

# Fast. Proven. Reliable.

Built to get your job done.

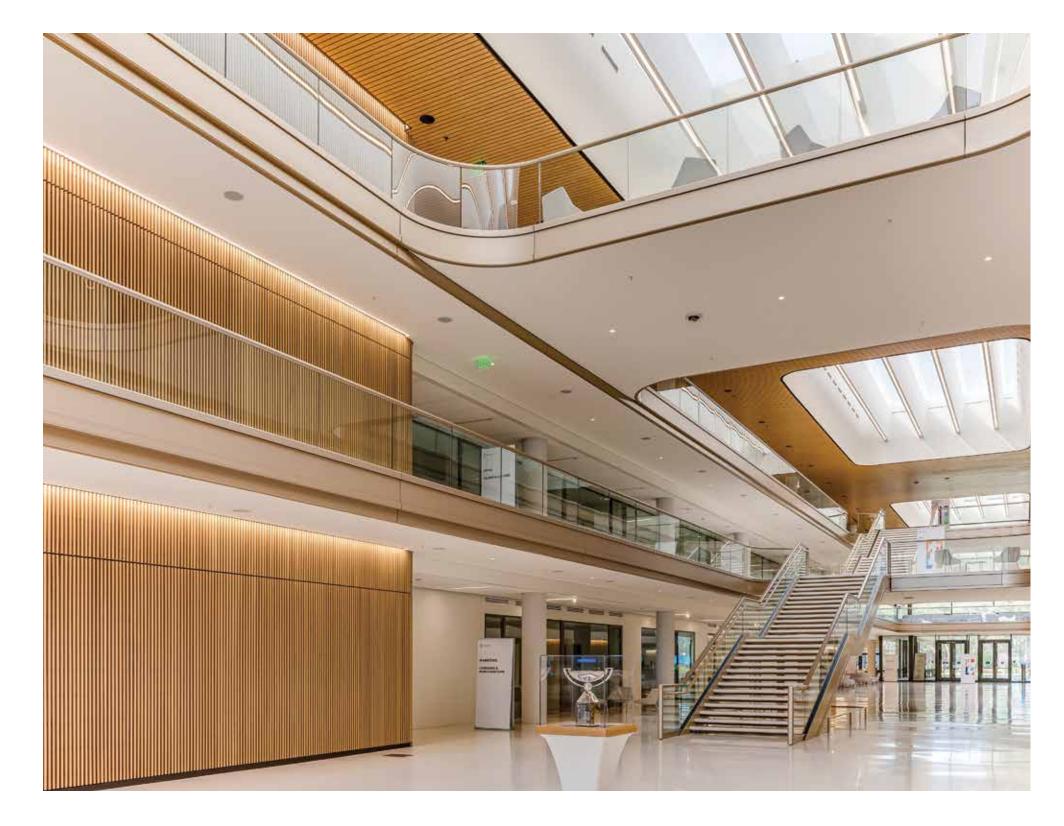
setup in new and existing commercial buildings, backed by over 25 years of wireless excellence.

## How can you make office, school, and university environments more efficient, comfortable, and productive?

#### THE ANSWER IS VIVE WIRELESS.

Vive by Lutron is a fast, proven, reliable wireless solution that can be installed in a single space or throughout an entire campus. It is designed to meet today's energy codes in new construction or retrofit situations, and work within your timeline and budget.

With a wide family of products – including sensors, remotes, load controllers, and an available software management suite – Vive provides the flexibility to select the products you want and handle any on-site challenges with ease.



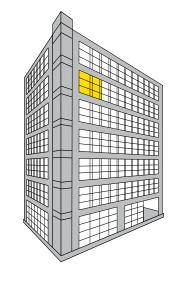


#### **SMART SOLUTIONS – THAT CAN START SMALL AND GROW**

Vive wireless systems offer smart control solutions for projects ranging from conference rooms to tenant fit-outs to entire buildings, with a wide variety of budget and performance options.

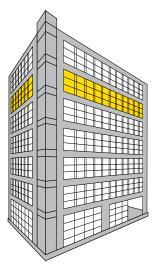
#### SINGLE SPACE

Start by adding control in a single space and expand as budgets and timelines allow.



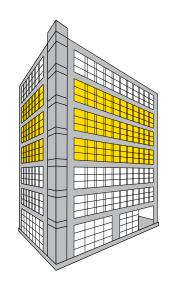
#### SINGLE FLOOR

Expand to new areas or an entire floor at any time without reprogramming or replacing existing equipment.



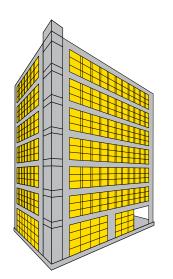
#### MULTIPLE FLOORS

Duplicate the success of one floor across other floors as your business expands or tenants change. Control can be independent on each floor or linked via Vive wireless hubs.



#### ENTIRE BUILDING

Vive offers seamless integration to other building management systems for control of every light in the building.



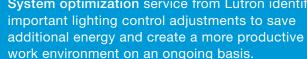
#### **ENERGY-SAVING CONTROL STRATEGIES**

## Combine lighting control strategies to maximize efficiency.

What is the savings opportunity?

Lutron solutions can save 60% or more lighting energy.

Occupied: On Vacant: Off	Occupancy/vacancy sen when occupants are in a vacate the space.
Full On Dim	Daylight harvesting dims daylight is available to lig
Image: Tam: Dim     Image: Tam: Off	Scheduling provides pre- changes in light levels ba
Full On Dim	Demand response autom lighting loads during peak
Appliance On Appliance Off	Plug load control automa after occupants leave a s
Max: 100%	High-end trim sets the m based on customer requir
Full On Dim	Personal dimming contro the ability to adjust the lig
Heating Cooling	HVAC integration control ventilation, and air condit through contact closure c
Saving 60% Before After	System optimization servine important lighting control additional energy and cre





sing turns lights on space and off when they

electric lights when ht the space.

programmed sed on time of day.

atically reduces electricity usage times.

atically turns off loads pace.

aximum light level ements in each space.

gives occupants ht level.

s heating, ioning systems r BACnet protocol.

ice from Lutron identifies

**POTENTIAL SAVINGS** 

20-60% LIGHTING

25 - 60%LIGHTING

10 - 20%LIGHTING

30-50% PEAK PERIOD

15 - 50%CONTROLLED LOAD

> 10 - 30%LIGHTING

10 - 20%LIGHTING

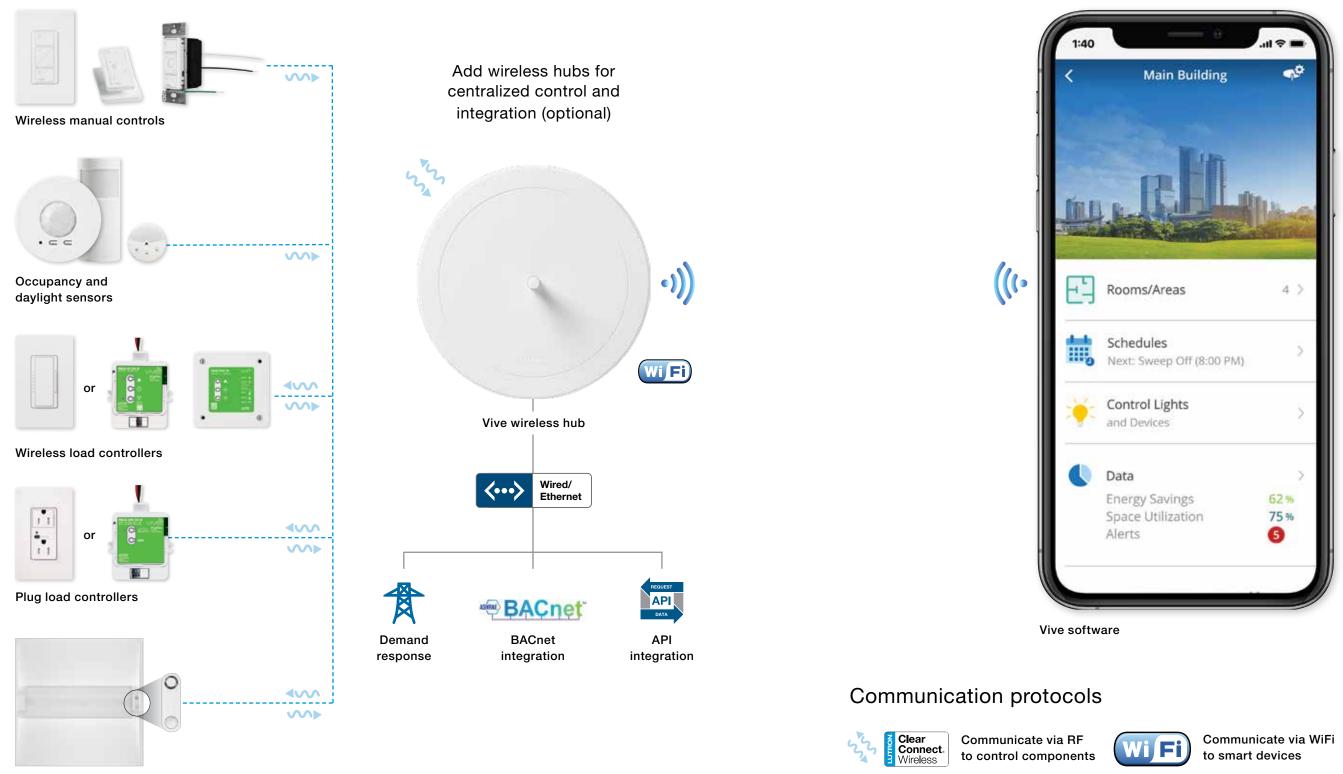
5 - 15%HVAC

VARIABLE



#### TRANSFORM EXISTING BUILDINGS WITH WIRELESS LIGHTING CONTROLS

A variety of controls and sensors for simple, code-compliant design



Integrated fixture control and sensing

## Simple-to-use software



Communicate via wired Ethernet to Vive hub

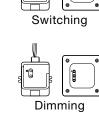


## AREA CONTROL-SELECTING AND INSTALLING WIRELESS CONTROLS IS EASY



#### Control your loads

- Select the controller appropriate for the loads on your job
- Options available for:
- switching, 0-10V, phase dimming, EcoSystem, contact closure
- Simply wire one load controller for each group of lights you want to control together



je

Contact closure



Wireless load controllers

## STEP 2

# Control your lights where you need to

- Wireless devices can be mounted to any surface with no wiring needed
- Pico controls communicate wirelessly with the controls in the ceiling
- 10-Year battery life



Dimming

Scene

Corner

Wall

Ceiling





Pico wireless remotes

## STEP 3

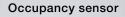
### Add sensors to your job

- Occupancy/vacancy sensors turn lights on and off for convenience and energy savings
- Wireless devices can be mounted to any surface with no wiring needed
- Sensor controls communicate wirelessly with the controls in the ceiling
- 10-Year battery life



Wireless occupancy/vacancy sensors







## AREA CONTROL-SELECTING AND INSTALLING WIRELESS CONTROLS IS EASY

## STEP 4

#### Add daylight harvesting to meet codes and save energy

- Save energy by dimming the lights when natural light is available
- Wireless devices can be mounted to any surface with no wiring needed
- 10-Year battery life



Daylight sensor

## STEP 5 (optional)

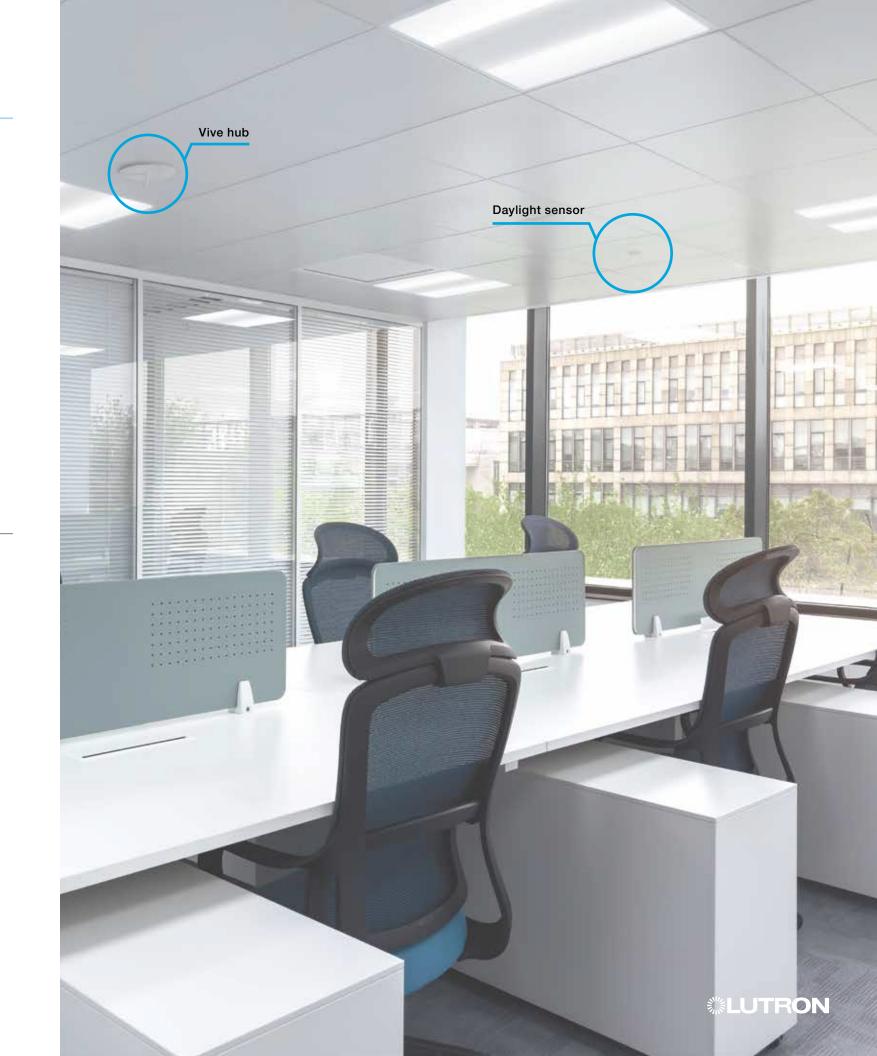
#### System software and control

- Timeclock
- Demand response
- BACnet and API integration
- Energy and occupancy information
- Proactive maintenance alerts



