- Qualifies for ARRA-funded public works projects

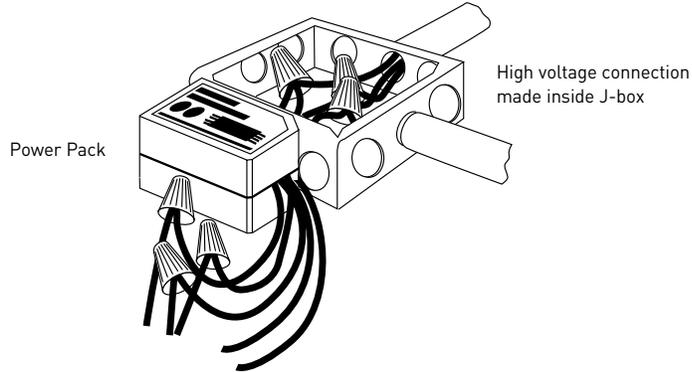


Specifications

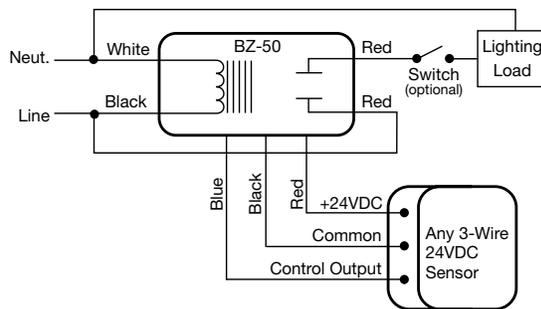
- 120/277VAC, 50/60Hz voltage input
- Secondary voltage of 24 VDC
- Secondary output of 225 mA (with relay connected)
- Low-voltage leads are rated for 300 volts
- UL-rated 94 V-0 grey plastic enclosure
- Dimensions: 1.6" x 2.75" x 1.6" (40.6mm x 69.9mm x 40.6mm) H x W x D with a 1/2" (12.7mm) snap-in nipple
- UL and cUL listed
- Five year warranty

System Layout & Wiring

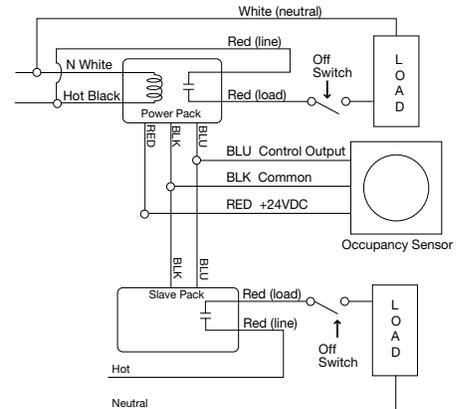
Installation Diagram



Wiring with Occupancy Sensor



Auxiliary Relay Pack with Sensor



Ordering Information

| Catalog No. | Input Voltage | Load Ratings | | | Output |
|------------------------------------|---------------------|--------------|----------|-----------|------------------|
| | | Ballast(A) | Incan(A) | Motor(HP) | |
| <input type="checkbox"/> BZ-50 | 120/277VAC; 50/60Hz | 20 | 20 | 1* | 24 VDC; 225 mA** |
| <input type="checkbox"/> BZ-50-U | | | | | |
| <input type="checkbox"/> BZ-50-FTA | | | | | |

*1 Hp rated at 120/250 VAC. **Output is 225 mA with relay connected.

Installation Notes

- 1) All WattStopper power packs should be installed in accordance with state, local, and national electrical codes and requirements.
- 2) Power packs are designed to attach to existing or new electrical enclosures with .5" 125.40mmJ knockout (check electrical codes in your area).
- 3) Most applications require UL-listed, 18-22 AWG, 3-conductor, Class 2 cables for low-voltage wiring. For plenum return ceilings use UL-listed plenum-approved cables.



BZ-50RC Universal Voltage Power Pack

High-efficiency switching power supply

Overcurrent protection (low-voltage)

RJ45 connection

Hold ON and Hold OFF inputs



Zero crossing for reliability and increased product life

Plenum rated

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The BZ-50RC Universal Voltage Power Pack provides 24 VDC operating voltage to WattStopper's low-voltage occupancy sensors equipped with RJ45 jacks. This device is constructed with environmentally friendly materials and is RoHS-compliant.

Operation

The BZ-50RC consists of a high-efficiency switching power supply and a high-current relay. It has an input of 120/277 VAC, 50/60Hz, and an output of 24VDC, 225mA. It switches line voltage in response to the signal coming from the occupancy sensor. The BZ-50RC can be attached to existing junction boxes or mounted into fixture wiring trays.

Plenum Rated

The BZ-50RC Power Pack is comprised of Teflon-coated low-voltage leads and an ABS, UL 2043 and 94V-0 plastic resin enclosure that is plenum-rated. As a result, the BZ-50RC does not require installation into the junction box, but can be cost-effectively installed directly into a lighting fixture.

Applications

The BZ-50RC Power Pack is designed to be flexible enough to control almost any lighting or HVAC load, such as lighting circuits, self-contained air conditioners, pumps, fans, motors, VAV systems, motorized damper controls and setback thermostats. The BZ-50RC is well-suited for any application which requires high-voltage switching through low-voltage controls. By linking power packs and sensors, an almost unlimited number of configurations can be obtained.

Features

- Self-contained power supply relay system
- Efficient switching power supply providing optimized current output based on number of sensors
- LED indicates status of relay or if there is a low-voltage overcurrent
- Zero crossing circuitry for reliability and increased product life
- UL 2043 plenum rated for cost-effective installation
- 1/2" snap-in nipple attaches to standard electrical enclosures through 1/2" knockouts
- 14 AWG wires on the relay for 20A operation
- Easy RJ45 connection
- RoHS-compliant

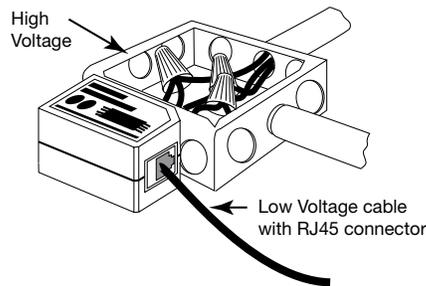


Specifications

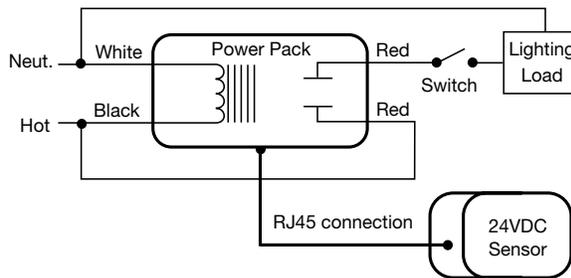
- 120/277VAC, 50/60Hz voltage input
- Load requirements:
 - Ballast: 20 amp @ 120/277 VAC
 - Incan: 20 amp @ 120 VAC
 - Motor: 1 hp @ 120/250 VAC
- Secondary voltage of 24 VDC
- Secondary output of 225 mA (with relay connected)
- Connection: BZ-50RC with RJ45 connections
- Operating temperature 32°-104°F (0-40°C)
- UL-rated 94 V-0 grey plastic enclosure
- Dimensions: 1.6" x 2.75" x 1.6" (40.6mm x 69.9mm x 40.6mm) H x W x D with a 1/2" (12.7mm) snap-in nipple
- UL and cUL listed
- Five year warranty

System Layout & Wiring

Installation Diagram



Wiring with Occupancy Sensor



Ordering Information

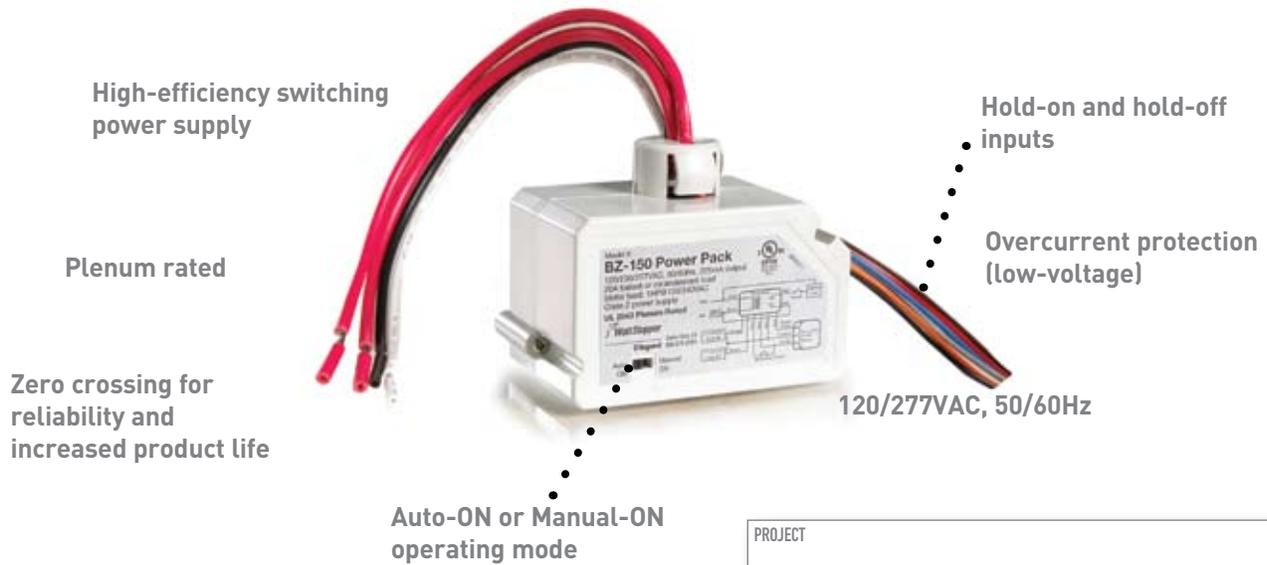
| Catalog No. | Description | Load Ratings | | | Output |
|----------------------------------|--|--------------|----------|-----------|-------------------------|
| | | Ballast(A) | Incan(A) | Motor(HP) | |
| <input type="checkbox"/> BZ-50RC | Universal Power Pack with RJ45 connection | 20 | 20 | 1* | 24 VDC; RJ45 connection |
| <input type="checkbox"/> FS-C1 | 10' cable with shielded RJ45 male connectors at each end | | | | |
| <input type="checkbox"/> FS-C2 | 6" cable with 3 flying leads at one end and a shielded RJ45 male connector on the other | | | | |
| <input type="checkbox"/> FS-C3 | 3' cable with shielded 90° male RJ45 on one end and a shielded straight male RJ45 at the other | | | | |
| <input type="checkbox"/> FS-C4 | Shielded RJ45 splitter with female to dual female receptacles | | | | |
| <input type="checkbox"/> FS-C5 | Shielded RJ45 male to male coupler | | | | |

*1 Hp rated at 120/250 VAC. **Output is 225 mA with relay connected.

Installation Notes

- 1) All WattStopper power packs should be installed in accordance with state, local, and national electrical codes and requirements.
- 2) Power packs are designed to attach to existing or new electrical enclosures with .5" 125.40mmJ knockout (check electrical codes in your area).
- 3) Most applications require UL-listed, 18-22 AWG, 3-conductor, Class 2 cables for low-voltage wiring. For plenum return ceilings use UL-listed plenum-approved cables.

BZ-150 Universal Voltage Power Pack



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The BZ-150 Universal Voltage Power Pack is full featured and can provide 24 VDC operating voltage to WattStopper's low-voltage occupancy sensors. In addition, the BZ-150 enables manual-on, hold-on, hold-off and load shed applications when used with lighting control panels or building management systems. This device is constructed with environmentally friendly materials and is RoHS-compliant.

Operation

The BZ-150 consists of a high-efficiency switching power supply and a high-current relay. It has an input of 120/277 VAC, 50/60Hz, and an output of 24VDC, 225mA. It turns the connected load on and off automatically based on occupancy sensor input, or manually with a low-voltage momentary switch. The dip switch setting allows the user to select Auto ON or Manual ON as the operating mode. Additional low-voltage inputs provide hold-on and hold-off features for broader applications.

Manual On and Bi-level Switching

Energy codes require automatic off. Some codes and EPAct require bi-level switching. The BZ-150 meets both of these requirements, while seamlessly integrating manual on for maximum energy savings. When used with a low-voltage wall switch, Auto ON and Manual ON can be selected while in the field by using the conveniently located dip switch on the front. Combining switches, power packs and sensors provides easy and cost-effective code-compliant solutions.

Applications

The BZ-150 can control lighting circuits, self-contained air conditioners, pumps, fans, motors, VAV systems, motorized damper controls and setback thermostats. By using two low-voltage switches, a ceiling sensor and two BZ-150s (one set to Auto ON and one set to Manual ON) bi-level switching with manual-on operation can be achieved. The hold-on input is ideal for retail and commercial facilities that want to override an occupancy sensor and force lighting on during normal business hours. After hours, a time clock signals the BZ-150 to cancel the hold-on lighting mode, allowing the sensor to resume control. The hold-off input can be used for load shedding or security systems.

