

DT-200 Dual Technology Ceiling Sensor

Combines passive infrared and ultrasonic technologies

SmartSet™ automatically selects optimal settings for each space



Built-in light level sensor

Accepts low voltage switch input for manual-on operation

Walk-through mode increases savings potential

PROJECT
LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand's DT-200 Dual Technology occupancy sensors combine passive infrared (PIR) and ultrasonic technologies into one unit to achieve precise coverage.

Operation

The DT-200 turns lighting on when both PIR and ultrasonic technologies detect occupancy. It can also work with a low voltage switch for manual-ON operation. PIR technology senses the difference between infrared energy from a human body in motion and the background space. Ultrasonic technology uses the Doppler Principle and high frequency (40 kHz) 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 can also be set so that only one technology is needed to trigger lighting on or both technologies are needed to hold lighting on. The sensors are low voltage and utilize a Watt Stopper power pack.

Features

- Advanced control logic based on RISC microcontroller provides:
 - Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
 - SmartSet automatically adjusts sensitivity and time delay settings to fit occupant patterns
 - Walk-through mode turns lights off 3 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

SmartSet

Using SmartSet™ technology, the DT-200 sensors require no adjustment at installation. SmartSet monitors the controlled space to identify usage patterns. Using this information, it automatically adjusts the time delay and sensitivity 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

Watt Stopper dual technology sensors have the flexibility to work in a variety of applications. Mounted at 10 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, such as classrooms, where one technology alone could encounter false triggers. In addition to classrooms, the DT-200 works well in warehouses, large offices, open office spaces, and computer rooms.

- Sensors work with low voltage momentary switches to provide manual control
- LEDs indicate occupancy detection
- 8 occupancy logic options give users 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

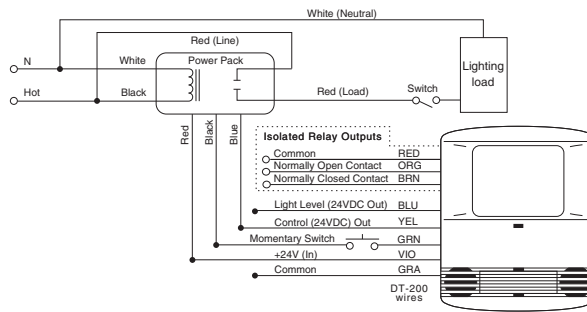


Specifications

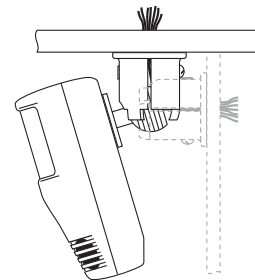
- 24 VDC/VAC and halfwave rectified AC
- 40 kHz frequency ultrasonic transmission
- Time delays: SmartSet (automatic), fixed (5, 10, 15, 20, or 30 minutes), walk-through, test-mode
- Sensitivity adjustment: SmartSet (automatic) or reduced sensitivity (for PIR sensitivity); ultrasonic sensitivity is variable with trimpot
- Built-in light level sensor (DT-200) – works from 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
- Units per power pack: DT-200: up to 2 (B), up to 3 (BZ); DT-205: up to 3 (B), up to 4 (BZ)
- Dimensions: 4.4" x 3.4" x 2" (110.3mm x 85.9mm x 49.6mm) LxWxD
- UL and CUL listed; Five year warranty

Wiring & Mounting

Wiring Diagram



Mounting

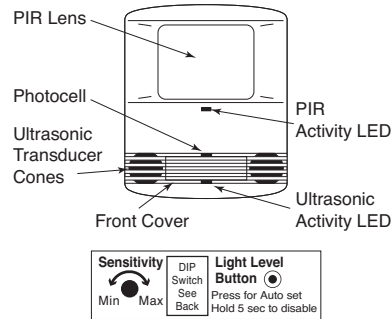


A swivel mounting bracket, attached to the sensor, allows the sensor to be angled for wall or ceiling mounting.

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

Controls & Settings

Product Controls



DIP Switch Settings

◀ = Factory Setting
● = ON
-- = OFF

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

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

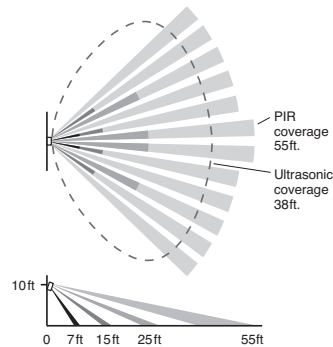
↑ = walk-through mode

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

LEDs	7
Disabled	--
Enabled	●

PIR Sensitivity	8
Minimum	--
Max./SmartSet	●

Coverage



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)	