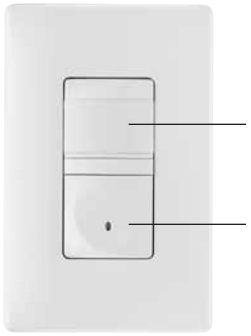
Please read all instructions before installing

RW3U603 Multi-way Wall Switch Vacancy Sensor with Manual ON/OFF

Installation Instructions



SPECIFICATIONS

Voltage	120VAC, 60Hz
Load (Single Pole Circuit)	
Incandescent or fluorescent	0-600 Watts
Fan motor	1/6 hp
Time Delay Adjustment	15 sec., 5 min., 15 min., 30 min.
Environment	Residential Indoor use only
Operating Temperature	32° to 131°F (0° to 55°C)
Humidity	95% RH, non-condensing
Tools Needed	
Insulated Screwdriver	
Wire Strippers	

Pass & Seymour

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Syracuse, NY 13221

DESCRIPTION AND OPERATION

RW3U603 Multi-way Wall Switch Vacancy Sensors are designed to replace standard single pole and multi-way (3-way, 4-way) switches. They are ideal for any room with multiple entries such as living and dining rooms, family rooms, bedrooms, bathrooms, hallways, and any other indoor space where vacancy sensor-based control with manual ON/OFF capability are desirable.

Like standard switches, you can press the ON/OFF button to turn the light or fan (controlled load) ON and OFF. Unlike standard switches, the RW3U603 automatically turns OFF the controlled load after the coverage area has been vacant for a period of time (Time Delay). If motion is detected within 30 seconds after it automatically turns OFF, the RW3U603 automatically turns the load back ON.

The RW3U603 can be wired with up to three additional RW3U603s for multi-way Manual ON/OFF of one or several loads (up to one load connected to each RW3U603). It can also be wired to up to four TM870STM single pole momentary wall switches for multi-way Manual-ON/OFF Automatic-OFF control of one load.

Lighted Switch

To help you locate the RW3U603 in a dark room, the green LED illuminates the ON/OFF button while the controlled load is OFF. When the controlled load is ON, the LED is OFF.

Time Delay

The RW3U603 keeps the load ON until no motion is detected by any of the related RW3U603s for the time delay period. The time delay can be selected by the user during set up. It can be adjusted to any of these fixed values:15 seconds/ 5 minutes/15 minutes/30 minutes. We recommend that the time delay be the same in all sensors related to the same load. This makes it easier to understand the multi-way control operation as well as trouble shooting. For additional information on how to adjust it, please read the SENSOR ADJUSTMENT section of this installation manual.

Coverage Area

The RW3U603 has a maximum coverage range of 180 degrees and a coverage area of 600 square feet (56 square 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 light to turn OFF even though someone is in the area.

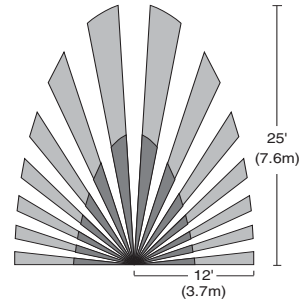

Fig. 1: Sensor Coverage Area

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

INSTALLATION & WIRING

These instructions describe only the 3-way circuit applications. For information about other applications, consult technical support.

WARNING

Disconnect power to the wall switch box by turning OFF the circuit breaker or removing the fuse for the circuit before installing the RW3U603, 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 old switch out from the wall box.
2. **Identify the type of circuit.**
   You may connect the RW3U603 to a single pole or multi-way circuit. If you are unable to clearly identify some or all of the wires mentioned in this manual, you should consult with a qualified electrician.

   In a 3-way circuit (see Fig. 2), two traveler wires connect to both switches. Another wire provides power from the circuit box to one of the switches. A wire connects from one switch to the load. A ground wire may also be connected to a ground terminal on the old switches. A neutral wire should also be present in both wall boxes.