Features

- Self-contained power supply relay system
- Efficient switching power supply providing optimized current output based on number of sensors
- LED indicates status of relay or if there is a low-voltage overcurrent
- Hold-on and hold-off inputs integrate with BMS, lighting control panels & other building systems
- Integrates with low-voltage momentary switch to control any 24VDC occupancy sensor
- RoHS-compliant
- Provides auto-on or manual-on field-selectable operating mode
- Zero crossing circuitry for reliability and increased product life
- UL 2043 plenum rated for cost-effective installation
- 1/2" snap-in nipple attaches to standard electrical enclosures through 1/2" knockouts
- 14 AWG wires on the relay for 20A operation
- Qualifies for ARRA-funded public works projects

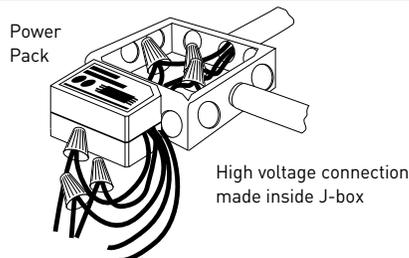


Specifications

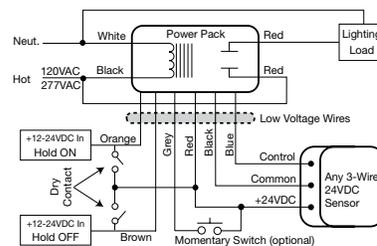
- 120/277VAC, 50/60Hz voltage input
- Secondary voltage of 24 VDC
- Secondary output of 225 mA (with relay connected)
- Low-voltage leads are rated for 300 volts
- UL-rated 94 V-0 grey plastic enclosure
- Dimensions: 1.6" x 2.75" x 1.6" (40.6mm x 69.9mm x 40.6mm) H x W x D with a 1/2" (12.7mm) snap-in nipple
- UL and cUL listed
- Five year warranty

System Layout & Wiring

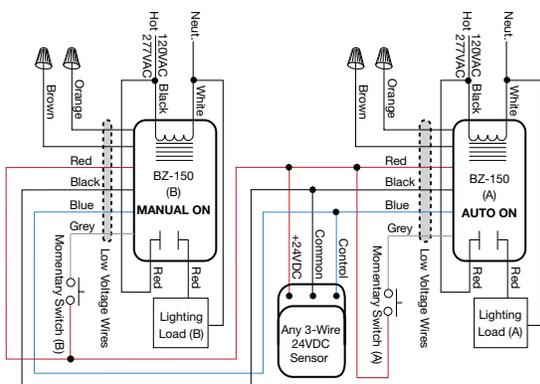
Installation Diagram



Wiring with Occupancy Sensor

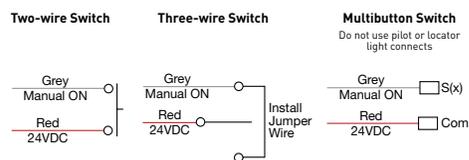


Manual-on & Bi-level Switching



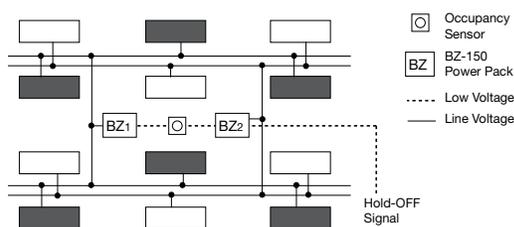
By using two low-voltage switches, a ceiling sensor and two BZ-150s (one set to Auto ON and one set to Manual ON) bi-level switching with manual-on operation can be achieved.

Low-voltage Momentary Switch Options



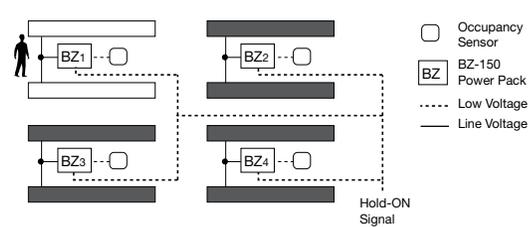
Hold-off & Hold-on Applications

Load Shed (Hold-off) Application for Open Office Spaces



The occupancy sensor connected to each BZ-150 keeps all lights on when the space is occupied. When the load shed command is given (by utility meter, BMS, etc.), lights connected to BZ₂ are held off. Remaining lights (connected to BZ₁) are still controlled by occupancy sensor.

Retail (Hold-on) Application



During store hours, a signal from a time clock to the BZ-150 holds lights on, regardless of occupancy. After hours, the clock schedule cancels the hold-on and occupancy sensor control takes over.

Ordering Information

| Catalog No. | Input Voltage | Load Ratings | | | Output |
|-------------------------------------|---------------------|--------------|----------|---------------------------|------------------------------------|
| | | Ballast(A) | Incan(A) | Motor | |
| <input type="checkbox"/> BZ-150 | 120/277VAC; 50/60Hz | 20 | 20 | 1 HP 120/250 VAC-rated | 24 VDC 225 mA w/relay connected |
| <input type="checkbox"/> BZ-150-U | | | | | |
| <input type="checkbox"/> BZ-150-FTA | | | | | |

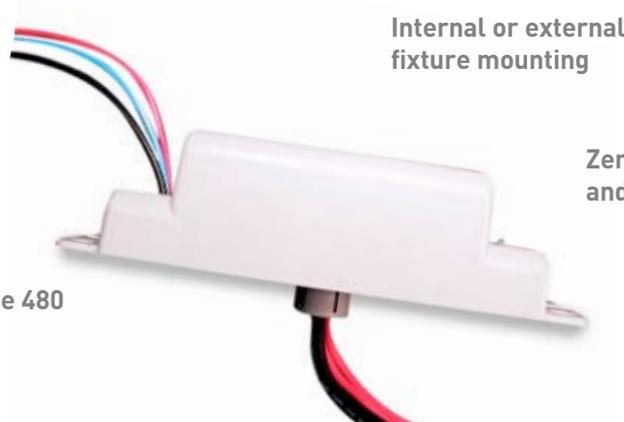
For a complete listing of Multibutton Low-voltage and Momentary Toggle Switches that will provide manual-on switching with the BZ-150, please refer to the product cut sheets in the section on Lighting Control Systems.

Installation Notes

- 1) All WattStopper power packs should be installed in accordance with state, local, and national electrical codes and requirements.
- 2) Power packs are designed to attach to existing or new electrical enclosures with .5" 125.40mmJ knockout (check electrical codes in your area).
- 3) Most applications require UL-listed, 18-22 AWG, 3-conductor, Class 2 cables for low-voltage wiring. For plenum return ceilings use UL-listed plenum-approved cables.

BZ-480 Two-Phase Power Pack

Fully self-contained transformer and relay



Internal or external fixture mounting

Zero crossing for reliability and increased product life

Switches two-phase 480 VAC loads

PROJECT

LOCATION/TYPE

Product Overview

Description

The BZ-480 is a versatile power pack designed to switch two-phase 480 VAC loads and provide 24 VDC operating voltage to WattStopper low voltage occupancy sensors and other control devices. The BZ-480 is offered in two different models with internal (BZ-480-I), or external (BZ-480-E) mounting abilities.

Operation

The BZ-480 power packs consist of a transformer and a high-current relay. The transformer has a primary input of 480 VAC. The secondary output, which provides the operating power for WattStopper occupancy sensors and other lighting control devices, is 24 VDC, 130 mA. This 130 mA output is available with the power pack's relay connected.

Mounting

The power packs can mount to any lighting fixture, wiring tray or junction box with 1/2" knockouts. The BZ-480-I is designed to mount inside of lighting fixtures, wiring trays, or junction boxes, while the BZ-480-E is designed to mount outside of them.

Applications

WattStopper BZ-480 power packs are designed to control 480 VAC two-phase loads with low voltage devices. Applications include warehouses, gymnasiums, parking structures and other industrial areas. The versatility of the BZ-480 with its mounting abilities offers a broad range of configurations to address different lighting control needs.

Features

- Switches two-phase 480 VAC loads and provides 24 VDC power
- Zero crossing for reliability and increased product longevity
- Fully self-contained transformer and relay
- Two options for mounting; internal or external of lighting fixtures, wiring trays and junction boxes
- Capable of switching up to a 6 amp load
- LED indicates status of relay or if there is an overcurrent

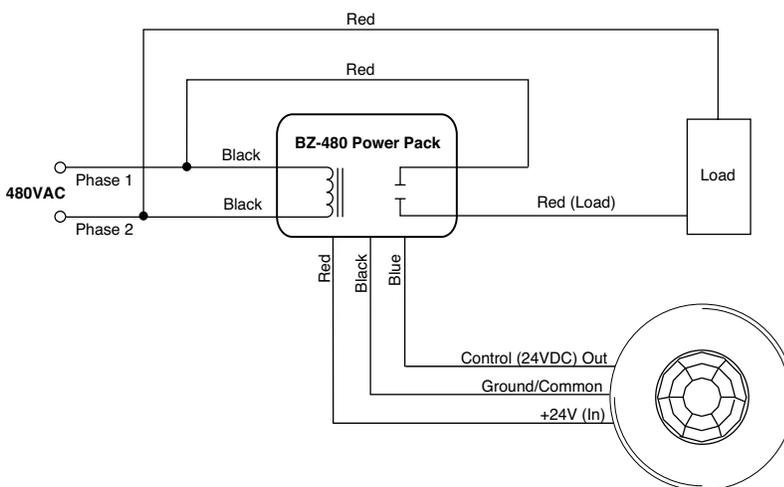


Specifications

- 480 VAC, 60 Hz
- Load ratings (isolated relay):
 - General 20A @ 120/277 VAC
 - Ballast 6A @ 480 VAC
 - Motor 1HP @ 120/240/480 VAC
- Output:
 - 150 mA @ 24 VDC (maximum without relay connected)
 - 130 mA @ 24 VDC (with relay connected)
- Control input requirements; 0.2 mA @ 24 VDC
- Operating temperature: 32°-131°F [0°-55°C]
- Operating humidity: 5-95% RH, non-condensing
- UL 94 V-0 rated plastic enclosure; units are dark grey
- Dimensions:
 - 6.7"(L) x 2.5"(W) x 1.6"(H)
 - 170.2 mm(L) x 63.5mm(W) x 40.6mm(H)
- UL and cUL listed
- Five year warranty

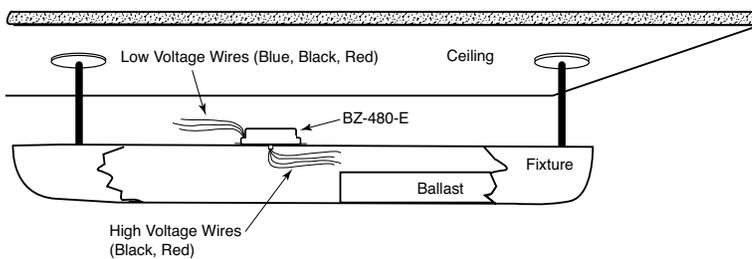
Wiring & Mounting

BZ Power Pack Wiring Diagram

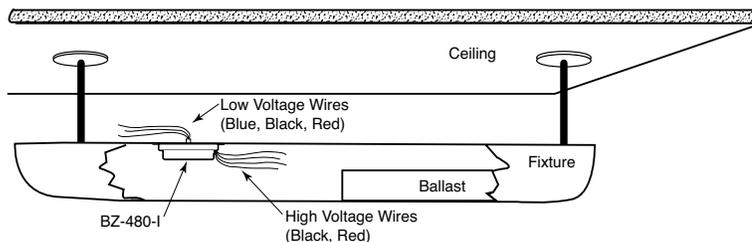


Mounting

BZ-480-E



BZ-480-I



Ordering Information

| Catalog No. | Description/Type | Input Voltage | Load Ratings | | Output |
|-----------------------------------|---------------------------|----------------|--------------|------------|-----------------|
| | | | Ballast (A) | Motor (HP) | |
| <input type="checkbox"/> BZ-480-E | Power Pack External Mount | 480 VAC; 60 Hz | 6 | 1 | 24 VDC; 150 mA* |
| <input type="checkbox"/> BZ-480-I | Power Pack Internal Mount | 480 VAC; 60 Hz | 6 | 1 | 24 VDC; 150 mA* |

* 130mA with relay connected

B347D-P Power and Auxiliary Relay Packs

Fully self-contained transformer and relay

Snaps in for easy installation

UL 2043 Plenum Rated



Essential component for ceiling mounted occupancy sensor

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper B347D-P Power Packs provide 24VDC operating voltage to all WattStopper 24VDC occupancy sensors and daylighting controllers. Auxiliary Relay Packs are similar to power packs, but only have an isolated relay and no transformer power supply.

Operation

B347D-P Power Packs consist of a transformer and high-current relay combined in one small, powerful package. The transformer has a primary high voltage input and a secondary, low voltage output (24 VDC, 114 mA with relay connected). The secondary voltage provides operating power to WattStopper sensors. When the occupancy sensors detect motion or daylighting sensors detect inadequate ambient light, they electrically close an internal circuit, which sends 24 VDC back to the Power or Auxiliary Relay Packs that control the lighting system.

Plenum Rated

The B347D-P Power Pack is UL 2043 plenum rated with teflon coated low voltage leads and plenum rated plastic. This means that the Power Packs do not need to be installed in the junction box, but can be installed in the plenum. They are housed in ABS, UL-rated 94V-0 plastic enclosures.

