ULTRASONIC CEILING SENSORS | WT

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

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
- BAA/TAA-compliant models available

PROJECT		LOCATION/ TYPE	

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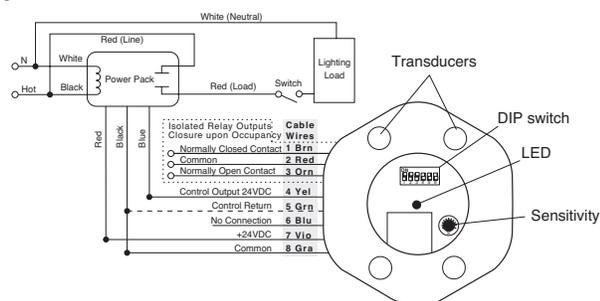
Installation
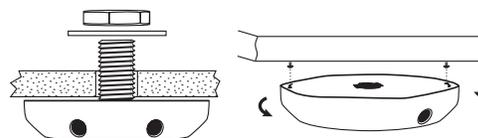
Mount the sensors to a vibration-free surface with the receivers facing the area of coverage.

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

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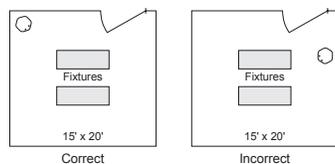
For enclosed spaces, place sensors as in Figure A. Sensors placed as in Figure B may see out the door and cause false triggers.

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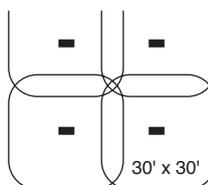
A typical layout for an open office space would be to place WT-2200 or WT-2205 sensors so they control zones that overlap. For partitioned spaces, a typical zone is about 25' x 25' with an overlap on the coverages that senses motion up to 30' x 30'.

Coverage & Settings

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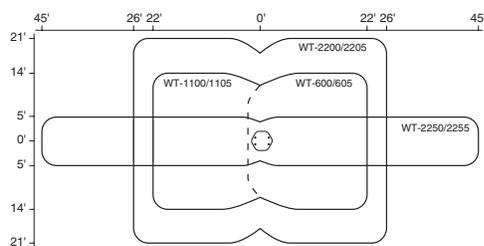
Coverages shown represent half-step walking motion. Actual coverages can vary for each application depending on the shape and use of space and the obstacles present. Coverage may be reduced if product is mounted greater than 12 feet high.

DIP Switch Settings

●=ON –=OFF	DIP Switch #					
Time Delay	1	2	3	4	5	6
15 seconds	●	–	–	–	–	–
2 minutes	–	●	–	–	–	–
4 minutes	–	–	●	–	–	–
6 minutes	–	●	●	–	–	–
8 minutes	–	–	–	●	–	–
10 minutes	–	●	–	●	–	–
12 minutes	–	–	●	●	–	–
14 minutes	–	●	●	●	–	–

	1	2	3	4	5	6
*16 minutes	–	–	–	–	●	–
18 minutes	–	●	–	–	●	–
20 minutes	–	–	●	–	●	–
22 minutes	–	●	●	–	●	–
24 minutes	–	–	–	●	●	–
26 minutes	–	●	–	●	●	–
28 minutes	–	–	●	●	●	–
30 minutes	–	●	●	●	●	–
Output Disable						
Override						●

Ordering Information

Catalog #	Voltage	Current	Coverage	Features
☐ WT-605	24 VDC	27 mA	180° one-sided, 600 ft² (55.7 m²)	
☐ WT-600	24 VDC	37 mA	180° one-sided, 600 ft² (55.7 m²)	Isolated relay
☐ WT-1105	24 VDC	30 mA	360° two-sided, 1100 ft² (102.2 m²)	
☐ WT-1100	24 VDC	40 mA	360° two-sided, 1100 ft² (102.2 m²)	Isolated relay
☐ WT-2205	24 VDC	30 mA	360° two-sided, 2200 ft² (204.4 m²)	
☐ WT-2200	24 VDC	40 mA	360° two-sided, 2200 ft² (204.4 m²)	Isolated relay
☐ WT-2255	24 VDC	30 mA	360° two-sided, 90 linear ft (27.4 m)	
☐ 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.