Vive software

See easy system programming on pages 16 and 17

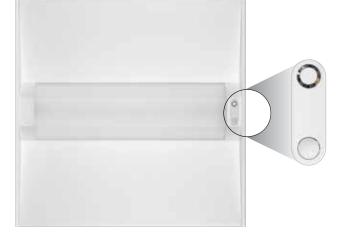


## INDIVIDUAL FIXTURE CONTROL-SELECTING AND INSTALLING WIRELESS CONTROLS IS EASY

## STEP 1

## Simply count the fixtures the technology is built in

- Visit **lutron.com/hpfl** for a list of fixtures that come with Vive wireless technology built in
- Fixtures are shipped with occupancy, vacancy, and daylight sensing already installed



Occupancy/vacancy sensors

## STEP 2

# Control your lights where you need to

- Wireless devices can be mounted to any surface with no wiring needed
- Pico controls communicate wirelessly with the controls in the ceiling
- 10-Year battery life



Scene





Pico wireless remotes

## STEP 3 (optional)

# System software and control

- Timeclock
- Demand response
- BACnet and API integration
- Energy and occupancy information
- Proactive maintenance alerts



See easy system programming on pages 16 and 17



#### SIMPLE TO DESIGN

#### Access to tools and resources is at your fingertips. Get access and quick answers to keep your project moving.



#### EASY-TO-USE DESIGN SOFTWARE

Lutron Designer+ for Vive is an intuitive, easy-to-use software tool that allows you to design a Lutron Vive lighting control system with visual "drag and drop" layout and connections. It also allows you to generate comprehensive system design documentation including bills of materials, one-line diagrams, and sequence of operations.

For access, please contact myLutronsupport@lutron.com.

#### **EASILY MEET CODE**

## Access a summary of code requirements for lighting control.

Vive wireless solutions ensure you can meet new construction and retrofit (lighting alterations) code requirements for three major energy codes: ASHRAE, IECC, and Title 24.

For specific commercial building code lighting requirements in your state, please visit lutron.com/energycodes.



Available online at lutron.com/appguides



#### QUICK HELP VIDEOS

Get access to Lutron Vive videos 24/7. Step-by-step setup, installation, and programming help whenever you need it.

lutron.com/viveresources



Specifying wireless lighting control reduces design time and allows flexbility for changes during the project without the need to make revisions. Simply copy and paste Vive technical specifications into your project submittals.

#### **ONLINE TRAINING**

Visit lutron.com/LCIOnline – Sign up for free, online training modules with practice exercises that walk you through the Vive system.

## ENERGY CODE QUICK REFERENCE GUIDES

Available online at lutron.com/appguides

#### APP GUIDES TO HELP YOU MEET CODES

Codes can often be complicated and difficult to navigate. We have commercial application guides that include examples of different spaces and corresponding Lutron products for those spaces. Guides show you how you can use Lutron solutions to meet or exceed major energy code requirements.

#### VIVE WIRELESS TECHNICAL SPECIFICATIONS

Available online at Vive system controls

Get the lighting and receptacle control requirements along with suggested functionality to meet the latest versions of ASHRAE 90.1, IECC, and Title 24 all on one page.



#### SIMPLE TO DESIGN

Simple setup and programming options with the Vive wireless hub

#### AUTOMATIC FIXTURE IDENTIFICATION

Lutron technology automatically finds and sorts the wireless devices closest to the control.



#### **1 PRESS AND HOLD ON WIRELESS DEVICE**

Pico wireless remote is a flexible and easy-to-use device that allows the user to control devices from anywhere in the space.

## **2 MOBILE PHONE SETUP**

Use Vive software on any smart device to wirelessly connect system controls and program system settings—no ladder required. Lutron's RF signal-strength detection automatically finds nearby devices making job setup faster.

# For systems without a Vive wireless hub

#### PUSH-BUTTON SET UP

Use simple button-press programming to select and associate wireless devices—it's as easy as saving a favorite streaming channel in your car.



Press and hold wireless dimmer for 6 seconds

+

Press and hold wireless occupancy sensor for 6 seconds. Now the wireless sensor talks to the wireless dimmer.

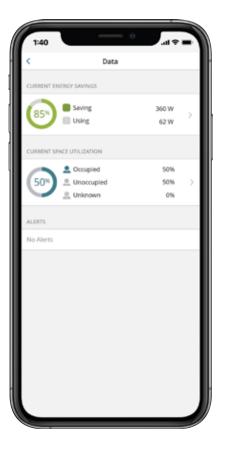
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#### SIMPLE TO DESIGN

# ENERGY SAVINGS AND SPACE UTILIZATION

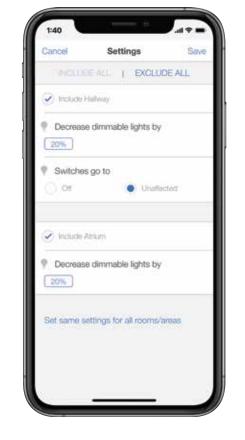
Quickly view and display energyusage information to drive decisionmaking and demonstrate savings.





LOAD SHED OPENADR COMPATIBLE

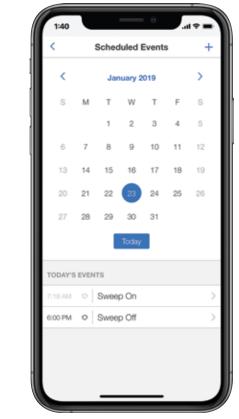
Easily set lighting reduction levels that automatically respond during peak electricity usage times.





#### SCHEDULES

Use a 365-day calendar to automatically adjust lights based on time of day, including single-day and holiday events.





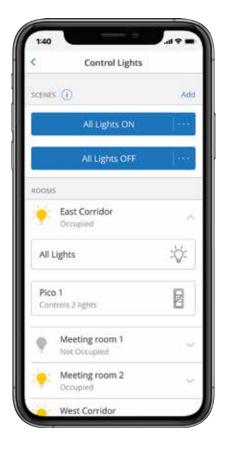
#### SCENE CONTROL

Create and configure scenes to control individual devices, areas, or groups of areas on demand.



#### LIGHT CONTROL

Directly adjust the light levels remotely from any smart device. Easily respond to occupant requests without needing to be in the physical space.





## Seamlessly integrate with your building system

The BACnet/IP protocol is the primary means of integration. BACnet is embedded or native to the Vive wireless hub, which means no external interfaces or gateways are required in order to communicate with other systems.

API integration, native to the Vive hub, enables integration with third-party devices, systems, and software. RESTful APIs are available over the Ethernet.















#### ALERTS

View proactive alerts that show issues such as low batteries or inactive devices to help improve building maintenance efficiency.

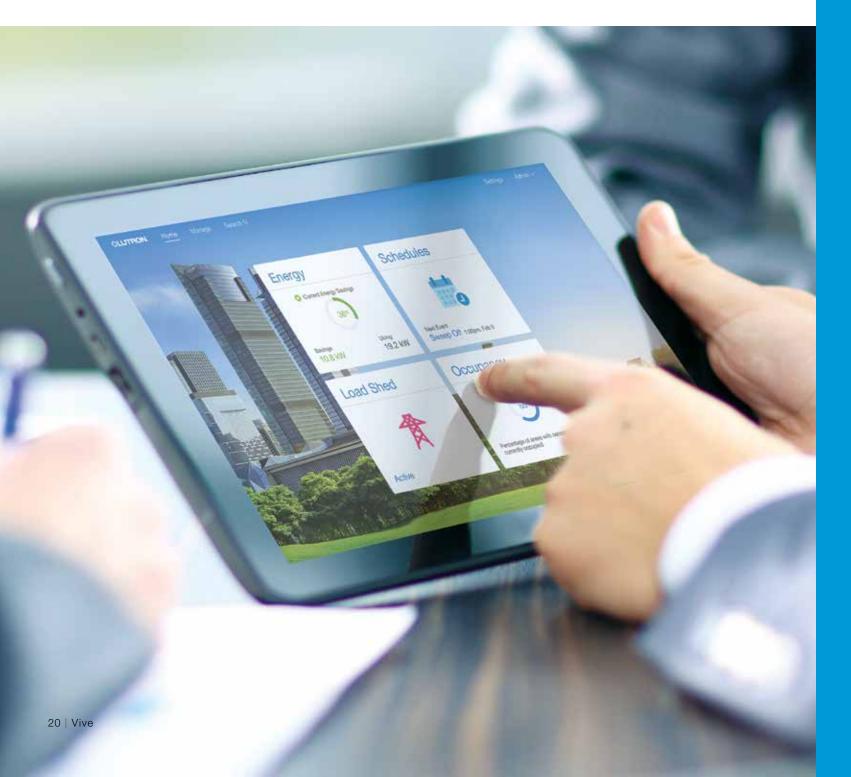
< Alerts	
BATTERY REPLACEMENT NEEDED	
Area 1	
Pico 1	
Changing a battery	
Area 1	
Occupancy Sensor 1	
Help with a missing device	
PROGRAMMING NOT RECEIVED	
Area 1	
00BCC1B7	Retry
Troubleshoot a failed transfer	

th, **Energy Dashboards and** API **Analytics Packages** Audio & Video IT

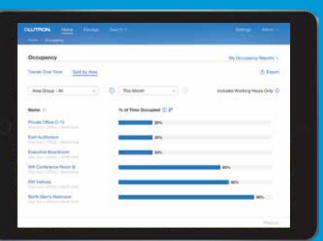


## Vive Vue software

Vive Vue software now provides the ability to tie multiple Vive hubs together in one software interface. Built with the wireless building blocks of the Vive system, Vive Vue software delivers the advanced intelligence necessary for today's smart buildings.









#### **INTUITIVE CONTROL**

View status, control lights, and optimize your building quickly and efficiently with a graphical floorplan.

### **OPTIMIZE YOUR SPACE**

Improve building layout based on actual occupancy and usage information. With space utilization reports, you can quickly identify over-used and under-used spaces to improve building efficiency without expanding the building footprint.

#### SAVE ENERGY PURPOSEFULLY

Energy reports allow you to view and monitor your energy savings. With trending energy information over time and easily customizable reports, Vive Vue software helps you demonstrate the energy-saving advantages of wireless lighting control.



#### LUTRON SYSTEM SECURITY

#### LUTRON RELIABILITY



## We build security into the product and the process from conception to installation, and for the lifetime of the system.

Everything we do is backed by the first, and guiding, Lutron principle — Take Care of the Customer with Superior Goods and Services. Every product, every system, and every solution is designed, manufactured, and tested to work as expected.

## Clear Connect wireless technology

All Lutron wireless products utilize Lutron patented Clear Connect wireless technology. The result is ultra-reliable communication and smooth dimming performance with no flicker or delay. Other devices will not interfere with the Lutron lighting control system.

## **Clear Connect**

#### LUTRON CLEAR CONNECT WIRELESS TECHNOLOGY

Lutron devices operate in an uncongested frequency band, providing ultra-reliable operation.

#### SECURITY BY DESIGN

When building any new system, Lutron utilizes a dedicated security team to ensure best practices are implemented. Security is built in. It is not an afterthought or add-on.

Examples of security features designed into Vive include:

- Isolated wired and wireless architecture which strictly limits the possibility of the Vive Wi-Fi or Clear Connect being used to access the corporate network to gain confidential information
- 2. A distributed security architecture each hub has its own unique keys
- 3. NIST-recommended best practices for securing passwords, including salting and use of SCrypt
- 4. AES 128-bit encryption for network communications
- 5. HTTPS (TLS 1.2) protocol for securing connections to the hub over the wired network
- 6. WPA2 technology for securing connections to the hub over the Wi-Fi network



#### THIRD-PARTY VALIDATION

Security is complicated. Lutron has a dedicated team of internal experts, but we also leverage external experts to double- and triple-check our work.

- 1. Multiple external experts engaged during design process
- 2. Third-party penetration testing to identify and fix potential vulnerabilities before they reach the field

#### CONTINUOUS MONITORING AND IMPROVEMENTS

Security is a constantly moving target. Lutron uses a dedicated security team to continuously monitor the market for potential threats and, when needed, send out security patches to update installed systems.