Applications

WattStopper Power and Auxiliary Relay Packs are designed to be flexible enough to control almost any lighting or HVAC load. For example, B347D-P Power Packs can control lighting circuits, self-contained air conditioners, pumps, fans, motors, VAV systems, motorized damper controls and setback thermostats. They are excellent for any application which requires high voltage switching through low voltage controls. By linking power packs and sensors, an almost unlimited number of configurations can be obtained.

Features

- Self-contained transformer relay system
- Available for 347 volt systems
- Capable of switching up to 20 Amps of electrical load (ballast)
- Low voltage leads are teflon coated for use in plenum applications
- Can be used as a low voltage switch for other applications or as stand-alone, low voltage switch
- 1/2 inch snap-in nipple attaches to standard electrical enclosures via 1/2 inch knockouts
- Installation in junction box not required
- Qualifies for ARRA-funded public works projects

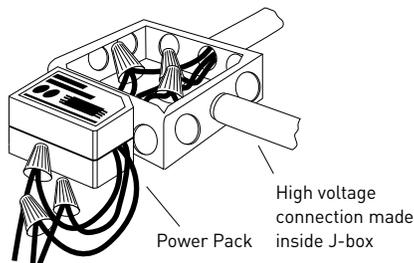


Specifications

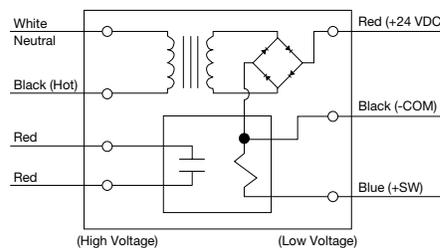
- Secondary voltage of 24 VDC
- Secondary output of 150 mA, 114 mA with relay connected
- Low voltage leads are rated for 300 volts
- UL-rated 94V-0 plastic enclosure
- UL 2043 plenum rated
- Dimensions: 1.7" x 2.91" x 1.62" (43.2mm x 73.9mm x 41.1mm) H x W x D with a 1/2" (12.7mm) snap-in nipple
- UL and cUL listed
- Five year warranty

System Layout

Power Pack Installation

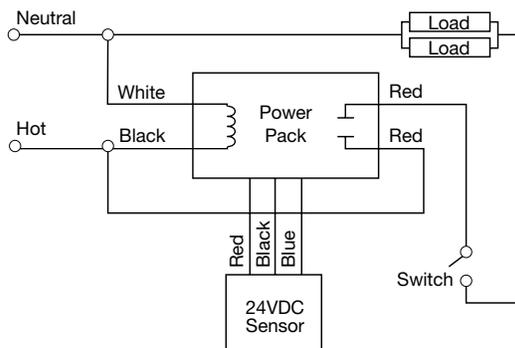


Power Pack Schematic

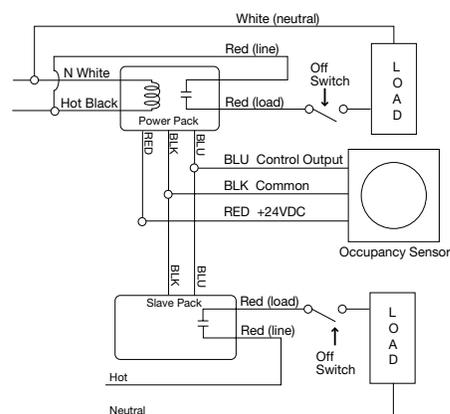


Wiring Diagrams

Power Pack with Ceiling Sensor



Auxiliary Relay Pack with Sensor



Ordering Information

| Catalog No. | Description | Input Voltage | Load Ratings | | | |
|--|-----------------|---------------------------|--------------|----------|-----------|-----------------|
| | | | Ballast(A) | Incan(A) | Motor(HP) | Output |
| <input type="checkbox"/> B347D-P | Power Pack | 347 VAC; 60 Hz | 15 | - | - | 24 VDC; 150 mA* |
| <input type="checkbox"/> S120/277/347E-P | Aux. Relay Pack | 120/277/347 VAC; 60 Hz | 20/20/15 | 13/-/- | 1/-/- | |
| <input type="checkbox"/> S120/277/347E-P-U | | | | | | |
| <input type="checkbox"/> S120/277/347E-P-FTA | | | | | | |

*Output is 150 mA before relay is connected and 114 mA after relay is connected. Power packs are white; auxiliary relay packs are black.

Installation Notes

1. All WattStopper power packs should be installed in accordance with state, local, and national electrical codes and requirements.
2. Power packs are designed to attach to existing or new electrical enclosures with 1/2 inch knockouts (check electrical codes in your area).
3. Most applications require UL listed, 18 AWG, 3-conductor, Class 2 cable for low voltage wiring. For plenum return ceilings use UL listed plenum-approved cables.



BD Din Rail Mounted Power Packs



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| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The BD-100 is a versatile, DIN rail mounted power pack supplying 24 VDC operating voltage to low voltage occupancy sensors and other lighting controls. The BD-100 is available in two models, the BD-100E-P with hold-ON and hold-OFF functions, and the BD-100M for manual-ON applications.

Operation

BD power packs consist of a transformer and a high-current relay. The transformer has a high voltage input of 120/277 VAC. The secondary output, which provides the operating power for occupancy sensors and lighting control devices, is 24 VDC, 175 mA. This 175 mA output is available with the power pack's relay connected. The power packs receive input from occupancy sensors, switches or light level sensors to switch lighting on and off. For example, when an occupancy sensor detects motion, it electronically closes an internal circuit which sends 24 VDC to the power pack. This closes the power pack relay and turns lights on. The BD-100M works with low voltage momentary switches for manual ON/OFF as well as automatic OFF control.

Features

- Self-contained transformer relay system
- LED indicates status of relay or if there is an overcurrent on the low voltage output
- Hold-ON and hold-OFF inputs integrate with lighting control panels, BMS and other building systems (BD-100E-P)
- Hold-OFF input can provide load shedding function (BD-100E-P)
- Hold-ON input enables method to override occupancy sensor and hold lighting ON (BD-100E-P)
- Zero crossing for reliability and increased product life
- Manual-ON inputs require a low voltage momentary switch (with an attached automatic control device) to provide manual ON/OFF and automatic OFF control (BD-100M)

DIN Rail

The BD can mount to any junction box or electrical housing fitted with a DIN rail. This means that the power pack is seated in a junction box by snapping it into place onto the DIN rail. Once attached, the BD-100 accepts line voltage on one side and low voltage on the other, keeping the two voltages separate.

Applications

BD-100E-P power packs control lighting circuits, self-contained VAV systems, and setback thermostats. The hold-OFF input can be used to perform load shedding. During a power alert or peak demand, a signal from a BMS or utility meter triggers the BD to shed non-critical lighting loads. The hold-ON input is ideal for retail and commercial facilities that want to hold certain lighting ON during normal business hours. After-hours, a time clock signals the BD to no longer hold lights ON, allowing occupancy sensors to resume control. The BD-100M is well suited to applications where users require manual ON/OFF control.

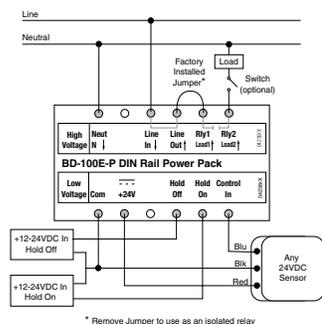


Specifications

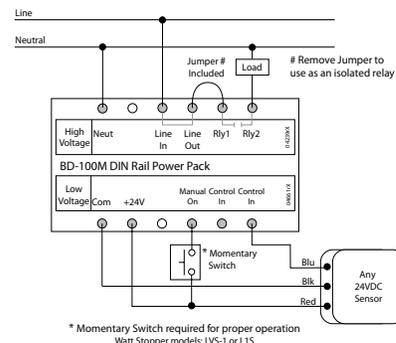
- 120/277 VAC; 50/60 Hz
- Max load ratings:
 - Ballast 20 A @ 120/277 VAC
 - Incandescent 20 A @ 120 VAC
 - Motor 1HP @ 120/240 VAC
- Output: 175 mA @24 VDC (with relay connected)
- Low voltage inputs: Control On +12-24 VDC; Manual ON +12-24 VDC
- Terminal torque: 4/428 inch-pound force 0.5Nm
- Operating temperature 32°-131°F (0°-55°C)
- UL 94 V0 rated plastic enclosure
- CE listed for 230 VAC applications
- Dimensions: 2.78" x 3.44" x 2.63" (71mm x 87mm x 67mm)
- UL and cUL listed
- Five year warranty

System Layout & Wiring

BD-100E-P Wiring Diagram

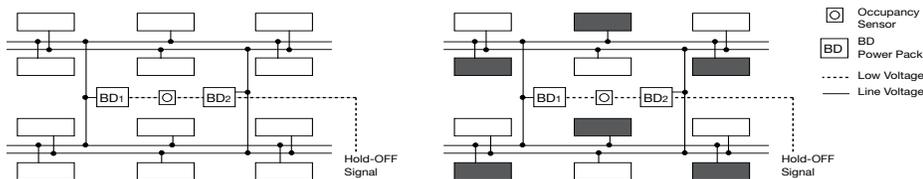


BD-100M Wiring Diagram



Hold-ON/ OFF Function

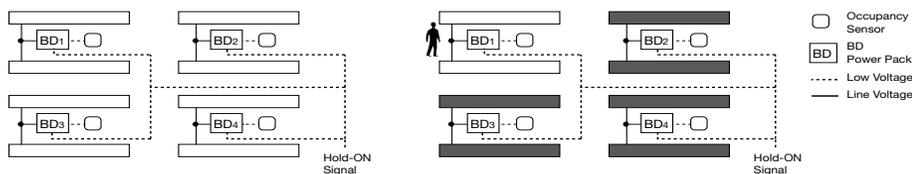
Hold-ON Retail Application



During store hours, a signal from a time clock to the BD holds lights on, regardless of occupancy.

After hours, the clock schedule cancels the hold on and occupancy sensor control takes over.

Load Shed (Hold-OFF) Application for Open Office Spaces



The occupancy sensor, connected to each BD, keeps all lights on when the space is occupied.

When the load shed command is given (by utility meter, BMS, etc.), lights connected to the BD2 are held off. Remaining lights, [BD1] are controlled by occupancy sensor.

Ordering Information

| Catalog No. | Description | Input Voltage | Load Ratings | | | Output |
|---|---|-----------------------|--------------|------------|------------|----------------------------------|
| | | | Ballast (A) | Incan. (A) | Motor (hp) | |
| <input type="checkbox"/> BD-100E-P | Power Pack | 120/277 VAC; 50/60 Hz | 20 | 20 | 1 | 24 VDC; 175 mA (relay connected) |
| <input type="checkbox"/> BD-100M | Power Pack | 120/277 VAC; 50/60 Hz | 20 | 20 | 1 | 24 VDC; 175 mA (relay connected) |
| Optional Switches: (Use of BD-100M requires use of 1 low voltage switch) | | | | | | |
| <input type="checkbox"/> L1S* | Single Button switch, contract rating 25mA @ 50 VDC, max pilot load 10mA *Add to the end of catalog number: -2 Ivory, -4 Almond, -7 White, -9 Grey | | | | | |
| <input type="checkbox"/> LVS-1** | Momentary toggle switch, single-pole; double throw with center position rest, 3A, 24VAC/DC **Add to the end of catalog number: -W White, -I Ivory, -G Grey | | | | | |

LC-100 Intelligent Power Pack

Two-relay output power pack that accepts signals from multiple control devices

•Dimming convenience with 0-10V ballasts

Daylighting control with photosensor

Dual voltage 120/277 VAC

Load shed dimming or ON/OFF switching

Tunes maximum light level output for greater energy savings potential



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The LC-100 is a power pack with two relay outputs and two dimming channels delivering both switching and 0-10V dimming control to lighting loads. Signal inputs offer integrated operation with a range of control devices.

Operation

A dual voltage device capable of operating at either 120 or 277V, the LC-100 installs as a standard power pack, connecting to junction boxes in a ceiling or a location close to controlled loads. With 24VDC at 150mA available, it provides power to occupancy sensors, photocells, and other devices. Low voltage switch inputs give occupants ON/OFF switching and up/down dimming control of two independent lighting loads. Separate signaling inputs for occupancy sensors, time clocks and photocells allow shutoff and daylighting control while providing convenient scenarios (i.e., blink warning, manual on or auto on, hold on, on only) to meet control needs.

Dimming Control

When used with 0-10V controllable ballasts, the LC-100 provides dimming and ON/OFF control of up to 100 ballasts per dimming channel. Occupants can conveniently dim up/down and turn lighting ON/OFF using momentary low voltage switches. The load shed feature dims lighting to preset levels during peak demand periods to reduce energy consumption. Lighting maximum levels can also be set for greater energy savings.

Applications

The LC-100 integrates control of other devices to meet room-specific lighting control needs. It is ideal for compliance with bi-level switching, daylighting and lighting shutoff energy code provisions. Where load shedding is needed, the LC-100 can switch off non-critical lighting while leaving other lighting on. Or with controllable ballasts, it can dim lighting down to preset load "shed" levels.

