Vive Sensor Dimmer/Switch

Part of the Vive System

032515
Rev. A
06/2018

Please read before installing

0–10 V⎓ RF Sensor Dimmer
MRF2S-8SD010 Occupancy/Vacancy
MRF2S-8SDV010 Vacancy Only

RF Sensor Switch
MRF2S-8SS Occupancy/Vacancy
MRF2S-8SSV Vacancy Only

English

For set-up, programming, and troubleshooting with a Vive system, please refer to the installation instructions included with the Vive hub or at www.lutron.com

Lighting
Electronic fluorescent ballast or LED driver
120–277 V~ 50/60 Hz 8 A
Canada:
120 V~ 50 / 60 Hz 8 A

Compatible Devices
Works with all ballasts and drivers that provide a current source compliant to ANSI C137.1-201x 0–10 V.

0–10 V⎓ Load Rating
- One sensor dimmer/switch can sink up to 50 mA of current.
- Controls up to 25 drivers or ballasts.
- ANSI C137.1-201x 0–10 V requires the driver/ballast to limit the current draw to 2.0 mA maximum.

Motion Coverage
- Major: 30 ft × 30 ft (9 m × 9 m) [900 ft² (81 m²)]
- Minor: 20 ft × 20 ft (6 m × 6 m) [400 ft² (36 m²)]

Wireless Communication
- Range of wireless communication is 60 ft (18 m) line-of-sight or 30 ft (9 m) through walls.
- Wireless communication is affected by the installation or physical setup of the room.
- Keep all wireless devices visible within the space. Do not place behind large furniture or appliances.
- Do NOT mount in a metal partition wall or metal power pole.

Important Notes:
- Neutral is required for product to function. If a neutral wire is not present, consult a licensed electrician.
- When power is applied, the sensor dimmer/switch can be manually turned on/off after the first 10 seconds and the sensor will automatically control the load after 2 minutes.
- The sensor requires an unobstructed view of the room and line-of-sight to detect motion.
- Hot objects or moving air currents can affect the performance of the sensor and may cause it to turn on unexpectedly or not function as desired.
- **CAUTION:** To reduce the risk of overheating and possible damage to other equipment, do NOT use to control receptacles.
- Class 2/Class 1 wiring: Install in accordance with all national and local electrical codes.
- For indoor use only. Operate between 32 °F–104 °F (0 °C–40 °C), ambient. 0% to 90% humidity, non-condensing.
- Clean only with soft, damp cloth, no chemical cleaners.

Lutron Electronics Co., Inc. 7200 Suter Road
Coopersburg, PA 18036-1299 USA

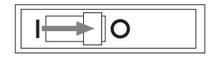
Start Here

Wiring

For more information and additional wiring instructions, visit: www.lutron.com/TechnicalDocumentLibrary/048687.pdf and/or www.lutron.com/TechnicalDocumentLibrary/3691097.pdf

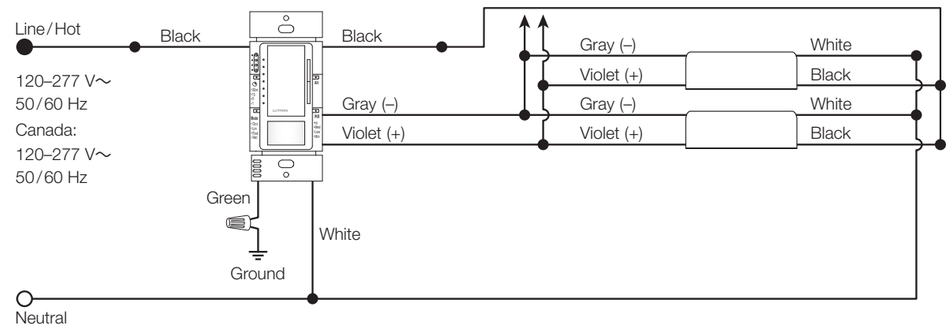
1. Turn off power

WARNING: Shock Hazard. May result in serious injury or death. Turn OFF power at circuit breaker or fuse before installing or servicing the unit.

