

INSTALLATION

WARNINGS AND CAUTIONS:

- **DISCONNECT POWER AT CIRCUIT BREAKER OR FUSE WHEN SERVICING, INSTALLING OR REMOVING FIXTURE.**
- TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH ELECTRICAL CODES AND REGULATIONS.
- IF YOU ARE NOT SURE ABOUT ANY PART OF THESE INSTRUCTIONS, CONSULT AN ELECTRICIAN.
- RELAY RECEIVERS ARE INTENDED ONLY FOR USE INDOORS, IN DRY LOCATIONS, AND WITH PERMANANTLY INSTALLED FIXTURES.
- SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN 15 RMS SYMMETRICAL AMPERES MAXIMUM.
- RELAY RECEIVERS SHOULD NOT BE INSTALLED IN LOCATIONS WHERE THE UNITS WILL BE IN CLOSE PROXIMITY TO THE LIGHT BULB(S) OR OTHER SOURCES OF HEAT, SUCH AS ABOVE A CEILING HUGGER FIXTURE, PARTICULARLY WITH HIGHER WATTAGE LOADS.
- WHEN USING RELAY RECEIVERS TO SWITCH A MOTOR, OVERLOAD AND OVER-CURRENT PROTECTION SIZED FOR THE MOTOR LOAD SHOULD BE PROVIDED AT THE BRANCH CIRCUIT FEEDER SUPPLYING THE MOTOR IN ACCORDANCE WITH THE NEC OR CEC, AS APPLICABLE FOR THE INSTALLED LOCATION.
- THE MAXIMUM OVER-CURRENT PROTECTION REQUIRED FOR THE BRANCH CIRCUIT SUPPLYING THIS PRODUCT IS 15 AMPS. WHEN ONE OR MORE MOTORS ARE INSTALLED AND NOT INTERNALLY PROTECTED THEN AN OVERLOAD PROTECTIVE DEVICE SIZED AT NOT MORE THAN 115% OF THE MOTOR FULL LOAD AMPS (FLA) SHOULD BE INSTALLED FOR EACH MOTOR.
- WHEN USING DEVICES TO CONTROL MOTORS AND HVAC EQUIPMENT WHICH DO NOT RESPOND WELL TO THE ON/OFF CYCLING WHICH OCCURS IN THE LEARN MODE, IT IS ADVISED TO CONFIGURE THE RECEIVER'S WITHOUT THE MOTOR OR HVAC LOAD CONNECTED AND INSTEAD PROGRAM THE PRODUCTS IN ADVANCE BY CONNECTING THEM LIGHT OR OTHER LOAD THAT IS SAFE TO TOGGLE ON AND OFF.

DESCRIPTION:

The 5-wire Relay Receiver provides fast and simple installation of remote controls for lighting, HVAC, motor, and other loads. The receiver responds to radio signals from selfpowered wireless light switches and other compatible transmitters. The relay receiver can be used in single pole, 3-way, or 4-way switch applications. The receiver mounts in ceiling junction boxes, wall switch boxes, and wiring cavities. The threaded version mounts through standard 1/2" knock-out holes (**See Figure I**).

COMPATIBLE DEVICES:

- Self Powered Light Sensor (WST models only)
- Single Rocker Self-powered Wireless Light Switch
- Dual Rocker Self-powered Wireless Light Switch
- Handheld Self-powered Wireless Light Switch
- Key Card Access Switch
- SLT Wireless Sensor
- Self-powered Wireless Occupancy Sensor
- More transmitters available

TOOLS NEEDED FOR INSTALLATION:

- Non-conductive probe (pencil or ballpoint pen)
- Electrical tape
- Wire nuts
- Screwdriver

TO INSTALL:

To install the 5-Wire Relay Receiver, select your application from the options below. Follow the instructions for that application. For transmitter installation instructions, see appropriate installation guide(s).