Features

- Single package with relay outputs, dimming channels, power supply, and device inputs for simpler installation
- Two switch inputs accept three-wire momentary, two-wire momentary pushbutton, or maintained low voltage switches
- Hold-ON feature keeps lighting on during scheduled time, reverts to occupancy sensor control after hours
- Burn in timer prevents lamps from dimming for initial 100 hours for extended lamp life
- Pilot light output for status annunciation at switches
- Blink warning five minutes prior to shutoff
- Isolated relay contact for each relay output provides status
- Manual ON/Auto ON settings for convenience and energy savings
- After hour override adjustable to 30 minutes, 1 hour, 2 hours or 4 hours
- Works with the LS-301 dimming photosensor to provide closed loop dimming control
- Qualifies for ARRA-funded public works projects

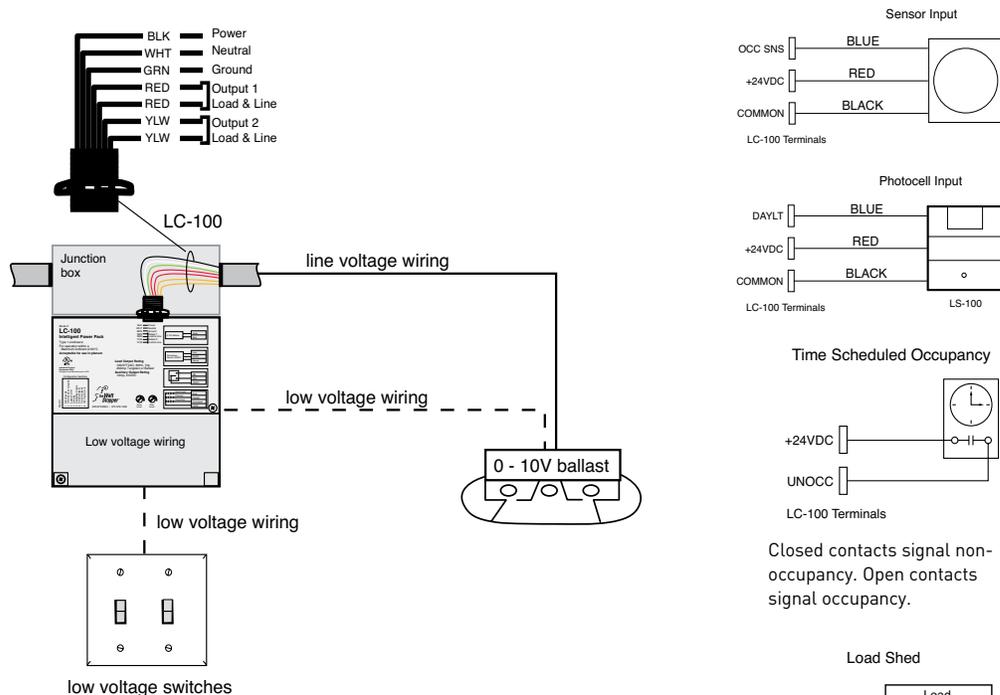


Specifications

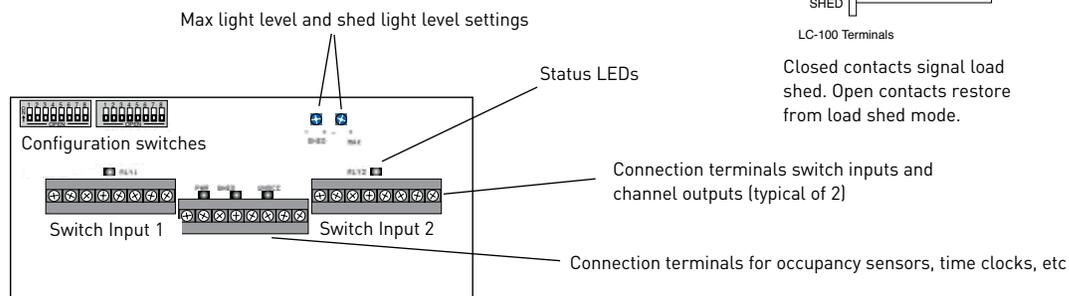
- 120/277 VAC voltage input, 50/60 Hz
- Two relay outputs rated 20 Amp 120V tungsten and ballast, 20 Amp 277V ballast
- Two isolated NO/NC relays rated 1 Amp @ 24VDC
- NEMA 1 enclosure; acceptable for use in plenum spaces
- Output power 150mA @ 24VDC with automatic overload protection
- Dual voltage input 120 or 277VAC @ 14 Watts maximum
- Switch wiring distances up to 1000 feet with 18 gauge wire
- Dimensions: 6.63" x 6.13" x 2.13" (168.4mm x 155.7mm x 54.1mm) with a 1/2 inch snap-in nipple
- UL and cUL listed
- Five year warranty

Wiring & Installation

LC-100 Wiring Connections, Inputs, and to Dimming Ballasts



LC-100 Wiring Connections



| Catalog No. | Input Voltage | Load Ratings | | | Output |
|---------------------------------|-----------------------|--------------|-----------|------------|------------------|
| | | Ballast (A) | Incan (A) | Motor (HP) | |
| <input type="checkbox"/> LC-100 | 120/277 VAC; 50/60 Hz | 20 | 20 | 1* | 24 VDC; 150 mA** |

* 1 Hp rated at 120/250 VAC. ** Output is 150 mA with relays connected.

Ordering Information

Installation Notes

1. All WattStopper power packs should be installed in accordance with state, local, and national electrical codes and requirements.
2. Power packs are designed to attach to existing or new electrical enclosures with 1/2 inch knockouts. (Check electrical codes in your area.)
3. Low-voltage wiring should use stranded, 18-22 AWG, properly rated cable. Do not run low voltage Class 2 wiring with high voltage wiring. For plenum return ceilings use UL listed plenum-approved cables.

Special Power Packs & Supplies

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|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper has several power packs and power supplies that fill the needs of a variety of special applications. These products help to make lighting control installations more cost efficient and flexible.

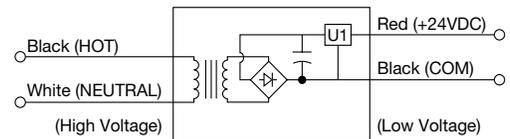
AT Power Supply

AT Power Supplies

The AT-120 and AT-277 power supplies provide up to 800 mA of 24 VDC to WattStopper occupancy sensors and control products. They contain a transformer and no relay. WattStopper power and/or auxiliary packs are needed to do the switching. The AT-120 and AT-277 are useful for applications with a large number of sensors such as open offices and warehouses.

AT Specifications & Wiring

- Up to 800 mA of 24 VDC power
- Secondary voltage of 24 VDC
- Housed in NEMA 1 enclosure



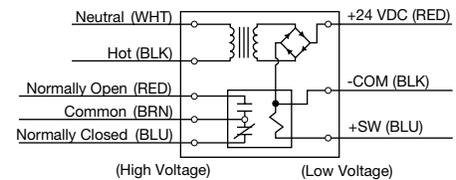
Form C Power Pack

Form C Power Packs

The Form C power packs contain a single pole, double-throw isolated relay with a normally open and normally closed output. These power packs can be used with a standard occupancy sensor to interface with HVAC or other systems. Special attention needs to be made to the load ratings as they vary and are significantly lower than standard power packs.

Form C Specifications & Wiring

- Up to 100 mA of 24 VDC power before relay is connected; 64 mA after relay is connected
- Secondary voltage of 24 VDC
- UL rated 94V-0 plastic enclosure with snap-in installation



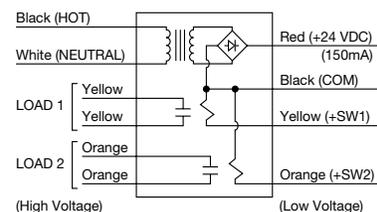
2 Relay Power Pack

2 Relay Power Packs

The WattStopper C-Series power packs contain 2 isolated relays. These power packs can be used where 2 circuits need to be controlled at the same point. They provide a convenient alternative to using 2 power packs thus reducing installation time and costs. They are also useful where installation space is limited.

2 Relay Specifications & Wiring

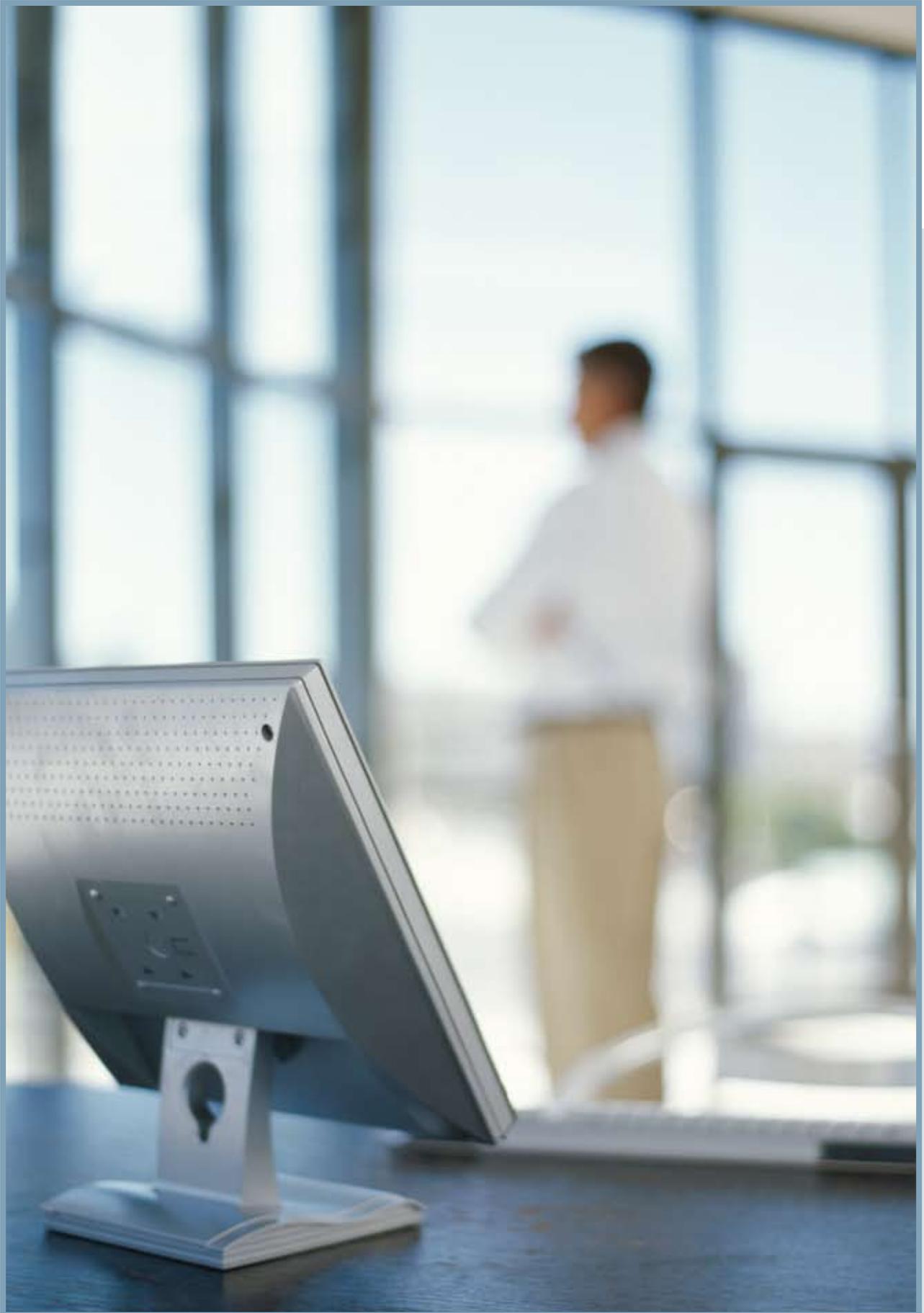
- Up to 150 mA of 24 VDC power before relays are connected; 114 mA after single relay is connected, 78 mA when both relays are connected
- Secondary voltage of 24 VDC
- Housed in 4" metal junction box



Ordering Information

| Catalog No. | Description/Type | Input Voltage | Load Ratings | | | Output |
|----------------------------------|--------------------|----------------|--------------|-----------|------------|-----------------|
| | | | Ballast (A) | Incan (A) | Motor (HP) | |
| <input type="checkbox"/> AT-120 | Power Supply | 120 VAC, 60 Hz | - | - | - | 24 VDC; 800 mA |
| <input type="checkbox"/> AT-277 | Power Supply | 277 VAC, 60 Hz | - | - | - | 24 VDC; 800 mA |
| <input type="checkbox"/> A120C-P | Form C Power Pack | 120 VAC, 60 Hz | 8NO/5NC | 5NO/3NC | 1NO/.25NC | 24 VDC; 100 mA* |
| <input type="checkbox"/> A277C-P | Form C Power Pack | 277 VAC, 60 Hz | 6NO/3NC | 5NO/2.5NC | 2NO/.5NC | 24 VDC; 100 mA* |
| <input type="checkbox"/> C120E-P | 2 Relay Power Pack | 120 VAC, 60 Hz | 20** | 13** | 1** | 24 VDC; 150 mA |
| <input type="checkbox"/> C277E-P | 2 Relay Power Pack | 277 VAC, 60 Hz | 20** | - | - | 24 VDC; 150 mA |

*Contains an isolated relay with normally open (NO) and normally closed (NC) contacts. **Rating per relay. Output shown is before relay connection



TS-400 Digital Time Switch



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|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The IntelliSwitch TS-400 series digital time switches automatically turn lights off after a preset time. The simple pushbutton operation provides users with convenient time out lighting control without the nuisance of twist timers.