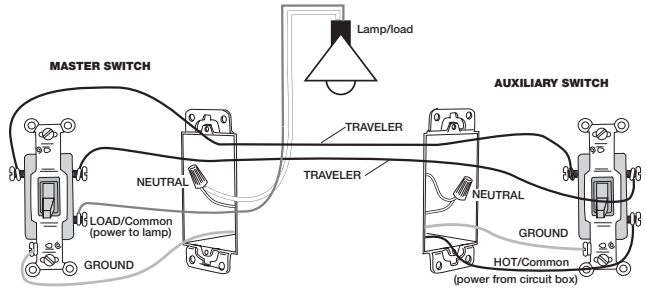

Fig. 2: Typical 3-Way Switch Wiring

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.

3. **Prepare the Wires.**
   Tag the wires currently connected to the existing switch so that they can be identified later. Disconnect the wires. Make sure the insulation is stripped off of the wires to expose their copper cores to the length indicated by the "Strip Gage," in Fig. 3. (approx. 1/2 inch).

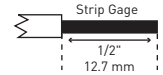

Fig. 3: Wire Stripping

4. **Wire the sensor.**
   Twist the existing wires together with the wire leads on the RW3U603 sensor(s) as indicated in either step 4a or 4b. Cap wires securely using wire nuts.

4a. Wiring two RW3U603s in a 3-way configuration

- Connect the green or non-insulated (copper) GROUND wire from the circuit to the green terminal on each RW3U603.
- Connect the NEUTRAL wire from the circuit and from the lamp (LOAD) to the white wire on the **master** RW3U603.

  The term "master" designates the RW3U603 that connects to the load.
- Connect the NEUTRAL wire from the circuit in the other wiring box to the white wire on the **auxiliary** RW3U603.
- Connect the power wire from the circuit box (HOT) to the black wire on the auxiliary RW3U603 and to the TRAVELER 1 wire.
- Connect the TRAVELER 1 wire from the black wire of the auxiliary RW3U603 to the black wire of the master RW3U603.
- Connect the lamp power (LOAD) to the red wire on the master RW3U603.
- Cap the red wire on the auxiliary RW3U603.
- Connect the TRAVELER 2 wire coming from the yellow wire of another RW3U603 to the yellow wire of the RW3U603 that you are wiring.

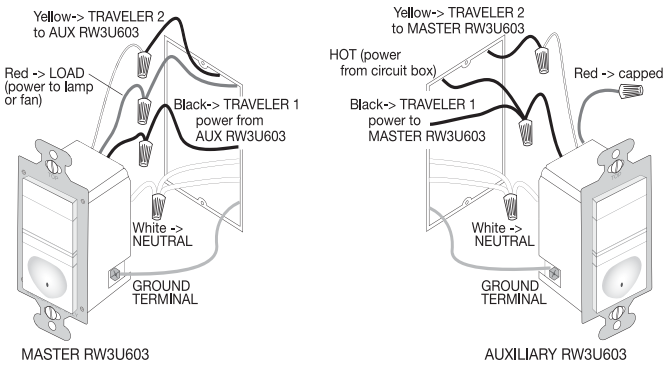

Fig. 4: Step 4a, Sensor orientation, wire connections and wall box assembly

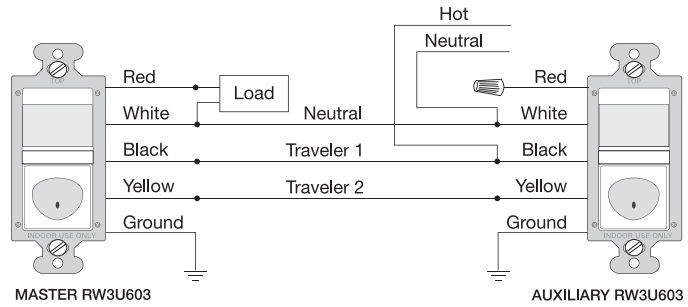

Fig. 5: Step 4a, Reference wiring diagram

4b. Wiring one RW3U603 and one TM870STM single pole momentary switch for multi-way Manual-ON/OFF single load control.