SELECT 1 OF THE FOLLOWING COMMON APPLICATIONS:

OPTION A: Single Pole or Multi-way Wireless Switch (1 or more wireless light switches)

1. **WARNING:** To avoid risk of fire, shock, or death, **TURN OFF POWER** at circuit breaker or fuse and verify that it is OFF before installation begins. Make sure that it remains OFF until installation is complete. Please be aware that with some versions of the product, it is possible to have multiple branch circuits feeding the Relay Receiver.
2. Read the **WARNINGS AND CAUTIONS** section before beginning these installation options. Read all steps for this option before taking any action to install receiver.
3. For in-wall installation, a wiring box must be used. For ceiling installation make wire connections inside a junction box. **Ensure that the temperature in the ceiling box will not exceed 50 degrees C (see specifications).** For best wireless signal performance install receiver in plastic box away from floor and away from metal objects.
4. Connect wires as shown in **Figure D**. Twist wire nuts on clockwise making sure no bare wires show. Wrap connections with electrical tape.
5. Restore power and follow programming instructions for appropriate programming mode (**see “Programming” below**). For this installation, Rocker Mode (the default programming mode) is recommended.
6. Test receiver. (If receiver is not working, review wiring and programming instructions).
7. Stow all wires in wiring box. Finish any installation of fixture or wall switch.

OPTION B: Hardwired/Wireless Combo 3-Way Switch (1 hardwired 3-way switch, 1 wireless switch)

1. **WARNING:** To avoid risk of fire, shock, or death, **TURN OFF POWER** at circuit breaker or fuse and verify that it is OFF before installation begins. Make sure that it remains OFF until installation is complete. Please be aware that with some versions of the product, it is possible to have multiple branch circuits feeding the Relay Receiver.
2. Read the **WARNINGS AND CAUTIONS** section before beginning these installation options. Read all steps for this option before taking any action to install receiver.
3. If hardwired switch is currently a single pole switch, the switch will need to be replaced with a hardwired 3-way switch. For best performance use a plastic wiring box. **When a 5-Wire Relay Receiver is used with a hardwire 3-way switch, the maximum load rating is reduced (see specifications).**
4. Confirm that both neutral and hot wires are present at wall switch location. Connect wires as shown in **Figure E**. Twist wire nuts on clockwise making sure no bare wires show. Wrap connections with electrical tape.
5. Restore power and follow programming instructions for appropriate programming mode (**see “Programming” below**). For this installation, Toggle Mode is recommended.
6. Test receiver. (If receiver is not working, review wiring and programming instructions).
7. Stow all wires in wiring box. Finish any installation of hardwired 3-way switch.

OPTION C: Hardwired/Wireless Combo 4-Way Switch (1 hardwired 4-way switch, 1 hardwired 3-way switch, 1 wireless switch)

1. Read the **WARNINGS AND CAUTIONS** section before beginning these installation options. Read all steps for this option before taking any action to install receiver.
2. **WARNING:** To avoid risk of fire, shock, or death, **TURN OFF POWER** at circuit breaker or fuse and verify that it is OFF before installation begins. Make sure that it remains OFF until installation is complete. Please be aware that with some versions of the product, it is possible to have multiple branch circuits feeding the Relay Receiver.
3. If both hardwired switches are currently 3-way switches, one of the switches will need to be replaced with a hardwired 4-way switch. For best performance use a plastic wiring box. When a Leviton 5-Wire Relay Receiver is used with a hardwire 3-way switch, the maximum load rating is reduced (**see specifications**).
4. Confirm that both neutral and hot wires are present at wall switch location. Connect wires as shown in **Figure F**. Twist wire nuts on clockwise making sure no bare wires show. Wrap connections with electrical tape.
5. Restore power and follow programming instructions for appropriate programming mode (**see “Programming” below**). For this installation, Toggle Mode is recommended.
6. Test receiver. (If receiver is not working, review wiring and programming instructions).
7. Stow all wires in wiring box. Finish any installation of fixture or wall switch.