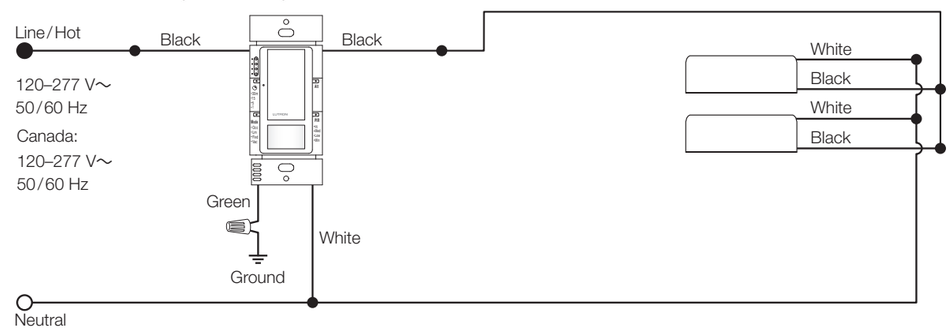


2. Connect Wires

a. Sensor Dimmer - Single Pole Wiring



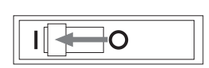
b. Sensor Switch - Single Pole Wiring



Note: Program all desired settings <u>before</u> installing the wallplate.

3. Turn on power

WARNING: Shock Hazard. Could result in minor or moderate personal injury. Ground connection required before connecting power



4. Wait 2 minutes

- The sensor dimmer/switch will manually control the load after the first 10 seconds.
- Once power has been restored, the sensor dimmer/switch will automatically control the load after the first 2 minutes.

5. Set desired settings (optional)

- See other side of sheet for details on how to select custom settings.

- **FCC/IC - Supplier Declaration of Conformity**

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference and (2) This device must accept any interference, including interference that may cause undesired operation. Modification not expressly approved by Lutron Electronics Co., Inc. could void the user's authority to operate this equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

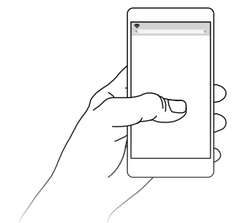
Ce dispositif est conforme à la section 15 des règlements du FCC et des standards CNR exempt de licence d'Industrie Canada. L'opération est sous réserve des deux conditions suivantes :
(1) Cet appareil ne peut causer d'interférence nuisible, et
(2) Cet appareil doit tolérer toute interférence, même celle pouvant affecter son fonctionnement. Tout changement ou modification sans l'autorisation expresse de Lutron Electronics Co., Inc. pourrait annuler le droit d'utiliser cet équipement.

REMARQUE : Cet équipement a été testé et jugé conforme aux limites applicables aux dispositifs numériques Classe B, conformément à la section 15 des régles de la FCC. Ces limites sont conçues pour procurer une protection raisonnable contre les perturbations nuisibles en application résidentielle. Cet équipement génère, utilise et peut radier l'énergie de fréquences radiophoniques. S'il n'est pas installé et utilisé selon les directives, peut causer des interférences radiophoniques nuisibles. Cependant, il n'y a aucune garantie qu'aucune interférence ne se produira dans une installation précise. Si votre équipement produit de l'interférence à la réception radiophonique ou télévisuelle, ce qui peut être détecté en coupant et refermant l'alimentation au système d'éclairage. Dans le cas d'interférence, l'utilisateur sera contraint d'essayer de corriger la situation par un ou plusieurs des moyens suivants :

- Réorienter ou re-localiser l'antenne de réception
- Augmenter la distance séparant l'équipement et le récepteur
- Brancher l'équipement sur un circuit différent que celui sur lequel le récepteur est branché
- Demander l'aide du distributeur ou d'un technicien expérimenté en radio et télévision

Programming with a Vive Hub

1. Use an iOS® or Android™ compatible device.

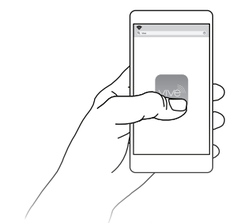


2. Download the Lutron Vive app.

Download on the App Store

GET IT ON Google Play

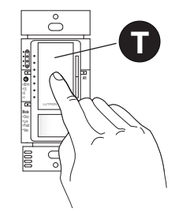
3. Open the app and follow the instructions.