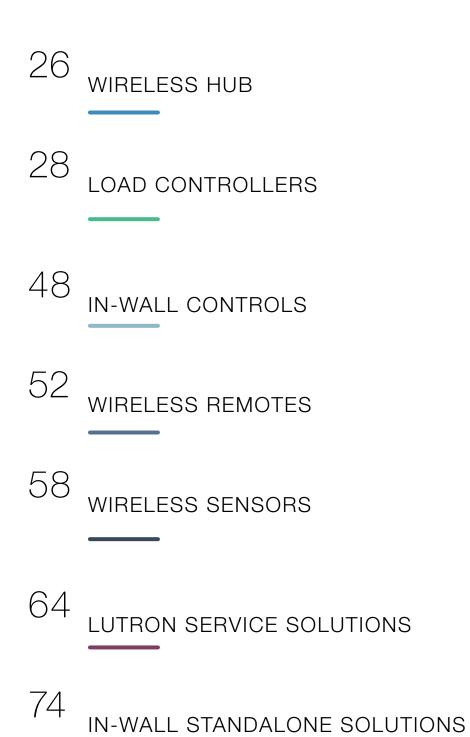
#### **ONGOING SUPPORT**

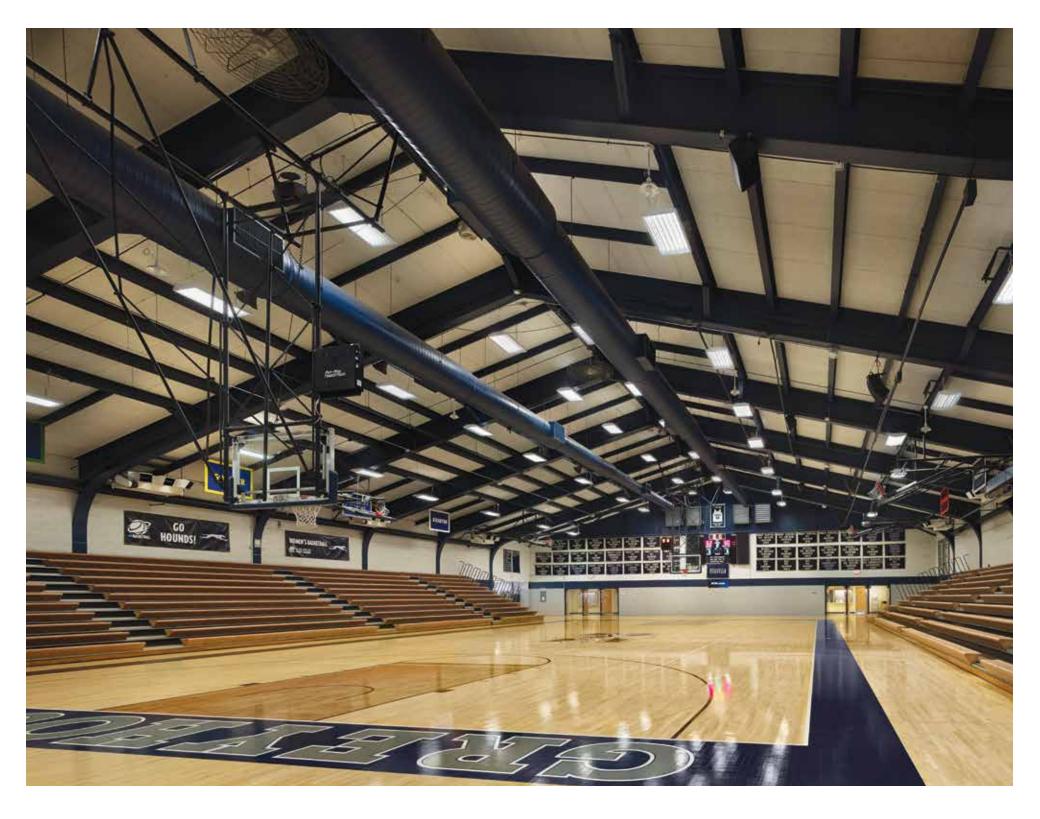
Lutron has the resources you need to answer questions about security when they arise.

- 1. IT deployment guides
- 2. Guidance from our world-class, 24/7 technical support organization with IT expertise throughout the product lifecycle





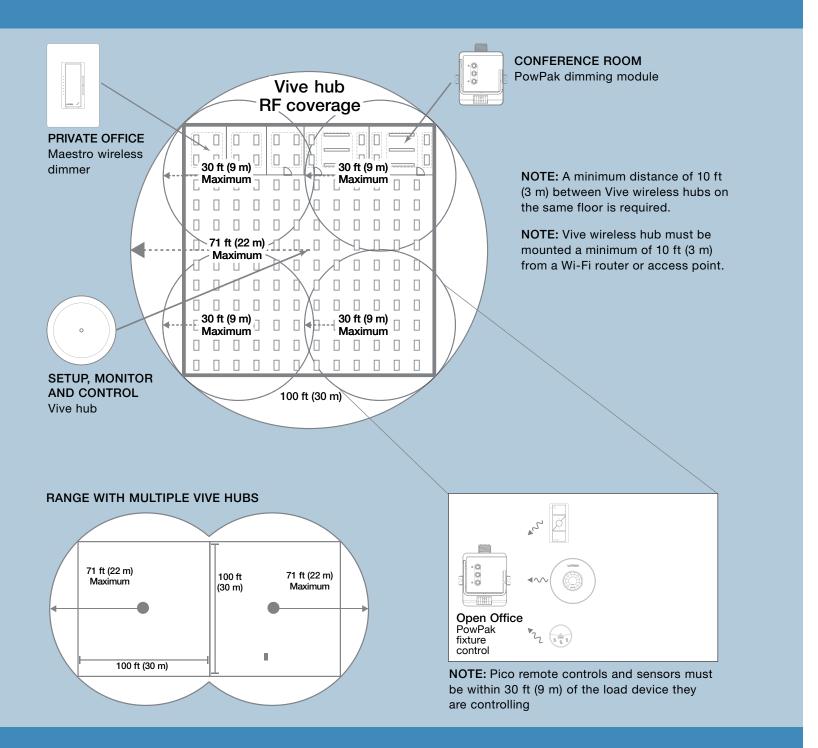






## How it works

All wireless devices to be associated to the Vive wireless hub must be within 71 ft (22 m) of the Vive wireless hub and must be on the same floor as the Vive wireless hub.



NOTE: A corporate Wi-Fi network can interfere with the Wi-Fi on the Vive wireless hub. Where a corporate Wi-Fi network exists, it is recommended to do the following: connect the Vive wireless hub to the corporate network using the Ethernet connection on the hub, and disable the hub's Wi-Fi.

#### FEATURES AND BENEFITS

- · Communicates with controls on a floor using Lutron wireless Clear Connect technology (range radius of 71 ft [22 m])
- Distributed system architecture
- Pico remote controls and sensors communicate directly with the load devices they control and must be located within 30 ft (9 m) of the device with which they are associated
- · Supports timeclock events based on both sunrise and sunset or fixed time of day
- · Two contact closure inputs to enable load shed from other devices for Title 24 compliance and utility integration
- OpenADR 2.0b compatible for integration with utilities for demand response/loadshed and code compliance
- Each hub provides an individual dashboard for its coverage area and allows you to link to other hub dashboards from the mobile application
- · API integration, native to the Vive hub, to enable integration with thirdparty devices, systems, and software. RESTful APIs are available over the Ethernet.
- Proactive alerts, i.e. low battery or possible device malfunction, help to ensure system operates as expected
- · Override and lockout support for emergency devices to send the emergency lights to defined levels and lock out controls in the case of a fire alarm, power loss, or security incident. This may be activated manually or with an integration

#### **PRODUCT OPTIONS-Vive Wireless Hub Models**

Starter (up to 75 devices)		
HJS-0-FM	Flush mount	
Standard		
HJS-1-FM	Flush mount	
HJS-1-SM	Surface mount	
H-MOUNT-SM	Surface-mount installation adapter	
Premium (with BACnet and API)		
HJS-2-FM	Flush mount	
HJS-2-SM	Surface mount	
HJS-UPDATE	Software upgrade license to add BACnet and API	
	Software upgrade license expands	
HJS-DEVICES	device limit to 700 devices	





#### Vive wireless hub

#### Dimensions

W:	6.5"	(165 mm)
H:	1.5"	(38 mm)
D:	2.8"	(71 mm)



#### Vive hub power supply

W:	4.0"	(102 mm)
H:	1.7"	(43 mm)
D:	2.8"	(71 mm)





#### LOAD CONTROLLER: J-BOX MOUNTED SWITCHES AND DIMMERS

## How to design and specify

#### · ONE RELAY MODULE

For each controlled lighting zone in the space

· CONTROL

Select appropriate model based on the size of the connected load

16 A:	1920 W	or	1/2 HP @ 120 V
	4432 W	or	1 1/2 HP @ 277 V
5 A:	600 W	or	1/6 HP @ 120 V
	1385 W	or	1/3 HP @ 277 V

#### · CONTACT CLOSURE OUTPUT

For sending occupancy information to third-party equipment such as HVAC systems

• INPUT: 120/277 V

#### **PRODUCT OPTIONS**

16 A models	
RMJS-16R-DV-B	
RMJS-16RCCO1-DV-B	One contact closure output
5 A models	
RMJS-5R-DV-B	
RMJS-5RCC01-DV-B	One contact closure output



#### PowPak relay module

#### Dimensions

W:	2.89"	(48 mm)
H:	3.44"	(87 mm)
D:	1.25"	(32 mm)

## How to design and specify

- ONE SINGLE ZONE CONTROLLER
   For each EcoSystem/DALI lighting zone in the space
- CONTROL EcoSystem/DALI: up to 32 drivers per controller
- Multiple drivers/ballasts connected to control module
   will aways work together as single zone
- INPUT: 120/277 V

#### **PRODUCT OPTIONS**

#### EcoSystem single zone

#### RMJS-ECO32-SZ



#### PowPak single zone EcoSystem/DALI

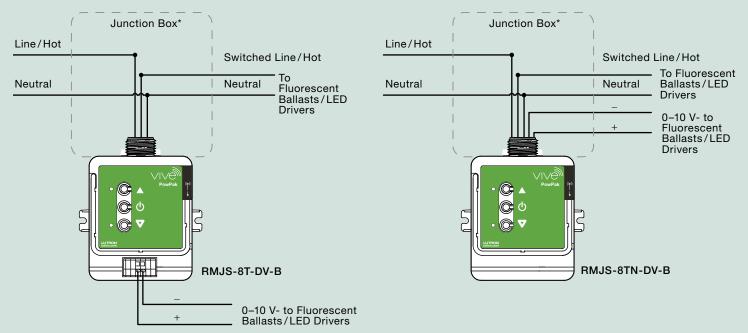
W:	2.89"	(48 mm)
H:	3.44"	(87 mm)
D:	1.25"	(32 mm)



## How to design and specify

Two versions of the PowPak 0-10 V are available; they optimize for different wiring practices. The -8T model has a connector on the back of the box which is optimized for Class 2 wiring outside of the standard conduit. The -8TN model has the 0-10 V wires coming out of the threaded end, optimized for wiring inside a junction box and used when the 0-10 V wires are run in the cable or conduit with the Class 1 wiring. Both versions can have the 0-10 V control wires installed using NEC Class 1 or Class 2 wiring methods.

#### WIRING SCHEMATIC



\* NOTE: The control module mounts to the exterior of a U.S.-style junction box.

## How to design and specify

- ONE DIMMING MODULE WITH 0-10 V CONTROL For each controlled 0-10 V lighting zone in the space
- · CONTROL
- 8A: 0-10V controlled fixtures and switches compatible with third-party 0-10V fluorescent ballasts, LED drivers, and fixtures
- INPUT: 120/277 V
- + 0-10 V LINK: Communicates with up to 60 mA of fixtures

#### **PRODUCT OPTIONS**

8 A models with 0-10 V control

RMJS-8T-DV-B

RMJS-8TN-DV-B



#### PowPak dimming module with 0-10V control

W:	2.89"	(48 mm)
H:	3.44"	(87 mm)
D:	1.25"	(32 mm)



#### LOAD CONTROLLER: 4in. x 4in. BOX-MOUNTED SWITCHES AND DIMMERS

## How to design and specify

- ONE DIMMING MODULE FOR PHASE CONTROL For each controlled phase-dimmable lighting zone in the space.
- · CONTROL

LED drivers (reverse-phase) 450 VA

Lutron Hi-lume 1% 2-wire LED driver 3 A (13 drivers max)

LED bulbs, self-ballasted lamps (reverse-phase) 450 VA

LED NEMA SSL 7A-2015 (forward-phase) B, H 200 W

Incandescent/halogen 450 W

ELV (reverse-phase) 450 W

Fluorescent (forward-phase) 400 VAF

Neon/cold cathode, MLV C, D 400 VAF (320 W)

• INPUT: 120/277 V

#### **PRODUCT OPTIONS**

450W/VA PowPak Phase Select dimming module

**RMJS-PNE-DV** 



450W/VA PowPak Phase Select dimming module

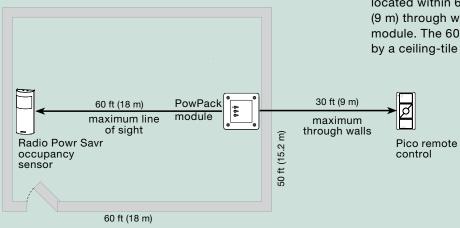
#### Dimensions

W:	4.53"	(114.90 mm)
H:	4.53"	(114.90 mm)
D:	1.80"	(45.60 mm)

#### MOUNTING: Mounts in a

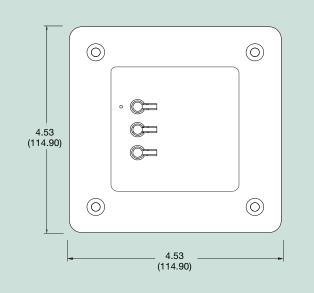
standard 4 in. x 4 in. (101.6 mm x 101.6 mm) junction box. NOTE: Must use metal junction box, minimum depth 2.125 in. (53.975 mm). Adding an extension ring is recommended for junction box depth extension. See installation guide 041808 for additional information.