PROGRAMMING:

The receiver must be powered when programming. After programming, settings are retained when power is disconnected. The receiver sensitivity is reduced when in Learn Mode to prevent unintentionally associating unwanted transmitters with the receiver. Transmitters should be within 15 feet (5 meters) of the receiver when programming. Program the receiver in any of the modes below.

Rocker Mode (default): In Rocker Mode the receiver responds only on a transmitter press and not on the release. For example, one side of the rocker on a wireless light switch will activate the relay (turn the light ON) when pressed and the opposite side of the same rocker will deactivate the relay (turn the light OFF) when pressed.

Momentary Mode: In Momentary Mode, each end of the rocker on a wireless light switch acts as a separate button. Each end of the rocker programs separately to 1 or more receivers. When a rocker is pressed the output on the receiver will activate (turning the electrical load ON). When the rocker is released the output will deactivate (turning the electrical load OFF).

Toggle Mode: In Toggle Mode, each end of the rocker acts as a separate button. Each end of the rocker programs separately. When the rocker is pressed the output of the receiver will always change state (if OFF, it will turn ON; if ON, it will turn OFF). Like Rocker Mode, the output status only changes when a button is pressed and is ignored on the release.

Follow the instructions below for the desired programming mode:

Rocker Mode (default) Programming Instructions

1. Read all Rocker Mode programming steps before taking any action to program receiver in Rocker Mode.
2. Activate Rocker Learn Mode by pressing and holding the LRN button for 1 second (**See Figure A**). The electrical load connected to the receiver will begin turning ON and OFF in a slow pattern.
3. When associating a wireless light switch with the receiver, press one end of a switch rocker (**See Figure B**). When associating a transmitter other than a wireless light switch, press the LRN or TCH button on the Leviton transmitter (**see appropriate transmitter starter guide**). The load will stay ON for about 3 seconds indicating that the receiver has stored the transmitter's unique ID in its memory.
4. **NOTE:** If only one transmitter is desired then skip **Step 4** and exit Learn Mode by following **Step 5**. To associate a second transmitter with this receiver, wait until toggling of the load resumes. Repeat the instructions in **Steps 3 and 4** until the unique IDs of all desired transmitters are stored in the memory of the receiver.

5. To complete programming, just wait; the receiver automatically exits Learn Mode after 30 seconds. Alternatively, press and hold the LRN button for 1 second to exit Learn Mode.

Momentary Mode Programming Instructions

1. Read all Rocker Mode programming steps before taking any action to program receiver in Momentary Mode.
2. While the receiver is in Rocker Learn Mode, press and hold the LRN button for 3 seconds (**See Figure A**). The electrical load connected to the receiver will begin turning ON and OFF in a fast pattern. The receiver is now in Momentary Learn Mode.
3. Follow **Steps 3-5 of “Rocker Mode Programming Instructions.”**

Toggle Mode Programming Instructions

1. Read all Rocker and Momentary Mode programming steps before taking any action to program receiver in Toggle Mode.
2. While the receiver is in Momentary Learn Mode, press and hold the LRN button for 3 seconds (**See Figure A**). The electrical load connected to the receiver will continue turning ON and OFF in a fast pattern. The receiver is now in Toggle Learn Mode.
3. Follow **Steps 3-5 of “Rocker Mode Programming Instructions.”**

Selective Deleting: Follow the Program Mode steps above to delete a transmitter from a receiver's memory. Upon pressing the LRN button on a transmitter (**See Rocker Mode Programming Instructions, Step 3**) which has previously been associated with the receiver, the electrical load connected to the receiver will stay OFF for 3 seconds indicating that the receiver has removed the transmitter's unique ID from its memory.

Clear All: If the CLR button is pressed and held for 2 seconds (**See Figure C**), the entire memory of the receiver will be deleted. The receiver will instantly enter the default programming mode (Rocker Mode) indicated by the electrical load turning ON and OFF.

