

INSTALLATION

WARNINGS AND CAUTIONS:

- 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.
- DEPENDING ON THE CIRCUMSTANCES, IT MAY BE CONVENIENT TO PRE-PROGRAM THE RECEIVER PRIOR TO FINAL INSTALLATION.
- LevNet RF CONSTANT VOLTAGE DIMMERS ARE INTENDED ONLY FOR USE INDOORS, IN DRY LOCATIONS, AND WITH PERMANENTLY INSTALLED FIXTURES.
- **LevNet RF CONSTANT VOLTAGE DIMMERS SHOULD NOT BE INSTALLED IN A LOCATION WHERE THE UNIT WILL BE IN CLOSE PROXIMITY TO LIGHT BULBS OR OTHER SOURCES OF HEAT, PARTICULARLY WITH HIGHER WATTAGE LOADS. INSTALLATION IN CLOSE PROXIMITY TO LIGHT BULBS OR OTHER HEAT SOURCES MAY SUBJECT THE RECEIVER TO TEMPERATURES EXCEEDING THE OPERATING TEMPERATURE RATING (SEE SPECIFICATIONS TABLE).**
- INSTALLATION IN METALLIC ENCLOSURES OR NEAR LARGE METAL OBJECTS WILL TYPICALLY REDUCE RADIO RANGE OF THE WIRELESS DIMMER (WSD02-010). IF POSSIBLE, INSTALL WIRELESS TRANSMITTERS AND RECEIVERS IN PLASTIC OR FIBER ENCLOSURES FOR BEST PERFORMANCE.

DESCRIPTION:

LevNet RF Constant Voltage LED Dimmers are designed to control dimmable low-voltage fixtures, such as LED fixtures. The Wireless Dimmer (WSD02-010) responds to self-powered wireless light switches, self-powered wireless sensors, wired sensors, and wired switches. The Wired Dimmer (WSD02-020) responds to wired sensors or wired control switches. The LevNet RF dimmers have a PWM (pulse wave modulation) output which dims the fixture. For Manual-ON/Auto-OFF applications, the dimmer can respond to wireless (WSD02-010 only) and hard-wired sensors.

COMPATIBLE WIRELESS DEVICES: (WSD02-010 only)

- Single Rocker Self-powered Wireless Light Switch
- Dual Rocker Self-powered Wireless Light Switch
- Dual Rocker Handheld Remote
- Key Card Access Switch
- SLT Wireless Sensor
- Self-powered Wireless Occupancy Sensor
- More transmitters available

TOOLS NEEDED FOR INSTALLATION:

- Pencil or ball point pen
- Electrical tape
- Screwdriver
- #6 sheet metal screws or double-sided adhesive tape
- Wire Nuts

TO INSTALL:

To install, connect wires as shown in **Figure D**. **NOTE:** Each wire trap can only secure a single wire. If you wish to connect multiple wires to a single trap, join these wires to a single wire with wire nuts prior to wire trap connection. For transmitter installation instructions, see appropriate installation guide(s).

In order to maximize radio performance and keep the antenna away from metal, an antenna skin has been provided with this product. To install the antenna skin: Insert the antenna into the end of the antenna skin as shown in **Figure E**. Insert the antenna skin into the enclosure as shown in **Figure F**.

PROGRAMMING: LevNet RF Wireless Constant Voltage LED Dimmer (WSD02-010)

The receiver must be powered when programming. After programming, settings are retained when power is disconnected. The receiver sensitivity is reduced when in Program 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 Programming Modes below.

NOTE: Multiple transmitters communicating with a single receiver may be learned in different Program Modes if desired.

Rocker Mode (default): In Rocker Mode, one end of the rocker on a wireless light switch will fade the Dimmer UP when pressed and held and the opposite end of the same rocker will fade the Dimmer DOWN when pressed and held. When the light is OFF, pressing the UP button briefly will fade the dimmer to the SAVED LIGHT LEVEL.* Pressing it again will fade it to the full ON position. Pressing the DOWN button briefly will always turn the light OFF.

*The SAVED LIGHT LEVEL is saved automatically whenever the light is set to a light level between ON and OFF.

Motion detectors learned in this mode will provide Manual-ON/Auto-OFF operation (CA Title 24 compliant).