IMPORTANT: The RW3U603 must be installed in the wiring wall box that connects to the load.

- Connect the green or non-insulated (copper) GROUND wire in each wiring box to the green terminal on each RW3U603 and TM870STM.
- Connect the NEUTRAL wire from the circuit and from the lamp (LOAD) to the white wire on the RW3U603.
- Connect the power wire from the circuit box (HOT) to one terminal of the TM870STM single pole momentary wall switch and to the TRAVELER 1 wire.
- Connect the TRAVELER 1 wire coming from the TM870STM wiring box to the black wire of the RW3U603.
- Connect the lamp power (LOAD) to the red wire on the RW3U603.
- Connect the TRAVELER 2 wire to the other side of the TM870STM single pole momentary wall switch and to the yellow wire of the RW3U603.

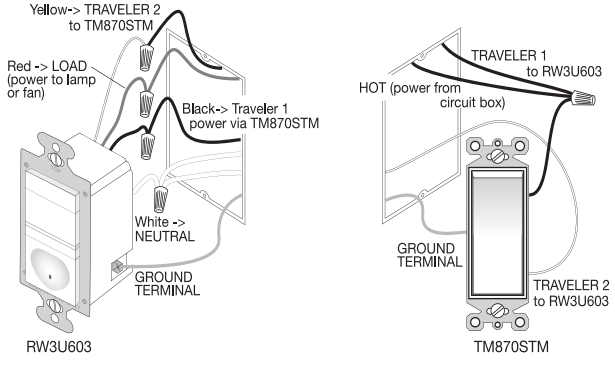

Fig. 6: Step 4b, Sensor orientation and wire connections for 3-way operation with an TM870STM momentary wall switch

To wire up to four TM870STM single pole momentary wall switches to one RW3U603, wire them in parallel as shown in the following wiring diagram.

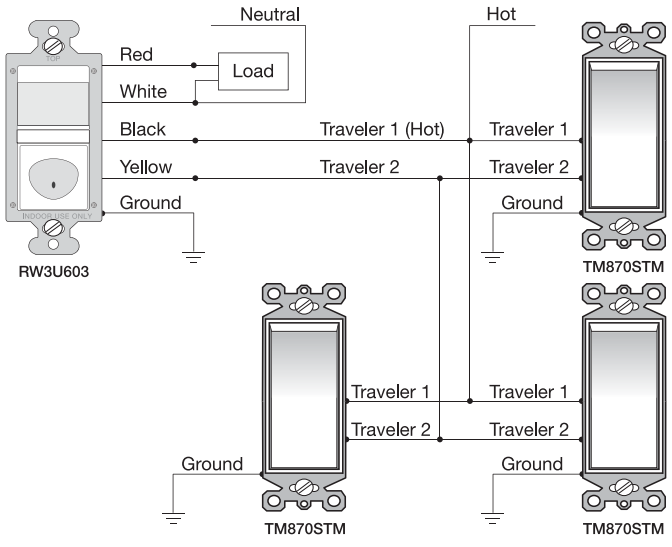

Fig. 7: Step 4b, Reference wiring diagram for multi-way operation with TM870STM momentary wall switches (4 maximum)

5. Put all the new switches into their wall boxes.
Position the RW3U603 switch(es) with the lens above the ON/OFF button (lens at top, ON/OFF button at bottom). Use the captive screws on the mounting strap to secure the switches to their wall boxes.

6. Restore power to the circuit.
Turn on the breaker or replace the fuse.

7. Make any necessary adjustments.
See the SENSOR ADJUSTMENT section for information.

8. Attach the new cover plates.
Secure them with the screws provided.

SENSOR ADJUSTMENT

To adjust the RW3U603, you use a control located under the ON/OFF button. The wall switch cover plate must be removed to gain access to the time delay adjustment dial under the ON/OFF button.