#### RANGE DIAGRAM PowPak module



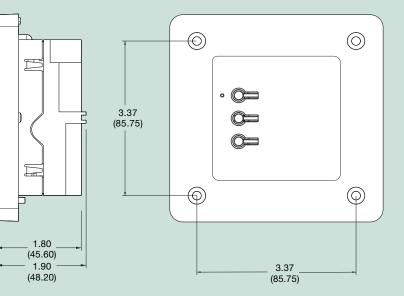
## DIMENSIONS

Dimensions are shown as: in (mm)



Contact Lutron first for applications using foil-backed or metallic ceiling tiles.

 \* NOTE: Wireless sensors and controls must be located within 60 ft (18 m) line of sight, or 30 ft (9 m) through walls, of the associated control module. The 60 ft (18 m) range is not reduced by a ceiling-tile obstruction.





#### LOAD CONTROLLER: 4 in. x 4 in. BOX-MOUNTED SWITCHES AND DIMMERS

## How to design and specify

- · ONE DIMMING MODULE WITH 0-10V CONTROL For each controlled 0-10V lighting zone in the space
- · CONTROL
- 5A: 0-10 V controlled fixtures and switches compatible with third-party 0-10V fluorescent ballasts, LED drivers, and fixtures
- INPUT: 347 V
- 0-10V LINK: Communicates with up to 60 mA of fixtures

#### **PRODUCT OPTIONS**

5A model with 0-10V control	
RMJS-5T-347	0-10V- dimming and 5A switching
Divider for Class 1 & Cl	ass 2 separation
5T-347-DIVIDER	



347 V Dimming module with 0-10V control

#### Dimensions

information.

W:	4.53"	(114.90 mm)
H:	4.53"	(114.90 mm)
D:	1.80"	(45.60 mm)

#### MOUNTING: Mounts in a standard 4 in. x 4 in. (101.6 mm x 101.6 mm) junction box. NOTE: Must use metal junction box, minimum depth 2.125 in. (53.975 mm). Adding an extension ring is recommended for junction box depth extension. See Installation guide 041773 for additional

## How to design and specify

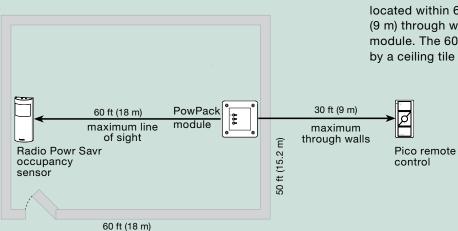
- ONE RELAY MODULE For each controlled 0-10V lighting zone in the space
- · CONTROL
- Switches up to 5 A total of LED drivers or fluorescent ballasts
- **INPUT:** 347V

#### **PRODUCT OPTIONS**

5 A relay module	
RMJS-5R-347	5A switching only

## **RANGE DIAGRAM**

#### PowPak module

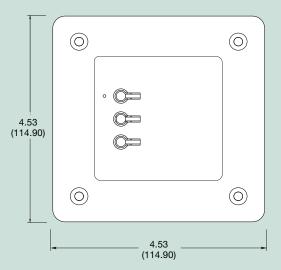


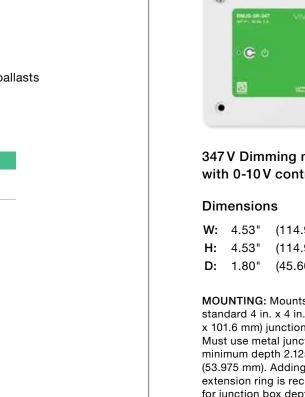
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#### DIMENSIONS

Dimensions are shown as: in (mm)



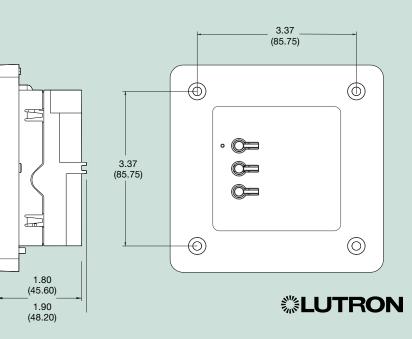




#### 347 V Dimming module with 0-10V control

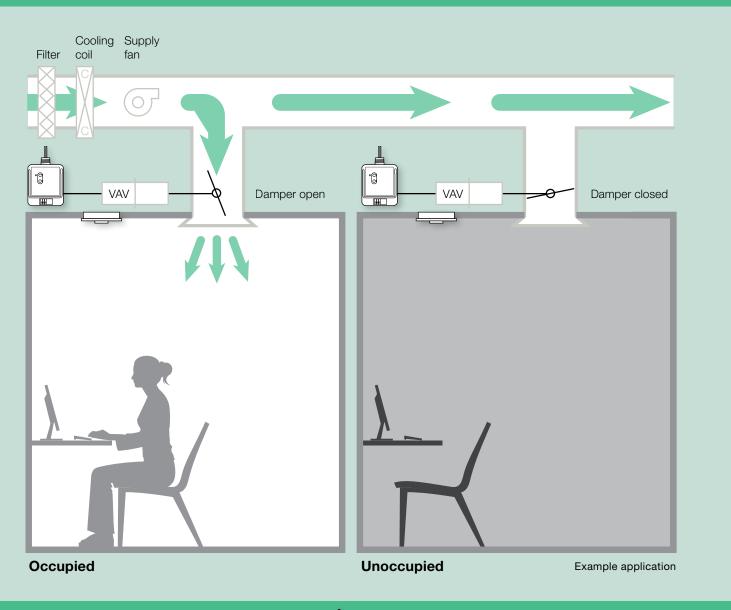
W:	4.53"	(114.90 mm)
H:	4.53"	(114.90 mm)
D:	1.80"	(45.60 mm)

MOUNTING: Mounts in a standard 4 in. x 4 in. (101.6 mm x 101.6 mm) junction box. NOTE: Must use metal junction box, minimum depth 2.125 in. (53.975 mm). Adding an extension ring is recommended for junction box depth extension. See installation guide 041828 for additional information.



## How it works

In response to information received from a Radio Powr Savr occupancy/vacancy sensor, the PowPak contact closure output module communicates room occupancy to the VAV terminal unit. By not heating or cooling an unoccupied room, the electricity consumed by the HVAC system can be reduced.





Radio Powr Savr sensor (ceiling mount)



PowPak contact closure output module

## How to design and specify

• ONE CONTACT CLOSURE OUTPUT MODULE For each additional contact closure output you require

#### **PRODUCT OPTIONS**

Standard	
RMJS-CC01-24-B	Contact closure output

**NOTE:** If using a relay module with the contact closure output, you do not need to add a contact closure output module unless a second contact closure output is needed.



#### PowPak contact closure output module

W:	2.89"	(48 mm)
H:	3.44"	(87 mm)
D:	1.25"	(32 mm)

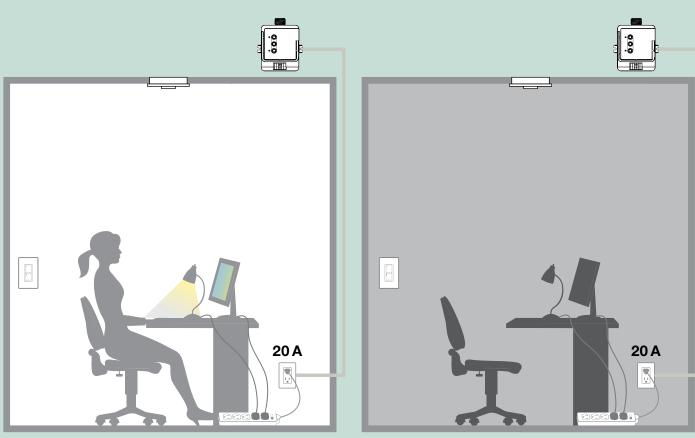


## LOAD CONTROLLER: PLUG LOAD CONTROL

## How it works

Plug loads, such as task lighting, computer monitors, and printers, account for greater than 5% of commercial electricity usage. Many energy codes now require control of receptacles for compliance.

The occupancy/vacancy sensor wirelessly communicates room occupancy to the relay module. Based on the occupancy status received, the relay module switches the power to the receptacles on or off, reducing the amount of energy consumed.



Occupied

Unoccupied



- · ONE RELAY MODULE For each 20 A receptacle circuit you want to control
- INPUT: 120/277 V

#### **PRODUCT OPTIONS**

20 A models	
RMJS-20R-DV-B	General purpose switch 120-277 V receptacles
RMJS-20RCCO1-DV-B	General purpose switch 20 A, 120-277 V receptacles with one contact closure output



Radio Powr Savr (ceiling mount)



Pico control







#### PowPak relay module

W:	2.89"	(48 mm)
H:	3.44"	(87 mm)
D:	1.25"	(32 mm)

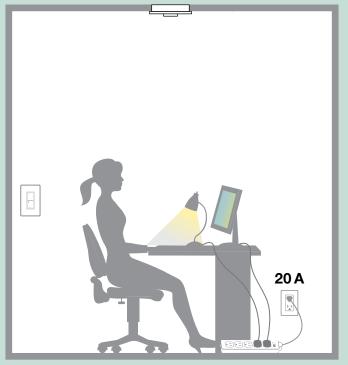


#### LOAD CONTROLLER: PLUG LOAD CONTROL

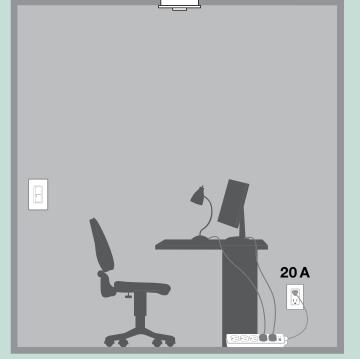
## How it works

Plug loads, such as task lighting, computer monitors, and printers, account for greater than 5% of commercial electricity usage. Many energy codes now require control of receptacles for compliance.

The occupancy/vacancy sensor wirelessly communicates room occupancy to the wireless receptacle. Based on the occupancy status received, the wireless receptacle switches the power on or off, reducing the amount of energy consumed. The wireless receptacle will control normal receptacles downstream.



Occupied



Unoccupied



 ONE WIRELESS RECEPTACLE For each receptacle circuit you want to control

One wireless receptacle can also control standard receptacles wired downstream

• **INPUT:** 120 V

#### **PRODUCT OPTIONS**

15A models	
CAR2S-15-STR - 15A	Split (half switching; single pole/downstream)
CAR2S-15-DTR - 15A	Duplex (dual switching; single pole/downstream)
20 A models	
CAR2S-20-STR - 20A	Split (half switching; single pole/downstream)



Radio Powr Savr occupancy/vacancy sensor (ceiling mount)



Pico control with wallplate



with top control



#### RF receptacle with top controlled

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.4"	(36 mm)



## How to design and specify

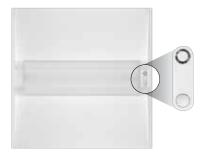
- For each fixture in the space
- DIGITALLY CONTROLS up to three drivers/ballasts per fixture
- · SELECT EITHER Clear Connect (RF) only or Clear Connect (RF) and XCT sensing

#### **PRODUCT OPTIONS**

Wireless individual in-fixture control	
DFCSJ-OEM-RF	Clear Connect (RF) only
DFCSJ-OEM-OCC	Clear Connect (RF) and occupancy/daylight sensing

Contact your local fixture representative and ask for a Vive-enabled fixture or visit lutron.com/findafixture

NOTE: Wireless sensors and controls must be located within 60 ft (18 m) line of sight, or 30 ft (9 m) through walls, of each other.