For Manual ON, Auto OFF applications a dimmer (wired or wireless) connected to a motion detector will turn OFF automatically after a 15 minute timeout with no occupancy detected. After the output turns OFF, occupancy detected in the next 60 seconds will turn the output back ON and re-start the 15 minute timeout. After the output turns OFF, if no occupancy is detected in the next 60 seconds, lights will need to be turned ON with a manual switch at next use.

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 Dimmer will activate (fading the Dimmer UP). It will fade UP to full brightness in about one second. When the rocker is released the output will fade DOWN to OFF. Motion detectors learned in this mode will provide Auto-ON/Auto-OFF operation.

Toggle Mode: In Toggle Mode, each end of the rocker acts as a separate button. Each end of the rocker programs separately and alternates between turning the dimmer ON and OFF each time it is pressed (1 second fade time). The output status only changes when a button is pressed and is ignored on the release.

Scene Recall Mode: In this mode, the Dimmer stores a programmed light level in its memory. It will recall this mode whenever the corresponding switch button is pressed (1 second fade time). In this mode, each end of the rocker acts as a separate button.

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 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. **(Optional)** Press the LRN button on a wireless motion detector to associate it with Dimmer. To learn or delete a wired motion detector input to/from a Dimmer, allow the motion detector to see movement while programming the Dimmer, or toggle the wired motion detector input with a wire. If the wired motion detector input changes while in Programming Mode, the input will be added to or deleted from the output being learned.
6. To exit Program Mode, press the LRN button again for about 2 seconds. Alternatively, you may just wait; the receiver automatically exits Program Mode after 30 seconds.

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 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 3-6** 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 Mode, press and hold the LRN button for 3 seconds (**See Figure A**). The electrical load connected to the receiver will pause, then resume turning ON and OFF in a fast pattern. The receiver is now in Toggle Learn Mode.
3. Follow **Steps 3-6** of "**Rocker Mode Programming Instructions.**"

Scene Recall Mode Programming Instructions

1. Read all Rocker, Momentary Mode, and Toggle Mode programming steps before taking any action to program receiver in Scene Recall Mode.
2. Before entering any Program Mode, use a rocker switch to set the output at the desired light level for the scene.
3. While the receiver is in Toggle Mode, press and hold the LRN button for about 3 seconds (**See Figure A**). The electrical load connected to the receiver will pause, then resume turning ON and OFF in a fast pattern.
4. Follow steps 3-6 of "Rocker Mode Programming Instructions."

Selective Deleting: A single transmitter can be deleted from the receiver's memory. To do this, repeat the Program Mode steps above exactly as when the transmitter was learned. This time, upon pressing the switch button on the desired transmitter the load will stay OFF for about 3 seconds, indicating that the receiver has removed the transmitter's unique ID from its memory. To delete a wired motion detector from the memory, toggle the input while in Programming Mode.

Clear All: If the CLR button is pressed and held for 2 seconds (**See Figure B**), 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. This will delete all switches and motion detectors from memory, and the output will be restored to Manual-ON/Manual-OFF mode.

Repeater Mode: To activate or deactivate the repeater, turn power to the 0-10V Dimmer OFF. While holding down the LRN button turn the power back ON. The output will blink once indicating the repeater is ON, and blink twice to indicate the repeater is OFF. By default, the repeater is not activated.

PROGRAMMING: LevNet RF Hardwired Constant Voltage LED Dimmer (WSD02-020)

The receiver must be powered when programming. After programming, settings are retained when power is disconnected.

Press the LRN button for 1 second (**See Figure A**) to cycle between the three modes. The 0-10V output will blink once, twice, or three times respectively to signal the shift into each mode:

Mode 1 – Manual Control (Default), Mode 2 – Manual ON/Auto OFF with 15 Minute Time Out, and Mode 3 – Auto ON/Auto OFF with 15 Minute Time Out.

Mode 1 – Manual Control. This is the default mode. The CTL IN + input responds to a single button. The output will blink once when this mode is selected by pressing the LRN button.

Press and HOLD the button to make the output fade UP until the button is RELEASED. Do this again to fade the output DOWN.

