DIP SWITCH SETTINGS

Time Delay	1	2
Auto/Test	↓	↓
5 minutes	↓	↑
15 minutes	↑	↓ ◄
30 minutes	↑	↑

Walk-Through	3
Disabled	↓ ◄
Enabled	↑

PIR Sensitivity	4
High	↓ ◄
Low, 50%	↑

		Audible Alert	7
		Disabled	↓
		Enabled	↑ ◄

		Relay 1 On Mode	8
		Auto On	↓ ◄
		Manual On	↑

DW-200 only:

		Relay 2 On Mode	9
		Auto On	↓
		Manual On	↑ ◄

Trigger Mode / Initial Occupancy / Maintain Occupancy / Re-trigger (seconds duration) — **5 6**
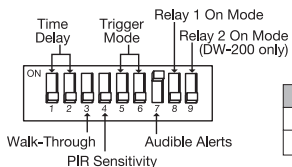
Trigger Mode	Initial Occupancy	Maintain Occupancy	Re-trigger (seconds duration)	5	6
Standard	PIR	Either	Either	↓	↓ ◄
Option A	PIR	PIR	PIR	↓	↑
Option B*	PIR	Both	Both	↑	↓
Option C*	PIR	Both	Both	↑	↑

*Options B and C are identical

↑=ON ↓=OFF   ◄ =Factory Setting

ON/OFF Buttons
— Relay 1
— Relay 2

Ultrasonic Sensitivity Adjustment Trimpot

DIP Switches

Ultrasonic Cones

Detection LEDs
Red = PIR
Green = Ultrasonic

PIR Lens

Button Hinges
Tabs

WDT-200 shown. WDT-100 has a single button and the Ultrasonic sensitivity adjustment trimpot is in a slightly different position.
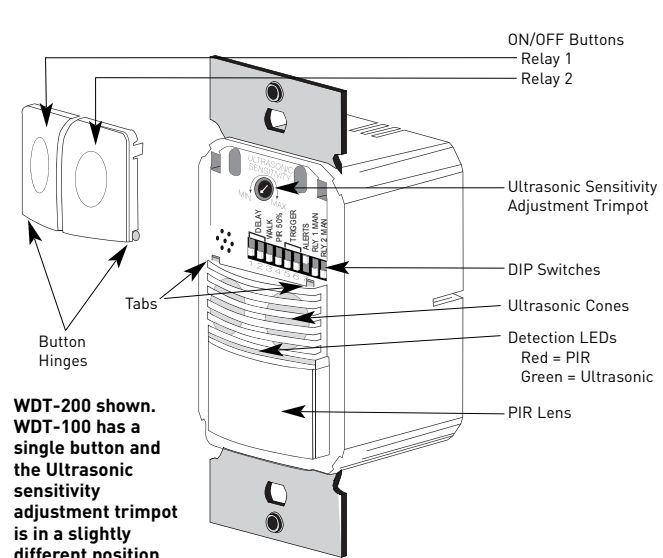
Call 800.223.4185 for Technical Support

ADJUSTMENTS

Sensor Adjustment

Remove the wall plate. Remove the button cap by firmly squeezing together the top sides of the button assembly. Gently pull it away from the unit.

When the adjustments are completed, replace the button cap by inserting its hinges into the tabs on the main unit and then squeeze the top of the button while pressing it into the unit. Reinstall the cover plate.

Light Level Adjustment

The light level can be set with loads ON or OFF. To enable light level control and set the threshold: 1) Make sure the room is lit appropriately. 2) Put the sensor into TEST mode. You have 5 minutes to complete the procedure. 3) Press and hold the ON/OFF button (Relay **1** button on the WDT-200) for 3 seconds, until you hear a beep. 4) Step away from the sensor. After 25 seconds a beep sounds, indicating that the threshold level is set. This threshold is retained, even if power is lost, until it is re-set or disabled. In the WDT-200, light level control only affects Relay **2**.

To disable light level control, press and hold the Relay **1** button for **7 seconds**, until a double beep tone sounds.

Reset to Default

To reset the WDT to factory settings, press and hold the Relay **1** button for **10 seconds**, until a triple beep sounds. This resets the sensor occupancy history and disables light level control (the brightest ambient light will not hold the light OFF).

TROUBLESHOOTING

Lights do not turn ON with motion (LED does flash)

1. Press and release each button to make sure that the correct lights come ON for each relay. **If the lights do NOT turn ON**, check wire connections, especially the Load connection. **If the lights turn ON**, verify that the correct On Mode is selected in DIP switches 8 and 9.

2. Check to see if light level control is enabled: cover the sensor lens with your hand. If the lights come ON, adjust the light level setting.