Operation

The TS replaces an existing wall switch. The TS-400 operates between 100 and 300 volts. Pressing the TS's on/off button turns lights on. The lights will remain on for the duration of the time-out setting which is adjustable from 5 minutes to 12 hours. Lights can be turned off before the time-out setting expires by pressing the on/off button. Also, the unit can be reset at any time by holding down the on/off button for 2 seconds. This will bring the timer back to its original time out setting and restart the countdown.

Time Scroll Overrides

The time scroll option allows users to temporarily override the time out setting without adjusting the settings. Time scroll is selected with the calibration button. With time scroll programmed to "UP", lights can be held on longer than the time out period. With time scroll programmed to down "DN", lights can be turned off sooner than the time out period. Pressing the on/off switch for more than 4 seconds causes the timer to scroll in the set direction throughout the possible time out settings.

Applications

The TS is an ideal lighting control choice in equipment rooms, storage areas, and closets.

Features

- Time-out settings range from 5 minutes to 12 hours for flexibility in fitting many applications
- Optional flash and beep warnings allow time to reset the switch if someone is present
- Time scroll option provides temporary override of the preset time out period
- Simple reset feature for returning the switch to its original preset time-out setting
- Electroluminescent back-lit LCD shows timer countdown
- Terminal style wiring simplifies installation
- Zero crossing reduces stress on the relay and increases product longevity
- Pushbutton programming gives the TS an easy set up process
- Setting the time-out for 2 hours and time scroll to down allows Title 24 compliance for using override switches
- Compatible with decorator wall plates
- Qualifies for ARRA-funded public works projects

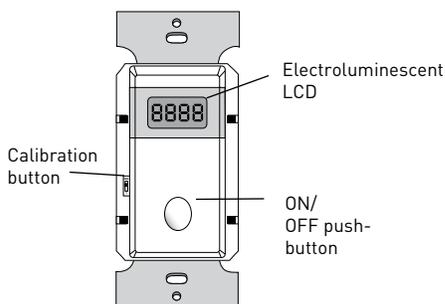


Specifications

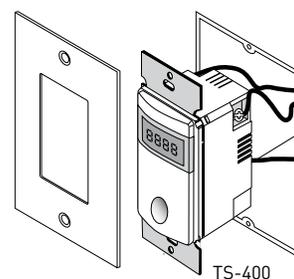
- TS-400: 120/277 VAC; 50/60 Hz
- Time-out adjustments range from 5 minutes to 12 hours (5 minute increments to 1 hour, then 15 minute increments to 12 hours)
- Optional visual warning: flashes lights at 5 minutes and 1 minute prior to time-out
- Optional audible warning: beeps every 5 seconds at 1 minute prior to time-out
- No minimum load requirement
- Compatible with all electronic ballasts and motor loads
- Dimensions: 2.66" x 1.79" x 1.76" (67.5mm x 45.5mm x 44.7mm)
- UL and cUL listed
- Five year warranty

Controls & Installation

Product Controls

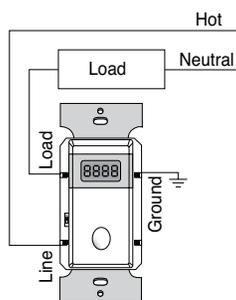


Installation

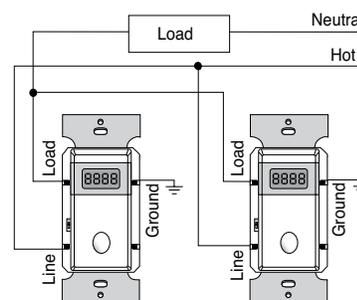


Wiring

TS-400 Single Level Lighting



TS-400 3-Way Lighting



Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|-------------------------------------|------------|--|---|
| <input type="checkbox"/> TS-400-W | White | 120 VAC; 50/60 Hz, or 277 VAC; 50/60 Hz | 0-800 Watt ballast, or 0-1200 Watt ballast |
| <input type="checkbox"/> TS-400-W-U | | | |
| <input type="checkbox"/> TS-400-I | Ivory | | |
| <input type="checkbox"/> TS-400-A | Lt. Almond | | |
| <input type="checkbox"/> TS-400-B | Black | | |
| <input type="checkbox"/> TS-400-G | Grey | | |

Order wall plate separately.

TS-400-24 Low Voltage Digital Time Switch

Automatically turns lights off after preset time

Bright electroluminescent LCD shows timer's countdown

Optional audible or visual alerts before lights turn off



Terminal style wiring for simplified installation

Digital operation and simple pushbutton set-up

Time scroll features allows timer to adjust up or down

PROJECT

LOCATION/TYPE

Product Overview

Description

The IntelliSwitch TS-400 series digital time switches automatically turn lights off after a preset time. The simple pushbutton operation provides users with convenient time out lighting control without the nuisance of twist timers.

Operation

The TS-400-24 operates at 24 VDC/ VAC. Pressing the TS's on/off button turns lights on. The lights will remain on for the duration of the time-out setting which is adjustable from 5 minutes to 12 hours. Lights can be turned off before the time-out setting expires by pressing the on/off button. Also, the unit can be reset at any time by holding down the on/off button for 2 seconds. This will bring the timer back to its original time out setting and restart the countdown.

Time Scroll Overrides

The time scroll option allows users to temporarily override the time out setting without adjusting the settings. Time scroll is selected with the calibration button. With time scroll programmed to "UP", lights can be held on longer than the time out period. With time scroll programmed to down "DN", lights can be turned off sooner than the time out period. Pressing the on/off switch for more than 4 seconds causes the timer to scroll in the set direction throughout the possible time out settings.

Applications

The TS is an ideal lighting control choice in equipment rooms, storage areas, and closets. The switch can also be used as an HVAC override or to control heat lamps in hotel guest rooms. The low voltage TS-400-24 can switch loads that exceed the ratings of standard wall switches and can be used in locations where high voltage wiring in walls is prohibited. Also, when used with a WattStopper power pack, the TS-400-24 can control lighting and motor loads.

Features

- Time-out settings range from 5 minutes to 12 hours for flexibility in fitting many applications
- Optional flash and beep warnings allow time to reset the switch if someone is present
- Time scroll option provides temporary override of the preset time out period
- Simple reset feature for returning the switch to its original preset time-out setting
- Electroluminescent back-lit LCD shows timer countdown
- Terminal style wiring simplifies installation
- Zero crossing reduces stress on the relay and increases product longevity
- Pushbutton programming gives the TS an easy set up process
- Setting the time-out for 2 hours and time scroll to down allows Title 24 compliance for using override switches
- Compatible with decorator wall plates
- Qualifies for ARRA-funded public works projects

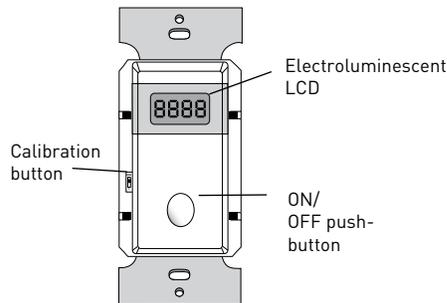


Specifications

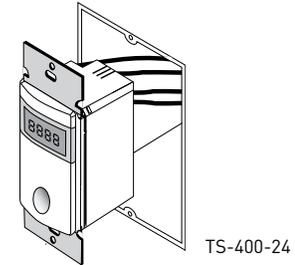
- TS-400-24: 24 VAC/VDC/VAC half-wave rectified input; current draw is 12 mA DC, 41 mA AC
- Time-out adjustments range from 5 minutes to 12 hours (5 minute increments to 1 hour, then 15 minute increments to 12 hours)
- Optional visual warning: flashes lights at 5 minutes and 1 minute prior to time-out
- Optional audible warning: beeps every 5 seconds at 1 minute prior to time-out
- TS-400-24 contains single-pole, double-throw isolated relay rated for 1A @ 30 VDC
- No minimum load requirement
- Compatible with all electronic ballasts and motor loads
- Dimensions: 2.66" x 1.79" x 1.76" (67.5mm x 45.5mm x 44.7mm)
- UL and cUL listed
- Five year warranty

Controls & Installation

Product Controls

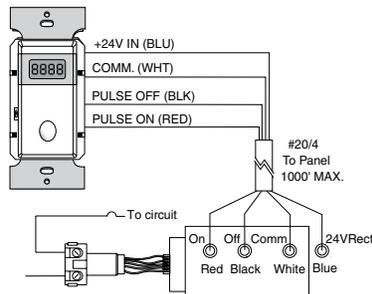


Installation

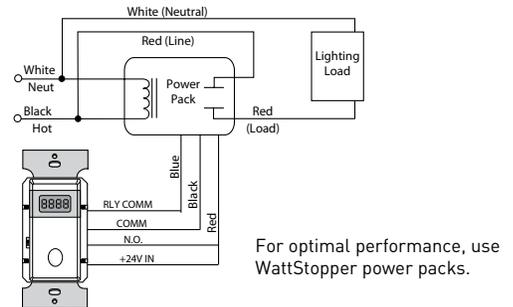


Wiring

TS-400-24 with Lighting Control Panel



TS-400-24 with Power Pack



Ordering Information

| Catalog No. | Color | Voltage | Load Rating |
|--------------------------------------|------------|----------------------|-------------------------------|
| <input type="checkbox"/> TS-400-24-W | White | 24 VAC/VDC/VAC rect. | Current: 12 mA; DC / 41 mA AC |
| <input type="checkbox"/> TS-400-24-I | Ivory | | |
| <input type="checkbox"/> TS-400-24-A | Lt. Almond | | |
| <input type="checkbox"/> TS-400-24-B | Black | | |
| <input type="checkbox"/> TS-400-24-G | Grey | | |

Order wallplates separately. The TS-400-24 works with WattStopper power packs.

HS Series Card Key Switches

Room key activated master switch for hotel guest room lighting

Line and low voltage models

30-second egress time



Facilitates energy savings in hotels, motels and boarding houses

Backlit card key slot for visibility in darkened rooms

Optional key fob for rooms that do not use a card key

PROJECT

LOCATION/TYPE

Product Overview

Description

The HS Series Card Key Switch turns electrical circuits on or off when a card key or HS-FOB Key Fob is inserted or removed from its slot.

Operation

Inserting a door entry card key or HS-FOB into the HS Card Key Switch energizes the controlled circuits and loads. Removing the card key initiates a 30-second time delay to allow safe egress from the hotel room. Once this time delay elapses, the power to the circuits is terminated. To restore power to the room's controlled circuits, reinsert the card key into the HS Card Key Switch.

Low and Line Voltage Models

The HS-100 is a low voltage unit with a normally open and normally closed isolated relay, allowing it to interface with third-party energy and lighting management control systems. Additionally, the HS-100 can connect to one or more WattStopper Power Pack(s). The HS-150 is a line voltage unit that serves as a master switch for a single guest room circuit.

Applications

HS Card Key Switches are ideal for guest rooms in hotels, motels, boarding houses, senior residences or similar applications with guest rooms. Once installed, they function as control devices located at the main entry door, controlling all permanently installed luminaires.

Features

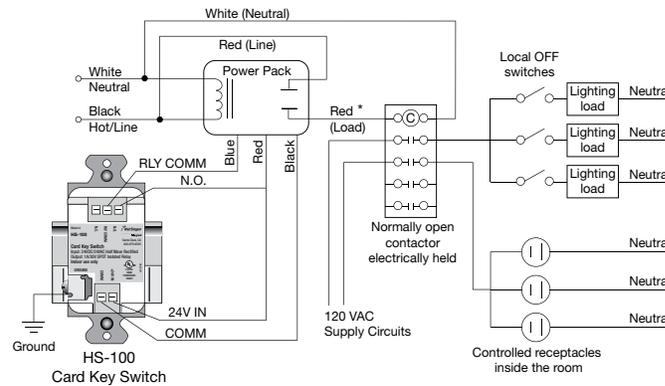
- Attractive low-profile styling
- Choice of five decorator colors
- Backlit card key slot provides visibility in darkened rooms
- 30-second egress time delay
- Zero crossing for reliability and increased product longevity (HS-150)
- HS-100 can connect with one or more WattStopper Power Packs
- Uses the same card key that unlocks the door
- Compatible with Building Automation Systems, Energy Management Systems, and Lighting Control Panels

Specifications

- HS-100: Input: 24VDC/24VAC Half Wave Rectified, Max. 25mA DC/10mA AC
Output: 1A/30VDC/VAC SPDT Isolated Relay
- HS-150: 120/277 VAC; 50/60Hz
Load rating @120VAC: 0-800W tungsten, 0-600W ballast, 500W compact fluorescent, 1/6hp
Load rating @277VAC: 0-1200W ballast
- Zero crossing (HS-150)
- Egress time delay: 30 seconds
- Compatible with building automation/energy management systems, lighting control panels and WattStopper power packs
- Dimensions: 2.63" x 1.69" x 1.88" (67.8mm x 42.9mm x 47.8mm) L x W x D
Accepts standard hotel card keys with dimensions of: 2.125"W x 3.375"H x 0.034"D (53.975mm x 85.725mm x 0.8636mm)
- UL and cUL listed
- Five year warranty

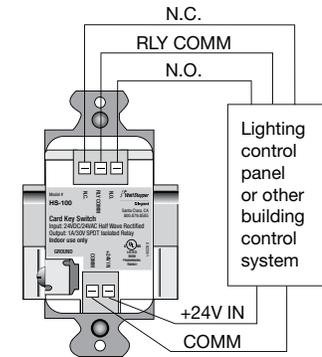
Installation & Wiring

HS-100 Wiring with Power Pack

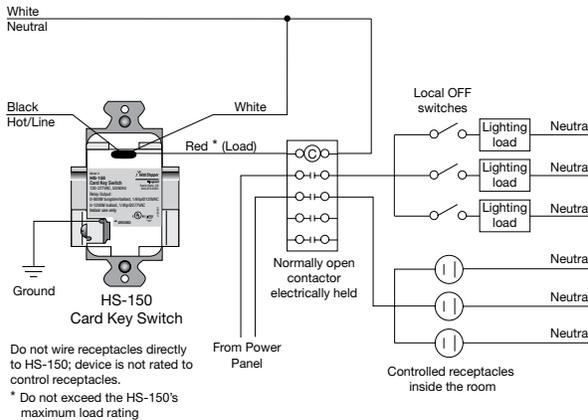


Do not wire receptacles directly to HS-100; device is not rated to control receptacles.
* Do not exceed the power pack's maximum load rating.