Do it yet again to fade it UP, and so forth. (Note: When the button is left idle and the dimmer is ON for over ten seconds, the next time the button is pressed will always fade the light DOWN).

Each time the button is RELEASED after being held, the Dimmer stores this setting as the SAVED LIGHT LEVEL. Pressing the button briefly will cause the output to cycle between ON, OFF, and the SAVED LIGHT LEVEL.

In this mode, the MOT input will ramp up to the SAVED LIGHT LEVEL when pressed and OFF when released; no time out is used.

Mode 2 – Manual ON/Auto OFF with 15 Minute Time Out. In this mode, the CTL IN + input turns on the light in response to occupancy detected by the motion detector. The output will blink twice when this mode is selected by pressing the LRN button.

In this mode, the CTL input operates as in Manual Mode.

When no motion is detected for 15 minutes, the lights turn OFF. This mode is "Manual ON," meaning that if the motion sensor turns the lights OFF (and 30 seconds passes), they must be turned ON again manually by the user. If motion is detected before 30 seconds has passed, the light will be restored automatically.

Note: If your motion sensor has its own timeout time, this will be added to the 15 minutes described above.

Mode 3 – Auto ON/Auto OFF with 15 Minute Time Out. In this mode, the CTL IN + input turns on the light in response to occupancy detected by the motion detector. The output will blink three times when this mode is selected by pressing the LRN button.

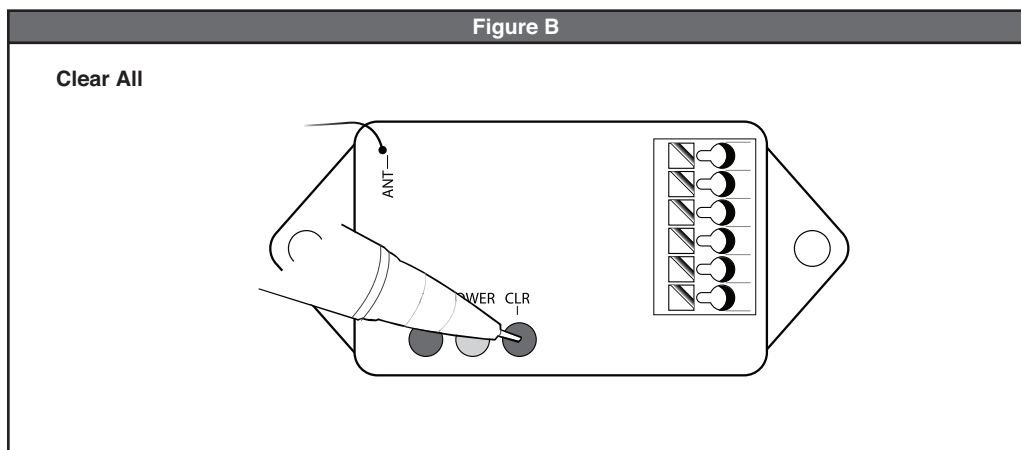
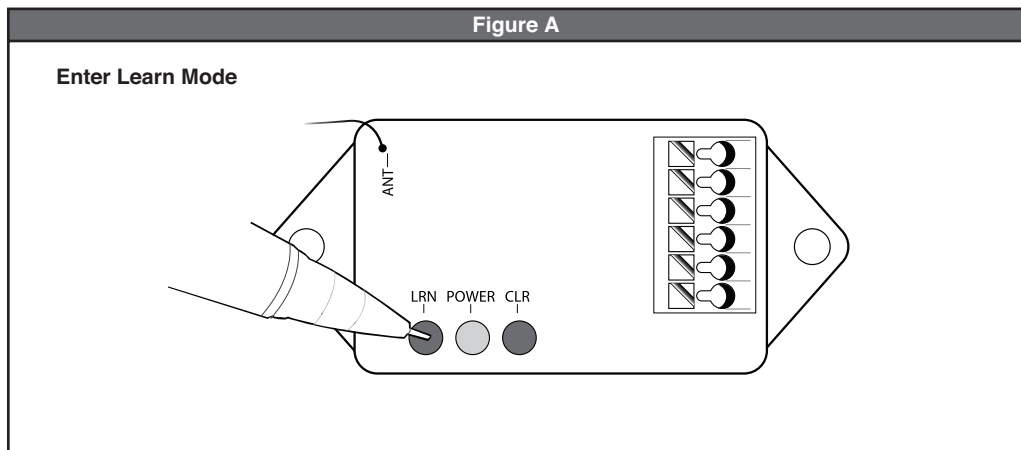
In this mode, the CTL input operates as in Manual Mode.