Vive integral fixture control

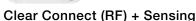
#### Dimensions

W: .827" (21 mm) **H:** 2.477" (62.9 mm)

#### Dimensions with occupancy/ daylight sensor

W: .927" (23.5 mm) H: 2.577" (65.4 mm)





0

Clear Connect (RF) Only

## How to design and specify

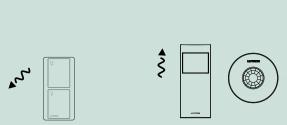
- ONE POWPAK WIRELESS FIXTURE CONTROL for each fixture in the space
- CONTROLS 1A of lead or up to three drivers/ballasts per fixture
- SELECT EITHER area sensing or individual fixture sensing
- · POWPAK FIXTURE SENSOR combined occupancy/daylight sensor

#### **PRODUCT OPTIONS**

0-10 V control models		
FCJS-010		
FCJS-010-BULK8	8-pack	
EcoSystem control mod	dels	
FCJS-ECO		
FCJS-ECO-BULK8	8-pack	
Sensor models		
FC-SENSOR	Occupancy/daylight senso	
FC-VSENSOR	Vacancy/daylight sensor	

#### FIXTURE SENSOR COVERAGE DIAGRAMS Applies to both products

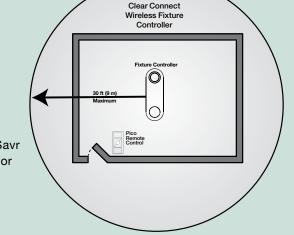
## **CLEAR CONNECT (RF)**

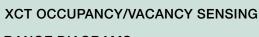


Pico remote control occupancy sensor (up to 10) (up to 10)

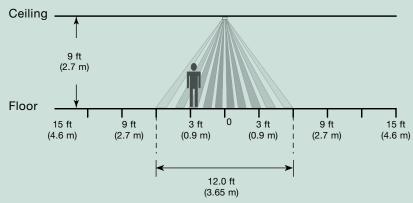


Radio Powr Savr daylight sensor (1 maximum)





**RANGE DIAGRAMS** 

















#### Vive wireless fixture controller

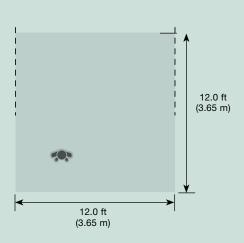
#### Sensor dimensions

W:	2.89"	(48 mm)
H:	3.44"	(87mm)
D:	1.25"	(32 mm)

#### How it works

Install the fixture control directly to a fixture or on a junction box nearest to the fixture. Install the sensor on the ceiling near the fixture to optimize coverage in the desired area.

**NOTE:** Avoid mounting the fixture sensor in direct sunlight or in the light which is cast from the fixture.





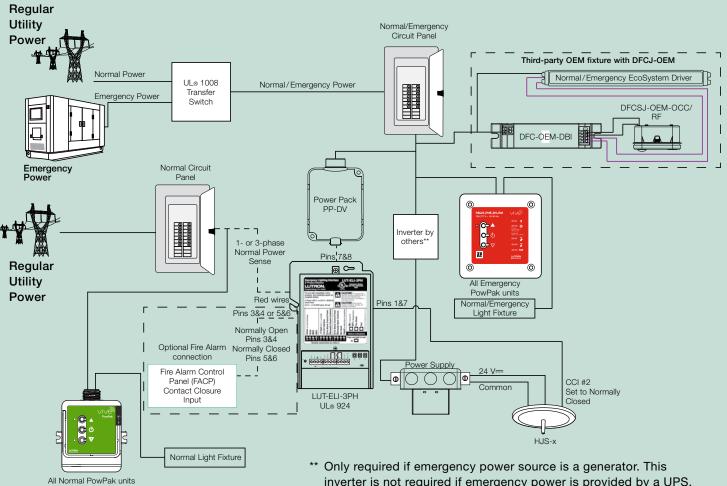
#### LOAD CONTROLLER: EMERGENCY-RATED WIRELESS CONTROLLERS

## How it works

During normal power conditions, emergency PowPak modules can dim loads and respond to local button presses, Pico wireless controls, and occupancy/daylight sensors.

If utility power fails, the LUT-ELI-3PH senses the loss of normal power and will open the contact closure input (CCI2) on the Vive hub. The Vive hub will send the emergency-rated PowPak modules to their emergency lighting level until the LUT-ELI-3PH senses normal power and re-makes the contact with CCI2 on the Vive hub. The Vive hub will then release the Vive integral fixture controllers designated as emergency and emergency PowPak modules to their normal operation. It will again accept local button control, input from Pico wireless controls, and occupancy/daylight sensors.

## System Wiring Diagram (Vive hub with emergency PowPak)



inverter is not required if emergency power is provided by a UPS. NOTE: Lutron recommends the LVU-2 provided by LVS Controls.

## How to design and specify

- · One emergency-rated module per lighting zone or fixture, depending on model
- RELAY MODULE CONTROL: 16A: 1920W or 1/2 HP @ 120V 4432 W or 1/2 HP @ 277
- · 0-10 V MODULE CONTROL:
- 8A: 0-10V controlled fixtures and switches compatible with third-party 0-10V fluorescent ballasts, LED drivers, and fixtures

Fixture control: Communicates with up to 60 mA of fixtures

- 1 A: of load or up to 3 drivers and ballasts
- · INPUT (ALL MODELS): 120/277 V

#### **PRODUCT OPTIONS**

Relay	
RMJS-16R-DV-B-EM	
0-10 V	
RMJS-8T-DV-B-EM	
Fixtures	
FCJS-010-EM	
FCJS-ECO-EM	









#### **Emergency PowPak** modules

W:	2.89"	(48 mm)
H:	3.44"	(87 mm)
D:	1.25"	(32 mm)

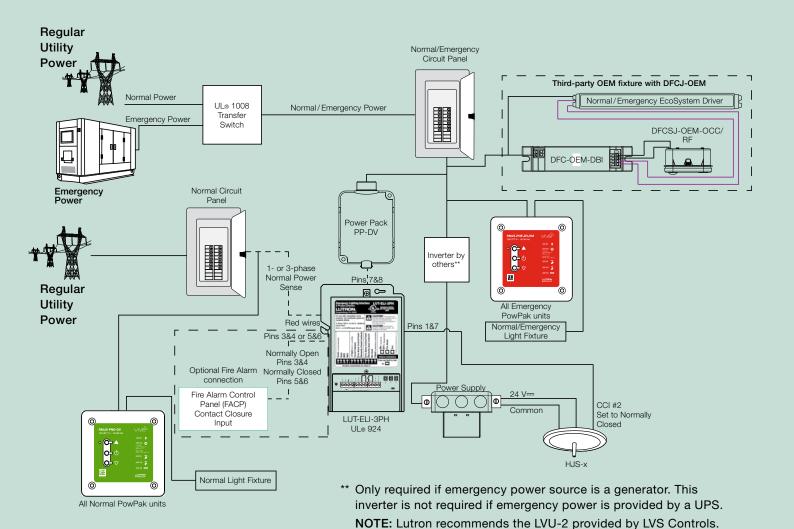


## How it works

During normal power conditions, the rated modules can dim loads and respond to local button presses, Pico wireless controls, and occupancy/daylight sensors.

If utility power fails, the LUT-ELI-3PH senses the loss of normal power and will open the contact closure input (CCI2) on the Vive hub. The Vive hub will send the emergency rated PowPak modules to their emergency lighting level until the LUT-ELI-3PH senses normal power and re-makes the contact with CCI2 on the Vive hub. The Vive hub will then release the Vive integral fixture controllers designated as emergency and emergency PowPak modules to their normal operation. It will again accept local button control, input from Pico wireless controls, and occupancy/daylight sensors.

#### System Wiring Diagram (Vive hub with 347V emergency dimming module)



How to design and specify

- One CSA C22.2 No. 141-15 Listed dimming module with 0-10 V control per lighting zone
- · 0-10 V MODULE CONTROL:
- 5A: 0-10 V controlled fixtures and switches compatible with third-party 0-10V fluorescent ballasts, LED drivers, and fixtures
- 0-10V LINK: Communicates with up to 60 mA of fixtures
- INPUT: 347 V

#### **PRODUCT OPTIONS**

5 A model with 0-10V control

RMJS-5T-347-EM

5 A model

**RMJS-5R-347-EM** 

## How to design and specify

- ONE DIMMING MODULE FOR PHASE CONTROL For each controlled phase dimmable lighting zone in the space.
- · CONTROL:

LED drivers (reverse-phase) 450 VA

Lutron Hi-lume 1% 2-wire LED driver A 3 A (13 drivers max)

LED bulbs, self-ballasted lamps (reverse-phase) 450 VA LED NEMA SSL 7A-2015 (forward-phase) B, H 200 W

Incandescent/halogen 450 W

ELV (reverse-phase) 450 W

Fluorescent (forward-phase) 400 VAF

Neon/cold cathode, MLV C, D 400 VAF (320 W)

• INPUT: 347 V

#### **PRODUCT OPTIONS**

450W/VA Emergency PowPak Phase Select dimming module

**RMJS-PNE-DV-EM** 





#### 347V emergency lighting module

#### Dimensions

W:	4.53"	(114.9 mm)
H:	4.53"	(114.90 mm)
D:	<b>:</b> 1.80"	(45.60 mm)



#### 450W/VA Emergency **PowPak Phase Select** dimming module

#### Dimensions

W: 4.53" H: 4.53"	(114.9 mm)		
H:	4.53"	(114.90 mm)	
D:	1.80"	(45.60 mm)	

MOUNTING: Mounts in a standard 4 in x 4 in (101.6 mm x 101.6 mm) junction box. NOTE: Must use metal junction box, minimum depth 2.125 in (53.975 mm). Adding an extension ring is recommended for junction box depth extension. See installation guide 048781 for additional information.



## How to design and specify

- Select one switch per lighting zone
- Select appropriate model based on the size of the connected load
- If existing switch does not have a neutral, choose the model available for 120/277 V with no neutral required
- Select from up to 13 colors to complement the décor\*
- Add an additional Pico remote for rooms with multiple switches for a single zone

#### **PRODUCT OPTIONS**

Dual voltage no-neutral s	switches
MRF2S-8S-DV-XX	8 A lighting, 1/10 HP fan @ 120 V only, 120-277 V, no neutral
120 V neutral-required sw	vitches
MRF2S-6ANS-XX	6 A lighting, 1/10 HP fan, 120 V only
MRF2S-8ANS-120-XX	8 A lighting, 1/4 HP fan, 120 V only



Maestro wireless switches

#### Dimensions

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)

## How to design and specify

- · Select one wireless dimmer per lighting zone
- · Select appropriate model based on the size and type of existing load
- Most models do not require a neutral
- · Select from up to 13 colors to complement the décor\*
- Add an accessory dimmer or a Pico wireless remote for rooms with multiple switches for a single zone
- · Gray models (-GR) are plenum rated for mounting in ceiling applications

#### **PRODUCT OPTIONS**

Maestro wireless dimmers	
MRF2S-6CL-XX	150 W dimmable CFL/LED, 600 W incandescent/ halogen
MRF2S-6ELV120-XX	600 W ELV, 120 V
MRF2S-6ND-120-XX	600 W/VA incandescent/ halogen/MLV, 120 V 1-8 Lutron LTE drivers, 350 W max
MA-R-XX	Accessory dimmer for multi-location lighting controls, 120 V



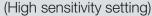
#### Maestro wireless dimmers

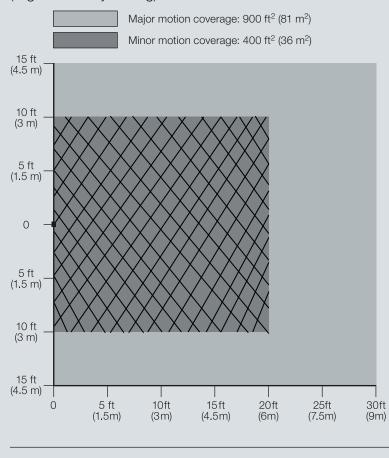
W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)

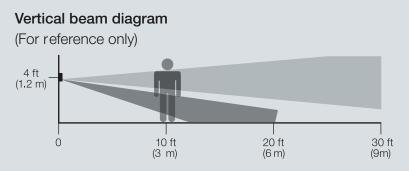


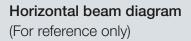
## Sensor coverage diagrams

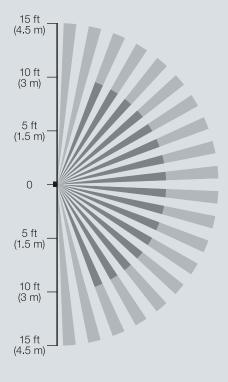
#### NEMA WD7 test grid coverage











## Features and benefits

- Easy to install; directly replaces an existing control in a wallbox
- · Combines occupancy sensing, manual control, and system connectivity in one piece of hardware
- · Easily add additional wall controls and sensors without running any new wires
- · Connect to a Vive wireless hub for system features such as timeclock, energy reporting, and demand response/load shed
- Lutron XCT technology for superior sensitivity prevents false ONs and false OFFs

## How to design and specify

- Select one dimmer or switch per lighting zone
- · Select appropriate model based on type of load:
- 120 277 V~ 8 A electronic fluorescent ballast or LED drivers
- Controls up to 50mA of 0-10V fixtures, sink only (0-10 V dimmer version)
- Neutral required
- Add additional Pico remotes for rooms with multiple switches for a single zone
- Add additional wireless occupancy and/or daylight sensors for additional coverage area and functionality