HS-100 with BAS or LCP

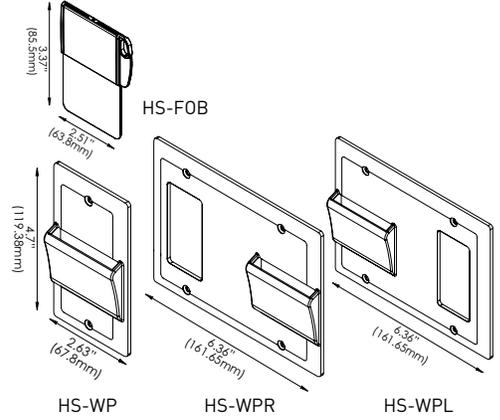


HS-150 Wiring



Do not wire receptacles directly to HS-150; device is not rated to control receptacles.
* Do not exceed the HS-150's maximum load rating

Cover Plates and Key Fob



Ordering Information

| Catalog No. | Color | Description | Catalog No. | Color | Description |
|------------------------------------|--------------|--|------------------------------------|--------------|---|
| <input type="checkbox"/> HS-100-W | White | Low voltage Card Key Switch | <input type="checkbox"/> HS-150-W | White | Line voltage Card Key Switch |
| <input type="checkbox"/> HS-100-LA | Light Almond | | <input type="checkbox"/> HS-150-LA | Light Almond | |
| <input type="checkbox"/> HS-100-I | Ivory | | <input type="checkbox"/> HS-150-I | Ivory | |
| <input type="checkbox"/> HS-100-B | Black | | <input type="checkbox"/> HS-150-B | Black | |
| <input type="checkbox"/> HS-100-G | Gray | | <input type="checkbox"/> HS-150-G | Gray | |
| Accessories | | | | | |
| <input type="checkbox"/> HS-FOB-W | White | Optional Key Fob for guest rooms that are not equipped with card key locks | <input type="checkbox"/> HS-WPR-W | White | Cover plate for three-gang box with decorator switch option; card slot on the right |
| <input type="checkbox"/> HS-FOB-LA | Light Almond | | <input type="checkbox"/> HS-WPR-LA | Light Almond | |
| <input type="checkbox"/> HS-FOB-I | Ivory | | <input type="checkbox"/> HS-WPR-I | Ivory | |
| <input type="checkbox"/> HS-FOB-B | Black | | <input type="checkbox"/> HS-WPR-B | Black | |
| <input type="checkbox"/> HS-FOB-G | Gray | | <input type="checkbox"/> HS-WPR-G | Gray | |
| <input type="checkbox"/> HS-WP-W | White | Cover plate for single-gang box | <input type="checkbox"/> HS-WPL-W | White | Cover plate for three-gang box with decorator switch option; card slot on the left |
| <input type="checkbox"/> HS-WP-LA | Light Almond | | <input type="checkbox"/> HS-WPL-LA | Light Almond | |
| <input type="checkbox"/> HS-WP-I | Ivory | | <input type="checkbox"/> HS-WPL-I | Ivory | |
| <input type="checkbox"/> HS-WP-B | Black | | <input type="checkbox"/> HS-WPL-B | Black | |
| <input type="checkbox"/> HS-WP-G | Gray | | <input type="checkbox"/> HS-WPL-G | Gray | |

One HS-WP included with each Card Key Switch



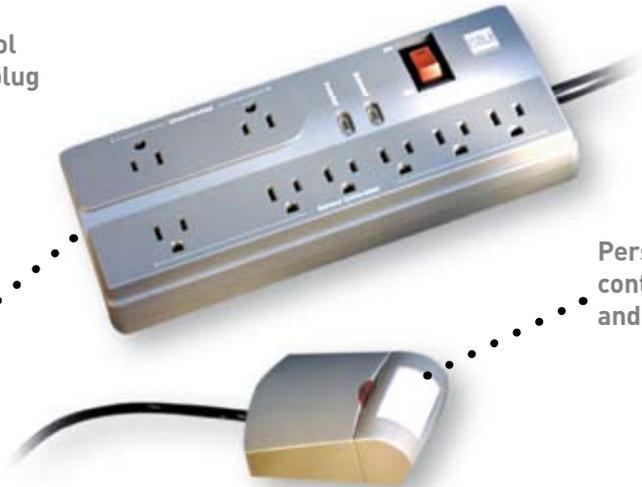
Isolé IDP-3050 Power Strip with Personal Sensor

Energy-saving control system for desktop plug load equipment

Six outlets are controlled by occupancy; two outlets are uncontrolled

Eight-outlet power strip with surge protection

Personal sensor signals controlled equipment on and off based on occupancy



PROJECT

LOCATION/TYPE

Product Overview

Description

The Isolé IDP-3050 is an energy-saving control system that provides maximum surge and noise suppression while keeping plug load equipment off when there is no occupancy. It consists of an eight-outlet power strip and a personal occupancy sensor.

Operation

The IDP-3050 turns plug load devices on and off based on occupancy. The personal sensor connects to the eight-outlet power strip with the attached cable. The power strip contains six outlets controlled by occupancy and two outlets that are uncontrolled. The IDP-3050 automatically turns all controlled devices on when the workspace is occupied, and off when the workspace has been unoccupied for the user-defined time delay. Uncontrolled devices remain on regardless of occupancy.

Surge Suppression

The power strip provides a high degree of surge suppression that protects connected equipment against threats like power surges, lightning strikes and voltage spikes. It features a resettable circuit breaker and two LEDs that indicate that the outlet is wired and grounded properly and the surge protection is functioning.

Application

The IDP-3050 is ideal for controlling task lighting and computer monitors. Additional devices for the controlled outlets include space heaters, fans and other equipment that can be turned off during unoccupied periods. Devices such as CPUs and fax machines should be plugged into the uncontrolled outlets. Applications include workstations, open office cubicles, offices and engineering stations.

Features

Power Strip

- Eight outlets; six controlled, two uncontrolled
- Surge and noise suppression protects desktop equipment
- Ground protected for safety; will not operate without a grounded outlet
- Two LEDs to indicate: 1) correct wiring and grounding; 2) surge protection is functioning
- Installation requires no hardwiring
- Flat offset plug for wire management
- One uncontrolled outlet and one controlled outlet are wall-transformer-enabled
- Plugs into a standard three-prong outlet

Personal Sensor

- Uses latest passive infrared (PIR) technology to detect occupancy
- User-adjustable time delay of 30 seconds to 30 minutes
- Multi-level Fresnel lens for superior occupancy detection
- 120° coverage, up to 300 square feet
- ASIC technology reduces components and enhances reliability
- Instantaneous response time



Specifications

Power Strip:

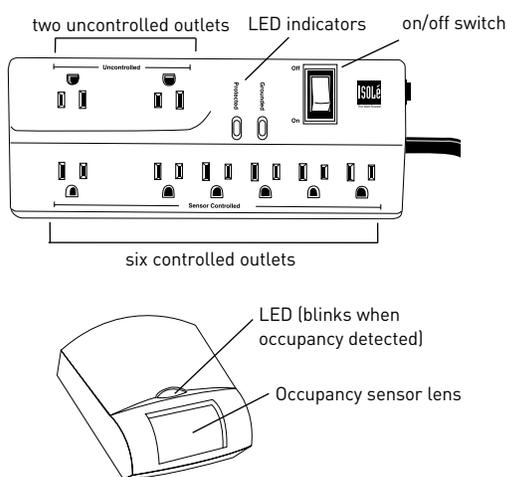
- Electrical rating: 120VAC, 12A, 50/60 Hz
- 12A dry contact relay
- Six-foot black cord
- Transformer provides power to sensor
- Mounts with screws or double-sided tape
- UL 1449 3rd Edition rating: 600V
- Circuit: High-energy, multistage hybrid
- Noise filtration: 0-25db (94.38%)
- Joule rating: 740 joules
- Maximum surge amperage: 48,000 Amps
- Protection modes: 500V L-N, 600V L-G, 600V N-G
- Response time: instantaneous
- Let-through voltage: 140V
- Initial clamping voltage: 200V
- UL and cUL listed
- Five year warranty

Personal Sensor:

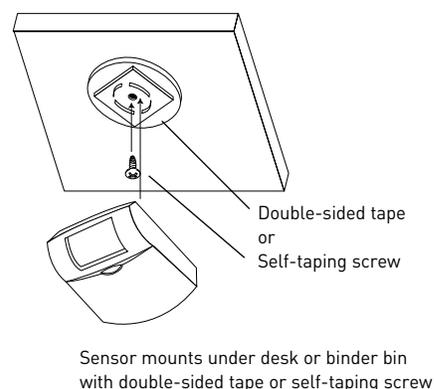
- Nine-foot connector cable
- Supply voltage: 12 VDC
- UL and cUL listed
- Five year warranty

Controls & Mounting

Product Controls

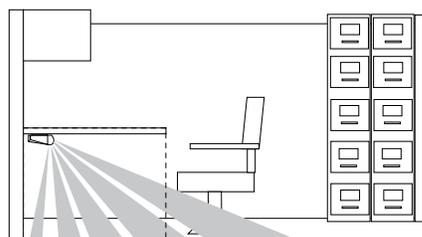


Personal Sensor Mounting

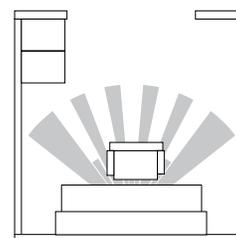


Coverage

Side Coverage Pattern



Overhead Coverage Pattern



Ordering Information

| Catalog No. | Description |
|-------------------------------------|--|
| <input type="checkbox"/> IDP-3050-A | Eight-outlet power strip with personal sensor |
| <input type="checkbox"/> DI-110 | Auto-on personal sensor |
| <input type="checkbox"/> CK1-1 | 20' extension cable w/single 1-1 connector (for single sensor and power strip) |
| <input type="checkbox"/> CK1-2 | Two 10' extension cables w/duplex 1-2 connector (for multiple sensors and/or power strips) |

Products are dark grey

EW Outdoor Motion Sensor

Optional model with lampholders

Isolated relay enables interface with security systems or other loads

Rated for use in temperature range of -40° to 130°F

Adjustable light level and time delay settings

Weatherproof and raintight for reliable performance

270 degree field of view



| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's EW outdoor motion sensors provide occupancy based control of outdoor lighting. Raintight and rated for -40°F to 130°F, EW sensors perform reliably in all weather conditions.

Operation

EW sensors operate at line voltage and can be mounted onto a standard, outdoor junction box. Utilizing advanced PIR technology, the sensors detect the difference between infrared energy in motion and the background space to turn lighting on when a person or vehicle enters the coverage area. After the area is vacated and the time delay elapses, lighting automatically turns off. The EW's dual PIR detectors and three level lens increase the detection density as well as the accuracy of motion detection.

Lampholders

For situations when a complete outdoor sensor package is desired, the EWF models include durable, polycarbonate lamp holders that accept PAR 20 or 38 lamps. They are UV and impact resistant and are impervious to weathering. The EWF features a unique dual-adjustment aiming system that allows the lamps to be angled and locked into position without the use of tools. The lamp holders' unique silicon seals allow them to be aimed above horizontal in damp or wet areas.

Applications

Applications for commercial settings include walkways, parking lots, dock lighting and warehouses. Typical uses outside a home include garages, backyards, entrance ways and porches.