In this mode, when no motion is detected for 15 minutes, the lights turn OFF. The Auto ON function can be overridden with the manual button. If the device is turned OFF manually, the Auto ON function will not activate until vacancy is detected for the time out period.

Note: If your motion sensor has its own timeout time, this will be added to the 15 minutes described above.

Reset to Default: Press and hold the CLR button for about 2 seconds (See Figure B). The unit will return to the default state (Manual Mode) and turn the Dimmer output OFF.

SPECIFICATIONS		
	WSD02-010	WSD02-020
Range	50-150 feet (typical)	N/A
Frequency	315 MHz	N/A
Power Supply Input Rating	8-28V	
Sensor Input Rating	0-28VDC, <1V is Low, >3V is High	
Output Rating	5A	
Input Channels	1 motion detector / sensor input, 1 wired control switch	
Output Channels	1 output PWM	
Operating Temperature	13° to +140°F (-25° to +60°C)	
Storage Temperature	-40° to +140°F (-40° to +60°C)	
Dimensions (enclosure)	2.88"(W) x 1.30"(H) x 0.67"(D) 7.32cm x 3.30 cm x 1.70 cm	
Radio Certification	FCC (United States): SZV-TCM2XXC IC (Canada): 5713A-TCMXXC	N/A
LED Load Type(s)	Constant voltage (12 or 24VDC, 5A max)	