3. If lights still do not turn ON, call 800.223.4185 for technical support.

Lights do not turn ON with motion (LED does not flash)

1. Press and release each button. Make sure that the correct lights come ON for each relay. If the lights turn ON, set PIR and ultrasonic Sensitivity to High.

2. Check the wire connections, in particular, the Neutral and Line connections. Verify that connections are tightly secured.

3. If lights still do not turn ON, call 800.223.4185 for technical support.

Lights do not turn OFF

1. There can be up to a 30 minute time delay after the last motion is detected. To verify proper operation, set DIP switch 1 to ON, then reset switches 1 and 2 to OFF to start Test Mode. Move out of view of the sensor. The lights should turn OFF in approximately 5 seconds.

2. Verify that the sensor is mounted at least six feet (2 meters) away from any heating/ventilating/air conditioning device that may cause false detection. Verify that there is no significant heat source (e.g., high wattage light bulb) mounted near the sensor.

3. Verify that the trimpot is not pointing at "override" (red LED on). If so, rotate the trimpot to it's middle setting (pointing up). The override setting allows users to operate the sensor as a service switch in the unlikely event of a failure.

4. If the lights still do not turn OFF, call 800.223.4185 for technical support.

Sensing motion outside desired areas

1. Select PIR Sensitivity – Low (DIP switch 4 = ON) if necessary.
2. Mask the PIR sensor's lens to eliminate unwanted coverage area.
3. Adjust the Ultrasonic Sensitivity. Rotate trimpot counterclockwise to reduce sensitivity.

ORDERING INFORMATION

Catalog #	Description
WDT-100	Dual technology wall switch sensor; 120/230/277VAC, 50/60Hz
WDT-200	Dual technology dual relay wall switch sensor; 120/230/277VAC, 50/60Hz
TP126	Toggle switch and decorator opening wall plate *

Units come in White (-W), Light Almond (-LA), Ivory (-I), Gray (-Gry), Black (-BK).
Add color designator to catalog number when ordering.
* One TP26 Cover Plate for single gang box is included with each switch.

Warranty Information

Pass & Seymour /Legrand warranties its products to be free of defects in materials and workmanship for a period of five years. There are no obligations or liabilities on the part of Pass & Seymour /Legrand for consequential damages arising out of or in connection with the use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation or reinstallation.

Pass & Seymour | **legrand**

P.O. Box 4822, Syracuse, NY 13221-4822
Technical Support: 800.223.4185 • www.passandseymour.com
340892 11934

WDT-100/WDT-200
Dual Technology Wall Switch
Occupancy Sensor

WDT-100   **WDT-200**

Specifications

Voltages:
WDT-100 & WDT-200 . . . . .120/230/277VAC, 50/60Hz
Load Limits for each relay:
@120VAC . . . . .0-800W tungsten or ballast, 1/6 HP
@230 or 277VAC . . . . .0-1200W ballast
Load Type Compatibility:
Incandescent, fluorescent, magnetic or electronic ballast
Horsepower Rating (each relay) . . . . .1/6 HP @120VAC
Time Delay Adjustment . . . . .5 to 30 minutes
Walk-Through Mode . . . .3 minutes if no activity after 30 sec.
Test Mode . . . . 5 sec. at initial power up or DIP switch reset
PIR Adjustment .High or Low (DIP switch)
Ultrasonic Adjustment . . . .Minimum to Maximum (trimpot), Off
Frequency 40kHz
Light Level Adjustment . . . . .8fc to 180+fc
Alerts . . . . .Selectable Audible

Pass & Seymour
legrand

US Patents: 5189393, 5640113, 6617560B2, A4787722

Syracuse, NY 13221-4822
800.223.4185
www.passandseymour.com

UNIT DESCRIPTION AND OPERATION

The WDT Dual Technology Wall Switch sensors combine advanced passive infrared (PIR) and ultrasonic technologies into one unit. The combined technologies help to eliminate false triggering even in difficult applications.

Selectable operating modes allow the sensor to turn a load on, and hold it on as long as either or both technologies detect occupancy. After no movement is detected for the selected time delay, the lights switch off. A "walk-through" mode can turn lights off after only 3 minutes, if no activity is detected after 30 seconds following an occupancy detection.

The WDT-100 has one relay and one ON/OFF button. The WDT-200 contains two relays and two ON/OFF buttons to allow control of one or two loads independently. Pressing a button toggles the state of the corresponding relay.

WDT sensors contain a light level sensor. If adequate daylight is present, the sensor holds the load OFF until light levels drop, even if the area is occupied. In the WDT-200, light level only affects the load on Relay 2. Users can override this function by pressing the ON/OFF button. See Light Level Adjustment.

Turning The Load ON

The relays are programmed independently for either Auto ON or Manual ON. In either mode, the load can be turned ON or OFF using the ON/OFF button.