#### **PRODUCT OPTIONS**

Standard	
MRE2S-8SD010-XX	0-10 V wallbox occupancy vacancy sensor dimmer
MDLOG_8CC_YY	Wallbox occupancy/ vacancy sensor switch
MRF2S-8SDV010-XX	0-10V wallbox vacancy sensor dimmer
MBE2S-8SSV-XX	Wallbox vacancy sensor switch

cy/



#### Maestro wireless 0-10V dimmer sensor

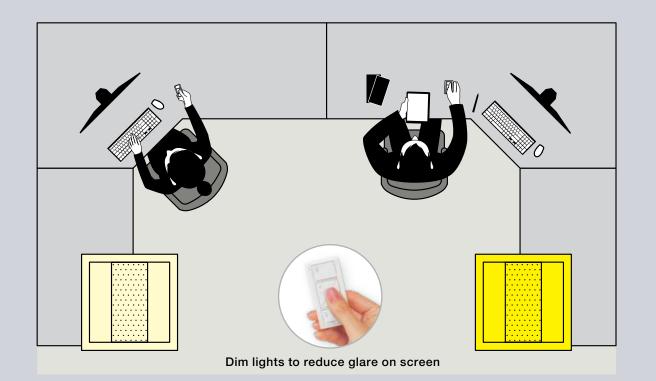
W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)



#### WIRELESS REMOTES: PICO WIRELESS REMOTES

## How it works

- No wires-put it where it's most accessible
- Pedestal mount for tabletop use
- Surface mount anywhere with Claro wallplate
- 10-Year battery life



Pico wall mounted (in a wallplate) add a new point of control anywhere with absolutely no wires



place control on



Individual fixture control

## How to design and specify

- · Select one 2-button Pico wireless remote to add a location with ON/OFF control
- Select one 3-button Pico wireless remote to add a location with ON/OFF control and one preset
- · Select one 2-button with raise/lower Pico wireless remote to add a location with ON/OFF and BRIGHTEN/DIM control
- · Select one 3-button with raise/lower Pico wireless remote to add a location with ON/OFF, BRIGHTEN/DIM control and one preset
- Select whether a nightlight is needed (2-button and 3-button with raise/lower only)

NOTE: Spaces with a PowPak relay or dimming module will not have a local control in the room unless a Pico is added

#### **PRODUCT OPTIONS**

2-button remotes	
PJ2-2BRL-XXX-L01	150 W dimmable CFL/LED 600 W incandescent/ halogen
PJ2-2B-XXX-L01	600 W ELV, 120 V
PJN-2B-GXX-L01	600 W/VA incandescent/ halogen/MLV, 120 V 1-8 Lutron LTE drivers, 350 W max
3-button remotes	
PJ2-3BRL-XXX-L01	150 W dimmable CFL/LED 600 W incandescent/ halogen
PJ2-3B-XXX-L01	600 W ELV, 120 V
PJ2-3B-XXX-L01 PJN-3BRL-GXX-L01	600 W ELV, 120 V 600 W/VA incandescent/ halogen/MLV, 120 V 1-8 Lutron LTE drivers, 350 W max









2	

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	2	

**Pico wireless remotes** 

3-button with raise/ lower

3-button

3-button nightlight with raise/ lower





2-button with raise/ lower

2-button



2-button nightlight

W:	1.28"	(33mm)
H:	2.60"	(66 mm)
D:	0.33"	(8 mm)



## How to design and specify

· The Pico wireless remote is a flexible and easy-to-use device that allows the user to control Lutron wireless load-control devices from anywhere in the space. This battery-operated control requires no external power or communication wiring.

#### PRODUCT OPTIONS

4-button remotes	
PJ2-4B-GWH-L21P	2-Group control
PJ2-4B-GWH-L01	Zone control
PJ2-4B-GWH-L31	8 A lighting, 1/4 HP fan, 120 V only

• Custom-engraved models for zone control keypads (-L01, -S01) and scene control keypads (-L31, -S31) are available but require a different set of button marking codes when ordering

NOTE: 2-Group (-L21, -S21, -LS21) controls are not offered with the custom engraving option.

Button Marking Codes	Standard Engraving	Custom Engraving
Zone control		
Lights	-L01	-EL1
Shades	-S01	-ES1
Scene control		
Lights	-L31	-EL2
Shades	-S31	-ES2



#### **Pico wireless remotes**

4-button	4-button	4-button
2-group	zone	scene
control	control	control

#### Dimensions

W:	1.28"	(33mm)
H:	2.60"	(66 mm)
D:	0.33"	(8 mm)

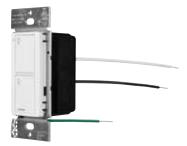
## How to design and specify

• The Pico line-powered wireless control is a flexible and easy-to-use device that allows the user to control Lutron wireless load-control devices from anywhere line voltage power is present in the space. This control requires connection to line voltage for power, and no wires for communication.

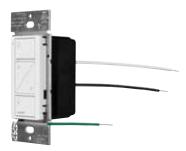
#### **PRODUCT OPTIONS**

Tabletop accessories	
PJL-2B-GXX-L01	2-button
PJL-2BRL-GXX-L01	2-button with raise/lower
PJL-3BRL-GXX-L01	3-button with raise/lower





2-button



2-button with raise/lower



3-button with raise/lower



# How to design and specify

 Select one Pico pedestal for each tabletop location based on the number of Pico remotes at each location

#### **PRODUCT OPTIONS**

Tabletop accessories		
L-PED1-WH	Pedestal for one Pico remote	
L-PED2-WH	Pedestal for two Pico remotes	
L-PED3-WH	Pedestal for three Pico remotes	



Tabletop accessories

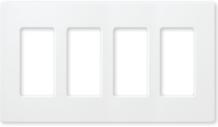
## How to design and specify

- · Select one Pico wallbox adapter for each Pico that you would like wall-mounted with a Claro-style wallplate
- Select one Claro wallplate (up to 4-gang) for all Pico and Maestro wireless wall-mounted control locations where Claro style is desired

#### **PRODUCT OPTIONS**

Wall-mount accessories	
PICO-WBX-ADAPT	Pico wallbox adapter
CW-1-WH	Claro 1-gang wallplate
CW-2-WH	Claro 2-gang wallplate
CW-3-WH	Claro 3-gang wallplate
CW-4-WH	Claro 4-gang wallplate





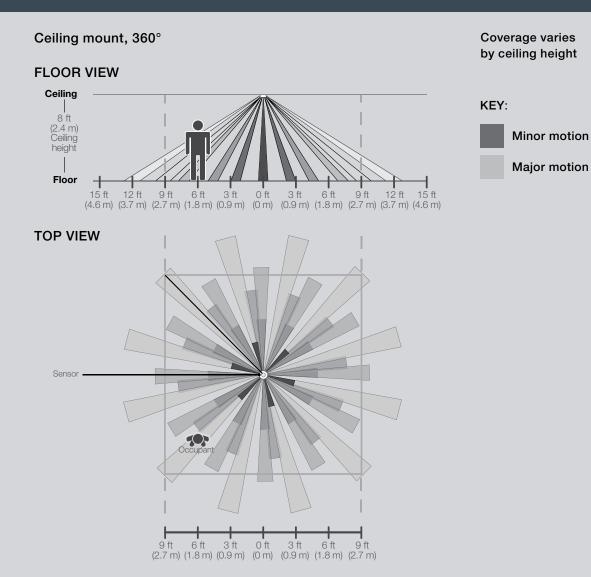
Wall-mount accessories Pico wallplate adapter and Claro wallplate

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)



### WIRELESS SENSORS: CEILING OCCUPANCY/VACANCY SENSORS

## Sensor coverage diagrams



#### CEILING-MOUNT SENSOR COVERAGE CHART (for sensor mounted in center of room)

Ceiling height	Maximum room dimensions for complete floor coverage	Radius of coverage at floor
8 ft (2.4 m)	18 x 18 ft (5.5 x 5.5 m) 324 ft² (30.2 m²)	13 ft (4.0 m)
9 ft (2.7 m)	$20 x 20 ft (6.1 x 6.1 m)   400 ft^2 (37.2 m^2)$	14.5 ft (4.4 m)
10 ft (3.0 m)	$22 x 22 ft (6.7 x 6.7 m)   484 ft^2 (44.9 m^2)$	16 ft (4.9 m)
12 ft (3.7 m)**	$26 x 26 ft (7.9 x 7.9 m)  676 ft^2 (62.4 m^2)$	19 ft (5.8 m)

\* Sensor mounting shown at 7 ft (2.1 m). Mounting height should be between 6 and 8 ft (1.6 and 2.4 m).

\*\* 12 ft (3.7 m) is the maximum mounting height allowed.

## How to design and specify

- · A single occupancy sensor can communicate to all cont devices in the room
- · Use in small rooms or areas with medium to high partitions
- For 8 ft ceilings: 484 ft<sup>2</sup>
- For 12 ft ceilings: 676 ft<sup>2</sup>

#### PRODUCT OPTIONS

Ceiling-mount sensors	
LRF2-OCR2B-P-WH	Occupancy/vacancy
LRF2-VCR2B-P-WH	Vacancy only
Accessories	
L-CMDPIRKIT	Ceiling-mount sensor lens masking kit
L-CRMK-WH	Ceiling-mount sensor recess-mounting bracket
L-WIRECAGE-C	Wire guard for ceiling-mount sensor

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#### Wireless occupancy/ vacancy sensors

#### Dimensions

W:	3.57"	(91 mm)
H:	3.57"	(91 mm)
D:	1.13"	(29 mm)



Wire cage guard

W:	7.0"	(178 mm)
D:	3.25"	(83 mm)



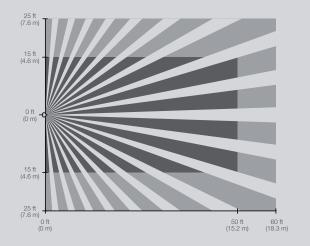
## WIRELESS SENSORS: WALL-/HALL-/CORNER-MOUNT OCCUPANCY/VACANCY SENSORS

## Sensor coverage diagrams

Wall mount\*, 180°

1,500 ft<sup>2</sup> – Minor motion 3,000 ft<sup>2</sup>-Major motion

#### TOP VIEW

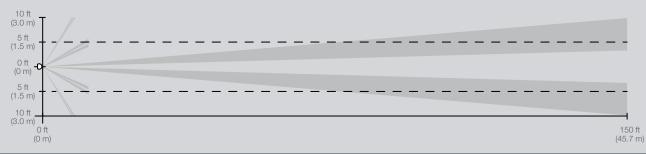


Hallway\*, long narrow field of view

Coverage varies by hallway width and length

#### **TOP VIEW**

60 Vive



HALLWAY SENSOR MAXIMUM RECOMMENDED LENGTH CHART (sensor centered within hallway)

Width of hallway	Length of hallway
6 ft (1.6 m) or less	50 ft (15.2 m)
8 ft (2.4 m)	100 ft (30.5 m)
10 ft (3.0 m) or more	150 ft (45.7 m)

\* Sensor mounting shown at 7 ft (2.1 m). Mounting height should be between 6 and 8 ft (1.6 and 2.4 m).

\*\* 12 ft (3.7 m) is the maximum mounting height allowed.

Corner mount*, 90°		KEY:	:
1,225 ft <sup>2</sup> —Minor motion 2,500 ft <sup>2</sup> —Major motion			Minor motion
TOP VIEW			Major motion
50 ft (15.2 m) 35 ft (10.7 m) 0 ft	35 ft	50 ft	
(0 m)		15.2 m)	

## How to design and specify

· A single occupancy sensor can communicate to all control devices in the room

#### PRODUCT OPTIONS

Wall-mount sensors	
<ul> <li>Use in large open rooms</li> <li>Coverage: 3,000 ft<sup>2</sup></li> </ul>	with few tall obstructions
LRF2-OWLB-P-WH	Occupancy/vacancy
LRF2-VWLB-P-WH	Vacancy only
Corner-mount sensors	
<ul> <li>Use in medium to large o tall obstructions</li> <li>Coverage: 2,500 ft<sup>2</sup></li> </ul>	pen rooms with few
00verage. 2,500 ft	
LRF2-OKLB-P-WH	Occupancy/vacancy
LRF2-VKLB-P-WH	Vacancy only
Hallway sensors	
• For a 6 ft wide hallway: 5	0 ft coverage
• For a 10 ft wide hallway:	
r or a ront whee halfway.	150 ft coverage
LRF2-OHLB-P-WH	150 ft coverage Occupancy/vacancy
LRF2-OHLB-P-WH	Occupancy/vacancy
LRF2-OHLB-P-WH	Occupancy/vacancy
LRF2-OHLB-P-WH LRF2-VHLB-P-WH Accessories	Occupancy/vacancy Vacancy only Flexible armature mounting kit for Radio Powr Savr



#### Radio Powr Savr wireless sensors

#### Dimensions

W:	1.8"	(46 mm)
H:	4.35"	(110 mm)
D:	1.35"	(34 mm)



#### Flexible armature mounting kit

#### Dimensions

W: 3.62" (92 mm) **D:** 2.18" (55 mm)

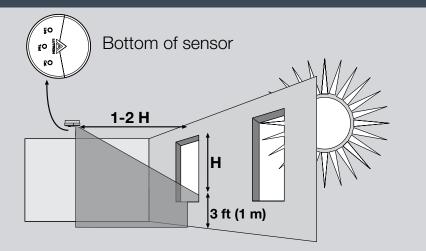


#### Wire cage guard

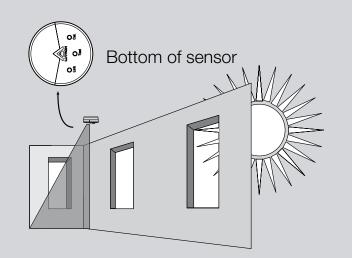
W:	7.0"	(178 mm)
H:	5.75"	(146 mm)
D:	4.5"	(114 mm)



## Sensor coverage diagrams



 $\mathbf{H} = \text{Effective window height}$ 



Arrow points towards the area viewed by the sensor (toward windows).