Note: For further information on set up, programming, and troubleshooting with a Vive system, please refer to the installation instructions included with the Vive hub or visit www.lutron.com/vive

Programming without a Vive Hub or in optional multi-location applications (associating wireless devices to sensor dimmer/switch)

1. Press and hold T for until the lights flash (about 7 seconds).

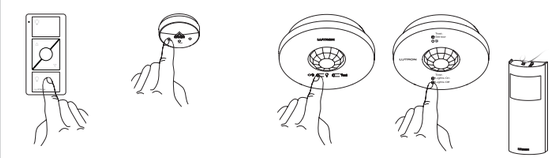


2. Press and hold the wireless device button shown below until the lights flash (about 6 seconds).

Pico wireless control (up to 10)

Radio Powr Savr daylight sensor (1 maximum)

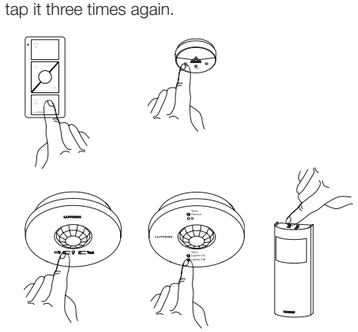
Radio Powr Savr occupancy/vacancy sensor (up to 10)



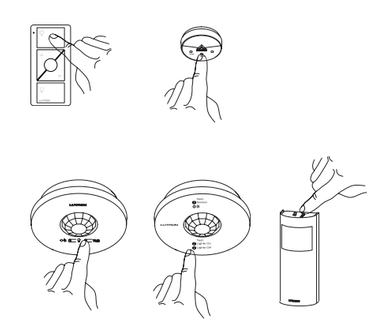
Note: To associate multiple wireless devices, repeat steps 1 and 2 above for each wireless device.

Un-associating a wireless device from a sensor dimmer/switch

1. Rapidly tap the wireless device button three times and hold on the fourth until the lights begins to flash rapidly; release the button. Within 1 second of releasing the button, rapidly tap it three times again.



2. To test that the wireless device has been successfully un-associated, press "Test" or ☼ and verify that the wireless device no longer controls the load.



LUTRON

Vive Sensor Dimmer/Switch

Part of the Vive System

ALL PROGRAMMING IS OPTIONAL
Programming is not required for default functionality

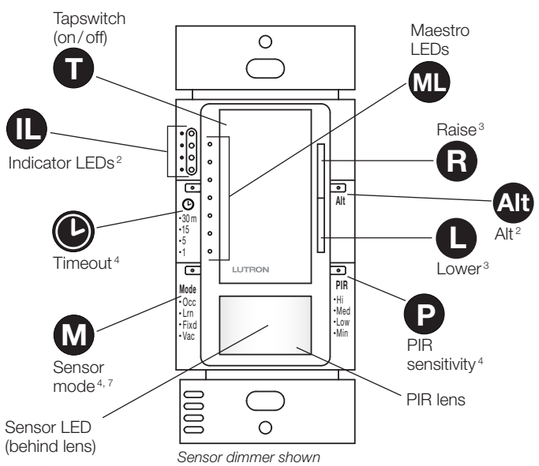
For set-up, programming, and troubleshooting with a Vive system, please refer to the installation instructions included with the Vive hub or at www.lutron.com

Default Settings

Timeout: 15 minutes
Sensor Mode: Occupancy (Auto-On/Auto-Off)[1]
PIR Sensitivity: High
Occupied Level: 100%
Vacancy Level: 0%
Fixed ALD Level: Low (when in Fixed ALD mode)

Check Current Settings[2]

To display the current settings, tap the Timeout (), Sensor Mode (M), or PIR Sensitivity (P) button. The indicator LED (IL) that corresponds to the current setting will illuminate.