Automatic ON / Automatic OFF. If the receiver learns a wireless motion sensor, the load will turn OFF after no occupancy has been detected for 15 minutes. If learned in the Rocker Mode, the output will be Manual ON / Automatic OFF. If learned in Momentary Mode, the output will be Automatic ON / Automatic OFF.

ADDITIONAL PROGRAMMING OPTIONS

Inverted Output Mode: The receiver supports the Inverted Output Mode of operation. In the default configuration, the N.O. relay contact is open (not connected) when not active, and closed (connected) when active. When the outputs are in Inverted Output Mode, the N.O. contact is closed when not active and open when active. Inverting the outputs may be used to emulate a normally closed relay that opens when a switch is activated.

One common use for this mode is for magnetic door release controls. The output is ON and the door-hold electromagnet is active until a Momentary switch is activated, deactivating the electromagnet and allowing the door to close. The magnet is reactivated as soon as the switch is released.

Inverted Output Mode Programming Instructions

1. Turn the power to the receiver OFF.
2. Press and hold the CLR button for 5 seconds while turning on the power. The load will blink twice to indicate activation of Inverted Output Mode.
To change back to normal operating mode, repeat **Steps 1 and 2**. The load will blink once to indicate normal (non-Inverted) mode. The state of this mode is stored in non-volatile memory and is maintained even if the power is removed.

Repeater Function (WST models only): The default setting for the receiver is Repeater-ON. A repeater re-transmits a copy of every signal received, and many repeaters also function as receivers. It is recommended that no more than two repeaters are active within range of any LevNet RF transmitters or receivers. Repeater should be installed high above the floor in a central location, minimizing the number of walls or other obstructions through which the wireless signal must travel.

Repeater Programming Instructions:

1. Turn the power to the receiver OFF
2. Press and hold the LRN button for 5 seconds while turning on the power. The load will blink twice to indicate activation of the repeater mode.
To change back to normal operating mode, repeat Steps 1 and 2. The load will blink twice indicate the repeater is ON and blink once to indicate the repeater is OFF.

LIMITED 5 YEAR WARRANTY AND EXCLUSIONS

Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Leviton is free of defects in materials and workmanship under normal and proper use for five years from the purchase date. Leviton's only obligation is to correct such defects by repair or replacement, at its option, if within such five year period the product is returned prepaid, with proof of purchase date, and a description of the problem to **Leviton Manufacturing Co., Inc., Att: Quality Assurance Department, 201 North Service Road, Melville, New York 11747**. This warranty excludes and there is disclaimed liability for labor for removal of this product or reinstallation. This warranty is void if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. **There are no other or implied warranties of any kind, including merchantability and fitness for a particular purpose**, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warranty, including merchantability and fitness for a particular purpose, is limited to five years. **Leviton is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, lost sales or profits or delay or failure to perform this warranty obligation.** The remedies provided herein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.

Specifications				
	WSP02-R10	WSP12-010	WSP12-080	WSP02-020
Range	50-150 feet (typical)			
Frequency	315 MHz (868MHz for international)			
Relay Output	277 VAC			
Max Loads/ Contact Ratings	Tungsten (Incandescent) N.O. Contacts / N. C. Contacts	1500 W @ 120 VAC / 500 W @ 120 VAC 3000 W @ 240 VAC / 1000 W @ 240 VAC 3400 W @ 277 VAC / 1100 W @ 277 VAC		
	Fluorescent Ballast	8A (N.O. Contacts)		
	General Duty	16A (N.O. Contacts), 5A (N.C. Contacts)		
	A300 Pilot Duty	72 VA @ 24 VAC, 360 VA @ 120 VAC 720 VA @ 240 VAC, 830 VA @ 277 VAC		
	Motor Load	60 LRA, 10 FLA, 1/2 HP @ 120 VAC, 1HP @ 240 VAC, 1HP @ 277 VAC		
Power Supply	24 VAC 50/60 Hz	120 VAC 50/60 Hz	240 VAC 50/60 Hz	277 VAC 50/60 Hz
Output Channels	1 FORM C Relay COM, N.O., N.C.			
Memory	Stores up to 30 switch IDs			
Dimensions	2.11 x 1.73 x 1.09 inches (54 x 44 x 28 mm) 2.61 x 1.73 x 1.09 inches (66 x 44 x 28 mm) - Threaded mounted			
Operating Temperature	14° to +122° F (-10° to +50° C)			
Storage Temperature	-4° to +176° F (-20° to +80° C)			
Radio Certification	FCC (US): SZV-TCM2XXC; IC (Canada): 5713A-TCM2XXC			
Safety Approval	ETL (US): UL244A; ETL (Canada): CSAc22.2#14-05; UL 2043 Plenum rating			

