Wattstopper®

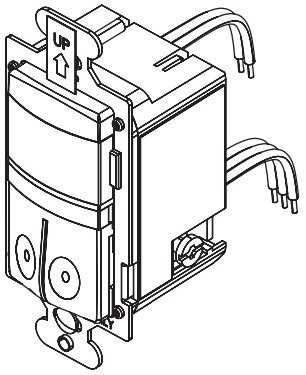
PIR Dual Relay Wall Switch Vacancy Sensor

No: 24263 – 09/25 rev. 2

Installation Instructions • Instructions d'Installation • Instrucciones de Instalación

Catalog Number • Numéro de Catalogue • Número de Catálogo: CS-350-N

Country of Origin: Made in China • Pays d'origine: Fabriqué en Chine • País de origen: Hecho en China



SPECIFICATIONS

Voltage	120VAC, 60Hz
Load rating for each relay	
Incandescent or fluorescent	0-600 Watts
Fan motor	1/6 hp
Time Delay Adjustment	15 seconds to 30 minutes
Environment	Indoor use only
Operating Temperature	32° to 131°F (0° to 55°C)
Humidity	95% RH, non-condensing
Tools Needed	
Insulated Screwdriver	
Wire Strippers	

DESCRIPTION AND OPERATION

The CS-350-N PIR Dual Relay Wall Switch Vacancy Sensor is designed to replace two single pole standard residential switches or one combination switch ("double switch"). It is ideal for any indoor area where vacancy sensor-based manual ON/OFF control of two different loads (i.e., a lamp and a fan) from a single location is desirable.

Like a standard combination switch, you press either or both of the two ON/OFF buttons to turn lights and/or fans (controlled loads) ON and OFF. Unlike a standard combination switch, the CS-350-N automatically turns OFF the controlled loads after the coverage area has been vacant for a period of time (Time Delay). If motion is detected within 30 seconds after they automatically turn OFF, the CS-350-N automatically turns the loads back ON.

Lighted Switch

To help you locate the CS-350-N in a dark room, an amber LED illuminates each of the ON/OFF buttons while the controlled loads are OFF. When one of the controlled loads is ON, the corresponding LED is OFF.

Nightlight

While the controlled load connected to relay #1 is OFF, the nightlight built into the CS-350-N is ON. When this load is ON, the nightlight is OFF.

Operating Mode

The user must press the ON/OFF button to turn the load ON. The CS-350-N keeps the load ON until no motion is detected for the selected time delay period (adjustable from 15 seconds to 30 minutes). There is a 30 second reset delay. If motion is detected during this time, the sensor turns the load back on automatically. After the reset delay time has elapsed, the ON/OFF button must be pressed to turn ON the load.

Time Delay

The time delay can be selected by the user during set up. It can be adjusted from 15 seconds up to 30 minutes and it applies to both relays (hence to both controlled loads) simultaneously. For additional information on how to adjust the time delay, please read the SENSOR ADJUSTMENT section of this installation manual.

Coverage Area

The CS-350-N has a maximum range of 180 degrees and a coverage area of 600 sq. feet (56 sq. meters). The sensor must have a clear and unobstructed view of the coverage area. Objects blocking the sensor's lens may prevent detection thereby causing the load (or loads) to turn OFF even though someone is in the area.

Windows, glass doors, and other transparent barriers will obstruct the sensor's view and prevent detection.

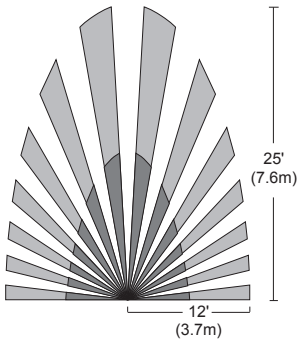


Fig. 1: Sensor Coverage Area

Windows, glass doors, and other transparent barriers will obstruct the sensor's view and prevent detection.

INSTALLATION & WIRING

WARNING

DISCONNECT POWER TO THE WALL SWITCH BOX BY TURNING OFF THE CIRCUIT BREAKER OR REMOVING THE FUSE FOR THE CIRCUIT BEFORE INSTALLING THE CS-350-N, REPLACING LAMPS, OR DOING ANY ELECTRICAL WORK.

1. **Prepare the switch box.**

   After the power is turned OFF at the circuit breaker box, remove the existing wall plate and mounting screws. Pull the two old switches or combination switch (double switch) out from the wall box.