Sensor dimmer shown

See **Test Mode** section.

[1] Sensor Mode is locked as "Vacancy" in vacancy only models (MRF2S-8SDV010 and MRF2S-8SSV).
[2] Available in standalone. Not available when used in a Vive system.
[3] Only available with the sensor dimmer. Not available with sensor switch.
[4] Available in standalone. When the device is used in a Vive system, these adjustments are only available via the Vive software.
[5] Learning ALD (Ambient Light Detection): Lights remain off if enough natural light is present. If the lights turn on and the user does not want that much light, they can tap T within 5 seconds of entering the space. Similarly, if the lights do not turn on when entering a space and the user wants more light, they can tap T within 5 seconds of entering the space. Over time, the sensor will learn the preferred light level.
[6] Fixed ALD: Lights turn on only when there is less than a set (locked) amount of natural light available. The level can be adjusted in "Fixed ALD Level" settings.
[7] This setting will override the sensor mode of the Radio Powr Savr occupancy/vacancy sensor.

Default settings in **bold**

Change Basic Settings

1. Press and hold the desired programming button (, M, or P) until an IL flashes (about 3 seconds).
2. Tap the same programming button to cycle to your desired setting.
3. Press and hold the same programming button until the IL turns solid (about 3 seconds). The setting has been saved.

Timeout[4]
- 30 minutes
- **15 minutes**
- 5 minutes
- 1 minute

Sensor Mode[1]
(determines when lights turn on)
- **Occupancy (Auto-ON/Auto-OFF)[4]**
- Occupancy with Learning ALD[2, 5]
- Occupancy with Fixed ALD[2, 6]
- Vacancy (Manual-ON/Auto-OFF)[4]

PIR Sensitivity[4]
- **High**
- Medium
- Low
- Minimum

Change Advanced Settings

For complete programming options and additional information, visit www.lutron.com/TechnicalDocumentLibrary/048687.pdf

High-End Trim[3, 4]

100% / 55%

1. Press and hold T and R until a ML flashes (about 6 seconds).
2. Press and hold R until the top ML is lit and the lights stop brightening.
3. Tap L until the desired level is achieved. Press and hold T until the ML stops flashing (about 6 seconds).

Low-End Trim[3, 4]

45% / 1%

1. Press and hold T and L until a ML flashes (about 6 seconds).
2. Press and hold L until the bottom ML is lit and the lights stop dimming.
3. Tap R until the lights are on and stable (no flickering) and the desired level is achieved. Press and hold T until the ML stops flashing (about 6 seconds).

Occupancy Level[3, 4]

The level which the sensor dimmer turns on when motion is detected. This level is adjustable from 1% to 100% within the range of the low-end and high-end trims.

100% / 1%

1. Press and hold M and R until a ML flashes (about 6 seconds).
2. Tap R or L until desired level is achieved.
3. Press and hold M until the ML stops flashing (about 6 seconds).

Vacancy Level[3, 4]

The level which the sensor dimmer dims or turns off when motion has not been detected for the timeout period. This level is adjustable from 1% to 100% within the range of the low-end and high-end trims.

100% / **0%**

1. Press and hold M and L until a ML flashes (about 6 seconds).
2. Tap R or L until desired level is achieved.
3. Press and hold M until the ML stops flashing (about 6 seconds).

Fixed ALD Level[2] (MRF2S-8SD010 and MRF2S-8SS only)

The light level that determines when a sensor will turn lights on or keep lights off when detecting occupancy. This setting only affects sensors set to "Fixed ALD" mode.