NOTE: Specifications apply to comparable WSTxx version.

Figure A

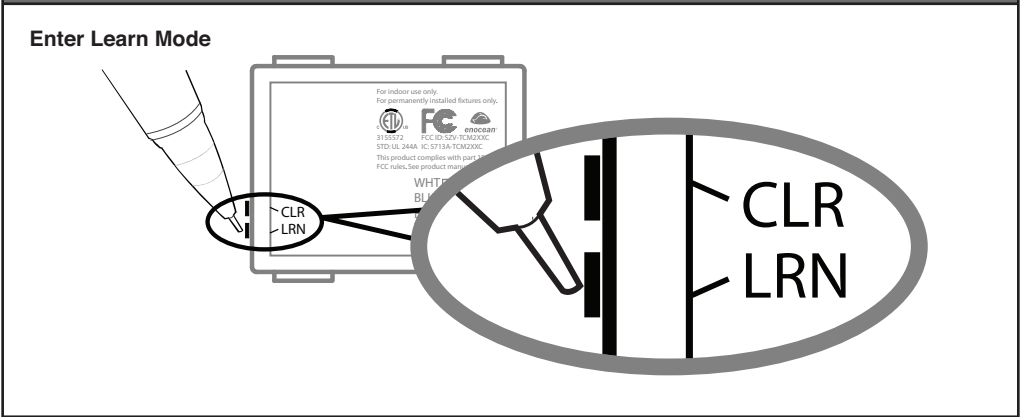


Figure B

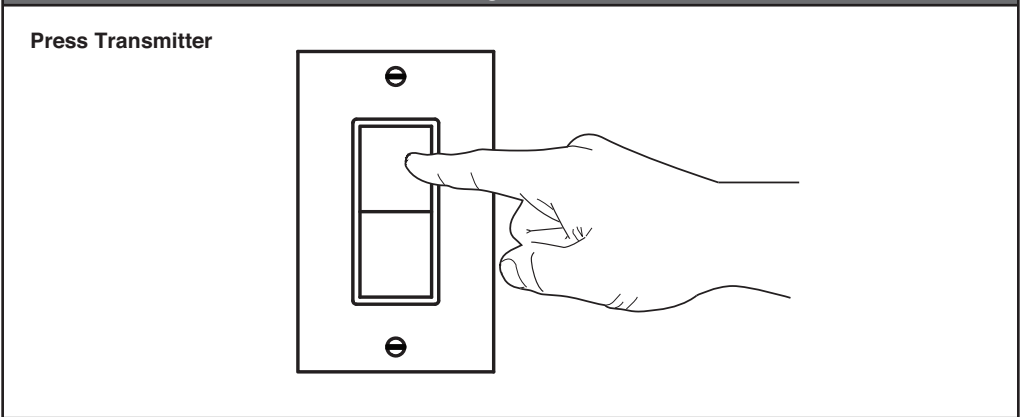