Features

- Sensors can be mounted on walls, eaves, or ceilings for installation convenience
- 270° coverage
- Front rotates for easy coverage adjustment
- Precision, double-shot tooling with internal silicon gaskets prevents water and dust contamination
- No tools needed to aim or adjust lamp holders for speedier installation
- Optional override-ON to turn lights on remotely for the length of the time delay
- ON/OFF control based on daylight levels via adjustable light level setting
- Zero crossing circuitry reduces stress on the relay and results in increased sensor life
- ASIC enhances reliability and helps to eliminate false triggers
- Pulse Count Processing eliminates false triggers and provide RFI and EMI immunity
- Patented Voltage Drop Protection
- Solid state digital microprocessor offers increased reliability
- User-adjustable time delay from 12 seconds to 16 minutes

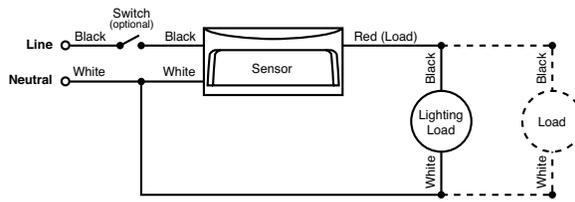


Specifications

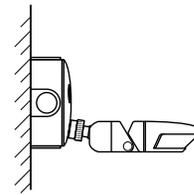
- 120 VAC or 277 VAC operation
- UL 773A rated raintight; UL 1571 rated for wet locations
- Operating temperature: -40° to 130°F (-40 to 54°C)
- Adjustable light level of 0.5 to 200 footcandles (5.4 - 2,152.8 lux)
- Isolated relay with N/O and N/C outputs; rated for 1 Amp @ 30 VDC/VAC (EW-200)
- 1/2" threaded nipple fits standard NEMA weatherproof fixture fitting
- Lamp holders use PAR 20 or 38 lamps, up to 150W each lamp*
- Compatible with all electronic ballasts and PL lamp ballast systems
- Sensor dimensions: 6.7" x 3.2" x 2.2" (170mm x 80mm x 55mm)
- UL and cUL listed
- Five year warranty

Wiring, Mounting & Installation

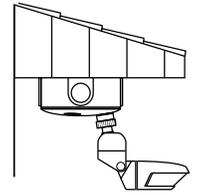
Wiring Diagram



Mounting Diagrams

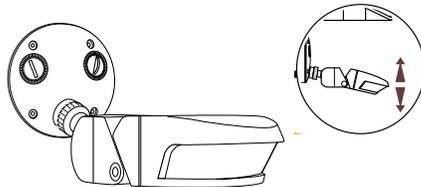


Wall or pole mounting

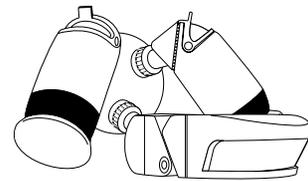


Ceiling/eave mounting

Installation & Positioning

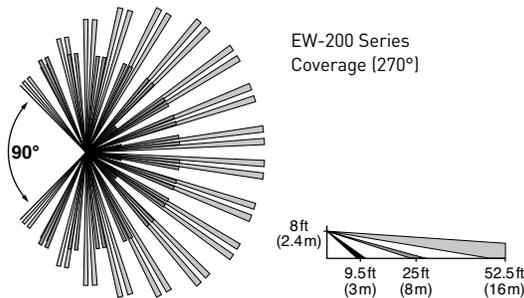


Sensor with Lampholders



Coverage

Coverage Pattern



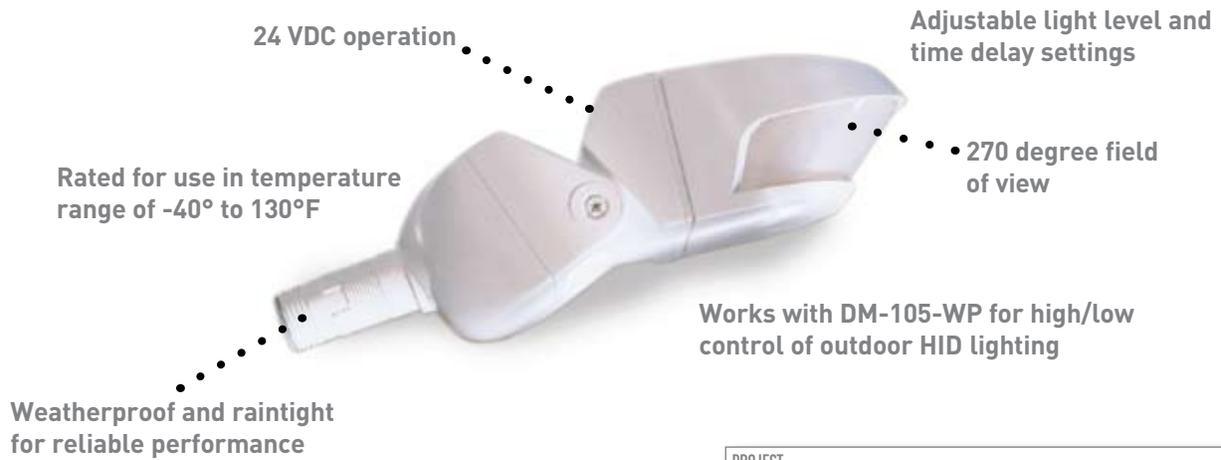
Ordering Information

| Catalog No. | Color | Voltage | Load Rating | Coverage | Features |
|--|--------------|----------------|--------------------------------|----------|----------------|
| <input type="checkbox"/> EW-200-120-W | Arctic white | 120 VAC; 60 Hz | 0-1000 watt ballast, tungsten | 270° | Isolated relay |
| <input type="checkbox"/> EW-200-120-G | Arch. grey | | | | |
| <input type="checkbox"/> EW-200-277-W | Arctic white | 277 VAC; 60 Hz | 0-1000 watt ballast | 270° | Isolated relay |
| <input type="checkbox"/> EWF-205-120-W | Arctic white | 120 VAC; 60 Hz | 0-1000* watt ballast, tungsten | 270° | Lamp holders |

*The sensors with lamp holders may use up to 300 watts for lamps even though they have a 0-1000 watt load rating



EW Low Voltage Outdoor Motion Sensor



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|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

WattStopper's EW outdoor motion sensors provide occupancy based control of outdoor lighting. Raintight and rated for -40°F to 130°F, EW sensors perform reliably in all weather conditions.

Operation

EW sensors operate at 24 VDC and are mounted onto a standard, outdoor junction box. Utilizing advanced passive infrared (PIR) technology, the sensors detect the difference between infrared energy in motion and the background space to turn lighting on when a person or vehicle enters the coverage area. After the area is vacated and the time delay elapses, lighting automatically turns off. The EW's dual PIR detectors and three level lens increase the detection density as well as the accuracy of motion detection.

Applications

The low voltage EW sensors are ideal to use in conjunction with WattStopper DM-105-WP outdoor HID control module. Here, the EW allows the outdoor HID lighting to switch between high and low based on motion detection. Applications include walkways, parking lots, dock lighting and warehouses. When used with a power pack, the low voltage EW also provides an outdoor lighting control solution for areas where line voltage is not available or where the load is too large for a single line voltage sensor to handle.

Features

- Sensors can be mounted on walls, eaves, or ceilings for installation convenience
- 270° coverage pattern
- Front rotates for easy coverage adjustment
- Precision, double-shot tooling with internal silicon gaskets prevents water and dust contamination
- Optional override-ON to turn lights on remotely for the length of the time delay
- User-adjustable time delay from 12 seconds to 16 minutes
- Adjustable light level setting allows users to set the level at which lighting will turn on upon occupancy
- ASIC enhances reliability and helps to eliminate false triggers
- Pulse Count Processing eliminates false triggers and provide RFI and EMI immunity
- Includes hardware for mounting sensor to standard 4" round outdoor junction box

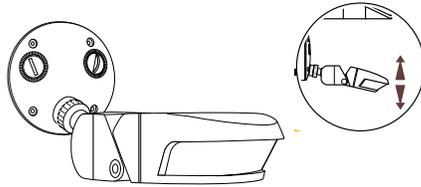


Specifications

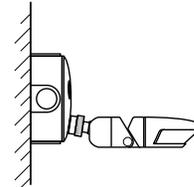
- Operating temperature range -40°F to +130°F
- UL 773A rated raintight
- 24 VDC operation
- 270° coverage
- Adjustable light level of 0.5 to 200 footcandles (5.4 - 2,152.8 lux)
- 1/2" threaded nipple fits standard NEMA weatherproof fixture fitting
- Sensor dimensions: 6.7" x 3.2" x 2.2" (170mm x 80mm x 55mm)
- Five year warranty

Wiring & Installation

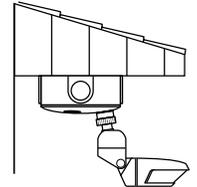
Installation & Positioning



Mounting Diagrams

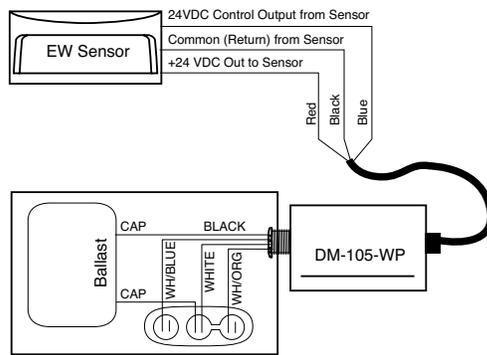


Wall or pole mounting

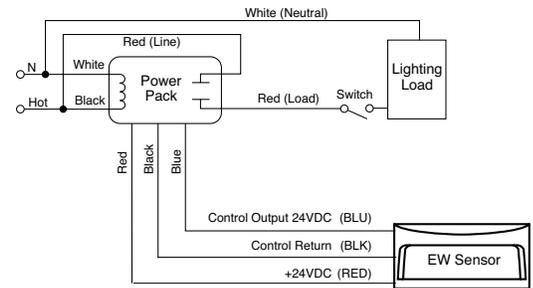


Ceiling/eave mounting

EW Wiring with DM-105-WP HID Control

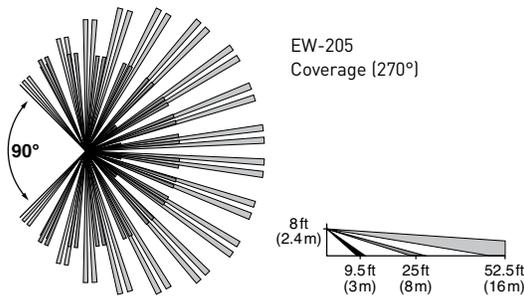


EW and Power Pack Wiring



Coverage

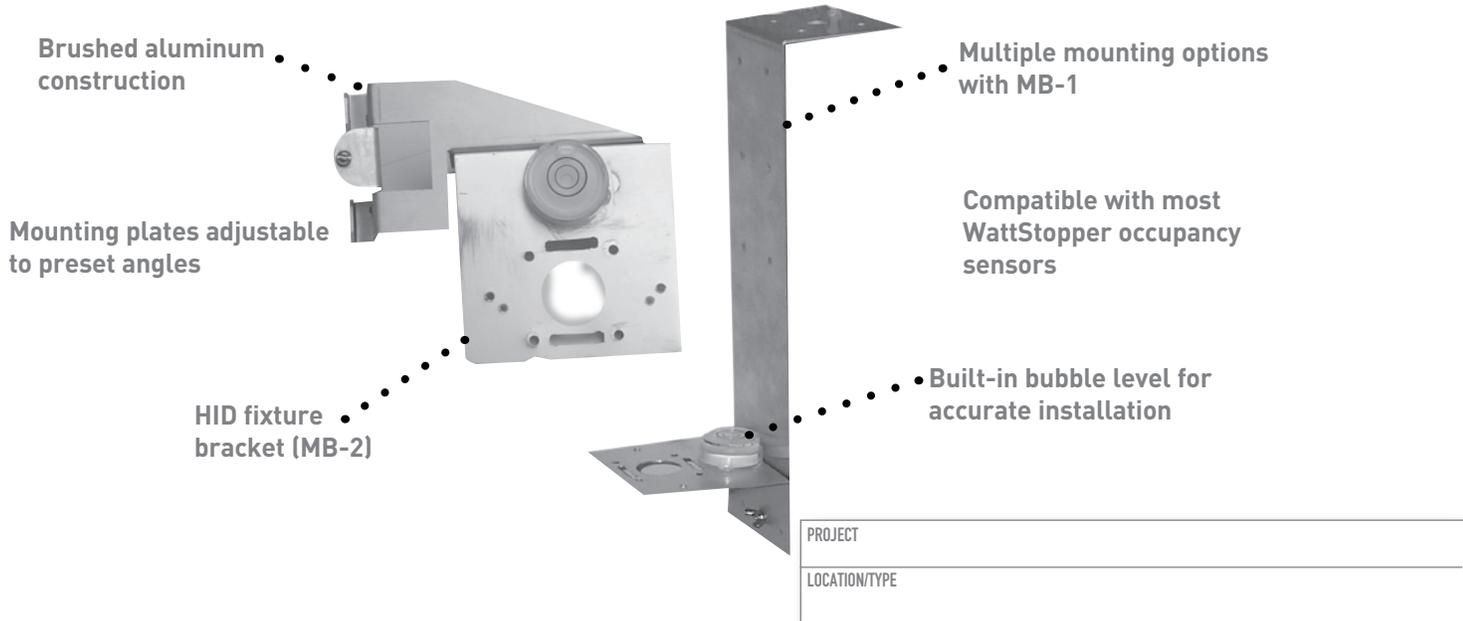
Coverage Pattern



Ordering Information

| Catalog No. | Color | Voltage | Current | Coverage |
|--------------------------------------|--------------|---------|---------|----------|
| <input type="checkbox"/> EW-205-24-W | Arctic white | 24 VDC | 8 mA | 270° |
| <input type="checkbox"/> EW-205-24-G | Arch. grey | 24 VDC | 8 mA | 270° |

MB Sensor Mounting Brackets



Product Overview

Description

The MB-1 and MB-2 are durable mounting brackets used to install occupancy sensors in a variety of settings. Both brackets include adjustable mounting plates that allow sensor rotation to achieve the desired angle for optimal coverage. The brackets also include built-in bubble levels that afford the installer reliable guides to ensure the bracket is correctly positioned before adjusting the sensor. The MB-1 and MB-2 are constructed of aluminum with a clear powder coating finish.