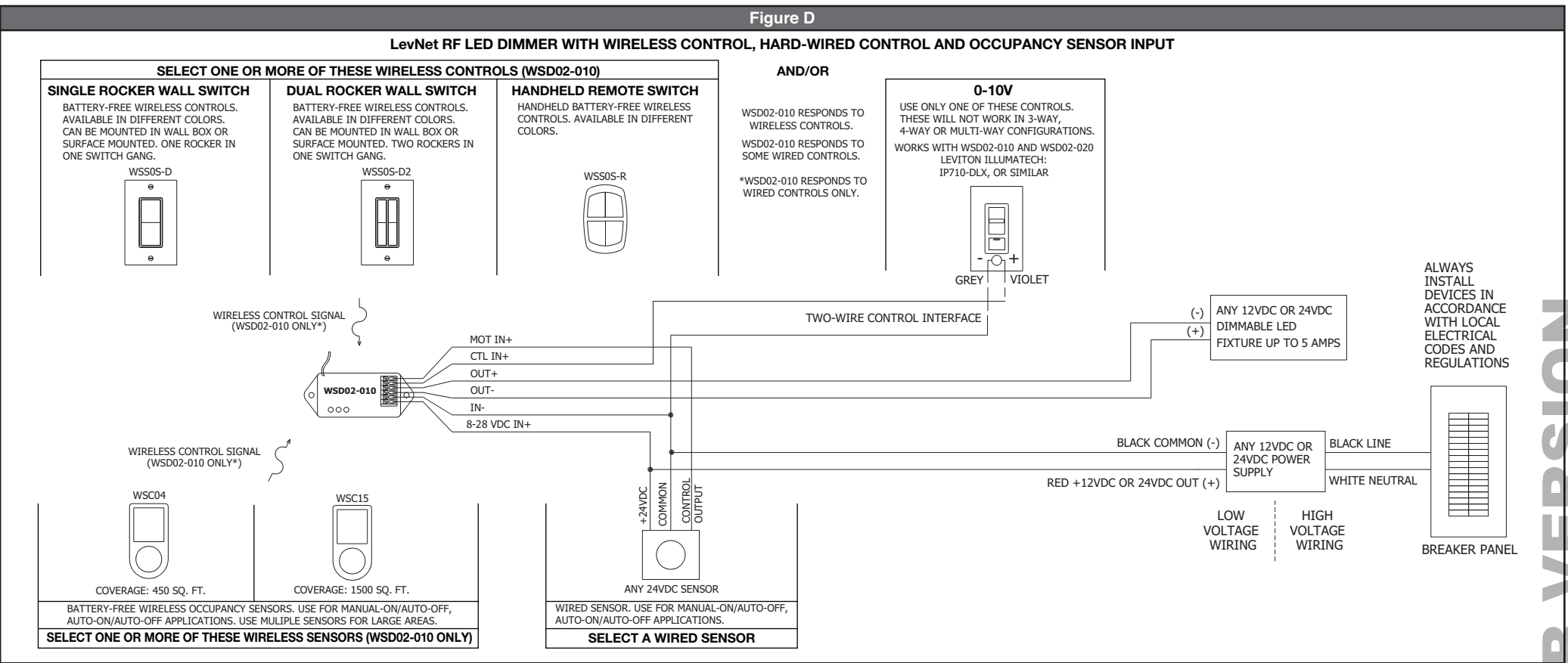
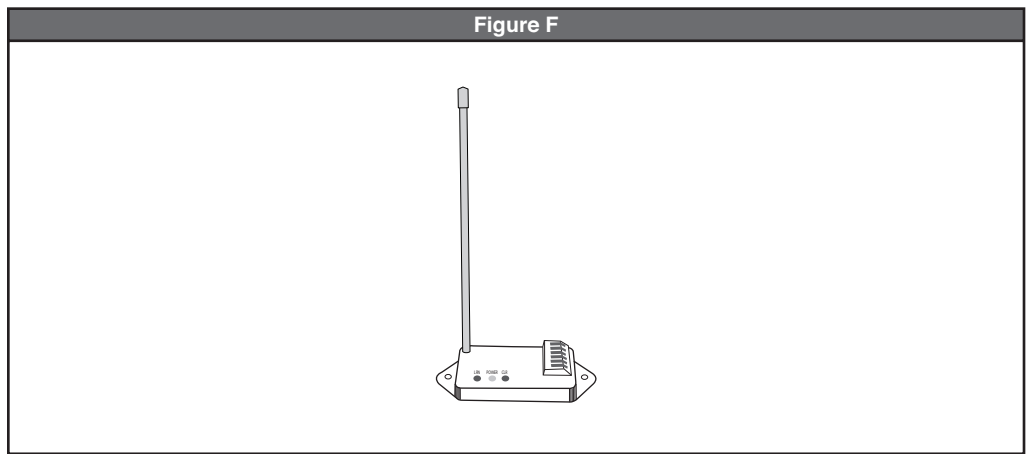
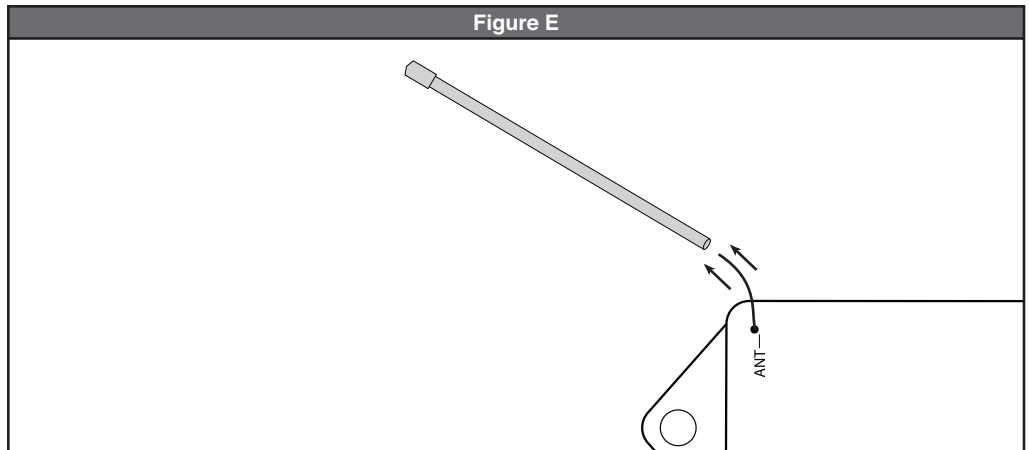
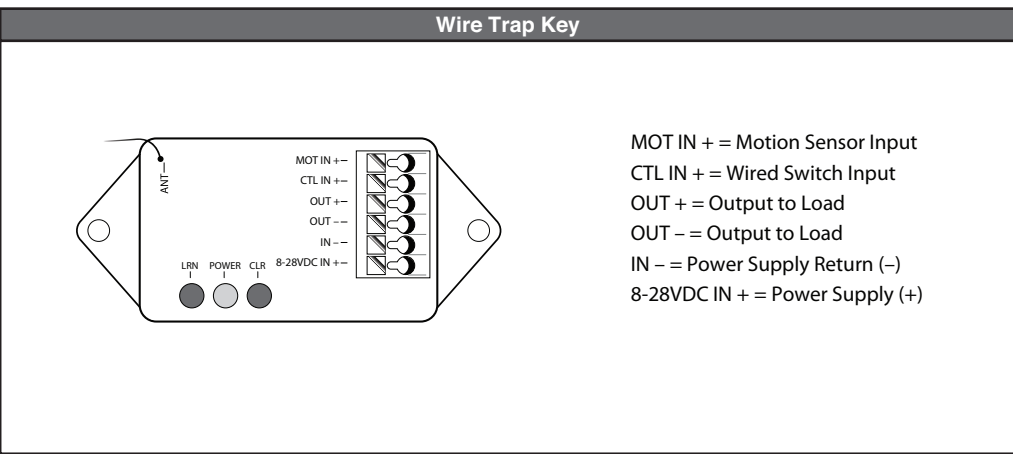
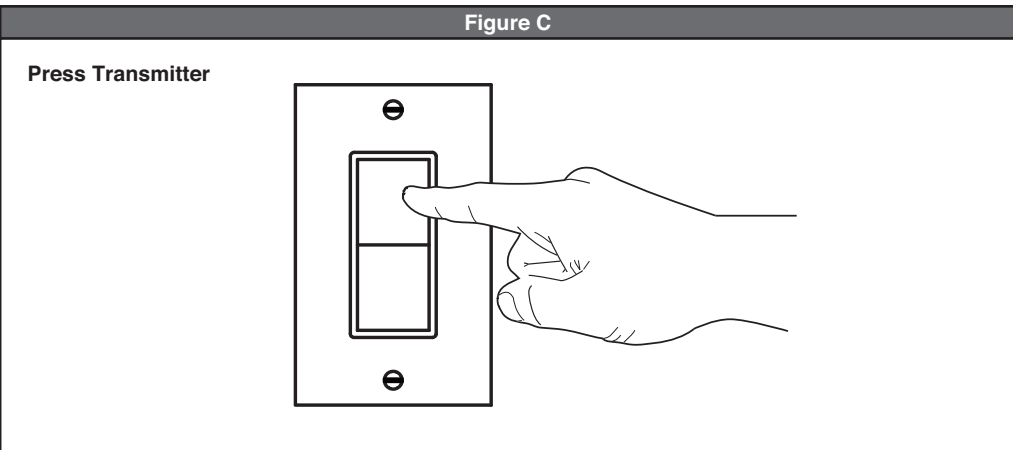


FCC COMPLIANCE STATEMENT: Contains FCC ID: SZV-TCM2XXC. Contains IC (Canada): 5713A-TCM2XXC. The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i.) this device may not cause harmful interference and (ii.) this device must accept any interference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



WIRING DIAGRAM

WSD02-010 terminals: MOT IN+, CTL IN+, OUT+, OUT-, IN-, 8-28 VDC IN+

Wired Sensor: +24VDC COMMON, CONTROL, OUTPUT

LED Load: (-) ANY 12VDC OR 24VDC DIMMABLE LED FIXTURE UP TO 5 AMPS

Power Supply: ANY 12VDC OR 24VDC POWER SUPPLY

Wiring: BLACK COMMON (-), RED +12VDC OR 24VDC OUT (+), BLACK LINE, WHITE NEUTRAL

Low Voltage Wiring vs High Voltage Wiring

ALWAYS INSTALL DEVICES IN ACCORDANCE WITH LOCAL ELECTRICAL CODES AND REGULATIONS

BREAKER PANEL