Figure C

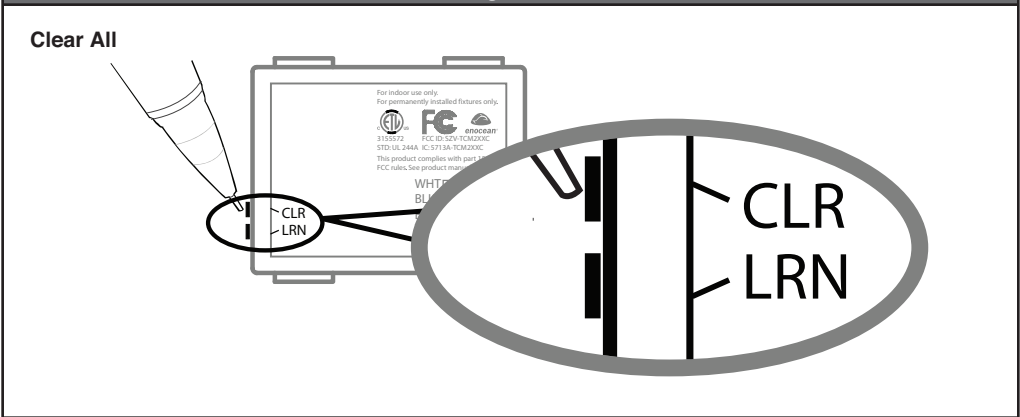
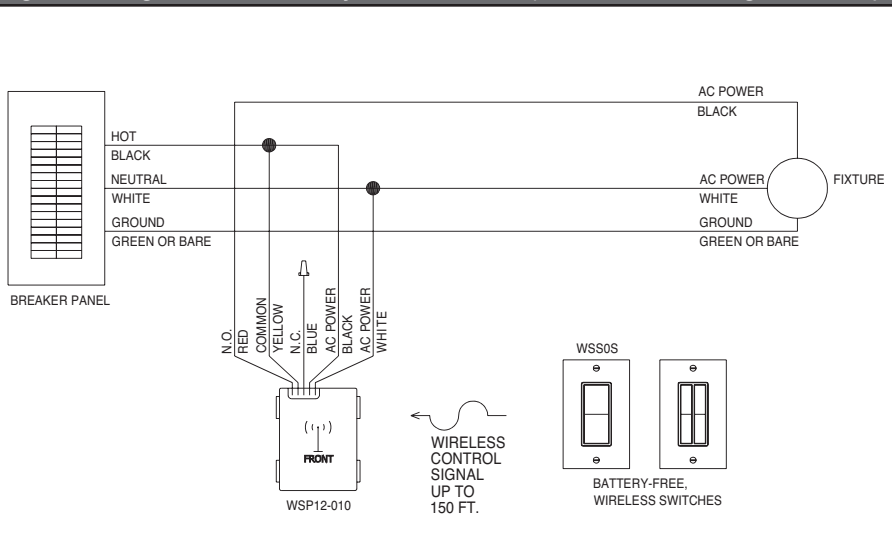
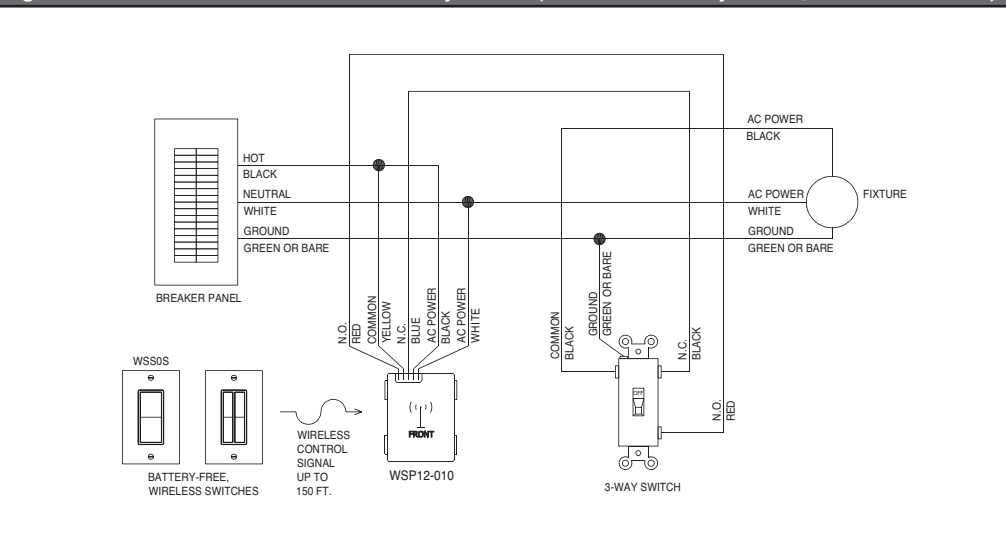