2. **Identify the type of circuit.**

   If you are replacing a combination switch, you may find that it is connected to a circuit as described in A or B in the following sections.

   a. Single-circuit wiring (see Fig. 2): Three wires are attached to the combination switch. The HOT feed wire bringing power into the box is connected to the side of the switch that has a connecting tab. The wires carrying power out to the loads are connected to the side of the switch that does not have a connecting tab. A neutral wire should be present in the wall box. A ground wire may also be present and connected to a ground terminal on the old switch.

   b. Separate-circuit wiring (see Fig. 3): Four black wires are attached to the combination switch. HOT feed wires from the power source are attached to the side of switch that has a connecting tab, and the connecting tab is removed. Wires carrying power from the switch to loads are connected to the side of the switch that does not have a connecting tab. A neutral wire should be present in the wall box. A ground wire may also be present and connected to a ground terminal on the old switch.

   If you are substituting two single pole switches, each single pole circuit should match the description in Fig. 2.

   In a Single Pole Circuit (see Fig. 5, next page), two single wires connect to two screws on the existing switch. A ground wire may also be present and connected to a ground terminal on the old switch. A neutral wire should also be present in the wall box.

   Only connect the CS-350-N to one of the three circuit options described. The CS-350-N is not suitable for 3-way switching. If the existing wiring does not match any of the previously described circuit options, you should consult with a qualified electrician.

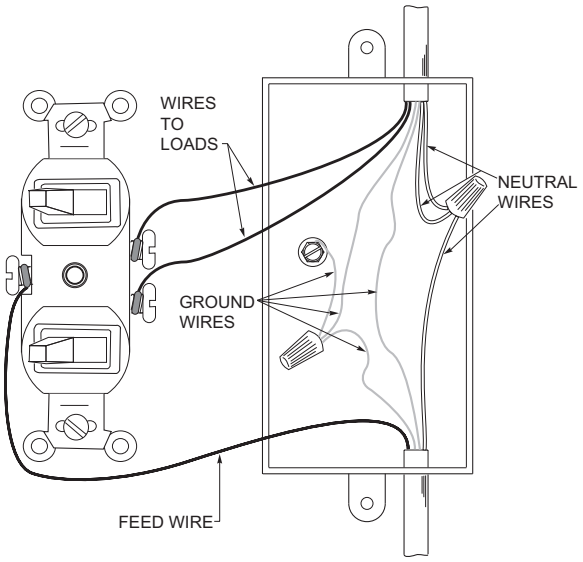


Fig. 2: Single-circuit wiring

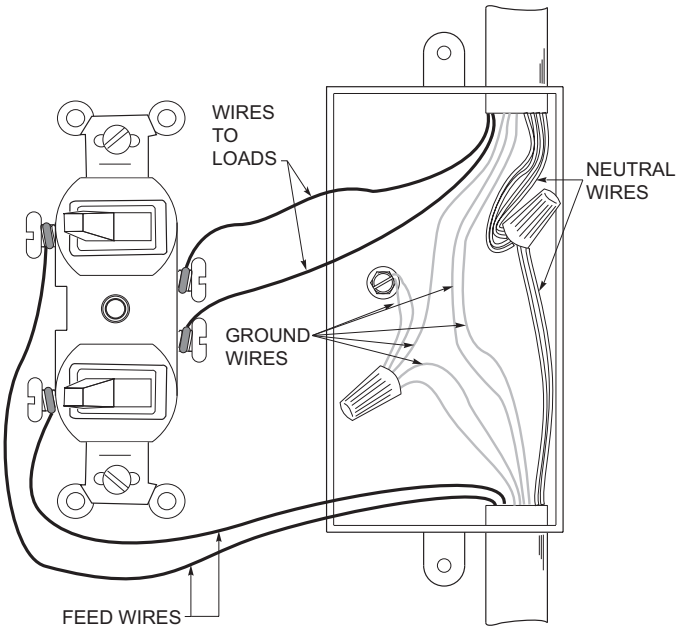


Fig. 3: Separate-circuit wiring

3. **Prepare the Wires.**

   Tag the wires connected to the existing switch, so that they can be identified later. Disconnect the wires. Make sure the insulation is stripped off the wires to expose their copper cores to the length indicated by the “Strip Gauge” in Fig. 4 (approx. 1/2 inch).