Auto ON DIP 8 OFF for Relay 1 DIP 9 OFF for Relay 2	Load turns ON and OFF automatically based on occupancy. If the load is turned OFF manually, it stays OFF until 5 minutes after the last occupancy detection, at which time it reverts to Auto ON mode. This prevents the load from turning ON automatically after it was deliberately turned OFF. Pressing the button to turn lights ON returns the sensor to Auto ON mode.
Manual ON DIP 8 ON for Relay 1 DIP 9** ON for Relay 2	Occupants must press the ON/OFF button to turn ON the load. The sensor keeps the load ON until no motion is detected for the selected time delay. There is a 30 second re-trigger delay. If occupancy re-triggers during the delay (see Trigger Mode), the sensor turns the load back ON. After the re-trigger delay elapses the ON/OFF button must be pressed to turn ON the load.

** WDT-100: Switch 9 is not used. WDT-200: Switch 9 default is ON to comply with CA Energy Commission Title 24 bi-level switching requirements.

Time Delays

The WDT sensor holds the load ON until no motion is detected for the selected time delay. Select the time delay using DIP switch settings. The sensor automatically sets the time delay when SmartSet is enabled. In the WDT-200, both relays use the same delay.

Shading indicates default operation and switch setting.

SmartSet™ auto adjust time delay and Test Mode	Records typical occupancy patterns. Using this history (which is constantly updated), it chooses an optimal time delay from 7 minutes (if the space is usually vacant) up to 30 minutes (if the space gets heavy usage). SmartSet behavior starts immediately, and is refined continually as history is collected. A Test Mode with a short time delay of 5 seconds is set when DIP switches 1 & 2 are OFF. It cancels auto-matically after five minutes, or when you set a fixed time delay. To restart Test Mode, change the time delay setting to any fixed amount and then return it to the Auto/Test setting.
Fixed Time Delay (DIP 1 ON & 2 OFF)	Time delays of 5, **15** (default), or 30 minutes are available. See DIP SWITCH SETTINGS for information.

Walk-Through

The Walk-Through mode shortens the time delay to reduce the amount of time the load is ON after a brief moment of occupancy, such as returning to an office to pick up a forgotten item then immediately exiting.

Walk-Through Mode (DIP #3 ON)	The WDT sensor turns the load OFF 3 minutes after the area is initially occupied, if no motion is detected after the first 30 seconds. If motion continues beyond the first 30 seconds, the set time delay applies.
No Walk-Through	Walk-Through mode disabled.

PIR Sensitivity Adjustment

The WDT sensor constantly monitors the controlled environment and automatically adjusts the PIR to avoid common ambient conditions that can cause false detections, while providing maximum coverage.

High (DIP #4 OFF)	Default setting. Suitable for most applications.
Low, 50% (DIP #4 ON)	Reduces sensitivity by approximately 50%. Useful in cases where the PIR is detecting movement outside of the desired area (also consider masking the lens) and where heat sources cause unnecessary activation.

Alerts

The WDT can provide audible alerts as a warning before the load turns OFF.

Audible Alerts (DIP #7 ON)	"Whistles" twice, at one minute and at 30 seconds before turning OFF load. "Chirps" 10 seconds before turning OFF load. "Beeps" three times 10 seconds before the load goes OFF for Walk-Through.
No Alerts	No warnings provided.

Trigger Mode

The WDT sensor has 4 occupancy trigger options, set with DIP switches 5 and 6. Determine the appropriate option using the Trigger matrix.

In the Trigger Mode DIP switch setting table, in order to deem the area occupied:

• **Both** requires motion detection by the PIR and the ultrasonic.

• **Either** requires motion detection by only one technology.

• **PIR** requires motion detection by the PIR.

Initial Occupancy: The method that activates a change from "Standby" (area unoccupied and load off) to "Occupied" (area occupied and load may turn on).

Trigger Mode	Initial Occupancy	Maintain Occupancy	Re-trigger (seconds duration)	DIP Switch 5	6
Standard	PIR	Either	Either	↓	↓
Option A	PIR	PIR	PIR	↓	↑
Option B*	PIR	Both	Both	↑	↓
Option C*	PIR	Both	Both	↑	↑

*Options B and C are identical

↑ =ON ↓ =OFF

Maintain Occupancy: The method indicating that the area is still occupied and the lights should remain on.

Re-trigger: In Automatic Mode, after the load turns off, detection by the selected technology within the number of seconds indicated turns the lights back on. If the load was turned on with the ON/OFF button, the re-trigger time is 30 seconds.