1. Press and hold M and Alt until an IL flashes (about 3 seconds).
2. The "Fixed ALD" light level will now be displayed by the IL. Tap M to cycle to the desired setting.
3. Press and hold M until the IL turns solid (about 3 seconds).

- High (turn ON lights unless area has a lot of light)
- Medium
- **Low**
- Minimum (turn ON lights only when room is dark)

Walk-through Mode[2]

Allows the lights to turn off before the Timeout has expired if occupancy is detected only briefly.

- (unused)
- (unused)
- **Disabled**
- Enabled

1. Press and hold and Alt until an IL flashes (about 3 seconds).
2. The walk-through setting will now be displayed by the IL. Tap Alt to cycle to the desired setting.
3. Press and hold Alt until the IL turns solid (about 3 seconds).

Electronic Off[2]

Affects how the lights are turned off. If enabled, the driver will still have power but the lights will be turned off. If disabled, the driver will not have power and the lights will be turned off.

- (unused)
- (unused)
- Enabled
- **Disabled**

1. Press and hold and M until an IL flashes (about 3 seconds).
2. The electronic off setting will now be displayed by the IL. Tap M to cycle to the desired setting.
3. Press and hold M until the IL turns solid (about 3 seconds).

Test Mode

Test mode has a short timeout (< 15 seconds) that will test the coverage of the sensor with the current settings.

1. Wait at least 2 minutes after power is turned on.
2. Press and hold T until the PIR lens flashes (about 3 seconds).
3. The device will exit test mode after 5 minutes of inactivity or when any button is pressed.

The sensor LED behind the lens will turn on while occupied and turn off while vacant.

Reset Factory Defaults

Note: It may be necessary to reset the device to factory default settings. Before beginning, ensure the device is connected and powered.

Note: Any associations or programming previously set up with the sensor dimmer/switch will be erased and will need to be re-programmed after resetting to factory defaults.

1. Rapidly tap T three times and hold on the fourth until the lights begins to flash rapidly; release T.
2. Within 1 second of releasing T, rapidly tap T three times again and the lights will flash slowly indicating that the device has been reset to factory defaults.

Troubleshooting www.lutron.com/support

Symptom	Possible Causes and Solutions
Lights can not be manually turned ON or OFF with the newly installed sensor dimmer/switch.	• Verify proper wiring. Neutral must be connected for product to function properly. • Wait 10 seconds and try to turn ON or OFF again.
Wireless device will not associate to a sensor dimmer/switch.	• Wireless device is out of range. • Wireless performance is being affected by the physical setup of the space. See **Wireless Communication** section for more information.
Not all of the sensor modes are available when programming.	• Sensor modes are limited for vacancy only models (MRF2S-8SDV010 and MRF2S-8SSV). • Device may be part of a Vive system.
Lights do not automatically turn ON when space is occupied.	• Sensor Mode is set to Vacancy (Manual-ON/Auto-OFF). • The sensor dimmer/switch may be a vacancy only model (MRF2S-8SDV010 and MRF2S-8SSV). • The room may be too bright for the current light level setting for Fixed ALD Level.
Driver/ballast cannot be dimmed up or down. Lens flashes when trying to dim the lights.	• Verify proper connection of gray and purple wires. • Driver/ballast does not comply with ANSI C137.1-201x 0–10 V. See www.lutron.com/TechnicalDocumentLibrary/048687.pdf

Lutron Electronics Co., Inc. 7200 Suter Road
Coopersburg, PA 18036-1299 USA

Lutron, Pico, Maestro, and Vive are trademarks of Lutron Electronics Co., Inc. registered in the U.S. and other countries. Radio Powr Savr is a trademark of Lutron Electronics Co., Inc.
App Store is a service mark of Apple, Inc. Android and Google Play are trademarks of Google LLC. iOS is a trademark or registered trademark of Cisco in the U.S. and other countries and is used under license.
©2018 Lutron Electronics Co., Inc.

LUTRON