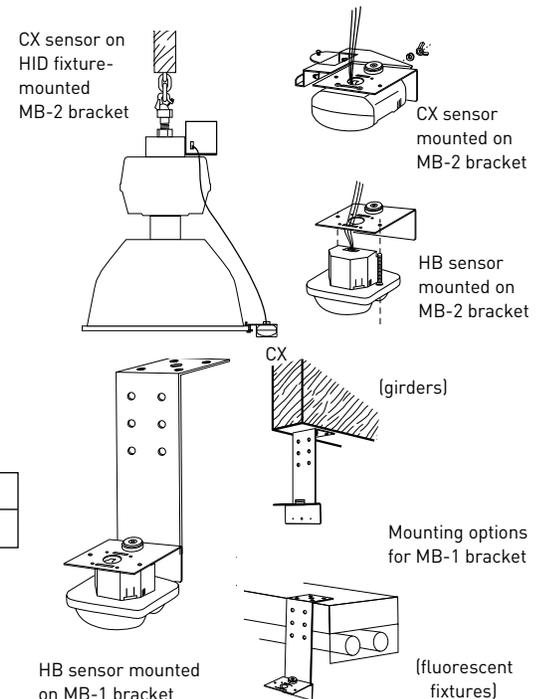
MB-2

With the MB-2, sensors can be attached directly to High Intensity Discharge (HID) fixtures, mounting to the bottom rim of the HID reflector bell and secured to the rim with three clamping screws. Sensors recommended for use with the MB-2 bracket include the CX, CI and HB sensors. The MB-2 includes a J-shaped bracket and a sensor mounting plate. The MB-2 also comes with extension wires that can be used, if needed, to connect the attached sensor to the DM HID controller.

MB-1

The MB-1 bracket enables users to mount sensors to a variety of structures, including fluorescent fixtures, walls, shelves, and girders. Among the many sensors compatible for use with the MB-1 bracket are the WPIR, CX, CI, and HB sensors. The MB-1 features an L-shaped bracket and a sensor mounting plate. When installed, this mounting plate can be rotated to direct the sensor toward the floor or along an aisle way at up to a 33° angle. In addition, the L-shaped bracket can be molded or reshaped to provide other mounting options.

Bracket Diagrams



Ordering Information

| Catalog No. | Description |
|-------------------------------|-------------------------------------|
| <input type="checkbox"/> MB-1 | L-Plate Industrial Mounting Bracket |
| <input type="checkbox"/> MB-2 | J-Plate HID Mounting Bracket |



Protective Cage for Occupancy Sensors

Helps prevent occupancy sensors from being tampered with or damaged

Constructed from strong, durable coated steel wire

Simple installation



Product Overview

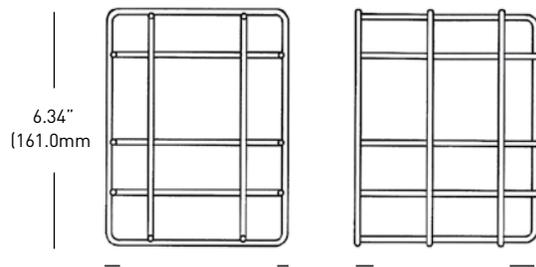
Description

WattStopper protective wire cages enclose our occupancy sensors in a safe cage that prevents the units from being tampered with or damaged. The cages use a strong, durable, web-like design and are constructed with 3/16" coated steel wire. They are ideal for installation in gymnasiums, racquetball courts, classrooms and other institutional facilities, or any area susceptible to vandalism. They are low in cost and simple to install. By protecting occupancy sensors from damage, they also reduce maintenance costs.

| |
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| PROJECT |
| LOCATION/TYPE |

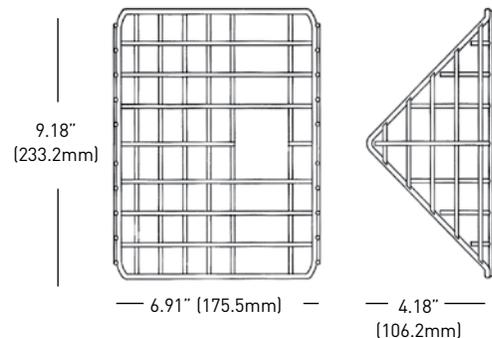
Specifications

WC-1



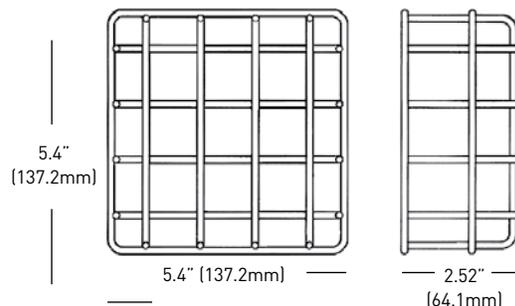
Fits: DT-200, CX-100, CB-100 for wall mounts

WC-2



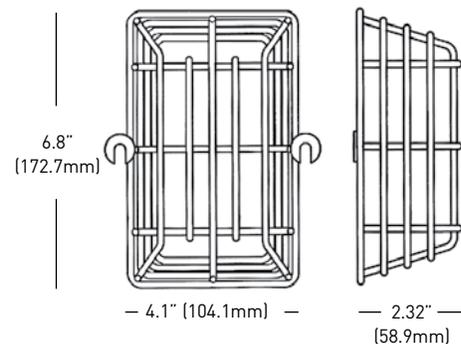
Fits: DT-200, CX-100, CB-100 for corner mounts

WC-3



Fits: W-500A, W-1000A, W-2000A, W2000H, WT, CI-200, WPIR, DT-300, UT-300, CI-300

WC-4



Fits: PW, UW, DW, WS, WN, WD, AS, TS

Catalog No.

| | | | |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <input type="checkbox"/> WC-1 | <input type="checkbox"/> WC-2 | <input type="checkbox"/> WC-3 | <input type="checkbox"/> WC-4 |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|

Ordering Information

IT-200 IntelliTimer® Pro Logger

Determines energy savings potential from occupancy sensor use

Adjustable light pipe observes lighting level

Logs when a space is occupied/vacant and when lighting is on/off



IT-ProSoft Software provides single-step data retrieval, storage, analysis, printing

Lithium battery with average life of 10 years

Small and lightweight for ease of use and portability

| |
|---------------|
| PROJECT |
| LOCATION/TYPE |

Product Overview

Description

The IntelliTimer Pro (IT-200) is a revolutionary occupancy and light logger that establishes the energy saving potential when using occupancy sensors. With this versatile tool, spaces for lighting control use can be pinpointed and savings can be verified.

Operation

The IT-200 records a log entry every time there is a change in either the occupancy status or lighting status and stores a detailed history of these events for retrieval by PC. It utilizes passive infrared technology to detect occupancy. It observes the light level through a clear, plastic light pipe to determine if lights are on or off. The logger distinguishes artificial lighting from natural lighting to give accurate "lights-on" readings. To log data, a user places the logger so that its lens has a clear view of the workspace and the light-pipe aims towards the nearest light fixture.

Features

- Reports show graphs of occupancy and lighting and projects savings and statistical information
- Users set logging parameters for more accurate savings projection
- Powered by a lithium battery, with an extended life span of approximately ten years
- Small and lightweight for ease of use and portability
- Installs quickly and conveniently and requires no wiring
- IT-ProSoft 2.0 operates in six languages (English, French, German, Spanish, Swedish, and Norwegian) with appropriate currency/date/time formats, and energy and HVAC defaults
- Occupancy detection LED helps users confirm that logger is detecting motion in desired space
- Light level LED helps users set logger to identify the on and off lighting levels of different locations
- The LEDs work for a 60 second test period to preserve battery life

Software

Included with the IT-200 is IT-ProSoft 2.0 software. In a single keystroke or mouse click, users can retrieve, store, analyze, or print data reports. These reports can be directly exported to Microsoft Excel® for further analysis. IT-ProSoft also enables users to operate multiple units in multiple locations while ensuring that each logger's identity and logging site information will be correctly merged. Once the logged information is retrieved, the unit can be reset and used to log information at another test site. Users may group logging data from different areas and automatically receive separate reports by utilizing the IT-200's bookmarking feature.

Applications

The IT-200 offers a simple and cost-effective method of auditing any building space for wasted lighting. Since the logger is portable and battery operated, it is convenient to quickly move it from one location to download to a computer, and on to the next location for another logging session.



Specifications

InteliTimer Pro

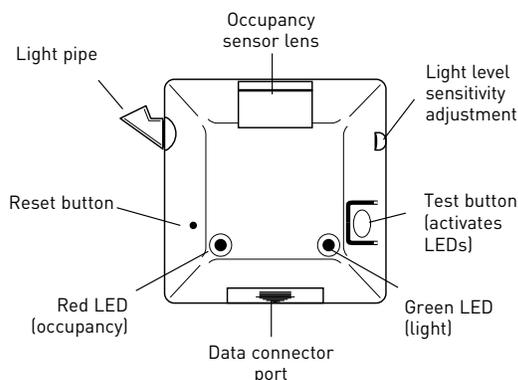
- Lithium battery operated. Average battery life ~ 10 years. Battery life indicator
- Test button activates LEDs for 60 seconds during which sensitivity is set and proper location for occupancy detection is verified
 - Red LED blinks during occupancy detection
 - Green LED blinks when lighting is detected
- Recessed reset switch
- Coverage up to 150 ft² (45.7m²)
- Stores a maximum of 4096 entries
- Stores site name to identify the area being monitored
- Connects to computer (PC) for data retrieval via serial connector cable
- Includes a serial to USB adapter for computers without serial ports

IT-ProSoft Software

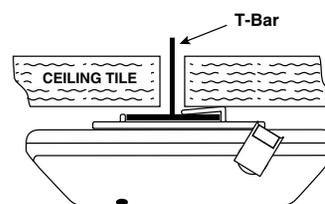
- Lists all log entries: entry number, date/time of entry, lighting status, occupancy status
- Users set logging parameters (energy cost/kWh, size of load, site name, sensor time-outs) for more accurate savings projection
- Reports show daily graphs of occupancy and lighting data, and lighting/occupancy analysis projecting savings and statistical information
- HVAC factor enables calculation of additional potential savings due to reduced HVAC load
- While connected, software can reset the logger in preparation for a new logging session
- Merge log capability combines outputs from multiple loggers monitoring a single location
- Compatible with Vista Business, Windows XP, 7 Pro, NT, 2000, 98 and 95
- Downloadable at www.wattstopper.com

Controls & Installation

Product Controls



T-bar Ceiling Installation



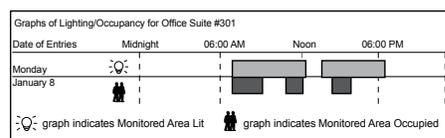
The IT-200 simply clips to a T-bar of a ceiling tile - no wiring is needed. For installation onto other surfaces, the unit comes with a flat bracket and double-stick tape.

Coverage & Software Reports

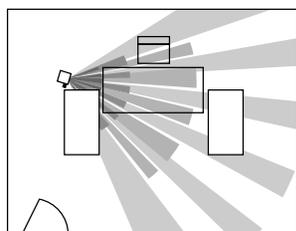
Logged Entries Report

| | |
|--|--------------------|
| Entries: 42 | Cost/kWhr: \$0.080 |
| From: Sun, Aug 14, 1995 at 12:00:00 PM | HVAC Adder: 15% |
| To: Thu, Aug 18, 1995 at 9:32:00 PM | Load Size: 180W |
| 1 Sun, Aug 14, 1995 at 12:00:00 PM | Lights ON Occupied |
| 2 Sun, Aug 14, 1995 at 2:25:00 PM | Lights ON Vacant |
| 3 Mon, Aug 15, 1995 at 7:50:00 AM | Lights ON Occupied |
| 4 Mon, Aug 15, 1995 at 10:15:00 AM | Lights ON Vacant |
| 5 Mon, Aug 15, 1995 at 10:50:00 AM | Lights ON Occupied |
| 6 Mon, Aug 15, 1995 at 12:15:00 PM | Lights OFF Vacant |

Lighting & Occupancy Graph

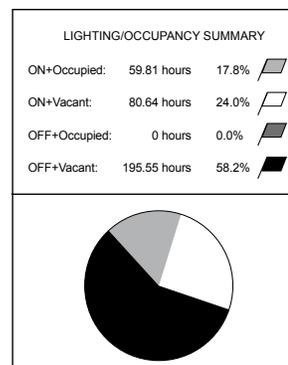


Office Placement Example



The IT-200 monitors an area of up to 150 ft² (13.9m²). The unit should be placed near the light source with the light pipe aimed at the light and the lens facing the occupant's main work area.

Lighting & Occupancy Graph



Ordering Information

| Catalog No. | Description |
|-------------|---|
| IT-200 | Occupancy and light logger with software for PC |

All units are white