Location for average size areas

Location for narrow areas (corridors, private offices)

Arrow points towards the area viewed by the sensor (away from window).

## How to design and specify

- A single daylight sensor is capable of controlling:
- All Maestro switching and dimming zones
- All PowPak switching zones
- All PowPak dimming modules with 0-10V control

#### PRODUCT OPTIONS

Daylight sensor	
LRF2-DCRB-WH	Daylight sensor

- \* Sensor mounting shown at 7 ft (2.1 m). Mounting height should be between 6 and 8 ft (1.6 and 2.4 m).
- \*\* 12 ft (3.7 m) is the maximum mounting height allowed.



#### Wireless daylight sensors

W:	1.6"	(41 mm)
H:	1.6"	(41 mm)
D:	0.7"	(17 mm)



#### LUTRON SERVICE SOLUTIONS

## Available setup support services

#### Blocks of setup support time

- · Lutron services representative either onsite or remotely supports the installation team in setting up the system
- Utilize the technician's time in the way that best suits your needs: training, punch list items, or complete programming independently
- · Mix and match remote and onsite blocks of time and use them when you need them during the construction timeline
- · Choose the amount of time you need

#### PRODUCT OPTIONS

Blocks of setup support	time
LSC-OS-PROG8-SP	8 hours of onsite setup support
LSC-OS-PROG4-SP	4 hours of onsite setup support
LSC-RMT-PROG4-SP	4 hours of remote setup support
Additional setup support	services available with blocks and startup
LSC-ECPREP	EC preparation package consisting of: (1) onsite prewire and (1) post wire termination visit
LSC-PREWIRE-ONST	Onsite prewire
LSC-PREWIRE-RMTE	Remote prewire
LSC-CSO-VST	Customer system orientation visit
LSC-TRAINING	Customer-site solution training
LSC-AF-VISIT	Onsite scene and level tuning
LSC-WALK	Onsite performance— verification walk-through
LSC-TRAIN-RMTE	Remote supplemental training
LSC-PRG-AST-RMTE	Remote programming assistance
LSC-AH-VST	After hours service visit outside of system startup



Setup support services 4- & 8-hour onsite blocks 4-hour remote blocks Additional setup support services

## Available setup support services

#### Onsite full-scope startup

- · Lutron service representative onsite to ensure proper system startup and configuration
- Train facilities staff to best utilize and maintain the lighting control assets
- Reduce risk and keep your installation team small by having us do the setup for you
- Includes a Commercial System Limited Warranty
- Onsite startup enhancements available

#### Remote full-scope startup

- · Lutron service representative onsite to ensure proper system startup and configuration
- · Train facilities staff to best utilize and maintain the lighting control assets
- Reduce risk and keep your installation team small by having us do the setup for you
- Includes a Commercial System Limited Warranty
- Onsite startup enhancements available

#### **PRODUCT OPTIONS**

Setup service models	
Full scope startup	
LSC-OS-SU-VIVE	Onsite full-scope startup
LSC-RMT-SU-VIVE	Remote full-scope startup
Startup enhancements (A	vailable with onsite full-scope st
LSC-AH-SU	Startup performed at night weekends (weekend work a in certain locations)
LSC-SENS-LT	Sensor layout & tuning
LSC-SPV-DOC	System performance-verif documentation
LSC-SPV-DOC-T24	Title 24 acceptance test vis

#### artup)

or available

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#### Full-scope startup Onsite Remote

**②LUTRON** 

## Available operational services

- · Support the facilities team to maximize system potential
- $\cdot\,$  Reprogram the system as space needs change over time
- Support retro-commissioning requirements
- $\cdot\,$  Pre-purchase with the system to capture costs in capital budget

#### **PRODUCT OPTIONS**

# Operational service modelsOperational servicesLSC-TRAININGCustomer-site solution trainingLSC-SYSOPTSystem optimization serviceLSC-OS-PROG8-EN8 hours of onsite reconfiguration<br/>supportLSC-OS-PROG4-EN4 hours of onsite reconfiguration<br/>supportLSC-RMT-PROG4-EN4 hours of remote reconfiguration<br/>support



**Operational services** Solution training System optimization Onsite reconfiguration Remote reconfiguration

# Commercial system limited warranty

The commercial system limited warranty offers 2 years of parts coverage, 2 years of first-available onsite/remote response time for system issues, and 24/7 technical support. Warranty included with onsite full-scope startup and available with remote full-scope startup.

#### **PRODUCT OPTIONS**

Vive limited warranty	
LSC-B2	Commercial System 2-Year Limited

## Vive warranty information

Vive wireless solutions have a 1-year limited warranty. Additional technology support options are available to meet your project needs. See the options below:

Support Options	Commercial System Limited Warranty	Silver (TSP)	Gold (TSP)	Platinum (TSP)
Duration up to 10 years of coverage		•		•
100% Replacement Parts	• (2 yrs)	•		•
Diagnostic Labor – First Available Response	• (2 yrs)			
Diagnostic Labor— 72-Hour Response				
Diagnostic Labor – 48-Hour Response				
Diagnostic Labor — 24-Hour Response				•
Priority Support Line				•
Annual Preventive Maintenance Visit				•

## Technology Support Plans (TSPs)

All Lutron TSPs provide 100% parts and diagnostic labor coverage for up to 10 years. Optional responsetime guarantees and preventive maintenance visits enable the coverage to be customized to meet the facility's needs. TSPs are available for any Vive system; a warranty audit visit will be included with the purchase of a TSP when full-scope startup is not purchased.

#### **PRODUCT OPTIONS**

Vive Technology Support Plans		
LSC-SILV-IW	Silver Level Technology Support Plan	
LSC-GOLD-IW	Gold Level Technology Support Plan	
LSC-PLAT-IW	Platinum Level Technology Support Plan	
LSC-WNTY-AUD	Warranty Audit Visit	



#### **ORDERING INFORMATION:**

Model number		Description
Vive wireless	hub	
	H-MOUNT-SM	Surface-mount installation adapter
	HJS-0-FM	Starter Vive wireless hub, flush mount
$\left( \right)$	HJS-1-FM	Standard Vive wireless hub, flush mount
	HJS-1-SM	Standard Vive wireless hub, surface mount
	HJS-2-FM	Premium Vive wireless hub, flush mount
	HJS-2-SM	Premium Vive wireless hub, surface mount
		,

#### Vive Vue dashboard software

VIVE-VUE	Vive Vue software dashboard license
HJS-UPDATE	Software upgrade license to add BACnet and API
HJS-DEVICES	Software upgrade license expands device limit to 700 devices

#### PowPak relay module

RMJS-5R-DV-B	5 A relay
 RMJS-5RCC01-DV-B	5 A relay with one contact closure output
RMJS-16R-DV-B	16A relay
RMJS-16RCCO1DV-B	16A relay with one contact closure output

#### PowPak dimming module

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RMJS-8T-DV-B	8A 0-10V controller-connector
RMJS-8TN-DV-B	8A 0-10V controller-flying leads
RMJS-ECO32-SZ	Single zone EcoSystem/DALI controller
RMJS-PNE-DV	Phase Select dimming module
RMJS-5T-347	5A 0-10V dimmer for 347V
5T-347-DIVIDER	Divider for class 1 and class 2 separation
RMJS-5R-347	5 A switching only

#### PowPak contact closure output module

RMJS-CC01-24-B

One contact closure output

NOTE: For up-to-date pricing, contact your Lutron sales representative.





optuolo	
CAR2S-15-STR	15 A split half
CAR2S-15-DTR	15 A duplex du
CAR2S-20-STR	20 A split half
CAR2S-20-DTR	20 A duplex du

Individual fix	ture control	
	FCJS-010	0-10 V con
	FCJS-ECO	EcoSystem
	FCJS-010-BULK8	0-10 V con
	FCJS-ECO-BULK8	EcoSystem
9	FC-SENSOR	Occupancy
	FC-VSENSOR	Vacancy/da
	DFCSJ-OEM-RF*	Vive integr
	DFCSJ-OEM-OCC*	Vive integr



Emergency wireless load controllers RMJS-16R-DV-B-EM Emergency rated 16 A relay RMJS-8T-DV-B-EM Emergency rated 8A, 0-10V dimmer FCJS-ECO-EM Emergency rated EcoSystem control module FCJS-010-EM Emergency rated 0-10V control module



RMJS-PNE-DV-EM	Emergency ra
RMJS-5T-347-EM	5A 0-10V dim
RMJS-5R-347-EM	Emergency m

#### 20 A receptacle control relay module

RMJS-20RCCO1DV-B 20 A receptacle control relay module with contact closure output

switching; single pole/downstream, 120V

lual switching; single pole/downstream, 120V

switching; single pole/downstream, 120V

ual switching; single pole/downstream, 120

#### ntrol module

m control module

ntrol module 8-pack

m control module 8-pack

cy/daylight sensor

daylight sensor

ral fixture control (RF only)

ral fixture control (with sensing)

ated Phase Select dimming module

nmer for 347V

nodel, 5 A switching only



#### **ORDERING INFORMATION:**

s switches* IRF2S-6ANS-XX IRF2S-8S-DV-XX IRF2S-8ANS120-XX	6 A lighting, 3 A fan (1/10 HP motor), 120 V 8 A lighting, 3 A fan (1/10 HP motor, 120 V only), spec grade 8 A lighting, 5.8 A fan (1/4 HP motor), spec grade, 120 V	PJ2-2 PJN-2 PJ2-3
IRF2S-8S-DV-XX IRF2S-8ANS120-XX	8 A lighting, 3 A fan (1/10 HP motor, 120 V only), spec grade	PJN-2 PJ2-3
IRF2S-8ANS120-XX		PJ2-3
		PJN-2 PJ2-3 PJ2-3
	8 A lighting, 5.8 A fan (1/4 HP motor), spec grade, 120 v	
I <sup>1</sup> *		
		FJ2-J
s dimmers*		PJN-3
IRF2S-6CL-XX	150 W dimmable CFL/LED, 600 W incandescent, halogen	PJ2-4
IRF2S-6ELV120-XX	600 W ELV, 120 V	PJ2-4 PJ2-4
IRF2S-6ND-120-XX	600 W/VA incandescent/halogen/MLV, 120 V	Pico line-powered wi
IRF2S-8SD010-XX	0-10V wallbox dimmer sensor	PJL-2
		PJL-2
IRF2S-8SS-XX	Wallbox sensor switch	PJL-3
	RF2S-6CL-XX RF2S-6ELV120-XX RF2S-6ND-120-XX RF2S-8SD010-XX	RF2S-6CL-XX150 W dimmable CFL/LED, 600 W incandescent, halogenRF2S-6ELV120-XX600 W ELV, 120 VRF2S-6ND-120-XX600 W/VA incandescent/halogen/MLV, 120 VRF2S-8SD010-XX0-10 V wallbox dimmer sensor

Maestro Wireless/Maestro occupancy sensing control companion devices*		
MA-AS-XX		Multi-location companion switch, 120V
	MA-R-XX	Multi-location companion dimmer, 120V

## Maestro Colors

GLOSS COLORS

SATIN COLORS



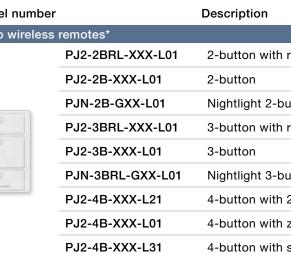
	Snow White (SW)
k	Midnight (MN)
	Taupe (TP)
	Biscuit (BI)

Palladium (PD)

Hot (HT)

\* (XX in the model number represents color/finish code; use WH for White; please visit lutron.com for other color choices.)

NOTE: For up-to-date pricing, contact your Lutron sales representative.



Pico line-powered wireless controls*			
	PJL-2B-GXX-L01	2-button	
	PJL-2BRL-GXX-L01	2-button v	
	PJL-3BRL-GXX-L01	3-button v	

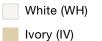
Pico	accessor	ies*



PICO-WBX-ADAPT Pico wireless PICO-347WBX-ADAP Pico wireless CW-1-XX Claro 1-gang CW-2-XX Claro 2-gang CW-3-XX Claro 3-gang CW-4-XX Claro 4-gang L-PED1-XX\*\* Pico wireless L-PED2-XX\*\* Pico wireless L-PED3-XX\*\* Pico wireless



**GLOSS COLORS** 



Light Almond (LA) White/Gray (WG)

- \* (XX in the model number represents color/finish code; use WH for White; please visit lutron.com for other color choices.)
- \*\* (XX in the model number represents color/finish code; use WH for White; please visit lutron.com for other color choices.)