Figure D - Single Pole or Multi-way Wireless Switch (1 or more wireless light switches)*



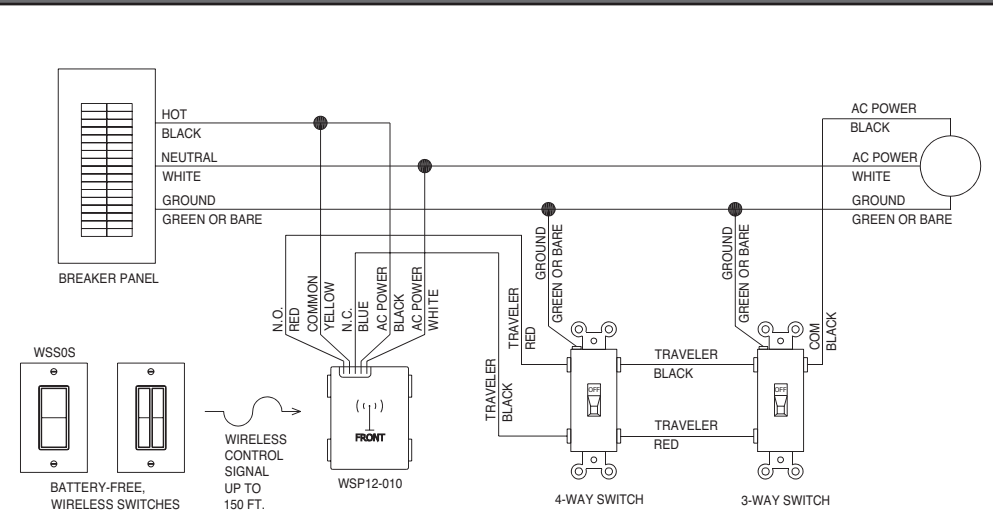
*This diagram shows 120V but will be the same for 240V and 277V receiver models except that wire colors will differ.

Figure E - Hardwired/Wireless Combo 3-Way Switch (1 hardwired 3-way switch, 1 wireless switch)*



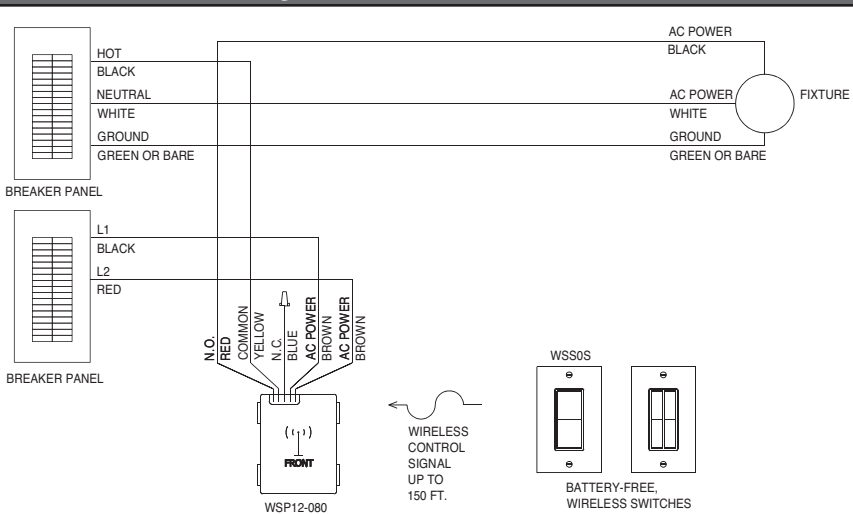
*This diagram shows 120V but will be the same for 240V and 277V receiver models except that wire colors will differ. In this configuration, the maximum load is approximately 500W. See specifications for the N.C. relay contact.