For multi-way operation, the Time Delay should be the same in all sensors related to the same load.

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 side edges of the ON/OFF button. Slide the button downward approximately 1/2 inch to expose the adjustment dial.

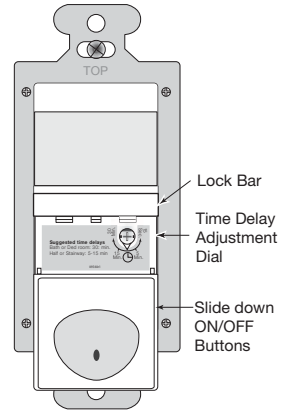

Fig. 8: Sensor Adjustment Control

Adjusting the Time Delay

Turn the dial counter-clockwise to reduce the amount of time the lights will remain ON after the last motion detection (minimum = 15 seconds). Turn it clockwise to increase the time delay (maximum = 30 minutes). You can only select the following values: 15 seconds/5 minutes/15 minutes/30 minutes.

Warning: Do not overturn the Time Delay adjustment dial!

TEST MODE

To test the detection coverage:

1. Press and hold the ON/OFF button. After 10 seconds the lighted switch turns off. The load turns ON if it was not already ON. The sensor is now in a TEST mode that lasts 5 minutes. (You can end the TEST mode sooner by pressing the ON/OFF button for another 10 seconds).

During the TEST mode, the controlled load turns ON for 5 seconds each time the sensor that initiated the TEST mode detects occupancy.

2. Move out of the coverage area or stand very still. The controlled load turns OFF after 5 seconds if no motion is detected.
3. Move into the coverage area for the unit that initiated the TEST mode. The controlled load turns ON for 5 seconds each time the sensor detects motion. After 5 seconds expire without motion detection, the load turns OFF. The controlled load turns ON automatically with the next motion detection and stays ON for 5 seconds.
4. Repeat as necessary to ensure that the desired coverage areas are within detection range.

You can do this test for each RW3U603 in your multi-way configuration. So that you can determine the actual coverage area for each multi-way switch individually, only the RW3U603 that is in TEST mode will control the load.

TROUBLESHOOTING

Lighted switch is OFF, no load response to ON/OFF button press:
- Make certain that the circuit breaker is on and functioning.

Lighted switch is ON, no load response to ON/OFF button press:
- Check the light bulb and/or motor switch on the fan mechanism.

Load will not turn OFF automatically:
- Press ON/OFF button. If the controlled load turns OFF, go to next step.
- The time delay can be set from 15 seconds to 30 minutes. Check the time delay setting for each RW3U603 in your multi-way configuration. Ensure that all RW3U603s have the same time delay setting.
- Ensure that there is no movement within the coverage area for all the sensors related to the load for the set time delay. Hot air currents and heat radiant devices can cause false detection. Make sure the sensor is at least 6 feet (2 meters) away from devices that are a significant heat source (e.g., heater, heater vent, high wattage light bulb).

If load does not respond properly after following troubleshooting, turn OFF power to the circuit then check wire connections or call technical support.

WARRANTY INFORMATION

Pass & Seymour/Legrand warranties its products to be free of defects in materials and workmanship for a period of five (5) 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.

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Uncoated, prefer recycled stock

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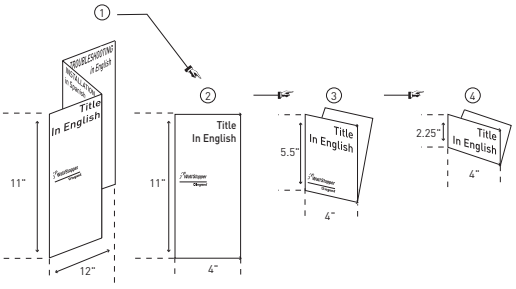
FOLDED SIZE: 4"W x 2.75" H



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