NOTE: For up-to-date pricing, contact your Lutron sales representative.

n raise/lower
putton
n raise/lower
outton with raise/lower
n 2-group control
n zone control
n scene control

utton with raise/lower

utton with raise/lower

remote wallbox adapter
remote wallbox adapter for 347V
wallplate
wallplate
wallplate
wallplate
remote single pedestal
remote double pedestal
remote triple pedestal

SATIN COLORS

Black (BL)

Snow (SW) Biscuit (BI)

Midnight (MN)



#### **ORDERING INFORMATION:**

Model number		Description
Radio Powr S	Savr occupancy/vacancy	sensors*
	LRF2-OCR2B-P-WH	Ceiling-mount, 360° field-of-view, occupancy/vacancy sensor
	LRF2-OWLB-P-WH	Wall-mount, 180° field-of-view, occupancy/vacancy sensor
	LRF2-OKLB-P-WH	Corner-mount, 90° field-of-view, occupancy/vacancy sensor
	LRF2-OHLB-P-WH	Hallway, occupancy/vacancy sensor

#### Occupancy/vacancy sensor accessories

	L-CMDPIRKIT	Sensor lens masking kit for Radio Powr Savr ceiling sensor
	L-CRMK-WH	Recess-mounting bracket for Radio Powr Savr ceiling sensor
	LRF-ARM-WH	Flexible armature mounting kit for Radio Powr Savr wall, hall, corner sensors
	L-WIRECAGE-WBX	Wire guard for in-wall sensor, white
	L-WIRECAGE-C	Wire guard for ceiling-mount sensor, white
	L-WIRECAGE-W	Wire guard for wall-mount and hallway sensors, white

#### Wired occupancy transmitter



RMJS-OT-DV Wired occupancy transmitter

#### Radio Powr Savr daylight sensor

LRF2-DCRB-WH .....

Ceiling-mount daylight sensor

#### Wallplates\*

	CW-1-XX	Claro 1-gang wallplate	
	CW-2-XX	Claro 2-gang wallplate	
	CW-3-XX	Claro 3-gang wallplate	
	CW-4-XX	Claro 4-gang wallplate	

Model number		Description
Vive startup s	ervices	
	LSC-OS-SU-VIVE	Onsite full-scope startup
	LSC-RMT-SU-VIVE	Remote full-scope startup
	LSC-AH-SU	After hours startup
	LSC-SENS-LT	Sensor layout & tuning
	LSC-SPV-DOC	System performance-verif
	LSC-SPV-DOC-T24	Title 24 acceptance test v

#### Vive setup support services



LSC-OS-PROG8-SP	Onsite progra
LSC-OS-PROG4-SP	Onsite progra
LSC-RMT-PROG8-SP	Remote progr
LSC-PREWIRE	Prewire visit
LSC-TRAINING	Customer-site
LSC-AF-VISIT	Onsite scene
LSC-WALK	Onsite perform

#### Vive operational services



LSC-TRAINING Customer-site solution training LSC-SYSOPT System optimization service LSC-OS-PROG8-EN 8 hours of onsite reconfiguration support LSC-OS-PROG4-EN 4 hours of onsite reconfiguration support LSC-RMT-PROG4-EN 4 hours of remote reconfiguration support

Vive limited warranty and technology support plans			
	LSC-B2	Commercial sy	
	LSC-SILV-IW	Silver level tec	
	LSC-GOLD-IW	Gold level tech	
	LSC-PLAT-IW	Platinum level	
LSC-WARR-AUD		Warranty audit	

\* XX in the model number represents color/finish code; use WH for White; please visit lutron.com for other color choices.

NOTE: For up-to-date pricing, contact your Lutron sales representative.

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visit

amming – 8-hour block

amming —4-hour block

ramming – 8-hour block

te solution training

and level tuning

Onsite performance-verification walkthrough

system limited warranty

chnology support plan

chnology support plan

I technology support plan

lit visit



## Other energy-saving devices by Lutron

THESE DEVICES DO NOT INTEGRATE WITH THE VIVE SYSTEM



## Features and benefits

- · Standalone solutions are not compatible with the Vive hub
- Lutron XCT technology for superior sensitivity prevents false ONs and false OFFs
- Automatically turns lights OFF when space is unoccupied
- Easy to install; directly replaces an existing control
- · Lutron smart ambient light detection learns your preferences over time and adapts accordingly
- · Lutron adaptive zero-cross switching extends relay lifetime
- · 180° sensor field-of-view; must have unobstructed view
- Up to 900 ft<sup>2</sup> major motion coverage and 400 ft<sup>2</sup> minor motion coverage
- Adjustable timeout: 1-, 5-, 15-, and 30-minute options
- · Vacancy/partial-ON models available to meet CA Title 24 requirements
- · Dual-circuit sensors provide bi-level control of two circuits, as required by specific energy codes

#### **PRODUCT OPTIONS**

Maestro sensor switch*		
MS-OPS2-XX**	2 A lighting, 120 V PIR occupancy/vacancy; single pole, neutral optional	
MS-OPS5M-XX**	5 A lighting, 120 V PIR occupancy/ vacancy; 3 A fan, multi- location/3-way/single pole, no neutral	
MS-OPS6M2-DV-XX**	6 A lighting, 120-277 V PIR occupancy/vacancy, 3 A fan multi-location/3-way/ single pole (120 V only); neutral optional	
Maestro dual-circuit sensor switch		
MS-OPS6-DDV-XX**	6 A lighting per circuit, 120-277 V PIR dual-circuit occupancy/vacancy; 4.4 A fan (120 V only) per circuit; single pole, neutral optional	

\* Vacancy-only models available. Replace the "O" in the model number with a "V".

\*\* (XX in the model number represents color/finish code; use WH for White.) See Maestro colors on page 70.



#### Maestro sensor

#### Dimensions

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)



#### Maestro dual-circuit sensor switch

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)



## Features and benefits

- · Standalone solutions are not compatible with the Vive hub
- · Lutron XCT technology greatly enhances the performance of dual-technology sensors, enabling them to detect very fine motion like typing
- · Automatically turns lights off when space is unoccupied
- Easy to install; directly replaces an existing control
- · Lutron smart ambient light detection learns your preferences over time and adapts accordingly
- · Lutron adaptive zero-cross switching extends relay lifetime
- · 80° sensor field-of-view; must have unobstructed view
- Up to 900 ft<sup>2</sup> major motion coverage and 400 ft<sup>2</sup> minor motion coverage
- Adjustable timeout: 1-, 5-, 15-, and 30-minute options
- Vacancy models available to meet CA Title 24 requirements
- · Dual-circuit sensors provide bi-level control of two circuits, as required by specific energy codes

#### **PRODUCT OPTIONS**

Maestro sensor switch*		
MS-A102-XX** 6 A lighting, 120-277 V dual-tech occupancy/vacancy sensor, 4.4 A fan (120 V only); single pole, neutral optional		
MS-B102-XX**	6 A lighting, 120-277 V dual-tech occupancy/vacancy sensor, 4.4 A fan (120 V only); multi- location/3-way, neutral required	
Maestro dual-circuit sensor switch		
MS-A202-XX**	6 A lighting per circuit, 120-277 V dual-tech occupancy/vacancy, 4.4 A fan (120 V only) per circuit; single pole, neutral optional	
MS-B202-XX**	6 A lighting per circuit, 120-277 V dual-tech occupancy/vacancy sensor, 4.4 A fan (120 V only) per circuit; 3-way, neutral required	

\* For dual-tech or 0-10 V vacancy models, Add "-V-" before the color code (XX).

\*\* (XX in the model number represents color/finish code; use WH for Whites.) See Maestro colors on page 70.



Maestro dual-technology sensor switch

#### Dimensions

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)



Maestro dual-technology, dual-circuit sensor switch

#### Dimensions

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)

## Features and benefits

- · Standalone solutions are not compatible with the Vive hub
- Lutron XCT technology for superior sensitivity prevents false ONs and false OFFs
- · Automatically turns lights off when space is unoccupied
- · Easy to install; directly replaces an existing control
- · Lutron Smart Ambient Light Detection learns your preferences over time and adapts accordingly
- · 180° sensor field-of-view; must have unobstructed view
- Up to 900 ft<sup>2</sup> major motion coverage and 400 ft<sup>2</sup> minor motion coverage
- Adjustable timeout: 1-, 5-, 15-, and 30-minute options
- Vacancy models available to meet CA Title 24 requirements
- · Controls electronic LED drivers and fluorescent ballasts
- Miswire and load incompatibility alert lens will flash red if control is miswired or connected to an incompatible fixture
- · Selectable dimming curve optimizes performance of 0-10V LED drivers
- · Lutron adaptive zero-cross switching extends relay lifetime

#### **PRODUCT OPTIONS**

0-10 V dimmer sensor*	
MS-Z101-XX**	8 A lighting 120-277 V; occupancy/vacancy; multi location/3-way/single pole

- \* For dual-tech or 0-10 V vacancy models, Add "-V-" before the color code (XX).
- \*\* (XX in the model number represents color/finish code; use WH for White.) See Maestro colors on page 70.

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#### Maestro 0-10V dimmer sensor

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)



#### **IN-WALL STANDALONE SOLUTIONS: OCCUPANCY/VACANCY SWITCHES**

## Features and benefits

- · Standalone solutions are not compatible with the Vive hub
- LED+ dimmer for control of LED lighting

#### **PRODUCT OPTIONS**

LED+ dimmer sensor <sup>†</sup>	
MSCL-OP153M-XX	LED+ dimmer with PIR sensor; occupancy/vacancy; multi-location/3-way/single pole; 150 W CFL/LED, 600 W incandescent/halogen

- \* (XX in the model number represents color/finish code; use WH for White.) See Maestro colors on page 70.
- <sup>†</sup> Vacancy-only models available. Replace the "O" in the model number with a "V".



LED+ dimmer sensor

#### Dimensions

W:	2.94"	(75 mm)
H:	4.69"	(119 mm)
D:	1.44"	(38 mm)

Model number		Description
Sensor switcl	hes*	
	MS-OPS2-XX	2 A lighting, 120
	MS-OPS5M-XX	5 A lighting, 120 pole, neutral op
	MS-OPS6M2-DV-XX	6A lighting, 120 neutral optiona
Dual-circuit s	ensor switches *	
	MS-OPS6-DDV-XX	6A lighting per (120V only) per

í	MS-OPS6-DDV-XX	6 A lighting per (120 V only) per
	MS-PPS6-DDV-XX	6A lighting per 6 4.4A fan (120V

ual-technol	ogy sens	or switch	es**

00

MS-A102-XX	6 A lighting per only) per circuit
MS-B102-XX	6A lighting per (120V only) per

ology dual-circuit sen	sor switches**
MS-A102-XX	6 A lighting per only) per circuit
MS-B102-XX	6 A lighting per (120 V only) per
	MS-A102-XX

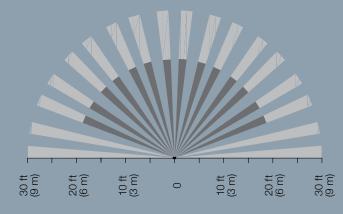
ensor dim	ners**	
10 - 10	MS-Z101-XX	8 A lighting 120-
	MSCL-OP153M-XX	LED+ dimmer wi location; 150 W (

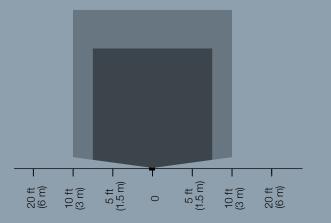
\* Vacancy models available to meet California Title 24 section 119(j) requirements. \*\* For dual-tech or 0-10 V vacancy models, add "-V-" before the color code (XX). NOTE: For up-to-date pricing, contact your Lutron sales representative.

# Sensor coverage diagrams

#### IN-WALL

#### PIR beam diagram (for reference only)





\* Sensor mounting shown at 7 ft (2.1 m). Mounting height should be between 6 and 8 ft (1.6 and 2.4 m).

20 V PIR occupancy/vacancy; single pole, neutral optional

20 V PIR occupancy/vacancy; 3 A fan, multi-location/3-way/single ptional

20-277 V PIR occupancy/vacancy, 3 A fan (120 V only);

circuit, 120-277 V PIR dual-circuit occupancy/vacancy; 4.4 A fan r circuit; single pole

circuit, 120-277 V PIR dual-circuit partial-on occupancy/vacancy, only) per circuit; single pole

circuit, 120-277 V dual-tech occupancy/vacancy, 4.4 A fan (120 V it; single pole, neutral optional

circuit, 120-277 V dual-tech occupancy/vacancy sensor, 4.4 A fan circuit; 3-way, neutral required

circuit, 120-277 V dual-tech occupancy/vacancy, 4.4 A fan (120 V t; single pole, neutral optional

circuit, 120-277 V dual-tech occupancy/vacancy sensor, 4.4 A fan circuit; 3-way, neutral required

-277 V; occupancy/vacancy; multi-location/3-way/single pole

vith PIR sensor; occupancy/vacancy; single pole/3-way/multi-CFL/LED, 600 W incandescent/halogen





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