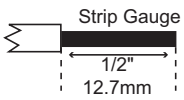


Fig. 4: Wire Stripping

4. **Wire the sensor.***

   Twist the existing wires together with the wire leads on the CS-350-N sensor as indicated in the diagram. Cap them securely using appropriately sized wire nuts. (See Fig 6, next page).

   a. Connect the green or non-isolated (copper) GROUND wire from the circuit to the CS-350-N green terminal.

   b. Connect the NEUTRAL wire from the circuit and from the loads to the white wire on the CS-350-N.

   c. Connect the power wire from circuit #1 (HOT#1) to the black wire on the CS-350-N.

   d. Connect the power wire to load #1 (LOAD#1) to the red wire on the CS-350-N.

   e. Connect the power wire from circuit #2 (HOT#2) to the solid brown wire on the CS-350-N.

   f. Connect the power wire to load #2 (LOAD#2) to the striped brown/white wire on the CS-350-N.

CAUTION - FOR YOUR SAFETY:
CONNECTING A PROPER GROUND TO THE SENSOR PROVIDES PROTECTION AGAINST ELECTRICAL SHOCK IN THE EVENT OF CERTAIN FAULT CONDITIONS. IF A PROPER GROUND IS NOT AVAILABLE, CONSULT WITH A QUALIFIED ELECTRICIAN BEFORE CONTINUING INSTALLATION.

5. **Put the CS-350-N in the wall box.**
   Position the lens above the ON/OFF buttons (lens at top, buttons at bottom) and secure it to the wall box with the screws provided.
6. **Restore power to the circuit.**
   Turn ON the breaker or replace the fuse.
7. **Test the sensor's operation.**
   See TEST MODE.
8. **Review SENSOR ADJUSTMENT below.**
   If you want to make adjustments, follow the instructions the SENSOR ADJUSTMENT section.
9. **Install cover plate.**
   Install industry standard decorator wall switch cover plate (not included).

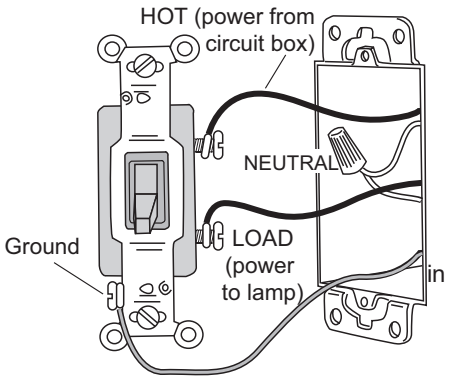


Fig. 5: Typical Single Pole Switch Wiring

Sensor Adjustment

To adjust the CS-350-N, you use a control located under the ON/OFF buttons. The wall switch cover plate must be removed to gain access to the time delay adjustment dial under the ON/OFF buttons.

1. Firmly grasp the side edges of the Lock Bar and gently pull it away from the switch face until it clicks. Do NOT attempt to pull the Lock Bar off of the switch!
2. Firmly grasp the outside edges of the ON/OFF buttons. Slide the buttons downward approximately 1/2 inch to expose the time delay adjustment dial.

Adjusting the Time Delay

Turn the dial counter-clockwise to reduce the amount of time both loads will remain on after the last motion detection (minimum = 15 seconds). Turn the same dial clockwise to increase this time delay (maximum = 30 minutes).

Warning: Do not overturn the time delay adjustment dial!

NOTE: These instructions assume wiring the CS-350-N to two independent feed wires (HOTs). If you only have one HOT feed wire coming into the wiring box, connect it to both the solid Brown and solid Black wires on the CS-350-N.

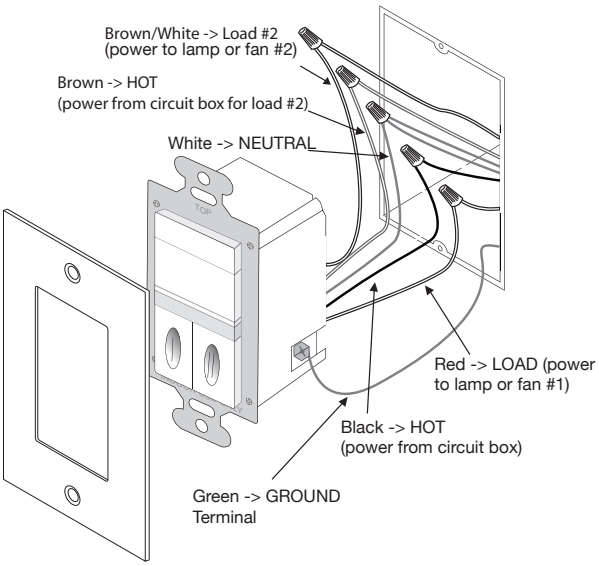


Fig. 6: Sensor orientation, wire connections and wall box assembly

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No. 24263 – 09/25 rev. 2

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