COVERAGE PATTERNS

Coverage testing has been performed according to the NEMA WD 7 guideline. For best performance, use in spaces not larger than 18' x 15'.
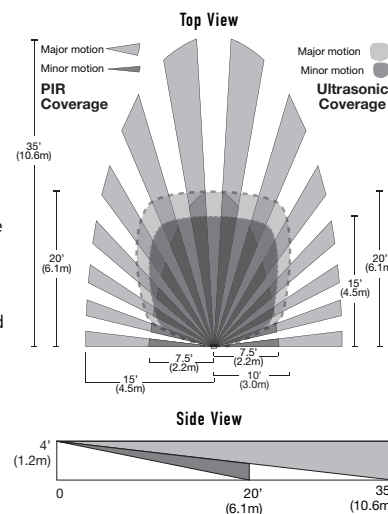
PIR Sensor

The sensor has a two-tiered, multi-cell viewing Fresnel lens with 180 degree field of view. The red LED on the sensor flashes when the PIR detects motion.
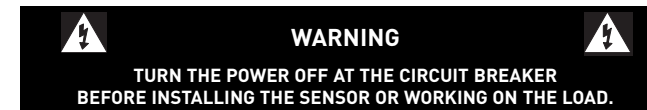
Masking the lens

Opaque adhesive tape is supplied so that sections of the PIR sensor's view can be masked. You can eliminate coverage in unwanted areas. Since masking removes bands of coverage, take this into account when trouble-shooting coverage problems.
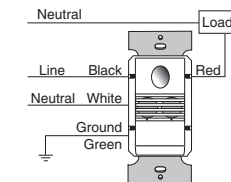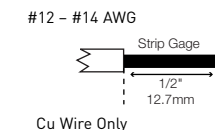
Ultrasonic Sensor

The sensor has two ultrasonic transceivers operating at 40kHz. Detection sensitivity can be adjusted using the trimpot under the ON/OFF buttons.
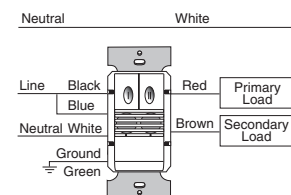
Top View

Major motion
Minor motion
PIR Coverage

Major motion
Minor motion
Ultrasonic Coverage

35' (10.6m)
20' (6.1m)
15' (4.5m)
7.5' (2.2m)
7.5' (2.2m)
10' (3.0m)
20' (6.1m)
15' (4.5m)
20' (6.1m)

Side View

4' (1.2m)
0
20' (6.1m)
35' (10.6m)

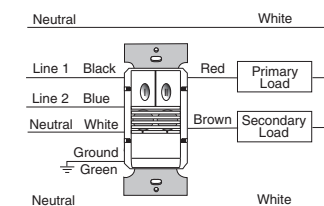Call 800.223.4185 for Technical Support

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INSTALLATION

1. Make sure that the power has been turned OFF at the circuit breaker.

2. Connect wires to the WDT flying leads as shown in the wiring diagram below that is appropriate to the WDT model and electrical supply.

3. Attach the WDT to the wall box by inserting screws into the two wide holes on the top and bottom of the attached metal bracket. Match them up with the holes in the wall box and tighten.

4. Turn the circuit breaker ON. Wait one minute, then push the ON/OFF button for each load and the lights will turn ON.

5. Test and adjust the sensor if necessary.

6. Attach the cover plate.

#12 – #14 AWG
Strip Gage
1/2"
12.7mm
Cu Wire Only

Neutral   Load
Line   Black   Red
Neutral   White
Ground
Green

WDT-100 Wiring

Neutral   White
Line   Black
Blue   Red   Primary Load
Neutral   White   Brown   Secondary Load
Ground
Green

WDT-200 Bi-Level Wiring

Neutral   White
Line 1   Black
Line 2   Blue   Red   Primary Load
Neutral   White   Brown   Secondary Load
Ground
Green
Neutral   White

WDT-200 Dual Circuit Wiring

Visit our website for FAQs: www.passandseymour.com

REV.	DESCRIPTION	INT:	REV. DATE	APPROVED
1	340892 11934	ML	10/8/09	

TITLE BOX PAGE ONLY.
DO NOT MAKE FILM • DO NOT PRINT

4-FOLD

MATERIAL:	**White 16lb (60g/m. sq.)**
FLAT (cut) SIZE:	**16"W x 6"H**
FOLDED SIZE:	**4"W x 6"H**
INK COLOR:	**Black**

Drawn by	LOUGHLIN	**Pass & Seymour** | **☐ legrand**		
PLM		SYRACUSE, NEW YORK		
MarCom		Title:		
Engineering		WDT-100/WDT-200		
QA		Installation Instructions		
	Scale: 1:1	Drawing #: 340892 11934	**Orig. Drawing Date:** 6 JUN 09	**Rev. #:**
TITLE BOX PG:			**Revision Date:**	1