Figure F - Hardwired/Wireless Combo 4-Way Switch (1 hardwired 4-way, 1 hardwired 3-way, 1 wireless switch)



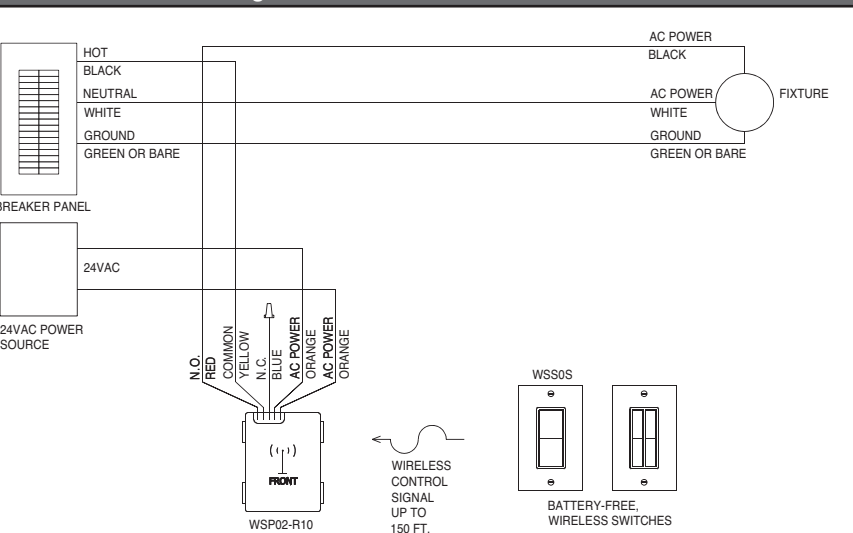
*This diagram shows 120V but will be the same for 240V and 277V receiver models except that wire colors will differ. In this configuration, the maximum load is approximately 500W. See specifications for the N.C. relay contact.

Figure G - Dual Power Source**



**This diagram shows 240V but will be the same for 120V and 277V receiver models except that wire colors will differ. WARNING: More than one live circuit. Disconnect all branch circuits before servicing or installing.

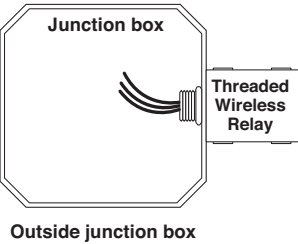
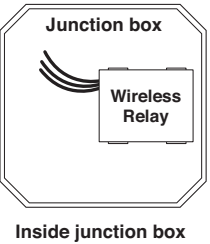
Figure H - 24VAC Dual Power Source



WARNING: More than one live circuit. Disconnect all branch circuits before servicing or installing.

Figure I

Wireless Relay mounting options



FCC COMPLIANCE STATEMENT: Contains FCC ID: SZV-TCM2XXC. Contains IC (Canada): 5713A-TCM2XXC. The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i.) this device may not cause harmful interference and (ii.) this device must accept any interference received, including interference that may cause undesired operation.

ETL (US) - Conforms to UL STD 244A. This device was tested according to and was found to comply with UL 244A Solid State Controls for Appliances.
ETL (Canada) - Certified to CAN/CSA STD C22.2 No. 14-05. This device was tested according to and was found to comply with CAN/CSA STD C22.2 No. 14-05.

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WEB VERSION